Northeast Site Solutions
Victoria Masse
420 Main St Unit 1 Box 2
Sturbridge, MA 01566
victoria@northeastsitesolutions.com

May 5, 2022

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

RE: Tower Share Application
1063 Boston Post Road, Milford, CT 06460
Latitude: 41.231792 N
Longitude: -73.042867 W
Site#: CTNH997A

Dear Ms. Bachman:

This letter and attachments are submitted on behalf of T-Mobile. T-Mobile plans to install antennas and related equipment to the tower site located at 1063 Boston Post Road, Milford, Connecticut.

T-Mobile proposes to install six (6) 600/700/1900/2100/2500 5G MHz antenna, six (6) RRUs and one (1) Dish at the 88-foot level of the existing 115-foot monopole tower, two (2) hybrid cable will also be installed. T-Mobile equipment cabinets will be placed within 12x22 lease area. Included are plans by ForeSite, dated May 5, 2022, Exhibit C. Also included is a structural analysis prepared by EFI Global, dated April 1, 2022 confirming that the existing tower is structurally capable of supporting the proposed equipment. Attached as Exhibit D. This facility was approved by the Connecticut Siting Council, Docket No. 500 on September 23, 2021. Please see attached Exhibit A.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies 16-50aa, of T-Mobile intent to share a telecommunications facility pursuant to R.C.S.A. 16-50j-88. In accordance with R.C.S.A., a copy of this letter is being sent to Benjamin G. Blake, Mayor for the Town of Milford, David B. Sulkis, City Planner, as well as the property owner and tower owner.

The planned modifications of the facility fall squarely within those activities explicitly provided for in R.C.S.A. 16-50j-89.

1. The proposed modifications will not result in an increase in the height of the existing structure. The top of the tower is 115-feet; T-Mobile proposed antennas will be located at a center line height of 88-feet.

2.The proposed modification will not result in the increase of the site boundary as depicted on the attached site plan.

3.The proposed modification will not increase the noise levels at the facility by six decibels or more, or to levels that exceed local and state criteria. The incremental effect of the proposed changes will be negligent.

4.The operation of the proposed antennas will not increase radio frequency emissions at the facility to a level at or above the Federal Communications Commission safety standard. As indicated in the attached power density calculations, the combined site operations will result in a total density of 46.56% as evidenced by Exhibit F.

Connecticut General Statutes 16-50-aa indicates that the Council must approve the shared use of a telecommunications facility provided it finds the shared use is technically, legally, environmentally, and economically feasible and meets public safety concerns. As demonstrated in this letter, T-Mobile respectfully indicates that the shared use of this facility satisfies these criteria.

A. Technical Feasibility. The existing monopole has been deemed structurally capable of supporting T-Mobile proposed loading. The structural analysis is included in Exhibit D.

B. Legal Feasibility. As referenced above, C.G.S. 16-50aa has been authorized to issue orders approving the shared use of an existing tower such as this monopole in Milford. Under the authority granted to the Council, an order of the Council approving the requested shared use would permit T-Mobile to obtain a building permit for the proposed installation. Further, a letter of Authorization is included as Exhibit G, authorizing T-Mobile to file this application for shared use.

C. Environmental Feasibility. The proposed shared use of this facility would have a minimal environmental impact. The installation of T-Mobile equipment at the 88-foot level of the existing 115-foot tower would have an insignificant visual impact on the area around the monopole. T-Mobile ground equipment would be installed within the existing facility compound. T-Mobile shared use would therefore not cause any significant alteration in the physical or environmental characteristics of the existing site. Additionally, as evidenced by Exhibit F, the proposed antennas would not increase radio frequency emissions to a level at or above the Federal Communications Commission safety standard.

D. Economic Feasibility. T-Mobile will be entering into an agreement with the owner of this facility to mutually agreeable terms. As previously mentioned, the Letter of Authorization has been provided by the owner to assist T-Mobile with this tower share application.

E. Public Safety Concerns. As discussed above, the tower is structurally capable of supporting T-Mobile proposed loading. T-Mobile is not aware of any public safety concerns relative to the proposed sharing of the existing tower. T-Mobile intentions of providing new and improved wireless service through the shared use of this facility is expected to enhance the safety and welfare of local residents and individuals traveling through Milford.

Sincerely,

Victoria Masse
Mobile: 860-306-2326
Fax: 413-521-0558
Office: 420 Main Street, Unit 1 Box 2, Sturbridge, MA 01566
Email: victoria@northeastsitesolutions.com

Attachments
Cc:
Benjamin G. Blake, Mayor
City of Milford
70 West River Street
Milford, CT 06460

David B. Sulkis, City Planner
City of Milford
70 West River Street
Milford, CT 06460

Lee Partners LLP, Property Owner
70 Lyon Street
New Haven, CT 06511

ARX Wireless, Tower Owners
110 Washington Ave
4th Floor
North Haven, CT 06473

Exhibit A

Original Facility Approval

DOCKET NO. 500 – Arx Wireless Infrastructure, LLC application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance, and operation of a telecommunications facility located at 1061-1063 Boston Post Road, Milford, Connecticut.	}	Connecticut
	}	Siting
	}	Council

September 23, 2021

Decision and Order

Pursuant to Connecticut General Statutes §16-50p, and the foregoing Findings of Fact and Opinion, the Connecticut Siting Council (Council) finds that the effects associated with the construction, maintenance, and operation of a telecommunications facility, including effects on the natural environment, ecological balance, public health and safety, scenic, historic, and recreational values, agriculture, forests and parks, air and water purity, and fish, aquaculture and wildlife are not disproportionate, either alone or cumulatively with other effects, when compared to need, are not in conflict with the policies of the State concerning such effects, and are not sufficient reason to deny the application, and therefore directs that a Certificate of Environmental Compatibility and Public Need, as provided by General Statutes §16-50k, be issued to Arx Wireless Infrastructure, LLC, hereinafter referred to as the Certificate Holder, for a telecommunications facility at the proposed location at 1061-1063 Boston Post Road, Milford, Connecticut.

Unless otherwise approved by the Council, the facility shall be constructed, operated, and maintained substantially as specified in the Council's record in this matter, and subject to the following conditions:

1. The tower shall be constructed as a monopole at a height of 115 feet above ground level to provide the proposed wireless services, sufficient to accommodate the antennas of Cellco Partnership d/b/a Verizon Wireless, New Cingular Wireless PCS, LLC d/b/a AT&T, and other entities, both public and private. The height of the tower may be extended after the date of this Decision and Order pursuant to regulations of the Federal Communications Commission.

2. The Certificate Holder shall prepare a Development and Management (D&M) Plan for this site in compliance with Sections 16-50j-75 through 16-50j-77 of the Regulations of Connecticut State Agencies. The D&M Plan shall be submitted to and approved by the Council prior to the commencement of facility construction and shall include:

    a) A certified letter from a wireless telecommunications carrier with a firm commitment to install associated wireless equipment at the facility upon completion of construction;
    b) final site plan(s) for development of the facility that employ the governing standard in the State of Connecticut for tower design in accordance with the currently adopted International Building Code and include specifications for the tower, tower foundation, antennas and equipment compound including, but not limited to, fence design, ground equipment, access road, utility installation and emergency backup power;
    c) the tower shall be designed with a yield point to ensure that the tower setback radius remains within the boundaries of the subject property;
    d) construction plans for site clearing, grading, water drainage and stormwater control, and erosion and sedimentation controls consistent with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control, as amended;
    e) Species Protection Plan, including but not limited to provisions to conduct all construction work/activities between April 1 and October 30, during the active months of the Eastern Box Turtle (*Terrapene c. carolina*);

f) the feasibility of a natural gas connection for the emergency backup generators and a cost comparison between natural-gas fueled and diesel-fueled emergency backup generation; and
g) construction schedule including hours and days of the week for construction activities.

3. Prior to the commencement of operation, the Certificate Holder shall provide the Council worst-case modeling of the electromagnetic radio frequency power density of all proposed entities' antennas at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin No. 65, August 1997. The Certificate Holder shall ensure a recalculated report of the electromagnetic radio frequency power density be submitted to the Council if and when circumstances in operation cause a change in power density above the levels calculated and provided pursuant to this Decision and Order.

4. Upon the establishment of any new federal radio frequency standards applicable to frequencies of this facility, the facility granted herein shall be brought into compliance with such standards.

5. The Certificate Holder shall provide the Council with a copy of necessary permits from any other state or federal agency with concurrent jurisdiction prior to the commencement of construction.

6. The Certificate Holder shall permit public or private entities to share space on the proposed tower for fair consideration, or shall provide any requesting entity with specific legal, technical, environmental, or economic reasons precluding such tower sharing.

7. Unless otherwise approved by the Council, if the facility authorized herein is not fully constructed with at least one fully operational wireless telecommunications carrier providing wireless service within eighteen months from the date of the mailing of the Council's Findings of Fact, Opinion, and Decision and Order (collectively called "Final Decision"), this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made. The time between the filing and resolution of any appeals of the Council's Final Decision shall not be counted in calculating this deadline. Authority to monitor and modify this schedule, as necessary, is delegated to the Executive Director. The Certificate Holder shall provide written notice to the Executive Director of any schedule changes as soon as is practicable.

8. Any request for extension of the time period referred to in Condition 7 shall be filed with the Council not later than 60 days prior to the expiration date of this Certificate and shall be served on all parties and intervenors, as listed in the service list, and the City of Milford.

9. If the facility ceases to provide wireless services for a period of one year, this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council within 90 days from the one year period of cessation of service. The Certificate Holder may submit a written request to the Council for an extension of the 90 day period not later than 60 days prior to the expiration of the 90 day period.

10. Any nonfunctioning antenna, and associated antenna mounting equipment, on this facility shall be removed within 60 days of the date the antenna ceased to function.

11. In accordance with Section 16-50j-77 of the Regulations of Connecticut State Agencies, the Certificate Holder shall provide the Council with written notice two weeks prior to the commencement of site construction activities. In addition, the Certificate Holder shall provide the Council with written notice of the completion of site construction, and the commencement of site operation.

12. The Certificate Holder shall remit timely payments associated with annual assessments and invoices submitted by the Council for expenses attributable to the facility under Conn. Gen. Stat. §16-50v.

13. This Certificate may be transferred in accordance with Conn. Gen. Stat. §16-50k(b), provided both the Certificate Holder/transferor and the transferee are current with payments to the Council for their respective annual assessments and invoices under Conn. Gen. Stat. §16-50v. In addition, both the Certificate Holder/transferor and the transferee shall provide the Council a written agreement as to the entity responsible for any quarterly assessment charges under Conn. Gen. Stat. §16-50v(b)(2) that may be associated with this facility. If construction has not been completed in accordance with Condition 7 of this Decision and Order at the time the Certificate is requested to be transferred, a certified letter from a wireless telecommunications carrier with a firm commitment to install associated wireless equipment at the facility upon completion of construction shall also be provided.

14. The Certificate Holder shall maintain the facility and associated equipment, including but not limited to, the tower, tower foundation, antennas, equipment compound, radio equipment, access road, utility line and landscaping in a reasonable physical and operational condition that is consistent with this Decision and Order and a Development and Management Plan to be approved by the Council.

15. If the Certificate Holder is a wholly-owned subsidiary of a corporation or other entity and is sold/transferred to another corporation or other entity, the Council shall be notified of such sale and/or transfer and of any change in contact information for the individual or representative responsible for management and operations of the Certificate Holder within 30 days of the sale and/or transfer.

16. This Certificate may be surrendered by the Certificate Holder upon written notification and acknowledgment by the Council.

We hereby direct that a copy of the Findings of Fact, Opinion, and Decision and Order be served on each person listed in the Service List, dated May 6, 2021, and notice of issuance published in the New Haven Register.

By this Decision and Order, the Council disposes of the legal rights, duties, and privileges of each party named or admitted to the proceeding in accordance with Section 16-50j-17 of the Regulations of Connecticut State Agencies.

Exhibit B

Property Card

1063 BOSTON POST RD

Location	1063 BOSTON POST RD	**Mblu**	77/ 813/ 25/ /
Acct#	011093	**Owner**	LEE PARTNERS LLP
Assessment	$2,233,280	**Appraisal**	$3,190,390
PID	17657	**Building Count**	2

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2021	$1,407,830	$1,782,560	$3,190,390
Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2021	$985,490	$1,247,790	$2,233,280

Owner of Record

Owner	LEE PARTNERS LLP
Other	C/O RICHARD LEE
Address	70 LYON ST NEW HAVEN, CT 06511-4927

Sale Price	$0
Certificate	
Book & Page	02491/0144
Sale Date	07/13/2001
Instrument	

Ownership History

Ownership History					
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Instrument**	**Sale Date**
LEE PARTNERS LLP	$0		02491/0144		07/13/2001
LEE PARTNERS	$0		00851/0136		06/08/1976

Building Information

Building 1 : Section 1

Year Built:	1989
Living Area:	5,957
Replacement Cost:	$814,798
Building Percent Good:	94

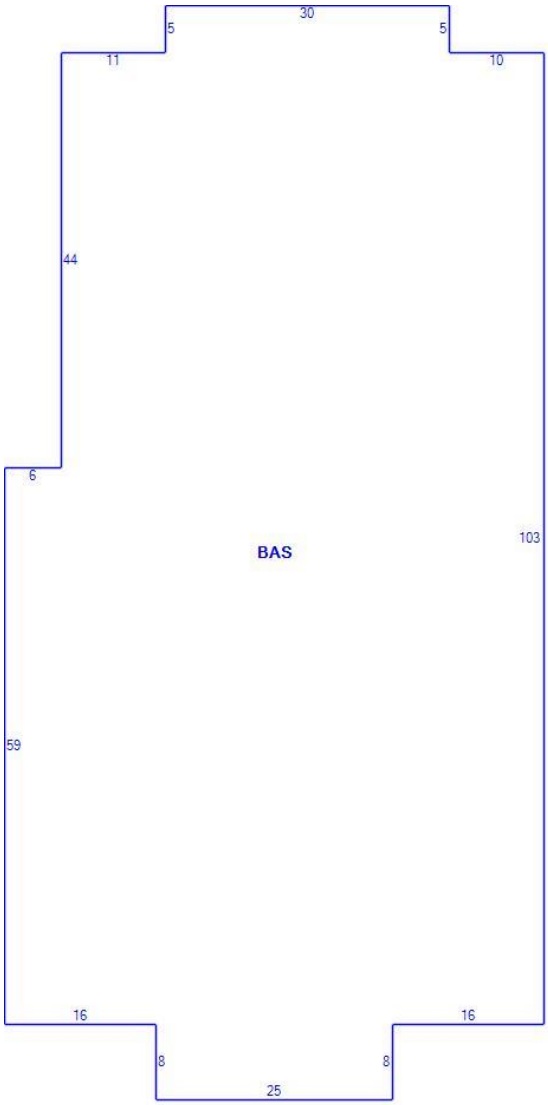
Replacement Cost
Less Depreciation: $765,910

Building Attributes	
Field	**Description**
Style:	Restaurant
Model	Commercial
Grade	GOOD
Stories:	1
Occupancy	1.00
Exterior Wall 1	Brick/Stn Vene
Exterior Wall 2	
Roof Structure	Flat
Roof Cover	Tar & Gravel
Interior Wall 1	Drywall/Sheet
Interior Wall 2	
Interior Floor 1	Clay/Porc Tile
Interior Floor 2	Hardwood
Heating Fuel	Gas
Heating Type	Forced Air-Duc
AC Type	Central
Struct Class	
Bldg Use	REST/CLUBS MDL-94
Total Rooms	
Total Bedrms	00
Total Baths	2
Bath Desc.	0-Full 2-Half
1st Floor Use:	3260
Heat/AC	HEAT/AC PKGS
Frame Type	WOOD FRAME
Baths/Plumbing	AVERAGE
Ceiling/Wall	CEIL & WALLS
Rooms/Prtns	AVERAGE
Wall Height	12.00
% Comn Wall	0.00

Building Photo

(https://images.vgsi.com/photos/MilfordCTPhotos//\00\05\39\34.jpg)

Building Layout



(ParcelSketch.ashx?pid=17657&bid=17929)

Building Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**

BAS	First Floor	5,957	5,957
		5,957	5,957

Building 2 : Section 1

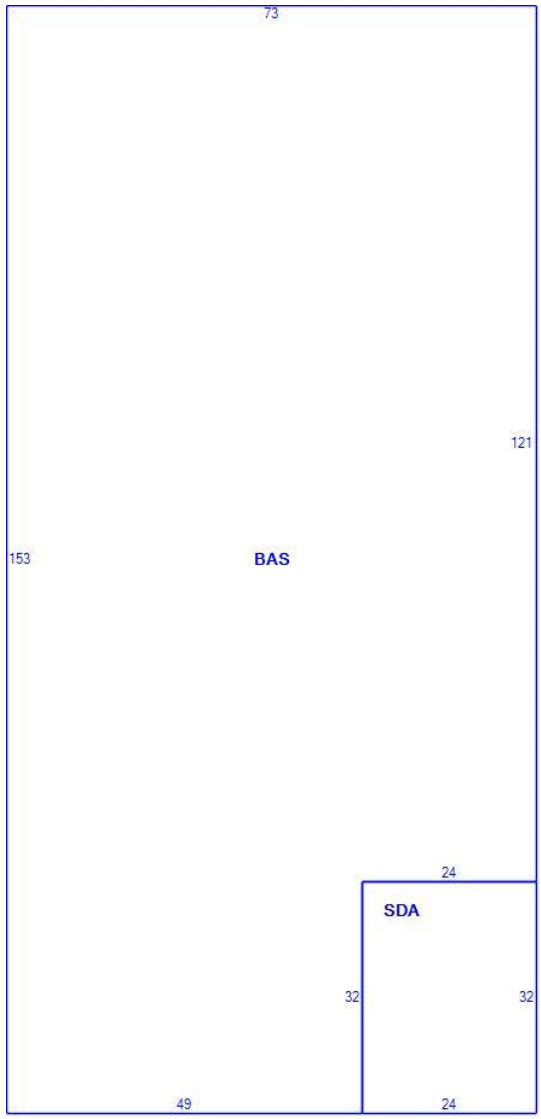
Year Built: 1950
Living Area: 11,169
Replacement Cost: $635,941
Building Percent Good: 90
Replacement Cost Less Depreciation: $572,350

Building Attributes : Bldg 2 of 2	
Field	**Description**
Style:	Service Shop
Model	Industrial
Grade	GOOD
Stories:	1
Occupancy	1.00
Exterior Wall 1	Concr/Cinder
Exterior Wall 2	Brick/Masonry
Roof Structure	Flat
Roof Cover	Tar & Gravel
Interior Wall 1	Minim/Masonry
Interior Wall 2	
Interior Floor 1	Concr-Finished
Interior Floor 2	
Heating Fuel	Gas
Heating Type	Hot Air-no Duc
AC Type	None
Struct Class	
Bldg Use	COMM BLDG MDL-96
Total Rooms	
Total Bedrms	00
Total Baths	1.5
Bath Desc.	1-Full 1-Half
1st Floor Use:	322Z
Heat/AC	HEAT/AC SPLIT
Frame Type	MASONRY
Baths/Plumbing	AVERAGE
Ceiling/Wall	CEILING ONLY
Rooms/Prtns	AVERAGE
Wall Height	14.00
% Comn Wall	0.00

Building Photo

(https://images.vgsi.com/photos/MilfordCTPhotos//\00\02\16\66.jpg)

Building Layout



(ParcelSketch.ashx?pid=17657&bid=17930)

Building Sub-Areas (sq ft)			Legend
Code	Description	Gross Area	Living Area
BAS	First Floor	10,401	10,401
SDA	Store Display Area	768	768
		11,169	11,169

Extra Features

Extra Features				Legend
Code	Description	Size	Value	Bldg #
A/C	AIR CONDITION	768.00 UNITS	$2,070	2

Land

Land Use

Use Code	322Z
Description	COMM BLDG MDL-96
Zone	ICD
Neighborhood	T
Alt Land Appr	No
Category	

Land Line Valuation

Size (Acres)	2.44
Frontage	
Depth	
Assessed Value	$1,247,790
Appraised Value	$1,782,560

Outbuildings

Outbuildings						Legend
Code	**Description**	**Sub Code**	**Sub Description**	**Size**	**Value**	**Bldg #**
PAV1	PAVING-ASPHALT			29998.00 S.F.	$67,500	1

Valuation History

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2019	$1,325,680	$1,701,000	$3,026,680
2018	$1,325,680	$1,701,000	$3,026,680
2017	$1,325,680	$1,701,000	$3,026,680
2016	$1,325,680	$1,701,000	$3,026,680

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2019	$927,970	$1,190,700	$2,118,670
2018	$927,970	$1,190,700	$2,118,670
2017	$927,970	$1,190,700	$2,118,670
2016	$927,970	$1,190,700	$2,118,670

1 inch = 100 feet

0 50 100 150 200 Feet

Disclaimer: This map is for informational purposes only All information is subject to verification by any user. The City of Milford and its mapping contractors assume no legal responsibility for the information contained herein.

Map Produced: December 2021

Exhibit C

Construction Drawings

MODIFICATION OF EXISTING WIRELESS FACILITY BY

T··Mobile·

T-MOBILE NORTHEAST LLC

PROJECT TITLE: ANCHOR

SITE NUMBER: CTNH997A

SITE NAME: TEMP FOR CTNH007A

SITE ADDRESS: 1063 BOSTON POST ROAD

MILFORD, CT 06460

RF CONFIGURATION: 67E5998E_1xAIR+1OP

PROJECT NOTES:

1. THIS IS AN UNMANNED TELECOMMUNICATION FACILITY AND NOT FOR HUMAN HABITATION: HANDICAPPED ACCESS IS NOT REQUIRED.
   POTABLE WATER OR SANITARY SERVICE IS NOT REQUIRED.
   NO OUTDOOR STORAGE OR ANY SOLID WASTE RECEPTACLES REQUIRED.
2. DEVELOPMENT AND USE OF THE SITE WILL CONFORM TO ALL APPLICABLE CODES, ORDINANCES AND SPECIFICATIONS.

CODE COMPLIANCE:

ALL WORK SHALL COMPLY WITH THE CURRENT NATIONAL AND CONNECTICUT STATE BUILDING AND LIFE SAFETY CODES, SUPPLEMENTS AND AMENDMENTS INCLUDING BUT NOT LIMITED TO THE LATEST EDITION OF:

CONNECTICUT STATE BUILDING CODE (CSBC).

ANSI/TIA-222-G STRUCTURAL STANDARD FOR ANTENNA SUPPORTING STRUCTURES AND ANTENNAS.

NATIONAL ELECTRICAL CODE (NEC) FOR POWER AND GROUNDING REQUIREMENTS.

OCCUPATIONAL SAFETY AND HEALTH ACT (OSHA).

NFPA - NATIONAL FIRE PROTECTION ASSOCIATION.

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

Connecticut – Call Before You Dig
811 or
1-800-922-4455

Advance Notice:
Minimum of 2 working days in advance, no more than 30 days in advance

CONTRACTOR'S NOTES:

CONTRACTOR SHALL VERIFY ALL PLANS, EXISTING DIMENSIONS, AND CONDITIONS ON THE JOB SITE. CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT/ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK. FAILURE TO NOTIFY THE ARCHITECT/ENGINEER PLACES THE RESPONSIBILITY ON THE CONTRACTOR TO CORRECT THE DISCREPANCIES AT THE CONTRACTOR'S EXPENSE.

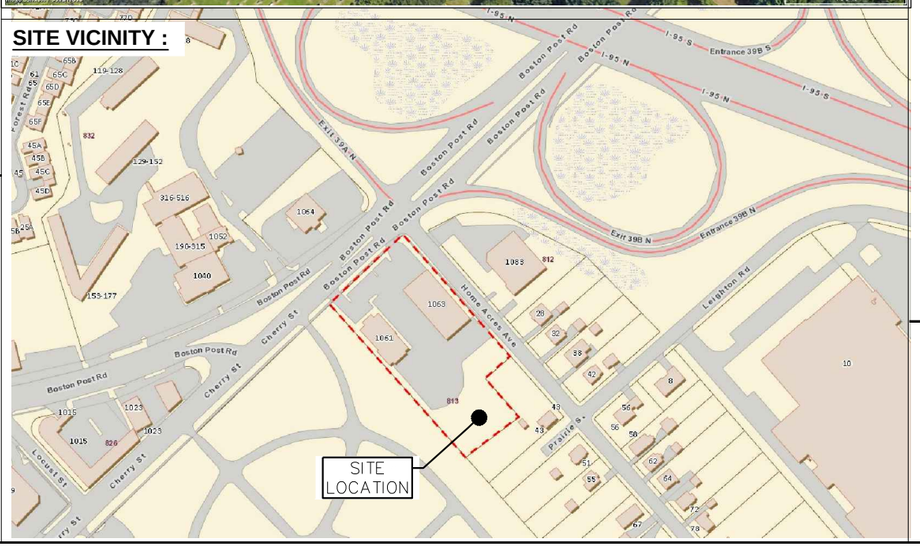
REFER TO STRUCTURAL ANALYSIS REPORT MONOPOLE, DATED 02/18/2022 AND MOUNT STRUCTURAL ANALYSIS REPORT, DATED 02/18/2022, BOTH PREPARED BY EFI GLOBAL INC.

APPROVALS:

FSA CM	DATE
RF ENGINEER	DATE
FOP	DATE
T-MOBILE ENGINEERING AND DEVELOPMENT	DATE
	DATE
	DATE

SITE IMAGE:

SITE VICINITY :



PROJECT SUMMARY:

THE PROPOSED PROJECT SCOPE WILL CONSIST OF:

CO-LOCATION OF T-MOBILE'S ANTENNAS, EQUIPMENT AND GENERATOR IN AN EXISTING WIRELESS FACILITY TOWER SITE.

PROJECT INFORMATION:

ADDRESS:	1063 BOSTON POST ROAD MILFORD, CT 06460
PARCEL ID:	077 813 25
ZONING DISTRICT:	ICD
COORDINATES:	41°13' 54.32" N, 73°02' 34.55" W
GROUND ELEV:	33' ± (AMSL)

PROJECT TEAM:

APPLICANT:	T-MOBILE NORTHEAST, LLC. 35 GRIFFIN ROAD SOUTH BLOOMFIELD, CT 06002 860-692-7100
PROPERTY OWNER:	LEE PARTNERS LLP 70 LYON STREET NEW HAVEN, CT 06511-4927
TOWER OWNER:	ARX WIRELESS 110 WASHINGTON AVENUE FOURTH FLOOR NORTH HAVEN, CT 06473 203-623-3287
PROJECT MANAGER:	NORTHEAST SITE SOLUTIONS 420 MAIN STREET, BLDG 4 STURBRIDGE, MA 01566 CONTACT: SHELDON FREINCLE SHELDON@NORTHEASTSITESOLUTIONS.COM 201-776-8521
CONSULTANTS:	FORESITE LLC 462 WALNUT ST NEWTON, MA 02460 CONTACT: SAEED MOSSAVAT SMOSSAVAT@FORESITELLC.COM 617-212-3123

SHEET INDEX:

APPLICANT:

T··Mobile·

T-MOBILE NORTHEAST LLC

35 GRIFFIN ROAD SOUTH
BLOOMFIELD, CT 06002
860-692-7100

PROJECT MANAGER

NORTHEAST SITE SOLUTIONS
Turnkey Wireless Development
www.northeastsitesolutions.com

420 MAIN STREET, BLDG 4
STURBRIDGE, MA 01566
203-275-6669

CONSULTANT:

FORESITE LLC
Architects . Engineers . Surveyors

462 WALNUT STREET, SUITE 1
NEWTON, MA 02460
617-212-3123

PROFESSIONAL SEAL

STATE OF CONNECTICUT · JOSEPH M. AMEDEN · NO. ARI. 11162 · LICENSED ARCHITECT

REV	DESCRIPTION	DATE
A	PRELIMINARY	02/28/22
B	GENERATOR CD ADDED	03/23/22
C	MW ANTENNA ADDED	04/04/22
0	FINAL ISSUED	05/05/22

SITE NUMBER: CTNH997A
SITE NAME: TEMP FOR CTNH007A

SITE ADDRESS: 1063 BOSTON POST ROAD
MILFORD, CT 06460

SHEET TITLE:
T–1: TITLE SHEET

GENERAL NOTES:

1. THE CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY, MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS, AND LOCAL AND STATE JURISDICTIONAL CODES BEARING ON THE PERFORMANCE OF THE WORK. THE WORK PERFORMED ON THE PROJECT AND THE MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES.

2. THE ARCHITECT/ENGINEER HAS MADE EVERY EFFORT TO SET FORTH IN THE CONSTRUCTION AND CONTRACT DOCUMENTS THE COMPLETE SCOPE OF WORK. THE CONTRACTOR BIDDING THE JOB IS NEVERTHELESS CAUTIONED THAT MINOR OMISSIONS OR ERRORS IN THE DRAWINGS AND OR SPECIFICATIONS SHALL NOT EXCUSE SAID CONTRACTOR FROM COMPLETING THE PROJECT AND IMPROVEMENTS IN ACCORDANCE WITH THE INTENT OF THESE DOCUMENTS.

3. THE CONTRACTOR OR BIDDER SHALL BEAR THE RESPONSIBILITY OF NOTIFYING (IN WRITING) THE CLIENT'S REPRESENTATIVE OF ANY CONFLICTS, ERRORS, OR OMISSIONS PRIOR TO THE SUBMISSION OF CONTRACTOR'S PROPOSAL OR PERFORMANCE OF WORK.

5. THE CONTRACTOR SHALL VISIT THE JOB SITE PRIOR TO THE SUBMISSION OF BIDS OR PERFORMING WORK TO FAMILIARIZE HIMSELF WITH THE FIELD CONDITIONS AND TO VERIFY THAT THE PROJECT CAN BE CONSTRUCTED IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS.

6. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS ACCORDING TO THE MANUFACTURER'S / VENDOR'S SPECIFICATIONS UNLESS NOTED OTHERWISE OR WHERE LOCAL CODES OR ORDINANCES TAKE PRECEDENCE.

7. THE CONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO PROTECT EXISTING IMPROVEMENTS DURING CONSTRUCTION.

8. THE CONTRACTOR SHALL COMPLY WITH ALL PERTINENT SECTIONS OF THE BASIC STATE BUILDING CODE, LATEST EDITION, AND ALL OSHA REQUIREMENTS AS THEY APPLY TO THIS PROJEC

9. THE CONTRACTOR SHALL NOTIFY THE CLIENT'S REPRESENTATIVE IN WRITING WHERE A CONFLICT OCCURS ON ANY OF THE CONTRACT DOCUMENTS. THE CONTRACTOR IS NOT TO ORDER MATERIAL OR CONSTRUCT ANY PORTION OF THE WORK THAT IS IN CONFLICT UNTIL CONFLICT IS RESOLVED BY THE CLIENT'S REPRESENTATIVE.

10. THE WORK SHALL CONFORM TO THE CODES AND STANDARDS OF THE FOLLOWING AGENCIES AS FURTHER CITED HEREIN:

A. ASTM: AMERICAN SOCIETY FOR TESTING AND MATERIALS, AS PUBLISHED IN "COMPILATION OF ASTM STANDARDS BUILDING CODES" OR LATEST EDITION.

B. AWS: AMERICAN WELDING SOCIETY INC. AS PUBLISHED IN "STANDARD D1.1-08, STRUCTURAL WELDING CODE" OR LATEST EDITION.

C. AISC: AMERICAN INSTITUTE FOR STEEL CONSTRUCTION AS PUBLISHED IN "CODE FOR STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES"; "SPECIFICATIONS FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS" (LATEST EDITION).

11. BOLTING:

A. BOLTS SHALL BE CONFORMING TO ASTM A325 HIGH STRENGTH, HOT DIP GALVANIZED WITH ASTM A153 HEAVY HEX TYPE NUTS.

B. BOLTS SHALL BE 3/4"ø MINIMUM (UNLESS OTHERWISE NOTED)

C. ALL CONNECTIONS SHALL BE 2 BOLTS MINIMUM.

12. FABRICATION:

A. FABRICATION OF STEEL SHALL CONFORM TO THE AISC AND AWS STANDARDS AND CODES (LATEST EDITION).

B. ALL STRUCTURAL STEEL SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 (LATEST EDITION), UNLESS OTHERWISE NOTED.

13. ERECTION OF STEEL:

A. PROVIDE ALL ERECTION EQUIPMENT, BRACING, PLANKING, FIELD BOLTS, NUTS, WASHERS, DRIFT PINS, AND SIMILAR MATERIALS WHICH DO NOT FORM A PART OF THE COMPLETED CONSTRUCTION BUT ARE NECESSARY FOR ITS PROPER ERECTION.

B. ERECT AND ANCHOR ALL STRUCTURAL STEEL IN ACCORDANCE WITH AISC REFERENCE STANDARDS. ALL WORK SHALL BE ACCURATELY SET TO ESTABLISHED LINES AND ELEVATIONS AND RIGIDLY FASTENED IN PLACE WITH SUITABLE ATTACHMENTS TO THE CONSTRUCTION OF THE BUILDING.

C. TEMPORARY BRACING, GUYING AND SUPPORT SHALL BE PROVIDED TO KEEP THE STRUCTURE SAFE AND ALIGNED AT ALL TIMES DURING CONSTRUCTION, AND TO PREVENT DANGER TO PERSONS AND PROPERTY. CHECK ALL TEMPORARY LOADS AND STAY WITHIN SAFE CAPACITY OF ALL BUILDING COMPONENTS.

14. ANTENNA INSTALLATION:

A. INSTALL ANTENNAS AS INDICATED ON DRAWINGS AND CLIENT'S REPRESENTATIVE SPECIFICATIONS.

B. INSTALL GALVANIZED STEEL ANTENNA MOUNTS AS INDICATED ON DRAWINGS.

C. INSTALL COAXIAL / FIBER CABLES AND TERMINATIONS BETWEEN ANTENNAS AND EQUIPMENT PER MANUFACTURER'S RECOMMENDATIONS. WEATHERPROOF ALL CONNECTORS BETWEEN THE ANTENNA AND EQUIPMENT PER MANUFACTURER'S REQUIREMENTS.

15. ANTENNA AND COAXIAL / FIBER CABLE GROUNDING:

A. ALL EXTERIOR #6 GREEN GROUND WIRE "DAISY CHAIN" CONNECTIONS ARE TO BE WEATHER SEALED WITH ANDREWS CONNECTOR/SPLICE WEATHERPROOFING KIT TYPE #221213 OR EQUAL.

B. ALL COAXIAL / FIBER CABLE GROUNDING KITS ARE TO BE INSTALLED ON STRAIGHT RUNS OF COAXIAL / FIBER CABLE (NOT WITHIN BENDS).

16. RELATED WORK, FURNISH THE FOLLOWING WORK AS SPECIFIED UNDER CONSTRUCTION DOCUMENTS, BUT COORDINATE WITH OTHER TRADES PRIOR TO BID:

A. FLASHING OF OPENING INTO OUTSIDE WALLS

B. SEALING AND CAULKING ALL OPENINGS

C. PAINTING

D. CUTTING AND PATCHING

17. REQUIREMENTS OF REGULATORY AGENCIES:

A. FURNISH U.L. LISTED EQUIPMENT WHERE SUCH LABEL IS AVAILABLE. INSTALL IN CONFORMANCE WITH U.L. STANDARDS WHERE APPLICABLE.

B. INSTALL ANTENNA, ANTENNA CABLES, GROUNDING SYSTEM IN ACCORDANCE WITH DRAWINGS AND SPECIFICATION IN EFFECT AT PROJECT LOCATION AND RECOMMENDATIONS OF STATE AND LOCAL BUILDING CODES, AND SPECIAL CODES HAVING JURISDICTION OVER SPECIFIC PORTIONS OF WORK. THIS WORK INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING:

C. TIA-EIA - 222 (LATEST EDITION). STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWERS AND ANTENNA SUPPORTING STRUCTURES.

D. FAA - FEDERAL AVIATION ADMINISTRATION ADVISORY CIRCULAR AC 70/7460-lH, OBSTRUCTION MARKING AND LIGHTING.

E. FCC - FEDERAL COMMUNICATIONS COMMISSION RULES AND REGULATIONS FORM 715, OBSTRUCTION MARKING AND LIGHTING SPECIFICATION FOR ANTENNA STRUCTURES AND FORM 715A, HIGH INTENSITY OBSTRUCTION LIGHTING SPECIFICATIONS FOR ANTENNA STRUCTURES.

F. AISC - AMERICAN INSTITUTE OF STEEL CONSTRUCTION SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 BOLTS (LATEST EDITION).

G. NEC - NATIONAL ELECTRICAL CODE - ON TOWER LIGHTING KITS.

H. UL - UNDERWRITER'S LABORATORIES APPROVED ELECTRICAL PRODUCTS.

I. IN ALL CASES, PART 77 OF THE FAA RULES AND PARTS 17 AND 22 OF THE FCC RULES ARE APPLICABLE AND IN THE EVENT OF CONFLICT, SUPERSEDE ANY OTHER STANDARDS OR SPECIFICATIONS.

J. 2018 LIFE SAFETY CODE NFPA - 101.

APPLICANT:

T-MOBILE NORTHEAST LLC

35 GRIFFIN ROAD SOUTH
BLOOMFIELD, CT 06002
860-692-7100

PROJECT MANAGER

NORTHEAST SITE SOLUTIONS
Turnkey Wireless Development

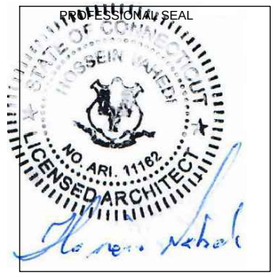
420 MAIN STREET, BLDG 4
STURBRIDGE, MA 01566
203-275-6669

CONSULTANT:

FORESITE LLC
Architects . Engineers . Surveyors

462 WALNUT STREET, SUITE 1
NEWTON, MA 02460
617-212-3123

PROFESSIONAL SEAL

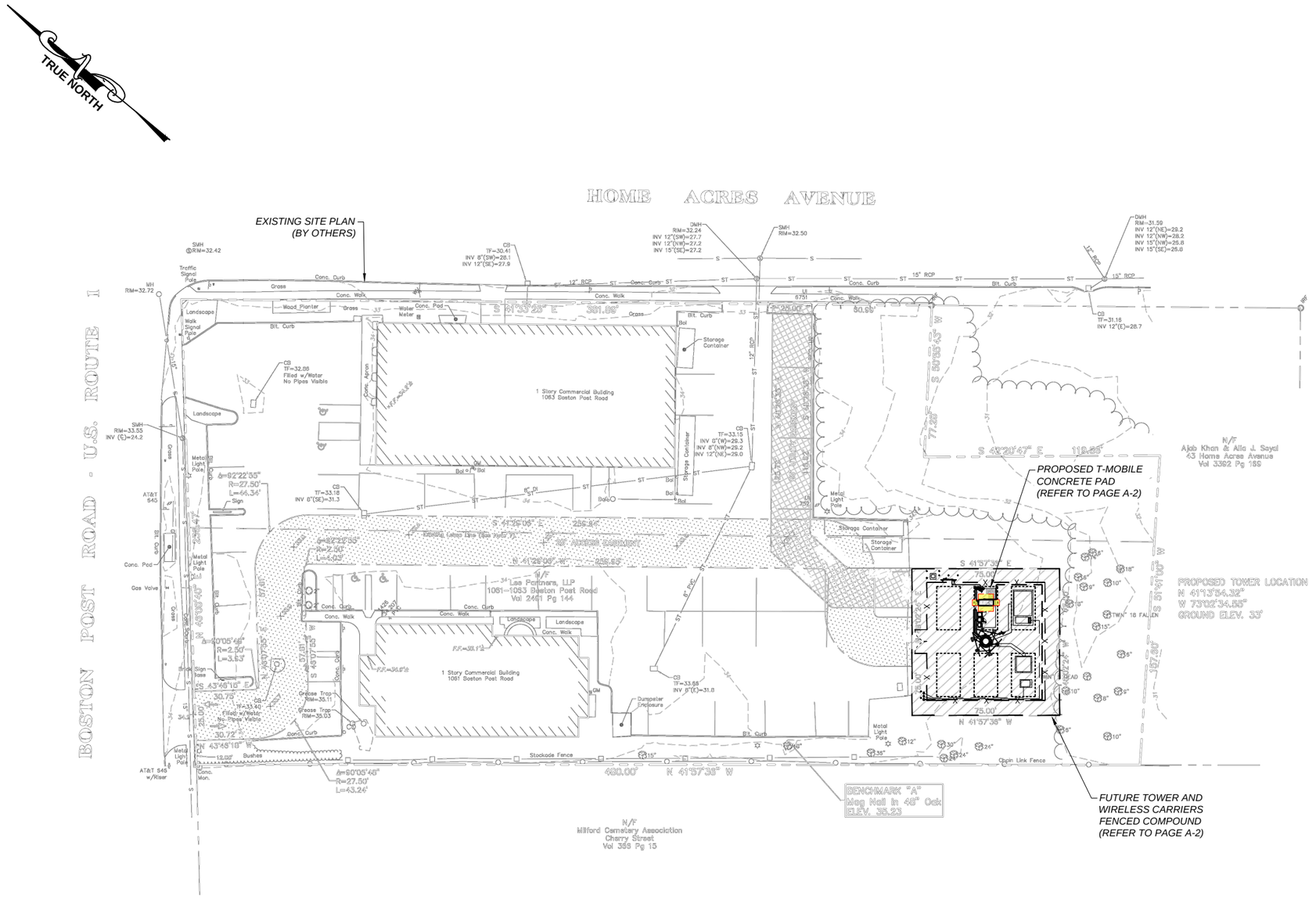


REV	DESCRIPTION	DATE
A	PRELIMINARY	02/28/22
B	GENERATOR CD ADDED	03/23/22
C	MW ANTENNA ADDED	04/04/22
0	FINAL ISSUED	05/05/22

SITE NUMBER: CTNH997A
SITE NAME: TEMP FOR CTNH007A

SITE ADDRESS: 1063 BOSTON POST ROAD
MILFORD, CT 06460

SHEET TITLE:
N–1: GENERAL NOTES



SITE PLAN

SCALE: 1"=60'

1
A-1

APPLICANT:

T-MOBILE NORTHEAST LLC

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BLOOMFIELD, CT 06002
860-692-7100

PROJECT MANAGER

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Turnkey Wireless Development

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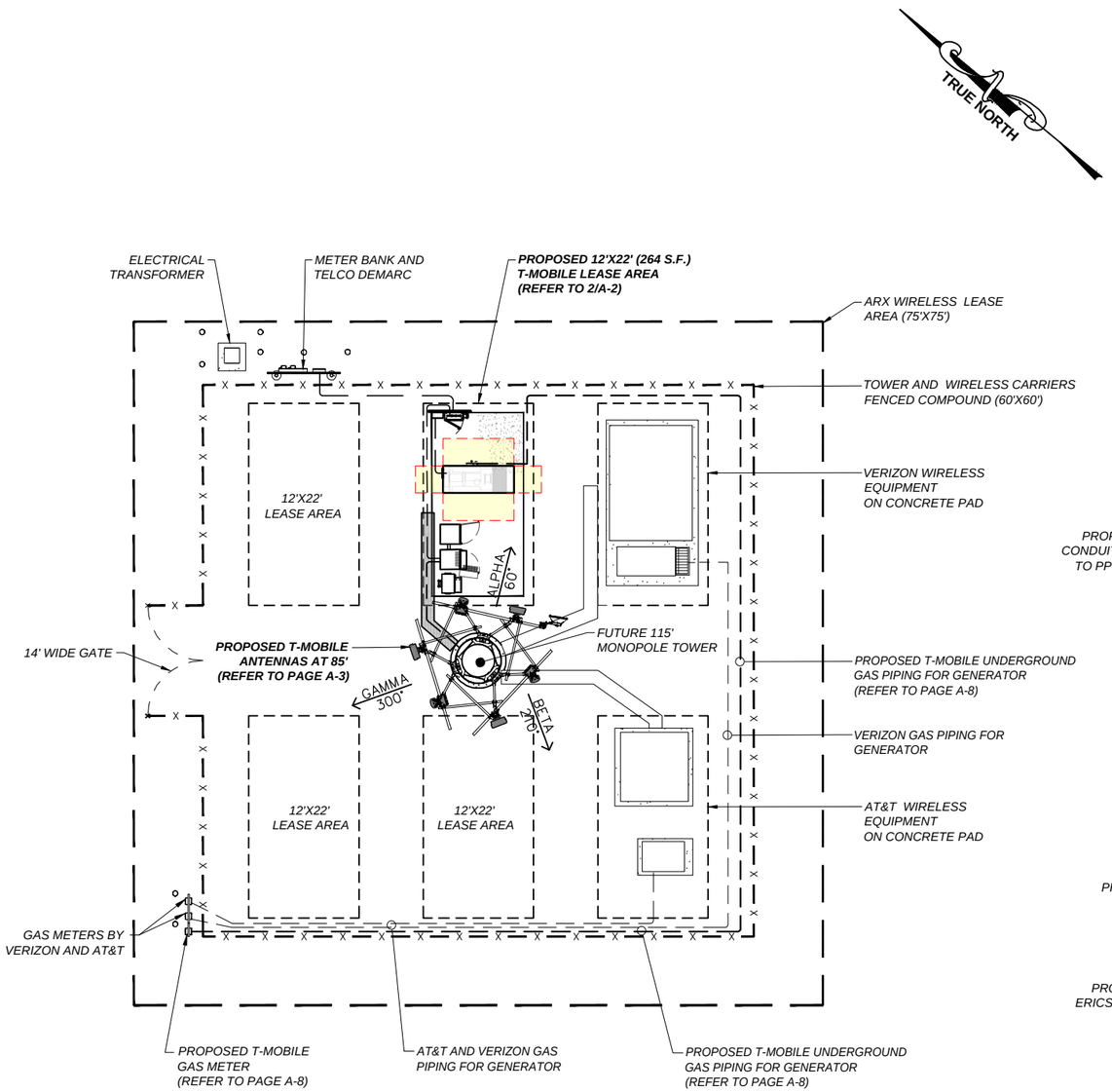
MILFORD, CT 06460

SHEET TITLE:

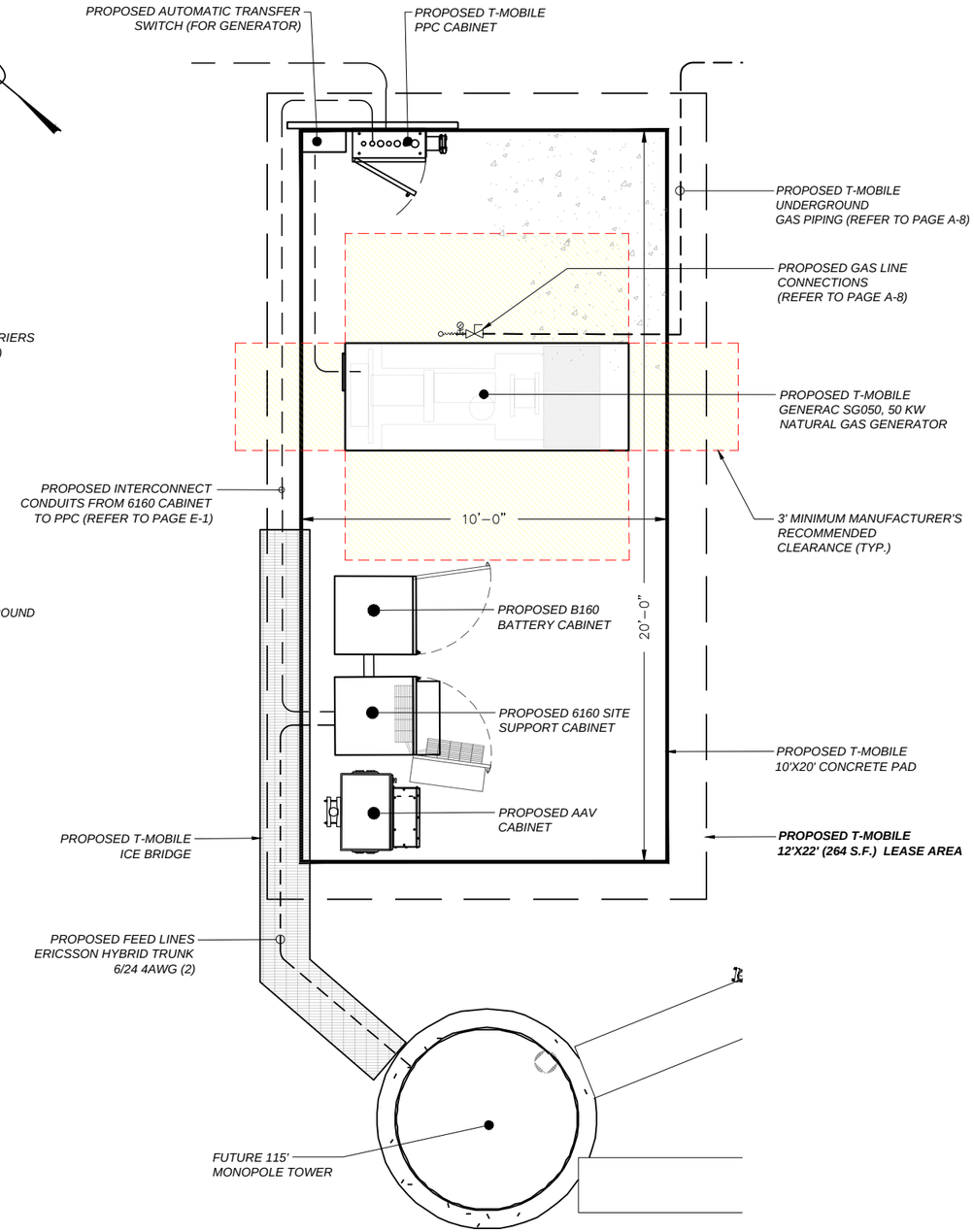
A–1: SITE PLAN



PARTIAL SITE PLAN

SCALE: 1/16"=1'-0"

1 / A-2



EQUIPMENT LAYOUT

SCALE: 1/16"=1'-0"

2 / A-2

APPLICANT:

T-Mobile

T-MOBILE NORTHEAST LLC

35 GRIFFIN ROAD SOUTH
BLOOMFIELD, CT 06002
860-692-7100

PROJECT MANAGER

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Turnkey Wireless Development

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CONSULTANT:

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617-212-3123

PROFESSIONAL SEAL

STATE OF CONNECTICUT
THOMAS J. WARD
NO. ARI. 11162
LICENSED ARCHITECT

REV	DESCRIPTION	DATE
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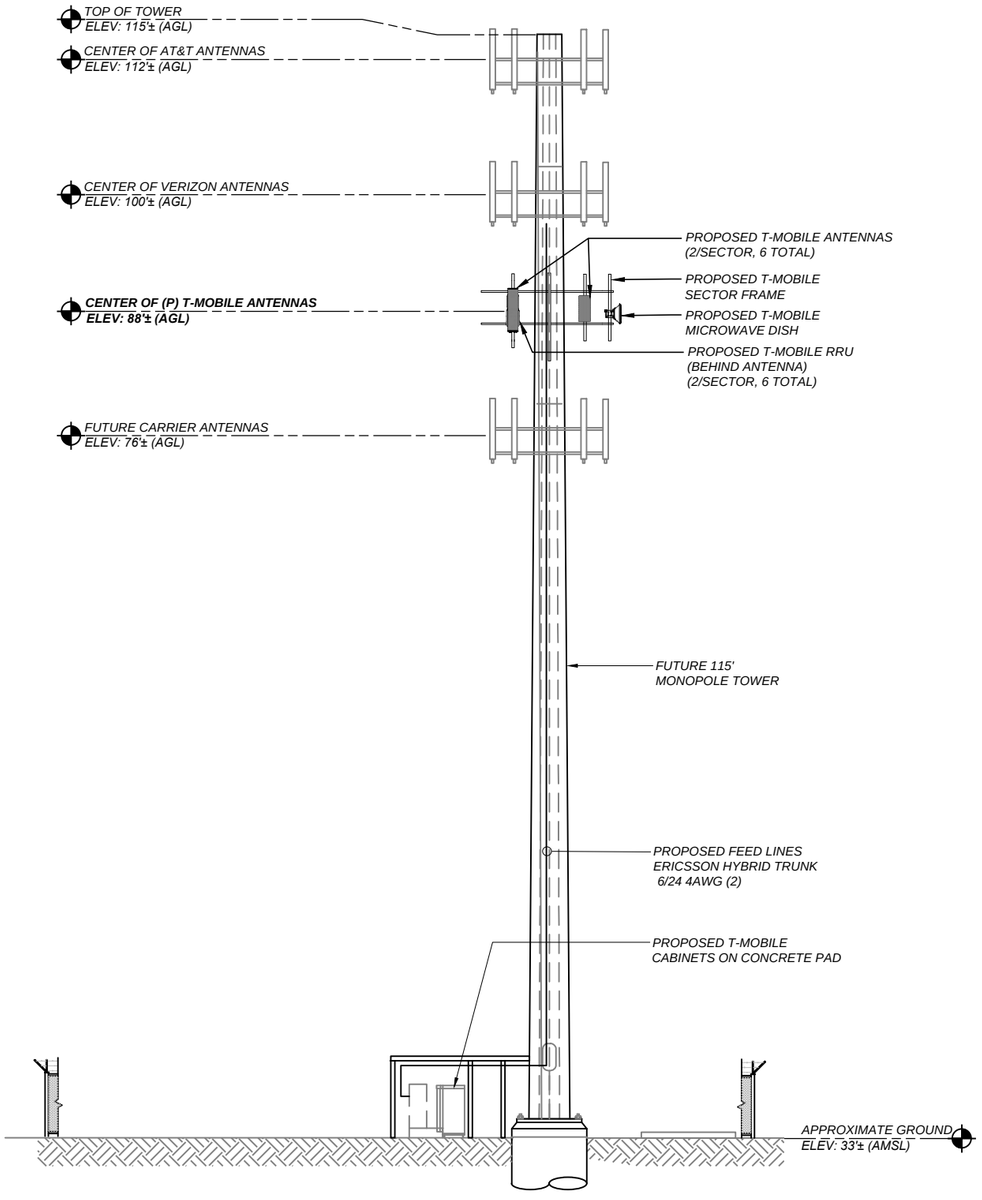
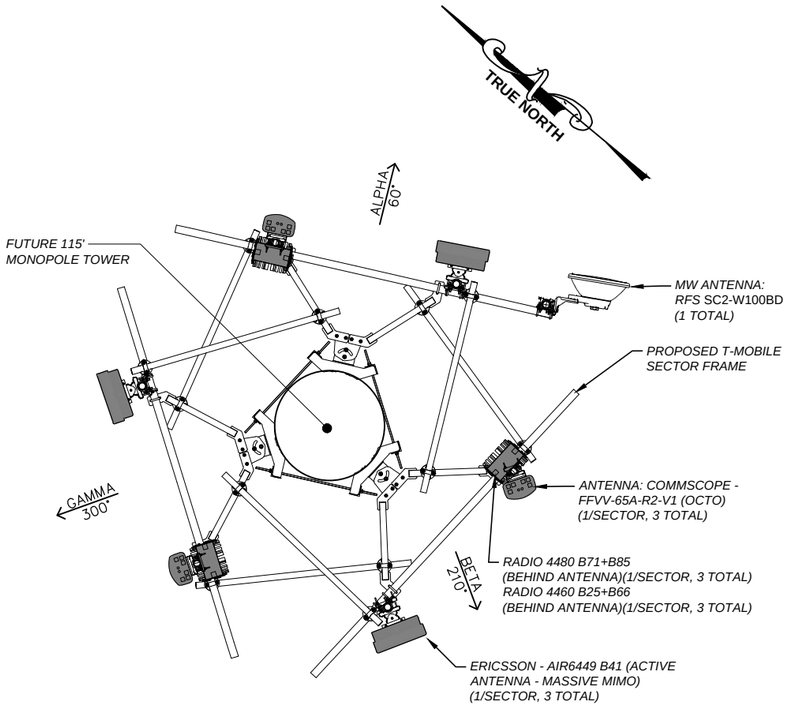
SITE ADDRESS: 1063 BOSTON POST ROAD
MILFORD, CT 06460

SHEET TITLE:
A-2: EQUIPMENT LAYOUT PLANS



ANTENNA LAYOUT
SCALE: 1/16"= 1'-0" — 1 / A-3



ANTENNA LAYOUT
N.T.S — 2 / A-3

APPLICANT:

T-MOBILE NORTHEAST LLC

35 GRIFFIN ROAD SOUTH
BLOOMFIELD, CT 06002
860-692-7100

PROJECT MANAGER

NORTHEAST SITE SOLUTIONS
Turnkey Wireless Development

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FORESITE LLC
Architects . Engineers . Surveyors

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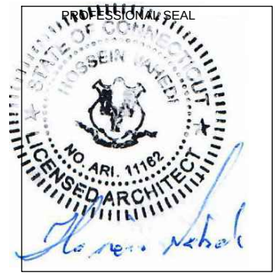
617-212-3123

PROFESSIONAL SEAL



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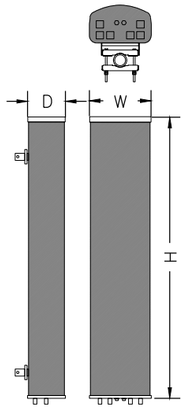
MILFORD, CT 06460

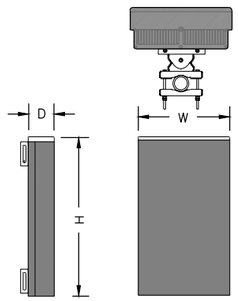
SHEET TITLE:
A–3: ELEVATION AND ANTENNA LAYOUT PLAN



ANTENNA SPECIFICATIONS	
MODEL#	FVV-65A-R3
MANUF.	COMMSCOPE
HEIGHT	55.6"
WIDTH	11.8"
DEPTH	7.1"
WEIGHT	34.6 LB

COMMSCOPE ANTENNA
N.T.S

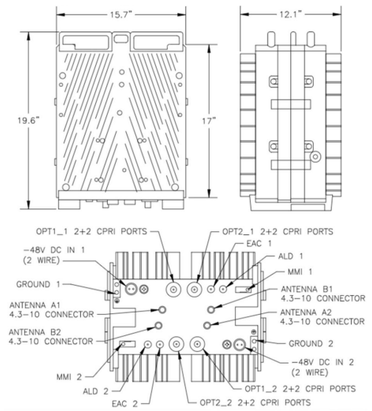
1 A-4



ERICSON ANTENNA SPECIFICATIONS	
MODEL#	AIR6449 B41
MANUF.	ERICSSON
HEIGHT	33.1"
WIDTH	20.5"
DEPTH	8.3"
WEIGHT	103 LB

ERICSSON ANTENNA
N.T.S

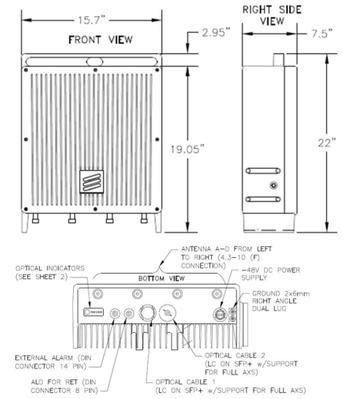
3 A-4



RRU SPECIFICATIONS	
MODEL#	4460 B2/25
MANUF.	ERICSSON
LENGTH	19.6"
WIDTH	15.7"
DEPTH	12.1"
WEIGHT	109 LB

REMOTE RADIO UNIT
N.T.S

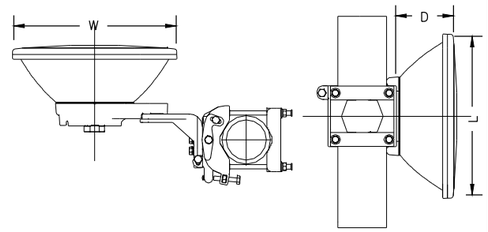
4 A-4



RRU SPECIFICATIONS	
MODEL#	4480 B71
MANUF.	ERICSSON
LENGTH	22.0"
WIDTH	15.7"
DEPTH	7.5"
WEIGHT	93.0 LB

REMOTE RADIO UNIT
N.T.S

5 A-4



RRU SPECIFICATIONS	
MODEL#	SC2-W100BD
MANUF.	RFS
LENGTH	26.4"
WIDTH	26.4"
DEPTH	11.7"
WEIGHT	20 LB

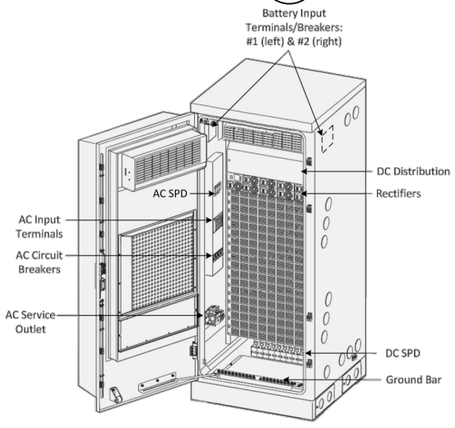
MICROWAVE ANTENNA
N.T.S

6 A-4

BATTERY CABINET SPECIFICATIONS	
MODEL#	B160
MANUF.	ERICSSON
HEIGHT	63"
WIDTH	26"
DEPTH	26"
WEIGHT	1883 lbs

BATTERY CABINET
N.T.S.

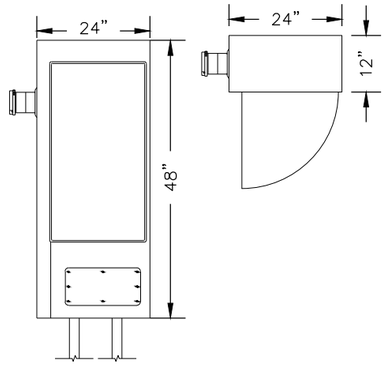
7 A-4



SITE SUPPORT CABINET SPECIFICATIONS	
MODEL#	6160
MANUF.	ERICSSON
HEIGHT	63"
WIDTH	25.6"
DEPTH	33.5"
WEIGHT	605 lbs

SITE SUPPORT CABINET
N.T.S.

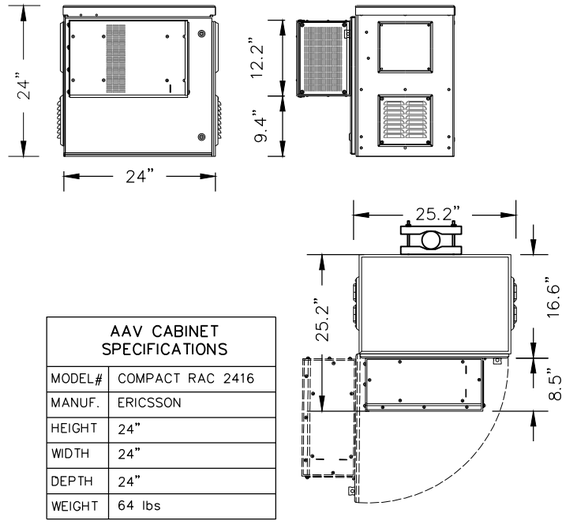
8 A-4



PPC CABINET SPECIFICATIONS	
MODEL#	CS2S2-W736
MANUF.	ERICSSON
HEIGHT	66"
WIDTH	30"
DEPTH	10"
WEIGHT	150 lbs

PPC CABINET
N.T.S.

9 A-4



AAV CABINET SPECIFICATIONS	
MODEL#	COMPACT RAC 2416
MANUF.	ERICSSON
HEIGHT	24"
WIDTH	24"
DEPTH	24"
WEIGHT	64 lbs

AAV CABINET
N.T.S.

10 A-4

APPLICANT:
T-MOBILE NORTHEAST LLC
35 GRIFFIN ROAD SOUTH
BLOOMFIELD, CT 06002
860-692-7100

PROJECT MANAGER
NORTHEAST SITE SOLUTIONS
420 MAIN STREET, BLDG 4
STURBRIDGE, MA 01566
203-275-6669

CONSULTANT:
FORESITE LLC
Architects . Engineers . Surveyors
462 WALNUT STREET, SUITE 1
NEWTON, MA 02460
617-212-3123

PROFESSIONAL SEAL

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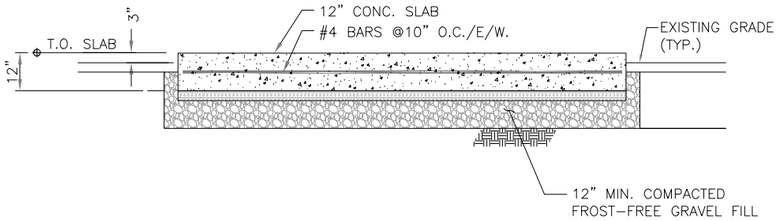
SITE NAME: TEMP FOR CTNH007A

SITE ADDRESS: 1063 BOSTON POST ROAD
MILFORD, CT 06460

SHEET TITLE:
A-4: ANTENNA AND EQUIPMENT SPECIFICATIONS

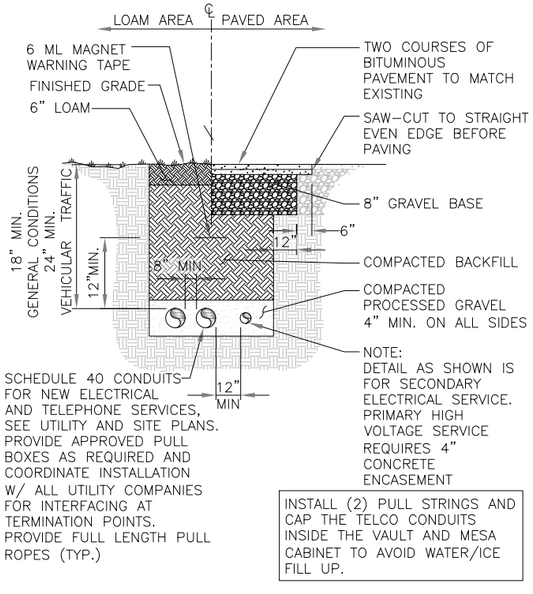


NEW CONC. PAD NOTES:
- REINF. W/ #4's @ 10" O.C. EA. WAY (MID-DEPTH).
- REINF. SHALL BE ASTM A615-GRADE 60. SECURE IN PLACE.
- REINFORCEMENT IN EQUIPMENT SLAB TO BE WELDED AND BONDED TO GROUND RING

CONCRETE PAD DETAILS
N.T.S.

1 / A-5

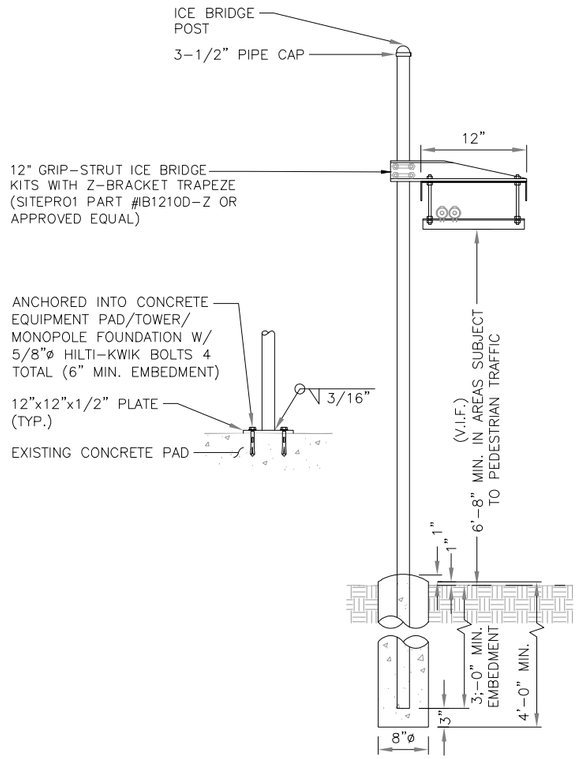
INSTALL (2) PULL STRINGS AND CAP THE TELCO CONDUITS INSIDE THE VAULT AND MESA CABINET TO AVOID WATER/ICE FILL UP



INSTALL (2) PULL STRINGS AND CAP THE TELCO CONDUITS INSIDE THE VAULT AND MESA CABINET TO AVOID WATER/ICE FILL UP.

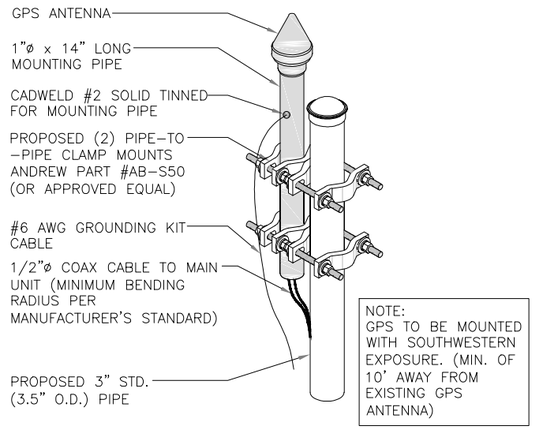
BURIED CABLES DETAILS
N.T.S.

3 / A-5



ICE BRIDGE DETAILS
N.T.S.

2 / A-5



GPS MOUNTING DETAILS
N.T.S.

4 / A-5

APPLICANT:
T-Mobile
T-MOBILE NORTHEAST LLC
35 GRIFFIN ROAD SOUTH
BLOOMFIELD, CT 06002
860-692-7100

PROJECT MANAGER
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STURBRIDGE, MA 01566
203-275-6669

CONSULTANT:
FORESITE LLC
Architects . Engineers . Surveyors
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NEWTON, MA 02460
617-212-3123

PROFESSIONAL SEAL
STATE OF CONNECTICUT
MOSSEIN NAHAL
NO. ARI. 11162
LICENSED ARCHITECT

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SITE NAME: TEMP FOR CTNH007A

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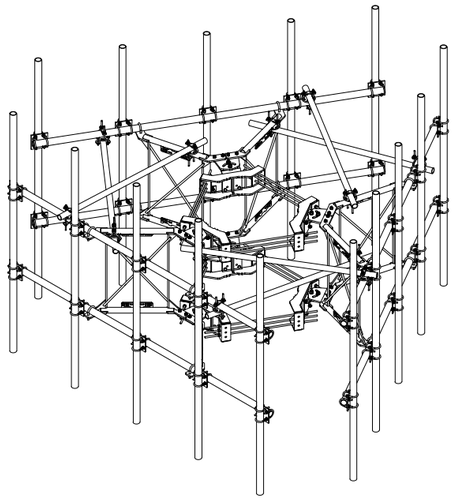
MILFORD, CT 06460

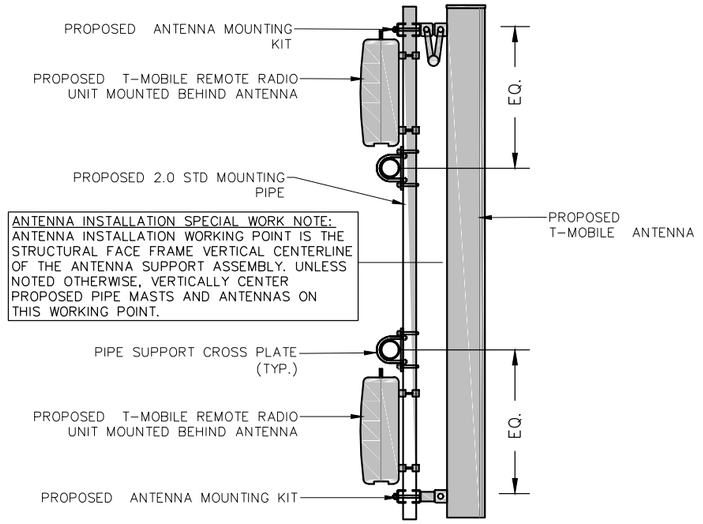
SHEET TITLE:
A-5: CONSTRUCTION DETAILS

NEW T-MOBILE ANTENNA SECTOR MOUNT
VALMONT/SITE PRO 1 THREE SECTORS
HEAVY WLL FRAME (P/N: VFA12-M3-WLL)



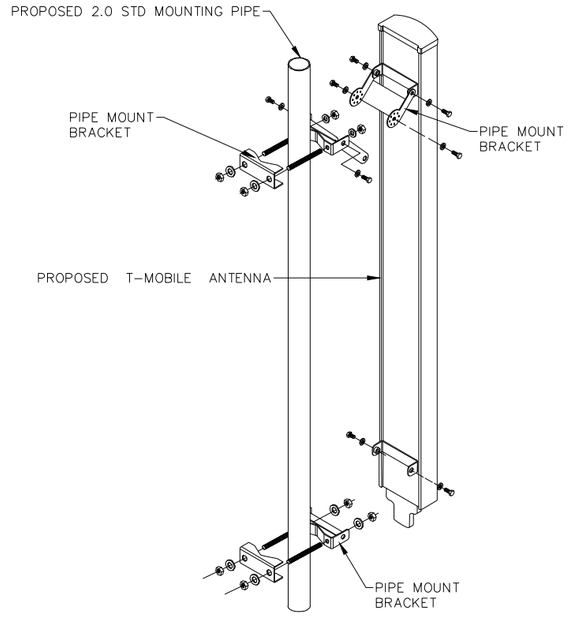
ANTENNA SECTOR DETAILS
N.T.S.

1 / A-6



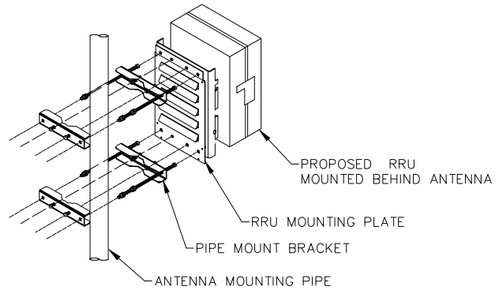
ANTENNA ELEVATION
N.T.S.

2 / A-6



ANTENNA MOUNTING DETAILS
N.T.S.

3 / A-6



RRU MOUNTING DETAILS
N.T.S.

4 / A-6

APPLICANT:
T-Mobile
T-MOBILE NORTHEAST LLC
35 GRIFFIN ROAD SOUTH
BLOOMFIELD, CT 06002
860-692-7100

PROJECT MANAGER
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Turnkey Wireless Development
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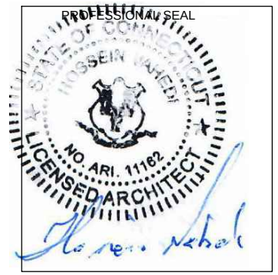
PROFESSIONAL SEAL



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MILFORD, CT 06460

SHEET TITLE:
A-6: ANTENNA MOUNTING DETAILS

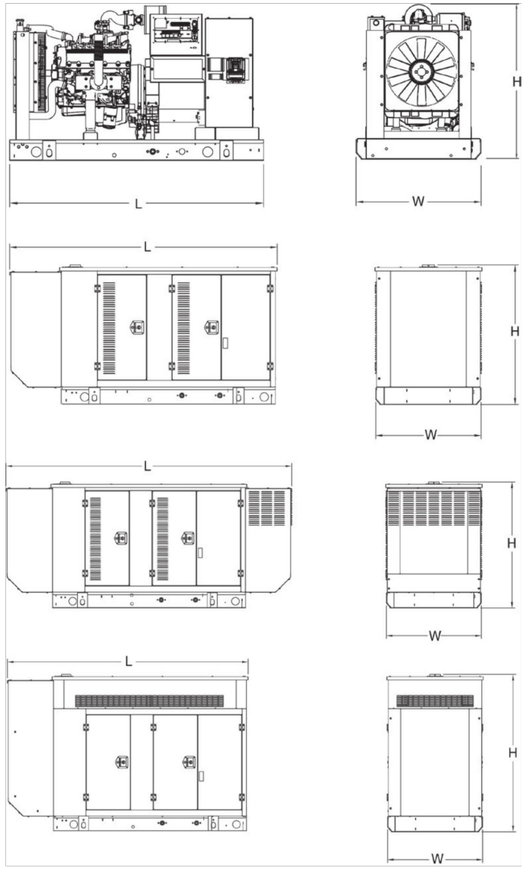
SG050 | 5.4L | 50 kW

INDUSTRIAL SPARK-IGNITED GENERATOR SET

EPA Certified Stationary Emergency

GENERAC | INDUSTRIAL POWER

DIMENSIONS AND WEIGHTS



OPEN SET (Includes Exhaust Flex)

L x W x H in (mm)	76 (1930) x 37.4 (949.9) x 47 (1193.8)
Weight lbs (kg)	2256 (1023)

STANDARD ENCLOSURE

L x W x H in (mm)	94.8 (2408.9) x 38 (965.1) x 49.5 (1258.1)
Weight lbs (kg)	Steel: 2697 (1223) Aluminum: 2474 (1122)

LEVEL 1 ACOUSTIC ENCLOSURE

L x W x H in (mm)	112.5 (2857.1) x 38 (965.1) x 49.5 (1258.1)
Weight lbs (kg)	Steel: 2776 (1259) Aluminum: 2508 (1138)

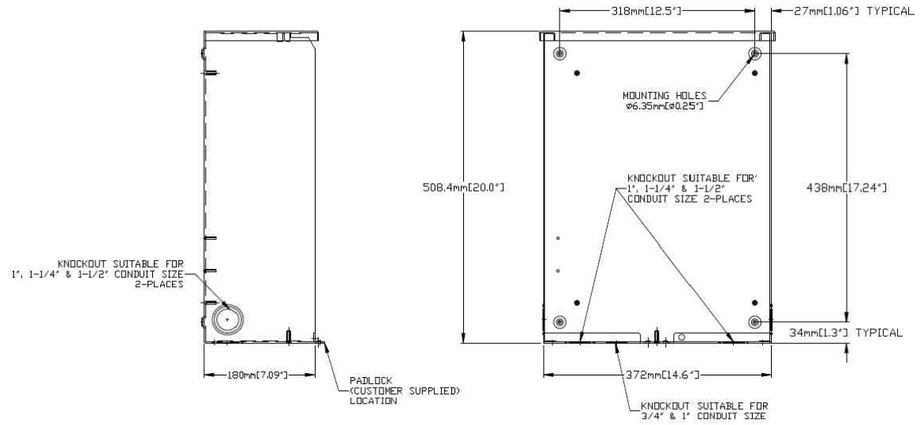
LEVEL 2 ACOUSTIC ENCLOSURE

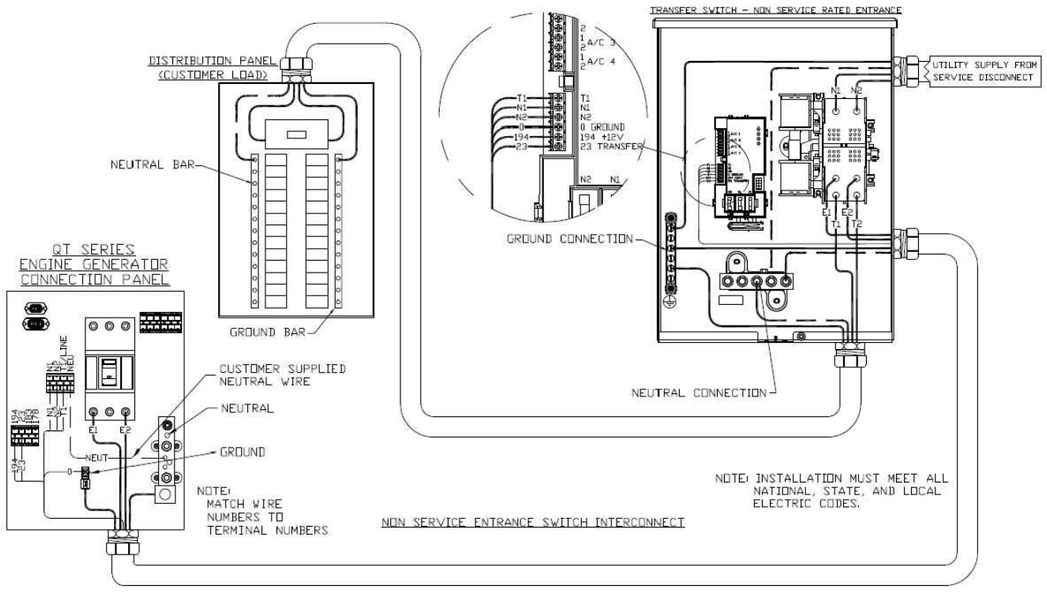
L x W x H in (mm)	94.8 (2407) x 38 (965.1) x 62 (1573.9)
Weight lbs (kg)	Steel: 2928 (1328) Aluminum: 2574 (1168)

GENERATOR SPECIFICATIONS

N.T.S.

1 / A-7





AUTOMATIC TRANSFER SWITCH SPECIFICATIONS AND WIRING DIAGRAM

N.T.S.

2 / A-7

APPLICANT:

T-Mobile

T-MOBILE NORTHEAST LLC

35 GRIFFIN ROAD SOUTH
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860-692-7100

PROJECT MANAGER

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CONSULTANT:

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Architects . Engineers . Surveyors

462 WALNUT STREET, SUITE 1
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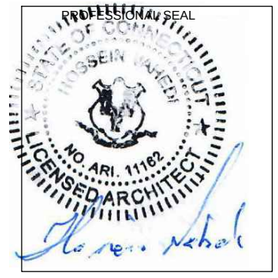
PROFESSIONAL SEAL



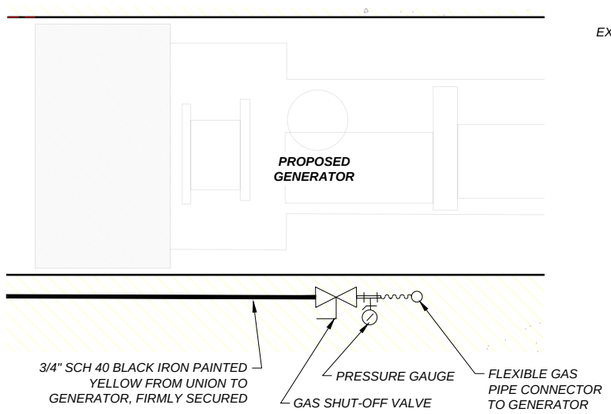
REV	DESCRIPTION	DATE
A	PRELIMINARY	02/28/22
B	GENERATOR CD ADDED	03/23/22
C	MW ANTENNA ADDED	04/04/22
0	FINAL ISSUED	05/05/22

SITE NUMBER: CTNH997A
SITE NAME: TEMP FOR CTNH007A

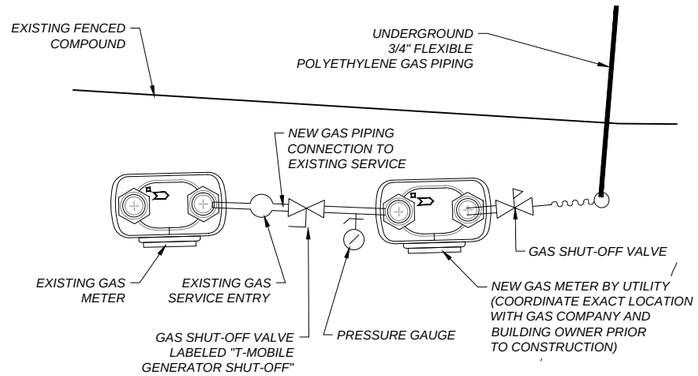
SITE ADDRESS: 1063 BOSTON POST ROAD
MILFORD, CT 06460

SHEET TITLE:

A–7: GENERATOR SPECIFICATIONS



PIPING PLAN AT GENERATOR
N.T.S. — 1 / A-8



PIPING PLAN AT METER
N.T.S. — 2 / A-8

GAS PIPING NOTES:

1- NEW GAS METER AND GAS PIPING CONNECTION TO EXISTING SERVICE TO BE PROVIDED BY THE LOCAL GAS COMPANY.

2- SCHEDULE 40 BLACK STEEL PIPING TO BE USED FOR ALL EXPOSED GAS PIPING.

3- PIPING ROUTE TO BE APPROVED BY PROPERTY OWNER PRIOR TO INSTALLATION.

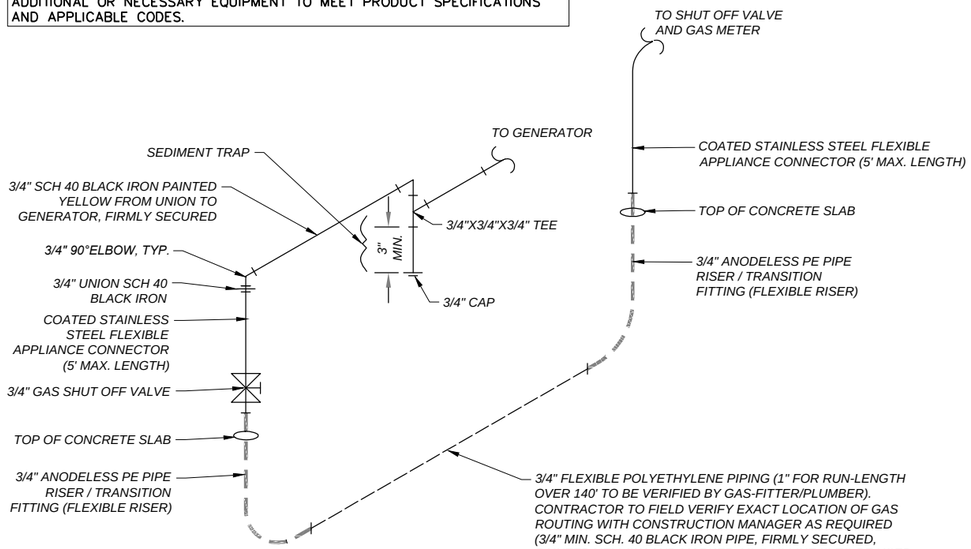
4- CONTRACTOR SHALL CONFIRM GAS PIPING SIZE FROM GRADE TO GENERATOR ON THE ROOF BASED ON ACTUAL INSTALLATION. ROUTING MAY DIFFER. NOTIFY T-MOBILE CONSTRUCTION MANAGER OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION.

5- FIELD VERIFY BEST ROUTING POSSIBLE WITH BUILDING OWNER AND T-MOBILE CONSTRUCTION MANAGER. PIPING SHALL BE SECURED AND PAINTED TO MATCH EXISTING BUILDING FACADE. PROVIDE ALL PIPE HANGERS, SUPPORTS, PAINTING, ETC. AS NEEDED, MATERIAL TO BE APPROVED BY BUILDING OWNER AND T-MOBILE PRIOR TO ANY CONSTRUCTION.

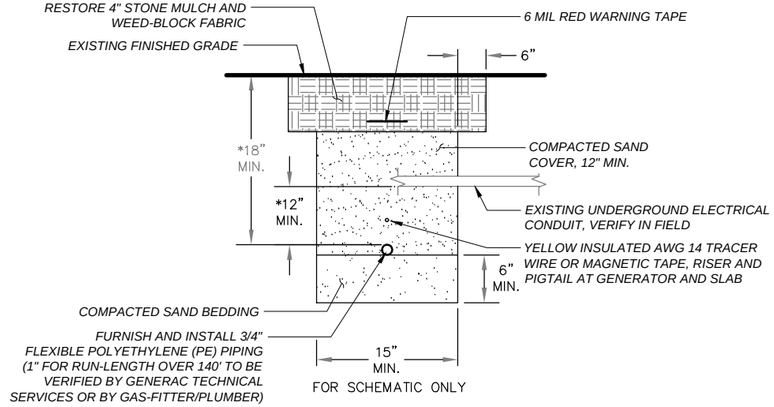
SPECIAL CONSTRUCTION WORK NODE
(HAND-DUG UTILITY LRENCH EXCAVATION REQUIRED):

EXISTING UNDERGROUND UTILITY LOCATIONS ARE UNKNOWN. GENERAL CONTRACTOR SHALL HAND-EXCAVATE TO REQUIRED SUB-GRADE DEPTH, SUFFICIENT TEST HOLES OR AS REQUIRED. ALL PROPOSED UNDERGROUND UTILITY TRENCHES SHALL BE HAND-EXCAVATE AS REQUIRED. GENERAL CONTRACTOR IS RESPONSIBLE FOR ANY REQUIRED SPECIAL TEMPORARY PROTECTION OF, PHYSICAL DAMAGE TO, OR REPAIR OF EXISTING UNDERGROUND CONDUIT INCLUDING RESTORATION OF SERVICE.

INSTALLATION AND MATERIALS NOTE:
GAS-FITTER / PLUMBER TO DETERMINE / VERIFY PIPES AND VALVES REQUIREMENTS TO MEET GENERATOR SPECIFICATIONS, INSTALL ALL EQUIPMENT PROVIDED IN GENERATOR BILL-OF-MATERIALS, FURNISH AND INSTALL ALL ADDITIONAL OR NECESSARY EQUIPMENT TO MEET PRODUCT SPECIFICATIONS AND APPLICABLE CODES.



PIPING DIAGRAM
N.T.S. — 3 / A-8



UNDERGROUND PLUMBING NOTES:
1. A SCH. 80 GALVANIZED PIPE SLEEVE IS TO BE USED TO PROTECT FLEXIBLE UNDERGROUND
PIPE UNDER ALL AREAS SUBJECT TO VEHICLE TRAFFIC.

2. NATURAL GAS PLUMBING IS NOT TO BE RUN WITHIN THE SAME TRENCH AS ELECTRICAL, ALARM OR CONTROL CONDUIT.

3. A MINIMUM SEPARATION OF 12" VERTICALLY IS TO BE MAINTAINED WHENEVER CROSSING, TRANSITIONING NEAR, OR TRAVELING ALONG EXISTING ELECTRICAL CONDUIT. ADJUST DEPTH OF PLUMBING SO AS TO MAINTAIN A MINIMUM OF 18" BELOW GRADE.

4. A MINIMUM SEPARATION OF 12" HORIZONTALLY IS TO BE MAINTAINED WHENEVER RUNNING PARALLEL TO OTHER BURIED UTILITIES AND CONDUITS.

5. ALL NOTED BURIAL DEPTHS ARE THE MINIMUM REQUIRED. LOCAL JURISDICTIONS MAY REQUIRE DEEPER BURIAL DEPTHS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY REQUIREMENTS WITH LOCAL JURISDICTIONS.

PIPING TRENCH DETAILS
N.T.S. — 4 / A-8

APPLICANT:
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PROFESSIONAL SEAL
STATE OF CONNECTICUT
MARK STEVEN NEBEL
NO. ARI. 11162
LICENSED ARCHITECT

REV	DESCRIPTION	DATE
A	PRELIMINARY	02/28/22
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SITE NUMBER: CTNH997A
SITE NAME: TEMP FOR CTNH007A

SITE ADDRESS: 1063 BOSTON POST ROAD
MILFORD, CT 06460

SHEET TITLE:
A-8: PIPING DETAILS

ELECTRICAL & GROUNDING NOTES

1. ALL ELECTRICAL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC) AS WELL AS APPLICABLE STATE AND LOCAL CODES.

2. ALL ELECTRICAL ITEMS SHALL BE U.L. APPROVED OR LISTED AND PRODUCED PER SPECIFICATION REQUIREMENTS.

3. THE ELECTRICAL WORK INCLUDES ALL LABOR AND MATERIAL DESCRIBED BY DRAWINGS AND SPECIFICATION INCLUDING INCIDENTAL WORK TO PROVIDE COMPLETE OPERATING AND APPROVED ELECTRICAL SYSTEM.

4. GENERAL CONTRACTOR SHALL PAY FEES FOR PERMITS, AND RESPONSIBLE FOR OBTAINING SAID PERMITS AND COORDINATION OF INSPECTIONS.

5. ELECTRICAL AND TELCO WIRING OUTSIDE A BUILDING AND EXPOSED TO WEATHER SHALL BE IN WATER TIGHT GALVANIZED RIGID STEEL CONDUITS OR SCHEDULE 80 PVC (AS PERMITTED BY CODE) ND WHERE REQUIRED IN LIQUID TIGHT FLEXIBLE METAL OR NONMETALLIC CONDUITS.

6. RIGID STEEL CONDUITS SHALL BE GROUNDED AT BOTH ENDS.

7. ELECTRICAL WIRING SHALL BE COPPER WITH TYPE XHHW, THWN, OR THIN INSULATION.

8. RUN ELECTRICAL CONDUIT OR CABLING BETWEEN ELECTRICAL ROOM AND PROPOSED CELL SITE ARE PEDESTAL AS INDICATED ON THIS DRAWING. PROVIDE FULL LENGTH PULL ROPE. COORDINATE INSTALLATION WITH UTILITY COMPANY.

9. RUN TELCO CONDUIT OR CABLE BETWEEN TELEPHONE UTILITY DEMARCATION POINT AND PROPOSED CELL SITE TELECOM CABINET AND RBS CABINET AS INDICATED ON DRAWING A –1. PROVIDE FULL LENGTH PULL ROPE INSTALLED TELCO CONDUIT. PROVIDE GREENLEE CONDUIT MEASURING TAPE AT EACH END.

10. ALL EQUIPMENT LOCATED OUTSIDE SHALL HAVE NAME 3R ENCLOSURE.

11. GROUNDING SHALL COMPLY WITH NEC ART. 250.

12. GROUNDING COAX CABLE SHIELDS MINIMUM AT BOTH ENDS USING MANUFACTURES COAX CABLE GROUNDING KITS SUPPLIED BY PROJECT OWNER.

13. USE #6 COPPER STRANDED WIRE WITH GREEN COLOR INSTALLATION FOR ABOVE GRADE GROUNDING (UNLESS OTHERWISE SPECIFIED) AND #2 SOLID TINNED BARE COPPER WIRE FOR BELOW GRADE GROUNDING AS INDICATED ON THE GROUND.

14. ALL GROUND CONNECTION TO BE BURNDY HYGROUND COMPRESSION TYPE CONNECTORS OR CADWELD EXOTHERMIC WELD. DO NOT ALLOW BARE COPPER WIRE TO BE IN CONTACT WITH GALVANIZED STEEL.

15. ROUTE GROUNDING CONDUCTORS ALONG THE SHORTEST AND STRAIGHTEST PATH POSSIBLE, EXCEPT AS OTHERWISE INDICATED. GROUNDING LEADS SHOULD NEVER BE BENT AS RIGHT ANGLE. ALWAYS MAKE AT LEAST 12" RADIUS BENDS. #6 WIRE CAN BE BENT AT 6" RADIUS WHEN NECESSARY BOND ANY METER OBJECTS WITHIN 7 FEET OF PROPOSED EQUIPMENT OR CABINET TO MASTER GROUND BAR.

16. CONNECTIONS TO MGB SHALL BE ARRANGED IN THREE MAIN GROUPS: SURGE PROCEDURES (COAXIAL CABLE GROUND KITS, TELCO AND POWER PANEL GROUND); (GROUNDING ELECTRODE RING OR BUILDING STEEL); NON–SURGING OBJECTS (EGB GROUND IN RBS UNIT).

17. CONNECTIONS TO GROUND BARS SHALL BE MADE WITH TWO HOLE COMPRESSION TYPE COPPER LUGS. APPLY OXIDE INHIBITING COMPOUND TO ALL LOCATIONS.

18. APPLY OXIDE INHIBITING COMPOUND TO ALL COMPRESSION TYPE GROUND CONNECTION.

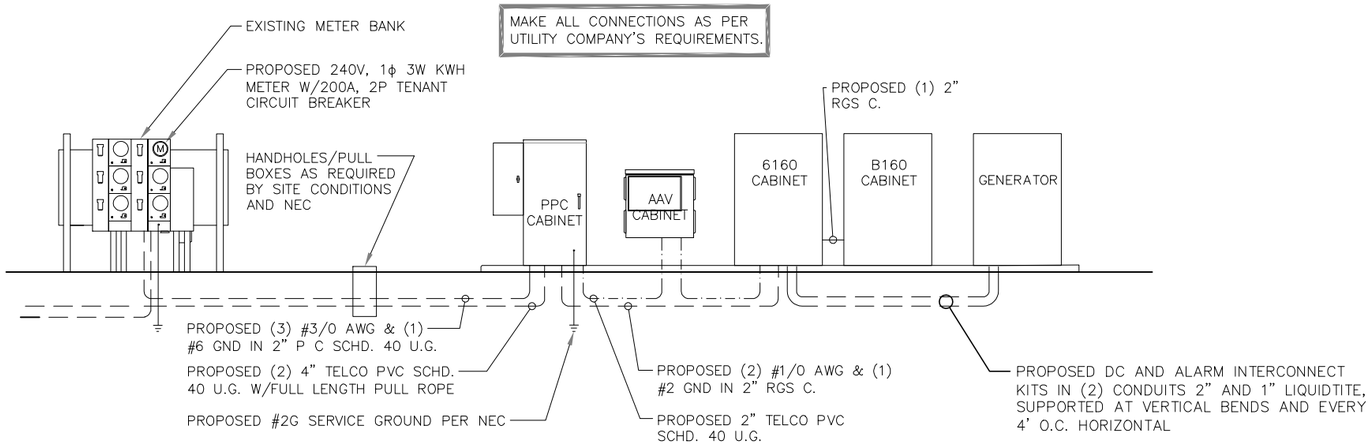
19. BOND ANTENNA MOUNTING BRACKETS, COAXIAL CABLE GROUND KITS, AND ALNA TO EGB PLACED NEAR THE ANTENNA LOCATION.

20 BOND ANTENNA EGB'S AND MGB TO WATER MAIN.

21. TEST COMPLETED GROUND SYSTEM AND RECORD RESULTS FOR PROJECT CLOSE–OUT DOCUMENTATION.

22. BOND ANY METAL OBJECTS WITHIN 7 FEET OF PROPOSED EQUIPMENT OR CABINET TO MASTER GROUND BAR.

23. VERIFY PROPOSED SERVICE UPGRADE WITH LOCAL UTILITY COMPANY PRIOR TO CONSTRUCTION.



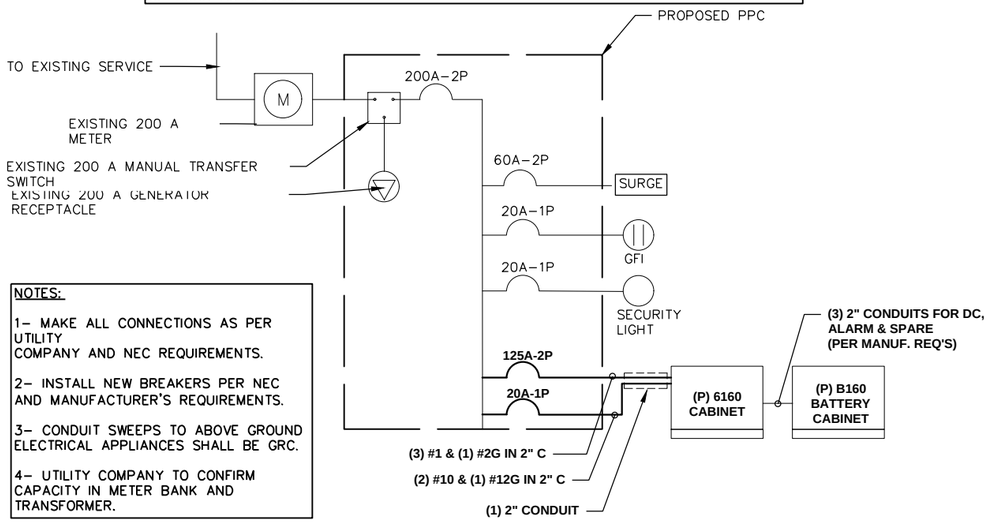
ELECTRICAL RISER DIAGRAM

N.T.S.

1
E–1

SPECIAL CONTRACTOR'S NOTES:

CONTRACTOR TO VERIFY THE POWER FEED & PHASE OF METER BANK AND THAT THE EXISTING AND PROPOSED CONDUITS AND WIRE SIZES ARE ADEQUATE FOR THE PROPOSED LOADING IN ACCORDANCE WITH NEC AND INCLUDE ELECTRICAL UPGRADES IN THE SCOPE OF WORK AS REQUIRED.



NOTES:

1– MAKE ALL CONNECTIONS AS PER UTILITY COMPANY AND NEC REQUIREMENTS.

2– INSTALL NEW BREAKERS PER NEC AND MANUFACTURER'S REQUIREMENTS.

3– CONDUIT SWEEPS TO ABOVE GROUND ELECTRICAL APPLIANCES SHALL BE GRC.

4– UTILITY COMPANY TO CONFIRM CAPACITY IN METER BANK AND TRANSFORMER.

EQYUIPMENT ONE LINE DIAGRAM

N.T.S.

2
E–1

APPLICANT:

T-MOBILE NORTHEAST LLC

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860-692-7100

PROJECT MANAGER

NORTHEAST SITE SOLUTIONS
Turnkey Wireless Development

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203-275-6669

CONSULTANT:

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PROFESSIONAL SEAL

STATE OF CONNECTICUT
THOMAS J. NAHAS
NO. ARI. 11162
LICENSED ARCHITECT

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0	FINAL ISSUED	05/05/22

SITE NUMBER: CTNH997A
SITE NAME: TEMP FOR CTNH007A

SITE ADDRESS: 1063 BOSTON POST ROAD
MILFORD, CT 06460

SHEET TITLE:

E–1: ELECTRICAL DETAILS

GENERAL ELECTRICAL NOTES

1. ALL ELECTRICAL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC) AS WELL AS APPLICABLE STATE AND LOCAL CODES INCLUDING LATEST EDITIONS OF:
   - NFPA – NATIONAL FIRE PROTECTION ASSOCIATION
   - UL – UNDERWRITERS LABORATORIES
   - NEC – 2017 NATIONAL ELECTRICAL CODE NEMA – NATIONAL ELECTRIC MANUFACTURERS ASSOCIATION
   - OSHA – OCCUPATIONAL SAFETY AND HEALTH ACT
   - IBC – 2015 INTERNATIONAL BUILDING CODE

2. ALL ELECTRICAL ITEMS SHALL BE U.L. APPROVED OR LISTED AND PRODUCED PER SPECIFICATION REQUIREMENTS.

3. THE ELECTRICAL WORK INCLUDES ALL LABOR AND MATERIAL DESCRIBED BY DRAWINGS AND SPECIFICATION INCLUDING INCIDENTAL WORK TO PROVIDE COMPLETE OPERATING AND APPROVED ELECTRICAL SYSTEM.

4. GENERAL CONTRACTOR SHALL PAY FEES FOR PERMITS, AND RESPONSIBLE FOR OBTAINING SAID PERMITS AND COORDINATION OF INSPECTIONS.

5. ELECTRICAL AND TELCO WIRING OUTSIDE A BUILDING AND EXPOSED TO WEATHER SHALL BE IN WATER TIGHT GALVANIZED RIGID STEEL CONDUITS OR SCHEDULE 80 PVC (AS PERMITTED BY CODE) ND WHERE REQUIRED IN LIQUID TIGHT FLEXIBLE METAL OR NONMETALLIC CONDUITS.

6. RIGID STEEL CONDUITS SHALL BE GROUNDED AT BOTH ENDS.

7. ELECTRICAL WIRING SHALL BE COPPER WITH TYPE XHHW, THWN, OR THIN INSULATION.

8. ALL EQUIPMENT LOCATED OUTSIDE SHALL HAVE NAME 3R ENCLOSURE.

9. GROUNDING SHALL COMPLY WITH NEC ART. 250.

10. GROUNDING COAX CABLE SHIELDS MINIMUM AT BOTH ENDS USING MANUFACTURES COAX CABLE GROUNDING KITS SUPPLIED BY PROJECT OWNER.

11. USE #6 COPPER STRANDED WIRE WITH GREEN COLOR INSTALLATION FOR ABOVE GRADE GROUNDING (UNLESS OTHERWISE SPECIFIED) AND #2 SOLID TINNED BARE COPPER WIRE FOR BELOW GRADE GROUNDING AS INDICATED ON THE GROUND.

12. ALL GROUND CONNECTION TO BE BURNDY HYGROUND COMPRESSION TYPE CONNECTORS OR CADWELD EXOTHERMIC WELD. DO NOT ALLOW BARE COPPER WIRE TO BE IN CONTACT WITH GALVANIZED STEEL.

13. ROUTE GROUNDING CONDUCTORS ALONG THE SHORTEST AND STRAIGHTEST PATH POSSIBLE, EXCEPT AS OTHERWISE INDICATED. GROUNDING LEADS SHOULD NEVER BE BENT AS RIGHT ANGLE. ALWAYS MAKE AT LEAST 12" RADIUS BENDS. #6 WIRE CAN BE BENT AT 6" RADIUS WHEN NECESSARY BOND ANY METER OBJECTS WITHIN 7 FEET OF PROPOSED EQUIPMENT OR CABINET TO MASTER GROUND BAR.

14. CONNECTIONS TO MGB SHALL BE ARRANGED IN THREE MAIN GROUPS: SURGE PROCEDURES (COAXIAL CABLE GROUND KITS, TELCO AND POWER PANEL GROUND); (GROUNDING ELECTRODE RING OR BUILDING STEEL); NON–SURGING OBJECTS (EGB GROUND IN RBS UNIT).

15. CONNECTIONS TO GROUND BARS SHALL BE MADE WITH TWO HOLE COMPRESSION TYPE COPPER LUGS. APPLY OXIDE INHIBITING COMPOUND TO ALL LOCATIONS.

16. APPLY OXIDE INHIBITING COMPOUND TO ALL COMPRESSION TYPE GROUND CONNECTION.

17. TEST COMPLETED GROUND SYSTEM AND RECORD RESULTS FOR PROJECT CLOSE–OUT DOCUMENTATION.

18. BOND ANY METAL OBJECTS WITHIN 7 FEET OF PROPOSED EQUIPMENT OR CABINET TO MASTER GROUND BAR.

19. VERIFY PROPOSED SERVICE UPGRADE WITH LOCAL UTILITY COMPANY PRIOR TO CONSTRUCTION.

20. EXISTING UNDERGROUND UTILITY LOCATIONS ARE UNKNOWN. GENERAL CONTRACTOR SHALL HAND–EXCAVATE TO REQUIRED SUB–GRADE DEPTH, SUFFICIENT TEST HOLES OR AS DIRECTED / REQUIRED BY CONSTRUCTION MANAGER. ALL PROPOSED UNDERGROUND UTILITY TRENCHES SHALL BE HAND–EXCAVATE AS REQUIRED. GENERAL CONTRACTOR IS RESPONSIBLE FOR ANY REQUIRED SPECIAL TEMPORARY PROTECTION OF, PHYSICAL DAMAGE TO, OR REPAIR OF EXISTING UNDERGROUND CONDUIT INCLUDING RESTORATION OF SERVICE.

21. PROVIDE SLIP JOINS WHERE CONDUITS TRANSITION FROM UNDERGROUND TO ABOVE GROUND.

NOTES:

DIAGRAM AS SHOWN, IS A GENERIC ROUTING SCHEMATIC BASED ON AVAILABLE INFORMATION AND MAY NOT REPRESENT ACTUAL FIELD CONDITIONS. CONTRACTOR SHOULD INSTALL THE GENERATOR, EQUIPMENT AND CONNECTIONS BASED ON VERIFIED ELECTRICAL AUDITS AND PER MANUFACTURER'S INSTALLATION GUIDELINES AS WELL AS ALL APPLICABLE LOCAL AND NATIONAL CODES AND REQUIREMENTS.

GROUNDING NOTES:

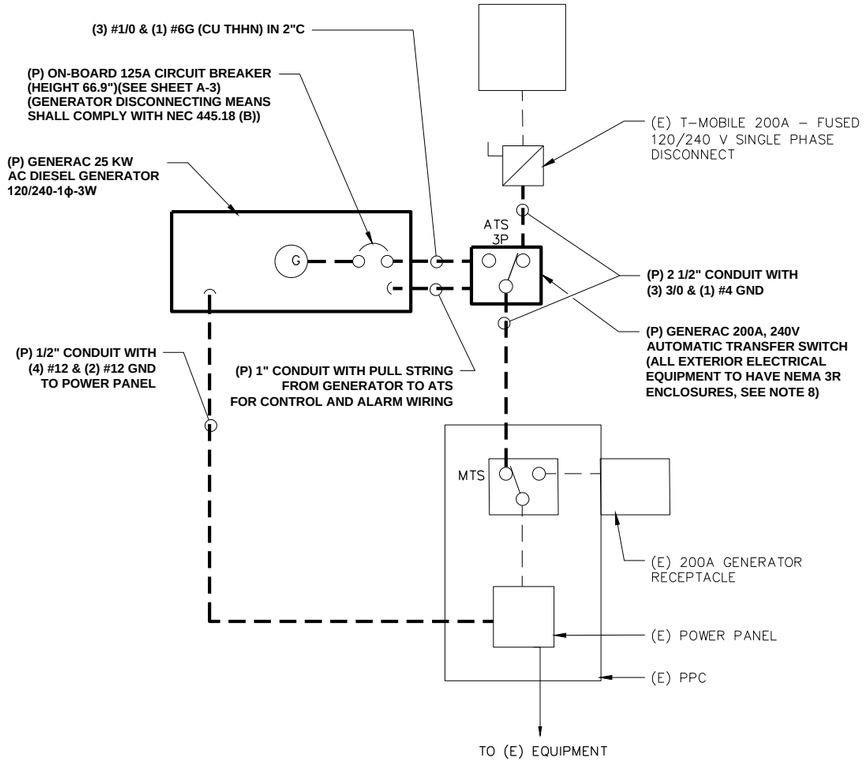
1. GROUNDING SHALL COMPLY WITH NEC ART. 250 AND MANUFACTURER'S RECOMMENDATIONS. TIE INTO THE EXISTING GROUNDING SYSTEM.

2. CONTRACTOR SHALL INSTALL GROUND RODS ON ALL UNDERGROUND GROUNDING RUNS LONGER THAN 10'. GROUND RODS WILL BE INSTALLED ON 20' CENTERS MAXIMUM.

3. ALL DOWN CONDUCTORS MUST GO DOWN PER NFPA 780.

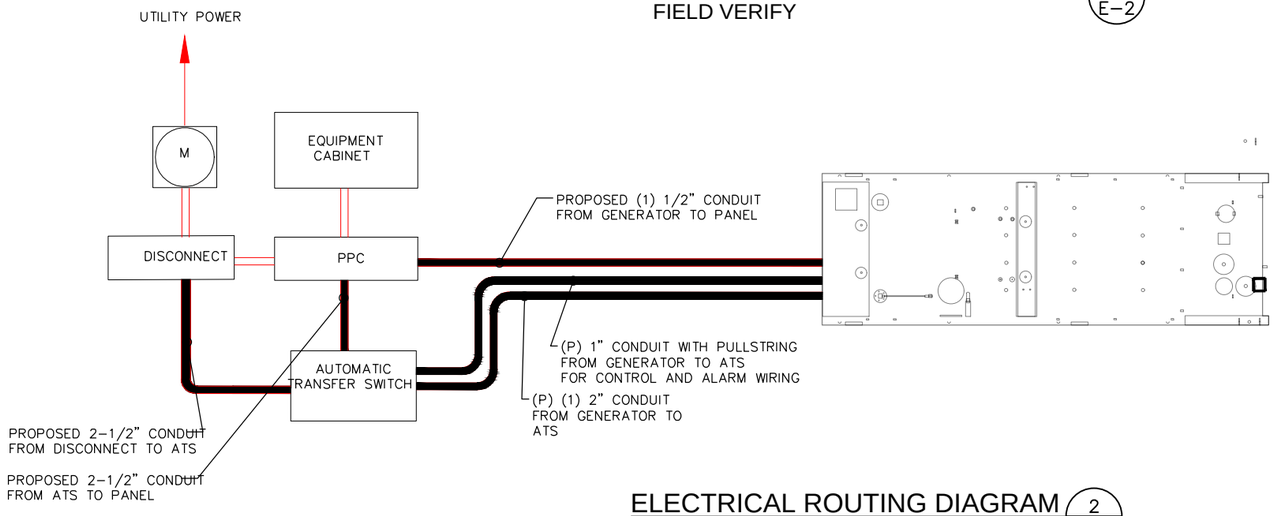
4. CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER WHEN THE GROUNDING SYSTEM IS COMPLETE. THE CONSTRUCTION MANAGER SHALL INSPECT THE GROUNDING SYSTEM PRIOR TO BACKFILLING.

5. CONTRACTOR MY USE EXISTING CONDUITS AND CONDUCTORS PROVIDED THEY ARE IN GOOD CONDITION AND ARE SUFFICIENTLY RATED.



TYP. ONE LINE DIAGRAM
FIELD VERIFY

1 / E–2



ELECTRICAL ROUTING DIAGRAM
SCALE: N.T.S

2 / E–2

APPLICANT:

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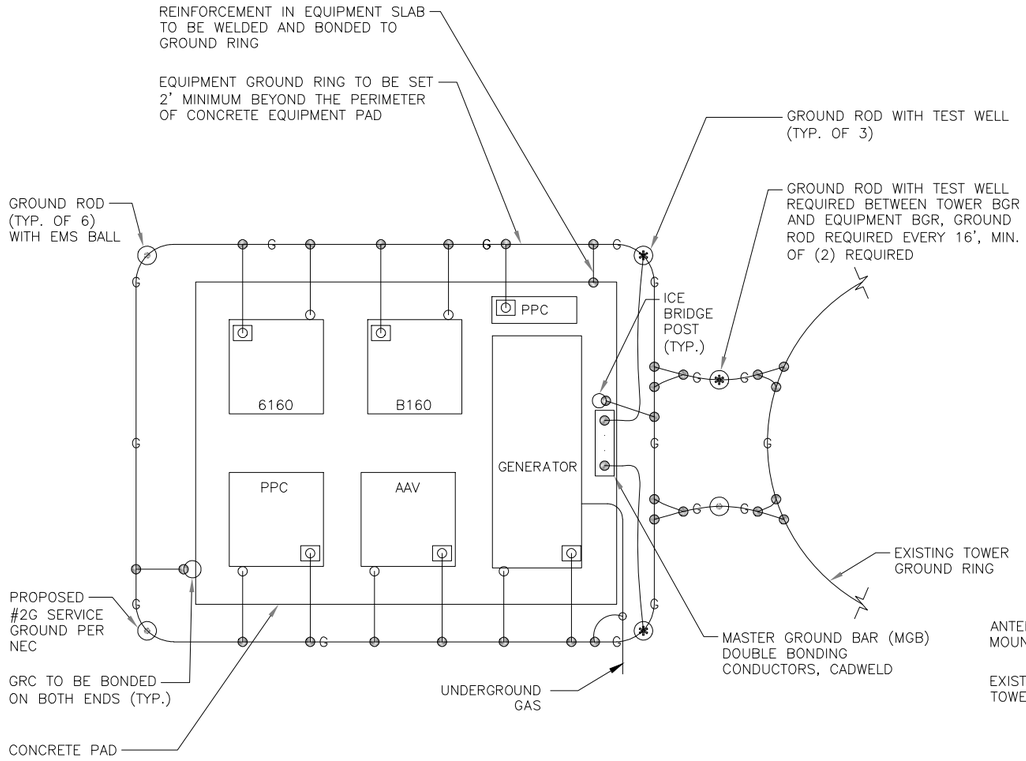
SITE NUMBER: CTNH997A
SITE NAME: TEMP FOR CTNH007A

SITE ADDRESS: 1063 BOSTON POST ROAD
MILFORD, CT 06460

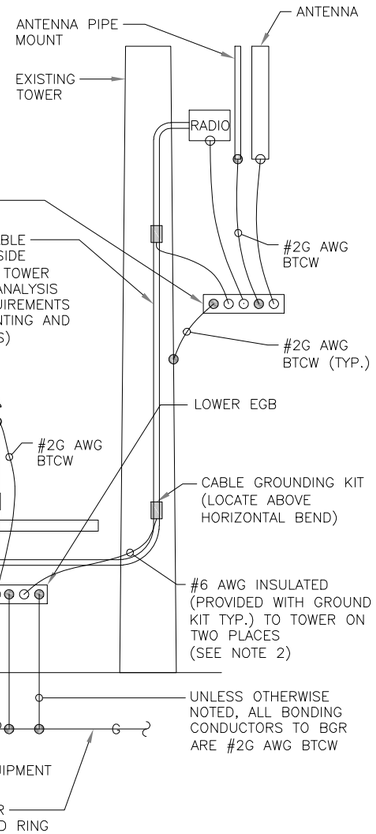
SHEET TITLE:
E–2: ELECTRICAL DETAILS

GROUNDING SPECIFICATIONS:

1. GROUNDING SHALL COMPLY WITH ARTICLE 250 OF THE NATIONAL ELECTRICAL CODE. ALL GROUNDING DEVICES SHALL BE U.L. APPROVED OR LISTED FOR THEIR INTENDED USE.
2. GROUND WIRES SHALL BE TINNED #2 AWG BARE SOLID COPPER UNLESS NOTED OTHERWISE.
3. GROUNDING CONNECTIONS SHALL BE EXOTHERMIC (CADWELD) NOTED OTHERWISE. CLEAN SURFACES TO SHINE METAL. WHERE GROUND WIRES ARE CADWELD TO GALVANIZED SURFACES. SPRAY CADWELD WITH GALVANIZING PAINT.
4. ROUTE GROUNDING CONDUCTORS ALONG THE SHORTEST AND STRAIGHTEST PATH POSSIBLE. BEND GROUNDING LEADS WITH A MINIMUM 8" RADIUS.
5. PRIOR TO INSTALLING LUGS ON GROUND WIRES, APPLY THOMAS & BETSS KOPR-SHIELD (TM OF JET LUBE, INC.). PRIOR TO BOLTING GROUND WIRE LUGS TO GROUND BARS, APPLY KOPR-SHIELD OR EQUAL.
6. WHERE BARE COPPER GROUND WIRES ARE ROUTED FROM ANY CONNECTION ABOVE GRADE TO GROUND RING, INSTALL WIRE IN ¾" PVC SLEEVE, FROM 1'-0" MIN. ABOVE GRADE AND SEAL TOP WITH SILICONE MATERIAL.
7. PREPARE ALL BONDING SURFACES FOR GROUNDING CONNECTIONS BY REMOVING ALL PAINT AND CORROSION DOWN TO SHINY METAL. FOLLOWING CONNECTION, APPLY APPROPRIATE ANTI-OXIDIZATION PAINT.
8. GROUNDING WIRE CONNECTIONS SHALL BE 3-CRIMP C-TAP COMPRESSION TYPE. SPLIT BOLTS ARE NOT ACCEPTABLE.
9. GROUND RODS SHALL BE COPPER CLAD STEEL ⅜" x 10' SPACE NOT LESS THAN 10' O.C.
10. CONNECTORS SHALL BE CRIMPED USING HYDRAULIC CRIMPING TOOLS.
11. SURFACE CONNECTIONS SHALL BE MADE TO BARE METAL. PAINTED SURFACES SHALL BE FILED TO ENSURE PROPER CONTACT. APPLY NON-OXIDIZING AGENT TO CONNECTIONS.
12. COPPER BUSES SHALL BE CLEANED, POLISHED AND A NON-OXIDIZING AGENT APPLIED. NO FINGERPRINTS OR DISCOLORED COPPER WILL BE PERMITTED.
13. GROUNDING CONDUCTORS SHALL BE RUN THROUGH PVC SLEEVE WHERE ROUTED THROUGH WALLS, FLOORS, AND CEILINGS. ENDS OF CONDUIT SHALL BE GROUNDED. SEAL BOTH ENDS OF CONDUIT WITH SILICONE CAULK.
14. HARDWARE (I.E. NUTS, BOLTS, WASHERS, ETC.) TO BE STAINLESS STEEL.
15. EXOTHERMIC WELDS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
16. THE ENTIRE SYSTEM SHALL BE SOLIDLY GROUNDED USING LOCKNUTS AND BONDING NUTS ON CONDUITS AND PROPERLY BONDED GROUND CONDUCTORS, RECEPTACLES AND EQUIPMENT BRANCH CIRCUITS SHALL BE GROUNDED WITH A FULL SIZED EQUIPMENT GROUNDING CONDUCTOR RUN IN THE CIRCUIT'S CONDUIT.
17. INSTALL GROUND BUSHINGS ON ALL METALLIC CONDUITS AND BOND TO THE EQUIPMENT GROUND BUS IN THE PANEL BOARD.
18. GROUND BARS (SECTOR, COLLECTOR, MASTER) SHALL BE MIN. BARE ¼" x 4" COPPER AND LARGE ENOUGH TO ACCOMMODATE THE REQUIRED NUMBER OF GROUND CONNECTIONS. THE HARDWARE SECURING THE MASTER GROUND BAR (MGB) SHALL ELECTRICALLY INSULATE THE MGB FROM ANY STRUCTURE TO WHICH IT IS FASTENED.
19. APPLY THOMAS & BETSS KOPR-SHIELD OR APPROVED EQUIVALENT PRIOR TO MAKING MECHANICAL CONNECTIONS. CONNECTIONS SHALL BE MADE WITH STAINLESS STEEL BOLTS, NUTS AND LOCK WASHERS ⅜" DIAMETER, MIN. WHERE GALVANIZING IS REMOVED FROM METAL IT SHALL BE PAINTED OR TOUCHED UP WITH 'GALVONOX' OR EQUAL.
20. ALL TERMINATIONS AT EQUIPMENT ENCLOSURES, PANELS, FRAMES OF EQUIPMENT AND WHERE EXPOSED FOR GROUNDING CONDUCTOR TERMINATION SHALL BE PERFORMED UTILIZING TWO HOLE BOLTED TONGUE COMPRESSION TYPE WITH STAINLESS STEEL SELF-TAPPING SCREWS.
21. ALL CLAMPS AND SUPPORTS USED TO SUPPORT THE GROUNDING SYSTEM CONDUCTOR AND PVC CONDUITS SHALL BE PVC TYPE (NON-CONDUCTIVE). DO NOT USE METAL BRACKETS OR SUPPORTS WHICH WOULD FORM A COMPLETE RING AROUND ANY GROUNDING CONDUCTOR.
22. ALL BOLTS, WASHERS, AND NUTS USED ON GROUNDING CONNECTIONS SHALL BE STAINLESS STEEL.
23. THE CONTRACTOR SHALL ENGAGE AN INDEPENDENT ELECTRICAL TESTING FIRM TO TEST AND VERIFY THAT RESISTANCE TO EARTH DOES NOT EXCEED 5.0 OHMS. PROVIDE A COPY OF TESTING REPORT, INCLUDING THE METHOD AND INSTRUMENTS USED TO VERIFY RESISTANCE TO SPRINT REPRESENTATIVE.
24. COAX CABLE SHALL BE GROUNDED AT ANTENNA LEVEL WITHIN 5' OF ANTENNA, COAX WILL ADDITIONALLY BE GROUNDED AT THE BASE OF THE TOWER 18" BEFORE THE CABLE REACHES A HORIZONTAL PLANE. IF EQUIPMENT CABINET IS MORE THAN 15' FROM THE TOWER AN ADDITIONAL GROUND KIT WILL BE ADDED 24" BEFORE CABLE ENTERS CABINET.
25. ALL COAX GROUND KITS WILL BE ANDREW 'COMPACT SURE GROUND' OR APPROVED EQUIVALENT.
26. VERIFY THE GROUNDING CONTINUITY BETWEEN THE TOWER BASE AND THE NEW SPRINT CABINET GROUND BAR. CONTRACTOR SHALL ENSURE THAT ALL METALLIC OBJECTS WITHIN 6' FROM CABINET HAVE GROUNDING CONTINUITY. THE CONTRACTOR SHALL CORRECT ANY DEFECTS BE ADDING GROUNDING CONDUCTOR TO ENSURE CONTINUITY.
27. GROUNDING CONDUCTORS SHALL BE COPPER ONLY. EITHER SOLID OR STRANDED CONDUCTORS ARE PERMITTED. ALL EXTERNAL BURIED CONDUCTORS MUST BE BARE. EQUIPMENT GROUND LEADS IN CABLE TRAYS MUST BE GREEN INSULATED.
28. CONTRACTOR TO PROVIDE GROUND WIRES, BARS, AND CONNECTIONS AS SHOWN ON GROUNDING RISER DIAGRAM.



EQUIPMENT GROUNDING PLAN
N.T.S.
1
G-1



GROUNDING RISER DIAGRAM
N.T.S.
2
G-1

APPLICANT:

T-MOBILE NORTHEAST LLC

35 GRIFFIN ROAD SOUTH
BLOOMFIELD, CT 06002
860-692-7100

PROJECT MANAGER

NORTHEAST SITE SOLUTIONS
Turnkey Wireless Development

420 MAIN STREET, BLDG 4
STURBRIDGE, MA 01566
203-275-6669

CONSULTANT:

FORESITE LLC
Architects . Engineers . Surveyors

462 WALNUT STREET, SUITE 1
NEWTON, MA 02460
617-212-3123

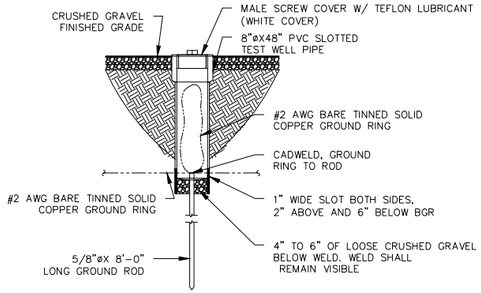
PROFESSIONAL SEAL
STATE OF CONNECTICUT
THOMAS J. NOLAN
NO. ARI. 11162
LICENSED ARCHITECT

REV	DESCRIPTION	DATE
A	PRELIMINARY	02/28/22
B	GENERATOR CD ADDED	03/23/22
C	MW ANTENNA ADDED	04/04/22
0	FINAL ISSUED	05/05/22

SITE NUMBER: CTNH997A
SITE NAME: TEMP FOR CTNH007A

SITE ADDRESS: 1063 BOSTON POST ROAD
MILFORD, CT 06460

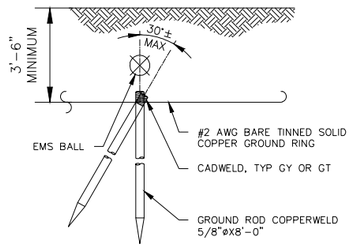
SHEET TITLE:
G-1: GROUNDING DETAILS



NOTE:
1. PROPOSED BGR TO BE INSTALLED 3'-6" MIN. BELOW GRADE OR BELOW LOCAL FROST DEPTH, WHICHEVER IS GREATER.

2. ONE TEST WELL SHALL BE PROVED BETWEEN THE TOWER GROUND LOOP AND TWO ON THE EQUIPMENT GROUND LOOP.

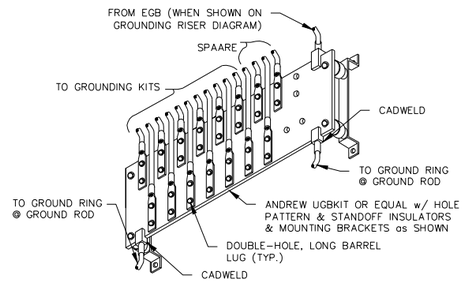
GROUND ROD TEST WELL DETAIL
N.T.S — 1 / G-2



NOTE:
1. PROPOSED BGR TO BE INSTALLED 3'-6" MIN. BELOW GRADE OR BELOW LOCAL FROST DEPTH, WHICHEVER IS GREATER.

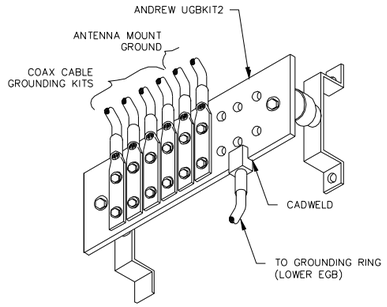
2. GROUND ROD SHALL BE DRIVEN VERTICALLY, NOT TO EXCEED 30 DEGREES FROM THE VERTICAL.

GROUND ROD DETAIL
N.T.S — 2 / G-2

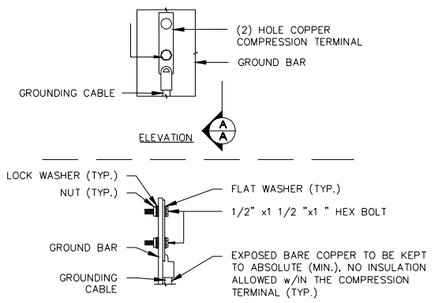


NOTES:
(1) VERTICAL POST SHALL BE BONDED TO THE RING @ EACH CORNER & @ EACH GATE POST. AS A MINIMUM ONE VERTICAL POST SHALL BE BONDED TO THE GROUND RING IN EVERY 100'-0" STRAIGHT RUN OF FENCE.
(2) HORIZONTAL POLES SHALL BE BONDED TO EACH OTHER.
(3) BOND EACH HORIZONTAL POLE / BRACE TO EACH OTHER & TO EACH VERTICAL POST THAT IS BONDED TO THE EXTERIOR GROUND RING.

(MGB) MASTER GROUND BAR
N.T.S — 3 / G-2



(EGB)EQUIPMENT GROUND BAR
N.T.S — 4 / G-2



NOTES:
(1) "DOUBLING UP" OR "STACKING" OF CONNECTIONS IS NOT PERMITTED.

(2) OXIDE INHIBITING COMPOUND TO BE USED @ ALL LOCATIONS.

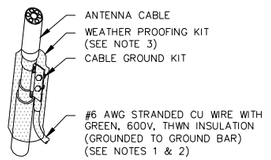
(3) CADWELD DOWN LEADS FROM UPPER EGB, LOWER EGB & MGB.

GROUND BAR CONNECTION DETAIL
N.T.S — 5 / G-2

NOTES:
(1) DO NOT INSTALL CABLE GROUND KIT AT A BEND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.

(2) GROUNDING KIT BE TYPE AND PART NUMBER AS SUPPLIED OR RECOMMENDED BY CABLE MANUFACTURER.

(3) WATERPROOFING SHALL BE TYPE AND PART NUMBER AS SUPPLIED OR RECOMMENDED BY CABLE MANUFACTURER.



CONNECTION OF GROUND KIT TO ANTENNA CABLE DETAIL
N.T.S — 6 / G-2

APPLICANT:
T-Mobile
T-MOBILE NORTHEAST LLC
35 GRIFFIN ROAD SOUTH
BLOOMFIELD, CT 06002
860-692-7100

PROJECT MANAGER
NORTHEAST SITE SOLUTIONS
420 MAIN STREET, BLDG 4
STURBRIDGE, MA 01566
203-275-6669

CONSULTANT:
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Architects . Engineers . Surveyors
462 WALNUT STREET, SUITE 1
NEWTON, MA 02460
617-212-3123

PROFESSIONAL SEAL
STATE OF CONNECTICUT
THOMAS E. WARD
NO. ARI. 11162
LICENSED ARCHITECT

REV	DESCRIPTION	DATE
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SITE NUMBER: CTNH997A
SITE NAME: TEMP FOR CTNH007A

SITE ADDRESS: 1063 BOSTON POST ROAD
MILFORD, CT 06460

SHEET TITLE:
G-2: GROUNDING DETAILS

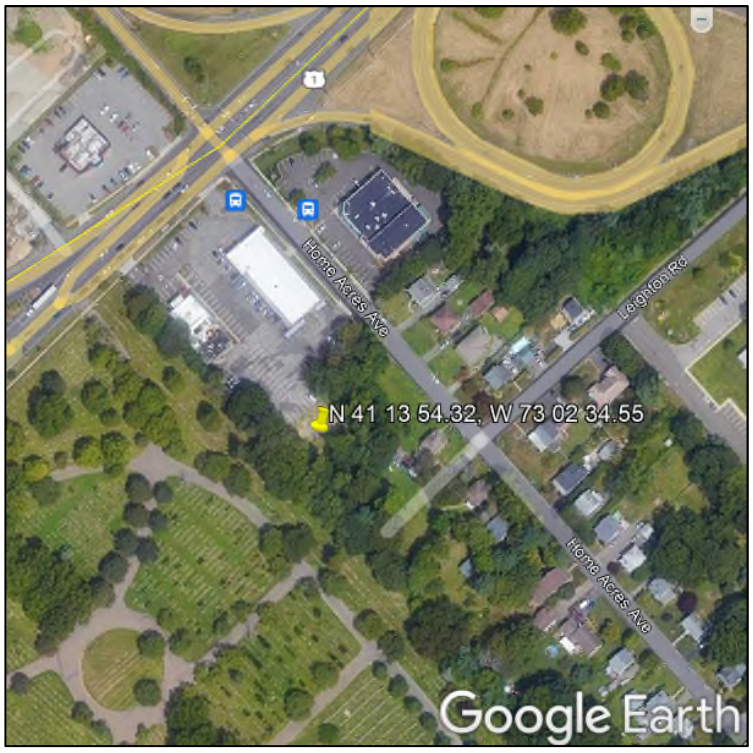
Exhibit D

Structural Analysis Report

STRUCTURAL ANALYSIS REPORT – REV.1
MONOPOLE

Prepared For:

T-Mobile Northeast, LLC
35 Griffin Road South
Bloomfield, CT 06002



Structure Rating:	
Monopole Tower:	**Pass**
Anchor Bolts:	**Pass**
Base Plate:	**Pass**
Foundation:	**Pass**

Sincerely,
EFI Global, Inc.

STATE OF CONNECTICUT
AHMET COLAKOGLU
PEN. 27057
LICENSED
PROFESSIONAL ENGINEER

4/1/2022

Ahmet Colakoglu, PE
Connecticut Professional Engineer
License No: 27057

T-Mobile Site Name: TEMP for CTNH007A
T-Mobile Site ID: CTNH997A
1063 Boston Post Rd.
Milford, CT 06460

EFI Global, Inc.
1117 Perimeter Center West, Suite E500, Atlanta, GA 30338 – Tel: (470) 990-6593

CONTENTS

EFI Global, Inc.
1117 Perimeter Center West, Suite E500, Atlanta, GA 30338 – Tel: (470) 990-6593

1.0 SUBJECT AND REFERENCES

The purpose of this analysis is to evaluate the structural capacity of the 115 ft. tall monopole tower located at 1063 Boston Post Rd., Milford, CT 06460 for the additions and alterations proposed by T-Mobile.

The structural analysis is based on the following documentation provided to EFI Global, Inc. (EFI):

- RFDS prepared for T-Mobile, dated 12/16/2021.
- Development & Management CD's prepared for Arx Wireless, dated 10/28/2021.
- Pole Design Analysis prepared by TAPP, dated 11/03/2021.
- Geotechnical Report prepared by Welti Geotechnical, P.C., dated 10/04/2021.

1.1 STRUCTURE

The structure is a 114 ft. tall, 18-sided monopole. The monopole is attached to the foundation (which extends 1 ft above grade, bringing the total height of 115 ft.) with a base plate and anchor bolts. It is formed by the following sections:

Section Length (ft)	Lap Splice (ft)	Shaft Thickness (in)	Top Dia/Bottom Dia (in/in)	Steel Yield Strength (ksi)
41.00	5.00	0.1875	24.0000/35.6900	65
31.00	6.00	0.3125	33.8900/42.7300	65
53.00	-	0.5000	40.3900/55.5000	65

2.0 EXISTING AND PROPOSED APPURTENNANCES

Proposed and Final Configuration of T-Mobile Appurtenances:

Rad Center (ft.)	Antennas & Equipment	Coax*	Mounts
88.0	(3) AIR6449 B41 (3) FFVV-65A-R2-V1 (3) Radio 4480 B71+B85 (3) Radio 4460 B25+B66 (1) SC2-W100BD	(2) 6/24 Hybrid Trunk	(1) VFA12-M3-WLL Three Sectors Heavy WLL Frame

***: Inside Shaft**

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Appurtenances By Others:

RAD CENTER (FT)	ANTENNA & TMA	COAX*	MOUNT
112.0	(6) JMA MX06FIT665-02 (3) JMA MX10FIT665 (1) Raycap RCMDC-6627-PF-48 (3) Samsung RRH B2/66A (3) Samsung RRH B5 B13 (3) Samsung CBRS RRH RT4401-48A Verizon	(6) 1-5/8"Coax (2) 1-5/8" Hybrid	(1) 15' Low Profile Platform w/ Handrail & Kicker
100.0	(3) DMP65R-BU8DA-K (3) TPA65R-BU8DA-K (2) Raycap DC6-48-60-0-8F (1) Raycap DC9-48-60-24-8C-EV (6) RRU 4449 B5/B12 (6) RRU 8843 B2/B66A (3) RRU 4478 B14	(2) 1-5/8" Hybrid Cable	(1) 15' Low Profile Platform w/ Handrail & Kicker

***: Inside Shaft**

3.0 CODES AND LOADING

This analysis has been performed in accordance with TIA-222-G, as referenced by the 2015 International Building Code, based upon an ultimate wind speed of 125 mph (Risk Category II) converted to a nominal 3-second gust wind speed of 97 mph per section 1609.3.1 as required for use in the TIA-222-G Standard per Exception #5 of Section 1609.1.1. The following loading criteria were used in the analysis:

- Basic wind speed 97 mph without ice (V)
- Basic wind speed 50 mph concurrent with design ice thickness of 0.75" (V_i and t_i)
- Exposure Category C, Structure Class II
- Topographic Category I

The following load combinations were used with wind blowing at 30° increments, measured from a line normal to the face of the tower:

- $1.2D + 1.6W_o$
- $0.9D + 1.6W_o$
- $1.2D + 1.0D_i + 1.0W_i$

D: Dead Load of structure and appurtenances, excluding guy assemblies
W_o: Wind Load, without ice
W_i: Concurrent wind load with factored ice thickness;
D_i: Weight of ice due to factored ice thickness

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4.0 STANDARD CONDITIONS FOR ENGINEERING SERVICES ON EXISTING STRUCTURES

The analysis is based on the information provided to EFI and is assumed to be current and correct. Unless otherwise noted, the structure and the foundation system are assumed to be in good condition, free of defects and can achieve theoretical strength.

It is assumed that the structure has been maintained and shall be maintained during its service. The superstructure and the foundation system are assumed to be designed with proper engineering practice and fabricated, constructed and erected in accordance with the design documents. EFI will accept no liability which may arise due to any existing deficiency in design, material, fabrication, erection, construction, etc. or lack of maintenance.

The analysis does not include a qualification of the mounts attached on the structure or their connections. The analysis is performed to verify the capacity of the main structural members, which is the current practice in the tower industry.

The analysis results presented in this report are only applicable for the previously mentioned existing and proposed additions and alterations. Any deviation of the proposed equipment and placement, etc., will require EFI to generate an additional structural analysis.

5.0 ANALYSIS AND ASSUMPTIONS

The tower was analyzed by utilizing tnxTower, a non-linear, three-dimensional, finite element-analysis software package, a product of Tower Numerics, Inc. Software output for this analysis is provided in Appendix A of this report.

6.0 RESULTS AND CONCLUSION

Based on a rigorous analysis per ANSI/TIA-222-G, the existing monopole is found to have **adequate** structural capacity for the proposed changes by T-Mobile. For the code specified load combinations and as a maximum, the Monopole shaft is stressed to **65.5%** of their structural capacity. The anchor rods, base plate, and foundation are stressed to **38.4%, 39.4%, and 38.3%** of their structural capacities, respectively.

Therefore, the proposed alterations and additions by T-Mobile **can** be implemented as intended, with the conditions outlined in this report.

Should you need any clarifications or have any questions about this report, please contact EFI at telecom@efiglobal.com.

EFI Global, Inc.
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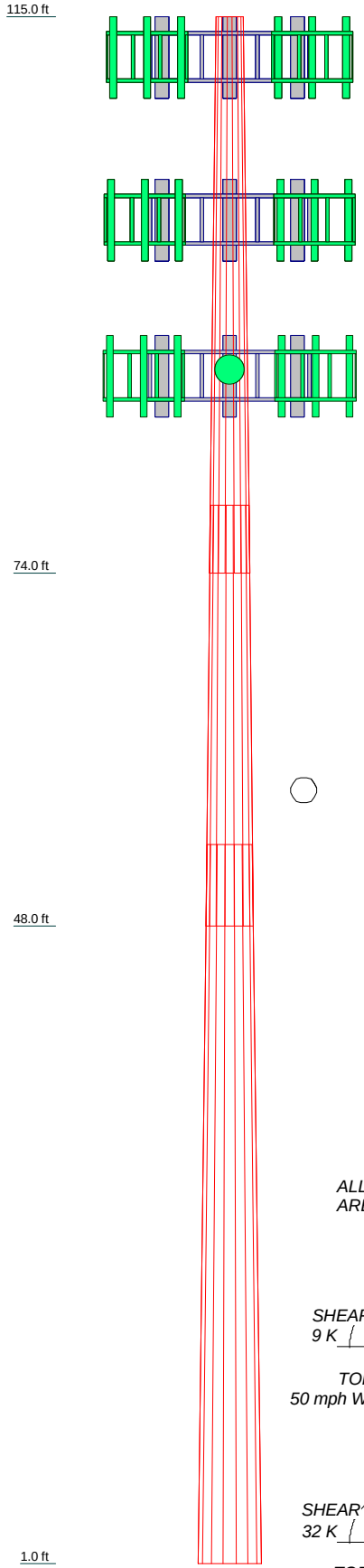
APPENDIX A
SOFTWARE OUTPUT

Section	1	2	3
Length (ft)	41.0000	31.0000	53.0000
Number of Sides	18	18	18
Thickness (in)	0.1875	0.3125	0.5000
Socket Length (ft)	5.0000	6.0000	
Top Dia (in)	24.0000	33.8894	40.3939
Bot Dia (in)	35.6900	42.7300	55.5000
Grade		A572-65	
Weight (K)	2.5	4.0	13.6

20.0



DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
Platform Mount [LP 715-1_KCKR]	112	(2) DC6-48-60-0-8F	100
8'-P2x0.203	112	DC9-48-60-24-8C-EV	100
8'-P2x0.203	112	(2) RADIO 4449 B5/B12	100
8'-P2x0.203	112	(2) RADIO 4449 B5/B12	100
(2) MX06FIT665-02_TIA w/ Mount Pipe	112	(2) RADIO 4449 B5/B12	100
(2) MX06FIT665-02_TIA w/ Mount Pipe	112	(2) RADIO 8843 B2/B66A	100
(2) MX06FIT665-02_TIA w/ Mount Pipe	112	(2) RADIO 8843 B2/B66A	100
MX10FIT665-XX_TIA w/ Mount Pipe	112	(2) RADIO 8843 B2/B66A	100
MX10FIT665-XX_TIA w/ Mount Pipe	112	RADIO 4478 B14	100
MX10FIT665-XX_TIA w/ Mount Pipe	112	RADIO 4478 B14	100
RCMDC-6627-PF-48	112	RADIO 4478 B14	100
Samsung RRH B2/66A	112	Side Arm Mount [SO 102-3]	90
Samsung RRH B2/66A	112	Sector Mount [SM 503-3]	89 - 88
Samsung RRH B2/66A	112	SC2-W100BD	89
Samsung RRH B5 B13	112	12.5'-P2.5x0.276H	88
Samsung RRH B5 B13	112	12.5'-P2.5x0.276H	88
Samsung RRH B5 B13	112	12.5'-P2.5x0.276H	88
Samsung CBRS RRH - RT4401-48A	112	(5) 10'-P2.5x0.276	88
Samsung CBRS RRH - RT4401-48A	112	(5) 10'-P2.5x0.276	88
Samsung CBRS RRH - RT4401-48A	112	(5) 10'-P2.5x0.276	88
Platform Mount [LP 715-1_KCKR]	100	AIR 6449_TIA	88
(2) 8'-P2x0.203	100	AIR 6449_TIA	88
(2) 8'-P2x0.203	100	AIR 6449_TIA	88
(2) 8'-P2x0.203	100	FFVV-65A-R2-V1_TIA	88
DMP65R-BU8D_TIA w/ Mount Pipe	100	FFVV-65A-R2-V1_TIA	88
DMP65R-BU8D_TIA w/ Mount Pipe	100	FFVV-65A-R2-V1_TIA	88
DMP65R-BU8D_TIA w/ Mount Pipe	100	RADIO 4460 B25+B66	88
TPA-65R-BU8D_TIA w/ Mount Pipe	100	RADIO 4460 B25+B66	88
TPA-65R-BU8D_TIA w/ Mount Pipe	100	RADIO 4460 B25+B66	88
TPA-65R-BU8D_TIA w/ Mount Pipe	100	Side Arm Mount [SO 102-3]	86

MATERIAL STRENGTH

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

TOWER DESIGN NOTES

1. Tower designed for Exposure C to the TIA-222-G Standard.
2. Tower designed for a 97 mph basic wind in accordance with the TIA-222-G Standard.
3. Tower is also designed for a 50 mph basic wind with 0.75 in ice. Ice is considered to increase in thickness with height.
4. Deflections are based upon a 60 mph wind.
5. Tower Structure Class II.
6. Topographic Category 1 with Crest Height of 0.0000 ft
7. TOWER RATING: 65.5%

ALL REACTIONS ARE FACTORED

AXIAL 73 K

SHEAR 9 K — *MOMENT 766 kip-ft*

TORQUE 3 kip-ft
50 mph WIND - 0.7500 in ICE

AXIAL 39 K

SHEAR 32 K — *MOMENT 2752 kip-ft*

TORQUE 10 kip-ft
REACTIONS - 97 mph WIND

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Atlanta, GA 30338
Phone: (470) 990-6593
FAX:

Job:	***CTNH997A***		
Project:	***049.02929 - 2275005***		
Client: Foresite LLC.	Drawn by: Patrick.Baxter	App'd:	
Code: TIA-222-G	Date: 04/01/22	Scale: NTS	
Path:		Dwg No. E-1	

Tower Input Data

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

Basic wind speed of 97 mph.
Structure Class II.
Exposure Category C.
Topographic Category 1.
Crest Height 0.0000 ft.
Nominal ice thickness of 0.7500 in.
Ice thickness is considered to increase with height.
Ice density of 56.00 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* *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	115.0000-74.0000	41.0000	5.00	18	24.0000	35.6900	0.1875	0.7500	A572-65 (65 ksi)

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
L2	74.0000-48.0000	31.0000	6.00	18	33.8894	42.7300	0.3125	1.2500	A572-65 (65 ksi)
L3	48.0000-1.0000	53.0000		18	40.3939	55.5000	0.5000	2.0000	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	24.3413	14.1714	1015.2211	8.4534	12.1920	83.2694	2031.7780	7.0871	3.8940	20.768
	36.2117	21.1284	3364.5149	12.6034	18.1305	185.5719	6733.4569	10.5662	5.9514	31.741
L2	35.8119	33.3041	4743.6845	11.9198	17.2158	275.5423	9493.6109	16.6552	5.4145	17.327
	43.3410	42.0729	9563.7805	15.0582	21.7068	440.5883	19140.1453	21.0404	6.9705	22.306
L3	42.6764	63.3116	12730.1734	14.1623	20.5201	620.3755	25477.0974	31.6618	6.2293	12.459
	56.2790	87.2850	33358.1875	19.5250	28.1940	1183.1662	66760.2686	43.6508	8.8880	17.776

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 115.0000-74.0000				1	1	1			
L2 74.0000-48.0000				1	1	1			
L3 48.0000-1.0000				1	1	1			

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
6x24 Hybriflex	C	No	No	Inside Pole	89.0000 - 7.0000	2	No Ice	0.0000	1.10
							1/2" Ice	0.0000	1.10
							1" Ice	0.0000	1.10
***									
LCF158-50JA-A7(1 5/8)	C	No	No	Inside Pole	113.0000 - 4.0000	8	No Ice	0.0000	0.72
							1/2" Ice	0.0000	0.72
							1" Ice	0.0000	0.72
***									
LCF158-50JA-A7(1 5/8)	C	No	No	Inside Pole	101.0000 - 7.0000	2	No Ice	0.0000	0.72
							1/2" Ice	0.0000	0.72
							1" Ice	0.0000	0.72

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 K
L1	115.0000-74.0000	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.30
L2	74.0000-48.0000	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.24
L3	48.0000-1.0000	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.40

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 K
L1	115.0000-74.0000	A	1.664	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.30
L2	74.0000-48.0000	A	1.594	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.24
L3	48.0000-1.0000	A	1.456	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.40

Feed Line Center of Pressure

Section	Elevation ft	CP_X in	CP_Z in	CP_X Ice in	CP_Z Ice in
L1	115.0000-74.0000	0.0000	0.0000	0.0000	0.0000
L2	74.0000-48.0000	0.0000	0.0000	0.0000	0.0000
L3	48.0000-1.0000	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 Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
Platform Mount [LP 715-1_KCKR]	C	None		0.000	112.0000	No Ice	57.9900	57.9900	2.05
						1/2" Ice	64.4700	64.4700	3.30
						1" Ice	71.3600	71.3600	4.69
8'-P2x0.203	A	From Leg	4.0000 0.00 0.00	0.000	112.0000	No Ice 1/2" Ice 1" Ice	1.9000 2.7281 3.4009	1.9000 2.7281 3.4009	0.03 0.04 0.06
8'-P2x0.203	B	From Leg	4.0000 0.00 0.00	0.000	112.0000	No Ice 1/2" Ice 1" Ice	1.9000 2.7281 3.4009	1.9000 2.7281 3.4009	0.03 0.04 0.06
8'-P2x0.203	C	From Leg	4.0000 0.00 0.00	0.000	112.0000	No Ice 1/2" Ice 1" Ice	1.9000 2.7281 3.4009	1.9000 2.7281 3.4009	0.03 0.04 0.06
(2) MX06FIT665-02_TIA w/ Mount Pipe	A	From Leg	4.0000 0.00 0.00	0.000	112.0000	No Ice 1/2" Ice 1" Ice	8.3842 8.9419 9.4636	8.9866 10.1541 11.0304	0.08 0.16 0.25
(2) MX06FIT665-02_TIA w/ Mount Pipe	B	From Leg	4.0000 0.00 0.00	0.000	112.0000	No Ice 1/2" Ice 1" Ice	8.3842 8.9419 9.4636	8.9866 10.1541 11.0304	0.08 0.16 0.25
(2) MX06FIT665-02_TIA w/ Mount Pipe	C	From Leg	4.0000 0.00 0.00	0.000	112.0000	No Ice 1/2" Ice 1" Ice	8.3842 8.9419 9.4636	8.9866 10.1541 11.0304	0.08 0.16 0.25
MX10FIT665-XX_TIA w/ Mount Pipe	A	From Leg	4.0000 0.00 0.00	0.000	112.0000	No Ice 1/2" Ice 1" Ice	8.3297 8.8845 9.4041	7.1125 8.2744 9.1519	0.10 0.17 0.25
MX10FIT665-XX_TIA w/ Mount Pipe	B	From Leg	4.0000 0.00 0.00	0.000	112.0000	No Ice 1/2" Ice 1" Ice	8.3297 8.8845 9.4041	7.1125 8.2744 9.1519	0.10 0.17 0.25
MX10FIT665-XX_TIA w/ Mount Pipe	C	From Leg	4.0000 0.00 0.00	0.000	112.0000	No Ice 1/2" Ice 1" Ice	8.3297 8.8845 9.4041	7.1125 8.2744 9.1519	0.10 0.17 0.25
RCMDC-6627-PF-48	C	From Leg	4.0000 0.00 0.00	0.000	112.0000	No Ice 1/2" Ice 1" Ice	4.0563 4.3155 4.5822	3.0975 3.3351 3.5801	0.03 0.07 0.11
Samsung RRH B2/66A	A	From Leg	4.0000 0.00 0.00	0.000	112.0000	No Ice 1/2" Ice 1" Ice	2.4663 2.6629 2.8670	1.6442 1.8130 1.9893	0.10 0.12 0.15
Samsung RRH B2/66A	B	From Leg	4.0000 0.00 0.00	0.000	112.0000	No Ice 1/2" Ice 1" Ice	2.4663 2.6629 2.8670	1.6442 1.8130 1.9893	0.10 0.12 0.15
Samsung RRH B2/66A	C	From Leg	4.0000 0.00 0.00	0.000	112.0000	No Ice 1/2" Ice 1" Ice	2.4663 2.6629 2.8670	1.6442 1.8130 1.9893	0.10 0.12 0.15
Samsung RRH B5 B13	A	From Leg	4.0000 0.00 0.00	0.000	112.0000	No Ice 1/2" Ice 1" Ice	2.4663 2.6629 2.8670	1.3318 1.4901 1.6558	0.08 0.10 0.13
Samsung RRH B5 B13	B	From Leg	4.0000 0.00 0.00	0.000	112.0000	No Ice 1/2" Ice 1" Ice	2.4663 2.6629 2.8670	1.3318 1.4901 1.6558	0.08 0.10 0.13
Samsung RRH B5 B13	C	From Leg	4.0000 0.00 0.00	0.000	112.0000	No Ice 1/2" Ice 1" Ice	2.4663 2.6629 2.8670	1.3318 1.4901 1.6558	0.08 0.10 0.13
Samsung CBRS RRH - RT4401-48A	A	From Leg	4.0000 0.00 0.00	0.000	112.0000	No Ice 1/2" Ice 1" Ice	1.5390 1.6960 1.8605	0.7548 0.8743 1.0009	0.03 0.04 0.06
Samsung CBRS RRH - RT4401-48A	B	From Leg	4.0000 0.00 0.00	0.000	112.0000	No Ice 1/2" Ice 1" Ice	1.5390 1.6960 1.8605	0.7548 0.8743 1.0009	0.03 0.04 0.06

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 K
Samsung CBRS RRH - RT4401-48A	A	From Leg	4.0000 0.00 0.00	0.000	112.0000	No Ice 1/2" Ice 1" Ice	1.5390 1.6960 1.8605	0.7548 0.8743 1.0009	0.03 0.04 0.06
***									
Platform Mount [LP 715-1_KCKR]	C	None		0.000	100.0000	No Ice 1/2" Ice 1" Ice	57.9900 64.4700 71.3600	57.9900 64.4700 71.3600	2.05 3.30 4.69
(2) 8'-P2x0.203	A	From Leg	4.0000 0.00 0.00	0.000	100.0000	No Ice 1/2" Ice 1" Ice	1.9000 2.7281 3.4009	1.9000 2.7281 3.4009	0.03 0.04 0.06
(2) 8'-P2x0.203	B	From Leg	4.0000 0.00 0.00	0.000	100.0000	No Ice 1/2" Ice 1" Ice	1.9000 2.7281 3.4009	1.9000 2.7281 3.4009	0.03 0.04 0.06
(2) 8'-P2x0.203	C	From Leg	4.0000 0.00 0.00	0.000	100.0000	No Ice 1/2" Ice 1" Ice	1.9000 2.7281 3.4009	1.9000 2.7281 3.4009	0.03 0.04 0.06
DMP65R-BU8D_TIA w/ Mount Pipe	A	From Leg	4.0000 0.00 0.00	0.000	100.0000	No Ice 1/2" Ice 1" Ice	18.1086 18.8430 19.5863	10.2597 11.7813 13.3269	0.14 0.26 0.39
DMP65R-BU8D_TIA w/ Mount Pipe	B	From Leg	4.0000 0.00 0.00	0.000	100.0000	No Ice 1/2" Ice 1" Ice	18.1086 18.8430 19.5863	10.2597 11.7813 13.3269	0.14 0.26 0.39
DMP65R-BU8D_TIA w/ Mount Pipe	C	From Leg	4.0000 0.00 0.00	0.000	100.0000	No Ice 1/2" Ice 1" Ice	18.1086 18.8430 19.5863	10.2597 11.7813 13.3269	0.14 0.26 0.39
TPA-65R-BU8D_TIA w/ Mount Pipe	A	From Leg	4.0000 0.00 0.00	0.000	100.0000	No Ice 1/2" Ice 1" Ice	18.1086 18.8430 19.5863	10.2597 11.7813 13.3269	0.12 0.24 0.37
TPA-65R-BU8D_TIA w/ Mount Pipe	B	From Leg	4.0000 0.00 0.00	0.000	100.0000	No Ice 1/2" Ice 1" Ice	18.1086 18.8430 19.5863	10.2597 11.7813 13.3269	0.12 0.24 0.37
TPA-65R-BU8D_TIA w/ Mount Pipe	C	From Leg	4.0000 0.00 0.00	0.000	100.0000	No Ice 1/2" Ice 1" Ice	18.1086 18.8430 19.5863	10.2597 11.7813 13.3269	0.12 0.24 0.37
(2) DC6-48-60-0-8F	C	None		0.000	100.0000	No Ice 1/2" Ice 1" Ice	0.9167 1.4583 1.6431	0.9167 1.4583 1.6431	0.02 0.04 0.06
DC9-48-60-24-8C-EV	C	None		0.000	100.0000	No Ice 1/2" Ice 1" Ice	2.7366 2.9630 3.1964	4.7848 5.0645 5.3517	0.03 0.06 0.10
(2) RADIO 4449 B5/B12	A	From Leg	4.0000 0.00 0.00	0.000	100.0000	No Ice 1/2" Ice 1" Ice	1.6444 1.8044 1.9719	1.3003 1.4450 1.5972	0.07 0.09 0.11
(2) RADIO 4449 B5/B12	B	From Leg	4.0000 0.00 0.00	0.000	100.0000	No Ice 1/2" Ice 1" Ice	1.6444 1.8044 1.9719	1.3003 1.4450 1.5972	0.07 0.09 0.11
(2) RADIO 4449 B5/B12	C	From Leg	4.0000 0.00 0.00	0.000	100.0000	No Ice 1/2" Ice 1" Ice	1.6444 1.8044 1.9719	1.3003 1.4450 1.5972	0.07 0.09 0.11
(2) RADIO 8843 B2/B66A	A	From Leg	4.0000 0.00 0.00	0.000	100.0000	No Ice 1/2" Ice 1" Ice	1.6444 1.8044 1.9719	1.3838 1.5323 1.6882	0.08 0.09 0.11
(2) RADIO 8843 B2/B66A	B	From Leg	4.0000 0.00 0.00	0.000	100.0000	No Ice 1/2" Ice 1" Ice	1.6444 1.8044 1.9719	1.3838 1.5323 1.6882	0.08 0.09 0.11
(2) RADIO 8843 B2/B66A	C	From Leg	4.0000 0.00	0.000	100.0000	No Ice 1/2" Ice	1.6444 1.8044	1.3838 1.5323	0.08 0.09

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* K
			0.00			1" Ice	1.9719	1.6882	0.11
RADIO 4478 B14	A	From Leg	4.0000	0.000	100.0000	No Ice	2.0212	1.2459	0.06
			0.00			1/2" Ice	2.1999	1.3960	0.08
			0.00			1" Ice	2.3860	1.5536	0.10
RADIO 4478 B14	B	From Leg	4.0000	0.000	100.0000	No Ice	2.0212	1.2459	0.06
			0.00			1/2" Ice	2.1999	1.3960	0.08
			0.00			1" Ice	2.3860	1.5536	0.10
RADIO 4478 B14	C	From Leg	4.0000	0.000	100.0000	No Ice	2.0212	1.2459	0.06
			0.00			1/2" Ice	2.1999	1.3960	0.08
			0.00			1" Ice	2.3860	1.5536	0.10
***									
Side Arm Mount [SO 102-3]	C	None		0.000	90.0000	No Ice	3.6000	3.6000	0.07
						1/2" Ice	4.1800	4.1800	0.11
						1" Ice	4.7500	4.7500	0.14
Side Arm Mount [SO 102-3]	C	None		0.000	86.0000	No Ice	3.6000	3.6000	0.07
						1/2" Ice	4.1800	4.1800	0.11
						1" Ice	4.7500	4.7500	0.14
Sector Mount [SM 503-3]	C	None		0.000	88.0000 -	No Ice	30.4300	30.4300	1.69
					89.0000	1/2" Ice	43.0200	43.0200	2.30
						1" Ice	55.4300	55.4300	3.10
12.5'-P2.5x0.276H	C	From Leg	4.0000	0.000	88.0000	No Ice	3.5938	0.0237	0.10
			0.00			1/2" Ice	4.8760	0.1403	0.12
			0.00			1" Ice	6.1750	0.2569	0.16
12.5'-P2.5x0.276H	C	From Leg	4.0000	0.000	88.0000	No Ice	3.5938	0.0237	0.10
			0.00			1/2" Ice	4.8760	0.1403	0.12
			0.00			1" Ice	6.1750	0.2569	0.16
12.5'-P2.5x0.276H	C	From Leg	4.0000	0.000	88.0000	No Ice	3.5938	0.0237	0.10
			0.00			1/2" Ice	4.8760	0.1403	0.12
			0.00			1" Ice	6.1750	0.2569	0.16
(5) 10'-P2.5x0.276	C	From Leg	4.0000	0.000	88.0000	No Ice	2.8750	2.8750	0.06
			0.00			1/2" Ice	3.9073	3.9073	0.08
			0.00			1" Ice	4.9562	4.9562	0.11
(5) 10'-P2.5x0.276	C	From Leg	4.0000	0.000	88.0000	No Ice	2.8750	2.8750	0.06
			0.00			1/2" Ice	3.9073	3.9073	0.08
			0.00			1" Ice	4.9562	4.9562	0.11
(5) 10'-P2.5x0.276	C	From Leg	4.0000	0.000	88.0000	No Ice	2.8750	2.8750	0.06
			0.00			1/2" Ice	3.9073	3.9073	0.08
			0.00			1" Ice	4.9562	4.9562	0.11
AIR 6449_TIA	A	From Leg	4.0000	0.000	88.0000	No Ice	5.6822	2.4907	0.10
			0.00			1/2" Ice	5.9842	2.7180	0.14
			0.00			1" Ice	6.2936	2.9523	0.19
AIR 6449_TIA	B	From Leg	4.0000	0.000	88.0000	No Ice	5.6822	2.4907	0.10
			0.00			1/2" Ice	5.9842	2.7180	0.14
			0.00			1" Ice	6.2936	2.9523	0.19
AIR 6449_TIA	C	From Leg	4.0000	0.000	88.0000	No Ice	5.6822	2.4907	0.10
			0.00			1/2" Ice	5.9842	2.7180	0.14
			0.00			1" Ice	6.2936	2.9523	0.19
FFVV-65A-R2-V1_TIA	A	From Leg	4.0000	0.000	88.0000	No Ice	6.3200	2.4300	0.09
			0.00			1/2" Ice	6.7100	2.7400	0.15
			0.00			1" Ice	7.1100	3.0600	0.22
FFVV-65A-R2-V1_TIA	B	From Leg	4.0000	0.000	88.0000	No Ice	10.1199	4.0874	0.09
			0.00			1/2" Ice	10.5313	4.4003	0.15
			0.00			1" Ice	10.9502	4.7202	0.22
FFVV-65A-R2-V1_TIA	C	From Leg	4.0000	0.000	88.0000	No Ice	10.1199	4.0874	0.09
			0.00			1/2" Ice	10.5313	4.4003	0.15
			0.00			1" Ice	10.9502	4.7202	0.22
RADIO 4460 B25+B66	A	From Leg	4.0000	0.000	88.0000	No Ice	2.5643	1.9763	0.11

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 K
			0.00			1/2" Ice	2.7641	2.1561	0.13
			0.00			1" Ice	2.9714	2.3434	0.16
RADIO 4460 B25+B66	B	From Leg	4.0000	0.000	88.0000	No Ice	2.5643	1.9763	0.11
			0.00			1/2" Ice	2.7641	2.1561	0.13
			0.00			1" Ice	2.9714	2.3434	0.16
RADIO 4460 B25+B66	C	From Leg	4.0000	0.000	88.0000	No Ice	2.5643	1.9763	0.11
			0.00			1/2" Ice	2.7641	2.1561	0.13
			0.00			1" Ice	2.9714	2.3434	0.16

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 K
SC2-W100BD		Paraboloid w/Shroud (HP)	None		0.000		89.0000	2.2000	No Ice	3.8000	0.01
									1/2" Ice	4.0900	0.03
									1" Ice	4.3900	0.05

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 30 deg - No Ice
5	0.9 Dead+1.6 Wind 30 deg - No Ice
6	1.2 Dead+1.6 Wind 60 deg - No Ice
7	0.9 Dead+1.6 Wind 60 deg - No Ice
8	1.2 Dead+1.6 Wind 90 deg - No Ice
9	0.9 Dead+1.6 Wind 90 deg - No Ice
10	1.2 Dead+1.6 Wind 120 deg - No Ice
11	0.9 Dead+1.6 Wind 120 deg - No Ice
12	1.2 Dead+1.6 Wind 150 deg - No Ice
13	0.9 Dead+1.6 Wind 150 deg - No Ice
14	1.2 Dead+1.6 Wind 180 deg - No Ice
15	0.9 Dead+1.6 Wind 180 deg - No Ice
16	1.2 Dead+1.6 Wind 210 deg - No Ice
17	0.9 Dead+1.6 Wind 210 deg - No Ice
18	1.2 Dead+1.6 Wind 240 deg - No Ice
19	0.9 Dead+1.6 Wind 240 deg - No Ice
20	1.2 Dead+1.6 Wind 270 deg - No Ice
21	0.9 Dead+1.6 Wind 270 deg - No Ice
22	1.2 Dead+1.6 Wind 300 deg - No Ice
23	0.9 Dead+1.6 Wind 300 deg - No Ice
24	1.2 Dead+1.6 Wind 330 deg - No Ice

Comb. No.	Description
25	0.9 Dead+1.6 Wind 330 deg - No Ice
26	1.2 Dead+1.0 Ice+1.0 Temp
27	1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp
28	1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp
29	1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp
30	1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp
31	1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp
32	1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp
33	1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp
34	1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp
35	1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp
36	1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp
37	1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp
38	1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp
39	Dead+Wind 0 deg - Service
40	Dead+Wind 30 deg - Service
41	Dead+Wind 60 deg - Service
42	Dead+Wind 90 deg - Service
43	Dead+Wind 120 deg - Service
44	Dead+Wind 150 deg - Service
45	Dead+Wind 180 deg - Service
46	Dead+Wind 210 deg - Service
47	Dead+Wind 240 deg - Service
48	Dead+Wind 270 deg - Service
49	Dead+Wind 300 deg - Service
50	Dead+Wind 330 deg - Service

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L1	115 - 74	Pole	Max Tension	47	0.00	-0.00	0.00
			Max. Compression	26	-43.39	15.92	-8.74
			Max. Mx	20	-15.94	536.71	-5.49
			Max. My	14	-15.95	8.44	-532.15
			Max. Vy	20	-24.68	536.71	-5.49
			Max. Vx	14	24.41	8.44	-532.15
			Max. Torque	13			-9.78
L2	74 - 48	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-50.17	16.29	-8.94
			Max. Mx	20	-20.71	1181.52	-10.37
			Max. My	14	-20.73	13.39	-1170.30
			Max. Vy	20	-26.92	1181.52	-10.37
			Max. Vx	14	26.66	13.39	-1170.30
			Max. Torque	13			-9.77
L3	48 - 1	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-73.29	16.43	-9.02
			Max. Mx	20	-39.16	2741.81	-20.49
			Max. My	14	-39.16	23.54	-2716.59
			Max. Vy	20	-31.81	2741.81	-20.49
			Max. Vx	14	31.55	23.54	-2716.59
			Max. Torque	13			-9.76

Maximum Reactions

Location	*Condition*	*Gov. Load Comb.*	*Vertical K*	*Horizontal, X K*	*Horizontal, Z K*
Pole	Max. Vert	29	73.29	-7.65	4.41
	Max. H_x	20	39.18	31.79	-0.19
	Max. H_z	3	29.38	-0.19	31.53
	Max. M_x	2	2709.04	-0.19	31.53
	Max. M_z	8	2728.12	-31.79	0.19
	Max. Torsion	25	9.76	15.73	27.21
	Min. Vert	21	29.38	31.79	-0.19
	Min. H_x	9	29.38	-31.79	0.19
	Min. H_z	15	29.38	0.19	-31.53
	Min. M_x	14	-2716.59	0.19	-31.53
	Min. M_z	20	-2741.81	31.79	-0.19
	Min. Torsion	13	-9.76	-15.73	-27.21

Tower Mast Reaction Summary

Load Combination	*Vertical K*	*Shear$_x$ K*	*Shear$_z$ K*	*Overturning Moment, M_x kip-ft*	*Overturning Moment, M_z kip-ft*	*Torque kip-ft*
Dead Only	32.65	0.00	-0.00	3.10	5.61	-0.00
1.2 Dead+1.6 Wind 0 deg - No Ice	39.18	0.19	-31.53	-2709.04	-9.88	-8.38
0.9 Dead+1.6 Wind 0 deg - No Ice	29.38	0.19	-31.53	-2698.30	-11.56	-8.39
1.2 Dead+1.6 Wind 30 deg - No Ice	39.18	16.06	-27.40	-2353.93	-1375.13	-4.76
0.9 Dead+1.6 Wind 30 deg - No Ice	29.38	16.06	-27.40	-2344.73	-1370.93	-4.77
1.2 Dead+1.6 Wind 60 deg - No Ice	39.18	27.62	-15.93	-1367.09	-2370.07	0.13
0.9 Dead+1.6 Wind 60 deg - No Ice	29.38	27.62	-15.93	-1362.15	-2361.58	0.13
1.2 Dead+1.6 Wind 90 deg - No Ice	39.18	31.79	-0.19	-12.93	-2728.12	4.99
0.9 Dead+1.6 Wind 90 deg - No Ice	29.38	31.79	-0.19	-13.83	-2718.09	5.00
1.2 Dead+1.6 Wind 120 deg - No Ice	39.18	27.44	15.60	1345.71	-2353.38	8.51
0.9 Dead+1.6 Wind 120 deg - No Ice	29.38	27.44	15.60	1338.95	-2344.96	8.52
1.2 Dead+1.6 Wind 150 deg - No Ice	39.18	15.73	27.21	2344.79	-1346.20	9.75
0.9 Dead+1.6 Wind 150 deg - No Ice	29.38	15.73	27.21	2333.72	-1342.11	9.76
1.2 Dead+1.6 Wind 180 deg - No Ice	39.18	-0.19	31.53	2716.59	23.54	8.37
0.9 Dead+1.6 Wind 180 deg - No Ice	29.38	-0.19	31.53	2703.92	21.72	8.38
1.2 Dead+1.6 Wind 210 deg - No Ice	39.18	-16.06	27.40	2361.49	1388.79	4.76
0.9 Dead+1.6 Wind 210 deg - No Ice	29.38	-16.06	27.40	2350.36	1381.09	4.76
1.2 Dead+1.6 Wind 240 deg - No Ice	39.18	-27.62	15.93	1374.65	2383.74	-0.14
0.9 Dead+1.6 Wind 240 deg - No Ice	29.38	-27.62	15.93	1367.77	2371.75	-0.13
1.2 Dead+1.6 Wind 270 deg -	39.18	-31.79	0.19	20.49	2741.81	-4.99

Load Combination	Vertical	$Shear_x$	$Shear_z$	Overturning Moment, M_x	Overturning Moment, M_z	Torque
	K	K	K	kip-ft	kip-ft	kip-ft
No Ice 0.9 Dead+1.6 Wind 270 deg - No Ice	29.38	-31.79	0.19	19.45	2728.26	-4.99
1.2 Dead+1.6 Wind 300 deg - No Ice	39.18	-27.44	-15.60	-1338.16	2367.05	-8.51
0.9 Dead+1.6 Wind 300 deg - No Ice	29.38	-27.44	-15.60	-1333.33	2355.12	-8.52
1.2 Dead+1.6 Wind 330 deg - No Ice	39.18	-15.73	-27.21	-2337.24	1359.86	-9.75
0.9 Dead+1.6 Wind 330 deg - No Ice	29.38	-15.73	-27.21	-2328.10	1352.27	-9.76
1.2 Dead+1.0 Ice+1.0 Temp	73.29	0.00	-0.00	9.02	16.43	-0.00
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	73.29	0.06	-8.71	-728.14	10.96	-2.74
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	73.29	4.45	-7.58	-632.19	-360.37	-1.58
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	73.29	7.65	-4.41	-364.40	-630.68	0.01
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	73.29	8.79	-0.06	3.47	-727.56	1.59
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	73.29	7.58	4.30	372.85	-625.04	2.75
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	73.29	4.34	7.52	644.77	-350.59	3.17
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	73.29	-0.06	8.71	746.37	22.25	2.74
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	73.29	-4.45	7.58	650.42	393.58	1.58
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	73.29	-7.65	4.41	382.63	663.90	-0.01
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	73.29	-8.79	0.06	14.76	760.77	-1.59
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	73.29	-7.58	-4.30	-354.63	658.25	-2.75
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	73.29	-4.34	-7.52	-626.55	383.80	-3.17
Dead+Wind 0 deg - Service	32.65	0.04	-6.75	-575.82	2.11	-1.80
Dead+Wind 30 deg - Service	32.65	3.44	-5.86	-499.95	-289.21	-1.02
Dead+Wind 60 deg - Service	32.65	5.91	-3.41	-289.38	-501.51	0.03
Dead+Wind 90 deg - Service	32.65	6.80	-0.04	-0.43	-578.02	1.07
Dead+Wind 120 deg - Service	32.65	5.87	3.34	289.53	-498.03	1.83
Dead+Wind 150 deg - Service	32.65	3.37	5.82	502.75	-283.08	2.09
Dead+Wind 180 deg - Service	32.65	-0.04	6.75	582.10	9.25	1.80
Dead+Wind 210 deg - Service	32.65	-3.44	5.86	506.32	300.62	1.02
Dead+Wind 240 deg - Service	32.65	-5.91	3.41	295.66	512.86	-0.03
Dead+Wind 270 deg - Service	32.65	-6.80	0.04	6.71	589.37	-1.07
Dead+Wind 300 deg - Service	32.65	-5.87	-3.34	-283.25	509.39	-1.83
Dead+Wind 330 deg - Service	32.65	-3.37	-5.82	-496.47	294.44	-2.09

Solution Summary

	Sum of Applied Forces			Sum of Reactions			
Load Comb.	PX	PY	PZ	PX	PY	PZ	% Error
	K	K	K	K	K	K	
1	0.00	-32.65	0.00	-0.00	32.65	0.00	0.001%
2	0.19	-39.18	-31.53	-0.19	39.18	31.53	0.000%
3	0.19	-29.38	-31.53	-0.19	29.38	31.53	0.000%
4	16.06	-39.18	-27.40	-16.06	39.18	27.40	0.000%

	Sum of Applied Forces			Sum of Reactions			
Load Comb.	PX K	PY K	PZ K	PX K	PY K	PZ K	% Error
5	16.06	-29.38	-27.40	-16.06	29.38	27.40	0.000%
6	27.62	-39.18	-15.93	-27.62	39.18	15.93	0.000%
7	27.62	-29.38	-15.93	-27.62	29.38	15.93	0.000%
8	31.79	-39.18	-0.19	-31.79	39.18	0.19	0.001%
9	31.79	-29.38	-0.19	-31.79	29.38	0.19	0.001%
10	27.44	-39.18	15.60	-27.44	39.18	-15.60	0.000%
11	27.44	-29.38	15.60	-27.44	29.38	-15.60	0.000%
12	15.73	-39.18	27.21	-15.73	39.18	-27.21	0.000%
13	15.73	-29.38	27.21	-15.73	29.38	-27.21	0.000%
14	-0.19	-39.18	31.53	0.19	39.18	-31.53	0.000%
15	-0.19	-29.38	31.53	0.19	29.38	-31.53	0.000%
16	-16.06	-39.18	27.40	16.06	39.18	-27.40	0.000%
17	-16.06	-29.38	27.40	16.06	29.38	-27.40	0.000%
18	-27.62	-39.18	15.93	27.62	39.18	-15.93	0.000%
19	-27.62	-29.38	15.93	27.62	29.38	-15.93	0.000%
20	-31.79	-39.18	0.19	31.79	39.18	-0.19	0.000%
21	-31.79	-29.38	0.19	31.79	29.38	-0.19	0.001%
22	-27.44	-39.18	-15.60	27.44	39.18	15.60	0.000%
23	-27.44	-29.38	-15.60	27.44	29.38	15.60	0.000%
24	-15.73	-39.18	-27.21	15.73	39.18	27.21	0.000%
25	-15.73	-29.38	-27.21	15.73	29.38	27.21	0.000%
26	0.00	-73.29	0.00	-0.00	73.29	0.00	0.002%
27	0.06	-73.29	-8.71	-0.06	73.29	8.71	0.000%
28	4.45	-73.29	-7.58	-4.45	73.29	7.58	0.000%
29	7.65	-73.29	-4.41	-7.65	73.29	4.41	0.000%
30	8.79	-73.29	-0.06	-8.79	73.29	0.06	0.000%
31	7.58	-73.29	4.30	-7.58	73.29	-4.30	0.000%
32	4.34	-73.29	7.52	-4.34	73.29	-7.52	0.000%
33	-0.06	-73.29	8.71	0.06	73.29	-8.71	0.000%
34	-4.45	-73.29	7.58	4.45	73.29	-7.58	0.000%
35	-7.65	-73.29	4.41	7.65	73.29	-4.41	0.000%
36	-8.79	-73.29	0.06	8.79	73.29	-0.06	0.000%
37	-7.58	-73.29	-4.30	7.58	73.29	4.30	0.000%
38	-4.34	-73.29	-7.52	4.34	73.29	7.52	0.000%
39	0.04	-32.65	-6.75	-0.04	32.65	6.75	0.001%
40	3.44	-32.65	-5.86	-3.44	32.65	5.86	0.004%
41	5.91	-32.65	-3.41	-5.91	32.65	3.41	0.004%
42	6.80	-32.65	-0.04	-6.80	32.65	0.04	0.001%
43	5.87	-32.65	3.34	-5.87	32.65	-3.34	0.001%
44	3.37	-32.65	5.82	-3.37	32.65	-5.82	0.001%
45	-0.04	-32.65	6.75	0.04	32.65	-6.75	0.001%
46	-3.44	-32.65	5.86	3.44	32.65	-5.86	0.001%
47	-5.91	-32.65	3.41	5.91	32.65	-3.41	0.005%
48	-6.80	-32.65	0.04	6.80	32.65	-0.04	0.001%
49	-5.87	-32.65	-3.34	5.87	32.65	3.34	0.001%
50	-3.37	-32.65	-5.82	3.37	32.65	5.82	0.001%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	6	0.00000001	0.00002248
2	Yes	11	0.00000001	0.00005532
3	Yes	11	0.00000001	0.00004347
4	Yes	11	0.00000001	0.00008884
5	Yes	11	0.00000001	0.00006849

6	Yes	11	0.00000001	0.00009976
7	Yes	11	0.00000001	0.00007700
8	Yes	10	0.00000001	0.00014042
9	Yes	10	0.00000001	0.00011282
10	Yes	11	0.00000001	0.00013672
11	Yes	11	0.00000001	0.00010659
12	Yes	11	0.00000001	0.00008666
13	Yes	11	0.00000001	0.00006726
14	Yes	11	0.00000001	0.00005840
15	Yes	11	0.00000001	0.00004581
16	Yes	11	0.00000001	0.00012263
17	Yes	11	0.00000001	0.00009458
18	Yes	11	0.00000001	0.00010391
19	Yes	11	0.00000001	0.00007956
20	Yes	11	0.00000001	0.00003562
21	Yes	10	0.00000001	0.00012309
22	Yes	11	0.00000001	0.00008571
23	Yes	11	0.00000001	0.00006610
24	Yes	11	0.00000001	0.00014389
25	Yes	11	0.00000001	0.00011220
26	Yes	7	0.00000001	0.00011488
27	Yes	11	0.00000001	0.00005590
28	Yes	11	0.00000001	0.00005727
29	Yes	11	0.00000001	0.00005703
30	Yes	11	0.00000001	0.00005422
31	Yes	11	0.00000001	0.00005972
32	Yes	11	0.00000001	0.00006010
33	Yes	11	0.00000001	0.00005904
34	Yes	11	0.00000001	0.00006459
35	Yes	11	0.00000001	0.00006442
36	Yes	11	0.00000001	0.00005980
37	Yes	11	0.00000001	0.00006207
38	Yes	11	0.00000001	0.00006208
39	Yes	9	0.00000001	0.00006585
40	Yes	8	0.00000001	0.00014307
41	Yes	8	0.00000001	0.00013496
42	Yes	9	0.00000001	0.00004911
43	Yes	9	0.00000001	0.00007232
44	Yes	9	0.00000001	0.00006207
45	Yes	9	0.00000001	0.00006785
46	Yes	9	0.00000001	0.00005491
47	Yes	8	0.00000001	0.00014178
48	Yes	9	0.00000001	0.00005157
49	Yes	9	0.00000001	0.00005612
50	Yes	9	0.00000001	0.00008022

Maximum Tower Deflections - Service Wind

Section No.	*Elevation*	*Horz. Deflection*	*Gov. Load Comb.*	*Tilt*	*Twist*
	ft	*in*		°	°
L1	115 - 74	8.098	47	0.657	0.008
L2	79 - 48	3.572	47	0.468	0.005
L3	54 - 1	1.574	47	0.278	0.002

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
112.0000	Platform Mount [LP 715-1_KCKR]	47	7.687	0.644	0.008	45049
100.0000	Platform Mount [LP 715-1_KCKR]	47	6.070	0.589	0.007	15016
90.0000	Side Arm Mount [SO 102-3]	47	4.806	0.536	0.006	9009
89.0000	SC2-W100BD	47	4.686	0.531	0.006	8663
88.5000	Sector Mount [SM 503-3]	47	4.627	0.528	0.006	8499
88.0000	Sector Mount [SM 503-3]	47	4.568	0.525	0.006	8342
86.0000	Side Arm Mount [SO 102-3]	47	4.335	0.513	0.005	7767

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	115 - 74	37.312	18	3.024	0.037
L2	79 - 48	16.528	18	2.156	0.021
L3	54 - 1	7.299	18	1.288	0.009

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
112.0000	Platform Mount [LP 715-1_KCKR]	18	35.425	2.962	0.036	9970
100.0000	Platform Mount [LP 715-1_KCKR]	18	28.005	2.708	0.031	3322
90.0000	Side Arm Mount [SO 102-3]	18	22.203	2.469	0.027	1992
89.0000	SC2-W100BD	18	21.652	2.443	0.026	1916
88.5000	Sector Mount [SM 503-3]	18	21.379	2.430	0.026	1879
88.0000	Sector Mount [SM 503-3]	18	21.107	2.417	0.026	1844
86.0000	Side Arm Mount [SO 102-3]	18	20.038	2.363	0.025	1717

Compression Checks

Pole Design Data

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
L1	115 - 74 (1)	TP35.69x24x0.1875	41.0000	0.0000	0.0	20.2800	-15.93	1198.09	0.013
L2	74 - 48 (2)	TP42.73x33.8894x0.3125	31.0000	0.0000	0.0	40.3757	-20.71	2772.56	0.007
L3	48 - 1 (3)	TP55.5x40.3939x0.5	53.0000	0.0000	0.0	87.2850	-39.16	6323.23	0.006

Pole Bending Design Data

Section No.	Elevation ft	Size	M_{ux} kip-ft	ϕM_{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} kip-ft	ϕM_{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
L1	115 - 74 (1)	TP35.69x24x0.1875	538.88	841.51	0.640	0.00	841.51	0.000
L2	74 - 48 (2)	TP42.73x33.8894x0.3125	1186.18	2321.21	0.511	0.00	2321.21	0.000
L3	48 - 1 (3)	TP55.5x40.3939x0.5	2751.71	7142.72	0.385	0.00	7142.72	0.000

Pole Shear Design Data

Section No.	Elevation ft	Size	Actual V_u K	ϕV_n K	Ratio $\frac{V_u}{\phi V_n}$	Actual T_u kip-ft	ϕT_n kip-ft	Ratio $\frac{T_u}{\phi T_n}$
L1	115 - 74 (1)	TP35.69x24x0.1875	24.78	599.05	0.041	0.14	1686.48	0.000
L2	74 - 48 (2)	TP42.73x33.8894x0.3125	27.02	1386.28	0.019	0.14	4653.48	0.000
L3	48 - 1 (3)	TP55.5x40.3939x0.5	31.91	3161.62	0.010	0.14	14322.50	0.000

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	115 - 74 (1)	0.013	0.640	0.000	0.041	0.000	0.655	1.000	4.8.2
L2	74 - 48 (2)	0.007	0.511	0.000	0.019	0.000	0.519	1.000	4.8.2
L3	48 - 1 (3)	0.006	0.385	0.000	0.010	0.000	0.392	1.000	4.8.2

Section Capacity Table

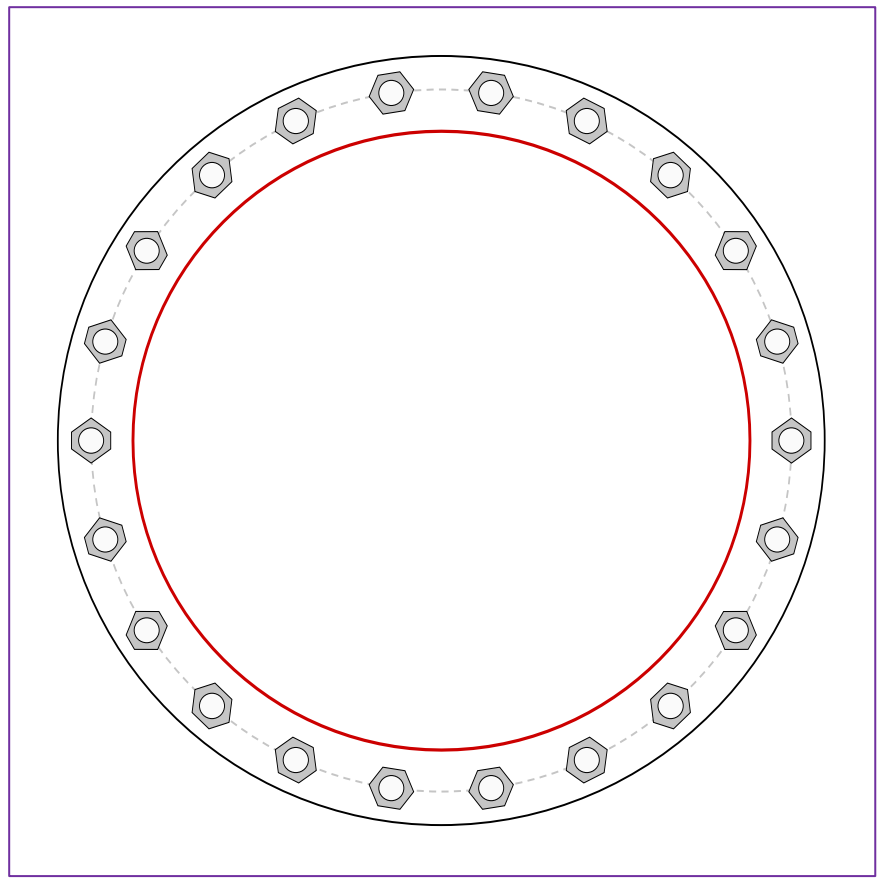
Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
L1	115 - 74	Pole	TP35.69x24x0.1875	1	-15.93	1198.09	65.5	Pass
L2	74 - 48	Pole	TP42.73x33.8894x0.3125	2	-20.71	2772.56	51.9	Pass
L3	48 - 1	Pole	TP55.5x40.3939x0.5	3	-39.16	6323.23	39.2	Pass
							Summary	
						Pole (L1)	65.5	Pass
						RATING =	**65.5**	**Pass**

Monopole Base Plate Connection

Site Info	
BU #	
Site Name	CTNH997A
Order #	

Analysis Considerations	
TIA-222 Revision	G
Grout Considered:	No
l_{ar} (in)	3
Eta Factor, η	0.5

Applied Loads	
Moment (kip-ft)	2751.71
Axial Force (kips)	39.16
Shear Force (kips)	31.91



Connection Properties

Anchor Rod Data

(22) 2-1/4" ø bolts (A615-75 N; Fy=75 ksi, Fu=100 ksi) on 63" BC

Base Plate Data

69" OD x 2.5" Plate (A572-50; Fy=50 ksi, Fu=65 ksi)

Stiffener Data

N/A

Pole Data

55.5" x 0.5" 18-sided pole (A572-65; Fy=65 ksi, Fu=80 ksi)

Analysis Results

Anchor Rod Summary *(units of kips, kip-in)*

Pu_c = 97.03	ϕPn_t = 260	**Stress Rating**
Vu = 1.45	ϕVn = n/a	**38.4%**
Mu = n/a	ϕMn = n/a	**Pass**

Base Plate Summary

Max Stress (ksi):	17.71	(Flexural)
Allowable Stress (ksi):	45	
Stress Rating:	**39.4%**	**Pass**

Pier and Pad Foundation

BU # :	
Site Name:	CTNH997A
App. Number:	

TIA-222 Revision:	G
Tower Type:	Monopole

Top & Bot. Pad Rein. Different?:	☐
Block Foundation?:	☐
Rectangular Pad?:	☐

Superstructure Analysis Reactions		
Compression, P_{comp}:	39	kips
Base Shear, Vu_comp:	32	kips
Moment, M_u:	2752	ft-kips
Tower Height, **H**:	175	ft
BP Dist. Above Fdn, bp_{dist}:	3	in

Pier Properties		
Pier Shape:	Circular	
Pier Diameter, **dpier**:	7	ft
Ext. Above Grade, **E**:	0.5	ft
Pier Rebar Size, **Sc**:	10	
Pier Rebar Quantity, **mc**:	48	
Pier Tie/Spiral Size, **St**:	5	
Pier Tie/Spiral Quantity, **mt**:	6	
Pier Reinforcement Type:	Tie	
Pier Clear Cover, cc_{pier}:	3	in

Pad Properties		
Depth, **D**:	6	ft
Pad Width, W_1:	29	ft
Pad Thickness, **T**:	3.5	ft
Pad Rebar Size (Bottom dir. 2), Sp_2:	10	
Pad Rebar Quantity (Bottom dir. 2), mp_2:	29	
Pad Clear Cover, cc_{pad}:	3	in

Material Properties		
Rebar Grade, **Fy**:	60	ksi
Concrete Compressive Strength, **F'c**:	5	ksi
Dry Concrete Density, δ**c**:	150	pcf

Soil Properties		
Total Soil Unit Weight, γ:	110	pcf
Ultimate Gross Bearing, Qult:	6.000	ksf
Cohesion, **Cu**:		ksf
Friction Angle, φ:	32	degrees
SPT Blow Count, N_{blows}:		
Base Friction, μ:		
Neglected Depth, **N**:	3.00	ft
Foundation Bearing on Rock?	No	
Groundwater Depth, **gw**:	N/A	ft

Foundation Analysis Checks	Capacity	Demand	Rating	Check
Lateral (Sliding) (kips)	292.83	32.00	**10.9%**	**Pass**
Bearing Pressure (ksf)	4.50	1.53	**33.9%**	**Pass**
*Overturning (kip*ft)*	7750.63	2968.00	**38.3%**	**Pass**
*Pier Flexure (Comp.) (kip*ft)*	9396.32	2848.00	**30.3%**	**Pass**
Pier Compression (kip)	27556.45	59.78	**0.2%**	**Pass**
*Pad Flexure (kip*ft)*	6010.37	1055.35	**17.6%**	**Pass**
Pad Shear - 1-way (kips)	1298.95	134.64	**10.4%**	**Pass**
Pad Shear - 2-way (Comp) (ksi)	0.201	0.022	**11.0%**	**Pass**

Structural Rating:	**30.3%**
Soil Rating:	**38.3%**

<--Toggle between Gross and Net

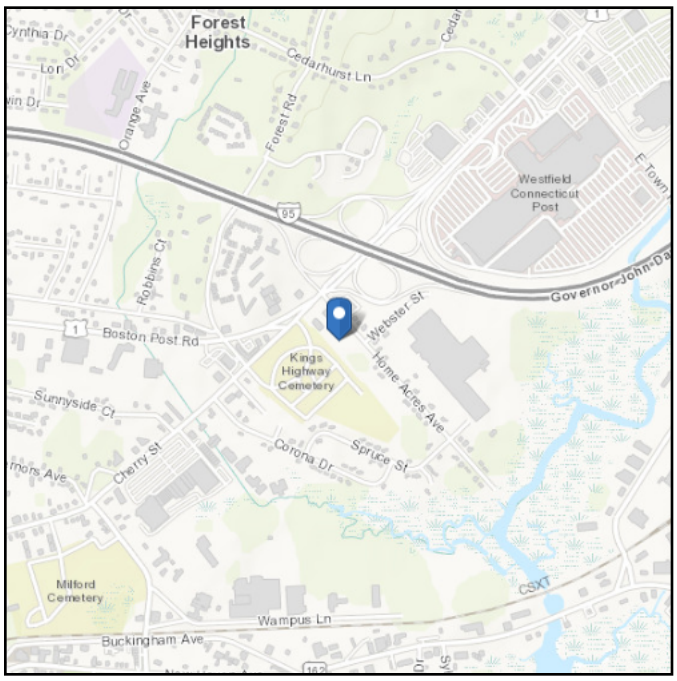
Version 4.1.1

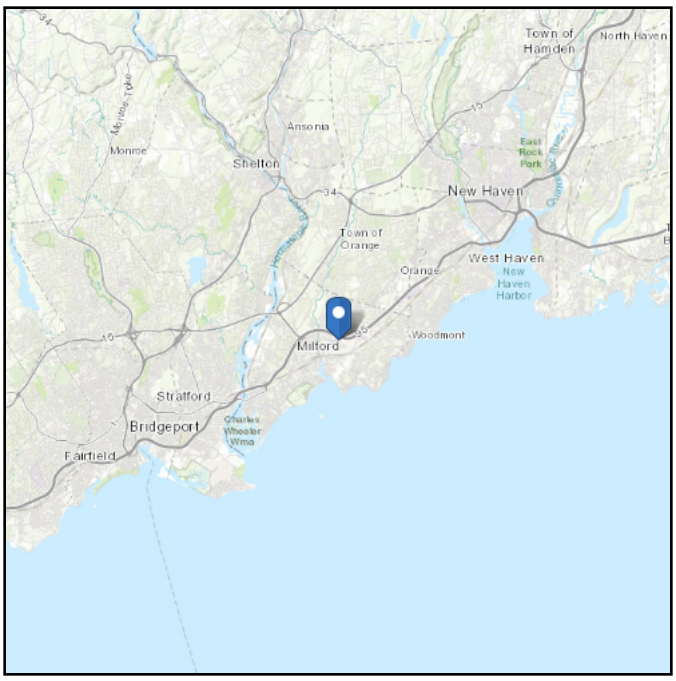
ASCE 7 Hazards Report

Address:
No Address at This Location

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

Elevation: 32.05 ft (NAVD 88)
Latitude: 41.231792
Longitude: -73.042867





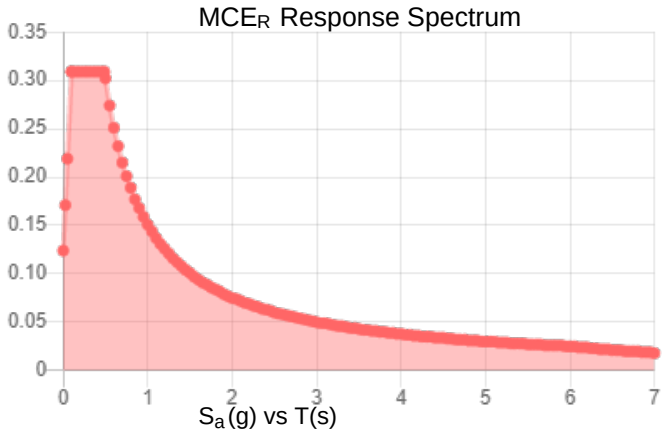
Seismic

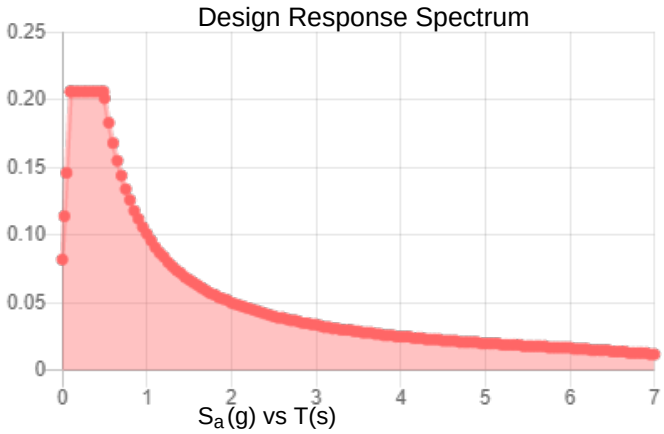
Site Soil Class: D - Stiff Soil

Results:

S_S :	0.193	S_{DS} :	0.206
S_1 :	0.063	S_{D1} :	0.101
F_a :	1.6	T_L :	6
F_v :	2.4	PGA :	0.103
S_{MS} :	0.309	PGA_M :	0.164
S_{M1} :	0.151	F_{PGA} :	1.595
		I_e :	1

Seismic Design Category B





Data Accessed: **Thu Feb 17 2022**

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:	0.75 in.
Concurrent Temperature:	15 F
Gust Speed	50 mph
Data Source:	Standard ASCE/SEI 7-10, Figs. 10-2 through 10-8
Date Accessed:	Thu Feb 17 2022

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.

Exhibit E

Mount Analysis

Date: 4/2/2022

To: T-Mobile Northeast, LLC
35 Griffin Road South
Bloomfield, CT 06002

Subject:	**Mount Structural Analysis Report – Rev.1**	
T-Mobile Designation:	**Site Name:**	TEMP for CTNH007A
	Site ID:	CTNH997A
EFI Designation:	**Project Number:**	049.02951- 2275005
Site Data:	**1063 Boston Post Road, Milford, CT 06460** **Latitude 41.231792°, Longitude -73.042867°**	

EFI Global, Inc. is pleased to submit this **"Mount Structural Analysis Report – Rev.1"** to determine the structural capacity of the antenna mounts utilized by T-Mobile at the above referenced site.

The purpose of the analysis is to determine acceptability of the mount stress level for the changes proposed by T-Mobile. Under the following load case we have determined the mounts to have:

Proposed Equipment **Adequate Capacity (60.3%)**
Note: See Analysis Criteria for loading configuration

The analysis has been performed in accordance with the TIA-222-G Standard and 2018 Connecticut State Building Code (2015 IBC).

We at *EFI Global, Inc.* appreciate the opportunity of providing our continuing professional services to you. If you have any questions or need further assistance on this or any other projects, please give us a call.

Sincerely,
EFI Global, Inc.
License No: PEC0001245

4/2/2022

Richard L. Peterman, P.E.
Connecticut Professional Engineer
License No: 30077

EFI Global, Inc.
1117 Perimeter Center West, Suite E500, Atlanta GA 30338 - Tel: (470) 990-6593

1) ANALYSIS CRITERIA

The analysis was performed for the proposed appurtenances as specified in the loading information referenced below, and per the following loading criteria of Table 1.

Table 1 – Loading and Analysis Criteria

Rad Center	88’
Structure Type	Monopole
Exposure Category	C
Basic Wind Speed	125 * √0.6 = 97 mph (ASD)
Ice Loading	0.75” with 50 mph Wind
Risk Category	II
Topographic Factor	Kzt = 1.0

Table 1.1 – Proposed and Final Appurtenance Configuration

Qty	Model
3	Ericsson AIR6449 B41 – Antennas
3	Commscope FFVV-65A-R2-V1 – Antennas
1	SC2-W100BD – Dishes
3	Radio 4480 B71 + B85 – RRUs*
3	Radio 4460 B25 + B66 – RRUs*
-	Valmont/Site Pro 1 Three Sectors Heavy WLL Frame (P/N: VFA12-M3-WLL)

*** To be mounted behind the antennas**

Table 1.3 – Assumed Material Properties

Member Type	ASTM Material Designation	Fy (ksi)	Fu (ksi)
Pipes	A53 Gr. B	35	60
Angles/Channels	A36	36	58
Rectangular HSS	A500 Gr. B - 46	46	58
Round HSS	A500 Gr. B - 42	42	58
Others (UNO)	A572 Gr. 50	50	65

2) ANALYSIS PROCEDURE

The analysis is based on the following information:

Table 2 – Documents

Document	Provided By	Date
RFDS	T-Mobile	12/16/2021
Structural Analysis Report	TAPP	11/03/2021
Construction Drawings	ARX WIRELESS	10/28/2021

2.1) Analysis Method

Risa-3D, a commercially available analysis software package, was used to create a three-dimensional model of the mount and calculate member stresses for various loading cases. Selected output from the analysis is included in the Appendix.

2.2) Analysis Conditions and Assumptions

1) The mount was built and installed in accordance with the manufacturer's specifications.
2) The mount has been maintained and will be maintained in accordance with the manufacturer's specifications. All structural members and connections of the mount are in good condition and can achieve theoretical strength.
3) The configuration of antennas is as specified in "1) Analysis Criteria".
4) The analysis was performed for the subject mount only. It does not include an evaluation of the other mounts or the tower, which should be analyzed by others.
5) The evaluation does not include any antenna rigging loads. The equipment should not be rigged using the subject antenna mount as the support.
6) The analysis includes a minimum 250 lbf maintenance point load at the worst-case location on the mount, as well as a minimum 250 lbf maintenance point load at each antenna location in conjunction with a 30 mph wind load.
7) Any steel grating represented in this model is for loading purposes only and it is not considered to provide any structural restraint or support.
8) Member sizes per available mount specifications and assumed based on our experience with similar structures. Please refer to calculation output in the appendix of this report for sizes and lengths assumed.
9) All member connections are assumed to have been designed to meet or exceed the load carrying capacity of the connected member unless otherwise specified in this report.

EFI Global, Inc. (EFI), must be notified immediately if any of these assumptions are discovered to be incorrect. The results of this analysis may be affected if any of the assumptions are not valid or have been made in error.

3) ANALYSIS RESULTS AND CONCLUSION

The analysis results are shown on the table below.

Table 3.1 – Mount Component Stresses vs. Capacity

Component	% Capacity	Pass / Fail
Horizontal Face Pipe	47.1	Pass
Horizontal Standoff Pipe	48.3	Pass
Vertical Standoff Solid Rod	60.3	Pass
Diagonal Standoff Solid Rod	35.0	Pass
Antenna Mount Pipe	32.1	Pass
Connection Plates	54.4	Pass
Pipe Kicker	<20.0	Pass

Sector Mounts: The proposed sector mounts have **adequate** capacity for the proposed changes by T-Mobile. For the code specified load combinations and as a maximum, the mount members are stressed to **60.3%** of their structural capacity.

EFI Global, Inc. has assumed that Valmont/Site Pro 1 Three Sector Heavy WLL Frame (P/N: VFA12-M3-WLL, Specs attached) will be installed at this site prior to the equipment installation proposed in this analysis.

The analysis also assumes the following:

- **The mount centerline is equal to the RAD centerline.**
- **The five (5) 120" long 2.5 STD mount pipes are equally spaced along the face.**
- **The (2) tieback arms are attached directly to the adjacent mount's standoff pipes.**

EFI Global, Inc.
1117 Perimeter Center West, Suite E500, Atlanta GA 30338 - Tel: (470) 990-6593

APPENDIX

INPUT LOADS
ANALYSIS OUTPUT
MOUNT SPECS

EFI Global, Inc.
1117 Perimeter Center West, Suite E500, Atlanta GA 30338 - Tel: (470) 990-6593

CLIENT: Foresite LLC

PROJECT: CTNH997A

SUBJECT: Antenna Loads - G Code with Sections 16 Revisions

Tower Height	115.00	ft	Type of Mount	Sector
Basic Wind Speed, V	97	mph (=Ultimate Speed*Sqrt(0.6))		
Basic Wind Speed with Ice, V_i	50	mph		
Maintanence Load Factor, L_{FM}	0.0957	Load Factor for Maint. Load Cases (Basic Wind Speed=30 mph)		
Design Ice Thickness, t_i		0.75	inches	

Table 2-3 Importance Factors

Structure Classification	Wind Load Without Ice	Wind Load With Ice	Ice Thickness	Earthquake
II	1	1	1	1

Table 2-4 Exposure Category Coefficients

Exposure Category	Zg	α	Kzmin	Ke	m
C	900	9.5	0.85	1	0.6

Table 2-5 Topographic Categories

Kzt 1.000

Table 2-2 Wind Directionality Factor, Kd

Structure Type	Kd	
Monopole	0.95	DOES NOT CHANGE

Gust Effect Factor Gh

Structure Type	Gh	
Monopole	1.00	DOES NOT CHANGE

Shielding Factor, Ka

Structure Type	Ka	
Monopole	0.90	DOES NOT CHANGE

CLIENT: Foresite LLC

PROJECT: CTNH997A

SUBJECT: Antenna Loads - G Code with Sections 16 Revisions

Rad Center 88.00 ft

Antenna AND Mount Without Ice

Mounting Pole	Height (ft)	Model Number	#	Weight (lbs)	H (in)	*W (in)	D (in)	Ka	**A_N (ft2)	***A_T (ft2)	Aspect (FRONT)	Aspect (SIDE)	Ca (FRONT)	Ca (SIDE)	K_z	q_z (psf)	Pounds: Wind Load (Front)	Wind Load (Side)	Dead Load	Total Wind Load (Front)	Total Wind Load (Side)	Total Dead Load
Pos. 1	**88.00**	Commscope FFVV-65C-R3-V1_TMO	1	124.6	96.0	25.2	9.3	0.90	16.79	6.20	3.81	10.32	1.26	1.51	1.232	28.2	536.0	237.5	124.6	536	323	318
	88.00	Ericsson Radio 4480 B71+B85	1	84.0	21.8	N/A	7.5	0.90	-	1.14	-	2.91	-	1.22	1.232	28.2	0.0	35.1	84			
	88.00	Ericsson Radio 4460 B25+B66	1	109.0	19.6	N/A	12.1	0.90	-	1.65	-	1.62	-	1.20	1.232	28.2	0.0	50.1	109			
		Empty		0.0	-	-	-	0.90	-	-	-	-	-	-	-	-	0.0	0.0	0			
		Empty		0.0	-	-	-	0.90	-	-	-	-	-	-	-	-	0.0	0.0	0			
																				268	**162**	**159**
Pos.2	**88.00**	Ericsson AIR6449 B41	1	114.6	33.1	20.5	8.5	0.90	4.71	1.96	1.61	3.88	1.20	1.26	1.232	28.2	143.5	62.8	114.63	143	63	115
		Empty		0.0	-	-	-	0.90	-	-	-	-	-	-	-	-	0.0	0.0	0			
		Empty		0.0	-	-	-	0.90	-	-	-	-	-	-	-	-	0.0	0.0	0			
		Empty		0.0	-	-	-	0.90	-	-	-	-	-	-	-	-	0.0	0.0	0			
		Empty		0.0	-	-	-	0.90	-	-	-	-	-	-	-	-	0.0	0.0	0			
																				72	**32**	**58**
Pos.3	**88.00**	SC2-W100BD	1	20.0	26.4	26.4	11.7	0.90	4.84	2.15	1.00	2.26	1.20	1.20	1.232	28.2	147.4	65.3	20	147	65	20
		Empty		0.0	-	-	-	0.90	-	-	-	-	-	-	-	-	0.0	0.0	0			
		Empty		0.0	-	-	-	0.90	-	-	-	-	-	-	-	-	0.0	0.0	0			
		Empty		0.0	-	-	-	0.90	-	-	-	-	-	-	-	-	0.0	0.0	0			
		Empty		0.0	-	-	-	0.90	-	-	-	-	-	-	-	-	0.0	0.0	0			
																				74	**33**	**10**

* Enter N/A in the W column for front sheilded apurtanances.
** A_N is the product of H and W
*** A_T is the product of H and D

DL #REF!

Mount	Height (ft)	Member	*L (in)	**W (in)	D (in)	*** Ca	K_z	q_z (psf)	Wind Load (PLF)
	88.00	2.5 STD Pipe	12.00	2.88	0.00	1.20	1.232	25.4	7.3
	88.00	2.0 STD Pipe	12.00	2.38	0.00	1.20	1.232	25.4	6.0
	88.00	1.5 STD Pipe	0.00	1.90	0.00	-	-	-	-
	88.00	0.75 SR	12.00	0.75	0.00	1.20	1.232	25.4	1.9
	88.00	0.625 SR	12.00	0.63	0.00	1.20	1.232	25.4	1.6
	88.00	(L3x1.875x0.1875)	0.00	3.00	1.88	-	-	-	-
	88.00	L(1.5X1.5)	0.00	1.50	1.50	-	-	-	-
	88.00	L(2.5X2.5)	0.00	2.50	2.50	-	-	-	-
	88.00	HSS 4X4X4	0.00	4.00	4.00	-	-	-	-
	88.00	PL0.625X3.5	12.00	0.63	3.50	2.00	1.232	25.4	2.6
	88.00	PL0.5X4	0.00	0.50	4.00	-	-	-	-
	88.00	PL0.375X0.875	0.00	0.38	0.88	-	-	-	-
	88.00	PL0.875X0.375	0.00	0.88	0.38	-	-	-	-
	88.00	Double Angle (LL3x3x4x0)	0.00	3.00	3.00	-	-	-	-
	88.00	Channel (2.5X1.4)	0.00	5.60	2.60	-	-	-	-
	88.00	Channel (5.6X3.1)	0.00	5.60	3.10	-	-	-	-

* The dimension L is the longest dimension of the member
** The dimension W is the height or width of the member that resists wind load
*** Ca will equal 1.2 for round members and 2.0 for flat members

CLIENT: Foresite LLC

PROJECT: CTNH997A

SUBJECT: Antenna Loads - G Code with Sections 16 Revisions

ti (in) 1.654581 Kiz 1.1030543 reduction 0.2657

Antenna AND Mount With Ice

Mounting Pole	Height (ft)	Model Number	#	H (in)	W (in)	D (in)	Ka	*A_N (ft2)	*A_T (ft2)	*Volume Ice (ft3)	*Weight Ice (lbs)	**Ca (FRONT)	**Ca (SIDE)	Kz	q_z (psf)	Pounds: Ice Wind Load (Front)	Ice Wind Load (Side)	Combined Wind Load (Front)	Combined Wind Load (Side)	Ice Dead Load	**Total Wind Load (Front)	**Total Wind Load (Side)	Total Ice Load
Pos. 1	**88.00**	Commscope FFVV-65C-R3-V1_TMO	1	96.0	25.2	9.3	0.90	2.86	2.49	7.64	427.60	0.70	0.70	1.232	7.5	13.5	11.8	155.9	74.9	428	156	105	608
	88.00	Ericsson Radio 4480 B71+B85	1	21.8	15.7	7.5	0.90	-	0.75	1.50	84.01	0.70	0.70	1.232	7.5	0.0	3.5	0.0	12.9	84			
	88.00	Ericsson Radio 4460 B25+B66	1	19.6	15.7	12.1	0.90	-	0.80	1.73	96.80	0.70	0.70	1.232	7.5	0.0	3.8	0.0	17.1	97			
		Empty		-	-	-	0.90	-	-	-	0.00	-	-	-	-	0.0	0.0	0.0	0.0	0			
		Empty		-	-	-	0.90	-	-	-	0.00	-	-	-	-	0.0	0.0	0.0	0.0	0			
																					78	**53**	**305**
Pos.2	**88.00**	Ericsson AIR6449 B41	1	33.1	20.5	8.5	0.90	1.31	1.03	2.59	145.08	0.70	0.70	1.232	7.5	6.2	4.9	44.3	21.6	145	44	22	145
		Empty		-	-	-	0.90	-	-	-	0.00	-	-	-	-	0.0	0.0	0.0	0.0	0			
		Empty		-	-	-	0.90	-	-	-	0.00	-	-	-	-	0.0	0.0	0.0	0.0	0			
		Empty		-	-	-	0.90	-	-	-	0.00	-	-	-	-	0.0	0.0	0.0	0.0	0			
		Empty		-	-	-	0.90	-	-	-	0.00	-	-	-	-	0.0	0.0	0.0	0.0	0			
																					23	**11**	**73**
Pos.3	**88.00**	SC2-W100BD	1	26.4	26.4	11.7	0.90	1.29	0.95	2.95	165.06	0.70	0.70	1.232	7.5	6.1	4.5	45.2	21.8	165	45	22	165
		Empty		-	-	-	0.90	-	-	-	0.00	-	-	-	-	0.0	0.0	0.0	0.0	0			
		Empty		-	-	-	0.90	-	-	-	0.00	-	-	-	-	0.0	0.0	0.0	0.0	0			
		Empty		-	-	-	0.90	-	-	-	0.00	-	-	-	-	0.0	0.0	0.0	0.0	0			
		Empty		-	-	-	0.90	-	-	-	0.00	-	-	-	-	0.0	0.0	0.0	0.0	0			
																					23	**11**	**83**

* A_N ,A_T, Volume Ice and Weight Ice are calculated per unit

** Ca will equal 1.2 for all ice load calculations

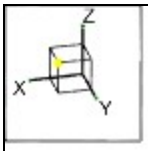
Mount	Height (ft)	Member	*L (in)	**W (in)	D (in)	***A_N (ft2)	Volume Ice (ft3)	Weight Ice (lbs)	****Ca (FRONT)	Kz	q_z (psf)	PLF: Ice Wind Load (Front)	Combined Wind Load (Front)	Ice Dead Load
	88.00	2.5 STD Pipe	12.00	2.88	0.00	0.42	0.16	9.16	1.20	1.232	6.7	3.4	5.3	9.2
	88.00	2.0 STD Pipe	12.00	2.38	0.00	0.41	0.15	8.15	1.20	1.232	6.7	3.3	4.9	8.1
	88.00	1.5 STD Pipe	0.00	1.90	0.00	-	-	-	-	-	-	-	-	-
	88.00	0.75 SR	12.00	0.75	0.00	0.37	0.09	4.86	1.20	1.232	6.7	3.0	3.5	4.9
	88.00	0.625 SR	12.00	0.63	0.00	0.37	0.08	4.61	1.20	1.232	6.7	3.0	3.4	4.6
	88.00	(L3x1.875x0.1875)	0.00	3.00	1.88	-	-	-	-	-	-	-	-	-
	88.00	L(1.5X1.5)	0.00	1.50	1.50	-	-	-	-	-	-	-	-	-
	88.00	L(2.5X2.5)	0.00	2.50	2.50	-	-	-	-	-	-	-	-	-
	88.00	HSS 4X4X4	0.00	4.00	4.00	-	-	-	-	-	-	-	-	-
	88.00	PL0.625X3.5	12.00	0.63	3.50	0.37	0.22	12.44	1.20	1.232	6.7	3.0	3.7	12.4
	88.00	PL0.5X4	0.00	0.50	4.00	-	-	-	-	-	-	-	-	-
	88.00	PL0.375X0.875	0.00	0.38	0.88	-	-	-	-	-	-	-	-	-
	88.00	PL0.875X0.375	0.00	0.88	0.38	-	-	-	-	-	-	-	-	-
	88.00	Double Angle (LL3x3x4x0)	0.00	3.00	3.00	-	-	-	-	-	-	-	-	-
	88.00	Channel (2.5X1.4)	0.00	5.60	2.60	-	-	-	-	-	-	-	-	-
	88.00	Channel (5.6X3.1)	0.00	5.60	3.10	-	-	-	-	-	-	-	-	-

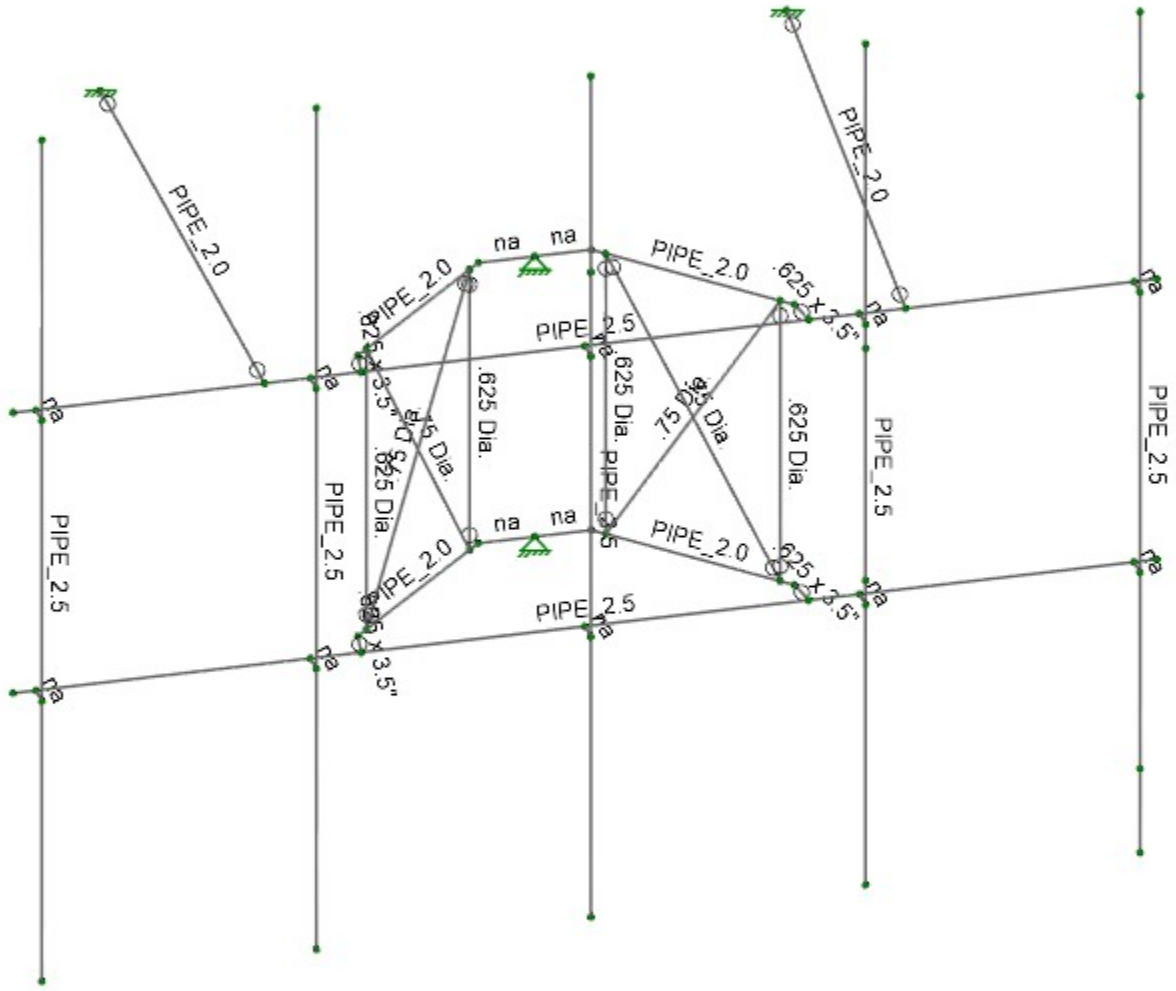
* The dimension L is the longest dimension of the member

** The dimension W is the height or width of the member that resists wind load

*** A_N is the area of ice built up on the LW plane

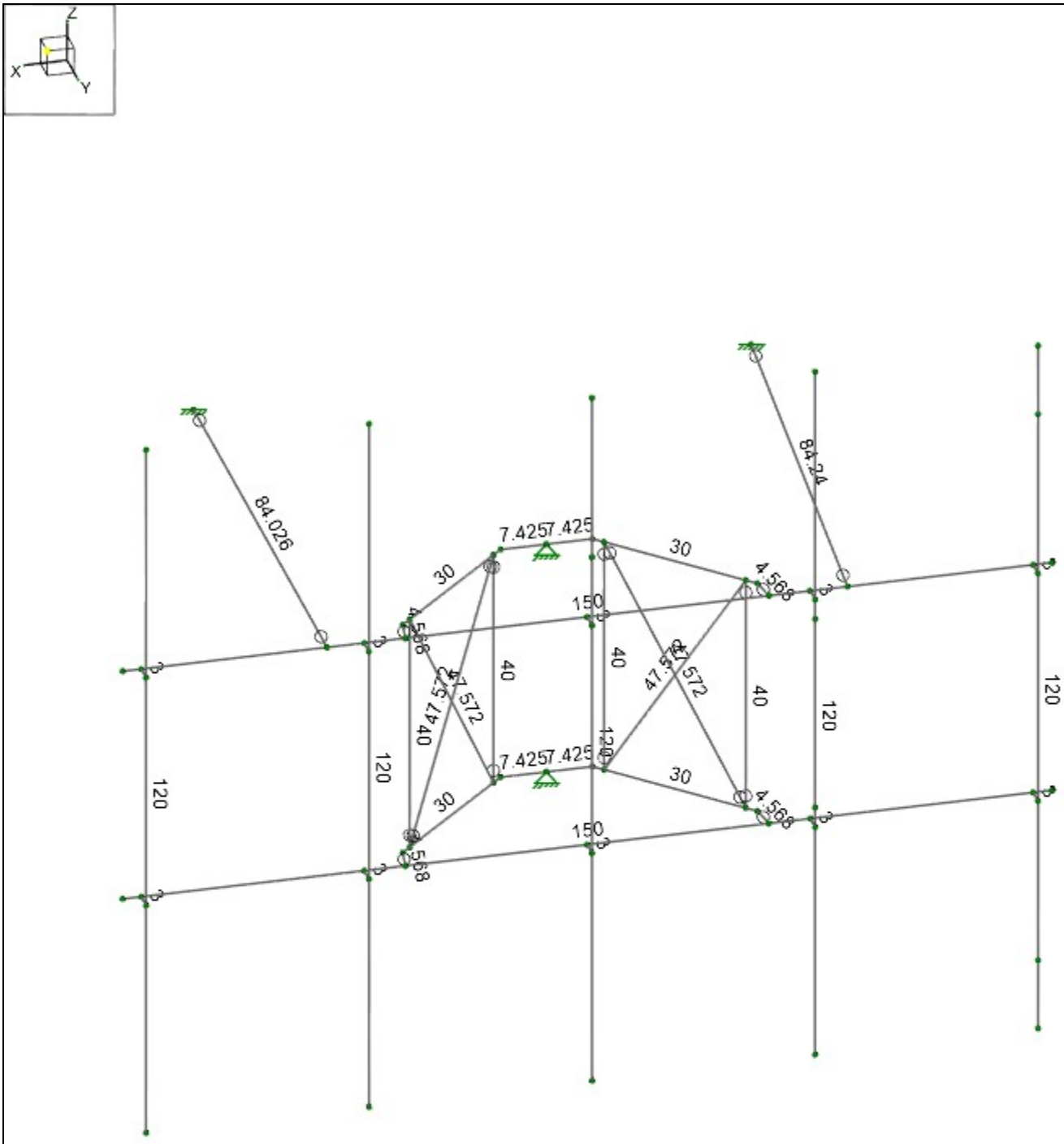
**** Ca will equal 1.2 for all ice load calculations





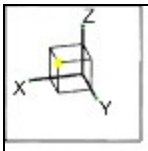
Envelope Only Solution

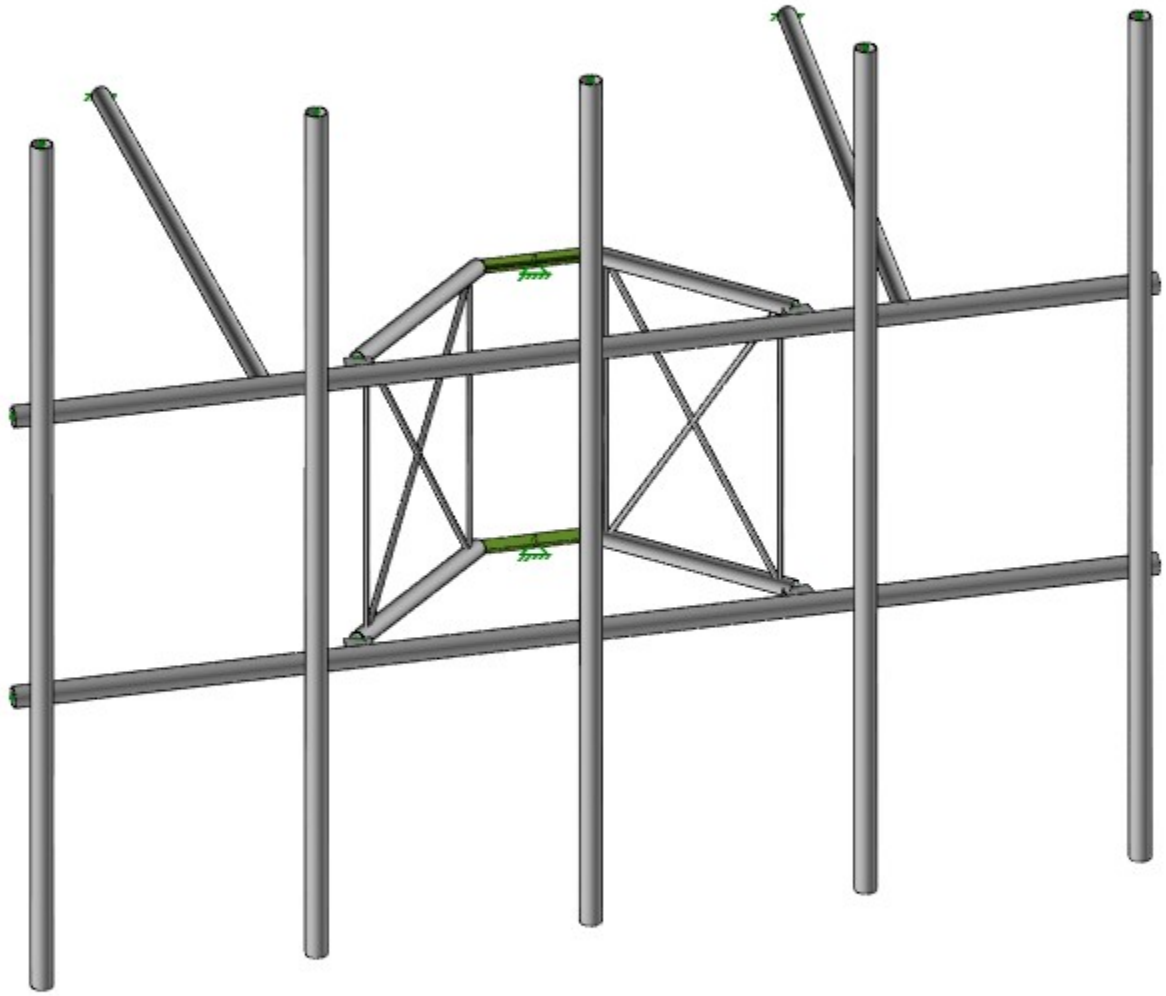
ForeSite/EFI	CTNH997A	SK-1
SK		Apr 02, 2022
049.02951 - 2275005		CTNH997A.r3d



Member Length (in) Displayed
Envelope Only Solution

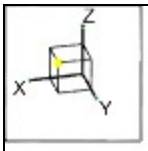
ForeSite/EFI	CTNH997A	SK-2
SK		Apr 02, 2022
049.02951 - 2275005		CTNH997A.r3d

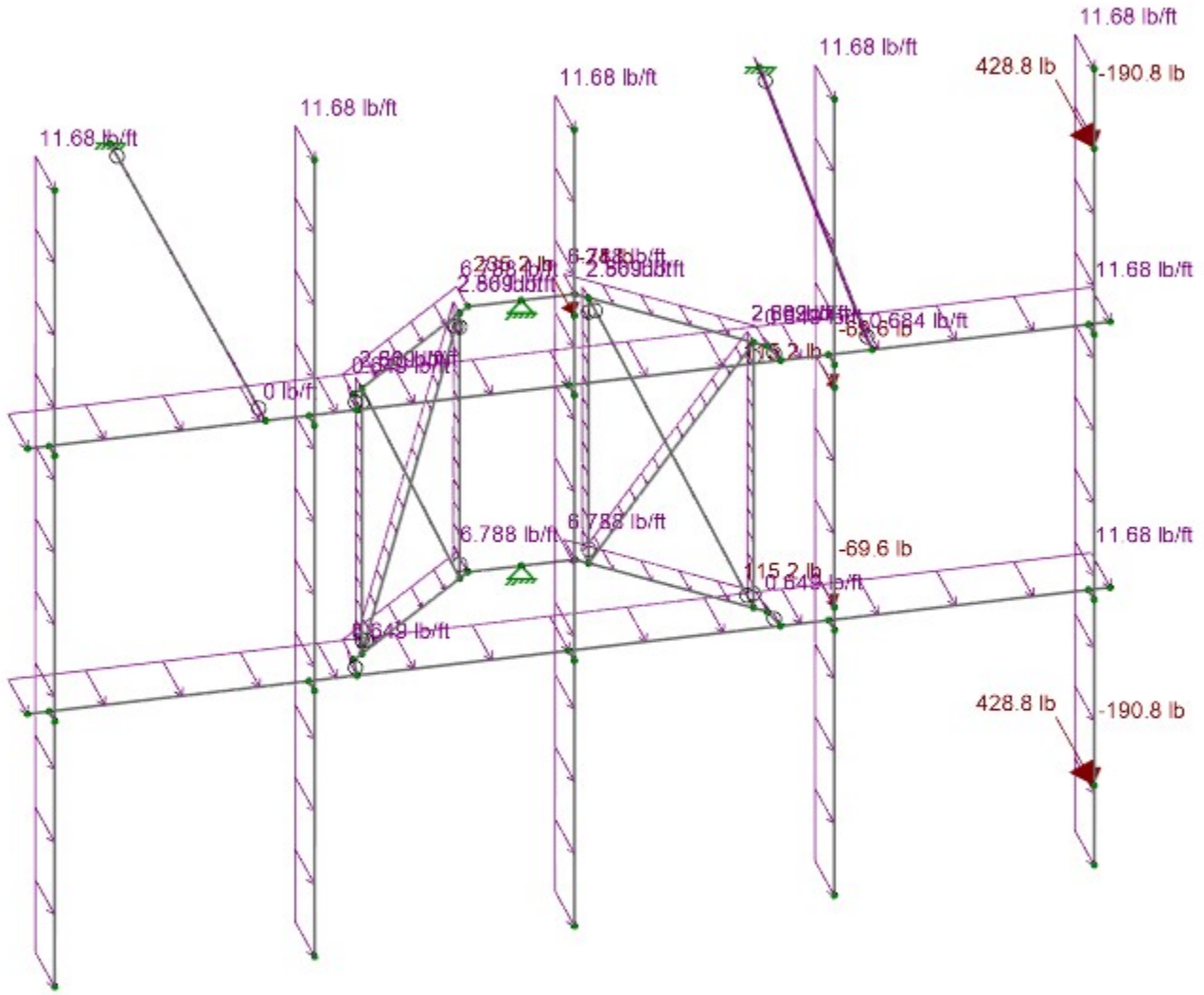




Envelope Only Solution

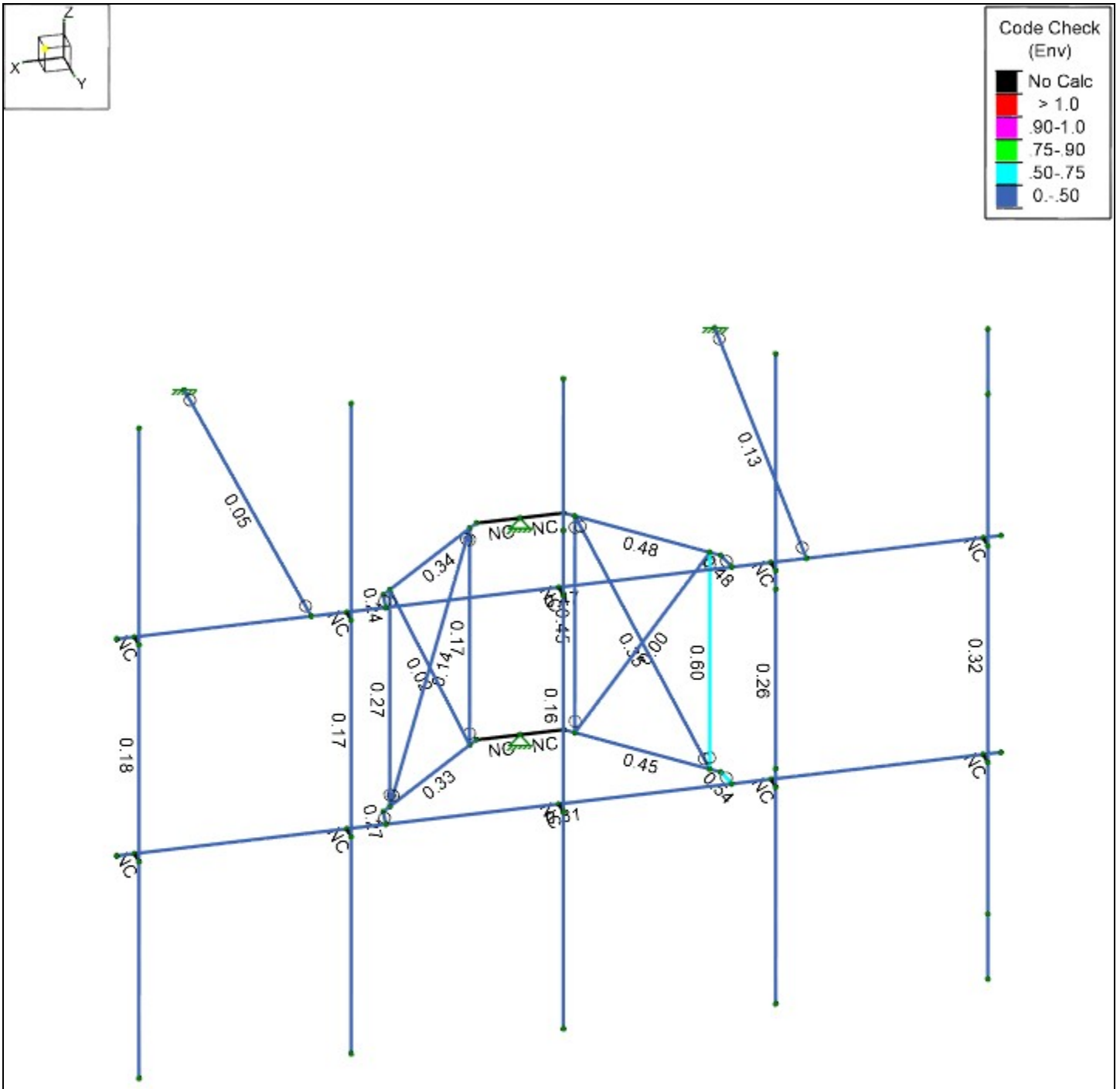
ForeSite/EFI	CTNH997A	SK-3
SK		Apr 02, 2022
049.02951 - 2275005		CTNH997A.r3d





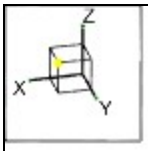
Loads: LC 1, DL + WL (NO ICE) 0 Degree
Envelope Only Solution

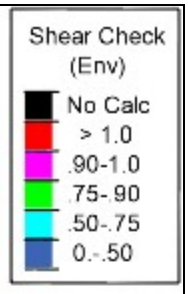
ForeSite/EFI	CTNH997A	SK-4
SK		Apr 02, 2022
049.02951 - 2275005		CTNH997A.r3d

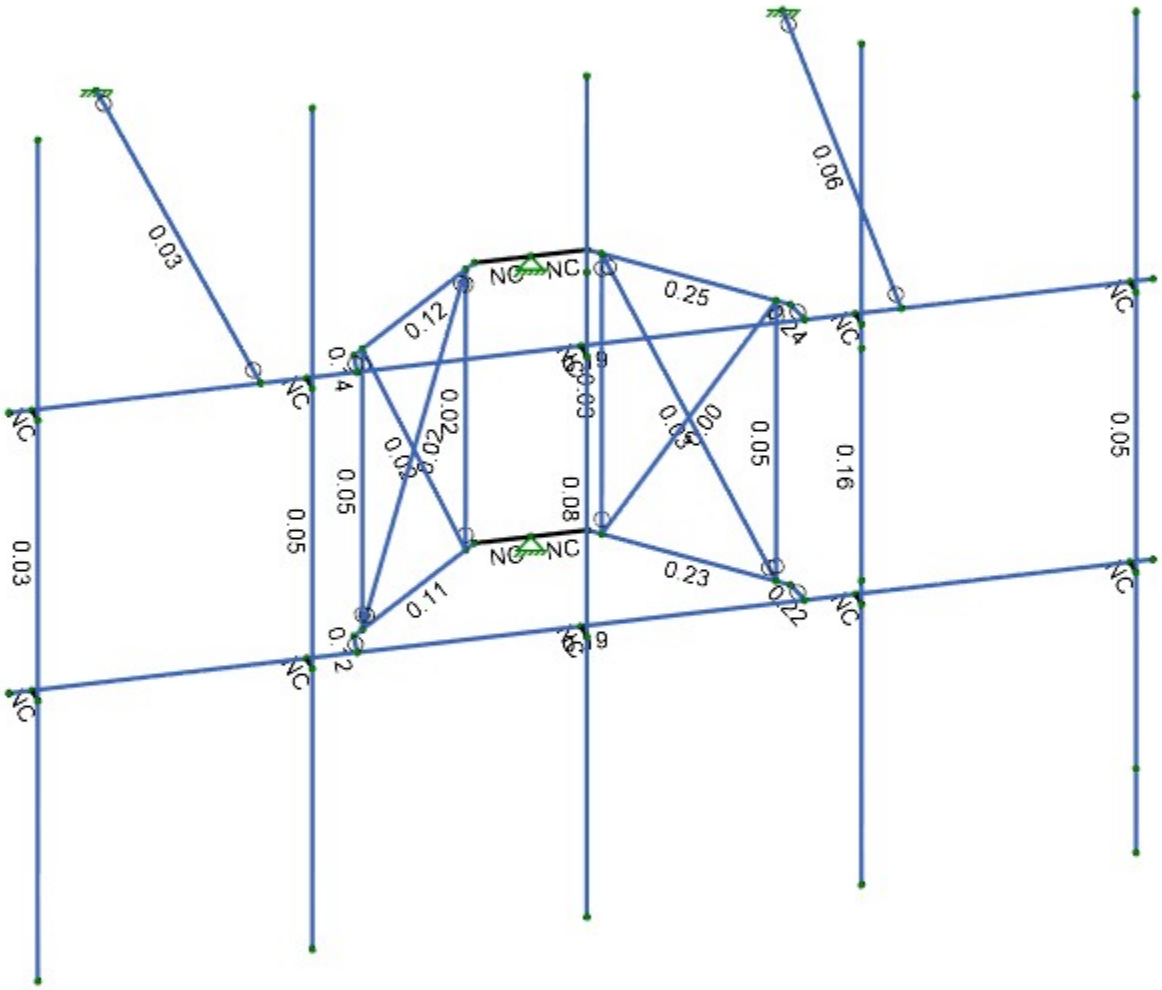


Member Code Checks Displayed (Enveloped)
Envelope Only Solution

ForeSite/EFI	CTNH997A	SK-5
SK		Apr 02, 2022
049.02951 - 2275005		CTNH997A.r3d

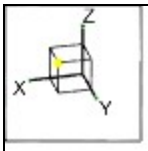


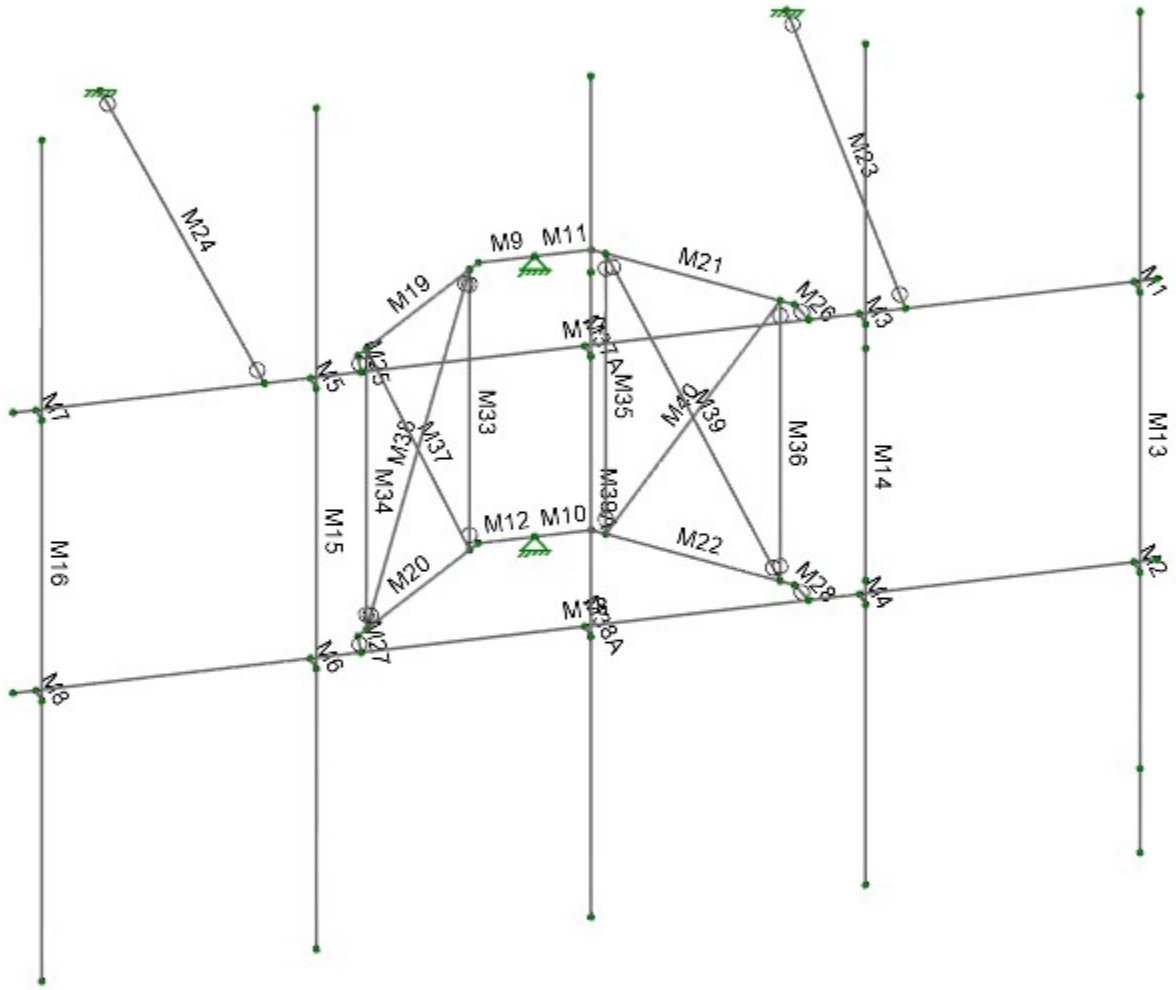




Member Shear Checks Displayed (Enveloped)
Envelope Only Solution

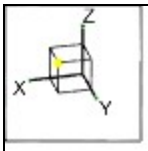
ForeSite/EFI	CTNH997A	SK-6
SK		Apr 02, 2022
049.02951 - 2275005		CTNH997A.r3d

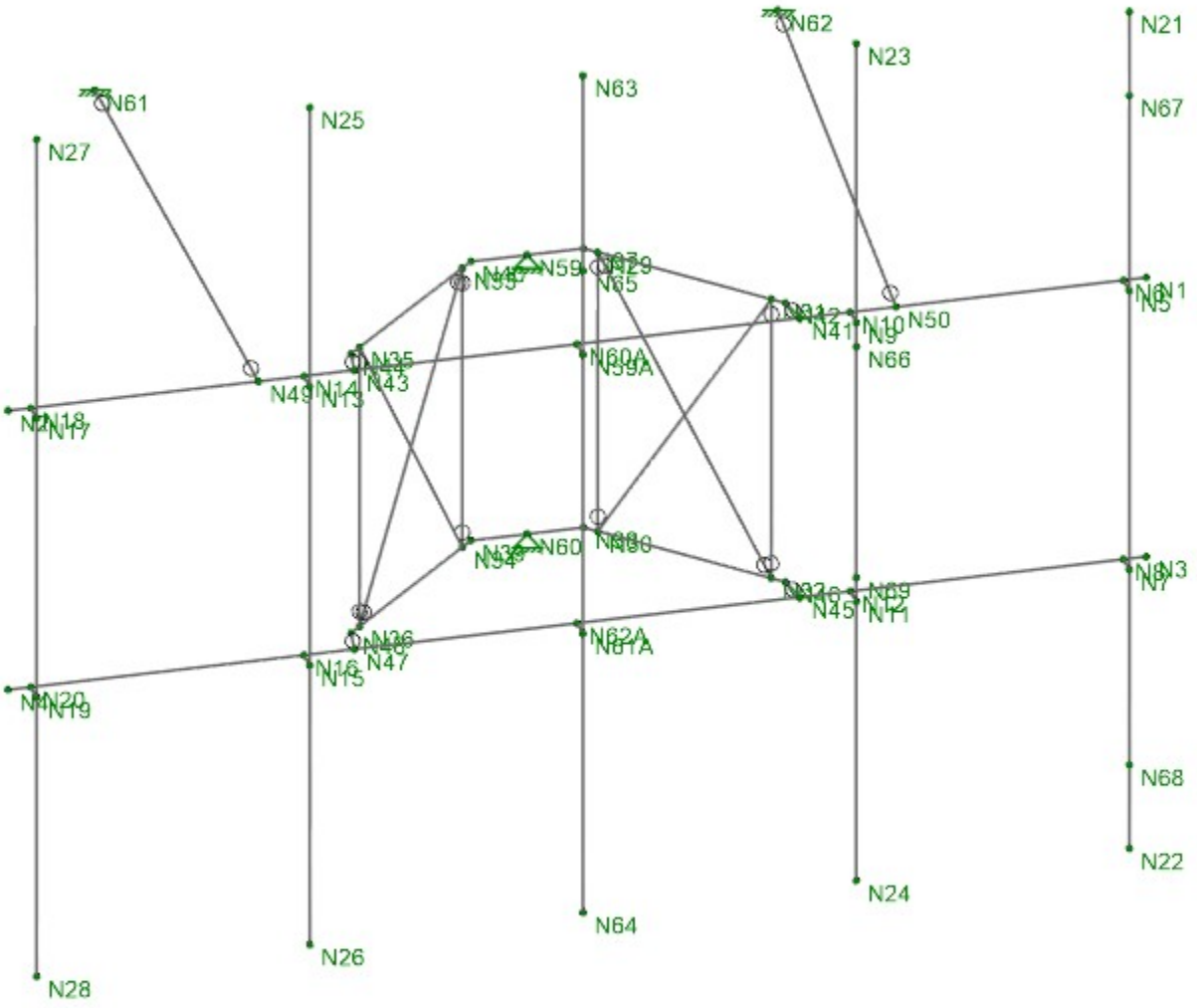




Envelope Only Solution

ForeSite/EFI	CTNH997A	SK-7
SK		Apr 02, 2022
049.02951 - 2275005		CTNH997A.r3d





Envelope Only Solution

ForeSite/EFI	CTNH997A	SK-8
SK		Apr 02, 2022
049.02951 - 2275005		CTNH997A.r3d

Model Settings

Solution

Members

Number of Reported Sections	5
Number of Internal Sections	100
Member Area Load Mesh Size (in^2)	144
Consider Shear Deformation	Yes
Consider Torsional Warping	Yes

Wall Panels

Approximate Mesh Size (in)	12
Transfer Forces Between Intersecting Wood Walls	Yes
Increase Wood Wall Nailing Capacity for Wind Loads	Yes
Include P-Delta for Walls	Yes
Optimize Masonry and Wood Walls	No
Maximum Number of Iterations	3

Processor Core Utilization

Single	No
Multiple (Optimum)	Yes
Maximum	No

Axis

Vertical Global Axis

Global Axis corresponding to vertical direction	Z
Convert Existing Data	Yes

Default Member Orientation

Default Global Plane for z-axis	XZ

Plate Axis

Plate Local Axis Orientation	Nodal

Codes

Hot Rolled Steel	AISC 14th (360-10): LRFD
Stiffness Adjustment	Yes (Iterative)
Notional Annex	None
Connections	AISC 14th (360-10): LRFD
Cold Formed Steel	AISI S100-12: LRFD
Stiffness Adjustment	Yes (Iterative)
Wood	AF&PA NDS-05/08: ASD
Temperature	< 100F
Concrete	ACI 318-05
Masonry	ACI 530-05: ASD
Aluminum	AA ADM1-05: ASD
Structure Type	Building
Stiffness Adjustment	Yes (Iterative)
Stainless	AISC 14th (360-10): ASD
Stiffness Adjustment	Yes (Iterative)

Concrete

Column Design

Analysis Methodology	Exact Integration Method
Parme Beta Factor	0.65

Compression Stress Block	Rectangular Stress Block
Analyze using Cracked Sections	Yes
Leave room for horizontal rebar splices (2*d bar spacing)	No

Model Settings (Continued)

List forces which were ignored for design in the Detail Report	Yes

Rebar

Column Min Steel	1
Column Max Steel	8
Rebar Material Spec	ASTM A615
Warn if beam-column framing arrangement is not understood	No

Shear Reinforcement

Number of Shear Regions	4
Region 2 & 3 Spacing Increase Increment (in)	4

Seismic

RISA-3D Seismic Load Options

Code	ASCE 7-05
Occupancy Cat	I or II
Drift Cat	Other
Base Elevation (ft)	
Include the weight of the structure in base shear calcs	Yes

Site Parameters

S_1 (g)	1
SD_1 (g)	1
SD_S (g)	1
T_L (sec)	-1

Structure Characteristics

T Z (sec)	
T X (sec)	
C_tX	0.035
C_tExp. Z	0.75
C_tExp. X	0.75
R Z	8.5
R X	8.5
Ω_0Z	1
Ω_0X	1
C_dZ	4
C_dX	4
ρ Z	1
ρ X	1

Project Grid Lines

No Data to Print...

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm. Coeff. [1e^{5}°F^{-1}]	Density [k/ft^{3}]	Yield [ksi]	Ry	Fu [ksi]	Rt
1	A36 Gr.36	29000	11154	0.3	0.65	0.49	36	1.5	58	1.2
2	A572 Gr.50	29000	11154	0.3	0.65	0.49	50	1.1	65	1.2
3	A992	29000	11154	0.3	0.65	0.49	50	1.1	65	1.2
4	A500 Gr.42	29000	11154	0.3	0.65	0.49	42	1.3	58	1.1
5	A500 Gr.46	29000	11154	0.3	0.65	0.49	46	1.2	58	1.1
6	A53 Gr.B	29000	11154	0.3	0.65	0.49	35	1.5	60	1.2
7	A529 Gr.50	29000	11154	0.3	0.65	0.49	50	1.1	65	1.2

Member Primary Data

	Label	I Node	J Node	Section/Shape	Type	Design List	Material	Design Rule
1	M1	N5	N6	RIGID	None	None	LINK	Typical
2	M38A	N61A	N62A	RIGID	None	None	LINK	Typical
3	M12	N60	N39	RIGID	None	None	LINK	Typical
4	M11	N59	N37	RIGID	None	None	LINK	Typical
5	M10	N38	N60	RIGID	None	None	LINK	Typical
6	M37A	N59A	N60A	RIGID	None	None	LINK	Typical
7	M8	N19	N20	RIGID	None	None	LINK	Typical
8	M7	N17	N18	RIGID	None	None	LINK	Typical
9	M6	N15	N16	RIGID	None	None	LINK	Typical
10	M5	N13	N14	RIGID	None	None	LINK	Typical
11	M4	N11	N12	RIGID	None	None	LINK	Typical
12	M3	N9	N10	RIGID	None	None	LINK	Typical
13	M2	N7	N8	RIGID	None	None	LINK	Typical
14	M9	N40	N59	RIGID	None	None	LINK	Typical
15	M13	N21	N22	PIPE_2.5	Beam	Pipe	A53 Gr.B	Typical
16	M14	N23	N24	PIPE_2.5	Beam	Pipe	A53 Gr.B	Typical
17	M15	N25	N26	PIPE_2.5	Beam	Pipe	A53 Gr.B	Typical
18	M16	N27	N28	PIPE_2.5	Beam	Pipe	A53 Gr.B	Typical
19	M17	N1	N2	PIPE_2.5	Beam	Pipe	A53 Gr.B	Typical
20	M18	N3	N4	PIPE_2.5	Beam	Pipe	A53 Gr.B	Typical
21	M39A	N63	N64	PIPE_2.5	Beam	Pipe	A53 Gr.B	Typical
22	M24	N49	N61	PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical
23	M20	N39	N48	PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical
24	M19	N40	N44	PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical
25	M21	N37	N42	PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical
26	M22	N38	N46	PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical
27	M23	N50	N62	PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical
28	M25	N44	N43	.625 x 3.5"	Beam	RECT	A53 Gr.B	Typical
29	M28	N46	N45	.625 x 3.5"	Beam	RECT	A53 Gr.B	Typical
30	M27	N48	N47	.625 x 3.5"	Beam	RECT	A53 Gr.B	Typical
31	M26	N42	N41	.625 x 3.5"	Beam	RECT	A53 Gr.B	Typical
32	M36	N31	N32	.625 Dia.	Beam	BAR	A36 Gr.36	Typical
33	M34	N35	N36	.625 Dia.	Beam	BAR	A36 Gr.36	Typical
34	M33	N33	N34	.625 Dia.	Beam	BAR	A36 Gr.36	Typical
35	M35	N29	N30	.625 Dia.	Beam	BAR	A36 Gr.36	Typical
36	M38	N33	N36	.75 Dia.	Beam	BAR	A36 Gr.36	Typical
37	M39	N29	N32	.75 Dia.	Beam	BAR	A36 Gr.36	Typical
38	M40	N31	N30	.75 Dia.	Beam	BAR	A36 Gr.36	Typical
39	M37	N35	N34	.75 Dia.	Beam	BAR	A36 Gr.36	Typical

Member Advanced Data

	Label	I Release	J Release	T/C Only	Physical	Deflection Ratio Options	Seismic DR
1	M1				Yes	** NA **	None
2	M38A				Yes	** NA **	None
3	M12				Yes	** NA **	None
4	M11				Yes	** NA **	None
5	M10				Yes	** NA **	None
6	M37A				Yes	** NA **	None
7	M8				Yes	** NA **	None
8	M7				Yes	** NA **	None
9	M6				Yes	** NA **	None
10	M5				Yes	** NA **	None
11	M4				Yes	** NA **	None
12	M3				Yes	** NA **	None
13	M2				Yes	** NA **	None
14	M9				Yes	** NA **	None
15	M13				Yes	Default	None
16	M14				Yes	Default	None
17	M15				Yes	Default	None
18	M16				Yes	Default	None
19	M17				Yes	Default	None
20	M18				Yes	Default	None
21	M39A				Yes	Default	None
22	M24	BenPIN	BenPIN		Yes	Default	None
23	M20				Yes	Default	None
24	M19				Yes	Default	None
25	M21				Yes	Default	None
26	M22				Yes	Default	None
27	M23	BenPIN	BenPIN		Yes	Default	None
28	M25		BenPIN		Yes	Default	None
29	M28		BenPIN		Yes	Default	None
30	M27		BenPIN		Yes	Default	None
31	M26		BenPIN		Yes	Default	None
32	M36	BenPIN	BenPIN		Yes	Default	None
33	M34	BenPIN	BenPIN		Yes	Default	None
34	M33	BenPIN	BenPIN		Yes	Default	None
35	M35	BenPIN	BenPIN		Yes	Default	None
36	M38	BenPIN	BenPIN		Yes	Default	None
37	M39	BenPIN	BenPIN		Yes	Default	None
38	M40			Tension Only	Yes	Default	None
39	M37			Tension Only	Yes	Default	None

Hot Rolled Steel Design Parameters

	Label	Shape	Length [in]	Lb y-y [in]	Lb z-z [in]	Lcomp top [in]	K y-y	K z-z	Function
1	M13	PIPE_2.5	120			Lbyy			Lateral
2	M14	PIPE_2.5	120			Lbyy			Lateral
3	M15	PIPE_2.5	120			Lbyy			Lateral
4	M16	PIPE_2.5	120			Lbyy			Lateral
5	M17	PIPE_2.5	150			Lbyy			Lateral
6	M18	PIPE_2.5	150			Lbyy			Lateral
7	M39A	PIPE_2.5	120			Lbyy			Lateral
8	M24	PIPE_2.0	84.026			Lbyy			Lateral
9	M20	PIPE_2.0	30			Lbyy			Lateral
10	M19	PIPE_2.0	30			Lbyy			Lateral
11	M21	PIPE_2.0	30			Lbyy			Lateral
12	M22	PIPE_2.0	30			Lbyy			Lateral
13	M23	PIPE_2.0	84.24			Lbyy			Lateral
14	M25	.625 x 3.5"	4.568						Lateral
15	M28	.625 x 3.5"	4.568						Lateral

Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Length [in]	Lb y-y [in]	Lb z-z [in]	Lcomp top [in]	K y-y	K z-z	Function
16	M27	.625 x 3.5"	4.568						Lateral
17	M26	.625 x 3.5"	4.568						Lateral
18	M36	.625 Dia.	40	33.62	33.62	Lbyy	0.7	0.7	Lateral
19	M34	.625 Dia.	40	33.62	33.62	Lbyy	0.7	0.7	Lateral
20	M33	.625 Dia.	40	33.62	33.62	Lbyy	0.7	0.7	Lateral
21	M35	.625 Dia.	40	33.62	33.62	Lbyy	0.7	0.7	Lateral
22	M38	.75 Dia.	47.572			Lbyy	0.7	0.7	Lateral
23	M39	.75 Dia.	47.572			Lbyy	0.7	0.7	Lateral
24	M40	.75 Dia.	47.572			Lbyy	0.7	0.7	Lateral
25	M37	.75 Dia.	47.572			Lbyy	0.7	0.7	Lateral

Node Coordinates

	Label	X [in]	Y [in]	Z [in]	Detach From Diaphragm
1	N1	-75	0	40	
2	N2	75	0	40	
3	N3	-75	0	0	
4	N4	75	0	0	
5	N5	-72	3	40	
6	N6	-72	0	40	
7	N7	-72	3	0	
8	N8	-72	0	0	
9	N9	-36	3	40	
10	N10	-36	0	40	
11	N11	-36	3	0	
12	N12	-36	0	0	
13	N13	36	3	40	
14	N14	36	0	40	
15	N15	36	3	0	
16	N16	36	0	0	
17	N17	72	3	40	
18	N18	72	0	40	
19	N19	72	3	0	
20	N20	72	0	0	
21	N21	-72	3	80	
22	N22	-72	3	-40	
23	N23	-36	3	80	
24	N24	-36	3	-40	
25	N25	36	3	80	
26	N26	36	3	-40	
27	N27	72	3	80	
28	N28	72	3	-40	
29	N29	-8.927223	-24.223102	40	
30	N30	-8.927223	-24.223102	0	
31	N31	-27.135223	-6.015102	40	
32	N32	-27.135223	-6.015102	0	
33	N33	8.927223	-24.223102	40	
34	N34	8.927223	-24.223102	0	
35	N35	27.135223	-6.015102	40	
36	N36	27.135223	-6.015102	0	
37	N37	-7.424621	-25.725704	40	
38	N38	-7.424621	-25.725704	0	
39	N39	7.424621	-25.725704	0	
40	N40	7.424621	-25.725704	40	
41	N41	-29.35	0	40	
42	N42	-28.637825	-4.5125	40	
43	N43	29.35	0	40	
44	N44	28.637825	-4.5125	40	
45	N45	-29.35	0	-0.	

Node Coordinates (Continued)

	Label	X [in]	Y [in]	Z [in]	Detach From Diaphragm
46	N46	-28.637825	-4.5125	0	
47	N47	29.35	0	0.	
48	N48	28.637825	-4.5125	0	
49	N49	42	0	39.999996	
50	N50	-42	0	39.999996	
51	N59	0	-25.725704	40	
52	N60	0	-25.725704	0	
53	N61	42	-84.025704	40	
54	N62	-48	-84.025704	40	
55	N59A	0	3	40	
56	N60A	0	0	40	
57	N61A	0	3	0	
58	N62A	0	0	0	
59	N63	0	3	80	
60	N64	0	3	-40	
61	N67	-72	3	68	
62	N68	-72	3	-28	
63	N66	-36	3	36.55	
64	N69	-36	3	3.45	
65	N65	0	3	52	

Node Boundary Conditions

	Y [k/in]	X Rot [k-ft/rad]	X [k/in]	Z Rot [k-ft/rad]	Z [k/in]	Node Label	Y Rot [k-ft/rad]
1	Reaction		Reaction		Reaction	N59	
2	Reaction		Reaction		Reaction	N60	
3	Reaction	Reaction	Reaction	Reaction	Reaction	N61	Reaction
4	Reaction	Reaction	Reaction	Reaction	Reaction	N62	Reaction

Basic Load Cases

	BLC Description	Category	Z Gravity	Nodal	Distributed
1	DEAD LOAD	None	-1	5	
2	DEAD LOAD ICE	None		5	25
3	WIND LOAD (NO ICE) FRONT	None		5	25
4	WIND LOAD (NO ICE) SIDE	None		5	25
5	WIND LOAD (ICE) FRONT	None		5	25
6	WIND LOAD (ICE) SIDE	None		5	25
7	LIVE LOAD1	None		1	
8	LIVE LOAD2	None		1	
9	LIVE LOAD3	None			
10	MAINTENANCE LOAD 1	None		1	
11	MAINTENANCE LOAD 2	None		1	
12	MAINTENANCE LOAD 3	None		1	
13	MAINTENANCE LOAD 4	None		1	

Node Loads and Enforced Displacements (BLC 1 : DEAD LOAD)

	Node Label	L, D, M	Direction	Magnitude [(lb, k-ft), (in, rad), (lb*s²/in, lb*s²*in)]
1	N67	L	Z	-159
2	N68	L	Z	-159
3	N66	L	Z	-58
4	N69	L	Z	-58
5	N65	L	Z	-20

Node Loads and Enforced Displacements (BLC 2 : DEAD LOAD ICE)

	Node Label	L, D, M	Direction	Magnitude [(lb, k-ft), (in, rad), (lb*s²/in, lb*s²*in)]
1	N67	L	Z	-305
2	N68	L	Z	-305
3	N66	L	Z	-73
4	N69	L	Z	-73
5	N65	L	Z	-165

Node Loads and Enforced Displacements (BLC 3 : WIND LOAD (NO ICE) FRONT)

	Node Label	L, D, M	Direction	Magnitude [(lb, k-ft), (in, rad), (lb*s²/in, lb*s²*in)]
1	N67	L	Y	268
2	N68	L	Y	268
3	N66	L	Y	72
4	N69	L	Y	72
5	N65	L	Y	147

Node Loads and Enforced Displacements (BLC 4 : WIND LOAD (NO ICE) SIDE)

	Node Label	L, D, M	Direction	Magnitude [(lb, k-ft), (in, rad), (lb*s²/in, lb*s²*in)]
1	N67	L	X	162
2	N68	L	X	162
3	N66	L	X	32
4	N69	L	X	32
5	N65	L	X	65

Node Loads and Enforced Displacements (BLC 5 : WIND LOAD (ICE) FRONT)

	Node Label	L, D, M	Direction	Magnitude [(lb, k-ft), (in, rad), (lb*s²/in, lb*s²*in)]
1	N67	L	Y	78
2	N68	L	Y	78
3	N66	L	Y	23
4	N69	L	Y	23
5	N65	L	Y	45

Node Loads and Enforced Displacements (BLC 6 : WIND LOAD (ICE) SIDE)

	Node Label	L, D, M	Direction	Magnitude [(lb, k-ft), (in, rad), (lb*s²/in, lb*s²*in)]
1	N67	L	X	53
2	N68	L	X	53
3	N66	L	X	11
4	N69	L	X	11
5	N65	L	X	22

Node Loads and Enforced Displacements (BLC 7 : LIVE LOAD1)

	Node Label	L, D, M	Direction	Magnitude [(lb, k-ft), (in, rad), (lb*s²/in, lb*s²*in)]
1	N3	L	Z	-250

Node Loads and Enforced Displacements (BLC 8 : LIVE LOAD2)

	Node Label	L, D, M	Direction	Magnitude [(lb, k-ft), (in, rad), (lb*s²/in, lb*s²*in)]
1	N4	L	Z	-250

Node Loads and Enforced Displacements (BLC 10 : MAINTENANCE LOAD 1)

	Node Label	L, D, M	Direction	Magnitude [(lb, k-ft), (in, rad), (lb*s²/in, lb*s²*in)]
1	N22	L	Z	-500

Node Loads and Enforced Displacements (BLC 11 : MAINTENANCE LOAD 2)

	Node Label	L, D, M	Direction	Magnitude [(lb, k-ft), (in, rad), (lb*s²/in, lb*s²*in)]
1	N24	L	Z	-500

Node Loads and Enforced Displacements (BLC 12 : MAINTENANCE LOAD 3)

	Node Label	L, D, M	Direction	Magnitude [(lb, k-ft), (in, rad), (lb*s²/in, lb*s²*in)]
1	N26	L	Z	-500

Node Loads and Enforced Displacements (BLC 13 : MAINTENANCE LOAD 4)

	Node Label	L, D, M	Direction	Magnitude [(lb, k-ft), (in, rad), (lb*s²/in, lb*s²*in)]
1	N28	L	Z	-500

Member Point Loads

No Data to Print...

Member Distributed Loads (BLC 2 : DEAD LOAD ICE)

	Member Label	Direction	Start Magnitude [lb/ft, F, ksf, k-ft/in]	End Magnitude [lb/ft, F, ksf, k-ft/in]	Start Location [(in, %)]	End Location [(in, %)]
1	M13	Z	-9.2	-9.2	0	%100
2	M14	Z	-9.2	-9.2	0	%100
3	M15	Z	-9.2	-9.2	0	%100
4	M16	Z	-9.2	-9.2	0	%100
5	M17	Z	-9.2	-9.2	0	%100
6	M18	Z	-9.2	-9.2	0	%100
7	M39A	Z	-9.2	-9.2	0	%100
8	M24	Z	-8.1	-8.1	0	%100
9	M20	Z	-8.1	-8.1	0	%100
10	M19	Z	-8.1	-8.1	0	%100
11	M21	Z	-8.1	-8.1	0	%100
12	M22	Z	-8.1	-8.1	0	%100
13	M23	Z	-8.1	-8.1	0	%100
14	M25	Z	-12.4	-12.4	0	%100
15	M28	Z	-12.4	-12.4	0	%100
16	M27	Z	-12.4	-12.4	0	%100
17	M26	Z	-12.4	-12.4	0	%100
18	M36	Z	-4.6	-4.6	0	%100
19	M34	Z	-4.6	-4.6	0	%100
20	M33	Z	-4.6	-4.6	0	%100
21	M35	Z	-4.6	-4.6	0	%100
22	M38	Z	-4.9	-4.9	0	%100
23	M39	Z	-4.9	-4.9	0	%100
24	M40	Z	-4.9	-4.9	0	%100
25	M37	Z	-4.9	-4.9	0	%100

Member Distributed Loads (BLC 3 : WIND LOAD (NO ICE) FRONT)

	Member Label	Direction	Start Magnitude [lb/ft, F, ksf, k-ft/in]	End Magnitude [lb/ft, F, ksf, k-ft/in]	Start Location [(in, %)]	End Location [(in, %)]
1	M13	PY	7.3	7.3	0	%100
2	M14	PY	7.3	7.3	0	%100
3	M15	PY	7.3	7.3	0	%100

Member Distributed Loads (BLC 3 : WIND LOAD (NO ICE) FRONT) (Continued)

	Member Label	Direction	Start Magnitude [lb/ft, F, ksf, k-ft/in]	End Magnitude [lb/ft, F, ksf, k-ft/in]	Start Location [(in, %)]	End Location [(in, %)]
4	M16	PY	7.3	7.3	0	%100
5	M17	PY	7.3	7.3	0	%100
6	M18	PY	7.3	7.3	0	%100
7	M39A	PY	7.3	7.3	0	%100
8	M24	PY	6	6	0	%100
9	M20	PY	6	6	0	%100
10	M19	PY	6	6	0	%100
11	M21	PY	6	6	0	%100
12	M22	PY	6	6	0	%100
13	M23	PY	6	6	0	%100
14	M25	PY	2.6	2.6	0	%100
15	M28	PY	2.6	2.6	0	%100
16	M27	PY	2.6	2.6	0	%100
17	M26	PY	2.6	2.6	0	%100
18	M36	PY	1.6	1.6	0	%100
19	M34	PY	1.6	1.6	0	%100
20	M33	PY	1.6	1.6	0	%100
21	M35	PY	1.6	1.6	0	%100
22	M38	PY	1.9	1.9	0	%100
23	M39	PY	1.9	1.9	0	%100
24	M40	PY	1.9	1.9	0	%100
25	M37	PY	1.9	1.9	0	%100

Member Distributed Loads (BLC 4 : WIND LOAD (NO ICE) SIDE)

	Member Label	Direction	Start Magnitude [lb/ft, F, ksf, k-ft/in]	End Magnitude [lb/ft, F, ksf, k-ft/in]	Start Location [(in, %)]	End Location [(in, %)]
1	M13	PX	7.3	7.3	0	%100
2	M14	PX	7.3	7.3	0	%100
3	M15	PX	7.3	7.3	0	%100
4	M16	PX	7.3	7.3	0	%100
5	M17	PX	7.3	7.3	0	%100
6	M18	PX	7.3	7.3	0	%100
7	M39A	PX	7.3	7.3	0	%100
8	M24	PX	6	6	0	%100
9	M20	PX	6	6	0	%100
10	M19	PX	6	6	0	%100
11	M21	PX	6	6	0	%100
12	M22	PX	6	6	0	%100
13	M23	PX	6	6	0	%100
14	M25	PX	2.6	2.6	0	%100
15	M28	PX	2.6	2.6	0	%100
16	M27	PX	2.6	2.6	0	%100
17	M26	PX	2.6	2.6	0	%100
18	M36	PX	1.6	1.6	0	%100
19	M34	PX	1.6	1.6	0	%100
20	M33	PX	1.6	1.6	0	%100
21	M35	PX	1.6	1.6	0	%100
22	M38	PX	1.9	1.9	0	%100
23	M39	PX	1.9	1.9	0	%100
24	M40	PX	1.9	1.9	0	%100
25	M37	PX	1.9	1.9	0	%100

Member Distributed Loads (BLC 5 : WIND LOAD (ICE) FRONT)

	Member Label	Direction	Start Magnitude [lb/ft, F, ksf, k-ft/in]	End Magnitude [lb/ft, F, ksf, k-ft/in]	Start Location [(in, %)]	End Location [(in, %)]
1	M13	PY	5.3	5.3	0	%100
2	M14	PY	5.3	5.3	0	%100
3	M15	PY	5.3	5.3	0	%100

Member Distributed Loads (BLC 5 : WIND LOAD (ICE) FRONT) (Continued)

	Member Label	Direction	Start Magnitude [lb/ft, F, ksf, k-ft/in]	End Magnitude [lb/ft, F, ksf, k-ft/in]	Start Location [(in, %)]	End Location [(in, %)]
4	M16	PY	5.3	5.3	0	%100
5	M17	PY	5.3	5.3	0	%100
6	M18	PY	5.3	5.3	0	%100
7	M39A	PY	5.3	5.3	0	%100
8	M24	PY	4.9	4.9	0	%100
9	M20	PY	4.9	4.9	0	%100
10	M19	PY	4.9	4.9	0	%100
11	M21	PY	4.9	4.9	0	%100
12	M22	PY	4.9	4.9	0	%100
13	M23	PY	4.9	4.9	0	%100
14	M25	PY	3.7	3.7	0	%100
15	M28	PY	3.7	3.7	0	%100
16	M27	PY	3.7	3.7	0	%100
17	M26	PY	3.7	3.7	0	%100
18	M36	PY	3.4	3.4	0	%100
19	M34	PY	3.4	3.4	0	%100
20	M33	PY	3.4	3.4	0	%100
21	M35	PY	3.4	3.4	0	%100
22	M38	PY	3.5	3.5	0	%100
23	M39	PY	3.5	3.5	0	%100
24	M40	PY	3.5	3.5	0	%100
25	M37	PY	3.5	3.5	0	%100

Member Distributed Loads (BLC 6 : WIND LOAD (ICE) SIDE)

	Member Label	Direction	Start Magnitude [lb/ft, F, ksf, k-ft/in]	End Magnitude [lb/ft, F, ksf, k-ft/in]	Start Location [(in, %)]	End Location [(in, %)]
1	M13	PX	5.3	5.3	0	%100
2	M14	PX	5.3	5.3	0	%100
3	M15	PX	5.3	5.3	0	%100
4	M16	PX	5.3	5.3	0	%100
5	M17	PX	5.3	5.3	0	%100
6	M18	PX	5.3	5.3	0	%100
7	M39A	PX	5.3	5.3	0	%100
8	M24	PX	4.9	4.9	0	%100
9	M20	PX	4.9	4.9	0	%100
10	M19	PX	4.9	4.9	0	%100
11	M21	PX	4.9	4.9	0	%100
12	M22	PX	4.9	4.9	0	%100
13	M23	PX	4.9	4.9	0	%100
14	M25	PX	3.7	3.7	0	%100
15	M28	PX	3.7	3.7	0	%100
16	M27	PX	3.7	3.7	0	%100
17	M26	PX	3.7	3.7	0	%100
18	M36	PX	3.4	3.4	0	%100
19	M34	PX	3.4	3.4	0	%100
20	M33	PX	3.4	3.4	0	%100
21	M35	PX	3.4	3.4	0	%100
22	M38	PX	3.5	3.5	0	%100
23	M39	PX	3.5	3.5	0	%100
24	M40	PX	3.5	3.5	0	%100
25	M37	PX	3.5	3.5	0	%100

Member Area Loads

No Data to Print...

Load Combinations

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
1	DL + WL (NO ICE) 0 Degree	Yes	Y	1	1.2			3	1.6		
2	DL + WL (NO ICE) 30 Degree	Yes	Y	1	1.2			3	1.386	4	0.8
3	DL + WL (NO ICE) 60 Degree	Yes	Y	1	1.2			3	0.8	4	1.386
4	DL + WL (NO ICE) 90 Degree	Yes	Y	1	1.2					4	1.6
5	DL + WL (NO ICE) 120 Degree	Yes	Y	1	1.2			3	-0.8	4	1.386
6	DL + WL (NO ICE) 150 Degree	Yes	Y	1	1.2			3	-1.386	4	0.8
7	DL + WL (NO ICE) 180 Degree	Yes	Y	1	1.2			3	-1.6		
8	DL + WL (NO ICE) 210 Degree	Yes	Y	1	1.2			3	-1.386	4	-0.8
9	DL + WL (NO ICE) 240 Degree	Yes	Y	1	1.2			3	-0.8	4	-1.386
10	DL + WL (NO ICE) 270 Degree	Yes	Y	1	1.2					4	-1.6
11	DL + WL (NO ICE) 300 Degree	Yes	Y	1	1.2			3	0.8	4	-1.386
12	DL + WL (NO ICE) 330 Degree	Yes	Y	1	1.2			3	1.386	4	-0.8
13	DL + DL ICE + WL (ICE) 0 Degree	Yes	Y	1	1.2	2	1	5	1		
14	DL + DL ICE + WL (ICE) 30 Degree	Yes	Y	1	1.2	2	1	5	0.866	6	0.5
15	DL + DL ICE + WL (ICE) 60 Degree	Yes	Y	1	1.2	2	1	5	0.5	6	0.866
16	DL + DL ICE + WL (ICE) 90 Degree	Yes	Y	1	1.2	2	1			6	1
17	DL + DL ICE + WL (ICE) 120 Degree	Yes	Y	1	1.2	2	1	5	-0.5	6	0.866
18	DL + DL ICE + WL (ICE) 150 Degree	Yes	Y	1	1.2	2	1	5	-0.866	6	0.5
19	DL + DL ICE + WL (ICE) 180 Degree	Yes	Y	1	1.2	2	1	5	-1		
20	DL + DL ICE + WL (ICE) 210 Degree	Yes	Y	1	1.2	2	1	5	-0.866	6	-0.5
21	DL + DL ICE + WL (ICE) 240 Degree	Yes	Y	1	1.2	2	1	5	-0.5	6	-0.866
22	DL + DL ICE + WL (ICE) 270 Degree	Yes	Y	1	1.2	2	1			6	-1
23	DL + DL ICE + WL (ICE) 300 Degree	Yes	Y	1	1.2	2	1	5	0.5	6	-0.866
24	DL + DL ICE + WL (ICE) 330 Degree	Yes	Y	1	1.2	2	1	5	0.866	6	-0.5
25	DEAD LOAD + LIVE LOAD1	Yes	Y	1	1.2					7	1.5
26	DEAD LOAD + LIVE LOAD2	Yes	Y	1	1.2					8	1.5
27	DEAD LOAD + LIVE LOAD3	Yes	Y	1	1.2					9	1.5
28	DL + MAIN L1+30MPH WL FRONT	Yes	Y	1	1.2	10	1.5	3	0.096		
29	DL + MAIN L2+30MPH WL FRONT	Yes	Y	1	1.2	11	1.5	3	0.096		
30	DL + MAIN L3+30MPH WL FRONT	Yes	Y	1	1.2	12	1.5	3	0.096		
31	DL + MAIN L4+30MPH WL FRONT	Yes	Y	1	1.2	13	1.5	3	0.096		
32	DL + MAIN L1+30MPH WL SIDE	Yes	Y	1	1.2	10	1.5	4	0.096		
33	DL + MAIN L2+30MPH WL SIDE	Yes	Y	1	1.2	11	1.5	4	0.096		
34	DL + MAIN L3+30MPH WL SIDE	Yes	Y	1	1.2	12	1.5	4	0.096		
35	DL + MAIN L4+30MPH WL SIDE	Yes	Y	1	1.2	13	1.5	4	0.096		
36	DL + MAIN L1+30MPH WL FRONT (REVERSED)	Yes	Y	1	1.2	10	1.5	3	-0.096		
37	DL + MAIN L2+30MPH WL FRONT (REVERSED)	Yes	Y	1	1.2	11	1.5	3	-0.096		
38	DL + MAIN L3+30MPH WL FRONT (REVERSED)	Yes	Y	1	1.2	12	1.5	3	-0.096		
39	DL + MAIN L4+30MPH WL FRONT (REVERSED)	Yes	Y	1	1.2	13	1.5	3	-0.096		
40	DL + MAIN L1+30MPH WL SIDE (REVERSED)	Yes	Y	1	1.2	10	1.5	4	-0.096		
41	DL + MAIN L2+30MPH WL SIDE (REVERSED)	Yes	Y	1	1.2	11	1.5	4	-0.096		
42	DL + MAIN L3+30MPH WL SIDE (REVERSED)	Yes	Y	1	1.2	12	1.5	4	-0.096		
43	DL + MAIN L4+30MPH WL SIDE (REVERSED)	Yes	Y	1	1.2	13	1.5	4	-0.096		

Envelope Node Reactions

	Node Label		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
1	N59	max	2320.408	22	832.745	1	2513.17	13	0	43	0	43	0	43
2		min	-574.413	35	-2415.192	7	941.076	11	0	1	0	1	0	1
3	N60	max	562.446	43	2378.639	19	576.754	20	0	43	0	43	0	43
4		min	-2260.493	16	-201.04	1	96.205	2	0	1	0	1	0	1
5	N61	max	33.86	10	823.907	6	43.149	18	0	43	0.039	28	0	43
6		min	-33.531	4	-812.015	12	14.212	12	0	1	-0.049	39	0	1
7	N62	max	176.739	8	2288.318	7	44.534	14	0.007	15	0.096	15	0	43
8		min	-177.064	2	-2277.528	1	12.587	7	0.001	39	0.01	39	0	1
9	Totals:	max	1596.046	10	2351.509	7	3160.298	21						
10		min	-1596.048	4	-2351.518	1	1196.816	2						

Envelope Node Displacements

	Node Label		X [in]	LC	Y [in]	LC	Z [in]	LC	X Rotation [rad]	LC	Y Rotation [rad]	LC	Z Rotation [rad]	LC
1	N1	max	0.019	5	0.411	1	-0.046	39	1.99e-3	4	7.358e-5	39	1.448e-2	7
2		min	-0.058	22	-0.389	7	-0.48	14	-1.457e-3	10	-5.739e-3	28	-1.484e-2	1
3	N2	max	0.018	5	0.018	2	0.188	28	1.347e-3	9	2.576e-3	39	8.965e-4	1
4		min	-0.057	22	-0.036	19	-0.227	39	-2.471e-3	3	-3.235e-3	28	-1.359e-3	19
5	N3	max	0.104	15	0.686	1	-0.044	39	1.162e-2	1	6.395e-4	9	1.539e-2	7
6		min	-0.039	9	-0.635	7	-0.487	14	-1.117e-2	7	-5.996e-3	15	-1.597e-2	1
7	N4	max	0.102	15	0.034	10	0.188	28	1.087e-3	10	2.53e-3	39	1.318e-3	1
8		min	-0.039	9	-0.112	17	-0.227	39	-2.274e-3	4	-3.203e-3	28	-1.731e-3	7
9	N5	max	0.029	3	0.366	1	-0.048	39	1.99e-3	4	7.365e-5	39	1.448e-2	7
10		min	-0.065	9	-0.346	7	-0.46	14	-1.457e-3	10	-5.738e-3	28	-1.484e-2	1
11	N6	max	0.019	5	0.366	1	-0.046	39	1.99e-3	4	7.365e-5	39	1.448e-2	7
12		min	-0.058	22	-0.346	7	-0.464	14	-1.457e-3	10	-5.738e-3	28	-1.484e-2	1
13	N7	max	0.141	2	0.638	1	-0.048	39	1.162e-2	1	6.395e-4	9	1.539e-2	7
14		min	-0.076	8	-0.589	7	-0.46	14	-1.117e-2	7	-5.996e-3	15	-1.597e-2	1
15	N8	max	0.104	15	0.638	1	-0.044	39	1.162e-2	1	6.395e-4	9	1.539e-2	7
16		min	-0.039	9	-0.589	7	-0.469	14	-1.117e-2	7	-5.996e-3	15	-1.597e-2	1
17	N9	max	0.014	4	0.014	6	-0.02	39	2.132e-3	3	-4.239e-5	39	2.683e-3	7
18		min	-0.056	22	-0.014	12	-0.187	24	-1.486e-3	8	-5.542e-3	14	-3.026e-3	1
19	N10	max	0.018	5	0.014	6	-0.019	39	2.132e-3	3	-4.239e-5	39	2.683e-3	7
20		min	-0.058	22	-0.014	12	-0.191	14	-1.486e-3	8	-5.542e-3	14	-3.026e-3	1
21	N11	max	0.124	2	0.146	2	-0.02	39	5.073e-3	1	-5.157e-5	39	9.013e-3	7
22		min	-0.059	8	-0.112	8	-0.187	24	-4.589e-3	7	-5.698e-3	14	-9.7e-3	1
23	N12	max	0.103	15	0.146	2	-0.018	39	5.073e-3	1	-5.157e-5	39	9.013e-3	7
24		min	-0.039	9	-0.112	8	-0.192	13	-4.589e-3	7	-5.698e-3	14	-9.7e-3	1
25	N13	max	0.016	5	0.009	12	0.068	28	1.638e-3	8	2.419e-3	39	8.302e-4	6
26		min	-0.055	22	-0.008	6	-0.078	39	-2.522e-3	2	-2.984e-3	28	-1.084e-3	12
27	N14	max	0.018	5	0.009	12	0.072	28	1.638e-3	8	2.419e-3	39	8.302e-4	6
28		min	-0.057	22	-0.008	6	-0.08	39	-2.522e-3	2	-2.984e-3	28	-1.084e-3	12
29	N15	max	0.104	15	0.051	9	0.068	28	7.691e-4	9	2.502e-3	39	7.808e-4	12
30		min	-0.038	9	-0.089	3	-0.078	39	-1.739e-3	3	-3.009e-3	28	-1.431e-3	18
31	N16	max	0.102	15	0.051	9	0.072	28	7.691e-4	9	2.502e-3	39	7.808e-4	12
32		min	-0.039	9	-0.089	3	-0.079	39	-1.739e-3	3	-3.009e-3	28	-1.431e-3	18
33	N17	max	0.021	5	0.015	2	0.173	28	1.347e-3	9	2.576e-3	39	8.964e-4	1
34		min	-0.056	23	-0.032	19	-0.218	39	-2.471e-3	3	-3.235e-3	28	-1.359e-3	19
35	N18	max	0.018	5	0.015	2	0.178	28	1.347e-3	9	2.576e-3	39	8.964e-4	1
36		min	-0.057	22	-0.032	19	-0.219	39	-2.471e-3	3	-3.235e-3	28	-1.359e-3	19
37	N19	max	0.103	16	0.034	10	0.173	28	1.087e-3	10	2.53e-3	39	1.318e-3	1
38		min	-0.037	9	-0.108	17	-0.219	39	-2.274e-3	4	-3.203e-3	28	-1.731e-3	7
39	N20	max	0.102	15	0.034	10	0.178	28	1.087e-3	10	2.53e-3	39	1.318e-3	1
40		min	-0.039	9	-0.108	17	-0.219	39	-2.274e-3	4	-3.203e-3	28	-1.731e-3	7
41	N21	max	0.079	4	0.503	1	-0.049	39	5.33e-3	6	2.296e-3	5	1.448e-2	7
42		min	-0.306	22	-0.502	7	-0.46	14	-4.831e-3	12	-6.579e-3	11	-1.484e-2	1
43	N22	max	0.411	3	1.266	1	-0.049	39	1.689e-2	1	3.517e-3	9	1.539e-2	7
44		min	-0.179	9	-1.199	7	-0.46	14	-1.644e-2	7	-7.676e-3	3	-1.597e-2	1
45	N23	max	0.01	39	0.061	8	-0.02	39	1.978e-3	3	-4.24e-5	39	2.683e-3	7
46		min	-0.267	28	-0.087	2	-0.187	24	-1.327e-3	9	-5.483e-3	28	-3.026e-3	1
47	N24	max	0.339	15	0.352	2	-0.02	39	5.38e-3	1	-5.156e-5	39	9.013e-3	7
48		min	-0.036	8	-0.298	8	-0.187	24	-4.897e-3	7	-5.764e-3	14	-9.7e-3	1
49	N25	max	0.11	39	0.113	2	0.068	28	1.906e-3	8	2.419e-3	39	8.302e-4	6
50		min	-0.167	28	-0.076	8	-0.078	39	-2.79e-3	2	-2.985e-3	28	-1.084e-3	12
51	N26	max	0.223	15	0.077	9	0.068	28	6.146e-4	9	2.502e-3	39	7.808e-4	12
52		min	-0.129	43	-0.154	3	-0.078	39	-1.738e-3	17	-3.008e-3	28	-1.431e-3	18
53	N27	max	0.117	39	0.114	3	0.173	28	1.502e-3	9	2.577e-3	39	8.964e-4	1
54		min	-0.176	28	-0.08	9	-0.218	39	-2.626e-3	3	-3.236e-3	28	-1.359e-3	19
55	N28	max	0.229	15	0.077	10	0.173	28	1.087e-3	10	2.485e-3	39	1.318e-3	1
56		min	-0.128	43	-0.199	17	-0.22	39	-2.294e-3	17	-3.202e-3	28	-1.731e-3	7
57	N29	max	0.005	21	0.034	22	0.01	39	-7.152e-4	12	1.499e-3	39	7.215e-4	35
58		min	-0.001	35	-0.008	35	-0.055	14	-2.22e-3	20	-4.989e-3	28	-2.956e-3	21

Envelope Node Displacements (Continued)

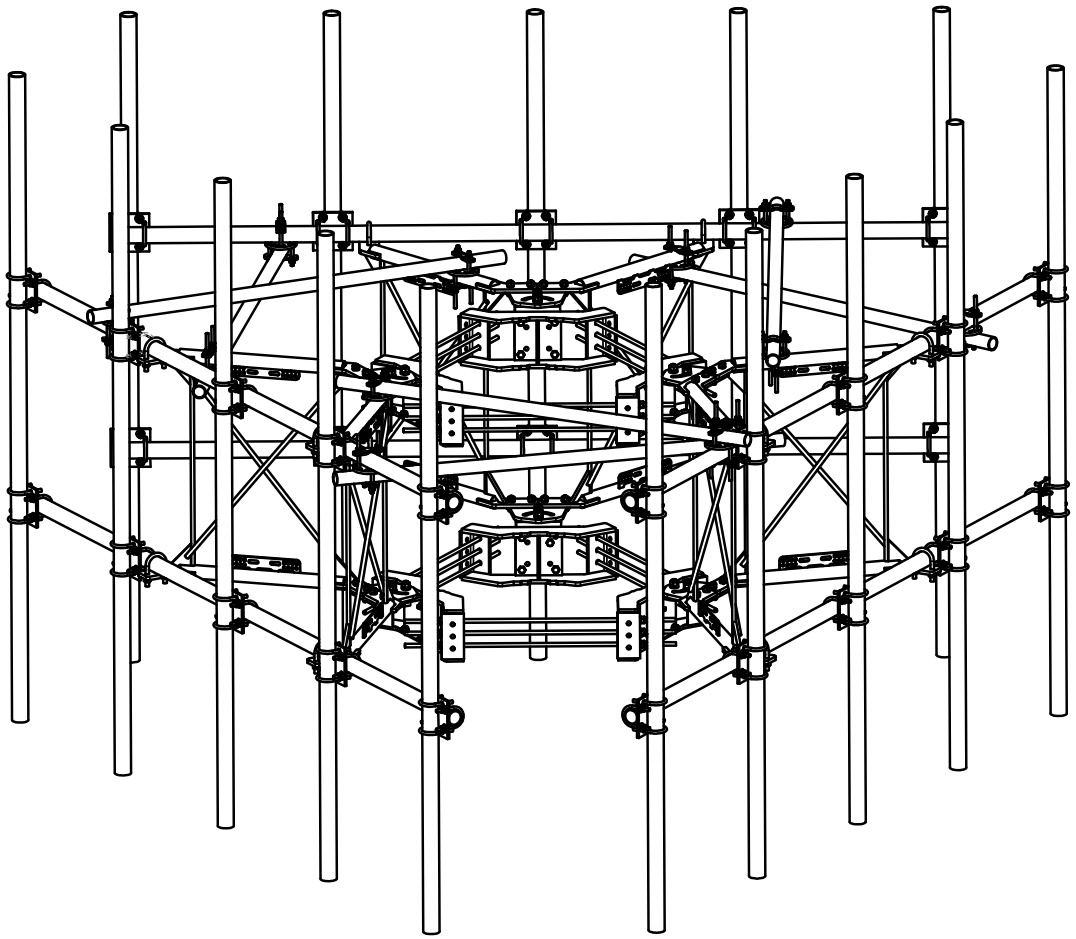
	Node Label		X [in]	LC	Y [in]	LC	Z [in]	LC	X Rotation [rad]	LC	Y Rotation [rad]	LC	Z Rotation [rad]	LC
59	N30	max	0.003	2	0.014	1	0.011	39	1.104e-4	1	1.381e-3	39	3.034e-3	8
60		min	-0.005	8	-0.029	7	-0.048	14	-6.465e-4	20	-4.611e-3	28	-1.983e-3	2
61	N31	max	0.015	6	0.027	7	0.005	39	-4.363e-4	2	9.553e-4	39	5.027e-3	22
62		min	-0.03	12	-0.022	1	-0.106	13	-3.549e-3	20	-2.684e-3	28	-1.233e-3	4
63	N32	max	0.072	2	0.082	2	0.008	39	-1.436e-3	1	5.684e-4	39	1.684e-3	43
64		min	-0.036	8	-0.062	8	-0.097	24	-3.942e-3	20	-3.078e-3	28	-6.403e-3	16
65	N33	max	0.005	22	0.009	35	0.048	28	-9.781e-4	8	1.139e-3	39	7.424e-4	35
66		min	-0.001	35	-0.034	22	-0.015	39	-2.916e-3	15	-5.536e-3	14	-2.885e-3	22
67	N34	max	0.002	2	0.028	7	0.046	28	-3.377e-4	43	1.036e-3	39	2.796e-3	8
68		min	-0.004	8	-0.014	1	-0.012	39	-1.293e-3	15	-5.096e-3	14	-1.789e-3	2
69	N35	max	0.009	5	0.008	12	0.066	40	-1.601e-3	9	5.285e-4	39	4.842e-3	22
70		min	-0.026	22	-0.012	6	-0.036	39	-4.933e-3	17	-3.564e-3	15	-1.305e-3	35
71	N36	max	0.068	3	0.053	8	0.067	40	-1.47e-3	8	8.969e-4	39	1.74e-3	43
72		min	-0.032	9	-0.076	2	-0.031	39	-4.704e-3	14	-2.878e-3	14	-6.387e-3	15
73	N37	max	0	2	0.029	22	0.011	39	-9.812e-4	11	1.457e-3	39	9.757e-4	35
74		min	0	21	-0.007	35	-0.043	14	-2.674e-3	19	-5.806e-3	14	-3.88e-3	22
75	N38	max	0	17	0.011	1	0.01	39	-1.751e-4	1	1.339e-3	39	3.209e-3	7
76		min	0	12	-0.024	7	-0.04	14	-9.704e-4	19	-5.333e-3	14	-1.512e-3	1
77	N39	max	0	2	0.024	7	0.04	14	-1.751e-4	1	1.339e-3	39	3.209e-3	7
78		min	0	39	-0.011	1	-0.01	39	-9.704e-4	19	-5.333e-3	14	-1.512e-3	1
79	N40	max	0	39	0.007	35	0.043	14	-9.812e-4	11	1.457e-3	39	9.757e-4	35
80		min	0	12	-0.029	22	-0.011	39	-2.674e-3	19	-5.806e-3	14	-3.88e-3	22
81	N41	max	0.018	5	0.024	6	-0.018	39	1.51e-3	3	-1.745e-5	39	7.542e-4	6
82		min	-0.058	22	-0.026	12	-0.155	19	-1.035e-3	9	-4.864e-3	28	-9.416e-4	12
83	N42	max	0.015	5	0.025	6	0.002	39	-8.058e-4	2	7.804e-4	39	5.412e-3	22
84		min	-0.036	11	-0.024	1	-0.116	24	-4.302e-3	20	-3.064e-3	28	-1.428e-3	4
85	N43	max	0.018	5	0.016	12	0.053	28	1.644e-3	8	2.015e-3	39	6.378e-4	6
86		min	-0.057	22	-0.014	6	-0.064	39	-2.4e-3	2	-2.845e-3	15	-7.325e-4	12
87	N44	max	0.011	5	0.014	12	0.066	40	-1.758e-3	10	7.905e-4	39	5.139e-3	22
88		min	-0.033	22	-0.013	6	-0.041	39	-5.107e-3	18	-3.419e-3	15	-1.492e-3	5
89	N45	max	0.103	15	0.091	2	-0.017	39	4.135e-3	1	-4.411e-5	39	7.174e-3	7
90		min	-0.039	9	-0.062	8	-0.156	13	-3.807e-3	7	-4.977e-3	28	-8.009e-3	1
91	N46	max	0.079	3	0.088	2	0.004	39	-1.778e-3	8	4.195e-4	39	1.734e-3	43
92		min	-0.036	9	-0.062	8	-0.108	24	-4.807e-3	14	-3.464e-3	28	-6.718e-3	16
93	N47	max	0.102	15	0.054	8	0.053	40	5.796e-4	9	2.084e-3	39	7.954e-4	11
94		min	-0.039	9	-0.087	2	-0.063	39	-1.44e-3	16	-2.804e-3	14	-1.647e-3	5
95	N48	max	0.076	3	0.054	8	0.066	40	-1.668e-3	7	1.147e-3	39	1.841e-3	43
96		min	-0.034	9	-0.083	2	-0.037	39	-4.905e-3	13	-2.774e-3	14	-6.65e-3	15
97	N49	max	0.018	5	0.003	12	0.09	28	1.554e-3	8	3.509e-3	39	6.397e-4	5
98		min	-0.057	22	-0.003	6	-0.098	39	-2.475e-3	2	-2.839e-3	28	-9.305e-4	11
99	N50	max	0.018	5	0.01	1	-0.021	39	2.112e-3	3	-6.567e-4	39	5.256e-3	7
100		min	-0.058	22	-0.008	7	-0.229	15	-1.473e-3	9	-7.121e-3	15	-5.776e-3	1
101	N59	max	0	35	0	7	0	11	-9.812e-4	11	1.457e-3	39	9.757e-4	35
102		min	0	22	0	1	0	13	-2.674e-3	19	-5.806e-3	14	-3.88e-3	22
103	N60	max	0	16	0	1	0	2	-1.751e-4	1	1.339e-3	39	3.209e-3	7
104		min	0	43	0	19	0	20	-9.704e-4	19	-5.333e-3	14	-1.512e-3	1
105	N61	max	0	4	0	12	0	12	0	43	0	39	0	43
106		min	0	10	0	6	0	18	0	1	0	28	0	1
107	N62	max	0	2	0	1	0	7	0	39	0	39	0	43
108		min	0	8	0	7	0	14	0	15	0	15	0	1
109	N59A	max	0.022	5	0.001	31	-0.02	11	2.032e-3	7	8.208e-4	39	1.285e-3	12
110		min	-0.058	22	-0.001	8	-0.057	19	-2.136e-3	1	-3.179e-3	28	-1.221e-3	6
111	N60A	max	0.018	5	0.001	31	-0.014	1	2.032e-3	7	8.208e-4	39	1.285e-3	12
112		min	-0.057	22	-0.001	8	-0.058	19	-2.136e-3	1	-3.179e-3	28	-1.221e-3	6
113	N61A	max	0.109	3	0.05	7	-0.02	11	1.55e-4	1	8.107e-4	39	1.506e-3	9
114		min	-0.044	9	-0.053	1	-0.057	19	-3.95e-4	19	-3.164e-3	14	-2.56e-3	3
115	N62A	max	0.102	15	0.05	7	-0.02	11	1.55e-4	1	8.107e-4	39	1.506e-3	9
116		min	-0.039	9	-0.053	1	-0.056	19	-3.95e-4	19	-3.164e-3	14	-2.56e-3	3

Envelope Node Displacements (Continued)

	Node Label		X [in]	LC	Y [in]	LC	Z [in]	LC	X Rotation [rad]	LC	Y Rotation [rad]	LC	Z Rotation [rad]	LC
117	N63	max	0.047	35	0.114	1	-0.02	11	2.844e-3	7	8.21e-4	39	1.285e-3	12
118		min	-0.188	23	-0.11	7	-0.057	19	-2.949e-3	1	-3.265e-3	23	-1.221e-3	6
119	N64	max	0.239	15	0.027	7	-0.02	11	4.636e-4	1	8.105e-4	39	1.506e-3	9
120		min	-0.062	43	-0.037	1	-0.057	19	-6.581e-4	7	-3.28e-3	15	-2.56e-3	3
121	N67	max	0.052	4	0.447	1	-0.049	39	5.323e-3	6	2.289e-3	5	1.448e-2	7
122		min	-0.229	22	-0.441	7	-0.46	14	-4.824e-3	12	-6.572e-3	11	-1.484e-2	1
123	N68	max	0.319	3	1.063	1	-0.049	39	1.688e-2	1	3.51e-3	9	1.539e-2	7
124		min	-0.137	9	-1.002	7	-0.46	14	-1.643e-2	7	-7.669e-3	3	-1.597e-2	1
125	N66	max	0.023	4	0.013	5	-0.02	39	2.566e-3	2	4.493e-4	39	3.229e-3	7
126		min	-0.046	10	-0.011	12	-0.187	24	-1.805e-3	8	-4.675e-3	14	-3.602e-3	1
127	N69	max	0.112	2	0.13	2	-0.02	39	4.918e-3	1	4.418e-4	39	8.467e-3	7
128		min	-0.06	8	-0.097	8	-0.187	24	-4.285e-3	7	-4.797e-3	14	-9.125e-3	1
129	N65	max	0.024	35	0.032	1	-0.02	11	2.738e-3	7	8.209e-4	39	1.285e-3	12
130		min	-0.097	23	-0.031	7	-0.057	19	-2.842e-3	1	-3.223e-3	23	-1.221e-3	6

Envelope AISC 14TH (360-10): LRFD Member Steel Code Checks

	Member	Shape	Code Check	Loc[in]	LC	Shear Check	Loc[in]	Dir	LC	phi*Pnc [lb]	phi*Pnt [lb]	phi*Mn y-y [k-ft]	phi*Mn z-z [k-ft]	Cb	Eqn
1	M36	.625 Dia.	0.603	20.833	15	0.045	40		28	3055.133	9940.19	0.104	0.104	1.136	H1-1a
2	M28	.625 x 3.5"	0.544	0	15	0.22	0	y	14	66681.869	68906.25	0.897	5.024	1.667	H1-1b
3	M21	PIPE_2.0	0.483	1.875	23	0.25	0		14	29810.292	32130	1.872	1.872	1.39	H1-1b
4	M26	.625 x 3.5"	0.482	0	20	0.236	4.568	y	18	66681.869	68906.25	0.897	5.024	1.667	H1-1b
5	M17	PIPE_2.5	0.471	32.812	1	0.19	39.062		2	14558.792	50715	3.596	3.596	2.434	H1-1b
6	M35	.625 Dia.	0.451	20.833	14	0.025	40		8	3055.133	9940.19	0.104	0.104	1.136	H1-1a
7	M22	PIPE_2.0	0.446	2.188	15	0.227	28.125		14	29810.292	32130	1.872	1.872	1.448	H1-1b
8	M39	.75 Dia.	0.35	23.786	16	0.025	47.572		3	3164.278	14313.866	0.179	0.179	1.136	H1-1a
9	M19	PIPE_2.0	0.337	0	40	0.124	0		39	29810.292	32130	1.872	1.872	1.468	H1-1b
10	M20	PIPE_2.0	0.328	0	17	0.108	28.125		39	29810.292	32130	1.872	1.872	1.5	H1-1b
11	M13	PIPE_2.5	0.321	40	7	0.055	40		1	22373.407	50715	3.596	3.596	1.362	H1-1b
12	M18	PIPE_2.5	0.314	37.5	7	0.187	37.5		7	14558.792	50715	3.596	3.596	1.748	H1-1b
13	M34	.625 Dia.	0.273	23.75	39	0.045	40		13	3055.133	9940.19	0.104	0.104	1	H1-1a
14	M27	.625 x 3.5"	0.266	0	39	0.12	4.568	y	39	66681.869	68906.25	0.897	5.024	1.667	H1-1b
15	M14	PIPE_2.5	0.263	80	20	0.16	40		8	22373.407	50715	3.596	3.596	3	H1-1b
16	M25	.625 x 3.5"	0.241	0	39	0.141	0.523	y	39	66681.869	68906.25	0.897	5.024	1.667	H1-1b
17	M16	PIPE_2.5	0.179	80	31	0.029	40		31	22373.407	50715	3.596	3.596	3	H1-1b
18	M15	PIPE_2.5	0.171	80	31	0.05	40		6	22373.407	50715	3.596	3.596	3	H1-1b
19	M33	.625 Dia.	0.169	40	39	0.022	40		8	3055.133	9940.19	0.104	0.104	1	H1-1b*
20	M39A	PIPE_2.5	0.16	40	2	0.077	40		2	22373.407	50715	3.596	3.596	2.271	H1-1b
21	M38	.75 Dia.	0.14	0	39	0.023	47.572		3	3164.278	14313.866	0.179	0.179	1.136	H1-1b*
22	M23	PIPE_2.0	0.129	84.24	7	0.063	84.24		15	17795.245	32130	1.872	1.872	1.136	H1-1b*
23	M24	PIPE_2.0	0.05	42.013	5	0.031	84.026		39	17848.666	32130	1.872	1.872	1.136	H1-1b
24	M37	.75 Dia.	0.021	0	2	0.019	0		12	3164.278	14313.866	0.179	0.179	3	H1-1b*
25	M40	.75 Dia.	0	47.572	43	0	47.572		43	3164.278	14313.866	0.179	0.179	1	H1-1a



PARTS LIST						
ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.
1	6	X-LWRM	RING MOUNT WELDMENT		68.81	412.85
2	6	X-RMBP	RING MOUNT BENT PLATE CONNECTION	15 1/2 in	17.02	102.13
3	6	X-VFAPL4	VFA-HD PIVOT PLATE	12 in	15.88	95.30
4	6	X-VFAW	SUPPORT ARM		71.41	428.44
5	30	SCX2	CROSSOVER PLATE	7 in	4.80	143.89
6	6	P284	2-3/8" X 84" SCH 40 GALVANIZED PIPE	84 in	26.91	161.47
7	15	P30120	2-7/8" x 120" (2-1/2" SCH. 40) GALVANIZED PIPE	120 in	58.07	870.99
8	6	P30150	2-7/8" X 150" (2-1/2" SCH. 40) GALVANIZED PIPE	150 in	76.94	461.62
9	12	X-127594	FLAT DISK CLAMP PLATE 4" CENTERS (GALV.)		2.51	30.08
10	24	X-100064	CLAMP (4" V-CLAMP) GALVANIZED		0.92	22.12
11	12	A34212	3/4" x 2-1/2" UNC HEX BOLT (A325)	2 1/2 in	0.48	5.75
12	18	G34FW	3/4" HDG USS FLATWASHER		0.06	1.06
13	12	G34LW	3/4" HDG LOCKWASHER		0.04	0.51
14	12	G34NUT	3/4" HDG HEAVY 2H HEX NUT		0.21	2.55
15	18	G58R-48	5/8" x 48" THREADED ROD (HDG.)		4.18	75.27
16	12	X-UB5300	5/8" X 3" X 5-1/4" X 2-1/2" U-BOLT (HDG.)		1.15	13.79
17	24	A582112	5/8" x 2-1/2" HDG A325 HEX BOLT	2 1/2 in	0.33	8.02
18	24	A582114	5/8" x 2-1/4" HDG A325 HEX BOLT	2 1/4 in	0.31	7.50
19	108	G58LW	5/8" HDG LOCKWASHER		0.03	2.82
20	108	G58NUT	5/8" HDG HEAVY 2H HEX NUT		0.13	14.03
21	120	X-UB1300	1/2" X 3" X 5" X 2" GALV U-BOLT		0.74	88.64
22	24	G12065	1/2" x 6-1/2" HDG HEX BOLT GR5 FULL THREAD	5 1/2 in	0.41	9.83
23	24	G1204	1/2" x 4" HDG HEX BOLT GR5 FULL THREAD	4 in	0.27	6.48
24	288	G12FW	1/2" HDG USS FLATWASHER	3/32 in	0.03	9.82
25	288	G12LW	1/2" HDG LOCKWASHER	1/8 in	0.01	4.00
26	288	G12NUT	1/2" HDG HEAVY 2H HEX NUT		0.07	20.63
					TOTAL WT. #	2999.58

TOLERANCE NOTES

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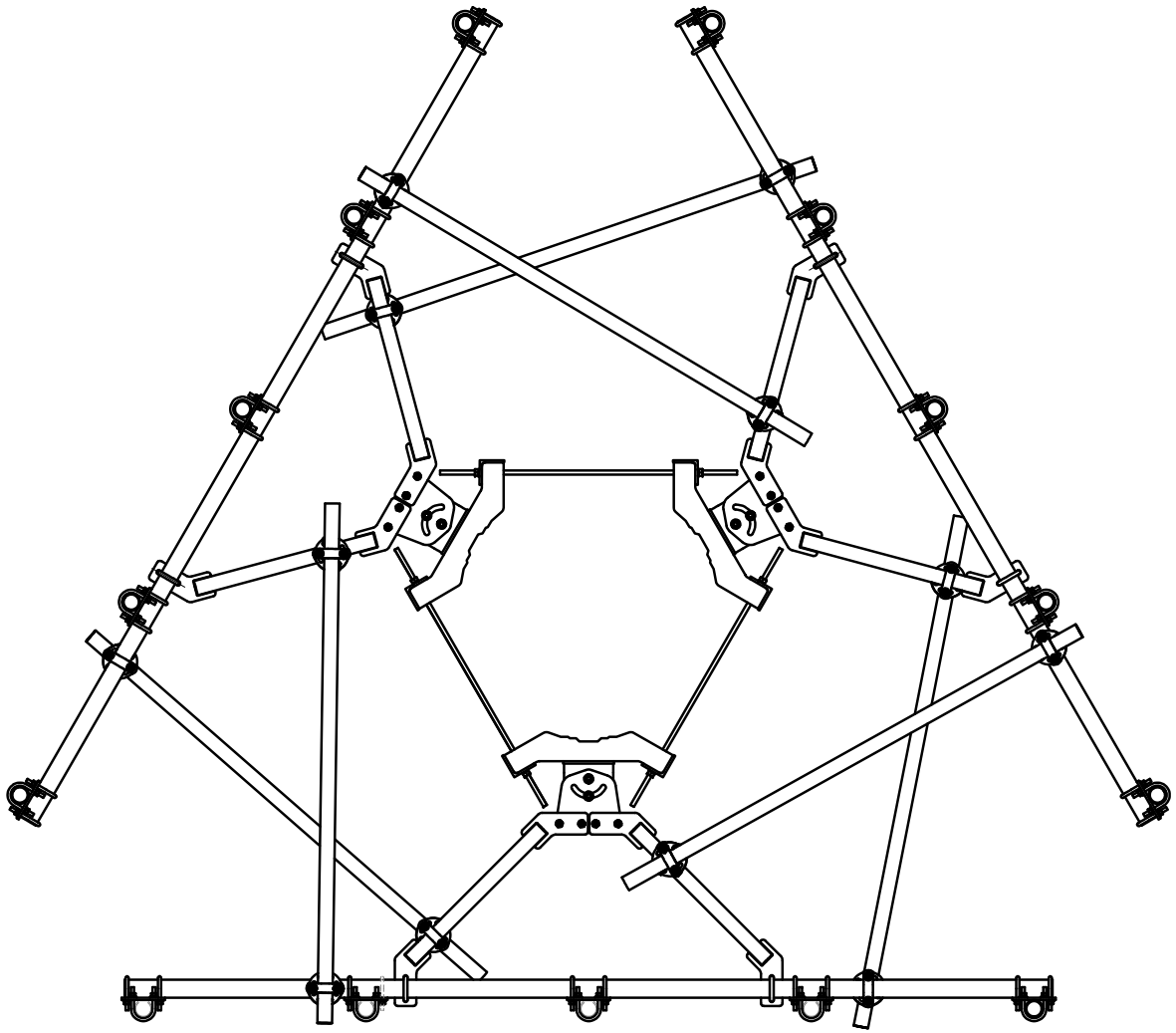
BENDS ARE ± 1/2 DEGREE
ALL OTHER MACHINING *(± 0.030")*
ALL OTHER ASSEMBLY *(± 0.060")*

DESCRIPTION
THREE SECTORS HEAVY WLL FRAME
AND MONOPOLE ATTACHMENT HARDWARE
WITH FIVE MOUNTING PIPES

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

CPD NO.	DRAWN BY	ENG. APPROVAL	PART NO.	
	CEK 10/26/2018		VFA12-M3-WLL	PAGE 1 OF 4

CLASS	SUB	DRAWING USAGE	CHECKED BY	DWG. NO.
81	02	CUSTOMER	BMC 10/29/2018	VFA12-M3-WLL



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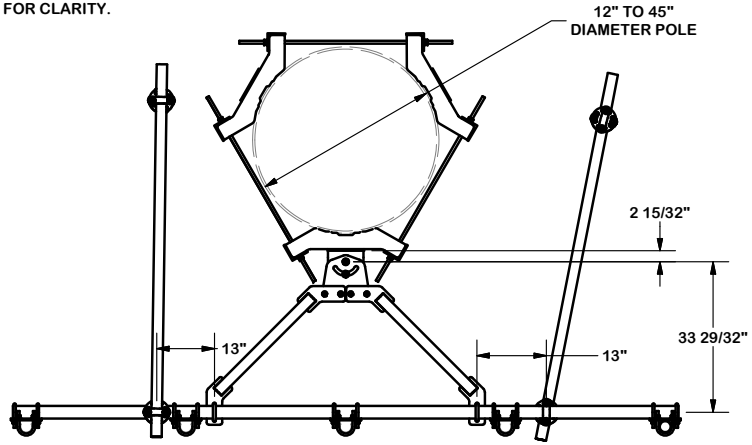
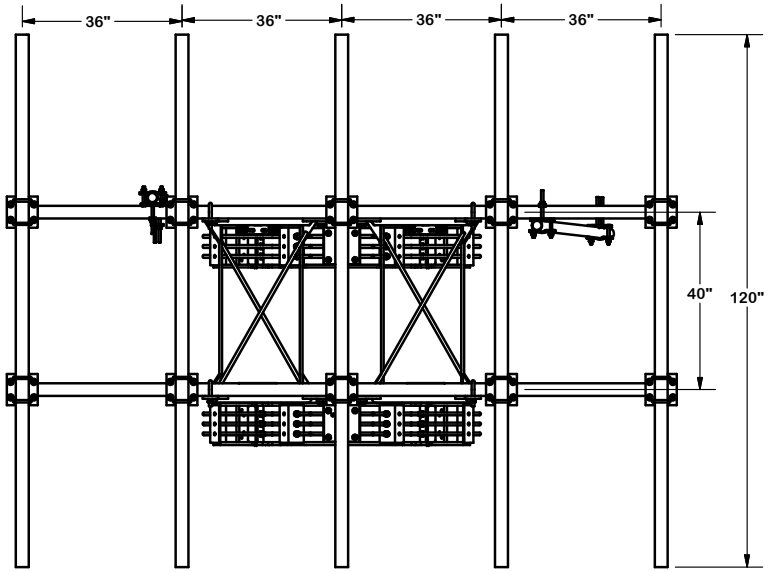
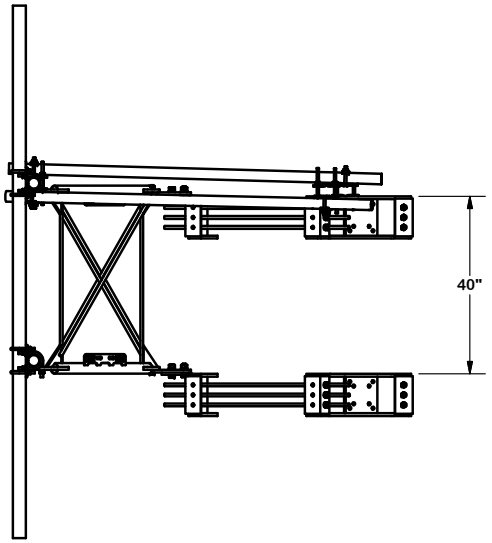
CLASS	SUB	DRAWING USAGE	CHECKED BY	DWG. NO.
81	02	CUSTOMER	BMC 10/29/2018	VFA12-M3-WLL

NOTE:
OTHER SECTORS REMOVED FOR CLARITY.







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Dallas, TX

CPD NO.	DRAWN BY	ENG. APPROVAL	PART NO.	
	CEK 10/26/2018		VFA12-M3-WLL	PAGE 3 OF 4
CLASS / SUB: 81 / 02	DRAWING USAGE: CUSTOMER	CHECKED BY: BMC 10/29/2018	DWG. NO.: VFA12-M3-WLL	

NOTE:
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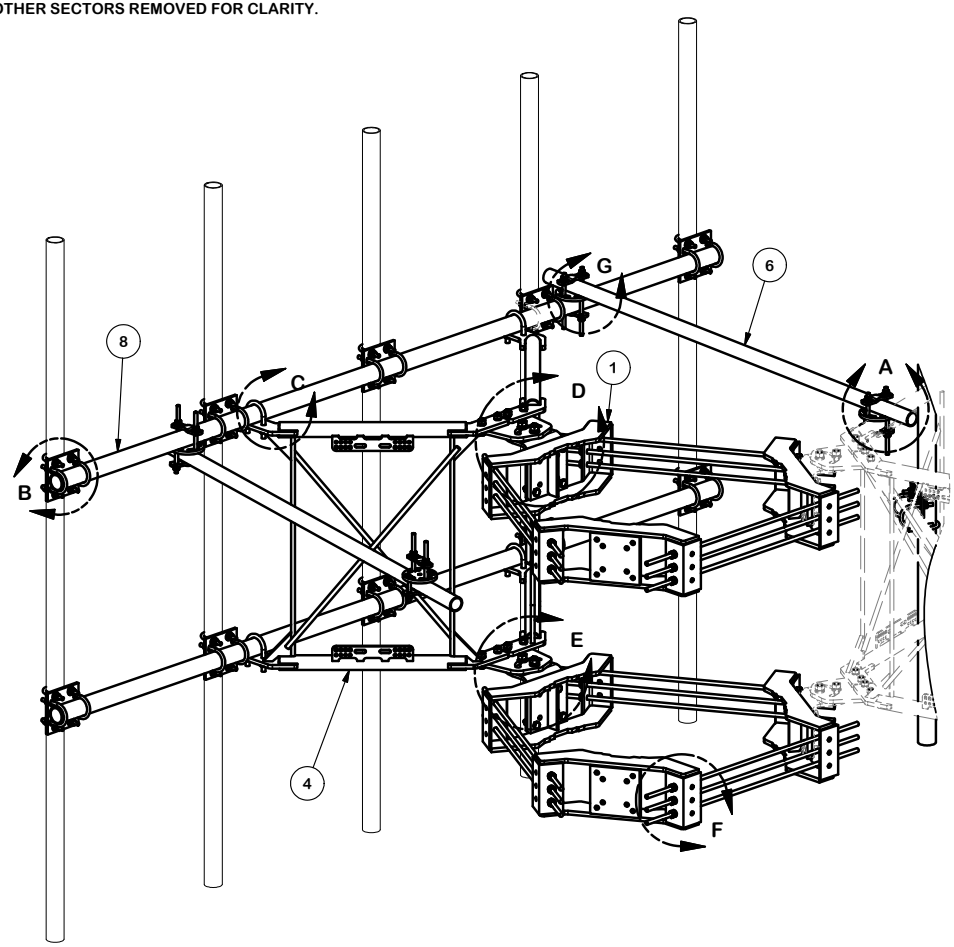

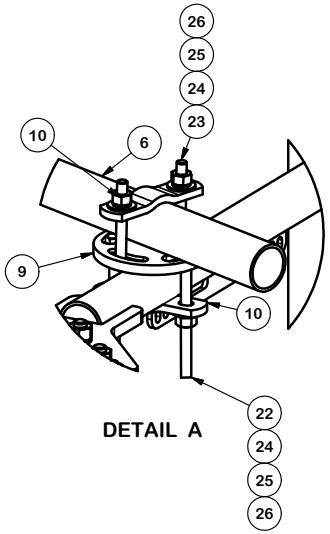

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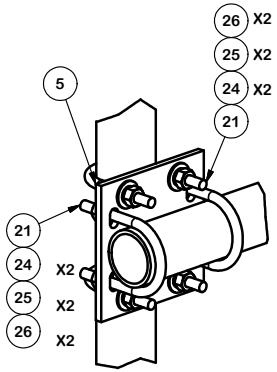

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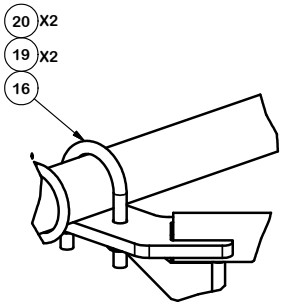

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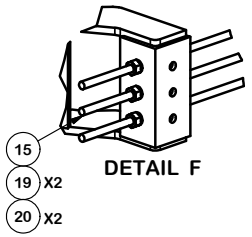

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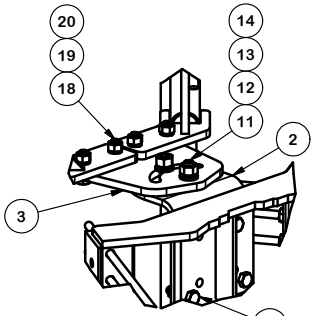

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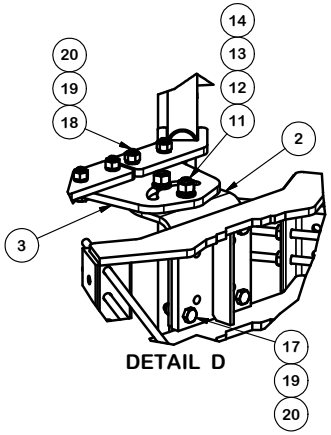

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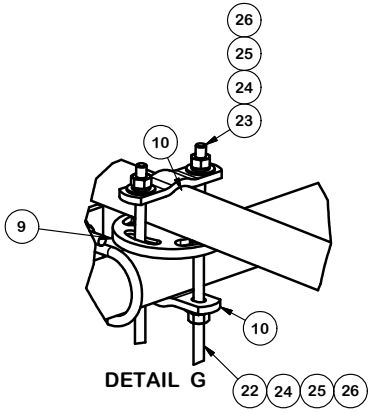

DETAIL G

TOLERANCE NOTES

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CLASS	SUB	DRAWING USAGE	CHECKED BY	DWG. NO.
81	02	CUSTOMER	BMC 10/29/2018	VFA12-M3-WLL

Exhibit F

Power Density/RF Emissions Report

Fox Hill Telecom

Radio Frequency Emissions Analysis Report

T-Mobile

Site ID: CTNH997A

Temp for CTNH007A
1063 Boston Post Road
Milford, CT 06460

April 22, 2022

Fox Hill Telecom Project Number: 220943

Site Compliance Summary	
Compliance Status:	**COMPLIANT**
Site total MPE% of FCC general population allowable limit:	**46.56 %**

Fox Hill Telecom

April 22, 2022

T-MOBILE
Attn: RF Manager
35 Griffin Road South
Bloomfield, CT 06009

Emissions Analysis for Site: **CTNH997A – Temp for CTNH007A**

Fox Hill Telecom, Inc ("Fox Hill") was directed to analyze the proposed T-MOBILE facility located at **1063 Boston Post Road, Milford, CT**, for the purpose of determining whether the emissions from the Proposed T-MOBILE Antenna Installation located on this property 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 97-01and 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.

General 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 & 700 MHz bands are approximately 400 $\mu W/cm^2$ and 467 $\mu W/cm^2$ respectively. The general population exposure limit for the 1900 MHz (PCS), 2100 MHz (AWS), 2500 MHz (BRS) and 11 GHz microwave bands is 1000 $\mu W/cm^2$. Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report percent of MPE rather than power density.

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

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were performed for the proposed T-MOBILE antenna facility located at **1063 Boston Post Road, Milford, CT**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since T-MOBILE is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was focused at the base of the tower. 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.

All emissions values for additional carriers were taken from the Connecticut Siting Council (CSC) active MPE database. Values in this database are provided by the individual carriers themselves

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

Technology	Frequency Band	Channel Count	Transmit Power per Channel (W)
LTE / 5G NR	600 MHz	2	40
LTE	700 MHz	2	20
LTE	1900 MHz (PCS)	4	40
LTE	2100 MHz (AWS)	4	40
Microwave	11 GHz	1	0.63

Table 1: Channel Data Table

The following antennas listed in *Table 2* were used in the modeling for transmission in the 600 MHz, 700 MHz, 1900 MHz (PCS), 2100 MHz (AWS), 2500 MHz (BRS) and 11 GHz microwave frequency bands. This is based on feedback from the carrier with regards to anticipated antenna selection. Maximum gain values for all antennas are listed in the Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

Sector	Antenna Number	Antenna Make / Model	Antenna Centerline (ft)
A	1	Commscope FFVV-65A-R2-V1	88
A	2	Ericsson AIR6449 B41	88
A	3	RFS SC2-W100BD (Microwave)	88
B	1	Commscope FFVV-65A-R2-V1	88
B	2	Ericsson AIR6449 B41	88
C	1	Commscope FFVV-65A-R2-V1	88
C	2	Ericsson AIR6449 B41	88

Table 2: Antenna Data

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

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.

Antenna ID	Antenna Make / Model	Frequency Bands	Antenna Gain (dBd)	Channel Count	Total TX Power (W)	ERP (W)	MPE %
Antenna A1	Commscope FFVV-65A-R2-V1	600 MHz / 700 MHz / 1900 MHz (PCS) / 2100 MHz (AWS)	10.45 / 10.85 / 14.55 / 15.25	12	440	11,294.89	7.06
Antenna A2	Ericsson AIR6449 B41	2500 MHz (BRS)	21.5	8	160	22,600.60	12.08
Antenna A3	RFS SC2-W100BD	11 GHz Microwave	34.5	1	0.63	1,775.58	0.09
						Sector A Composite MPE%	**19.23**
Antenna B1	Commscope FFVV-65A-R2-V1	600 MHz / 700 MHz / 1900 MHz (PCS) / 2100 MHz (AWS)	10.45 / 10.85 / 14.55 / 15.25	12	440	11,294.89	7.06
Antenna B2	Ericsson AIR6449 B41	2500 MHz (BRS)	21.5	8	160	22,600.60	12.08
						Sector B Composite MPE%	**19.14**
Antenna C1	Commscope FFVV-65A-R2-V1	600 MHz / 700 MHz / 1900 MHz (PCS) / 2100 MHz (AWS)	10.45 / 10.85 / 14.55 / 15.25	12	440	11,294.89	7.06
Antenna C2	Ericsson AIR6449 B41	2500 MHz (BRS)	21.5	8	160	22,600.60	12.08
						Sector C Composite MPE%	**19.14**

Table 3: T-MOBILE Emissions Levels

The Following table (*table 4*) shows all additional carriers on site and their MPE% as recorded in the CSC active MPE database for this facility along with the newly calculated maximum T-MOBILE MPE contributions per this report. For this report, approximations for emissions contributions for AT&T and Verizon Wireless were used based upon emissions from their sites in this part of Connecticut at the same height. This method was utilized to get an approximation for their contributions since this site was not present in the CSC MPOE database. 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. For this site, the sector with the largest calculated MPE% is Sector A due to the inclusion of the microwave dish. *Table 5* below shows a summary for each T-MOBILE Sector as well as the composite MPE value for the site.

Site Composite MPE%	
Carrier	**MPE%**
T-MOBILE – Max Per Sector Value (Sector A)	**19.23 %**
Verizon Wireless	18.65 %
AT&T	8.68 %
Site Total MPE %:	**46.56 %**

Table 4: All Carrier MPE Contributions

T-MOBILE Sector A Total:	19.23 %
T-MOBILE Sector B Total:	19.14 %
T-MOBILE Sector C Total:	19.14 %
Site Total:	46.56 %

Table 5: Site MPE Summary

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 6* below details a breakdown by frequency band and technology for the MPE power values for the maximum calculated T-MOBILE sector(s). For this site, the sector with the largest calculated MPE% is Sector A due to the inclusion of the microwave dish.

T-MOBILE _ Frequency Band / Technology Max Power Values (Sector A)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu W/cm^2$)	Frequency (MHz)	Allowable MPE ($\mu W/cm^2$)	Calculated % MPE
T-Mobile 600 MHz LTE / 5G NR	2	443.67	88	4.74	600 MHz	400	1.19%
T-Mobile 700 MHz LTE	2	243.24	88	2.60	700 MHz	467	0.56%
T-Mobile 1900 MHz (PCS) LTE	4	1,140.41	88	24.39	1900 MHz (PCS)	1000	2.44%
T-Mobile 2100 MHz (AWS) LTE	4	1,339.86	88	28.65	2100 MHz (AWS)	1000	2.87%
T-Mobile 2500 MHz (BRS) LTE / 5G NR	8	2,825.08	88	120.84	2500 MHz (BRS)	1000	12.08%
T-Mobile 11 GHz Microwave	1	1,775.58	88	0.95	11 GHz	1000	0.09%
						Total:	**19.23%**

Table 6: T-MOBILE 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:

T-MOBILE Sector	Power Density Value (%)
Sector A:	19.23 %
Sector B:	19.14 %
Sector C:	19.14 %
T-MOBILE Maximum Total (per sector):	19.23 %
Site Total:	46.56 %
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **46.56 %** of the allowable FCC established general population limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

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.

Scott Heffernan
Principal RF Engineer
Fox Hill Telecom, Inc
Holden, MA 01520
(978)660-3998

Exhibit G

Letter of Authorization

April 1, 2022

Site Name:CTNH997A

Site Address: 1061-1063 Boston Post Rd Milford, CT

RE: Zoning and Permitting

To Whom it may concern:

This letter authorizes T-Mobile, LLC and its authorized agents from Northeast Site Solutions, LLC to file all necessary administrative approvals, zoning approvals and building permits for the purposes of building, upgrading and maintaining telecommunications equipment located at 1061-1063 Boston Post Road, Milford CT.

Sincerely,

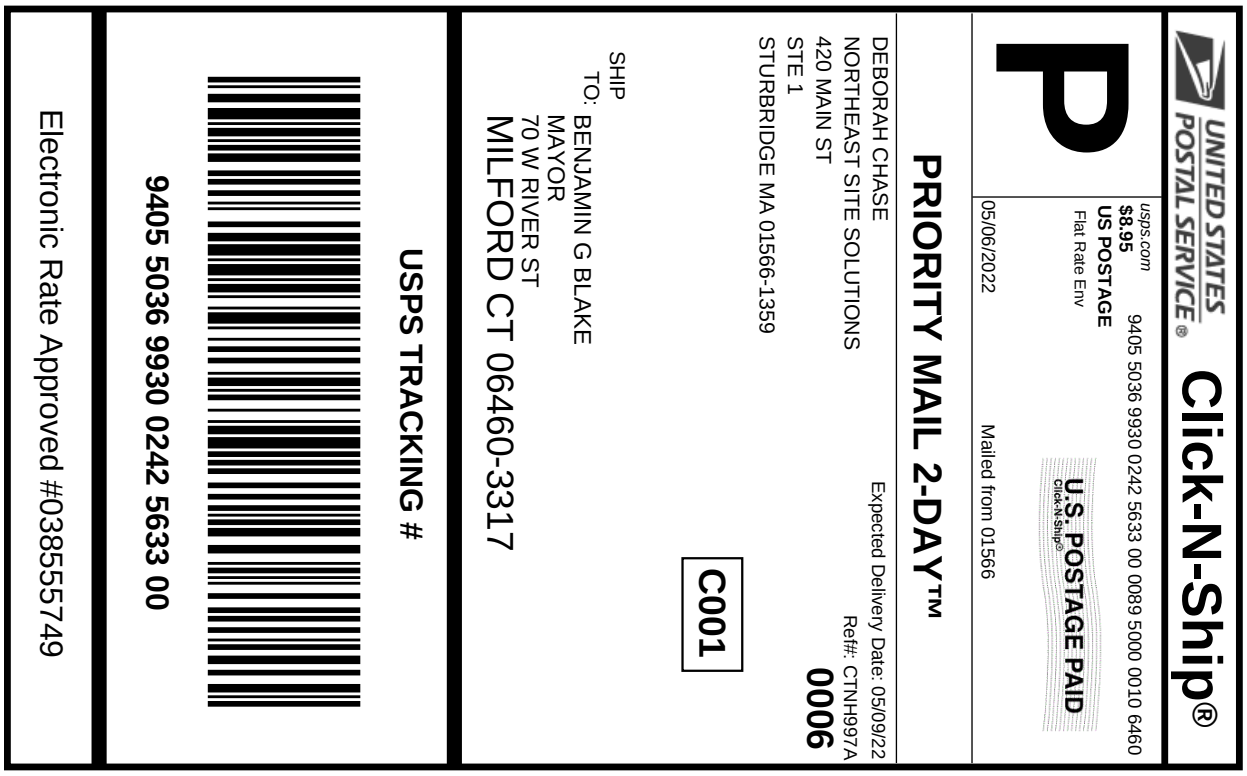
By: 

Name: Keith Coppins

Title: Chief Executive Officer
Hereunto Duly Authorized

Exhibit H

Recipient Mailings



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Instructions

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2. **Place your label so it does not wrap around the edge of the package.**
3. **Adhere your label to the package. A self-adhesive label is recommended. If tape or glue is used, DO NOT TAPE OVER BARCODE. Be sure all edges are secure.**
4. **To mail your package with PC Postage®, you may schedule a Package Pickup online, hand to your letter carrier, take to a Post Office™, or drop in a USPS collection box.**
5. **Mail your package on the "Ship Date" you selected when creating this label.**

Click-N-Ship® Label Record

USPS TRACKING # :
9405 5036 9930 0242 5633 00

Trans. #:	562959728
Print Date:	05/06/2022
Ship Date:	05/06/2022
Expected Delivery Date:	05/09/2022

Priority Mail® Postage:	**$8.95**
Total:	**$8.95**

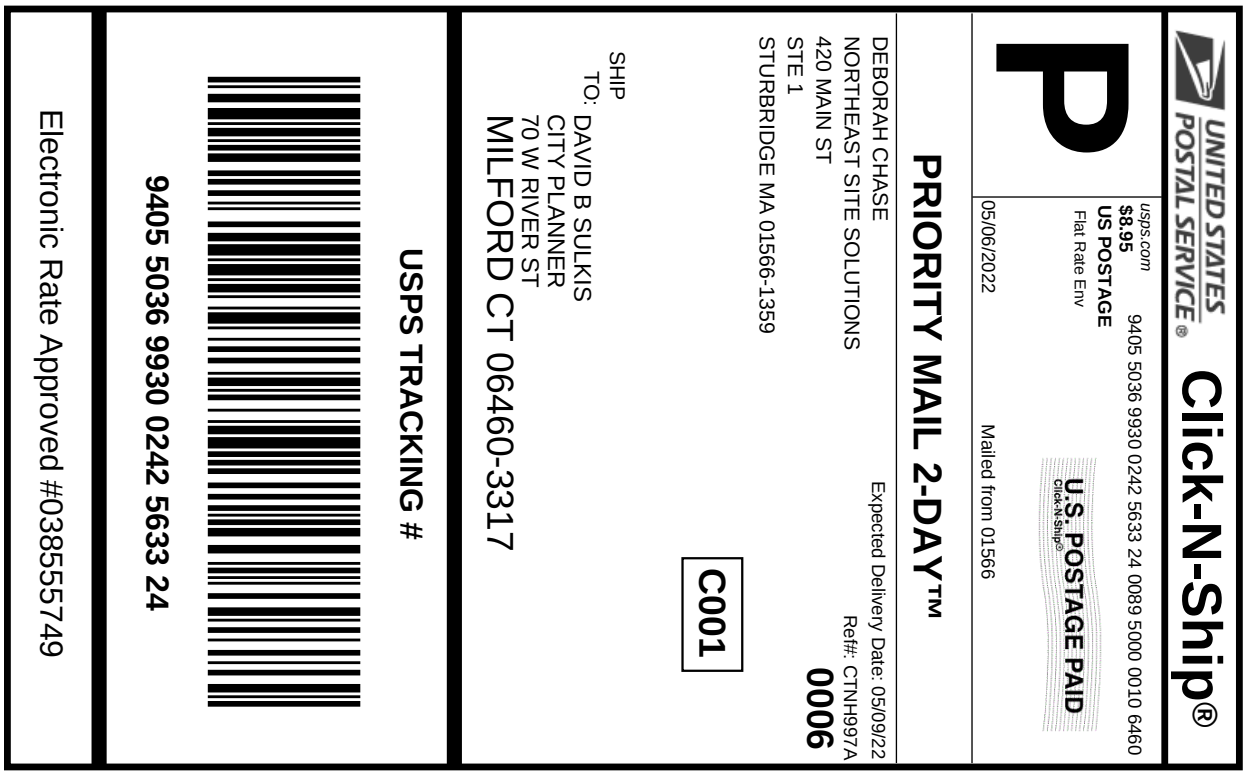
From: DEBORAH CHASE
NORTHEAST SITE SOLUTIONS
420 MAIN ST
STE 1
STURBRIDGE MA 01566-1359

Ref#: CTNH997A

To: BENJAMIN G BLAKE
MAYOR
70 W RIVER ST
MILFORD CT 06460-3317

* Retail Pricing Priority Mail rates apply. There is no fee for USPS Tracking® service on Priority Mail service with use of this electronic rate shipping label. Refunds for unused postage paid labels can be requested online 30 days from the print date.

Thank you for shipping with the United States Postal Service!
Check the status of your shipment on the USPS Tracking® page at usps.com



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Click-N-Ship® Label Record

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9405 5036 9930 0242 5633 24

Trans. #:	562959728
Print Date:	05/06/2022
Ship Date:	05/06/2022
Expected Delivery Date:	05/09/2022

Priority Mail® Postage:	**$8.95**
Total:	**$8.95**

From: DEBORAH CHASE
NORTHEAST SITE SOLUTIONS
420 MAIN ST
STE 1
STURBRIDGE MA 01566-1359

Ref#: CTNH997A

To: DAVID B SULKIS
CITY PLANNER
70 W RIVER ST
MILFORD CT 06460-3317

* Retail Pricing Priority Mail rates apply. There is no fee for USPS Tracking® service on Priority Mail service with use of this electronic rate shipping label. Refunds for unused postage paid labels can be requested online 30 days from the print date.

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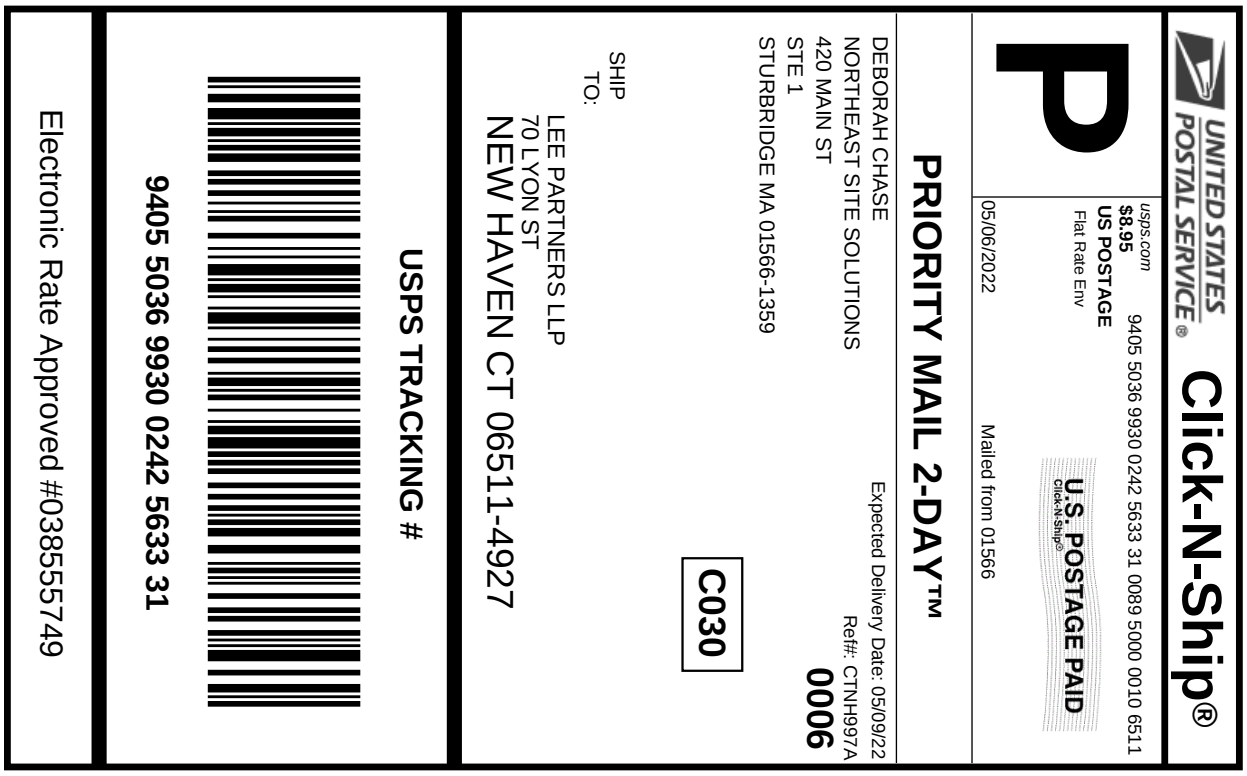
Check the status of your shipment on the USPS Tracking® page at usps.com



Cut on dotted line.

Instructions

1. **Each Click-N-Ship® label is unique. Labels are to be used as printed and used only once. DO NOT PHOTO COPY OR ALTER LABEL.**
2. **Place your label so it does not wrap around the edge of the package.**
3. **Adhere your label to the package. A self-adhesive label is recommended. If tape or glue is used, DO NOT TAPE OVER BARCODE. Be sure all edges are secure.**
4. **To mail your package with PC Postage®, you may schedule a Package Pickup online, hand to your letter carrier, take to a Post Office™, or drop in a USPS collection box.**
5. **Mail your package on the "Ship Date" you selected when creating this label.**

Click-N-Ship® Label Record

USPS TRACKING # :
9405 5036 9930 0242 5633 31

Trans. #:	562959728
Print Date:	05/06/2022
Ship Date:	05/06/2022
Expected Delivery Date:	05/09/2022

Priority Mail® Postage:	**$8.95**
Total:	**$8.95**

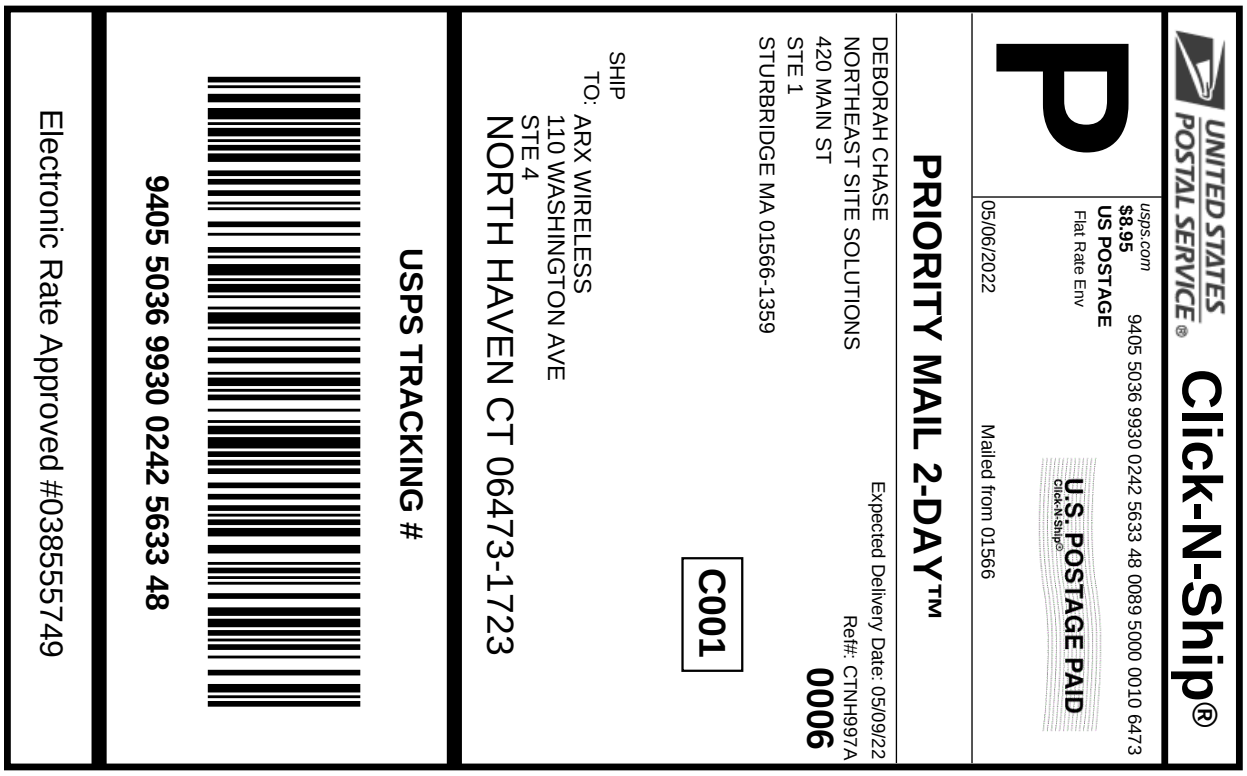
From: DEBORAH CHASE
NORTHEAST SITE SOLUTIONS
420 MAIN ST
STE 1
STURBRIDGE MA 01566-1359

Ref#: CTNH997A

To: LEE PARTNERS LLP
70 LYON ST
NEW HAVEN CT 06511-4927

* Retail Pricing Priority Mail rates apply. There is no fee for USPS Tracking® service on Priority Mail service with use of this electronic rate shipping label. Refunds for unused postage paid labels can be requested online 30 days from the print date.

Thank you for shipping with the United States Postal Service!
Check the status of your shipment on the USPS Tracking® page at usps.com



Cut on dotted line.

Instructions

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Click-N-Ship® Label Record

USPS TRACKING # :
9405 5036 9930 0242 5633 48

Trans. #:	562959728
Print Date:	05/06/2022
Ship Date:	05/06/2022
Expected Delivery Date:	05/09/2022

Priority Mail® Postage:	**$8.95**
Total:	**$8.95**

From: DEBORAH CHASE
NORTHEAST SITE SOLUTIONS
420 MAIN ST
STE 1
STURBRIDGE MA 01566-1359

Ref#: CTNH997A

To: ARX WIRELESS
110 WASHINGTON AVE
STE 4
NORTH HAVEN CT 06473-1723

* Retail Pricing Priority Mail rates apply. There is no fee for USPS Tracking® service on Priority Mail service with use of this electronic rate shipping label. Refunds for unused postage paid labels can be requested online 30 days from the print date.

Thank you for shipping with the United States Postal Service!
Check the status of your shipment on the USPS Tracking® page at usps.com

CTN#997A

UNITED STATES POSTAL SERVICE.

FARMINGTON
210 MAIN ST
FARMINGTON, CT 06032-9998
(800)275-8777

05/09/2022 10:01 AM

Product	Qty	Unit Price	Price
Prepaid Mail Milford, CT 06460 Weight: 0 lb 10.20 oz Acceptance Date: Mon 05/09/2022 Tracking #: 9405 5036 9930 0242 5633 24	1		$0.00
Prepaid Mail North Haven, CT 06473 Weight: 0 lb 10.20 oz Acceptance Date: Mon 05/09/2022 Tracking #: 9405 5036 9930 0242 5633 48	1		$0.00
Prepaid Mail New Haven, CT 06511 Weight: 0 lb 10.20 oz Acceptance Date: Mon 05/09/2022 Tracking #: 9405 5036 9930 0242 5633 31	1		$0.00
Prepaid Mail Milford, CT 06460 Weight: 0 lb 10.20 oz Acceptance Date: Mon 05/09/2022 Tracking #: 9405 5036 9930 0242 5633 00	1		$0.00
Grand Total:			$0.00

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eligible to receive a second set
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Track your Packages
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or scan this code with your mobile device,

or call 1-800-410-7420.