



July 5, 2022

Attorney Melanie Bachman  
Acting Executive Director  
Connecticut Siting Council  
Ten Franklin Square  
New Britain, CT 06501

**EM-T-MOBILE-076-210409**

T-Mobile Site ID CTNH494A  
1749 Durham Road, Madison CT

**Notice of Compliance with Conditions and Construction Completion**

Dear Attorney Bachman:

The T-Mobile site referenced above was approved by The Connecticut Siting Council (Council) on May 3, 2021 as an Exempt Modification. T-Mobile is now requesting the close out of the approval and hereby acknowledges the following conditions were met:

1. Prior to T-Mobile's antenna installation, the antenna mount modifications shall be installed in accordance with the Mount Analysis prepared by GDP Engineering, dated February 3, 2021 and stamped and signed by Christopher J. Scheks;
2. Within 45 days following completion of equipment installation, T-Mobile shall provide documentation certified by a Professional Engineer that its installation complied with the recommendations of the Mount Analysis;
3. Any deviation from the proposed modification as specified in this notice and supporting materials with the Council shall render this acknowledgement invalid;
4. Any material changes to this modification as proposed shall require the filing of a new notice with the Council;
5. The Council shall be notified in writing at least two weeks prior to the commencement of site construction activities;



**NSS** **NORTHEAST**  
SITE SOLUTIONS  
*Turnkey Wireless Development*

6. Within 45 days after completion of construction, the Council shall be notified in writing that construction has been completed;
7. Any nonfunctioning antenna and associated antenna mounting equipment on this facility owned and operated by T-Mobile shall be removed within 60 days of the date the antenna ceased to function;
8. The validity of this action shall expire one year from the date of this letter; and
9. The applicant may file a request for an extension of time beyond the one-year deadline provided that such request is submitted to the Council not less than 60 days prior to the expiration.

The attached PE Closeout Letter dated June 7, 2022 provides evidence of compliance with the conditions outlined by the Council. In addition, T-Mobile hereby notifies the Council that construction of the acknowledged modifications was completed as of November 19, 2021.

Sincerely,

*Victoria Masse*

Victoria Masse  
Zoning and Permitting  
Northeast Site Solutions

June 7, 2022

Victoria Masse  
Northeast Site Solutions  
420 Main Street Unit 1 Box 2  
Sturbridge, MA 01566  
(231) 409-5439



Tower Engineering Professionals  
326 Tryon Road  
Raleigh, NC 27603  
(919) 661-6351

**Subject: Post Construction Inspection Report**

**T-Mobile Designation:**                      **Site Number:**                      CTNH494A  
**Site Name:**                                      CTNH494A

**NE Site Solutions Designation:**              **Site Name:**                                      CTNH494A

**Engineering Firm Designation:**              **TEP Project Number:**                      217566.700737

**Site Data:**                                              **1749 Durham Road, Madison, New Haven County, CT 06443**  
**Latitude 41° 23' 22.33", Longitude -72° 38' 55.97"**  
**119 Foot – Monopole Tower**

Dear Victoria Masse,

Tower Engineering Professionals, Inc. (TEP) is pleased to submit this **“Post Construction Inspection Report”** (PCI Report) to Northeast Site Solutions for the equipment upgrades to the subject structure. The purpose of this PCI report is to confirm that T-Mobile’s proposed upgrades were installed in conformance with the approved construction drawings by Tower Engineering Professionals, dated March 17, 2021 (Appendix A) and the workmanship conforms with industry standards.

All observations were performed after the construction was complete. TEP was not present during the construction phase. The onsite PCI was performed on May 17, 2022 by Ryan Trackenberg, EI and Marco Chamba of TEP.

We at TEP appreciate the opportunity to provide our professional services to you and Northeast Site Solutions. If you have any questions or need further assistance on this or any other projects, please give us a call.

Sincerely,



Kevin R. Arnett, PE, CWI  
**Tower Engineering Professionals, Inc.**

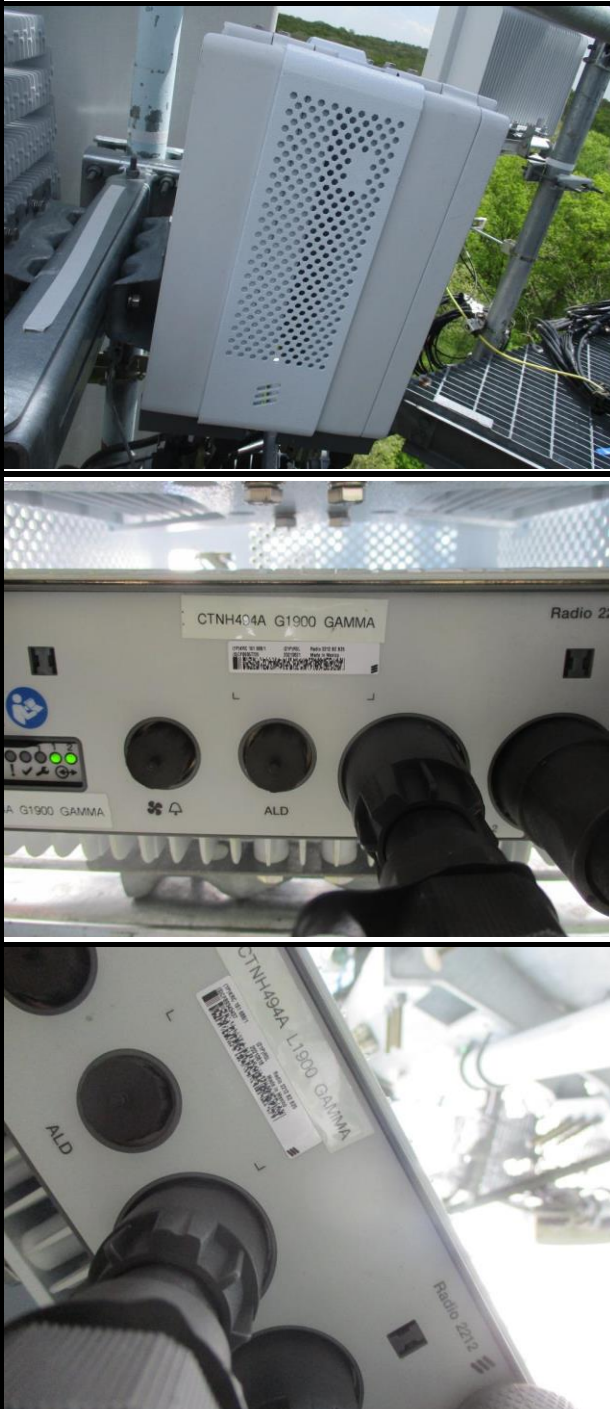
### EXECUTIVE SUMMARY

PROPOSED LOADING SUMMARY				
Alpha Sector				
Antenna Position	Antenna (Qty.) Make/Model	RRU (Qty.) Make/Model	Surge Protector (Qty.) Make/Model	Coax
A1	(1) RFS APX16DWV-16DWV-S-E- A20	(1) Ericsson RRU 4415 B66A	-	(1) 6x24 Hybrid
A2	(1) RFS APXVAALL24_43-U-NA20	(1) Ericsson RRU 4449 B71+B85 (1) Ericsson RRU 4424 B25		
A3	(1) Ericsson AIR6449 B41	-		
Beta Sector				
B1	(1) RFS APX16DWV-16DWV-S-E- A20	(1) Ericsson RRU 4460 B25+B66	-	(1) 6x24 Hybrid
B2	(1) RFS APXVAALL24_43-U-NA20	(1) Ericsson RRU 4449 B71+B85 (1) Ericsson RRU 4424 B25		
B3	(1) Ericsson AIR6449 B41	-		
Gamma Sector				
G1	(1) RFS APX16DWV-16DWV-S-E- A20	(1) Ericsson RRU 4460 B25+B66	-	(1) 6x24 Hybrid
G2	(1) RFS APXVAALL24_43-U-NA20	(1) Ericsson RRU 4449 B71+B85 (1) Ericsson RRU 4424 B25		
G3	(1) Ericsson AIR6449 B41	-		

INSTALLED LOADING SUMMARY				
Alpha Sector				
Antenna Position	Antenna (Qty.) Make/Model	RRU (Qty.) Make/Model	Surge Protector (Qty.) Make/Model	Coax
A1	(1) RFS APX16DWV-16DWV-S-E-A20	(1) Ericsson RRU 4415 B66A	-	(1) 6x24 Hybrid
A2	(1) RFS APXVAALL24_43-U-NA20	(1) Ericsson RRU 4449 B71+B85 (2) Ericsson RRU 2212 B2 B25		
A3	(1) Ericsson AIR6449 B41	-		
Beta Sector				
B1	(1) RFS APX16DWV-16DWV-S-E-A20	(1) Ericsson RRU 4415 B66A	-	(1) 6x24 Hybrid
B2	(1) RFS APXVAALL24_43-U-NA20	(1) Ericsson RRU 4449 B71+B85 (2) Ericsson RRU 2212 B2 B25		
B3	(1) Ericsson AIR6449 B41	-		
Gamma Sector				
G1	(1) RFS APX16DWV-16DWV-S-E-A20	(1) Ericsson RRU 4415 B66A	-	(1) 6x24 Hybrid
G2	(1) RFS APXVAALL24_43-U-NA20	(1) Ericsson RRU 4449 B71+B85 (2) Ericsson RRU 2212 B2 B25		
G3	(1) Ericsson AIR6449 B41	-		

- Loading discrepancies are highlighted

### EXECUTIVE SUMMARY

Photograph	Observations and Recommendations
	<p><b>Item 1:</b></p> <p><b>Observation:</b> As-built radio configuration does not match the layout as shown in the construction drawings. One of the radios installed behind position two (Ericsson 2212 B2 B25) does not match what is shown in the construction drawings (Ericsson 4424 B25) on all sectors.</p> <p><b>Recommendation:</b> No action required. Two Ericsson 2212 B2 B25's were installed behind position two on all sectors which is equivalent to one Ericsson 4412 B25. See appendix B.</p>

### EXECUTIVE SUMMARY

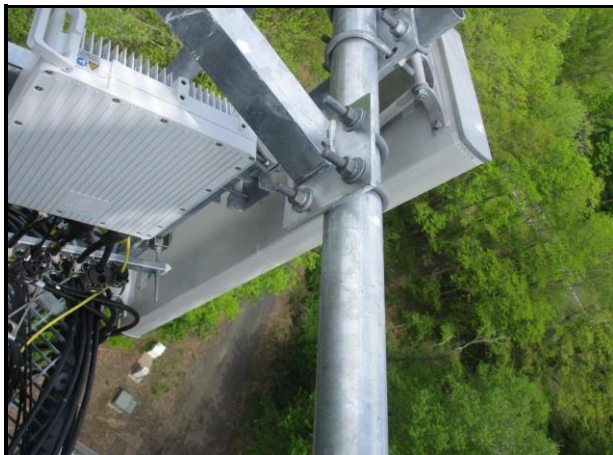
Photograph	Observations and Recommendations
	<p><b>Item 2:</b></p> <p><b>Observation:</b> Proposed upgrades were installed properly and the workmanship is in accordance with T-Mobile and industry standards.</p> <p><b>Recommendation:</b> No action required.</p>



**Signage**



**View Up at Sector**



**Position 1**



**Position 1 Tag**



**Position 2**



**Position 2 Tag**





**Position 3**



**Position 3 Tag**



**Radios**



**Radio Tag**



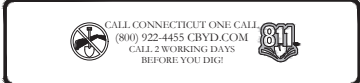
**Radio Tag**



**Radio Tag**

**APPENDIX A**  
**CONSTRUCTION DRAWINGS**

# T-Mobile



Built in Drawn  
DBA Construction  
Edward Clark  
1/16/2022

T-Mobile

35 GRIFFIN ROAD  
BLOOMFIELD, CT 06002



1200 MACARTHUR BLVD., SUITE 200  
MAHWAH, NJ 07430



TOWER  
ENGINEERING  
PROFESSIONALS

326 TRYON RD  
RALEIGH, NC 27603  
(919) 661-6351

TEP JOB #: 217566-498712

T-MOBILE SITE NUMBER:  
**CTNH494A**

BU #: 846176  
MADISON DURHAM ROAD

1749 DURHAM ROAD  
MADISON, CT 06443  
(NEW HAVEN COUNTY)

EXISTING 119'-0"  
MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DIS./QA
A	03/01/21	CLR	PRELIMINARY	ISE
B	03/17/21	CLR	CONSTRUCTION	ISE

**T-MOBILE SITE NUMBER: CTNH494A**  
**T-MOBILE SITE NAME: CTNH494A**  
**SITE TYPE: MONOPOLE**  
**TOWER HEIGHT: 119'-0"**

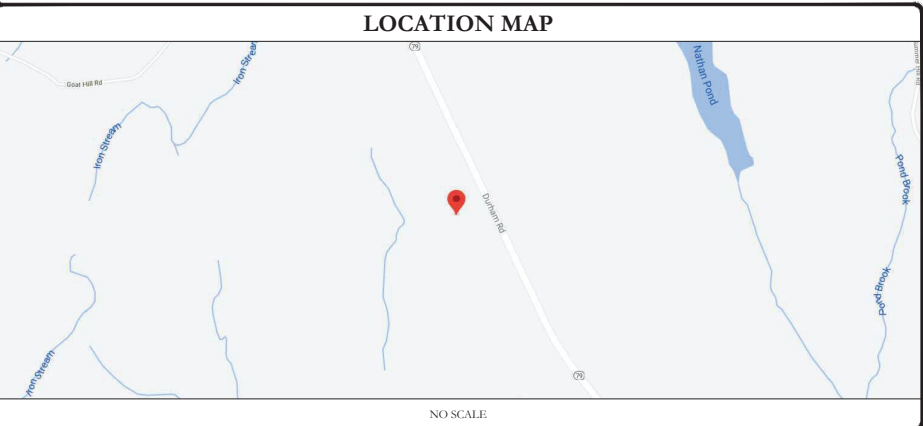
**BUSINESS UNIT #: 846176**  
**SITE ADDRESS: 1749 DURHAM ROAD**  
**MADISON, CT 06443**  
**COUNTY: NEW HAVEN**  
**JURISDICTION: TOWN OF MADISON**

**T-MOBILE SPRINT-RETAIN SITE CONFIGURATION: 67D5998C\_1xAIR+1QP+1OP (GSM ONLY)**

SITE INFORMATION	
CROWN CASTLE USA INC. SITE NAME:	MADISON DURHAM ROAD
SITE ADDRESS:	1749 DURHAM ROAD MADISON, CT 06443
COUNTY:	NEW HAVEN
MAP/PARCEL #:	104174
AREA OF CONSTRUCTION:	EXISTING
LATITUDE:	41° 23' 23.33" (41.389536)
LONGITUDE:	-72° 38' 55.97" (-72.648881)
LAT/LONG TYPE:	NAD83
GROUND ELEVATION:	361 FT
CURRENT ZONING:	RU-1
JURISDICTION:	TOWN OF MADISON
TYPE OF CONSTRUCTION:	IBB
A.D.A. COMPLIANCE:	FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION
PROPERTY OWNER:	AT&T 1749 DURHAM ROAD MADISON, CT 06443
TOWER OWNER:	CROWN CASTLE USA, INC. 1200 MACARTHUR BLVD, SUITE 200 MAHWAH, NJ 07430
CARRIER/APPLICANT:	T-MOBILE 35 GRIFFIN ROAD BLOOMFIELD, CT 06002
ELECTRIC PROVIDER:	NORTHEAST UTILITIES (800) 286-2000
TELCO PROVIDER:	AT&T (800) 331-0500

DRAWING INDEX	
SHEET #	SHEET DESCRIPTION
T-1	TITLE SHEET
T-2	GENERAL NOTES
C-1.1	FINAL SITE PLAN
C-1.2	EXISTING & FINAL EQUIPMENT PLAN
C-2	FINAL ELEVATION & ANTENNA PLANS
C-3	ANTENNA & CABLE SCHEDULE
C-4	EQUIPMENT SPECS
C-5	ICE BRIDGE DETAIL
C-6	CABINET SPECS
E-1	AC PANEL SCHEDULES & ONE LINE DIAGRAM
G-1	ANTENNA GROUNDING DIAGRAM
G-2	GROUNDING DETAILS
G-3	GROUNDING DETAILS

ALL DRAWINGS CONTAINED HEREIN ARE FORMATTED FOR 22x34. CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.



**APPLICABLE CODES/REFERENCE DOCUMENTS**

ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES:

CODE TYPE	CODE
BUILDING	2018 CONNECTICUT STATE BUILDING CODE
MECHANICAL	2018 CONNECTICUT STATE MECHANICAL CODE
ELECTRICAL	2017 NEC

REFERENCE DOCUMENTS:  
STRUCTURAL ANALYSIS: TOWER ENGINEERING PROFESSIONALS  
DATED: 02/17/2021  
MOUNT ANALYSIS: GPD ENGINEERING AND ARCHITECTURE  
PROFESSIONAL CORPORATION  
DATED: 02/03/2021  
ORDER ID: 538760 RFD5 VERSION: 1  
REVISION: 0 DATED: 01/12/2021

ANALYSIS CRITERIA:  
APPLICABLE CODES: TIA-222-H / ASCE 7-16  
WIND SPEED: V = 130 MPH (ULTIMATE 3 SECOND GUST)  
EXPOSURE CATEGORY: B  
RISK CATEGORY: II  
TOPOGRAPHIC CATEGORY: I  
SEISMIC S: 0.176  
SEISMIC SI: 0.061  
SERVICE WIND SPEED: 60 MPH

**APPROVALS**

APPROVAL	SIGNATURE	DATE
RF	_____	_____
CONST.	_____	_____
FAA	_____	_____
OPS	_____	_____
RE	_____	_____
SR DEV MGR	_____	_____
REG DIR	_____	_____

THE PARTIES ABOVE HEREBY APPROVE AND ACCEPT THESE DOCUMENTS AND AUTHORIZE THE CONTRACTOR TO PROCEED WITH THE CONSTRUCTION DESCRIBED HEREIN. ALL CONSTRUCTION DOCUMENTS ARE SUBJECT TO REVIEW BY THE LOCAL BUILDING DEPARTMENT AND ANY CHANGES AND MODIFICATIONS THEY MAY IMPOSE.

PROJECT TEAM	
A&E FIRM:	TOWER ENGINEERING PROFESSIONALS 326 TRYON ROAD RALEIGH, NC 27603
	JOSEPH T. CRESS - PROJECT MANAGER (919) 661-6351
	GRAHAM M. ANDRES - CIVIL ENGINEER (919) 661-6351
	GRAHAM M. ANDRES - ELECTRICAL ENGINEER (919) 661-6351
CROWN CASTLE USA INC. DISTRICT CONTACTS:	4511 N. HIMES AVE, SUITE 210 TAMPA, FL 33614
	NITSA GREENSHAW - A&E SPECIALIST (813) 342-3871
NOTE:	PRIOR TO ACCESSING/ENTERING THE SITE YOU MUST CONTACT THE CROWN NOC AT (800) 788-7011 & CROWN CONSTRUCTION MANAGER.

PROJECT DESCRIPTION	
THE PURPOSE OF THIS PROJECT IS TO ENHANCE BROADBAND CONNECTIVITY AND CAPACITY TO THE EXISTING ELIGIBLE WIRELESS FACILITY.	
TOWER SCOPE OF WORK:	
<ul style="list-style-type: none"> <li>REMOVE (6) EXISTING SPRINT ANTENNAS</li> <li>REMOVE (9) EXISTING SPRINT RRHs w/ (5) FILTERS</li> <li>REUSE (1) PLATFORM MOUNT</li> <li>INSTALL (1) SITEPRO1 SUPPORT RAIL</li> <li>INSTALL (9) ANTENNAS</li> <li>INSTALL (9) RRHs</li> <li>INSTALL (6) BACK-TO-BACK RADIO MOUNTS</li> <li>INSTALL (4) 6/24 HCS 4AWG 100m CABLES</li> </ul>	
GROUND SCOPE OF WORK:	
<ul style="list-style-type: none"> <li>REMOVE LEGACY SPRINT CABINET(S) AS NEEDED</li> <li>INSTALL (2) CABINETS</li> <li>INSTALL ICE BRIDGE</li> <li>INSTALL (3) BB 6630, (1) BB 6648, (1) DUG20, (1) IXRE ROUTER, (1) PSU 4813 BOOSTER</li> <li>REUSE EXISTING SPRINT PLATFORM/PAD, ICE BRIDGE &amp; UTILITY EQUIPMENT</li> </ul>	

SEAL:

03/17/21

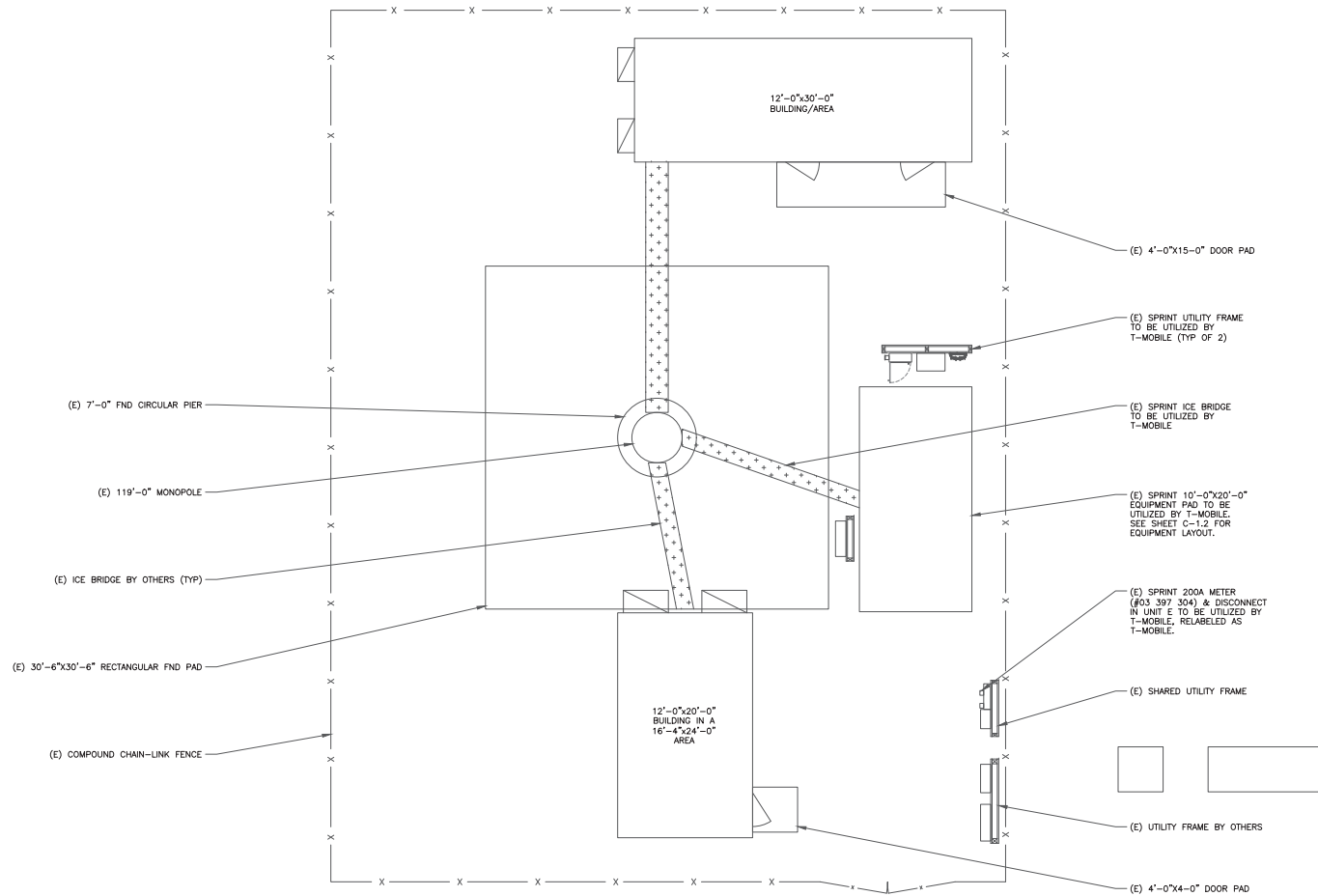
IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

SHEET NUMBER: **T-1** REVISION: **0**



**NOTE:**  
 SITE PLAN SHOWN BELOW WAS REPRODUCED FROM INFORMATION PROVIDED BY CROWN CASTLE AND SITE WALK CONDUCTED BY TEP. CONTRACTOR TO VERIFY ALL EXISTING INFORMATION IS AS INDICATED ON SITE PLAN. CONTRACTOR IS TO ESTABLISH THE EXISTENCE AND LOCATION OF ALL EXISTING UNDERGROUND AND OVERHEAD UTILITIES. IMMEDIATELY NOTIFY THE CONSTRUCTION MANAGER OF ANY DISCREPANCIES.

**FLOODPLAIN NOTE:**  
 THE TOWER IS LOCATED IN ZONE "X" AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN ACCORDING TO FEMA COMMUNITY PANEL #09009C0344H, DATED 12/17/2010.



1 SITE PLAN  
 SCALE: 3/8"=1'-0" (FULL SIZE)  
 3/16"=1'-0" (11x17)



**T-Mobile**

35 GRIFFIN ROAD  
 BLOOMFIELD, CT 06002

**CROWN CASTLE**

1200 MACARTHUR BLVD, SUITE 200  
 MAHWAH, NJ 07430

**TOWER ENGINEERING PROFESSIONALS**

326 TRYON RD  
 RALEIGH, NC 27603  
 (919) 661-6351

TEP JOB #: 217566-498712

**T-MOBILE SITE NUMBER:  
 CTNH494A**

BU #: 846176  
 MADISON DURHAM ROAD

1749 DURHAM ROAD  
 MADISON, CT 06443  
 (NEW HAVEN COUNTY)

EXISTING 119'-0"  
 MONOPOLE

**ISSUED FOR:**

REV	DATE	DRWN	DESCRIPTION	DIS./QA
A	03/01/21	CLR	PRELIMINARY	RSE
B	03/17/21	CLR	CONSTRUCTION	RSE

SEAL:



03/17/21

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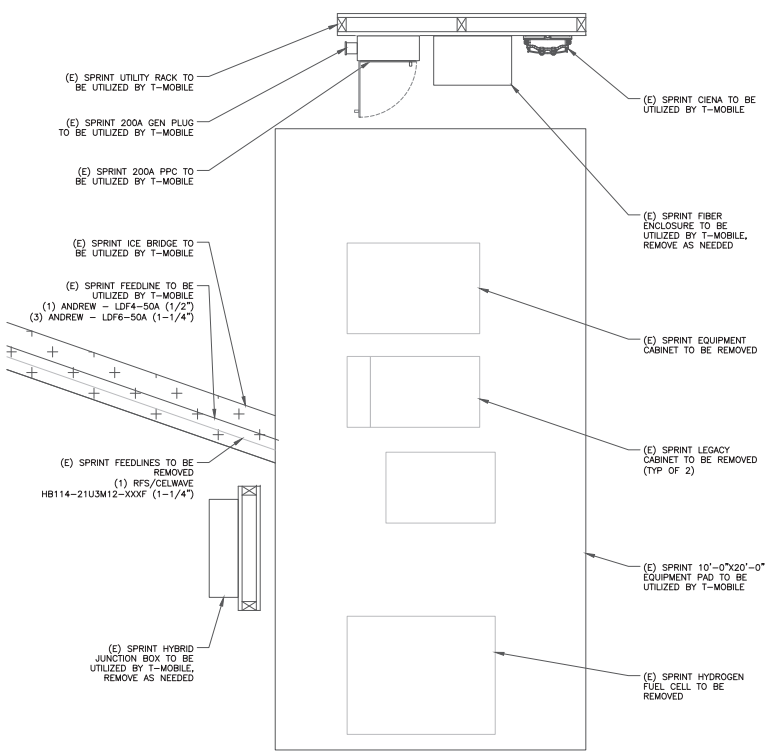
SHEET NUMBER:

**C-1.1**

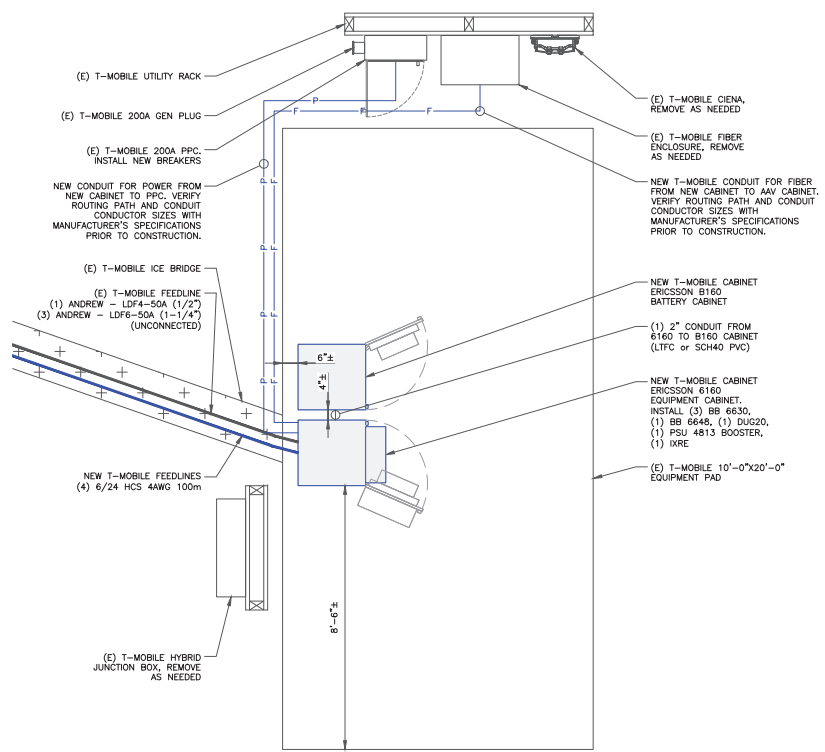
REVISION:

**0**

**FLOODPLAIN NOTE:**  
 THE TOWER IS LOCATED IN ZONE "X" AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANGE FLOODPLAIN ACCORDING TO FEMA COMMUNITY PANEL #09009C0344H, DATED 12/17/2010.



1 EXISTING EQUIPMENT PLAN  
 SCALE: 1/2"=1'-0" (FULL SIZE)  
 1/4"=1'-0" (11x17)



2 FINAL EQUIPMENT PLAN  
 SCALE: 1/2"=1'-0" (FULL SIZE)  
 1/4"=1'-0" (11x17)



**T-Mobile**  
 35 GRIFFIN ROAD  
 BLOOMFIELD, CT 06002

**CROWN CASTLE**  
 1200 MACARTHUR BLVD, SUITE 200  
 MAHWAH, NJ 07430

**TOWER ENGINEERING PROFESSIONALS**  
 326 TRYON RD  
 RALEIGH, NC 27603  
 (919) 661-6351  
 TEP JOB #: 217566-498712

**T-MOBILE SITE NUMBER: CTNH494A**  
 BU #: 846176  
 MADISON DURHAM ROAD  
 1749 DURHAM ROAD  
 MADISON, CT 06443  
 (NEW HAVEN COUNTY)  
 EXISTING 119'-0" MONOPOLE

**ISSUED FOR:**

REV	DATE	DRWN	DESCRIPTION	DIS./QA
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B	03/17/21	CLR	CONSTRUCTION	RSE

SEAL:

03/17/21

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SHEET NUMBER: **C-1.2** REVISION: **0**

**T-MOBILE EQUIPMENT**

ANTENNA CL: 108'-0"  
MOUNT CL: 106'-0"

ANY AND ALL TOWER MOUNTED EQUIPMENT MUST NOT TRAP OR INTERFERE W/ EXISTING SAFETY CLIMB

HEIGHT OF STRUCTURE  
ELEV. = 119'-0"

NEW T-MOBILE EQUIPMENT  
(9) ANTENNAS  
(9) RRHs  
(6) B2B RRH MOUNTS  
(1) SITEPRO1 HANDRAIL MOUNT  
(P/N: HRK12-3HD OR APPROVED EQUIVALENT)

(E) SPRINT EQUIPMENT TO BE UTILIZED BY T-MOBILE  
(1) PLATFORM MOUNT

TOP OF EXISTING APPURTENANCE  
ELEV. = 124'-0"  
EXISTING MCL  
ELEV. = 119'-0"

EXISTING ACL  
ELEV. = 108'-0"  
EXISTING MCL  
ELEV. = 106'-0"

EXISTING MCL  
ELEV. = 94'-0"

NEW T-MOBILE FEEDLINES  
(4) 6/24 HCS 4AWG 100m

(E) 119'-0" SELF-SUPPORT TOWER

(E) SPRINT GPS ANTENNA TO BE UTILIZED BY T-MOBILE

EXISTING ACL & MCL  
ELEV. = 55'-0"

(E) SPRINT FEEDLINE TO BE UTILIZED BY T-MOBILE  
(1) ANDREW LDF4-50A COAX CABLE (1/2")  
(3) ANDREW LDF6-50A COAX CABLE (1-1/4") (UNCONNECTED)

**INSTALLER NOTE:**

EXISTING AND PROPOSED ANTENNA/EQUIPMENT POSITIONING SHOWN PER RFDS. FIELD CONDITIONS MAY VARY.

**TOWER ANALYSIS NOTES:**

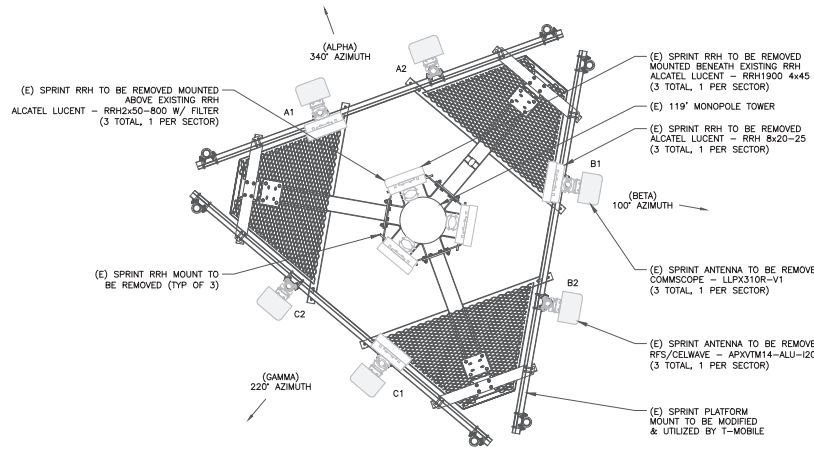
1. THE DESIGN DEPICTED IN THESE DRAWINGS IS VALID WHEN ACCOMPANIED BY A CORRESPONDING PASSING TOWER ANALYSIS.
2. CONSTRUCTION MANAGER / GENERAL CONTRACTOR SHALL REVIEW THE TOWER ANALYSIS FOR ANY CONDITIONS PRIOR TO INSTALLATION.
3. ANY REQUIRED TOWER MODIFICATION DESIGN OR TOWER REPLACEMENT SHALL BE APPROVED BY EDR.

**MOUNT ANALYSIS NOTES:**

1. THE DESIGN DEPICTED IN THESE DRAWINGS IS VALID WHEN ACCOMPANIED BY A CORRESPONDING PASSING MOUNT ANALYSIS.
2. CONSTRUCTION MANAGER / GENERAL CONTRACTOR SHALL REVIEW THE MOUNT ANALYSIS FOR ANY CONDITIONS PRIOR TO INSTALLATION.
3. ANY REQUIRED MOUNT MODIFICATION DESIGN OR MOUNT REPLACEMENT SHALL BE APPROVED BY EDR.

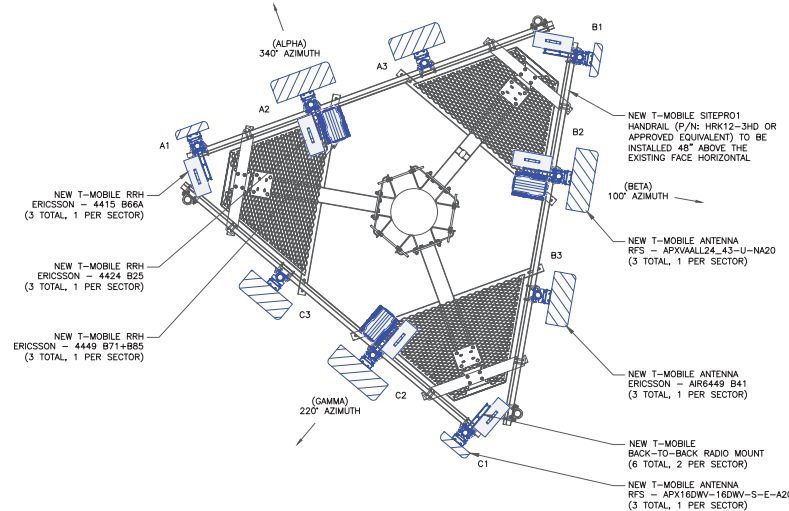
REFERENCE  
ELEV. = 0'-0"

1 FINAL ELEVATION  
SCALE: NOT TO SCALE



2 EXISTING ANTENNA LAYOUT  
SCALE: NOT TO SCALE

**RRH NOTE:**  
CONTRACTOR TO ENSURE RRHs ARE INSTALLED MIN 8" AWAY FROM ANTENNA



3 FINAL ANTENNA LAYOUT  
SCALE: NOT TO SCALE



**T-Mobile**

35 GRIFFIN ROAD  
BLOOMFIELD, CT 06002

**CROWN CASTLE**

1200 MACARTHUR BLVD, SUITE 200  
MAHWAH, NJ 07430



326 TRYON RD  
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SEAL:



03/17/21

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SHEET NUMBER:

C-2

REVISION:

0

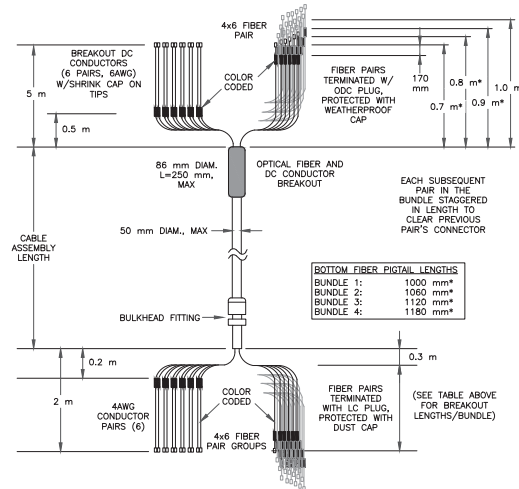
FINAL ANTENNA SCHEDULE										
SECTOR	POS.	TECHNOLOGY	RAD CENTER	AZIMUTH	ANTENNA MANUFACTURER	ANTENNA MODEL	MECH. TILT	ELECT. TILT	TOWER MOUNTED EQUIPMENT	FEEDLINE TYPE
ALPHA	A1	L2100	108°-0"	340°	RFS	APX16DW-16DW-S-E-A20 (QUAD)	0°	2°	(1) ERICSSON - 4415 B66A	HYBRID (SHARED)
ALPHA	A2	L700, L600, N600, L1900, G1900	108°-0"	340°	RFS	APXVAALL24_43-U-NA20 (OCTO)	0°	2°/5'	(1) ERICSSON - 4449 B71+B85 (1) ERICSSON - 4424 B25	(1) 6/24 HCS 4AWG 100m
ALPHA	A3	L2500, N2500	108°-0"	340°	ERICSSON	ARR6449 B41 (ACTIVE ANTENNA - MASSIVE MIMO)	0°	2°	-	(1) 6/24 HCS 4AWG 100m
BETA	B1	L2100	108°-0"	100°	RFS	APX16DW-16DW-S-E-A20 (QUAD)	0°	2°	(1) ERICSSON - 4415 B66A	HYBRID (SHARED)
BETA	B2	L700, L600, N600, L1900, G1900	108°-0"	100°	RFS	APXVAALL24_43-U-NA20 (OCTO)	0°	2°/5'	(1) ERICSSON - 4449 B71+B85 (1) ERICSSON - 4424 B25	(1) 6/24 HCS 4AWG 100m
BETA	B3	L2500, N2500	108°-0"	100°	ERICSSON	ARR6449 B41 (ACTIVE ANTENNA - MASSIVE MIMO)	0°	2°	-	HYBRID (SHARED)
GAMMA	C1	L2100	108°-0"	220°	RFS	APX16DW-16DW-S-E-A20 (QUAD)	0°	2°	(1) ERICSSON - 4415 B66A	HYBRID (SHARED)
GAMMA	C2	L700, L600, N600, L1900, G1900	108°-0"	220°	RFS	APXVAALL24_43-U-NA20 (OCTO)	0°	2°/5'	(1) ERICSSON - 4449 B71+B85 (1) ERICSSON - 4424 B25	(1) 6/24 HCS 4AWG 100m
GAMMA	C3	L2500, N2500	108°-0"	220°	ERICSSON	ARR6449 B41 (ACTIVE ANTENNA - MASSIVE MIMO)	0°	2°	-	HYBRID (SHARED)

PROPOSED ANTENNA/EQUIPMENT SHOWN IN BOLD

FINAL CABLE SCHEDULE			
STATUS	CABLE TYPE	SIZE	QUANTITY
NEW	HCS	6/24 4AWG 100m	3
CABLE QUANTITY			3

NOTE:  
(3) HYBRID SHARED BETWEEN APX/4415/4449/4424 PER SECTOR  
(1) HYBRID SHARED BETWEEN 6449 ANTENNAS PER SECTOR

1 PROPOSED ANTENNA AND CABLE SCHEDULE  
SCALE: NOT TO SCALE



2 HCS DETAIL  
SCALE: NOT TO SCALE

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CROWN CASTLE

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MAHWAH, NJ 07430

TOWER ENGINEERING PROFESSIONALS  
326 TRYON RD  
RALEIGH, NC 27603  
(919) 661-6351

TEP JOB #: 217566-498712

T-MOBILE SITE NUMBER:  
CTNH494A

BU #: 846176  
MADISON DURHAM ROAD

1749 DURHAM ROAD  
MADISON, CT 06443  
(NEW HAVEN COUNTY)

EXISTING 119'-0"  
MONOPOLE

ISSUED FOR:

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SEAL:

*[Signature]*  
Professional Engineer  
License No. 11111

03/17/21

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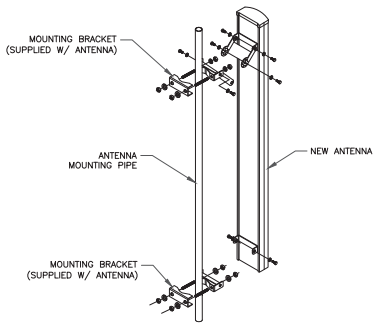
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C-3

REVISION:

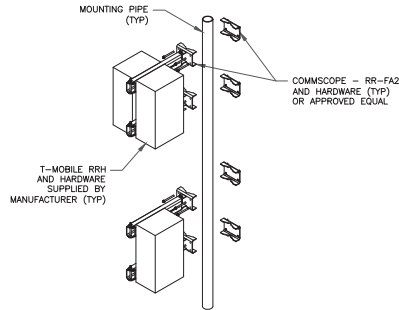
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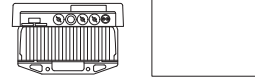


1 ANTENNA MOUNTING DETAIL  
SCALE: NOT TO SCALE

**INSTALLER NOTES:**  
 1. COMPLY WITH MANUFACTURERS INSTRUCTIONS TO ENSURE THAT ALL RRHs RECEIVE ELECTRICAL POWER WITHIN 24 HOURS OF BEING REMOVED FROM THE MANUFACTURER'S PACKAGING.  
 2. DO NOT OPEN RRH PACKAGES IN THE RAIN.  
 3. ALL PIPES, BRACKETS, AND MISCELLANEOUS HARDWARE TO BE GALVANIZED UNLESS NOTED OTHERWISE.

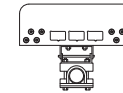


2 RRHs MOUNTING DETAIL  
SCALE: NOT TO SCALE



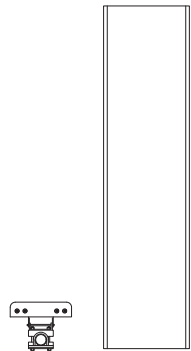
ERICSSON - AIR6449 B41  
WEIGHT: 104.0 LBS  
SIZE (HxWxD): 33.10x20.60x8.60 IN.

3 ERICSSON - AIR6449 B41  
SCALE: NOT TO SCALE



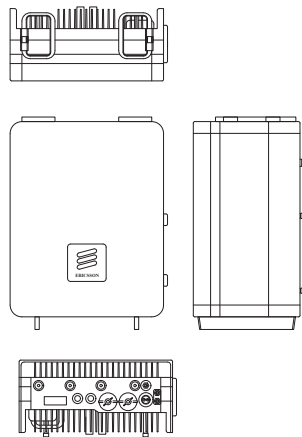
RFS/CELWAVE - APXVALL24\_43-U-NA20  
WEIGHT (WITHOUT MOUNTING HARDWARE): 149.9 LBS  
SIZE (HxWxD): 95.9x24.0x8.5 IN.

4 RFS/CELWAVE - APXVALL24\_43-U-NA20  
SCALE: NOT TO SCALE



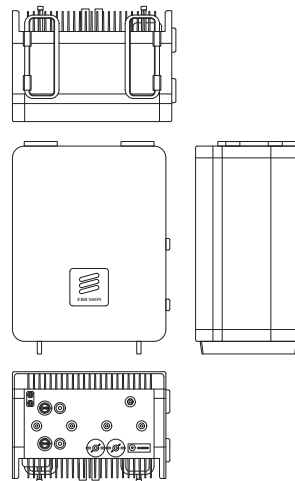
RFS - APX16DW-16DW-S-E-A20  
WEIGHT (WITHOUT MOUNTING HARDWARE): 40.70 LBS  
SIZE (HxWxD): 55.9x13.3x3.15 IN.

5 RFS - APX16DW-16DW-S-E-A20  
SCALE: NOT TO SCALE



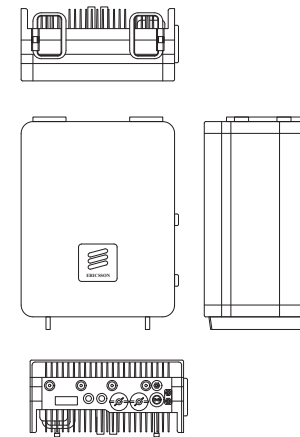
ERICSSON - RADIO 4415 B25  
WEIGHT: 44.0 LBS  
SIZE (HxWxD): 14.96x13.19x5.39 IN.

6 ERICSSON - RADIO 4415 B25  
SCALE: NOT TO SCALE



ERICSSON - RADIO 4449 B71/B85  
WEIGHT: 73.21 LBS  
SIZE (HxWxD): 17.91x13.2x10.63 IN.

7 ERICSSON - RADIO 4449 B71/B85  
SCALE: NOT TO SCALE



ERICSSON - RADIO 4424 B25  
WEIGHT: 86.0 LBS  
SIZE (HxWxD): 17.91x13.20x10.63 IN.

8 ERICSSON - RADIO 4424 B25  
SCALE: NOT TO SCALE

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TEP JOB #: 217566.498712

**T-MOBILE SITE NUMBER: CTNH494A**

**BU #: 846176**  
MADISON DURHAM ROAD

1749 DURHAM ROAD  
MADISON, CT 06443  
(NEW HAVEN COUNTY)

EXISTING 119'-0"  
MONOPOLE

**ISSUED FOR:**

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SEAL:



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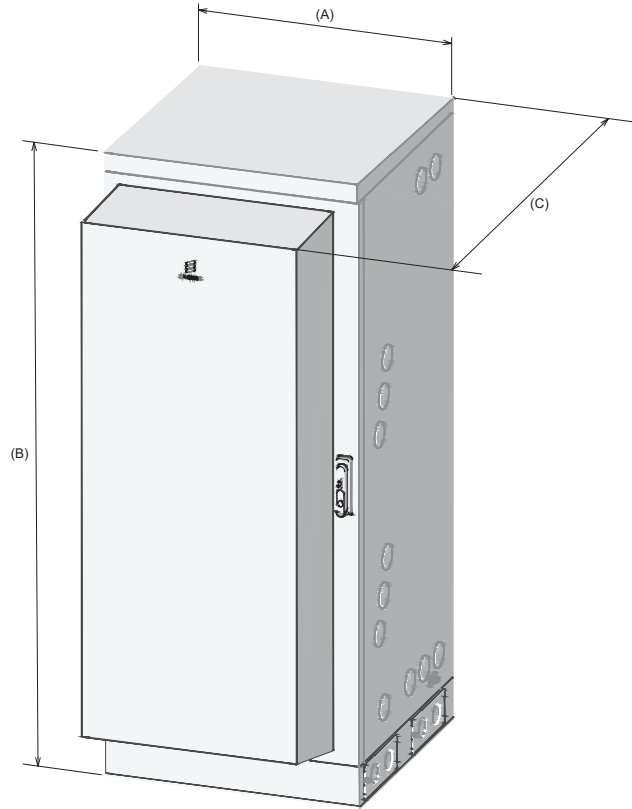
**C-4**

REVISION:

**0**

**INSTALLER NOTES:**

1. INFORMATION SHOWN PROVIDED BY T-MOBILE. CONTRACTOR TO REFERENCE CABINET MANUFACTURER'S SPECIFICATIONS FOR FURTHER DETAILS.
2. CONTRACTOR TO FOLLOW THE LATEST VERSION OF T-MOBILE REGIONAL CONSTRUCTION STANDARDS. CONTACT T-MOBILE FOR DETAILS.



Dimensions	
Width (A)	650 mm / 25.5906 in
Height (B)	1450 mm / 57.08661 in (without base frame) 1600 mm / 62.99213 in (with base frame)
Depth (C)	850 mm / 33.4646 in
Weight	
Empty enclosure	176 kg / 388.014 lb

① ERICSSON 6160 CABINET DETAILS  
SCALE: NOT TO SCALE



② ERICSSON B160 CABINET DETAILS  
SCALE: NOT TO SCALE

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1749 DURHAM ROAD  
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EXISTING 119'-0"  
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**C-5**

REVISION:

**0**

NOTE:  
LOAD CALCULATIONS TAKEN FROM INFORMATION PROVIDED BY CROWN CASTLE & POWER ANALYSIS TOOL BASED ON THE RFD'S DATED 01/12/2021 V1.0. CONTRACTOR TO VERIFY LOADS WITH MANUFACTURER'S SPECIFICATIONS PRIOR TO CONSTRUCTION.

**EXISTING 200A M.C.B, 240/120 VAC, 1Ø, 3W PPC PANEL SCHEDULE**

LOAD SERVED	VOLT AMPERES (WATTS)		TRIP	CKT #	PHASE		CKT #	TRIP	VOLT AMPERES (WATTS)		LOAD SERVED	
	L1	L2			A	B			L1	L2		
SURGE	100		60	1	A	2	10	340			FAN	
		100		3	B	4	15		180		RECEPTACLE	
NID OUTLET	180		15	5	A	6	10	500			LIGHT	
**BTS 1		9600	**100	7	B	8	20		0		*UNKNOWN (OFF)	
		9600		9	A	10	15	0			*UNKNOWN (OFF)	
SPARE				11	B	12		80		0	*BTS 2 (OFF)	
SPARE				13	A	14						
SPARE				15	B	16	15		1440		GENERATOR HEATER	
SPARE				17	A	18					SPARE	
SPARE				19	B	20					SPARE	
SPARE				21	A	22					SPARE	
SPARE				23	B	24					SPARE	
VOLT AMPS	9880	9700						840	1620		VOLT AMPS	
L1 VOLT AMPERES				10720	L2 VOLT AMPERES				11320			
				11320	MAX VOLT AMPERES							
				94.4	MAX AMPS							
				117.9	MAX AMPS x 125%							

\*NOTE - EXISTING BREAKER TO BE REMOVED, NOTIFY TEP IF BREAKER IS TO REMAIN.  
\*\*NOTE - REUSE BREAKER FOR NEW CABINET INSTALL.

**PROPOSED 200A M.C.B, 240/120 VAC, 1Ø, 3W PPC PANEL SCHEDULE**

LOAD SERVED	VOLT AMPERES (WATTS)		TRIP	CKT #	PHASE		CKT #	TRIP	VOLT AMPERES (WATTS)		LOAD SERVED	
	L1	L2			A	B			L1	L2		
SURGE	100		60	1	A	2	10	340			FAN	
		100		3	B	4	15		180		RECEPTACLE	
NID OUTLET	180		15	5	A	6	10	500			LIGHT	
6160 ENCLOSURE		7405	**100	7	B	8					SPARE	
		7405		9	A	10					SPARE	
GFCI INTERNAL IN 6160		180	20	11	B	12					SPARE	
SPARE				13	A	14					SPARE	
SPARE				15	B	16	15		1440		GENERATOR HEATER	
SPARE				17	A	18					SPARE	
SPARE				19	B	20					SPARE	
SPARE				21	A	22					SPARE	
SPARE				23	B	24					SPARE	
VOLT AMPS	7685	7685						840	1620		VOLT AMPS	
L1 VOLT AMPERES				8525	L2 VOLT AMPERES				9305			
				9305	MAX VOLT AMPERES							
				77.5	MAX AMPS							
				96.9	MAX AMPS x 125%							

NOTE - PROPOSED BREAKER IN BOLD

① AC PANEL SCHEDULES  
SCALE: NOT TO SCALE

**GENERAL NOTES:**

- ALL NEW CONDUCTORS TO BE INSTALLED SHALL BE COPPER. ALL CONDUCTORS SHALL BE THW, THWN, THWN-2, XHHW, XHHW-2, THW, THW-2, RHW, OR RHW-2 UNLESS NOTED OTHERWISE.
- CONTRACTOR IS TO FIELD VERIFY ALL EXISTING ITEMS SHOWN ON THE ELECTRICAL ONE-LINE DIAGRAM AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
- ALL GROUNDING AND BONDING PER THE NEC.

**ONE-LINE DIAGRAM NOTES:**

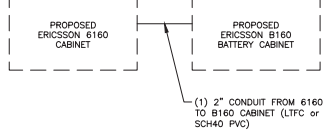
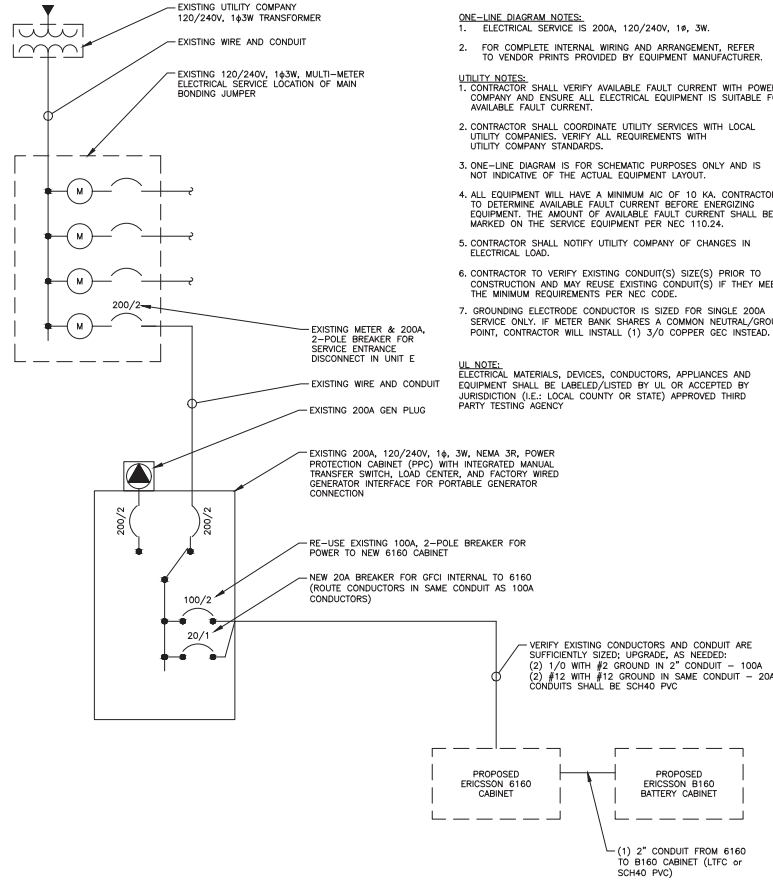
- ELECTRICAL SERVICE IS 200A, 120/240V, 1Ø, 3W.
- FOR COMPLETE INTERNAL WIRING AND ARRANGEMENT, REFER TO VENDOR PRINTS PROVIDED BY EQUIPMENT MANUFACTURER.

**UTILITY NOTES:**

- CONTRACTOR SHALL VERIFY AVAILABLE FAULT CURRENT WITH POWER COMPANY AND ENSURE ALL ELECTRICAL EQUIPMENT IS SUITABLE FOR AVAILABLE FAULT CURRENT.
- CONTRACTOR SHALL COORDINATE UTILITY SERVICES WITH LOCAL UTILITY COMPANIES. VERIFY ALL REQUIREMENTS WITH UTILITY COMPANY STANDARDS.
- ONE-LINE DIAGRAM IS FOR SCHEMATIC PURPOSES ONLY AND IS NOT INDICATIVE OF THE ACTUAL EQUIPMENT LAYOUT.
- ALL EQUIPMENT WILL HAVE A MINIMUM AIC OF 10 KA. CONTRACTOR TO DETERMINE AVAILABLE FAULT CURRENT BEFORE ENERGIZING EQUIPMENT. THE AMOUNT OF AVAILABLE FAULT CURRENT SHALL BE MARKED ON THE SERVICE EQUIPMENT PER NEC 110.24.
- CONTRACTOR SHALL NOTIFY UTILITY COMPANY OF CHANGES IN ELECTRICAL LOAD.
- CONTRACTOR TO VERIFY EXISTING CONDUIT(S) SIZE(S) PRIOR TO CONSTRUCTION AND MAY REUSE EXISTING CONDUIT(S) IF THEY MEET THE MINIMUM REQUIREMENTS PER NEC CODE.
- GROUNDING ELECTRODE CONDUCTOR IS SIZED FOR SINGLE 200A SERVICE ONLY. IF METER BANK SHARES A COMMON NEUTRAL/GROUND POINT, CONTRACTOR WILL INSTALL (1) 3/0 COPPER GEC INSTALLED.

**UL NOTE:**

ELECTRICAL MATERIALS, DEVICES, CONDUCTORS, APPLIANCES AND EQUIPMENT SHALL BE LABELED/LISTED BY UL OR ACCEPTED BY JURISDICTION (I.E.: LOCAL COUNTY OR STATE) APPROVED THIRD PARTY TESTING AGENCY



**T-Mobile**

35 GRIFFIN ROAD  
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---

**CROWN CASTLE**

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---

**TOWER ENGINEERING PROFESSIONALS**

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(919) 661-6351

TEP JOB #: 217566.498712

---

**T-MOBILE SITE NUMBER:  
CTNH494A**

BU #: 846176  
MADISON DURHAM ROAD  
1749 DURHAM ROAD  
MADISON, CT 06443  
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**EXISTING 119'-0"  
MONOPOLE**

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SHEET NUMBER: <b>E-1</b>	REVISION: <b>0</b>
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② ONE LINE DIAGRAM  
SCALE: NOT TO SCALE

**T-MOBILE GROUNDING NOTES:**

ALL GROUNDS MUST ROUTE DOWNHILL FOR ENTIRE DURATION OF ROUTE

1. PROVIDE LABOR, MATERIALS, INSPECTION, AND TESTING TO PROVIDE CODE COMPLIANCE FOR ELECTRIC, TELEPHONE, AND GROUNDING/LIGHTNING SYSTEMS.

**ICE BRIDGE/EQUIPMENT POST:**

#2 SOLID COPPER TINNED, EXOTHERMICALLY WELDED TO GROUND RING (BOTH ENDS), FINAL WELD COLD GALVANIZED, IN 3/4" NON-METALLIC SEAL TIGHT CONDUIT, SEALED WITH SILICONE, ANCHORED TO PAD/PLATFORM TO AVOID TRIP HAZARD USING HAMMER SET ANCHORS.

**PEDESTALS, PLINTHS, SSC CABINET, FCOA CABINETS:**

1. #2 SOLID COPPER TINNED, 2 HOLE LUG WITH FLAT AND LOCK WASHER AT EQUIPMENT; EXOTHERMICALLY WELDED TO GROUND RING, FINAL WELD COLD GALVANIZED, IN 1/2" NON-METALLIC SEAL TIGHT CONDUIT, SEALED WITH SILICONE, ANCHORED TO PAD TO AVOID TRIP HAZARD USING HAMMER SET ANCHORS. EACH PART REQUIRES A SEPARATE DOWNLEAD, NO DAISY CHAINS.

2. ALL COMPONENTS INSIDE FCOA CABINETS REQUIRE A DEDICATED GROUND.

**COVP's:**

#6 THIN STRANDED (GREEN JACKET), CONNECTED AT EQUIPMENT SIDE USING OVP TERMINAL BLOCK CONNECTION; MECHANICALLY CONNECTED TO GROUND REFERENCE AT MASTER BUSS BAR USING 2 HOLE LUG WITH FLAT AND LOCK WASHER, IN 1/2" NON-METALLIC SEAL TIGHT CONDUIT, SEALED WITH SILICONE, AND ANCHORED TO PAD/PLATFORM TO AVOID TRIP HAZARD.

**ANTENNA/COVP/RRU MAST PIPES:**

1. ALL VERTICAL MAST PIPES: #2 SOLID COPPER TINNED, EXOTHERMICALLY WELDED TO TOP OF PIPE (PIPE, DOWN MOLD), FINAL WELD COLD GALVANIZED, BONDED TO TOP BUSS BAR WITH 2 HOLE COPPER COMPRESSION LUG, FLAT AND LOCK WASHER.

2. EXISTING/REUSED PIPES: #2 SOLID COPPER TINNED, BONDED WITH COLD WATER CLAMP TO TOP OF PIPE, BONDED TO TOP BUSS WITH 2 HOLE COPPER COMPRESSION LUG, FLAT AND LOCK WASHER

**AIR TERMINALS:**

TO BE INSTALLED, ONLY IF REQUIRED.

**TMA's, DIPLEXERS AND TRIPLEXERS:**

1. #6 THIN, WITH PROPER COPPER COMPRESSION LUG, FLATS AND LOCK WASHERS
2. ALL GROUND LUGS ON TMA MUST BE GROUNDED WITH SEPARATE DOWNLEAD TO BUSS BAR (NO DAISY CHAINS)

**ELEVATED STEEL PLATFORMS WITH LUNAR FEET:**

#2 SOLID COPPER TINNED, EXOTHERMICALLY WELDED (FLAT PLATE MOLD) TO OUTSIDE PERIMETER BEAMS IN FOUR (4) PLACES, FINAL WELD COLD GALVANIZED, BONDED DIRECTLY TO SUBGRADE GROUND RING.

**STEEL CANOPY (STEEL PLATFORM OR CONCRETE PAD):**

1. #2 SOLID COPPER TINNED, EXOTHERMICALLY WELDED (PIPE, DOWN MOLD) TO BOTTOM OF ALL VERTICAL SUPPORT POSTS, TYPICALLY FOUR (4) PIPES, FINAL WELD COLD GALVANIZED, BONDED DIRECTLY TO SUBGRADE GROUND RING.

2. #2 SOLID COPPER TINNED, EXOTHERMICALLY WELDED (PIPE, UP MOLD) TO TOP OF ALL VERTICAL SUPPORT POSTS, TYPICALLY FOUR (4) PIPES, FINAL WELD COLD GALVANIZED, BONDED UP TO CANOPY GRIP-STRUT USING 2 HOLE COPPER COMPRESSION LUG, FLAT AND LOCK WASHER

**RRU:**

#6 THIN, WITH PROPER COPPER COMPRESSION LUG, ANTI-OXIDANT TO SECTOR BUSS BAR

**FSBE ALARM BOX:**

#6 THIN WITH ONE HOLE LUG BONDED TO PREVIOUSLY GROUNDED FCOA, PLINTH OR BUSS BAR.

**SURGE SUPPRESSORS:**

#6 THIN TO PREVIOUSLY GROUNDED BUSS BAR USING PROPER LUGS

**FYGA/FYGB BRACKET:**

1. #6 THIN TO PREVIOUSLY GROUNDED BUSS BAR USING PROPER LUGS

2. THROUGH BOLTS WITH FLAT, LOCK OR BRACKET

**BUSS BARS:**

1. PLATFORM / PAD BUSS BAR SHOULD BE MINIMUM 12" TINNED COPPER WITH INSULATORS, AND SHOULD HAVE TWO (2) EXOTHERMICALLY WELDED DOWN LEADS DIRECTLY TO GROUND RING USING #2 SOLID COPPER TINNED WIRE.
2. SECTOR BUSS BAR SHOULD BE PROPERLY SIZED TO ACCOMMODATE NECESSARY GROUNDING FOR EQUIPMENT ON EACH MOUNT, AND MAY BE SOLID COPPER (TINNED NOT REQUIRED). DO NOT USE INSULATORS ON SECTOR BUSS BARS ATTACH DIRECTLY TO TOWER MOUNT STEEL.

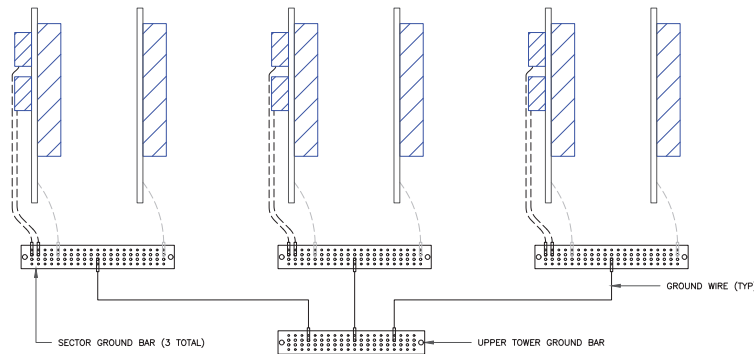
**GENERAL:**

- NO GROUND KITS ON HYBRID TRUNKS (TOP OR BOTTOM)
- NO GROUND KITS ON MICROWAVE IF CABLES (TOP OR BOTTOM)
- MICROWAVE SURGE SUPPRESSORS ARE NOT TO BE INSTALLED UPSTAIRS ON TOWER, DOWNSTAIRS ONLY (BULKHEAD PREFERRED)
- MICROWAVE ODU MUST BE GROUNDED TO TOWER TOP SECTOR OR COLLECTOR BUSS BAR
- ALL TMA's AND DIPLEXERS MUST BE GROUNDED TO BUSS BAR, NO DAISY CHAIN ON TWIN/DUAL TMA
- ALL LUGS SHOULD BE PROPERLY SIZED FOR CONDUCTOR, BURNDY TINNED COPPER COMPRESSION STYLE
  1. INDOOR (OR INSIDE CABINET) SHOULD HAVE WINDOW
  2. OUTDOOR SHOULD NOT HAVE WINDOW
- CONTRACTOR TO VERIFY EXISTENCE AND LOCATION OF EXISTING SITE GROUND SYSTEM.
- CONTRACTOR SHALL VERIFY THAT GROUNDING ELECTRODES SHALL BE CONNECTED IN A RING USING #2 AWG BARE TINNED COPPER WIRE. THE TOP OF THE GROUND RODS AND THE RING CONDUCTOR SHALL BE 30" BELOW FINISHED GRADE, OR TO FROST DEPTH, WHICHEVER IS GREATER. GROUNDING ELECTRODES SHALL BE DRIVEN ON 10'-0" CENTERS (PROVIDE AND INSTALL AS REQUIRED, REQUIRED PER PLAN BELOW).
- GROUNDING CONDUCTORS SHALL BE OF EQUAL LENGTH, MATERIAL, AND BONDING TECHNIQUE.
- CONTRACTOR SHALL ENSURE GROUND RING IS WITHIN 12 TO 36 INCHES OF THE EQUIPMENT PAD. PROVIDE AND INSTALL GROUNDING CONNECTIONS SHOWN BELOW AS NEEDED PER EXISTING SITE GROUNDING SYSTEM. CONTRACTOR SHALL VERIFY ALL EXISTING SITE GROUNDING CONDITIONS BEFORE STARTING WORK OR PURCHASING EQUIPMENT.
- ALL DOWN CONDUCTORS MUST GO DOWN.

ALPHA

BETA

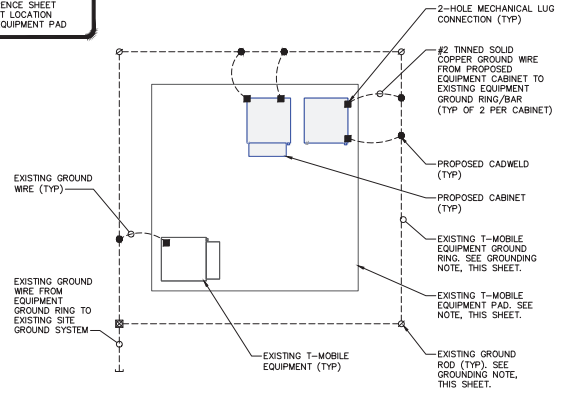
GAMMA



**NOTE:**  
ALL NEW GROUNDS TO BE #6 STRANDED COPPER WITH GREEN INSULATION UNLESS NOTED OTHERWISE.  
GROUNDING SHOWN TYPICAL PER SECTOR.

1 TYPICAL ANTENNA GROUNDING DIAGRAM  
SCALE: NOT TO SCALE

**NOTE:**  
CONTRACTOR TO REFERENCE SHEET C-1.1 & 1.2 FOR EXACT LOCATION AND ORIENTATION OF EQUIPMENT PAD



2 TYPICAL CABINET GROUNDING DIAGRAM  
SCALE: NOT TO SCALE

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**T-MOBILE SITE NUMBER: CTNH494A**  
BU #: 846176  
MADISON DURHAM ROAD  
1749 DURHAM ROAD  
MADISON, CT 06443  
(NEW HAVEN COUNTY)  
EXISTING 119'-0" MONOPOLE

**ISSUED FOR:**

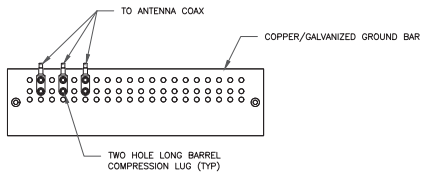
REV	DATE	DRWN	DESCRIPTION	DIS./QA
A	03/01/21	CLR	PRELIMINARY	RSE
B	03/17/21	CLR	CONSTRUCTION	RSE

SEAL:

03/17/21

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

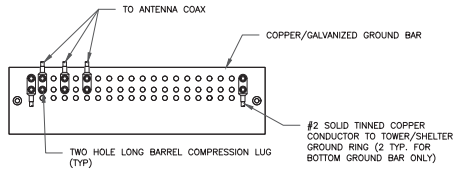
SHEET NUMBER: **G-1** REVISION: **0**



**NOTES:**

1. DOUBLING UP "OR STACKING" OF CONNECTIONS IS NOT PERMITTED.
2. EXTERIOR ANTIOXIDANT JOINT COMPOUND TO BE USED ON ALL EXTERIOR CONNECTIONS.
3. GROUND BAR SHALL NOT BE ISOLATED FROM TOWER. MOUNT DIRECTLY TO ANTENNA MOUNT STEEL.

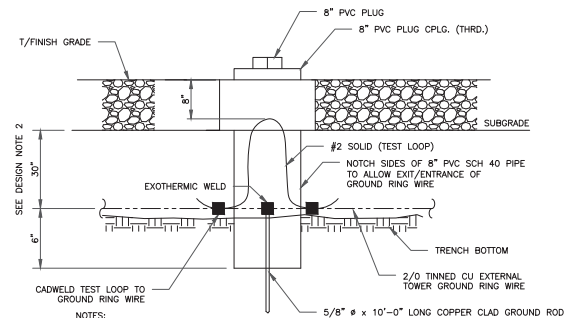
① ANTENNA SECTOR GROUND BAR DETAIL  
SCALE: NOT TO SCALE



**NOTES:**

1. EXTERIOR ANTIOXIDANT JOINT COMPOUND TO BE USED ON ALL EXTERIOR CONNECTIONS.
2. GROUND BAR SHALL NOT BE ISOLATED FROM TOWER. MOUNT DIRECTLY TO TOWER STEEL (TOWER ONLY).
3. GROUND BAR SHALL BE ISOLATED FROM BUILDING OR SHELTER.

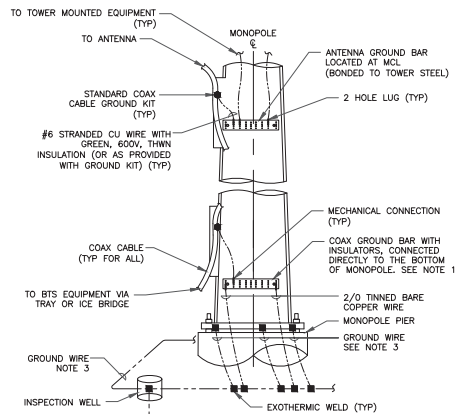
② TOWER/SHELTER GROUND BAR DETAIL  
SCALE: NOT TO SCALE



**NOTES:**

1. GROUND ROD SHALL BE DRIVEN VERTICALLY, NOT TO EXCEED 45 DEGREES FROM THE VERTICAL.
2. GROUND WIRE SHALL BE MIN. 30" BELOW GRADE OR 6" BELOW FROST LINE. (WHICH EVER IS GREATER) AS PER N.E.C. ARTICLE 250-50(D)

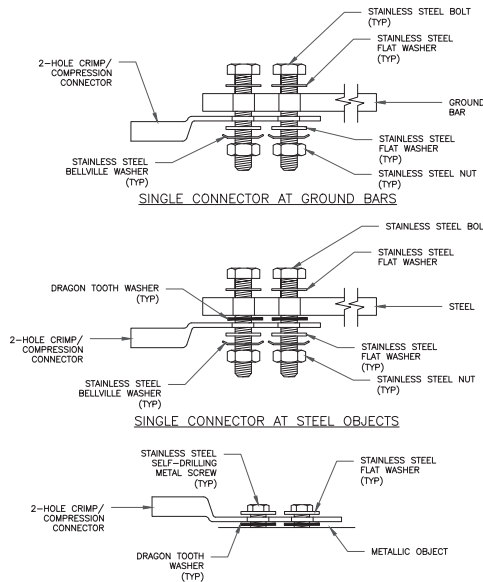
③ INSPECTION WELL DETAIL  
SCALE: NOT TO SCALE



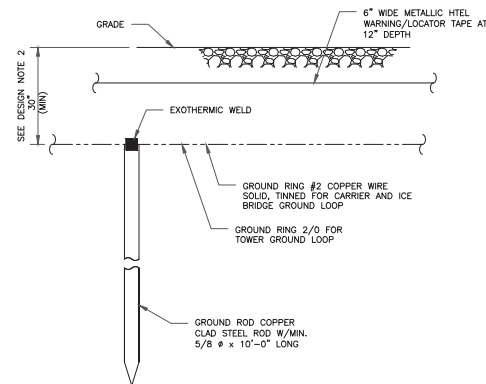
**NOTES:**

1. NUMBER OF GROUNDING BARS MAY VARY DEPENDING ON THE TYPE OF TOWER, ANTENNA LOCATIONS AND CONNECTION ORIENTATION. COAXIAL CABLES EXCEEDING 200 FEET ON THE TOWER SHALL HAVE GROUND KITS AT THE MIDPOINT. PROVIDE AS REQUIRED.
2. ONLY MECHANICAL CONNECTIONS ARE ALLOWED TO BE MADE TO CROWN CASTLE USA INC. TOWERS. ALL MECHANICAL CONNECTIONS SHALL BE TREATED WITH AN ANTI-OXIDANT COATING.
3. ALL TOWER GROUNDING SYSTEMS SHALL COMPLY WITH THE REQUIREMENTS OF THE RECOGNIZED EDITION OF ANS/ITIA 222 AND NFPA 780.

④ TYPICAL ANTENNA CABLE GROUNDING  
SCALE: NOT TO SCALE



⑤ HARDWARE DETAIL FOR EXTERIOR CONNECTIONS  
SCALE: NOT TO SCALE



**NOTES:**

1. GROUND ROD SHALL BE DRIVEN VERTICALLY, NOT TO EXCEED 45 DEGREES FROM THE VERTICAL.
2. GROUND WIRE SHALL BE MIN. 30" BELOW GRADE OR 6" BELOW FROST LINE. (WHICH EVER IS GREATER) AS PER N.E.C. ARTICLE 250-50(D)

⑥ GROUND ROD DETAIL  
SCALE: NOT TO SCALE

**T-Mobile**

35 GRIFFIN ROAD  
BLOOMFIELD, CT 06002

**CROWN CASTLE**

1200 MACARTHUR BLVD, SUITE 200  
MAHWAH, NJ 07430



**TOWER ENGINEERING PROFESSIONALS**

326 TRYON RD  
RALEIGH, NC 27603  
(919) 661-6351

TWP JOB #: 217566.498712

**T-MOBILE SITE NUMBER: CTNH494A**

BU #: 846176  
MADISON DURHAM ROAD

1749 DURHAM ROAD  
MADISON, CT 06443  
(NEW HAVEN COUNTY)

EXISTING 119'-0"  
MONOPOLE

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REV	DATE	DRWN	DESCRIPTION	DIS./QA
A	03/01/21	CLR	PRELIMINARY	RSE
B	03/17/21	CLR	CONSTRUCTION	RSE

SEAL:



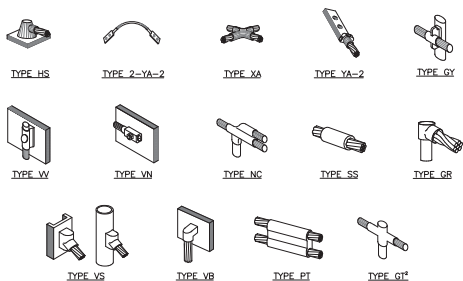
03/17/21

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SHEET NUMBER: REVISION:

G-2

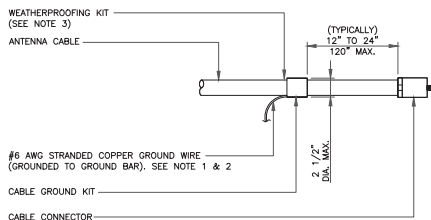
0



**NOTE:**

1. EXO EXOTHERMIC "MOLD TYPES" SHOWN HERE ARE EXAMPLES. CONSULT WITH CONSTRUCTION MANAGER FOR SPECIFIC MOLDS TO BE USED FOR THIS PROJECT.
2. MOLD TYPE ONLY TO BE USED BELOW GRADE WHEN CONNECTING GROUND RING TO GROUND ROD.

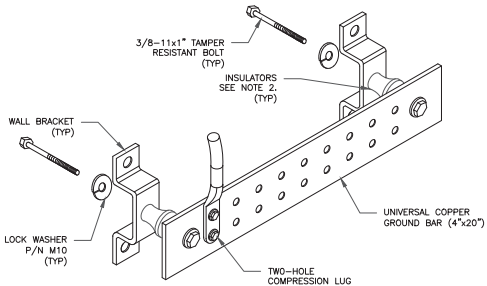
**1 CADWELD GROUNDING CONNECTIONS**  
SCALE: NOT TO SCALE



**NOTES:**

1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
2. GROUNDING KIT SHALL BE TYPE AND PART NUMBER AS SUPPLIED OR RECOMMENDED BY CABLE MANUFACTURER.
3. WEATHER PROOFING SHALL BE TWO-PART TAPE KIT. COLD SHRINK SHALL NOT BE USED.

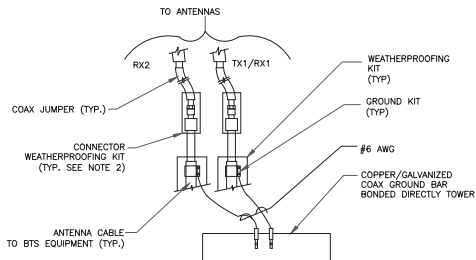
**3 CABLE GROUND KIT CONNECTION**  
SCALE: NOT TO SCALE



**NOTES:**

1. DOWN LEAD (HOME RUN) CONDUCTORS ARE NOT TO BE INSTALLED ON CROWN CASTLE USA INC. TOWER, PER THE GROUNDING DOWN CONDUCTOR POLICY GAS-STD-10091. NO MODIFICATION OR DRILLING TO TOWER STEEL IS ALLOWED IN ANY FORM OR FASHION. CAD-WELDING ON THE TOWER AND/OR IN THE AIR ARE NOT PERMITTED.
2. OMIT INSULATOR WHEN MOUNTING TO TOWER STEEL OR PLATFORM STEEL. USE INSULATORS WHEN ATTACHING TO BUILDING OR SHELTERS.

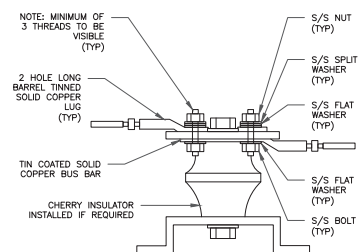
**6 GROUND BAR DETAIL**  
SCALE: NOT TO SCALE



**NOTES:**

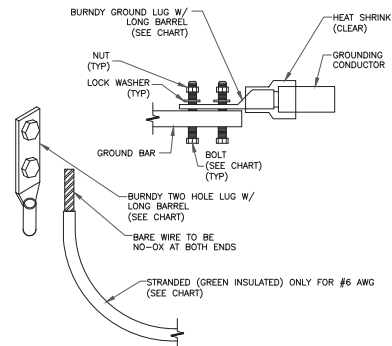
1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO ANTENNA GROUND BAR.
2. WEATHER PROOFING SHALL BE TWO-PART TAPE KIT. COLD SHRINK SHALL NOT BE USED.

**4 GROUND CABLE CONNECTION**  
SCALE: NOT TO SCALE



**7 LUG DETAIL**  
SCALE: NOT TO SCALE

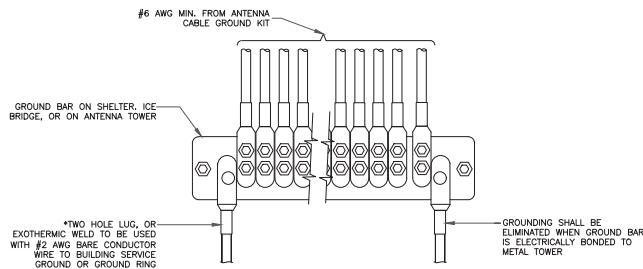
WIRE SIZE	BURNDY LUG	BOLT SIZE
#6 AWG GREEN INSULATED	YA6C-2TC38	3/8" - 16 NC S 2 BOLT
#2 AWG SOLID TINNED	YA3C-2TC38	3/8" - 16 NC S 2 BOLT
#2 AWG STRANDED	YA2C-2TC38	3/8" - 16 NC S 2 BOLT
#2/0 AWG STRANDED	YA26-2TC38	3/8" - 16 NC S 2 BOLT
#4/0 AWG STRANDED	YA28-2N	1/2" - 16 NC S 2 BOLT



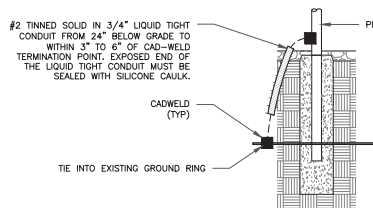
**NOTES:**

1. ALL GROUNDING LUGS ARE TO BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS. ALL HARDWARE BOLTS, NUTS, LOCK WASHERS SHALL BE STAINLESS STEEL. ALL HARDWARE ARE TO BE AS FOLLOWS: BOLT, FLAT WASHER, GROUND BAR, GROUND LUG, FLAT WASHER AND NUT.

**2 MECHANICAL LUG CONNECTION**  
SCALE: NOT TO SCALE



**5 GROUNDWIRE INSTALLATION**  
SCALE: NOT TO SCALE



**8 TRANSITIONING GROUND DETAIL**  
SCALE: NOT TO SCALE

**T-Mobile**

35 GRIFFIN ROAD  
BLOOMFIELD, CT 06002

**CROWN CASTLE**

1200 MACARTHUR BLVD, SUITE 200  
MAHWAH, NJ 07430

**TOWER ENGINEERING PROFESSIONALS**  
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TEP JOB #: 217566-498712

**T-MOBILE SITE NUMBER: CTNH494A**

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MADISON DURHAM ROAD

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EXISTING 119'-0"  
MONOPOLE

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REV	DATE	DRWN	DESCRIPTION	DIS./QA
A	03/01/21	CLR	PRELIMINARY	RSE
B	03/17/21	CLR	CONSTRUCTION	RSE

SEAL:

*[Signature]*



03/17/21

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SHEET NUMBER: **G-3** REVISION: **0**

**APPENDIX B  
CORRESPONDENCE**

## Timothy Vicisko

---

**From:** Victoria Masse <[victoria@northeastsitesolutions.com](mailto:victoria@northeastsitesolutions.com)> on behalf of Victoria Masse  
**Sent:** Thursday, May 26, 2022 3:07 PM  
**To:** David Allen; Timothy Vicisko; Chris Thompson  
**Cc:** Dave deraleau; Amanda Warner  
**Subject:** Fwd: FW: CTNH494A-Sprint Keep-Request for PE Letter  
**Attachments:** Alpha Overall sector from behind (2).jpeg; Beta Overall sector from behind (1).jpeg

**Follow Up Flag:** Follow up  
**Flag Status:** Flagged

David/Tim,  
Please see attached photos and emails below, let us know if you need anything else.

Thank you

----- Forwarded message -----

**From:** Dave deraleau <[dderaleau@northeastsitesolutions.com](mailto:dderaleau@northeastsitesolutions.com)>  
**Date:** Mon, May 23, 2022 at 4:17 PM  
**Subject:** FW: CTNH494A-Sprint Keep-Request for PE Letter  
**To:** Amanda Warner <[amanda@northeastsitesolutions.com](mailto:amanda@northeastsitesolutions.com)>  
**Cc:** Victoria Masse <[victoria@northeastsitesolutions.com](mailto:victoria@northeastsitesolutions.com)>

**From:** Edward Clark <[eclark@d-a-construction.com](mailto:eclark@d-a-construction.com)>  
**Sent:** Monday, May 23, 2022 4:13 PM  
**To:** Brian Saczynski <[brian@d-a-construction.com](mailto:brian@d-a-construction.com)>; Dave deraleau <[dderaleau@northeastsitesolutions.com](mailto:dderaleau@northeastsitesolutions.com)>  
**Subject:** RE: CTNH494A-Sprint Keep-Request for PE Letter

The 2212s are in one housing- essentially naming it 4424- each 2212 dose different technology. One is doing L19 other G19

Dave Deraleau

Construction Manager

[413-858-5009](tel:413-858-5009)

[dderaleau@northeastsitesolutions.com](mailto:dderaleau@northeastsitesolutions.com)





---

**From:** Brian Saczynski <[brian@d-a-construction.com](mailto:brian@d-a-construction.com)>  
**Sent:** Monday, May 23, 2022 4:06 PM  
**To:** Edward Clark <[eclark@d-a-construction.com](mailto:eclark@d-a-construction.com)>; Dave deraleau <[dderaleau@northeastsitesolutions.com](mailto:dderaleau@northeastsitesolutions.com)>  
**Subject:** FW: CTNH494A-Sprint Keep-Request for PE Letter

Dave looking at the photos below you can see that there is two 2212's in one housing.

EC can you confirm-

## **Brian Saczynski**

**Special Projects**

**D&A Construction Management Inc.**

**40 Flax Mill Rd - Branford, CT 06405**

**P: 203-641-2771**

---

**From:** Dave deraleau <[dderaleau@northeastsitesolutions.com](mailto:dderaleau@northeastsitesolutions.com)>  
**Sent:** Monday, May 23, 2022 3:39 PM  
**To:** Brian Saczynski <[brian@d-a-construction.com](mailto:brian@d-a-construction.com)>  
**Subject:** FW: CTNH494A-Sprint Keep-Request for PE Letter

Did we double up on the 2212's here?

Dave Deraleau

Construction Manager

[413-858-5009](tel:413-858-5009)

[dderaleau@northeastsitesolutions.com](mailto:dderaleau@northeastsitesolutions.com)



---

**From:** Amanda Warner <[amanda@northeastsitesolutions.com](mailto:amanda@northeastsitesolutions.com)>  
**Sent:** Monday, May 23, 2022 3:35 PM  
**To:** Dave deraleau <[dderaleau@northeastsitesolutions.com](mailto:dderaleau@northeastsitesolutions.com)>  
**Cc:** Victoria Masse <[victoria@northeastsitesolutions.com](mailto:victoria@northeastsitesolutions.com)>  
**Subject:** FW: CTNH494A-Sprint Keep-Request for PE Letter

Dave,

Can you confirm with D&A what they actually installed for RRUs? The pictures look like they installed a single 2212 instead of the 4424 which apparently has two of the 2212 within in.

---

**From:** Rana, Hansraj <[Hansraj.Rana4@T-Mobile.com](mailto:Hansraj.Rana4@T-Mobile.com)>  
**Sent:** Monday, May 23, 2022 12:42 PM  
**To:** Amanda Warner <[amanda@northeastsitesolutions.com](mailto:amanda@northeastsitesolutions.com)>; Victoria Masse <[victoria@northeastsitesolutions.com](mailto:victoria@northeastsitesolutions.com)>  
**Cc:** Patil, Pratik <[Pratik.Patil30@T-Mobile.com](mailto:Pratik.Patil30@T-Mobile.com)>; Lucey, Michael <[Michael.Lucey@T-Mobile.com](mailto:Michael.Lucey@T-Mobile.com)>  
**Subject:** RE: CTNH494A-Sprint Keep-Request for PE Letter

Hi Amanda,

Actually, Radio 4424 has 2x 2212 Radios in one radio unit. FYI below picture.

## Radio 4424(2x2212) Specifications

Radio 4424(2x2212) B25	
Picture	
Technology	GWL on B25
Max Output Power	4x80W (2x(2x80W))
Radio	4T4R
Spectrum Bands	B25 (G Block capable)
Bandwidth	65 MHz
Dimensions (HxWxD in) Weight (lbs)	16.5" x 13.5" x ~9.6" ~88
RF Connector	4.3-10
Fuse Rating	20A
Data Ports	4 x 10.1Gbps CPRI
Minimum SW needed/availability	LTE: L18.Q1 IP1 WCDMA: W16B IP36 GSM: G16.11

Thanks,

**HansRaj Rana**

RF Engineer

Mobile: (973) 452-5910

[HansRaj.Rana4@T-Mobile.com](mailto:HansRaj.Rana4@T-Mobile.com)

---

**From:** Amanda Warner <[amanda@northeastsitesolutions.com](mailto:amanda@northeastsitesolutions.com)>

**Sent:** Monday, May 23, 2022 10:01 AM

**To:** Rana, Hansraj <[Hansraj.Rana4@t-mobile.com](mailto:Hansraj.Rana4@t-mobile.com)>

**Cc:** Victoria Masse <[victoria@northeastsitesolutions.com](mailto:victoria@northeastsitesolutions.com)>

**Subject:** FW: CTNH494A-Sprint Keep-Request for PE Letter

[External]

Hi Hansraj,

It looks like the 4424 wasn't installed here but rather a 2212. Our PE is asking us to give them an updated RFDS to reflect this in order to give us a letter needed to close out the permits.

Please let us know.

Thank you,

Amanda

---

**From:** Timothy Vicisko <[tvicisko@tepgroup.net](mailto:tvicisko@tepgroup.net)>

**Sent:** Monday, May 23, 2022 9:47 AM

**To:** Amanda Warner <[amanda@northeastsitesolutions.com](mailto:amanda@northeastsitesolutions.com)>; David Allen <[dallen@tepgroup.net](mailto:dallen@tepgroup.net)>; Victoria Masse <[victoria@northeastsitesolutions.com](mailto:victoria@northeastsitesolutions.com)>

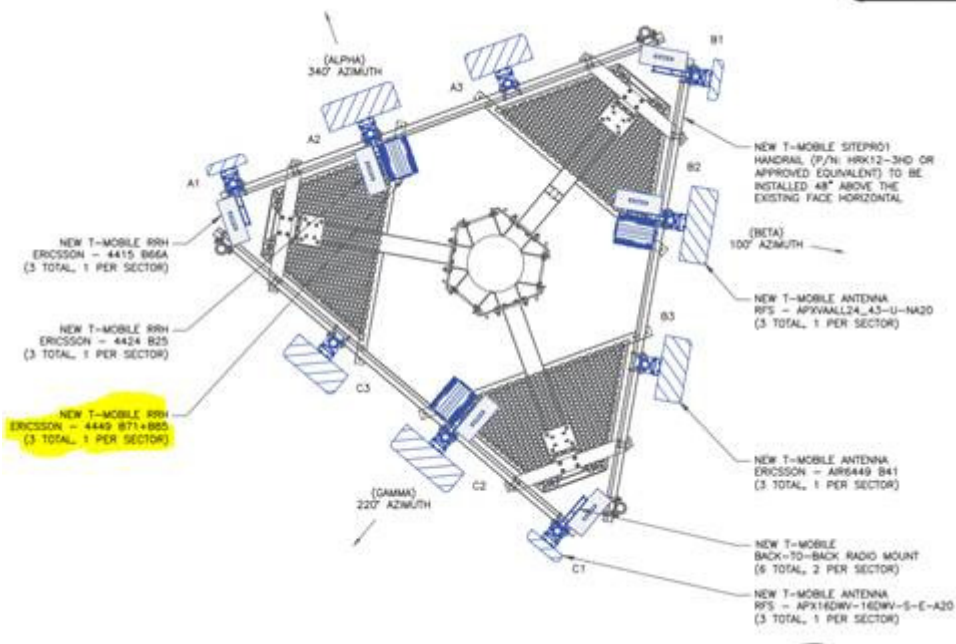
**Cc:** Chris Thompson <[cthompson@tepgroup.net](mailto:cthompson@tepgroup.net)>; Dave deraleau <[dderaleau@northeastsitesolutions.com](mailto:dderaleau@northeastsitesolutions.com)>

**Subject:** RE: CTNH494A-Sprint Keep-Request for PE Letter

Good Morning Victoria,

Can you please send over the updated RFDS sheet for this site? Everything with the T-mo install looked good, except they installed a different radio behind position 2 on all sectors. CD's specify Ericsson 4424 B25, Ericsson 2212 B2 B25 was installed instead, see below.





Thanks,

Tim

Tim Vicisko

**Division Manager – NJ Inspections | Tower Engineering Professionals, Inc.** ([www.tepgroup.net](http://www.tepgroup.net))

53 Stickle Ave, Suite 1, Rockaway, NJ 07866 | Office: (919) 661-6351 | Fax: (919) 661-6350 | Mobile: (732) 770-2100

**From:** Amanda Warner <[amanda@northeastsitesolutions.com](mailto:amanda@northeastsitesolutions.com)>

**Sent:** Wednesday, May 11, 2022 12:39 PM

**To:** David Allen <[dallen@tepgroup.net](mailto:dallen@tepgroup.net)>; Victoria Masse <[victoria@northeastsitesolutions.com](mailto:victoria@northeastsitesolutions.com)>

**Cc:** Timothy Vicisko <[tvicisko@tepgroup.net](mailto:tvicisko@tepgroup.net)>; Chris Thompson <[cthompson@tepgroup.net](mailto:cthompson@tepgroup.net)>; Dave deraleau <[dderaleau@northeastsitesolutions.com](mailto:dderaleau@northeastsitesolutions.com)>

**Subject:** RE: CTNH494A-Sprint Keep-Request for PE Letter

Hello David,

PO attached. Please advise if you require any other information from us in order to proceed with this.