T-Mobile Northeast, LLC

Ryan Clark
Real Estate Consultant
750 W. Center St, Suite 301
W. Bridgewater, MA 02379
Phone: (203) 300-7310
rclark@clinellc.com

August 27, 2021

Members of the Connecticut Siting Council
Connecticut Siting Council
10 Franklin Square
New Britain, Connecticut 06051

Re: **Request for Tower Share**
T-Mobile Northeast, LLC ("T-Mobile") Request for Approval of the Shared Use of an Existing Tower at 138 Main Street Coventry, CT 06238
T-Mobile site: CTHA620A

Dear Members of the Council:

T-Mobile proposes to share an existing telecommunications tower located at 138 Main Street Coventry, CT 06238 (the facility). The subject parcel is identified by the Town of Coventry as Map 49, Block 37. The property and tower are owned by Richard Pelletier. The property is roughly 1.83± acres and accommodates an existing telecommunication compound with two shelters and one concrete pad with telecommunications carriers' cabinets as well as the monopole tower within the compound. The facility is and will continue to be owned and operated by Richard Pelletier.

Pursuant to Connecticut General Statues Section 16-50aa (the Statute), T-Mobile requests a finding from the Connecticut Siting Council that the shared use of this facility is technically, legally, environmentally and economically feasible, will meet safety concerns, will avoid the unnecessary proliferation of towers and is in the public interest. It further requests an order approving the shared use of this facility.

The purpose of this request is to use an existing tower to develop T-Mobile's wireless network to provide high speed wireless data and wireless service within the State of Connecticut and in this part of Coventry: avoiding the need for an additional tower in Coventry.

T-Mobile is licensed by the Federal Communications Commission ("FCC") to provide multiple technologies, including LTE, NR, 5G and GSM including (600,700,1900, 2100, 2500 MHz frequencies) in New London County. T-Mobile is building and enhancing its network to take advantage of its licensed spectrum, and improve its broadband high speed wireless voice and data services

Existing Facility & Proposed Modification

The existing facility is and will continue to be a 100' monopole tower located at 138 Main Street Coventry, CT 06238. Site coordinates (NAD83) are N 41.7525 and W -72.2687. Currently there are two other major commercial wireless carriers located on this tower, whereby T-Mobile now intends to use the vacant space on the lowest part of the tower, beneath Verizon and AT&T. The site plan of the facility is included in the proposed Modifications drawings and Construction drawings, prepared by Centerline Communications dated August 25, 2021, respectively, and enclosed herewith.

T-Mobile intends to install three (3) RFS-APX16DWV, three (3) RFS- APXVAALL24 (3) AIR6449 antennas, three (3) 4460 B25+B66 and three (3) 4480 B71+B85 RRUs, as shown in the construction drawing, to be attached to the monopole tower at the 100' mount level. T-Mobile will also install three (3) 6x24 hybrid fiber cables on the tower. T-Mobile will add a 15' x 15' leased area with one (1) concrete pad and one (1) H-frame and one (1) ice bridge. T-Mobile intends to enter into a new agreement, at this tower height, in order to license the portion of space within the existing and proposed compound for the new 15'-0" x 15'-0" concrete pad with three (3) new cabinets and (1) 35 KW diesel generator.

Consistent with the requirements of the Statute, it is feasible for T-Mobile to collocate at this facility. T-Mobile is proposing to collocate on the existing monopole tower that will continue to remain in the ownership of Richard Pelletier. Included with this application is a Structural Analysis Report from Centerline Communications dated August 27, 2021, that shows that the existing tower can support T-Mobile's proposed equipment once modified and a Structural Mount Assessment Letter dated August 26, 2021 that the mounting design can support the proposed antennas.

The Proposal is Legally Feasible.

The Council has authority, pursuant to statute, to issue an order approving of the shared use of this tower. By issuing an order approving T-Mobile's shared use of this tower, T-Mobile will be able to proceed with obtaining a building permit for the proposed installation. Wireless Solutions, LLC has executed a Letter of Authorization that approved T-Mobile's Request for Tower Share filing, which approval is included with this application. T-Mobile's proposal is legally feasible.

T-Mobile is a telecommunication provider licensed by the FCC to provide service in the State of Connecticut, including but not limited to Tolland County. T-Mobile will enter into an agreement with the owner of this facility, Wireless Solutions, LLC, for the location of this proposed equipment on the existing tower so that it may provide telecommunications services to the surrounding community. Consequently, the proposal is legally feasible.

The Proposal is Environmentally Feasible.

Pursuant to the Statute, the proposal will be environmentally feasible for the following reasons:

- The overall impact on Coventry will be decreased with the sharing of a single tower versus the proliferation of multiple towers.

- There will be no material increase in the visibility of the tower with the addition of the antennas and associated equipment on the tower.

- There will be no increased impact on air quality because no air pollutants will be generated during normal operation of the facility.

- There will only be a brief, slight increase in noise pollution while the site is under construction.

- During construction, the proposed project will generate a small amount of traffic as construction takes place. Upon completion, traffic will be limited to an average of one trip per month for maintenance and inspections.

- There will be no adverse impact to the health and safety of the surrounding community or workers at the facility due to the addition of T-Mobile's new antennas to the tower. T-Mobile has performed an analysis of the radio frequency field emanating from the transmitting antennas on the tower to ensure compliance with the National Council on Radiation Protection and measurements (NCRP) standard for maximum permissible exposure (MPE) adopted by the FCC. The analysis indicates that T-Mobile and other antennas on the tower will cumulatively emit 21.73% of the NCRP standard for maximum permissible exposure. The report indicates that maximum level of exposure will be well below the FCC's mandated radio frequency exposure limits. The report is enclosed herewith.

- T-Mobile expects to enhance safety in this portion of Coventry by improving wireless telecommunications for local residents and travelers. T-Mobile is currently developing its network to provide its customers with quality and reliable coverage to comply with their FCC license, the site is a necessary part of T-Mobile's network development.

- Specifically, this proposal is designed to provide reliable wireless coverage for this section of Coventry.

Conclusions:

For the reasons stated above, the attachment of T-Mobile's antennas and associated equipment to the tower would meet all the requirements set forth in the Statute. The proposal is legally, technically, economically and environmentally feasible and meets all public safety concerns. Therefore, T-Mobile respectfully requests that the Council approve this request for the shared use of this tower located at 138 Main Street Coventry, CT 06238.

Respectfully yours,

Ryan Clark

Real Estate Consultant – Site Acquisition
c/o T-Mobile Northeast, LLC
Centerline Communications, LLC
750 West Center Street, Floor 3 / Suite 301
West Bridgewater, MA 02379
Mobile: (203) 300-7310
rclark@clinellc.com

cc: Richard Pelletier- property and tower owner
John Elsesser, chief elected official, Town of Coventry.
Eric Trott, Director of Land Use, Town of Coventry.
T-Mobile Northeast, LLC- as carrier

Exhibit A

Letter of Authorization

T-Mobile

LETTER OF AUTHORIZATION

SITE No.: CTHA620A

SITE NAME: CTHA620A

ADDRESS: 138 Main Street Coventry, CT

Richard Pelletier, owner of the above-described property, authorizes T-Mobile Northeast, LLC ("T-Mobile") and/or their agent, to act as our nonexclusive agent for the sole purpose of filing and consummating any land use or building permit application(s) necessary to obtain approval of the applicable jurisdiction for T-Mobile's installation of the antennas and related telecommunications equipment on the above-described property.

We understand that this application may be denied, modified or approved with conditions, and that any such conditions of approval or modifications will be the sole responsibility of the carrier and will be complied with prior to issuance of a building permit.

Signature: _____

Print Name: Richard C. Pelletier

Title: MANAGING MEMBER. PELLE LLC.

Exhibit B

Original Facility Approval

ORIGINAL

PETITION NO. 779

CUDDY & FEDER LLP

90 MAPLE AVENUE
WHITE PLAINS, NEW YORK 10601-5196

(914) 761-1300
FACSIMILE (914) 761-5372/6405
www.cuddyfeder.com

500 FIFTH AVENUE
NEW YORK, NEW YORK 10110
(212) 944-2841
FACSIMILE (212) 944-2843

WESTAGE BUSINESS CENTER
300 WESTAGE BUSINESS CENTER, SUITE 380
FISHKILL, NEW YORK 12524
(845) 896-2229
FACSIMILE (845) 896-3672

NORWALK, CONNECTICUT

WILLIAM V. CUDDY
1971-2000

NEIL J. ALEXANDER (also CT)
THOMAS R. BEIRNE (also DC)
STEPHANIE BORTNYK (also NJ)
JOSEPH P. CARLUCCI
LUCIA CHIOCCHIO (also CT)
KENNETH J. DUBROFF
ROBERT FEDER
CHRISTOPHER B. FISHER (also CT)
CINDY M. FOX (also NJ & DC)
ANTHONY B. GIOFFRE III (also CT)
JOSHUA J. GRAUER
KENNETH F. JURIST
MICHAEL L. KATZ (also NJ)
JOSHUA E. KIMERLING (also CT)
DANIEL F. LEARY (also CT)
BARRY E. LONG

EON S. NICHOLS (also CT)
WILLIAM S. NULL
ELISABETH N. RADOW
PAMELA B. RICHARDSON (also NJ)
NEIL T. RIMSKY
RUTH E. ROTH
ANDREW P. SCHRIEVER (also MA)
JENNIFER L. VAN TUYL
CHAUNCEY L. WALKER (also CA)

Of Counsel
ANDREW A. GLICKSON (also CT)
KAREN G. GRANIK
ROBERT L. OSAR (also TX)
MARYANN M. PALERMO
ROBERT C. SCHNEIDER

July 13, 2006

Mr. S. Derek Phelps
Executive Director
Connecticut Siting Council
Ten Franklin Square
New Britain, Connecticut 06051

Re: Petition of Cingular
Replacement of Existing Tower
138 Main Street, Coventry, Connecticut

Dear Mr. Phelps:

Enclosed please find the petition of Cingular for a declaratory ruling with respect to the above referenced matter. I will follow up directly with Council staff next week in anticipation of the need to schedule a site visit with a Council member prior to the full Council's consideration of the Petition. Should you or your staff have any questions in the interim, please do not hesitate to contact me.

Very truly yours,

Christopher B. Fisher

Encs.

cc: John A. Elsesser, Town Manager
Eric M. Trott, Director of Planning & Development
Richard Pelletier
Michele Briggs, Cingular
Steve Levine, Cingular

C&F: 613044.1

CONNECTICUT SITING COUNCIL

PETITION OF NEW CINGULAR WIRELESS PCS, LLC TO THE CONNECTICUT SITING COUNCIL FOR A DECLARATORY RULING THAT NO CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY AND PUBLIC NEED IS REQUIRED TO REPLACE AN EXISTING TOWER IN COVENTRY, CONNECTICUT	)	PETITION NO. __
	)	JULY 13, 2006

PETITION FOR DECLARATORY RULING
REPLACEMENT OF AN EXISTING TOWER
138 MAIN STREET, COVENTRY, CONNECTICUT

I. Introduction

New Cingular Wireless PCS, LLC ("Cingular") hereby petitions the Connecticut Siting Council ("Council") pursuant to Sections 16-50j-38 and 16-50j-39 of the Regulations of Connecticut State Agencies ("R.C.S.A.") for a declaratory ruling that a Certificate of Environmental Compatibility and Public Need ("Certificate") is not required under the provisions of Connecticut General Statutes ("C.G.S.") § 16-50k in order for Cingular to replace an existing lattice tower located at 138 Main Street in the Town of Coventry, Connecticut (the "Tower"). As such, Cingular respectfully requests a declaratory ruling that its modifications to the Tower and related site improvements do not require a Certificate and full docket review by the Council.

II. Existing Facility

The subject property fronts on Main Street (State Route 31) and is classified in the Town's LI (Light Industrial) zoning district at the southernmost portion of Coventry. The property supports several buildings that are used in conjunction with the owner's construction business. The existing tower facility installation consists of a 92.8' lattice Tower with antennas extending to 102' and other equipment at grade. (Coordinates of the existing Tower are (NAD

83) N 41° 45' 07" and W 72° 16' 06"). The property owner currently uses the existing Tower for communications in its business. The Coventry Planning and Zoning Commission recently re-approved a Special Permit to validate the existing Tower at its existing height (apparently there was some question regarding the approved height dating back to the 1970's and the current height of the existing Tower). See Town of Coventry Planner's Letter dated June 13, 2006 annexed hereto as Exhibit A.

III. Proposed Cingular Modifications

The existing Tower does not have the structural capacity to support Cingular's proposed antennas. See structural letter from URS Corporation annexed hereto as Exhibit B. As shown on the plans enclosed in Exhibit C, including a site plan and elevation, Cingular proposes to replace the existing 92.8' lattice Tower with a 93' monopole and relocate it approximately 12'± from the existing Tower. Cingular will install six panel antennas at 90' AGL and relocate the property owner's existing antenna onto the replacement Tower at the same height it now occupies. An existing construction trailer will be relocated by the property owner in order to accommodate Cingular's 11.5' x 20' equipment shelter. The design of the replacement Tower will allow for co-location by other competing wireless carriers.

IV. Municipal Interest in Future Shared Use of the Replacement Tower

Representatives of Cingular attended the Town of Coventry Planning & Zoning Commission meeting in June of 2006 at which the property owner's application to reissue a special permit for the facility was approved. At that time, Cingular advised the Commission of its intent to replace the lattice Tower with a monopole and seek Council approval for same. The Town acknowledged same and requested that space be reserved at the top of the replacement Tower for future use by the Town's emergency communications purposes. As such, the enclosed

plans show the potential for an additional whip antenna to be installed at the top of the replacement Tower by the Town, though no current use is proposed by the Town.

V. The Proposed Modifications Will Not Have A Substantial Adverse Environmental Effect

The proposed modifications involve replacement of an existing lattice Tower with a monopole in kind which will not cause a substantial adverse environmental impact. The replacement Tower with appurtenances will be the same height as the existing Tower, including appurtenances. Photosimulations and existing site condition photographs are included in Exhibit D and demonstrate the lack of any overall change in areas of visibility.

Moreover, the proposed relocation of the replacement Tower approximately 12'± from the site of the existing tower and construction of the equipment shelter will have a de minimus effect on the surrounding area which is already disturbed and supports a construction business. The limits of disturbance of all construction activities will be confined to the minimum extent possible with erosion and sediment control measures installed in accordance with the "Connecticut Guidelines for Soil Erosion and Sediment Control" (Revised 1988) and amendments, as published by the Connecticut Council on Soil and Water Conservation.

Current access to the site is sufficient for Cingular's required service visits and no new access driveway is proposed. No clearing or grading will be required. In addition, the color and texture of the new equipment shelter will be designed to match the existing buildings on site. We note also that neither the existing Tower nor the replacement Tower requires FAA registration, lighting or marking. See TOWAIR results in Exhibit E.

The operation of Cingular's antennas will not increase the total radio frequency electromagnetic power density at the site to a level at or above the applicable standards. As set

forth in a Power Density Report prepared by Cingular, annexed hereto as Exhibit F, the total radio frequency electromagnetic radiation power density at ground level beside the Tower will not be increased to or above the standard adopted by the Connecticut Department of Environmental Protection as set forth in Section 22a-162 of the Connecticut General Statutes and the MPE limits established by the Federal Communications Commission.

VI. Public Need

Annexed hereto in Exhibit G are coverage plots prepared by Cingular's radiofrequency engineers which demonstrate the need for this replacement Tower facility to provide service along State Route 31 between Route 6 and the village center area of Coventry.

VII. Conclusion

Cingular will not need to construct an entirely new telecommunications tower facility to provide coverage in this area of Coventry if the Council approves the replacement Tower facility. The proposed replacement Tower and other modifications are consistent with legislative findings outlined in Section 16-50g and 16-50aa of the General Statutes of Connecticut that seek to avoid the unnecessary proliferation of towers in the State.

For all the foregoing reasons, Cingular petitions the Council for a determination that the proposed replacement Tower and other improvements do not require a Certificate of Environmental Compatibility and Public Need and that the Council issue an order approving same.

Respectfully Submitted,

Christopher B. Fisher
On behalf of New Cingular Wireless PCS, LLC

cc: John A. Elsesser, Town Manager
Eric M. Trott, Director of Planning & Development
Richard Pelletier
Michele Briggs, Cingular
Steve Levine, Cingular

Town of Coventry

Land Use Office
1712 Main Street • Coventry, CT 06238
Planning • Zoning • Wetlands • Economic Development • Conservation
Phone: 860 742-4062 Fax: 860 742-8911 Web: coventryct.org

CERTIFIED MAIL # 7002 1940 0004 5210 6866
June 13, 2006

Richard Pelletier
138 Main Street
Coventry CT 06238

Dear Mr. Pelletier:

At its regular meeting on June 12, 2006, the Coventry Planning and Zoning Commission made the following decision:

Approved the special permit application 06-09S of Richard Pelletier to validate an existing radio tower on property located at 138 Main Street (Assessor's Map 29, Block 55, Lot 18-5); LI Zone.

Reason for decision: The application complies with the applicable criteria.

The Commission also approved the waiver for filing the Mylar per Section 4.3.c.7.

Please see the attached information regarding the filing of the 8-3d form of approval with the Town Clerk's office.

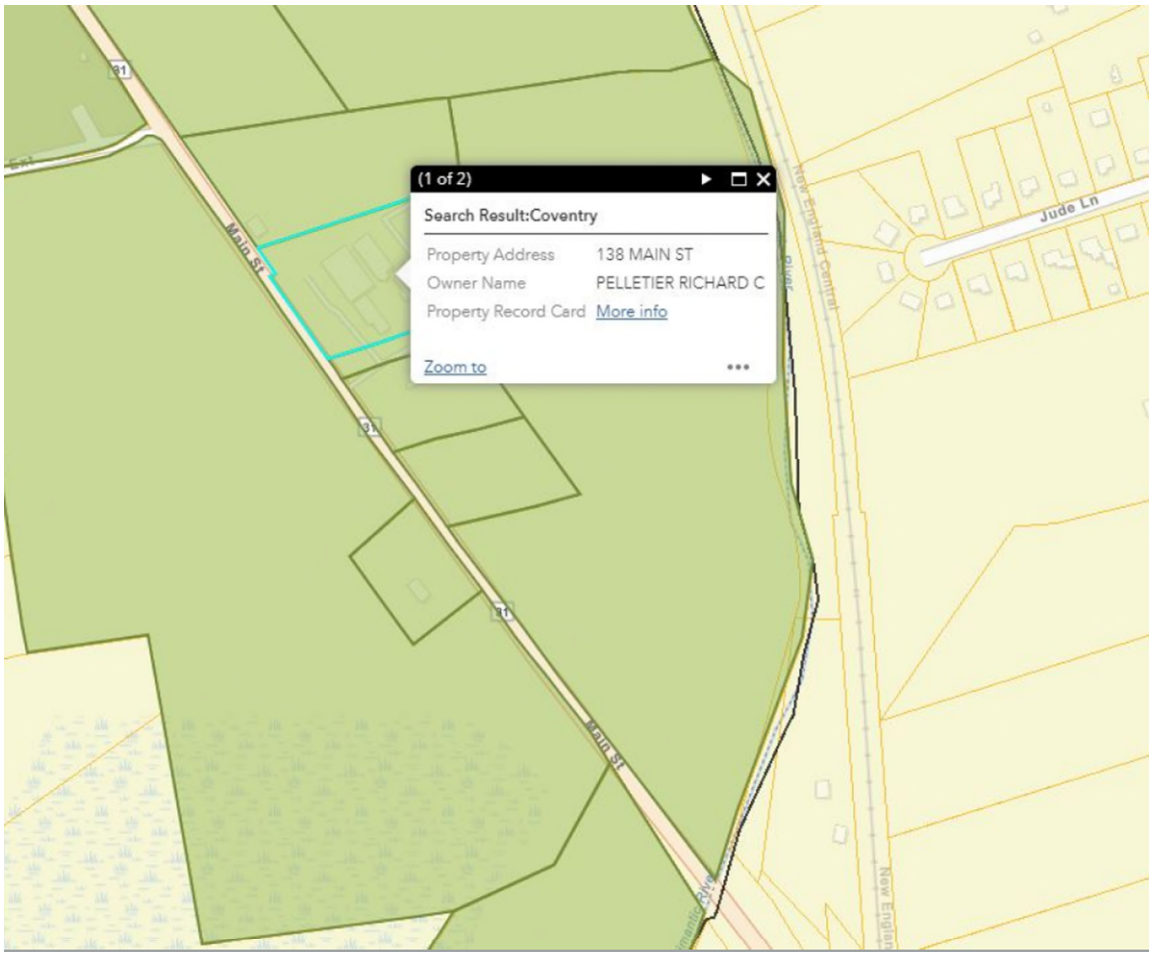
Sincerely,

Eric M. Trott
Director of Planning and Development

EMT/lpe

Exhibit C

Property Card



138 MAIN ST

Location	138 MAIN ST	**Mblu**	49/ / 37/ /
Acct#	R04401	**Owner**	PELLETIER RICHARD C
PBN		**Assessment**	$826,900
Appraisal	$1,181,000	**PID**	4210
Building Count	2		

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2019	$434,600	$746,400	$1,181,000

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2019	$304,400	$522,500	$826,900

Owner of Record

Owner	PELLETIER RICHARD C	**Sale Price**	$0
Co-Owner		**Certificate**	
Address	138 MAIN ST COVENTRY, CT 06238	**Book & Page**	0167/0180
		Sale Date	06/07/1976
		Instrument	29

Ownership History

Ownership History					
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Instrument**	**Sale Date**
PELLETIER RICHARD C	$0		0167/0180	29	06/07/1976

Building Information

Building 1 : Section 1

Year Built:	1988
Living Area:	9,938
Replacement Cost:	$486,863
Building Percent Good:	70

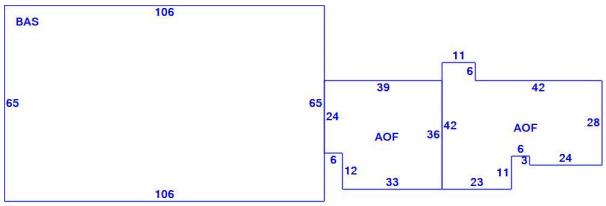
Replacement Cost
Less Depreciation: $340,800

Building Attributes	
Field	**Description**
Style	Office/Warehs
Model	Comm/Ind
Grade	C
Stories:	1
Occupancy	1.00
Exterior Wall 1	Stucco on Mas.
Exterior Wall 2	Pre-finsh Metl
Roof Structure	Gable
Roof Cover	Asphalt Shingl
Interior Wall 1	Drywall
Interior Wall 2	Minimum
Interior Floor 1	Cement
Interior Floor 2	Asphalt Tile
Heating Fuel	Gas
Heating Type	Forced Air
AC Type	None/partial
Struct Class	
Bldg Use	Commercial Improv
Total Rooms	0
Usrfld 216	
Total Baths	
Usrfld 218	
Usrfld 219	
1st Floor Use:	201
Heat/AC	HEAT ONLY
Frame Type	MASONRY
Baths/Plumbing	AVERAGE
Ceiling/Wall	CEIL & MIN WL
Rooms/Prtns	AVERAGE
Wall Height	16.00
% Comn Wall	0.00
Usrfld 100	
Usrfld 302	
Usrfld 301	
Usrfld 303	
Usrfld 103	
Usrfld 107	

Building Photo

(http://images.vgsi.com/photos/CoventryCTPhotos//\00\00\69\65.jpg)

Building Layout



(ParcelSketch.ashx?pid=4210&bid=4210)

Building Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**
BAS	First Floor	6,890	6,890
AOF	Office, (Average)	3,048	3,048
		9,938	9,938

Usrfld 304	
Usrfld 104	
Usrfld 105	
Usrfld 101	
Usrfld 225	
Usrfld 300	
Usrfld 220	
Usrfld 221	
Usrfld 102	
Usrfld 701	
Usrfld 106	
Usrfld 305	
Usrfld 900	No
Usrfld 901	No

Building 2 : Section 1

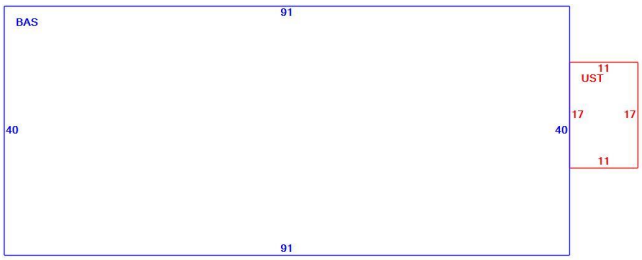
Year Built: 1988
Living Area: 3,640
Replacement Cost: $99,992
Building Percent Good: 56
Replacement Cost Less Depreciation: $56,000

Building Attributes : Bldg 2 of 2	
Field	**Description**
Style	Warehouse
Model	Comm/Ind
Grade	D+
Stories:	1
Occupancy	1.00
Exterior Wall 1	Pre-finsh Metl
Exterior Wall 2	
Roof Structure	Shed
Roof Cover	Metal/Tin
Interior Wall 1	Minimum
Interior Wall 2	
Interior Floor 1	Cement
Interior Floor 2	
Heating Fuel	None
Heating Type	None
AC Type	None/partial
Struct Class	
Bldg Use	Commercial Improv

Building Photo

(http://images.vgsi.com/photos/CoventryCTPhotos//\00\00\51\35.jpg)

Building Layout



(ParcelSketch.ashx?pid=4210&bid=20065)

Building Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**
BAS	First Floor	3,640	3,640
UST	Utility, Storage, Unfinished	187	0

Total Rooms	0
Usrfld 216	
Total Baths	
Usrfld 218	
Usrfld 219	
1st Floor Use:	201
Heat/AC	HEAT ONLY
Frame Type	STEEL
Baths/Plumbing	AVERAGE
Ceiling/Wall	CEIL & MIN WL
Rooms/Prtns	AVERAGE
Wall Height	10.00
% Comn Wall	0.00
Usrfld 100	
Usrfld 302	
Usrfld 301	
Usrfld 303	
Usrfld 103	
Usrfld 107	
Usrfld 304	
Usrfld 104	
Usrfld 105	
Usrfld 101	
Usrfld 225	
Usrfld 300	
Usrfld 220	
Usrfld 221	
Usrfld 102	
Usrfld 701	
Usrfld 106	
Usrfld 305	
Usrfld 900	No
Usrfld 901	No

		3,827	3,640

Extra Features

Extra Features				Legend
Code	**Description**	**Size**	**Value**	**Bldg #**
A/C	Air Condition	1716.00 S.F.	$2,400	1
MEZ1	Mezzanine-Unf	144.00 S.F.	$800	1

Land

Land Use

Use Code	201
Description	Commercial Improv
Zone	RD
Neighborhood	C
Alt Land Appr	No
Category	

Land Line Valuation

Size (Acres)	1.83
Frontage	
Depth	
Assessed Value	$522,500
Appraised Value	$746,400

Outbuildings

Outbuildings						Legend
Code	**Description**	**Sub Code**	**Sub Description**	**Size**	**Value**	**Bldg #**
PAV1	Paving			15700.00 S.F.	$19,800	1
SHD1	Shed			225.00 S.F.	$2,100	1
FN9	Fence- Average			800.00 S.F.	$2,700	1
TNK1	Elevated Tank			6000.00 GALS	$10,000	1

Valuation History

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2018	$392,800	$746,400	$1,139,200
2018	$392,800	$746,400	$1,139,200
2017	$392,800	$746,400	$1,139,200

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2018	$275,000	$522,500	$797,500
2018	$275,000	$522,500	$797,500
2017	$275,000	$522,500	$797,500

Exhibit D

Construction Drawings

PROJECT INFORMATION

SITE NAME:	CTHA620A
SITE NUMBER:	CTHA620A
SITE ADDRESS:	138 MAIN STREET COVENTRY, CT 06238
COUNTY	TOLLAND
ZONING:	R
LATITUDE:	N 41.7525 (NAD83)
LONGITUDE:	W -72.2687 (NAD83)
TYPE OF SITE:	MONOPOLE
STRUCTURE HEIGHT:	100'-0" AGL
ANTENNA CENTER:	80'-0" AGL
GROUND ELEVATION:	289' (NAVD 88)
TOWER OWNER NAME:	RICHARD PELLITIER
TOWER OWNER ADDRESS:	138 MAIN STREET COVENTRY, CT 06238
APPLICANT:	T-MOBILE NORTHEAST, LLC. 35 GRIFFIN RD S BLOOMFIELD, CONNECTICUT 06002
APPLICANT PHONE:	(860) 692-7100

PROJECT DIRECTORY

ENGINEERING FIRM:
CENTERLINE COMMUNICATIONS
750 WEST CENTER ST, SUITE 301
WEST BRIDGEWATER, MA 02379
DEREK CREASER (617) 306-3034

CARRIER:
T-MOBILE NORTHEAST, LLC.
35 GRIFFIN RD S
BLOOMFIELD, CT 06002
PHONE: (860) 692-1700

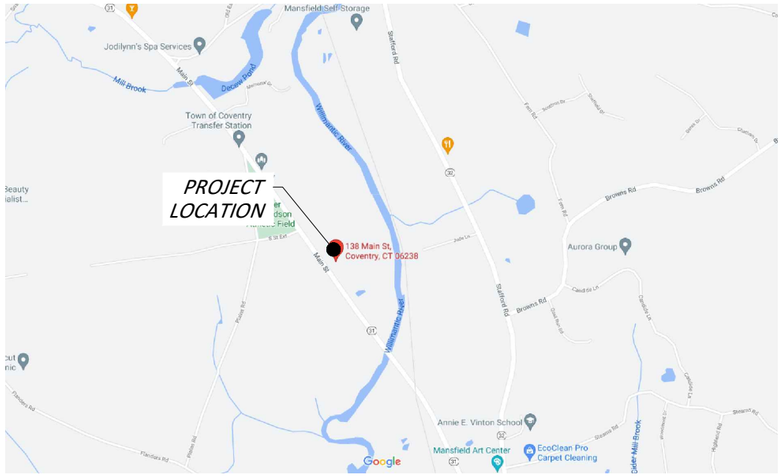
811 Know what's below. Call before you dig.

CENTERLINE COMMUNICATIONS

T - Mobile NORTHEAST LLC

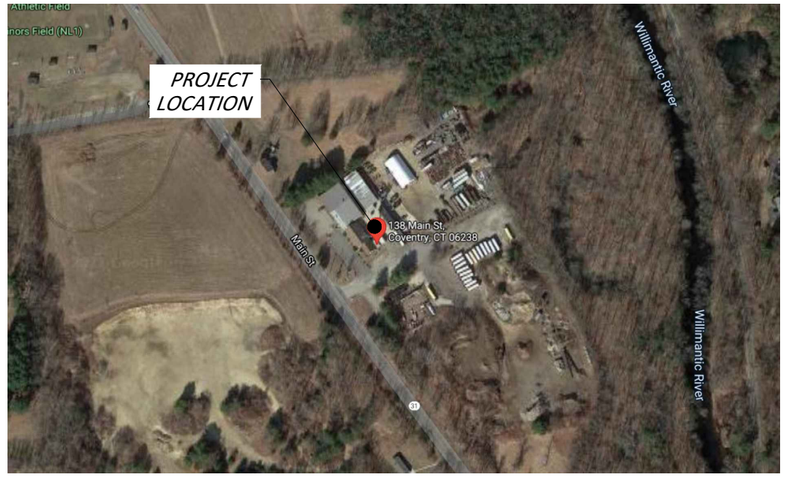
SITE NAME: CTHA620A
SITE ID: CTHA620A
ADDRESS: 138 MAIN STREET
COVENTRY, CT 06238

TECHNOLOGY: 67E5A998E 6160
MODIFICATION: COVERAGE STRATEGY_REGIONAL COVERAGE



VICINITY MAP
NOT TO SCALE

N



LOCATION MAP
NOT TO SCALE

GENERAL NOTES

1. THIS DOCUMENT IS THE CREATION, DESIGN, PROPERTY AND COPYRIGHTED WORK OF T-MOBILE. ANY DUPLICATION OR USE WITHOUT EXPRESS WRITTEN CONSENT IS STRICTLY PROHIBITED. DUPLICATION AND USE BY GOVERNMENT AGENCIES FOR THE PURPOSE OF CONDUCTING THEIR LAWFULLY AUTHORIZED REGULATORY AND ADMINISTRATIVE FUNCTIONS IS SPECIFICALLY ALLOWED.

2. THE FACILITY IS AN UNMANNED PRIVATE AND SECURED EQUIPMENT INSTALLATION. IT IS ONLY ACCESSED BY TRAINED TECHNICIANS FOR PERIODIC ROUTINE MAINTENANCE AND THEREFORE DOES NOT REQUIRE ANY WATER OR SANITARY SEWER SERVICE. THE FACILITY IS NOT GOVERNED BY REGULATIONS REQUIRING PUBLIC ACCESS PER ADA REQUIREMENTS.

3. CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE T-MOBILE REPRESENTATIVE IN WRITING OF DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

SCOPE OF WORK

1. INSTALL NINE NEW T-MOBILE ANTENNAS
2. INSTALL SIX NEW RRUs
3. INSTALL ONE NEW H-FRAME
4. INSTALL ONE NEW PURCELL CABINET
5. INSTALL ONE NEW PPC CABINET
6. INSTALL ONE NEW 25KW AC DIESEL GENERATOR
7. INSTALL ONE NEW LOW PROFILE ANTENNA MOUNT ASSEMBLY
8. INSTALL ONE NEW ICE BRIDGE
9. INSTALL ONE NEW 6160 AC ENCLOSURE
10. INSTALL ONE NEW B160 BATTERY ENCLOSURE
11. INSTALL THREE NEW 6X24 HYBRID CABLES
12. INSTALL ONE NEW CONC. EQUIPMENT SLAB ON GRADE

DRAWING INDEX

NO.	DESCRIPTION
T-1	TITLE SHEET
GN-1	GENERAL NOTES, RF NOTES, CABLING NOTES
A-1	COMPOUND PLAN
A-2	EQUIPMENT LAYOUT
A-3	DETAILS
A-4	SOUTH ELEVATION
A-5	ANTENNA LAYOUTS & SCHEDULE
A-6	DETAILS
A-7	CONCRETE DETAIL
A-9	STRUCTURAL DETAILS
A-10	STRUCTURAL DETAILS
SN-1	STRUCTURAL NOTES & SPECIAL INSPECTIONS
G-1	GROUNDING DETAILS
E-1	ELECTRICAL DETAILS

DRAWING SCALE NOTES:

THESE DRAWINGS ARE FORMATTED TO BE FULL SIZE AT 22"x34". CONTRACTOR SHALL VERIFY ALL PLANS & EXISTING DIMENSIONS & CONDITIONS ON THE JOB SITE & SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

T - Mobile NORTHEAST LLC
T-MOBILE NORTHEAST, LLC.
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REVISIONS

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A	05/25/21	ISSUED FOR REVIEW	JIK

DESIGNED BY:	APPROVED BY:
JIK	WRD

STATE OF CONNECTICUT
DEREK J. CREASER
No. 28551
LICENSED PROFESSIONAL ENGINEER

DATE: 08/25/21

SITE NAME: CTHA620A
SITE ID: CTHA620A
SITE ADDRESS: 138 MAIN STREET COVENTRY, CT 06238 TOLLAND COUNTY

SHEET TITLE: **TITLE SHEET**
DRAWING: **T-1**

RF NOTES

1. ACTUAL LENGTHS SHALL BE DETERMINED PER SITE CONDITION BY SUBCONTRACTOR
2. THE DESIGN IS BASED ON RF DATA SHEETS, SIGNED AND APPROVED.
3. RADIO SIGNAL CABLE AND RACEWAY SHALL COMPLY WITH THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC, NFPA 70), CHAPTER 8.
4. ALL SPECIFIED MATERIAL FOR EACH LOCATION (E.G. OUT DOORS-OCCUPIED, INDOORS-UNOCCUPIED, PLENUMS, RISER SHAFTS, ETC.) SHALL BE APPROVED, LISTED, OR LABELED AS REQUIRED BY THE NEC.
5. RADIO SIGNAL CABLE SHALL BE SUPPORTED AT MINIMUM OF EVERY THREE (3) FEET EXCEPT INSIDE MONOPOLES OR MONOPOLES WHERE CABLE AND CONNECTOR MANUFACTURERS SUPPORT RECOMMENDATIONS SHALL BE FOLLOWED. MANUFACTURER RECOMMENDATION CABLES SUPPORT ACCESSORIES SHALL BE USED.
6. THE OUTDOOR CABLE SUPPORT SYSTEM SHALL BE PROVIDED WITH AN ICE SHIELD TO SUPPORT AND PROTECT ANTENNA CABLE RUNS.
7. DRIP LOOPS SHALL BE REQUIRED ON ALL OUTSIDE CABLES. CABLES SHALL BE SLOPED AWAY FROM BUILDING OR OUTDOOR BTS CABINETS TO PREVENT WATER FROM ENTERING THROUGH THE COAXIAL CABLE PORT.
8. ALL FEEDER LINE AND JUMPER CONNECTORS SHALL BE 7/16 DIN CABLE CONNECTORS THAT MEET IP68 STANDARDS.
9. 7/16 DIN CONNECTORS REQUIRE NO ADDITIONAL WEATHER PROOFING IN INDOOR APPLICATIONS IF INSTALLED AND TORQUED PROPERLY. IN OUTDOOR APPLICATIONS WEATHER PROOFING IS REQUIRED AND THE FOLLOWING PROCEDURE SHOULD BE FOLLOWED.
10. USING WEATHERPROOFING KIT APPROVED BY CABLE MANUFACTURER AND CONTRACTOR START TAPE APPROXIMATELY 5 INCHES FROM THE CONNECTOR, AND WRAP 2 INCHES TOWARD THE CONNECTOR, THEN REVERSE THE TAPE SO THAT THE STICKY SIDE IS UP. TAPE OVER THE CONNECTOR OR SURGE ARRESTOR UNTIL THREE (3) TO FOUR (4) INCHES BEYOND THE CONNECTOR AND REVERSE AGAIN WITH THE STICKY SIDE DOWN FOR ANOTHER INCH OR TWO. PASS THE BUTYL RUBBER AND FINISH WITH A FINAL LAYER OF TAPE.
11. ANTENNAS SHALL BE PAINTED,WHEN REQUIRED, BY THE LANDLORD OR AUTHORITY OF HAVING JURISDICTION IN ACCORDANCE WITH ANTENNA MANUFACTURERS' SURFACES PREPARATION AND PAINTING REQUIREMENTS.
12. CABLE SHIELDS AND TOWER CONDUITS SHALL BE GROUNDED AT THE TOP OF THE TOWER WITHIN 10 FEET OF THEIR CONNECTORS, AND AT THE BOTTOM OF THE TOWER ABOUT 6 INCHES BEFORE THEY TURN TOWARD THE FACILITY. THEY SHALL BE GROUNDED AT THE MIDPOINT OF THE TOWERS THAT ARE BETWEEN 60 FEET AND 200 FEET HIGH, AND AT INTERVALS OF 60 FEET OR LESS ON TOWERS THAT ARE HIGHER THAN 200 FEET.

ANTENNA CABLE & SCHEDULING NOTES

1. SUBCONTRACTOR SHALL VERIFY THE ACTUAL LENGTH IN THE FIELD BEFORE INSTALLATION.
2. TAG AND COLOR CODE ALL MAIN CABLES AT LOCATIONS PER T-MOBILE ANTENNA CABLE MARKING STANDARD:
   - TOP OF TOWER END OF MAIN COAX
   - BOTTOM OF TOWER END OF MAIN COAX
   - DIRECTLY BEFORE AND AFTER RF EQUIPMENT
   - END OF JUMPERS AT BTS EQUIPMENT
3. ANTENNAS SHALL BE PROCURED AND INSTALLED WITH DOWN TILT MOUNTING BRACKETS SUPPLIED BY ANTENNA MANUFACTURER.
4. PRIOR APPROVAL IS REQUIRED BEFORE PERFORMING ANY WORK ON EXISTING CELL SITE EQUIPMENT.

GENERAL NOTES

1. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:
   CONTRACTOR - CENTERLINE COMMUNICATIONS
   SUBCONTRACTOR - GENERAL CONTRACTOR (CONSTRUCTION)
   OWNER - T-MOBILE MOBILITY
2. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CONTRACTOR.
3. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. SUBCONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
4. DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.
5. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
6. "KITTING LIST" SUPPLIED WITH THE BID PACKAGE IDENTIFIES ITEMS THAT WILL BE SUPPLIED BY CONTRACTOR. ITEMS NOT INCLUDED IN THE BILL OF MATERIALS AND KITTING LIST SHALL BE SUPPLIED BY THE SUBCONTRACTOR.
7. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
8. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION SPACE FOR APPROVAL BY THE CONTRACTOR.
9. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND T1 CABLES, GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWING. SUBCONTRACTOR SHALL UTILIZE EXISTING TRAYS AND/OR SHALL ADD NEW TRAYS AS NECESSARY. SUBCONTRACTOR SHALL CONFIRM THE ACTUAL ROUTING WITH THE CONTRACTOR.
10. THE SUBCONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT SUBCONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.
11. SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
12. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.
13. ALL CONCRETE REPAIR WORK SHALL BE DONE IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE (ACI) 301.
14. ANY NEW CONCRETE NEEDED FOR THE CONSTRUCTION SHALL BE AIR-ENTRAINED AND SHALL HAVE 4000 PSI STRENGTH AT 28 DAYS. ALL CONCRETE WORK SHALL BE DONE IN ACCORDANCE WITH ACI 318 CODE REQUIREMENTS.
15. ALL STRUCTURAL STEEL WORK SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH AISC SPECIFICATIONS. ALL STRUCTURAL STEEL SHALL BE ASTM A36 (Fy = 36 ksi) UNLESS OTHERWISE NOTED. PIPES SHALL BE ASTM A53 TYPE E (Fy = 36 ksi). ALL STEEL EXPOSED TO WEATHER SHALL BE HOT DIPPED GALVANIZED. TOUCHUP ALL SCRATCHES AND OTHER MARKS IN THE FIELD AFTER STEEL IS ERECTED USING A COMPATIBLE ZINC RICH PAINT.
16. CONSTRUCTION SHALL COMPLY WITH SPECIFICATIONS AND "GENERAL CONSTRUCTION SERVICES FOR CONSTRUCTION OF T-MOBILE MOBILITY SITES."
17. SUBCONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS MUST BE VERIFIED. SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.
18. THE EXISTING CELL SITE IS IN FULL COMMERCIAL OPERATION. ANY CONSTRUCTION WORK BY SUBCONTRACTOR SHALL NOT DISRUPT THE EXISTING NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH CONTRACTOR. ALSO, WORK SHOULD BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.
19. SINCE THE CELL SITE IS ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE ADVISED TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.
20. APPLICABLE BUILDING CODES:
SUBCONTRACTOR'S WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ) FOR THE LOCATION. THE EDITION OF THE AHJ ADOPTED CODES AND STANDARDS IN EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN.

BUILDING CODE: IBC 2015 & CONNECTICUT STATE BUILDING CODE 2018
ELECTRICAL CODE: 2017 NATIONAL ELECTRICAL CODE
LIGHTNING CODE: NFPA 70-2017

SUBCONTRACTOR'S WORK SHALL COMPLY WITH THE LATEST EDITION OF THE FOLLOWING STANDARDS:

AMERICAN CONCRETE INSTITUTE (ACI) 318; BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE;

AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC)

MANUAL OF STEEL CONSTRUCTION, ASD, FOURTEENTH EDITION;

TELECOMMUNICATIONS INDUSTRY ASSOCIATION (TIA) 222-G, STRUCTURAL STANDARDS FOR STEEL

ANTENNA TOWER AND ANTENNA SUPPORTING STRUCTURES; REFER TO ELECTRICAL DRAWINGS FOR SPECIFIC ELECTRICAL STANDARDS.

FOR ANY CONFLICTS BETWEEN SECTIONS OF LISTED CODES AND STANDARDS REGARDING MATERIAL, METHODS OF CONSTRUCTION, OR OTHER REQUIREMENTS, THE MOST RESTRICTIVE REQUIREMENT SHALL GOVERN. WHERE THERE IS CONFLICT BETWEEN A GENERAL REQUIREMENT AND A SPECIFIC REQUIREMENT, THE SPECIFIC REQUIREMENT SHALL GOVERN.

ABBREVIATIONS

AGL	ABOVE GRADE LEVEL	G.C.	GENERAL CONTRACTOR	RF	RADIO FREQUENCY
AWG	AMERICAN WIRE GAUGE	MGB	MASTER GROUND BUS		
BCW	BARE COPPER WIRE	MIN	MINIMUM	TBD	TO BE DETERMINED
BTS	BASE TRANSCEIVER STATION	PROPOSED	NEW	TBR	TO BE REMOVED
EXISTING	EXISTING	N.T.S.	NOT TO SCALE	TBRR	TO BE REMOVED AND REPLACED
EG	EQUIPMENT GROUND	REF	REFERENCE	TYP	TYPICAL
EGR	EQUIPMENT GROUND RING	REQ	REQUIRED		

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REVISIONS

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A	05/25/21	ISSUED FOR REVIEW	JIK

DESIGNED BY:	APPROVED BY:
JIK	WRD

STATE OF CONNECTICUT
DEREK J. CREASER
No. 28551
LICENSED PROFESSIONAL ENGINEER

DATE: 08/25/21

SITE NAME: CTHA620A

SITE ID: CTHA620A

SITE ADDRESS:
138 MAIN STREET
COVENTRY, CT 06238
TOLLAND COUNTY

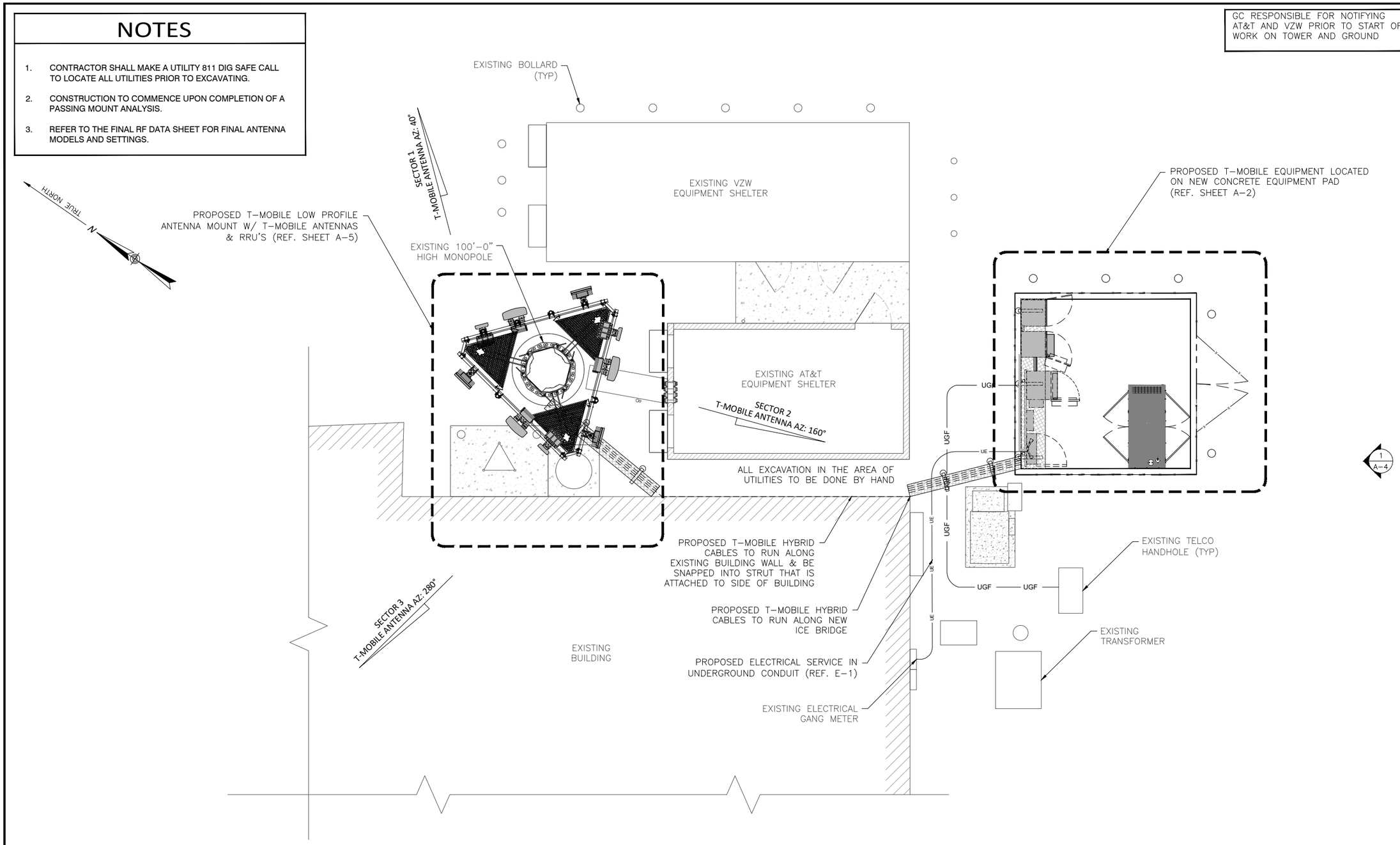
SHEET TITLE: GENERAL NOTES, RF NOTES, CABLING NOTES

DRAWING: GN-1

NOTES

1. CONTRACTOR SHALL MAKE A UTILITY 811 DIG SAFE CALL TO LOCATE ALL UTILITIES PRIOR TO EXCAVATING.
2. CONSTRUCTION TO COMMENCE UPON COMPLETION OF A PASSING MOUNT ANALYSIS.
3. REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA MODELS AND SETTINGS.

GC RESPONSIBLE FOR NOTIFYING AT&T AND VZW PRIOR TO START OF WORK ON TOWER AND GROUND



1 A-1 COMPOUND PLAN

GRAPHIC SCALE

8 4 0 1 2 4 8

1/4 INCH = 1 FOOT (22X34)
1/8 INCH = 1 FOOT (11X17)

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STATE OF CONNECTICUT
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DATE: 08/25/21

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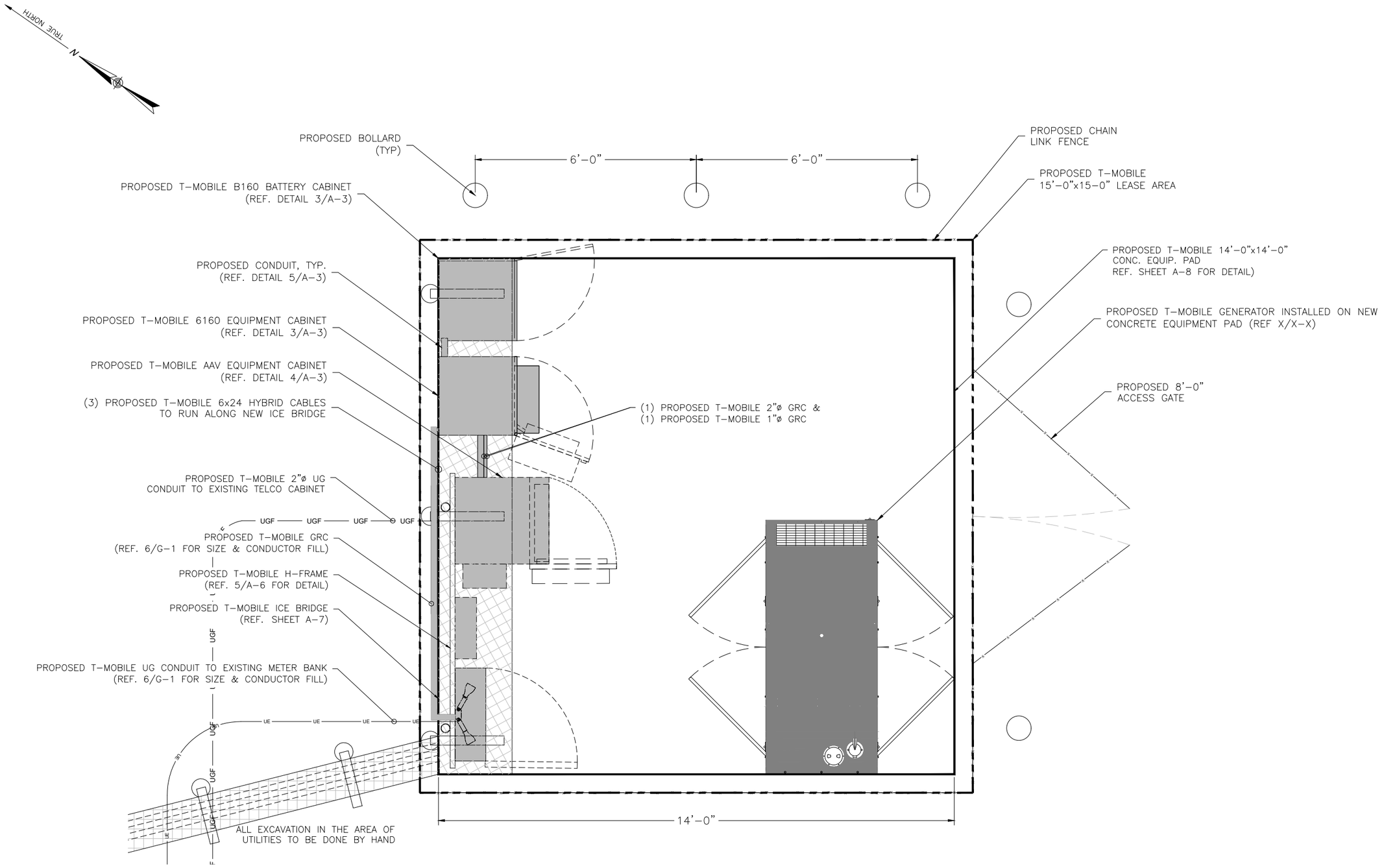
TOLLAND COUNTY

SHEET TITLE: COMPOUND PLAN

DRAWING: A-1



1 / A-2 EQUIPMENT PLAN

GRAPHIC SCALE

4 2 0 1 2 4

3/4 INCH = 1 FOOT (22X34)
3/8 INCH = 1 FOOT (11X17)

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DEREK J. CREASER
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DATE: 08/25/21

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TOLLAND COUNTY

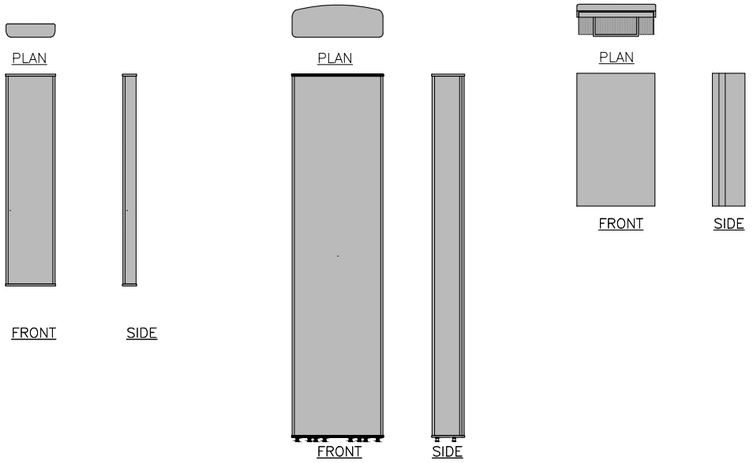
SHEET TITLE: EQUIPMENT PLAN

DRAWING: A-2

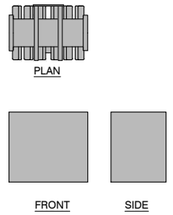
RFS APX16DWV-16DWVS-E-A20	
MODEL #	APX16DWV-16DWV-S-E-A20
MANUF.	RFS
HEIGHT	55.9"
WIDTH	13.3"
DEPTH	3.15"
WEIGHT	40.7 LBS

RFS APXVAALL24_43-U-NA20	
MODEL #	APXVAALL24_43-U-NA20
MANUF.	RFS
HEIGHT	95.9"
WIDTH	24.0"
DEPTH	8.5"
WEIGHT	128 LBS/153.3 LBS with Mounting Hardware

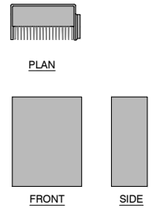
ERICSSON AIR 6449 B41	
MODEL #	AIR 6449 B41
MANUF.	ERICSSON
HEIGHT	33.1"
WIDTH	20.6"
DEPTH	8.6"
WEIGHT	104.0 LBS



1 A-3 ANTENNA DETAILS



RADIO DIMENSIONS	
MODEL #	RADIO 4460 B25_B66
MANUF.	ERICSSON
HEIGHT	15.1"
WIDTH	17.0"
DEPTH	11.9"
WEIGHT	108 LBS

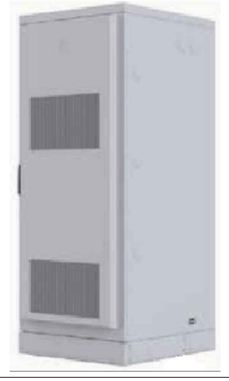


RADIO DIMENSIONS	
MODEL #	RADIO 4480 B66
MANUF.	ERICSSON
HEIGHT	19.5"
WIDTH	15.1"
DEPTH	7.8"
WEIGHT	87 LBS

2 A-3 RADIO DETAILS

6160 AC ENCLOSURE

CAPACITY	
RACK SPACE USER EQUIP.	19U(19" RACK)
HARDWARE CAPABILITIES	POWER AND CPRI SUPPORT FOR MULTI-STANDARD REMOTE RADIOS (RRU OR AIR) ERS BASEBAND AND TRANSPORT UNITS Li-ION BATTERIES 3PP EQUIPMENT ADDITIONAL POWER FEED OPTIONS AVAILABLE
MECHANICAL SPECIFICATIONS	
WEIGHT	320lbs (INCLUDING ACTIVE EQUIPMENT)
DIMENSIONS (HWD)	63"x26"x26" (INCLUDING BASE FRAME)
BASE FRAME HEIGHT	6"
MOUNTING POSITION	GROUND
ENCLOSURE MATERIAL	ALUMINUM
COLOR	POWDER PAINT NCS 2002-B
DOOR	FRONT ACCESS
RACK TYPE	19" (IEC 60297-3-100)
LOCK TYPE	CYLINDER/PAD LOCK
POWER SYSTEM	
INPUT VOLTAGE	3P+N+PE 346/200-415/240 VAC 2P+N+PE 208/120-220/127 VAC 1P+N+PE 200-250 VAC



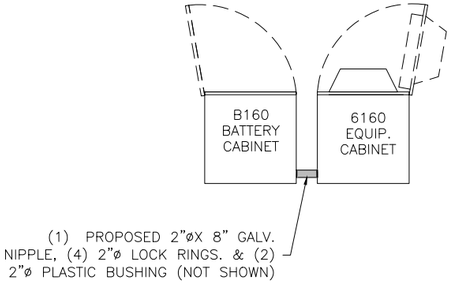
B160 BATTERY ENCLOSURE

CAPACITY	
VRLA12V:	100Ah/150Ah/170Ah/190Ah/210Ah
Li-ION	24U 19"/23"
SODIUM-NICKEL	3xFIAMM
ELECTRICAL SPECIFICATIONS	
DC OUTPUT	-48VDC/200A
BATTERY BREAKERS	2x125/2p
ALARMS	DOOR OPEN, CLIMATE FAILURE, MCB CONNECTION
MECHANICAL SPECIFICATIONS	
WEIGHT	295 lbs (PLUS 3 STRINGS OF RECOMMENDED 190 aHR FOR ADDITIONAL 1588LBS)
DIMENSIONS (HWD)	63"x26"x26" (INCLUDING BASE FRAME)
BASE FRAME HEIGHT	6"
MATERIAL	GALVANIZED STEEL (180g/m²)
COLOR	POWDER PAINT NCS 2002-B
LOCKING TYPE	CYLINDER/PAD LOCK

3 A-3 PROPOSED EQUIPMENT CABINET SPECIFICATIONS

AAV CABINET	
MODEL #	NETXTEND 2416
MANUF.	EMERSON
HEIGHT	24.0"
WIDTH	24.0"
DEPTH	16.67"
WEIGHT	64 LBS/100 LBS with (4) BATERIES

4 A-3 AAV CABINET DETAIL



5 A-3 PROPOSED EQUIPMENT CONDUIT DETAIL

T - Mobile
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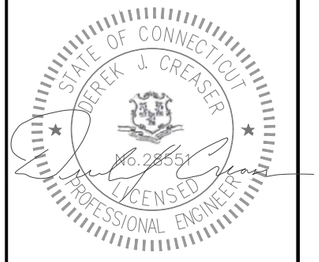

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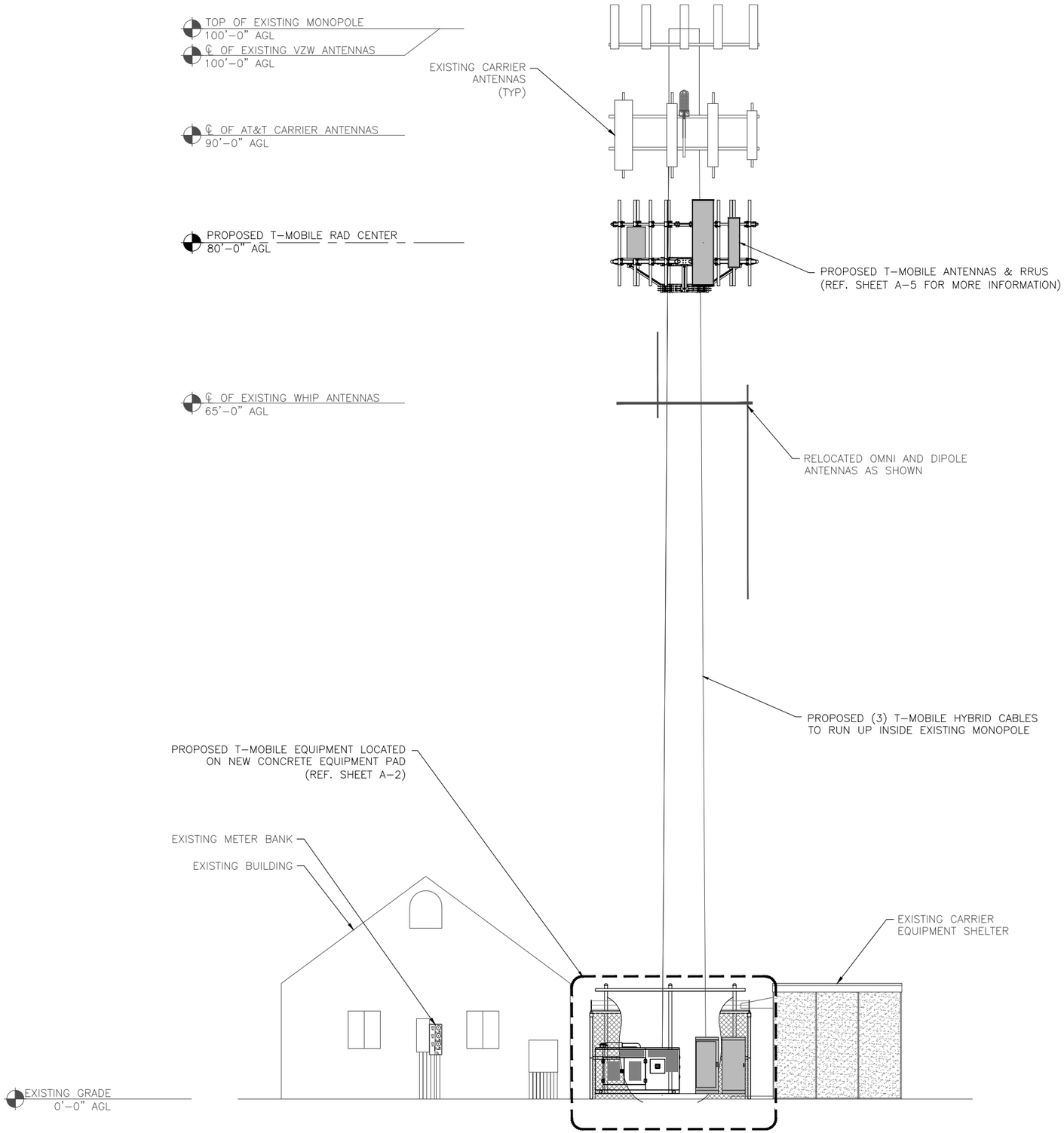
SHEET TITLE: EQUIPMENT DETAILS

DRAWING: A-3



1 / A-4 SOUTH ELEVATION

GRAPHIC SCALE

8 4 0 1 2 4 8

3/16 INCH = 1 FOT (22X34)
3/32 INCH = 1 FOT (11X17)

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TOLLAND COUNTY

SHEET TITLE: SOUTH ELEVATION

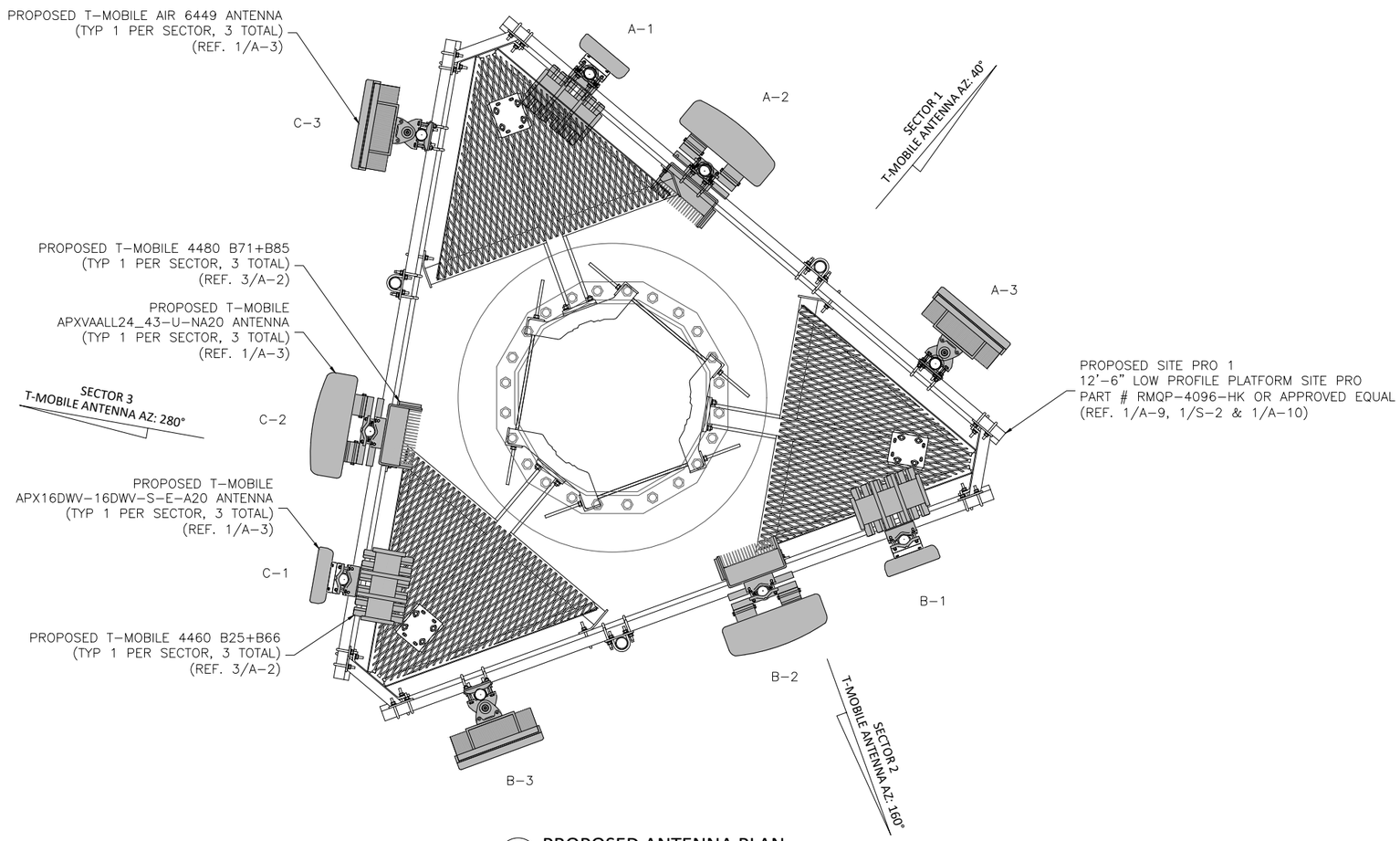
DRAWING: A-4

ANTENNA & CABLE NOTES:

1. REFERENCE STRUCTURAL ANALYSIS FOR FURTHER INFORMATION REGARDING THE CAPACITY OF THE EXISTING STRUCTURE TO SUPPORT THIS EQUIPMENT UPGRADE.
2. REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.
3. REMOVE ALL UNUSED CABLE, RRUs AND TMAs.
4. PAINT ANTENNAS AND EQUIP. TO MATCH EXISTING.

ANTENNA & CABLE SCHEDULE:

	LOCATION	AZIMUTH	RAD CENTER	STATUS	TECHNOLOGY	ANTENNA MODEL NO.	MECH DOWNTILT	ELEC DOWNTILT	CABLES	DIPLEXERS	TMA/RRU	CABLE SIZE	CABLE LENGTH
ALPHA	A-1	40°	80'-0	PROPOSED	L2100, L1900, G1900	APX16DWV-16DWV-S-E-A20	0°	2°/2°	(2) COAX JUMPER (X2)	N/A	4460 B25+B66	6x24 HYBRID	170'
	A-2	40°	80'-0	PROPOSED	L700, L600, N600	APXVAALL24_43-U-NA20	0°	2°/2°/2°/2°	(2) COAX JUMPER (X2)	N/A	4480 B71+B85	SHARED	N/A
	A-3	40°	80'-0	PROPOSED	L2500, N2500	AIR6449 B41	0°	2°/2°	N/A	N/A	N/A	SHARED	N/A
BETA	B-1	160°	80'-0	PROPOSED	L2100, L1900, G1900	APX16DWV-16DWV-S-E-A20	0°	2°/2°	(2) COAX JUMPER (X2)	N/A	4460 B25+B66	6x24 HYBRID	170'
	B-2	160°	80'-0	PROPOSED	L700, L600, N600	APXVAALL24_43-U-NA20	0°	2°/2°/2°/2°	(2) COAX JUMPER (X2)	N/A	4480 B71+B85	SHARED	N/A
	B-3	160°	80'-0	PROPOSED	L2500, N2500	AIR6449 B41	0°	2°/2°	N/A	N/A	N/A	SHARED	N/A
GAMMA	G-1	280°	80'-0	PROPOSED	L2100, L1900, G1900	APX16DWV-16DWV-S-E-A20	0°	2°/2°	(2) COAX JUMPER (X2)	N/A	4460 B25+B66	6x24 HYBRID	170'
	G-2	280°	80'-0	PROPOSED	L700, L600, N600	APXVAALL24_43-U-NA20	0°	2°/2°/2°/2°	(2) COAX JUMPER (X2)	N/A	4480 B71+B85	SHARED	N/A
	G-3	280°	80'-0	PROPOSED	L2500, N2500	AIR6449 B41	0°	2°/2°	N/A	N/A	N/A	SHARED	N/A
NOTE: DARK TEXT IN TABLE ABOVE DENOTES PROPOSED EQUIPMENT											(3) TOTAL 6x24 HYBRID CABLES		510'



1 / A-5 PROPOSED ANTENNA PLAN

GRAPHIC SCALE

8 4 0 1 2 4 8

1/4 INCH = 1 FOOT (22X34)
1/8 INCH = 1 FOOT (11X17)

T - Mobile
NORTHEAST LLC

T-MOBILE NORTHEAST, LLC.
35 GRIFFIN RD S
BLOOMFIELD, CT 06002
PHONE: (860) 629-1700

CENTERLINE COMMUNICATIONS

750 W CENTER ST, SUITE 301
WEST BRIDGEWATER, MA 02379
PHONE: 781.713.4725

REVISIONS

REV	DATE	DESCRIPTION	BY
0	08/25/21	ISSUED FOR CONSTRUCTION	SS
A	05/25/21	ISSUED FOR REVIEW	JIK

DESIGNED BY:	APPROVED BY:
JIK	WRD

STATE OF CONNECTICUT
DEREK J. CREASER
No. 28551
LICENSED PROFESSIONAL ENGINEER

DATE: 08/25/21

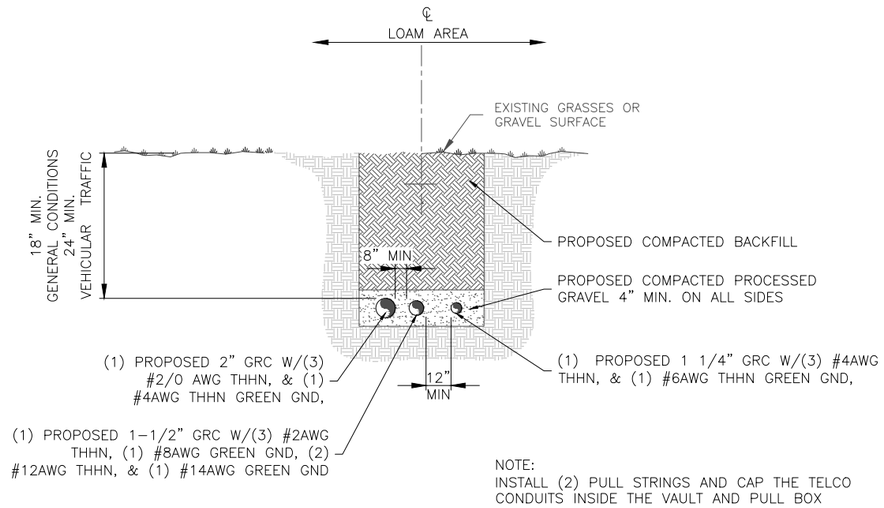
SITE NAME: CTHA620A

SITE ID: CTHA620A

SITE ADDRESS: 138 MAIN STREET
COVENTRY, CT 06238
TOLLAND COUNTY

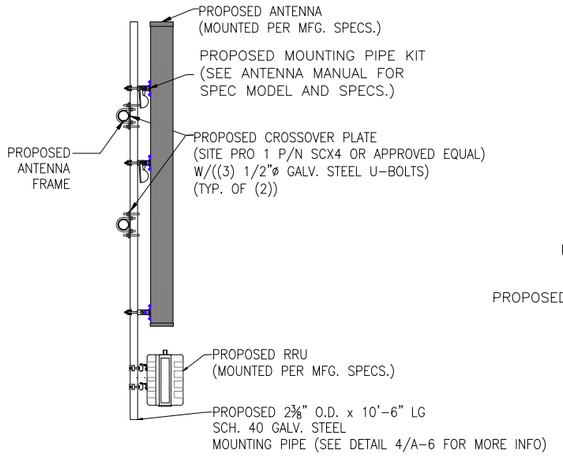
SHEET TITLE: ANTENNA PLAN & SCHEDULE

DRAWING: A-5



NOTE:
INSTALL (2) PULL STRINGS AND CAP THE TELCO CONDUITS INSIDE THE VAULT AND PULL BOX

1 A-6 **TELCO AND POWER JOINT TRENCH CONDUIT**



3 A-6 **PROPOSED ANTENNA MOUNT DETAIL**

SITE PRO 1 — Product Info

Pxxx: Bulk Pipe

Features:
- Factory cut end, hot-dip galvanized pipe

Construction:
- ASTM A53 Grade B
- Schedule 40

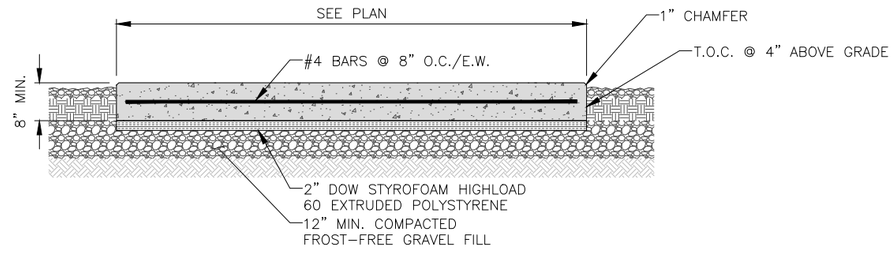
Design Criteria:
- ASTM A53 Grade B (Yield Fy – 35 ksi [240 MPa] / Tensile Fu – 60 ksi [415 MPa])
- Hot dip galvanized in accordance with ASTM A123 requirements

Part #	Length	OD x Length (in)	Weight
P296	8'-0"	2-3/8" x 96"	30 lb
P2126	10'-6"	2-3/8" x 126"	39 lb

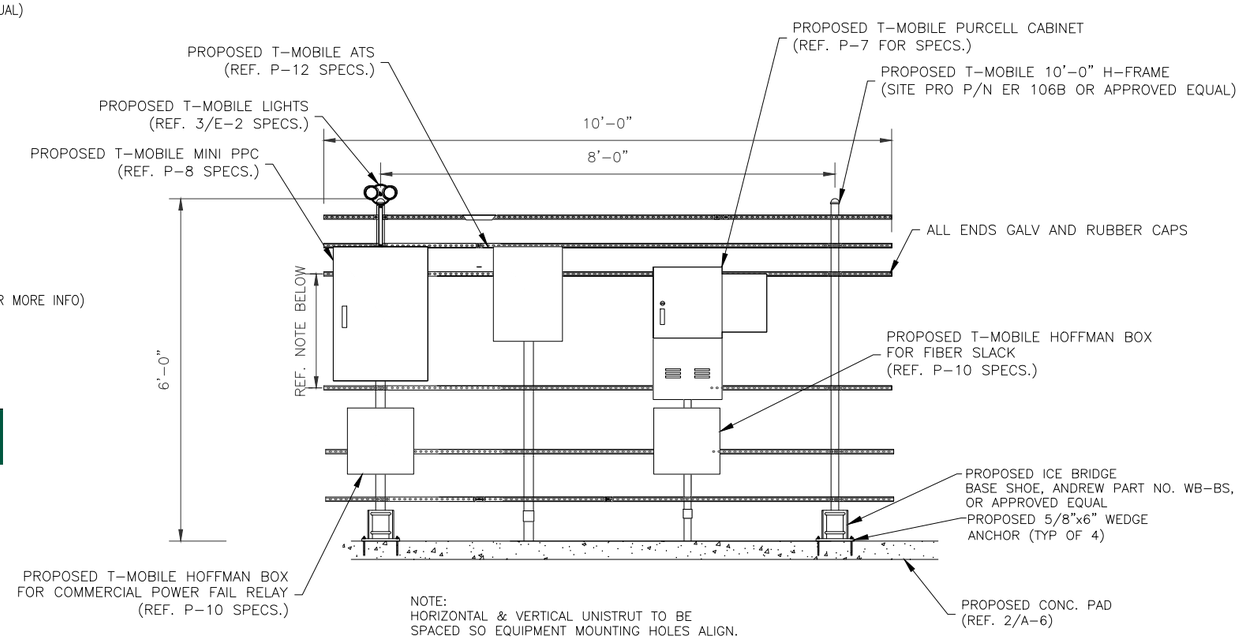
4 A-6 **ANTENNA MOUNTING PIPE SPECS.**

FOUNDATION NOTES & CONCRETE SPECIFICATIONS:

1. FOUNDATION AREA SHALL BE EXCAVATED TO THE DEPTH AND DIMENSIONS SHOWN ON THE PLANS. EXISTING LEDGE AND ALL OTHER EXISTING UNSUITABLE MATERIAL SHALL BE REMOVED AND LEGALLY DISPOSED OF OFF-SITE. THE SUBGRADE SHALL BE ROLLED WITH A 1-TON, VIBRATORY, WALK-BEHIND ROLLER AT A SPEED OF LESS THAN 2 FPS, 6 PASSES MINIMUM, TO PROVIDE UNYIELDING SURFACE.
2. UNDERCUT SOFT OR "WEAVING" AREAS A MINIMUM OF 12 INCHES DEEP. BACKFILL UNDERCUT AREA WITH FILL MEETING THE SPECIFICATIONS OF STRUCTURAL FILL.
3. CONCRETE TO HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH (f'c)=4000 psi. CONCRETE TO BE AIR ENTRAINED, DESIRED AIR CONTENT TO BE 6% (PLUS OR MINUS 2%)
4. REINFORCING BAR TO BE ASTM A615 GRADE 60.
5. WELDED WIRE FABRIC TO CONFORM TO THE REQUIREMENTS OF ASTM A185. WIRES FOR FABRIC TO CONFORM TO THE REQUIREMENTS OF ASTM A82.
6. ALL REINFORCING TO HAVE MINIMUM CONCRETE COVER PER ACI SPECIFICATIONS.
7. ALL CONCRETE MATERIALS AND WORKMANSHIP SHALL CONFORM TO LATEST EDITION OF ACI 318 AND APPLICABLE STATE BUILDING CODE.
8. LEASE AREA IS ON A SLOPE. GRADE LEASE AREA AS REQUIRED TO FACILITATE INSTALLATION OF LEVEL CONCRETE SLAB.
9. SLOPE SLAB TO ALLOW FOR WATER DRAINAGE AWAY FROM SITE.



2 A-6 **CONCRETE SLAB DETAIL**



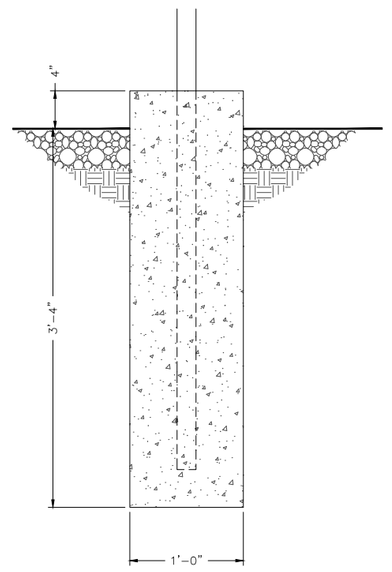
NOTE:
HORIZONTAL & VERTICAL UNISTRUT TO BE SPACED SO EQUIPMENT MOUNTING HOLES ALIGN.

5 A-6 **H-FRAME DETAIL**

GRAPHIC SCALE

4 2 0 1 2 4

3/4 INCH = 1 FOOT (22X34)
3/8 INCH = 1 FOOT (11X17)



NOTE:
SEE FOUNDATION NOTES AND CONCRETE SPECIFICATIONS ABOVE FOR MORE INFO.

6 A-6 **DIRECT BURIAL FOOTING FOR ICE BRIDGE**

T - Mobile
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PHONE: (860) 629-1700

CENTERLINE COMMUNICATIONS

750 W CENTER ST, SUITE 301
WEST BRIDGEWATER, MA 02379
PHONE: 781.713.4725

REVISIONS

REV	DATE	DESCRIPTION	BY
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A	05/25/21	ISSUED FOR REVIEW	JIK

DESIGNED BY:	APPROVED BY:
JIK	WRD

STATE OF CONNECTICUT
DEREK J. CREASER
No. 28551
LICENSED PROFESSIONAL ENGINEER

DATE: 08/25/21

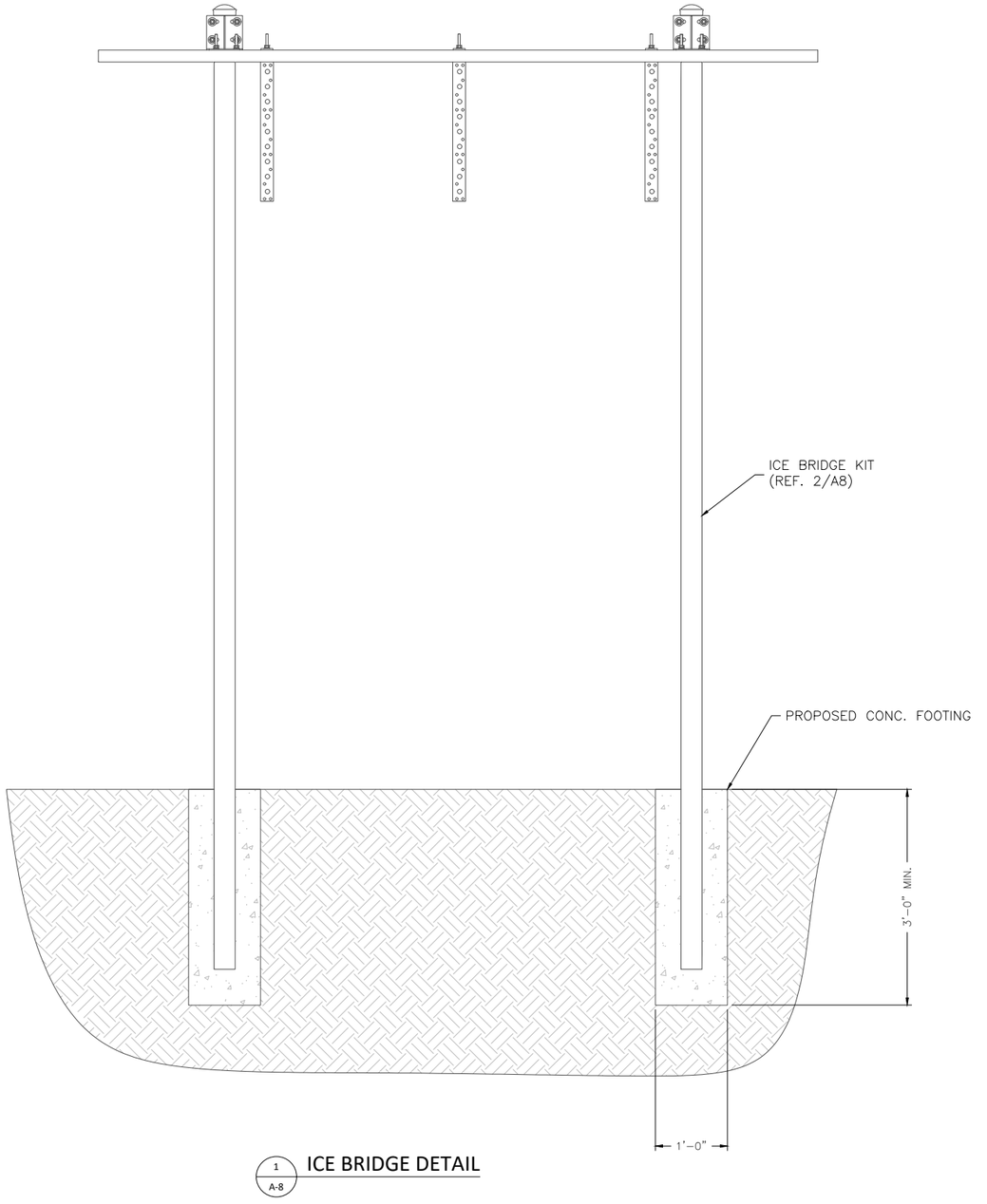
SITE NAME: CTHA620A

SITE ID: CTHA620A

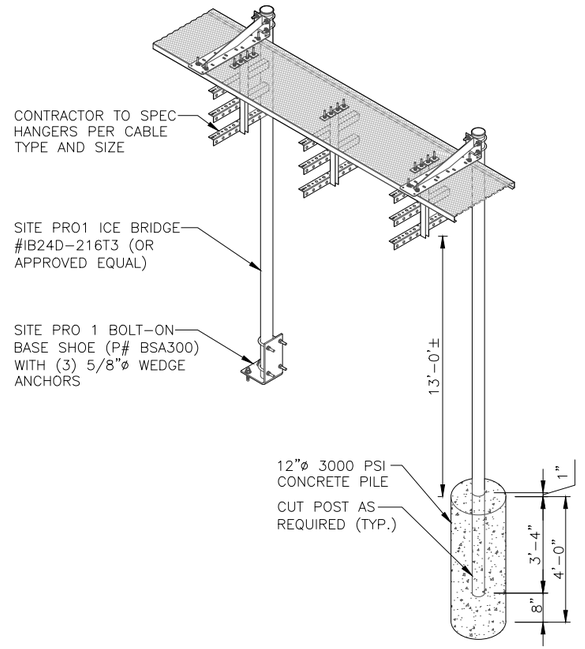
SITE ADDRESS:
138 MAIN STREET
COVENTRY, CT 06238
TOLLAND COUNTY

SHEET TITLE: DETAILS

DRAWING: A-6



1 A-8 ICE BRIDGE DETAIL



2 A-8 ICE BRIDGE SPECS

T - Mobile
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T-MOBILE NORTHEAST, LLC.
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STATE OF CONNECTICUT
DEREK J. CREASER
No. 28551
LICENSED
PROFESSIONAL ENGINEER

DATE: 08/25/21

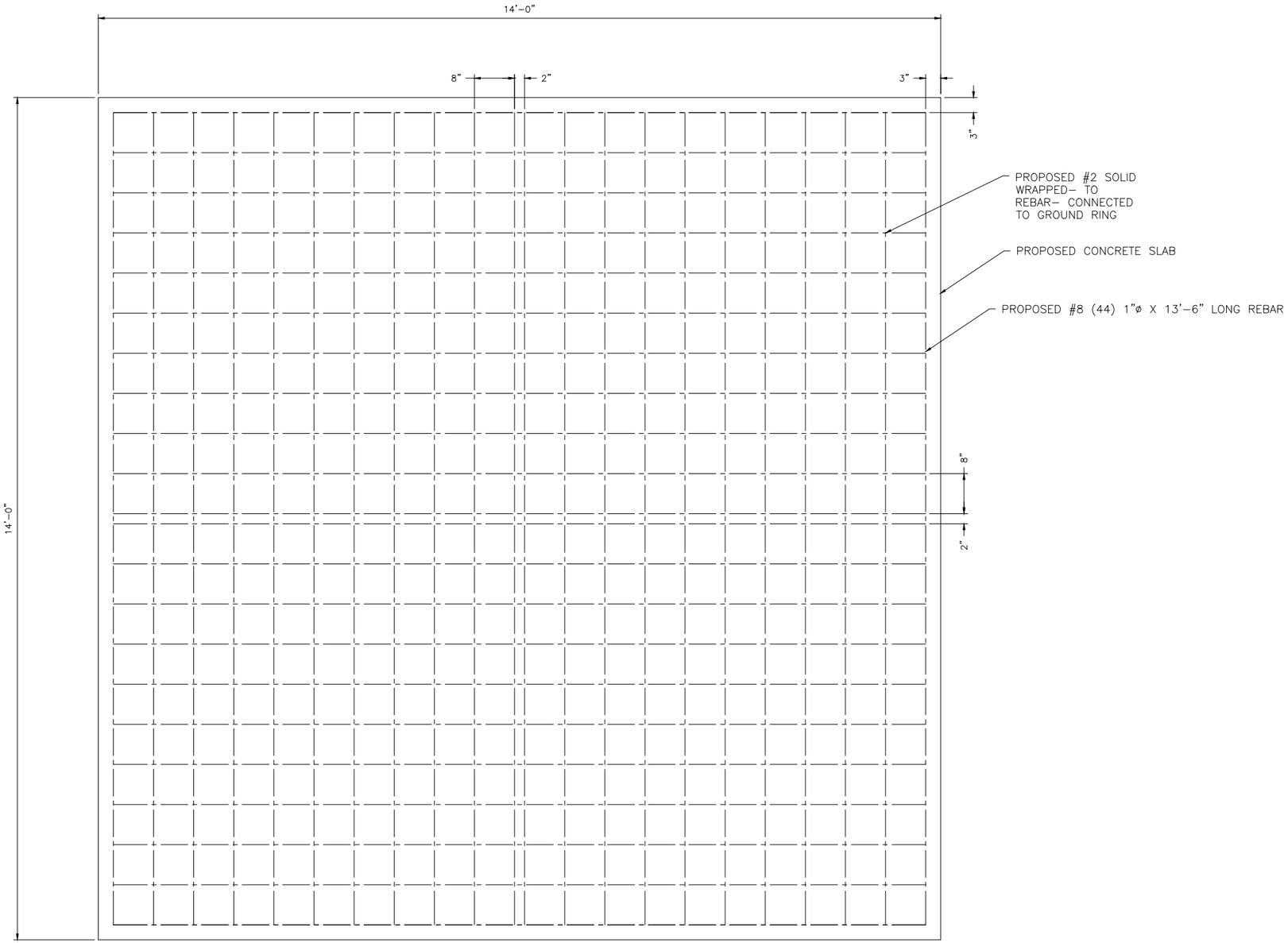
SITE NAME:
CTHA620A

SITE ID:
CTHA620A

SITE ADDRESS:
138 MAIN STREET
COVENTRY, CT 06238
TOLLAND COUNTY

SHEET TITLE:
ICE BRIDGE DETAILS

DRAWING:
A-7



1 / A-8 CONCRETE PLAN

T - Mobile
NORTHEAST LLC

T-MOBILE NORTHEAST, LLC.
35 GRIFFIN RD S
BLOOMFIELD, CT 06002
PHONE: (860) 629-1700

CENTERLINE COMMUNICATIONS

750 W CENTER ST, SUITE 301
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STATE OF CONNECTICUT
DEREK J. CREASER
No. 28551
LICENSED PROFESSIONAL ENGINEER

DATE: 08/25/21

SITE NAME:
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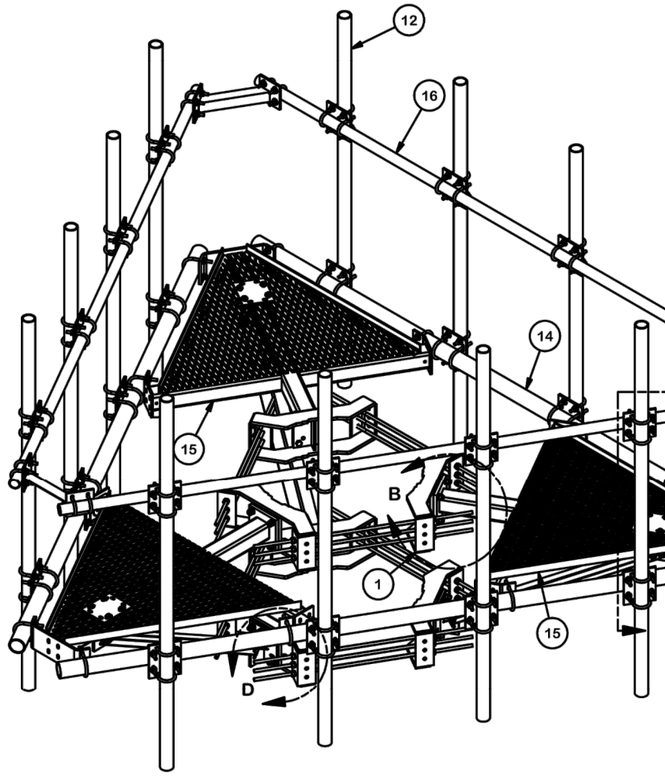
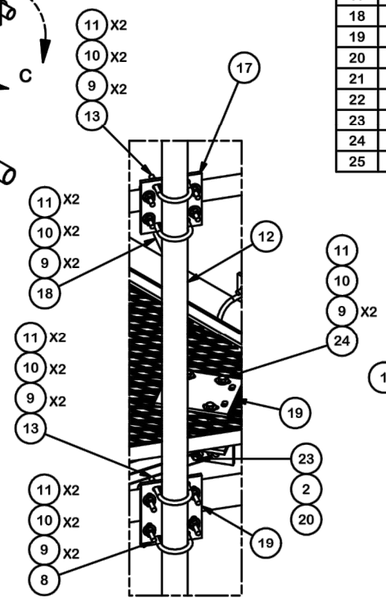
138 MAIN STREET
COVENTRY, CT 06238
TOLLAND COUNTY

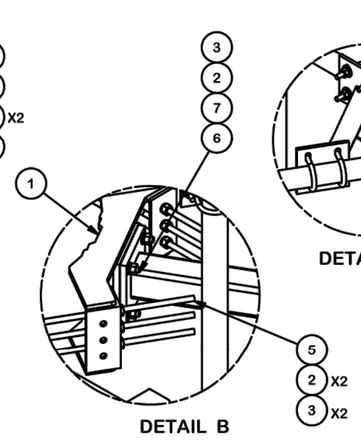
SHEET TITLE:
CONCRETE PLAN

DRAWING:
A-8

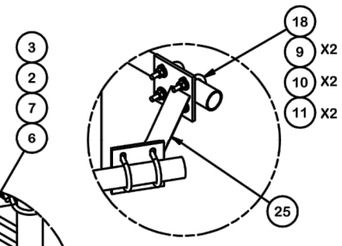




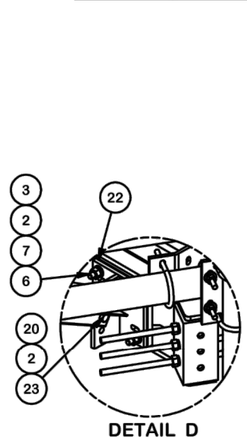
DETAIL A



DETAIL B



DETAIL C



DETAIL D

PARTS LIST						
ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.
1	6	X-LWRM	RING MOUNT WELDMENT		68.16	408.95
2	66	G58LW	5/8" HDG LOCKWASHER		0.03	1.72
3	60	A58NUT	5/8" HDG A325 HEX NUT		0.13	7.78
4	18	G58R-24	5/8" x 24" THREADED ROD (HDG.)		0.55	9.88
5	18	G58R-48	5/8" x 48" THREADED ROD (HDG.)		0.55	9.88
6	24	A58234	5/8" x 2-3/4" HDG A325 HEX BOLT	2 3/4 in	0.36	8.53
7	24	A58FW	5/8" HDG A325 FLATWASHER		0.03	0.82
8	36	X-UB1306	1/2" X 3-5/8" X 6" X 3" U-BOLT (HDG.)		0.73	26.34
9	264	G12FW	1/2" HDG USS FLATWASHER		0.03	8.99
10	252	G12LW	1/2" HDG LOCKWASHER		0.01	3.50
11	252	G12NUT	1/2" HDG HEAVY 2H HEX NUT		0.07	18.03
12	12	P3096	2-7/8" OD X 96" Sch 40 Galvanized Pipe		46.45	557.43
13	48	X-UB1300	1/2" X 3" X 5" X 2" U-BOLT (HDG.)		0.73	35.12
14	3	P3150	3-1/2" X 150" SCH 40 GALVANIZED PIPE	150 in	94.80	284.40
15	3	X-SV196	LOW PROFILE PLATFORM CORNER		212.10	636.31
16	3	P2150	2-3/8" OD X 150" SCH 40 GALVANIZED PIPE	150 in	48.06	144.17
17	12	SCX2	CROSSOVER PLATE	7 in	4.80	57.56
18	36	X-UB1212	1/2" X 2-1/2" X 4-1/2" X 2" U-BOLT (HDG.)		0.73	26.34
19	15	SCX4	CROSSOVER PLATE	8 1/2 in	6.02	90.32
20	6	G58NUT	5/8" HDG HEAVY 2H HEX NUT		0.13	0.78
21	6	X-253993	PLATFORM REINFORCEMENT KIT ANGLE	52 25/32 in	14.33	85.99
22	6	X-253992	T-BRACKET FOR REINFORCEMENT KIT		13.55	81.27
23	6	G5802	5/8" x 2" HDG HEX BOLT GR5		0.27	1.62
24	12	G12065	1/2" x 6-1/2" HDG HEX BOLT GR5 FULL THREAD	6 1/2 in	0.41	4.91
25	3	X-AHCP	ANGLE HANDRAIL CORNER PLATE		12.92	38.76
					TOTAL WT. #	2645.84

REVISION HISTORY				
REV	DESCRIPTION OF REVISIONS	CPD	BY	DATE
A	REPLACED HCP WITH X-AHCP	4488	CEK	7/14/2014

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
12' 6" LOW PROFILE PLATFORM
WITH TWELVE 2-7/8" ANTENNA MOUTING
PIPES, AND HANDRAIL

CPD NO.	DRAWN BY	ENG. APPROVAL	PART NO.	PAGE
4488	CEK 3/24/2014		RMQP-4096-HK	1 OF 3
CLASS	SUB	DRAWING USAGE	CHECKED BY	DWG. NO.
81	02	CUSTOMER	BMC 7/14/2014	RMQP-4096-HK

SITE PRO 1 — A valmont COMPANY

Engineering Support Team: 1-888-753-7446

Locations:
New York, NY
Atlanta, GA
Los Angeles, CA
Plymouth, IN
Salem, OR
Dallas, TX

RMQP-4096-HK

T - Mobile
NORTHEAST LLC

CENTERLINE COMMUNICATIONS

750 W CENTER ST, SUITE 301
WEST BRIDGEWATER, MA 02379
PHONE: 781.713.4725

REVISIONS

REV	DATE	DESCRIPTION	BY
A		ISSUED FOR REVIEW	

DESIGNED BY:	APPROVED BY:
JIK	WRD

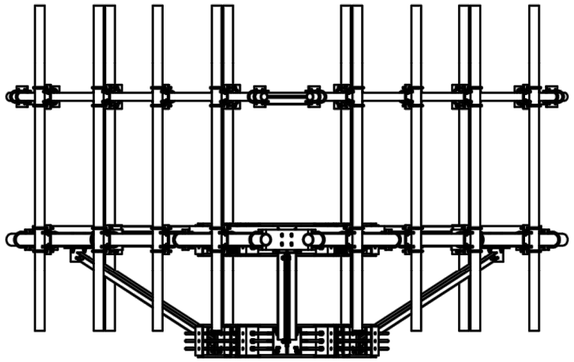
SITE NAME: CTHA620A

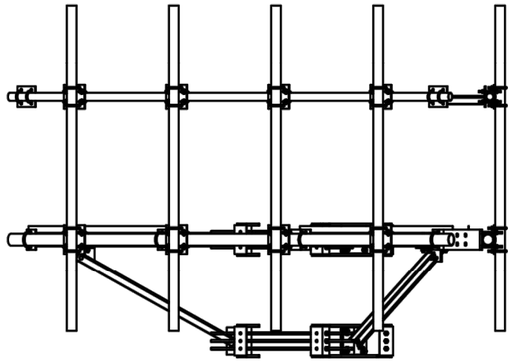
SITE ID: CTHA620A

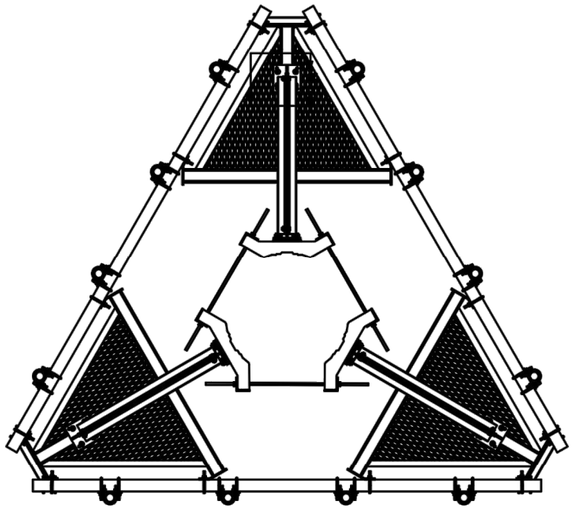
SITE ADDRESS:
138 MAIN STREET
COVENTRY, CT 06238
TOLLAND COUNTY

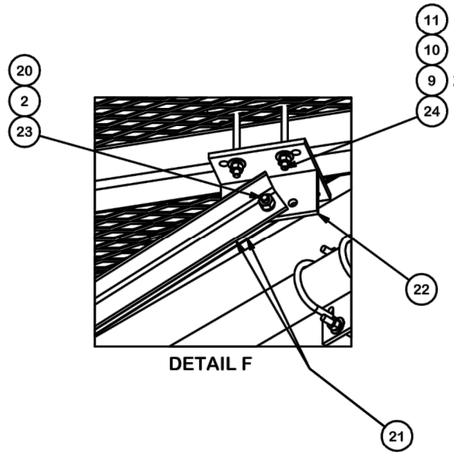
SHEET TITLE: **STRUCTURAL DETAILS**

DRAWING: **A-9**









DETAIL F

REV	DESCRIPTION OF REVISIONS	CPD	BY	DATE
A	REPLACED HCP WITH X-AHCP	4488	CEK	7/14/2014

REVISION HISTORY

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
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BENDS ARE ± 1/2 DEGREE
ALL OTHER MACHINING *(± 0.030")*
ALL OTHER ASSEMBLY *(± 0.060")*

DESCRIPTION
12' 6" LOW PROFILE PLATFORM
WITH TWELVE 2-7/8" ANTENNA MOUTING
PIPES, AND HANDRAIL

CPD NO.	DRAWN BY	ENG. APPROVAL	PART NO.	PAGE
4488	CEK 3/24/2014		RMQP-4096-HK	3 OF 3

CLASS	SUB	DRAWING USAGE	CHECKED BY	DWG. NO.
81	02	CUSTOMER	BMC 7/14/2014	RMQP-4096-HK

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

T - Mobile
NORTHEAST LLC

CENTERLINE COMMUNICATIONS
750 W CENTER ST, SUITE 301
WEST BRIDGEWATER, MA 02379
PHONE: 781.713.4725

REVISIONS

REV	DATE	DESCRIPTION	BY
A		ISSUED FOR REVIEW	

DESIGNED BY:	APPROVED BY:
JIK	WRD

SITE NAME: CTHA620A
SITE ID: CTHA620A
SITE ADDRESS: 138 MAIN STREET, COVENTRY, CT 06238, TOLLAND COUNTY

SHEET TITLE: **STRUCTURAL DETAILS**
DRAWING: **A-10**

STRUCTURAL NOTES:

1. DESIGN REQUIREMENTS ARE PER STATE BUILDING CODE AND APPLICABLE SUPPLEMENTS, INTERNATIONAL BUILDING CODE, EIA/TIA-222-G STRUCTURAL STANDARDS FOR STEEL ANTENNA, TOWERS AND ANTENNA SUPPORTING STRUCTURES.
2. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD PRIOR TO FABRICATION AND ERECTION OF ANY MATERIAL. ANY UNUSUAL CONDITIONS SHALL BE REPORTED TO THE ATTENTION OF THE CONSTRUCTION MANAGER AND ENGINEER OF RECORD.
3. DESIGN AND CONSTRUCTION OF STRUCTURAL STEEL SHALL CONFORM TO THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS".
4. STRUCTURAL STEEL SHALL CONFORM TO ASTM A992 (Fy=50 ksi), MISCELLANEOUS STEEL SHALL CONFORM TO ASTM A36 UNLESS OTHERWISE INDICATED.
5. STEEL PIPE SHALL CONFORM TO ASTM A500 "COLD-FORMED WELDED & SEAMLESS CARBON STEEL STRUCTURAL TUBING", GRADE B, OR ASTM A53 PIPE STEEL BLACK AND HOT-DIPPED ZINC-COATED WELDED AND SEAMLESS TYPE E OR S, GRADE B. PIPE SIZES INDICATED ARE NOMINAL. ACTUAL OUTSIDE DIAMETER IS LARGER.
6. STRUCTURAL CONNECTION BOLTS SHALL BE HIGH STRENGTH BOLTS (BEARING TYPE) AND CONFORM TO ASTM A325 TYPE-X "HIGH STRENGTH BOLTS FOR STRUCTURAL JOINTS, INCLUDING SUITABLE NUTS AND PLAIN HARDENED WASHERS". ALL BOLTS SHALL BE 3/4" DIA UON.
7. ALL STEEL MATERIALS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 "ZINC (HOT-DIP GALVANIZED) COATINGS ON IRON AND STEEL PRODUCTS", UNLESS OTHERWISE NOTED.
8. ALL BOLTS, ANCHORS AND MISCELLANEOUS HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 "ZINC-COATING (HOT-DIP) ON IRON AND STEEL HARDWARE", UNLESS OTHERWISE NOTED.
9. FIELD WELDS, DRILL HOLES, SAW CUTS AND ALL DAMAGED GALVANIZED SURFACES SHALL BE REPAIRED WITH AN ORGANIC ZINC REPAIR PAINT COMPLYING WITH REQUIREMENTS OF ASTM A780. GALVANIZING REPAIR PAINT SHALL HAVE 65 PERCENT ZINC BY WEIGHT, ZIRP BY DUNCAN GALVANIZING, GALVA BRIGHT PREMIUM BY CROWN OR EQUAL. THICKNESS OF APPLIED GALVANIZING REPAIR PAINT SHALL BE NOT NOT LESS THAN 4 COATS (ALLOW TIME TO DRY BETWEEN COATS) WITH A RESULTING COATING THICKNESS REQUIRED BY ASTM A123 OR A153 AS APPLICABLE.
10. CONTRACTOR SHALL COMPLY WITH AWS CODE FOR PROCEDURES, APPEARANCE AND QUALITY OF WELDS, AND FOR METHODS USED IN CORRECTING WELDING. ALL WELDERS AND WELDING PROCESSES SHALL BE QUALIFIED IN ACCORDANCE WITH AWS "STANDARD QUALIFICATION PROCEDURES". ALL WELDING SHALL BE DONE USING E70XX ELECTRODES AND WELDING SHALL CONFORM TO AISC AND DI.I. WHERE FILLET WELD SIZES ARE NOT SHOWN, PROVIDE THE MINIMUM SIZE PER TABLE J2.4 IN THE AISC "STEEL CONSTRUCTION MANUAL". 14TH EDITION.
11. INCORRECTLY FABRICATED, DAMAGED OR OTHERWISE MISFITTING OR NON-CONFORMING MATERIALS OR CONDITIONS SHALL BE REPORTED TO THE CONSTRUCTION MANAGER PRIOR TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH ACTION SHALL REQUIRE CONSTRUCTION MANAGER APPROVAL.
12. UNISTRUT SHALL BE FORMED STEEL CHANNEL STRUT FRAMING AS MANUFACTURED BY UNISTRUT CORP., WAYNE, MI OR EQUAL. STRUT MEMBERS SHALL BE 1 5/8"x1 5/8"x12GA, UNLESS OTHERWISE NOTED, AND SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION.
13. EPOXY ANCHOR ASSEMBLY SHALL CONSIST OF STAINLESS STEEL ANCHOR ROD WITH NUTS & WASHERS. AN INTERNALLY THREADED INSERT, A SCREEN TUBE AND A EPOXY ADHESIVE. THE ANCHORING SYSTEM SHALL BE THE HILTI-HIT HY-270 AND OR HY-200 SYSTEMS (AS SPECIFIED IN DWG.) OR ENGINEERS APPROVED EQUAL.
14. EXPANSION BOLTS SHALL CONFORM TO FEDERAL SPECIFICATION FF-A-1025, GROUP II, TYPE 4, CLASS I, HILTI KWIK BOLT III OR APPROVED EQUAL. INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
15. LUMBER SHALL COMPLY WITH THE REQUIREMENTS OF THE AMERICAN INSTITUTE OF TIMBER CONSTRUCTION AND THE NATIONAL FOREST PRODUCTS ASSOCIATION'S NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION. ALL LUMBER SHALL BE PRESSURE TREATED AND SHALL BE STRUCTURAL GRADE NO. 2 OR BETTER.
16. WHERE ROOF PENETRATIONS ARE REQUIRED, THE CONTRACTOR SHALL CONTACT AND COORDINATE RELATED WORK WITH THE BUILDING OWNER AND THE EXISTING ROOF INSTALLER. WORK SHALL BE PERFORMED IN SUCH A MANNER AS TO NOT VOID THE EXISTING ROOF WARRANTY. ROOF SHALL BE WATERTIGHT.
17. ALL FIBERGLASS MEMBERS USED ARE AS MANUFACTURED BY STRONGWELL COMPANY OF BRISTOL, VA 24203. ALL DESIGN CRITERIA FOR THESE MEMBERS IS BASED ON INFORMATION PROVIDED IN THE DESIGN MANUAL. ALL REQUIREMENTS PUBLISHED IN SAID MANUAL MUST BE STRICTLY ADHERED TO.
18. NO MATERIALS TO BE ORDERED AND NO WORK TO BE COMPLETED UNTIL SHOP DRAWINGS HAVE BEEN REVIEWED AND APPROVED IN WRITING.
19. SUBCONTRACTOR SHALL FIREPROOF ALL STEEL TO PRE-EXISTING CONDITIONS.

SPECIAL INSPECTIONS (REFERENCE IBC CHAPTER 17):

GENERAL: WHERE APPLICATION IS MADE FOR CONSTRUCTION, THE OWNER OR THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE ACTING AS THE OWNER'S AGENT SHALL EMPLOY ONE OR MORE APPROVED AGENCIES TO PERFORM INSPECTIONS DURING CONSTRUCTION ON THE TYPES OF WORK LISTED IN THE INSPECTION CHECKLIST ABOVE.

THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE AND ENGINEERS OF RECORD INVOLVED IN THE DESIGN OF THE PROJECT ARE PERMITTED TO ACT AS THE APPROVED AGENCY AND THEIR PERSONNEL ARE PERMITTED TO ACT AS THE SPECIAL INSPECTOR FOR THE WORK DESIGNED BY THEM, PROVIDED THOSE PERSONNEL MEET THE QUALIFICATION REQUIREMENTS.

STATEMENT OF SPECIAL INSPECTIONS: THE APPLICANT SHALL SUBMIT A STATEMENT OF SPECIAL INSPECTIONS PREPARED BY THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE IN ACCORDANCE WITH SECTION 107.1 AS A CONDITION FOR ISSUANCE. THIS STATEMENT SHALL BE IN ACCORDANCE WITH SECTION 1705.

REPORT REQUIREMENT: SPECIAL INSPECTORS SHALL KEEP RECORDS OF INSPECTIONS. THE SPECIAL INSPECTOR SHALL FURNISH INSPECTION REPORTS TO THE BUILDING OFFICIAL, AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE. REPORTS SHALL INDICATE THAT WORK INSPECTED WAS OR WAS NOT COMPLETED IN CONFORMANCE TO APPROVED CONSTRUCTION DOCUMENTS. DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION. IF THEY ARE NOT CORRECTED, THE DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE BUILDING OFFICIAL AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE. A FINAL REPORT DOCUMENTING REQUIRED SPECIAL INSPECTIONS SHALL BE SUBMITTED.

SPECIAL INSPECTION CHECKLIST	
BEFORE CONSTRUCTION	
CONSTRUCTION/INSTALLATION INSPECTIONS AND TESTING REQUIRED (COMPLETED BY ENGINEER OF RECORD)	REPORT ITEM
N/A	ENGINEER OF RECORD APPROVED SHOP DRAWINGS [1]
N/A	MATERIAL SPECIFICATIONS REPORT [2]
N/A	FABRICATOR NDE INSPECTION
N/A	PACKING SLIPS [3]
ADDITIONAL TESTING AND INSPECTIONS:	
DURING CONSTRUCTION	
CONSTRUCTION/INSTALLATION INSPECTIONS AND TESTING REQUIRED (COMPLETED BY ENGINEER OF RECORD)	REPORT ITEM
REQUIRED	STEEL INSPECTIONS
N/A	HIGH STRENGTH BOLT INSPECTIONS
N/A	HIGH WIND ZONE INSPECTIONS [4]
N/A	FOUNDATION INSPECTIONS
N/A	CONCRETE COMP. STRENGTH, SLUMP TESTS AND PLACEMENT
N/A	POST INSTALLED ANCHOR VERIFICATION [5]
N/A	GROUT VERIFICATION
N/A	CERTIFIED WELD INSPECTION
N/A	EARTHWORK: LIFT AND DENSITY
N/A	ON SITE COLD GALVANIZING VERIFICATION
N/A	GUY WIRE TENSION REPORT
ADDITIONAL TESTING AND INSPECTIONS:	
AFTER CONSTRUCTION	
CONSTRUCTION/INSTALLATION INSPECTIONS AND TESTING REQUIRED (COMPLETED BY ENGINEER OF RECORD)	REPORT ITEM
REQUIRED	**MODIFICATION INSPECTOR REDLINE OR RECORD DRAWINGS [6]**
N/A	POST INSTALLED ANCHOR PULL-OUT TESTING
REQUIRED	PHOTOGRAPHS
ADDITIONAL TESTING AND INSPECTIONS:	

NOTES:

1. REQUIRED FOR ANY NEW SHOP FABRICATED FRP OR STEEL.
2. PROVIDED BY MANUFACTURER, REQUIRED IF HIGH STRENGTH BOLTS OR STEEL.
3. PROVIDED BY GENERAL CONTRACTOR; PROOF OF MATERIALS.
4. HIGH WIND ZONE INSPECTION CATB 120MPH OR CAT C,D 110MPH INSPECT FRAMING OF WALLS, ANCHORING, FASTENING SCHEDULE.
5. ADHESIVE FOR REBAR AND ANCHORS SHALL HAVE BEEN TESTED IN ACCORDANCE WITH ACI 355.4 AND ICC-ES AC308 FOR CRACKED CONCRETE AND SEISMIC APPLICATIONS. DESIGN ADHESIVE BOND STRENGTH HAS BEEN BASED ON ACI 355.4 TEMPERATURE CATEGORY B WITH INSTALLATIONS INTO DRY HOLES DRILLED USING A CARBIDE BIT INTO CRACKED CONCRETE THAT HAS CURED FOR AT LEAST 21 DAYS. ADHESIVE ANCHORS REQUIRING CERTIFIED INSTALLATIONS SHALL BE INSTALLED BY A CERTIFIED ADHESIVE ANCHOR INSTALLER PER ACI 318-11 D.9.2.2. INSTALLATIONS REQUIRING CERTIFIED INSTALLERS SHALL BE INSPECTED PER ACI 318-11 D.8.2.4.
6. AS REQUIRED; FOR ANY FIELD CHANGES TO THE ITEMS IN THIS TABLE.

NOTES:

1. ALL CONNECTIONS TO BE SHOP WELDED & FIELD BOLTED USING 3/4"ø A325-X BOLTS, UNLESS OTHERWISE NOTIFIED.
2. SHOP DRAWING ENGINEER REVIEW & APPROVAL REQUIRED BEFORE ORDERING MATERIAL.
3. SHOP DRAWING ENGINEER REVIEW & APPROVAL REQUIRED PRIOR TO STEEL FABRICATION.
4. VERIFICATION OF EXISTING ROOF CONSTRUCTION IS REQUIRED PRIOR TO THE INSTALLATION OF THE ROOF PLATFORM. ENGINEER OF RECORD IS TO APPROVE EXISTING CONDITIONS IN ORDER TO MOVE FORWARD.
5. CENTERLINE OF PROPOSED STEEL PLATFORM SUPPORT COLUMNS TO BE CENTRALLY LOCATED OVER THE EXISTING BUILDING COLUMNS.
6. EXISTING BRICK MASONRY COLUMNS/BEARING TO BE REPAIRED/REPLACED AT ALL PROPOSED PLATFORM SUPPORT POINTS. ENGINEER OF RECORD TO REVIEW AND APPROVE.

T - Mobile
NORTHEAST LLC

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CENTERLINE COMMUNICATIONS

750 W CENTER ST, SUITE 301
WEST BRIDGEWATER, MA 02379
PHONE: 781.713.4725

REVISIONS

REV	DATE	DESCRIPTION	BY
0	08/25/21	ISSUED FOR CONSTRUCTION	SS
A	05/25/21	ISSUED FOR REVIEW	JIK

DESIGNED BY:	APPROVED BY:
JIK	WRD

STATE OF CONNECTICUT
DEREK J. CREASER
No. 28551
LICENSED PROFESSIONAL ENGINEER

DATE: 08/25/21

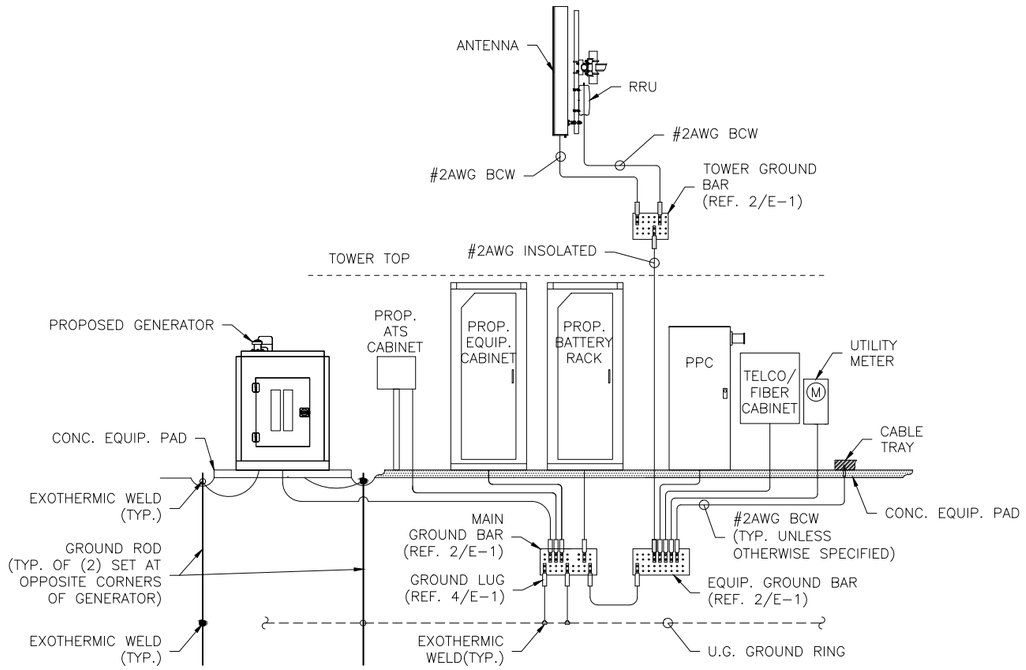
SITE NAME: CTHA620A

SITE ID: CTHA620A

SITE ADDRESS:
138 MAIN STREET
COVENTRY, CT 06238
TOLLAND COUNTY

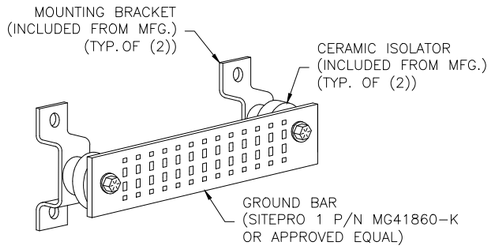
SHEET TITLE:
STRUCTURAL NOTES & SPECIAL INSPECTIONS

DRAWING:
SN-1



GROUNDING RISER NOTE:
UNLESS OTHERWISE SPECIFIED ALL GROUNDING CONDUCTORS ARE TO BE #2AWG BCW

1 / G-1 GROUNDING RISER DIAGRAM



2 / G-1 GROUND BAR DETAIL

EACH GROUND CONDUCTOR TERMINATING ON ANY GROUND BAR SHALL HAVE AN IDENTIFICATION TAG ATTACHED AT EACH END THAT WILL IDENTIFY ITS ORIGIN AND DESTINATION.

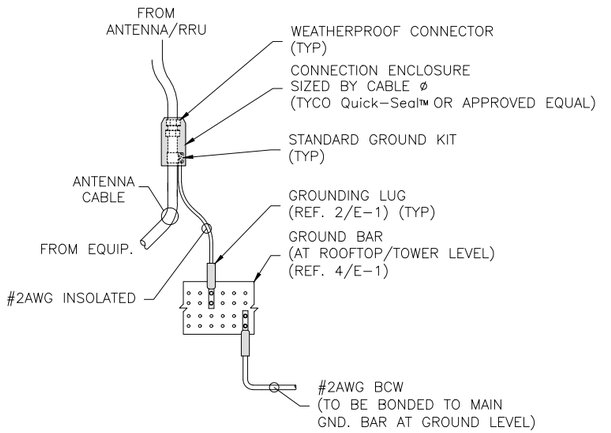
SECTION "P" – SURGE PRODUCERS

CABLE ENTRY PORTS (HATCH PLATES) (#2)
GENERATOR FRAMEWORK (IF AVAILABLE) (#2)
TELCO GROUND BAR
COMMERCIAL POWER COMMON NEUTRAL/GROUND BOND (#2)
+24V POWER SUPPLY RETURN BAR (#2)
-48V POWER SUPPLY RETURN BAR (#2)
RECTIFIER FRAMES.

SECTION "A" – SURGE ABSORBERS

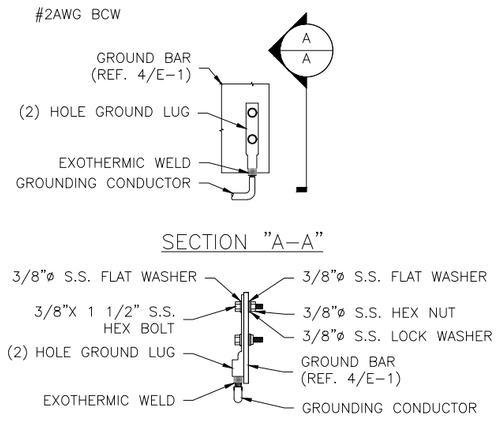
INTERIOR GROUND RING (#2)
EXTERNAL EARTH GROUND FIELD (BURIED GROUND RING) (#2)
METALLIC COLD WATER PIPE (IF AVAILABLE) (#2)
BUILDING STEEL (IF AVAILABLE) (#2)

3 / G-1 GROUND WIRE SCHEDULE



NOTES:
1. DO NOT INSTALL CABLE GROUND KIT AT BEND IN CABLE.
2. GROUND CABLES DIRECTLY TO CIGBE
3. JUMPER REQUIRED ONLY WHEN CABLE IS 1 1/4" OR LARGER

4 / G-1 ANTENNA/RRU GROUNDING DETAIL



GROUNDING LUG NOTES:
1. DO NOT DOUBLE UP OR STACK LUGS.
2. OXIDE INHIBITING COMPOUND TO BE APPLIED TO ALL LUGS.
3. ALL LUGS ARE TO BE EXOTHERMIC WELDED TO GROUNDING CONDUCTORS.
4. FOR INSOLATED GROUNDING CONDUCTORS, EXPOSED BARE COPPER TO BE KEPT TO ABSOLUTE MINIMUM.
5. NO INSULATION IS ALLOWED WITHIN THE BARREL OF THE COMPRESSION TERMINAL.

5 / G-1 GROUND LUG DETAIL

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PHONE: 781.713.4725

REVISIONS

REV	DATE	DESCRIPTION	BY
0	08/25/21	ISSUED FOR CONSTRUCTION	SS
A	05/25/21	ISSUED FOR REVIEW	JIK

DESIGNED BY:	APPROVED BY:
JIK	WRD

STATE OF CONNECTICUT
DEREK J. CREASER
No. 28551
LICENSED PROFESSIONAL ENGINEER

DATE: 08/25/21

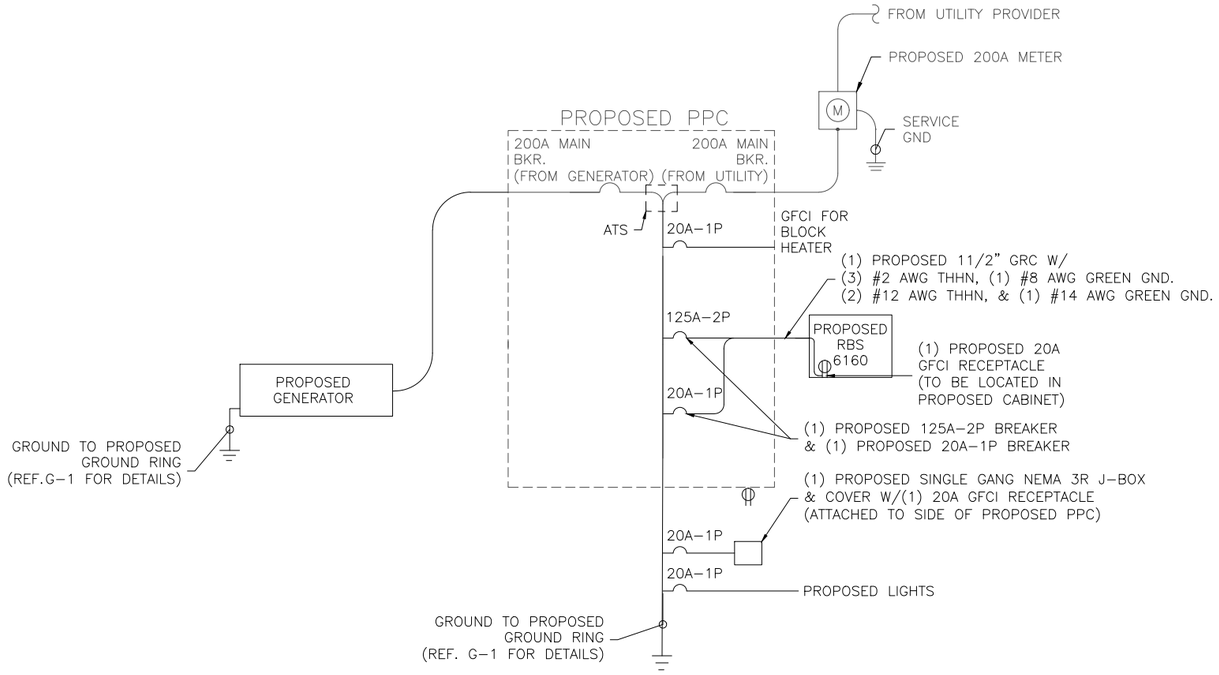
SITE NAME: CTHA620A

SITE ID: CTHA620A

SITE ADDRESS: 138 MAIN STREET
COVENTRY, CT 06238
TOLLAND COUNTY

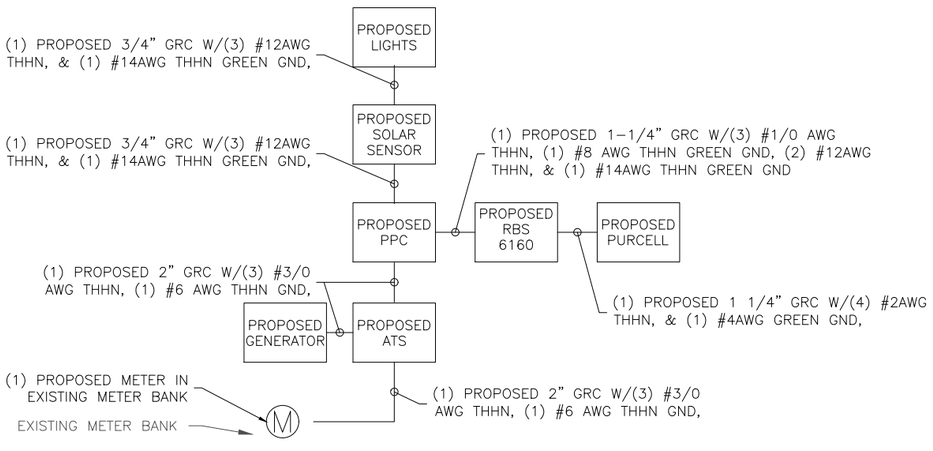
SHEET TITLE: GROUNDING DETAILS

DRAWING: G-1



ELEC. NOTES:
1. ALL WORK SHALL BE PERFORMED BY LICENSED ELEC. CONTRACTOR.
2. ALL WORK SHALL COMPLY WITH THE NEC VERSION AS SPECIFIED BY LOCAL MUNICIPALITIES.
3. ALL WORK SHALL COMPLY WITH ANY AND ADDITIONAL CODES AS SPECIFIED BY LOCAL MUNICIPALITIES.
4. ELEC. CONTRACTOR TO LABEL PNL/PPC TO REFLECT CORRECT CIRCUITRY.

1 E-1 ELECTRICAL ONE LINE DIAGRAM



2 E-1 CONDUIT & WIRE SIZE DETAIL

Contractor Select™

OLF & OVFL LED

Floodlighting

The OLF family from Lithonia Lighting® has the largest breadth of offering from one security floodlight family. The OLF family provides a multitude of lighting, energy saving packages and control options to meet the varying needs of your residential single and multi-family applications.

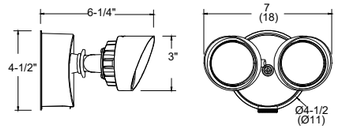
FEATURES:

¡ Replaces up to (2) 150W incandescent PAR lamps

¡ Small, compact form

¡ Pays for itself in less than 2 years

Catalog Number	UPC	Replaces Up To	Lumens	Input Watts	CCT	Voltage	Finish	Pallet qty.
OLF 2RH 40K 120 DDB M4	191848797921	90W PAR INCAND (2)	2,160	25	4000K	120V	DARK BRONZE	360
OLF 2RH 40K 120 MO WH M6	820476314636	90W PAR INCAND (2)	2,160	25	4000K	120V	WHITE	216



3 E-1 LIGHT SPECS. & DETAIL

T - Mobile NORTHEAST LLC
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PHONE: 781.713.4725

REVISIONS

REV	DATE	DESCRIPTION	BY
0	08/25/21	ISSUED FOR CONSTRUCTION	SS
A	05/25/21	ISSUED FOR REVIEW	JIK

DESIGNED BY:	APPROVED BY:
JIK	WRD

STATE OF CONNECTICUT · DEREK J. CREASER · No. 28551 · LICENSED PROFESSIONAL ENGINEER

DATE: 08/25/21

SITE NAME: CTHA620A

SITE ID: CTHA620A

SITE ADDRESS: 138 MAIN STREET COVENTRY, CT 06238 TOLLAND COUNTY

SHEET TITLE: ELECTRICAL DETAILS

DRAWING: E-1

Exhibit E

Structural Analysis Report

CENTERLINE COMMUNICATIONS
750 West Center Street, Suite 301
West Bridgewater, MA 02379
781.713.4725

August 26, 2021

T - Mobile
Northeast LLC
15 Commerce Way, Suite B
Norton, MA 02766

Subject: Structural Mount Assessment Letter
Site ID: CTHA620A
Site Name: CTHA620A
Site Address: 138 Main Street
Coventry, CT 06238

To Whom It May Concern:

Centerline Communications has been authorized by T-Mobile to perform a structural assessment on the proposed antenna mounts located at the above referenced site.

Based on our structural assessment, we have concluded that the proposed antenna mounts Site Pro1 **can support** the proposed T-Mobile equipment listed below:

- **(3) RFS APX16DWV-16DWV-S-E-A20 Panel Antennas**
- **(3) RFS APXVAALL24_43-U-N20 Panel Antennas**
- **(3) Ericsson AIR 6449 B41 Panel Antennas**
- **(3) Ericsson 4480 B71+B85 RRU**
- **(3) Ericsson 4460 B25+B66 RRU**

This assessment was conducted in accordance with the 2015 International Building Code, ASCE 7-10 Minimum Design Loads for Buildings and Other Structures, ANSI/TIA-222-G Structural Standard for Antenna Supporting Structures and Antennas, and the 2018 CT State Building Code.

Should you have any questions, please do not hesitate to contact us.

Sincerely,

STATE OF CONNECTICUT
DEREK J. CREASER
No. 25951
LICENSED
PROFESSIONAL ENGINEER

CN = Derek J. Creaser, P.E.
email = dcreaser@clinellc.com C = US O = Centerline Communications OU = Director - A&E Services
2021.08.26 11:53:53 -04'00'

Derek J. Creaser, P.E.
Director - A&E Services

Scope of Work:

Centerline Communications was authorized by T-Mobile Northeast LLC to perform an analysis of the existing structure to determine its capacity to support the proposed and existing T-Mobile equipment/appurtenances listed in this report.

Existing & Proposed Equipment:

Carrier	Mounting Level (ft)	Center Line Elevation (ft)	Number of Appurtenances	Antenna Manufacturer	Appurtenance Model	Feed Lines (in)
Verizon Wireless	100.0	100.0	6	-	SC-E 6016 Panel Antenna	(18) 1 5/8 (2) 1 5/8 Fiber
			6	-	HBXX-6517DS Panel Antenna	
			3	-	LNX-6514DS Panel Antenna	
			3	-	RRH2x60 AWS RRH	
			3	-	RRH2x60 PCS RRH	
			2	-	DB-T1-6Z-8AB-0Z Distribution Box	
			1	-	Low Profile Platform	
AT&T	90.0	90.0	3	-	7770 Panel Antenna	(12) 1 5/8 (2) Fiber (6) DC
			6	-	HPA65R-BU6A Panel Antenna	
			3	-	800 10965 Panel Antenna	
			3	-	B25 4415 RRH	
			3	-	B2/B66A 8843 RRH	
			3	-	B5/B12 4449 RRH	
			3	-	DC6-48-60-18-8F Distribution Box	
			6	-	LGP 21401 TMA	
			1	-	Low Profile Platform w/ Handrail	
T-Mobile	**80.0**	**80.0**	**3**	**RFS**	**APX16DWV-16DWV-S-E-A20 Panel Antenna**	**(3) 6x24 Hybrid**
			3	**RFS**	**APXVAALL24_43-U-NA20 Panel Antenna**	
			3	**Ericsson**	**AIR6449 B41 Panel Antenna**	
			3	**Ericsson**	**4460 B25+B66 RRH**	
			3	**Ericsson**	**4480 B71+B85 RRH**	
			1	**Site Pro 1**	**RMQP-4096-HK Low Profile Platform**	

-	*65.0*	*65.0*	*1*	-	*Grid Dish*	*(1) 3/8*
		61.0	*1*	-	*8' Omni*	*(1) 1/2*
		55.0	*1*	-	*20' Dipole*	*(1) 7/8*

Note: Proposed equipment shown in **bold**.
Note: Relocated equipment shown in *italics*.

Design Criteria:

Design Codes:
2018 Connecticut State Building Code
2015 International Building Code
ASCE 7-10
TIA-222-G Standards

Ultimate Design Wind Speed (V_{ult})	130 mph
Wind Speed with Ice	50 mph
Ice Thickness	1.00 in.
Exposure Category	C
Topographic Category	1
Risk Category	II
Site Soil Class (Assumed)	D – Stiff Soil
Seismic Design Category	B
Spectral Response Acceleration Parameter at a Short Periods, S_S	0.176 g
Spectral Response Acceleration Parameter at a Period of 1 Second, S_1	0.063 g
Short Period Site Coefficient, F_a	1.60
Long Period Site Coefficient, F_v	2.40

***Refer to calculations for additional design criteria.**

Conclusion:

Section Capacity (Summary)

Section No.	*Elevation ft*	*Component Type*	*Size*	*Critical Element*	*P lb*	*øP$_{allow}$ lb*	*% Capacity*	*Pass Fail*
L1	101.25 - 91.25	Pole	TP35.29x33.08x0.25	1	-2698	1858010	6.0	Pass
L2	91.25 - 46.17	Pole	TP46.32x35.29x0.3125	2	-20300	2989400	44.7	Pass
L3	46.17 - 0	Pole	TP55.26x46.32x0.375	3	-33911	4289990	58.5	Pass
							Summary	
							Pole (L3)	58.5	Pass
							RATING =	**58.5**	**Pass**

Structure Rating (max from all components) =	**58.5%**

Foundation Capacity (Summary)

Component	Original Design Reactions	Current Reactions	% Capacity	Pass/Fail
Axial (k)	41.2	33.9	82.3	Pass
Shear (k)	42.5	35.9	84.5	Pass
Moment (ft-k)	4160	2796	67.2	Pass

Foundation Rating (max from all components) =	**84.5%**

Recommendations:

The existing tower has sufficient capacity to support the existing and proposed loading for the final loading configuration. Modifications to the tower structure are not required.

Reference Documents:

- T-Mobile RFDS CTHA620A_Coverage Strategy_1, dated May 17, 2021
- Site Notes and Photos by Centerline Communications, dated May 21, 2021
- AT&T Construction Drawings by Hudson Design Group, dated May 21, 2019
- AT&T Structural Analysis by Hudson Design Group, dated May 17, 2019

Assumptions and Limitations:

- The tower and structures were built and maintained with the manufacturer's specifications.
- The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in this report and the referenced drawings.

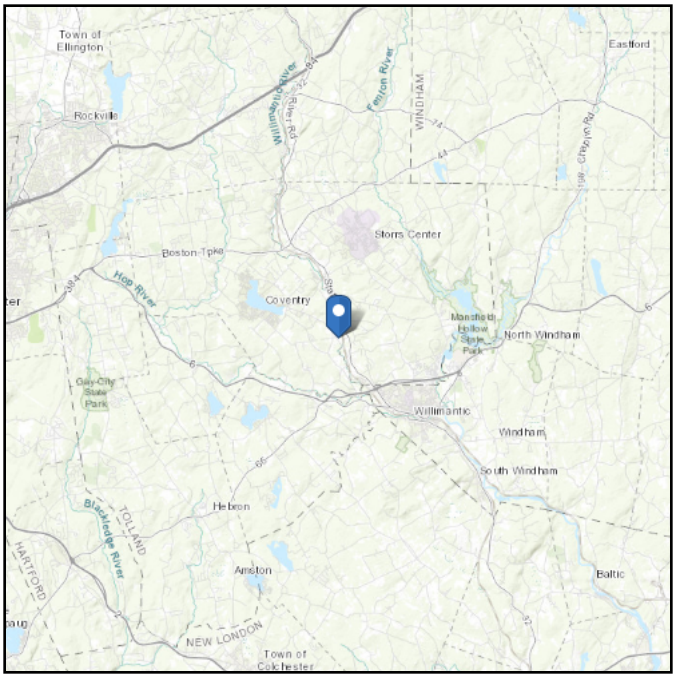
Design Calculations

ASCE 7 Hazards Report

Address:
138 Main St
Coventry, Connecticut
06238

Standard: ASCE/SEI 7-10
Risk Category: II
Soil Class: D - Stiff Soil

Elevation: 281 ft (NAVD 88)
Latitude: 41.752683
Longitude: -72.269294



Wind

Results:

Wind Speed:	127 Vmph
10-year MRI	78 Vmph
25-year MRI	88 Vmph
50-year MRI	95 Vmph
100-year MRI	103 Vmph

Data Source: ASCE/SEI 7-10, Fig. 26.5-1A and Figs. CC-1–CC-4, and Section 26.5.2, incorporating errata of March 12, 2014

Date Accessed: Thu Jul 22 2021

Value provided is 3-second gust wind speeds at 33 ft above ground for Exposure C Category, based on linear interpolation between contours. Wind speeds are interpolated in accordance with the 7-10 Standard. Wind speeds correspond to approximately a 7% probability of exceedance in 50 years (annual exceedance probability = 0.00143, MRI = 700 years).

Site is in a hurricane-prone region as defined in ASCE/SEI 7-10 Section 26.2. Glazed openings need not be protected against wind-borne debris.

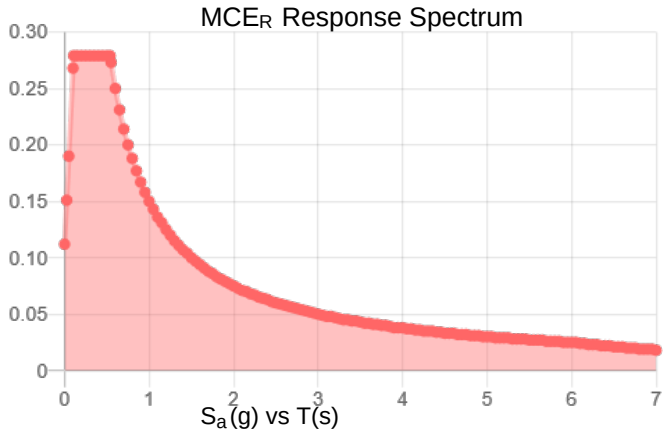
Seismic

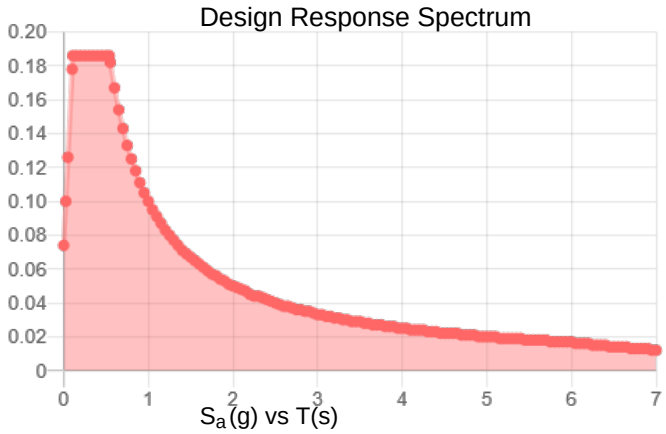
Site Soil Class: D - Stiff Soil

Results:

S_S :	0.175	S_{DS} :	0.186
S_1 :	0.063	S_{D1} :	0.1
F_a :	1.6	T_L :	6
F_v :	2.4	PGA :	0.087
S_{MS} :	0.279	PGA_M :	0.14
S_{M1} :	0.15	F_{PGA} :	1.6
		I_e :	1

Seismic Design Category B





Data Accessed: Thu Jul 22 2021

Date Source: USGS Seismic Design Maps based on ASCE/SEI 7-10, incorporating Supplement 1 and errata of March 31, 2013, and ASCE/SEI 7-10 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-10 Ch. 21 are available from USGS.

Ice

Results:

Ice Thickness:	1.00 in.
Concurrent Temperature:	5 F
Gust Speed:	50 mph
Data Source:	Standard ASCE/SEI 7-10, Figs. 10-2 through 10-8
Date Accessed:	Thu Jul 22 2021

Ice thicknesses on structures in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

Values provided are equivalent radial ice thicknesses due to freezing rain with concurrent 3-second gust speeds, for a 50-year mean recurrence interval, and temperatures concurrent with ice thicknesses due to freezing rain. Thicknesses for ice accretions caused by other sources shall be obtained from local meteorological studies. Ice thicknesses in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

Snow

Results:

Ground Snow Load, p_g:	30 lb/ft^2
Elevation:	281.0 ft
Data Source:	ASCE/SEI 7-10, Fig. 7-1.
Date Accessed:	Thu Jul 22 2021

Values provided are ground snow loads. In areas designated "case study required," extreme local variations in ground snow loads preclude mapping at this scale. Site-specific case studies are required to establish ground snow loads at elevations not covered.

The ASCE 7 Hazard Tool is provided for your convenience, for informational purposes only, and is provided “as is” and without warranties of any kind. The location data included herein has been obtained from information developed, produced, and maintained by third party providers; or has been extrapolated from maps incorporated in the ASCE 7 standard. While ASCE has made every effort to use data obtained from reliable sources or methodologies, ASCE does not make any representations or warranties as to the accuracy, completeness, reliability, currency, or quality of any data provided herein. Any third-party links provided by this Tool should not be construed as an endorsement, affiliation, relationship, or sponsorship of such third-party content by or from ASCE.

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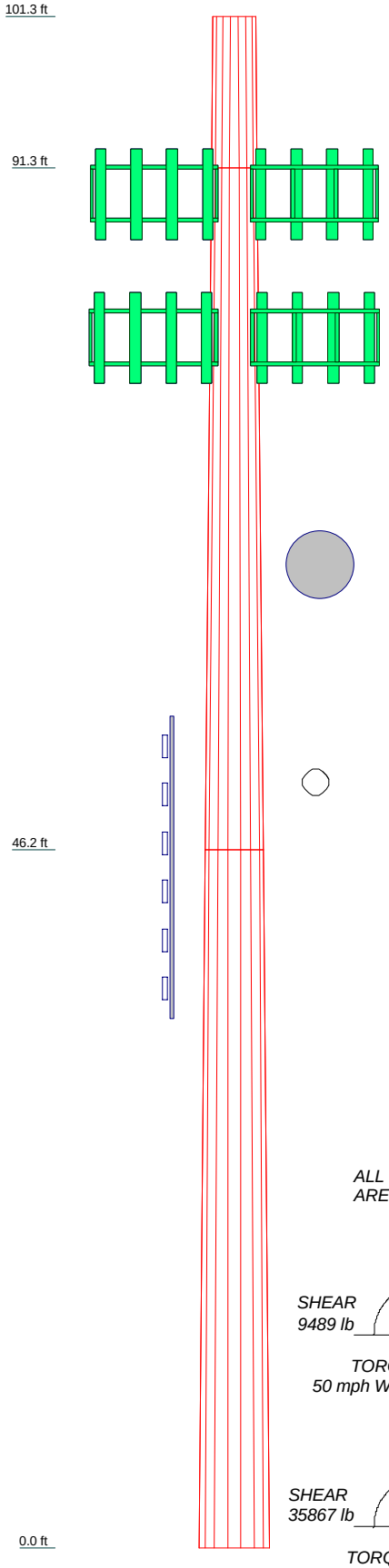
Section	Length (ft)	Number of Sides	Thickness (in)	Top Dia (in)	Bot Dia (in)	Grade	Weight (lb)
1	10.00	18	0.2500	33.0800	35.2900	A572-65	916.3
2	45.08	18	0.3125	35.2900	46.3200	A572-65	6161.0
3	46.17	18	0.3750	46.3200	55.2600	A572-65	9427.4
							16504.7



MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-65	65 ksi	80 ksi			

TOWER DESIGN NOTES

1. Tower is located in Tolland County, Connecticut.
2. Tower designed for Exposure C to the TIA-222-G Standard.
3. Tower designed for a 101 mph basic wind in accordance with the TIA-222-G Standard.
4. Tower is also designed for a 50 mph basic wind with 1.00 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Structure Class II.
7. Topographic Category 1 with Crest Height of 0.00 ft
8. TOWER RATING: 58.5%

ALL REACTIONS ARE FACTORED

AXIAL 67449 lb

SHEAR 9489 lb *MOMENT 745673 lb-ft*

TORQUE 6809 lb-ft
50 mph WIND - 1.0000 in ICE

AXIAL 33934 lb

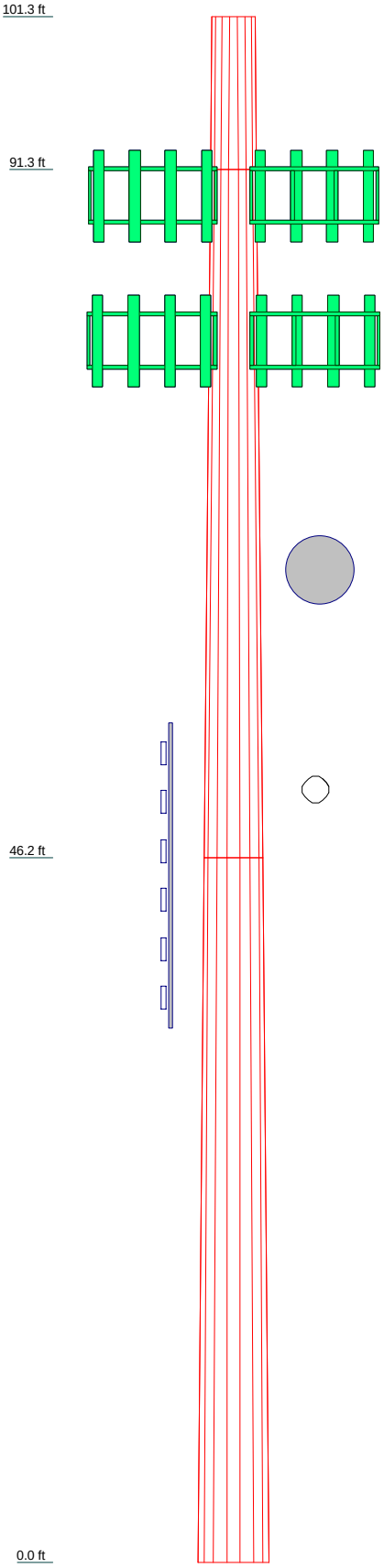
SHEAR 35867 lb *MOMENT 2796009 lb-ft*

TORQUE 26003 lb-ft
REACTIONS - 101 mph WIND

Centerline Communications
750 West Center Street, Suite 301
West Bridgewater, MA 02379
Phone: 781-713-4725
FAX:

Job: ***CTHA620A***			
Project: ***Coverage Strategy***			
Client: T-Mobile	Drawn by: Arielle Novak		App'd:
Code: TIA-222-G	Date: 08/27/21		Scale: NTS
Path:			Dwg No. E-1

Section	Length (ft)	Number of Sides	Thickness (in)	Top Dia (in)	Bot Dia (in)	Grade	Weight (lb)
1	10.00	18	0.2500	33.0800	35.2900		916.3
2	45.08	18	0.3125	35.2900	46.3200	A572-65	6161.0
3	46.17	18	0.3750	46.3200	55.2600		9427.4
							16504.7



DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
(2) SC-E 6016 w/ mount pipe (VZW)	100	B25 4415 (ATI)	90
(2) SC-E 6016 w/ mount pipe (VZW)	100	B25 4415 (ATI)	90
(2) SC-E 6016 w/ mount pipe (VZW)	100	B2/B66A 8843 (ATI)	90
(2) HBXX-6517DS-VTM w/ mount pipe (VZW)	100	B2/B66A 8843 (ATI)	90
(2) HBXX-6517DS-VTM w/ mount pipe (VZW)	100	B2/B66A 8843 (ATI)	90
(2) HBXX-6517DS-VTM w/ mount pipe (VZW)	100	B5/B12 4449 (ATI)	90
LNX-6514DS-VTM w/ mount pipe (VZW)	100	B5/B12 4449 (ATI)	90
LNX-6514DS-VTM w/ mount pipe (VZW)	100	B5/B12 4449 (ATI)	90
LNX-6514DS-VTM w/ mount pipe (VZW)	100	DC6-48-60-18-8F (ATI)	90
RRH2x60 AWS (VZW)	100	DC6-48-60-18-8F (ATI)	90
RRH2x60 AWS (VZW)	100	Pirod 13' Platform w/ handrail (ATI)	89.5
RRH2x60 AWS (VZW)	100	APX16DWV-16DWV-S-E-A20 (T-MOBILE)	80
RRH2x60 PCS (VZW)	100	APX16DWV-16DWV-S-E-A20 (T-MOBILE)	80
RRH2x60 PCS (VZW)	100	APX16DWV-16DWV-S-E-A20 (T-MOBILE)	80
RRH2x60 PCS (VZW)	100	APXVAALL24_43-U-NA20 (T-MOBILE)	80
RFS DB-T1-6Z-8AB-0Z (VZW)	100	APXVAALL24_43-U-NA20 (T-MOBILE)	80
RFS DB-T1-6Z-8AB-0Z (VZW)	100	APXVAALL24_43-U-NA20 (T-MOBILE)	80
Powerwave 7770 w/ mount pipe (ATI)	90	AIR 6449 B41 (T-MOBILE)	80
Powerwave 7770 w/ mount pipe (ATI)	90	AIR 6449 B41 (T-MOBILE)	80
Powerwave 7770 w/ mount pipe (ATI)	90	AIR 6449 B41 (T-MOBILE)	80
(2) Powerwave TMA LGP21401 (ATI)	90	RADIO 4480 B71+B85 (T-MOBILE)	80
(2) Powerwave TMA LGP21401 (ATI)	90	RADIO 4480 B71+B85 (T-MOBILE)	80
(2) Powerwave TMA LGP21401 (ATI)	90	RADIO 4480 B71+B85 (T-MOBILE)	80
DC6-48-60-18-8F (ATI)	90	RADIO 4460 B25+B66 (T-MOBILE)	80
Ring Mount (ATI)	90	RADIO 4460 B25+B66 (T-MOBILE)	80
(2) HPA65R-BU6A w/ mount pipe (ATI)	90	RADIO 4460 B25+B66 (T-MOBILE)	80
(2) HPA65R-BU6A w/ mount pipe (ATI)	90	Site Pro 1 RMQP-4096-HK (T-MOBILE)	80
(2) HPA65R-BU6A w/ mount pipe (ATI)	90	(4) PIPE MOUNT (8'X2.375" (T-MOBILE)	80
800 10965 w/ mount pipe (ATI)	90	(4) PIPE MOUNT (8'X2.375" (T-MOBILE)	80
800 10965 w/ mount pipe (ATI)	90	(4) PIPE MOUNT (8'X2.375" (T-MOBILE)	80
800 10965 w/ mount pipe (ATI)	90	Kathrein PR-950	65
B25 4415 (ATI)	90	Omni 1"x8'	61
		20' Dipole	55

MATERIAL STRENGTH

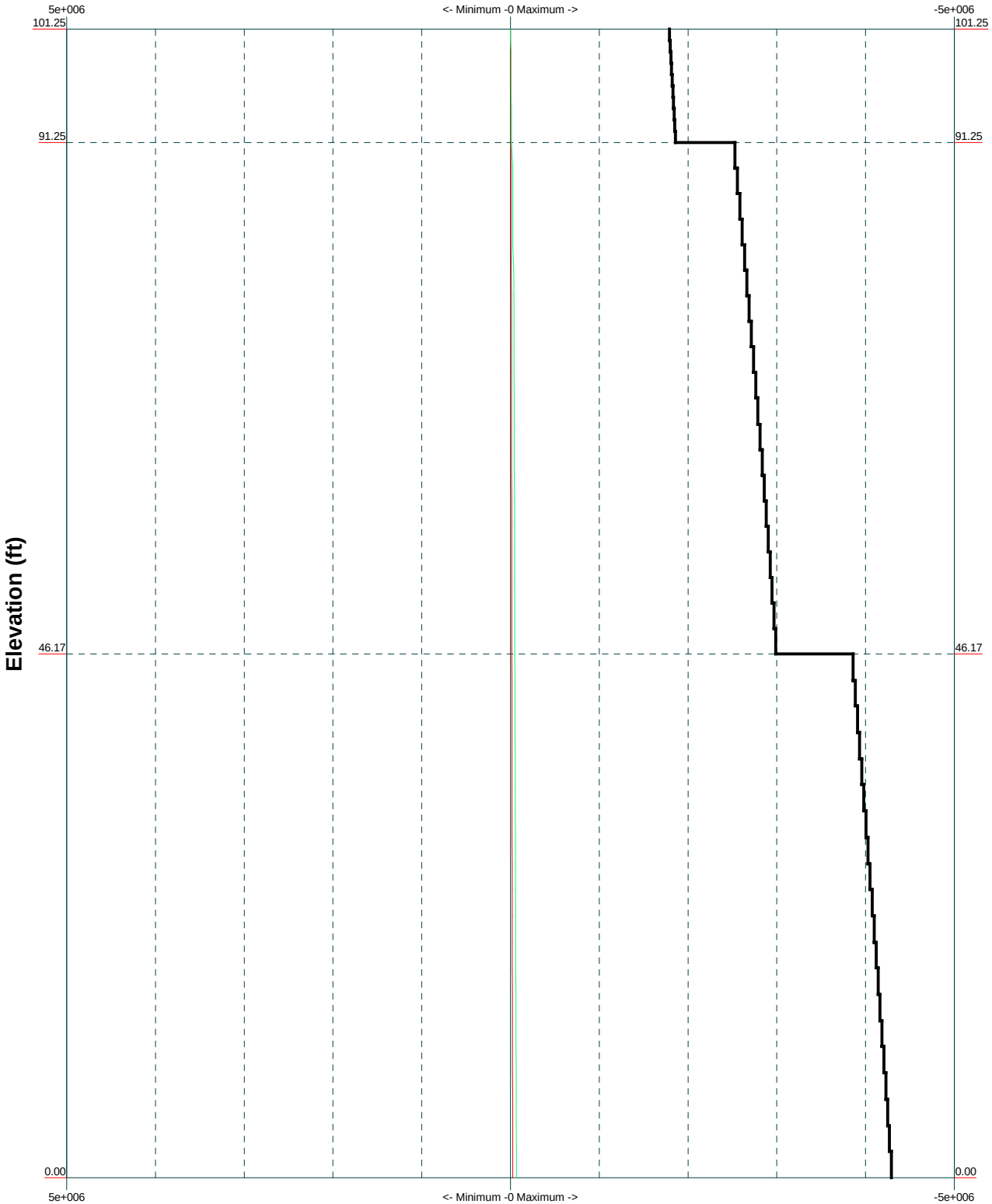
GRADE	Fy	Fu	GRADE	Fy	Fu
A572-65	65 ksi	80 ksi			

Centerline Communications
750 West Center Street, Suite 301
West Bridgewater, MA 02379
Phone: 781-713-4725
FAX:

Job: ***CTHA620A***		
Project: ***Coverage Strategy***		
Client: T-Mobile	Drawn by: Arielle Novak	App'd:
Code: TIA-222-G	Date: 08/27/21	Scale: NTS
Path:		Dwg No. E-1

TIA-222-G - 101 mph/50 mph 1.0000 in Ice Exposure C

Leg Capacity ——— **Leg Compression (lb)**



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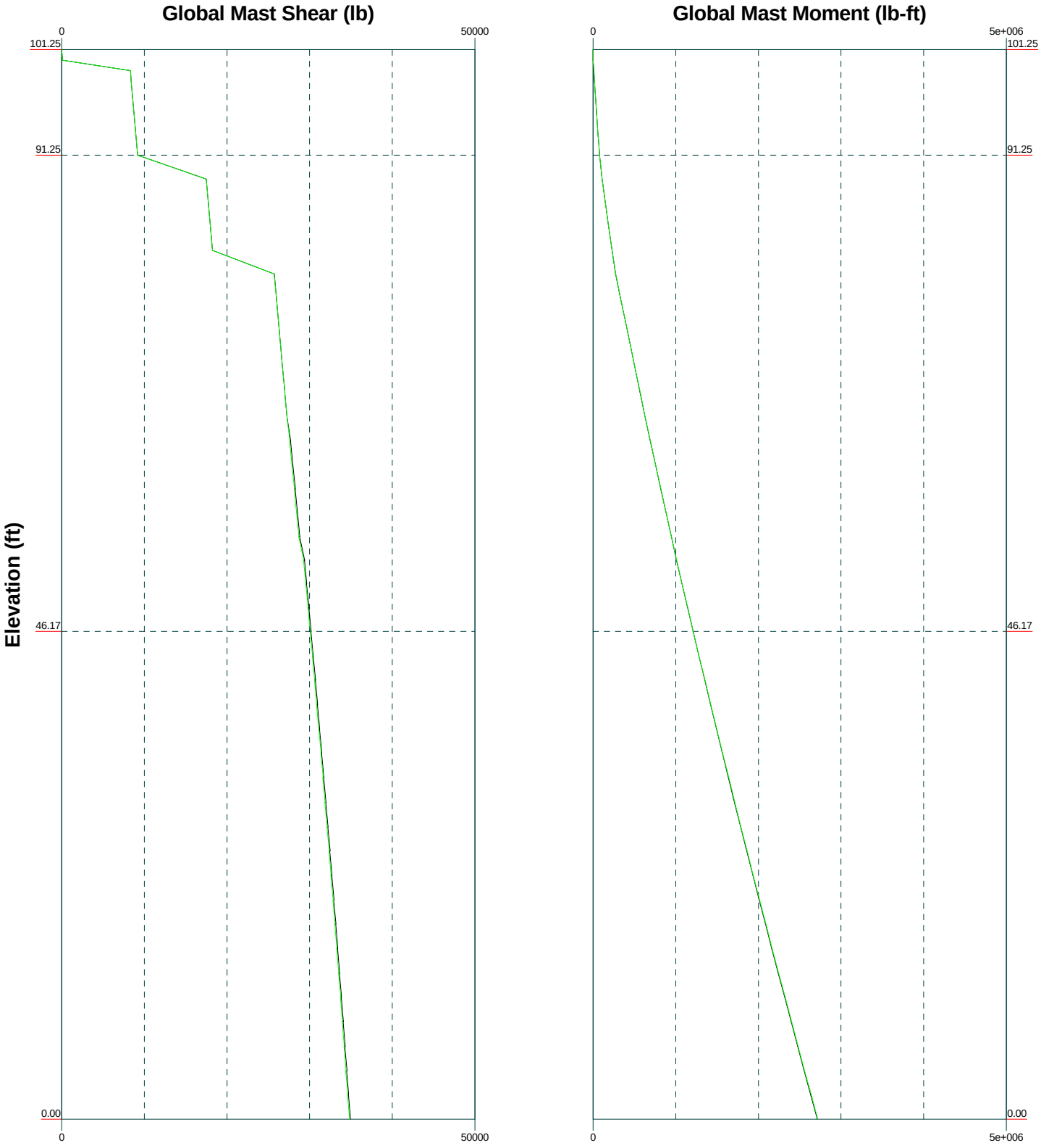
Client: T-Mobile	Drawn by: Arielle Novak		App'd:
Code: TIA-222-G	Date: 08/27/21		Scale: NTS
Path:			Dwg No. E-3

TIA-222-G - 101 mph/50 mph 1.0000 in Ice Exposure C

Vx Vz

Maximum Values

Mx Mz



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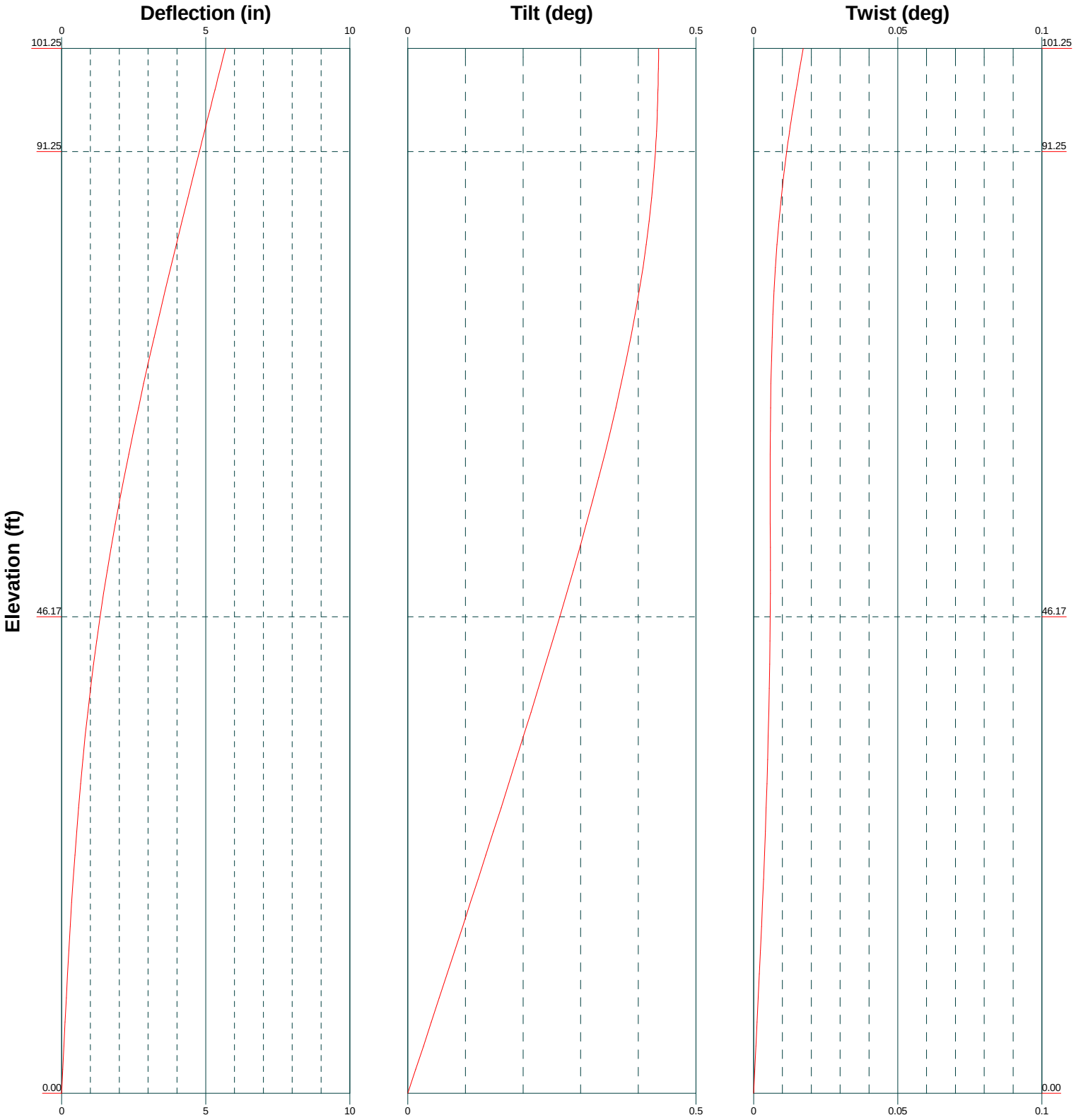
Job: ***CTHA620A***			
Project: ***Coverage Strategy***			
Client: T-Mobile	Drawn by: Arielle Novak		App'd:
Code: TIA-222-G	Date: 08/27/21		Scale: NTS
Path:			Dwg No. E-4

TIA-222-G - Service - 60 mph

Maximum Values



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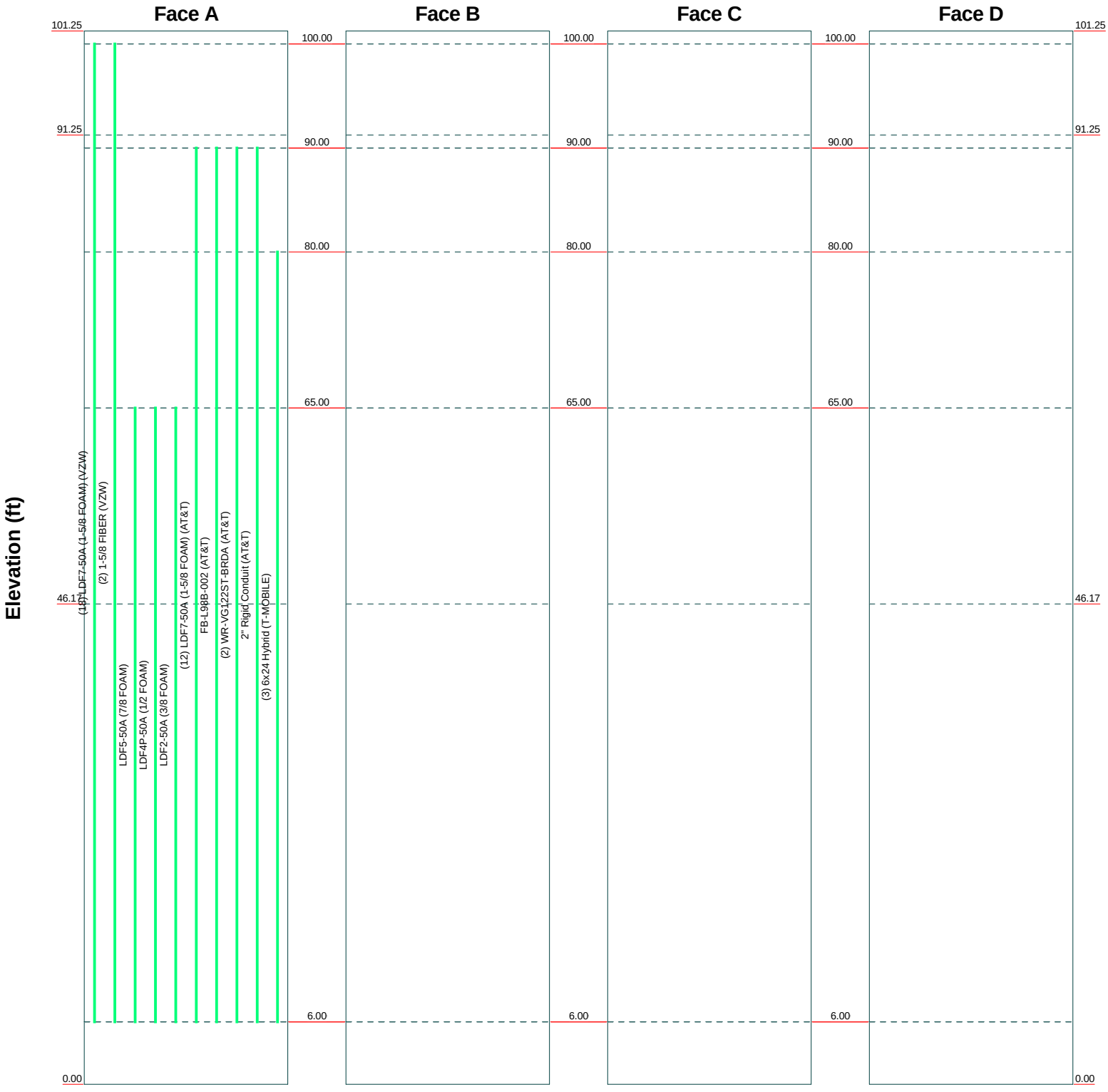
West Bridgewater, MA 02379
Phone: 781-713-4725
FAX:

Job: ***CTHA620A***			
Project: ***Coverage Strategy***			
Client: T-Mobile	Drawn by: Arielle Novak		App'd:
Code: TIA-222-G	Date: 08/27/21		Scale: NTS
Path:			Dwg No. E-5

Feed Line Distribution Chart
0' - 101'3"

Round | Flat | App In Face | App Out Face | Truss Leg



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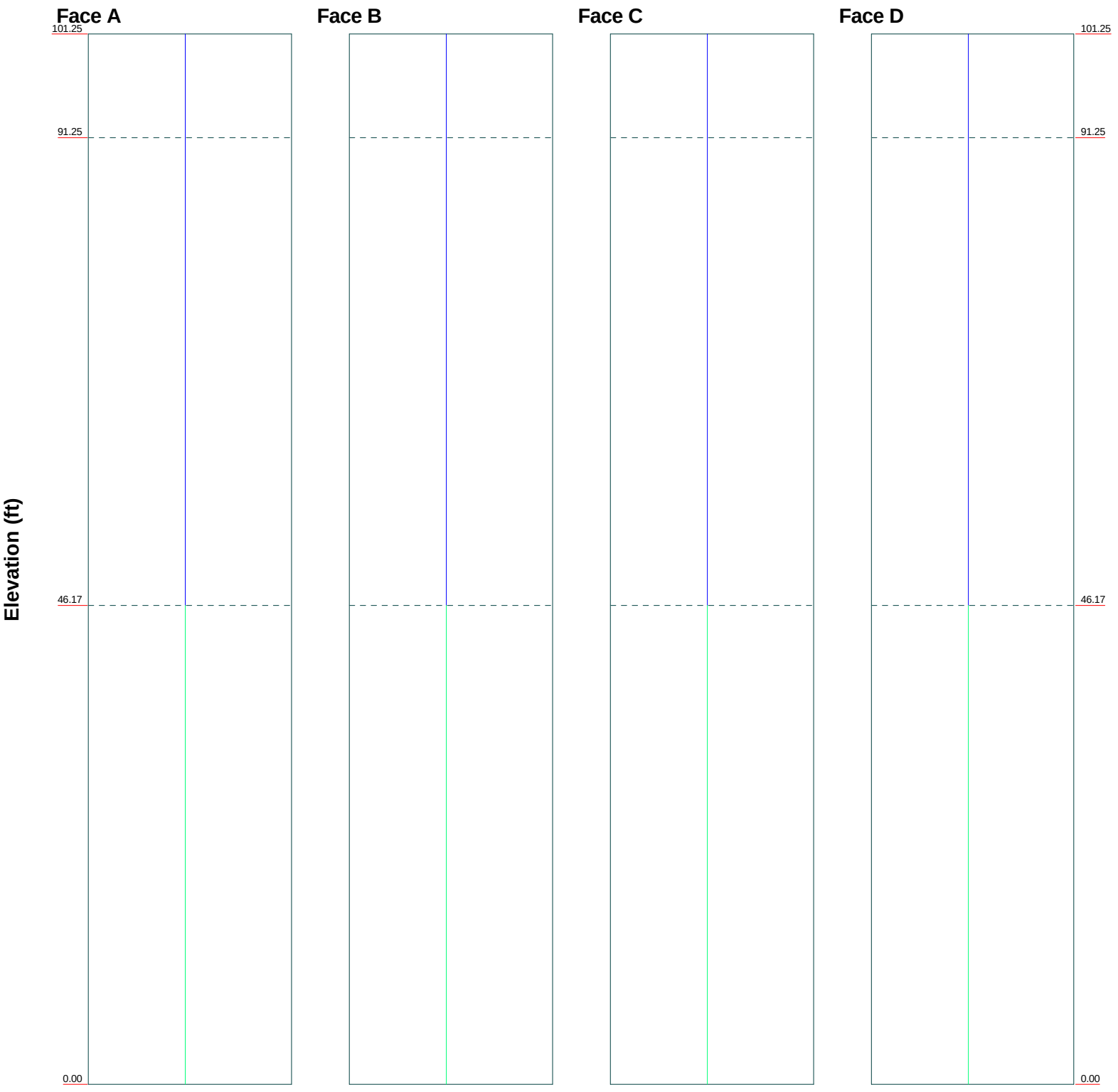
West Bridgewater, MA 02379
Phone: 781-713-4725
FAX:

Job: ***CTHA620A***			
Project: ***Coverage Strategy***			
Client: T-Mobile	Drawn by: Arielle Novak	App'd:	
Code: TIA-222-G	Date: 08/27/21	Scale: NTS	
Path:		Dwg No. E-7	

Stress Distribution Chart
0' - 101'3"

> 100% | 90%-100% | 75%-90% | 50%-75% | < 50% Overstress



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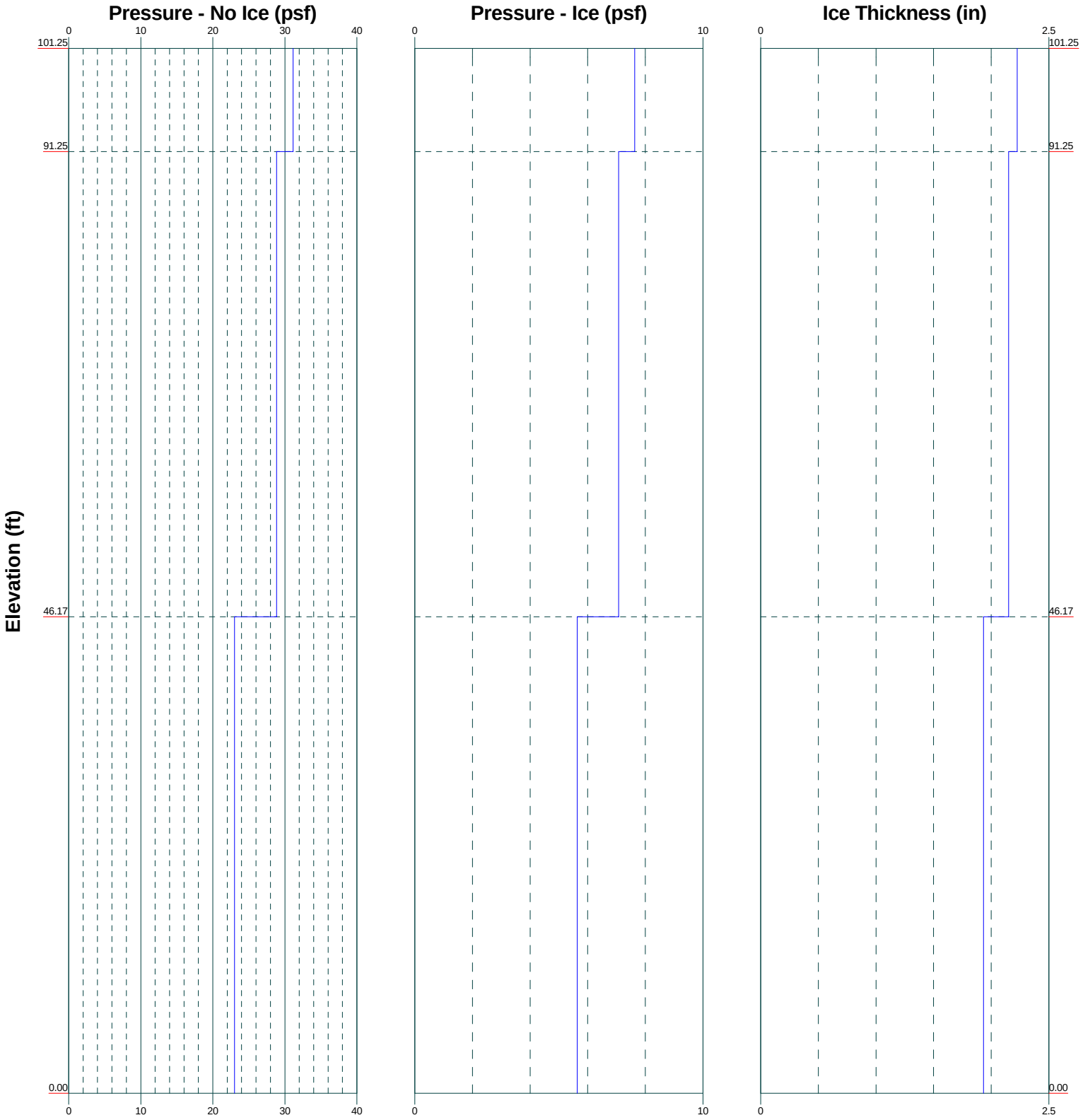
Phone: 781-713-4725
FAX:

Job: ***CTHA620A***			
Project: ***Coverage Strategy***			
Client: T-Mobile	Drawn by: Arielle Novak	App'd:	
Code: TIA-222-G	Date: 08/27/21	Scale: NTS	
Path:		Dwg No. E-8	

Wind Pressures and Ice Thickness

TIA-222-G - 101 mph/50 mph 1.0000 in Ice Exposure C



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750 West Center Street, Suite 301
West Bridgewater, MA 02379
Phone: 781-713-4725
FAX:

Job: ***CTHA620A***			
Project: ***Coverage Strategy***			
Client: T-Mobile	Drawn by: Arielle Novak		App'd:
Code: TIA-222-G	Date: 08/27/21		Scale: NTS
Path:			Dwg No. E-9

Tower Input Data

The tower is a monopole.
This tower is designed using the TIA-222-G standard.
The following design criteria apply:

Tower is located in Tolland County, Connecticut.
ASCE 7-10 Wind Data is used (wind speeds converted to nominal values).
Basic wind speed of 101 mph.
Structure Class II.
Exposure Category C.
Topographic Category 1.
Crest Height 0.00 ft.
Nominal ice thickness of 1.0000 in.
Ice thickness is considered to increase with height.
Ice density of 56 pcf.
A wind speed of 50 mph is used in combination with ice.
Temperature drop of 50 °F.
Deflections calculated using a wind speed of 60 mph.
A non-linear (P-delta) analysis was used.
Pressures are calculated at each section.
Stress ratio used in pole design is 1.
Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

	Consider Moments - Legs		Distribute Leg Loads As Uniform		Use ASCE 10 X-Brace Ly Rules
	Consider Moments - Horizontals		Assume Legs Pinned		Calculate Redundant Bracing Forces
	Consider Moments - Diagonals	√	Assume Rigid Index Plate		Ignore Redundant Members in FEA
	Use Moment Magnification	√	Use Clear Spans For Wind Area		SR Leg Bolts Resist Compression
√	Use Code Stress Ratios		Use Clear Spans For KL/r		All Leg Panels Have Same Allowable
√	Use Code Safety Factors - Guys		Retension Guys To Initial Tension		Offset Girt At Foundation
	Escalate Ice	√	Bypass Mast Stability Checks	√	Consider Feed Line Torque
	Always Use Max Kz	√	Use Azimuth Dish Coefficients		Include Angle Block Shear Check
	Use Special Wind Profile	√	Project Wind Area of Appurt.		Use TIA-222-G Bracing Resist. Exemption
	Include Bolts In Member Capacity		Autocalc Torque Arm Areas		Use TIA-222-G Tension Splice Exemption
	Leg Bolts Are At Top Of Section		Add IBC .6D+W Combination		Poles
	Secondary Horizontal Braces Leg	√	Sort Capacity Reports By Component	√	Include Shear-Torsion Interaction
	Use Diamond Inner Bracing (4 Sided)		Triangulate Diamond Inner Bracing		Always Use Sub-Critical Flow
	SR Members Have Cut Ends		Treat Feed Line Bundles As Cylinder		Use Top Mounted Sockets
	SR Members Are Concentric		Ignore KL/ry For 60 Deg. Angle Legs		Pole Without Linear Attachments
					Pole With Shroud Or No Appurtenances
					Outside and Inside Corner Radii Are Known

Tapered Pole Section Geometry

Section	*Elevation*	*Section Length*	*Splice Length*	*Number of Sides*	*Top Diameter*	*Bottom Diameter*	*Wall Thickness*	*Bend Radius*	*Pole Grade*
	ft	*ft*	*ft*		*in*	*in*	*in*	*in*	

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L1	101.25-91.25	10.00	0.00	18	33.0800	35.2900	0.2500	1.0000	A572-65 (65 ksi)
L2	91.25-46.17	45.08	0.00	18	35.2900	46.3200	0.3125	1.2500	A572-65 (65 ksi)
L3	46.17-0.00	46.17		18	46.3200	55.2600	0.3750	1.5000	A572-65 (65 ksi)

Tapered Pole Properties

Section	Tip Dia. in	Area in^2	I in^4	r in	C in	I/C in^3	J in^4	It/Q in^2	w in	w/t
L1	33.5517	26.0506	3547.2927	11.6547	16.8046	211.0901	7099.2531	13.0278	5.3821	21.528
	35.7958	27.8042	4312.9723	12.4392	17.9273	240.5810	8631.6198	13.9048	5.7710	23.084
L2	35.7862	34.6933	5362.4183	12.4170	17.9273	299.1199	10731.8926	17.3500	5.6610	18.115
	46.9864	45.6337	12203.3846	16.3327	23.5306	518.6185	24422.8267	22.8212	7.6023	24.327
L3	46.9767	54.6860	14584.4618	16.3105	23.5306	619.8094	29188.1143	27.3482	7.4923	19.98
	56.0546	65.3269	24862.0334	19.4842	28.0721	885.6498	49756.7810	32.6696	9.0658	24.175

Tower Elevation ft	Gusset Area (per face) ft^2	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
L1 101.25-91.25				1	1	1			
L2 91.25-46.17				1	1	1			
L3 46.17-0.00				1	1	1			

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number	Number Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight plf
***											

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight plf
LDF7-50A (1-5/8 FOAM) (VZW)	A	No	No	Inside Pole	100.00 - 6.00	18	No Ice	0.00	0.82
							1/2" Ice	0.00	0.82
							1" Ice	0.00	0.82
1-5/8 FIBER (VZW)	A	No	No	Inside Pole	100.00 - 6.00	2	No Ice	0.00	0.82
							1/2" Ice	0.00	0.82
							1" Ice	0.00	0.82
***									

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight plf
LDF5-50A (7/8 FOAM)	A	No	No	Inside Pole	65.00 - 6.00	1	No Ice	0.00	0.33
							1/2" Ice	0.00	0.33
							1" Ice	0.00	0.33
LDF4P-50A (1/2 FOAM)	A	No	No	Inside Pole	65.00 - 6.00	1	No Ice	0.00	0.15
							1/2" Ice	0.00	0.15
							1" Ice	0.00	0.15
LDF2-50A (3/8 FOAM)	A	No	No	Inside Pole	65.00 - 6.00	1	No Ice	0.00	0.08
							1/2" Ice	0.00	0.08
							1" Ice	0.00	0.08
***									
LDF7-50A (1-5/8 FOAM) (AT&T)	A	No	No	Inside Pole	90.00 - 6.00	12	No Ice	0.00	0.82
							1/2" Ice	0.00	0.82
							1" Ice	0.00	0.82
FB-L98B-002 (AT&T)	A	No	No	Inside Pole	90.00 - 6.00	1	No Ice	0.00	0.25
							1/2" Ice	0.00	0.25
							1" Ice	0.00	0.25
WR-VG122ST-BRDA (AT&T)	A	No	No	Inside Pole	90.00 - 6.00	2	No Ice	0.00	0.25
							1/2" Ice	0.00	0.25
							1" Ice	0.00	0.25
2" Rigid Conduit (AT&T)	A	No	No	Inside Pole	90.00 - 6.00	1	No Ice	0.00	2.80
							1/2" Ice	0.00	2.80
							1" Ice	0.00	2.80
***									
6x24 Hybrid (T-MOBILE)	A	No	No	Inside Pole	80.00 - 6.00	3	No Ice	0.00	0.82
							1/2" Ice	0.00	0.82
							1" Ice	0.00	0.82
***									

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight lb
L1	101.25-91.25	A	0.000	0.000	0.000	0.000	143.50
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.00
		D	0.000	0.000	0.000	0.000	0.00
L2	91.25-46.17	A	0.000	0.000	0.000	0.000	1419.96
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.00
		D	0.000	0.000	0.000	0.000	0.00
L3	46.17-0.00	A	0.000	0.000	0.000	0.000	1317.98
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.00
		D	0.000	0.000	0.000	0.000	0.00

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight lb

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight lb
L1	101.25-91.25	A	2.226	0.000	0.000	0.000	0.000	143.50
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.00
		D		0.000	0.000	0.000	0.000	0.00
L2	91.25-46.17	A	2.150	0.000	0.000	0.000	0.000	1419.96
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.00
		D		0.000	0.000	0.000	0.000	0.00
L3	46.17-0.00	A	1.932	0.000	0.000	0.000	0.000	1317.98
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.00
		D		0.000	0.000	0.000	0.000	0.00

Feed Line Center of Pressure

Section	Elevation ft	CP_X in	CP_Z in	CP_X Ice in	CP_Z Ice in
L1	101.25-91.25	0.0000	0.0000	0.0000	0.0000
L2	91.25-46.17	0.0000	0.0000	0.0000	0.0000
L3	46.17-0.00	0.0000	0.0000	0.0000	0.0000

Note: For pole sections, center of pressure calculations do not consider feed line shielding.

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
***									
(2) SC-E 6016 w/ mount pipe (VZW)	A	From Leg	2.50 0.00 0.00	0.0000	100.00	No Ice 1/2" Ice 1" Ice	8.16 8.89 9.59	9.87 11.34 12.64	77.11 156.59 246.35
(2) SC-E 6016 w/ mount pipe (VZW)	B	From Leg	2.50 0.00 0.00	0.0000	100.00	No Ice 1/2" Ice 1" Ice	8.16 8.89 9.59	9.87 11.34 12.64	77.11 156.59 246.35
(2) SC-E 6016 w/ mount pipe (VZW)	C	From Leg	2.50 0.00 0.00	0.0000	100.00	No Ice 1/2" Ice 1" Ice	8.16 8.89 9.59	9.87 11.34 12.64	77.11 156.59 246.35
(2) HBXX-6517DS-VTM w/ mount pipe (VZW)	A	From Leg	2.50 0.00 0.00	0.0000	100.00	No Ice 1/2" Ice 1" Ice	8.92 9.56 10.19	6.91 8.10 9.01	66.35 135.34 212.45
(2) HBXX-6517DS-VTM w/ mount pipe (VZW)	B	From Leg	2.50 0.00 0.00	0.0000	100.00	No Ice 1/2" Ice 1" Ice	8.92 9.56 10.19	6.91 8.10 9.01	66.35 135.34 212.45
(2) HBXX-6517DS-VTM w/ mount pipe	C	From Leg	2.50 0.00	0.0000	100.00	No Ice 1/2" Ice	8.92 9.56	6.91 8.10	66.35 135.34

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
(VZW)			0.00			1" Ice	10.19	9.01	212.45
LNX-6514DS-VTM w/ mount pipe	A	From Leg	2.50	0.0000	100.00	No Ice	8.63	7.07	63.95
			0.00			1/2" Ice	9.29	8.25	132.95
(VZW)			0.00			1" Ice	9.90	9.15	209.97
LNX-6514DS-VTM w/ mount pipe	B	From Leg	2.50	0.0000	100.00	No Ice	8.63	7.07	63.95
			0.00			1/2" Ice	9.29	8.25	132.95
(VZW)			0.00			1" Ice	9.90	9.15	209.97
LNX-6514DS-VTM w/ mount pipe	C	From Leg	2.50	0.0000	100.00	No Ice	8.63	7.07	63.95
			0.00			1/2" Ice	9.29	8.25	132.95
(VZW)			0.00			1" Ice	9.90	9.15	209.97
RRH2x60 AWS	A	From Leg	2.50	0.0000	100.00	No Ice	3.50	2.10	55.00
(VZW)			0.00			1/2" Ice	3.76	2.34	79.31
			0.00			1" Ice	4.03	2.58	107.31
RRH2x60 AWS	B	From Leg	2.50	0.0000	100.00	No Ice	3.50	2.10	55.00
(VZW)			0.00			1/2" Ice	3.76	2.34	79.31
			0.00			1" Ice	4.03	2.58	107.31
RRH2x60 AWS	C	From Leg	2.50	0.0000	100.00	No Ice	3.50	2.10	55.00
(VZW)			0.00			1/2" Ice	3.76	2.34	79.31
			0.00			1" Ice	4.03	2.58	107.31
RRH2x60 PCS	A	From Leg	2.50	0.0000	100.00	No Ice	2.15	1.35	55.00
(VZW)			0.00			1/2" Ice	2.34	1.50	72.75
			0.00			1" Ice	2.54	1.67	93.35
RRH2x60 PCS	B	From Leg	2.50	0.0000	100.00	No Ice	2.15	1.35	55.00
(VZW)			0.00			1/2" Ice	2.34	1.50	72.75
			0.00			1" Ice	2.54	1.67	93.35
RRH2x60 PCS	C	From Leg	2.50	0.0000	100.00	No Ice	2.15	1.35	55.00
(VZW)			0.00			1/2" Ice	2.34	1.50	72.75
			0.00			1" Ice	2.54	1.67	93.35
RFS DB-T1-6Z-8AB-0Z	B	From Leg	2.00	0.0000	100.00	No Ice	4.80	2.00	44.00
(VZW)			0.00			1/2" Ice	5.07	2.19	80.13
			0.00			1" Ice	5.35	2.39	120.22
RFS DB-T1-6Z-8AB-0Z	C	From Leg	2.00	0.0000	100.00	No Ice	4.80	2.00	44.00
(VZW)			0.00			1/2" Ice	5.07	2.19	80.13
			0.00			1" Ice	5.35	2.39	120.22
***									
Powerwave 7770 w/ mount pipe	A	From Leg	4.00	0.0000	90.00	No Ice	5.65	4.10	57.25
			0.00			1/2" Ice	6.03	4.75	103.17
(AT&T)			0.00			1" Ice	6.42	5.42	155.38
Powerwave 7770 w/ mount pipe	B	From Leg	4.00	0.0000	90.00	No Ice	5.65	4.10	57.25
			0.00			1/2" Ice	6.03	4.75	103.17
(AT&T)			0.00			1" Ice	6.42	5.42	155.38
Powerwave 7770 w/ mount pipe	C	From Leg	4.00	0.0000	90.00	No Ice	5.65	4.10	57.25
			0.00			1/2" Ice	6.03	4.75	103.17
(AT&T)			0.00			1" Ice	6.42	5.42	155.38
(2) Powerwave TMA LGP21401	A	From Leg	3.00	0.0000	90.00	No Ice	1.05	0.38	14.10
			0.00			1/2" Ice	1.18	0.47	21.29
(AT&T)			0.00			1" Ice	1.32	0.57	30.37
(2) Powerwave TMA LGP21401	B	From Leg	3.00	0.0000	90.00	No Ice	1.05	0.38	14.10
			0.00			1/2" Ice	1.18	0.47	21.29
(AT&T)			0.00			1" Ice	1.32	0.57	30.37
(2) Powerwave TMA LGP21401	C	From Leg	3.00	0.0000	90.00	No Ice	1.05	0.38	14.10
			0.00			1/2" Ice	1.18	0.47	21.29
(AT&T)			0.00			1" Ice	1.32	0.57	30.37
DC6-48-60-18-8F	C	From Face	1.00	0.0000	90.00	No Ice	0.79	0.79	20.00
(AT&T)			0.00			1/2" Ice	1.27	1.27	35.12
			0.00			1" Ice	1.45	1.45	52.57
Ring Mount	A	None		0.0000	90.00	No Ice	1.40	1.40	90.00

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft	Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
(AT&T)							1/2" Ice	2.40	2.40	130.00
							1" Ice	3.40	3.40	170.00
***										
Pirod 13' Platform w/ handrail	A	None			0.0000	89.50	No Ice	31.30	31.30	1822.00
(AT&T)							1/2" Ice	40.20	40.20	2452.00
							1" Ice	49.10	49.10	3082.00
(2) HPA65R-BU6A w/ mount	A	From Leg	4.00		0.0000	90.00	No Ice	8.16	7.56	87.43
pipe			0.00				1/2" Ice	8.70	8.59	159.54
(AT&T)			0.00				1" Ice	9.22	9.47	240.51
(2) HPA65R-BU6A w/ mount	B	From Leg	4.00		0.0000	90.00	No Ice	8.16	7.56	87.43
pipe			0.00				1/2" Ice	8.70	8.59	159.54
(AT&T)			0.00				1" Ice	9.22	9.47	240.51
(2) HPA65R-BU6A w/ mount	C	From Leg	4.00		0.0000	90.00	No Ice	8.16	7.56	87.43
pipe			0.00				1/2" Ice	8.70	8.59	159.54
(AT&T)			0.00				1" Ice	9.22	9.47	240.51
800 10965 w/ mount pipe	A	From Leg	4.00		0.0000	90.00	No Ice	13.92	7.50	134.55
(AT&T)			0.00				1/2" Ice	14.50	8.71	229.58
			0.00				1" Ice	15.07	9.65	333.52
800 10965 w/ mount pipe	B	From Leg	4.00		0.0000	90.00	No Ice	13.92	7.50	134.55
(AT&T)			0.00				1/2" Ice	14.50	8.71	229.58
			0.00				1" Ice	15.07	9.65	333.52
800 10965 w/ mount pipe	C	From Leg	4.00		0.0000	90.00	No Ice	13.92	7.50	134.55
(AT&T)			0.00				1/2" Ice	14.50	8.71	229.58
			0.00				1" Ice	15.07	9.65	333.52
B25 4415	A	From Leg	3.00		0.0000	90.00	No Ice	1.65	0.93	60.00
(AT&T)			0.00				1/2" Ice	1.81	1.05	74.37
			0.00				1" Ice	1.98	1.19	91.23
B25 4415	B	From Leg	3.00		0.0000	90.00	No Ice	1.65	0.93	60.00
(AT&T)			0.00				1/2" Ice	1.81	1.05	74.37
			0.00				1" Ice	1.98	1.19	91.23
B25 4415	C	From Leg	3.00		0.0000	90.00	No Ice	1.65	0.93	60.00
(AT&T)			0.00				1/2" Ice	1.81	1.05	74.37
			0.00				1" Ice	1.98	1.19	91.23
B2/B66A 8843	A	From Leg	3.00		0.0000	90.00	No Ice	1.65	0.93	40.00
(AT&T)			0.00				1/2" Ice	1.81	1.05	54.37
			0.00				1" Ice	1.98	1.19	71.23
B2/B66A 8843	B	From Leg	3.00		0.0000	90.00	No Ice	1.65	0.93	40.00
(AT&T)			0.00				1/2" Ice	1.81	1.05	54.37
			0.00				1" Ice	1.98	1.19	71.23
B2/B66A 8843	C	From Leg	3.00		0.0000	90.00	No Ice	1.65	0.93	40.00
(AT&T)			0.00				1/2" Ice	1.81	1.05	54.37
			0.00				1" Ice	1.98	1.19	71.23
B5/B12 4449	A	From Leg	3.00		0.0000	90.00	No Ice	1.97	1.40	71.00
(AT&T)			0.00				1/2" Ice	2.15	1.56	89.48
			0.00				1" Ice	2.33	1.72	110.77
B5/B12 4449	B	From Leg	3.00		0.0000	90.00	No Ice	1.97	1.40	71.00
(AT&T)			0.00				1/2" Ice	2.15	1.56	89.48
			0.00				1" Ice	2.33	1.72	110.77
B5/B12 4449	C	From Leg	3.00		0.0000	90.00	No Ice	1.97	1.40	71.00
(AT&T)			0.00				1/2" Ice	2.15	1.56	89.48
			0.00				1" Ice	2.33	1.72	110.77
DC6-48-60-18-8F	A	From Face	1.00		0.0000	90.00	No Ice	0.79	0.79	20.00
(AT&T)			0.00				1/2" Ice	1.27	1.27	35.12
			0.00				1" Ice	1.45	1.45	52.57
DC6-48-60-18-8F	B	From Face	1.00		0.0000	90.00	No Ice	0.79	0.79	20.00
(AT&T)			0.00				1/2" Ice	1.27	1.27	35.12
			0.00				1" Ice	1.45	1.45	52.57

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
***									
***									
***									
Omni 1"x8'	A	From Face	4.00	0.0000	61.00	No Ice	0.80	0.80	20.00
			0.00			1/2" Ice	1.62	1.62	27.43
			-4.00			1" Ice	2.45	2.45	40.01
***									
20' Dipole	A	From Leg	4.00	0.0000	55.00	No Ice	6.75	6.75	60.00
			0.00			1/2" Ice	10.04	10.04	115.61
			-10.00			1" Ice	12.10	12.10	184.01
***									
APX16DWV-16DWV-S-E-A20	A	From Leg	4.00	0.0000	80.00	No Ice	6.46	2.15	40.70
			0.00			1/2" Ice	6.83	2.49	73.65
(T-MOBILE)			0.00			1" Ice	7.21	2.84	111.47
APX16DWV-16DWV-S-E-A20	B	From Leg	4.00	0.0000	80.00	No Ice	6.46	2.15	40.70
			0.00			1/2" Ice	6.83	2.49	73.65
(T-MOBILE)			0.00			1" Ice	7.21	2.84	111.47
APX16DWV-16DWV-S-E-A20	C	From Leg	4.00	0.0000	80.00	No Ice	6.46	2.15	40.70
			0.00			1/2" Ice	6.83	2.49	73.65
(T-MOBILE)			0.00			1" Ice	7.21	2.84	111.47
APXVAALL24_43-U-NA20	A	From Leg	4.00	0.0000	80.00	No Ice	20.24	8.89	153.30
(T-MOBILE)			0.00			1/2" Ice	20.89	9.49	265.89
			0.00			1" Ice	21.54	10.09	387.02
APXVAALL24_43-U-NA20	B	From Leg	4.00	0.0000	80.00	No Ice	20.24	8.89	153.30
(T-MOBILE)			0.00			1/2" Ice	20.89	9.49	265.89
			0.00			1" Ice	21.54	10.09	387.02
APXVAALL24_43-U-NA20	C	From Leg	4.00	0.0000	80.00	No Ice	20.24	8.89	153.30
(T-MOBILE)			0.00			1/2" Ice	20.89	9.49	265.89
			0.00			1" Ice	21.54	10.09	387.02
AIR 6449 B41	A	From Leg	4.00	0.0000	80.00	No Ice	5.68	2.49	104.00
(T-MOBILE)			0.00			1/2" Ice	5.98	2.72	143.12
			0.00			1" Ice	6.29	2.95	186.46
AIR 6449 B41	B	From Leg	4.00	0.0000	80.00	No Ice	5.68	2.49	104.00
(T-MOBILE)			0.00			1/2" Ice	5.98	2.72	143.12
			0.00			1" Ice	6.29	2.95	186.46
AIR 6449 B41	C	From Leg	4.00	0.0000	80.00	No Ice	5.68	2.49	104.00
(T-MOBILE)			0.00			1/2" Ice	5.98	2.72	143.12
			0.00			1" Ice	6.29	2.95	186.46
RADIO 4480 B71+B85	A	From Leg	4.00	0.0000	80.00	No Ice	1.63	1.00	74.00
(T-MOBILE)			0.00			1/2" Ice	1.79	1.13	89.91
			0.00			1" Ice	1.95	1.27	108.43
RADIO 4480 B71+B85	B	From Leg	4.00	0.0000	80.00	No Ice	1.63	1.00	74.00
(T-MOBILE)			0.00			1/2" Ice	1.79	1.13	89.91
			0.00			1" Ice	1.95	1.27	108.43
RADIO 4480 B71+B85	C	From Leg	4.00	0.0000	80.00	No Ice	1.63	1.00	74.00
(T-MOBILE)			0.00			1/2" Ice	1.79	1.13	89.91
			0.00			1" Ice	1.95	1.27	108.43
RADIO 4460 B25+B66	A	From Leg	4.00	0.0000	80.00	No Ice	1.63	1.00	74.00
(T-MOBILE)			0.00			1/2" Ice	1.79	1.13	89.91
			0.00			1" Ice	1.95	1.27	108.43
RADIO 4460 B25+B66	B	From Leg	4.00	0.0000	80.00	No Ice	1.63	1.00	74.00
(T-MOBILE)			0.00			1/2" Ice	1.79	1.13	89.91
			0.00			1" Ice	1.95	1.27	108.43
RADIO 4460 B25+B66	C	From Leg	4.00	0.0000	80.00	No Ice	1.63	1.00	74.00
(T-MOBILE)			0.00			1/2" Ice	1.79	1.13	89.91
			0.00			1" Ice	1.95	1.27	108.43
Site Pro 1 RMQP-4096-HK	A	None		0.0000	80.00	No Ice	34.54	31.94	1945.00

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
(T-MOBILE)						1/2" Ice	42.04	39.46	2335.00
						1" Ice	49.60	47.16	2845.00
(4) PIPE MOUNT (8'X2.375"	A	From Leg	4.00	0.0000	80.00	No Ice	1.90	1.90	29.28
(T-MOBILE)			0.00			1/2" Ice	2.73	2.73	43.62
			0.00			1" Ice	3.40	3.40	63.24
(4) PIPE MOUNT (8'X2.375"	B	From Leg	4.00	0.0000	80.00	No Ice	1.90	1.90	29.28
(T-MOBILE)			0.00			1/2" Ice	2.73	2.73	43.62
			0.00			1" Ice	3.40	3.40	63.24
(4) PIPE MOUNT (8'X2.375"	C	From Leg	4.00	0.0000	80.00	No Ice	1.90	1.90	29.28
(T-MOBILE)			0.00			1/2" Ice	2.73	2.73	43.62
			0.00			1" Ice	3.40	3.40	63.24
***									

Dishes

Description	Face or Leg	Dish Type	Offset Type	Offsets: Horz Lateral ft / Vert ft	Azimuth Adjustment °	3 dB Beam Width °	Elevation ft	Outside Diameter ft		Aperture Area ft^2	Weight lb
Kathrein PR-950	C	Grid	From Face	4.00	0.0000		65.00	4.50	No Ice	6.00	38.00
				0.00					1/2" Ice	9.00	98.00
				0.00					1" Ice	12.00	158.00

Load Combinations

Comb. No.	Description
1	Dead Only
2	1.2 Dead+1.6 Wind 0 deg - No Ice
3	0.9 Dead+1.6 Wind 0 deg - No Ice
4	1.2 Dead+1.6 Wind 45 deg - No Ice
5	0.9 Dead+1.6 Wind 45 deg - No Ice
6	1.2 Dead+1.6 Wind 90 deg - No Ice
7	0.9 Dead+1.6 Wind 90 deg - No Ice
8	1.2 Dead+1.6 Wind 135 deg - No Ice
9	0.9 Dead+1.6 Wind 135 deg - No Ice
10	1.2 Dead+1.6 Wind 180 deg - No Ice
11	0.9 Dead+1.6 Wind 180 deg - No Ice
12	1.2 Dead+1.6 Wind 225 deg - No Ice
13	0.9 Dead+1.6 Wind 225 deg - No Ice
14	1.2 Dead+1.6 Wind 270 deg - No Ice
15	0.9 Dead+1.6 Wind 270 deg - No Ice
16	1.2 Dead+1.6 Wind 315 deg - No Ice
17	0.9 Dead+1.6 Wind 315 deg - No Ice
18	1.2 Dead+1.0 Ice+1.0 Temp
19	1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp
20	1.2 Dead+1.0 Wind 45 deg+1.0 Ice+1.0 Temp

Comb. No.	Description
21	1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp
22	1.2 Dead+1.0 Wind 135 deg+1.0 Ice+1.0 Temp
23	1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp
24	1.2 Dead+1.0 Wind 225 deg+1.0 Ice+1.0 Temp
25	1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp
26	1.2 Dead+1.0 Wind 315 deg+1.0 Ice+1.0 Temp
27	Dead+Wind 0 deg - Service
28	Dead+Wind 45 deg - Service
29	Dead+Wind 90 deg - Service
30	Dead+Wind 135 deg - Service
31	Dead+Wind 180 deg - Service
32	Dead+Wind 225 deg - Service
33	Dead+Wind 270 deg - Service
34	Dead+Wind 315 deg - Service

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical lb	Horizontal, X lb	Horizontal, Z lb
Pole	Max. Vert	24	67449.44	6697.89	-6467.74
	Max. H_x	15	25450.83	34902.31	988.70
	Max. H_z	3	25450.83	973.32	34813.60
	Max. M_x	2	2712781.63	973.32	34813.59
	Max. M_z	6	2719490.56	-34920.05	-988.70
	Max. Torsion	8	25969.37	-25376.56	-25339.30
	Min. Vert	5	25450.83	-23978.30	23941.04
	Min. H_x	7	25450.83	-34920.06	-988.70
	Min. H_z	11	25450.83	-1004.08	-34813.60
	Min. M_x	10	-2698476.62	-1004.08	-34813.59
	Min. M_z	14	-2704583.91	34902.31	988.70
	Min. Torsion	16	-26003.19	25377.74	25345.21

Tower Mast Reaction Summary

Load Combination	Vertical lb	$Shear_x$ lb	$Shear_z$ lb	Overturning Moment, M_x lb-ft	Overturning Moment, M_z lb-ft	Torque lb-ft
Dead Only	28278.70	-0.14	0.14	-5905.37	-5672.57	-0.03
1.2 Dead+1.6 Wind 0 deg - No Ice	33934.44	-973.32	-34813.59	-2712781.63	78127.16	17285.24
0.9 Dead+1.6 Wind 0 deg - No Ice	25450.83	-973.32	-34813.60	-2702136.23	79587.19	17277.24
1.2 Dead+1.6 Wind 45 deg - No Ice	33934.44	23978.33	-23941.07	-1861071.18	-1863238.31	-1212.62
0.9 Dead+1.6 Wind 45 deg - No Ice	25450.83	23978.30	-23941.04	-1853206.57	-1855437.88	-1210.86
1.2 Dead+1.6 Wind 90 deg - No Ice	33934.44	34920.05	988.70	78856.88	-2719490.56	-19220.10
0.9 Dead+1.6 Wind 90 deg - No Ice	25450.83	34920.06	988.70	80384.92	-2708897.38	-19209.60
1.2 Dead+1.6 Wind 135 deg - No Ice	33934.44	25376.56	25339.30	1968330.18	-1984776.24	-25969.37
0.9 Dead+1.6 Wind 135 deg - No Ice	25450.83	25376.56	25339.30	1963695.74	-1976578.26	-25956.12

Load Combination	Vertical	$Shear_x$	$Shear_z$	Overturning Moment, M_x	Overturning Moment, M_z	Torque
	lb	lb	lb	lb-ft	lb-ft	lb-ft
1.2 Dead+1.6 Wind 180 deg - No Ice	33934.44	1004.08	34813.59	2698476.62	-93867.90	-17290.33
0.9 Dead+1.6 Wind 180 deg - No Ice	25450.83	1004.08	34813.60	2691465.57	-91835.66	-17282.06
1.2 Dead+1.6 Wind 225 deg - No Ice	33934.44	-23979.51	23946.98	1847153.52	1849571.16	1178.65
0.9 Dead+1.6 Wind 225 deg - No Ice	25450.83	-23979.48	23946.95	1842922.52	1845263.56	1176.93
1.2 Dead+1.6 Wind 270 deg - No Ice	33934.44	-34902.31	-988.70	-93138.02	2704583.91	19225.04
0.9 Dead+1.6 Wind 270 deg - No Ice	25450.83	-34902.31	-988.70	-91037.76	2697486.06	19214.34
1.2 Dead+1.6 Wind 315 deg - No Ice	33934.44	-25377.74	-25345.21	-1982998.57	1971137.16	26003.19
0.9 Dead+1.6 Wind 315 deg - No Ice	25450.83	-25377.74	-25345.22	-1974735.09	1966424.83	25989.98
1.2 Dead+1.0 Ice+1.0 Temp	67449.43	-2.10	2.10	-27548.35	-26889.51	-0.96
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	67449.44	-87.36	-9275.84	-738388.42	-20096.77	4302.91
1.2 Dead+1.0 Wind 45 deg+1.0 Ice+1.0 Temp	67449.44	6536.58	-6527.19	-527286.74	-527253.83	-303.52
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	67449.44	9379.39	89.07	-20641.93	-744637.83	-5028.62
1.2 Dead+1.0 Wind 135 deg+1.0 Ice+1.0 Temp	67449.44	6662.54	6653.16	481816.97	-537352.74	-6808.72
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	67449.44	90.77	9275.85	682816.40	-34381.66	-4305.25
1.2 Dead+1.0 Wind 225 deg+1.0 Ice+1.0 Temp	67449.44	-6697.89	6467.74	467747.87	483762.44	774.72
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	67449.44	-9451.66	-89.07	-34926.82	695205.83	5027.23
1.2 Dead+1.0 Wind 315 deg+1.0 Ice+1.0 Temp	67449.44	-6823.85	-6593.70	-533418.84	493864.67	6334.35
Dead+Wind 0 deg - Service	28278.70	-192.08	-6870.36	-538869.01	11025.56	3416.64
Dead+Wind 45 deg - Service	28278.70	4731.79	-4724.44	-371082.16	-371330.24	-239.35
Dead+Wind 90 deg - Service	28278.70	6891.36	195.12	10990.43	-540012.68	-3798.64
Dead+Wind 135 deg - Service	28278.70	5007.99	5000.63	383162.21	-395305.48	-5132.86
Dead+Wind 180 deg - Service	28278.70	198.15	6870.36	526973.08	-22850.54	-3416.89
Dead+Wind 225 deg - Service	28278.70	-4732.04	4725.62	359264.00	359919.17	232.55
Dead+Wind 270 deg - Service	28278.70	-6887.87	-195.12	-22885.67	528355.51	3798.77
Dead+Wind 315 deg - Service	28278.70	-5008.22	-5001.80	-395133.96	383893.98	5139.55

Solution Summary

	Sum of Applied Forces			Sum of Reactions			
Load Comb.	PX lb	PY lb	PZ lb	PX lb	PY lb	PZ lb	% Error
1	0.00	-28278.70	0.00	0.14	28278.70	-0.14	0.001%
2	-973.32	-33934.44	-34813.60	973.32	33934.44	34813.59	0.000%
3	-973.32	-25450.83	-34813.60	973.32	25450.83	34813.60	0.000%
4	23978.33	-33934.44	-23941.07	-23978.33	33934.44	23941.07	0.000%
5	23978.33	-25450.83	-23941.07	-23978.30	25450.83	23941.04	0.000%
6	34920.06	-33934.44	988.70	-34920.05	33934.44	-988.70	0.000%
7	34920.06	-25450.83	988.70	-34920.06	25450.83	-988.70	0.000%
8	25376.57	-33934.44	25339.31	-25376.56	33934.44	-25339.30	0.000%
9	25376.57	-25450.83	25339.31	-25376.56	25450.83	-25339.30	0.000%
10	1004.08	-33934.44	34813.60	-1004.08	33934.44	-34813.59	0.000%
11	1004.08	-25450.83	34813.60	-1004.08	25450.83	-34813.60	0.000%

	Sum of Applied Forces			Sum of Reactions			
Load Comb.	PX lb	PY lb	PZ lb	PX lb	PY lb	PZ lb	% Error
12	-23979.52	-33934.44	23946.99	23979.51	33934.44	-23946.98	0.000%
13	-23979.52	-25450.83	23946.99	23979.48	25450.83	-23946.95	0.000%
14	-34902.32	-33934.44	-988.70	34902.31	33934.44	988.70	0.000%
15	-34902.32	-25450.83	-988.70	34902.31	25450.83	988.70	0.000%
16	-25377.75	-33934.44	-25345.22	25377.74	33934.44	25345.21	0.000%
17	-25377.75	-25450.83	-25345.22	25377.74	25450.83	25345.22	0.000%
18	0.00	-67449.44	0.00	2.10	67449.43	-2.10	0.004%
19	-87.36	-67449.44	-9275.88	87.36	67449.44	9275.84	0.000%
20	6536.61	-67449.44	-6527.22	-6536.58	67449.44	6527.19	0.000%
21	9379.43	-67449.44	89.07	-9379.39	67449.44	-89.07	0.000%
22	6662.57	-67449.44	6653.18	-6662.54	67449.44	-6653.16	0.000%
23	90.78	-67449.44	9275.88	-90.77	67449.44	-9275.85	0.000%
24	-6697.91	-67449.44	6467.76	6697.89	67449.44	-6467.74	0.000%
25	-9451.69	-67449.44	-89.07	9451.66	67449.44	89.07	0.000%
26	-6823.88	-67449.44	-6593.73	6823.85	67449.44	6593.70	0.000%
27	-192.08	-28278.70	-6870.43	192.08	28278.70	6870.36	0.000%
28	4732.10	-28278.70	-4724.75	-4731.79	28278.70	4724.44	0.002%
29	6891.44	-28278.70	195.12	-6891.36	28278.70	-195.12	0.000%
30	5008.04	-28278.70	5000.69	-5007.99	28278.70	-5000.63	0.000%
31	198.15	-28278.70	6870.43	-198.15	28278.70	-6870.36	0.000%
32	-4732.34	-28278.70	4725.92	4732.04	28278.70	-4725.62	0.001%
33	-6887.94	-28278.70	-195.12	6887.87	28278.70	195.12	0.000%
34	-5008.28	-28278.70	-5001.86	5008.22	28278.70	5001.80	0.000%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	6	0.00000001	0.00001711
2	Yes	11	0.00000001	0.00004791
3	Yes	11	0.00000001	0.00003693
4	Yes	11	0.00000001	0.00003536
5	Yes	10	0.00000001	0.00014736
6	Yes	11	0.00000001	0.00004918
7	Yes	11	0.00000001	0.00003789
8	Yes	11	0.00000001	0.00008429
9	Yes	11	0.00000001	0.00006528
10	Yes	11	0.00000001	0.00005238
11	Yes	11	0.00000001	0.00004044
12	Yes	11	0.00000001	0.00003356
13	Yes	10	0.00000001	0.00014167
14	Yes	11	0.00000001	0.00005366
15	Yes	11	0.00000001	0.00004141
16	Yes	11	0.00000001	0.00008440
17	Yes	11	0.00000001	0.00006536
18	Yes	6	0.00000001	0.00012469
19	Yes	10	0.00000001	0.00008050
20	Yes	10	0.00000001	0.00008004
21	Yes	10	0.00000001	0.00008218
22	Yes	10	0.00000001	0.00009144
23	Yes	10	0.00000001	0.00006979
24	Yes	10	0.00000001	0.00006158
25	Yes	10	0.00000001	0.00007170
26	Yes	10	0.00000001	0.00009049
27	Yes	9	0.00000001	0.00007387
28	Yes	8	0.00000001	0.00006805

29	Yes	9	0.00000001	0.00007580
30	Yes	9	0.00000001	0.00010583
31	Yes	9	0.00000001	0.00007232
32	Yes	8	0.00000001	0.00006324
33	Yes	9	0.00000001	0.00007422
34	Yes	9	0.00000001	0.00010598

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	101.25 - 91.25	5.682	34	0.4327	0.0156
L2	91.25 - 46.17	4.779	34	0.4280	0.0140
L3	46.17 - 0	1.331	34	0.2638	0.0046

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
100.00	(2) SC-E 6016 w/ mount pipe	34	5.568	0.4325	0.0154	134306
90.00	Powerwave 7770 w/ mount pipe	34	4.666	0.4266	0.0138	54867
89.50	Pirod 13' Platform w/ handrail	34	4.622	0.4260	0.0137	51766
80.00	APX16DWV-16DWV-S-E-A20	34	3.783	0.4072	0.0118	23814
65.00	Kathrein PR-950	34	2.556	0.3550	0.0085	12599
61.00	Omni 1"x8'	34	2.261	0.3374	0.0076	11187
55.00	20' Dipole	34	1.851	0.3090	0.0063	9528

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	101.25 - 91.25	28.830	16	2.1953	0.0789
L2	91.25 - 46.17	24.249	16	2.1721	0.0709
L3	46.17 - 0	6.755	16	1.3390	0.0233

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
100.00	(2) SC-E 6016 w/ mount pipe	16	28.256	2.1941	0.0779	34583
90.00	Powerwave 7770 w/ mount pipe	16	23.680	2.1651	0.0698	13252
89.50	Pirod 13' Platform w/ handrail	16	23.452	2.1620	0.0693	12376
80.00	APX16DWV-16DWV-S-E-A20	16	19.196	2.0668	0.0598	4975

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
65.00	Kathrein PR-950	16	12.974	1.8016	0.0428	2504
61.00	Omni 1"x8'	16	11.474	1.7126	0.0383	2211
55.00	20' Dipole	16	9.392	1.5684	0.0318	1880

Compression Checks

Pole Design Data

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
L1	101.25 - 91.25 (1)	TP35.29x33.08x0.25	10.00	0.00	0.0	27.8042	-2698.02	1858010.00	0.001
L2	91.25 - 46.17 (2)	TP46.32x35.29x0.3125	45.08	0.00	0.0	45.6337	-20300.20	2989400.00	0.007
L3	46.17 - 0 (3)	TP55.26x46.32x0.375	46.17	0.00	0.0	65.3269	-33911.30	4289990.00	0.008

Pole Bending Design Data

Section No.	Elevation ft	Size	M_{ux} lb-ft	ϕM_{nx} lb-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} lb-ft	ϕM_{ny} lb-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
L1	101.25 - 91.25 (1)	TP35.29x33.08x0.25	78009.17	1339725.00	0.058	0.00	1339725.00	0.000
L2	91.25 - 46.17 (2)	TP46.32x35.29x0.3125	1244708.33	2831166.67	0.440	0.00	2831166.67	0.000
L3	46.17 - 0 (3)	TP55.26x46.32x0.375	2796008.33	4846691.67	0.577	0.00	4846691.67	0.000

Pole Shear Design Data

Section No.	Elevation ft	Size	Actual V_u lb	ϕV_n lb	Ratio $\frac{V_u}{\phi V_n}$	Actual T_u lb-ft	ϕT_n lb-ft	Ratio $\frac{T_u}{\phi T_n}$
L1	101.25 - 91.25 (1)	TP35.29x33.08x0.25	9181.56	929005.00	0.010	6687.68	2685625.00	0.002
L2	91.25 - 46.17 (2)	TP46.32x35.29x0.3125	31146.30	1494700.00	0.021	26019.17	5675074.67	0.005
L3	46.17 - 0 (3)	TP55.26x46.32x0.375	35888.50	2144990.00	0.017	26003.17	9715250.00	0.003

Pole Interaction Design Data

Section No.	Elevation ft	Ratio $\frac{P_u}{\phi P_n}$	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	Ratio $\frac{M_{uy}}{\phi M_{ny}}$	Ratio $\frac{V_u}{\phi V_n}$	Ratio $\frac{T_u}{\phi T_n}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L1	101.25 - 91.25 (1)	0.001	0.058	0.000	0.010	0.002	0.060 ✔	1.000	4.8.2 ✔
L2	91.25 - 46.17 (2)	0.007	0.440	0.000	0.021	0.005	0.447 ✔	1.000	4.8.2 ✔
L3	46.17 - 0 (3)	0.008	0.577	0.000	0.017	0.003	0.585 ✔	1.000	4.8.2 ✔

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	ϕP_{allow} lb	% Capacity	Pass Fail
L1	101.25 - 91.25	Pole	TP35.29x33.08x0.25	1	-2698.02	1858010.00	6.0	Pass
L2	91.25 - 46.17	Pole	TP46.32x35.29x0.3125	2	-20300.20	2989400.00	44.7	Pass
L3	46.17 - 0	Pole	TP55.26x46.32x0.375	3	-33911.30	4289990.00	58.5	Pass
							Summary	
						Pole (L3)	58.5	Pass
						RATING =	**58.5**	**Pass**

Exhibit F

Mount Analysis

CENTERLINE COMMUNICATIONS

750 West Center Street, Suite 301
West Bridgewater, MA 02379
781.713.4725

August 26, 2021

T - Mobile
Northeast LLC
15 Commerce Way, Suite B
Norton, MA 02766

Subject: Structural Mount Assessment Letter
Site ID: CTHA620A
Site Name: CTHA620A
Site Address: 138 Main Street
Coventry, CT 06238

To Whom It May Concern:

Centerline Communications has been authorized by T-Mobile to perform a structural assessment on the proposed antenna mounts located at the above referenced site.

Based on our structural assessment, we have concluded that the proposed antenna mounts Site Pro1 #RMQP-4096-HK **can support** the proposed T-Mobile equipment listed below:

- **(3) RFS APX16DWV-16DWV-S-E-A20 Panel Antennas**
- **(3) RFS APXVAALL24_43-U-N20 Panel Antennas**
- **(3) Ericsson AIR 6449 B41 Panel Antennas**
- **(3) Ericsson 4480 B71+B85 RRU**
- **(3) Ericsson 4460 B25+B66 RRU**

This assessment was conducted in accordance with the 2015 International Building Code, ASCE 7-10 Minimum Design Loads for Buildings and Other Structures, ANSI/TIA-222-G Structural Standard for Antenna Supporting Structures and Antennas, and the 2018 CT State Building Code.

Should you have any questions, please do not hesitate to contact us.

Sincerely,

Derek J. Creaser, P.E.
Director - A&E Services

Exhibit G

Power Density/RF Emissions Report

Radio Frequency Emissions Analysis Report

August 27, 2021

Centerline Communications on behalf of T-Mobile
Centerline Communications Project Number: 950003-007

Site Name: CTHA620A
Site Address: 138 Main St, Coventry, CT 06238

Site Compliance Summary

Compliance Status:	Compliant
Carrier MPE% of FCC General Population Allowable Limit:	21.72976300%
Composite MPE% of FCC General Population Allowable Limit:	21.73238800%

August 27, 2021

T-Mobile Connecticut
Attn: Ryan Clark, Site Acquisition Consultant

Emissions Analysis for Site: **CTHA620A**

Centerline Communications, LLC ("Centerline") was directed to analyze the proposed T-Mobile facility to be located a monopole near **138 Main St, Coventry CT 06238** for the purpose of determining whether the emissions from the proposed facility are within specified federal limits.

All information used in this report was analyzed as a percentage of current Maximum Permissible Exposure (% MPE) as listed in the FCC OET Bulletin 65 Edition 97-01 and ANSI/IEEE Std C95.1. The FCC regulates Maximum Permissible Exposure in units of microwatts per square centimeter (μW/cm2). The number of $\mu W/cm^2$ calculated at each sample point is called the power density. The exposure limit for power density varies depending upon the frequencies being utilized. Wireless Carriers and Paging Services use different frequency bands each with different exposure limits, therefore it is necessary to report results and limits in terms of percent MPE rather than power density.

All results were compared to the FCC (Federal Communications Commission) radio frequency exposure rules, 47 CFR 1.1307(b)(1) – (b)(3), to determine compliance with the Maximum Permissible Exposure (MPE) limits for General Population/Uncontrolled environments as defined below.

General population/uncontrolled exposure limits apply to situations in which the general population 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 population 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.

Population exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter ($\mu W/cm^2$). The general population exposure limits for the 600 MHz (LTE and NR) bands are 400 $\mu W/cm^2$, for the 700 MHz (LTE) band is 467 $\mu W/cm^2$, and for the 1900 MHz (LTE and GSM), 2100 MHz (LTE), and 2500 MHz (LTE and NR) bands are 1000 $\mu W/cm^2$.

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, 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. Additional details can be found in FCC OET 65.

Calculations

Calculations were performed for the proposed facility using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Real world emissions values from this facility are expected to be lower than values listed in this report at ground level. For this report the sample point is the top of a 6-foot person standing at the base of the tower.

Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. All power values expressed and analyzed are maximum power levels expected to be used on all radios.

RRH #	Frequency Band	Technology	Channel Count	Transmit Power per Channel (W)
1	2100	L	2	140
1	1900	L	2	140
1	1900	G	1	15
2	700	L	4	40
2	600	L	2	60
2	600	N	2	60
3	2500	L	1	30
3	2500	N	1	30
3	2500	L	1	90
3	2500	N	1	90
4	2100	L	2	140
4	1900	L	2	140
4	1900	G	1	15
5	700	L	4	40
5	600	L	2	60
5	600	N	2	60
6	2500	L	1	30
6	2500	N	1	30
6	2500	L	1	90
6	2500	N	1	90
7	2100	L	2	140
7	1900	L	2	140

RRH #	Frequency Band	Technology	Channel Count	Transmit Power per Channel (W)
7	1900	G	1	15
8	700	L	4	40
8	600	L	2	60
8	600	N	2	60
9	2500	L	1	30
9	2500	N	1	30
9	2500	L	1	90
9	2500	N	1	90

For each sector the following channel counts, frequency bands and power levels were utilized as shown in *Table 1*:

Table 1: Channel Data Table

The following antennas listed in Table 2 were used in the modeling for transmission in the 600 MHz (LTE and NR), 700 MHz (LTE), 1900 MHz (LTE), 2100 MHz (LTE) and 2500 MHz (LTE and NR) frequency bands. This is based on information from the carrier with regard to anticipated antenna selection.

Sector	Antenna Number	Make / Model	Centerline (ft)
A	1	RFS APX16DWV-16DWVS-E-A20	80
A	1	RFS APX16DWV-16DWVS-E-A20	80
A	1	RFS APX16DWV-16DWVS-E-A20	80
A	2	RFS APXVAALL24 43-U-NA20	80
A	2	RFS APXVAALL24 43-U-NA20	80
A	2	RFS APXVAALL24 43-U-NA20	80
A	3	ERICSSON AIR 6449 LTE BrM	80
A	3	ERICSSON AIR 6449 NR BrM	80
A	3	ERICSSON AIR 6449 LTE TB	80
A	3	ERICSSON AIR 6449 NR TB	80
B	4	RFS APX16DWV-16DWVS-E-A20	80
B	4	RFS APX16DWV-16DWVS-E-A20	80
B	4	RFS APX16DWV-16DWVS-E-A20	80
B	5	RFS APXVAALL24 43-U-NA20	80
B	5	RFS APXVAALL24 43-U-NA20	80
B	5	RFS APXVAALL24 43-U-NA20	80
B	6	ERICSSON AIR 6449 LTE BrM	80
B	6	ERICSSON AIR 6449 NR BrM	80
B	6	ERICSSON AIR 6449 LTE TB	80
B	6	ERICSSON AIR 6449 NR TB	80
C	7	RFS APX16DWV-16DWVS-E-A20	80
C	7	RFS APX16DWV-16DWVS-E-A20	80
C	7	RFS APX16DWV-16DWVS-E-A20	80
C	8	RFS APXVAALL24 43-U-NA20	80
C	8	RFS APXVAALL24 43-U-NA20	80
C	8	RFS APXVAALL24 43-U-NA20	80
C	9	ERICSSON AIR 6449 LTE BrM	80
C	9	ERICSSON AIR 6449 NR BrM	80
C	9	ERICSSON AIR 6449 LTE TB	80
C	9	ERICSSON AIR 6449 NR TB	80

Table 2: Antenna Data

All calculations were done with respect to uncontrolled / general population threshold limits.

T-Mobile Results

Per the calculations completed for the proposed T-Mobile configurations *Table 3* shows resulting emissions power levels and percentages of the FCC's allowable general population limit.

ID	Make / Model	Freq. Band	Gain (dBd)	Centerline (ft)	Channel Count	TX Power (W)	ERP (W)	MPE %
A1	RFS APX16DWV-16DWVS-E-A20	2100	16.25	80.0	2	140	11807.50	0.000255000
A1	RFS APX16DWV-16DWVS-E-A20	1900	16.25	80.0	2	140	11807.50	0.000255000
A1	RFS APX16DWV-16DWVS-E-A20	1900	16.25	80.0	1	15	632.54	0.000014000
A2	RFS APXVAALL24 43-U-NA20	700	13.65	80.0	4	40	3707.83	0.000278000
A2	RFS APXVAALL24 43-U-NA20	600	12.95	80.0	2	60	2366.91	0.000218000
A2	RFS APXVAALL24 43-U-NA20	600	12.95	80.0	2	60	2366.91	0.000218000
A3	ERICSSON AIR 6449 LTE BrM	2500	15.15	80.0	1	30	982.02	0.000027000
A3	ERICSSON AIR 6449 NR BrM	2500	15.15	80.0	1	30	982.02	0.000027000
A3	ERICSSON AIR 6449 LTE TB	2500	22.35	80.0	1	90	15461.18	3.620989000
A3	ERICSSON AIR 6449 NR TB	2500	22.35	80.0	1	90	15461.18	3.620989000
B4	RFS APX16DWV-16DWVS-E-A20	2100	16.25	80.0	2	140	11807.50	0.000255000
B4	RFS APX16DWV-16DWVS-E-A20	1900	16.25	80.0	2	140	11807.50	0.000253000
B4	RFS APX16DWV-16DWVS-E-A20	1900	16.25	80.0	1	15	632.54	0.000014000
B5	RFS APXVAALL24 43-U-NA20	700	13.65	80.0	4	40	3707.83	0.000276000
B5	RFS APXVAALL24 43-U-NA20	600	12.95	80.0	2	60	2366.91	0.000220000
B5	RFS APXVAALL24 43-U-NA20	600	12.95	80.0	2	60	2366.91	0.000220000
B6	ERICSSON AIR 6449 LTE BrM	2500	15.15	80.0	1	30	982.02	0.000027000
B6	ERICSSON AIR 6449 NR BrM	2500	15.15	80.0	1	30	982.02	0.000027000
B6	ERICSSON AIR 6449 LTE TB	2500	22.35	80.0	1	90	15461.18	3.620986000
B6	ERICSSON AIR 6449 NR TB	2500	22.35	80.0	1	90	15461.18	3.620986000
C7	RFS APX16DWV-16DWVS-E-A20	2100	16.25	80.0	2	140	11807.50	0.000256000
C7	RFS APX16DWV-16DWVS-E-A20	1900	16.25	80.0	2	140	11807.50	0.000258000
C7	RFS APX16DWV-16DWVS-E-A20	1900	16.25	80.0	1	15	632.54	0.000014000
C8	RFS APXVAALL24 43-U-NA20	700	13.65	80.0	4	40	3707.83	0.000277000

ID	Make / Model	Freq. Band	Gain (dBd)	Centerline (ft)	Channel Count	TX Power (W)	ERP (W)	MPE %
C8	RFS APXVAALL24 43-U-NA20	600	12.95	80.0	2	60	2366.91	0.000210000
C8	RFS APXVAALL24 43-U-NA20	600	12.95	80.0	2	60	2366.91	0.000210000
C9	ERICSSON AIR 6449 LTE BrM	2500	15.15	80.0	1	30	982.02	0.000027000
C9	ERICSSON AIR 6449 NR BrM	2500	15.15	80.0	1	30	982.02	0.000027000
C9	ERICSSON AIR 6449 LTE TB	2500	22.35	80.0	1	90	15461.18	3.620975000
C9	ERICSSON AIR 6449 NR TB	2500	22.35	80.0	1	90	15461.18	3.620975000
						T-Mobile MPE%		**21.72976300 %**

Table 3: T-Mobile Antenna Inventory & Power Level

FCC OET 65 specifies that for carriers utilizing directional antennas that the highest recorded sector value be used for composite site MPE values due to their greatly reduced emissions contributions in the directions of the adjacent sectors. *Table 4* below details a breakdown by frequency band and technology for the MPE power values for the maximum calculated T-Mobile sector(s).

Frequency Band	Technology	Centerline (ft.)	# of Channels	ERP W (Per Channel)	Total Power Density ($\mu W/cm^2$)	Allowable MPE ($\mu W/cm^2$)	MPE %
2100	L	80.0	2	5903.751048	0.0025470	1000	0.00025500
1900	L	80.0	2	5903.751048	0.0025470	1000	0.00025500
1900	G	80.0	1	632.5447551	0.0001370	1000	0.00001400
700	L	80.0	4	926.95786	0.0012960	467	0.00027800
600	L	80.0	2	1183.453642	0.0008710	400	0.00021800
600	N	80.0	2	1183.453642	0.0008710	400	0.00021800
2500	L	80.0	1	982.0220846	0.0002680	1000	0.00002700
2500	N	80.0	1	982.0220846	0.0002680	1000	0.00002700
2500	L	80.0	1	15461.17548	36.2098900	1000	3.62098900
2500	N	80.0	1	15461.17548	36.2098900	1000	3.62098900
2100	L	80.0	2	5903.751048	0.0025520	1000	0.00025500
1900	L	80.0	2	5903.751048	0.0025350	1000	0.00025300
1900	G	80.0	1	632.5447551	0.0001360	1000	0.00001400
700	L	80.0	4	926.95786	0.0012900	467	0.00027600
600	L	80.0	2	1183.453642	0.0008790	400	0.00022000
600	N	80.0	2	1183.453642	0.0008790	400	0.00022000
2500	L	80.0	1	982.0220846	0.0002670	1000	0.00002700
2500	N	80.0	1	982.0220846	0.0002670	1000	0.00002700
2500	L	80.0	1	15461.17548	36.2098580	1000	3.62098600
2500	N	80.0	1	15461.17548	36.2098580	1000	3.62098600
2100	L	80.0	2	5903.751048	0.0025580	1000	0.00025600
1900	L	80.0	2	5903.751048	0.0025760	1000	0.00025800
1900	G	80.0	1	632.5447551	0.0001380	1000	0.00001400
700	L	80.0	4	926.95786	0.0012930	467	0.00027700
600	L	80.0	2	1183.453642	0.0008410	400	0.00021000
600	N	80.0	2	1183.453642	0.0008410	400	0.00021000
2500	L	80.0	1	982.0220846	0.0002670	1000	0.00002700
2500	N	80.0	1	982.0220846	0.0002670	1000	0.00002700
2500	L	80.0	1	15461.17548	36.2097460	1000	3.62097500
2500	N	80.0	1	15461.17548	36.2097460	1000	3.62097500
						T-Mobile MPE%	**21.72976300%**

Table 4: T-Mobile Maximum Sector MPE Power Values

AT&T Results

Frequency Band	Technology	Centerline (ft.)	# of Channels	ERP W (Per Channel)	Total Power Density ($\mu W/cm^2$)	Allowable MPE ($\mu W/cm^2$)	MPE %
1900	-	100.0	4	865.0874095	0.0004890	1000	0.00004900
700	-	100.0	2	703.1694456	0.0004420	467	0.00009500
1900	-	100.0	2	1194.153048	0.0003930	1000	0.00003900
850	-	100.0	2	656.2359093	0.0004290	567	0.00007600
2100	-	100.0	2	1371.071146	0.0004100	1000	0.00004100
700	-	100.0	2	656.2359093	0.0004570	467	0.00009800
850	-	100.0	2	885.2378838	0.0004640	567	0.00008200
1900	-	100.0	2	1469.129202	0.0004960	1000	0.00005000
2100	-	100.0	2	1766.281789	0.0005320	1000	0.00005300
1900	-	100.0	4	865.0874095	0.0004820	1000	0.00004800
700	-	100.0	2	703.1694456	0.0004390	467	0.00009400
1900	-	100.0	2	1194.153048	0.0003950	1000	0.00003900
850	-	100.0	2	656.2359093	0.0004290	567	0.00007600
2100	-	100.0	2	1371.071146	0.0004090	1000	0.00004100
700	-	100.0	2	656.2359093	0.0004670	467	0.00010000
850	-	100.0	2	885.2378838	0.0004740	567	0.00008400
1900	-	100.0	2	1469.129202	0.0004960	1000	0.00005000
2100	-	100.0	2	1766.281789	0.0005320	1000	0.00005300
1900	-	100.0	4	865.0874095	0.0005090	1000	0.00005100
700	-	100.0	2	703.1694456	0.0004480	467	0.00009600
1900	-	100.0	2	1194.153048	0.0003830	1000	0.00003800
850	-	100.0	2	656.2359093	0.0004230	567	0.00007500
2100	-	100.0	2	1371.071146	0.0004020	1000	0.00004000
700	-	100.0	2	656.2359093	0.0004460	467	0.00009600
850	-	100.0	2	885.2378838	0.0004530	567	0.00008000
1900	-	100.0	2	1469.129202	0.0004960	1000	0.00005000
2100	-	100.0	2	1766.281789	0.0005200	1000	0.00005200
						AT&T MPE%	0.001746%

Table 4: AT&T Maximum Sector MPE Power Values

Verizon Results

Frequency Band	Technology	Centerline (ft.)	# of Channels	ERP W (Per Channel)	Total Power Density (µW/cm²)	Allowable MPE (µW/cm²)	MPE %
850	-	90.0	1	1592.428682	0.0002800	567	0.00004900
850	-	90.0	1	1592.428682	0.0002800	567	0.00004900
1900	-	90.0	2	2594.485515	0.0006920	1000	0.00006900
2100	-	90.0	2	3003.663315	0.0007020	1000	0.00007000
850	-	90.0	1	970.4205647	0.0002370	567	0.00004200
850	-	90.0	1	1592.428682	0.0002800	567	0.00004900
850	-	90.0	1	1592.428682	0.0002800	567	0.00004900
1900	-	90.0	2	2594.485515	0.0006760	1000	0.00006800
2100	-	90.0	2	3003.663315	0.0007020	1000	0.00007000
850	-	90.0	1	970.4205647	0.0002370	567	0.00004200
850	-	90.0	1	1592.428682	0.0002800	567	0.00004900
850	-	90.0	1	1592.428682	0.0002800	567	0.00004900
1900	-	90.0	2	2594.485515	0.0006910	1000	0.00006900
2100	-	90.0	2	3003.663315	0.0007020	1000	0.00007000
850	-	90.0	1	970.4205647	0.0002370	567	0.00004200
						Verizon MPE%	0.000836%

Table 4: Verizon Maximum Sector MPE Power Values

Unknown Carrier Results

Frequency Band	Technology	Centerline (ft.)	# of Channels	ERP W (Per Channel)	Total Power Density (µW/cm²)	Allowable MPE (µW/cm²)	MPE %
2100	-	80.0	1	192.7524913	0.0001850	1000	0.00001900
850	-	80.0	1	394.4573021	0.0001360	567	0.00002400
950	-	80.0	1	3.79314985	0.0000000	633	<0.00000001
						Unknown Carrier MPE%	0.000043**%**

Table 4: Unknown Carrier Maximum Sector MPE Power Values

Summary

All calculations performed for this analysis yielded results that were **within** the allowable limits for general population exposure to RF Emissions.

The anticipated maximum composite contributions from the T-Mobile facility as well as the site composite emissions value with regards to compliance with FCC's allowable limits for general population exposure to RF Emissions are shown here:

Carrier	Predicted MPE %
T-Mobile	21.72976300%
AT&T	0.00174600%
Verizon	0.00083600%
Unknown	0.00004300%
Composite	**21.73238800%**

Table 5: Total Predicted MPE(%) by Carrier

Compliance Status:

The anticipated composite MPE value for this site assuming all carriers present is **21.73238800%** of the allowable FCC established general population limit sampled at the ground level.

FCC guidelines state that if a site is found to be out of compliance (over allowable thresholds), that carriers over a 5% contribution to the composite value will require measures to bring the site into compliance. For this facility, the composite values calculated were well within the allowable 100% threshold standard per the federal government.

Erin Kavanaugh
RF Compliance Consultant
Centerline Communications, LLC
750 West Center St. Suite 301
West Bridgewater, MA 02379

Exhibit H

Mailing Receipts/Proof of Notice

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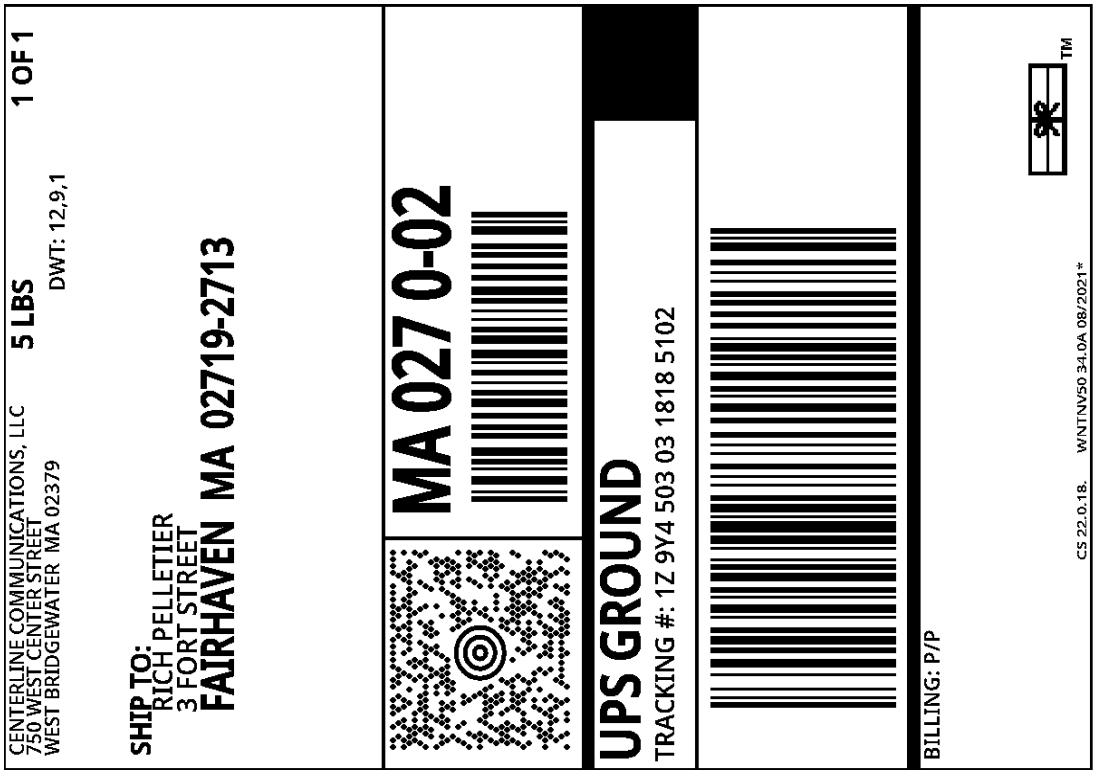

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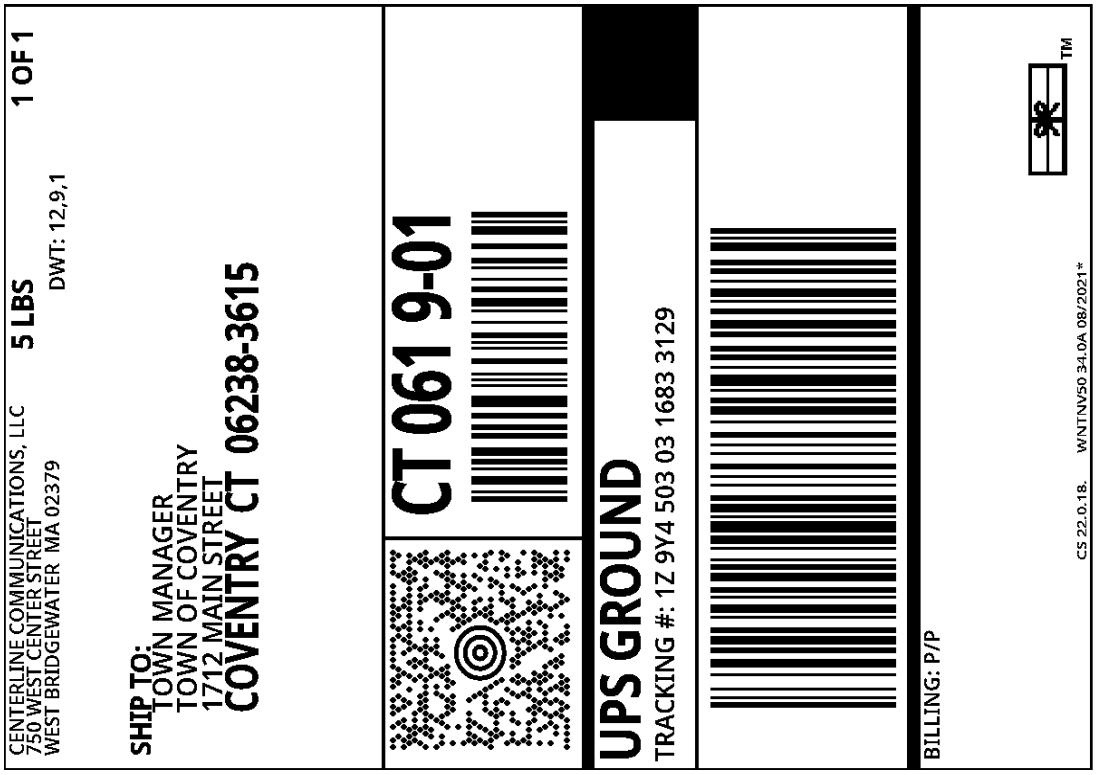

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