NORTHEAST SITE SOLUTIONS
Turnkey Wireless Development

Northeast Site Solutions
Victoria Masse
420 Main Street #2, Sturbridge, MA 01566
860-306-2326
victoria@northeastsitesolutions.com

July 12, 2022

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

RE: Notice of Exempt Modification
344 Firetown Road, Simsbury, CT 06070
Latitude: 41.89470600
Longitude: -72.82653100
T-Mobile Site#: CTHA152A_L600

Dear Ms. Bachman:
T-Mobile currently maintains six (6) antennas at the 77-foot level of the existing 80-foot monopole located at 344 Firetown Road, Simsbury, CT 06070. The tower and property are owned by Simsbury Fire District. T-Mobile now intends to replace three (3) existing antennas with three (3) new 600/700/1900 MHz antenna. The new antennas would be installed at the 77-foot level of the monopole. This modification includes B2, B5 hardware that is both 4G (LTE), and 5G capable.
T-Mobile Planned Modifications:
Remove:
(3) Andrew Smart Bias-T

Remove and Replace:
(3) Commscope LDX-6515DS Antenna (Remove) – (3) RFS APXVAALL24 600/700/1900 MHz Antenna (Replace)

Install New:
(3) RRU 4480 B71 + B85
(1) Hybrid Line

Existing to Remain:
(3) Andrew Smart Bias-T
(6) Coax Line

NORTHEAST SITE SOLUTIONS
Turnkey Wireless Development

This facility was approved by the Town of Simsbury PZC in 2003. T-Mobile has an approved Tower Share from 2006. Please see attached.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies §16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to Wendy Mackstutis, First Selectman and George McGregor, Director of Community Planning & Development, as well as the property owner and the tower owner.

1. The proposed modifications will not result in an increase in the height of the existing structure.

2. The proposed modifications will not require the extension of the site boundary.

3. The proposed modifications will not increase noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.

4. The operation of the replacement antennas will not increase radio frequency emissions at the facility to a level at or above the Federal Communications Commission safety standard.

5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.

6. The existing structure and its foundation can support the proposed loading.

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

Sincerely,

Victoria Masse

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

NORTHEAST SITE SOLUTIONS
Turnkey Wireless Development

Attachments:

Wendy Mackstutis, First Selectman
933 Hopmeadow Street
Simsbury, CT 06070

George McGregor, Director of Community Planning & Development
933 Hopmeadow Street
Simsbury, CT 06070

Simsbury Fire District – as property and tower owner
869 Hopmeadow Street
Simsbury, CT 06070

Exhibit A

Original Facility Approval

Town of Simsbury

933 HOPMEADOW STREET P.O. BOX 495 SIMSBURY, CONNECTICUT 06070

Office of Community Planning and Development

October 24, 2003

RECEIVED
OCT 30 2003
TOWN OF SIMSBURY CT
TOWN CLERKS OFFICE

Mr. Kevin Kowalski, Fire Marshal
Simsbury Fire District
871 Hopmeadow Street
Simsbury, CT 06070

REFERENCE: 344 Firetown Road

Dear Mr. Kowalski:

The Simsbury Zoning Commission, at a regular meeting held on October 20, 2003, approved your application to change the size of the foundation for a public safety antenna tower and to reduce the height of a public safety antenna tower on property at 344 Firetown Road.

If you have any questions, please call at your convenience.

Very Truly Yours,

William S. Voelker, AICP
Director of Community Planning

cc: Department File
Building Department
Town Clerk
Engineering Department

CERTIFIED MAIL NO: 70

SENDER: COMPLETE THIS SEC

- Complete items 1, 2, and 3. Als item 4 if Restricted Delivery is d
- Print your name and address or so that we can return the card t
- Attach this card to the back of t or on the front if space permits.

1. Article Addressed to:

Mr. Kevin Kowalski
Fire Marshal
Simsbury Fire Dist
871 Hopmeadow Stre
Simsbury, CT 06070

2. Article Number
(Transfer from service label)

7002 0460 0001 4535 2791

PS Form 3811, August 2001 344

U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

OFFICIAL USE

Postage	$ .37
Certified Fee	2.30
Return Receipt Fee (Endorsement Required)	1.75
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	$ 4.42

Postmark Here

Sent To: Kevin Kowalski, Fire Marshal
Street, Apt. No.; or PO Box No.: ~~Simsbury Fire District~~ 871 Hopmeadow Street
City, State, ZIP+4: Simsbury, CT 06070

PS Form 3800, January 2001 See Reverse for Instructions

Road tower/pad

Telephone (860) 658-3245
Facsimile (860) 658-3217

www.town.simsbury.ct.us

An Equal Opportunity Employer
8:30 - 7:00 Monday
8:30 - 4:30 Tuesday through Friday

STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051
Phone: (860) 827-2935 Fax: (860) 827-2950
E-Mail: siting.council@po.state.ct.us
www.ct.gov/csc

June 29, 2006

Karina Fournier
Zoning Department
T-Mobile
30 Cold Spring Road
Rocky Hill, CT 06067

RE: **TS-T-MOBILE-128-060606** - Omnipoint Communications, Inc. request for an order to approve tower sharing at an existing telecommunications facility located at 344 Firetown Road, Simsbury, Connecticut.

Dear Ms. Fournier:

At a public meeting held June 27, 2006, the Connecticut Siting Council (Council) ruled that the shared use of this existing tower site is technically, legally, environmentally, and economically feasible and meets public safety concerns, and therefore, in compliance with General Statutes § 16-50aa, the Council has ordered the shared use of this facility to avoid the unnecessary proliferation of tower structures. This facility has also been carefully modeled to ensure that radio frequency emissions are conservatively below State and federal standards applicable to the frequencies now used on this tower.

This decision is under the exclusive jurisdiction of the Council. Any additional change to this facility may require an explicit request to this agency pursuant to General Statutes § 16-50aa or notice pursuant to Regulations of Connecticut State Agencies Section 16-50j-73, as applicable. Such request or notice shall include all relevant information regarding the proposed change with cumulative worst-case modeling of radio frequency exposure at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin 65. Any deviation from this format may result in the Council implementing enforcement proceedings pursuant to General Statutes § 16-50u including, without limitation, imposition of expenses resulting from such failure and of civil penalties in an amount not less than one thousand dollars per day for each day of construction or operation in material violation.

This decision applies only to this request for tower sharing and is not applicable to any other request or construction. Please be advised that the validity of this action shall expire one year from the date of this letter.

The proposed shared use is to be implemented as specified in your letter dated June 6, 2006, including the placement of all necessary equipment and shelters within the tower compound.

Thank you for your attention and cooperation.

Very truly yours,

Pamela B. Katz

Pamela B. Katz, P.E.
Chairman

PBK/laf

c: The Honorable Thomas E. Vincent, First Selectman, Town of Simsbury
John Loomis, Chairman of the Planning Commission, Town of Simsbury
Simsbury Fire Department

G:\EM\T-MOBILE\Simsbury\dc062706.DOC

CSC
CONNECTICUT SITING COUNCIL

ORIGINAL

RECEIVED
JUN - 6 2006
CONNECTICUT
SITING COUNCIL

T-Mobile
Get more from life®

30 Cold Spring Road, Rocky Hill, CT 06067
Karina.Fournier@T-mobile.com
860-796-3988

TS-T-MOBILE-128-060606

June 6, 2006

BY HAND

Pamela B. Katz, Chairman and
Members of the Siting Council
Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051

RE: **Tower Sharing Request by T-Mobile**
344 Firetown Road Simsbury, CT
Latitude: 41 54 11 / Longitude: 72 49 16

Dear Ms. Katz and Members of the Siting Council:

Pursuant to Connecticut General Statutes (C.G.S.) § 16-50aa, Omnipoint Communications, Inc. a.k.a. T-Mobile (formerly Voicestream Wireless Corp.) hereby requests an order from the Connecticut Siting Council ("Council") to approve the proposed ("Firetown FireS_MP"), in Simsbury, CT owned by the Simsbury Fire Department. T-Mobile and the Simsbury Fire Deaprtment have agreed to the shared use of the Firetown FireS_MP Tower, as detailed below.

Firetown FireS_MP

The Firetown FireS_MP Tower facility consists of an eighty foot (80') monopole ("Tower") owned and operated by the Simsbury Fire Department. T-Mobile proposes to locate antennas at a centerline mounting height of seventy seven (77') feet. The equipment will be located within a compound at the base of the tower.

FiretownFireS_MP

As shown on the enclosed plans prepared by Clough Harbour, & Associates including a site plan and tower elevation of the May 24, 2006, drawings annexed hereto as Exhibit 1, T-Mobile proposes a shared use of the Facility by placing antennas on the tower and equipment needed to provide personal communications services ("PCS") within the existing site plan. T-Mobile will install three (3) antennas at the seventy seven (77') foot level of the Tower. Three (3) associated unmanned equipment cabinets will be located at the base of the tower.

Connecticut General Statutes § 16-50aa provides that, upon written request for shared use approval, an order approving such use shall be issued, "if the council finds that the proposed shared use of the facility is technically, legally, environmentally and economically feasible and meets public safety concerns." (C.G.S. § 16-50aa(c)(1).) Further, upon approval of such shared use, it is exclusive and no local zoning or land use approvals are required C.G.S. §16-50x. Shared use of the FiretownFireS_MP Tower satisfies the approval criteria set forth in C.G.S. § 16-50aa as follows:

A. Technical Feasibility The existing Tower and compound were designed to accommodate multiple carriers. A structural analysis of the Tower with the proposed T-Mobile installation has been performed and is attached as Exhibit 2. The structural analysis concludes that, the tower can safely accommodate the proposed T-Mobile antennas. The proposed shared use of this Tower is technically feasible. Further there is sufficient room at the base of the facility, thus the site plan will not have to be altered.

B. Legal Feasibility Pursuant to C.G.S. § 16-50aa, the Council has been authorized to issue an order approving shared use of the existing Cingular FiretownFireS_MP. (C.G.S. § 16-50aa (C)(1)). Under the authority vested in the Council by C.G.S. § 16-50aa, an order by the Council approving the shared use of a tower would permit the Applicant to obtain a building permit for the proposed installation.

C. Environmental Feasibility The proposed shared use would have a minimal environmental effect, for the following reasons:

1.) The proposed installation would have a de minimis visual impact, and would not cause any significant change or alteration in the physical or environmental characteristics of the existing facility,

2.) The proposed installation by T-Mobile would not increase the height of the tower nor expand the site plan at the FiretownFireS_MP Tower and will be of minimal impact to the facility;

3.) The proposed installation would not increase the noise levels at the existing facility boundaries by six decibels or more;

4.) Operation of T-Mobile's antennas at this site would not exceed the total radio frequency electromagnetic radiation power density level adopted by the FCC and Connecticut Department of Health. The "worst case" exposure calculated for the operation of this facility for T-Mobile would be approximately 11.455% of the standard. See Radio Frequency Memo dated June 1, 2006, annexed hereto as Exhibit 3.

5.) The proposed shared use of the FiretownFireS_MP Tower will not require any water or sanitary facilities, or generate any air emissions or discharges to water bodies. Further, the installation will not generate any traffic other than for periodic maintenance visits.

D. Economic Feasibility The Applicant and the tower owner have agreed to share use of the FiretownFireS_MP Tower on terms agreeable to both parties. The proposed tower sharing is therefore economically feasible.

E. Public Safety As stated above and evidenced in the Radio Frequency Field Survey annexed hereto as Exhibit 3, the operation of T-Mobile's antennas at this site would not exceed the total radio frequency electromagnetic radiation power density level adopted by the FCC and Connecticut Department of Health. Further, the addition of T-Mobile's telecommunications service in the Simsbury area through shared use of the FiretownFire_MP Tower is expected to enhance the safety and welfare of local residents and travelers through the area resulting in an improvement to public safety in this area.

Conclusion

FiretownFire_MP Tower satisfies the criteria set forth in C.G.S. § 16-50aa, and advances the General Assembly's and the Siting Council's goal of preventing the proliferation of tower in the State of Connecticut. T-Mobile therefore requests the Siting Council issue an order approving the proposed shared use of the FiretownFireS_MP Tower.

Respectfully submitted,

Karina Fournier
Zoning Dept.
T-Mobile
30 Cold Spring Road
Rocky Hill, CT 06067
(860) 796-3988

cc: First Selectmen, Thomas E. Vincent

Exhibit B

Property Card

Town of Simsbury
Property Listing Report

Parcel ID F05 302 001

Account 04007603

Property Information

Owner	SIMSBURY FIRE DISTRICT
Address	344 FIRETOWN ROAD
Mailing Address	869 HOPMEADOW STREET SIMSBURY , CT 06070
Land Use	- Fire Station - Volunteer
Land Class	Public Utility

Census Tract	4662010
Neighborhood	0215
Zoning	R-40
Acreage	1.29
Utilities	
Lot Setting/ Desc	/

Photo

F05-302-001-2L 03/15/2012

PARCEL VALUATIONS (Assessed value = 70% of Appraised Value)

	Appraised	Assessed
Buildings		
Outbuildings		
Improvements		
Extras		
Land		
Total	1056916	739840
Previous		

Construction Details

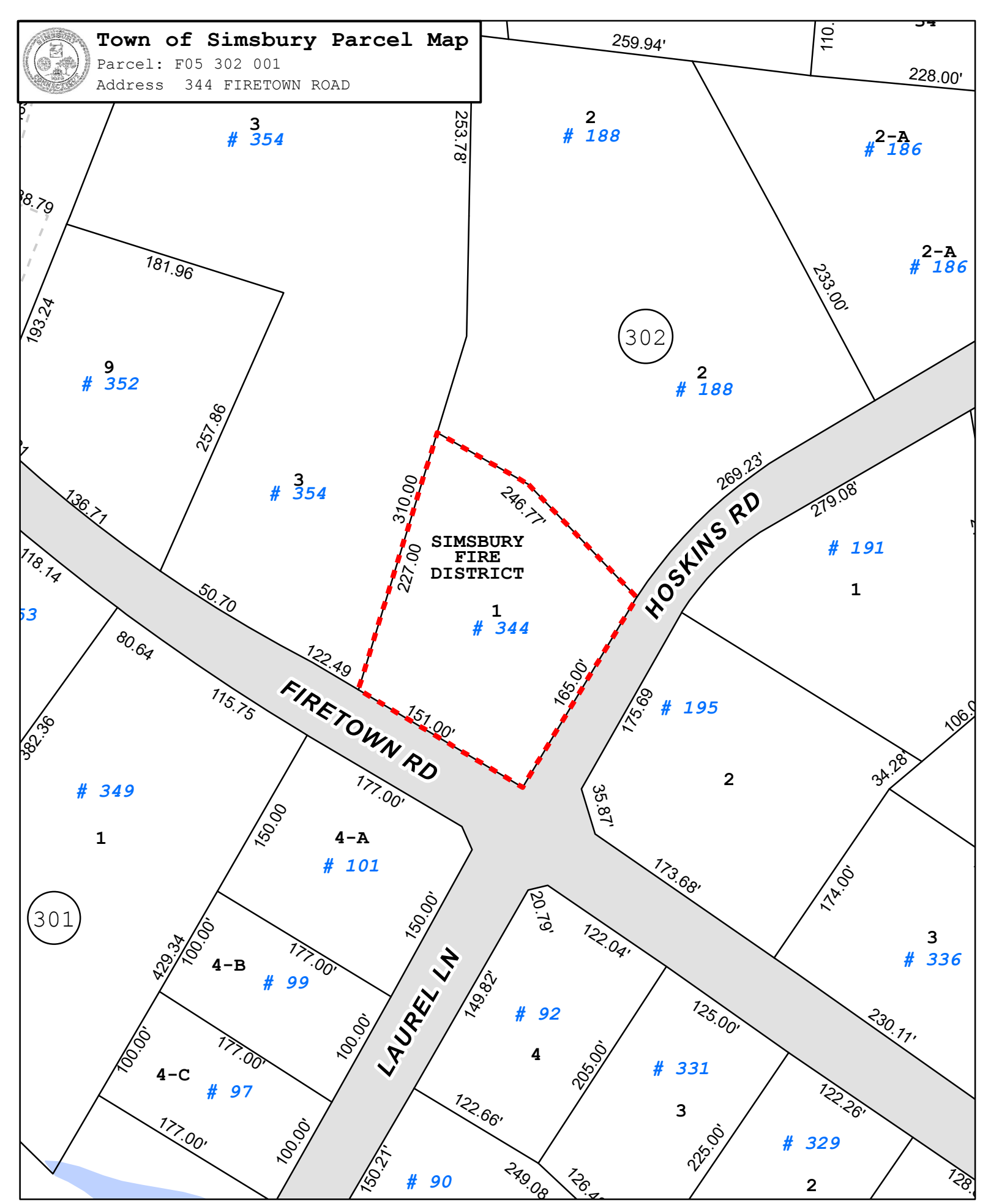
Year Built	
Stories	1
Building Style	
Building Use	
Building Condition	Very Good
Total Rooms	0
Bedrooms	0
Full Bathrooms	0
Half Bathrooms	
Bath Style	
Kitchen Style	
Roof Style	
Roof Cover	Asphalt

EXTERIOR WALLS:	
Primary	B. V. Solid
Secondary	
INTERIOR WALLS:	
Primary	Dry Wall
Secondary	
FLOORS:	
Primary	Hardwood
Secondary	
HEATING/AC:	
Heating Type	Hot Water
Heating Fuel	Gas
AC Type	Central

BUILDING AREA:	
Effective Building Area	
Gross Building Area	
Total Living Area	3618

SALES HISTORY:	
Sale Date	05/03/1963
Sale Price	0
Book/ Page	0142/0236

Report Created On 4/5/2017



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 Town of Simsbury and its mapping contractors assume no legal responsibility for the information contained herein.

Map Produced: April 2016

Exhibit C

Construction Drawings

MODIFICATION OF EXISTING WIRELESS FACILITY BY

T-Mobile

T-MOBILE NORTHEAST LLC

PROJECT TITLE: LOW BAND - L600

SITE NUMBER: CTHA152A
SITE NAME: HA152/FiretownFireS_MP
SITE ADDRESS: 344 Firetown Road
Simsbury, CT 06070

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.

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.

PRIOR TO INSTALLATION OF THE PROPOSED EQUIPMENT, A STRUCTURAL EVALUATION SHOULD BE PERFORMED TO CERTIFY THAT THE EXISTING/PROPOSED STRUCTURE AND COMPONENTS HAVE ADEQUATE STRUCTURAL CAPACITY PER ALL THE APPLICABLE CODES AND STANDARDS IN THE PROJECT JURISDICTION. CONTRACTOR SHOULD REVIEW THE REPORT AND ADHERE TO THE REPORT FULLY AND ALL THE RECOMMENDATIONS THEREIN, INCLUDING BUT NOT LIMITED TO ANTENNA PLACEMENT, COAX ROUTING, STRUCTURAL IMPROVEMENTS, ETC.

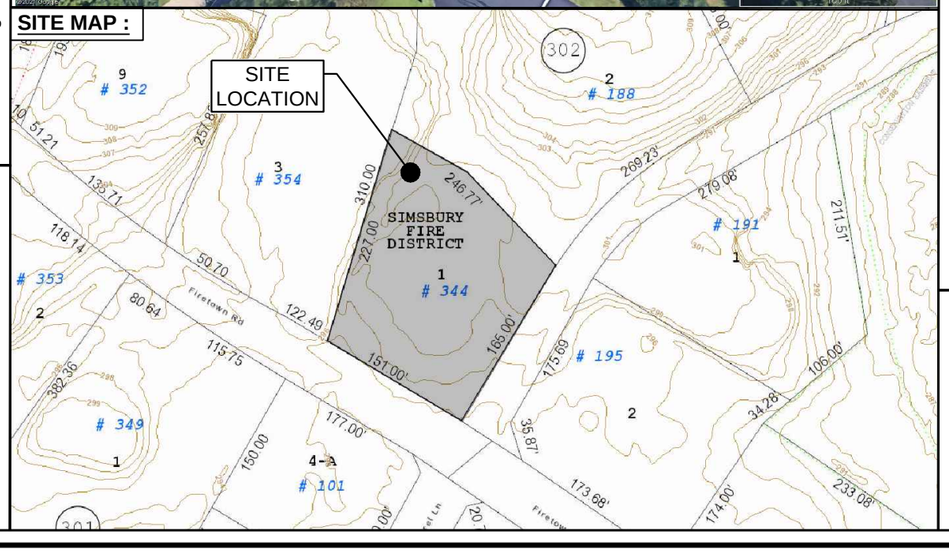
REFER TO STRUCTURAL ANALYSIS REPORT DATED 06/10/2022 AND MOUNT STRUCTURAL ANALYSIS REPORT DATED 06/10/2022 BOTH PREPARED BY EFI GLOBAL INC.

APPROVALS:

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

SITE IMAGE:

SITE MAP :



PROJECT SCOPE:

PROJECT WILL CONSIST OF REPLACING EXISTING ANTENNAS AND EQUIPMENT AS FOLLOWS:

ANTENNAS: SWAP (3) OF (6) EXISTING ANTENNAS AND ADD (3) NEW RADIOS BEHIND NEW ANTENNAS.
CABINETS: UPGRADE THE EXISTING 6201 ODE CABINET INTERNALLY.
CABLES: ADD (1) 6/24 HYBRID CABLE.

PROJECT INFORMATION:

SITE ADDRESS:	344 Firetown Road Simsbury, CT 06070
STRUCTURE TYPE:	Monopole
ZONING DISTRICT:	R-40
COORDINATES:	N 41° 53' 40.94", W 72° 49' 35.51"
GROUND ELEV:	77' AGL

PROJECT TEAM:

APPLICANT:	T-MOBILE NORTHEAST, LLC. 35 GRIFFIN ROAD SOUTH BLOOMFIELD, CT 06002 860-692-7100
PROPERTY OWNER:	TOWN OF SIMSBURY CT 933 HOPMEADOW STREET SIMSBURY, CT 06070
PROJECT MANAGER:	NORTHEAST SITE SOLUTIONS 420 MAIN STREET, BLDG 4 STURBRIDGE, MA 01566 SHELDON FREINCLE SHELDON@NORTHEASTSITESOLUTIONS.COM 201-776-8521
ENGINEERING CONSULTANTS:	FORESITE LLC 462 WALNUT ST NEWTON, MA 02460 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. WEED — NO. ARI. 11162 — LICENSED ARCHITECT

REV	DESCRIPTION	DATE
A	PRELIMINARY	06/20/22
0	FINAL ISSUED	07/05/22

SITE NUMBER: CTHA152A
SITE NAME: HA152/FIRETOWNFIRES_MP

SITE ADDRESS: 344 FIRETOWN ROAD
Simsbury, CT 06070

SHEET TITLE:

T-1: TITLE SHEET

NOTES AND DISCLAIMERS:

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-IH, 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

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

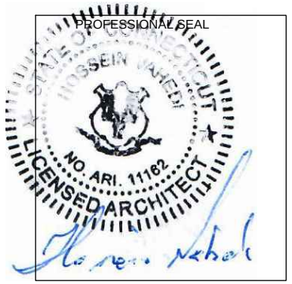
420 MAIN STREET, BLDG 4
STURBRIDGE, MA 01566
203-275-6669

CONSULTANT:

FORESITE LLC
Architects . Engineers . Surveyors

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

PROFESSIONAL SEAL



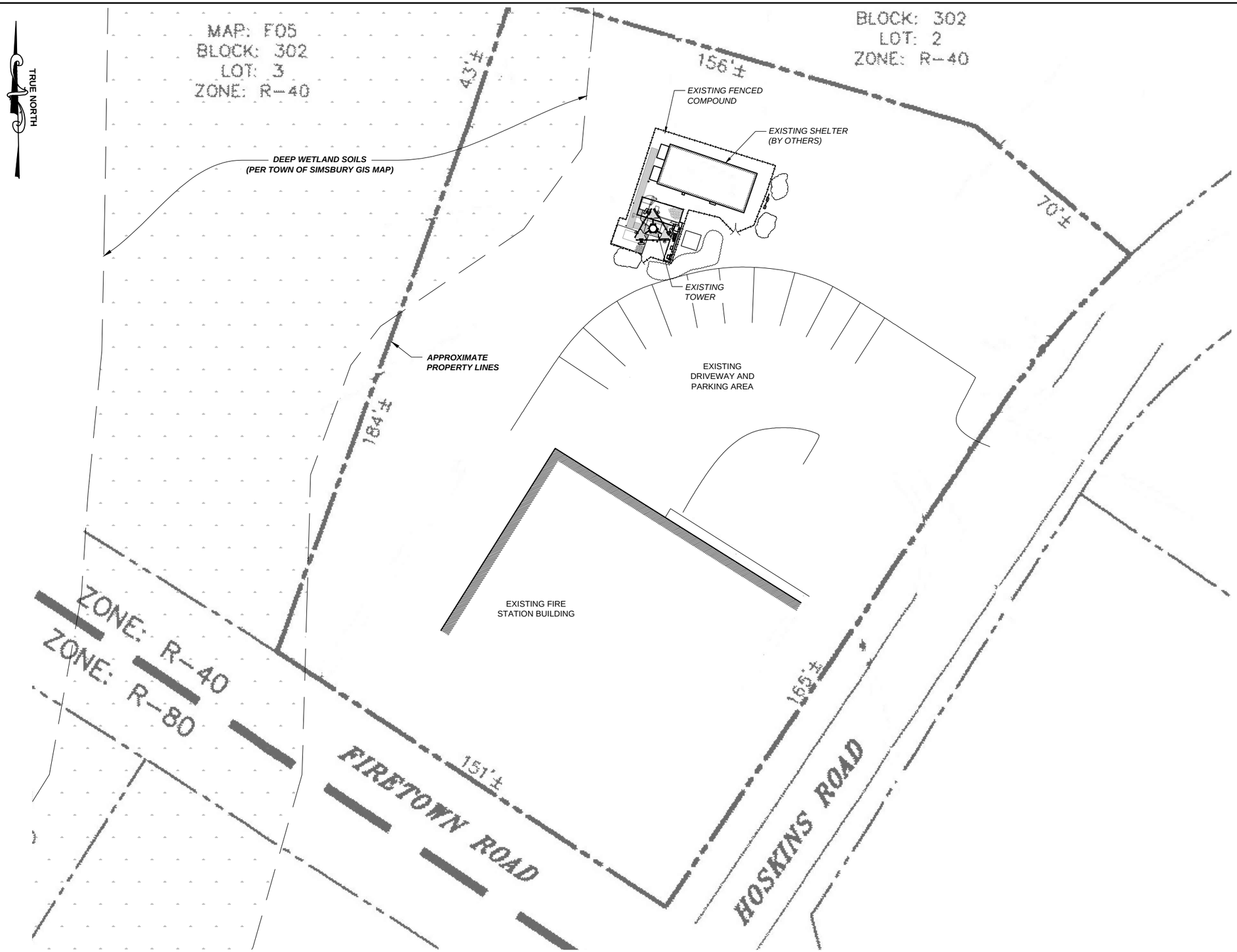
REV	DESCRIPTION	DATE
A	PRELIMINARY	06/20/22
0	FINAL ISSUED	07/05/22

SITE NUMBER: CTHA152A
SITE NAME: HA152/FIRETOWNFIRES_MP

SITE ADDRESS: 344 FIRETOWN ROAD
Simsbury, CT 06070

SHEET TITLE

N-1: NOTES AND DISCLAIMERS



SITE PLAN
SCALE: 1/32"=1'-0"

1
A-1

APPLICANT:

T-Mobile

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Simsbury, CT 06070

SHEET TITLE:

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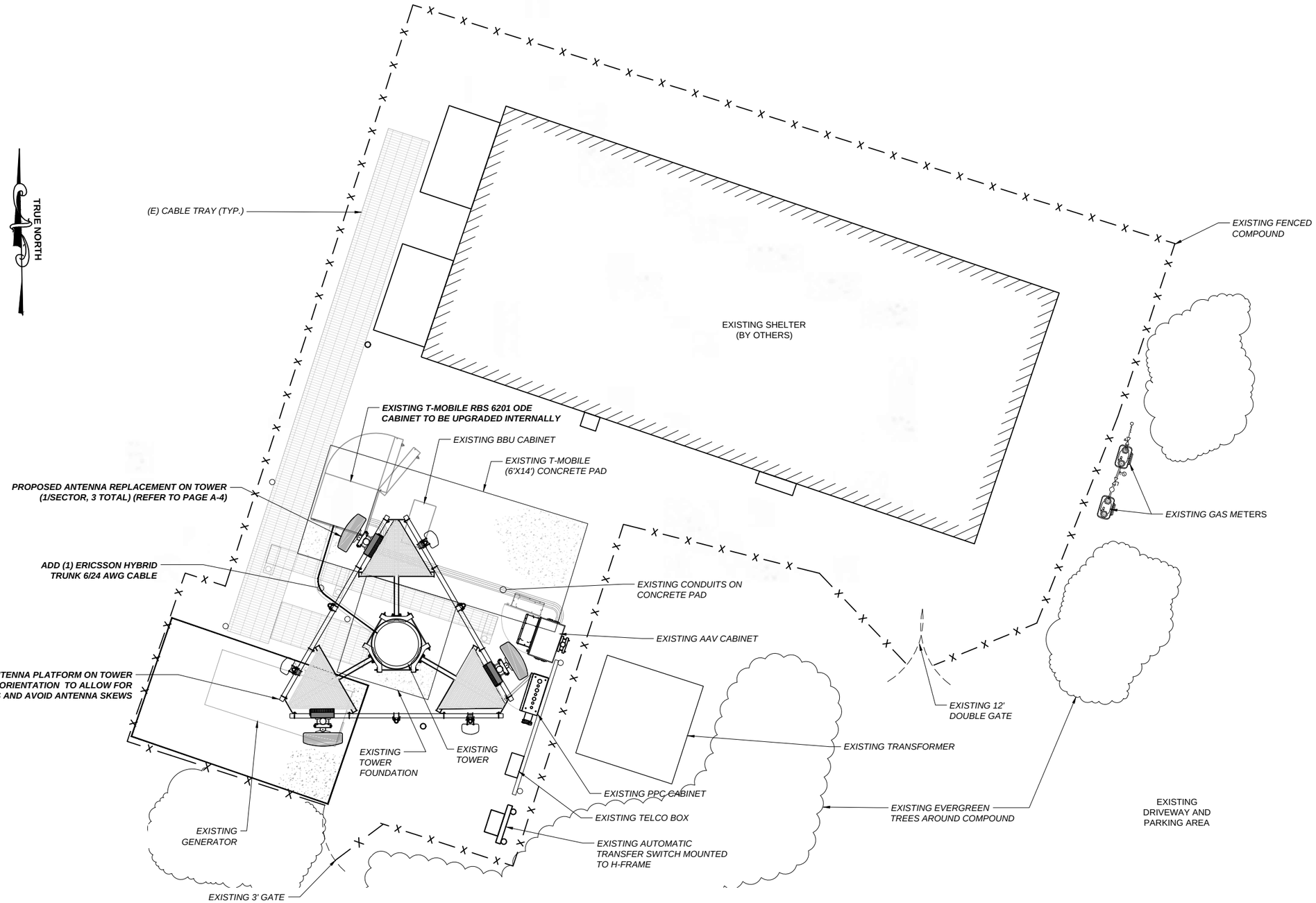

COMPOUND PLAN 1/A–2

SCALE 3/16"=1'-0"

APPLICANT:

T-MOBILE NORTHEAST LLC

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PROFESSIONAL SEAL

STATE OF CONNECTICUT
JOSSELIN WEBER
NO. ARI. 11162
LICENSED ARCHITECT

REV	DESCRIPTION	DATE
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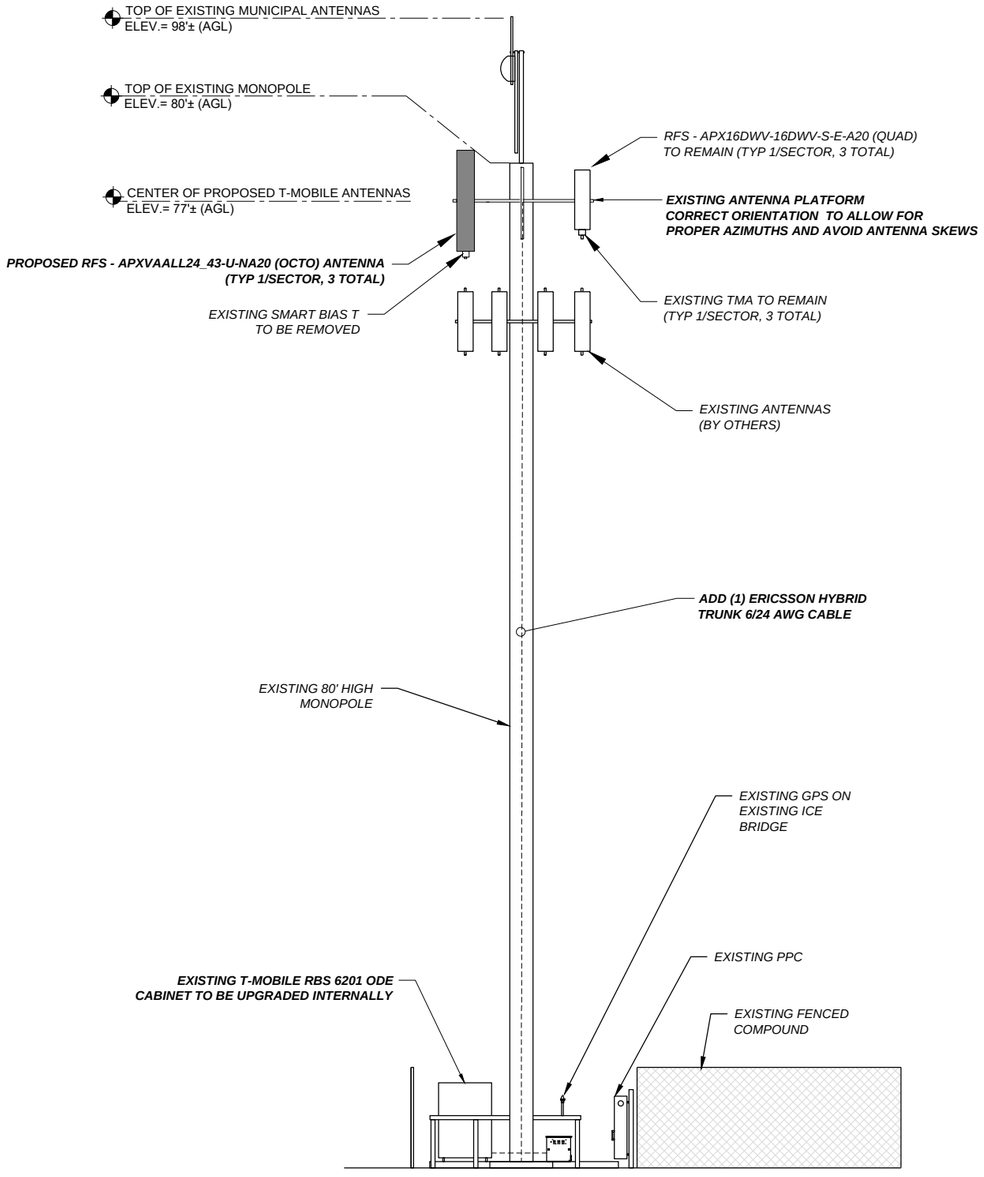
Simsbury, CT 06070

SHEET TITLE:

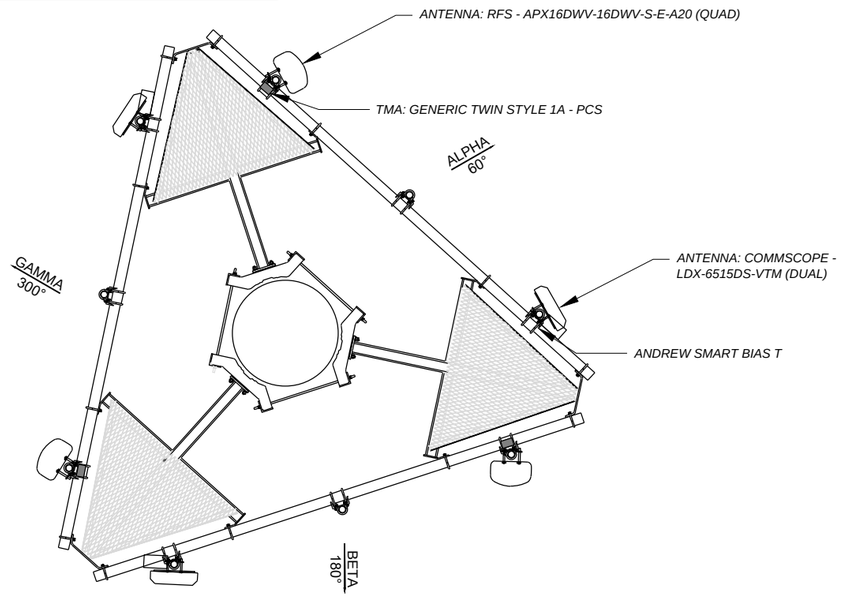
A-2: COMPOUND PLAN



ELEVATION
N.T.S.

1
A-3

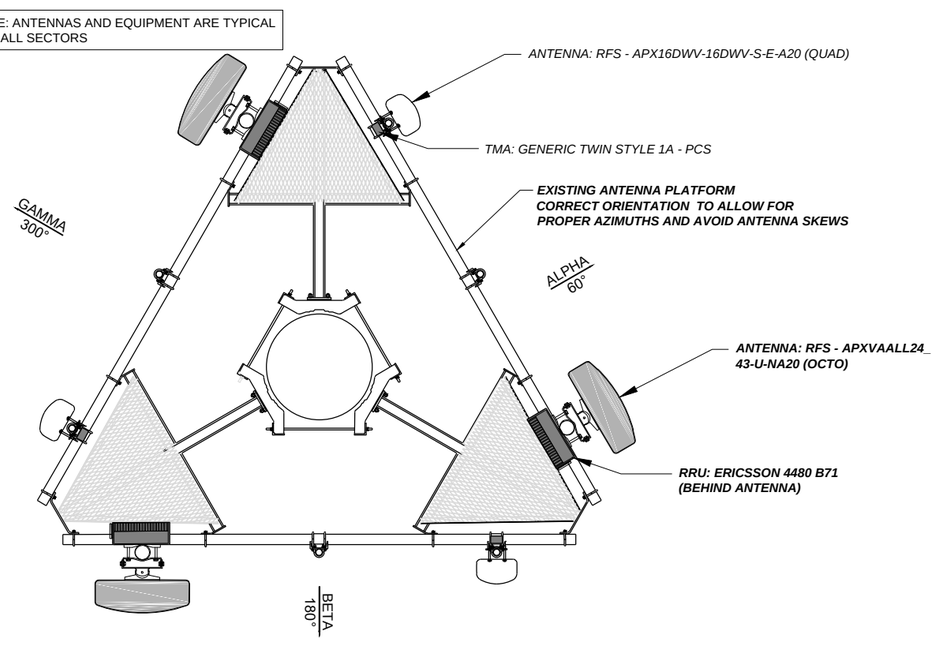
NOTE: ANTENNAS AND EQUIPMENT ARE TYPICAL FOR ALL SECTORS



EXISTING ANTENNA PLAN
N.T.S.

2
A-3

NOTE: ANTENNAS AND EQUIPMENT ARE TYPICAL FOR ALL SECTORS



FINAL ANTENNA PLAN
N.T.S.

3
A-3

APPLICANT:
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BLOOMFIELD, CT 06002
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PROJECT MANAGER
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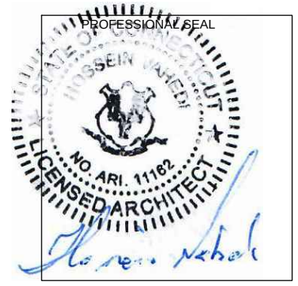

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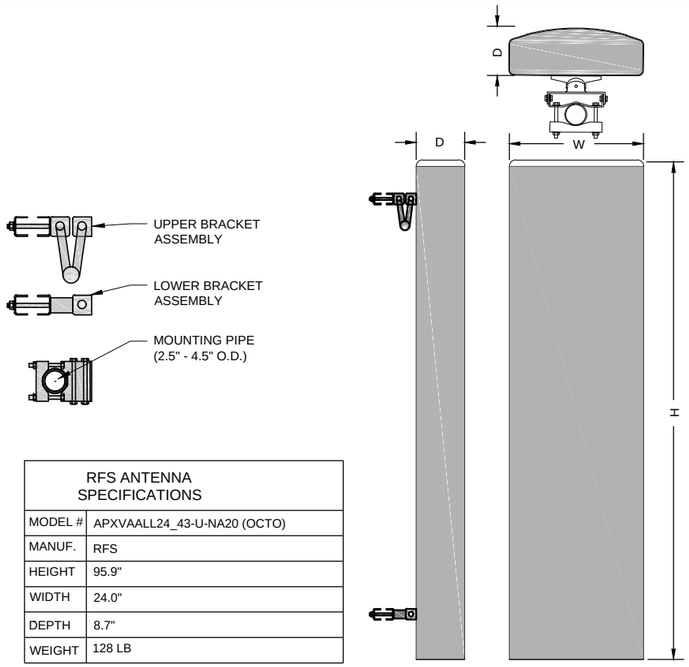
Simsbury, CT 06070

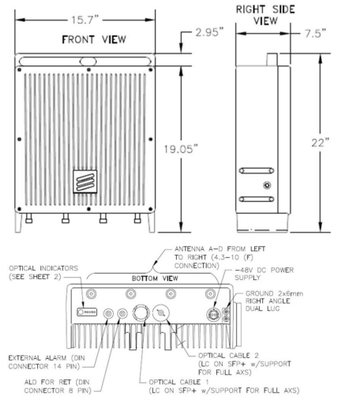
SHEET TITLE:
A-3: ELEVATION AND ANTENNA PLANS



RFS ANTENNA SPECIFICATIONS	
MODEL #	APXVAALL24_43-U-NA20 (OCTO)
MANUF.	RFS
HEIGHT	95.9"
WIDTH	24.0"
DEPTH	8.7"
WEIGHT	128 LB

RFS ANTENNA
N.T.S

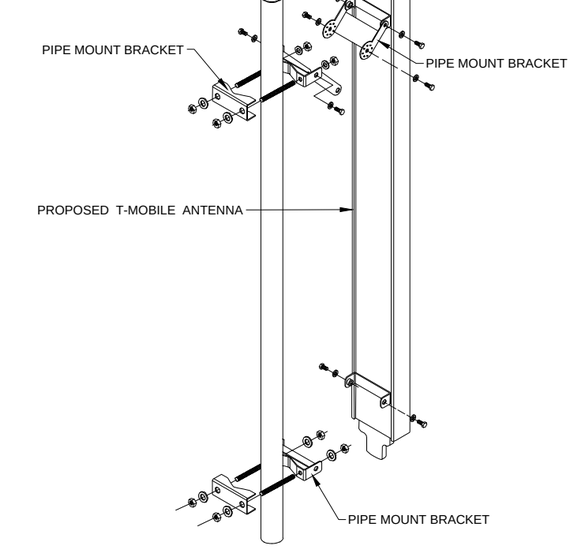
1 / A-4



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

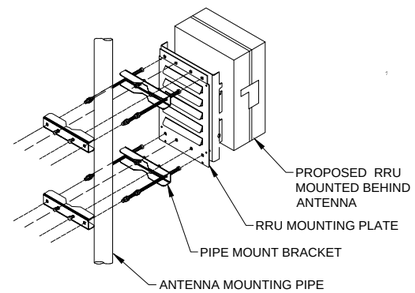
REMOTE RADIO UNIT
N.T.S

2 / A-4



ANTENNA MOUNT DETAIL
N.T.S

3 / A-4



RRU MOUNT DETAIL
N.T.S

4 / A-4

APPLICANT:
T-MOBILE NORTHEAST LLC
35 GRIFFIN ROAD SOUTH
BLOOMFIELD, CT 06002
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Turnkey Wireless Development
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462 WALNUT STREET, SUITE 1
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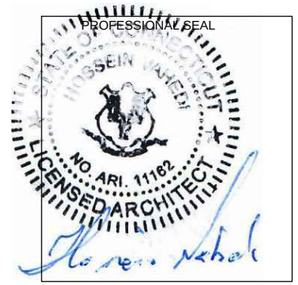
PROFESSIONAL SEAL



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SITE NUMBER: CTHA152A
SITE NAME: HA152/FIRETOWNFIRES_MP

SITE ADDRESS: 344 FIRETOWN ROAD
Simsbury, CT 06070

SHEET TITLE:
A-4: ANTENNA AND EQUIPMENT SPECIFICATIONS

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.

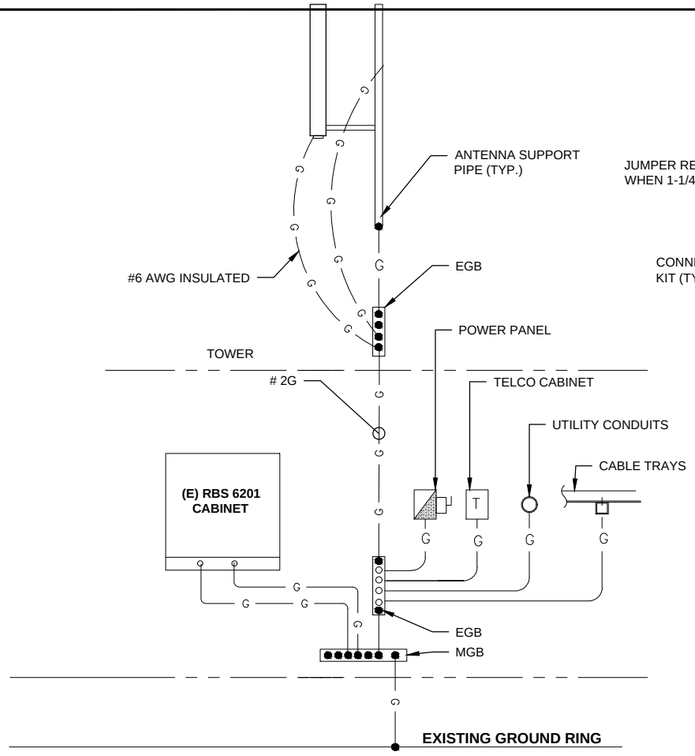
19. BOND ANTENNA MOUNTING BRACKETS, COAXIAL CABLE GROUND KITS, AND ALNA TO EGB PLACED NEAR THE ANTENNA LOCATION.

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

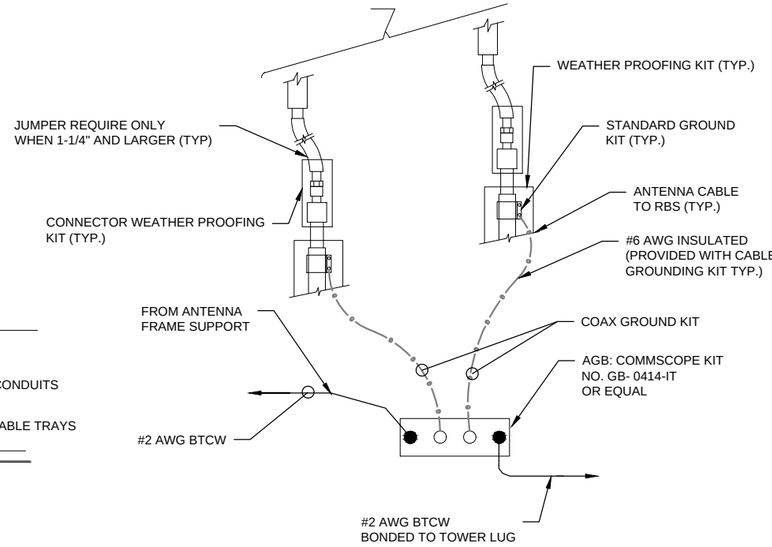
21. TEST COMPLETED GROUND SYSTEM AND RECORD RESULTS FOR PROJECT CLOSE-OUT DOCUMENTATION.

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.



GROUNDING RISER DIAGRAM (1 / E-1)
N.T.S.

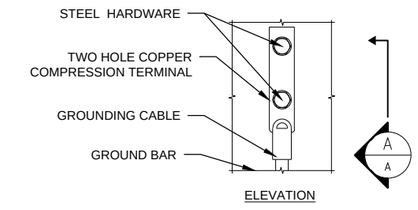


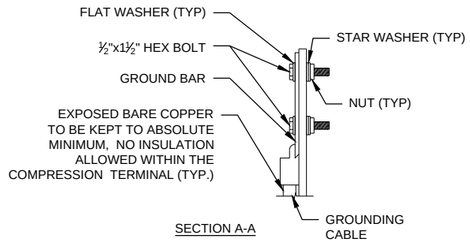
NOTES:
INSTALL CABLE GROUND KIT ABOVE HORIZONTAL BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO AGB/EGB

TOWER TOP CABLE GROUNDING DETAIL (2 / E-1)
N.T.S.

SPECIAL CONTRACTOR'S NOTES:

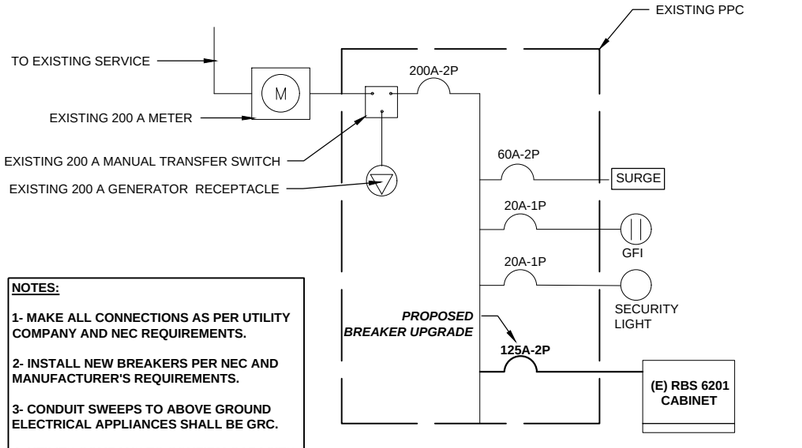
CONTRACTOR TO VERIFY THE POWER FEED & PHASE OF METER BANK AND THAT THE EXISTING AND PROPOSED CONDUITS AND WIRE SIZES ARE ADEQUATE FOR THE PROPOSED LOADING IN ACCORDANCE WITH NEC AND INCLUDE ELECTRICAL UPGRADES IN THE SCOPE OF WORK AS REQUIRED.





NOTES:
1. "DOUBLING UP" OR "STACKING " OF CONNECTION IS NOT PERMITTED.
2. OXIDE INHIBITING COMPOUND TO BE USED AT ALL LOCATIONS.

TYPICAL GROUND BAR CONNECTIONS DETAIL (3 / E-1)
N.T.S.



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.

TYPICAL ONE LINE DIAGRAM (4 / E-1)
N.T.S.

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T-Mobile
T-MOBILE NORTHEAST LLC
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PROJECT MANAGER
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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
COMMONWEALTH OF MASSACHUSETTS
NO. ARI. 11162
REGISTERED ARCHITECT

REV	DESCRIPTION	DATE
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SITE NAME: HA152/FIRETOWNFIRES_MP

SITE ADDRESS: 344 FIRETOWN ROAD
Simsbury, CT 06070

SHEET TITLE:
E-1: ELECTRICAL & GROUNDING DETAIL

Exhibit D

Structural Analysis Report

STRUCTURAL ANALYSIS REPORT
MONOPOLE

Prepared For:

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

Structure Rating	
Monopole Tower:	**(90.4%) Pass**
Anchor Rods:	**(67.4%) Pass**
Base Plate:	**(78.1%) Pass**
Foundation:	**(72.8%) Pass**

Sincerely,
EFI Global, Inc.
License No: PEC0001245

6/10/2022

STATE OF CONNECTICUT
AHMET COLAKOGLU
PEN. 27057
LICENSED
PROFESSIONAL ENGINEER

Ahmet Colakoglu, PE
Connecticut Professional Engineer
License No: 27057

Site ID: CTHA152A
Site Name: HA152/FiretownFireS_MP
344 Firetown Road
Simsbury, CT 06070

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

CONTENTS

EFI Global, Inc.
1117 Perimeter 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 existing 80 ft. tall monopole located at 344 Firetown Road, Simsbury, CT 06070 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 provided by T-Mobile, dated 03/10/2022.
- Structural Analysis Report prepared by Centek Engineering, dated 06/11/2021.
- Site Photos, dated 02/24/2017.
- Tower Design Drawings prepared by Paul J. Ford and Company, dated 02/16/2004.

1.1 STRUCTURE

The structure is an 80 ft. tall, 18-sided monopole. The monopole is attached to the foundation 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)
38.50	3.5	0.1875	22.000/27.700	65
45.00	-	0.2500	26.807/33.470	65

2.0 EXISTING AND PROPOSED APPURTENANCES

Existing Configuration of T-Mobile Appurtenances:

Rad Center (ft.)	Antennas & Equipment	Coax	Mounts
77.0	(3) RFS APX16DWV-16DWV-S-E-A20 (3) Commscope LDX-6515DS-VTM (3) Generic Twin Style 1A - PCS (3) Andrew Smart Bias T	(6) 1-/4”	(1) Sitepro1 RMQP-496

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Proposed and Final Configuration of T-Mobile Appurtenances:

Rad Center (ft.)	Antennas & Equipment	Coax*	Mounts
77.0	(3) RFS APX16DWV-16DWV-S-E-A20 (3) RFS APXVAALL24_43-U-NA20 (3) Generic Twin Style 1A – PCS (3) Radio 4480 B71+B85	(6) 1-/4” (1) Hybrid Cable	(1) Sitepro1 RMQP-496 w/ Proposed Modifications

***To be mounted behind antenna**

Appurtenances by Others:

Rad Center (ft.)	Antennas & Equipment	Coax	Mounts
90	(1) 8’ Omni	-	-
89	(1) VHLP2-23	(1) 7/8”	(1) Pipe Mount
85	(1) 6813 2-Bay w/Radome	-	-
67	(6) Commscope NHH-65B-R2B (3) Samsung MT6407-77A (3) Andrew HBX-6517DS-VTM (3) B5/B13 RRH (3) B2/B66A RRH (2) RRFDC-3315-PF-48	(2) 1-5/8”	(1) Platform Mount w/ Handrail

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3.0 CODES AND LOADING

This analysis has been performed in accordance with the 2018 Connecticut State Building Code (2015 IBC) based upon an ultimate wind speed of 130 mph (Risk Category III) converted to a nominal 3-second gust wind speed of 101 mph per section 1609.3.1 and Appendix N 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 101 mph without ice (V)
- Basic wind speed 50 mph concurrent with design ice thickness of 1.00" (Vi and ti)
- Exposure Category C, Topographic Category 1

The following load combinations were used with wind blowing at 0°, 30°, 60°, and 90°, measured from a line normal to the face of the tower:

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

D: Dead load of structures and appurtenances, except guy wires
D_i: Weight of ice due to factored ice thickness (based upon ti)
T_i: Load effects due to temperature
W_o: Wind load without ice (based upon V)
W_i: Wind load with ice (based upon V_i)

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4.0 STANDARD CONDITIONS FOR ENGINEERING SERVICES ON EXISTING STRUCTURES

The analysis is based on the information provided and is assumed to be current and correct. Unless otherwise noted, the structure is 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 appurtenances. Any deviation of the appurtenances 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.

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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 from base to 41.5 ft. is stressed to **90.4%** of its structural capacity. The anchor rods, base plate, and foundation are stressed to **67.4%, 78.1%,** and **72.8%** of their structural capacities, respectively.

Please refer to Mount Structural Analysis Report prepared by EFI Global, Inc., dated 6/10/2022, for mount modification details.

Therefore, the proposed changes by T-Mobile **can** be implemented with the conditions outlined in this report.

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

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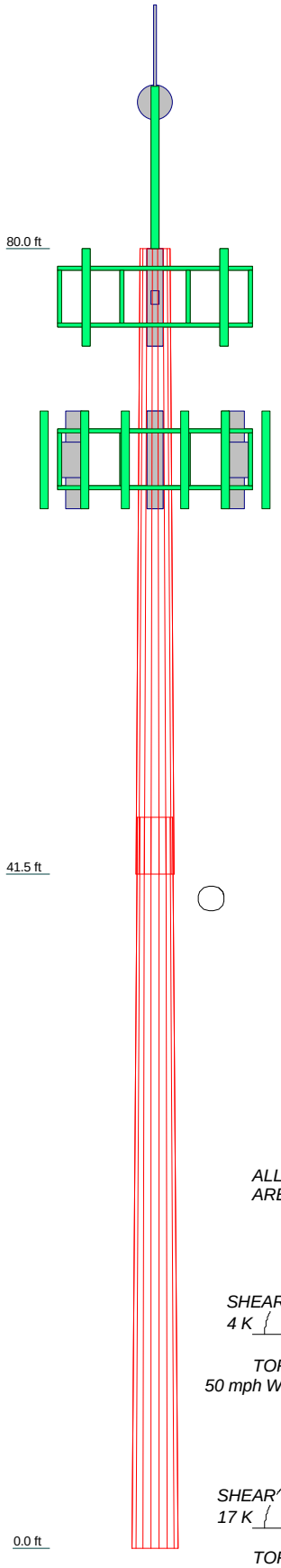
APPENDIX A
SOFTWARE OUTPUT

Section	Length (ft)	Number of Sides	Thickness (in)	Socket Length (ft)	Top Dia (in)	Bot Dia (in)	Grade	Weight (K)
1	38.50	18	0.1875	3.50	22.0000	27.7000	A607-65	1.9
2	45.00	18	0.2500		26.8068	33.4700		3.6
								5.6



ALL REACTIONS ARE FACTORED

AXIAL 43 K
SHEAR 4 K
MOMENT 302 kip-ft
TORQUE 1 kip-ft
50 mph WIND - 1.0000 in ICE

AXIAL 15 K
SHEAR 17 K
MOMENT 1099 kip-ft
TORQUE 2 kip-ft
REACTIONS - 101 mph WIND

DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
8'X3" Dia Omni	90	Sitepro1 RMQP-496 W/ HRK12	77
VHLP2-23	89	APXVAALL24_43-U-NA20_TIA w/ Mount Pipe	77
6813 2-Bay w/Radome	85	(2) NHH-65B-R2B_TIA w/ Mount Pipe	67
10' x 6" Mount Pipe	85	(2) NHH-65B-R2B_TIA w/ Mount Pipe	67
10'x2.5" Pipe Mount	84	MT6407-77A w/ Mount Pipe	67
APXVAALL24_43-U-NA20_TIA w/ Mount Pipe	77	MT6407-77A w/ Mount Pipe	67
APXVAALL24_43-U-NA20_TIA w/ Mount Pipe	77	MT6407-77A w/ Mount Pipe	67
APX16DWV-16DWV-S-E-A20_TIA w/ Mount Pipe	77	HBX-6517DS-VTM_TIA w/ Mount Pipe	67
APX16DWV-16DWV-S-E-A20_TIA w/ Mount Pipe	77	HBX-6517DS-VTM_TIA w/ Mount Pipe	67
APX16DWV-16DWV-S-E-A20_TIA w/ Mount Pipe	77	HBX-6517DS-VTM_TIA w/ Mount Pipe	67
Generic Style 1A - Twin PCS	77	B5/B13 RRH	67
Generic Style 1A - Twin PCS	77	B5/B13 RRH	67
Generic Style 1A - Twin PCS	77	B5/B13 RRH	67
Radio 4480 B71+B85	77	B2/B66A RRH	67
Radio 4480 B71+B85	77	B2/B66A RRH	67
Radio 4480 B71+B85	77	B2/B66A RRH	67
		(2) RRFDC-3315-PF-48	67
		Sitepro1 Low Profile Platform w/ Handrail	67
		(2) NHH-65B-R2B_TIA w/ Mount Pipe	67

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A607-65	65 ksi	80 ksi			

TOWER DESIGN NOTES

1. Tower designed for Exposure C to the TIA-222-G Standard.
2. Tower designed for a 101 mph basic wind in accordance with the TIA-222-G Standard.
3. Tower is also designed for a 50 mph basic wind with 1.00 in ice. Ice is considered to increase in thickness with height.
4. Deflections are based upon a 60 mph wind.
5. Tower Structure Class III.
6. Topographic Category 1 with Crest Height of 0.00 ft
7. TOWER RATING: 90.4%

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Job: ***CTHA152A***			
Project: ***049.03412 - 2275020***			
Client: Foresite LLC	Drawn by: Ahmet Colakoglu	App'd:	
Code: TIA-222-G	Date: 06/10/22	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 101 mph.
Structure Class III.
Exposure Category C.
Topographic Category 1.
Crest Height 0.00 ft.
Nominal ice thickness of 1.0000 in.
Ice thickness is considered to increase with height.
Ice density of 56 pcf.
A wind speed of 50 mph is used in combination with ice.
Temperature drop of 50 °F.
Deflections calculated using a wind speed of 60 mph.
A non-linear (P-delta) analysis was used.
Pressures are calculated at each section.
Stress ratio used in pole design is 1.
Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

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

Tapered Pole Section Geometry

Section	*Elevation* *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	80.00-41.50	38.50	3.50	18	22.0000	27.7000	0.1875	0.7500	A607-65 (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	41.50-0.00	45.00		18	26.8068	33.4700	0.2500	1.0000	A607-65 (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	22.3105	12.9812	780.3007	7.7434	11.1760	69.8193	1561.6281	6.4918	3.5420	18.891
	28.0984	16.3734	1565.7983	9.7669	14.0716	111.2736	3133.6569	8.1882	4.5452	24.241
L2	27.7080	21.0728	1877.6407	9.4277	13.6179	137.8807	3757.7521	10.5384	4.2780	17.112
	33.9478	26.3601	3675.2194	11.7931	17.0028	216.1543	7355.2747	13.1825	5.4507	21.803

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 80.00-41.50				1	1	1			
L2 41.50-0.00				1	1	1			

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Sector	Exclude From Torque Calculation	Component Type	Placement ft	Total Number	Number Per Row	Start/End Position	Width or Diameter in	Perimeter in	Weight plf
Safety Line 3/8	A	No	Surface Ar (CaAa)	80.00 - 0.00	1	1	0.000 0.000	0.3750		0.22
Step Pegs (Surface Ar)	A	No	Surface Ar (CaAa)	80.00 - 0.00	1	1	0.000 0.000	0.8000		2.72
***										

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
****									
AVA5-50(7/8)	C	No	No	Inside Pole	77.00 - 0.00	12	No Ice	0.00	0.30
							1/2" Ice	0.00	0.30
							1" Ice	0.00	0.30
AL5-50(7/8")	C	No	No	Inside Pole	80.00 - 0.00	2	No Ice	0.00	0.54
							1/2" Ice	0.00	0.54
							1" Ice	0.00	0.54
HYBRIFLEX (1-5/8")	C	No	No	Inside Pole	67.00 - 0.00	2	No Ice	0.00	1.90
							1/2" Ice	0.00	1.90
							1" Ice	0.00	1.90
HCS 6X12	C	No	No	Inside Pole	77.00 - 0.00	1	No Ice	0.00	2.40

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight plf
4AWG(1-5/8")							1/2" Ice	0.00	2.40
							1" Ice	0.00	2.40
***									

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	80.00-41.50	A	0.000	0.000	4.524	0.000	0.11
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.35
L2	41.50-0.00	A	0.000	0.000	4.876	0.000	0.12
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.45

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	80.00-41.50	A	2.656	0.000	0.000	45.418	0.000	0.92
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.35
L2	41.50-0.00	A	2.388	0.000	0.000	48.958	0.000	1.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.45

Feed Line Center of Pressure

Section	Elevation ft	CP_X in	CP_Z in	CP_X Ice in	CP_Z Ice in
L1	80.00-41.50	-0.8755	-0.5055	-3.0719	-1.7736
L2	41.50-0.00	-0.8842	-0.5105	-3.3400	-1.9284

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

Shielding Factor Ka

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L1	1	Safety Line 3/8	41.50 - 80.00	1.0000	1.0000
L1	2	Step Pegs (Surface Ar)	41.50 - 80.00	1.0000	1.0000
L2	1	Safety Line 3/8	0.00 - 41.50	1.0000	1.0000
L2	2	Step Pegs (Surface Ar)	0.00 - 41.50	1.0000	1.0000

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
10' x 6" Mount Pipe	B	None		0.0000	85.00	No Ice	3.17	3.17	0.13
						1/2" Ice	6.05	6.05	0.17
						1" Ice	6.66	6.66	0.21
8'X3" Dia Omni	A	From Leg	1.50	0.0000	90.00	No Ice	2.40	2.40	0.03
			0.00			1/2" Ice	3.19	3.19	0.04
			0.00			1" Ice	3.98	3.98	0.05
6813 2-Bay w/Radome	B	From Leg	1.50	0.0000	85.00	No Ice	10.10	10.10	0.17
			0.00			1/2" Ice	12.50	12.50	0.38
			0.00			1" Ice	14.90	14.90	0.59
10'x2.5" Pipe Mount	A	From Leg	1.00	0.0000	84.00	No Ice	2.88	2.88	0.06
			0.00			1/2" Ice	3.91	3.91	0.08
			0.00			1" Ice	4.94	4.94	0.10
77 - TMO									
APXVAALL24_43-U-NA20 _TIA w/ Mount Pipe	A	From Leg	4.00	0.0000	77.00	No Ice	20.48	10.87	0.18
			0.00			1/2" Ice	21.23	12.39	0.32
			0.00			1" Ice	21.99	13.94	0.46
APXVAALL24_43-U-NA20 _TIA w/ Mount Pipe	B	From Leg	4.00	0.0000	77.00	No Ice	20.48	10.87	0.18
			0.00			1/2" Ice	21.23	12.39	0.32
			0.00			1" Ice	21.99	13.94	0.46
APXVAALL24_43-U-NA20 _TIA w/ Mount Pipe	C	From Leg	4.00	0.0000	77.00	No Ice	20.48	10.87	0.18
			0.00			1/2" Ice	21.23	12.39	0.32
			0.00			1" Ice	21.99	13.94	0.46
APX16DWV-16DWV-S-E-A 20_TIA w/ Mount Pipe	A	From Leg	4.00	0.0000	77.00	No Ice	6.82	3.52	0.06
			0.00			1/2" Ice	7.28	4.29	0.11
			0.00			1" Ice	7.72	4.98	0.17
APX16DWV-16DWV-S-E-A 20_TIA w/ Mount Pipe	B	From Leg	4.00	0.0000	77.00	No Ice	6.82	3.52	0.06
			0.00			1/2" Ice	7.28	4.29	0.11
			0.00			1" Ice	7.72	4.98	0.17
APX16DWV-16DWV-S-E-A 20_TIA w/ Mount Pipe	C	From Leg	4.00	0.0000	77.00	No Ice	6.82	3.52	0.06
			0.00			1/2" Ice	7.28	4.29	0.11
			0.00			1" Ice	7.72	4.98	0.17
Generic Style 1A - Twin PCS	A	From Leg	4.00	0.0000	77.00	No Ice	0.57	0.32	0.02
			0.00			1/2" Ice	0.67	0.40	0.02
			0.00			1" Ice	0.77	0.48	0.03
Generic Style 1A - Twin PCS	B	From Leg	4.00	0.0000	77.00	No Ice	0.57	0.32	0.02
			0.00			1/2" Ice	0.67	0.40	0.02
			0.00			1" Ice	0.77	0.48	0.03
Generic Style 1A - Twin PCS	C	From Leg	4.00	0.0000	77.00	No Ice	0.57	0.32	0.02
			0.00			1/2" Ice	0.67	0.40	0.02
			0.00			1" Ice	0.77	0.48	0.03
Radio 4480 B71+B85	A	From Leg	4.00	0.0000	77.00	No Ice	2.85	1.38	0.08

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
			0.00				1/2" Ice	3.06	1.54	0.11
			0.00				1" Ice	3.28	1.71	0.13
Radio 4480 B71+B85	A	From Leg	4.00		0.0000	77.00	No Ice	2.85	1.38	0.08
			0.00				1/2" Ice	3.06	1.54	0.11
			0.00				1" Ice	3.28	1.71	0.13
Radio 4480 B71+B85	A	From Leg	4.00		0.0000	77.00	No Ice	2.85	1.38	0.08
			0.00				1/2" Ice	3.06	1.54	0.11
			0.00				1" Ice	3.28	1.71	0.13
Sitepro1 RMQP-496 W/ HRK12	C	None			0.0000	77.00	No Ice	17.09	17.09	1.50
							1/2" Ice	21.47	21.47	1.88
							1" Ice	25.72	25.72	2.35
67 - Verizon										
(2) NHH-65B-R2B_TIA w/ Mount Pipe	A	From Leg	4.00		0.0000	67.00	No Ice	8.32	7.00	0.07
			0.00				1/2" Ice	8.88	8.19	0.14
			0.00				1" Ice	9.40	9.08	0.21
(2) NHH-65B-R2B_TIA w/ Mount Pipe	B	From Leg	4.00		0.0000	67.00	No Ice	8.32	7.00	0.07
			0.00				1/2" Ice	8.88	8.19	0.14
			0.00				1" Ice	9.40	9.08	0.21
(2) NHH-65B-R2B_TIA w/ Mount Pipe	C	From Leg	4.00		0.0000	67.00	No Ice	8.32	7.00	0.07
			0.00				1/2" Ice	8.88	8.19	0.14
			0.00				1" Ice	9.40	9.08	0.21
MT6407-77A w/ Mount Pipe	A	From Leg	4.00		0.0000	67.00	No Ice	4.91	2.68	0.10
			0.00				1/2" Ice	5.26	3.14	0.14
			0.00				1" Ice	5.61	3.62	0.18
MT6407-77A w/ Mount Pipe	B	From Leg	4.00		0.0000	67.00	No Ice	4.91	2.68	0.10
			0.00				1/2" Ice	5.26	3.14	0.14
			0.00				1" Ice	5.61	3.62	0.18
MT6407-77A w/ Mount Pipe	C	From Leg	4.00		0.0000	67.00	No Ice	4.91	2.68	0.10
			0.00				1/2" Ice	5.26	3.14	0.14
			0.00				1" Ice	5.61	3.62	0.18
HBX-6517DS-VTM_TIA w/ Mount Pipe	A	From Leg	4.00		0.0000	67.00	No Ice	5.54	5.02	0.05
			0.00				1/2" Ice	6.11	6.22	0.09
			0.00				1" Ice	6.65	7.17	0.15
HBX-6517DS-VTM_TIA w/ Mount Pipe	B	From Leg	4.00		0.0000	67.00	No Ice	5.54	5.02	0.05
			0.00				1/2" Ice	6.11	6.22	0.09
			0.00				1" Ice	6.65	7.17	0.15
HBX-6517DS-VTM_TIA w/ Mount Pipe	C	From Leg	4.00		0.0000	67.00	No Ice	5.54	5.02	0.05
			0.00				1/2" Ice	6.11	6.22	0.09
			0.00				1" Ice	6.65	7.17	0.15
B5/B13 RRH	A	From Leg	4.00		0.0000	67.00	No Ice	1.88	1.01	0.07
			0.00				1/2" Ice	2.05	1.14	0.09
			0.00				1" Ice	2.22	1.28	0.11
B5/B13 RRH	B	From Leg	4.00		0.0000	67.00	No Ice	1.88	1.01	0.07
			0.00				1/2" Ice	2.05	1.14	0.09
			0.00				1" Ice	2.22	1.28	0.11
B5/B13 RRH	C	From Leg	4.00		0.0000	67.00	No Ice	1.88	1.01	0.07
			0.00				1/2" Ice	2.05	1.14	0.09
			0.00				1" Ice	2.22	1.28	0.11
B2/B66A RRH	A	From Leg	4.00		0.0000	67.00	No Ice	2.54	1.61	0.08
			0.00				1/2" Ice	2.75	1.79	0.10
			0.00				1" Ice	2.96	1.97	0.12
B2/B66A RRH	B	From Leg	4.00		0.0000	67.00	No Ice	2.54	1.61	0.08
			0.00				1/2" Ice	2.75	1.79	0.10
			0.00				1" Ice	2.96	1.97	0.12
B2/B66A RRH	C	From Leg	1.04		0.0000	67.00	No Ice	2.54	1.61	0.08
			0.00				1/2" Ice	2.75	1.79	0.10
			0.00				1" Ice	2.96	1.97	0.12

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
(2) RRFDC-3315-PF-48	A	From Leg	1.00 0.00 0.00	0.0000	67.00	No Ice 1/2" Ice 1" Ice	3.71 3.95 4.20	2.19 2.39 2.61	0.02 0.05 0.09
Sitepro1 Low Profile Platform w/ Handrail ***	C	None		0.0000	67.00	No Ice 1/2" Ice 1" Ice	17.09 21.47 25.72	17.09 21.47 25.72	1.50 1.88 2.35

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
VHLP2-23	A	Paraboloid w/Shroud (HP)	From Leg	1.00 0.00 0.00	0.0000		89.00	2.17	No Ice 1/2" Ice 1" Ice	3.72 4.01 4.30	0.03 0.05 0.07

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
25	0.9 Dead+1.6 Wind 330 deg - No Ice

Comb. No.	Description
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	80 - 41.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-32.34	-2.98	5.53
			Max. Mx	8	-8.79	-364.75	3.03
			Max. My	2	-8.74	-0.56	380.42
			Max. Vy	8	13.92	-364.75	3.03
			Max. Vx	14	14.44	-0.56	-379.19
			Max. Torque	23			-2.29
L2	41.5 - 0	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-43.27	-1.89	6.60
			Max. Mx	8	-14.87	-1061.84	4.36
			Max. My	14	-14.86	-0.42	-1099.41
			Max. Vy	8	16.91	-1061.84	4.36
			Max. Vx	14	17.41	-0.42	-1099.41
			Max. Torque	23			-2.29

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	27	43.27	-0.00	4.42
	Max. H_x	21	11.17	16.88	0.03
	Max. H_z	2	14.89	-0.00	17.33
	Max. M_x	2	1098.27	-0.00	17.33

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
	Max. M_z	8	1061.84	-16.88	0.03
	Max. Torsion	11	2.06	-14.58	-8.76
	Min. Vert	23	11.17	14.60	8.71
	Min. H_x	9	11.17	-16.88	0.03
	Min. H_z	14	14.89	-0.00	-17.38
	Min. M_x	14	-1099.41	-0.00	-17.38
	Min. M_z	20	-1061.00	16.88	0.03
	Min. Torsion	23	-2.28	14.60	8.71

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	12.41	0.00	0.00	-1.68	-0.34	0.00
1.2 Dead+1.6 Wind 0 deg - No Ice	14.89	0.00	-17.33	-1098.27	-0.41	1.52
0.9 Dead+1.6 Wind 0 deg - No Ice	11.17	0.00	-17.33	-1089.45	-0.31	1.51
1.2 Dead+1.6 Wind 30 deg - No Ice	14.89	8.41	-15.02	-953.08	-528.19	0.47
0.9 Dead+1.6 Wind 30 deg - No Ice	11.17	8.41	-15.02	-945.35	-524.10	0.45
1.2 Dead+1.6 Wind 60 deg - No Ice	14.89	14.60	-8.71	-554.51	-917.41	-0.75
0.9 Dead+1.6 Wind 60 deg - No Ice	11.17	14.60	-8.71	-549.79	-910.38	-0.77
1.2 Dead+1.6 Wind 90 deg - No Ice	14.89	16.88	-0.03	-4.36	-1061.84	-1.75
0.9 Dead+1.6 Wind 90 deg - No Ice	11.17	16.88	-0.03	-3.81	-1053.71	-1.76
1.2 Dead+1.6 Wind 120 deg - No Ice	14.89	14.58	8.76	555.41	-915.91	-2.06
0.9 Dead+1.6 Wind 120 deg - No Ice	11.17	14.58	8.76	551.70	-908.90	-2.06
1.2 Dead+1.6 Wind 150 deg - No Ice	14.89	8.42	15.08	954.38	-529.42	-2.05
0.9 Dead+1.6 Wind 150 deg - No Ice	11.17	8.42	15.08	947.66	-525.32	-2.05
1.2 Dead+1.6 Wind 180 deg - No Ice	14.89	0.00	17.38	1099.41	-0.41	-1.52
0.9 Dead+1.6 Wind 180 deg - No Ice	11.17	0.00	17.38	1091.59	-0.31	-1.51
1.2 Dead+1.6 Wind 210 deg - No Ice	14.89	-8.42	15.08	954.37	528.59	-0.59
0.9 Dead+1.6 Wind 210 deg - No Ice	11.17	-8.42	15.08	947.65	524.71	-0.57
1.2 Dead+1.6 Wind 240 deg - No Ice	14.89	-14.58	8.76	555.40	915.07	0.53
0.9 Dead+1.6 Wind 240 deg - No Ice	11.17	-14.58	8.76	551.70	908.28	0.55
1.2 Dead+1.6 Wind 270 deg - No Ice	14.89	-16.88	-0.03	-4.36	1061.00	1.75
0.9 Dead+1.6 Wind 270 deg - No Ice	11.17	-16.88	-0.03	-3.81	1053.09	1.76
1.2 Dead+1.6 Wind 300 deg - No Ice	14.89	-14.60	-8.71	-554.50	916.57	2.28

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
0.9 Dead+1.6 Wind 300 deg - No Ice	11.17	-14.60	-8.71	-549.79	909.76	2.28
1.2 Dead+1.6 Wind 330 deg - No Ice	14.89	-8.41	-15.02	-953.07	527.35	2.17
0.9 Dead+1.6 Wind 330 deg - No Ice	11.17	-8.41	-15.02	-945.34	523.48	2.17
1.2 Dead+1.0 Ice+1.0 Temp	43.27	0.00	-0.00	-6.60	-1.89	0.00
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	43.27	0.00	-4.42	-302.48	-1.90	0.51
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	43.27	2.17	-3.83	-263.17	-146.20	0.26
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	43.27	3.76	-2.22	-155.40	-252.40	-0.08
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	43.27	4.35	-0.00	-7.08	-291.65	-0.39
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	43.27	3.76	2.23	143.13	-252.10	-0.57
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	43.27	2.17	3.84	250.98	-146.45	-0.62
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	43.27	0.00	4.43	290.27	-1.90	-0.50
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	43.27	-2.17	3.84	250.98	142.65	-0.26
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	43.27	-3.76	2.23	143.13	248.31	0.06
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	43.27	-4.35	-0.00	-7.08	287.85	0.40
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	43.27	-3.76	-2.22	-155.40	248.60	0.60
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	43.27	-2.17	-3.83	-263.17	142.41	0.63
Dead+Wind 0 deg - Service	12.41	0.00	-3.00	-191.03	-0.35	0.26
Dead+Wind 30 deg - Service	12.41	1.45	-2.60	-165.95	-91.54	0.09
Dead+Wind 60 deg - Service	12.41	2.52	-1.51	-97.10	-158.77	-0.12
Dead+Wind 90 deg - Service	12.41	2.92	-0.00	-2.10	-183.71	-0.30
Dead+Wind 120 deg - Service	12.41	2.52	1.52	94.55	-158.52	-0.37
Dead+Wind 150 deg - Service	12.41	1.46	2.61	163.47	-91.75	-0.36
Dead+Wind 180 deg - Service	12.41	0.00	3.01	188.53	-0.35	-0.26
Dead+Wind 210 deg - Service	12.41	-1.46	2.61	163.47	91.05	-0.09
Dead+Wind 240 deg - Service	12.41	-2.52	1.52	94.55	157.82	0.11
Dead+Wind 270 deg - Service	12.41	-2.92	-0.00	-2.10	183.02	0.30
Dead+Wind 300 deg - Service	12.41	-2.52	-1.51	-97.10	158.07	0.39
Dead+Wind 330 deg - Service	12.41	-1.45	-2.60	-165.95	90.84	0.37

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	-12.41	0.00	0.00	12.41	0.00	0.000%
2	0.00	-14.89	-17.33	-0.00	14.89	17.33	0.000%
3	0.00	-11.17	-17.33	-0.00	11.17	17.33	0.000%
4	8.41	-14.89	-15.02	-8.41	14.89	15.02	0.000%
5	8.41	-11.17	-15.02	-8.41	11.17	15.02	0.000%
6	14.60	-14.89	-8.71	-14.60	14.89	8.71	0.000%
7	14.60	-11.17	-8.71	-14.60	11.17	8.71	0.000%
8	16.88	-14.89	-0.03	-16.88	14.89	0.03	0.000%
9	16.88	-11.17	-0.03	-16.88	11.17	0.03	0.000%

Load Comb.	Sum of Applied Forces PX K	PY K	PZ K	Sum of Reactions PX K	PY K	PZ K	% Error
10	14.58	-14.89	8.76	-14.58	14.89	-8.76	0.000%
11	14.58	-11.17	8.76	-14.58	11.17	-8.76	0.000%
12	8.42	-14.89	15.08	-8.42	14.89	-15.08	0.000%
13	8.42	-11.17	15.08	-8.42	11.17	-15.08	0.000%
14	0.00	-14.89	17.38	-0.00	14.89	-17.38	0.000%
15	0.00	-11.17	17.38	-0.00	11.17	-17.38	0.000%
16	-8.42	-14.89	15.08	8.42	14.89	-15.08	0.000%
17	-8.42	-11.17	15.08	8.42	11.17	-15.08	0.000%
18	-14.58	-14.89	8.76	14.58	14.89	-8.76	0.000%
19	-14.58	-11.17	8.76	14.58	11.17	-8.76	0.000%
20	-16.88	-14.89	-0.03	16.88	14.89	0.03	0.000%
21	-16.88	-11.17	-0.03	16.88	11.17	0.03	0.000%
22	-14.60	-14.89	-8.71	14.60	14.89	8.71	0.000%
23	-14.60	-11.17	-8.71	14.60	11.17	8.71	0.000%
24	-8.41	-14.89	-15.02	8.41	14.89	15.02	0.000%
25	-8.41	-11.17	-15.02	8.41	11.17	15.02	0.000%
26	0.00	-43.27	0.00	-0.00	43.27	0.00	0.000%
27	0.00	-43.27	-4.42	-0.00	43.27	4.42	0.000%
28	2.17	-43.27	-3.83	-2.17	43.27	3.83	0.000%
29	3.76	-43.27	-2.22	-3.76	43.27	2.22	0.000%
30	4.35	-43.27	-0.00	-4.35	43.27	0.00	0.000%
31	3.76	-43.27	2.23	-3.76	43.27	-2.23	0.000%
32	2.17	-43.27	3.84	-2.17	43.27	-3.84	0.000%
33	0.00	-43.27	4.43	-0.00	43.27	-4.43	0.000%
34	-2.17	-43.27	3.84	2.17	43.27	-3.84	0.000%
35	-3.76	-43.27	2.23	3.76	43.27	-2.23	0.000%
36	-4.35	-43.27	-0.00	4.35	43.27	0.00	0.000%
37	-3.76	-43.27	-2.22	3.76	43.27	2.22	0.000%
38	-2.17	-43.27	-3.83	2.17	43.27	3.83	0.000%
39	0.00	-12.41	-3.00	0.00	12.41	3.00	0.000%
40	1.45	-12.41	-2.60	-1.45	12.41	2.60	0.000%
41	2.52	-12.41	-1.51	-2.52	12.41	1.51	0.000%
42	2.92	-12.41	-0.00	-2.92	12.41	0.00	0.000%
43	2.52	-12.41	1.52	-2.52	12.41	-1.52	0.000%
44	1.46	-12.41	2.61	-1.46	12.41	-2.61	0.000%
45	0.00	-12.41	3.01	0.00	12.41	-3.01	0.000%
46	-1.46	-12.41	2.61	1.46	12.41	-2.61	0.000%
47	-2.52	-12.41	1.52	2.52	12.41	-1.52	0.000%
48	-2.92	-12.41	-0.00	2.92	12.41	0.00	0.000%
49	-2.52	-12.41	-1.51	2.52	12.41	1.51	0.000%
50	-1.45	-12.41	-2.60	1.45	12.41	2.60	0.000%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	4	0.00000001	0.00000001
2	Yes	4	0.00000001	0.00087417
3	Yes	4	0.00000001	0.00051442
4	Yes	5	0.00000001	0.00019865
5	Yes	5	0.00000001	0.00008130
6	Yes	5	0.00000001	0.00020079
7	Yes	5	0.00000001	0.00008253
8	Yes	5	0.00000001	0.00003536
9	Yes	4	0.00000001	0.00061881
10	Yes	5	0.00000001	0.00017684

11	Yes	5	0.00000001	0.00007197
12	Yes	5	0.00000001	0.00021872
13	Yes	5	0.00000001	0.00009069
14	Yes	4	0.00000001	0.00087235
15	Yes	4	0.00000001	0.00051381
16	Yes	5	0.00000001	0.00018552
17	Yes	5	0.00000001	0.00007584
18	Yes	5	0.00000001	0.00018686
19	Yes	5	0.00000001	0.00007648
20	Yes	5	0.00000001	0.00003531
21	Yes	4	0.00000001	0.00061805
22	Yes	5	0.00000001	0.00021829
23	Yes	5	0.00000001	0.00009067
24	Yes	5	0.00000001	0.00017199
25	Yes	5	0.00000001	0.00006960
26	Yes	4	0.00000001	0.00007169
27	Yes	5	0.00000001	0.00023917
28	Yes	5	0.00000001	0.00032453
29	Yes	5	0.00000001	0.00031948
30	Yes	5	0.00000001	0.00022775
31	Yes	5	0.00000001	0.00028696
32	Yes	5	0.00000001	0.00030994
33	Yes	5	0.00000001	0.00022286
34	Yes	5	0.00000001	0.00027902
35	Yes	5	0.00000001	0.00027840
36	Yes	5	0.00000001	0.00022004
37	Yes	5	0.00000001	0.00031939
38	Yes	5	0.00000001	0.00029954
39	Yes	4	0.00000001	0.00003984
40	Yes	4	0.00000001	0.00006202
41	Yes	4	0.00000001	0.00006333
42	Yes	4	0.00000001	0.00004410
43	Yes	4	0.00000001	0.00005392
44	Yes	4	0.00000001	0.00008831
45	Yes	4	0.00000001	0.00003872
46	Yes	4	0.00000001	0.00004538
47	Yes	4	0.00000001	0.00004532
48	Yes	4	0.00000001	0.00004372
49	Yes	4	0.00000001	0.00009002
50	Yes	4	0.00000001	0.00005287

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	80 - 41.5	8.277	39	0.8066	0.0062
L2	45 - 0	2.932	39	0.5736	0.0023

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
90.00	8'X3" Dia Omni	39	8.277	0.8066	0.0062	25587
89.00	VHLP2-23	39	8.277	0.8066	0.0062	25587

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
85.00	10' x 6" Mount Pipe	39	8.277	0.8066	0.0062	25587
84.00	10'x2.5" Pipe Mount	39	8.277	0.8066	0.0062	25587
77.00	APXVAALL24_43-U-NA20_TIA w/ Mount Pipe	39	7.762	0.7906	0.0058	25587
67.00	(2) NHH-65B-R2B_TIA w/ Mount Pipe	39	6.077	0.7350	0.0046	9841

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	80 - 41.5	47.214	2	4.5668	0.0358
L2	45 - 0	16.816	14	3.2842	0.0136

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
90.00	8'X3" Dia Omni	2	47.214	4.5668	0.0358	4568
89.00	VHLP2-23	2	47.214	4.5668	0.0358	4568
85.00	10' x 6" Mount Pipe	2	47.214	4.5668	0.0358	4568
84.00	10'x2.5" Pipe Mount	2	47.214	4.5668	0.0358	4568
77.00	APXVAALL24_43-U-NA20_TIA w/ Mount Pipe	2	44.285	4.4806	0.0337	4568
67.00	(2) NHH-65B-R2B_TIA w/ Mount Pipe	2	34.707	4.1795	0.0267	1756

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	80 - 41.5 (1)	TP27.7x22x0.1875	38.50	0.00	0.0	16.0650	-8.74	1062.14	0.008
L2	41.5 - 0 (2)	TP33.47x26.8068x0.25	45.00	0.00	0.0	26.3601	-14.86	1797.25	0.008

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	80 - 41.5 (1)	TP27.7x22x0.1875	380.42	590.12	0.645	0.00	590.12	0.000
L2	41.5 - 0 (2)	TP33.47x26.8068x0.25	1099.41	1228.13	0.895	0.00	1228.13	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	80 - 41.5 (1)	TP27.7x22x0.1875	14.39	531.07	0.027	1.53	1182.92	0.001
L2	41.5 - 0 (2)	TP33.47x26.8068x0.25	17.41	898.63	0.019	1.52	2462.07	0.001

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	80 - 41.5 (1)	0.008	0.645	0.000	0.027	0.001	0.654 ✔	1.000	4.8.2 ✔
L2	41.5 - 0 (2)	0.008	0.895	0.000	0.019	0.001	0.904 ✔	1.000	4.8.2 ✔

Section Capacity Table

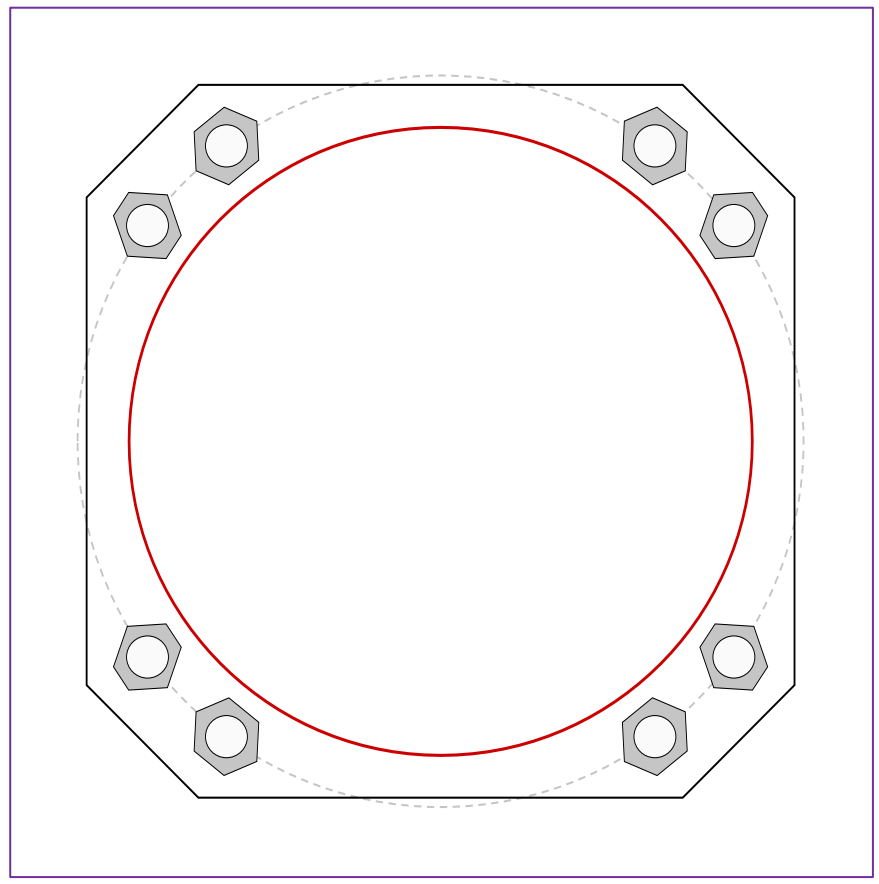
Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
L1	80 - 41.5	Pole	TP27.7x22x0.1875	1	-8.74	1062.14	65.4	Pass
L2	41.5 - 0	Pole	TP33.47x26.8068x0.25	2	-14.86	1797.25	90.4	Pass
							Summary	
						Pole (L2)	90.4	Pass
						RATING =	**90.4**	**Pass**

Monopole Base Plate Connection

Site Info	
Site Name	A152/FiretownFireS_M

Analysis Considerations	
TIA-222 Revision	G
Grout Considered:	No
l_{ar} (in)	2
Eta Factor, η	0.5

Applied Loads	
Moment (kip-ft)	1099.41
Axial Force (kips)	14.86
Shear Force (kips)	17.41



Connection Properties

Anchor Rod Data

(8) 2-1/4" ø bolts (A615-75 N; Fy=75 ksi, Fu=100 ksi) on 39" BC

Anchor Spacing: 6 in

Base Plate Data

38" W x 2" Plate (A572-60; Fy=60 ksi, Fu=75 ksi); Clip: 6 in

Stiffener Data

N/A

Pole Data

33.47" x 0.25" 18-sided pole (A607-65; Fy=65 ksi, Fu=80 ksi)

Analysis Results

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

Pu_c = 170.77	ϕPn_t = 260	**Stress Rating**
Vu = 2.18	ϕVn = n/a	**67.4%**
Mu = n/a	ϕMn = n/a	**Pass**

Base Plate Summary

Max Stress (ksi):	42.17	(Flexural)
Allowable Stress (ksi):	54	
Stress Rating:	**78.1%**	**Pass**

Analysis Date: 6/10/2022

Pier and Pad Foundation

Site Name:	HA152/FiretownFire

TIA-222 Revision:	G
Tower Type:	Monopole

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

Superstructure Analysis Reactions

Compression, P_{comp}:	14.89	kips
Base Shear, Vu_comp:	17.38	kips
Moment, M_u:	1099.41	ft-kips
Tower Height, **H**:	80	ft
BP Dist. Above Fdn, bp_{dist}:	3	in

Foundation Analysis Checks

	Capacity	Demand	Rating	Check
Lateral (Sliding) (kips)	104.00	17.38	**16.7%**	**Pass**
Bearing Pressure (ksf)	4.95	2.34	**47.3%**	**Pass**
*Overturning (kip*ft)*	1671.28	1216.73	**72.8%**	**Pass**
*Pier Flexure (Comp.) (kip*ft)*	2035.60	1160.24	**57.0%**	**Pass**
Pier Compression (kip)	9372.94	27.26	**0.3%**	**Pass**
*Pad Flexure (kip*ft)*	1856.90	494.95	**26.7%**	**Pass**
Pad Shear - 1-way (kips)	527.95	99.50	**18.8%**	**Pass**
Pad Shear - 2-way (Comp) (ksi)	0.164	0.018	**10.9%**	**Pass**

Structural Rating:	**57.0%**
Soil Rating:	**72.8%**

Pier Properties

Pier Shape:	Circular	
Pier Diameter, **dpier**:	5	ft
Ext. Above Grade, **E**:	0.5	ft
Pier Rebar Size, **Sc**:	11	
Pier Rebar Quantity, **mc**:	12	
Pier Tie/Spiral Size, **St**:	5	
Pier Tie/Spiral Quantity, **mt**:	10	
Pier Reinforcement Type:	Tie	
Pier Clear Cover, cc_{pier}:	3	in

Pad Properties

Depth, **D**:	6	ft
Pad Width, W_1:	17	ft
Pad Thickness, **T**:	3	ft
Pad Rebar Size (Bottom dir. 2), Sp_2:	8	
Pad Rebar Quantity (Bottom dir. 2), mp_2:	17	
Pad Clear Cover, cc_{pad}:	3	in

Material Properties

Rebar Grade, **Fy**:	60	ksi
Concrete Compressive Strength, **F'c**:	3	ksi
Dry Concrete Density, δ**c**:	150	pcf

Soil Properties

Total Soil Unit Weight, γ:	100	pcf
Ultimate Net Bearing, Qnet:	6.000	ksf
Cohesion, **Cu**:	0.000	ksf
Friction Angle, φ:	30	degrees
SPT Blow Count, N_{blows}:		
Base Friction, μ:	0.3	
Neglected Depth, **N**:		ft
Foundation Bearing on Rock?	No	
Groundwater Depth, **gw**:	N/A	ft

<--Toggle between Gross and Net

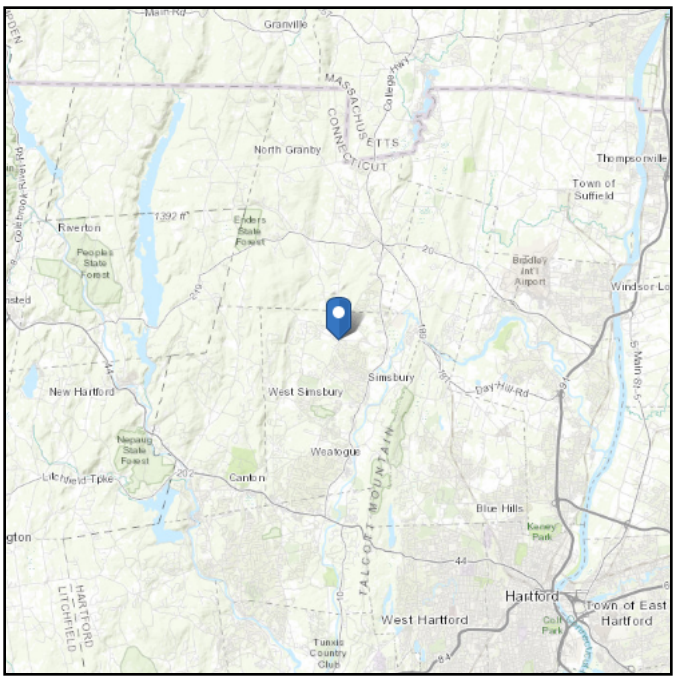
<

ASCE 7 Hazards Report

Address:
No Address at This Location

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

Elevation: 301.69 ft (NAVD 88)
Latitude: 41.903194
Longitude: -72.821344



Wind

Results:

Wind Speed	128 Vmph
10-year MRI	76 Vmph
25-year MRI	86 Vmph
50-year MRI	91 Vmph
100-year MRI	98 Vmph

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

Date Accessed: Thu Jun 09 2022

Value provided is 3-second gust wind speeds at 33 ft above ground for Exposure C Category, based on linear interpolation between contours. Wind speeds are interpolated in accordance with the 7-10 Standard. Wind speeds correspond to approximately a 3% probability of exceedance in 50 years (annual exceedance probability = 0.000588, MRI = 1,700 years).

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

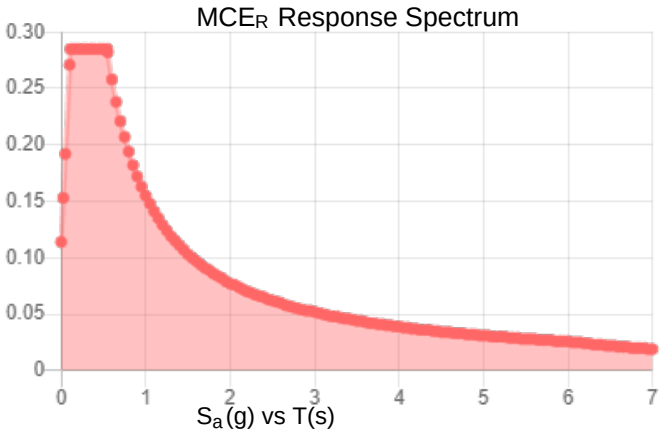
Seismic

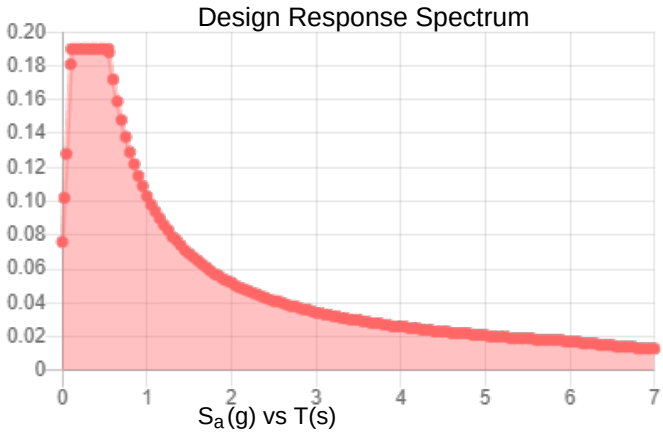
Site Soil Class: D - Stiff Soil

Results:

S_S :	0.178	S_{DS} :	0.19
S_1 :	0.065	S_{D1} :	0.103
F_a :	1.6	T_L :	6
F_v :	2.4	PGA :	0.088
S_{MS} :	0.285	PGA_M :	0.141
S_{M1} :	0.155	F_{PGA} :	1.6
		I_e :	1.25

Seismic Design Category B





Data Accessed: **Thu Jun 09 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:	1.00 in.
Concurrent Temperature:	5 F
Gust Speed	50 mph
Data Source:	Standard ASCE/SEI 7-10, Figs. 10-2 through 10-8
Date Accessed:	Thu Jun 09 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: 6/10/2022

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

Subject:	**Mount Structural Analysis Report**	
T-Mobile Designation:	**Site ID:**	CTHA152A
	Site Name:	HA152/FiretownFireS_MP
EFI Designation:	**Project Number:**	049.03412 - 2275020
Site Data:	**344 Firetown Road, Simsbury, CT 06070** **Latitude 41.903194˚, Longitude -72.821344˚**	

EFI Global, Inc. is pleased to submit this **"Mount Structural Analysis Report"** to determine the structural capacity of the antenna mount 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 mount to have:

Existing + Proposed Equipment — **Adequate Capacity w/ Mods (51.9%)**
Note: See Analysis Criteria for loading configuration

The analysis has been performed in accordance with TIA-222-G Standard and the 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

6/10/2022

STATE OF CONNECTICUT
AHMET COLAKOGLU
PEN. 27057
LICENSED
PROFESSIONAL ENGINEER

Ahmet Colakoglu, PE
Connecticut Professional Engineer
License No: 27057

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 existing and 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	77’
Structure Type	Monopole
Exposure Category	C
Basic Wind Speed	119 mph*√0.6 = 92.2 mph (ASD)
Ice Loading	0.75” with 50 mph Wind
Risk Category	II
Topographic Factor	Kzt = 1.0

Table 1.1 – Existing Appurtenance Configuration

Qty	Model
3	RFS APX16DWV-16DWV-S-E-A20 – Antennas
3	Commscope LDX-6515DS-VTM – Antennas
3	Generic Twin Style 1A - PCS – RRUs
3	Andrew Smart Bias T – RRUs

Table 1.2 – Proposed and Final Appurtenance Configuration

Qty	Model
3	RFS APX16DWV-16DWV-S-E-A20 – Antennas
3	RFS APXVAALL24_43-U-NA20 – Antennas
3	Generic Twin Style 1A - PCS – RRUs*
3	Radio 4480 B71+B85 – RRUs*

***To be mounted behind 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

EFI Global, Inc.
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2) ANALYSIS PROCEDURE

The analysis is based on the following information:

Table 2 – Documents

Document	Provided By	Date
RFDS	T-Mobile	03/10/2022
Structural Analysis Report	Centek Engineering	06/11/2021

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 the available site photographs 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
Platform Base Tubes	47.6	Pass
Platform Base Connection Plates	27.8	Pass
Platform Corner Plates	21.4	Pass
Grating Angles	21.6	Pass
Horizontal Face Pipes	<20.0	Pass
Handrail Pipes	<20.0	Pass
Handrail Connection Angles	<20.0	Pass
Mount Pipes	51.9	Pass

Platform Mount: The existing platform mount **will have adequate** capacity for the proposed changes by T-Mobile, **once the existing platform mount is modified as listed below.** For the code specified load combinations and as a maximum, the mount members are stressed to **51.9%** of their structural capacity.

Note: The analysis considered the below modifications to be completed on the existing platform mount prior to the equipment installation by T-Mobile.

- **Valmont/Site Pro 1 Handrail Kit (P/N: HRK12) should be installed 42" above the platform base.**
- **Existing mount pipe supporting the APX16DWV antenna should be swapped with new 96" long 2.0 STD mount pipe at each sector, three (3) in total. The proposed mount pipe should be connected to the proposed Handrail Kit using one (1) Valmont/Site Pro 1 Crossover Plate Kit (P/N: SCX1-K), three (3) in total.**
- **The proposed APXVAALL24 antenna should be mounted on new 108" long 2.5 STD mount pipe at each sector, three (3) in total. The proposed mount pipes should be connected to the horizontal face pipes using one (1) Valmont/Site Pro 1 Crossover Plate Kit (P/N: SCX45-K), three (3) in total. The proposed mount pipes should be connected to the proposed Valmont/Site Pro 1 Handrail Kit using one (1) Valmont/Site Pro 1 Crossover Plate Kit (P/N: SCX2-K), three (3) in total.**

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

APPENDIX

INPUT LOADS
ANALYSIS OUTPUT

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

CLIENT: ForeSite LLC/T-Mobile

PROJECT: CTHA152A

SUBJECT: Antenna Loads - G Code with Sections 16 Revisions

Tower Height	80.00	ft	Type of Mount: Platform
Basic Wind Speed, V	93	mph (=Ultimate Speed*Sqrt(0.6))	
Basic Wind Speed with Ice, V_i	50	mph	
Maintanence Load Factor, L_{FM}	0.1041	Load Factor for Maint. Load Cases (Basic Wind Speed=30 mph)	
Design Ice Thickness, t_i	1	inches	

Table 2-3 Importance Factors

Structure Classification	Wind Load Without Ice	Wind Load With Ice	Ice Thickness	Earthquake
II	1	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/T-Mobile

PROJECT: CTHA152A

SUBJECT: Antenna Loads - G Code with Sections 16 Revisions

Rad Center 77.00 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	**77.00**	RFS APX16DWV-16DWV-S-E-A20	1	40.7	55.9	13.3	3.2	0.90	5.16	1.22	4.20	17.75	1.28	1.76	1.198	25.2	149.3	48.7	40.7	149	66	48
	77.00	Generic Twin Style 1A - PCS	1	7.7	7.5	N/A	12.0	0.90	-	0.63	-	0.63	-	1.20	1.198	25.2	0.0	17.0	7.7			
		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			
																				75	**33**	**25**
Pos. 2	**77.00**	RFS APXVAALL24_43-U-NA20	1	149.9	95.9	24.0	8.5	0.90	15.98	5.66	4.00	11.28	1.27	1.54	1.198	25.2	459.0	198.0	149.9	459	229	234
	77.00	Radio 4480 B71+B85	1	84.0	21.8	N/A	7.5	0.90	-	1.14	-	2.91	-	1.22	1.198	25.2	0.0	31.4	84			
		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			
																				230	**115**	**117**

* 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 282

Mount	Height (ft)	Member	*L (in)	**W (in)	D (in)	*** Ca	K_z	q_z (psf)	Wind Load (PLF)
	77.00	3.0 STD Pipe	12.00	3.50	0.00	1.20	1.198	22.7	8
	77.00	2.5 STD Pipe	12.00	2.88	0.00	1.20	1.198	22.7	7
	77.00	2.0 STD Pipe	12.00	2.38	0.00	1.20	1.198	22.7	5
	77.00	SR 5/8"	0.00	0.63	0.00	-	-	-	-
	77.00	L2x2x3	12.00	2.00	2.00	2.00	1.198	22.7	8
	77.00	L2.5x2.5x4	12.00	2.50	2.50	2.00	1.198	22.7	9
	77.00	Angle Diagonal	0.00	0.00	0.00	-	-	-	-
	77.00	Plate Horizontal (PL6x1/2)	12.00	6.00	0.50	2.00	1.198	22.7	23
	77.00	Plate Horizontal (PL6x3/8)	12.00	6.00	0.38	2.00	1.198	22.7	23
	77.00	HSS4x4x4	12.00	4.00	4.00	2.00	1.198	22.7	15
	77.00	Double Angle (LL2x2x3x0)	0.00	2.00	2.00	-	-	-	-
	77.00	Double Angle (LL3x3x4x0)	0.00	3.00	3.00	-	-	-	-
	77.00	Channel (Slider Bracket)	0.00	3.00	12.00	-	-	-	-
	77.00	Invert U 5.375x3.625x.375	0.00	3.63	5.38	-	-	-	-

* 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/T-Mobile

PROJECT: CTHA152A

SUBJECT: Antenna Loads - G Code with Sections 16 Revisions

ti (in) 2.176846 Kiz 1.0884229 reduction 0.28905

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	**77.00**	RFS APX16DWV-16DWV-S-E-A20	1	55.9	13.3	3.2	0.90	2.22	1.92	3.26	182.77	0.72	0.82	1.198	7.3	10.5	10.3	53.7	24.4	183	54	33	222
	77.00	Generic Twin Style 1A - PCS	1	7.5	3.4	12.0	0.90	-	0.72	0.69	38.79	0.70	0.70	1.198	7.3	0.0	3.3	0.0	8.2	39			
		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			
																					27	**17**	**111**
Pos. 2	**77.00**	RFS APXVAALL24_43-U-NA20	1	95.9	24.0	8.5	0.90	3.76	3.29	9.82	550.08	0.72	0.82	1.198	7.3	17.8	17.6	150.5	74.9	550	150	89	668
	77.00	Radio 4480 B71+B85	1	21.8	15.7	7.5	0.90	-	1.02	2.11	118.29	0.70	0.70	1.198	7.3	0.0	4.7	0.0	13.7	118			
		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			
																					76	**45**	**335**

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

** Ca will equal 1.2 for all ice load calculations

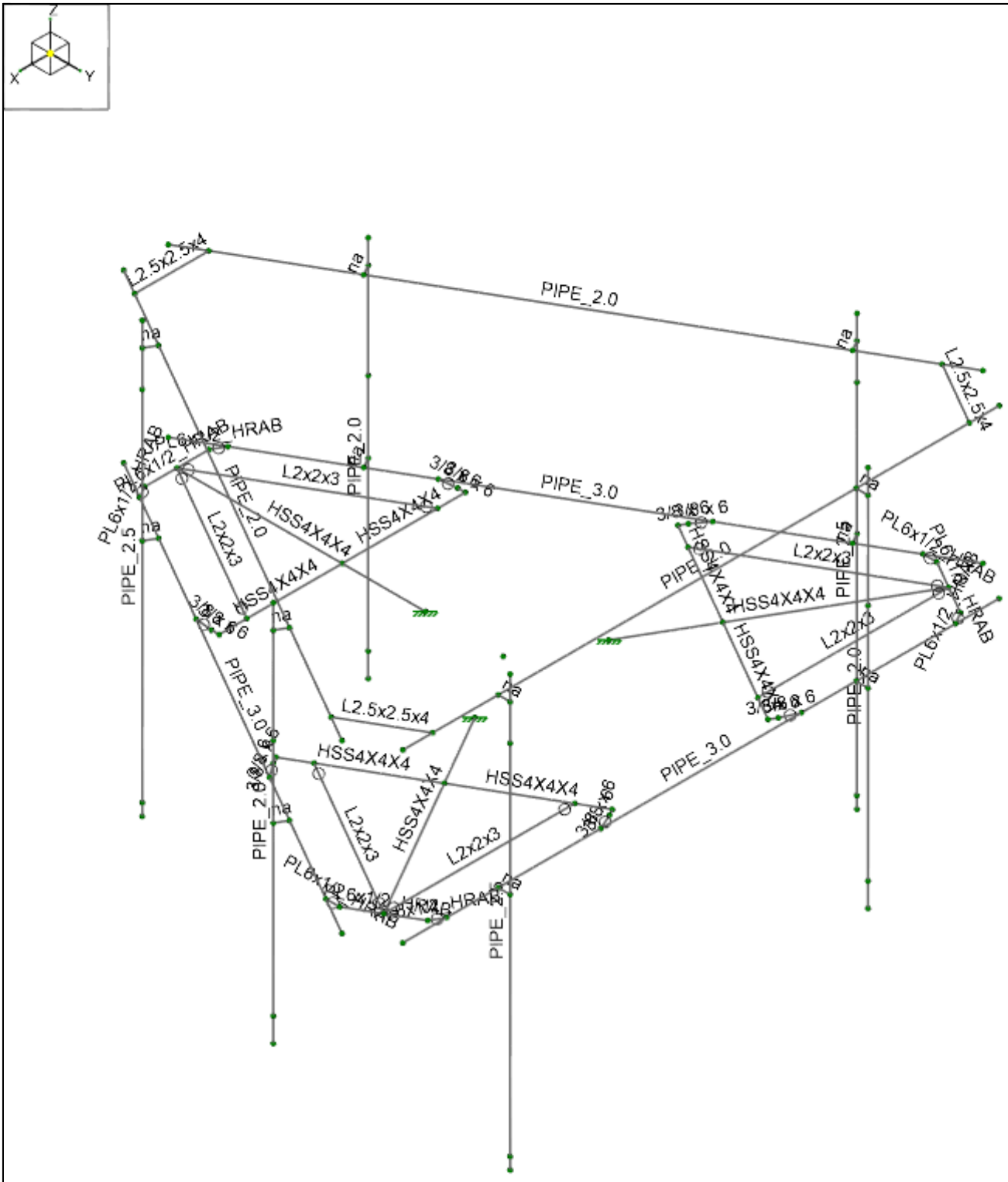
Mount	Height (ft)	Member	*L (in)	**W (in)	D (in)	***A_N (ft2)	Volume Ice (ft3)	Weight Ice (lbs)	****Ca (FRONT)	Kz	q_z (psf)	PLF: Ice Wind Load (Front)	Combined Wind Load (Front)	Ice Dead Load
	77.00	3.0 STD Pipe	12.00	3.50	0.00	0.60	0.27	15.10	1.20	1.198	6.6	4.7	7.0	15
	77.00	2.5 STD Pipe	12.00	2.88	0.00	0.58	0.24	13.44	1.20	1.198	6.6	4.6	6.5	13
	77.00	2.0 STD Pipe	12.00	2.38	0.00	0.57	0.22	12.11	1.20	1.198	6.6	4.5	6.0	12
	77.00	SR 5/8"	0.00	0.63	0.00	-	-	-	-	-	-	-	-	-
	77.00	L2x2x3	12.00	2.00	2.00	0.55	0.12	6.77	1.20	1.198	6.6	4.4	6.5	7
	77.00	L2.5x2.5x4	12.00	2.50	2.50	0.57	0.15	8.47	1.20	1.198	6.6	4.5	7.2	8
	77.00	Angle Diagonal	0.00	0.00	0.00	-	-	-	-	-	-	-	-	-
	77.00	Plate Horizontal (PL6x1/2)	12.00	6.00	0.50	0.68	0.45	25.47	1.20	1.198	6.6	5.3	11.9	25
	77.00	Plate Horizontal (PL6x3/8)	12.00	6.00	0.38	0.68	0.45	25.07	1.20	1.198	6.6	5.3	11.9	25
	77.00	HSS4x4x4	12.00	4.00	4.00	0.62	0.55	30.76	1.20	1.198	6.6	4.8	9.2	31
	77.00	Double Angle (LL2x2x3x0)	0.00	2.00	2.00	-	-	-	-	-	-	-	-	-
	77.00	Double Angle (LL3x3x4x0)	0.00	3.00	3.00	-	-	-	-	-	-	-	-	-
	77.00	Channel (Slider Bracket)	0.00	3.00	12.00	-	-	-	-	-	-	-	-	-
	77.00	Invert U 5.375x3.625x.375	0.00	3.63	5.38	-	-	-	-	-	-	-	-	-

* 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

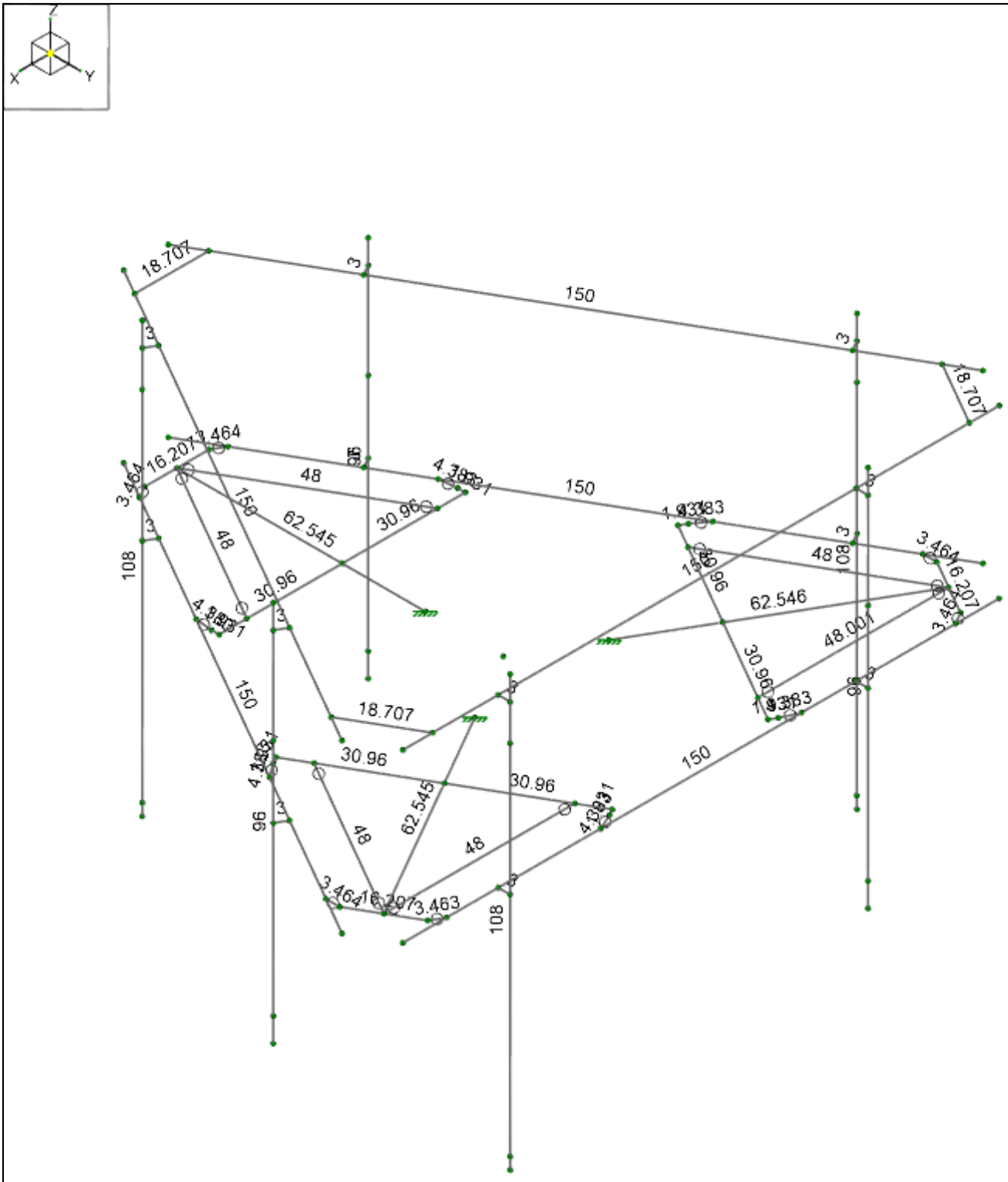
*** A_N is the area of ice built up on the LW plane

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



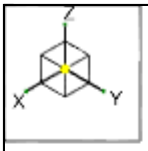
Envelope Only Solution

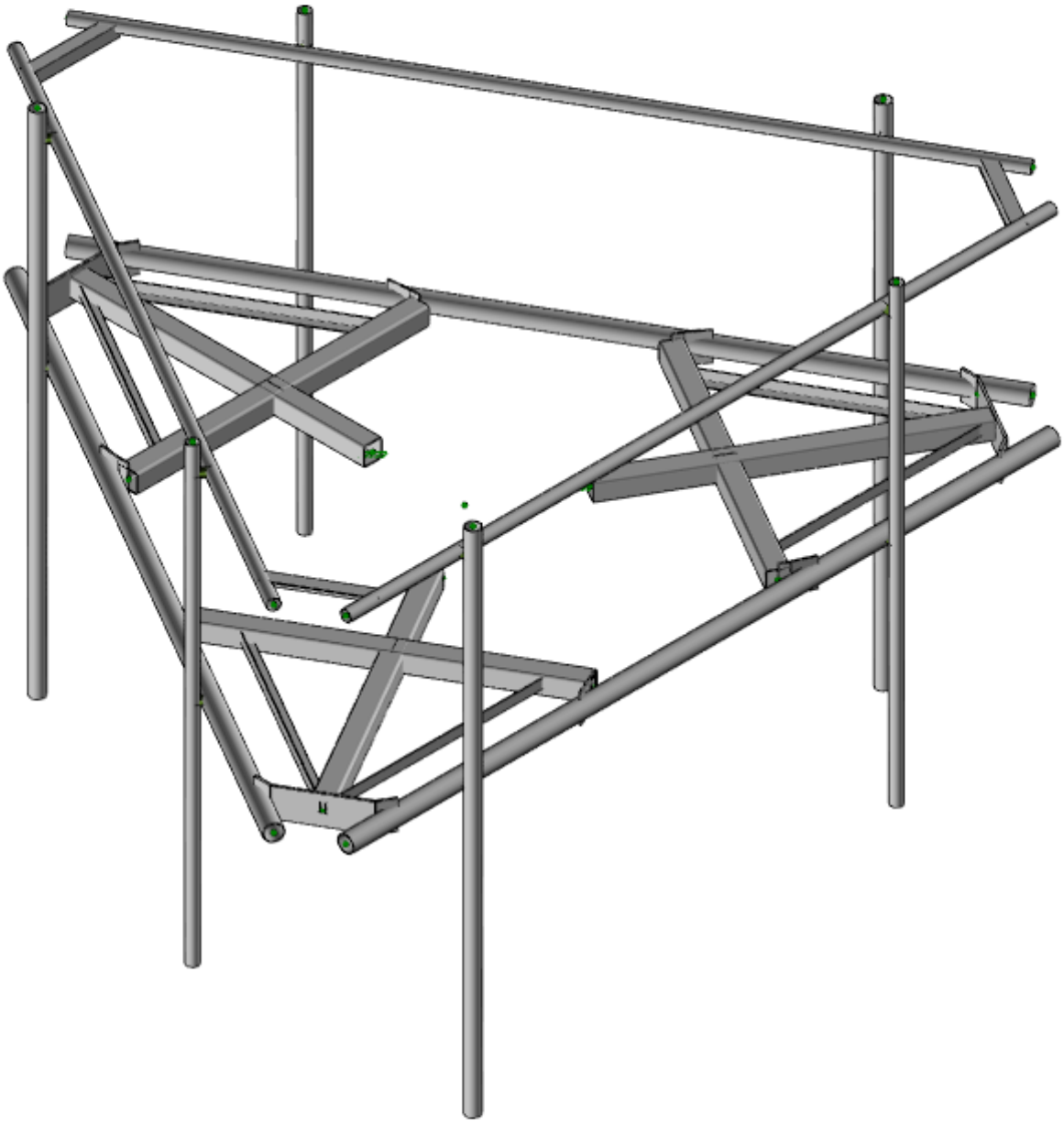
ForeSite/EFI	CTHA152A	SK-1
AJ		Jun 10, 2022
049.03412 - 2275020		CTHA152A.r3d



Member Length (in) Displayed
Envelope Only Solution

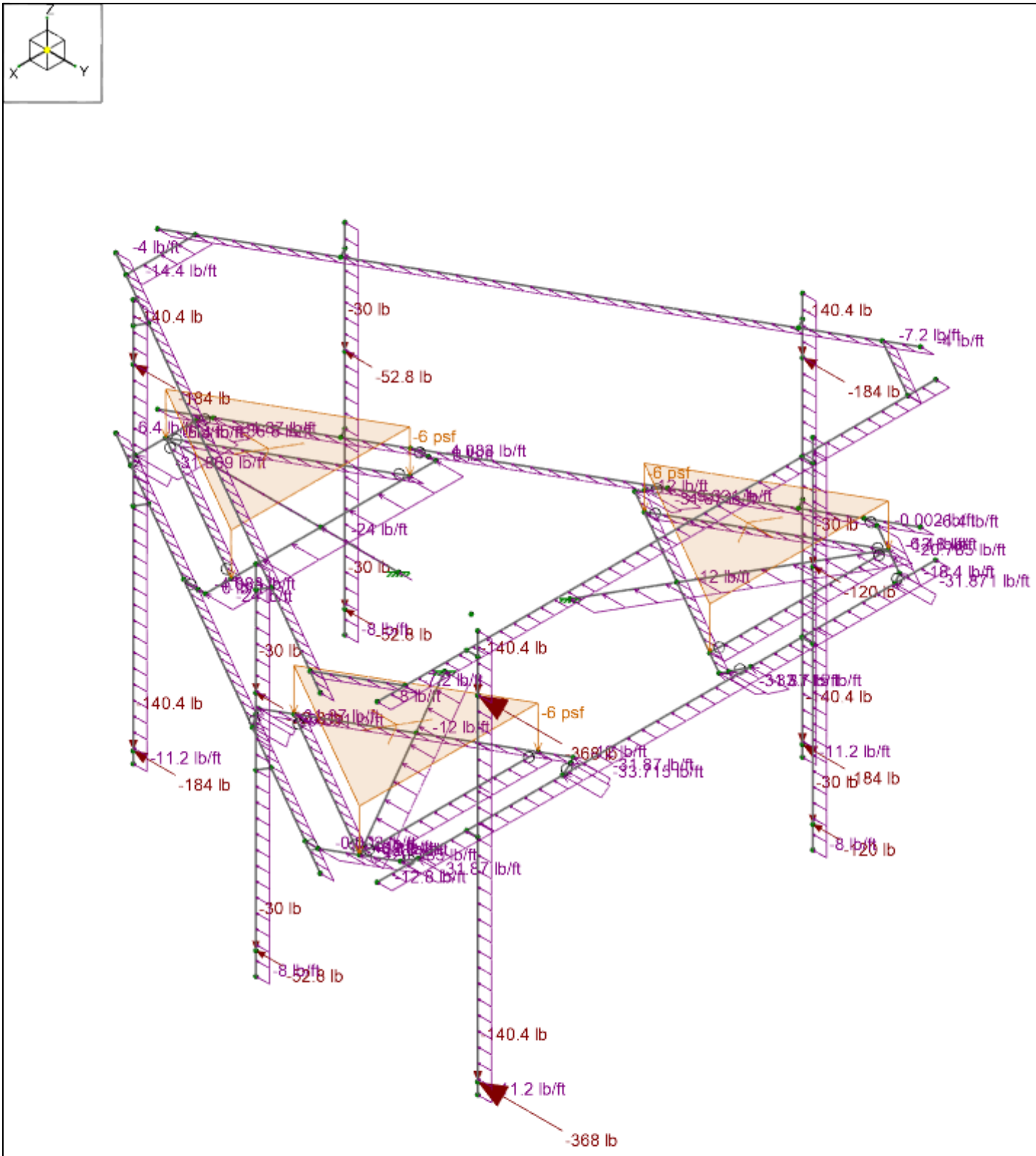
ForeSite/EFI	CTHA152A	SK-2
AJ		Jun 10, 2022
049.03412 - 2275020		CTHA152A.r3d





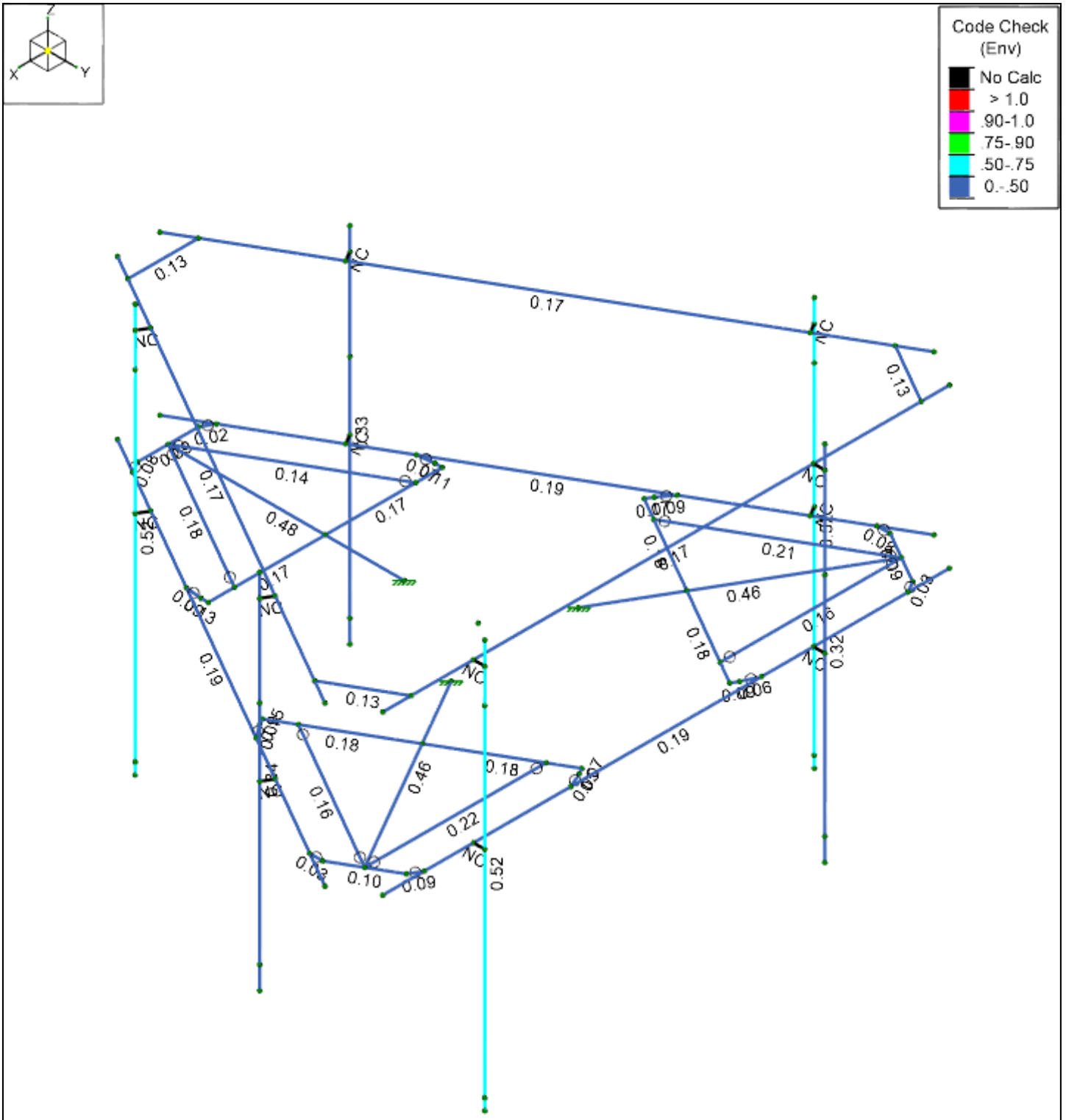
Envelope Only Solution

ForeSite/EFI	CTHA152A	SK-3
AJ		Jun 10, 2022
049.03412 - 2275020		CTHA152A.r3d



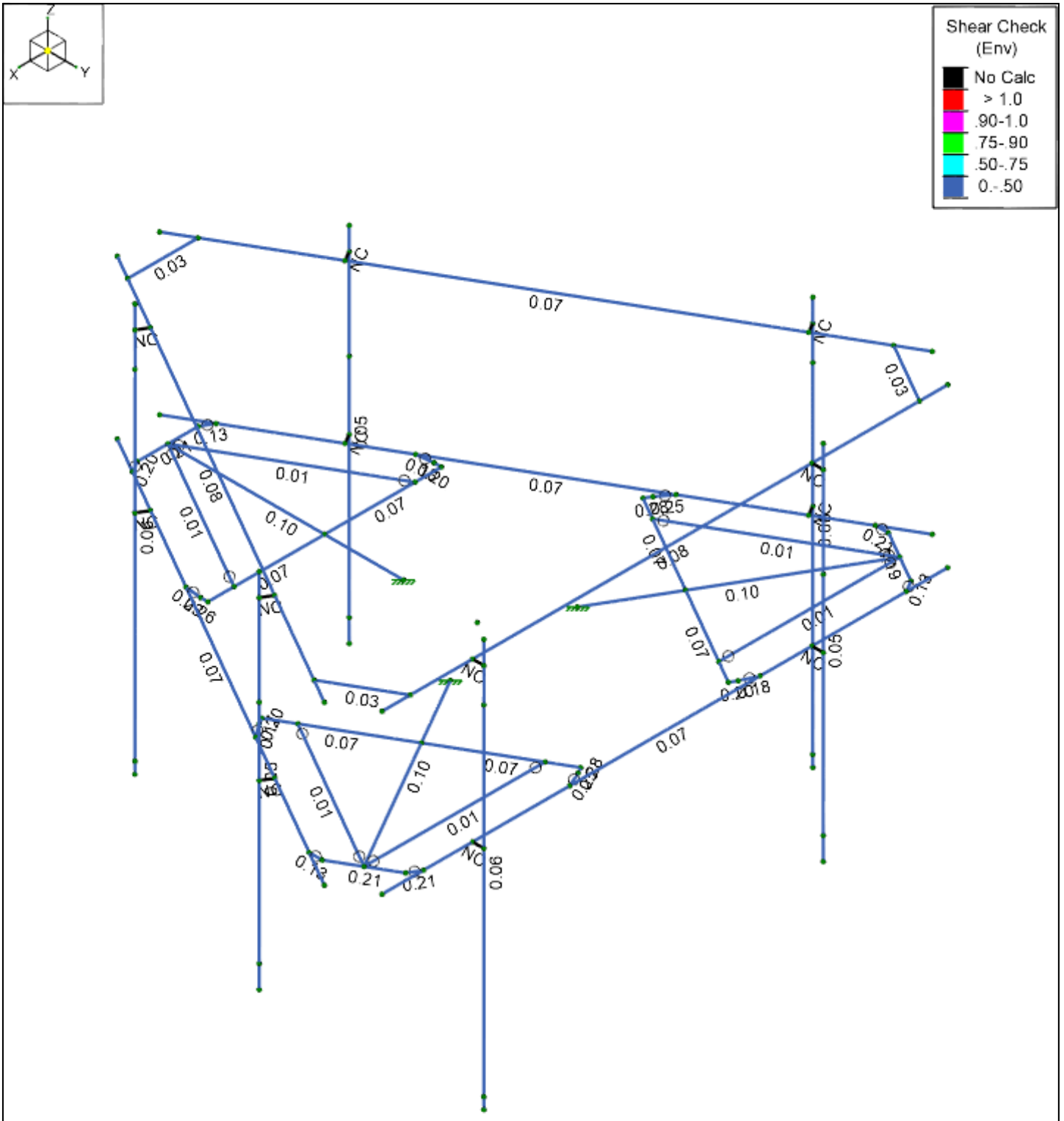
Loads: LC 1, DL + WL (NO ICE) 0 Degree
Envelope Only Solution

ForeSite/EFI	CTHA152A	SK-4
AJ		Jun 10, 2022
049.03412 - 2275020		CTHA152A.r3d



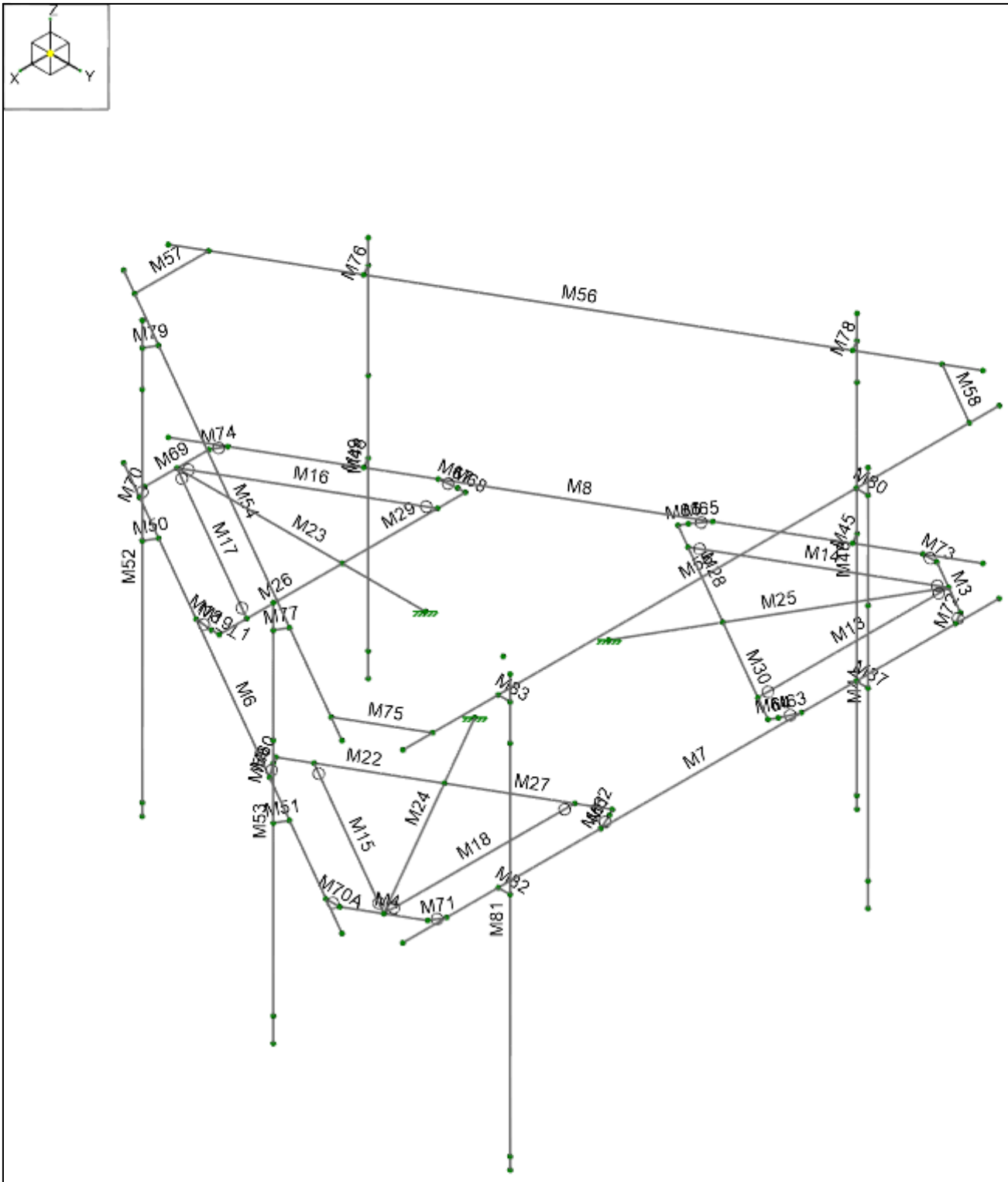
Member Code Checks Displayed (Enveloped)
Envelope Only Solution

ForeSite/EFI	CTHA152A	SK-5
AJ		Jun 10, 2022
049.03412 - 2275020		CTHA152A.r3d



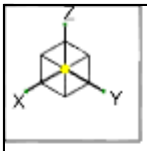
Member Shear Checks Displayed (Enveloped)
Envelope Only Solution

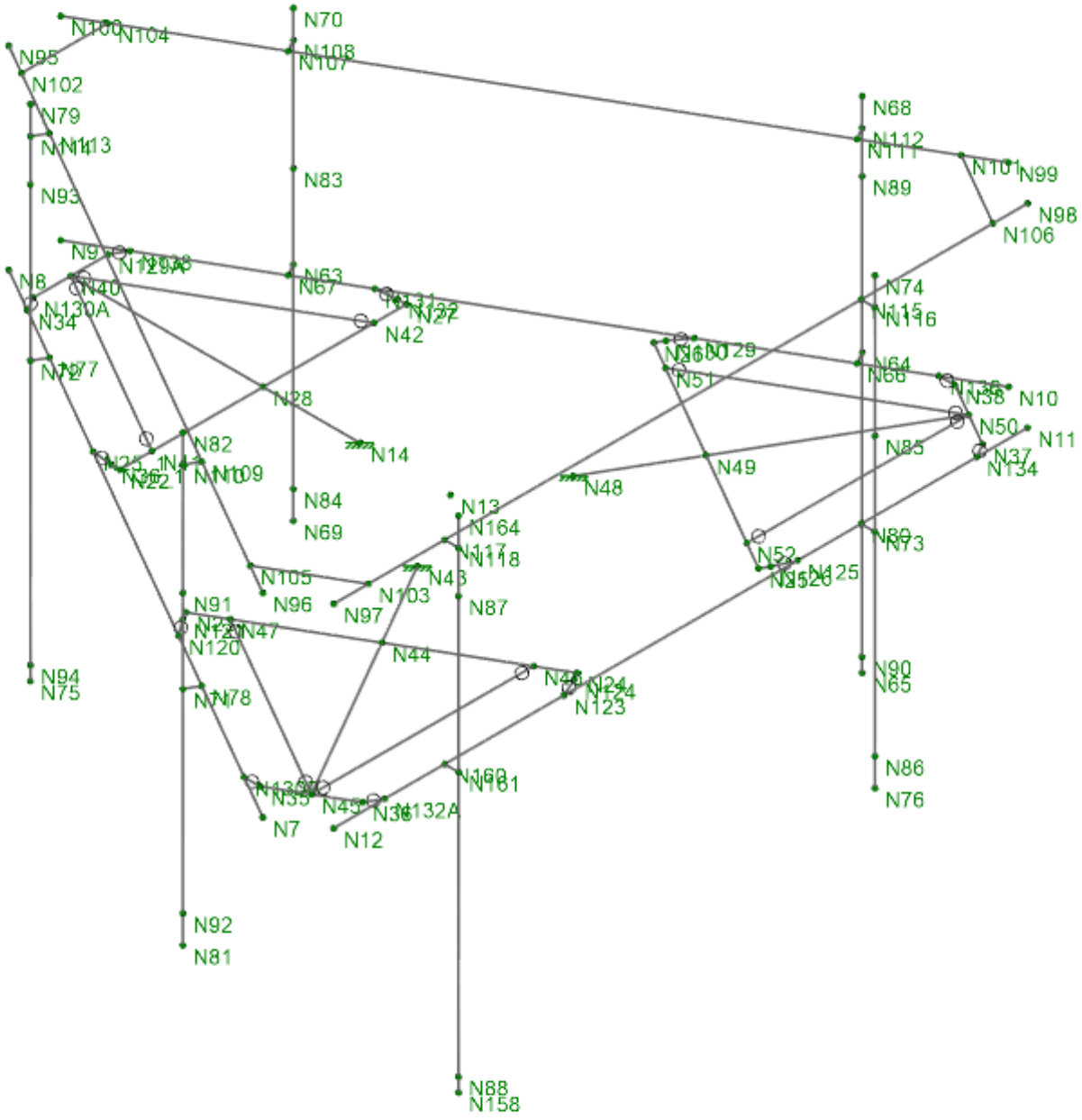
ForeSite/EFI	CTHA152A	SK-6
AJ		Jun 10, 2022
049.03412 - 2275020		CTHA152A.r3d



Envelope Only Solution

ForeSite/EFI	CTHA152A	SK-7
AJ		Jun 10, 2022
049.03412 - 2275020		CTHA152A.r3d





Envelope Only Solution

ForeSite/EFI	CTHA152A	SK-8
AJ		Jun 10, 2022
049.03412 - 2275020		CTHA152A.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	XY

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 13th (360-05): LRFD
Cold Formed Steel	AISI NAS-01: ASD
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	PCA Load Contour 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
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

Model Settings (Continued)

Shear Reinforcement

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

Seismic

RISA-3D Seismic Load Options

Code	UBC 1997
Occupancy Cat	4
Seismic Zone	3
Base Elevation (ft)	
Include the weight of the structure in base shear calcs	No

Site Parameters

C_a	0.36
C_v	0.54

Structure Characteristics

T Z (sec)	
T X (sec)	
C_tX	0.035
R Z	8.5
R X	8.5
Ω_0Z	1
Ω_0X	1
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	Q235	29000	11154	0.3	0.65	0.49	34	1.5	58	1.2
8	A500 Gr.B RND	29000	11154	0.3	0.65	0.527	42	1.4	58	1.3
9	A500 Gr.B Rect	29000	11154	0.3	0.65	0.527	46	1.4	58	1.3
10	A1085	29000	11154	0.3	0.65	0.49	50	1.4	65	1.3

Member Primary Data

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
1	M46	N67	N63		RIGID	None	None	RIGID	Typical
2	M51	N78	N71		RIGID	None	None	RIGID	Typical
3	M45	N66	N64		RIGID	None	None	RIGID	Typical
4	M37	N80	N73		RIGID	None	None	RIGID	Typical
5	M82	N160	N161		RIGID	None	None	RIGID	Typical
6	M50	N77	N72		RIGID	None	None	RIGID	Typical
7	M4	N35	N36		PL6x1/2_HRAB	Beam	RECT	A36 Gr.36	Typical
8	M74	N129A	N138		PL6x1/2_HRAB	Beam	RECT	A36 Gr.36	Typical
9	M69	N129A	N130A		PL6x1/2_HRAB	Beam	RECT	A36 Gr.36	Typical
10	M73	N38	N136		PL6x1/2_HRAB	Beam	RECT	A36 Gr.36	Typical
11	M71	N36	N132A		PL6x1/2_HRAB	Beam	RECT	A36 Gr.36	Typical
12	M3	N37	N38		PL6x1/2_HRAB	Beam	RECT	A36 Gr.36	Typical
13	M70A	N35	N130B		PL6x1/2_HRAB	Beam	RECT	A36 Gr.36	Typical
14	M72	N37	N134		PL6x1/2_HRAB	Beam	RECT	A36 Gr.36	Typical
15	M70	N130A	N34		PL6x1/2_HRAB	Beam	RECT	A36 Gr.36	Typical
16	M6	N8	N7		PIPE_3.0	Beam	Pipe	A53 Gr.B	Typical
17	M7	N12	N11		PIPE_3.0	Beam	Pipe	A53 Gr.B	Typical
18	M8	N10	N9		PIPE_3.0	Beam	Pipe	A53 Gr.B	Typical
19	M52	N75	N79		PIPE_2.5	Beam	HSS Pipe	A53 Gr.B	Typical
20	M48	N65	N68		PIPE_2.5	Beam	HSS Pipe	A53 Gr.B	Typical
21	M81	N158	N164		PIPE_2.5	Beam	HSS Pipe	A53 Gr.B	Typical
22	M53	N81	N82		PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical
23	M49	N69	N70		PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical
24	M44	N76	N74		PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical
25	M14	N50	N51	270	L2x2x3	Beam	Single Angle	A36 Gr.36	Typical
26	M17	N40	N41	270	L2x2x3	Beam	Single Angle	A36 Gr.36	Typical
27	M15	N45	N47		L2x2x3	Beam	Single Angle	A36 Gr.36	Typical
28	M18	N45	N46	270	L2x2x3	Beam	Single Angle	A36 Gr.36	Typical
29	M16	N40	N42		L2x2x3	Beam	Single Angle	A36 Gr.36	Typical
30	M13	N50	N52		L2x2x3	Beam	Single Angle	A36 Gr.36	Typical
31	M26	N22	N28		HSS4X4X4	Beam	Tube	A500 Gr.46	Typical
32	M29	N28	N27		HSS4X4X4	Beam	Tube	A500 Gr.46	Typical
33	M27	N24	N44		HSS4X4X4	Beam	Tube	A500 Gr.46	Typical
34	M28	N26	N49		HSS4X4X4	Beam	Tube	A500 Gr.46	Typical
35	M25	N50	N48		HSS4X4X4	Beam	Tube	A500 Gr.46	Typical
36	M24	N45	N43		HSS4X4X4	Beam	Tube	A500 Gr.46	Typical
37	M23	N40	N14		HSS4X4X4	Beam	Tube	A500 Gr.46	Typical
38	M30	N49	N25		HSS4X4X4	Beam	Tube	A500 Gr.46	Typical
39	M22	N44	N23		HSS4X4X4	Beam	Tube	A500 Gr.46	Typical
40	M65	N130	N129	90	3/8 x 6	Beam	RECT	A36 Gr.36	Typical
41	M61	N124	N123	90	3/8 x 6	Beam	RECT	A36 Gr.36	Typical
42	M62	N24	N124	90	3/8 x 6	Beam	RECT	A36 Gr.36	Typical
43	M63	N126	N125	90	3/8 x 6	Beam	RECT	A36 Gr.36	Typical
44	M64	N25	N126	90	3/8 x 6	Beam	RECT	A36 Gr.36	Typical
45	M67	N132	N131	90	3/8 x 6	Beam	RECT	A36 Gr.36	Typical
46	M66	N26	N130	90	3/8 x 6	Beam	RECT	A36 Gr.36	Typical
47	M68	N27	N132	90	3/8 x 6	Beam	RECT	A36 Gr.36	Typical

Member Primary Data (Continued)

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
48	M19_1	N22	N36_1	90	3/8 x 6	Beam	RECT	A36 Gr.36	Typical
49	M18_1	N36_1	N25_1	90	3/8 x 6	Beam	RECT	A36 Gr.36	Typical
50	M59	N121	N120	90	3/8 x 6	Beam	RECT	A36 Gr.36	Typical
51	M60	N23	N121	90	3/8 x 6	Beam	RECT	A36 Gr.36	Typical
52	M54	N95	N96		PIPE_2.0	Beam	HSS Pipe	A53 Gr.B	Typical
53	M55	N97	N98		PIPE_2.0	Beam	HSS Pipe	A53 Gr.B	Typical
54	M56	N99	N100		PIPE_2.0	Beam	HSS Pipe	A53 Gr.B	Typical
55	M57	N102	N104	180	L2.5x2.5x4	Beam	Single Angle	A36 Gr.36	Typical
56	M58	N101	N106	180	L2.5x2.5x4	Beam	Single Angle	A36 Gr.36	Typical
57	M75	N103	N105	180	L2.5x2.5x4	Beam	Single Angle	A36 Gr.36	Typical
58	M76	N107	N108		RIGID	None	None	RIGID	Typical
59	M77	N109	N110		RIGID	None	None	RIGID	Typical
60	M78	N111	N112		RIGID	None	None	RIGID	Typical
61	M79	N113	N114		RIGID	None	None	RIGID	Typical
62	M80	N115	N116		RIGID	None	None	RIGID	Typical
63	M83	N117	N118		RIGID	None	None	RIGID	Typical

Member Advanced Data

	Label	I Release	J Release	Physical	Deflection Ratio Options	Seismic DR
1	M46			Yes	** NA **	None
2	M51			Yes	** NA **	None
3	M45			Yes	** NA **	None
4	M37			Yes	** NA **	None
5	M82			Yes	** NA **	None
6	M50			Yes	** NA **	None
7	M4			Yes		None
8	M74		BenPIN	Yes		None
9	M69			Yes	Default	None
10	M73		BenPIN	Yes		None
11	M71		BenPIN	Yes		None
12	M3			Yes		None
13	M70A		BenPIN	Yes		None
14	M72		BenPIN	Yes		None
15	M70		BenPIN	Yes		None
16	M6			Yes		None
17	M7			Yes		None
18	M8			Yes		None
19	M52			Yes	Default	None
20	M48			Yes	Default	None
21	M81			Yes	Default	None
22	M53			Yes		None
23	M49			Yes		None
24	M44			Yes		None
25	M14	BenPIN	BenPIN	Yes		None
26	M17	BenPIN	BenPIN	Yes		None
27	M15	BenPIN	BenPIN	Yes		None
28	M18	BenPIN	BenPIN	Yes		None
29	M16	BenPIN	BenPIN	Yes		None
30	M13	BenPIN	BenPIN	Yes		None
31	M26			Yes	Default	None
32	M29			Yes		None
33	M27			Yes		None
34	M28			Yes		None
35	M25			Yes		None
36	M24			Yes		None
37	M23			Yes		None
38	M30			Yes		None
39	M22			Yes	Default	None
40	M65		BenPIN	Yes		None
41	M61		BenPIN	Yes		None
42	M62			Yes		None
43	M63		BenPIN	Yes		None
44	M64			Yes		None
45	M67		BenPIN	Yes		None

Member Advanced Data (Continued)

	Label	I Release	J Release	Physical	Deflection Ratio Options	Seismic DR
46	M66			Yes		None
47	M68			Yes		None
48	M19_1			Yes		None
49	M18_1		BenPIN	Yes		None
50	M59		BenPIN	Yes		None
51	M60			Yes		None
52	M54			Yes	Default	None
53	M55			Yes	Default	None
54	M56			Yes	Default	None
55	M57			Yes	Default	None
56	M58			Yes	Default	None
57	M75			Yes	Default	None
58	M76			Yes	** NA **	None
59	M77			Yes	** NA **	None
60	M78			Yes	** NA **	None
61	M79			Yes	** NA **	None
62	M80			Yes	** NA **	None
63	M83			Yes	** NA **	None

Hot Rolled Steel Design Parameters

	Label	Shape	Length [in]	Lcomp top [in]	Function
1	M4	PL6x1/2_HRAB	16.207	Lbyy	Lateral
2	M74	PL6x1/2_HRAB	3.464	Lbyy	Lateral
3	M69	PL6x1/2_HRAB	16.207	Lbyy	Lateral
4	M73	PL6x1/2_HRAB	3.464	Lbyy	Lateral
5	M71	PL6x1/2_HRAB	3.463	Lbyy	Lateral
6	M3	PL6x1/2_HRAB	16.207	Lbyy	Lateral
7	M70A	PL6x1/2_HRAB	3.464	Lbyy	Lateral
8	M72	PL6x1/2_HRAB	3.464	Lbyy	Lateral
9	M70	PL6x1/2_HRAB	3.464	Lbyy	Lateral
10	M6	PIPE_3.0	150	Lbyy	Lateral
11	M7	PIPE_3.0	150	Lbyy	Lateral
12	M8	PIPE_3.0	150	Lbyy	Lateral
13	M52	PIPE_2.5	108	Lbyy	Lateral
14	M48	PIPE_2.5	108	Lbyy	Lateral
15	M81	PIPE_2.5	108	Lbyy	Lateral
16	M53	PIPE_2.0	96	Lbyy	Lateral
17	M49	PIPE_2.0	96	Lbyy	Lateral
18	M44	PIPE_2.0	96	Lbyy	Lateral
19	M14	L2x2x3	48	Lbyy	Lateral
20	M17	L2x2x3	48	Lbyy	Lateral
21	M15	L2x2x3	48	Lbyy	Lateral
22	M18	L2x2x3	48	Lbyy	Lateral
23	M16	L2x2x3	48	Lbyy	Lateral
24	M13	L2x2x3	48.001	Lbyy	Lateral
25	M26	HSS4X4X4	30.96	Lbyy	Lateral
26	M29	HSS4X4X4	30.96	Lbyy	Lateral
27	M27	HSS4X4X4	30.96	Lbyy	Lateral
28	M28	HSS4X4X4	30.96	Lbyy	Lateral
29	M25	HSS4X4X4	62.546	Lbyy	Lateral
30	M24	HSS4X4X4	62.545	Lbyy	Lateral
31	M23	HSS4X4X4	62.545	Lbyy	Lateral
32	M30	HSS4X4X4	30.96	Lbyy	Lateral
33	M22	HSS4X4X4	30.96	Lbyy	Lateral
34	M65	3/8 x 6	4.383	Lbyy	Lateral
35	M61	3/8 x 6	4.383	Lbyy	Lateral
36	M62	3/8 x 6	1.931	Lbyy	Lateral
37	M63	3/8 x 6	4.383	Lbyy	Lateral
38	M64	3/8 x 6	1.931	Lbyy	Lateral
39	M67	3/8 x 6	4.383	Lbyy	Lateral
40	M66	3/8 x 6	1.931	Lbyy	Lateral
41	M68	3/8 x 6	1.931	Lbyy	Lateral
42	M19_1	3/8 x 6	1.931	Lbyy	Lateral
43	M18_1	3/8 x 6	4.383	Lbyy	Lateral

Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Length [in]	Lcomp top [in]	Function
44	M59	3/8 x 6	4.383	Lbyy	Lateral
45	M60	3/8 x 6	1.931	Lbyy	Lateral
46	M54	PIPE_2.0	150	Lbyy	Lateral
47	M55	PIPE_2.0	150	Lbyy	Lateral
48	M56	PIPE_2.0	150	Lbyy	Lateral
49	M57	L2.5x2.5x4	18.707	Lbyy	Lateral
50	M58	L2.5x2.5x4	18.707	Lbyy	Lateral
51	M75	L2.5x2.5x4	18.707	Lbyy	Lateral

Node Coordinates

	Label	X [in]	Y [in]	Z [in]	Detach From Diaphragm
1	N7	80.603225	40.066029	0	
2	N8	5.603414	-89.837455	0	
3	N9	-5.603415	-89.837455	0	
4	N10	-80.603226	40.066029	0	
5	N11	-74.999811	49.771427	0	
6	N12	74.999811	49.771427	0	
7	N13	0	0	0	
8	N14	0	-19.498025	0	
9	N22	30.960082	-40.474022	0	
10	N23	50.531829	-6.575058	0	
11	N24	19.57149	47.049228	0	
12	N25	-19.571477	47.049221	0	
13	N26	-50.531559	-6.575214	0	
14	N27	-30.960082	-40.474319	0	
15	N28	0.000032	-40.47417	0	
16	N34	11.103414	-80.311175	0	
17	N35	75.103433	34.00408	0	
18	N36	66.999659	48.039704	0	
19	N37	-67.000169	48.039409	0	
20	N38	-75.103433	34.004144	0	
21	N40	0.000094	-82.04339	0	
22	N41	24.000161	-40.474055	0	
23	N42	-24.000286	-40.474285	0	
24	N43	16.885785	9.749013	0	
25	N44	35.051644	20.237113	0	
26	N45	71.051612	41.021777	0	
27	N46	23.051503	41.021736	0	
28	N47	47.051679	-0.547328	0	
29	N48	-16.885785	9.749013	0	
30	N49	-35.051518	20.237003	0	
31	N50	-71.051801	41.021777	0	
32	N51	-47.051589	-0.547729	0	
33	N52	-23.051295	41.022	0	
34	N73	-39.000189	52.771427	0	
35	N74	-39.000189	52.771427	48	
36	N76	-39.000189	52.771427	-48	
37	N80	-39.000189	49.771427	0	
38	N25_1	30.473758	-46.760755	0	
39	N36_1	30.960082	-42.404921	0	
40	N120	55.732881	-3.010672	0	
41	N121	52.20378	-5.609757	0	
42	N123	25.259125	49.771427	0	
43	N124	21.243698	48.014678	0	
44	N125	-25.259125	49.771427	0	
45	N126	-21.243698	48.014678	0	
46	N129	-55.732882	-3.010671	0	
47	N130	-52.20378	-5.609757	0	
48	N131	-30.473758	-46.760756	0	
49	N132	-30.960082	-42.404921	0	
50	N129A	-8.103226	-82.043521	0	
51	N130A	8.103774	-82.043259	0	
52	N130B	75.103225	30.539749	0	
53	N132A	64.000226	49.771427	0	

Node Coordinates (Continued)

	Label	X [in]	Y [in]	Z [in]	Detach From Diaphragm
54	N134	-63.999809	49.771427	0	
55	N136	-75.103225	30.539748	0	
56	N138	-11.103254	-80.311454	0	
57	N160	50.999811	49.771427	0	
58	N158	50.999811	52.771426	-60	
59	N161	50.999811	52.771426	0	
60	N164	50.999811	52.771426	48	
61	N63	-26.201302	-60.160868	0	
62	N64	-71.201301	17.781419	0	
63	N65	-71.201301	17.781419	-60	
64	N66	-68.603226	19.281418	0	
65	N67	-23.603226	-58.660868	0	
66	N68	-71.201301	17.781419	48	
67	N69	-26.201302	-60.160868	-48	
68	N70	-26.201302	-60.160868	48	
69	N71	65.201491	7.389441	0	
70	N72	20.20149	-70.552845	0	
71	N75	20.20149	-70.552845	-60	
72	N77	17.603415	-69.052846	0	
73	N78	62.603415	8.889441	0	
74	N79	20.20149	-70.552845	48	
75	N81	65.201491	7.389441	-48	
76	N82	65.201491	7.389441	48	
77	N85	-39.000189	52.771427	18	
78	N86	-39.000189	52.771427	-42	
79	N87	50.999811	52.771426	33	
80	N88	50.999811	52.771426	-57	
81	N83	-26.201302	-60.160868	18	
82	N84	-26.201302	-60.160868	-42	
83	N89	-71.201301	17.781419	33	
84	N90	-71.201301	17.781419	-57	
85	N91	65.201491	7.389441	18	
86	N92	65.201491	7.389441	-42	
87	N93	20.20149	-70.552845	33	
88	N94	20.20149	-70.552845	-57	
89	N95	5.603414	-89.837455	42	
90	N96	80.603225	40.066029	42	
91	N97	74.999811	49.771427	42	
92	N98	-74.999811	49.771427	42	
93	N99	-80.603226	40.066029	42	
94	N100	-5.603415	-89.837455	42	
95	N101	-76.853226	33.570838	42	
96	N102	9.353414	-83.342264	42	
97	N103	67.499811	49.771427	42	
98	N104	-9.353226	-83.342591	42	
99	N105	76.853414	33.571165	42	
100	N106	-67.500189	49.771427	42	
101	N107	-23.603226	-58.660868	42	
102	N108	-26.201302	-60.160868	42	
103	N109	62.603415	8.889441	42	
104	N110	65.201491	7.389441	42	
105	N111	-68.603226	19.281418	42	
106	N112	-71.201301	17.781419	42	
107	N113	17.603415	-69.052846	42	
108	N114	20.20149	-70.552845	42	
109	N115	-39.000189	49.771427	42	
110	N116	-39.000189	52.771427	42	
111	N117	50.999811	49.771427	42	
112	N118	50.999811	52.771426	42	

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	Reaction	Reaction	N14	Reaction
2	Reaction	Reaction	Reaction	Reaction	Reaction	N43	Reaction

Node Boundary Conditions (Continued)

	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]
3	Reaction	Reaction	Reaction	Reaction	Reaction	N48	Reaction

Basic Load Cases

	BLC Description	Category	Z Gravity	Nodal	Distributed	Area(Member)
1	DEAD LOAD	None	-1	12		3
2	DEAD LOAD ICE	None		12	51	3
3	WIND LOAD (NO ICE) FRONT	None		12	51	
4	WIND LOAD (NO ICE) SIDE	None		12	51	
5	WIND LOAD (ICE) FRONT	None		12	51	
6	WIND LOAD (ICE) SIDE	None		12	51	
7	LIVE LOAD1	None		1		
8	LIVE LOAD2	None		1		
9	LIVE LOAD3	None		1		
10	MAINTENANCE LOAD1	None		1		
11	MAINTENANCE LOAD2	None		1		
12	MAINTENANCE LOAD3	None				
13	MAINTENANCE LOAD4	None				
14	BLC 1 Transient Area Loads	None			21	
15	BLC 2 Transient Area Loads	None			21	

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	N85	L	Z	-25
2	N86	L	Z	-25
3	N83	L	Z	-25
4	N84	L	Z	-25
5	N91	L	Z	-25
6	N92	L	Z	-25
7	N87	L	Z	-117
8	N88	L	Z	-117
9	N89	L	Z	-117
10	N90	L	Z	-117
11	N93	L	Z	-117
12	N94	L	Z	-117

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	N85	L	Z	-111
2	N86	L	Z	-111
3	N83	L	Z	-111
4	N84	L	Z	-111
5	N91	L	Z	-111
6	N92	L	Z	-111
7	N87	L	Z	-335
8	N88	L	Z	-335
9	N89	L	Z	-335
10	N90	L	Z	-335
11	N93	L	Z	-335
12	N94	L	Z	-335

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	N85	L	Y	-75
2	N86	L	Y	-75
3	N83	L	Y	-33
4	N84	L	Y	-33
5	N91	L	Y	-33
6	N92	L	Y	-33
7	N87	L	Y	-230
8	N88	L	Y	-230

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

	Node Label	L, D, M	Direction	Magnitude [(lb, k-ft), (in, rad), (lb*s²/in, lb*s²*in)]
9	N89	L	Y	-115
10	N90	L	Y	-115
11	N93	L	Y	-115
12	N94	L	Y	-115

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	N85	L	X	-33
2	N86	L	X	-33
3	N83	L	X	-75
4	N84	L	X	-75
5	N91	L	X	-75
6	N92	L	X	-75
7	N87	L	X	-115
8	N88	L	X	-115
9	N89	L	X	-230
10	N90	L	X	-230
11	N93	L	X	-230
12	N94	L	X	-230

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	N85	L	Y	-27
2	N86	L	Y	-27
3	N83	L	Y	-17
4	N84	L	Y	-17
5	N91	L	Y	-17
6	N92	L	Y	-17
7	N87	L	Y	-76
8	N88	L	Y	-76
9	N89	L	Y	-45
10	N90	L	Y	-45
11	N93	L	Y	-45
12	N94	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	N85	L	X	-17
2	N86	L	X	-17
3	N83	L	X	-27
4	N84	L	X	-27
5	N91	L	X	-27
6	N92	L	X	-27
7	N87	L	X	-45
8	N88	L	X	-45
9	N89	L	X	-76
10	N90	L	X	-76
11	N93	L	X	-76
12	N94	L	X	-76

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	N7	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	N9	L	Z	-250

Node Loads and Enforced Displacements (BLC 9 : LIVE LOAD3)

	Node Label	L, D, M	Direction	Magnitude [(lb, k-ft), (in, rad), (lb*s²/in, lb*s²*in)]
1	N11	L	Z	-250

Node Loads and Enforced Displacements (BLC 10 : MAINTENANCE LOAD1)

	Node Label	L, D, M	Direction	Magnitude [(lb, k-ft), (in, rad), (lb*s²/in, lb*s²*in)]
1	N76	L	Z	-500

Node Loads and Enforced Displacements (BLC 11 : MAINTENANCE LOAD2)

	Node Label	L, D, M	Direction	Magnitude [(lb, k-ft), (in, rad), (lb*s²/in, lb*s²*in)]
1	N158	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, psf, k-ft/in]	End Magnitude [lb/ft, F, psf, k-ft/in]	Start Location [(in, %)]	End Location [(in, %)]
1	M4	Z	-25	-25	0	%100
2	M74	Z	-25	-25	0	%100
3	M69	Z	-25	-25	0	%100
4	M73	Z	-25	-25	0	%100
5	M71	Z	-25	-25	0	%100
6	M3	Z	-25	-25	0	%100
7	M70A	Z	-25	-25	0	%100
8	M72	Z	-25	-25	0	%100
9	M70	Z	-25	-25	0	%100
10	M6	Z	-15	-15	0	%100
11	M7	Z	-15	-15	0	%100
12	M8	Z	-15	-15	0	%100
13	M52	Z	-13	-13	0	%100
14	M48	Z	-13	-13	0	%100
15	M81	Z	-13	-13	0	%100
16	M53	Z	-12	-12	0	%100
17	M49	Z	-12	-12	0	%100
18	M44	Z	-12	-12	0	%100
19	M14	Z	-7	-7	0	%100
20	M17	Z	-7	-7	0	%100
21	M15	Z	-7	-7	0	%100
22	M18	Z	-7	-7	0	%100
23	M16	Z	-7	-7	0	%100
24	M13	Z	-7	-7	0	%100
25	M26	Z	-31	-31	0	%100
26	M29	Z	-31	-31	0	%100
27	M27	Z	-31	-31	0	%100
28	M28	Z	-31	-31	0	%100
29	M25	Z	-31	-31	0	%100
30	M24	Z	-31	-31	0	%100
31	M23	Z	-31	-31	0	%100
32	M30	Z	-31	-31	0	%100
33	M22	Z	-31	-31	0	%100
34	M65	Z	-25	-25	0	%100
35	M61	Z	-25	-25	0	%100
36	M62	Z	-25	-25	0	%100
37	M63	Z	-25	-25	0	%100
38	M64	Z	-25	-25	0	%100
39	M67	Z	-25	-25	0	%100
40	M66	Z	-25	-25	0	%100
41	M68	Z	-25	-25	0	%100
42	M19_1	Z	-25	-25	0	%100
43	M18_1	Z	-25	-25	0	%100
44	M59	Z	-25	-25	0	%100
45	M60	Z	-25	-25	0	%100

Member Distributed Loads (BLC 2 : DEAD LOAD ICE) (Continued)

	Member Label	Direction	Start Magnitude [lb/ft, F, psf, k-ft/in]	End Magnitude [lb/ft, F, psf, k-ft/in]	Start Location [(in, %)]	End Location [(in, %)]
46	M55	Z	-12	-12	0	%100
47	M56	Z	-12	-12	0	%100
48	M54	Z	-12	-12	0	%100
49	M57	Z	-8	-8	0	%100
50	M58	Z	-8	-8	0	%100
51	M75	Z	-8	-8	0	%100

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

	Member Label	Direction	Start Magnitude [lb/ft, F, psf, k-ft/in]	End Magnitude [lb/ft, F, psf, k-ft/in]	Start Location [(in, %)]	End Location [(in, %)]
1	M4	PY	-23	-23	0	%100
2	M74	PY	-23	-23	0	%100
3	M69	PY	-23	-23	0	%100
4	M73	PY	-23	-23	0	%100
5	M71	PY	-23	-23	0	%100
6	M3	PY	-23	-23	0	%100
7	M70A	PY	-23	-23	0	%100
8	M72	PY	-23	-23	0	%100
9	M70	PY	-23	-23	0	%100
10	M6	PY	-8	-8	0	%100
11	M7	PY	-8	-8	0	%100
12	M8	PY	-8	-8	0	%100
13	M52	PY	-7	-7	0	%100
14	M48	PY	-7	-7	0	%100
15	M81	PY	-7	-7	0	%100
16	M53	PY	-5	-5	0	%100
17	M49	PY	-5	-5	0	%100
18	M44	PY	-5	-5	0	%100
19	M14	PY	-8	-8	0	%100
20	M17	PY	-8	-8	0	%100
21	M15	PY	-8	-8	0	%100
22	M18	PY	-8	-8	0	%100
23	M16	PY	-8	-8	0	%100
24	M13	PY	-8	-8	0	%100
25	M26	PY	-15	-15	0	%100
26	M29	PY	-15	-15	0	%100
27	M27	PY	-15	-15	0	%100
28	M28	PY	-15	-15	0	%100
29	M25	PY	-15	-15	0	%100
30	M24	PY	-15	-15	0	%100
31	M23	PY	-15	-15	0	%100
32	M30	PY	-15	-15	0	%100
33	M22	PY	-15	-15	0	%100
34	M65	PY	-23	-23	0	%100
35	M61	PY	-23	-23	0	%100
36	M62	PY	-23	-23	0	%100
37	M63	PY	-23	-23	0	%100
38	M64	PY	-23	-23	0	%100
39	M67	PY	-23	-23	0	%100
40	M66	PY	-23	-23	0	%100
41	M68	PY	-23	-23	0	%100
42	M19_1	PY	-23	-23	0	%100
43	M18_1	PY	-23	-23	0	%100
44	M59	PY	-23	-23	0	%100
45	M60	PY	-23	-23	0	%100
46	M54	PY	-5	-5	0	%100
47	M55	PY	-5	-5	0	%100
48	M56	PY	-5	-5	0	%100
49	M75	PY	-9	-9	0	%100
50	M58	PY	-9	-9	0	%100
51	M57	PY	-9	-9	0	%100

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

	Member Label	Direction	Start Magnitude [lb/ft, F, psf, k-ft/in]	End Magnitude [lb/ft, F, psf, k-ft/in]	Start Location [(in, %)]	End Location [(in, %)]
1	M4	PX	-23	-23	0	%100
2	M74	PX	-23	-23	0	%100
3	M69	PX	-23	-23	0	%100
4	M73	PX	-23	-23	0	%100
5	M71	PX	-23	-23	0	%100
6	M3	PX	-23	-23	0	%100
7	M70A	PX	-23	-23	0	%100
8	M72	PX	-23	-23	0	%100
9	M70	PX	-23	-23	0	%100
10	M6	PX	-8	-8	0	%100
11	M7	PX	-8	-8	0	%100
12	M8	PX	-8	-8	0	%100
13	M52	PX	-7	-7	0	%100
14	M48	PX	-7	-7	0	%100
15	M81	PX	-7	-7	0	%100
16	M53	PX	-5	-5	0	%100
17	M49	PX	-5	-5	0	%100
18	M44	PX	-5	-5	0	%100
19	M14	PX	-8	-8	0	%100
20	M17	PX	-8	-8	0	%100
21	M15	PX	-8	-8	0	%100
22	M18	PX	-8	-8	0	%100
23	M16	PX	-8	-8	0	%100
24	M13	PX	-8	-8	0	%100
25	M26	PX	-15	-15	0	%100
26	M29	PX	-15	-15	0	%100
27	M27	PX	-15	-15	0	%100
28	M28	PX	-15	-15	0	%100
29	M25	PX	-15	-15	0	%100
30	M24	PX	-15	-15	0	%100
31	M23	PX	-15	-15	0	%100
32	M30	PX	-15	-15	0	%100
33	M22	PX	-15	-15	0	%100
34	M65	PX	-23	-23	0	%100
35	M61	PX	-23	-23	0	%100
36	M62	PX	-23	-23	0	%100
37	M63	PX	-23	-23	0	%100
38	M64	PX	-23	-23	0	%100
39	M67	PX	-23	-23	0	%100
40	M66	PX	-23	-23	0	%100
41	M68	PX	-23	-23	0	%100
42	M19_1	PX	-23	-23	0	%100
43	M18_1	PX	-23	-23	0	%100
44	M59	PX	-23	-23	0	%100
45	M60	PX	-23	-23	0	%100
46	M54	PX	-5	-5	0	%100
47	M56	PX	-5	-5	0	%100
48	M55	PX	-5	-5	0	%100
49	M57	PX	-9	-9	0	%100
50	M58	PX	-9	-9	0	%100
51	M75	PX	-9	-9	0	%100

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

	Member Label	Direction	Start Magnitude [lb/ft, F, psf, k-ft/in]	End Magnitude [lb/ft, F, psf, k-ft/in]	Start Location [(in, %)]	End Location [(in, %)]
1	M4	PY	-11.9	-11.9	0	%100
2	M74	PY	-11.9	-11.9	0	%100
3	M69	PY	-11.9	-11.9	0	%100
4	M73	PY	-11.9	-11.9	0	%100
5	M71	PY	-11.9	-11.9	0	%100
6	M3	PY	-11.9	-11.9	0	%100
7	M70A	PY	-11.9	-11.9	0	%100
8	M72	PY	-11.9	-11.9	0	%100
9	M70	PY	-11.9	-11.9	0	%100

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

	Member Label	Direction	Start Magnitude [lb/ft, F, psf, k-ft/in]	End Magnitude [lb/ft, F, psf, k-ft/in]	Start Location [(in, %)]	End Location [(in, %)]
10	M6	PY	-7	-7	0	%100
11	M7	PY	-7	-7	0	%100
12	M8	PY	-7	-7	0	%100
13	M52	PY	-6.5	-6.5	0	%100
14	M48	PY	-6.5	-6.5	0	%100
15	M81	PY	-6.5	-6.5	0	%100
16	M53	PY	-6	-6	0	%100
17	M49	PY	-6	-6	0	%100
18	M44	PY	-6	-6	0	%100
19	M14	PY	-6.5	-6.5	0	%100
20	M17	PY	-6.5	-6.5	0	%100
21	M15	PY	-6.5	-6.5	0	%100
22	M18	PY	-6.5	-6.5	0	%100
23	M16	PY	-6.5	-6.5	0	%100
24	M13	PY	-6.5	-6.5	0	%100
25	M26	PY	-9.2	-9.2	0	%100
26	M29	PY	-9.2	-9.2	0	%100
27	M27	PY	-9.2	-9.2	0	%100
28	M28	PY	-9.2	-9.2	0	%100
29	M25	PY	-9.2	-9.2	0	%100
30	M24	PY	-9.2	-9.2	0	%100
31	M23	PY	-9.2	-9.2	0	%100
32	M30	PY	-9.2	-9.2	0	%100
33	M22	PY	-9.2	-9.2	0	%100
34	M65	PY	-11.9	-11.9	0	%100
35	M61	PY	-11.9	-11.9	0	%100
36	M62	PY	-11.9	-11.9	0	%100
37	M63	PY	-11.9	-11.9	0	%100
38	M64	PY	-11.9	-11.9	0	%100
39	M67	PY	-11.9	-11.9	0	%100
40	M66	PY	-11.9	-11.9	0	%100
41	M68	PY	-11.9	-11.9	0	%100
42	M19_1	PY	-11.9	-11.9	0	%100
43	M18_1	PY	-11.9	-11.9	0	%100
44	M59	PY	-11.9	-11.9	0	%100
45	M60	PY	-11.9	-11.9	0	%100
46	M56	PY	-6	-6	0	%100
47	M55	PY	-6	-6	0	%100
48	M54	PY	-6	-6	0	%100
49	M57	PY	-7.2	-7.2	0	%100
50	M58	PY	-7.2	-7.2	0	%100
51	M75	PY	-7.2	-7.2	0	%100

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

	Member Label	Direction	Start Magnitude [lb/ft, F, psf, k-ft/in]	End Magnitude [lb/ft, F, psf, k-ft/in]	Start Location [(in, %)]	End Location [(in, %)]
1	M4	PX	-11.9	-11.9	0	%100
2	M74	PX	-11.9	-11.9	0	%100
3	M69	PX	-11.9	-11.9	0	%100
4	M73	PX	-11.9	-11.9	0	%100
5	M71	PX	-11.9	-11.9	0	%100
6	M3	PX	-11.9	-11.9	0	%100
7	M70A	PX	-11.9	-11.9	0	%100
8	M72	PX	-11.9	-11.9	0	%100
9	M70	PX	-11.9	-11.9	0	%100
10	M6	PX	-7	-7	0	%100
11	M7	PX	-7	-7	0	%100
12	M8	PX	-7	-7	0	%100
13	M52	PX	-6.5	-6.5	0	%100
14	M48	PX	-6.5	-6.5	0	%100
15	M81	PX	-6.5	-6.5	0	%100
16	M53	PX	-6	-6	0	%100
17	M49	PX	-6	-6	0	%100
18	M44	PX	-6	-6	0	%100
19	M14	PX	-6.5	-6.5	0	%100

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

	Member Label	Direction	Start Magnitude [lb/ft, F, psf, k-ft/in]	End Magnitude [lb/ft, F, psf, k-ft/in]	Start Location [(in, %)]	End Location [(in, %)]
20	M17	PX	-6.5	-6.5	0	%100
21	M15	PX	-6.5	-6.5	0	%100
22	M18	PX	-6.5	-6.5	0	%100
23	M16	PX	-6.5	-6.5	0	%100
24	M13	PX	-6.5	-6.5	0	%100
25	M26	PX	-9.2	-9.2	0	%100
26	M29	PX	-9.2	-9.2	0	%100
27	M27	PX	-9.2	-9.2	0	%100
28	M28	PX	-9.2	-9.2	0	%100
29	M25	PX	-9.2	-9.2	0	%100
30	M24	PX	-9.2	-9.2	0	%100
31	M23	PX	-9.2	-9.2	0	%100
32	M30	PX	-9.2	-9.2	0	%100
33	M22	PX	-9.2	-9.2	0	%100
34	M65	PX	-11.9	-11.9	0	%100
35	M61	PX	-11.9	-11.9	0	%100
36	M62	PX	-11.9	-11.9	0	%100
37	M63	PX	-11.9	-11.9	0	%100
38	M64	PX	-11.9	-11.9	0	%100
39	M67	PX	-11.9	-11.9	0	%100
40	M66	PX	-11.9	-11.9	0	%100
41	M68	PX	-11.9	-11.9	0	%100
42	M19_1	PX	-11.9	-11.9	0	%100
43	M18_1	PX	-11.9	-11.9	0	%100
44	M59	PX	-11.9	-11.9	0	%100
45	M60	PX	-11.9	-11.9	0	%100
46	M54	PX	-6	-6	0	%100
47	M55	PX	-6	-6	0	%100
48	M56	PX	-6	-6	0	%100
49	M57	PX	-7.2	-7.2	0	%100
50	M58	PX	-7.2	-7.2	0	%100
51	M75	PX	-7.2	-7.2	0	%100

Member Distributed Loads (BLC 14 : BLC 1 Transient Area Loads)

	Member Label	Direction	Start Magnitude [lb/ft, F, psf, k-ft/in]	End Magnitude [lb/ft, F, psf, k-ft/in]	Start Location [(in, %)]	End Location [(in, %)]
1	M17	Z	-0.704	-2.37	0	24
2	M17	Z	-2.37	-4.036	24	48
3	M16	Z	-0.704	-2.37	0	24
4	M16	Z	-2.37	-4.036	24	48
5	M26	Z	-3.846	-3.846	19.783	30.96
6	M29	Z	-3.846	-3.846	0	11.177
7	M23	Z	-5.32	-5.32	12.094	31.297
8	M15	Z	-0.712	-2.362	0	24
9	M15	Z	-2.362	-4.012	24	48
10	M18	Z	-0.704	-2.37	0	24
11	M18	Z	-2.37	-4.036	24	48
12	M27	Z	-3.846	-3.846	19.783	30.96
13	M24	Z	-5.322	-5.322	12.094	31.297
14	M22	Z	-3.862	-3.862	0	11.218
15	M14	Z	-0.762	-2.357	0	24
16	M14	Z	-2.357	-3.951	24	48
17	M13	Z	-0.704	-2.37	0	24
18	M13	Z	-2.37	-4.036	24	48.001
19	M28	Z	-3.845	-3.845	19.727	30.96
20	M25	Z	-5.31	-5.31	12.063	31.389
21	M30	Z	-3.846	-3.846	0	11.177

Member Distributed Loads (BLC 15 : BLC 2 Transient Area Loads)

	Member Label	Direction	Start Magnitude [lb/ft, F, psf, k-ft/in]	End Magnitude [lb/ft, F, psf, k-ft/in]	Start Location [(in, %)]	End Location [(in, %)]
1	M17	Z	-1.431	-4.816	0	24
2	M17	Z	-4.816	-8.201	24	48
3	M16	Z	-1.431	-4.816	0	24
4	M16	Z	-4.816	-8.201	24	48

Member Distributed Loads (BLC 15 : BLC 2 Transient Area Loads) (Continued)

	Member Label	Direction	Start Magnitude [lb/ft, F, psf, k-ft/in]	End Magnitude [lb/ft, F, psf, k-ft/in]	Start Location [(in, %)]	End Location [(in, %)]
5	M26	Z	-7.814	-7.814	19.783	30.96
6	M29	Z	-7.814	-7.814	0	11.177
7	M23	Z	-10.808	-10.808	12.094	31.297
8	M15	Z	-1.449	-4.8	0	24
9	M15	Z	-4.8	-8.151	24	48
10	M18	Z	-1.433	-4.817	0	24
11	M18	Z	-4.817	-8.2	24	48
12	M27	Z	-7.813	-7.813	19.783	30.96
13	M24	Z	-10.811	-10.811	12.096	31.299
14	M22	Z	-7.847	-7.847	0	11.218
15	M14	Z	-1.55	-4.788	0	24
16	M14	Z	-4.788	-8.027	24	48
17	M13	Z	-1.433	-4.817	0	24
18	M13	Z	-4.817	-8.201	24	48.001
19	M28	Z	-7.81	-7.81	19.727	30.96
20	M25	Z	-10.786	-10.786	12.065	31.392
21	M30	Z	-7.813	-7.813	0	11.177

Member Area Loads (BLC 1 : DEAD LOAD)

	Node A	Node B	Node C	Node D	Direction	Load Direction	Magnitude [psf]
1	N42	N40	N41	N42	Z	Two Way	-5
2	N46	N47	N45	N46	Z	Two Way	-5
3	N51	N52	N50	N51	Z	Two Way	-5

Member Area Loads (BLC 2 : DEAD LOAD ICE)

	Node A	Node B	Node C	Direction	Load Direction	Magnitude [psf]
1	N42	N40	N41	Z	Two Way	-10.159
2	N46	N47	N45	Z	Two Way	-10.159
3	N51	N52	N50	Z	Two Way	-10.159

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	0.113		
29	DL + MAIN L2+30MPH WL FRONT	Yes	Y	1	1.2	11	1.5	3	0.113		

Load Combinations (Continued)

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
30	DL + MAIN L3+30MPH WL FRONT	Yes	Y	1	1.2	12	1.5	3	0.113		
31	DL + MAIN L4+30MPH WL FRONT	Yes	Y	1	1.2	13	1.5	3	0.113		
32	DL + MAIN L1+30MPH WL SIDE	Yes	Y	1	1.2	10	1.5	4	0.113		
33	DL + MAIN L2+30MPH WL SIDE	Yes	Y	1	1.2	11	1.5	4	0.113		
34	DL + MAIN L3+30MPH WL SIDE	Yes	Y	1	1.2	12	1.5	4	0.113		
35	DL + MAIN L4+30MPH WL SIDE	Yes	Y	1	1.2	13	1.5	4	0.113		
36	DL + MAIN L1+30MPH WL FRONT (REVERSED)	Yes	Y	1	1.2	10	1.5	3	-0.113		
37	DL + MAIN L2+30MPH WL FRONT (REVERSED)	Yes	Y	1	1.2	11	1.5	3	-0.113		
38	DL + MAIN L3+30MPH WL FRONT (REVERSED)	Yes	Y	1	1.2	12	1.5	3	-0.113		
39	DL + MAIN L4+30MPH WL FRONT (REVERSED)	Yes	Y	1	1.2	13	1.5	3	-0.113		
40	DL + MAIN L1+30MPH WL SIDE (REVERSED)	Yes	Y	1	1.2	10	1.5	4	-0.113		
41	DL + MAIN L2+30MPH WL SIDE (REVERSED)	Yes	Y	1	1.2	11	1.5	4	-0.113		
42	DL + MAIN L3+30MPH WL SIDE (REVERSED)	Yes	Y	1	1.2	12	1.5	4	-0.113		
43	DL + MAIN L4+30MPH WL SIDE (REVERSED)	Yes	Y	1	1.2	13	1.5	4	-0.113		

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	N14	max	1094.823	4	1514.208	1	2833.144	13	-1.563	2	0.11	9	1.85	4
2		min	-1077.969	10	-1563.36	7	700.93	28	-7.066	22	-0.41	13	-1.881	10
3	N43	max	1514.644	3	1530.657	2	2823.979	20	3.889	18	-1.063	10	1.213	2
4		min	-1478.645	9	-1492.808	8	718.202	9	0.945	8	-5.954	16	-1.239	8
5	N48	max	1739.634	5	1064.697	12	2827.207	19	3.217	22	6.341	23	0.58	7
6		min	-1791.318	11	-1056.392	6	716.471	5	0.47	5	1.277	5	-0.61	1
7	Totals:	max	4256.927	4	3857.711	1	8451.556	23						
8		min	-4256.879	10	-3857.695	7	2519.25	7						

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	N7	max	0.019	12	0.058	9	-0.061	9	1.372e-3	5	6.433e-3	5	5.726e-4	8
2		min	-0.019	6	-0.055	3	-0.419	16	-4.475e-3	25	-3.368e-3	11	-6.005e-4	2
3	N8	max	0.082	10	0.024	7	-0.059	2	5.351e-3	18	7.594e-3	4	5.298e-4	11
4		min	-0.077	4	-0.023	1	-0.458	21	-1.733e-3	11	-7.323e-3	10	-4.167e-4	5
5	N9	max	0.084	10	0.014	6	-0.072	2	6.475e-3	22	4.959e-3	4	1.101e-3	9
6		min	-0.081	4	-0.016	12	-0.416	21	-1.153e-3	3	-4.651e-3	10	-1.127e-3	3
7	N10	max	0.018	10	0.042	4	-0.047	5	3.02e-3	9	6.1e-3	4	6.721e-4	9
8		min	-0.018	4	-0.046	10	-0.459	23	-4.269e-3	3	-8.825e-3	10	-5.924e-4	3
9	N11	max	0.021	3	0.034	5	-0.052	5	4.712e-3	7	-7.283e-4	4	5.896e-4	10
10		min	-0.024	9	-0.035	11	-0.42	23	-6.309e-3	1	-5.873e-3	27	-6.202e-4	4
11	N12	max	0.021	3	0.057	9	-0.055	10	7.435e-3	7	4.397e-3	16	9.715e-4	10
12		min	-0.024	9	-0.055	3	-0.46	16	-9.172e-3	1	-7.308e-4	10	-8.571e-4	4
13	N13	max	0	43	0	43	0	43	0	43	0	43	0	43
14		min	0	1	0	1	0	1	0	1	0	1	0	1
15	N14	max	0	10	0	7	0	28	0	22	0	13	0	10
16		min	0	4	0	1	0	13	0	2	0	9	0	4
17	N22	max	0.02	10	0.038	9	-0.032	10	7.743e-3	22	3.383e-3	14	1.176e-3	9
18		min	-0.019	4	-0.035	3	-0.162	13	1.746e-3	2	2.252e-4	9	-1.049e-3	3
19	N23	max	0.029	9	0.029	9	-0.009	10	-4.558e-4	6	7.723e-3	15	1.631e-3	9
20		min	-0.027	3	-0.028	3	-0.12	15	-2.543e-3	29	1.188e-3	10	-1.546e-3	3
21	N24	max	0.02	3	0.009	6	-0.037	6	-1.566e-3	7	5.111e-3	16	7.034e-4	11
22		min	-0.023	9	-0.01	12	-0.162	20	-6.767e-3	20	6.027e-4	10	-5.713e-4	5
23	N25	max	0.016	4	0.01	8	-0.012	6	-7.476e-4	6	-1.047e-3	5	8.025e-4	9
24		min	-0.018	10	-0.009	2	-0.125	28	-5.595e-3	22	-5.771e-3	23	-7.187e-4	3
25	N26	max	0.032	10	0.02	4	-0.035	33	4.206e-4	6	-1.805e-3	4	1.89e-3	10
26		min	-0.03	4	-0.022	10	-0.161	15	-2.086e-3	28	-8.376e-3	23	-1.76e-3	4
27	N27	max	0.02	10	0.035	4	-0.012	3	7.737e-3	21	6.105e-5	3	1.067e-3	10
28		min	-0.019	4	-0.038	10	-0.118	19	1.58e-3	2	-1.944e-3	17	-9.715e-4	4
29	N28	max	0.02	10	0	7	-0.017	2	6.442e-3	21	7.227e-4	13	1.323e-3	10
30		min	-0.019	4	0	1	-0.083	22	1.246e-3	2	-1.932e-4	9	-1.259e-3	4
31	N34	max	0.077	10	0.024	8	-0.068	2	5.345e-3	18	7.595e-3	4	5.27e-4	11
32		min	-0.074	4	-0.022	2	-0.41	21	-1.735e-3	11	-7.322e-3	10	-4.139e-4	5
33	N35	max	0.012	1	0.056	9	-0.049	10	1.178e-4	10	5.934e-3	16	3.691e-3	10
34		min	-0.013	7	-0.052	3	-0.379	16	-6.064e-3	33	-1.883e-3	10	-3.498e-3	4
35	N36	max	0.023	3	0.045	9	-0.061	9	1.638e-3	7	5.246e-3	1	2.466e-3	1

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
36		min	-0.026	9	-0.043	3	-0.413	16	-4.714e-3	29	-3.541e-3	7	-2.155e-3	7
37	N37	max	0.019	4	0.026	5	-0.044	5	1.547e-3	7	1.011e-3	6	2.025e-3	8
38		min	-0.022	10	-0.029	11	-0.379	23	-3.644e-3	28	-8.018e-3	13	-1.832e-3	2
39	N38	max	0.005	9	0.038	4	-0.048	5	2.18e-3	4	3.609e-3	4	5.105e-3	10
40		min	-0.005	3	-0.042	10	-0.414	23	-3.778e-3	40	-6.759e-3	10	-4.756e-3	4
41	N40	max	0.076	10	0.001	7	-0.064	2	7.863e-3	21	2.138e-3	21	1.388e-3	10
42		min	-0.072	4	-0.001	1	-0.393	21	1.035e-3	2	-1.21e-3	26	-1.301e-3	4
43	N41	max	0.02	10	0.03	9	-0.03	10	7.45e-3	22	3.284e-3	14	1.188e-3	9
44		min	-0.019	4	-0.028	3	-0.139	13	1.634e-3	2	2.352e-4	9	-1.07e-3	3
45	N42	max	0.02	10	0.029	4	-0.012	3	7.446e-3	21	6.036e-5	3	1.121e-3	10
46		min	-0.019	4	-0.03	10	-0.104	20	1.505e-3	2	-1.839e-3	17	-1.031e-3	4
47	N43	max	0	9	0	8	0	9	0	8	0	16	0	8
48		min	0	3	0	2	0	20	0	18	0	10	0	2
49	N44	max	0.006	2	0.011	8	-0.016	10	-9.221e-4	8	5.273e-3	16	8.907e-4	9
50		min	-0.006	8	-0.011	2	-0.083	16	-3.842e-3	18	6.577e-4	10	-8.311e-4	3
51	N45	max	0.023	3	0.046	9	-0.055	10	-9.43e-4	9	5.813e-3	16	1.052e-3	9
52		min	-0.025	9	-0.043	3	-0.396	16	-5.825e-3	33	3.056e-4	10	-9.713e-4	3
53	N46	max	0.019	3	0.007	6	-0.033	7	-1.543e-3	7	4.906e-3	16	6.549e-4	11
54		min	-0.021	9	-0.007	12	-0.139	20	-6.536e-3	20	5.318e-4	10	-5.332e-4	5
55	N47	max	0.019	9	0.024	9	-0.009	10	-4.617e-4	6	7.413e-3	15	1.506e-3	9
56		min	-0.018	3	-0.022	3	-0.106	15	-2.511e-3	29	1.13e-3	10	-1.426e-3	3
57	N48	max	0	11	0	6	0	5	0	5	0	5	0	1
58		min	0	5	0	12	0	19	0	22	0	23	0	7
59	N49	max	0.002	6	0.005	6	-0.014	5	-1.093e-4	6	-1.076e-3	5	5.703e-4	10
60		min	-0.003	12	-0.005	12	-0.083	23	-2.933e-3	28	-5.955e-3	23	-5.119e-4	4
61	N50	max	0.014	4	0.028	4	-0.046	5	7.906e-5	6	-6.127e-4	5	8.711e-4	10
62		min	-0.016	10	-0.031	10	-0.396	23	-3.976e-3	28	-7.944e-3	23	-7.876e-4	4
63	N51	max	0.021	10	0.015	5	-0.031	33	4.517e-4	6	-1.729e-3	4	1.666e-3	10
64		min	-0.019	4	-0.016	11	-0.138	13	-2.052e-3	28	-8.073e-3	23	-1.547e-3	4
65	N52	max	0.013	4	0.007	8	-0.012	6	-7.12e-4	6	-9.964e-4	5	7.589e-4	9
66		min	-0.015	10	-0.007	2	-0.106	22	-5.354e-3	22	-5.57e-3	23	-6.79e-4	3
67	N73	max	0.022	4	0.012	6	-0.018	6	5.113e-3	7	-3.676e-4	5	7.401e-4	12
68		min	-0.025	10	-0.015	12	-0.235	23	-6.645e-3	1	-4.61e-3	23	-7.205e-4	6
69	N74	max	0.051	33	0.102	32	-0.018	6	2.943e-3	13	1.656e-3	24	1.846e-3	11
70		min	-0.046	10	-0.086	9	-0.236	23	-1.483e-3	32	-2.789e-4	9	-1.005e-3	5
71	N76	max	0.265	22	0.532	7	-0.018	6	1.321e-2	7	3.629e-3	4	7.401e-4	12
72		min	-0.098	4	-0.608	1	-0.236	23	-1.474e-2	1	-6.302e-3	10	-7.205e-4	6
73	N80	max	0.021	3	0.012	6	-0.029	5	5.113e-3	7	-3.676e-4	5	7.401e-4	12
74		min	-0.024	9	-0.015	12	-0.227	22	-6.645e-3	1	-4.61e-3	23	-7.205e-4	6
75	N25_1	max	0.04	9	0.036	9	-0.049	10	5.969e-3	17	6.201e-3	5	1.429e-3	10
76		min	-0.038	3	-0.033	3	-0.211	13	-1.702e-3	11	-6.192e-3	11	-1.433e-3	5
77	N36_1	max	0.023	10	0.038	9	-0.037	10	7.806e-3	22	3.019e-3	4	3.181e-3	8
78		min	-0.022	4	-0.035	3	-0.177	13	1.77e-3	2	-1.97e-3	10	-2.995e-3	2
79	N120	max	0.015	9	0.05	9	-0.019	10	2.229e-3	5	6.498e-3	5	6.688e-4	6
80		min	-0.015	3	-0.046	3	-0.169	15	-3.065e-3	11	-4.2e-3	11	-6.17e-4	12
81	N121	max	0.027	9	0.034	9	-0.012	10	4.606e-4	5	7.324e-3	16	3.767e-3	10
82		min	-0.025	3	-0.032	3	-0.135	15	-3.195e-3	22	4.105e-4	10	-3.459e-3	4
83	N123	max	0.021	3	0.006	7	-0.052	7	6.618e-3	7	4.932e-3	16	1.285e-3	8
84		min	-0.024	9	-0.006	1	-0.211	20	-8.339e-3	1	4.105e-4	40	-1.293e-3	2
85	N124	max	0.02	3	0.008	6	-0.042	6	5.442e-4	7	6.016e-3	18	1.016e-3	11
86		min	-0.023	9	-0.008	12	-0.177	20	-5.518e-3	13	4.783e-4	12	-8.251e-4	5
87	N125	max	0.021	3	0.004	4	-0.022	6	5.292e-3	7	2.772e-5	33	7.27e-4	12
88		min	-0.024	9	-0.005	10	-0.169	22	-6.875e-3	1	-3.364e-3	23	-6.787e-4	6
89	N126	max	0.017	4	0.007	8	-0.015	6	5.985e-4	7	-8.943e-4	3	2.074e-3	9
90		min	-0.019	10	-0.007	2	-0.135	28	-4.77e-3	24	-6.358e-3	21	-1.749e-3	3
91	N129	max	0.015	10	0.043	4	-0.049	33	2.678e-3	9	4.944e-3	4	7.029e-4	3
92		min	-0.014	4	-0.047	10	-0.21	13	-4.369e-3	3	-7.906e-3	10	-7.127e-4	9
93	N130	max	0.029	10	0.025	4	-0.039	33	1.007e-3	9	-6.136e-4	4	4.253e-3	10
94		min	-0.027	4	-0.028	10	-0.176	14	-2.794e-3	32	-7.752e-3	22	-3.971e-3	4
95	N131	max	0.034	10	0.034	4	-0.023	2	4.59e-3	22	4.915e-3	4	1.314e-3	10
96		min	-0.031	4	-0.036	10	-0.167	20	-2.136e-3	3	-5.35e-3	10	-1.255e-3	4
97	N132	max	0.023	10	0.035	4	-0.015	3	7.799e-3	21	1.79e-3	4	2.239e-3	11
98		min	-0.022	4	-0.038	10	-0.133	19	1.596e-3	2	-2.253e-3	10	-1.898e-3	5
99	N129A	max	0.076	10	0.011	5	-0.059	2	8.103e-3	22	2.181e-3	21	1.537e-3	12
100		min	-0.073	4	-0.012	11	-0.376	21	-1.736e-3	3	-1.297e-3	26	-1.328e-3	6

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
101	N130A	max	0.076	10	0.018	8	-0.069	2	6.107e-3	5	2.214e-3	21	2.715e-3	7
102		min	-0.073	4	-0.016	2	-0.411	21	-3.313e-3	11	-1.224e-3	26	-2.414e-3	1
103	N130B	max	0.016	11	0.056	9	-0.049	10	1.374e-3	5	6.432e-3	5	5.732e-4	8
104		min	-0.016	5	-0.052	3	-0.358	16	-4.176e-3	25	-3.369e-3	11	-6.01e-4	2
105	N132A	max	0.021	3	0.052	8	-0.063	10	7.435e-3	7	4.391e-3	16	9.715e-4	10
106		min	-0.024	9	-0.05	2	-0.411	16	-9.172e-3	1	-7.332e-4	10	-8.571e-4	4
107	N134	max	0.021	3	0.027	5	-0.044	5	4.712e-3	7	-7.26e-4	4	5.896e-4	10
108		min	-0.024	9	-0.029	11	-0.358	23	-6.309e-3	1	-5.592e-3	23	-6.202e-4	4
109	N136	max	0.024	10	0.038	4	-0.054	5	3.022e-3	9	6.101e-3	4	6.749e-4	9
110		min	-0.023	4	-0.042	10	-0.411	23	-4.267e-3	3	-8.824e-3	10	-5.952e-4	3
111	N138	max	0.075	10	0.014	5	-0.059	2	6.469e-3	22	4.958e-3	4	1.098e-3	9
112		min	-0.071	4	-0.017	11	-0.355	21	-1.155e-3	3	-4.652e-3	10	-1.125e-3	3
113	N160	max	0.021	3	0.044	8	-0.072	9	7.779e-3	7	4.667e-3	16	1.05e-3	9
114		min	-0.024	9	-0.044	2	-0.354	17	-9.459e-3	1	-8.098e-4	10	-9.985e-4	3
115	N158	max	0.431	10	1.276	7	-0.061	8	2.639e-2	7	1.321e-2	4	1.05e-3	9
116		min	-0.589	4	-1.376	1	-0.363	15	-2.806e-2	1	-1.064e-2	10	-9.985e-4	3
117	N161	max	0.024	3	0.044	8	-0.06	8	7.779e-3	7	4.667e-3	16	1.05e-3	9
118		min	-0.027	9	-0.044	2	-0.362	15	-9.459e-3	1	-8.098e-4	10	-9.985e-4	3
119	N164	max	0.049	33	0.112	41	-0.06	8	6.468e-4	3	1.617e-4	37	1.243e-3	8
120		min	-0.047	27	-0.049	5	-0.362	15	-2.146e-3	41	-2.356e-3	15	-1.957e-3	2
121	N63	max	0.053	10	0.028	4	-0.02	3	5.57e-3	22	5.147e-3	4	1.417e-3	9
122		min	-0.05	4	-0.03	10	-0.234	21	-1.635e-3	3	-5.134e-3	10	-1.394e-3	3
123	N64	max	0.03	10	0.036	4	-0.046	4	2.916e-3	9	6.5e-3	4	1.117e-4	23
124		min	-0.028	4	-0.039	10	-0.365	23	-4.322e-3	3	-9.249e-3	10	-5.163e-5	6
125	N65	max	1.354	10	0.529	7	-0.046	4	1.174e-2	7	2.512e-2	4	1.117e-4	23
126		min	-1.188	4	-0.618	1	-0.366	23	-1.315e-2	1	-2.785e-2	10	-5.163e-5	6
127	N66	max	0.03	10	0.035	4	-0.064	5	2.916e-3	9	6.5e-3	4	1.117e-4	23
128		min	-0.028	4	-0.039	10	-0.354	23	-4.322e-3	3	-9.249e-3	10	-5.163e-5	6
129	N67	max	0.051	10	0.025	4	-0.033	2	5.57e-3	22	5.147e-3	4	1.417e-3	9
130		min	-0.048	4	-0.027	10	-0.225	20	-1.635e-3	3	-5.134e-3	10	-1.394e-3	3
131	N68	max	0.054	3	0.078	4	-0.046	4	2.68e-3	13	1.283e-3	21	2.498e-4	3
132		min	-0.081	9	-0.101	10	-0.365	23	-8.41e-4	32	-6.648e-4	27	-1.604e-3	15
133	N69	max	0.578	10	0.308	19	-0.02	3	7.565e-3	8	1.324e-2	4	1.417e-3	9
134		min	-0.574	4	-0.158	2	-0.235	21	-4.498e-3	2	-1.323e-2	10	-1.394e-3	3
135	N70	max	0.058	22	0.08	4	-0.02	3	8.985e-5	26	1.578e-3	21	2.24e-3	9
136		min	-0.047	16	-0.079	10	-0.235	21	-2.818e-3	20	-8.51e-4	11	-1.384e-3	3
137	N71	max	0.015	10	0.051	9	-0.013	10	1.717e-3	5	6.607e-3	5	6.549e-4	7
138		min	-0.015	4	-0.047	3	-0.237	16	-3.274e-3	11	-3.952e-3	11	-6.364e-4	1
139	N72	max	0.072	10	0.026	8	-0.072	12	5.534e-3	18	7.783e-3	4	1.149e-3	11
140		min	-0.07	4	-0.023	2	-0.36	20	-1.881e-3	12	-7.638e-3	10	-1.094e-3	5
141	N75	max	1.3	10	0.67	7	-0.072	12	1.383e-2	7	2.64e-2	4	1.149e-3	11
142		min	-1.306	4	-0.484	1	-0.36	20	-1.079e-2	1	-2.625e-2	10	-1.094e-3	5
143	N77	max	0.07	10	0.025	8	-0.078	2	5.534e-3	18	7.783e-3	4	1.149e-3	11
144		min	-0.068	4	-0.022	2	-0.353	22	-1.881e-3	12	-7.638e-3	10	-1.094e-3	5
145	N78	max	0.015	10	0.051	9	-0.027	10	1.717e-3	5	6.607e-3	5	6.549e-4	7
146		min	-0.015	4	-0.047	3	-0.227	15	-3.274e-3	11	-3.952e-3	11	-6.364e-4	1
147	N79	max	0.105	22	0.056	41	-0.072	12	4.377e-4	26	2.463e-3	22	1.705e-3	11
148		min	-0.017	27	-0.064	4	-0.36	20	-2.155e-3	18	-1.051e-4	27	-2.416e-3	5
149	N81	max	0.476	10	0.195	7	-0.013	10	4.945e-3	6	1.456e-2	4	6.549e-4	7
150		min	-0.603	4	-0.266	1	-0.237	16	-6.504e-3	12	-1.191e-2	10	-6.364e-4	1
151	N82	max	0.071	6	0.079	41	-0.013	10	9.054e-4	26	8.256e-5	6	1.878e-3	22
152		min	-0.076	12	-0.071	4	-0.237	16	-1.675e-3	29	-3.069e-3	17	-8.601e-5	11
153	N85	max	0.021	4	0.059	2	-0.018	6	1.696e-3	9	1.163e-3	25	1.185e-3	11
154		min	-0.044	10	-0.048	8	-0.236	23	-2.246e-3	32	-7.423e-4	27	-8.16e-4	5
155	N86	max	0.228	22	0.453	7	-0.018	6	1.321e-2	7	3.627e-3	4	7.401e-4	12
156		min	-0.076	4	-0.519	1	-0.236	23	-1.474e-2	1	-6.3e-3	10	-7.205e-4	6
157	N87	max	0.047	33	0.081	41	-0.06	8	7.221e-4	3	2.989e-4	37	1.185e-3	8
158		min	-0.037	10	-0.047	6	-0.362	15	-2.033e-3	41	-2.175e-3	16	-1.736e-3	2
159	N88	max	0.399	10	1.197	7	-0.061	8	2.639e-2	7	1.321e-2	4	1.05e-3	9
160		min	-0.55	4	-1.292	1	-0.363	15	-2.806e-2	1	-1.064e-2	10	-9.985e-4	3
161	N83	max	0.024	22	0.054	4	-0.02	3	1.285e-3	11	1.671e-3	4	1.77e-3	9
162		min	-0.023	16	-0.08	10	-0.235	21	-1.646e-3	32	-1.84e-3	10	-1.39e-3	3
163	N84	max	0.498	10	0.267	19	-0.02	3	7.564e-3	8	1.324e-2	4	1.417e-3	9
164		min	-0.495	4	-0.131	2	-0.235	21	-4.497e-3	2	-1.323e-2	10	-1.394e-3	3
165	N89	max	0.049	3	0.079	4	-0.046	4	2.6e-3	13	1.171e-3	22	1.993e-4	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
166		min	-0.078	9	-0.085	10	-0.365	23	-8.325e-4	32	-7.124e-4	27	-1.25e-3	15
167	N90	max	1.27	10	0.494	7	-0.046	4	1.174e-2	7	2.512e-2	4	1.117e-4	23
168		min	-1.113	4	-0.578	1	-0.366	23	-1.315e-2	1	-2.785e-2	10	-5.163e-5	6
169	N91	max	0.056	5	0.073	10	-0.013	10	1.193e-3	13	1.788e-3	6	8.315e-4	21
170		min	-0.034	11	-0.059	4	-0.237	16	-1.239e-3	41	-1.778e-3	12	-3.563e-4	12
171	N92	max	0.405	10	0.168	7	-0.013	10	4.943e-3	6	1.456e-2	4	6.549e-4	7
172		min	-0.516	4	-0.229	1	-0.237	16	-6.502e-3	12	-1.191e-2	10	-6.364e-4	1
173	N93	max	0.068	22	0.045	10	-0.072	12	5.171e-4	26	2.413e-3	22	1.586e-3	11
174		min	-0.015	12	-0.067	4	-0.36	20	-1.951e-3	19	-2.677e-4	27	-2.133e-3	5
175	N94	max	1.221	10	0.628	7	-0.072	12	1.383e-2	7	2.64e-2	4	1.149e-3	11
176		min	-1.227	4	-0.452	1	-0.36	20	-1.079e-2	1	-2.625e-2	10	-1.094e-3	5
177	N95	max	0.064	22	0.043	37	-0.041	29	3.386e-4	26	3.456e-3	22	2.895e-3	10
178		min	-0.045	4	-0.048	26	-0.31	13	-2.455e-3	18	2.207e-4	10	-3.79e-3	4
179	N96	max	0.034	25	0.07	10	-0.031	9	1.224e-4	6	4.174e-4	23	1.52e-3	7
180		min	-0.046	11	-0.06	4	-0.289	23	-3.951e-3	41	-1.933e-3	17	-1.603e-3	1
181	N97	max	0.045	33	0.074	10	-0.046	9	1.147e-5	4	-1.046e-4	7	1.679e-3	8
182		min	-0.04	10	-0.064	4	-0.304	21	-3.153e-3	41	-3.427e-3	14	-2.584e-3	2
183	N98	max	0.045	33	0.079	4	-0.039	5	3.102e-3	13	3.789e-4	1	1.469e-3	1
184		min	-0.041	10	-0.094	10	-0.296	19	-1.621e-3	32	-2.762e-3	19	-1.536e-3	7
185	N99	max	0.044	33	0.075	4	-0.04	4	3.811e-3	24	8.579e-4	29	7.688e-4	2
186		min	-0.046	9	-0.082	10	-0.306	18	-1.079e-3	32	-8.995e-4	16	-1.977e-3	15
187	N100	max	0.073	22	0.051	32	-0.032	29	1.943e-3	15	3.042e-3	21	3.391e-3	10
188		min	-0.045	3	-0.042	26	-0.295	15	-1.123e-3	41	-2.573e-4	10	-3.454e-3	4
189	N101	max	0.044	3	0.076	4	-0.042	4	3.817e-3	24	8.588e-4	29	7.669e-4	2
190		min	-0.057	9	-0.086	10	-0.323	19	-1.078e-3	32	-8.963e-4	16	-1.979e-3	15
191	N102	max	0.072	22	0.044	41	-0.056	29	3.371e-4	26	3.46e-3	22	2.892e-3	10
192		min	-0.029	16	-0.05	26	-0.326	14	-2.461e-3	18	2.215e-4	10	-3.787e-3	4
193	N103	max	0.045	33	0.079	41	-0.05	9	1.147e-5	4	-1.062e-4	7	1.677e-3	8
194		min	-0.04	10	-0.056	4	-0.32	21	-3.153e-3	41	-3.433e-3	14	-2.582e-3	2
195	N104	max	0.072	22	0.054	32	-0.035	29	1.937e-3	15	3.039e-3	21	3.388e-3	10
196		min	-0.029	16	-0.042	26	-0.275	14	-1.125e-3	41	-2.581e-4	10	-3.451e-3	4
197	N105	max	0.04	5	0.071	10	-0.027	9	1.238e-4	6	4.142e-4	23	1.52e-3	7
198		min	-0.053	11	-0.061	4	-0.27	23	-3.949e-3	41	-1.936e-3	17	-1.602e-3	1
199	N106	max	0.045	33	0.076	4	-0.032	5	3.102e-3	13	3.806e-4	1	1.466e-3	1
200		min	-0.041	10	-0.093	10	-0.275	19	-1.621e-3	32	-2.756e-3	19	-1.533e-3	7
201	N107	max	0.046	22	0.074	4	-0.023	3	8.985e-5	26	1.577e-3	21	2.24e-3	9
202		min	-0.048	16	-0.077	10	-0.243	21	-2.817e-3	20	-8.525e-4	11	-1.384e-3	3
203	N108	max	0.049	22	0.078	4	-0.02	3	8.985e-5	26	1.577e-3	21	2.24e-3	9
204		min	-0.046	16	-0.082	10	-0.235	21	-2.817e-3	20	-8.525e-4	11	-1.384e-3	3
205	N109	max	0.069	6	0.075	10	-0.015	10	9.054e-4	26	8.339e-5	6	1.878e-3	22
206		min	-0.069	12	-0.073	4	-0.245	16	-1.675e-3	29	-3.068e-3	17	-8.601e-5	11
207	N110	max	0.071	6	0.075	10	-0.013	10	9.054e-4	26	8.339e-5	6	1.878e-3	22
208		min	-0.069	12	-0.07	4	-0.237	16	-1.675e-3	29	-3.068e-3	17	-8.601e-5	11
209	N111	max	0.052	3	0.079	4	-0.046	4	2.679e-3	13	1.283e-3	21	2.498e-4	3
210		min	-0.078	9	-0.097	10	-0.365	22	-8.41e-4	32	-6.648e-4	27	-1.604e-3	15
211	N112	max	0.052	3	0.079	4	-0.046	4	2.679e-3	13	1.283e-3	21	2.498e-4	3
212		min	-0.08	9	-0.095	10	-0.365	23	-8.41e-4	32	-6.648e-4	27	-1.604e-3	15
213	N113	max	0.092	22	0.046	41	-0.071	12	4.377e-4	26	2.462e-3	22	1.705e-3	11
214		min	-0.016	27	-0.059	4	-0.36	18	-2.155e-3	18	-1.051e-4	27	-2.416e-3	5
215	N114	max	0.091	22	0.05	10	-0.072	12	4.377e-4	26	2.462e-3	22	1.705e-3	11
216		min	-0.017	27	-0.066	4	-0.36	20	-2.155e-3	18	-1.051e-4	27	-2.416e-3	5
217	N115	max	0.045	33	0.093	32	-0.018	6	2.942e-3	13	1.655e-3	24	1.846e-3	11
218		min	-0.041	10	-0.078	9	-0.244	24	-1.483e-3	32	-2.804e-4	9	-1.005e-3	5
219	N116	max	0.042	33	0.093	32	-0.018	6	2.942e-3	13	1.655e-3	24	1.846e-3	11
220		min	-0.045	10	-0.078	9	-0.236	23	-1.483e-3	32	-2.804e-4	9	-1.005e-3	5
221	N117	max	0.045	33	0.099	41	-0.057	8	6.463e-4	3	1.617e-4	37	1.243e-3	8
222		min	-0.04	10	-0.048	5	-0.363	14	-2.146e-3	41	-2.356e-3	15	-1.957e-3	2
223	N118	max	0.048	33	0.099	41	-0.06	8	6.463e-4	3	1.617e-4	37	1.243e-3	8
224		min	-0.042	10	-0.048	5	-0.362	15	-2.146e-3	41	-2.356e-3	15	-1.957e-3	2

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	M66	3/8 x 6	0.171	0	10	0.278	1.931	y	4	71536.787	72900	9.113	0.57	1.131	H1-1b
2	M62	3/8 x 6	0.074	0	13	0.276	1.931	y	7	71536.805	72900	9.113	0.57	1.142	H1-1b

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

	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
3	M19_1	3/8 x 6	0.133	0	2	0.257	1.931	y	11	71536.805	72900	9.113	0.57	1.14	H1-1b
4	M61	3/8 x 6	0.048	0	20	0.25	0	y	7	66740.649	72900	9.113	0.57	1.67	H1-1b
5	M65	3/8 x 6	0.093	0	10	0.246	4.383	y	3	66740.652	72900	9.113	0.57	1.67	H1-1b
6	M18_1	3/8 x 6	0.089	0	3	0.235	0	y	11	66740.657	72900	9.113	0.57	1.669	H1-1b
7	M71	PL6x1/2_HRAB	0.088	0	1	0.214	0	y	7	94320.593	97200	1.012	12.15	1.68	H1-1b
8	M69	PL6x1/2_HRAB	0.085	16.207	5	0.211	8.103	y	10	50314.686	97200	1.012	12.15	1.143	H1-1b
9	M73	PL6x1/2_HRAB	0.084	0	9	0.209	0	y	3	94319.038	97200	1.012	12.15	1.674	H1-1b
10	M4	PL6x1/2_HRAB	0.097	16.207	1	0.208	8.104	y	7	50314.302	97200	1.012	12.15	1.263	H1-1b
11	M64	3/8 x 6	0.092	0	20	0.203	1.931	y	7	71536.787	72900	9.113	0.57	1.142	H1-1b
12	M68	3/8 x 6	0.105	0	24	0.202	0	y	4	71537.173	72900	9.113	0.57	1.142	H1-1b
13	M70	PL6x1/2_HRAB	0.077	0	5	0.197	0	y	11	94320.006	97200	1.012	12.15	1.725	H1-1b
14	M60	3/8 x 6	0.149	0	10	0.197	1.931	y	11	71537.173	72900	9.113	0.57	1.152	H1-1b
15	M3	PL6x1/2_HRAB	0.093	16.207	9	0.193	8.103	y	3	50316.618	97200	1.012	12.15	1.286	H1-1b
16	M67	3/8 x 6	0.073	0	23	0.176	0	y	4	66740.652	72900	9.113	0.57	1.67	H1-1b
17	M63	3/8 x 6	0.063	0	22	0.176	4.383	y	7	66740.649	72900	9.113	0.57	1.67	H1-1b
18	M59	3/8 x 6	0.087	0	10	0.17	4.383	y	11	66740.657	72900	9.113	0.57	1.67	H1-1b
19	M74	PL6x1/2_HRAB	0.017	0	9	0.13	3.464	y	4	94319.468	97200	1.012	12.15	1.658	H1-1b
20	M72	PL6x1/2_HRAB	0.026	0	1	0.129	3.464	y	7	94319.037	97200	1.012	12.15	1.655	H1-1b
21	M70A	PL6x1/2_HRAB	0.025	0	4	0.125	3.464	y	11	94319.146	97200	1.012	12.15	1.652	H1-1b
22	M24	HSS4X4X4	0.462	62.545	19	0.105	62.545	y	20	124524.281	139518	16.181	16.181	2.76	H1-1b
23	M23	HSS4X4X4	0.476	62.545	22	0.104	62.545	y	13	124524.281	139518	16.181	16.181	2.738	H1-1b
24	M25	HSS4X4X4	0.457	62.546	24	0.104	62.546	y	15	124524.207	139518	16.181	16.181	2.725	H1-1b
25	M54	PIPE_2.0	0.168	114.062	24	0.076	7.812		16	6295.454	32130	1.872	1.872	2.253	H1-1b
26	M55	PIPE_2.0	0.168	114.062	19	0.076	7.812		13	6295.454	32130	1.872	1.872	2.128	H1-1b
27	M56	PIPE_2.0	0.17	114.062	16	0.073	7.812		20	6295.454	32130	1.872	1.872	2.282	H1-1b
28	M7	PIPE_3.0	0.191	25	22	0.072	48.437		1	28250.673	65205	5.749	5.749	1.973	H1-1b
29	M26	HSS4X4X4	0.175	30.96	17	0.068	30.96	y	14	135684.977	139518	16.181	16.181	1.736	H1-1b
30	M27	HSS4X4X4	0.178	30.96	24	0.068	30.96	y	21	135684.977	139518	16.181	16.181	1.736	H1-1b
31	M28	HSS4X4X4	0.179	30.96	21	0.068	30.96	y	17	135684.969	139518	16.181	16.181	1.736	H1-1b
32	M8	PIPE_3.0	0.188	25	17	0.068	48.437		3	28250.673	65205	5.749	5.749	1.998	H1-1b
33	M30	HSS4X4X4	0.175	0	20	0.067	0	y	20	135684.969	139518	16.181	16.181	1.73	H1-1b
34	M6	PIPE_3.0	0.191	25	15	0.067	48.437		4	28250.673	65205	5.749	5.749	1.975	H1-1b
35	M29	HSS4X4X4	0.172	0	14	0.067	0	y	15	135684.961	139518	16.181	16.181	1.728	H1-1b
36	M22	HSS4X4X4	0.176	0	23	0.067	0	y	13	135684.961	139518	16.181	16.181	1.73	H1-1b
37	M52	PIPE_2.5	0.519	59.625	10	0.061	60.75		4	26137.193	50715	3.596	3.596	3	H1-1b
38	M81	PIPE_2.5	0.519	59.625	7	0.06	60.75		1	26137.193	50715	3.596	3.596	1.532	H1-1b
39	M48	PIPE_2.5	0.519	59.625	4	0.055	60.75		10	26137.193	50715	3.596	3.596	3	H1-1b
40	M44	PIPE_2.0	0.324	48	24	0.051	48		20	14916.096	32130	1.872	1.872	1.539	H1-1b
41	M53	PIPE_2.0	0.336	48	15	0.049	48		24	14916.096	32130	1.872	1.872	1.766	H1-1b
42	M49	PIPE_2.0	0.327	48	19	0.049	48		16	14916.096	32130	1.872	1.872	1.653	H1-1b
43	M57	L2.5x2.5x4	0.132	18.707	16	0.032	18.707	y	16	35616.748	38556	1.114	2.537	1.146	H2-1
44	M75	L2.5x2.5x4	0.127	18.707	18	0.032	18.707	y	24	35616.748	38556	1.114	2.537	1.02	H2-1
45	M58	L2.5x2.5x4	0.132	18.707	18	0.031	18.707	y	20	35616.748	38556	1.114	2.537	1.149	H2-1
46	M16	L2x2x3	0.143	24.5	3	0.011	48	y	21	10494.652	23392.8	0.558	1.107	1.142	H2-1
47	M13	L2x2x3	0.156	24	6	0.011	48.001	y	23	10494.506	23392.8	0.558	1.107	1.14	H2-1
48	M15	L2x2x3	0.156	24	10	0.011	48	y	15	10494.731	23392.8	0.558	1.108	1.143	H2-1
49	M17	L2x2x3	0.185	24.5	11	0.007	48	z	15	10494.637	23392.8	0.558	1.107	1.142	H2-1
50	M18	L2x2x3	0.216	24	8	0.007	48	z	22	10494.646	23392.8	0.558	1.107	1.14	H2-1
51	M14	L2x2x3	0.214	24	4	0.007	48	z	17	10494.56	23392.8	0.558	1.107	1.142	H2-1

Exhibit F

Power Density/RF Emissions Report

Fox Hill Telecom

Radio Frequency Emissions Analysis Report

T-Mobile

Site ID: CTHA152A

HA152/FiretownFireS_MP
344 Firetown Road
Simsbury, CT 06070

July 12, 2022

Fox Hill Telecom Project Number: 221460

Site Compliance Summary	
Compliance Status:	**COMPLIANT**
Site total MPE% of FCC general population allowable limit:	**56.63 %**

Fox Hill Telecom

July 12, 2022

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

Emissions Analysis for Site: **CTHA152A – HA152/FiretownFireS_MP**

Fox Hill Telecom, Inc ("Fox Hill") was directed to analyze the proposed upgrades to the T-MOBILE facility located at **344 Firetown Road, Simsbury, 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) and 2500 MHz (BRS) 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 upgrades to the T-MOBILE antenna facility located at **344 Firetown Road, Simsbury, 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, 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
GSM	1900 MHz (PCS)	1	15

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 and 1900 MHz (PCS) 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, 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	RFS APXVAALL24_43-U-NA20	77
A	2	RFS APX16DWV-16DWV-S-E-A20	77
B	1	RFS APXVAALL24_43-U-NA20	77
B	2	RFS APX16DWV-16DWV-S-E-A20	77
C	1	RFS APXVAALL24_43-U-NA20	77
C	2	RFS APX16DWV-16DWV-S-E-A20	77

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	RFS APXVAALL24_43-U-NA20	600 MHz / 700 MHz	13.65 / 13.85	4	120	2,824.56	4.79
Antenna A2	RFS APX16DWV-16DWV-S-E-A20	1900 MHz (PCS)	15.9	5	175	6,808.29	4.86
						Sector A Composite MPE%	**9.65**
Antenna B1	RFS APXVAALL24_43-U-NA20	600 MHz / 700 MHz	13.65 / 13.85	4	120	2,824.56	4.79
Antenna B2	RFS APX16DWV-16DWV-S-E-A20	1900 MHz (PCS)	15.9	5	175	6,808.29	4.86
						Sector B Composite MPE%	**9.65**
Antenna C1	RFS APXVAALL24_43-U-NA20	600 MHz / 700 MHz	13.65 / 13.85	4	120	2,824.56	4.79
Antenna C2	RFS APX16DWV-16DWV-S-E-A20	1900 MHz (PCS)	15.9	5	175	6,808.29	4.86
						Sector C Composite MPE%	**9.65**

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. 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, all three sectors have the same configuration yielding the same results on all three sectors. *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	**9.65 %**
Simsbury FD	0.65 %
Verizon Wireless	46.33 %
Site Total MPE %:	**56.63 %**

Table 4: All Carrier MPE Contributions

T-MOBILE Sector A Total:	9.65 %
T-MOBILE Sector B Total:	9.65 %
T-MOBILE Sector C Total:	9.65 %
Site Total:	56.63 %

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, all three sectors have the same configuration yielding the same results on all three sectors.

T-MOBILE _ Frequency Band / Technology Max Power Values (Per Sector)	# 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	926.96	77	13.22	600 MHz	400	3.31%
T-Mobile 700 MHz LTE	2	485.32	77	6.92	700 MHz	467	1.48%
T-Mobile 1900 MHz (PCS) LTE	4	1,556.18	77	44.39	1900 MHz (PCS)	1000	4.44%
T-Mobile 1900 MHz (PCS) GSM	1	583.57	77	4.16	1900 MHz (PCS)	1000	0.42%
						Total:	**9.65%**

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:	9.65 %
Sector B:	9.65 %
Sector C:	9.65 %
T-MOBILE Maximum Total (per sector):	9.65 %
Site Total:	56.63 %
Site Compliance Status:	**COMPLIANT**

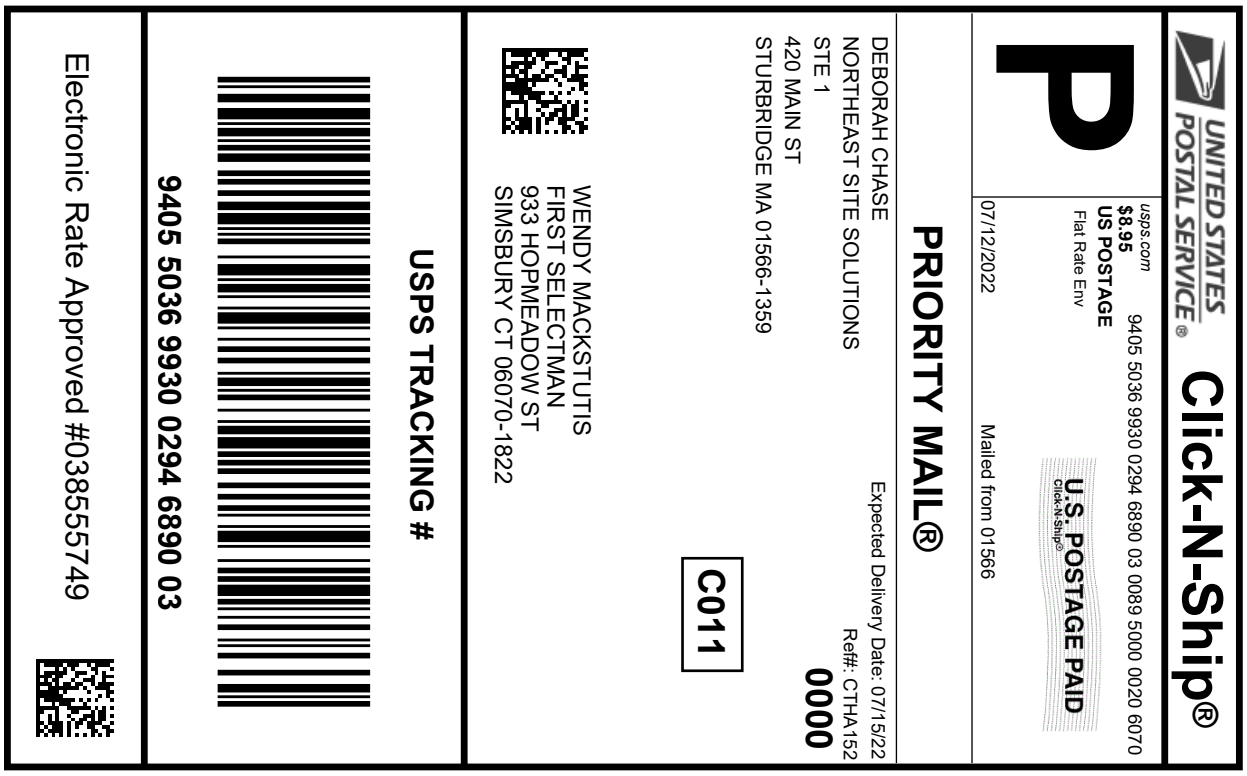
The anticipated composite MPE value for this site assuming all carriers present is **56.63 %** of the allowable FCC established general population limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

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

Recipient Mailings



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 0294 6890 03

Trans. #:	567436688
Print Date:	07/12/2022
Ship Date:	07/12/2022
Expected Delivery Date:	07/15/2022

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

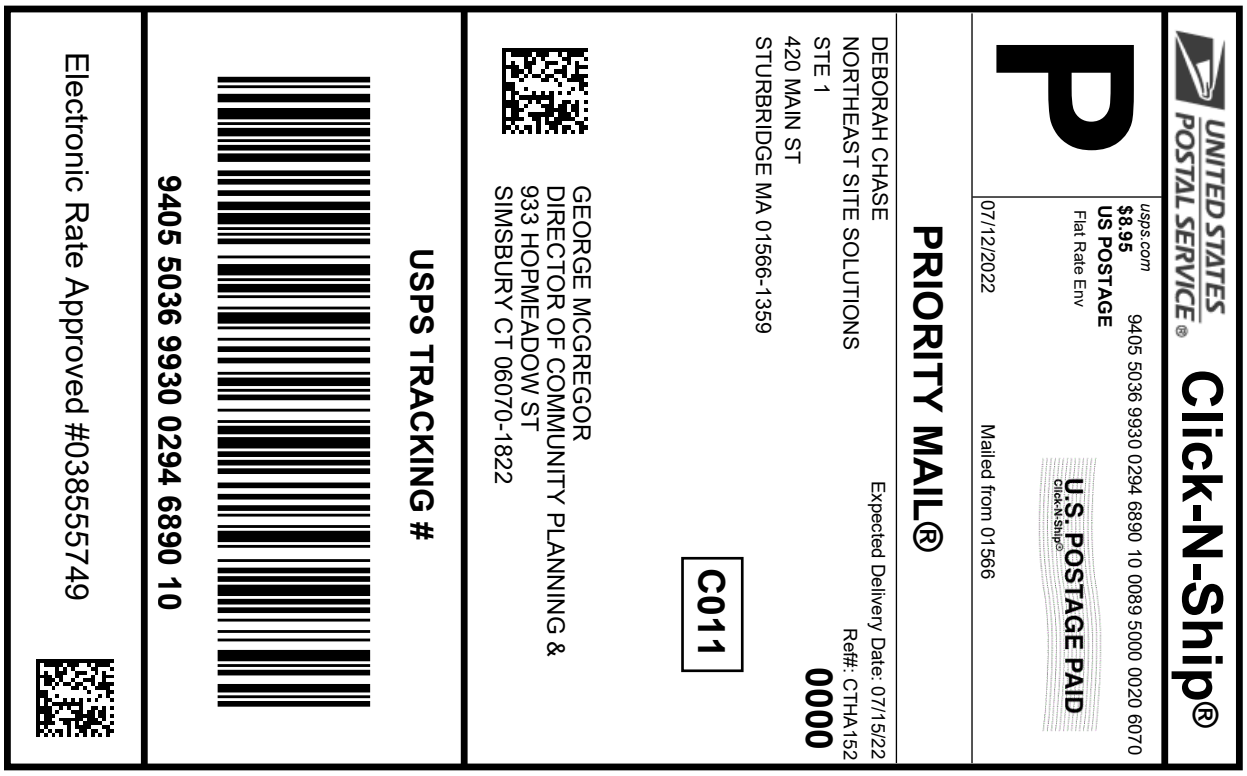
From: DEBORAH CHASE
NORTHEAST SITE SOLUTIONS
STE 1
420 MAIN ST
STURBRIDGE MA 01566-1359

Ref#: CTHA152

To: WENDY MACKSTUTIS
FIRST SELECTMAN
933 HOPMEADOW ST
SIMSBURY CT 06070-1822

* 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.

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Click-N-Ship® Label Record

USPS TRACKING # :
9405 5036 9930 0294 6890 10

Trans. #:	567436688
Print Date:	07/12/2022
Ship Date:	07/12/2022
Expected Delivery Date:	07/15/2022

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

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

Ref#: CTHA152

To: GEORGE MCGREGOR
DIRECTOR OF COMMUNITY PLANNING & DEVELOPMENT
933 HOPMEADOW ST
SIMSBURY CT 06070-1822

* 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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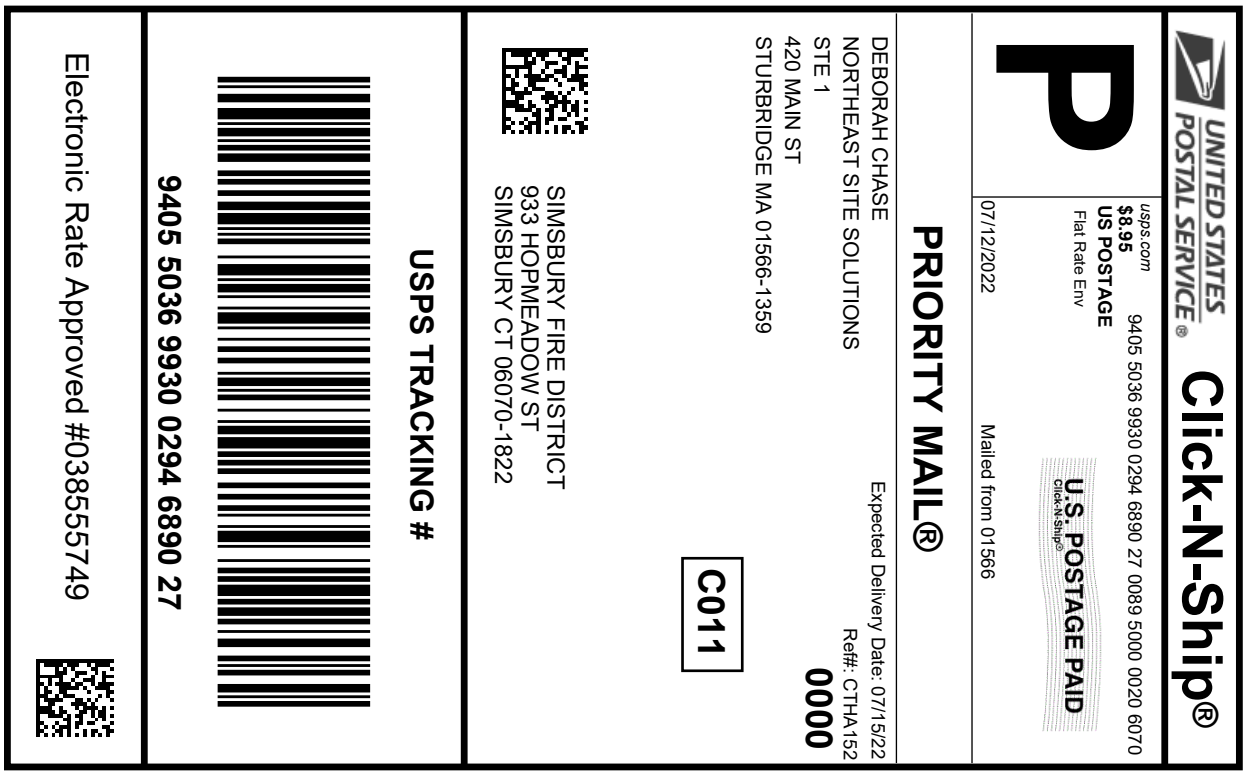

Cut on dotted line.

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Click-N-Ship® Label Record

USPS TRACKING # :
9405 5036 9930 0294 6890 27

Trans. #:	567436688
Print Date:	07/12/2022
Ship Date:	07/12/2022
Expected Delivery Date:	07/15/2022

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

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

Ref#: CTHA152

To: SIMSBURY FIRE DISTRICT
933 HOPMEADOW ST
SIMSBURY CT 06070-1822

* 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

CTHA 152A LL600

UNITED STATES POSTAL SERVICE.

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

07/13/2022 04:04 PM

Product	Qty	Unit Price	Price
Prepaid Mail Simsbury, CT 06070 Weight: 0 lb 9.60 oz Acceptance Date: Wed 07/13/2022 Tracking #: 9405 5036 9930 0294 6890 03	1		$0.00
Prepaid Mail Simsbury, CT 06070 Weight: 0 lb 9.60 oz Acceptance Date: Wed 07/13/2022 Tracking #: 9405 5036 9930 0294 6890 10	1		$0.00
Prepaid Mail Simsbury, CT 06070 Weight: 0 lb 9.50 oz Acceptance Date: Wed 07/13/2022 Tracking #: 9405 5036 9930 0294 6890 27	1		$0.00
Grand Total:			$0.00

****
Every household in the U.S. is now
eligible to receive a third set
of 8 free test kits.
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Track your Packages
Sign up for FREE @
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All sales final on stamps and postage.
Refunds for guaranteed services only.
Thank you for your business.

Tell us about your experience.
Go to: https://postalexperience.com/Pos
or scan this code with your mobile device,

or call 1-800-410-7420.

UFN: 082618-0132
Receipt #: 840-50600020-2-5634607-1
Clerk: 77