



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

September 4, 2020

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

RE: Exempt Modification Application
3965 Congress Street, Fairfield CT 06824
Latitude: 41.1883470
Longitude: -73.2990760
T-Mobile Site#: CT11077C-Anchor

Dear Ms. Bachman:

T-Mobile is requesting to file an exempt modification for an existing 150-foot monopole tower located at 3965 Congress Street, Fairfield CT 06824 (Fairfield Fire Rescue #5). T-Mobile currently has three (3) antennas at the 116-foot level of the existing 150-foot tower. The tower and property are owned by The Town of Fairfield. T-Mobile now intends to replace three (3) antenna with three (3) new 2500 MHz antenna and add three (3) new 600/700/1900/2100 MHz antenna and three (3) new 600/700 MHz antenna. The new antenna would be installed at the 116-foot and level of the tower.

Planned Tower Modifications:

Remove:

(3) Twin TMA

Remove and Replace:

(3) APX16DWV Antenna (REMOVE) – AIR32 B66A B2A Antenna 1900/2100 MHz (REPLACE)

(1) Platform Mount (REMOVE) – SitePro1 Mount (REPLACE)

Install New:

(3) Fiber line

(3) RRU 4449 B71+B12

(3) RRU 4415 B25

(3) Diplexers

(3) APXAARR24_43U-NA20 Antenna 600/700/1900/2100 MHz

(3) AIR6449 B41 Antenna 2500 MHz

(1) HRK 12 - Handrail Kit



NSS **NORTHEAST**
SITE SOLUTIONS
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Existing to Remain:

- (12) 1-5/8" coax
- (3) Twin TMA

Ground:

- Upgrade Existing 6102 Cabinet (Internally)
- Upgrade existing Breaker
- New B160 Battery Cabinet
- New 6160 Cabinet

This facility was approved by the Town of Fairfield P&Z on May 25, 1994. This modification complies with this original approval. Please see attached.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies § 16- SOj-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-SOj-73, a copy of this letter is being sent to First Selectman Brenda L Kupchick, Elected Official and Jim Wendt, Planning Director for the Town of Fairfield, as well as the property owner and the tower owner (Town of Fairfield).

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

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



NSS **NORTHEAST**
SITE SOLUTIONS
Turnkey Wireless Development

Attachments

cc:

First Selectman Brenda L Kupchick
Sullivan Independence Hall
725 Old Post Road
Fairfield CT 06824

Sullivan Independence Hall
725 Old Post Road
Fairfield CT 06824
Attn: Jim Wendt
Planning Director

Exhibit A



Town of Fairfield

Town Planning and Zoning Department

Zonning Compliance Permit

Hse Num: 3965 Street: Congress Street Map: 170 Parcel: 41 - Unit: 0000 Permit # 23333
Zone: AAA FIRM: Date: 05/25/1994 Occupancy/Use: per plans Receipt # 0

Description: 10' x 30' equipment shelter + 150' antenna
Applicant: Fairfield Town Of

State Fee: \$30.00
Town Fee: \$50.00
Total: \$80.00

Print Date: 07/16/2019



Town of Fairfield

Town Planning and Zoning Department

Zonning Compliance Permit

Hse Num: 3965 Street: Congress Street Map: 170 Parcel: 41 - Unit: 0000 Permit # 26289

Zone: AAA FIRM: Date: 05/27/1998 Occupancy/Use: per plans Receipt # 0

Description: 9 1/2' x 11' concrete equipment pad & 9 new antennas on exist pole

Applicant: Town of Fairfield

State Fee: \$30.00

Town Fee: \$50.00

Total: \$80.00

Print Date: 07/16/2019

Exhibit B

3965 CONGRESS STREET

Location 3965 CONGRESS STREET

Mblu 170/ 41/ / /

Acct# 05308

Owner FAIRFIELD TOWN OF

Assessment \$939,330

Appraisal \$1,341,900

PID 14189

Building Count 1

Current Value

Appraisal			
Valuation Year	Improvements	Land	Total
2017	\$508,400	\$833,500	\$1,341,900

Assessment			
Valuation Year	Improvements	Land	Total
2017	\$355,880	\$583,450	\$939,330

Owner of Record

Owner FAIRFIELD TOWN OF
Co-Owner
Address 725 OLD POST ROAD
FAIRFIELD, CT 06824

Sale Price \$0
Certificate
Book & Page 395/ 523
Sale Date

Ownership History

Ownership History				
Owner	Sale Price	Certificate	Book & Page	Sale Date
FAIRFIELD TOWN OF	\$0		395/ 523	

Building Information

Building 1 : Section 1

Year Built: 1959
Living Area: 3,848
Replacement Cost: \$670,756
Building Percent 60
Good:
Replacement Cost
Less Depreciation: \$402,500

Building Attributes	
Field	Description

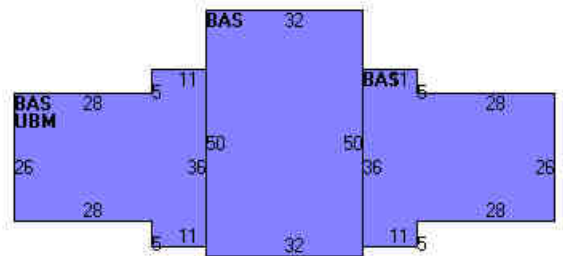
STYLE	Fire Station
MODEL	Ind/Comm
Stories:	1
Occupancy	1
Exterior Wall 1	Vinyl Siding
Exterior Wall 2	Brick/Masonry
Roof Structure	Gable/Hip
Roof Cover	Asphalt
Interior Wall 1	Minim/Masonry
Interior Wall 2	Plywood Panel
Interior Floor 1	Concr-Finished
Interior Floor 2	Vinyl/Asphalt
Heating Fuel	Gas
Heating Type	Hot Water
AC Type	None
Bldg Use	Fire Dept
Total Rooms	
Total Bedrms	00
Total Baths	0
Liv Area	
Effect Area	
1st Floor Use:	9032
Heat/AC	None
Frame Type	Masonry
Baths/Plumbing	Average

Building Photo



(<http://images.vgsi.com/photos2/FairfieldCTPhotos/\02\03\13\9>)

Building Layout



(<http://images.vgsi.com/photos2/FairfieldCTPhotos//Sketches/14>)

Building Sub-Areas (sq ft)			
Code	Description	Gross Area	Living Area
BAS	First Floor	3,848	3,848
UBM	Basement, Unfinished	1,124	0
		4,972	3,848

Extra Features

Extra Features				
Code	Description	Size	Value	Bldg #
SPR1	SPRINKLERS-WET	4972 S.F.	\$6,900	1

Land

Land Use

Use Code	9032
Description	Fire Dept

Land Line Valuation

Size (Acres)	1.2
Depth	0

Zone
Neighborhood C6
Alt Land Appr No
Category

Assessed Value \$583,450
Appraised Value \$833,500

Outbuildings

Outbuildings						Legend
Code	Description	Sub Code	Sub Description	Size	Value	Bldg #
PAV1	PAVING-ASPHALT			5000 S.F.	\$15,800	1
LT1	LIGHTS-IN W/PL			1 UNITS	\$700	1
SHD2	W/LIGHTS ETC			80 S.F.	\$1,200	1
GEN1	GENERATOR			1 UNITS	\$10,000	1
SHD5	CELL SHED			300 SF	\$16,200	1
SHD5	CELL SHED			300 SF	\$16,200	1
SHD5	CELL SHED			300 SF	\$16,200	1
SHD5	CELL SHED			300 SF	\$16,200	1
FN4	FENCE-8' CHAIN			600 L.F.	\$6,500	1

Valuation History

Appraisal			
Valuation Year	Improvements	Land	Total
2018	\$508,400	\$833,500	\$1,341,900
2017	\$508,400	\$833,500	\$1,341,900
2016	\$508,400	\$833,500	\$1,341,900

Assessment			
Valuation Year	Improvements	Land	Total
2018	\$355,880	\$583,450	\$939,330
2017	\$355,880	\$583,450	\$939,330
2016	\$355,880	\$583,450	\$939,330

4009

1700400000
DOUGLAS MARY O/EST, C/O PETER D DOUGLAS
4009 CONGRESS STREET

3958

1700160000
JOHNSON TIMOTHY
3958 CONGRESS ST

7109-00

Fairfield Fire
Department
Station 5

3965

1700410000
FAIRFIELD TOWN OF
3965 CONGRESS STREET

CONGRESS ST

170039A0000
O'HARA MARGARET
3963 CROSS HIGHWAY

1700420000
3931 CONGRESS LLC
3931 CONGRESS STREET



Exhibit C

..T..Mobile..

NORTHEAST, LLC.

PROJECT: ANCHOR

SITE I.D. NUMBER:

CT11077C

SITE NAME:

FAIRFIELD FIRE RESCUE #5

SITE ADDRESS:

**3965 CONGRESS STREET
FAIRFIELD, CT 06824**

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 Newburgh, NY 12550 Phone: (845) 567-6656

..T..Mobile..
 NORTHEAST, LLC.
**35 GRIFFIN ROAD SOUTH
 BLOOMFIELD, CT 06002**

 **NSS** NORTHEAST
SITE SOLUTIONS
 Turnkey Wireless Development

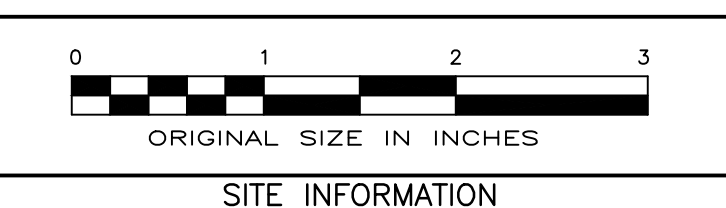
APPROVALS

LANDLORD _____
 RF _____
 CONSTRUCTION _____
 OPERATIONS _____
 SITE ACQ. _____

PROJECT NUMBER	DESIGNED BY
10473.CT11077C	EI

REV.	DATE	DESCRIPTION	DRAWN BY
1	09/09/20	ISSUED FOR CONSTRUCTION	BWY

ISSUED BY _____ DATE _____



**FAIRFIELD FIRE RESCUE #5
 CT11077C
 3965 CONGRESS STREET
 FAIRFIELD, CT 06824**

**FAIRFIELD FIRE RESCUE #5
 CT11077C**

TITLE SHEET

T-1

PROJECT INDEX

SITE NUMBER: CT11077C	PROJECT CLIENT: NORTHEAST SITE SOLUTIONS, LLC SHELDON FREINCLE (201) 776-8521
SITE NAME: FAIRFIELD FIRE RESCUE #5	CONTACT: (201) 776-8521
SITE ADDRESS: 3965 CONGRESS STREET FAIRFIELD, CT 06824	ENGINEER/STRUCTURAL ENG.: TECTONIC ENGINEERING & SURVEYING CONSULTANTS, P.C. EDWARD IAMICELI (845) 567-6656x2811
PROPERTY OWNER: TOWN OF FAIRFIELD 725 OLD POST ROAD FAIRFIELD, CT 06824	CONTACT: (845) 567-6656x2811
APPLICANT: T-MOBILE NORTHEAST LLC 35 GRIFFIN ROAD SOUTH BLOOMFIELD, CT 06002	
STRUCTURE TYPE: MONOPOLE	
LATITUDE (NAD83): N 41.188374"	
LONGITUDE (NAD83): W 73.299076"	
GRADE ELEVATION: 277' AMSL (PER GOOGLE EARTH)	
MUNICIPALITY: FAIRFIELD	
ZONING: AAA	
PARCEL #: 1700410000	

VICINITY MAP (NTS)



SHEET INDEX

SHEET NO	DESCRIPTION	REVISION	DATE
T-1	TITLE SHEET	0	09/09/20
A-1	SITE PLAN	0	09/09/20
A-2	TOWER ELEVATION	0	09/09/20
A-3	EXIST AND PROPOSED EQUIPMENT PLANS	0	09/09/20
A-4	EXIST/NEW T-MOBILE ANTENNA PLANS & ANTENNA SCHEMATIC	0	09/09/20
A-5	DETAILS, ANTENNA SCHEMATIC & SPECIFICATIONS	0	09/09/20
A-6	DETAILS & SPECIFICATIONS	0	09/09/20
A-7	NOTES	0	09/09/20
E-1	ELECTRICAL NOTES & ONE-LINE DIAGRAM	0	09/09/20
G-1	GROUNDING DETAILS & NOTES	0	09/09/20

CODE COMPLIANCE

- CODE INFORMATION**
- STATE OF CONNECTICUT BUILDING CODE, LATEST EDITION
 - ANSI/TIA-222-G
 - NATIONAL ELECTRIC CODE, LATEST EDITION

DESIGN NOTE

DESIGN BASED ON RFDS DATED 7/1/2020, VERSION 8.
RAN TEMPLATE: 67D5A997DB OUTDOOR
A&L TEMPLATE: 67D5997DB_2xAIR+10P (U21 MARKET)

STRUCTURAL NOTE

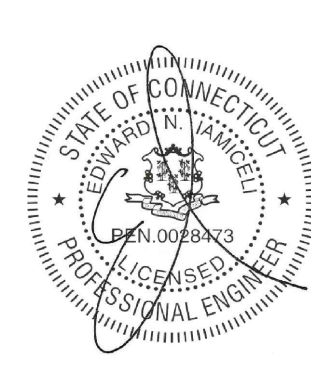
ANTENNA FRAME
 REFER TO THE MOUNT ANALYSIS REPORT BY TECTONIC ENGINEERING & SURVEYING CONSULTANTS P.C. DATED JULY 31, 2020.

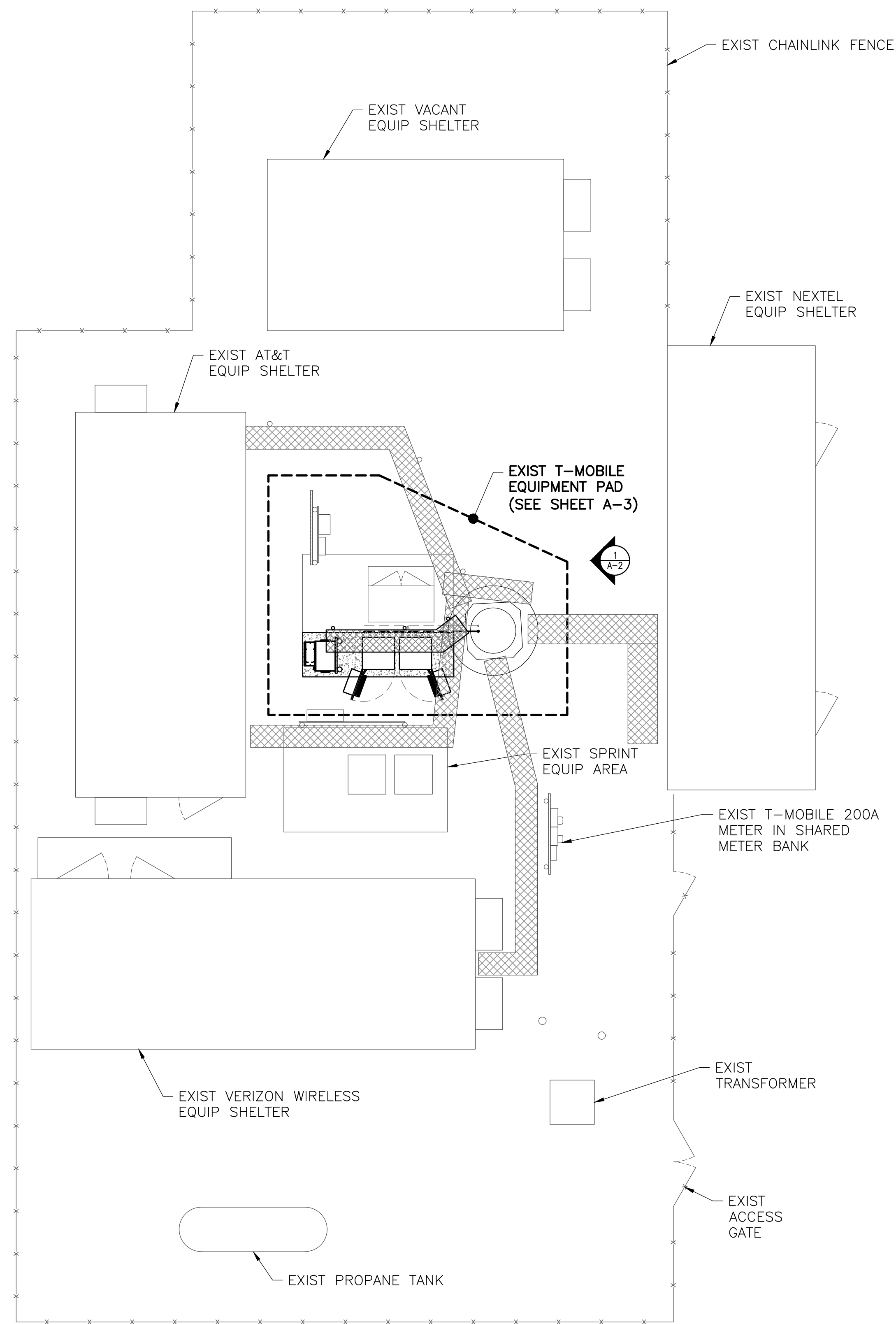
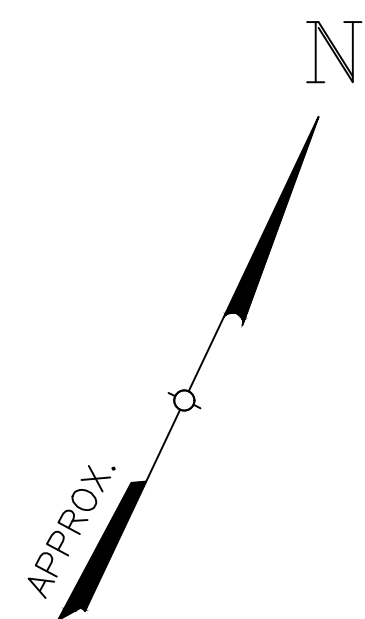
TOWER
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1 SITE PLAN
A-1 SCALE: 3/16" = 1'-0"

STRUCTURAL NOTE

ANTENNA FRAME

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TOWER

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Mountainville, NY 10953 www.tectonicengineering.com
Project Contact Info
1279 Route 300
Newburgh, NY 12550 Phone: (845) 567-6656

Mobile
NORTHEAST, LLC.
35 GRIFFIN ROAD SOUTH
BLOOMFIELD, CT 06002

NSS NORTHEAST
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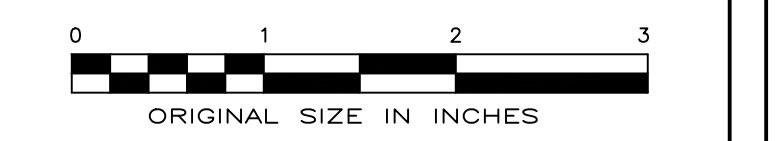
APPROVALS

LANDLORD _____
RF _____
CONSTRUCTION _____
OPERATIONS _____
SITE ACQ. _____

PROJECT NUMBER 10473.CT11077C DESIGNED BY EI

REV.	DATE	DESCRIPTION	DRAWN BY
1	09/09/20	ISSUED FOR CONSTRUCTION	BWY

ISSUED BY _____ DATE _____



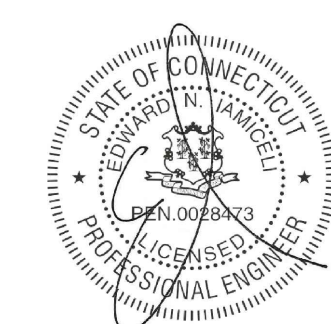
SITE INFORMATION
FAIRFIELD FIRE RESCUE #5
CT11077C
3965 CONGRESS STREET
FAIRFIELD, CT 06824

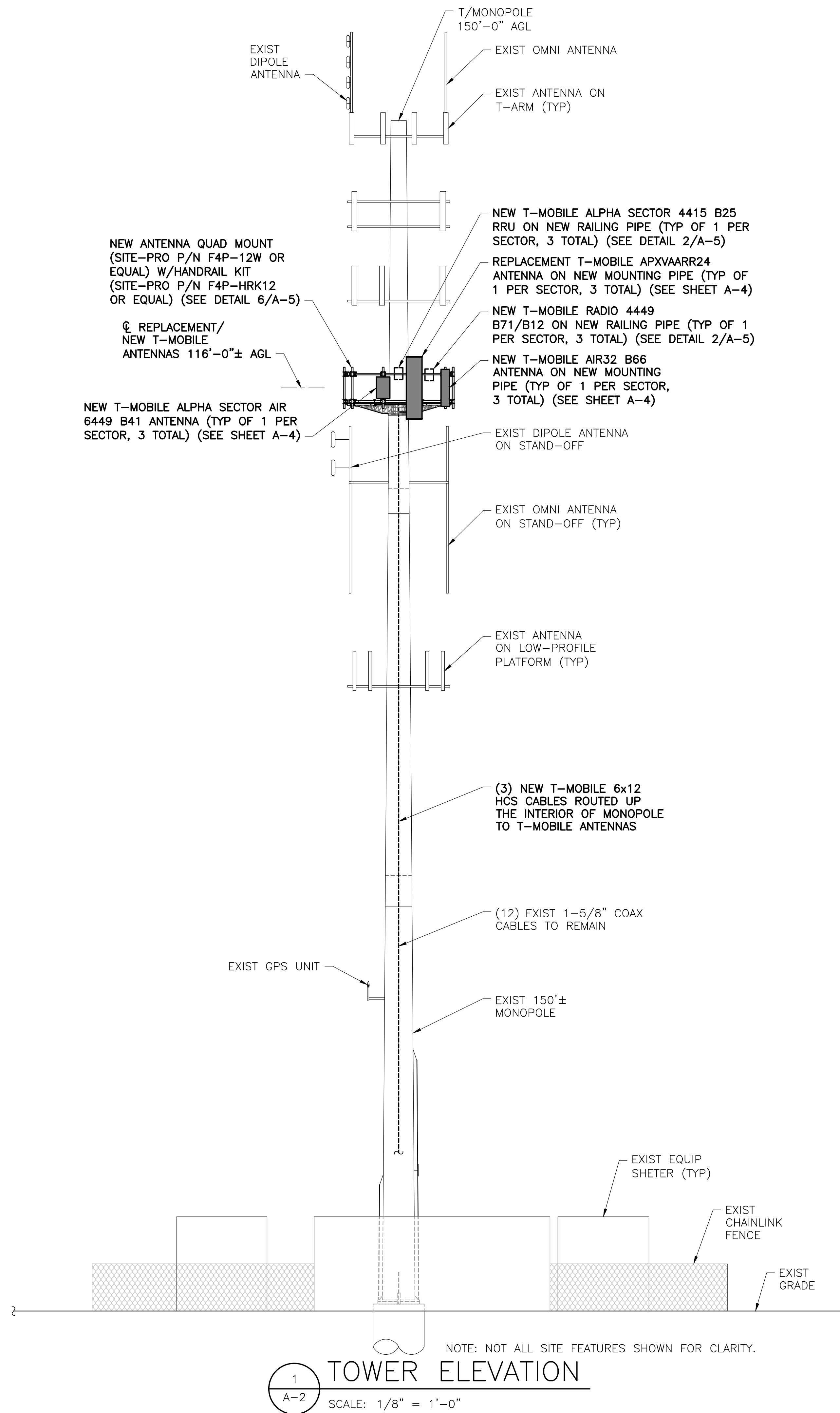
SHEET TITLE
SITE PLAN

SHEET NUMBER
A-1

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NOTE: NOT ALL SITE FEATURES SHOWN FOR CLARITY.

TOWER ELEVATION

SCALE: 1/8" = 1'-0"

STRUCTURAL NOTE

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APPROVALS

LANDLORD _____

RF _____

CONSTRUCTION _____

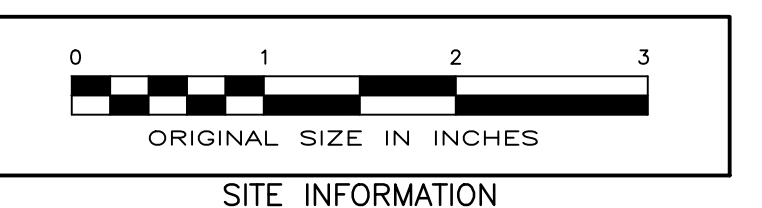
OPERATIONS _____

SITE ACQ. _____

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SITE INFORMATION

FAIRFIELD FIRE RESCUE #5
 CT11077C
 3965 CONGRESS STREET
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SHEET TITLE

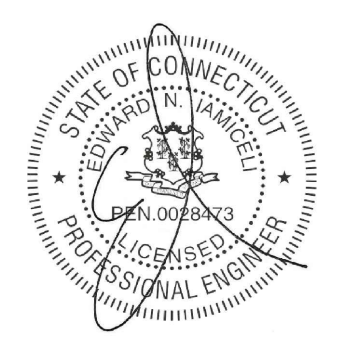
TOWER ELEVATION

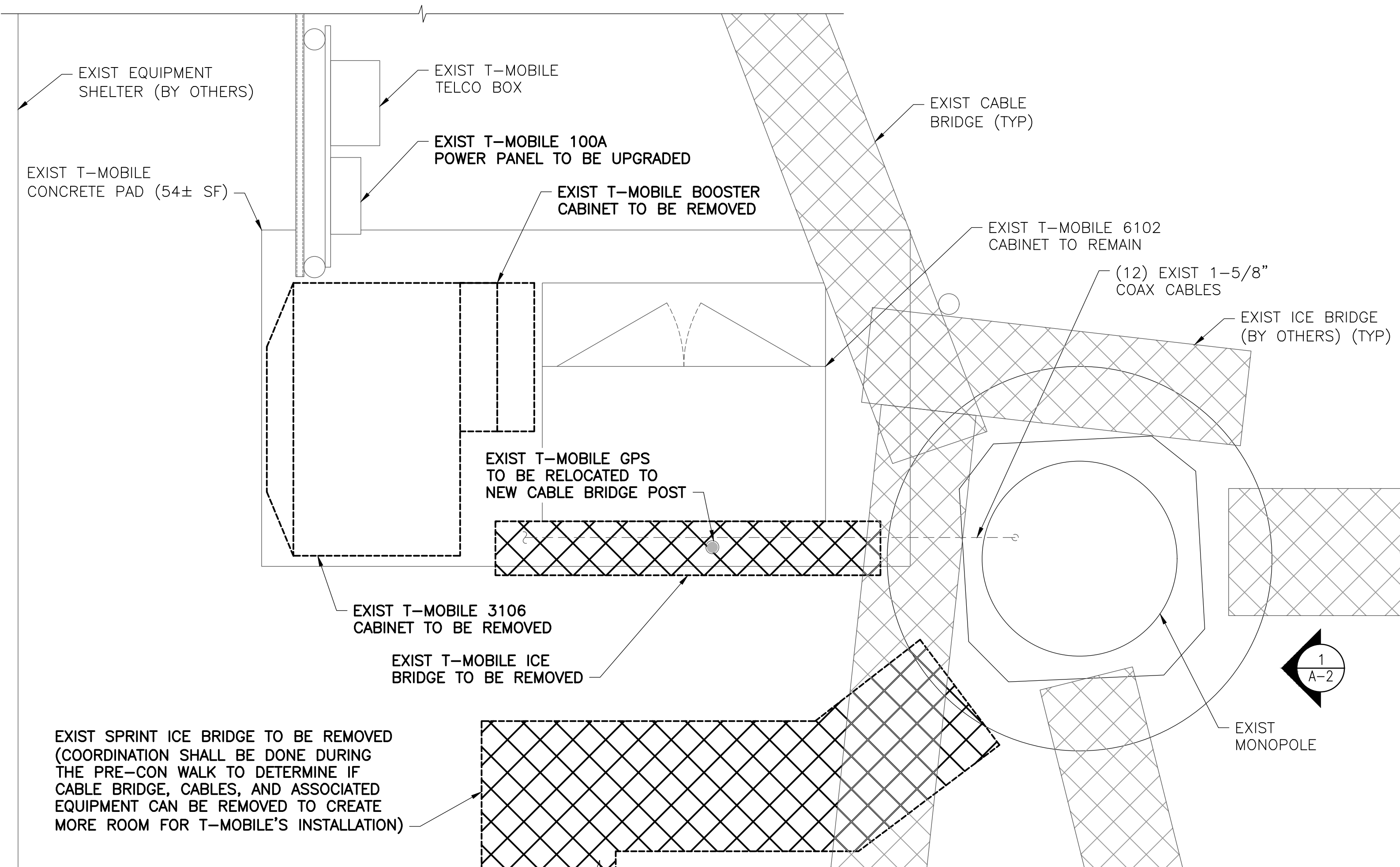
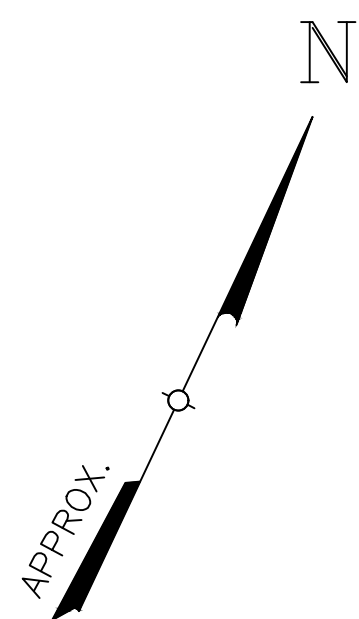
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A-2

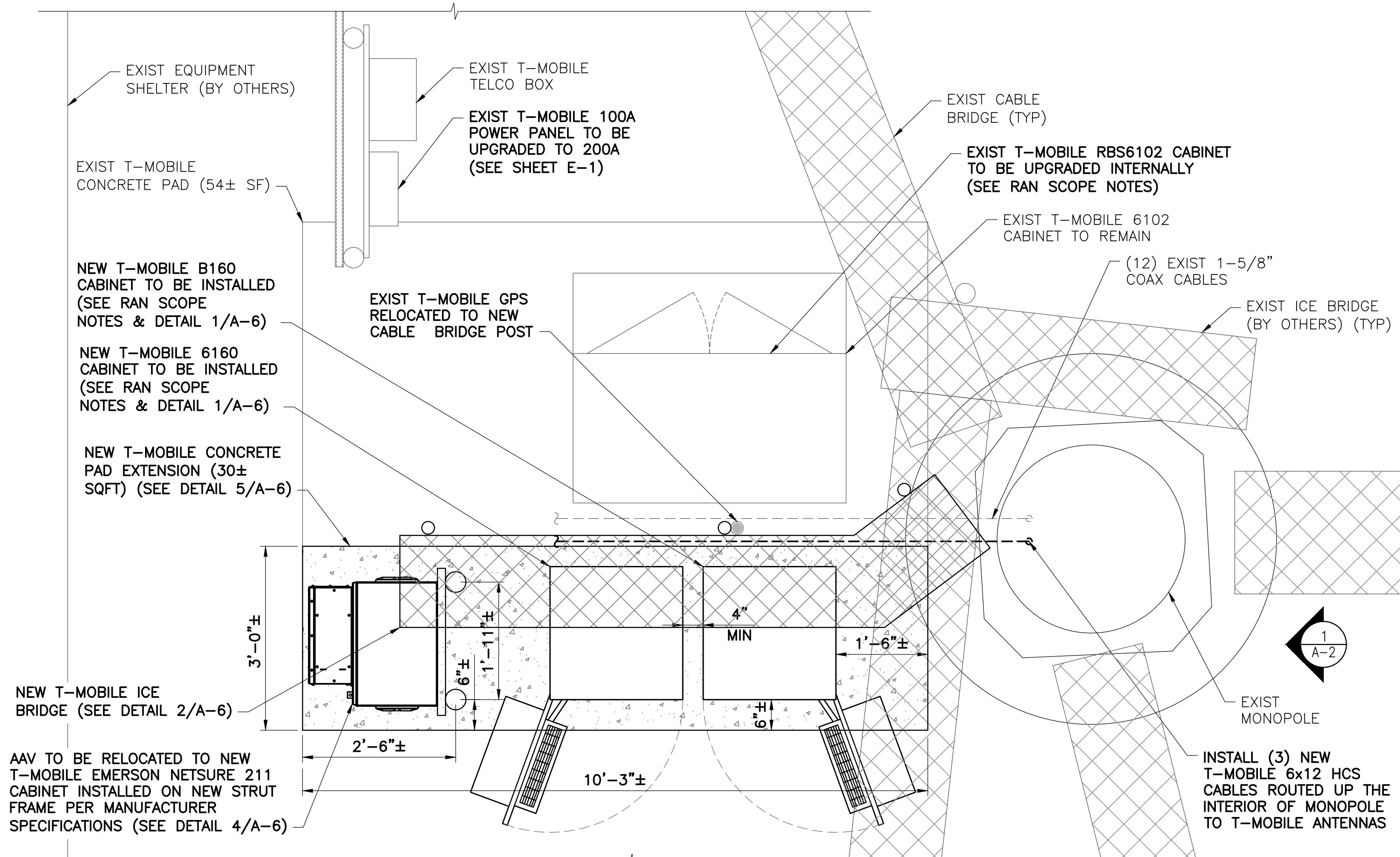
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1
A-3
EXIST T-MOBILE EQUIPMENT PLAN
SCALE: 3/4" = 1'-0"



2
A-3
NEW T-MOBILE EQUIPMENT PLAN
SCALE: 3/4" = 1'-0"

RAN SCOPE NOTES

- CHECK AC SERVICE AND UPGRADE AC SERVICE, BREAKERS AND PPC WHERE NECESSARY.
- ONLY (3) RUS01 B4 FOR U210 WILL REMAIN ACTIVE IN EXISTING RBS6102 CABINET. REMOVE (6) RUS01 B2 AND (3) RUS01 B4 FROM CABINET.
- ADD (1) ENCLOSURE 6160.
- ADD (1) BATTERY CABINET B160.
- ADD (1) IXRE ROUTER TO NEW ENCLOSURE 6160.
- ADD (1) BB6630 FOR L2500 TO NEW ENCLOSURE 6160.
- ADD (1) BB6648 FOR N2500 TO NEW ENCLOSURE 6160.
- ADD (3) 6x12 HCS. LENGTH OF NEW HCS WILL MATCH THAT OF EXISTING HCS.
- KEEP (60) COAX LINES FOR U2100 AND KEEP (6) UNCONNECTED COAX LINES.
- EXISTING (12) 1-5/8" COAX LINES.
- REMOVE (3) PCS TMA'S
- WITHIN 6102 CABINET, REPLACE (1) DUS41 WITH (1) BB6630 FOR LTE. INSTALL (1) BB6630 FOR FUTURE 5GN600. ADD (1) BBU. REMOVE BATTERIES FROM CABINET.

STRUCTURAL NOTE

ANTENNA FRAME

REFER TO THE MOUNT ANALYSIS REPORT BY TECTONIC ENGINEERING & SURVEYING CONSULTANTS P.C. DATED JULY 31, 2020.

TOWER

REFER TO THE STRUCTURAL ANALYSIS REPORT BY TECTONIC ENGINEERING & SURVEYING CONSULTANTS P.C. DATED JULY 31, 2020.

EQUIPMENT AREA

EXISTING CONCRETE PAD:	54± SF
NEW CONCRETE PAD EXTENSION:	30± SF
TOTAL SIZE:	84± SF

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APPROVALS

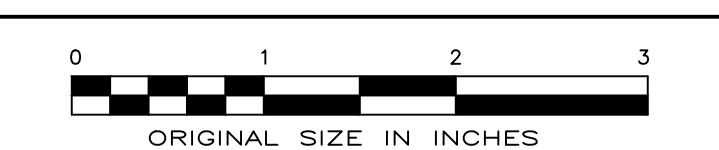
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1	09/09/20	ISSUED FOR CONSTRUCTION	BWY

ISSUED BY	DATE

ISSUED BY _____ DATE _____



SITE INFORMATION

FAIRFIELD FIRE RESCUE #5
CT11077C
3965 CONGRESS STREET
FAIRFIELD, CT 06824

SHEET TITLE

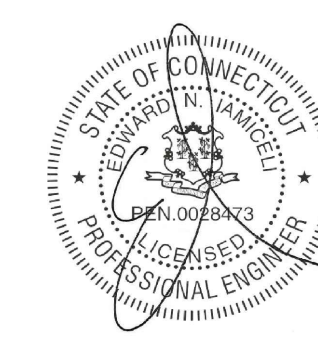
EXISTING AND PROPOSED EQUIPMENT PLANS

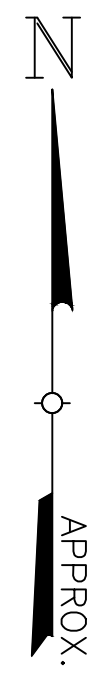
SHEET NUMBER

A-3

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STRUCTURAL NOTE

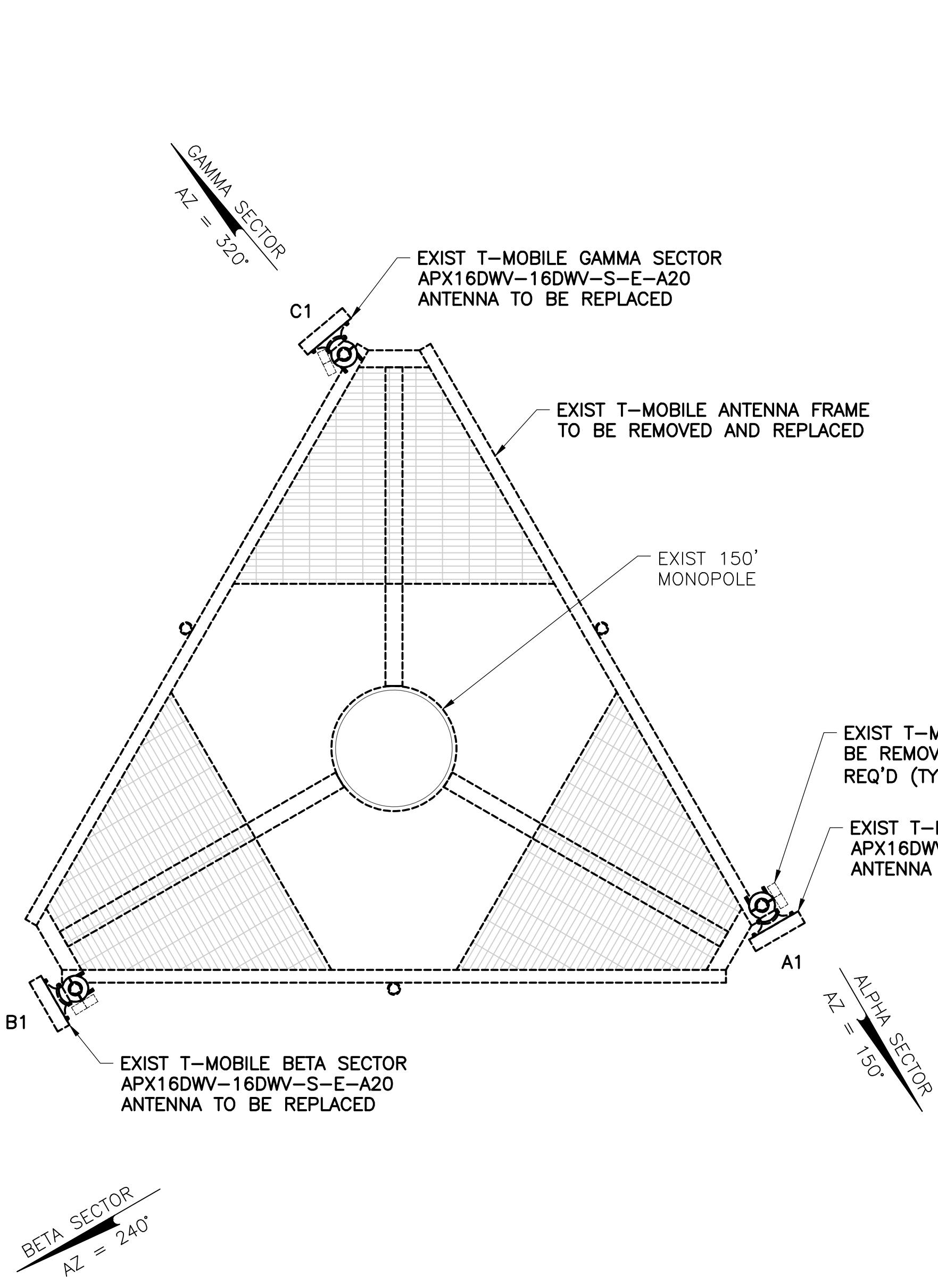
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TOWER
REFER TO THE STRUCTURAL ANALYSIS REPORT BY TECTONIC ENGINEERING & SURVEYING CONSULTANTS P.C. DATED JULY 31, 2020.

ANTENNA & CABLE SCHEDULE

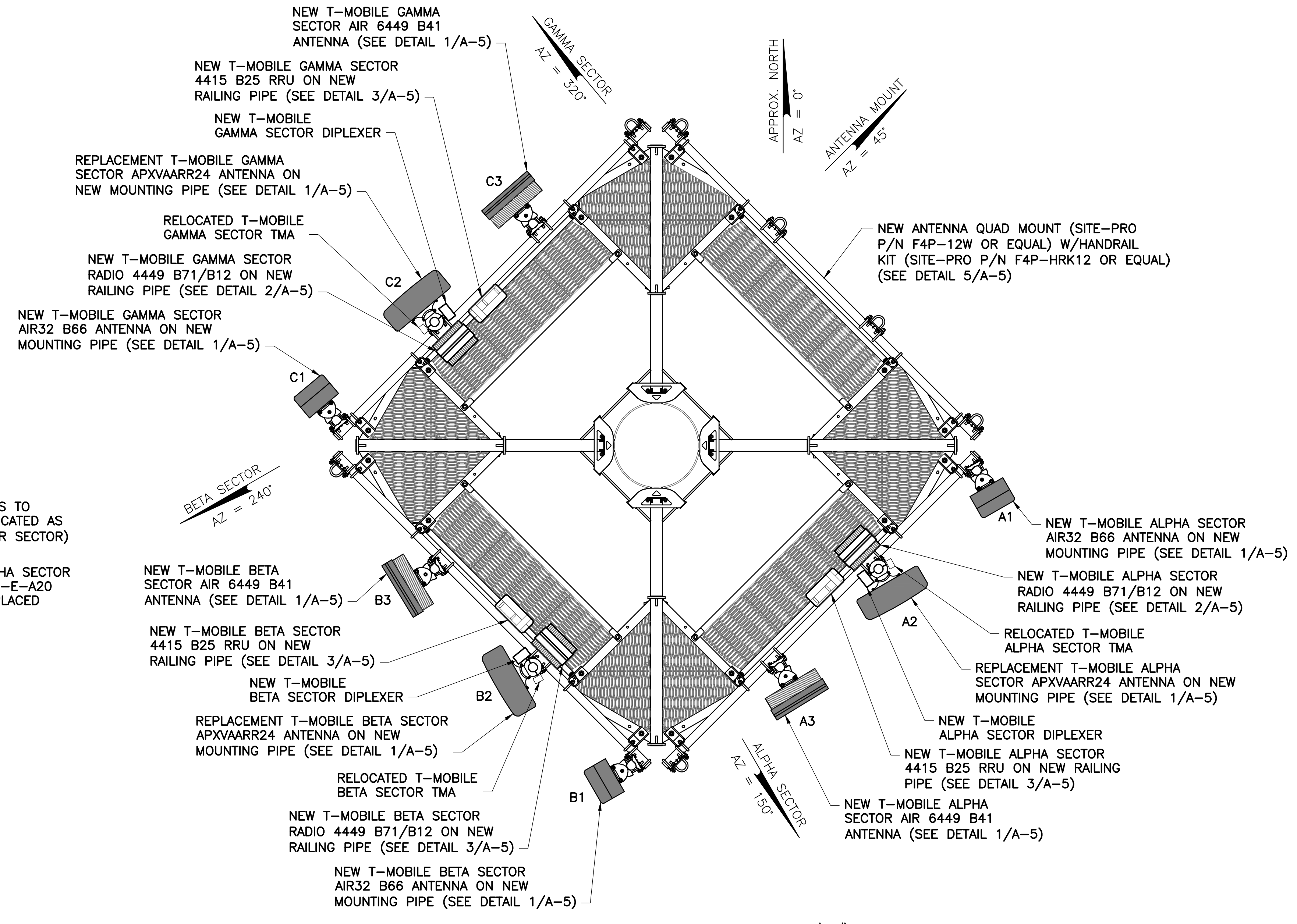
SECTOR MARK	ANTENNA MODEL	AZIMUTH	ELEC. DOWNTILT	MECH. DOWNTILT	ANTENNA CENTERLINE	SECTOR	STATUS	TMA/RRU	CABLE	JUMPER TYPE	CABLE LENGTH
A-1 LTE/GSM	ERICSSON AIR32 B66A/B2A	150°	6°	0°	116'-0"±	LEFT ALPHA	NEW	0/0	NEW 6x12 HYBRID CABLE	FIBER	160'-0"
A-2 LTE/UMTS	RFS APXVAARR24-43-U-NA20	150°	6°	0°	116'-0"±	CENTER ALPHA	REPLACEMENT	1/2	SHARED 6x12 HYBRID CABLE & (2) 1-5/8" COAX	FIBER	160'-0"
A-3 LTE	ERICSSON AIR6449 B41	150°	0°	0°	116'-0"±	RIGHT ALPHA	NEW	0/0	SHARED 6x12 HYBRID CABLE	FIBER	160'-0"
B-1 LTE/GSM	ERICSSON AIR32 B66A/B2A	240°	6°	0°	116'-0"±	LEFT BETA	NEW	0/0	NEW 6x12 HYBRID CABLE	FIBER	160'-0"
A-2 LTE/UMTS	RFS APXVAARR24-43-U-NA20	240°	6°	0°	116'-0"±	CENTER BETA	REPLACEMENT	1/2	SHARED 6x12 HYBRID CABLE & (2) 1-5/8" COAX	FIBER	160'-0"
B-3 LTE	ERICSSON AIR6449 B41	240°	0°	0°	116'-0"±	RIGHT BETA	NEW	0/0	SHARED 6x12 HYBRID CABLE	FIBER	160'-0"
C-1 LTE/GSM	ERICSSON AIR32 B66A/B2A	320°	6°	0°	116'-0"±	LEFT GAMMA	NEW	0/0	NEW 6x12 HYBRID CABLE	FIBER	160'-0"
A-2 LTE/UMTS	RFS APXVAARR24-43-U-NA20	320°	6°	0°	116'-0"±	CENTER GAMMA	REPLACEMENT	1/2	SHARED 6x12 HYBRID CABLE & (2) 1-5/8" COAX	FIBER	160'-0"
C-3 LTE	ERICSSON AIR6449 B41	320°	0°	0°	116'-0"±	RIGHT GAMMA	NEW	0/0	SHARED 6x12 HYBRID CABLE	FIBER	160'-0"

NOTES:
 * THE FIELD CONDITIONS AND ANTENNA LOCATIONS WERE VERIFIED PER SITE VISITS BY TECTONIC DATED 07/21/2020.
 ** ELEVATIONS AS SHOWN ARE BASED ON A SET OF CONSTRUCTION DRAWINGS BY ATLANTIS DESIGN GROUP, INC., DATED 10/13/2016.



1
A-4
SCALE: 1/2" = 1'-0"

EXIST T-MOBILE ANTENNA PLAN

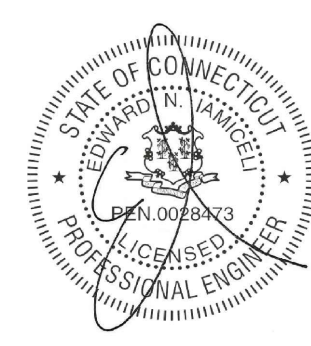


2
A-4
SCALE: 1/2" = 1'-0"

NEW T-MOBILE ANTENNA PLAN

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 PRACTICAL SOLUTIONS. EXCEPTIONAL SERVICE.
 Tectonic Engineering & Surveying Consultants P.C.
 70 Pleasant Hill Road Phone: (845) 534-5959
 P.O. Box 37 (800) 529-6531
 Mountainville, NY 10953 www.tectonicengineering.com
 Project Contact Info
 1279 Route 300
 Newburgh, NY 12550 Phone: (845) 567-6656

Mobile
 NORTEAST, LLC.
 35 GRIFFIN ROAD SOUTH
 BLOOMFIELD, CT 06002

NSS NORTEAST
 SITE SOLUTIONS
 Turnkey Wireless Development

APPROVALS

LANDLORD _____
 RF _____
 CONSTRUCTION _____
 OPERATIONS _____
 SITE ACQ. _____

PROJECT NUMBER 10473.CT11077C
 DESIGNED BY EI

REV.	DATE	DESCRIPTION	DRAWN BY
1	09/09/20	ISSUED FOR CONSTRUCTION	BWY

ISSUED BY _____ DATE _____

0 1 2 3
 ORIGINAL SIZE IN INCHES

SITE INFORMATION

FAIRFIELD FIRE RESCUE #5
 CT11077C
 3965 CONGRESS STREET
 FAIRFIELD, CT 06824

SHEET TITLE

EXIST/NEW T-MOBILE ANTENNA PLANS & ANTENNA SCHEDULE

SHEET NUMBER

A-4

APPROVALS

LANDLORD _____
RF _____
CONSTRUCTION _____
OPERATIONS _____
SITE ACQ. _____

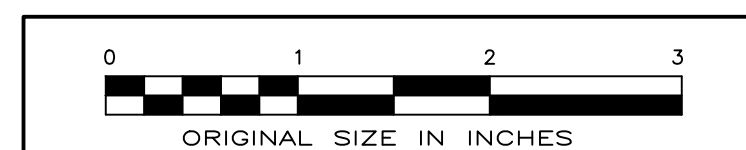
PROJECT NUMBER DESIGNED BY

10473.CT11077C EI

REV.	DATE	DESCRIPTION	DRAWN BY
1	09/09/20	ISSUED FOR CONSTRUCTION	BWY

REV.	DATE	DESCRIPTION	DRAWN BY
1	09/09/20	ISSUED FOR CONSTRUCTION	BWY

ISSUED BY _____ DATE _____



SITE INFORMATION

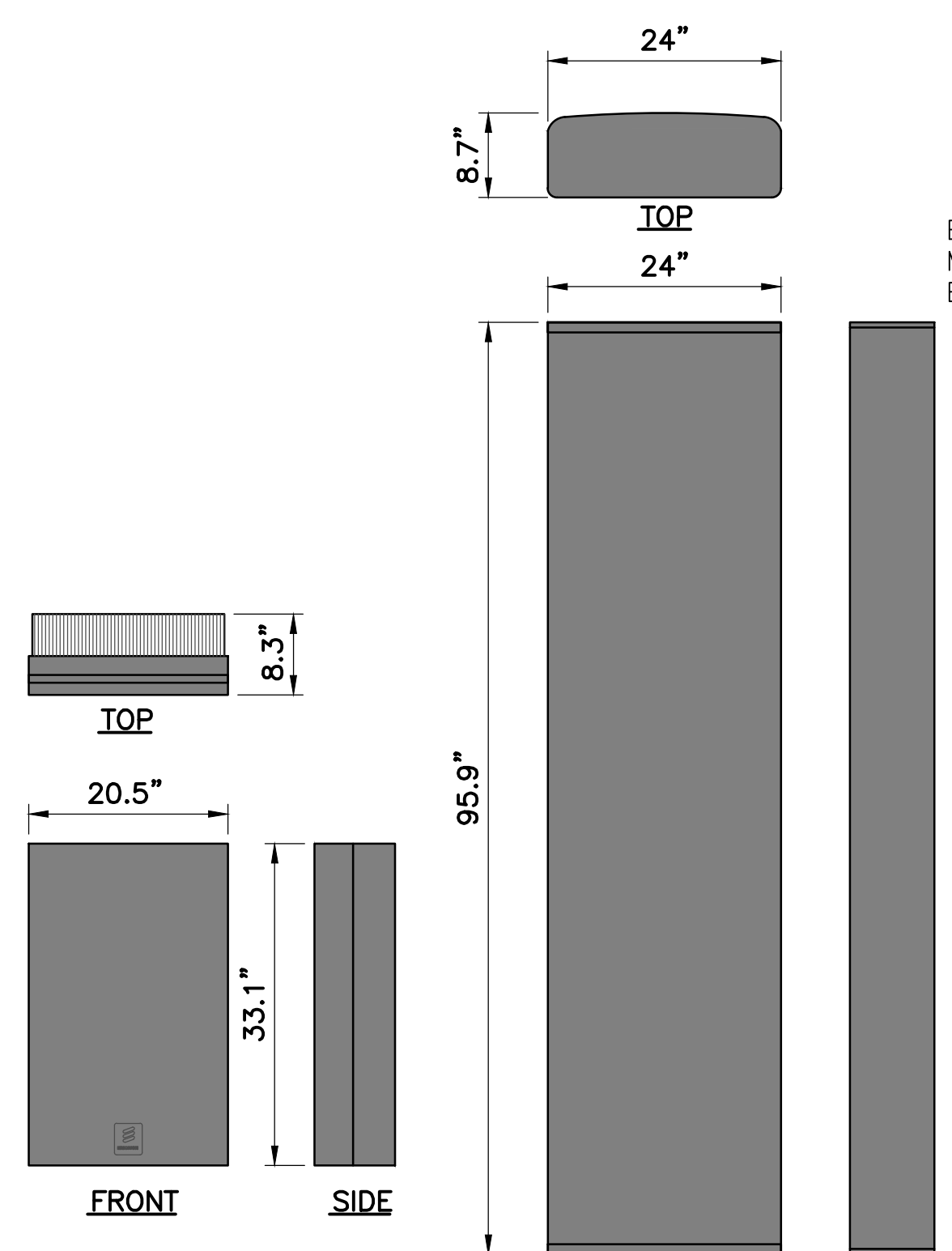
FAIRFIELD FIRE RESCUE #5
CT11077C
3965 CONGRESS STREET
FAIRFIELD, CT 06824

SHEET TITLE

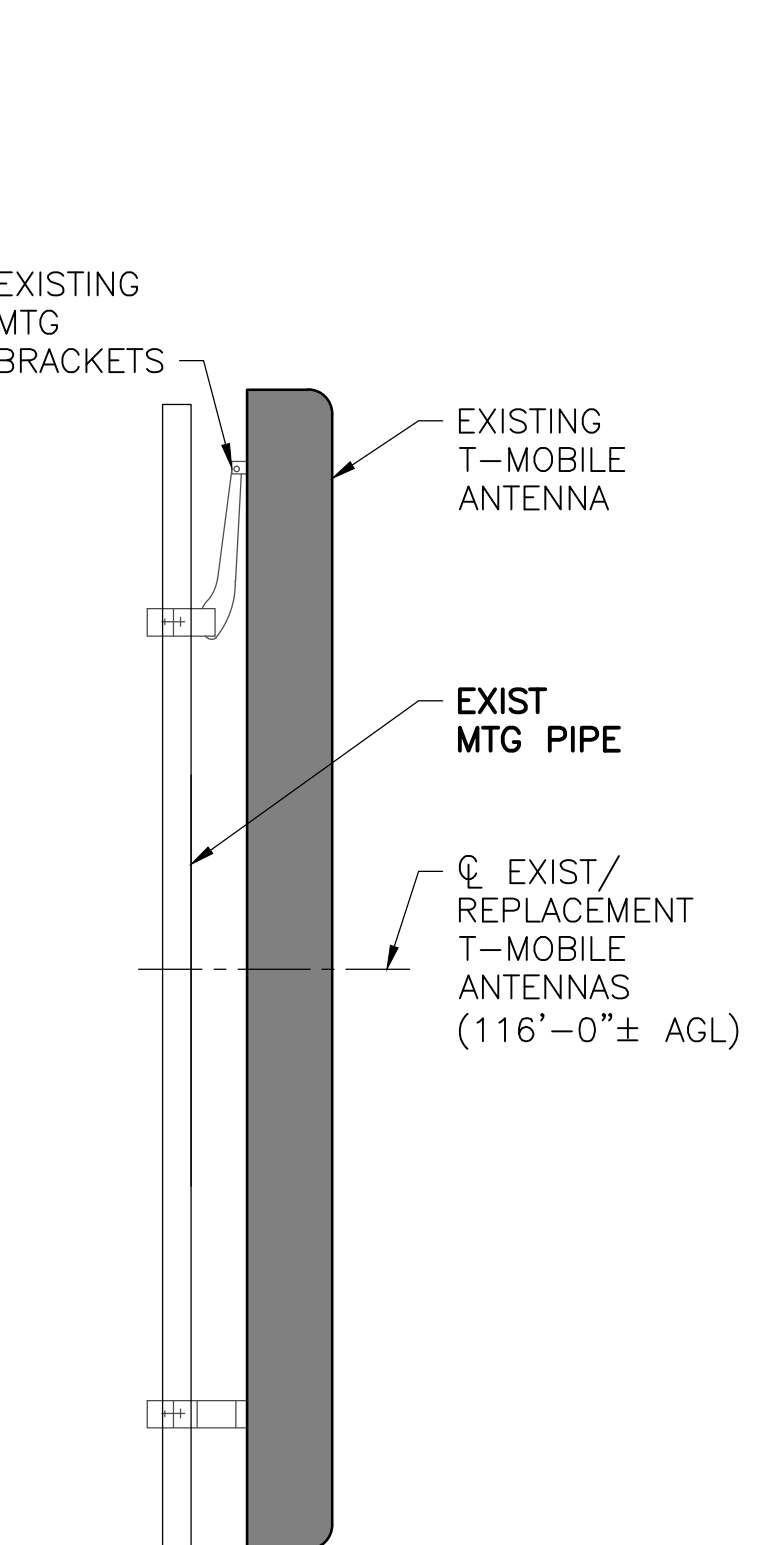
DETAILS, ANTENNA
SCHEMATIC &
SPECIFICATIONS

SHEET NUMBER

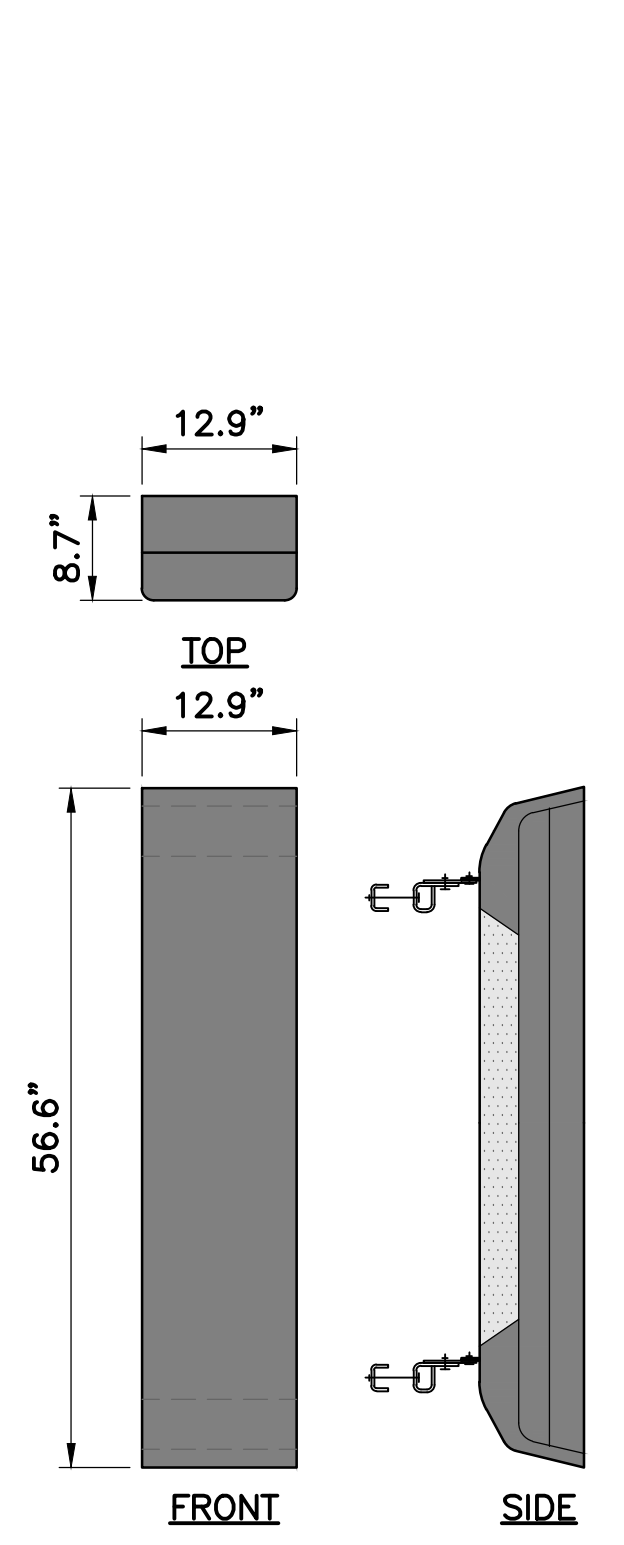
A-5



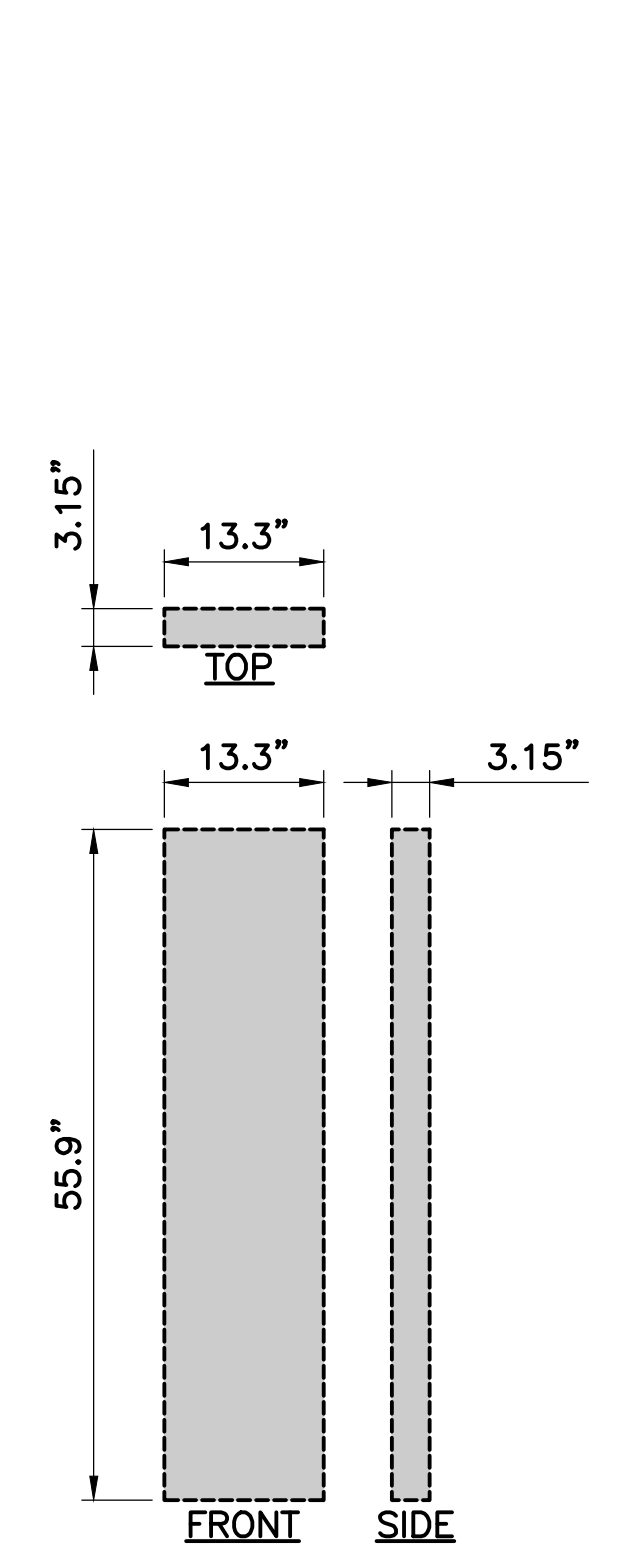
AIR6449 B41
WEIGHT: 103 LBS
PROPOSED



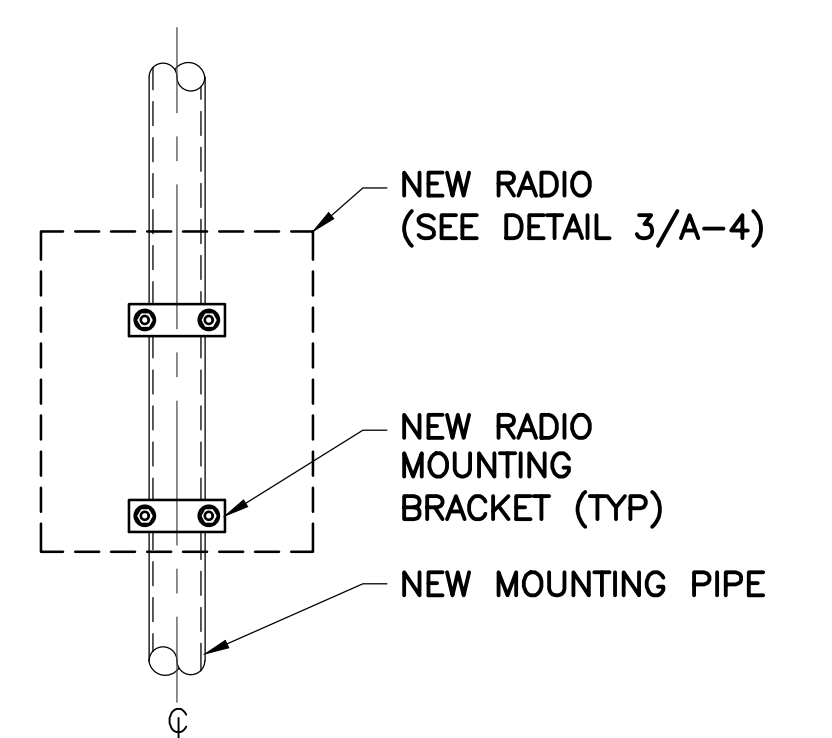
RFS: APXVAARR24_43_U_NA20
WEIGHT: 128 LBS
REPLACEMENT



AIR32 DUAL BAND (DB) B66Aa/B2a
WEIGHT: 132.2 LBS
PROPOSED

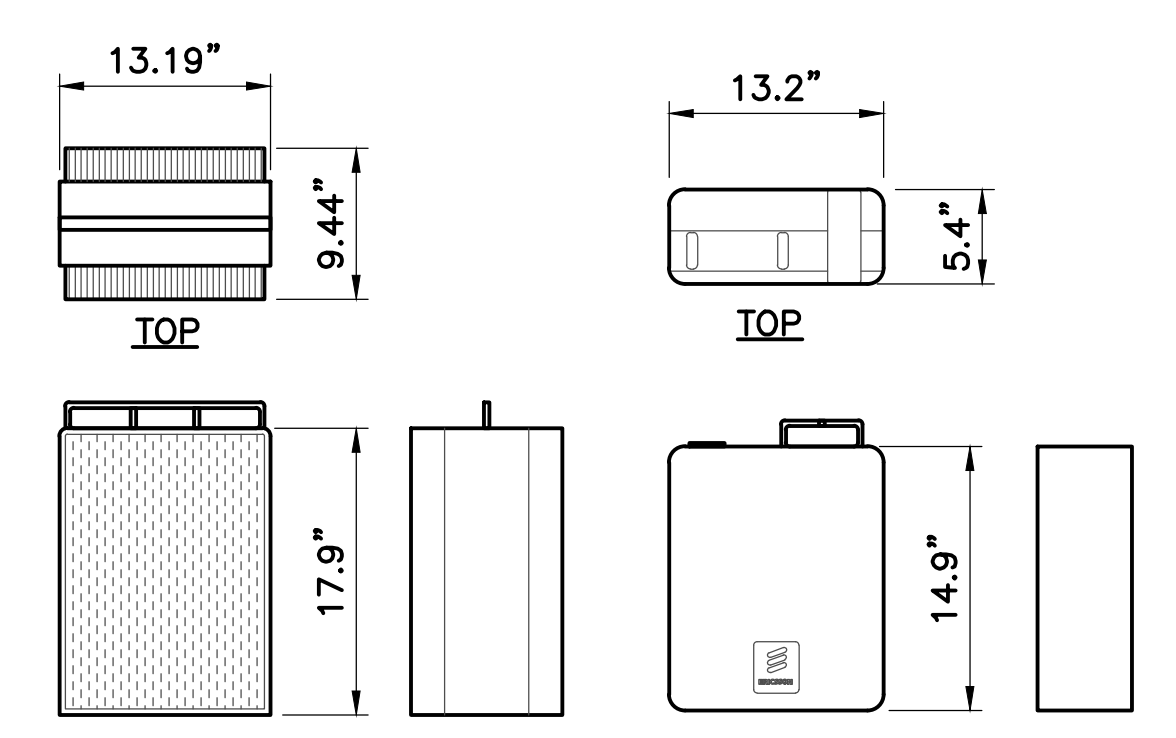


APX16DWV-16DWVS
WEIGHT: 40.7 LBS
TO BE REMOVED



RADIO MTG DETAIL

SCALE: 1" = 1'-0"



RADIO DETAIL

SCALE: 1" = 1'-0"

1 ANTENNA DETAILS

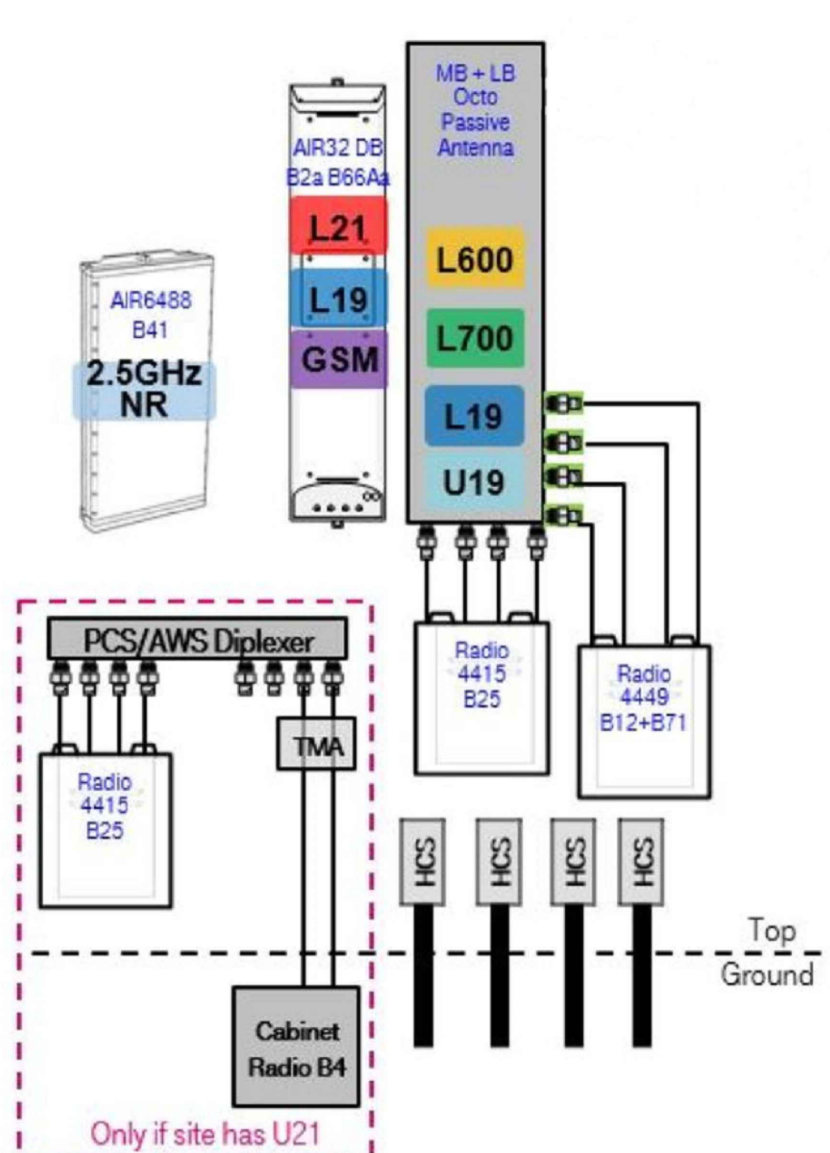
SCALE: 3/4" = 1'-0"

2 RADIO MTG DETAIL

SCALE: 1" = 1'-0"

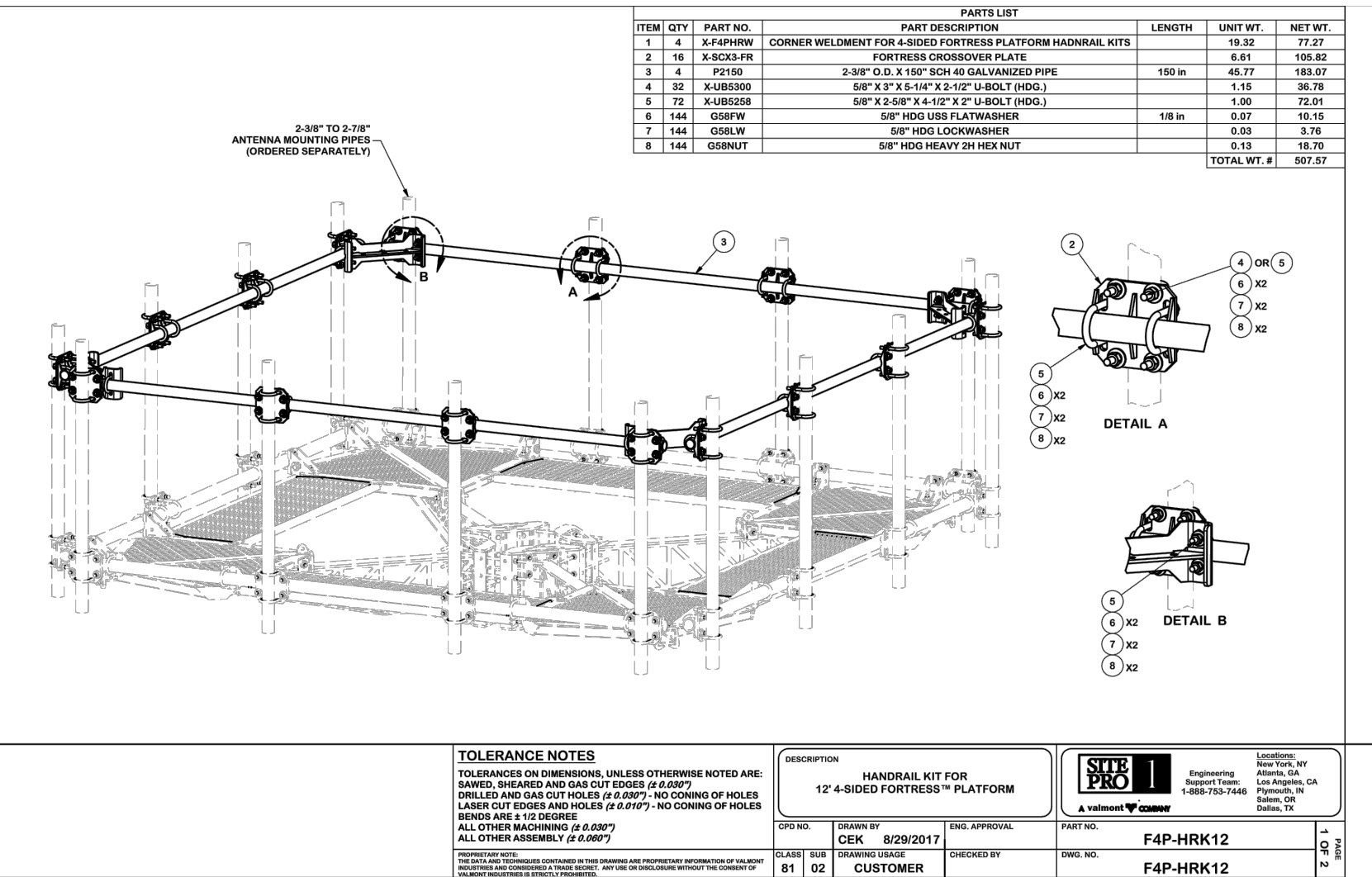
3 RADIO DETAIL

SCALE: 1" = 1'-0"



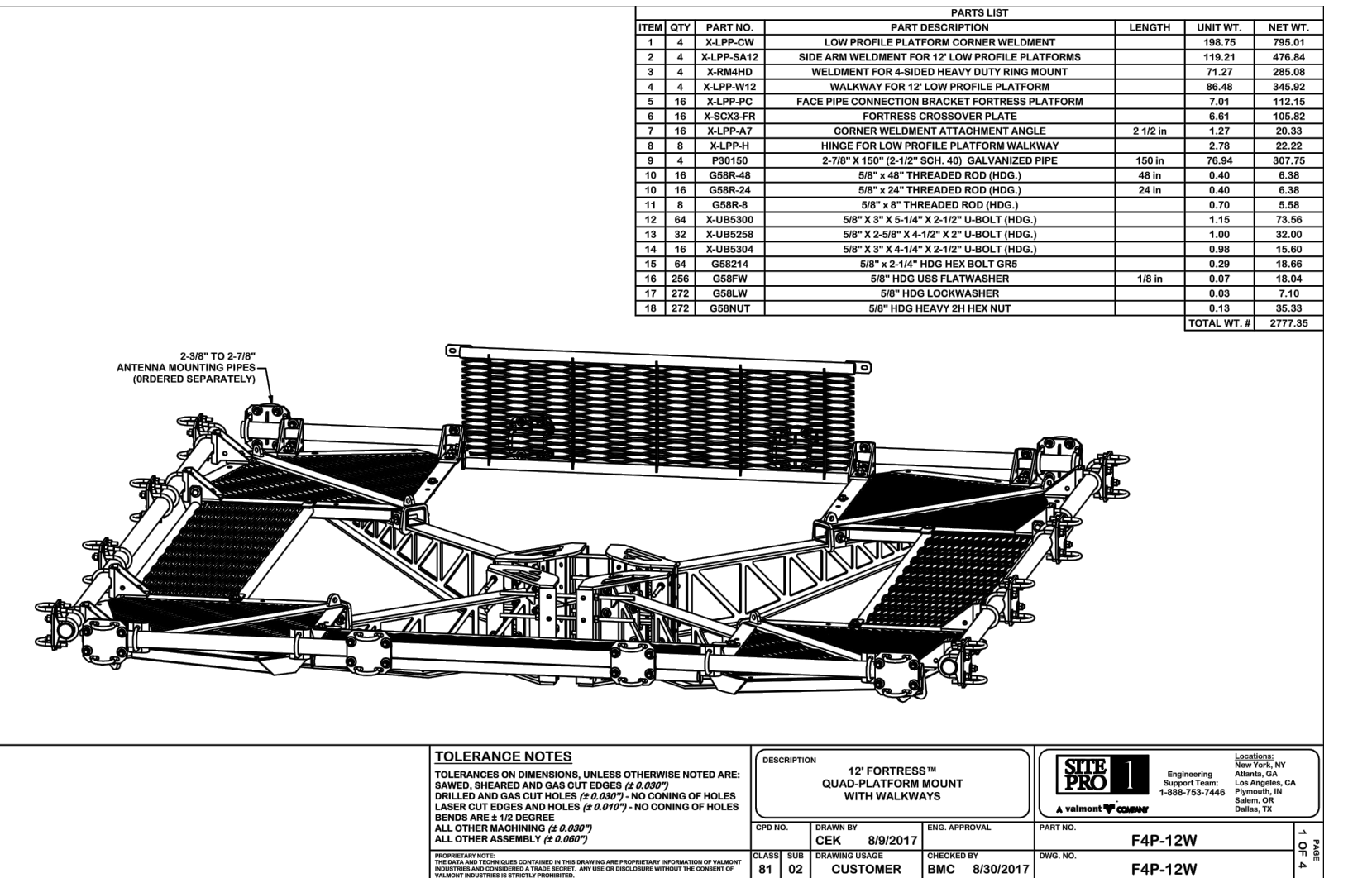
4 ANTENNA SCHEMATIC

SCALE: NTS



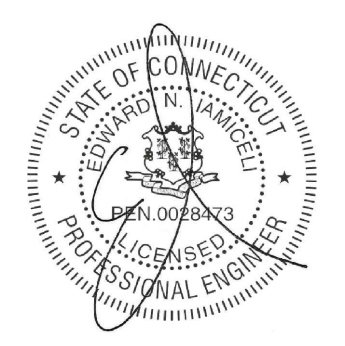
5 PLATFORM & HANDRAIL KIT DETAIL

SCALE: NTS



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APPROVALS

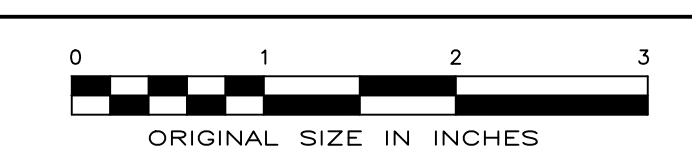
LANDLORD _____
 RF _____
 CONSTRUCTION _____
 OPERATIONS _____
 SITE ACQ. _____

PROJECT NUMBER 10473.CT11077C
 DESIGNED BY EI

REV.	DATE	DESCRIPTION	DRAWN BY
1	09/09/20	ISSUED FOR CONSTRUCTION	BWY

ISSUED BY	DATE

ISSUED BY	DATE



SITE INFORMATION

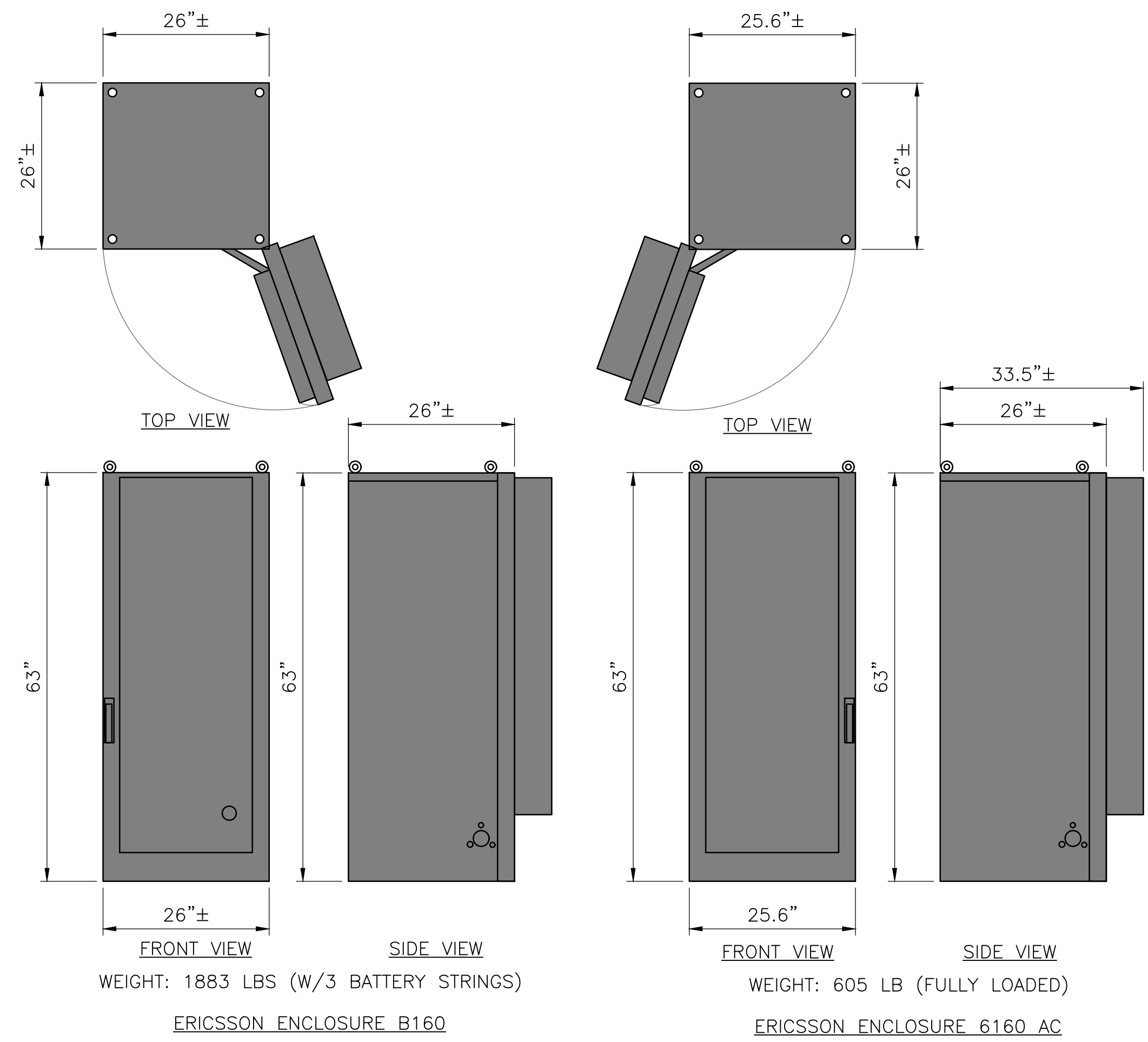
FAIRFIELD FIRE RESCUE #5
CT11077C
3965 CONGRESS STREET
FAIRFIELD, CT 06824

SHEET TITLE

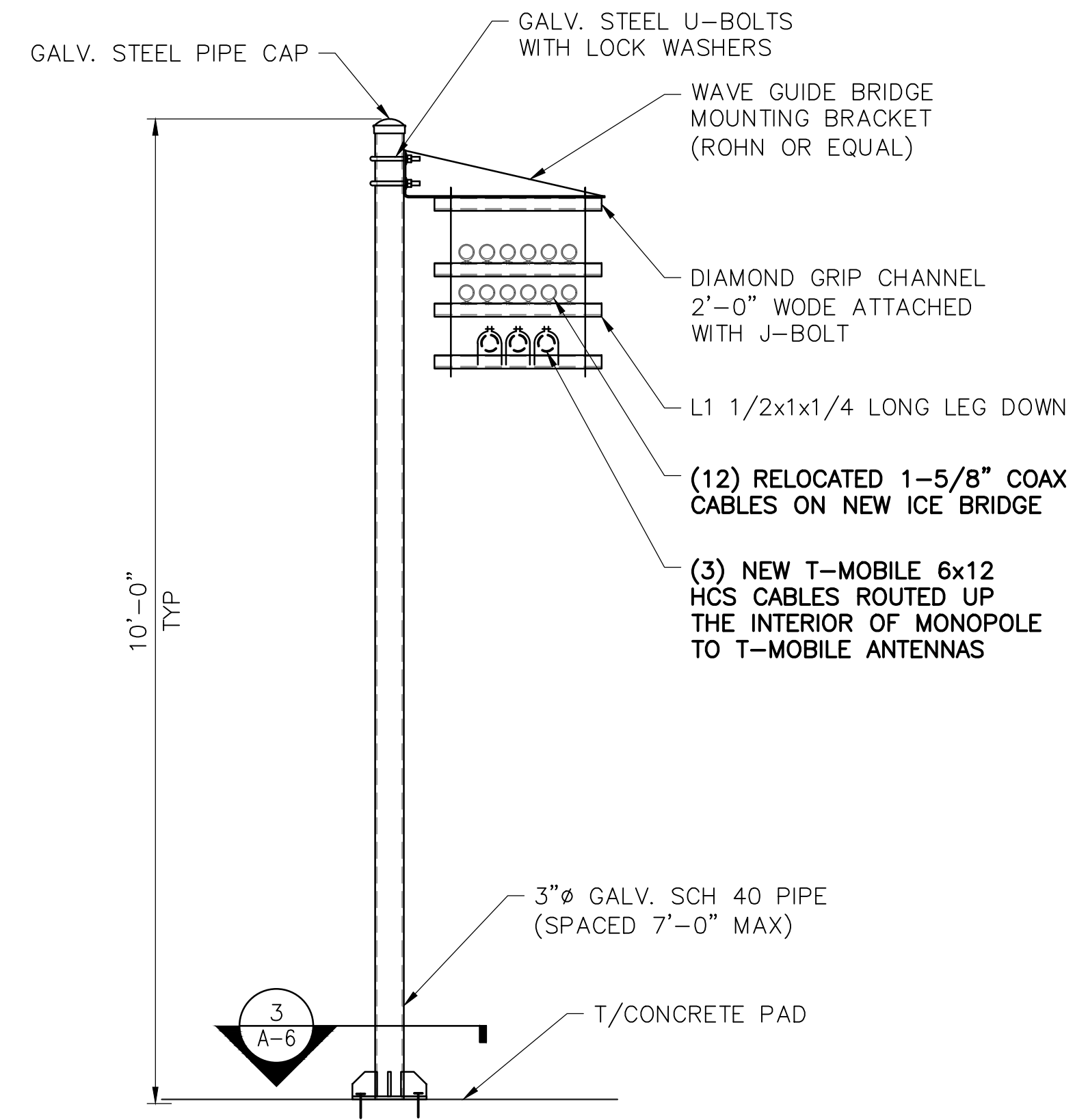
DETAILS & SPECIFICATIONS

SHEET NUMBER

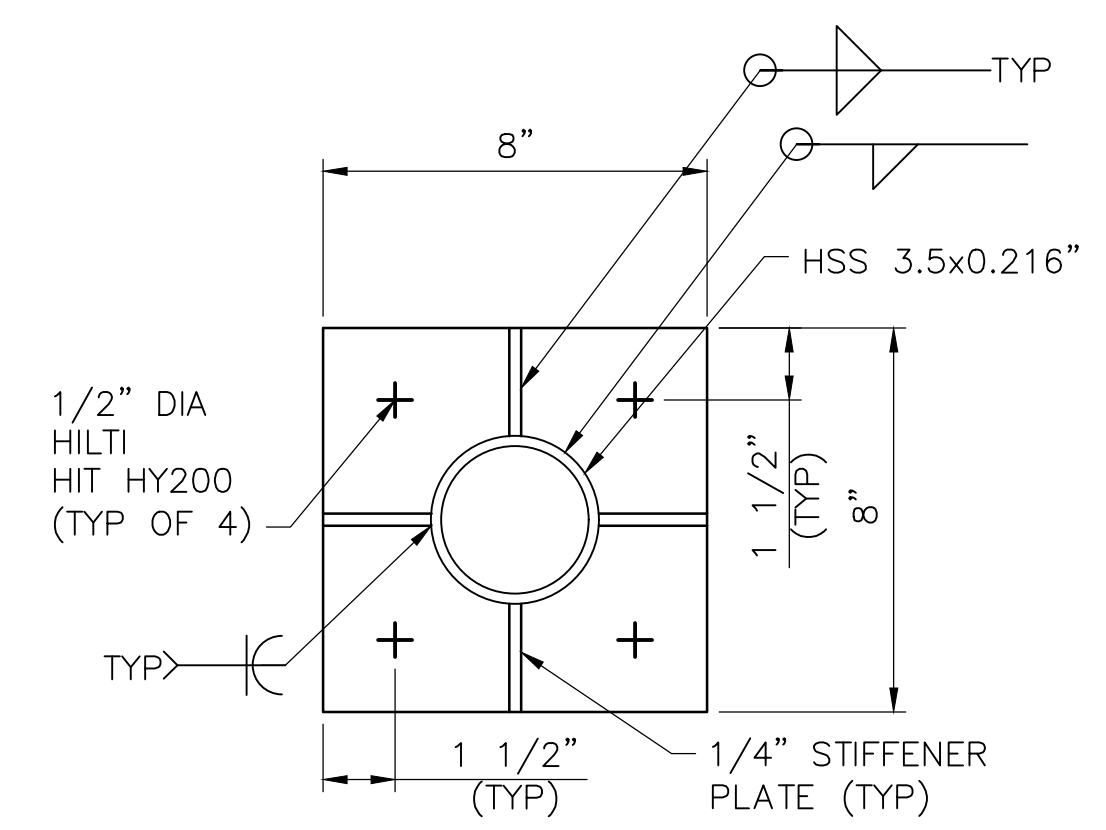
A-6



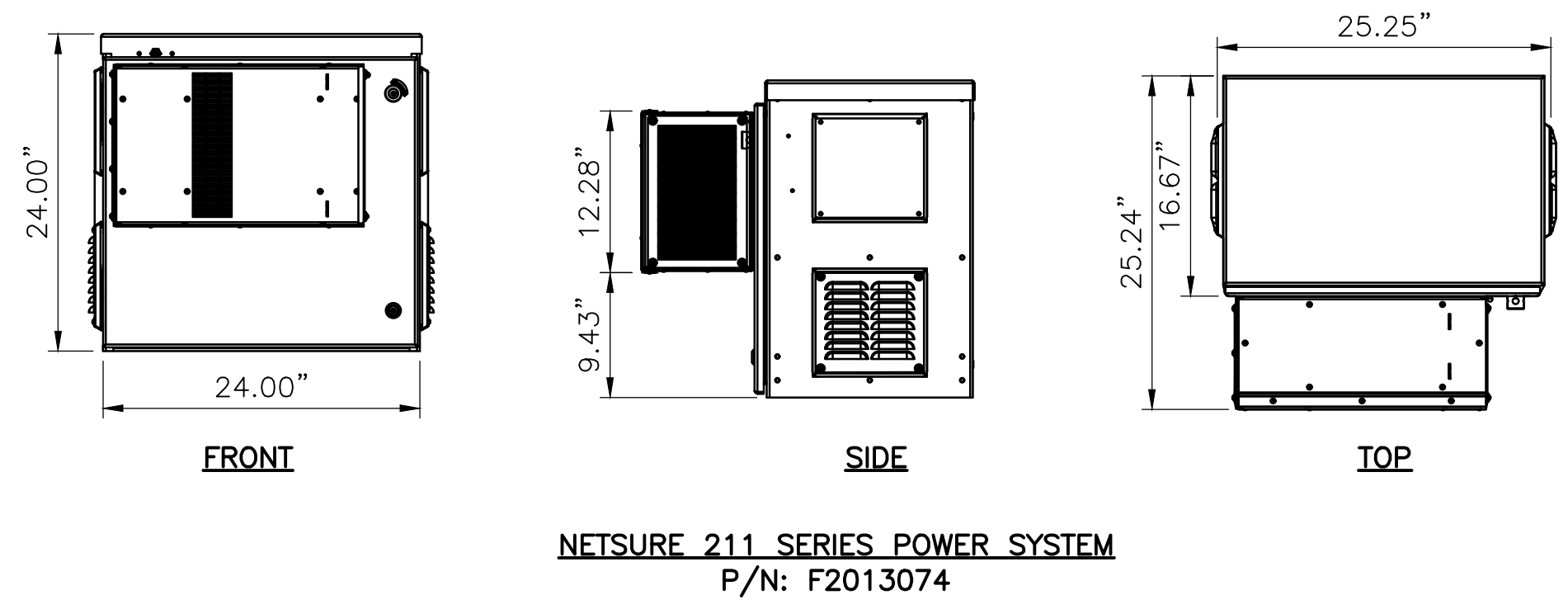
1 EQUIPMENT CABINET SPECIFICATIONS
 A-6 SCALE: NTS



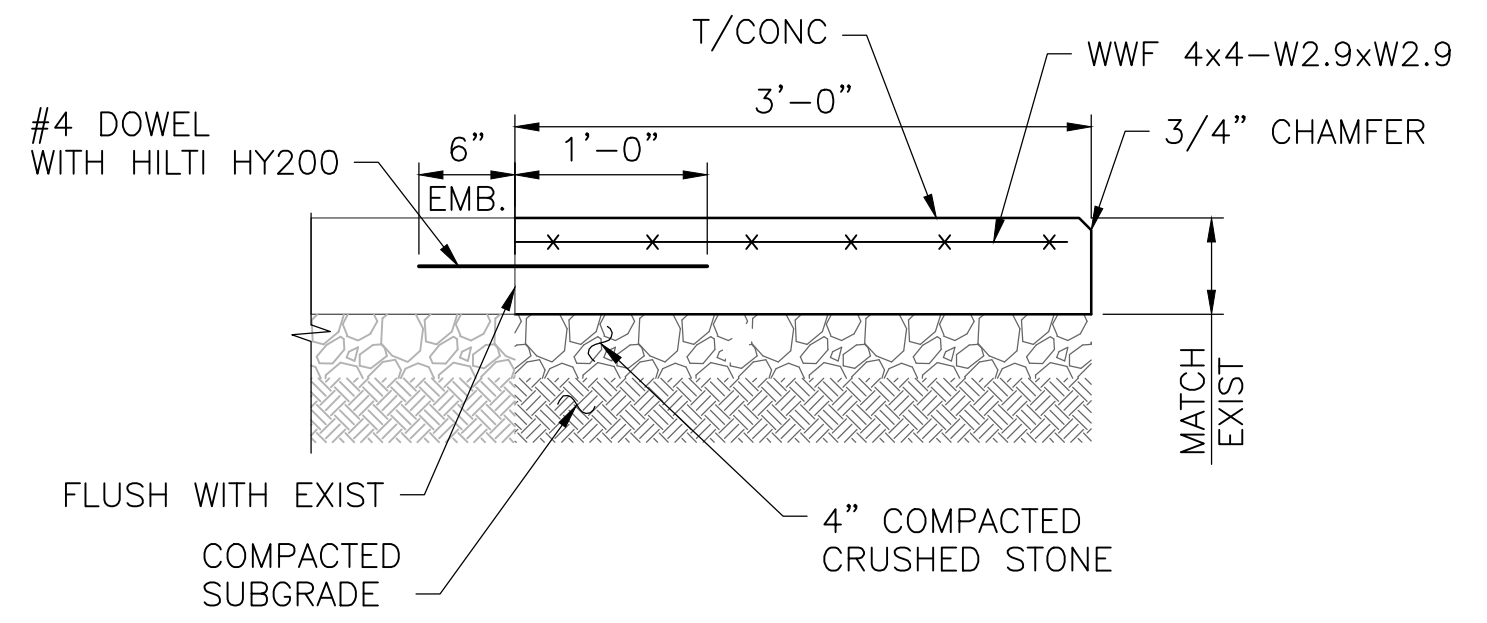
2 CABLE BRIDGE DETAIL
 A-6 SCALE: NTS



3 SECTION DETAIL
 A-6 SCALE: NTS

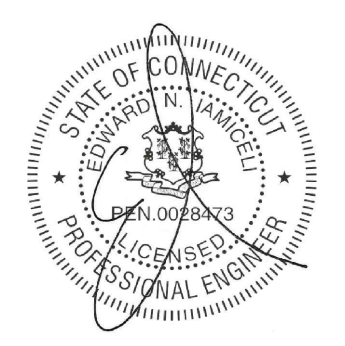


4 EQUIPMENT CABINET SPECIFICATIONS
 A-6 SCALE: NTS



5 PAD EXTENSION DETAIL
 A-6 SCALE: NTS

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GENERAL NOTES

- ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE STATE OF CONNECTICUT BUILDING CODE, LATEST VERSION AND ALL OTHER APPLICABLE CODES AND ORDINANCES.
- CONTRACTOR SHALL VISIT THE JOB SITE AND FAMILIARIZE HIMSELF WITH ALL CONDITIONS AFFECTING THE PROPOSED WORK AND MAKE PROVISIONS AS TO THE COST THEREOF. CONTRACTOR SHALL BE RESPONSIBLE FOR FAMILIARIZING HIMSELF WITH ALL CONTRACT DOCUMENTS, FIELD CONDITIONS AND DIMENSIONS AND CONFIRMING THAT THE WORK MAY BE ACCOMPLISHED AS SHOWN PRIOR TO PROCEEDING WITH CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO THE COMMENCEMENT OF WORK.
- PLANS ARE NOT TO BE SCALED. THESE PLANS ARE INTENDED TO BE A DIAGRAMMATIC OUTLINE ONLY, UNLESS OTHERWISE NOTED. THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO EFFECT ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
- DIMENSIONS SHOWN ARE TO FINISH SURFACES, UNLESS OTHERWISE NOTED. SPACING BETWEEN EQUIPMENT IS REQUIRED CLEARANCE. THEREFORE, IT IS CRITICAL TO FIELD VERIFY DIMENSIONS. SHOULD THERE BE ANY QUESTIONS REGARDING THE CONTRACT DOCUMENTS, EXISTING CONDITIONS AND/OR DESIGN INTENT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING A CLARIFICATION FROM THE AUTHORIZED REPRESENTATIVE OR THE ENGINEER PRIOR TO PROCEEDING WITH THE WORK.
- DETAILS ARE INTENDED TO SHOW END RESULT OF DESIGN. MINOR MODIFICATIONS MAY BE REQUIRED TO SUIT JOB DIMENSIONS OR CONDITIONS, AND SUCH MODIFICATIONS SHALL BE INCLUDED AS PART OF THE WORK.
- CONTRACTOR SHALL RECEIVE CLARIFICATION IN WRITING, AND SHALL RECEIVE IN WRITING AUTHORIZATION TO PROCEED BEFORE STARTING WORK ON ANY ITEMS NOT CLEARLY DEFINED OR IDENTIFIED BY THE CONTRACT DOCUMENTS.
- ONCE THE CONTRACTOR HAS RECEIVED AND ACCEPTED THE "NOTICE TO PROCEED," CONTRACTOR WILL CONTACT THE CONSTRUCTION MANAGER OF RECORD A MINIMUM OF 48 HOURS PRIOR TO WORK START.
- CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER OF ALL PRODUCTS OR ITEMS NOTED AS "EXISTING" WHICH ARE NOT FOUND TO BE IN THE FIELD.
- CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK USING THE BEST CONSTRUCTION SKILLS AND ATTENTION. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER CONTRACT, UNLESS OTHERWISE NOTED.
- ERECTION SHALL BE DONE IN A WORKMANLIKE MANNER BY COMPETENT EXPERIENCED WORKMEN IN ACCORDANCE WITH APPLICABLE CODES AND THE BEST ACCEPTED PRACTICE. ALL MEMBERS SHALL BE LAID PLUMB AND TRUE AS INDICATED ON THE DRAWINGS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF THE WORK AREA, ADJACENT AREAS, AND BUILDING OCCUPANTS THAT ARE LIKELY TO BE AFFECTED BY THE WORK UNDER THIS CONTRACT. WORK SHALL CONFORM TO ALL OSHA REQUIREMENTS.
- CONTRACTOR SHALL COORDINATE HIS WORK AND SCHEDULE HIS ACTIVITIES AND WORKING HOURS IN ACCORDANCE WITH THE REQUIREMENTS OF THE OWNER.
- CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING HIS WORK WITH THE WORK OF OTHERS AS IT MAY RELATE TO RADIO EQUIPMENT, ANTENNAS AND ANY OTHER PORTIONS OF THE WORK.
- CONTRACTOR SHALL MAINTAIN LIABILITY INSURANCE TO PROTECT THE OWNER.
- INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY INDICATED OR WHERE LOCAL CODES OR REGULATIONS TAKE PRECEDENCE.
- MAKE NECESSARY PROVISIONS TO PROTECT EXISTING SURFACES, EQUIPMENT, IMPROVEMENTS, AND PIPING. REPAIR ANY DAMAGE THAT OCCURS DURING CONSTRUCTION.
- REPAIR ALL EXISTING SURFACES DAMAGED DURING CONSTRUCTION SUCH THAT THEY MATCH AND BLEND WITH ADJACENT SURFACES.
- KEEP CONTRACT AREA CLEAN, HAZARD FREE, AND DISPOSE OF ALL DEBRIS AND RUBBISH. EQUIPMENT NOT SPECIFIED AS REMAINING ON THE PROPERTY OF THE OWNER SHALL BE REMOVED. LEAVE PREMISES IN CLEAN CONDITION AND FREE FROM PAINT SPOTS, DUST, OR SMUDGES OF ANY NATURE. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL ITEMS UNTIL COMPLETION OF CONSTRUCTION.
- CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD PRIOR TO FABRICATION AND ERECTION OF ANY MATERIAL. ANY UNUSUAL CONDITIONS SHALL BE REPORTED TO THE ATTENTION OF THE ENGINEER.
- PROVIDE 48 HOURS WRITTEN NOTICE TO THE ENGINEER PRIOR TO THE COMMENCEMENT OF WORK.
- ALL BROCHURES, OPERATING AND MAINTENANCE MANUALS, CATALOGS, SHOP DRAWINGS AND OTHER DOCUMENTATION SHALL BE TURNED OVER TO AT COMPLETION OF CONSTRUCTION.
- COMPLETE JOB SHALL BE GUARANTEED FOR A PERIOD OF ONE (1) YEAR AFTER DATE OF ACCEPTANCE BY. ANY WORK, MATERIALS OR EQUIPMENT FOUND TO BE DEFECTIVE DURING THAT PERIOD SHALL BE CORRECTED IMMEDIATELY UPON WRITTEN NOTIFICATION AT NO ADDITIONAL COST TO T-MOBILE.

STRUCTURAL NOTES

- CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD PRIOR TO FABRICATION AND ERECTION OF ANY MATERIAL. ANY UNUSUAL CONDITIONS SHALL BE REPORTED TO THE ATTENTION OF THE ENGINEER.
- DESIGN AND CONSTRUCTION OF STRUCTURAL STEEL SHALL CONFORM TO THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS", LATEST EDITION.
- STRUCTURAL STEEL BEAMS SHALL CONFORM TO ASTM A992 (Fy=50ksi). STRUCTURAL STEEL PLATES AND ANGLES SHALL CONFORM TO ASTM A36.
- ROUND AND SQUARE HOLLOW STRUCTURAL SECTIONS (HSS) CONFORM TO ASTM A500 "COLD-FORMED WELDED & SEAMLESS CARBON STEEL STRUCTURAL TUBING", GRADE C.
- STEEL PIPE SHALL CONFORM TO ASTM A500 "COLD-FORMED WELDED & SEAMLESS CARBON STEEL STRUCTURAL TUBING", GRADE B, OR ASTM A53 "PIPE, STEEL, BLACK AND HOT-DIPPED, ZINC-COATED WELDED AND SEAMLESS", TYPE E OR S, GRADE B.
- CONNECTIONS: WELD OR BOLT CONNECTIONS, AS INDICATED:
 - CONNECTIONS NOT DETAILED ON THE DRAWINGS SHALL CONFORM TO THE REQUIREMENTS OF THE CITED AISC SPECIFICATION.
 - STRUCTURAL BOLTS SHALL CONFORM TO THE LATEST ASTM A325 "HIGH STRENGTH BOLTS FOR STRUCTURAL JOINTS, INCLUDING SUITABLE NUTS AND PLAIN HARDENED WASHERS".
 - WHERE THE REACTION VALUES OF BEAMS, BRACING, STRUTS, ETC., ARE NOT SHOWN ON THE DRAWINGS THE CONNECTIONS SHALL BE DESIGNED TO SUPPORT THE END REACTION DERIVED FROM THE TABLES AND FORMULA OF UNIFORM LOAD CONSTANTS IN PART 2, NINTH EDITION, OF THE AISC MANUAL OF STEEL CONSTRUCTION FOR THE GIVEN MEMBER SIZE, SPAN AND YIELD STRENGTH.
 - MINIMUM 3/16" FILLET E70-XX WELD SHALL APPLY UNLESS NOTED.
 - MINIMUM 1/2" DIA. A325 BOLTS SHALL APPLY UNLESS NOTED.
 - MINIMUM SIZE OF CLIP ANGLES SHALL BE L3x3x3/8" UNLESS NOTED.
 - ALL GUSSET PLATES SHALL BE 3/8" THICK UNLESS NOTED.
 - ALL HOLES FOR BOLTS SHALL BE 1/16 INCH LARGER THAN THE BOLT DIAMETER WITH AN EDGE DISTANCE OF AT LEAST 1 1/2 TIMES THE BOLT DIAMETER AND A SPACING OF AT LEAST 3 TIMES THE BOLT DIAMETER. ALL BOLTS SHALL BE PROVIDED WITH PALNUTS OR LOCK NUTS.
- STRUCTURAL CONNECTION BOLTS SHALL BE HIGH STRENGTH BOLTS AND CONFORM TO ASTM A325 "HIGH STRENGTH BOLTS FOR STRUCTURAL JOINTS, INCLUDING SUITABLE NUTS AND PLAIN HARDENED WASHERS", LATEST EDITION. BOLTS SHALL BE 3/4 INCH DIA. UNLESS OTHERWISE NOTED.
- CONTRACTOR SHALL COMPLY WITH AWS CODE FOR PROCEDURES, APPEARANCE AND QUALITY OF WELDS AND FOR METHODS USED IN CORRECTING WELDING. ALL WELDERS AND WELDING PROCESSES SHALL BE QUALIFIED IN ACCORDANCE WITH AWS "STANDARD QUALIFICATION PROCEDURES".
- ALL STEEL MATERIALS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 "ZINC (HOT-DIP GALVANIZED) COATINGS ON IRON AND STEEL PRODUCTS", UNLESS OTHERWISE NOTED.
- DAMAGED GALVANIZED SURFACES SHALL BE REPAIRED BY COLD GALVANIZING IN ACCORDANCE WITH ASTM A780.
- ALL BOLTS, ANCHORS AND MISCELLANEOUS HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 "ZINC-COATING (HOT-DIP) ON IRON AND STEEL HARDWARE", UNLESS OTHERWISE NOTED.
- ALL STEEL SUPPORTS SHALL BE INSTALLED WITH DOUBLE NUTS AND SHALL BE INSTALLED SNUG TIGHT.
- SLEEVE ANCHORS SHALL CONFORM TO FEDERAL SPECIFICATION FF-S-325, GROUP II, TYPE 3, CLASS 3, AS MANUFACTURED BY HILTI FASTENING SYSTEMS OR APPROVED EQUAL. INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. MINIMUM EMBEDMENT SHALL BE THREE (3) INCHES.
- EXPANSION BOLTS SHALL CONFORM TO FEDERAL SPECIFICATION FF-S-325, GROUP II, TYPE 4, CLASS 1, HILTI KWIK BOLT II OR APPROVED EQUAL. INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. MINIMUM EMBEDMENT SHALL BE FOUR (4) INCHES.
- EPOXY ANCHORING SYSTEM SHALL BE THE HILTI HY-270 FOR MASONRY CONSTRUCTION WITH HOLLOW BRICK OR BLOCK & THE HILTI HIT HY200 INJECTION ADHESIVE ANCHOR FOR GROUT FILLED CONCRETE MASONRY UNITS AND CONCRETE. EPOXY ANCHOR ASSEMBLY SHALL CONSIST OF 1/2"Ø STAINLESS STEEL ANCHOR ROD W/NUTS & WASHERS, AN INTERNALLY THREADED INSERT, A SCREEN TUBE FOR THE HY-270 ONLY & AN EPOXY ADHESIVE (6" MIN EMBEDMENT). THE INSTALLATION PROCEDURE SHALL BE AS FOLLOWS
 - DRILL THE HOLE USING MANUFACTURER RECOMMENDED DRILL BIT UP TO SPECIFIED DEPTH. HAMMERING IS NOT PERMITTED.
 - CLEAN THE HOLE USING NYLON BRUSH AND/OR COMPRESSED AIR. THE HOLE SHOULD BE CLEAR OF ANY LOOSE MATERIAL. IF WET, THE MASONRY SHOULD BE ALLOWED TO DRY FULLY BEFORE ANCHOR INSTALLATION.
 - INSERT SPECIFIED SCREEN TUBE INTO THE HOLE.
 - FILL THE SCREEN TUBE COMPLETELY WITH ADHESIVE, BEGINNING AT THE BOTTOM END.
 - INSERT ANCHOR ROD OR INTERNALLY THREADED INSERT INTO THE ADHESIVE-FILLED SCREEN TUBE, TWISTING SLIGHTLY.
 - LOAD FASTENER ONLY AFTER MANUFACTURER SPECIFIED CURE TIME HAS ELAPSED.
- GRATING SHALL BE GALVANIZED WELDED STEEL BAR GRATING TYPE W/BA WITH 1-1/4" BEARING BARS AT 1-3/16" OC. FASTEN TO SUPPORTING MEMBERS WITH SADDLE-TYPE CLIPS AT 2'-0" O.C. AND BAND ALL EXPOSED EDGES.
- SUBMIT DRAWINGS OF ALL STRUCTURAL AND MISCELLANEOUS STEEL TO THE ENGINEER FOR APPROVAL AND INCORPORATE ALL COMMENTS PRIOR TO FABRICATION.
- INCORRECTLY FABRICATED, DAMAGED OR OTHERWISE MISFITTING OR NONCONFORMING MATERIALS OR CONDITIONS SHALL BE REPORTED TO THE ENGINEER PRIOR TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH ACTION SHALL REQUIRE ENGINEER APPROVAL.
- ALL WORK SHALL BE INSPECTED BY THE ENGINEER DURING AND AT THE COMPLETION OF CONSTRUCTION.
- CONTRACTOR TO REMOVE MASTIC ON THE EXISTING WALL/PARAPET AT EVERY STEEL SUPPORT ATTACHMENT AND REPOINT MASONRY AS REQUIRED. A BED OF SILICONE SHALL BE APPLIED BEHIND AND ALL AROUND THE STEEL SUPPORT ATTACHMENT TO MAKE IT WEATHERPROOF.
- HAMMER DRILLS ARE NOT TO BE USED WHEN DRILLING HOLES FOR SLEEVE OR EXPANSION BOLTS INSTALLED IN MASONRY BLOCKS/BRICKS.
- ALL HOLES TO BE ADDED IN THE FIELD SHALL BE PUNCHED OR DRILLED. NO HOLE BURNING SHALL BE ALLOWED.
- NOTES ARE NOT PROJECT SPECIFIC.

SITE NOTES

- ALL SITE WORK SHALL BE AS INDICATED ON THE DRAWING.
- RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.
- THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE BTS EQUIPMENT AND TOWER AREAS.
- NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.
- THE SUBGRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION.
- ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES, AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY ENGINEERS. EXTREME CAUTION SHOULD BE USED BY THE CONTRACTOR WHEN EXCAVATING OR PIER DRILLING AROUND OR NEAR UTILITIES.
- ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND/OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF ENGINEER.
- THE AREAS OF THE OWNERS PROPERTY DISTURBED BY THE WORK SHALL BE GRADED TO A UNIFORM SLOPE, FERTILIZED, SEEDDED, AND COVERED WITH MULCH.
- CONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE LOCAL GUIDELINES FOR EROSION AND SEDIMENT CONTROL.
- CARE SHALL BE TAKEN TO RETAIN NATURAL GROWTH AND PREVENT DAMAGE TO TREES WITHIN AND OUTSIDE THE LIMITS OF CONSTRUCTION AND SPECIFIED WORK AREAS CAUSED BY EQUIPMENT AND MATERIALS. ANY DAMAGE TO THIS NATURAL GROWTH SHALL BE RESTORED AT THE EXPENSE OF THE CONTRACTOR.
- ALL AREAS DISTURBED BY THE CONTRACTOR WITHOUT AUTHORIZATION SHALL BE RESTORED BY THE CONTRACTOR.
- IN THE EVENT THE CONTRACTOR DAMAGES AN EXISTING UTILITY SERVICE CAUSING AN INTERRUPTION IN SAID SERVICE, HE SHALL IMMEDIATELY COMMENCE WORK TO RESTORE SERVICE AND MAY NOT CEASE HIS WORK OPERATION UNTIL SERVICE IS RESTORED.

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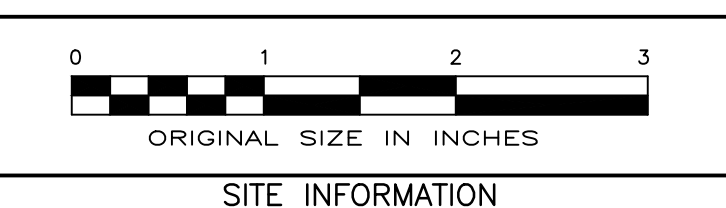
APPROVALS

LANDLORD _____
 RF _____
 CONSTRUCTION _____
 OPERATIONS _____
 SITE ACQ. _____

PROJECT NUMBER	DESIGNED BY
10473.CT11077C	EI

REV.	DATE	DESCRIPTION	DRAWN BY
1	09/09/20	ISSUED FOR CONSTRUCTION	BWY

ISSUED BY _____ DATE _____



SITE INFORMATION

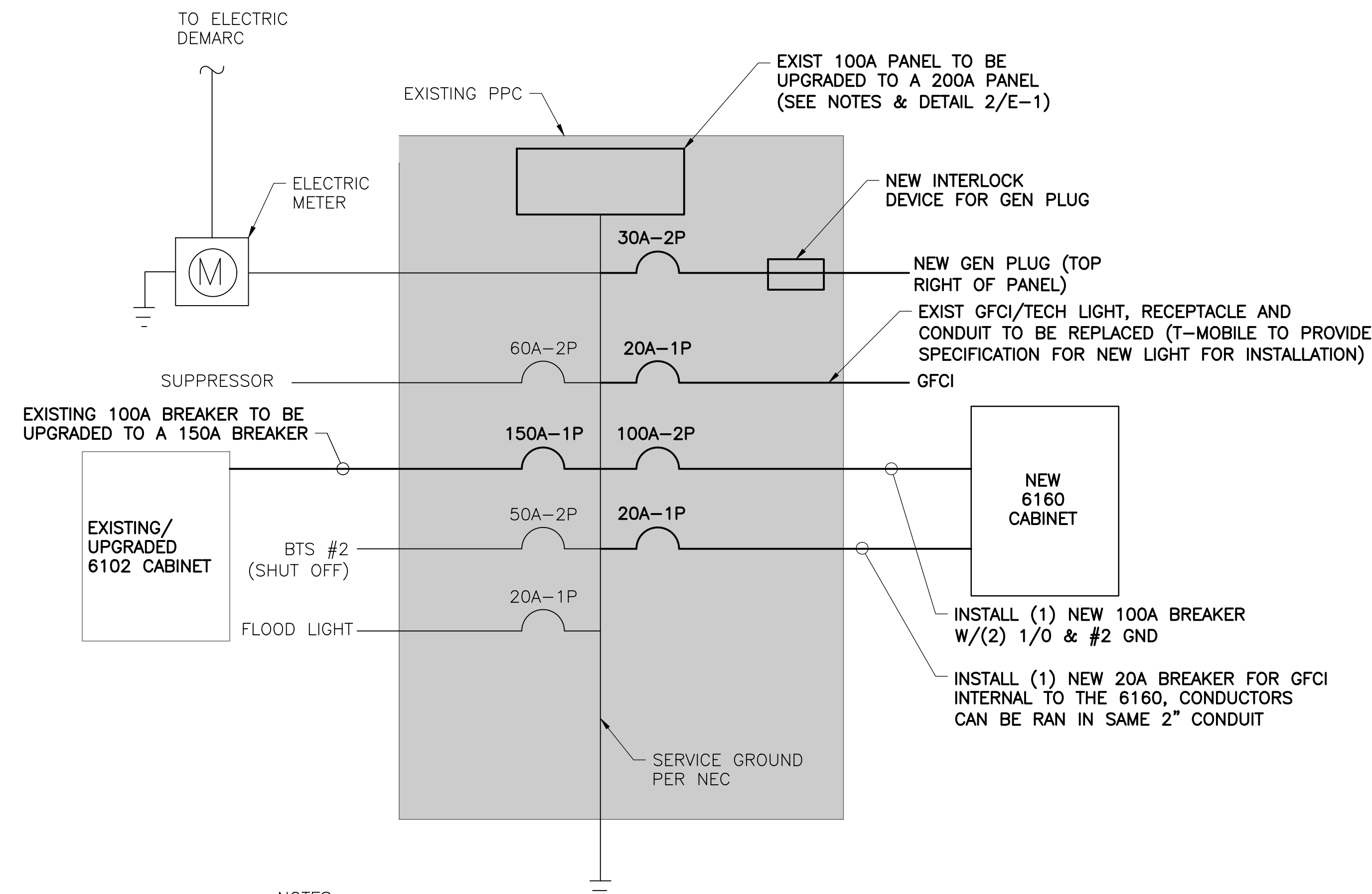
FAIRFIELD FIRE RESCUE #5
 CT11077C
 3965 CONGRESS STREET
 FAIRFIELD, CT 06824

SHEET TITLE

NOTES

SHEET NUMBER

A-7



NOTES:
 1. THE ABOVE DIAGRAM IS GENERIC AND ANY ELECTRICAL WORK SHALL BE COMPLETED BY A LICENSED ELECTRICIAN IN ACCORDANCE WITH NEC STANDARDS.
 2. ELECTRICAL CONSULT SHALL BE PERFORMED TO CONSTRUCTION TO CONFIRM THE POWER REQUIREMENTS AND FEASIBILITY.

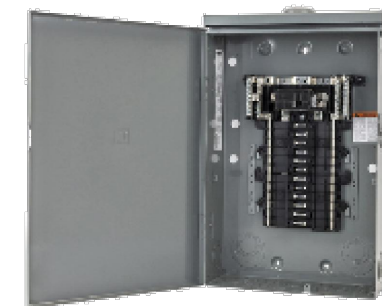
1
E-1
SCALE: NTS
ONE-LINE DIAGRAM

Product data sheet Characteristics

QO120M200PRB
 Load center, QO, 1 phase, 20 spaces, 20 circuits, 200A convertible main breaker, PoN, NEMA3R, UL



Product availability: Stock - Normally stocked in distribution facility
 Price*: 1025.00 USD



Main	
Range of product	QO
Product or component type	Load Center
Enclosure type	Weatherproof enclosure
Complementary	
Load center type	Main breaker
Line Rated Current	200 A
Number of spaces	20
Short-circuit current	22 KA
Number of circuits	20
Number of tandem circuit breakers	10
Phase	1 phase
Box number	5R
Maximum Height	26.04 in (661.42 mm)
Width	14.75 in (374.65 mm)
Depth	4.52 in (114.81 mm)
Environment	
NEMA degree of protection	NEMA 3R outdoor
Ambient air temperature for operation	23 °F (4 °C) 104 °F (40 °C)
Product certifications	UL Listed

Ordering and shipping details

Category	10002 - QO PON 1PH LC, 12-60 CKT, N3R
Discount Schedule	DE3A
GTIN	00785901609360
Nbr. of units in pkg.	1
Package weight(Lbs)	1 Lb(US) (0.45 kg)
Returnability	Yes

Product Life Status : Commercialised

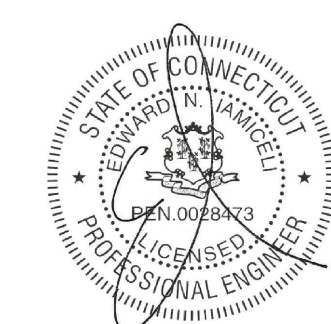
2
E-1
SCALE: NTS
POWER PANEL DETAIL

GENERAL ELECTRICAL NOTES

- CONTRACTOR SHALL PERFORM ALL VERIFICATION OBSERVATION TESTS, AND EXAMINATION WORK PRIOR TO THE ORDERING OF THE ELECTRICAL EQUIPMENT AND THE ACTUAL CONSTRUCTION. CONTRACTOR SHALL ISSUE A WRITTEN NOTICE OF ALL FINDINGS TO THE ENGINEER LISTING ALL MALFUNCTIONS, FAULTY EQUIPMENT AND DISCREPANCIES.
- CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, INSURANCE, EQUIPMENT, INSTALLATION, CONSTRUCTION TOOLS, TRANSPORTATION, ETC., FOR A COMPLETE AND PROPERLY OPERATIVE SYSTEM ENERGIZED THROUGHOUT AND AS INDICATED ON DRAWINGS, AS SPECIFIED HEREIN AND/OR AS OTHERWISE REQUIRED.
- ALL MATERIALS AND EQUIPMENT SHALL BE NEW AND IN PERFECT CONDITION WHEN INSTALLED AND SHALL BE OF THE BEST GRADE AND OF THE SAME MANUFACTURER THROUGHOUT FOR EACH CLASS OR GROUP OF EQUIPMENT. MATERIALS SHALL BE LISTED AND APPROVED BY UNDERWRITER'S LABORATORIES (U.L.) AND SHALL BEAR THE INSPECTION LABEL "J" WHERE SUBJECT TO SUCH APPROVAL. MATERIALS SHALL MEET WITH APPROVAL OF ALL GOVERNING BODIES HAVING JURISDICTION. AND SHALL BE MANUFACTURED IN ACCORDANCE WITH APPLICABLE STANDARDS ESTABLISHED BY ANSI, NEMA AND NBFU.
- CONTRACTOR TO COORDINATE WITH SITE OWNER FOR CONNECTION OF TEMPORARY AND PERMANENT POWER TO THE SITE. THE TEMPORARY POWER AND ALL HOOKUP COSTS TO BE PAID BY CONTRACTOR.
- ALL CIRCUIT BREAKERS, FUSES AND ELECTRICAL EQUIPMENT SHALL HAVE AN INTERRUPTING RATING NOT LESS THAN THE MAXIMUM SHORT CIRCUIT CURRENT TO WHICH THEY MAY BE SUBJECTED, AND A MINIMUM OF 10,000 A.I.C.
- ALL ELECTRICAL EQUIPMENT SHALL BE LABELED WITH PERMANENT ENGRAVED PLASTIC LABELS.
- METER SOCKETS AMPERES, VOLTAGE AND NUMBER OF PHASES SHALL BE NOTED AND SHALL BE MANUFACTURED BY SQUARE "D" COMPANY, SANGAMO OR APPROVED EQUAL. METER SOCKET SHALL BE APPROVED BY UTILITY COMPANY PRIOR TO INSTALLATION.
- WIRE AND CABLE CONDUCTORS SHALL BE COPPER #12 AWG MINIMUM WITH TYPE THHN INSULATION UNLESS SPECIFICALLY NOTED OTHERWISE.
- USE T-TAP CONNECTIONS ON ALL MULTI-CIRCUITS WITH COMMON NEUTRAL CONDUCTOR FOR LIGHTING FIXTURES.
- EACH CONDUCTOR OF EVERY SYSTEM SHALL BE PERMANENTLY TAGGED IN EACH PANEL BOARD, PULLBOX, J-BOX, SWITCH BOX, ETC., IN COMPLIANCE WITH THE OCCUPATIONAL SAFETY AND HEALTH ACT (O.S.H.A.)
- CONDUIT:
 - RIGID CONDUIT SHALL BE U.L. LABEL GALVANIZED ZINC COATED WITH ZINC INTERIOR AND SHALL BE USED WHEN INSTALLED IN OR UNDER CONCRETE SLABS, IN CONTACT WITH THE EARTH, UNDER PUBLIC ROADWAYS, IN MASONRY WALLS OR EXPOSED ON BUILDING EXTERIOR.
 - INTERMEDIATE METAL CONDUIT SHALL BE U.L. LABEL, FITTINGS SHALL BE THREADED ALUMINUM OR STEEL AND SHALL BE USED FOR ALL EXTERIOR RUNS. THREADLESS COUPLINGS AND CONNECTORS SHALL NOT BE USED.
 - ELECTRICAL METALLIC TUBING (EMT) SHALL HAVE U.L. LABEL, FITTINGS SHALL BE NO SET SCREW OR CRIMP TYPE FITTINGS SHALL BE USED. GLAND RING COMPRESSION TYPE. EMT SHALL BE USED ONLY FOR INTERIOR RUNS.
 - FLEXIBLE METALLIC CONDUIT SHALL HAVE U.L. LISTED LABEL AND MAY BE USED WHERE PERMITTED BY CODE. FITTINGS SHALL BE "JAKE" OR "SQUEEZE" TYPE, SEAL TIGHT FLEXIBLE CONDUIT. ALL CONDUIT IN EXCESS OF SIX FEET IN LENGTH SHALL HAVE FULL SIZE GROUND WIRE.
 - CONDUIT SHALL BE SIZED PER THE NEC AND AS SHOWN.
 - CONDUIT RUNS MAY BE SURFACE MOUNTED IN CEILINGS OR WALLS UNLESS INDICATED OTHERWISE. CONDUIT INDICATED SHALL RUN PARALLEL OR AT RIGHT ANGLES TO CEILING, FLOOR OR BEAMS. VERIFY EXACT ROUTING OF ALL EXPOSED CONDUIT WITH OWNER PRIOR TO INSTALLING.
 - ALL CONDUIT ONLY (C.O.) RUNS SHALL HAVE A PULL WIRE OR ROPE.
- COVERPLATES SHALL BE BRUSHED STAINLESS STEEL FOR ALL SWITCHES, RECEPTACLES, TELEPHONE AND BLANKED OUTLETS, AND SHALL HAVE ENGRAVED LETTERING WHERE INDICATED WEATHERPROOF RECEPTACLES SHALL HAVE SIERRA #WPD-8 LIFT COVERPLATES.
- REFER TO MANUFACTURERS MANUAL FOR RECOMMENDED FUSE AND WIRE SIZES.
- ALL FINAL CONNECTIONS TO THE EQUIPMENT ARE TO BE OF FLEXIBLE WEATHERPROOF CONDUIT TO MEET APPLICABLE CODES.
- THE ENTIRE ELECTRICAL INSTALLATION SHALL BE GROUNDED AS REQUIRED BY ALL APPLICABLE CODES.
- GROUNDING CONDUCTORS SHALL BE SOLID TINNED COPPER AND ANNEALED #2, UNLESS OTHERWISE NOTED.
- UPON COMPLETION OF WORK, CONDUCT CONTINUITY, SHORT CIRCUIT, AND FALL OF POTENTIAL GROUNDING TESTS FOR APPROVAL. SUBMIT TEST REPORTS TO THE CONSTRUCTION MANAGER. CLEAN PREMISES OF ALL DEBRIS RESULTING FROM WORK AND LEAVE WORK IN A COMPLETE AND UNDAMAGED CONDITION.
- PROVIDE CONSTRUCTION MANAGER WITH ONE SET OF COMPLETE ELECTRICAL "AS INSTALLED" DRAWINGS AT THE COMPLETION OF THE JOB, SHOWING ACTUAL DIMENSIONS, ROUTINGS, AND CIRCUITS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH GAINING APPROVALS AND PAYING ALL FEES ASSESSED BY UTILITY COMPANY FOR ELECTRICAL SERVICE.

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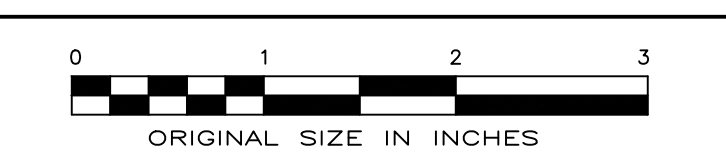
APPROVALS

LANDLORD _____
 RF _____
 CONSTRUCTION _____
 OPERATIONS _____
 SITE ACQ. _____

PROJECT NUMBER 10473.CT11077C
 DESIGNED BY EI

REV.	DATE	DESCRIPTION	DRAWN BY
1	09/09/20	ISSUED FOR CONSTRUCTION	BWY

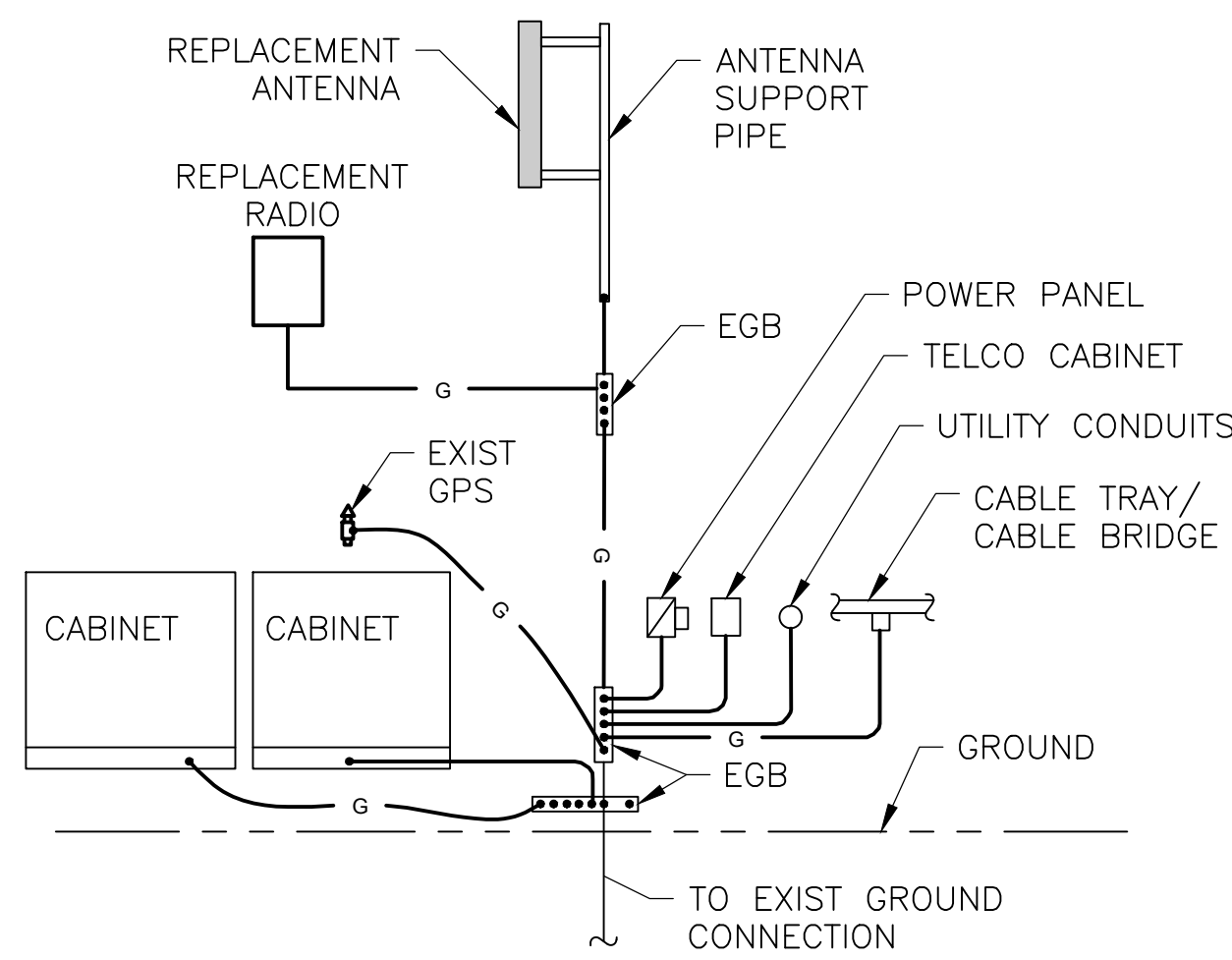
ISSUED BY _____ DATE _____



SITE INFORMATION
 FAIRFIELD FIRE RESCUE #5
 CT11077C
 3965 CONGRESS STREET
 FAIRFIELD, CT 06824

SHEET TITLE
 ELECTRICAL NOTES &
 ONE-LINE DIAGRAM

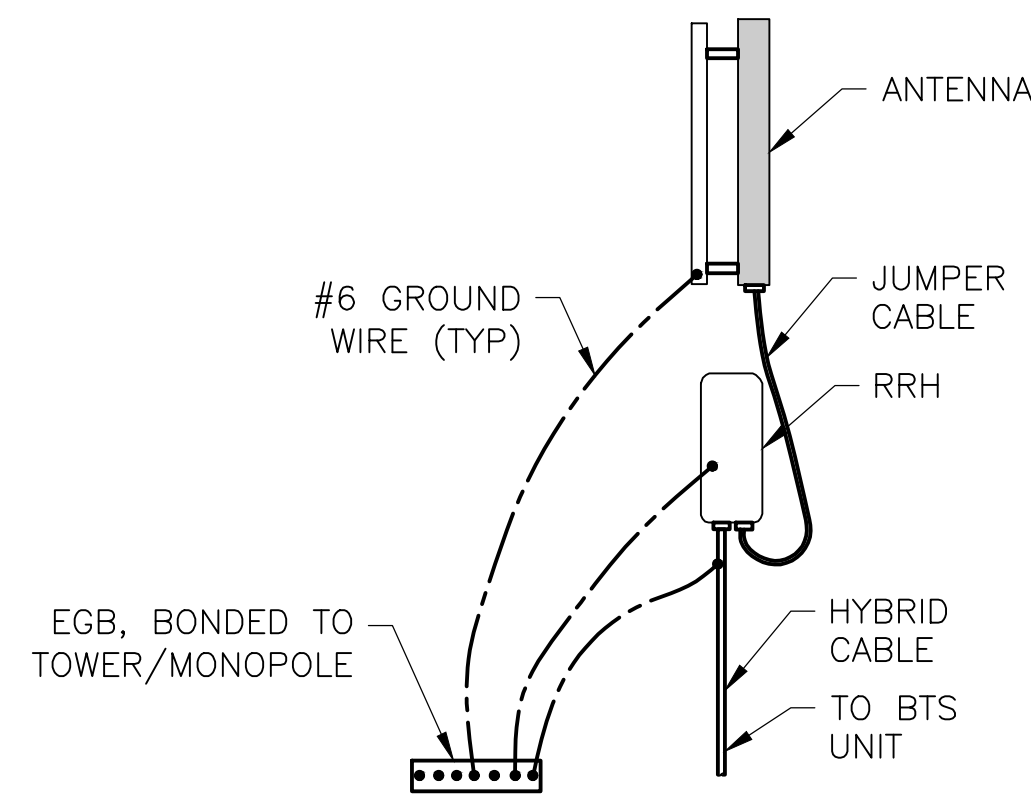
SHEET NUMBER
 E-1



NOTE: CONTRACTOR SHALL CONFIRM ALL EQUIPMENT IS GROUNDED. IF NOT, CONTRACTOR SHALL GROUND EQUIPMENT AS SHOWN AND AS REQUIRED.

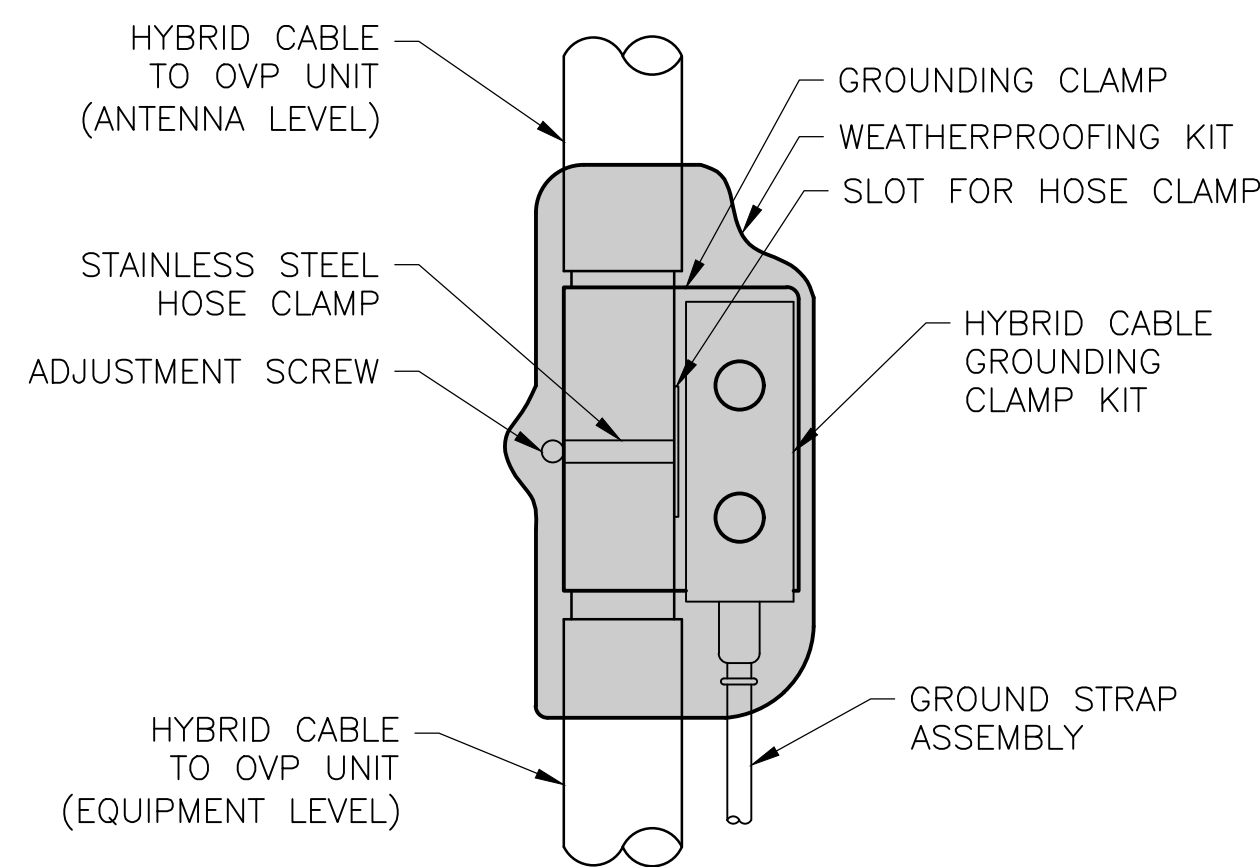
1 GROUNDING RISER DIAGRAM

SCALE: NTS



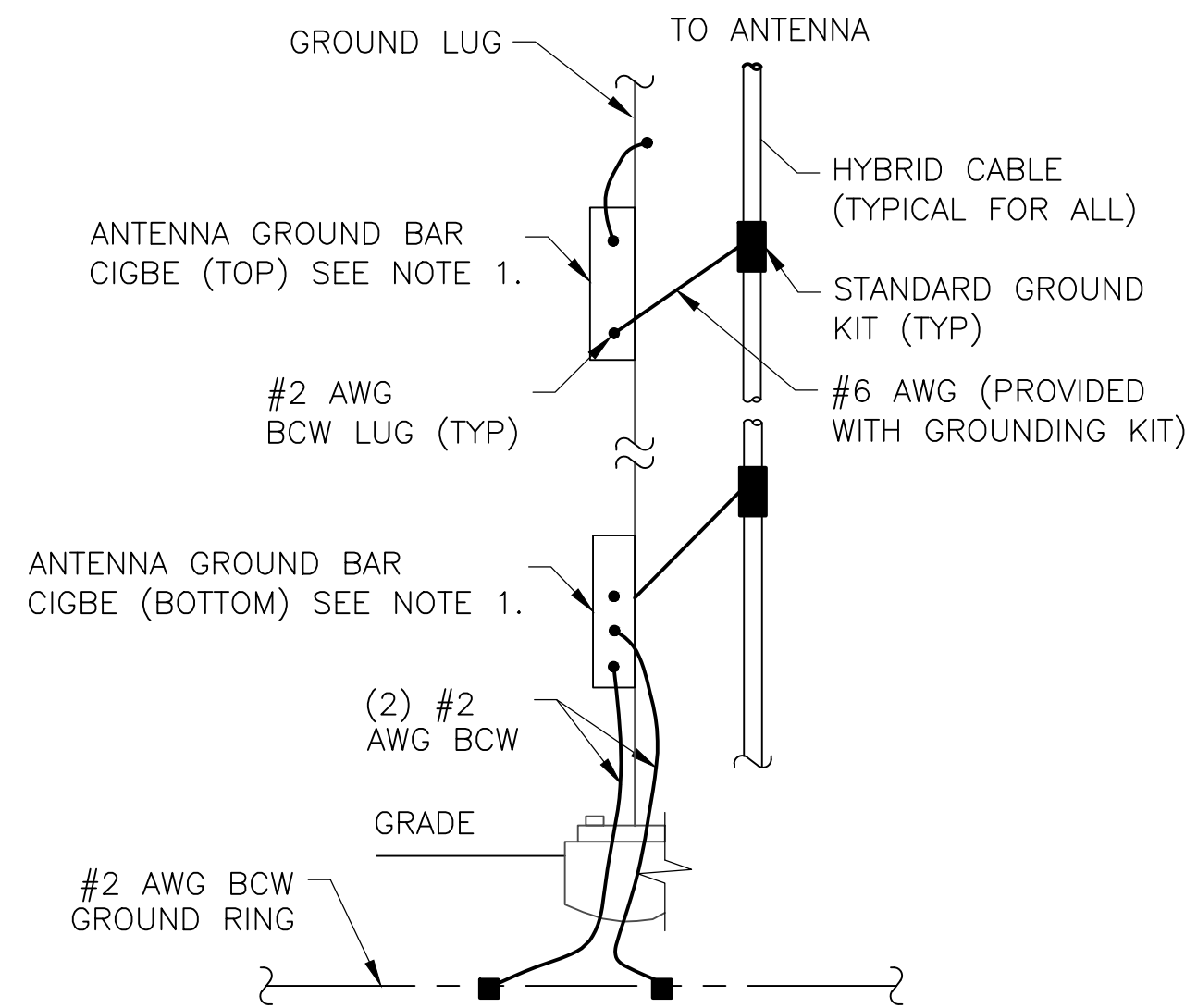
2 HYBRID CABLE CONNECTION DETAIL

SCALE: NTS



3 HYBRID CABLE GROUNDING DETAIL

SCALE: NTS

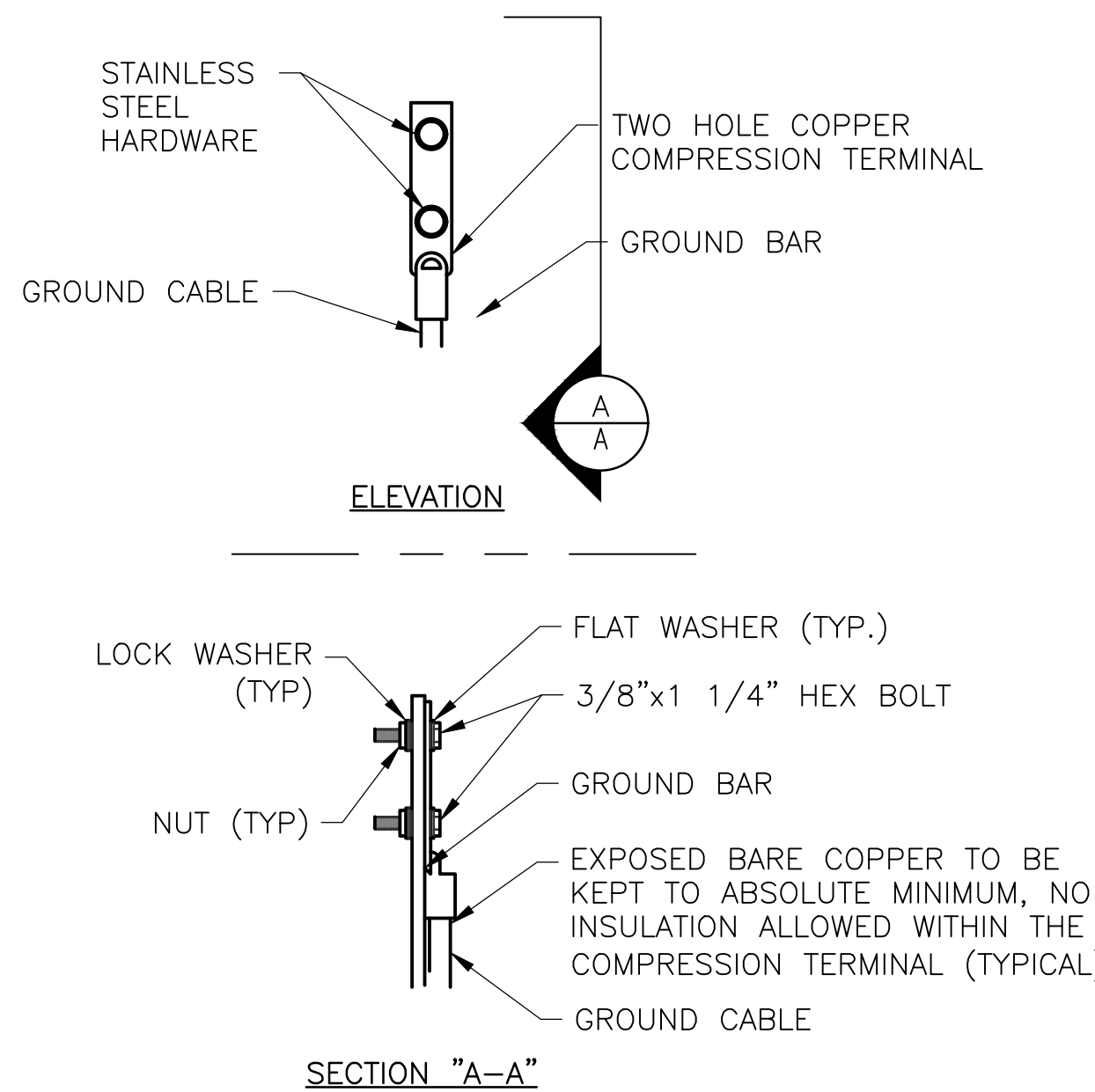


NOTES:

- NUMBER OF GROUND BARS MAY VARY DEPENDING ON THE TYPE OF TOWER, ANTENNA LOCATION AND CONNECTION ANTENNA LOCATION AND CONNECTION ORIENTATION. PROVIDE AS REQUIRED.
- A SEPARATE GROUND BAR TO BE USED FOR GPS UNIT IF REQUIRED.

4 ANTENNA CABLE GROUNDING

SCALE: NTS



NOTES:

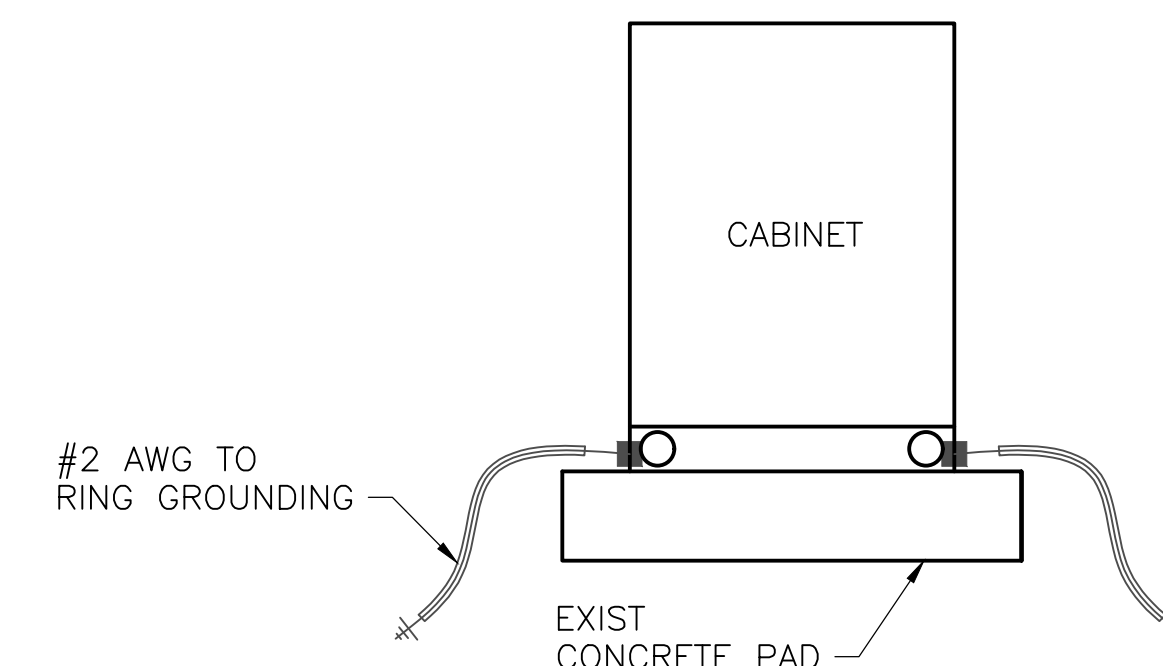
- "DOUBLING UP" OR "STACKING" OF CONNECTION IS NOT PERMITTED.
- OXIDE INHIBITING COMPOUND TO BE USED AT ALL LOCATIONS.
- CADWELDED DOWNLEADS FROM UPPER EGB, LOWER EGB AND MGB.
- ALL GROUND LUGS MUST NE HEAT SHRUNK AT WIRE/LUG CONNECTION.

5 GROUND BAR CONNECTION DETAIL

SCALE: NTS

GROUNDING NOTES

- THE ENTIRE ELECTRICAL INSTALLATION SHALL BE GROUNDED AS REQUIRED BY ALL APPLICABLE CODES.
- ALL GROUNDING WORK SHALL BE IN ACCORDANCE WITH T-MOBILE STANDARD PRACTICE.
- ALL BUS CONNECTORS SHALL BE TWO-HOLE, LONG-BARREL TYPE COMPRESSION LUGS, T&B OR EQUAL, UNLESS OTHERWISE NOTED ON DRAWINGS. ALL LUGS SHALL BE ATTACHED TO BUSES USING BOLTS, NUTS, AND LOCK WASHERS. NO WASHERS ARE ALLOWED BETWEEN THE ITEMS BEING GROUNDED.
- ALL CONNECTORS SHALL BE CRIMPED USING HYDRAULIC CRIMPING TOOLS, T&B #TBM 8 OR EQUIVALENT.
- ALL CONNECTIONS SHALL BE MADE TO BARE METAL. ALL PAINTED SURFACES SHALL BE FILED TO ENSURE PROPER CONTACT. NO WASHERS ARE ALLOWED BETWEEN THE ITEMS BEING GROUNDED. ALL CONNECTIONS ARE TO HAVE A NON-OXIDIZING AGENT APPLIED PRIOR TO INSTALLATION.
- ALL COPPER BUSES SHALL BE CLEANED, POLISHED, AND A NON-OXIDIZING AGENT APPLIED. NO FINGERPRINTS OR DISCOLORED COPPER WILL BE PERMITTED.
- ALL BENDS SHALL BE AS SHALLOW AS POSSIBLE, WITH NO TURN SHORTER THAN AN 8-INCH NOMINAL RADIUS.
- GROUNDING CONDUCTORS SHALL BE SOLID TINNED COPPER AND ANNEALED #2. ALL GROUNDING CONDUCTORS SHALL RUN THROUGH PVC SLEEVES WHEREVER CONDUCTORS RUN THROUGH WALLS, FLOORS, OR CEILINGS. IF CONDUCTORS MUST RUN THROUGH EMT, BOTH ENDS OF CONDUIT SHALL BE GROUNDED. SEAL BOTH ENDS OF CONDUIT WITH SILICONE CAULK.
- GROUNDING SYSTEM RESISTANCE SHALL NOT EXCEED 10 OHMS. IF THE RESISTANCE VALUE IS EXCEEDED, NOTIFY THE PROJECT MANAGER FOR FURTHER INSTRUCTION ON METHODS FOR REDUCING THE RESISTANCE VALUE.
- ALL ROOF TOP ANTENNA MOUNTS SHALL BE GROUNDED WITH A #2 GROUND WIRE CONNECTED TO THE NEAREST GROUND BUS. ALL CONNECTIONS ARE TO BE CAD-WELDED IF POSSIBLE.
- UPON COMPLETION OF WORK, CONDUCT CONTINUITY, SHORT CIRCUIT, AND FALL OF POTENTIAL GROUNDING TESTS FOR APPROVAL. SUBMIT TEST REPORTS TO THE PROJECT MANAGER.
- GROUNDING CONNECTION TO TRAVEL IN A DOWNWARD DIRECTION.
- ALL EXPOSED #2 WIRE MUST BE TINN NOT BTW.
- TECTONIC TAKES NO RESPONSIBILITY OR LIABILITY FOR THE GROUNDING SYSTEM AS SHOWN ON THIS SITE. THIS IS A STANDARD GROUNDING SYSTEM.

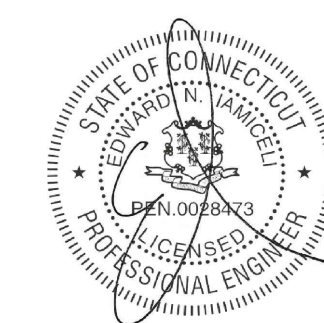


6 CABINET GROUNDING DETAIL

SCALE: NTS

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RF _____

CONSTRUCTION _____

OPERATIONS _____

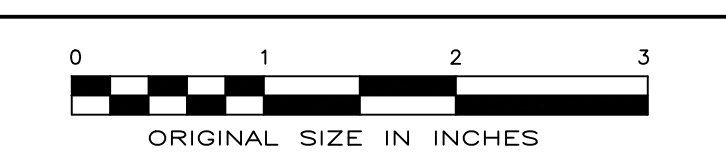
SITE ACQ. _____

PROJECT NUMBER 10473.CT11077C

DESIGNED BY EI

REV.	DATE	DESCRIPTION	DRAWN BY
1	09/09/20	ISSUED FOR CONSTRUCTION	BWY

ISSUED BY _____ DATE _____



SITE INFORMATION

FAIRFIELD FIRE RESCUE #5
 CT11077C
 3965 CONGRESS STREET
 FAIRFIELD, CT 06824

SHEET TITLE

GROUNDING DETAILS & NOTES

SHEET NUMBER

G-1

Exhibit D

Structural Analysis Report – Rev 1

Tower Owner: Town of Fairfield
Carrier: T-Mobile Northeast LLC

Site ID: CT11077C
Site Name: Fairfield Fire Rescue #5
Site Data: 3965 Congress Street, Fairfield, Fairfield County, CT 06824
Latitude 41° 11' 18.02", Longitude -73° 17' 56.44"
150 ft Monopole

Tectonic Project Number: 10473.CT11077C – Rev 1

Tectonic Engineering & Surveying Consultants P.C. is pleased to submit this “**Structural Analysis Report**” to determine the structural integrity of the above mentioned tower.

The purpose of the analysis is to determine acceptability of the tower stress level. Based on our analysis we have determined the tower stress level for the structure and foundation to be:

Structure: **Sufficient Capacity – 87.6%**
Foundation: **Sufficient Capacity – 79.9%**

This analysis has been performed in accordance with the 2018 Connecticut State Building Code based upon an ultimate 3-second gust wind speed of 125 mph converted to a nominal 3-second gust wind speed of 97 mph per Section 1609.3 and Appendix N as required for use in the TIA-222-G Standard per Exception #5 of Section 1609.1.1. Exposure Category B with a maximum topographic factor, Kzt, of 1.0 and Structure Class 2 were used in this analysis.

All modifications and equipment proposed in this report shall be installed in accordance with this analysis for the determined available structural capacity to be effective.

We at Tectonic appreciate the opportunity of providing our continuing professional services to you and T-Mobile. If you have any questions or need further assistance on this or any other projects please give us a call.

Structural analysis prepared by: John-Fritz Julien / Vinod Ramesh

Respectfully submitted by:
Tectonic Engineering & Surveying Consultants P.C.



Edward N. Iamiceli, P.E.
Managing Director - Structural



Project Contact Info

1279 Route 300 | Newburgh, NY 12550
845.567.6656 Tel | 845.567.8703 Fax

tectonicengineering.com
Equal Opportunity Employer

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3.2) Assumptions

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4.1) Results / Conclusion

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tnxTower Output

6) APPENDIX B

Additional Calculations

1) INTRODUCTION

This tower is a 150 ft Monopole tower mapped by HighTower Solutions Inc.

2) ANALYSIS CRITERIA

TIA-222 Revision:	TIA-222-G
Risk Category:	II
Wind Speed:	97 mph
Exposure Category:	B
Topographic Factor:	1.0
Ice Thickness:	0.75 in
Wind Speed with Ice:	50 mph
Service Wind Speed:	60 mph

Table 1 - Proposed Antenna and Cable Information

Mounting Level (ft)	Carrier Designation	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)	Note
116.0	T-Mobile	1	sitepro1	12' SitePro1 Platform Mount (F4P-12W)	3	HCS 6x12 Hybrid	-
		1	sitepro1	SitePro1 HRK12 Support Rail Kit			
		3	commscope	SDX1926Q-43			
		3	ericsson	AIR 32 B66Aa B2a			
		3	ericsson	AIR 6449 B41			
		3	ericsson	RADIO 4449 B12/B71			
		3	ericsson	RRUS 4415 B25			
		3	rfs celwave	APXVARR24_43-C-NA20			

Table 2 - Existing Antenna and Cable Information

Mounting Level (ft)	Carrier Designation	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)	Note
149.0	Unknown	1	-	12' Omni	2	7/8	1
		2	-	10' Dipole			
		3	-	13' T-Arms			
138.0	Sprint	1	tower mounts	13' Low-Profile Platform	3	7/8 1-1/4	1
		3	alcatel lucent	FD-RRH-2x50-800			
		3	alcatel lucent	RRH4X45-19			
		3	commscope	DT465B-2XR-V2			
		3	ericsson	RRUS 32 B30			
		3	ericsson	RRUS A2 B13			
129.0		3	rfs celwave	APXVSP18-C-A20	3	7/8 1-1/4	1
		3	ericsson	RRU A2			
		3	ericsson	RRUS 11			
		3	ericsson	RRUS 12			
		1	raycap	DC6-48-60-18-8F			

Mounting Level (ft)	Carrier Designation	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)	Note
127.0	AT&T	1	tower mounts	13' Low-Profile Platform	12	1-1/4	1
		3	cci antennas	HPA-65R-BUU-H6			
		3	ericsson	RADIO 4415 B30	2	13/16	
		3	ericsson	RRUS 4449 B5/B12			
		3	kathrein	80010965	1	Inner Duct	
		6	powerwave technologies	7770.00			
		3	powerwave technologies	LGP214nn			
		1	raycap	DC6-48-60-18-8F			
116.0	T-Mobile	3	-	Twin Style TMA	12	1-5/8	1
		3	-	Twin Style TMA	-	-	2
		3	rfs	APX16DWVS-16DWVS			
		1	tower mounts	13' Low-Profile Platform			
104.0	Unknown	1	-	15' Whip	3	7/8	1
		1	-	8' Dipole			
		4	tower mounts	6' Standoff	1	1-1/4	
		2	-	20' Whip			
80.0	Verizon Wireless	1	raycap	RUSDC-6267-PF-48	6	1-5/8	3
		3	samsung telecommunication	B5/B13 RRH-BR04C			
		3	samsung telecommunication	B2/B66 RRH-BR049	1	1-1/4	
		3	samsung telecommunication	XXDWMM-12.5-65-8T-CBRS			
		3	commscope	CBC78T-DS-43-2X	6	1-5/8	
		6	commscope	JAHH-65B-R3B			
		3	samsung telecommunication	CBRS RRH-RT4401-48A	3	1-5/8	
		3	amphenol	BXA-70063-6CF-EDIN-X			
1	tower mounts	13' Modified Low Profile Platform	-	-	1		
40.0	Sprint	1	tower mounts	3' Stand Off	1	3/8	1
		1	gps	GPS_A			

- Notes:
 1) Existing equipment
 2) Existing equipment to be removed, not considered in analysis
 3) Reserved equipment to be installed

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

Document	Remarks	Dated
TOWER AND FOUNDATION DESIGNED REPORT	Paul J. Ford & Company	12/16/98
STRUCTURAL ANALYSIS REPORT	Dewberry Engineers, Inc.	01/29/19

Document	Remarks	Dated
ANTENNA/COAX VERIFICATION & MOUNT MAPPING REPORT	HighTower Solutions, Inc.	06/06/19
STRUCTURAL ANALYSIS REPORT	Tectonic	08/23/19
RFDS	T-Mobile	07/06/20
STRUCTURAL ANALYSIS REPORT – REV 1	Proterra Design Group, LLC	05/22/20
FIELDS NOTES	Tectonic	07/21/20
STRUCTURAL ANALYSIS REPORT	Tectonic	08/06/20

3.1) Analysis Method

tnxTower (version 8.0.5.0), a commercially available analysis software package, was used to create a three-dimensional model of the tower and calculate member stresses for various loading cases. Selected output from the analysis is included in Appendix A.

tnxTower was used to determine the loads on the modified structure. Additional calculations were performed to determine the stresses in the pole and in the reinforcing elements. These calculations are presented in Appendix B.

3.2) Assumptions

- 1) Tower and structures were built and maintained in accordance with the manufacturer’s specifications.
- 2) The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in Tables 1 and 2.
- 3) The slip jointed splices were assembled in accordance with the manufacturer’s specs.
- 4) The tower and foundation have been properly maintained in accordance with industry standards.
- 5) The tower is considered to be used for non-emergency services and therefore, structure class II has been used for the analysis.
- 6) The weight and wind area of certain appurtenances have been estimated.
- 7) Existing Verizon Wireless load configurations are based solely on the previous by Proterra Design Group, LLC, referenced above.
- 8) The existing tower modifications have been installed in accordance with the original design drawings. The connections have been adequately designed to develop the full capacity of the reinforcing members.
- 9) The foundation geometry and geotechnical values are based solely on the previous analysis report by Paul J. Ford & Company, referenced above.

This analysis is solely for the supporting tower structure and it may be affected if any assumptions are not valid or have been made in error. Tectonic should be notified to determine the effect on the structural integrity of the tower.

4) ANALYSIS RESULTS

Table 4 - Section Capacity (Summary)

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail
L1	150 - 130	Pole	TP27.25x23.61x0.2813	1	-6.45	1743.92	9.7	Pass
L2	130 - 110	Pole	TP30.89x27.25x0.2813	2	-17.90	1884.92	36.3	Pass
L3	110 - 95.83	Pole	TP33.469x30.89x0.2813	3	-21.25	1941.05	49.8	Pass
L4	95.83 - 81	Pole	TP35.6055x31.9655x0.375	4	-26.18	3058.53	52.2	Pass

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail
L5	81 - 61	Pole	TP39.2455x35.6055x0.375	5	-35.15	3254.69	69.5	Pass
L6	61 - 47.83	Pole	TP41.6425x39.2455x0.375	6	-37.00	3318.04	74.8	Pass
L7	47.83 - 34	Pole	TP43.4095x39.7695x0.4375	7	-44.54	4284.32	73.8	Pass
L8	34 - 29.5833	Pole	TP44.2134x43.4095x0.4375	8	-46.18	4334.66	76.0	Pass
L9	29.5833 - 14.67	Pole	TP46.9276x44.2134x0.716	9	-55.48	6848.31	87.6	Pass ¹
L10	14.67 - 0	Pole	TP49.5976x46.9276x0.91	10	-68.29	9170.20	76.2	Pass ¹
							Summary	
						Pole (L9)	87.6	Pass ¹
						Rating =	87.6	Pass ¹

Table 5 - Tower Component Stresses vs. Capacity

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Anchor Rods	0	81.9	Pass
1	Base Plate	0	54.7	Pass
1	Base Foundation	0	47.9	Pass
1	Base Foundation Soil Interaction	0	79.9	Pass

Structure Rating (max from all components) =	87.6%
---	--------------

Note:

- 1) See additional documentation in "Appendix B – Additional Calculations" for calculations supporting the % capacity consumed.

4.1) Results / Conclusion

The tower have sufficient capacity to support the proposed T-Mobile load configuration. No modification is required at this time.

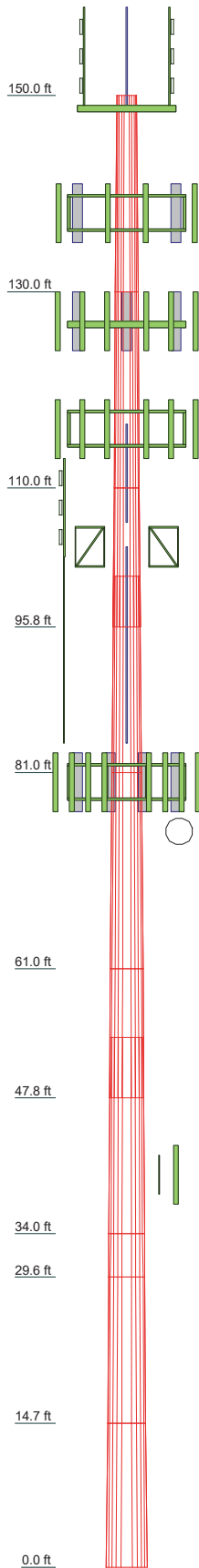
APPENDIX A
TNXTOWER OUTPUT

DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
10' x 1.5" Dia Dipole	149	RRUS 4449 B5/B12	127
10' x 1.5" Dia Dipole	149	DC6-48-60-18-8F	127
12' x 3" Dia Omni	149	(2) AIR 32 B66Aa B2a w/ Mount Pipe	116
13' T-Arms	149	AIR 32 B66Aa B2a w/ Mount Pipe	116
(4) 2" STD Pipe (2.375 OD)x6'-0"	149	(2) AIR 6449 B41 w/ Mount Pipe	116
(4) 2" STD Pipe (2.375 OD)x6'-0"	149	AIR 6449 B41 w/ Mount Pipe	116
(4) 2" STD Pipe (2.375 OD)x6'-0"	149	SitePro1 HRK12 Handrail kit	116
RRUS A2 B13	138	12' SitePro1 Platform Mount (F4P-12W)	116
RRUS A2 B13	138	RRUS 4415 B25	116
RRUS A2 B13	138	(2) SDX1926Q-43	116
RRUS 32 B30	138	SDX1926Q-43	116
RRUS 32 B30	138	(2) Twin Style TMA	116
RRUS 32 B30	138	Twin Style TMA	116
DT465B-2XR-V2 w/ Mount Pipe	138	(2) APXVARR24_43-C-NA20 w/ Mount Pipe	116
DT465B-2XR-V2 w/ Mount Pipe	138	APXVARR24_43-C-NA20 w/ Mount Pipe	116
DT465B-2XR-V2 w/ Mount Pipe	138	(2) RADIO 4449 B12/B71	116
APXVSPP18-C-A20_TIA w/ Mount Pipe	138	RADIO 4449 B12/B71	116
APXVSPP18-C-A20_TIA w/ Mount Pipe	138	(2) RRUS 4415 B25	116
APXVSPP18-C-A20_TIA w/ Mount Pipe	138	(2) Collar Mount	106
FD-RRH-2x50-800	138	(2) Collar Mount	105
FD-RRH-2x50-800	138	6' Standoff	104
FD-RRH-2x50-800	138	6' Standoff	104
RRH4X45-19	138	6' Standoff	104
RRH4X45-19	138	20' x 2" Dia Whips	104
RRH4X45-19	138	20' x 2" Dia Whips	104
13' Low-Profile Platform	138	6' Standoff	104
2" STD Pipe (2.375 OD)x6'-0"	138	8' x 2" Dia Dipole	104
2" STD Pipe (2.375 OD)x6'-0"	138	15x1.25" Dia Whips	104
2" STD Pipe (2.375 OD)x6'-0"	138	CBRS RRH-RT4401-48A	80
DC6-48-60-18-8F	129	CBRS RRH-RT4401-48A	80
RRUS 11	129	B5/B13 RRH-BR04C	80
RRUS 11	129	B5/B13 RRH-BR04C	80
RRUS 11	129	B5/B13 RRH-BR04C	80
RRUS 12	129	B2/B66 RRH-BR049	80
RRUS 12	129	B2/B66 RRH-BR049	80
RRUS 12	129	B2/B66 RRH-BR049	80
RRU A2	129	XXDWM-12.5-65-8T-CBRS	80
RRU A2	129	XXDWM-12.5-65-8T-CBRS	80
RRU A2	129	XXDWM-12.5-65-8T-CBRS	80
Collar Mount	129	CBC78T-DS-43-2X	80
HPA-65R-BUU-H6_TIA w/ Mount Pipe	127	CBC78T-DS-43-2X	80
HPA-65R-BUU-H6_TIA w/ Mount Pipe	127	CBC78T-DS-43-2X	80
HPA-65R-BUU-H6_TIA w/ Mount Pipe	127	RUSDC-6267-PF-48	80
(2) 7770.00 w/ Mount Pipe	127	13' Low Profile Platform	80
(2) 7770.00 w/ Mount Pipe	127	HRK14 SitePro1 Top Rail Kit	80
(2) 7770.00 w/ Mount Pipe	127	PRK-1245	80
LGP214nn	127	BXA-70063-6CF-EDIN-X w/ Mount Pipe	80
LGP214nn	127	LGP214nn	80
LGP214nn	127	CBRS RRH-RT4401-48A	80
13' Low-Profile Platform	127	(2) JAHH-65B-R3B_TIA w/ Mount Pipe	80
80010965_TIA w/ Mount Pipe	127	(2) JAHH-65B-R3B_TIA w/ Mount Pipe	80
80010965_TIA w/ Mount Pipe	127	(2) JAHH-65B-R3B_TIA w/ Mount Pipe	80
80010965_TIA w/ Mount Pipe	127	BXA-70063-6CF-EDIN-X w/ Mount Pipe	80
RADIO 4415 B30	127	BXA-70063-6CF-EDIN-X w/ Mount Pipe	80
RADIO 4415 B30	127	RADIO 4415 B30	80
RADIO 4415 B30	127	3' Stand Off	40
RRUS 4449 B5/B12	127	GPS_A	40
RRUS 4449 B5/B12	127		

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-65	65 ksi	80 ksi	56.682708ksi	57 ksi	72 ksi

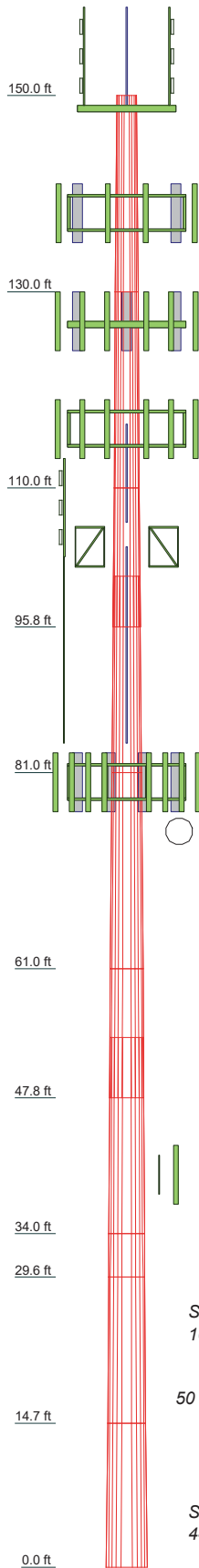


Section	1	2	3	4	5	6	7	8	9	10
Length (ft)	20.00	20.00	14.17	20.00	20.00	13.17	20.00	4.42	14.91	14.67
Number of Sides	12	12	12	12	12	12	12	12	12	12
Thickness (in)	0.2813	0.2813	0.2813	0.3750	0.3750	0.3750	0.4375	0.4375	0.7160	0.9100
Socket Length (ft)			5.17			6.17				
Top Dia (in)	23.6100	27.2500	30.8900	31.9655	35.6055	39.2455	39.7695	43.4095	44.2134	46.9276
Bot Dia (in)	27.2500	30.8900	33.4690	35.6055	39.2455	41.6425	43.4095	44.2134	46.9276	49.5976
Grade	A572-65									
Weight (K)	1.6	1.8	1.4	2.7	3.0	2.2	3.9	0.9	5.2	6.9

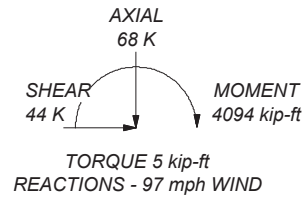
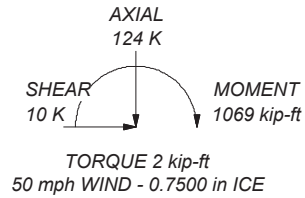
Tectonic
 1279 Route 300
 Newburgh, NY 12550
 Phone: (845) 567-6656
 FAX: (845) 567-8703

Job: **10473.CT11077C - Rev 1**
 Project: **150' Monopole**
 Client: T-Mobile
 Code: TIA-222-G
 Path: G:\Newburgh\Projects\10473-NES\10473.CT11077C\Structural\Tower Analysis\Rev 1\10473.CT11077C - Revised.dwg
 Drawn by: Ian Marinaccio
 Date: 09/01/20
 App'd:
 Scale: NTS
 Dwg No. E-1

Section	1	2	3	4	5	6	7	8	9	10
Length (ft)	20.00	20.00	14.17	20.00	20.00	13.17	20.00	4.42	14.91	14.67
Number of Sides	12	12	12	12	12	12	12	12	12	12
Thickness (in)	0.2813	0.2813	0.2813	0.3750	0.3750	0.3750	0.4375	0.4375	0.7160	0.9100
Socket Length (ft)			5.17			6.17				
Top Dia (in)	23.6100	27.2500	30.8900	31.9655	35.6055	39.2455	39.7695	43.4095	44.2134	46.9276
Bot Dia (in)	27.2500	30.8900	33.4690	35.6055	39.2455	41.6425	43.4095	44.2134	46.9276	49.5976
Grade										56.682708ksi
Weight (K)	1.6	1.8	1.4	2.7	3.0	2.2	3.9	0.9	5.2	6.9



ALL REACTIONS
ARE FACTORED



MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-65	65 ksi	80 ksi	56.682708ksi	57 ksi	72 ksi

TOWER DESIGN NOTES

1. Tower designed for Exposure B to the TIA-222-G Standard.
2. Tower designed for a 97 mph basic wind in accordance with the TIA-222-G Standard.
3. Tower is also designed for a 50 mph basic wind with 0.75 in ice. Ice is considered to increase in thickness with height.
4. Deflections are based upon a 60 mph wind.
5. Tower Structure Class II.
6. Topographic Category 1 with Crest Height of 0.00 ft
7. TOWER RATING: 87.6%

Tectonic
 1279 Route 300
 Newburgh, NY 12550
 Phone: (845) 567-6656
 FAX: (845) 567-8703

Job: **10473.CT11077C - Rev 1**

Project: 150' Monopole	Drawn by: Ian Marinaccio	App'd:
Client: T-Mobile	Date: 09/01/20	Scale: NTS
Code: TIA-222-G	Path:	Dwg No. E-1

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Tower Input Data

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

- 1) Basic wind speed of 97 mph.
- 2) Structure Class II.
- 3) Exposure Category B.
- 4) Topographic Category 1.
- 5) Crest Height 0.00 ft.
- 6) Nominal ice thickness of 0.7500 in.
- 7) Ice thickness is considered to increase with height.
- 8) Ice density of 56 pcf.
- 9) A wind speed of 50 mph is used in combination with ice.
- 10) Temperature drop of 50 °F.
- 11) Deflections calculated using a wind speed of 60 mph.
- 12) TOWER RATING: 87.6%.
- 13) A non-linear (P-delta) analysis was used.
- 14) Pressures are calculated at each section.
- 15) Stress ratio used in pole design is 1.
- 16) Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

Consider Moments - Legs Consider Moments - Horizontals Consider Moments - Diagonals Use Moment Magnification ✓ Use Code Stress Ratios Use Code Safety Factors - Guys Escalate Ice Always Use Max Kz Use Special Wind Profile Include Bolts In Member Capacity Leg Bolts Are At Top Of Section Secondary Horizontal Braces Leg Use Diamond Inner Bracing (4 Sided) SR Members Have Cut Ends SR Members Are Concentric	Distribute Leg Loads As Uniform Assume Legs Pinned ✓ Assume Rigid Index Plate ✓ Use Clear Spans For Wind Area ✓ Use Clear Spans For KL/r Retension Guys To Initial Tension ✓ Bypass Mast Stability Checks ✓ Use Azimuth Dish Coefficients ✓ Project Wind Area of Appurt. Autocalc Torque Arm Areas Add IBC .6D+W Combination ✓ Sort Capacity Reports By Component Triangulate Diamond Inner Bracing Treat Feed Line Bundles As Cylinder Ignore KL/ry For 60 Deg. Angle Legs	Use ASCE 10 X-Brace Ly Rules Calculate Redundant Bracing Forces Ignore Redundant Members in FEA SR Leg Bolts Resist Compression All Leg Panels Have Same Allowable Offset Girt At Foundation ✓ Consider Feed Line Torque Include Angle Block Shear Check Use TIA-222-G Bracing Resist. Exemption Use TIA-222-G Tension Splice Exemption <div style="text-align: center; background-color: #e0e0e0; padding: 2px;">Poles</div> ✓ Include Shear-Torsion Interaction Always Use Sub-Critical Flow Use Top Mounted Sockets Pole Without Linear Attachments Pole With Shroud Or No Appurtenances Outside and Inside Corner Radii Are Known
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Tapered Pole Section Geometry

Section	Elevation <small>ft</small>	Section Length <small>ft</small>	Splice Length <small>ft</small>	Number of Sides	Top Diameter <small>in</small>	Bottom Diameter <small>in</small>	Wall Thickness <small>in</small>	Bend Radius <small>in</small>	Pole Grade
L1	150.00-130.00	20.00	0.00	12	23.6100	27.2500	0.2813	1.1252	A572-65 (65 ksi)
L2	130.00-110.00	20.00	0.00	12	27.2500	30.8900	0.2813	1.1252	A572-65 (65 ksi)
L3	110.00-95.83	14.17	5.17	12	30.8900	33.4690	0.2813	1.1252	A572-65 (65 ksi)
L4	95.83-81.00	20.00	0.00	12	31.9655	35.6055	0.3750	1.5000	A572-65

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
L5	81.00-61.00	20.00	0.00	12	35.6055	39.2455	0.3750	1.5000	(65 ksi) A572-65
L6	61.00-47.83	13.17	6.17	12	39.2455	41.6425	0.3750	1.5000	(65 ksi) A572-65
L7	47.83-34.00	20.00	0.00	12	39.7695	43.4095	0.4375	1.7500	(65 ksi) A572-65
L8	34.00-29.58	4.42	0.00	12	43.4095	44.2134	0.4375	1.7500	(65 ksi) A572-65
L9	29.58-14.67	14.91	0.00	12	44.2134	46.9276	0.7160	2.8640	56.682708ksi (57 ksi)
L10	14.67-0.00	14.67		12	46.9276	49.5976	0.9100	3.6400	56.682708ksi (57 ksi)

Tapered Pole Properties

Section	Tip Dia. in	Area in ²	I in ⁴	r in	C in	I/C in ³	J in ⁴	It/Q in ²	w in	w/t
L1	24.3436	21.1308	1467.8550	8.3517	12.2300	120.0211	2974.2723	10.3999	5.5736	19.814
	28.1121	24.4279	2267.7368	9.6548	14.1155	160.6557	4595.0496	12.0227	6.5491	23.282
L2	28.1121	24.4279	2267.7368	9.6548	14.1155	160.6557	4595.0496	12.0227	6.5491	23.282
	31.8805	27.7250	3315.4927	10.9579	16.0010	207.2048	6718.0872	13.6454	7.5246	26.75
L3	31.8805	27.7250	3315.4927	10.9579	16.0010	207.2048	6718.0872	13.6454	7.5246	26.75
	34.5504	30.0610	4226.1315	11.8812	17.3369	243.7645	8563.2881	14.7951	8.2158	29.207
L4	33.9349	38.1455	4858.9305	11.3094	16.5581	293.4473	9845.5105	18.7740	7.5617	20.165
	36.7292	42.5408	6739.5146	12.6125	18.4436	365.4114	13656.083	20.9373	8.5373	22.766
L5	36.7292	42.5408	6739.5146	12.6125	18.4436	365.4114	13656.083	20.9373	8.5373	22.766
	40.4976	46.9361	9051.7677	13.9156	20.3292	445.2601	18341.335	23.1005	9.5128	25.367
L6	40.4976	46.9361	9051.7677	13.9156	20.3292	445.2601	18341.335	23.1005	9.5128	25.367
	42.9792	49.8304	10831.686	14.7737	21.5708	502.1460	21947.932	24.5250	10.1552	27.08
L7	42.1806	55.4090	10941.028	14.0809	20.6006	531.1023	22169.490	27.2706	9.4857	21.682
	44.7865	60.5368	14268.470	15.3840	22.4861	634.5453	28911.789	29.7944	10.4613	23.911
L8	44.7865	60.5368	14268.470	15.3840	22.4861	634.5453	28911.789	29.7944	10.4613	23.911
	45.6187	61.6693	15084.269	15.6718	22.9025	658.6291	30564.820	30.3517	10.6767	24.404
L9	45.5205	100.2841	24218.313	15.5721	22.9025	1057.4516	49072.869	49.3568	9.9303	13.869
	48.3305	106.5418	29040.768	16.5438	24.3085	1194.6754	58844.471	52.4366	10.6577	14.885
L10	48.2620	134.8408	36446.460	16.4743	24.3085	1499.3298	73850.410	66.3645	10.1378	11.14
	51.0262	142.6643	43165.559	17.4301	25.6915	1680.1469	87465.127	70.2150	10.8533	11.927

Tower Elevation ft	Gusset Area (per face) ft ²	Gusset Thickness in	Gusset Grade	Adjust. Factor A _r	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 150.00- 130.00				1	1	1			
L2 130.00- 110.00				1	1	1			
L3 110.00- 95.83				1	1	1			
L4 95.83-				1	1	1			

Tower Elevation	Gusset Area (per face)	Gusset Thickness	Gusset Grade	Adjust. Factor A_r	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals	Double Angle Stitch Bolt Spacing Horizontals	Double Angle Stitch Bolt Spacing Redundants
ft	ft ²	in					in	in	in
81.00									
L5 81.00-61.00				1	1	1			
L6 61.00-47.83				1	1	1			
L7 47.83-34.00				1	1	1			
L8 34.00-29.58				1	1	1			
L9 29.58-14.67				1	1	1			
L10 14.67-0.00				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
Black Cable .4"	C	No	Surface Ar (CaAa)	127.00 - 0.00	1	1	0.000	0.5200		0.14
PWRT-608-S(13/16")	C	No	Surface Ar (CaAa)	127.00 - 0.00	2	2	0.000	0.8200		0.62
FLC 114-50J(1-1/4)	A	No	Surface Ar (CaAa)	127.00 - 0.00	12	12	0.000	1.5800		0.70
*										
RF 1 5/8 inch-50(1-5/8")	C	No	Surface Ar (CaAa)	80.00 - 0.00	6	6	-0.500	1.9700		0.97
FLC 114-50J(1-1/4")	C	No	Surface Ar (CaAa)	80.00 - 0.00	1	1	-0.300	1.5800		0.70

LCF158-50A(1-5/8")	A	No	Surface Ar (CaAa)	116.00 - 0.00	12	12	0.000	1.9800		0.80
HCS 6X12 4AWG(1-5/8)	A	No	Surface Ar (CaAa)	116.00 - 0.00	3	3	0.000	1.6600		2.40
**										
Step Bolts	C	No	Surface Ar (CaAa)	140.00 - 12.25	1	1	0.000	0.3750		2.00
Safety Line 3/8	C	No	Surface Ar (CaAa)	150.00 - 12.25	1	1	0.000	0.3750		0.22
**										
WT6x25 Reinforcement	A	No	Surface Ar (CaAa)	15.94 - 0.00	1	1	0.000	8.0000		25.00
WT6x25 Reinforcement	A	No	Surface Ar (CaAa)	15.94 - 0.00	1	1	0.500	8.0000		25.00
WT6x25 Reinforcement	B	No	Surface Ar (CaAa)	15.94 - 0.00	1	1	0.250	8.0000		25.00
WT6x25 Reinforcement	C	No	Surface Ar (CaAa)	15.94 - 0.00	1	1	0.000	8.0000		25.00
WT6x25 Reinforcement	A	No	Surface Ar (CaAa)	31.00 - 0.00	1	1	-0.250	8.0000		25.00
WT6x25 Reinforcement	A	No	Surface Ar (CaAa)	31.00 - 0.00	1	1	0.250	8.0000		25.00
WT6x25 Reinforcement	B	No	Surface Ar (CaAa)	31.00 - 0.00	1	1	0.000	8.0000		25.00
WT6x25 Reinforcement	C	No	Surface Ar (CaAa)	31.00 - 0.00	1	1	0.250	8.0000		25.00

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} ft ² /ft	Weight plf
Inner Duct	C	No	No	Inside Pole	127.00 - 0.00	1	No Ice	0.00	1.16
							1/2" Ice	0.00	1.16
							1" Ice	0.00	1.16
*									
AVA5-50(7/8")	C	No	No	Inside Pole	104.00 - 0.00	6	No Ice	0.00	0.30
							1/2" Ice	0.00	0.30
							1" Ice	0.00	0.30
AVA5-50(7/8")	C	No	No	Inside Pole	149.00 - 104.00	2	No Ice	0.00	0.30
							1/2" Ice	0.00	0.30
							1" Ice	0.00	0.30
LCF114-50J(1-1/4")	C	No	No	Inside Pole	149.00 - 0.00	1	No Ice	0.00	0.70
							1/2" Ice	0.00	0.70
							1" Ice	0.00	0.70
*									
FLC78-50J(7/8")	C	No	No	Inside Pole	138.00 - 0.00	1	No Ice	0.00	0.40
							1/2" Ice	0.00	0.40
							1" Ice	0.00	0.40
FLC 114-50J(1-1/4")	C	No	No	Inside Pole	138.00 - 0.00	3	No Ice	0.00	0.70
							1/2" Ice	0.00	0.70
							1" Ice	0.00	0.70

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation	Face	A _R	A _F	C _{AA} In Face	C _{AA} Out Face	Weight
n	ft		ft ²	ft ²	ft ²	ft ²	K
L1	150.00-130.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	1.125	0.000	0.07
L2	130.00-110.00	A	0.000	0.000	49.476	0.000	0.24
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	5.172	0.000	0.16
L3	110.00-95.83	A	0.000	0.000	67.591	0.000	0.36
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	4.123	0.000	0.13
L4	95.83-81.00	A	0.000	0.000	70.739	0.000	0.37
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	4.316	0.000	0.14
L5	81.00-61.00	A	0.000	0.000	95.400	0.000	0.50
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	31.280	0.000	0.32
L6	61.00-47.83	A	0.000	0.000	62.821	0.000	0.33
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	21.480	0.000	0.21
L7	47.83-34.00	A	0.000	0.000	65.969	0.000	0.35
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	22.557	0.000	0.23
L8	34.00-29.58	A	0.000	0.000	23.334	0.000	0.18
		B	0.000	0.000	1.133	0.000	0.04
		C	0.000	0.000	8.337	0.000	0.11
L9	29.58-14.67	A	0.000	0.000	97.030	0.000	1.18
		B	0.000	0.000	12.947	0.000	0.40
		C	0.000	0.000	37.270	0.000	0.65
L10	14.67-0.00	A	0.000	0.000	116.920	0.000	1.84
		B	0.000	0.000	23.472	0.000	0.73
		C	0.000	0.000	46.480	0.000	0.95

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} In Face ft ²	C_{AA} Out Face ft ²	Weight K
L1	150.00-130.00	A	1.733	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	11.523	0.000	0.20
L2	130.00-110.00	A	1.706	0.000	0.000	74.216	0.000	1.10
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	32.574	0.000	0.53
L3	110.00-95.83	A	1.681	0.000	0.000	102.349	0.000	1.53
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	24.946	0.000	0.40
L4	95.83-81.00	A	1.655	0.000	0.000	107.116	0.000	1.60
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	26.108	0.000	0.43
L5	81.00-61.00	A	1.619	0.000	0.000	143.536	0.000	2.10
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	79.082	0.000	1.20
L6	61.00-47.83	A	1.577	0.000	0.000	94.100	0.000	1.35
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	52.907	0.000	0.79
L7	47.83-34.00	A	1.532	0.000	0.000	98.816	0.000	1.42
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	55.559	0.000	0.83
L8	34.00-29.58	A	1.494	0.000	0.000	34.398	0.000	0.56
		B		0.000	0.000	1.557	0.000	0.06
		C		0.000	0.000	18.827	0.000	0.31
L9	29.58-14.67	A	1.441	0.000	0.000	140.255	0.000	2.78
		B		0.000	0.000	17.610	0.000	0.67
		C		0.000	0.000	74.884	0.000	1.49
L10	14.67-0.00	A	1.289	0.000	0.000	163.732	0.000	3.62
		B		0.000	0.000	31.038	0.000	1.16
		C		0.000	0.000	77.254	0.000	1.80

Feed Line Center of Pressure

Section	Elevation ft	CP_x in	CP_z in	CP_x Ice in	CP_z Ice in
L1	150.00-130.00	0.0000	0.3275	0.0000	2.1212
L2	130.00-110.00	-6.4270	-2.9716	-5.0187	-0.4862
L3	110.00-95.83	-8.9614	-4.5637	-7.0447	-2.1555
L4	95.83-81.00	-9.2997	-4.7347	-7.3720	-2.2514
L5	81.00-61.00	-6.6499	-2.4405	-5.0551	-0.2671
L6	61.00-47.83	-6.8301	-2.4446	-5.2499	-0.2263
L7	47.83-34.00	-7.0038	-2.5073	-5.4123	-0.2332
L8	34.00-29.58	-7.1866	-2.6293	-5.7371	-0.5320
L9	29.58-14.67	-6.8472	-2.6605	-6.0339	-0.9930
L10	14.67-0.00	-5.7904	-2.9765	-5.4160	-1.9995

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

Shielding Factor K_a

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L1	19	Step Bolts	130.00 - 140.00	1.0000	1.0000
L1	20	Safety Line 3/8	130.00 - 150.00	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L2	1	Black Cable .4"	110.00 - 127.00	1.0000	1.0000
L2	2	PWRT-608-S(13/16")	110.00 - 127.00	1.0000	1.0000
L2	3	FLC 114-50J(1-1/4)	110.00 - 127.00	1.0000	1.0000
L2	16	LCF158-50A(1-5/8")	110.00 - 116.00	1.0000	1.0000
L2	17	HCS 6X12 4AWG(1-5/8)	110.00 - 116.00	1.0000	1.0000
L2	19	Step Bolts	110.00 - 130.00	1.0000	1.0000
L2	20	Safety Line 3/8	110.00 - 130.00	1.0000	1.0000
L3	1	Black Cable .4"	95.83 - 110.00	1.0000	1.0000
L3	2	PWRT-608-S(13/16")	95.83 - 110.00	1.0000	1.0000
L3	3	FLC 114-50J(1-1/4)	95.83 - 110.00	1.0000	1.0000
L3	16	LCF158-50A(1-5/8")	95.83 - 110.00	1.0000	1.0000
L3	17	HCS 6X12 4AWG(1-5/8)	95.83 - 110.00	1.0000	1.0000
L3	19	Step Bolts	95.83 - 110.00	1.0000	1.0000
L3	20	Safety Line 3/8	95.83 - 110.00	1.0000	1.0000
L5	1	Black Cable .4"	61.00 - 81.00	1.0000	1.0000
L5	2	PWRT-608-S(13/16")	61.00 - 81.00	1.0000	1.0000
L5	3	FLC 114-50J(1-1/4)	61.00 - 81.00	1.0000	1.0000
L5	10	RF 1 5/8 inch-50(1-5/8")	61.00 - 80.00	1.0000	1.0000
L5	11	FLC 114-50J(1-1/4")	61.00 - 80.00	1.0000	1.0000
L5	16	LCF158-50A(1-5/8")	61.00 - 81.00	1.0000	1.0000
L5	17	HCS 6X12 4AWG(1-5/8)	61.00 - 81.00	1.0000	1.0000
L5	19	Step Bolts	61.00 - 81.00	1.0000	1.0000
L5	20	Safety Line 3/8	61.00 - 81.00	1.0000	1.0000
L6	1	Black Cable .4"	47.83 - 61.00	1.0000	1.0000
L6	2	PWRT-608-S(13/16")	47.83 - 61.00	1.0000	1.0000
L6	3	FLC 114-50J(1-1/4)	47.83 - 61.00	1.0000	1.0000
L6	10	RF 1 5/8 inch-50(1-5/8")	47.83 - 61.00	1.0000	1.0000
L6	11	FLC 114-50J(1-1/4")	47.83 - 61.00	1.0000	1.0000
L6	16	LCF158-50A(1-5/8")	47.83 - 61.00	1.0000	1.0000
L6	17	HCS 6X12 4AWG(1-5/8)	47.83 - 61.00	1.0000	1.0000
L6	19	Step Bolts	47.83 - 61.00	1.0000	1.0000
L6	20	Safety Line 3/8	47.83 - 61.00	1.0000	1.0000
L8	1	Black Cable .4"	29.58 - 34.00	1.0000	1.0000
L8	2	PWRT-608-S(13/16")	29.58 - 34.00	1.0000	1.0000
L8	3	FLC 114-50J(1-1/4)	29.58 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L8	10	RF 1 5/8 inch-50(1-5/8")	34.00 29.58 -	1.0000	1.0000
L8	11	FLC 114-50J(1-1/4")	34.00 29.58 -	1.0000	1.0000
L8	16	LCF158-50A(1-5/8")	34.00 29.58 -	1.0000	1.0000
L8	17	HCS 6X12 4AWG(1-5/8)	34.00 29.58 -	1.0000	1.0000
L8	19	Step Bolts	34.00 29.58 -	1.0000	1.0000
L8	20	Safety Line 3/8	34.00 29.58 -	1.0000	1.0000
L8	26	WT6x25 Reinforcement	31.00 29.58 -	1.0000	1.0000
L8	27	WT6x25 Reinforcement	31.00 29.58 -	1.0000	1.0000
L8	28	WT6x25 Reinforcement	31.00 29.58 -	1.0000	1.0000
L8	29	WT6x25 Reinforcement	31.00 29.58 -	1.0000	1.0000
L9	1	Black Cable .4"	14.67 - 29.58	1.0000	1.0000
L9	2	PWRT-608-S(13/16")	14.67 - 29.58	1.0000	1.0000
L9	3	FLC 114-50J(1-1/4)	14.67 - 29.58	1.0000	1.0000
L9	10	RF 1 5/8 inch-50(1-5/8")	14.67 - 29.58	1.0000	1.0000
L9	11	FLC 114-50J(1-1/4")	14.67 - 29.58	1.0000	1.0000
L9	16	LCF158-50A(1-5/8")	14.67 - 29.58	1.0000	1.0000
L9	17	HCS 6X12 4AWG(1-5/8)	14.67 - 29.58	1.0000	1.0000
L9	19	Step Bolts	14.67 - 29.58	1.0000	1.0000
L9	20	Safety Line 3/8	14.67 - 29.58	1.0000	1.0000
L9	22	WT6x25 Reinforcement	15.94 14.67 -	1.0000	1.0000
L9	23	WT6x25 Reinforcement	15.94 14.67 -	1.0000	1.0000
L9	24	WT6x25 Reinforcement	15.94 14.67 -	1.0000	1.0000
L9	25	WT6x25 Reinforcement	15.94 14.67 -	1.0000	1.0000
L9	26	WT6x25 Reinforcement	15.94 14.67 -	1.0000	1.0000
L9	27	WT6x25 Reinforcement	29.58 14.67 -	1.0000	1.0000
L9	28	WT6x25 Reinforcement	29.58 14.67 -	1.0000	1.0000
L9	29	WT6x25 Reinforcement	29.58 14.67 -	1.0000	1.0000
L10	1	Black Cable .4"	0.00 - 14.67	1.0000	1.0000
L10	2	PWRT-608-S(13/16")	0.00 - 14.67	1.0000	1.0000
L10	3	FLC 114-50J(1-1/4)	0.00 - 14.67	1.0000	1.0000
L10	10	RF 1 5/8 inch-50(1-5/8")	0.00 - 14.67	1.0000	1.0000
L10	11	FLC 114-50J(1-1/4")	0.00 - 14.67	1.0000	1.0000
L10	16	LCF158-50A(1-5/8")	0.00 - 14.67	1.0000	1.0000
L10	17	HCS 6X12 4AWG(1-5/8)	0.00 - 14.67	1.0000	1.0000
L10	19	Step Bolts	12.25 - 14.67	1.0000	1.0000
L10	20	Safety Line 3/8	12.25 - 14.67	1.0000	1.0000
L10	22	WT6x25 Reinforcement	0.00 - 14.67	1.0000	1.0000
L10	23	WT6x25 Reinforcement	0.00 - 14.67	1.0000	1.0000
L10	24	WT6x25 Reinforcement	0.00 - 14.67	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L10	25	WT6x25 Reinforcement	0.00 - 14.67	1.0000	1.0000
L10	26	WT6x25 Reinforcement	0.00 - 14.67	1.0000	1.0000
L10	27	WT6x25 Reinforcement	0.00 - 14.67	1.0000	1.0000
L10	28	WT6x25 Reinforcement	0.00 - 14.67	1.0000	1.0000
L10	29	WT6x25 Reinforcement	0.00 - 14.67	1.0000	1.0000

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustmen t °	Placement ft		C _{AA} Front ft ²	C _{AA} Side ft ²	Weight K
GPS_A	B	From Leg	4.00 0.00 0.00	0.0000	40.00	No Ice 1/2" Ice 1" Ice	0.26 0.32 0.39	0.26 0.32 0.39	0.00 0.00 0.01
3' Stand Off	B	From Leg	2.00 0.00 0.00	0.0000	40.00	No Ice 1/2" Ice 1" Ice	0.85 1.14 1.43	1.67 2.34 3.01	0.07 0.08 0.09

(2) JAHH-65B-R3B_TIA w/ Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	80.00	No Ice 1/2" Ice 1" Ice	9.35 9.92 10.46	7.65 8.83 9.73	0.09 0.17 0.25
(2) JAHH-65B-R3B_TIA w/ Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	80.00	No Ice 1/2" Ice 1" Ice	9.35 9.92 10.46	7.65 8.83 9.73	0.09 0.17 0.25
(2) JAHH-65B-R3B_TIA w/ Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	80.00	No Ice 1/2" Ice 1" Ice	9.35 9.92 10.46	7.65 8.83 9.73	0.09 0.17 0.25
BXA-70063-6CF-EDIN-X w/ Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	80.00	No Ice 1/2" Ice 1" Ice	7.81 8.36 8.87	5.80 6.95 7.82	0.04 0.10 0.17
BXA-70063-6CF-EDIN-X w/ Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	80.00	No Ice 1/2" Ice 1" Ice	7.81 8.36 8.87	5.80 6.95 7.82	0.04 0.10 0.17
BXA-70063-6CF-EDIN-X w/ Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	80.00	No Ice 1/2" Ice 1" Ice	7.81 8.36 8.87	5.80 6.95 7.82	0.04 0.10 0.17
CBRS RRH-RT4401-48A	A	From Leg	4.00 0.00 0.00	0.0000	80.00	No Ice 1/2" Ice 1" Ice	1.54 1.70 1.86	0.75 0.87 0.99	0.02 0.04 0.05
CBRS RRH-RT4401-48A	B	From Leg	4.00 0.00 0.00	0.0000	80.00	No Ice 1/2" Ice 1" Ice	1.54 1.70 1.86	0.75 0.87 0.99	0.02 0.04 0.05
CBRS RRH-RT4401-48A	C	From Leg	4.00 0.00 0.00	0.0000	80.00	No Ice 1/2" Ice 1" Ice	1.54 1.70 1.86	0.75 0.87 0.99	0.02 0.04 0.05
B5/B13 RRH-BR04C	A	From Leg	4.00 0.00	0.0000	80.00	No Ice 1/2"	1.88 2.05	1.01 1.14	0.07 0.09

Description	Face or Leg	Offset Type	Offsets:			Azimuth Adjustment	Placement	C _{AA} _{Front}	C _{AA} _{Side}	Weight
			Horz	Lateral	Vert					
			0.00				Ice	2.22	1.28	0.11
B5/B13 RRH-BR04C	B	From Leg	4.00	0.0000	80.00	1" Ice	No Ice	1.88	1.01	0.07
			0.00				1/2"	2.05	1.14	0.09
			0.00				Ice	2.22	1.28	0.11
B5/B13 RRH-BR04C	C	From Leg	4.00	0.0000	80.00	1" Ice	No Ice	1.88	1.01	0.07
			0.00				1/2"	2.05	1.14	0.09
			0.00				Ice	2.22	1.28	0.11
B2/B66 RRH-BR049	A	From Leg	4.00	0.0000	80.00	1" Ice	No Ice	1.88	1.25	0.08
			0.00				1/2"	2.05	1.39	0.10
			0.00				Ice	2.22	1.54	0.12
B2/B66 RRH-BR049	B	From Leg	4.00	0.0000	80.00	1" Ice	No Ice	1.88	1.25	0.08
			0.00				1/2"	2.05	1.39	0.10
			0.00				Ice	2.22	1.54	0.12
B2/B66 RRH-BR049	C	From Leg	4.00	0.0000	80.00	1" Ice	No Ice	1.88	1.25	0.08
			0.00				1/2"	2.05	1.39	0.10
			0.00				Ice	2.22	1.54	0.12
XXDWMM-12.5-65-8T-CBRS	A	From Leg	4.00	0.0000	80.00	1" Ice	No Ice	0.52	1.53	0.02
			0.00				1/2"	0.61	1.69	0.04
			0.00				Ice	0.72	1.85	0.05
XXDWMM-12.5-65-8T-CBRS	B	From Leg	4.00	0.0000	80.00	1" Ice	No Ice	0.52	1.53	0.02
			0.00				1/2"	0.61	1.69	0.04
			0.00				Ice	0.72	1.85	0.05
XXDWMM-12.5-65-8T-CBRS	C	From Leg	4.00	0.0000	80.00	1" Ice	No Ice	0.52	1.53	0.02
			0.00				1/2"	0.61	1.69	0.04
			0.00				Ice	0.72	1.85	0.05
CBC78T-DS-43-2X	A	From Leg	4.00	0.0000	80.00	1" Ice	No Ice	0.37	0.51	0.02
			0.00				1/2"	0.45	0.60	0.03
			0.00				Ice	0.53	0.70	0.04
CBC78T-DS-43-2X	B	From Leg	4.00	0.0000	80.00	1" Ice	No Ice	0.37	0.51	0.02
			0.00				1/2"	0.45	0.60	0.03
			0.00				Ice	0.53	0.70	0.04
CBC78T-DS-43-2X	C	From Leg	4.00	0.0000	80.00	1" Ice	No Ice	0.37	0.51	0.02
			0.00				1/2"	0.45	0.60	0.03
			0.00				Ice	0.53	0.70	0.04
RUSDC-6267-PF-48	C	From Leg	4.00	0.0000	80.00	1" Ice	No Ice	3.23	1.04	0.02
			0.00				1/2"	3.45	1.18	0.04
			0.00				Ice	3.68	1.33	0.07
13' Low Profile Platform	C	None		0.0000	80.00	1" Ice	No Ice	24.33	24.33	1.65
							1/2"	30.22	30.22	2.03
							Ice	36.11	36.11	2.41
HRK14 SitePro1 Top Rail Kit	C	From Leg	0.00	0.0000	80.00	1" Ice	No Ice	4.56	4.56	0.25
			0.00				1/2"	6.39	6.39	0.31
			3.00				Ice	8.18	8.18	0.40
PRK-1245	C	From Leg	0.00	0.0000	80.00	1" Ice	No Ice	11.84	11.84	0.28
			0.00				1/2"	16.96	16.96	0.30
			3.00				Ice	22.08	22.08	0.32
*****							1" Ice			
8' x 2" Dia Dipole	C	From Leg	6.00	0.0000	104.00		No Ice	1.60	1.60	0.02
			0.00				1/2"	2.42	2.42	0.03

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment t °	Placement ft	C _{AA} Front ft ²	C _{AA} Side ft ²	Weight K	
			4.00			Ice 3.24	3.24	0.05	
15'x1.25" Dia Whips	A	From Leg	6.00 0.00 7.50	0.0000	104.00	1" Ice No Ice 1/2" Ice 1" Ice	1.88 3.39 4.93	1.88 3.39 4.93	0.02 0.04 0.06
20' x 2" Dia Whips	C	From Leg	6.00 0.00 -10.00	0.0000	104.00	1" Ice No Ice 1/2" Ice 1" Ice	4.00 6.03 8.07	4.00 6.03 8.07	0.02 0.05 0.09
20' x 2" Dia Whips	A	From Leg	6.00 0.00 -10.00	0.0000	104.00	1" Ice No Ice 1/2" Ice 1" Ice	4.00 6.03 8.07	4.00 6.03 8.07	0.02 0.05 0.09
6' Standoff	A	From Leg	3.00 0.00 0.00	0.0000	104.00	1" Ice No Ice 1/2" Ice 1" Ice	0.85 1.14 1.43	1.67 2.34 3.01	0.07 0.08 0.09
6' Standoff	B	From Leg	3.00 0.00 0.00	0.0000	104.00	1" Ice No Ice 1/2" Ice 1" Ice	0.85 1.14 1.43	1.67 2.34 3.01	0.07 0.08 0.09
6' Standoff	C	From Leg	3.00 0.00 0.00	0.0000	104.00	1" Ice No Ice 1/2" Ice 1" Ice	0.85 1.14 1.43	1.67 2.34 3.01	0.07 0.08 0.09
6' Standoff	C	From Face	3.00 0.00 0.00	0.0000	104.00	1" Ice No Ice 1/2" Ice 1" Ice	0.85 1.14 1.43	1.67 2.34 3.01	0.07 0.08 0.09
(2) Collar Mount	C	None		0.0000	105.00	1" Ice No Ice 1/2" Ice 1" Ice	1.14 1.49 1.91	1.14 1.49 1.91	0.32 0.34 0.37
(2) Collar Mount	C	None		0.0000	106.00	1" Ice No Ice 1/2" Ice 1" Ice	1.14 1.49 1.91	1.14 1.49 1.91	0.32 0.34 0.37

(2) RADIO 4449 B12/B71	B	From Leg	4.00 0.00 0.00	0.0000	116.00	1" Ice No Ice 1/2" Ice 1" Ice	1.65 1.81 1.98	1.16 1.30 1.45	0.07 0.09 0.11
RADIO 4449 B12/B71	C	From Leg	4.00 0.00 0.00	0.0000	116.00	1" Ice No Ice 1/2" Ice 1" Ice	1.65 1.81 1.98	1.16 1.30 1.45	0.07 0.09 0.11
(2) RRUS 4415 B25	B	From Leg	4.00 0.00 0.00	0.0000	116.00	1" Ice No Ice 1/2" Ice 1" Ice	1.64 1.80 1.97	0.68 0.79 0.91	0.04 0.06 0.07
RRUS 4415 B25	C	From Leg	4.00 0.00 0.00	0.0000	116.00	1" Ice No Ice 1/2" Ice 1" Ice	1.64 1.80 1.97	0.68 0.79 0.91	0.04 0.06 0.07
(2) SDX1926Q-43	B	From Leg	4.00 0.00 0.00	0.0000	116.00	1" Ice No Ice 1/2" Ice 1" Ice	0.24 0.31 0.38	0.10 0.14 0.19	0.01 0.01 0.01
SDX1926Q-43	C	From Leg	4.00 0.00 0.00	0.0000	116.00	1" Ice No Ice 1/2" Ice 1" Ice	0.24 0.31 0.38	0.10 0.14 0.19	0.01 0.01 0.01
(2) Twin Style TMA	B	From Leg	4.00 0.00	0.0000	116.00	1" Ice No Ice 1/2"	6.68 7.07	3.48 4.12	0.07 0.12

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment t °	Placement ft	CA _{AA} Front ft ²	CA _{AA} Side ft ²	Weight K
			0.00			Ice 1" Ice 7.48	4.78	0.18
Twin Style TMA	C	From Leg	4.00 0.00 0.00	0.0000	116.00	No Ice 1/2" Ice 7.48	6.68 4.12 4.78	0.07 0.12 0.18
(2) APXVARR24_43-C-NA20 w/ Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	116.00	No Ice 1/2" Ice 13.09	11.65 6.52 7.84	0.13 0.24 0.37
APXVARR24_43-C-NA20 w/ Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	116.00	No Ice 1/2" Ice 13.09	11.65 6.52 7.84	0.13 0.24 0.37
(2) AIR 32 B66Aa B2a w/ Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	116.00	No Ice 1/2" Ice 7.76	6.81 6.14 7.73	0.15 0.22 0.28
AIR 32 B66Aa B2a w/ Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	116.00	No Ice 1/2" Ice 7.76	6.81 6.14 7.73	0.15 0.22 0.28
(2) AIR 6449 B41 w/ Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	116.00	No Ice 1/2" Ice 8.49	6.90 4.32 6.28	0.13 0.19 0.26
AIR 6449 B41 w/ Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	116.00	No Ice 1/2" Ice 8.49	6.90 4.32 6.28	0.13 0.19 0.26
SitePro1 HRK12 Handrail kit	C	None		0.0000	116.00	No Ice 1/2" Ice 8.60	4.80 4.80 8.60	0.25 0.29 0.34
12' SitePro1 Platform Mount (F4P-12W)	C	None		0.0000	116.00	No Ice 1/2" Ice 73.41	58.68 58.68 73.41	2.75 3.84 5.07

HPA-65R-BUU-H6_TIA w/ Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	127.00	No Ice 1/2" Ice 10.84	9.72 7.15 9.24	0.07 0.15 0.23
HPA-65R-BUU-H6_TIA w/ Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	127.00	No Ice 1/2" Ice 10.84	9.72 7.15 9.24	0.07 0.15 0.23
HPA-65R-BUU-H6_TIA w/ Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	127.00	No Ice 1/2" Ice 10.84	9.72 7.15 9.24	0.07 0.15 0.23
(2) 7770.00 w/ Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	127.00	No Ice 1/2" Ice 6.61	5.75 4.25 5.71	0.06 0.10 0.16
(2) 7770.00 w/ Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	127.00	No Ice 1/2" Ice 6.61	5.75 4.25 5.71	0.06 0.10 0.16
(2) 7770.00 w/ Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	127.00	No Ice 1/2" Ice 6.61	5.75 4.25 5.71	0.06 0.10 0.16
LGP214nn	A	From Leg	4.00 0.00	0.0000	127.00	No Ice 1/2" 1.24	1.10 0.35 0.44	0.01 0.02

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustmen t °	Placement ft	C _{AA} Front ft ²	C _{AA} Side ft ²	Weight K
			0.00			Ice 1" Ice 1.38	0.54	0.03
LGP214nn	B	From Leg	4.00 0.00 0.00	0.0000	127.00	No Ice 1/2" Ice 1.38	0.35 0.44 0.54	0.01 0.02 0.03
LGP214nn	C	From Leg	4.00 0.00 0.00	0.0000	127.00	No Ice 1/2" Ice 1.38	0.35 0.44 0.54	0.01 0.02 0.03
13' Low-Profile Platform	C	None		0.0000	127.00	No Ice 1/2" Ice 1.38	24.53 29.94 35.35	1.34 1.65 1.96
80010965_TIA w/ Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	127.00	No Ice 1/2" Ice 1.38	7.63 8.90 9.96	0.14 0.23 0.34
80010965_TIA w/ Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	127.00	No Ice 1/2" Ice 1.38	7.63 8.90 9.96	0.14 0.23 0.34
80010965_TIA w/ Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	127.00	No Ice 1/2" Ice 1.38	7.63 8.90 9.96	0.14 0.23 0.34
RADIO 4415 B30	A	From Leg	4.00 0.00 0.00	0.0000	127.00	No Ice 1/2" Ice 1.38	0.64 0.75 0.87	0.04 0.05 0.07
RADIO 4415 B30	B	From Leg	4.00 0.00 0.00	0.0000	127.00	No Ice 1/2" Ice 1.38	0.64 0.75 0.87	0.04 0.05 0.07
RADIO 4415 B30	C	From Leg	4.00 0.00 0.00	0.0000	127.00	No Ice 1/2" Ice 1.38	0.64 0.75 0.87	0.04 0.05 0.07
RRUS 4449 B5/B12	A	From Leg	4.00 0.00 0.00	0.0000	127.00	No Ice 1/2" Ice 1.38	1.41 1.56 1.73	0.07 0.09 0.11
RRUS 4449 B5/B12	B	From Leg	4.00 0.00 0.00	0.0000	127.00	No Ice 1/2" Ice 1.38	1.41 1.56 1.73	0.07 0.09 0.11
RRUS 4449 B5/B12	C	From Leg	4.00 0.00 0.00	0.0000	127.00	No Ice 1/2" Ice 1.38	1.41 1.56 1.73	0.07 0.09 0.11
DC6-48-60-18-8F	A	From Leg	4.00 0.00 0.00	0.0000	127.00	No Ice 1/2" Ice 1.38	0.92 1.46 1.64	0.02 0.04 0.06
*						1" Ice		
DC6-48-60-18-8F	C	From Leg	4.00 0.00 0.00	0.0000	129.00	No Ice 1/2" Ice 1.38	0.92 1.46 1.64	0.02 0.04 0.06
RRUS 11	A	From Leg	4.00 0.00 0.00	0.0000	129.00	No Ice 1/2" Ice 1.38	1.19 1.33 1.49	0.05 0.07 0.10
RRUS 11	B	From Leg	4.00 0.00	0.0000	129.00	No Ice 1/2"	1.19 1.33	0.05 0.07

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustmen t °	Placement ft	C _{AA} Front ft ²	C _{AA} Side ft ²	Weight K
			0.00			Ice 1" Ice 3.21	1.49	0.10
RRUS 11	C	From Leg	4.00 0.00 0.00	0.0000	129.00	No Ice 1/2" Ice 3.21	1.19 1.33	0.05 0.07 0.10
RRUS 12	A	From Leg	4.00 0.00 0.00	0.0000	129.00	1" Ice No Ice 1/2" Ice 3.59	1.29 1.44 1.60	0.06 0.08 0.11
RRUS 12	B	From Leg	4.00 0.00 0.00	0.0000	129.00	1" Ice No Ice 1/2" Ice 3.59	1.29 1.44 1.60	0.06 0.08 0.11
RRUS 12	C	From Leg	4.00 0.00 0.00	0.0000	129.00	1" Ice No Ice 1/2" Ice 3.59	1.29 1.44 1.60	0.06 0.08 0.11
RRU A2	A	From Leg	4.00 0.00 0.00	0.0000	129.00	1" Ice No Ice 1/2" Ice 2.43	0.50 0.61 0.73	0.02 0.03 0.05
RRU A2	B	From Leg	4.00 0.00 0.00	0.0000	129.00	1" Ice No Ice 1/2" Ice 2.43	0.50 0.61 0.73	0.02 0.03 0.05
RRU A2	C	From Leg	4.00 0.00 0.00	0.0000	129.00	1" Ice No Ice 1/2" Ice 2.43	0.50 0.61 0.73	0.02 0.03 0.05
Collar Mount	C	None		0.0000	129.00	1" Ice No Ice 1/2" Ice 1.91	1.14 1.14 1.49 1.91	0.32 0.34 0.37

RRUS A2 B13	A	From Leg	4.00 0.00 0.00	0.0000	138.00	1" Ice No Ice 1/2" Ice 3.21	1.72 1.90 2.07	0.08 0.10 0.13
RRUS A2 B13	B	From Leg	4.00 0.00 0.00	0.0000	138.00	1" Ice No Ice 1/2" Ice 3.21	1.72 1.90 2.07	0.08 0.10 0.13
RRUS A2 B13	C	From Leg	4.00 0.00 0.00	0.0000	138.00	1" Ice No Ice 1/2" Ice 3.21	1.72 1.90 2.07	0.08 0.10 0.13
RRUS 32 B30	A	From Leg	4.00 0.00 0.00	0.0000	138.00	1" Ice No Ice 1/2" Ice 3.14	1.57 1.76 1.95	0.06 0.08 0.10
RRUS 32 B30	B	From Leg	4.00 0.00 0.00	0.0000	138.00	1" Ice No Ice 1/2" Ice 3.14	1.57 1.76 1.95	0.06 0.08 0.10
RRUS 32 B30	C	From Leg	4.00 0.00 0.00	0.0000	138.00	1" Ice No Ice 1/2" Ice 3.14	1.57 1.76 1.95	0.06 0.08 0.10
DT465B-2XR-V2 w/ Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	138.00	1" Ice No Ice 1/2" Ice 6.45	4.38 4.84 5.30	0.09 0.16 0.25
DT465B-2XR-V2 w/ Mount Pipe	B	From Leg	4.00 0.00	0.0000	138.00	1" Ice No Ice 1/2" 5.97	4.38 4.84	0.09 0.16

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustmen t °	Placement ft	C _{AA} Front ft ²	C _{AA} Side ft ²	Weight K	
			0.00			Ice 6.45	5.30	0.25	
DT465B-2XR-V2 w/ Mount Pipe	C	From Leg	4.00	0.0000	138.00	1" Ice			
			0.00			No Ice	5.50	4.38	0.09
			0.00			1/2"	5.97	4.84	0.16
APXVSP18-C-A20_TIA w/ Mount Pipe	A	From Leg	4.00	0.0000	138.00	Ice	6.45	5.30	0.25
			0.00			1" Ice			
			0.00			No Ice	8.26	7.47	0.10
APXVSP18-C-A20_TIA w/ Mount Pipe	A	From Leg	4.00	0.0000	138.00	1/2"	8.82	8.66	0.17
			0.00			Ice	9.35	9.56	0.24
			0.00			1" Ice			
APXVSP18-C-A20_TIA w/ Mount Pipe	B	From Leg	4.00	0.0000	138.00	No Ice	8.26	7.47	0.10
			0.00			1/2"	8.82	8.66	0.17
			0.00			Ice	9.35	9.56	0.24
APXVSP18-C-A20_TIA w/ Mount Pipe	C	From Leg	4.00	0.0000	138.00	1" Ice			
			0.00			No Ice	8.26	7.47	0.10
			0.00			1/2"	8.82	8.66	0.17
FD-RRH-2x50-800	A	From Leg	4.00	0.0000	138.00	Ice	9.35	9.56	0.24
			0.00			1" Ice			
			0.00			No Ice	1.36	3.01	0.05
FD-RRH-2x50-800	B	From Leg	4.00	0.0000	138.00	1/2"	1.52	3.22	0.08
			0.00			Ice	1.68	3.45	0.10
			0.00			1" Ice			
FD-RRH-2x50-800	B	From Leg	4.00	0.0000	138.00	No Ice	1.36	3.01	0.05
			0.00			1/2"	1.52	3.22	0.08
			0.00			Ice	1.68	3.45	0.10
FD-RRH-2x50-800	C	From Leg	4.00	0.0000	138.00	1" Ice			
			0.00			No Ice	1.36	3.01	0.05
			0.00			1/2"	1.52	3.22	0.08
RRH4X45-19	A	From Leg	4.00	0.0000	138.00	Ice	1.68	3.45	0.10
			0.00			1" Ice			
			0.00			No Ice	2.31	2.38	0.09
RRH4X45-19	B	From Leg	4.00	0.0000	138.00	1/2"	2.52	2.58	0.11
			0.00			Ice	2.73	2.79	0.14
			0.00			1" Ice			
RRH4X45-19	B	From Leg	4.00	0.0000	138.00	No Ice	2.31	2.38	0.09
			0.00			1/2"	2.52	2.58	0.11
			0.00			Ice	2.73	2.79	0.14
RRH4X45-19	C	From Leg	4.00	0.0000	138.00	1" Ice			
			0.00			No Ice	2.31	2.38	0.09
			0.00			1/2"	2.52	2.58	0.11
13' Low-Profile Platform	C	None		0.0000	138.00	Ice	2.73	2.79	0.14
						1" Ice			
						No Ice	44.21	44.21	1.77
2" STD Pipe (2.375 OD)x6'-0"	A	From Leg	4.00	0.0000	138.00	1/2"	53.97	53.97	2.32
			0.00			Ice	63.73	63.73	2.87
			0.00			1" Ice			
2" STD Pipe (2.375 OD)x6'-0"	A	From Leg	4.00	0.0000	138.00	No Ice	1.43	1.43	0.02
			0.00			1/2"	1.92	1.92	0.03
			0.00			Ice	2.29	2.29	0.05
2" STD Pipe (2.375 OD)x6'-0"	B	From Leg	4.00	0.0000	138.00	1" Ice			
			0.00			No Ice	1.43	1.43	0.02
			0.00			1/2"	1.92	1.92	0.03
2" STD Pipe (2.375 OD)x6'-0"	B	From Leg	4.00	0.0000	138.00	Ice	2.29	2.29	0.05
			0.00			1" Ice			
			0.00			No Ice	1.43	1.43	0.02
2" STD Pipe (2.375 OD)x6'-0"	C	From Leg	4.00	0.0000	138.00	1/2"	1.92	1.92	0.03
			0.00			Ice	2.29	2.29	0.05
			0.00			1" Ice			

10' x 1.5" Dia Dipole	B	From Leg	4.00	0.0000	149.00	No Ice	2.00	2.00	0.02
			0.00			1/2"	3.02	3.02	0.04
			5.00			Ice	4.07	4.07	0.06
10' x 1.5" Dia Dipole	C	From Leg	4.00	0.0000	149.00	1" Ice			
			0.00			No Ice	2.00	2.00	0.02
						1/2"	3.02	3.02	0.04

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment t °	Placement ft	C _{AA} Front ft ²	C _{AA} Side ft ²	Weight K
			5.00			Ice 1" Ice 4.07	4.07	0.06
12' x 3" Dia Omni	A	From Leg	4.00 0.00 5.00	0.0000	149.00	No Ice 1/2" Ice 6.08	3.60 4.83 6.08	0.04 0.07 0.10
13' T-Arms	C	None		0.0000	149.00	1" Ice No Ice 1/2" Ice 19.29	11.59 11.59 15.44 19.29	0.77 0.99 1.21
(4) 2" STD Pipe (2.375 OD)x6'-0"	A	From Leg	4.00 0.00 0.00	0.0000	149.00	1" Ice No Ice 1/2" Ice 2.29	1.43 1.43 1.92 2.29	0.02 0.03 0.05
(4) 2" STD Pipe (2.375 OD)x6'-0"	B	From Leg	4.00 0.00 0.00	0.0000	149.00	1" Ice No Ice 1/2" Ice 2.29	1.43 1.43 1.92 2.29	0.02 0.03 0.05
(4) 2" STD Pipe (2.375 OD)x6'-0"	C	From Leg	4.00 0.00 0.00	0.0000	149.00	1" Ice No Ice 1/2" Ice 2.29	1.43 1.43 1.92 2.29	0.02 0.03 0.05

Load Combinations

Comb. No.	Description
1	Dead Only
2	1.2 Dead+1.6 Wind 0 deg - No Ice
3	0.9 Dead+1.6 Wind 0 deg - No Ice
4	1.2 Dead+1.6 Wind 30 deg - No Ice
5	0.9 Dead+1.6 Wind 30 deg - No Ice
6	1.2 Dead+1.6 Wind 60 deg - No Ice
7	0.9 Dead+1.6 Wind 60 deg - No Ice
8	1.2 Dead+1.6 Wind 90 deg - No Ice
9	0.9 Dead+1.6 Wind 90 deg - No Ice
10	1.2 Dead+1.6 Wind 120 deg - No Ice
11	0.9 Dead+1.6 Wind 120 deg - No Ice
12	1.2 Dead+1.6 Wind 150 deg - No Ice
13	0.9 Dead+1.6 Wind 150 deg - No Ice
14	1.2 Dead+1.6 Wind 180 deg - No Ice
15	0.9 Dead+1.6 Wind 180 deg - No Ice
16	1.2 Dead+1.6 Wind 210 deg - No Ice
17	0.9 Dead+1.6 Wind 210 deg - No Ice
18	1.2 Dead+1.6 Wind 240 deg - No Ice
19	0.9 Dead+1.6 Wind 240 deg - No Ice
20	1.2 Dead+1.6 Wind 270 deg - No Ice
21	0.9 Dead+1.6 Wind 270 deg - No Ice
22	1.2 Dead+1.6 Wind 300 deg - No Ice
23	0.9 Dead+1.6 Wind 300 deg - No Ice
24	1.2 Dead+1.6 Wind 330 deg - No Ice
25	0.9 Dead+1.6 Wind 330 deg - No Ice
26	1.2 Dead+1.0 Ice+1.0 Temp
27	1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp
28	1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp
29	1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp
30	1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp
31	1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp
32	1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp

Comb. No.	Description
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	150 - 130	Pole	Max Tension	48	0.00	0.00	0.00
			Max. Compression	26	-15.21	-0.00	-0.01
			Max. Mx	8	-6.45	-89.47	-0.04
			Max. My	2	-6.47	0.01	89.40
			Max. Vy	8	8.34	-89.47	-0.04
			Max. Vx	14	8.32	-0.05	-89.27
L2	130 - 110	Pole	Max. Torque	8			0.37
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-44.26	-7.30	-15.81
			Max. Mx	8	-17.90	-412.30	-6.49
			Max. My	14	-17.99	-3.90	-410.40
			Max. Vy	8	22.27	-412.30	-6.49
L3	110 - 95.83	Pole	Max. Vx	14	21.59	-3.90	-410.40
			Max. Torque	18			6.80
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-50.29	-4.29	-15.03
			Max. Mx	8	-21.25	-617.63	-8.45
			Max. My	14	-21.34	-5.16	-610.13
L4	95.83 - 81	Pole	Max. Vy	20	-24.11	613.25	-2.29
			Max. Vx	14	23.39	-5.16	-610.13
			Max. Torque	18			6.80
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-58.94	-1.24	-14.68
			Max. Mx	8	-26.18	-1122.27	-12.32
L5	81 - 61	Pole	Max. My	14	-26.25	-8.39	-1100.84
			Max. Vy	20	-26.38	1119.45	1.81
			Max. Vx	14	25.66	-8.39	-1100.84
			Max. Torque	18			5.81
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-76.81	3.92	-16.29
L6	61 - 47.83	Pole	Max. Mx	20	-35.15	1758.24	4.71
			Max. My	14	-35.23	-10.11	-1720.28
			Max. Vy	20	-33.13	1758.24	4.71
			Max. Vx	14	32.08	-10.11	-1720.28
			Max. Torque	20			5.93
			Max Tension	1	0.00	0.00	0.00
L7	47.83 - 34	Pole	Max. Compression	26	-79.95	5.14	-16.45
			Max. Mx	20	-37.06	1992.84	5.90
			Max. My	14	-37.13	-10.97	-1946.89
			Max. Vy	20	-33.84	1992.84	5.90
			Max. Vx	14	32.71	-10.97	-1946.89
			Max. Torque	20			5.92
L7	47.83 - 34	Pole	Max Tension	1	0.00	0.00	0.00

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L8	34 - 29.5833	Pole	Max. Compression	26	-91.68	8.20	-17.08
			Max. Mx	20	-44.58	2692.26	9.08
			Max. My	14	-44.63	-13.55	-2620.87
			Max. Vy	20	-35.92	2692.26	9.08
			Max. Vx	14	34.60	-13.55	-2620.87
			Max. Torque	20			6.03
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-94.15	9.10	-17.05
			Max. Mx	20	-46.21	2852.03	9.83
			Max. My	14	-46.25	-13.93	-2774.21
L9	29.5833 - 14.67	Pole	Max. Vy	20	-36.34	2852.03	9.83
			Max. Vx	14	34.92	-13.93	-2774.21
			Max. Torque	20			6.03
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-107.10	13.14	-16.22
			Max. Mx	20	-55.50	3413.14	12.73
			Max. My	14	-55.52	-14.50	-3311.16
			Max. Vy	20	-38.73	3413.14	12.73
			Max. Vx	14	37.22	-14.50	-3311.16
			Max. Torque	20			6.03
L10	14.67 - 0	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-123.88	18.27	-14.45
			Max. Mx	20	-68.29	4006.71	16.15
			Max. My	14	-68.29	-14.13	-3877.01
			Max. Vy	20	-41.88	4006.71	16.15
			Max. Vx	14	40.12	-14.13	-3877.01
			Max. Torque	20			5.78

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	26	123.88	0.00	-0.00
	Max. H _x	20	68.30	41.87	0.15
	Max. H _z	2	68.30	0.15	40.11
	Max. M _x	2	3868.91	0.15	40.11
	Max. M _z	8	3994.66	-41.87	-0.15
	Max. Torsion	20	5.27	41.87	0.15
	Min. Vert	13	51.23	-20.52	-34.77
	Min. H _x	8	68.30	-41.87	-0.15
	Min. H _z	14	68.30	-0.15	-40.11
	Min. M _x	14	-3877.01	-0.15	-40.11
	Min. M _z	20	-4006.71	41.87	0.15
	Min. Torsion	8	-5.26	-41.87	-0.15

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	56.92	0.00	0.00	3.25	4.99	-0.00
1.2 Dead+1.6 Wind 0 deg - No Ice	68.30	-0.15	-40.11	-3868.91	26.22	0.15
0.9 Dead+1.6 Wind 0 deg - No Ice	51.23	-0.15	-40.11	-3828.78	24.46	0.10
1.2 Dead+1.6 Wind 30 deg - No Ice	68.30	22.05	-37.74	-3522.81	-2060.81	1.18
0.9 Dead+1.6 Wind 30 deg - No Ice	51.23	22.05	-37.74	-3487.18	-2040.79	1.08

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
1.2 Dead+1.6 Wind 60 deg - No Ice	68.30	35.89	-20.28	-1932.19	-3440.98	4.65
0.9 Dead+1.6 Wind 60 deg - No Ice	51.23	35.89	-20.28	-1912.79	-3405.96	4.52
1.2 Dead+1.6 Wind 90 deg - No Ice	68.30	41.87	0.15	24.20	-3994.66	5.26
0.9 Dead+1.6 Wind 90 deg - No Ice	51.23	41.87	0.15	22.87	-3953.81	5.14
1.2 Dead+1.6 Wind 120 deg - No Ice	68.30	35.23	20.08	1957.07	-3429.78	4.58
0.9 Dead+1.6 Wind 120 deg - No Ice	51.23	35.23	20.08	1935.16	-3394.67	4.50
1.2 Dead+1.6 Wind 150 deg - No Ice	68.30	20.52	34.77	3370.33	-1991.41	2.57
0.9 Dead+1.6 Wind 150 deg - No Ice	51.23	20.52	34.77	3333.40	-1971.64	2.55
1.2 Dead+1.6 Wind 180 deg - No Ice	68.30	0.15	40.11	3877.01	-14.13	-0.15
0.9 Dead+1.6 Wind 180 deg - No Ice	51.23	0.15	40.11	3834.67	-15.41	-0.10
1.2 Dead+1.6 Wind 210 deg - No Ice	68.30	-22.05	37.74	3530.89	2072.90	-1.19
0.9 Dead+1.6 Wind 210 deg - No Ice	51.23	-22.05	37.74	3493.06	2049.84	-1.08
1.2 Dead+1.6 Wind 240 deg - No Ice	68.30	-35.89	20.28	1940.24	3453.06	-4.65
0.9 Dead+1.6 Wind 240 deg - No Ice	51.23	-35.89	20.28	1918.65	3415.00	-4.52
1.2 Dead+1.6 Wind 270 deg - No Ice	68.30	-41.87	-0.15	-16.15	4006.71	-5.27
0.9 Dead+1.6 Wind 270 deg - No Ice	51.23	-41.87	-0.15	-17.01	3962.84	-5.14
1.2 Dead+1.6 Wind 300 deg - No Ice	68.30	-35.23	-20.08	-1949.00	3441.82	-4.58
0.9 Dead+1.6 Wind 300 deg - No Ice	51.23	-35.23	-20.08	-1929.28	3403.69	-4.50
1.2 Dead+1.6 Wind 330 deg - No Ice	68.30	-20.52	-34.77	-3362.23	2003.47	-2.57
0.9 Dead+1.6 Wind 330 deg - No Ice	51.23	-20.52	-34.77	-3327.51	1980.67	-2.54
1.2 Dead+1.0 Ice+1.0 Temp	123.88	-0.00	0.00	14.45	18.27	-0.01
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	123.88	-0.02	-9.51	-1000.75	21.18	-0.08
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	123.88	5.11	-8.77	-890.28	-509.16	0.37
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	123.88	8.37	-4.77	-491.08	-871.91	1.27
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	123.88	9.77	0.02	17.37	-1012.65	1.52
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	123.88	8.31	4.76	524.61	-873.94	1.37
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	123.88	4.82	8.24	895.64	-498.69	0.84
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	123.88	0.02	9.51	1029.87	15.56	0.07
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	123.88	-5.11	8.77	919.40	545.91	-0.38
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	123.88	-8.37	4.77	520.20	908.66	-1.28
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	123.88	-9.77	-0.02	11.75	1049.39	-1.53
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	123.88	-8.31	-4.76	-495.49	910.68	-1.39
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	123.88	-4.82	-8.24	-866.52	535.43	-0.85
Dead+Wind 0 deg - Service	56.92	-0.03	-8.58	-820.28	9.31	0.03
Dead+Wind 30 deg - Service	56.92	4.72	-8.07	-746.82	-434.59	0.25
Dead+Wind 60 deg - Service	56.92	7.68	-4.34	-408.45	-728.05	0.99
Dead+Wind 90 deg - Service	56.92	8.96	0.03	7.62	-845.83	1.12

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
Dead+Wind 120 deg - Service	56.92	7.54	4.30	418.68	-725.66	0.98
Dead+Wind 150 deg - Service	56.92	4.39	7.44	719.21	-419.76	0.55
Dead+Wind 180 deg - Service	56.92	0.03	8.58	826.94	0.73	-0.03
Dead+Wind 210 deg - Service	56.92	-4.72	8.07	753.48	444.63	-0.25
Dead+Wind 240 deg - Service	56.92	-7.68	4.34	415.11	738.10	-0.99
Dead+Wind 270 deg - Service	56.92	-8.96	-0.03	-0.96	855.87	-1.12
Dead+Wind 300 deg - Service	56.92	-7.54	-4.30	-412.01	735.70	-0.98
Dead+Wind 330 deg - Service	56.92	-4.39	-7.44	-712.55	429.80	-0.55

Solution Summary

Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX K	PY K	PZ K	PX K	PY K	PZ K	
1	0.00	-56.92	0.00	0.00	56.92	-0.00	0.000%
2	-0.15	-68.30	-40.11	0.15	68.30	40.11	0.000%
3	-0.15	-51.23	-40.11	0.15	51.23	40.11	0.000%
4	22.05	-68.30	-37.74	-22.05	68.30	37.74	0.000%
5	22.05	-51.23	-37.74	-22.05	51.23	37.74	0.000%
6	35.89	-68.30	-20.28	-35.89	68.30	20.28	0.000%
7	35.89	-51.23	-20.28	-35.89	51.23	20.28	0.000%
8	41.87	-68.30	0.15	-41.87	68.30	-0.15	0.000%
9	41.87	-51.23	0.15	-41.87	51.23	-0.15	0.000%
10	35.23	-68.30	20.08	-35.23	68.30	-20.08	0.000%
11	35.23	-51.23	20.08	-35.23	51.23	-20.08	0.000%
12	20.52	-68.30	34.77	-20.52	68.30	-34.77	0.000%
13	20.52	-51.23	34.77	-20.52	51.23	-34.77	0.000%
14	0.15	-68.30	40.11	-0.15	68.30	-40.11	0.000%
15	0.15	-51.23	40.11	-0.15	51.23	-40.11	0.000%
16	-22.05	-68.30	37.74	22.05	68.30	-37.74	0.000%
17	-22.05	-51.23	37.74	22.05	51.23	-37.74	0.000%
18	-35.89	-68.30	20.28	35.89	68.30	-20.28	0.000%
19	-35.89	-51.23	20.28	35.89	51.23	-20.28	0.000%
20	-41.87	-68.30	-0.15	41.87	68.30	0.15	0.000%
21	-41.87	-51.23	-0.15	41.87	51.23	0.15	0.000%
22	-35.23	-68.30	-20.08	35.23	68.30	20.08	0.000%
23	-35.23	-51.23	-20.08	35.23	51.23	20.08	0.000%
24	-20.52	-68.30	-34.77	20.52	68.30	34.77	0.000%
25	-20.52	-51.23	-34.77	20.52	51.23	34.77	0.000%
26	0.00	-123.88	0.00	0.00	123.88	-0.00	0.000%
27	-0.02	-123.88	-9.51	0.02	123.88	9.51	0.000%
28	5.11	-123.88	-8.77	-5.11	123.88	8.77	0.000%
29	8.37	-123.88	-4.77	-8.37	123.88	4.77	0.000%
30	9.77	-123.88	0.02	-9.77	123.88	-0.02	0.000%
31	8.31	-123.88	4.76	-8.31	123.88	-4.76	0.000%
32	4.82	-123.88	8.24	-4.82	123.88	-8.24	0.000%
33	0.02	-123.88	9.51	-0.02	123.88	-9.51	0.000%
34	-5.11	-123.88	8.77	5.11	123.88	-8.77	0.000%
35	-8.37	-123.88	4.77	8.37	123.88	-4.77	0.000%
36	-9.77	-123.88	-0.02	9.77	123.88	0.02	0.000%
37	-8.31	-123.88	-4.76	8.31	123.88	4.76	0.000%
38	-4.82	-123.88	-8.24	4.82	123.88	8.24	0.000%
39	-0.03	-56.92	-8.58	0.03	56.92	8.58	0.000%
40	4.72	-56.92	-8.07	-4.72	56.92	8.07	0.000%
41	7.68	-56.92	-4.34	-7.68	56.92	4.34	0.000%
42	8.96	-56.92	0.03	-8.96	56.92	-0.03	0.000%
43	7.54	-56.92	4.30	-7.54	56.92	-4.30	0.000%
44	4.39	-56.92	7.44	-4.39	56.92	-7.44	0.000%

Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX K	PY K	PZ K	PX K	PY K	PZ K	
45	0.03	-56.92	8.58	-0.03	56.92	-8.58	0.000%
46	-4.72	-56.92	8.07	4.72	56.92	-8.07	0.000%
47	-7.68	-56.92	4.34	7.68	56.92	-4.34	0.000%
48	-8.96	-56.92	-0.03	8.96	56.92	0.03	0.000%
49	-7.54	-56.92	-4.30	7.54	56.92	4.30	0.000%
50	-4.39	-56.92	-7.44	4.39	56.92	7.44	0.000%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	4	0.0000001	0.00000209
2	Yes	5	0.0000001	0.00015831
3	Yes	5	0.0000001	0.00007348
4	Yes	6	0.0000001	0.00022770
5	Yes	6	0.0000001	0.00007486
6	Yes	6	0.0000001	0.00018976
7	Yes	6	0.0000001	0.00006215
8	Yes	5	0.0000001	0.00070166
9	Yes	5	0.0000001	0.00032479
10	Yes	6	0.0000001	0.00022895
11	Yes	6	0.0000001	0.00007557
12	Yes	6	0.0000001	0.00020956
13	Yes	6	0.0000001	0.00006874
14	Yes	5	0.0000001	0.00026191
15	Yes	5	0.0000001	0.00012217
16	Yes	6	0.0000001	0.00020499
17	Yes	6	0.0000001	0.00006644
18	Yes	6	0.0000001	0.00023194
19	Yes	6	0.0000001	0.00007692
20	Yes	5	0.0000001	0.00059110
21	Yes	5	0.0000001	0.00027351
22	Yes	6	0.0000001	0.00019887
23	Yes	6	0.0000001	0.00006516
24	Yes	6	0.0000001	0.00021446
25	Yes	6	0.0000001	0.00007088
26	Yes	4	0.0000001	0.00038555
27	Yes	6	0.0000001	0.00017034
28	Yes	6	0.0000001	0.00022639
29	Yes	6	0.0000001	0.00021668
30	Yes	6	0.0000001	0.00018268
31	Yes	6	0.0000001	0.00024513
32	Yes	6	0.0000001	0.00023645
33	Yes	6	0.0000001	0.00018263
34	Yes	6	0.0000001	0.00024059
35	Yes	6	0.0000001	0.00024758
36	Yes	6	0.0000001	0.00018452
37	Yes	6	0.0000001	0.00022129
38	Yes	6	0.0000001	0.00022536
39	Yes	4	0.0000001	0.00024098
40	Yes	5	0.0000001	0.00005745
41	Yes	4	0.0000001	0.00080184
42	Yes	4	0.0000001	0.00062852
43	Yes	5	0.0000001	0.00005923
44	Yes	4	0.0000001	0.00091340
45	Yes	4	0.0000001	0.00026275
46	Yes	4	0.0000001	0.00089270
47	Yes	5	0.0000001	0.00006471
48	Yes	4	0.0000001	0.00060775
49	Yes	4	0.0000001	0.00080835
50	Yes	4	0.0000001	0.00096547

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	150 - 130	19.826	46	1.0969	0.0057
L2	130 - 110	15.253	46	1.0792	0.0059
L3	110 - 95.83	10.898	46	0.9826	0.0051
L4	101 - 81	9.116	46	0.9046	0.0039
L5	81 - 61	5.621	46	0.7432	0.0027
L6	61 - 47.83	2.956	46	0.5231	0.0015
L7	54 - 34	2.251	46	0.4393	0.0012
L8	34 - 29.5833	0.767	46	0.2445	0.0006
L9	29.5833 - 14.67	0.565	46	0.1932	0.0004
L10	14.67 - 0	0.130	46	0.0848	0.0002

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
149.00	10' x 1.5" Dia Dipole	46	19.596	1.0967	0.0057	114184
138.00	RRUS A2 B13	46	17.072	1.0915	0.0059	47577
129.00	DC6-48-60-18-8F	46	15.027	1.0768	0.0060	24333
127.00	HPA-65R-BUU-H6_TIA w/ Mount Pipe	46	14.577	1.0714	0.0060	20195
116.00	(2) RADIO 4449 B12/B71	46	12.157	1.0239	0.0057	8996
106.00	(2) Collar Mount	46	10.091	0.9488	0.0046	7489
105.00	(2) Collar Mount	46	9.893	0.9399	0.0045	7649
104.00	8' x 2" Dia Dipole	46	9.696	0.9310	0.0043	7805
80.00	(2) JAHH-65B-R3B_TIA w/ Mount Pipe	46	5.466	0.7340	0.0026	5554
40.00	GPS_A	46	1.119	0.3064	0.0007	5099

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	150 - 130	92.537	16	5.1241	0.0272
L2	130 - 110	71.223	16	5.0398	0.0283
L3	110 - 95.83	50.930	16	4.5895	0.0242
L4	101 - 81	42.620	16	4.2284	0.0184
L5	81 - 61	26.294	16	3.4765	0.0124
L6	61 - 47.83	13.837	16	2.4487	0.0071
L7	54 - 34	10.534	16	2.0564	0.0055
L8	34 - 29.5833	3.591	16	1.1447	0.0026
L9	29.5833 - 14.67	2.643	16	0.9045	0.0019
L10	14.67 - 0	0.610	16	0.3971	0.0007

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
149.00	10' x 1.5" Dia Dipole	16	91.465	5.1231	0.0273	25378
138.00	RRUS A2 B13	16	79.701	5.0982	0.0280	10573
129.00	DC6-48-60-18-8F	16	70.171	5.0286	0.0283	5316
127.00	HPA-65R-BUU-H6_TIA w/ Mount	16	68.073	5.0033	0.0283	4355

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
	Pipe					
116.00	(2) RADIO 4449 B12/B71	16	56.798	4.7809	0.0267	1995
106.00	(2) Collar Mount	16	47.165	4.4330	0.0216	1658
105.00	(2) Collar Mount	16	46.242	4.3920	0.0210	1690
104.00	8' x 2" Dia Dipole	16	45.326	4.3507	0.0203	1721
80.00	(2) JAHH-65B-R3B_TIA w/ Mount Pipe	16	25.570	3.4335	0.0123	1197
40.00	GPS_A	16	5.238	1.4343	0.0034	1091

Compression Checks

Pole Design Data

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A	P _u	φP _n	Ratio
						in ²	K	K	$\frac{P_u}{\phi P_n}$
L1	150 - 130 (1)	TP27.25x23.61x0.2813	20.00	0.00	0.0	24.427 9	-6.45	1743.92	0.004
L2	130 - 110 (2)	TP30.89x27.25x0.2813	20.00	0.00	0.0	27.725 0	-17.90	1884.92	0.009
L3	110 - 95.83 (3)	TP33.469x30.89x0.2813	14.17	0.00	0.0	29.208 7	-21.25	1941.05	0.011
L4	95.83 - 81 (4)	TP35.6055x31.9655x0.37 5	20.00	0.00	0.0	42.540 8	-26.18	3058.53	0.009
L5	81 - 61 (5)	TP39.2455x35.6055x0.37 5	20.00	0.00	0.0	46.936 1	-35.15	3254.69	0.011
L6	61 - 47.83 (6)	TP41.6425x39.2455x0.37 5	13.17	0.00	0.0	48.474 5	-37.00	3318.04	0.011
L7	47.83 - 34 (7)	TP43.4095x39.7695x0.43 75	20.00	0.00	0.0	60.536 8	-44.54	4284.32	0.010
L8	34 - 29.5833 (8)	TP44.2134x43.4095x0.43 75	4.42	0.00	0.0	61.669 3	-46.18	4334.66	0.011
L9	29.5833 - 14.67 (9)	TP46.9276x44.2134x0.71 6	14.91	0.00	0.0	106.54 20	-55.48	6848.31	0.008
L10	14.67 - 0 (10)	TP49.5976x46.9276x0.91 6	14.67	0.00	0.0	142.66 40	-68.29	9170.20	0.007

Pole Bending Design Data

Section No.	Elevation ft	Size	M _{ux}	φM _{rx}	Ratio	M _{uy}	φM _{ry}	Ratio
			kip-ft	kip-ft	$\frac{M_{ux}}{\phi M_{rx}}$	kip-ft	kip-ft	$\frac{M_{uy}}{\phi M_{ry}}$
L1	150 - 130 (1)	TP27.25x23.61x0.2813	89.52	955.77	0.094	0.00	955.77	0.000
L2	130 - 110 (2)	TP30.89x27.25x0.2813	414.57	1173.93	0.353	0.00	1173.93	0.000
L3	110 - 95.83 (3)	TP33.469x30.89x0.2813	619.95	1274.16	0.487	0.00	1274.16	0.000
L4	95.83 - 81 (4)	TP35.6055x31.9655x0.37 5	1124.31	2189.32	0.514	0.00	2189.32	0.000
L5	81 - 61 (5)	TP39.2455x35.6055x0.37 5	1758.25	2572.97	0.683	0.00	2572.97	0.000
L6	61 - 47.83 (6)	TP41.6425x39.2455x0.37 5	1994.39	2709.85	0.736	0.00	2709.85	0.000
L7	47.83 - 34 (7)	TP43.4095x39.7695x0.43 75	2721.85	3742.35	0.727	0.00	3742.35	0.000
L8	34 - 29.5833 (8)	TP44.2134x43.4095x0.43 75	2888.79	3857.86	0.749	0.00	3857.86	0.000
L9	29.5833 - 14.67 (9)	TP46.9276x44.2134x0.71 6	3475.72	6399.30	0.543	0.00	6399.30	0.000

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 $\frac{M_{uy}}{\phi M_{ny}}$
L10	14.67 - 0 (10)	TP49.5976x46.9276x0.91	4094.40	8999.75	0.455	0.00	8999.75	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	150 - 130 (1)	TP27.25x23.61x0.2813	8.33	871.96	0.010	0.19	1944.85	0.000
L2	130 - 110 (2)	TP30.89x27.25x0.2813	22.27	942.46	0.024	3.32	2387.76	0.001
L3	110 - 95.83 (3)	TP33.469x30.89x0.2813	24.10	970.52	0.025	3.48	2591.24	0.001
L4	95.83 - 81 (4)	TP35.6055x31.9655x0.37 5	26.36	1529.27	0.017	3.47	4455.24	0.001
L5	81 - 61 (5)	TP39.2455x35.6055x0.37 5	33.13	1627.35	0.020	5.92	5234.23	0.001
L6	61 - 47.83 (6)	TP41.6425x39.2455x0.37 5	34.95	1659.02	0.021	3.26	5512.11	0.001
L7	47.83 - 34 (7)	TP43.4095x39.7695x0.43 75	37.51	2142.16	0.018	3.25	7614.46	0.000
L8	34 - 29.5833 (8)	TP44.2134x43.4095x0.43 75	38.09	2167.33	0.018	3.12	7848.99	0.000
L9	29.5833 - 14.67 (9)	TP46.9276x44.2134x0.71 6	40.62	3424.16	0.012	2.33	13043.58	0.000
L10	14.67 - 0 (10)	TP49.5976x46.9276x0.91	43.73	4585.10	0.010	1.27	18363.42	0.000

Pole Interaction Design Data

Section No.	Elevation ft	Ratio P_u ϕP_n	Ratio M_{ux} ϕM_{nx}	Ratio M_{uy} ϕM_{ny}	Ratio V_u ϕV_n	Ratio T_u ϕT_n	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L1	150 - 130 (1)	0.004	0.094	0.000	0.010	0.000	0.097	1.000	4.8.2
L2	130 - 110 (2)	0.009	0.353	0.000	0.024	0.001	0.363	1.000	4.8.2
L3	110 - 95.83 (3)	0.011	0.487	0.000	0.025	0.001	0.498	1.000	4.8.2
L4	95.83 - 81 (4)	0.009	0.514	0.000	0.017	0.001	0.522	1.000	4.8.2
L5	81 - 61 (5)	0.011	0.683	0.000	0.020	0.001	0.695	1.000	4.8.2
L6	61 - 47.83 (6)	0.011	0.736	0.000	0.021	0.001	0.748	1.000	4.8.2
L7	47.83 - 34 (7)	0.010	0.727	0.000	0.018	0.000	0.738	1.000	4.8.2
L8	34 - 29.5833 (8)	0.011	0.749	0.000	0.018	0.000	0.760	1.000	4.8.2
L9	29.5833 - 14.67 (9)	0.008	0.543	0.000	0.012	0.000	0.551	1.000	4.8.2
L10	14.67 - 0 (10)	0.007	0.455	0.000	0.010	0.000	0.462	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	150 - 130	Pole	TP27.25x23.61x0.2813	1	-6.45	1743.92	9.7	Pass
L2	130 - 110	Pole	TP30.89x27.25x0.2813	2	-17.90	1884.92	36.3	Pass
L3	110 - 95.83	Pole	TP33.469x30.89x0.2813	3	-21.25	1941.05	49.8	Pass
L4	95.83 - 81	Pole	TP35.6055x31.9655x0.375	4	-26.18	3058.53	52.2	Pass

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail	
L5	81 - 61	Pole	TP39.2455x35.6055x0.375	5	-35.15	3254.69	69.5	Pass	
L6	61 - 47.83	Pole	TP41.6425x39.2455x0.375	6	-37.00	3318.04	74.8	Pass	
L7	47.83 - 34	Pole	TP43.4095x39.7695x0.4375	7	-44.54	4284.32	73.8	Pass	
L8	34 - 29.5833	Pole	TP44.2134x43.4095x0.4375	8	-46.18	4334.66	76.0	Pass	
L9	29.5833 - 14.67	Pole	TP46.9276x44.2134x0.716	9	-55.48	6848.31	55.1	Pass	
L10	14.67 - 0	Pole	TP49.5976x46.9276x0.91	10	-68.29	9170.20	46.2	Pass	
							Summary		
							Pole (L8)	76.0	Pass
							RATING =	76.0	Pass

***NOTE: Above stress ratios for reinforced sections are approximate. More exact calculations are presented in Appendix B.**

APPENDIX B
ADDITIONAL CALCULATIONS

W.O.	10473.CT11077C	Report Date:	9/1/2020
Client:	T-Mobile / Northeast Site Solutions	Revision:	1
Site Name:	Fairfield Fire Rescue #5	Prepared By:	IM

CHECK FOR REINFORCING MEMBER

SECTION	14.67'-31'		
Fy	65 ksi	Reinf. Member	(4) WT6x25
Moment @ Base	3475 kip-ft	Area	7.30 in ²
Y _{POLE} @ Bottom	23.4375 in	Capacity	327.6 kips
Y _{REINF} @ Bottom	28.50 in		

POLE ELEVATION	Moment of Inertia (in ⁴)		
	w/o Reinforcement	w/Reinforcement	Reinforcement
@ 14.67	18084	30239	12155

Moment distribution within the pole and the reinforcing plates

AT BASE	Ratios of the moments	Approx Moment Distribution (kip-ft)	Axial Force in Plate (kips)
Pole Section	0.60	2078	
Reinforcing Plate	0.40	1397	287

Max Percentage Stress of the reinforcing member = 87.6% Pass

W.O.	10473.CT11077C	Report Date:	9/1/2020
Client:	T-Mobile / Northeast Site Solutions	Revision:	1
Site Name:	Fairfield Fire Rescue #5	Prepared By:	IM

CHECK FOR REINFORCING MEMBER

SECTION	0'-14.67'		
Fy	65 ksi	Reinf. Member	(8) WT6x25
Moment @ Base	4094 kip-ft	Area	7.30 in ²
Y _{POLE} @ Bottom	24.81 in	Capacity	327.6 kips
Y _{REINF} @ Bottom	30.13 in		

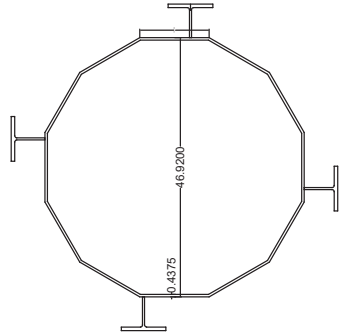
POLE ELEVATION	Moment of Inertia (in ⁴)		
	w/o Reinforcement	w/Reinforcement	Reinforcement
Base	21396	43283	21887

Moment distribution within the pole and the reinforcing plates

AT BASE	Ratios of the moments	Approx Moment Distribution (kip-ft)	Axial Force in Plate (kips)
Pole Section	0.49	2024	
Reinforcing Plate	0.51	2070	250

Max Percentage Stress of the reinforcing member = 76.2% Pass

AT 14.67'

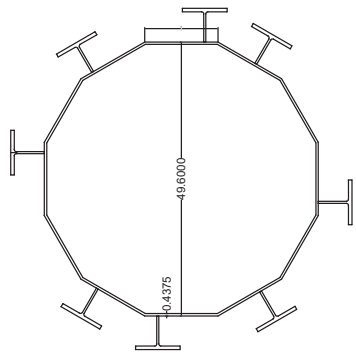


Area: 65.1585 sq in
 Perimeter: 288.9186 in
 Bounding box: X: 189.1796 Y: -142.2566 in
 Centroid: X: 89.3116 in Y: 89.3116 in
 Moments of inertia: X: 1813.7931, 1649 sq in sq in
 Product of inertia: XY: 379.9599, 853 sq in sq in
 Radii of gyration: X: 90.7776, 100 in sq in
 Y: 166.3489 in sq in
 Principal moments (sq in sq in) and X-Y directions about centroid:
 I: 18084.2249 along [0.8944, 0.4472]
 J: 18084.2249 along [-0.4472, 0.8944]

MOIS
 Area: 26.8932 sq in
 Perimeter: 59.7459 in
 Bounding box: X: 185.2716 Y: -136.1616 in
 Centroid: X: 59.7459 in Y: 59.7459 in
 Moments of inertia: X: 801.2449, 617.56 sq in sq in
 Product of inertia: XY: 428.7879, 585 sq in sq in
 Radii of gyration: X: 166.7911, 79 in sq in
 Y: 91.8242 in sq in
 Principal moments (sq in sq in) and X-Y directions about centroid:
 I: 1165.1665 along [0.8668, 0.7432]
 J: 12165.1665 along [-0.8668, 0.7432]

POLE - MOIS
 Area: 94.3817 sq in
 Perimeter: 341.0883 in
 Bounding box: X: 195.2716 Y: -136.1616 in
 Centroid: X: 94.3817 in Y: 94.3817 in
 Moments of inertia: X: 2615.7356, 56 sq in sq in
 Product of inertia: XY: 1395.7595, 56 sq in sq in
 Radii of gyration: X: 166.7911, 79 in sq in
 Y: 166.7911, 79 in sq in
 Principal moments (sq in sq in) and X-Y directions about centroid:
 I: 30046.3757 along [0.7319, 0.6813]
 J: 30246.8766 along [-0.6813, 0.7319]

AT BASE

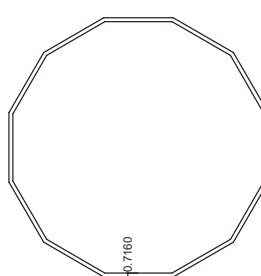


Area: 69.1585 sq in
 Perimeter: 316.1533 in
 Bounding box: X: 105.4429 Y: -55.8429 in
 Centroid: X: 85.4429 in Y: 85.4429 in
 Moments of inertia: X: 471.1532, 205 sq in sq in
 Product of inertia: XY: 47.7763, 0.99 sq in sq in
 Radii of gyration: X: 85.4429 in sq in
 Y: 85.4429 in sq in
 Principal moments (sq in sq in) and X-Y directions about centroid:
 I: 21395.8362 along [1.0000, 0.0000]
 J: 21395.8362 along [0.0000, 1.0000]

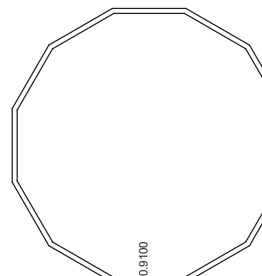
MOIS
 Area: 57.8985 sq in
 Perimeter: 54.7894 in
 Bounding box: X: 85.7339 Y: -49.7479 in
 Centroid: X: 85.7339 in Y: 49.7479 in
 Moments of inertia: X: 80.2126 in sq in
 Product of inertia: XY: 389.4763, 633 sq in sq in
 Radii of gyration: X: 89.7479 in sq in
 Y: 86.7480 in sq in
 Principal moments (sq in sq in) and X-Y directions about centroid:
 I: 43289.1648 along [0.9994, 0.0333]
 J: 30515.6287 along [-0.0331, 0.9995]

POLE + MOIS
 Area: 540.4124 sq in
 Perimeter: 54.7894 in
 Bounding box: X: 85.6956 in Y: -49.7479 in
 Centroid: X: 85.6956 in Y: 85.6956 in
 Moments of inertia: X: 8065.3568, 47 in sq in
 Product of inertia: XY: 885622.2911 sq in sq in
 Radii of gyration: X: 82.5361 in sq in
 Y: 86.0452 in sq in
 Principal moments (sq in sq in) and X-Y directions about centroid:
 I: 43289.1648 along [0.9994, 0.0333]
 J: 51911.6804 along [-0.0333, 0.9994]

EQUIVALENT THICKNESS



Equivalent Thickness
 Area: 106.277 sq in
 Perimeter: 366.1289 in
 Bounding box: X: 366.1289 Y: -45.1642 in
 Centroid: X: 391.5694 in Y: -68.6242 in
 Moments of inertia: X: 503.0403, 74.76 sq in sq in
 Product of inertia: XY: 28584.7038, 99 sq in sq in
 Radii of gyration: X: 70.0392 in sq in
 Y: 391.6378 in sq in
 Principal moments (sq in sq in) and X-Y directions about centroid:
 I: 25071.7358 along [1.0000, 0.0000]
 J: 25071.7358 along [0.0000, 1.0000]



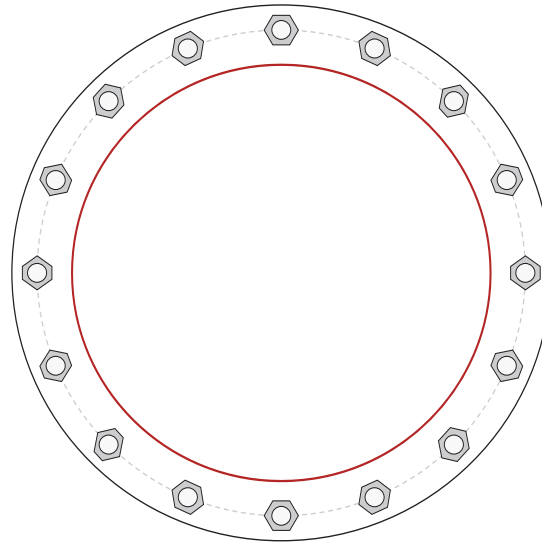
Equivalent Thickness
 Area: 142.4672 sq in
 Perimeter: 397.1392 in
 Bounding box: X: 416.7392 in Y: -143.1632 in
 Centroid: X: 391.9392 in Y: 391.9392 in
 Moments of inertia: X: 4824.7512, 88 sq in sq in
 Product of inertia: XY: 83760.7120, 99 sq in sq in
 Radii of gyration: X: 187.9392 in sq in
 Y: 391.9392 in sq in
 Principal moments (sq in sq in) and X-Y directions about centroid:
 I: 43244.1461 along [-0.1810, 0.9834]
 J: 43244.1461 along [-0.1810, 0.9834]

Monopole Base Plate Connection

Site Info	
Work Order #	10473.CT11077C - Rev1
Site Name	Fairfield Fire Rescue #5

Analysis Considerations	
TIA-222 Revision	G
Grout Considered:	Yes
l_{ar} (in)	0
Eta Factor, η	0.55

Applied Loads	
Moment (kip-ft)	4094.40
Axial Force (kips)	68.29
Shear Force (kips)	43.73



Connection Properties	Analysis Results
-----------------------	------------------

Anchor Rod Data	
(16) 2-1/4" ϕ bolts (A615-75 N; $F_y=75$ ksi, $F_u=100$ ksi) on 57.85" BC	
Base Plate Data	
63.85" OD x 2.75" Plate (A633 Gr. E; $F_y=60$ ksi, $F_u=75$ ksi)	
Stiffener Data	
N/A	
Pole Data	
49.597565" x 0.7" 12-sided pole (A572-65; $F_y=65$ ksi, $F_u=80$ ksi)	

Anchor Rod Summary		<i>(units of kips, kip-in)</i>
$P_{u,t} = 207.93$	$\phi P_{n,t} = 260$	Stress Rating
$V_u = 2.73$	$\phi V_n = n/a$	81.9%
$M_u = n/a$	$\phi M_n = n/a$	Pass
Base Plate Summary		
Max Stress (ksi):	29.56	(Flexural)
Allowable Stress (ksi):	54	
Stress Rating:	54.7%	Pass

Drilled Pier Foundation

WO # : 10473-CT11077C
 Site Name: Fairfield Fire Rescue #

TIA-222 Revision: G
 Tower Type: Monopole

Analysis Results		
Soil Lateral Capacity		
D ₅₀ (ft from TOC)	Compression	Uplift
Soil Safety Factor	6.66	-
Max Moment (kip-ft)	1.66	-
Rating	4386.94	-
Rating	79.9%	-
Soil Vertical Capacity		
Compression		Uplift
Skin Friction (kips)	262.46	-
End Bearing (kips)	0.00	-
Weight of Concrete (kips)	129.98	-
Total Capacity (kips)	262.46	-
Axial (kips)	198.98	-
Rating	75.8%	-
Reinforced Concrete Capacity		
Compression		Uplift
Critical Depth (ft from TOC)	6.86	-
Critical Moment (kip-ft)	4386.43	-
Critical Moment Capacity	9163.16	-
Rating	47.9%	-
Soil Interaction Rating		
Soil Interaction Rating		79.9%
Structural Foundation Rating		47.9%

Soil Profile	
Groundwater Depth	5.5 ft
# of Layers	3

Layer	Top (ft)	Bottom (ft)	Thickness (ft)	γ _{soil} (pcf)	γ _{concrete} (pcf)	Cohesion (ksf)	Angle of Friction (degrees)	Calculated Ultimate Skin Friction Comp (ksf)	Calculated Ultimate Skin Friction Uplift (ksf)	Ultimate Skin Friction Comp Override (ksf)	Ultimate Skin Friction Uplift Override (ksf)	Ult. Gross Bearing Capacity (ksf)	SPT Blow Count	Soil Type
1	0	4	4	120	150	0	0	0.000	0.000	0.00	0.00		0	Cohesionless
2	4	5.5	1.5	120	150	0	35	0.687	0.687				20	Cohesionless
3	5.5	26.5	21	42.6	87.6	0	30	0.709	0.709			0	10	Cohesionless

CONNECTICUT DESIGN CRITERIA - STATE

Revison:

CT is NOT a Home Rule State; Tab added only for Design Criteria

(APPENDIX N) MUNICIPALITY - SPECIFIC STRUCTURAL DESIGN PARAMETERS

Municipality	Ground Snow Load	Wind Design Parameters							
		MCE Spectral Accelerations (%g)		Ultimate Design Wind Speeds, V_{ult} (mph)			Nominal Design Wind Speeds, V_{asd} (mph)		
		S_s	S_1	Risk Cat. I	Risk Cat. II	Risk Cat III-IV	Risk Cat. I	Risk Cat. II	Risk Cat. III-IV
Andover	30	0.176	0.063	120	130	140	93	101	108
Ansonia	30	0.195	0.064	115	125	135	89	97	105
Ashford	35	0.173	0.063	120	130	140	93	101	108
Avon	35	0.181	0.064	110	120	130	85	93	101
Barkhamsted	40	0.177	0.065	110	120	125	85	93	97
Beacon Falls	30	0.192	0.064	115	125	135	89	97	105
Berlin	30	0.183	0.063	115	125	135	89	97	105
Bethany	30	0.189	0.063	115	125	135	89	97	105
Bethel	30	0.215	0.066	110	120	125	85	93	97
Bethlehem	35	0.190	0.065	110	120	125	85	93	97
Bloomfield	35	0.180	0.064	115	125	130	89	97	101
Bolton	30	0.177	0.063	115	125	135	89	97	105
Bozrah	30	0.170	0.061	120	135	145	93	105	112
Branford	30	0.180	0.061	120	130	140	93	101	108
Bridgeport	30	0.209	0.064	115	125	135	89	97	105
Bridgewater	35	0.201	0.066	110	120	125	85	93	97
Bristol	35	0.185	0.064	110	120	130	85	93	101
Brookfield	35	0.208	0.066	110	120	125	85	93	97
Brooklyn	35	0.171	0.062	120	130	140	93	101	108
Burlington	35	0.182	0.064	110	120	130	85	93	101
Canaan	40	0.173	0.065	105	115	120	81	89	93
Canterbury	35	0.171	0.061	120	130	140	93	101	108
Canton	35	0.180	0.064	110	120	130	85	93	101
Chaplin	35	0.173	0.062	120	130	140	93	101	108
Cheshire	30	0.186	0.063	115	125	135	89	97	105
Chester	30	0.172	0.060	120	130	140	93	101	108
Clinton	30	0.169	0.059	120	135	140	93	105	108
Colchester	30	0.174	0.061	120	130	140	93	101	108
Colebrook	40	0.174	0.065	105	115	125	81	89	97
Columbia	30	0.175	0.062	120	130	140	93	101	108
Cornwall	40	0.180	0.065	105	115	120	81	89	93
Coventry	30	0.176	0.063	120	130	140	93	101	108
Cromwell	30	0.181	0.063	115	125	135	89	97	105
Danbury	30	0.217	0.067	110	120	125	85	93	97
Darien	30	0.242	0.068	110	120	130	85	93	101
Deep River	30	0.170	0.060	120	130	140	93	101	108
Derby	30	0.195	0.064	115	125	135	89	97	105
Durham	30	0.179	0.062	115	130	140	89	101	108
Eastford	40	0.172	0.063	120	130	140	93	101	108
East Granby	35	0.177	0.065	110	120	130	85	93	101
East Haddam	30	0.172	0.061	120	130	140	93	101	108
East Hampton	30	0.177	0.062	120	130	140	93	101	108

East Hartford	30	0.180	0.064	115	125	135	89	97	105
East Haven	30	0.182	0.062	120	130	140	93	101	108
East Lyme	30	0.164	0.059	125	135	145	97	105	112
Easton	30	0.215	0.066	110	120	130	85	93	101
East Windsor	35	0.177	0.064	115	125	135	89	97	105
Ellington	35	0.176	0.064	115	125	135	89	97	105
Enfield	35	0.176	0.065	110	125	130	85	97	101
Essex	30	0.168	0.059	120	135	145	93	105	112
Fairfield	30	0.215	0.065	115	125	135	89	97	105
Farmington	35	0.183	0.064	115	125	135	89	97	105
Franklin	30	0.171	0.061	120	130	140	93	101	108
Glastonbury	30	0.180	0.063	115	125	135	89	97	105
Goshen	40	0.181	0.065	105	115	125	81	89	97
Granby	35	0.176	0.065	110	120	130	85	93	101
Greenwich	30	0.259	0.070	110	120	130	85	93	101
Griswold	30	0.168	0.060	125	135	145	97	105	112
Groton	30	0.160	0.058	125	135	145	97	105	112
Guilford	30	0.176	0.061	120	130	140	93	101	108
Haddam	30	0.175	0.061	120	130	140	93	101	108
Hamden	30	0.185	0.063	115	125	135	89	97	105
Hampton	35	0.172	0.062	120	130	140	93	101	108
Hartford	30	0.181	0.064	115	125	135	89	97	105
Hartland	40	0.175	0.065	110	120	125	85	93	97
Harwinton	35	0.183	0.065	110	120	130	85	93	101
Hebron	30	0.177	0.063	120	130	140	93	101	108
Kent	40	0.188	0.065	105	115	120	81	89	93
Killingly	40	0.171	0.062	120	130	140	93	101	108
Killingworth	30	0.173	0.061	120	130	140	93	101	108
Lebanon	30	0.173	0.062	120	130	140	93	101	108
Ledyard	30	0.163	0.059	125	135	145	97	105	112
Lisbon	30	0.169	0.061	125	135	145	97	105	112
Litchfield	40	0.184	0.065	110	120	125	85	93	97
Lyme	30	0.164	0.059	125	135	145	97	105	112
Madison	30	0.173	0.060	120	130	140	93	101	108
Manchester	30	0.178	0.064	115	125	135	89	97	105
Mansfield	35	0.173	0.062	120	130	140	93	101	108
Marlborough	30	0.177	0.062	120	130	140	93	101	108
Meriden	30	0.183	0.063	115	125	135	89	97	105
Middlebury	35	0.191	0.064	110	120	130	85	93	101
Middlefield	30	0.181	0.063	115	125	135	89	97	105
Middletown	30	0.180	0.063	115	130	135	89	101	105
Milford	30	0.194	0.063	115	125	135	89	97	105
Monroe	30	0.205	0.065	110	120	130	85	93	101
Montville	30	0.165	0.059	125	135	145	97	105	112
Morris	35	0.187	0.065	110	120	125	85	93	97
Naugatuck	30	0.190	0.064	110	125	135	85	97	105
New Britain	30	0.183	0.064	115	125	135	89	97	105
New Canaan	30	0.240	0.068	110	120	130	85	93	101
New Fairfield	35	0.212	0.067	105	115	125	81	89	97
New Hartford	40	0.180	0.065	110	120	130	85	93	101
New Haven	30	0.186	0.062	115	125	135	89	97	105
Newington	30	0.182	0.064	115	125	135	89	97	105
New London	30	0.161	0.058	125	135	145	97	105	112

Ice

Results:

Ice Thickness:	0.75 in.
Concurrent Temperature:	15 F
Gust Speed:	50 mph

Data Source: Standard ASCE/SEI 7-10, Figs. 10-2 through 10-8

Date Accessed: Wed Jul 29 2020

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.

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

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Exhibit E

Mount Replacement Analysis Report

Tower Owner: Town of Fairfield
Carrier: T-Mobile Northeast LLC
Client: Northeast Site Solutions

Site ID: CT11077C
Site Name: Fairfield Fire Rescue #5
Site Data: 3965 Congress Street, Fairfield, Fairfield County, CT 06824
Latitude 41° 11' 18.02", Longitude -73° 17' 56.44"
Proposed 12.5 ft Fortress Quad-Platform Mount w/ Handrail Kit

Tectonic Project Number: 10473.CT11077C

Tectonic Engineering & Surveying Consultants P.C. is pleased to submit this **“Mount Replacement Analysis Report”** to determine the structural integrity of the above mentioned mount.

The purpose of the analysis is to determine acceptability of the mount stress level. Based on our analysis we have determined the mount stress level to be:

Platform Mount: **Sufficient Capacity – 56%**


This analysis has been performed in accordance with the 2018 Connecticut State Building Code based upon an ultimate 3-second gust wind speed of 125 mph converted to a nominal 3-second gust wind speed of 97 mph per Section 1609.3 and Appendix N as required for use in the TIA-222-G Standard per Exception #5 of Section 1609.1.1. Exposure Category B with a maximum topographic factor, Kzt, of 1.0 and Structure Class 2 were used in this analysis.

All modifications and equipment proposed in this report shall be installed in accordance this analysis for the determined available structural capacity to be effective.

We at Tectonic appreciate the opportunity of providing our continuing professional services to you and T-Mobile. If you have any questions or need further assistance on this or any other projects please give us a call.

Structural analysis prepared by: John-Fritz Julien / Ian Marinaccio

Respectfully submitted by:
Tectonic Engineering & Surveying Consultants P.C.


Edward N. Iamiceli, P.E.
Managing Director - Structural



Project Contact Info

1279 Route 300 | Newburgh, NY 12550
845.567.6656 Tel | 845.567.8703 Fax

tectonicengineering.com
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1) INTRODUCTION

The existing 12.5' platform mount cannot accommodate the proposed T-Mobile L600 Upgrade. Therefore, a new mount has been analyzed to replace the existing. The proposed replacement mount is a 12.5' Fortress Quad-Platform mount with added top rail support, manufactured by SitePro1; P/N F4P-12W

2) ANALYSIS CRITERIA

TIA-222 Revision:	TIA-222-G
Risk Category:	II
Wind Speed:	97 mph
Exposure Category:	B
Topographic Factor:	1.0
Ice Thickness:	0.75 in
Wind Speed with Ice:	50 mph
Maintenance Wind Speed:	40 mph

Table 1 - Proposed Equipment Loading Information

Mounting Level (ft)	Carrier Designation	Number of Antennas	Antenna Manufacturer	Antenna Model	Proposed Mount Type	Note
116.0	T-Mobile	3	commscope	SDX1926Q-43	12.5' Fortress Quad-Platform Mount w/ Top Rail	1
		3	ericsson	AIR 6449 B41		
		3	ericsson	RRUS 4415 B25		
		3	rfs	APXVARR24_43-C-NA20		
		3	ericsson	AIR 32 B66Aa B2a		
		3	ericsson	RADIO 4449 B12/B71		

Note:

- 1) Proposed equipment to be installed on the existing platform mount.

Table 2 - Existing Equipment Loading Information

Mounting Level (ft)	Carrier Designation	Number of Antennas	Antenna Manufacturer	Antenna Model	Existing Mount Type	Note
116.0	T-Mobile	3	-	Twin Style TMA	-	1
		3	-	Twin Style TMA	12.5 Platform Mount	2
		3	rfs	APX16DWVS-16DWVS		

Notes:

- 1) Existing equipment.
- 2) Existing equipment to be removed, not considered in analysis.

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

Document	Remarks	Dated
FORTRESS QUAD-PLATFORM ASSEMBLY DRAWING	SitePro1	08/30/17
TOWER AND MOUNT MAPPING REPORT	Hightower Solutions, Inc.	06/06/19
RFDS	T-Mobile	07/06/20

3.1) Analysis Method

A tool internally developed, using Microsoft Excel, was used to calculate wind loading on all appurtenances and mount members. This information was then used in conjunction with another program, RISA-3D, which is a commercially available analysis software package, used to check the supporting building framing and calculate member stresses for various loading cases. The selected output from the analysis is included in Appendices B and C.

3.2) Assumptions

- 1) The antenna mounting system was properly fabricated, installed, and maintained in good condition in accordance with its original design, TIA Standards, and/or manufacturer's specifications.
- 2) The configuration of antennas, mounts, and other appurtenances are as specified in Tables 1 and 2.
- 3) 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.
- 4) Steel grades have been assumed as follows, unless noted otherwise:

Channel, Solid Round, Angle, Plate	ASTM A36 (GR 36)
HSS (Rectangular)	ASTM 500 (GR B-46)
Pipe	ASTM A53 (GR 35)
Connection Bolts	ASTM A325

This analysis may be affected if any assumptions are not valid or have been made in error. Tectonic should be notified to determine the effect on the structural integrity of the mount.

4) ANALYSIS RESULTS

Table 4 - Mount Component Stresses vs. Capacity (Platform Mount)

Notes	Component	Mount Centerline (ft)	% Capacity	Pass / Fail
1	Face Horizontal	116.0	31	Pass
	Top Rail		38	Pass
	Grating Support		29	Pass
	Mount Pipe		36	Pass
	Standoff Horizontal		39	Pass
Structure Rating (max from all components) =				39 %

Note:

- 1) See additional documentation in "Appendix C - Analysis Output" for calculations supporting the % capacity consumed.

4.1) Results / Conclusion

The proposed SitePro1 Platform mount with top rail has sufficient capacity to support the proposed loading configuration.

This structural analysis only includes evaluation of the antenna platform mount and not the monopole tower. The monopole is to be analyzed under a separate structural analysis by Tectonic Engineering & Surveying Consultants, P.C.

Contractor shall field verify existing conditions and recommendations as noted on the construction drawings and notify the design engineer of any discrepancies prior to construction. Any further changes to the antenna and/or appurtenance configuration should be reviewed with respect to their effect on structural loads prior to implementation.

APPENDIX A
SOFTWARE INPUT CALCULATIONS

WIND AND ICE LOADS PER TIA-222-G

W.O.	10473.CT11077C
Project Name	Fairfield Fire Rescue #5
Location	3965 Congress Street, Fairfield, CT 06824
County	Fairfield

Tower Type	MP	Monopole
Structure Class	2	Substantial hazard
Exposure Category	B	Suburban/wooded/obstructed
Topo Category	1	Flat or rolling terrain
Height of crest	0	ft

Basic Wind Speed (3-sec gust):		
Without ice	97	mph*
With ice	50	mph
Maintenance	40	mph
Ice thickness	0.75	in

*Nominal converted from 125mph ultimate risk cat. 2

Importance Factor	
Wind only	1.00
Wind with ice	1.00
Ice thickness	1.00
Supporting Data:	
K_e	0.90
K_t	N/A
f	N/A
z_g	1200
α	7
$K_{z,min}$	0.7
K_d	0.95
G_h	1.00

Height	z (ft)	116
	K_h	N/A
	K_{zt}	1.00
	K_z	1.03
	K_{iz}	1.13
Wind Pressure, q_z (psf)	No Ice	23.59
	With Ice	6.27
	Service	4.01
(tiz)	Ice Thk	1.70
Appurtenances ($q_z G_h$)	No Ice	23.59
	With Ice	6.27
	Service	4.01

Appurtenance Information

Effective Projected Area for Appurtenance (EPA)_A=Max((EPA)_N,(EPA)_T)

$$(EPA)_T = \sum (C_{sAA})_N$$

Reduction Factor = 0.9

Antenna Configuration	(E) or (P)	Qty per Sector	z (ft)	Length or Diameter (ft)	Width (in)	Depth (in)	Flat or Cylindrical?	Antenna (Ca) _T	Antenna (Ca) _N	Side Face (As) _T (ft ²)	Wind ward Side Face (CaAs) _T (ft ²)	Face Normal (As) _N (ft ²)	Windward Face Normal (CsAs) _N (ft ²)	Normal Antenna Wind Load Each (lb)	Transverse Antenna Wind Load Each (lb)	Antenna Weight (lb)	Total Weight (lb)
AIR 6449 B41	P	1	116	2.76	20.50	8.30	Flat	1.27	1.20	1.91	2.17	4.71	5.09	120	51	103.0	103.0
RRUS 4415 B25	P	1	116	1.24	13.20	5.40	Flat	1.21	1.20	0.56	0.61	1.37	1.48	35	14	46.3	46.3
SDX1926Q-43	P	1	116	0.35	6.93	2.91	Flat	1.20	1.20	0.08	0.09	0.20	0.22	5	2	6.2	6.2
RRU 4449 B71+B12	E	1	116	1.25	13.20	10.40	Flat	1.20	1.20	1.08	1.17	1.38	1.49	35	28	75.0	75.0
TMA	E	1	116	1.32	14.00	3.10	Flat	1.32	1.20	0.34	0.40	1.54	1.66	39	10	33.0	33.0
AIR-32 B2A/B66A	E	1	116	4.72	12.90	8.70	Flat	1.38	1.28	3.42	4.24	5.07	5.86	138	100	132.2	132.2
APXVAARR24_43-U-NA20	E	1	116	7.99	24.00	8.70	Flat	1.53	1.27	5.79	8.00	15.98	18.22	430	189	153.3	153.3
								$\sum (C_{sAA})_T$		$\sum (C_{sAA})_T$	16.69	$\sum (C_{sAA})_N$	34.00				549

Wind with Ice Load Combinations Ice Thk= 1.70 in

Antenna Configuration	(E) or (P)	Qty per Sector	z (ft)	Length or Diameter (ft)	Width (in)	Depth (in)	Flat or Cylindrical?	Antenna (Ca) _T	Antenna (Ca) _N	Side Face (As) _T (ft ²)	Windward Side Face (CaAs) _T (ft ²)	Face Normal (As) _N (ft ²)	Windward Face Normal (CsAs) _N (ft ²)	Normal Antenna Wind Load Each (lb)	Transverse Antenna Wind Load Each (lb)	Ice Area for Weight (ft ²)	Ice Weight Alone (lbs)
AIR 6449 B41	P	1	116	3.04	23.90	11.70	Cylindrical	0.7	0.7	2.97	1.87	6.06	3.82	24	12	13.2	105.1
RRUS 4415 B25	P	1	116	1.53	16.60	8.80	Cylindrical	0.7	0.7	1.12	0.70	2.11	1.33	8	4	3.8	30.6
SDX1926Q-43	P	1	116	0.63	10.33	6.31	Cylindrical	0.7	0.7	0.33	0.21	0.64	0.34	2	1	0.6	4.5
RRU 4449 B71+B12	E	1	116	1.53	16.60	13.80	Cylindrical	0.7	0.7	1.76	1.11	2.12	1.34	8	7	4.9	39.0
TMA	E	1	116	1.60	17.40	6.50	Cylindrical	0.7	0.7	0.87	0.55	2.32	1.46	9	3	3.8	29.8
AIR-32 B2A/B66A	E	1	116	5.00	16.30	12.10	Cylindrical	0.73	0.73	5.04	3.30	6.79	4.44	28	21	17.0	134.8
APXVAARR24_43-U-NA20	E	1	116	8.28	27.40	12.10	Cylindrical	0.72	0.72	8.35	5.45	18.90	12.33	77	34	43.6	345.7
								$\sum (C_{sAA})_T$		$\sum (C_{sAA})_T$	13.18	$\sum (C_{sAA})_N$	25.06				689

Maintenance Load Combinations

Antenna Configuration	(E) or (P)	Qty per Sector	z (ft)	Length or Diameter (ft)	Width (in)	Depth (in)	Flat or Cylindrical?	Antenna (Ca) _T	Antenna (Ca) _N	Side Face (As) _T (ft ²)	Windward Side Face (CaAs) _T (ft ²)	Face Normal (As) _N (ft ²)	Windward Face Normal (CsAs) _N (ft ²)	Normal Antenna Wind Load Each (lb)	Transverse Antenna Wind Load Each (lb)	Ice Area for Weight (ft ²)	Ice Weight Alone (lbs)
AIR 6449 B41	P	1	116	2.76	20.50	8.30	Flat	1.27	1.20	1.91	2.17	4.71	5.09	20	9		
RRUS 4415 B25	P	1	116	1.24	13.20	5.40	Flat	1.21	1.20	0.56	0.61	1.37	1.48	6	2		
SDX1926Q-43	P	1	116	0.35	6.93	2.91	Flat	1.20	1.20	0.08	0.09	0.20	0.22	1	0		
RRU 4449 B71+B12	E	1	116	1.25	13.20	10.40	Flat	1.20	1.20	1.08	1.17	1.38	1.49	6	5		
TMA	E	1	116	1.32	14.00	3.10	Flat	1.32	1.20	0.34	0.40	1.54	1.66	7	2		
AIR-32 B2A/B66A	E	1	116	4.72	12.90	8.70	Flat	1.38	1.28	3.42	4.24	5.07	5.86	24	17		
APXVAARR24_43-U-NA20	E	1	116	7.99	24.00	8.70	Flat	1.53	1.27	5.79	8.00	15.98	18.22	73	32		



Job No. 10473.CT11077C
 Sheet No. 3 of 3
 Calculated By JJ Date: 08/06/20
 Checked By IM Date: 08/06/20

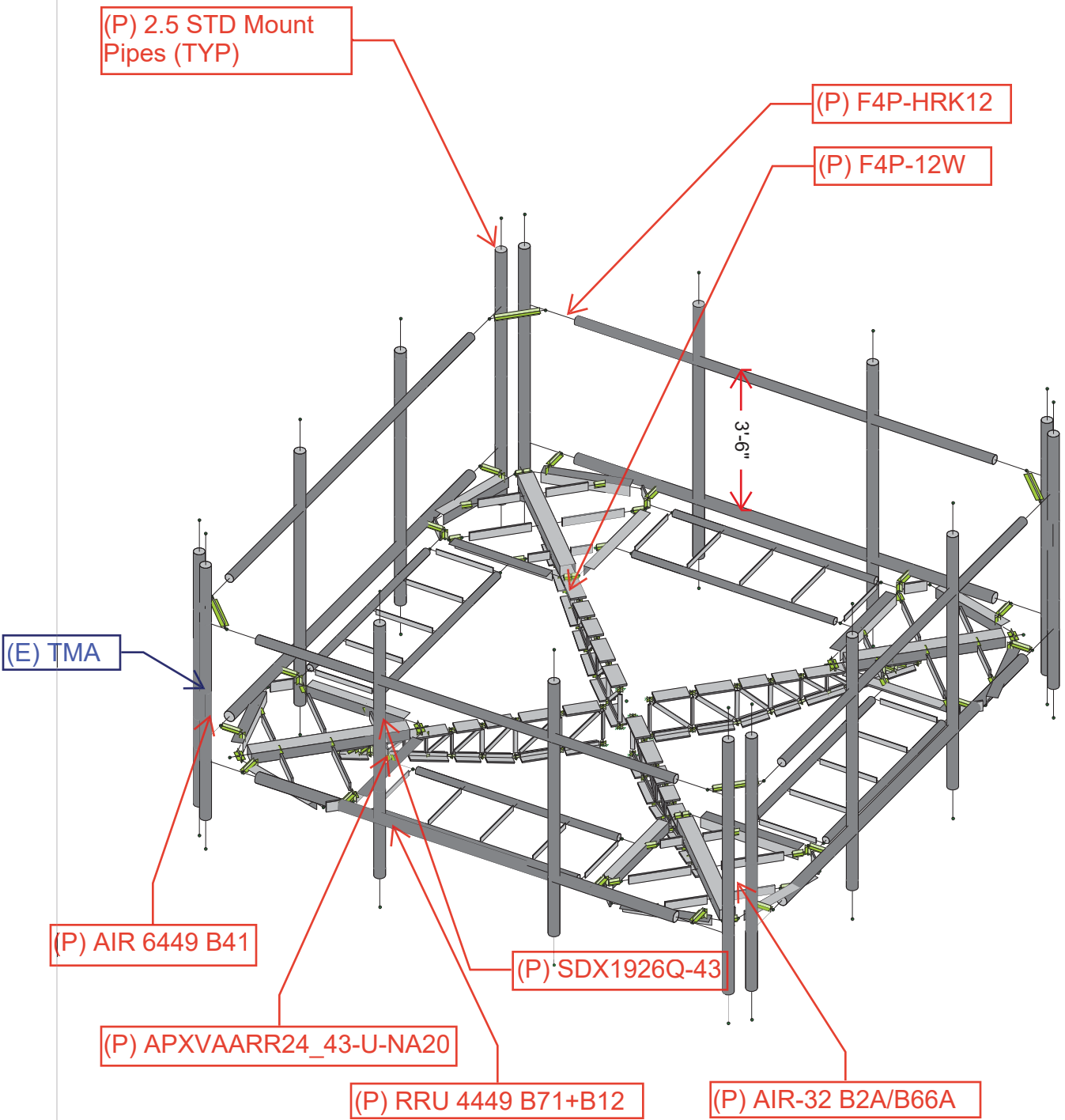
Proposed Platform Mount

Mount Center Line= 116 ft

Member sizes and dimensions are based on assembly drawings entitled by SitePro1 "Fortress Quad-Platform Mount Assembly w/ Handrail"

Mount Part	Quantity	Length (ft)	Projected Width (in)	Depth (in)	Flat or Cylindrical ?	Drag Factor	Projected Area (ft^2)	Wind Force (lbs/ft)	Ice Weight Area (ft^2)	Ice Weight (lbs/ft)	Projected Area with Ice (ft^2)	Wind Force Ice (lbs/ft)	Maintenance Wind Force (lbs/ft)
Face Horizontal Pipe 2.5" STD	4	12.50	2.88	2.88	Cylindrical	1.2	14.38	6.1	37.61	6.0	31.38	3.5	1.0
Handrail Pipe 2.0" STD	4	12.50	2.38	2.38	Cylindrical	1.2	11.90	5.1	31.14	4.9	28.91	3.3	0.9
Mount Pipe 2.5" STD	12	8.00	2.88	2.88	Cylindrical	1.2	27.60	6.1	72.22	6.0	60.26	3.5	1.0
Grating Support Pipe 1.5" STD	8	6.00	1.90	1.90	Cylindrical	1.2	9.12	4.0	23.86	3.9	25.45	3.0	0.7
Grating Stand L3x3x3/8	16	2.90	3.00	3.00	Flat	2	23.20	10.6	46.40	7.9	49.51	6.0	1.8
Grating Plate PL1.5x3/16	20	1.68	1.50	0.19	Flat	2	8.40	5.3	9.45	2.2	27.45	4.6	0.9
Standoff Horizontal_HSS4x3x1/4	4	4.24	4.00	3.00	Flat	2	11.31	14.2	19.79	9.3	20.92	7.0	2.4
Standoff Truss Top_PL4x1/2	4	5.75	0.50	4.00	Flat	2	1.92	1.8	17.25	6.0	14.96	3.7	0.3
Standoff Truss Bottom_PL4x3/8	4	5.75	0.38	4.00	Flat	2	1.44	1.3	16.77	5.8	14.48	3.6	0.2
Standoff Brace_PL1x3/8	40	1.60	1.00	0.38	Flat	2	10.67	3.5	14.67	1.8	46.95	4.1	0.6

APPENDIX B
WIRE FRAME AND RENDERED MODELS



(E) TMA

(P) 2.5 STD Mount Pipes (TYP)

(P) F4P-HRK12

(P) F4P-12W

3'-6"

(P) AIR 6449 B41

(P) SDX1926Q-43

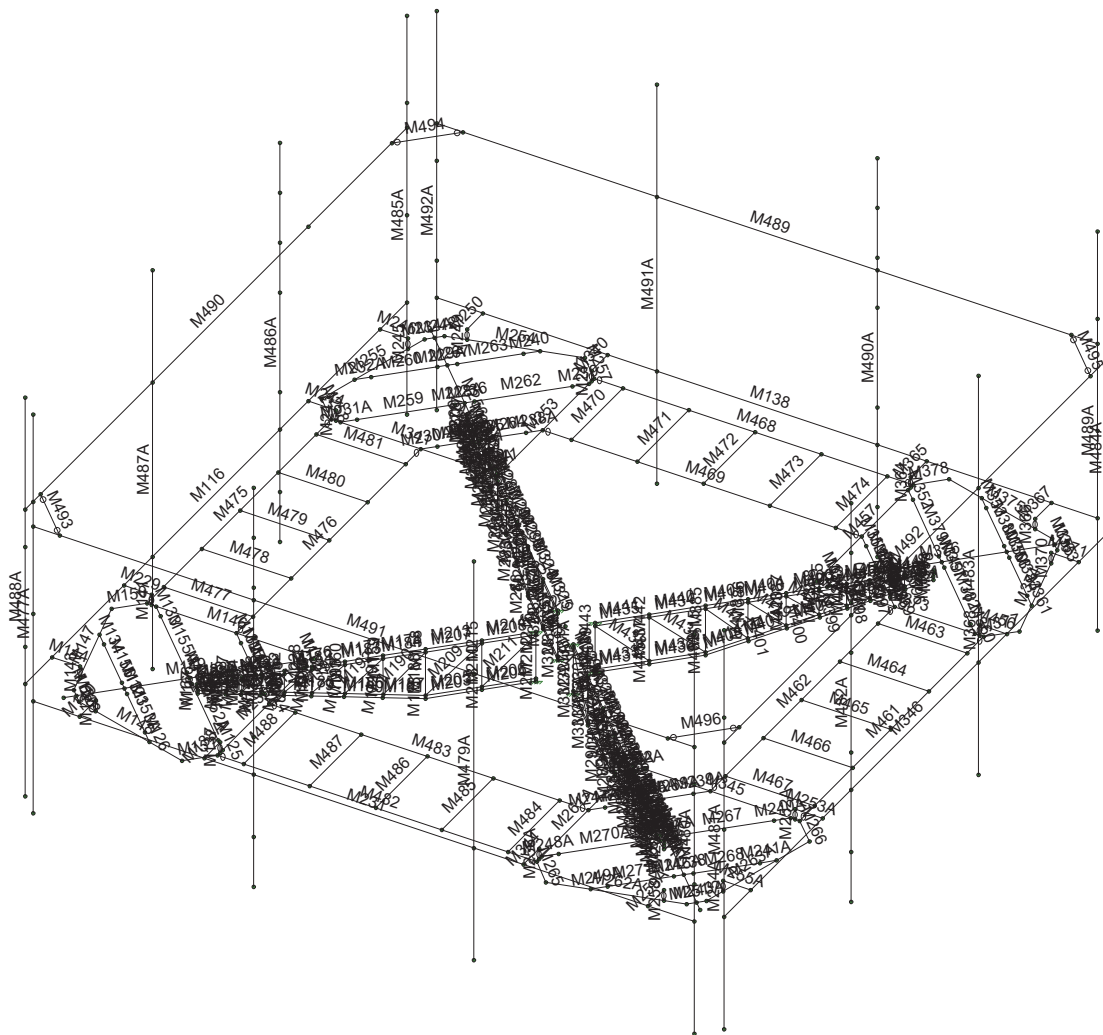
(P) APXVAARR24_43-U-NA20

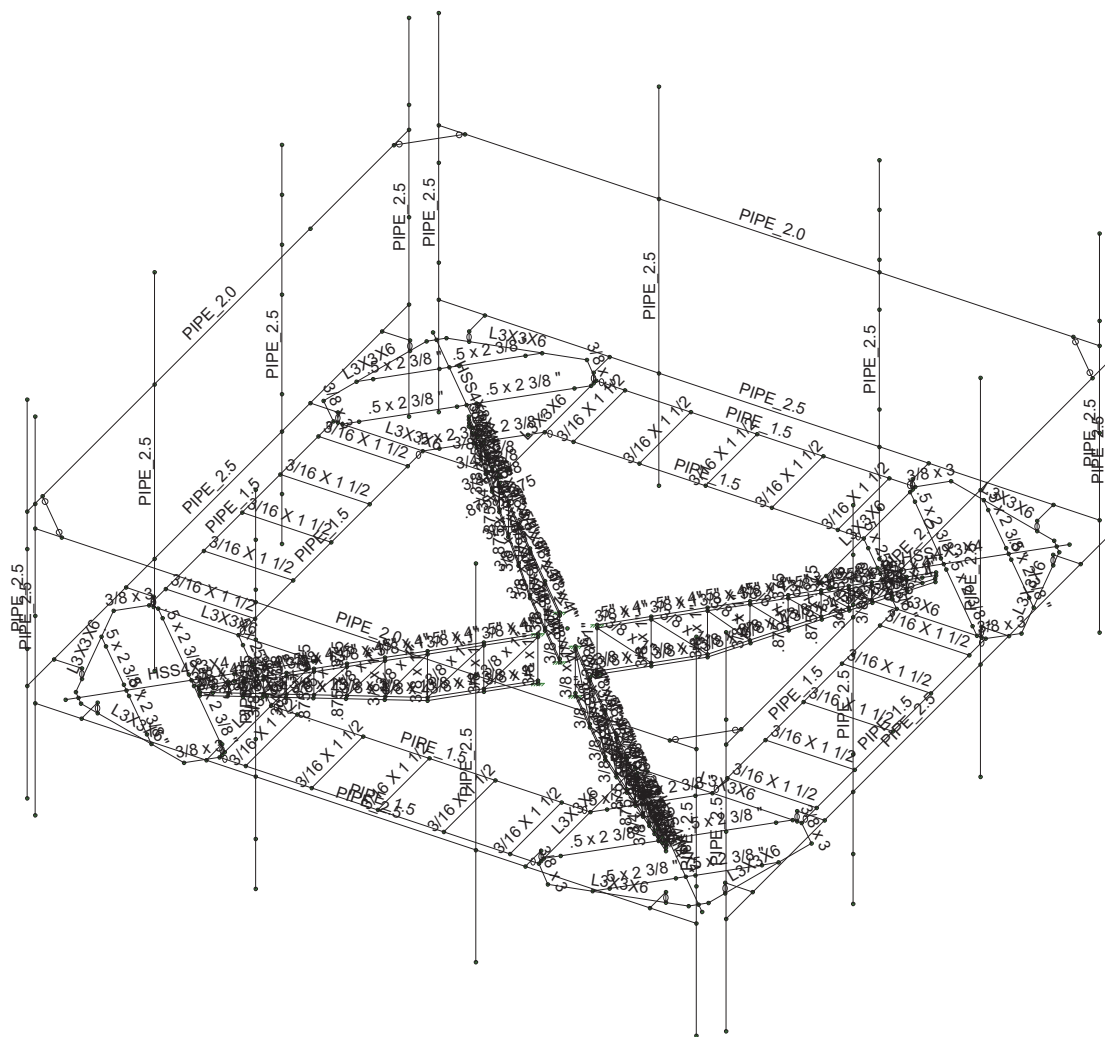
(P) RRU 4449 B71+B12

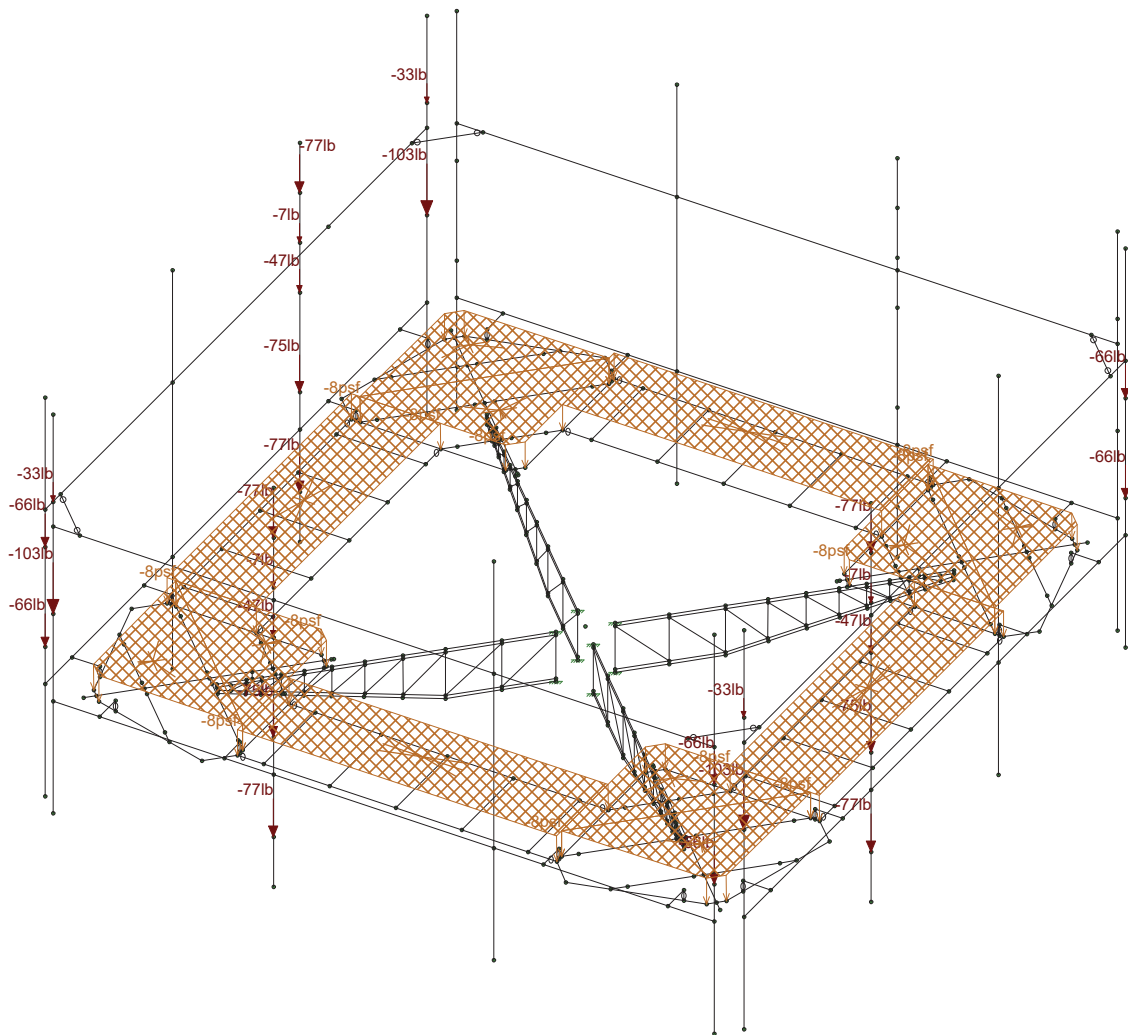
(P) AIR-32 B2A/B66A

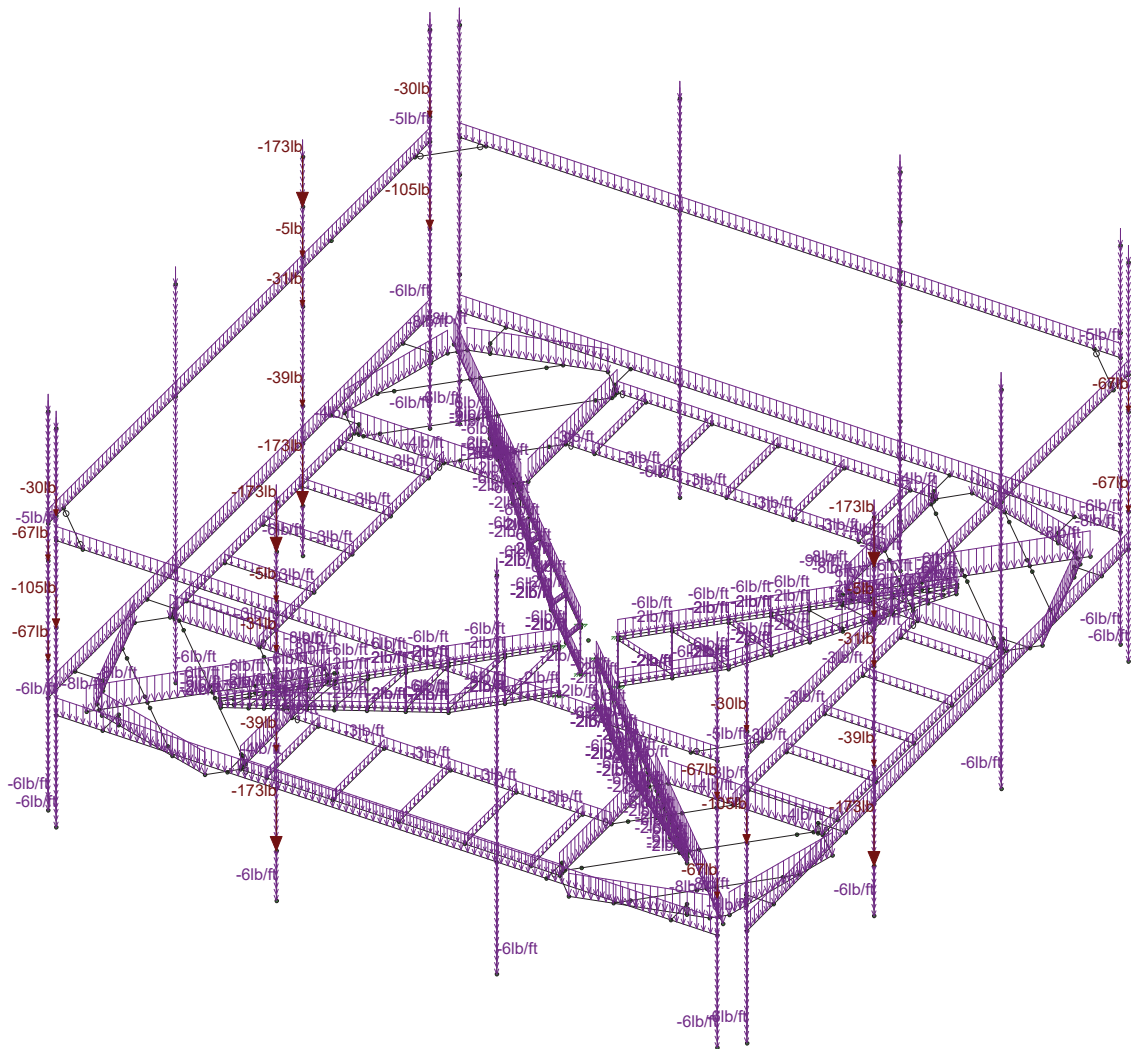
(P) PROPOSED
(E) EXISTING

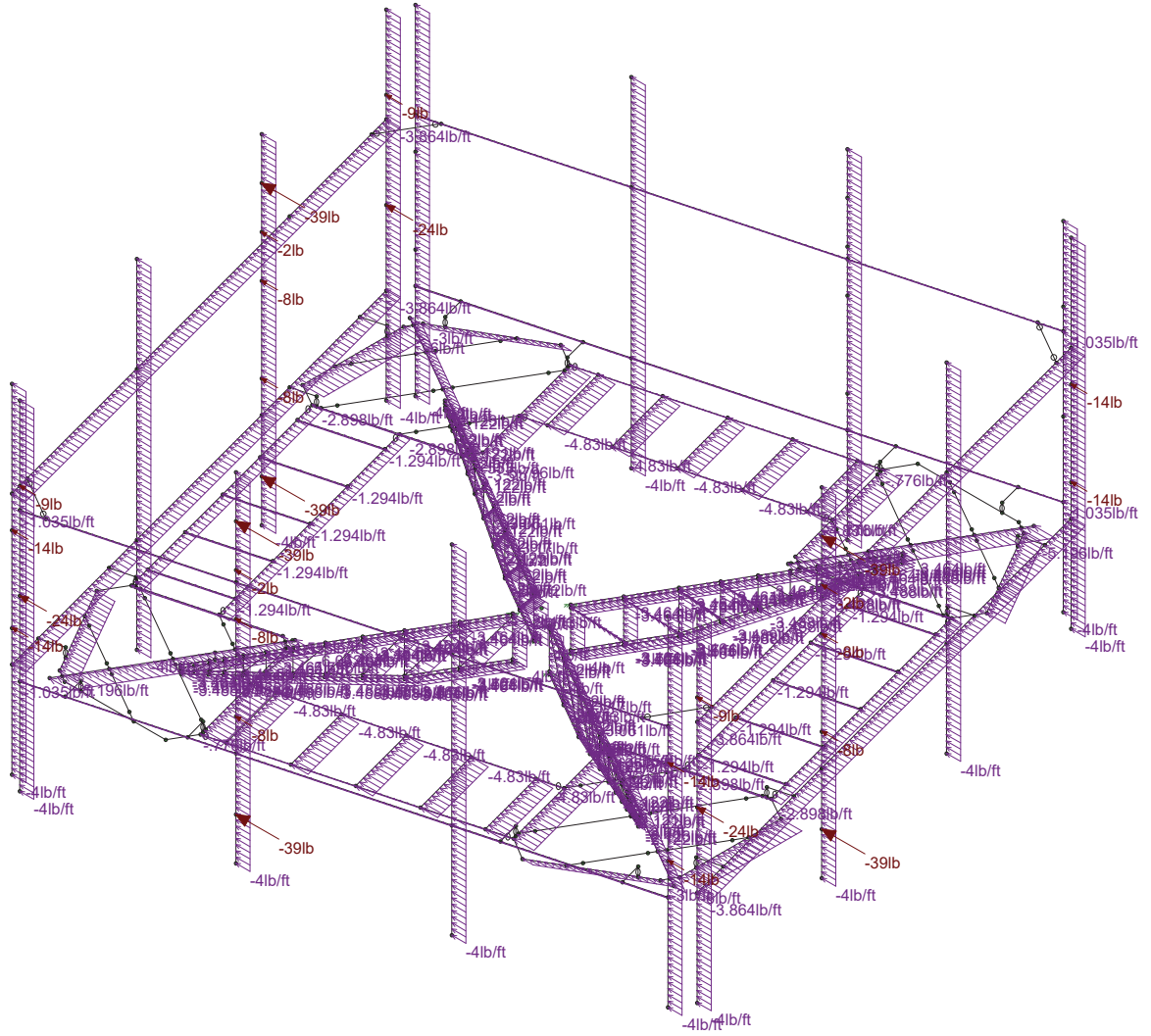
NOTES:
1) EXISTING AND PROPOSED ANTENNAS AND MOUNTING PIPES HAVE BEEN VERTICALLY CENTERED ALONG THE EXISTING MOUNT. (NO OFFSET)
2) LISTED APPURTENANCES ABOVE ARE TYPICAL FOR THREE SECTORS.
3) RADIOS ARE LOCATED BEHIND THE ANTENNAS.

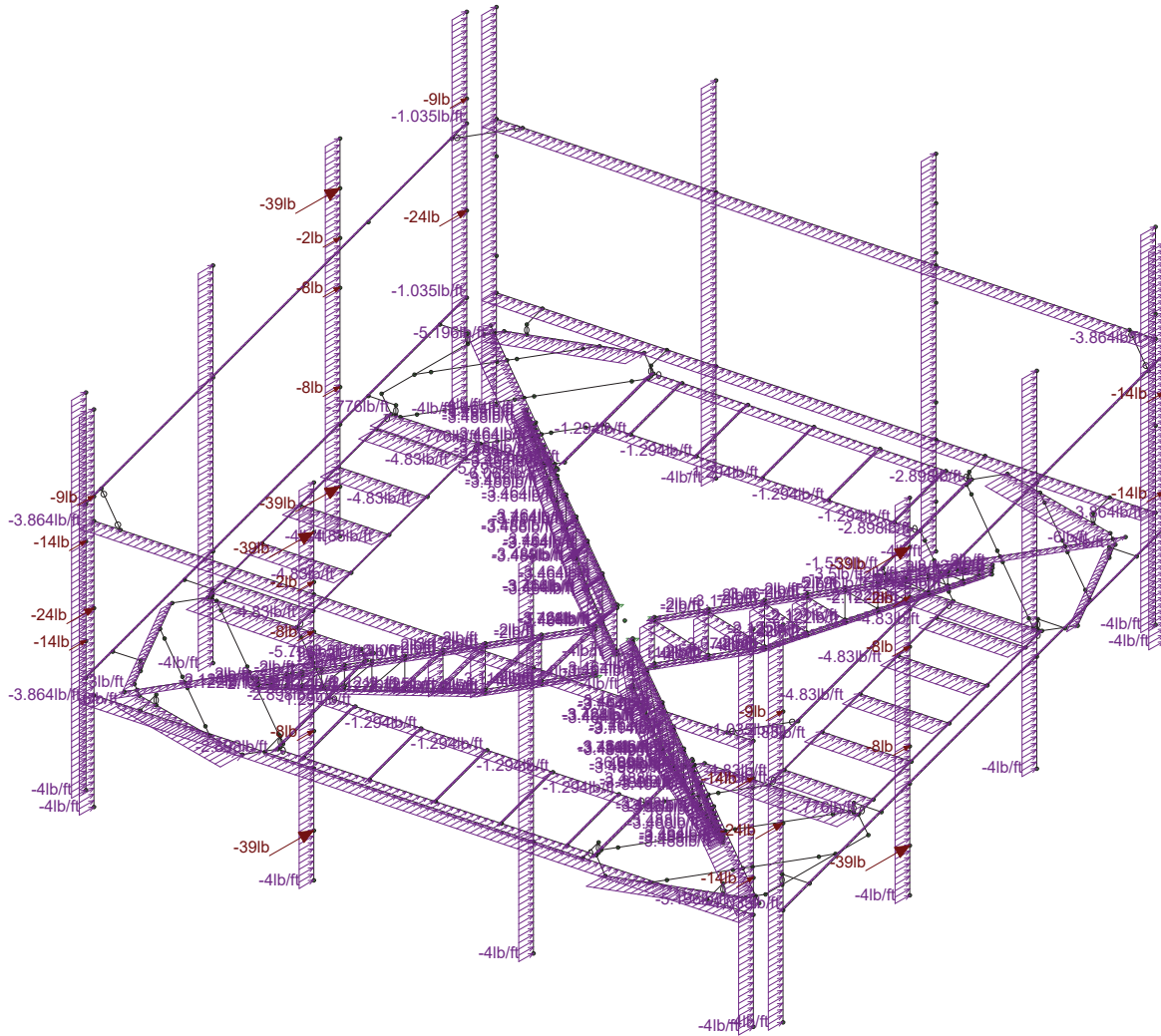


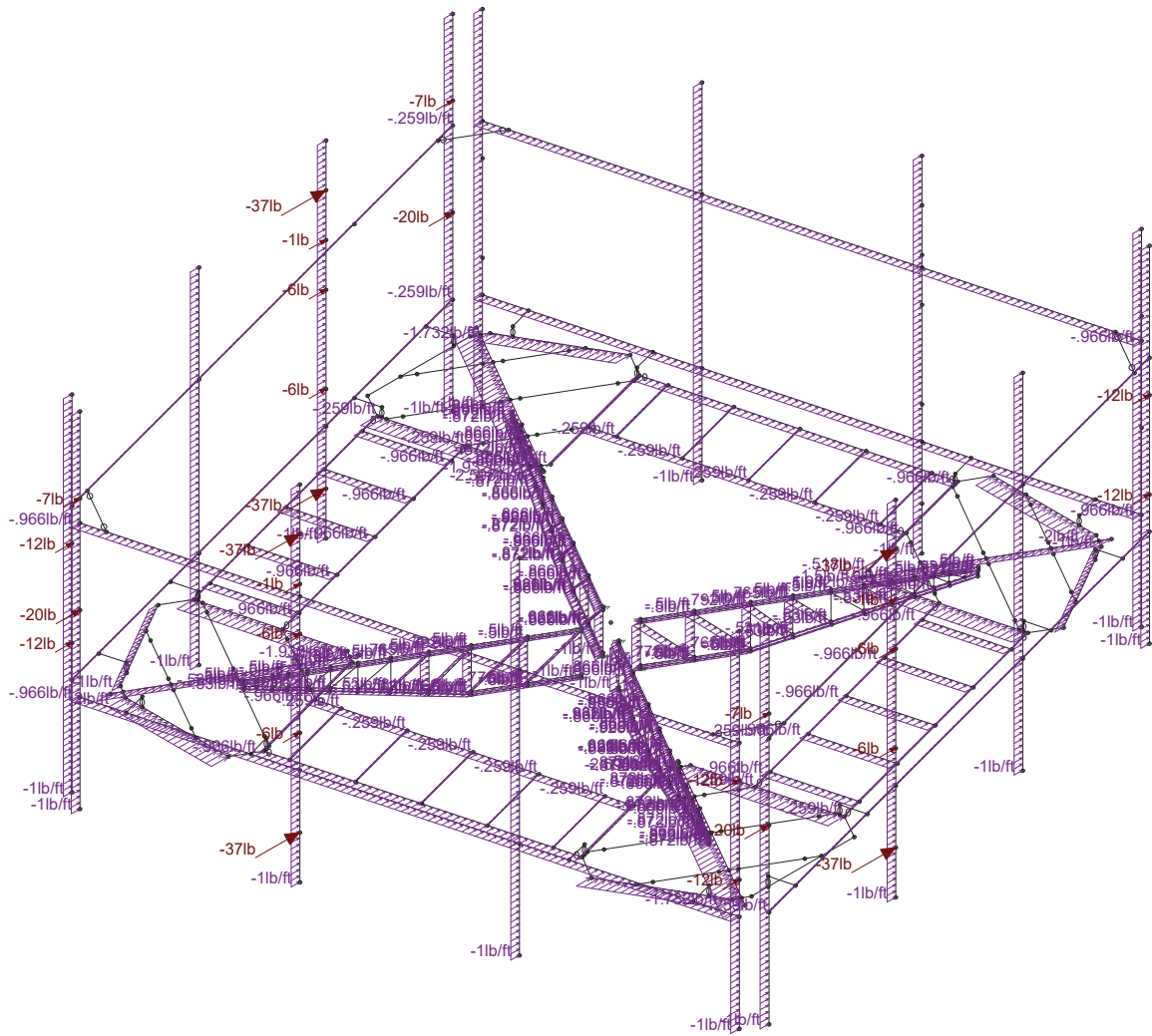


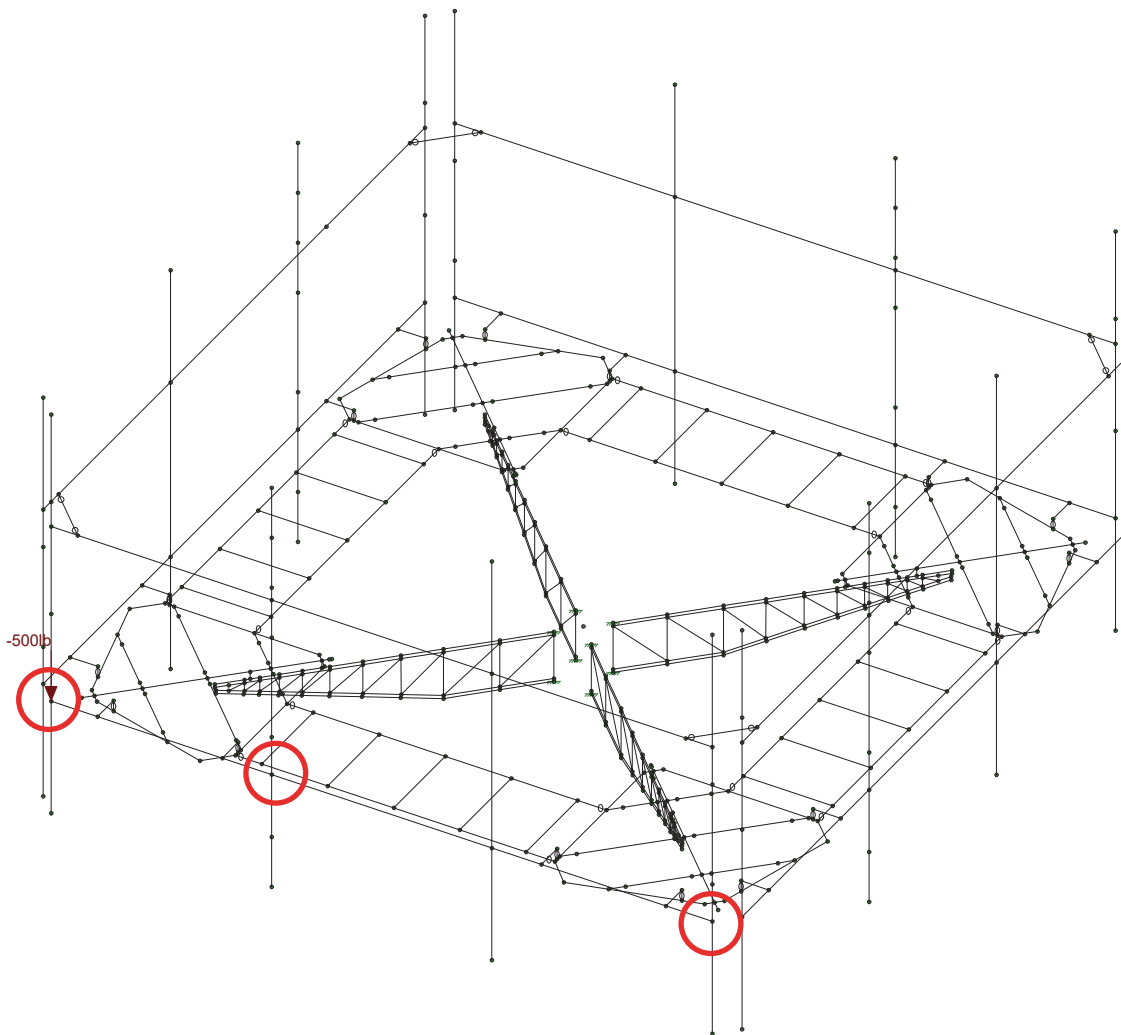










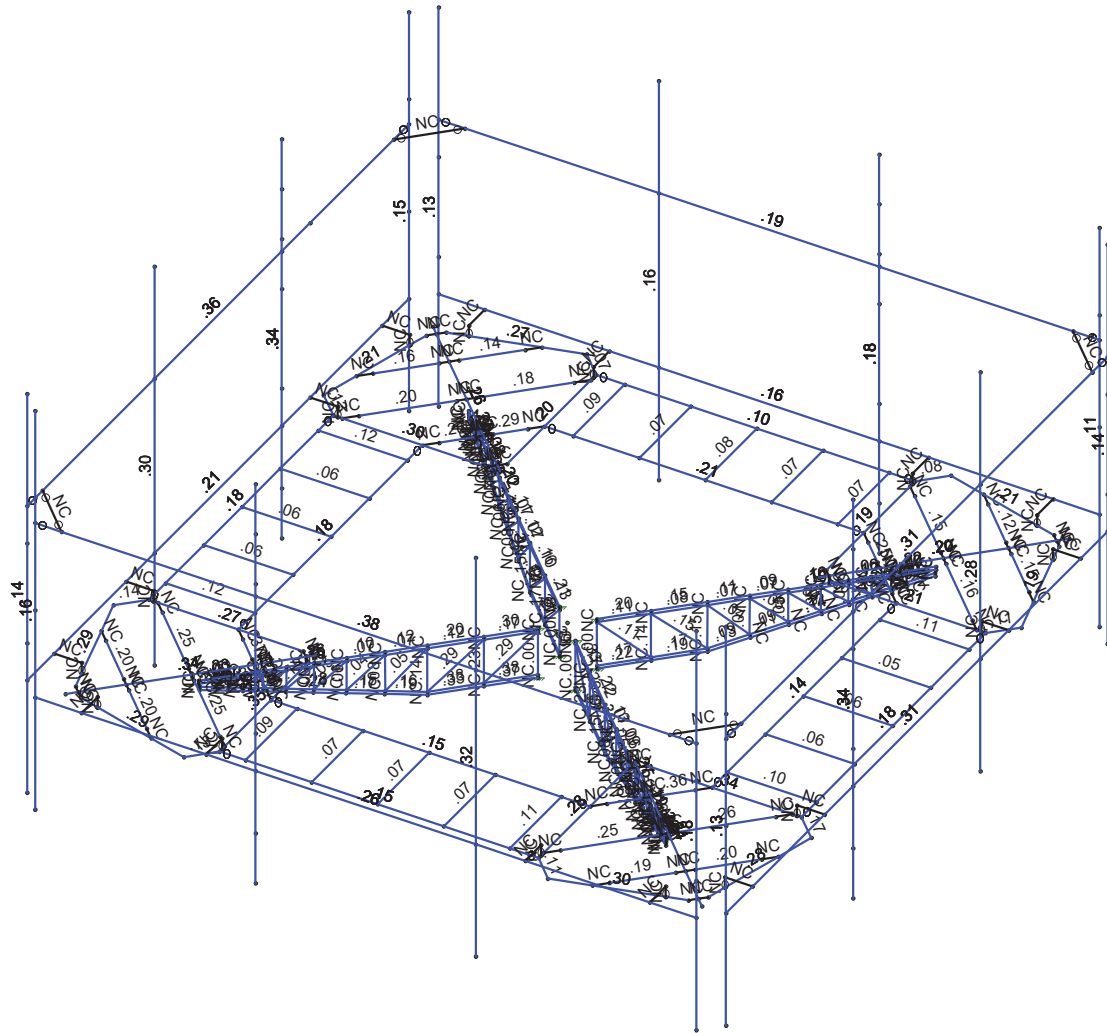


500 lbs maintenance load per antenna

APPENDIX C
SOFTWARE ANALYSIS OUTPUT



Code Check (Ene)
No Calc
> 1.0
40-1.0
75-90
50-75
0-.50



Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (1...	Density[k/f...	Yield[ksi]	Ry	Fu[ksi]	Rt
1	A992	29000	11154	.3	.65	.49	50	1.1	65	1.1
2	A36 Gr.36	29000	11154	.3	.65	.49	36	1.5	58	1.2
3	A572 Gr.50	29000	11154	.3	.65	.49	50	1.1	65	1.1
4	A500 Gr.B RND	29000	11154	.3	.65	.527	42	1.4	58	1.3
5	A500 Gr.B Rect	29000	11154	.3	.65	.527	46	1.4	58	1.3
6	A53 Gr.B	29000	11154	.3	.65	.49	35	1.6	60	1.2
7	A1085	29000	11154	.3	.65	.49	50	1.4	65	1.3
8	Q235	29000	11154	.3	.65	.49	35	1.5	58	1.2

Basic Load Cases

	BLC Description	Category	X Grav...	Y Grav...	Z Gravity	Joint	Point	Distrib...	Area(Memb...	Surface(...
1	DL	DL		-1.05		27			12	
2	WLX	WL+X				27		216		
3	WLZ	WL+Z				27		216		
4	DL (ICE)	SL				27		216		
5	WLX (ICE)	WL+X				27		216		
6	WLZ (ICE)	WL+Z				27		216		
7	WLX (MAINT)	WL+X				27		216		
8	WLZ (MAINT)	WL+Z				27		216		
9	Lm1	OL1				1				
10	Lm2	OL2				1				
11	Lm3	OL3				1				
12	BLC 1 Transient Area Loa...	None						439		

Load Combinations

	Description	So...	P...	SRSS	BLCFa...	B...	Factor	BLC	Factor	B...	Fact...	B...	Fa...	B...	Fa...
1	**LRFD**														
2	1.4D	Yes	Y		1	1.4									
3	1.2D+1.6(WLX+WLZ) - 0 Deg	Yes	Y		1	1.2	2	1.6							
4	1.2D+1.6(WLX+WLZ) - 30 Deg	Yes	Y		1	1.2	2	1.385	3	.8					
5	1.2D+1.6(WLX+WLZ) - 60 Deg	Yes	Y		1	1.2	2	.8	3	1.385					
6	1.2D+1.6(WLX+WLZ) - 90 Deg	Yes	Y		1	1.2	2		3	1.6					
7	1.2D+1.6(WLX+WLZ) - 120 Deg	Yes	Y		1	1.2	2	-.8	3	1.385					
8	1.2D+1.6(WLX+WLZ) - 150 Deg	Yes	Y		1	1.2	2	-1.385	3	.8					
9	1.2D+1.6(WLX+WLZ) - 180 Deg	Yes	Y		1	1.2	2	-1.6	3						
10	1.2D+1.6(WLX+WLZ) - 210 Deg	Yes	Y		1	1.2	2	-1.385	3	-.8					
11	1.2D+1.6(WLX+WLZ) - 240 Deg	Yes	Y		1	1.2	2	-.8	3	-1.385					
12	1.2D+1.6(WLX+WLZ) - 270 Deg	Yes	Y		1	1.2	2		3	-1.6					
13	1.2D+1.6(WLX+WLZ) - 300 Deg	Yes	Y		1	1.2	2	.8	3	-1.385					
14	1.2D+1.6(WLX+WLZ) - 330 Deg	Yes	Y		1	1.2	2	1.385	3	-.8					
15	**Wind Load with Ice**														
16	1.2D+1.0Di+1.0(WLXi+WLZi) - 0 Deg	Yes	Y		1	1.2	4	1	5	1	6				
17	1.2D+1.0Di+1.0(WLXi+WLZi) - 30 Deg	Yes	Y		1	1.2	4	1	5	.87	6	.5			
18	1.2D+1.0Di+1.0(WLXi+WLZi) - 60 Deg	Yes	Y		1	1.2	4	1	5	.5	6	.87			
19	1.2D+1.0Di+1.0(WLXi+WLZi) - 90 Deg	Yes	Y		1	1.2	4	1	5		6	1			
20	1.2D+1.0Di+1.0(WLXi+WLZi) - 120 Deg	Yes	Y		1	1.2	4	1	5	-.5	6	.87			
21	1.2D+1.0Di+1.0(WLXi+WLZi) - 150 Deg	Yes	Y		1	1.2	4	1	5	-.87	6	.5			
22	1.2D+1.0Di+1.0(WLXi+WLZi) - 180 Deg	Yes	Y		1	1.2	4	1	5	-1	6				
23	1.2D+1.0Di+1.0(WLXi+WLZi) - 210 Deg	Yes	Y		1	1.2	4	1	5	-.87	6	-.5			
24	1.2D+1.0Di+1.0(WLXi+WLZi) - 240 Deg	Yes	Y		1	1.2	4	1	5	-.5	6	-.87			
25	1.2D+1.0Di+1.0(WLXi+WLZi) - 270 Deg	Yes	Y		1	1.2	4	1	5		6	-1			
26	1.2D+1.0Di+1.0(WLXi+WLZi) - 300 Deg	Yes	Y		1	1.2	4	1	5	.5	6	-.87			
27	1.2D+1.0Di+1.0(WLXi+WLZi) - 330 Deg	Yes	Y		1	1.2	4	1	5	.87	6	-.5			



Company : Tectonic
 Designer : John-Fritz Julien
 Job Number : 10473.CT11077C
 Model Name : 12' Platform Mount (SitePro1: F4P-12)

Checked By: Ian Marinaccio

Load Combinations (Continued)

	Description	So...	P...	SRSS	BLC	Fa...	B...	Factor	BLC	Factor	B...	Fact...	B...	Fa...	B...	Fa...
28	**Maintenance Load (With Service Load)**...		Y													
29	1.2D+1.5Lm1+1.0(WLX+WLZ, Service) - 0...Yes	Y		1	1.2	9	1.5	7	1	8						
30	1.2D+1.5Lm1+1.0(WLX+WLZ, Service) - 3...Yes	Y		1	1.2	9	1.5	7	.87	8	.5					
31	1.2D+1.5Lm1+1.0(WLX+WLZ, Service) - 6...Yes	Y		1	1.2	9	1.5	7	.5	8	.87					
32	1.2D+1.5Lm1+1.0(WLX+WLZ, Service) - 9...Yes	Y		1	1.2	9	1.5	7		8	1					
33	1.2D+1.5Lm1+1.0(WLX+WLZ, Service) - 1...Yes	Y		1	1.2	9	1.5	7	-.5	8	.87					
34	1.2D+1.5Lm1+1.0(WLX+WLZ, Service) - 1...Yes	Y		1	1.2	9	1.5	7	-.87	8	.5					
35	1.2D+1.5Lm1+1.0(WLX+WLZ, Service) - 1...Yes	Y		1	1.2	9	1.5	7	-1	8						
36	1.2D+1.5Lm1+1.0(WLX+WLZ, Service) - 2...Yes	Y		1	1.2	9	1.5	7	-.87	8	-.5					
37	1.2D+1.5Lm1+1.0(WLX+WLZ, Service) - 2...Yes	Y		1	1.2	9	1.5	7	-.5	8	-.87					
38	1.2D+1.5Lm1+1.0(WLX+WLZ, Service) - 2...Yes	Y		1	1.2	9	1.5	7		8	-1					
39	1.2D+1.5Lm1+1.0(WLX+WLZ, Service) - 3...Yes	Y		1	1.2	9	1.5	7	.5	8	-.87					
40	1.2D+1.5Lm1+1.0(WLX+WLZ, Service) - 3...Yes	Y		1	1.2	9	1.5	7	.87	8	-.5					
41	**Maintenance Load (With Service Load)**...		Y													
42	1.2D+1.5Lm2+1.0(WLX+WLZ, Service) - 0...Yes	Y		1	1.2	10	1.5	7	1	8						
43	1.2D+1.5Lm2+1.0(WLX+WLZ, Service) - 3...Yes	Y		1	1.2	10	1.5	7	.87	8	.5					
44	1.2D+1.5Lm2+1.0(WLX+WLZ, Service) - 6...Yes	Y		1	1.2	10	1.5	7	.5	8	.87					
45	1.2D+1.5Lm2+1.0(WLX+WLZ, Service) - 9...Yes	Y		1	1.2	10	1.5	7		8	1					
46	1.2D+1.5Lm2+1.0(WLX+WLZ, Service) - 1...Yes	Y		1	1.2	10	1.5	7	-.5	8	.87					
47	1.2D+1.5Lm2+1.0(WLX+WLZ, Service) - 1...Yes	Y		1	1.2	10	1.5	7	-.87	8	.5					
48	1.2D+1.5Lm2+1.0(WLX+WLZ, Service) - 1...Yes	Y		1	1.2	10	1.5	7	-1	8						
49	1.2D+1.5Lm2+1.0(WLX+WLZ, Service) - 2...Yes	Y		1	1.2	10	1.5	7	-.87	8	-.5					
50	1.2D+1.5Lm2+1.0(WLX+WLZ, Service) - 2...Yes	Y		1	1.2	10	1.5	7	-.5	8	-.87					
51	1.2D+1.5Lm2+1.0(WLX+WLZ, Service) - 2...Yes	Y		1	1.2	10	1.5	7		8	-1					
52	1.2D+1.5Lm2+1.0(WLX+WLZ, Service) - 3...Yes	Y		1	1.2	10	1.5	7	.5	8	-.87					
53	1.2D+1.5Lm2+1.0(WLX+WLZ, Service) - 3...Yes	Y		1	1.2	10	1.5	7	.87	8	-.5					
54	**Maintenance Load (With Service Load)**...		Y													
55	1.2D+1.5Lm3+1.0(WLX+WLZ, Service) - 0...Yes	Y		1	1.2	11	1.5	7	1	8						
56	1.2D+1.5Lm3+1.0(WLX+WLZ, Service) - 3...Yes	Y		1	1.2	11	1.5	7	.87	8	.5					
57	1.2D+1.5Lm3+1.0(WLX+WLZ, Service) - 6...Yes	Y		1	1.2	11	1.5	7	.5	8	.87					
58	1.2D+1.5Lm3+1.0(WLX+WLZ, Service) - 9...Yes	Y		1	1.2	11	1.5	7		8	1					
59	1.2D+1.5Lm3+1.0(WLX+WLZ, Service) - 1...Yes	Y		1	1.2	11	1.5	7	-.5	8	.87					
60	1.2D+1.5Lm3+1.0(WLX+WLZ, Service) - 1...Yes	Y		1	1.2	11	1.5	7	-.87	8	.5					
61	1.2D+1.5Lm3+1.0(WLX+WLZ, Service) - 1...Yes	Y		1	1.2	11	1.5	7	-1	8						
62	1.2D+1.5Lm3+1.0(WLX+WLZ, Service) - 2...Yes	Y		1	1.2	11	1.5	7	-.87	8	-.5					
63	1.2D+1.5Lm3+1.0(WLX+WLZ, Service) - 2...Yes	Y		1	1.2	11	1.5	7	-.5	8	-.87					
64	1.2D+1.5Lm3+1.0(WLX+WLZ, Service) - 2...Yes	Y		1	1.2	11	1.5	7		8	-1					
65	1.2D+1.5Lm3+1.0(WLX+WLZ, Service) - 3...Yes	Y		1	1.2	11	1.5	7	.5	8	-.87					
66	1.2D+1.5Lm3+1.0(WLX+WLZ, Service) - 3...Yes	Y		1	1.2	11	1.5	7	.87	8	-.5					

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Desig..A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	Handrail Pipe	PIPE 2.0	Beam	None	A53 Gr.B	Typical 1.02	.627	.627	1.25
2	Mount Pipe	PIPE 2.5	Beam	None	A53 Gr.B	Typical 1.61	1.45	1.45	2.89
3	HR3	PIPE 2.5	Beam	None	A53 Gr.B	Typical 1.61	1.45	1.45	2.89

Envelope Joint Reactions

	Joint	X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [lb-ft]	LC	MY [lb-ft]	LC	MZ [lb-ft]	LC
1	R1	max	10665.994	4	2348.773	17	6418.652	4	26.785	10948.618	3	104.303	4
2		min	-4131.799	10	568.782	10	-2656.83	10	-69.538	4-1011.997	9	-38.118	10
3	R1A	max	-1148.113	10	94.255	17	-766.725	10	-9.041	11696.726	3	94.679	17
4		min	-11806.546	17	32.93	10	-6711.636	17	-55.017	17-582.566	9	3.191	10
5	R2	max	8304.542	13	3038.617	26	3630.8	7	138.632	131575.187	3	85.474	13
6		min	-2266.384	7	742.271	7	-14062.258	13	-31.878	7-1609.326	9	-23.783	7



Envelope Joint Reactions (Continued)

Joint	X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [lb-ft]	LC	MY [lb-ft]	LC	MZ [lb-ft]	LC
7 R2A	max -1187.763	7	113.532	26	15815.756	26	129.355	26	600.403	3	74.669	25
8	min -9104.907	26	39.709	7	1910.555	7	9.743	7	-603.112	9	10.66	6
9 R3	max 3335.24	4	3082.569	23	1500.606	4	78.33	10	1571.929	3	28.802	4
10	min -14070.113	10	817.512	4	-7633.098	10	-13.958	4	-1605.877	9	-137.529	10
11 R3A	max 16087.589	23	115.26	23	9247.939	23	77.265	22	672.448	3	-18.804	4
12	min 2460.912	4	37.35	4	1272.55	4	2.374	3	-570.712	9	-130.985	23
13 R4	max 2599.163	13	1963.07	20	9391.972	7	45.323	13	1054.579	3	24.16	13
14	min -5217.367	7	435.272	13	-4852.366	13	-95.794	7	-1039.543	9	-48.513	7
15 R4A	max 5537.06	20	82.888	20	-537.101	13	-2.707	13	544.186	3	4.438	13
16	min 247.668	13	22.594	13	-9472.986	20	-75.532	20	-647.09	9	-48.795	7
17 Totals:	max 7095.791	3	10208.058	20	7095.799	6						
18	min -7095.791	9	5601.54	14	-7095.802	12						

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

member	Shape	Code Ch.	Loc	LC	Shear C.	Loc	Dir	LC	phi Pnc [lb]	phi Pnt	phi Mv y-y [l...	phi Mv	Eqn	
1	M320A	3/8 x 1"	.389	.957	23	.075	.957	y	9	11920.097	16875	131.835	351.5.....	H1-1a
2	M321A	3/8 x 1"	.380	.917	23	.030	.917	y	9	12267.071	16875	131.835	351.5.....	H1-1a
3	M205	3/8 x 1"	.383	.957	26	.070	.957	y	3	11920.097	16875	131.835	351.5.....	H1-1a
4	M491	PIPE 2.0	.381	4.276	8	.245	12.5		8	14559.939	32130	1871.625	1871.....	H1-1b
5	M272A	.5 x 2 3/8 "	.381	0	22	.052	0	y	11	36034.305	37406.25	389.65	1850.....	H1-1b
6	M206	3/8 x 1"	.380	.917	26	.030	.917	y	3	12267.071	16875	131.835	351.5.....	H1-1a
7	M319A	3/8 x 4	.373	.917	9	.025	.917	y	3	49066.504	67500	527.344	5411.....	H1-1a
8	M204	3/8 x 4	.369	.917	14	.028	.917	y	9	49066.504	67500	527.344	5481.....	H1-1a
9	M157	.5 x 2 3/8 "	.366	0	25	.050	0	y	16	36034.305	37406.25	389.65	1850.....	H1-1b
10	M490	PIPE 2.0	.365	4.276	11	.252	12.5		11	14559.939	32130	1871.625	1871.....	H1-1b
11	M154A	.5 x 2 3/8 "	.364	0	27	.073	0	y	25	36034.305	37406.25	389.65	1850.....	H1-1b
12	M478A	PIPE 2.5	.360	2.316	3	.061	2.316		3	30038.461	50715	3596.25	3596.....	H1-1b
13	M269A	.5 x 2 3/8 "	.360	0	24	.072	0	y	22	36034.305	37406.25	389.65	1850.....	H1-1b
14	M230	L3X3X6	.347	2.761	5	.195	2.914	y	13	66460.744	66465	2243.303	5174.....	H2-1
15	M264A	HSS4X3X4	.344	1.452	62	.140	1.34	z	9	83040.402	91665	8190	1000.....	H1-1b
16	M149	HSS4X3X4	.344	1.452	39	.133	1.34	z	12	83040.402	91665	8190	1000.....	H1-1b
17	M486A	PIPE 2.5	.342	2.316	5	.042	2.316		12	30038.461	50715	3596.25	3596.....	H1-1b
18	M318A	3/8 x 4	.340	.958	9	.068	.958	y	9	47631.679	67500	527.344	5605.....	H1-1a
19	M482A	PIPE 2.5	.339	2.316	14	.052	2.316		13	30038.461	50715	3596.25	3596.....	H1-1b
20	M345	L3X3X6	.336	2.761	14	.179	2.914	y	10	66460.744	66465	2243.303	5174.....	H2-1
21	M220	.5" x 4"	.334	.58	13	.145	.52	z	13	79618.38	90000	937.5	7500...	H1-1b
22	M203	3/8 x 4	.331	.958	14	.067	.958	y	9	47631.679	67500	527.344	5625...	H1-1a
23	M335A	.5" x 4"	.327	.58	62	.148	.52	z	10	79618.38	90000	937.5	7500...	H1-1b
24	M315A	3/8 x 4	.326	.917	4	.018	0	y	3	49066.504	67500	527.344	5607.....	H1-1a
25	M329A	.5" x 4"	.326	.917	9	.022	.917	y	8	75325.964	90000	937.5	7500...	H1-1b
26	M479A	PIPE 2.5	.319	2.316	8	.091	2.316		10	30038.461	50715	3596.25	3596.....	H1-1b
27	M492	PIPE 2.0	.311	4.276	11	.187	0		13	14559.939	32130	1871.625	1871.....	H1-1b
28	M346	PIPE 2.5	.305	3.289	14	.281	3.289		14	29547.045	50715	3596.25	3596.....	H3-6
29	M487A	PIPE 2.5	.302	2.316	11	.080	2.316		13	30038.461	50715	3596.25	3596.....	H1-1b
30	M324A	3/8 x 1"	.301	0	23	.047	0	y	9	8939.286	16875	131.835	351.5.....	H1-1a
31	M262A	L3X3X6	.301	0	24	.147	0	z	7	66373.078	66465	2243.303	5174.....	H2-1
32	M341	L3X3X6	.300	2.761	9	.170	2.914	z	5	66460.744	66465	2243.303	5174.....	H2-1
33	M214	.5" x 4"	.299	.917	3	.021	.917	y	10	75325.964	90000	937.5	7500...	H1-1b
34	M200	3/8 x 5/8	.298	0	13	.008	.397	y	12	9933.862	10546.8...	82.399	137.3.....	H1-1a
35	M315	3/8 x 5/8	.298	0	23	.010	.397	y	9	9933.862	10546.8...	82.399	137.3.....	H1-1a
36	M264	.5 x 2 3/8 "	.293	0	16	.030	0	y	3	36034.305	37406.25	389.65	1850.....	H1-1b
37	M209	3/8 x 1"	.293	0	26	.047	0	y	3	8939.286	16875	131.835	351.5.....	H1-1a
38	M340A	3/8 x 1"	.293	0	23	.066	.331	y	23	13703.985	16875	131.835	351.5.....	H1-1b
39	M225	3/8 x 1"	.292	0	13	.069	.331	y	13	13703.985	16875	131.835	351.5.....	H1-1b
40	M326A	3/8 x 1"	.292	1.264	22	.022	0	y	9	9199.583	16875	131.835	351.5.....	H1-1a



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

Member	Shape	Code	Ch...	Loc[ft]	LC	Shear C...	Loc[ft]	Dir	LC	phi*Pnc [lb]	phi*Pnt	phi*Mn y-y [l...	phi*M.....	Eqn
41	M147	L3X3X6	.292	0	27	.138	0	z	10	66373.078	66465	2243.303	5174....	H2-1
42	M317	3/8 x 1"	.289	.917	17	.019	.917	y	3	12267.071	16875	131.835	351.5....	H1-1a
43	M211	3/8 x 1"	.287	1.264	27	.023	0	y	3	9199.583	16875	131.835	351.5....	H1-1a
44	M148	L3X3X6	.286	0	25	.163	0	y	5	66373.078	66465	2243.303	5174....	H2-1
45	M263A	L3X3X6	.284	0	22	.144	0	y	14	66373.078	66465	2243.303	5174....	H2-1
46	M261A	L3X3X6	.282	2.761	6	.239	2.838	y	10	66460.744	66465	2243.303	5174....	1 H2-1
47	M483A	PIPE 2.5	.277	2.316	6	.081	2.316		9	30038.461	50715	3596.25	3596....	H1-1b
48	M146	L3X3X6	.274	2.761	9	.243	2.914	y	25	66460.744	66465	2243.303	5174....	1 H2-1
49	M291A	.5" x 4"	.274	.35	9	.053	.458	y	3	72098.729	90000	937.5	7500...	H1-1b
50	M254	L3X3X6	.271	.377	18	.170	0	z	14	66373.078	66465	2243.303	5174....	H2-1
51	M331	.5" x 4"	.266	.58	4	.150	.52	z	3	79618.38	90000	937.5	7500...	H1-1b
52	M176	.5" x 4"	.264	.35	12	.043	.35	z	13	72098.729	90000	937.5	7500...	H1-1b
53	M261	.5 x 2 3/8 "	.262	0	18	.068	0	y	16	36034.305	37406.25	389.65	1850....	H1-1b
54	M231	PIPE 2.5	.262	3.289	5	.276	3.289		5	29547.045	50715	3596.25	3596....	H3-6
55	M256	HSS4X3X4	.258	1.452	4	.109	1.34	z	4	83040.402	91665	8190	1000....	H1-1b
56	M267	.5 x 2 3/8 "	.256	0	23	.046	0	y	13	36034.305	37406.25	389.65	1850....	H1-1b
57	M152A	.5 x 2 3/8 "	.247	0	27	.048	0	y	5	36034.305	37406.25	389.65	1850....	H1-1b
58	M381	.5 x 2 3/8 "	.246	0	21	.025	0	y	5	36034.305	37406.25	389.65	1850....	H1-1b
59	M155A	.5 x 2 3/8 "	.245	0	26	.046	0	y	10	36034.305	37406.25	389.65	1850....	H1-1b
60	M270A	.5 x 2 3/8 "	.245	0	23	.050	0	y	7	36034.305	37406.25	389.65	1850....	H1-1b
61	M294A	3/8 x 4	.244	.468	23	.016	0	y	4	44585.041	67500	527.344	5354....	H1-1a
62	M179	3/8 x 4	.240	0	13	.014	1.045	y	14	44585.041	67500	527.344	5625...	H1-1a
63	M313A	3/4 x 3/8	.238	.487	10	.011	.487	y	3	11565.74	12656.25	98.876	197.7....	H1-1a
64	M325A	3/8 x 1"	.232	.871	23	.021	.871	y	8	12655.26	16875	131.835	351.5....	H1-1a
65	M198	3/4 x 3/8	.229	0	13	.010	0	y	3	11565.74	12656.25	98.876	197.7....	H1-1a
66	M210	3/8 x 1"	.228	.871	26	.020	.871	y	10	12655.26	16875	131.835	351.5....	H1-1a
67	M328A	.5" x 4"	.225	.958	9	.029	.958	y	8	74088.723	90000	937.5	7500...	H1-1b
68	M384	.5 x 2 3/8 "	.223	0	19	.049	0	y	8	36034.305	37406.25	389.65	1850....	H1-1b
69	M336	3/8 x 1"	.218	0	4	.055	.331	y	4	13703.985	16875	131.835	351.5....	H1-1b
70	M447	.5" x 4"	.216	.58	7	.131	.52	z	8	79618.38	90000	937.5	7500...	H1-1b
71	M431	3/8 x 4	.215	.917	8	.020	0	y	9	49066.504	67500	527.344	5514....	H1-1b
72	M314	3/8 x 4	.214	.958	3	.058	0	y	9	47631.679	67500	527.344	5625...	H1-1b
73	M373	L3X3X6	.213	2.761	14	.195	2.761	y	10	66460.744	66465	2243.303	5174....	1 H2-1
74	M469	PIPE 1.5	.212	6.034	3	.027	6.034		3	11882.001	23593.5	1105.125	1105....	H1-1b
75	M255	L3X3X6	.212	0	16	.161	0	z	3	66373.078	66465	2243.303	5174....	H2-1
76	M116	PIPE 2.5	.212	8.224	11	.247	9.211		9	29547.045	50715	3596.25	3596....	H1-1b
77	M375	L3X3X6	.210	.377	19	.118	.377	y	9	66373.078	66465	2243.303	5174....	H2-1
78	M325	.5" x 4"	.209	.917	4	.016	0	y	3	75325.964	90000	937.5	7500...	H1-1b
79	M316	3/8 x 1"	.209	.957	17	.059	.957	y	3	11920.097	16875	131.835	351.5....	H1-1b
80	M199	3/8 x 5/8	.206	.288	13	.015	0	y	14	10220.704	10546.8...	82.399	137.3....	H1-1b
81	M213	.5" x 4"	.204	.958	3	.028	.958	y	10	74088.723	90000	937.5	7500...	H1-1b
82	M376	HSS4X3X4	.204	1.452	7	.088	1.34	z	7	83040.402	91665	8190	1000....	H1-1b
83	M253	L3X3X6	.204	0	25	.164	2.838	y	4	65547.822	66465	2243.303	5174....	H2-1
84	M441	.5" x 4"	.203	.917	8	.015	0	y	8	75325.964	90000	937.5	7500...	H1-1b
85	M287	.5" x 4"	.203	.35	4	.050	.35	z	4	72098.729	90000	937.5	7500...	H1-1b
86	M268	.5 x 2 3/8 "	.203	0	22	.032	0	y	11	36034.305	37406.25	389.65	1850....	H1-1b
87	M259	.5 x 2 3/8 "	.196	0	17	.036	0	y	8	36034.305	37406.25	389.65	1850....	H1-1b
88	M153A	.5 x 2 3/8 "	.195	0	25	.034	0	y	3	36034.305	37406.25	389.65	1850....	H1-1b
89	M156	.5 x 2 3/8 "	.195	0	27	.036	0	y	12	36034.305	37406.25	389.65	1850....	H1-1b
90	M271A	.5 x 2 3/8 "	.195	0	24	.037	0	y	9	36034.305	37406.25	389.65	1850....	H1-1b
91	M374	L3X3X6	.195	0	8	.094	0	y	7	66373.078	66465	2243.303	5174....	H2-1
92	M296A	3/8 x 4	.194	.742	23	.052	.742	y	3	54763.771	67500	527.344	5625...	H1-...
93	M430	3/8 x 4	.193	.958	8	.057	0	y	9	47631.679	67500	527.344	5625...	H1-1b
94	M181	3/8 x 4	.190	.742	26	.051	.742	y	14	54763.771	67500	527.344	5625...	H1-...
95	M314A	3/8 x 5/8	.190	.288	23	.012	0	y	9	10220.704	10546.8...	82.399	137.3....	H1-1b
96	M489	PIPE 2.0	.190	11.842	14	.291	12.5		14	14559.939	32130	1871.625	1871....	H1-1b
97	M452	3/8 x 1"	.188	0	7	.043	.331	y	7	13703.985	16875	131.835	351.5....	H1-1b



Company : Tectonic
Designer : John-Fritz Julien
Job Number : 10473.CT11077C
Model Name : 12' Platform Mount (SitePro1: F4P-12)

Checked By: Ian Marinaccio

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

Member	Shape	Code Ch...	Loc[ft]	LC	Shear C...	Loc[ft]	Dir	LC	phi*Pnc [lb]	phi*Pnt	phi*Mn y-v [l...	phi*M.....	Eqn	
98	M457	L3X3X6	.187	0	24	.148	2.838	z	7	65547.822	66465	2243.303	5174....	H2-1
99	M224	3/8 x 1"	.187	0	13	.045	.324	y	26	13823.529	16875	131.835	351.5....	H1-1b
100	M339A	3/8 x 1"	.186	0	10	.045	.324	y	10	13823.529	16875	131.835	351.5....	H1-1b
101	M300A	3/8 x 1"	.182	0	23	.022	.468	y	10	11146.786	16875	131.835	351.5....	H1-...
102	M185	3/8 x 1"	.180	0	13	.020	.468	y	14	11146.786	16875	131.835	351.5....	H1-...
103	M262	.5 x 2 3/8 "	.180	0	17	.039	0	y	3	36034.305	37406.25	389.65	1850....	H1-1b
104	M490A	PIPE 2.5	.179	2.316	3	.054	2.316		9	30038.461	50715	3596.25	3596....	H1-1b
105	M476	PIPE 1.5	.179	0	9	.033	.476		3	11882.001	23593.5	1105.125	1105....	H1-1b
106	M480A	PIPE 2.5	.178	2.316	55	.020	2.316		14	30038.461	50715	3596.25	3596....	H1-1b
107	M295A	3/8 x 4	.178	.667	23	.028	0	y	4	57024.39	67500	527.344	5625...	H1-...
108	M461	PIPE 1.5	.177	0	14	.032	0		8	11882.864	23593.5	1105.125	1105....	H1-1b
109	M475	PIPE 1.5	.177	6.034	9	.029	0		3	11882.864	23593.5	1105.125	1105....	H1-1b
110	M180	3/8 x 4	.175	.667	26	.028	.667	y	14	57024.39	67500	527.344	5625...	H1-...
111	M432	3/8 x 1"	.171	.957	20	.058	.957	y	9	11920.097	16875	131.835	351.5....	H1-1b
112	M433	3/8 x 1"	.170	0	20	.022	.917	y	8	12267.071	16875	131.835	351.5....	H1-...
113	M323A	3/8 x 1"	.170	.917	22	.015	.917	y	22	12267.071	16875	131.835	351.5....	H1-1b
114	M266	3/8 x 3	.168	0	8	.099	.605	y	11	32152.749	35437.5	276.856	2214....	H1-1b
115	M321	3/8 x 1"	.168	0	17	.008	0	y	9	12655.26	16875	131.835	351.5....	H1-...
116	M208	3/8 x 1"	.167	.917	27	.015	.917	y	51	12267.071	16875	131.835	351.5....	H1-1b
117	M477A	PIPE 2.5	.165	2.316	32	.019	2.316		5	30038.461	50715	3596.25	3596....	H1-1b
118	M320	3/8 x 1"	.165	0	3	.048	0	y	3	8939.286	16875	131.835	351.5....	H1-1b
119	M260	.5 x 2 3/8 "	.165	0	3	.020	0	y	5	36034.305	37406.25	389.65	1850....	H1-1b
120	M341A	3/8 x 4	.165	0	10	.017	.741	y	3	54814.644	67500	527.344	5625...	H1-1b
121	M226	3/8 x 4	.165	0	13	.015	.331	y	3	54814.644	67500	527.344	5625...	H1-1b
122	M382	.5 x 2 3/8 "	.163	0	8	.026	0	y	3	36034.305	37406.25	389.65	1850....	H1-1b
123	M138	PIPE 2.5	.163	11.513	22	.145	11.8...		14	29547.045	50715	3596.25	3596....	H1-1b
124	M197	3/4 x 3/8	.163	.37	13	.014	0	y	53	12016.216	12656.25	98.876	197.7....	H1-1b
125	M324	.5" x 4"	.163	.958	3	.018	0	y	3	74088.723	90000	937.5	7500...	H1-1b
126	M290	3/8 x 4	.161	1.045	4	.026	.495	y	3	44585.041	67500	527.344	5625...	H1-...
127	M491A	PIPE 2.5	.160	2.316	14	.059	2.316		3	30038.461	50715	3596.25	3596....	H1-1b
128	M302A	3/8 x 1"	.159	0	23	.048	.731	y	3	13777.469	16875	131.835	351.5....	H1-...
129	M187	3/8 x 1"	.156	0	26	.047	.731	y	14	13777.469	16875	131.835	351.5....	H1-...
130	M337	3/8 x 4	.156	0	4	.018	.351	y	3	54814.644	67500	527.344	5625...	H1-1b
131	M311A	3/4 x 3/8	.156	.595	10	.016	0	y	3	11062.878	12656.25	98.876	197.7....	H1-1b
132	M403	.5" x 4"	.155	.35	7	.040	.35	y	8	72098.729	90000	937.5	7500...	H1-1b
133	M182	3/8 x 1"	.155	.458	13	.031	.458	y	13	11341.38	16875	131.835	351.5....	H1-1b
134	M301A	3/8 x 1"	.155	0	23	.024	.667	y	4	14256.371	16875	131.835	351.5....	H1-...
135	M482	PIPE 1.5	.154	6.034	7	.027	0		11	11882.864	23593.5	1105.125	1105....	H1-1b
136	M440	.5" x 4"	.154	.958	8	.014	0	y	9	74088.723	90000	937.5	7500...	H1-1b
137	M483	PIPE 1.5	.152	6.034	21	.025	5.399		25	11882.001	23593.5	1105.125	1105....	H1-1b
138	M436	3/8 x 1"	.152	0	8	.047	0	y	9	8939.286	16875	131.835	351.5....	H1-1b
139	M186	3/8 x 1"	.152	0	26	.024	.667	y	8	14256.371	16875	131.835	351.5....	H1-...
140	M383	.5 x 2 3/8 "	.150	0	8	.018	0	y	6	36034.305	37406.25	389.65	1850....	H1-1b
141	M297A	3/8 x 1"	.149	.458	10	.028	.458	y	9	11341.38	16875	131.835	351.5....	H1-1b
142	M299	3/8 x 1"	.149	0	9	.009	0	y	10	12655.127	16875	131.835	351.5....	H1-1b
143	M379	.5 x 2 3/8 "	.149	0	21	.030	0	y	23	36034.305	37406.25	389.65	1850....	H1-1b
144	M485A	PIPE 2.5	.148	2.316	11	.017	2.316		10	30038.461	50715	3596.25	3596....	H1-1b
145	M303A	3/8 x 1"	.148	0	3	.024	0	y	8	12655.127	16875	131.835	351.5....	H1-1b
146	M312A	3/4 x 3/8	.147	.37	23	.011	0	y	3	12016.216	12656.25	98.876	197.7....	H1-1b
147	M310	3/8 x 5/8	.147	.288	4	.010	0	y	4	10220.704	10546.8...	82.399	137.3....	H1-1b
148	M196	3/4 x 3/8	.146	.595	13	.019	.595	y	14	11062.878	12656.25	98.876	197.7....	H1-1b
149	M415	3/8 x 1"	.146	0	9	.010	0	y	3	12655.127	16875	131.835	351.5....	H1-1b
150	M292	3/8 x 4	.144	.742	3	.072	0	y	3	54763.771	67500	527.344	5625...	H1-1b
151	M488A	PIPE 2.5	.143	2.316	23	.020	2.316		10	30038.461	50715	3596.25	3596....	H1-1b
152	M188	3/8 x 1"	.142	0	9	.022	.871	y	10	12655.127	16875	131.835	351.5....	H1-1b
153	M335	3/8 x 1"	.141	0	4	.032	.324	y	4	13823.529	16875	131.835	351.5....	H1-1b
154	M437	3/8 x 1"	.140	0	20	.009	0	y	3	12655.26	16875	131.835	351.5....	H1-...



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

Member	Shape	Code Ch.	Loc[ft]	LC	Shear C.	Loc[ft]	Dir	LC	phi*Pnc [lb]	phi*Pnt	phi*Mn y-y [l	phi*M	Eqn	
155	M484A	PIPE 2.5	.139	2.316	11	.017	2.316		11	30038.461	50715	3596.25	3596...	H1-1b
156	M406	3/8 x 4	.139	1.045	7	.024	.495	y	9	44585.041	67500	527.344	5625	H1-...
157	M150	3/8 x 3	.138	0	4	.144	.605	y	26	32152.749	35437.5	276.856	2214...	H1-1b
158	M462	PIPE 1.5	.138	6.034	3	.024	5.558		9	11882.001	23593.5	1105.125	1105...	H1-1b
159	M263	.5 x 2 3/8 "	.137	0	18	.033	0	y	3	36034.305	37406.25	389.65	1850...	H1-1b
160	M322	3/8 x 1"	.135	1.264	18	.019	0	y	3	9199.583	16875	131.835	351.5...	H1-1b
161	M296	3/8 x 1"	.134	0	4	.022	.468	y	4	11146.786	16875	131.835	351.5...	H1-...
162	M311	3/8 x 5/8	.134	0	4	.006	.397	y	4	9933.862	10546.8...	82.399	137.3...	H1-1b
163	M319	3/8 x 1"	.134	.917	4	.016	.917	y	3	12267.071	16875	131.835	351.5...	H1-1b
164	M481A	PIPE 2.5	.132	2.316	13	.019	2.316		13	30038.461	50715	3596.25	3596...	H1-1b
165	M308	3/4 x 3/8	.131	.37	4	.013	0	y	4	12016.216	12656.25	98.876	197.7...	H1-1b
166	M293A	.5" x 4"	.130	.718	9	.036	.718	y	8	80682.612	90000	937.5	7500	H1-1b
167	M151	3/8 x 3	.130	0	11	.101	.605	y	14	32152.749	35437.5	276.856	2214...	H1-1b
168	M408	3/8 x 4	.129	.742	8	.067	0	y	9	54763.771	67500	527.344	5625	H1-1b
169	M426	3/8 x 5/8	.128	.288	7	.013	0	y	7	10220.704	10546.8...	82.399	137.3...	H1-1b
170	M453	3/8 x 4	.127	0	8	.017	.351	y	9	54814.644	67500	527.344	5625	H1-1b
171	M258	3/8 x 3	.127	0	16	.057	.605	y	4	32152.749	35437.5	276.856	2214...	H1-1b
172	M291	3/8 x 4	.126	.667	17	.047	0	y	3	57024.39	67500	527.344	5625	H1-...
173	M492A	PIPE 2.5	.125	2.316	18	.016	5.684		3	30038.461	50715	3596.25	3596...	H1-1b
174	M178	.5" x 4"	.124	.718	14	.035	.718	y	10	80682.612	90000	937.5	7500	H1-1b
175	M451	3/8 x 1"	.120	0	7	.030	.324	y	7	13823.529	16875	131.835	351.5...	H1-1b
176	M289	.5" x 4"	.119	.718	3	.015	.718	y	26	80682.612	90000	937.5	7500	H1-1b
177	M310A	.875 x .375	.118	.467	3	.011	0	y	4	13591.605	14765.6...	115.358	269.1...	H1-1b
178	M380	.5 x 2 3/8 "	.118	0	7	.028	0	y	8	36034.305	37406.25	389.65	1850...	H1-1b
179	M293	3/8 x 1"	.118	.458	4	.022	.458	y	4	11341.38	16875	131.835	351.5...	H1-1b
180	M481	3/16 X 1 1/2	.116	1.687	3	.006	1.687	y	14	1877.333	12690	49.702	373.5...	H1-...
181	M427	3/8 x 5/8	.116	0	7	.006	.397	y	7	9933.862	10546.8...	82.399	137.3...	H1-1b
182	M322A	3/8 x 1"	.116	.958	10	.015	.958	y	7	11908.392	16875	131.835	351.5...	H1-1b
183	M207	3/8 x 1"	.115	.958	13	.015	.958	y	11	11908.392	16875	131.835	351.5...	H1-1b
184	M477	3/16 X 1 1/2	.115	0	5	.011	1.687	y	16	1877.333	12690	49.702	348.8...	1 H1-1b
185	M412	3/8 x 1"	.115	0	7	.021	.468	y	8	11146.786	16875	131.835	351.5...	H1-...
186	M298	3/8 x 1"	.115	0	17	.066	.731	y	3	13777.469	16875	131.835	351.5...	H1-...
187	M435	3/8 x 1"	.114	.917	7	.013	.917	y	21	12267.071	16875	131.835	351.5...	H1-1b
188	M307	3/4 x 3/8	.114	.595	4	.019	.595	y	4	11062.878	12656.25	98.876	197.7...	H1-1b
189	M438	3/8 x 1"	.113	1.264	19	.020	0	y	9	9199.583	16875	131.835	351.5...	H1-1b
190	M338A	.5" x 4"	.112	0	9	.013	0	y	8	80518.857	90000	937.5	7500	H1-1b
191	M297	3/8 x 1"	.111	0	17	.038	.667	y	3	14256.371	16875	131.835	351.5...	H1-...
192	M484	3/16 X 1 1/2	.110	0	14	.012	1.687	y	25	1877.333	12690	49.702	348.8...	1 H1-1b
193	M288	.5" x 4"	.110	.648	3	.017	.648	y	26	82340.541	90000	937.5	7500	H1-1b
194	M265	3/8 x 3	.109	0	3	.149	.605	y	23	32152.749	35437.5	276.856	2214...	H1-1b
195	M463	3/16 X 1 1/2	.109	1.687	10	.012	1.687	y	9	1877.333	12690	49.702	396.5...	H1-1b
196	M407	3/8 x 4	.108	.667	7	.041	0	y	9	57024.39	67500	527.344	5625	H1-...
197	M405	.5" x 4"	.108	.718	14	.011	0	y	3	80682.612	90000	937.5	7500	H1-1b
198	M223	.5" x 4"	.107	0	12	.013	.343	y	10	80518.857	90000	937.5	7500	H1-1b
199	M489A	PIPE 2.5	.107	2.316	16	.012	2.316		9	30038.461	50715	3596.25	3596...	H1-1b
200	M377	3/8 x 3	.105	0	21	.075	.605	y	8	32152.749	35437.5	276.856	2214...	H1-1b
201	M467	3/16 X 1 1/2	.103	1.687	7	.005	0	y	23	1877.333	12690	49.702	350.2...	H1-...
202	M423	3/4 x 3/8	.100	.595	7	.016	.595	y	8	11062.878	12656.25	98.876	197.7...	H1-1b
203	M468	PIPE 1.5	.099	5.398	4	.016	6.034		14	11882.864	23593.5	1105.125	1105...	H1-1b
204	M409	3/8 x 1"	.097	1.023	13	.019	.458	y	6	11341.38	16875	131.835	351.5...	H1-...
205	M177	.5" x 4"	.096	.648	13	.033	.648	y	10	82340.541	90000	937.5	7500	H1-1b
206	M318	3/8 x 1"	.095	.958	4	.015	.958	y	16	11908.392	16875	131.835	351.5...	H1-1b
207	M424	3/4 x 3/8	.095	0	7	.009	0	y	7	12016.216	12656.25	98.876	197.7...	H1-1b
208	M414	3/8 x 1"	.092	0	7	.061	.731	y	9	13777.469	16875	131.835	351.5...	H1-...
209	M413	3/8 x 1"	.092	0	7	.034	.667	y	9	14256.371	16875	131.835	351.5...	H1-...
210	M404	.5" x 4"	.091	.648	14	.012	.648	y	24	82340.541	90000	937.5	7500	H1-1b
211	M195	.875 x .375	.091	.467	9	.013	0	y	53	13591.605	14765.6...	115.358	269.1...	H1-1b

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

Member	Shape	Code	Ch...	Loc[ft]	LC	Shear C...	Loc[ft]	Dir	LC	phi*Pnc [lb]	phi*Pnt ...	phi*Mn y-v [l...	phi*M.....	Egn
212	M309	3/4 x 3/8	.090	.487	4	.009	0	y	4	11565.74	12656.25	98.876	197.7...	H1-1b
213	M292A	.5" x 4"	.089	.648	10	.035	.648	y	8	82340.541	90000	937.5	7500	H1-1b
214	M488	3/16 X 1 1/2	.087	1.687	11	.006	1.687	y	63	1877.333	12690	49.702	359.3...	H1-...
215	M470	3/16 X 1 1/2	.087	1.687	9	.007	1.687	y	18	1877.333	12690	49.702	349.4...	H1-1b
216	M425	3/4 x 3/8	.085	.487	7	.009	0	y	8	11565.74	12656.25	98.876	197.7...	H1-1b
217	M334	.5" x 4"	.084	0	3	.010	.343	y	14	80518.857	90000	937.5	7500	H1-1b
218	M306A	3/8 x 1"	.081	0	3	.020	.719	y	8	13865.475	16875	131.835	351.5...	H1-1b
219	M434	3/8 x 1"	.080	.958	7	.011	.958	y	22	11908.392	16875	131.835	351.5...	H1-1b
220	M302	3/8 x 1"	.080	0	9	.013	.719	y	26	13865.475	16875	131.835	351.5...	H1-1b
221	M422	.875 x .375	.079	.467	9	.010	0	y	8	13591.605	14765.6...	115.358	269.1...	H1-1b
222	M378	3/8 x 3	.077	.605	11	.099	.605	y	8	32152.749	35437.5	276.856	2214...	H1-1b
223	M472	3/16 X 1 1/2	.077	1.687	9	.003	0	y	17	1877.333	12690	49.702	348.8...	H1-1b
224	M191	3/8 x 1"	.076	0	8	.020	.719	y	10	13865.475	16875	131.835	351.5...	H1-1b
225	M184	3/8 x 1"	.074	0	13	.015	.718	y	10	13873.944	16875	131.835	351.5...	H1-1b
226	M487	3/16 X 1 1/2	.073	0	3	.004	0	y	53	1877.333	12690	49.702	396.5...	H1-1b
227	M471	3/16 X 1 1/2	.073	1.687	3	.004	0	y	19	1877.333	12690	49.702	348.8...	H1-1b
228	M418	3/8 x 1"	.073	0	3	.009	0	y	24	13865.475	16875	131.835	351.5...	H1-1b
229	M299A	3/8 x 1"	.073	0	10	.017	0	y	8	13873.944	16875	131.835	351.5...	H1-1b
230	M410	3/8 x 1"	.073	.648	13	.011	.648	y	24	14388.926	16875	131.835	351.5...	H1-...
231	M257	3/8 x 3	.072	0	10	.115	.605	y	4	32152.749	35437.5	276.856	2214...	H1-1b
232	M294	3/8 x 1"	.071	.648	10	.014	.648	y	26	14388.926	16875	131.835	351.5...	H1-...
233	M411	3/8 x 1"	.070	.718	13	.008	.718	y	24	13873.944	16875	131.835	351.5...	H1-...
234	M183	3/8 x 1"	.070	.648	7	.016	.648	y	10	14388.926	16875	131.835	351.5...	H1-...
235	M473	3/16 X 1 1/2	.069	1.687	9	.004	0	y	19	1877.333	12690	49.702	348.8...	H1-1b
236	M486	3/16 X 1 1/2	.069	0	3	.004	0	y	26	1877.333	12690	49.702	396.5...	H1-1b
237	M474	3/16 X 1 1/2	.069	1.687	3	.007	1.687	y	19	1877.333	12690	49.702	356.7...	H1-1b
238	M485	3/16 X 1 1/2	.068	0	9	.006	0	y	25	1877.333	12690	49.702	396.5...	H1-1b
239	M295	3/8 x 1"	.067	.718	10	.010	.718	y	26	13873.944	16875	131.835	351.5...	H1-...
240	M308A	.875 x .375	.066	.583	3	.015	0	y	7	12976.616	14765.6...	115.358	269.1...	H1-1b
241	M306	.875 x .375	.066	.467	4	.013	0	y	17	13591.605	14765.6...	115.358	269.1...	H1-1b
242	M479	3/16 X 1 1/2	.065	1.687	13	.004	0	y	4	1877.333	12690	49.702	348.8...	H1-1b
243	M298A	3/8 x 1"	.064	.648	4	.017	.648	y	7	14388.926	16875	131.835	351.5...	H1-...
244	M450	.5" x 4"	.063	0	6	.008	.343	y	9	80518.857	90000	937.5	7500	H1-1b
245	M478	3/16 X 1 1/2	.062	1.687	13	.005	0	y	16	1877.333	12690	49.702	348.8...	H1-1b
246	M466	3/16 X 1 1/2	.061	1.687	11	.005	0	y	24	1877.333	12690	49.702	348.8...	H1-1b
247	M465	3/16 X 1 1/2	.058	1.687	10	.005	0	y	23	1877.333	12690	49.702	348.8...	H1-1b
248	M193	.875 x .375	.057	.583	9	.014	0	y	11	12976.616	14765.6...	115.358	269.1...	H1-1b
249	M304	.875 x .375	.057	0	9	.013	0	y	3	12976.616	14765.6...	115.358	269.1...	H1-1b
250	M480	3/16 X 1 1/2	.056	0	5	.004	0	y	5	1877.333	12690	49.702	396.5...	H1-1b
251	M420	.875 x .375	.055	0	14	.009	0	y	23	12976.616	14765.6...	115.358	269.1...	H1-1b
252	M305A	3/8 x 1"	.053	1.013	3	.028	0	y	3	11427.68	16875	131.835	351.5...	H1-1b
253	M464	3/16 X 1 1/2	.049	0	7	.005	0	y	10	1877.333	12690	49.702	383.8...	H1-1b
254	M190	3/8 x 1"	.048	1.013	8	.029	0	y	3	11427.68	16875	131.835	351.5...	H1-1b
255	M309A	.875 x .375	.047	0	4	.014	.727	y	3	12083.824	14765.6...	115.358	269.1...	H1-1b
256	M194	.875 x .375	.047	0	7	.015	0	y	14	12083.824	14765.6...	115.358	269.1...	H1-1b
257	M301	3/8 x 1"	.045	1.013	9	.035	0	y	3	11427.68	16875	131.835	351.5...	H1-1b
258	M417	3/8 x 1"	.044	1.013	14	.032	0	y	9	11427.68	16875	131.835	351.5...	H1-1b
259	M305	.875 x .375	.041	0	10	.017	0	y	3	12083.824	14765.6...	115.358	269.1...	H1-1b
260	M421	.875 x .375	.041	0	13	.016	0	y	9	12083.824	14765.6...	115.358	269.1...	H1-1b
261	M307A	3/8 x 1"	.038	0	3	.018	0	y	3	12645.823	16875	131.835	351.5...	H1-1b
262	M192	3/8 x 1"	.035	0	21	.019	0	y	14	12645.823	16875	131.835	351.5...	H1-1b
263	M303	3/8 x 1"	.033	0	23	.023	0	y	3	12645.823	16875	131.835	351.5...	H1-1b
264	M419	3/8 x 1"	.031	.872	27	.022	.872	y	9	12645.823	16875	131.835	351.5...	H1-1b
265	M212	3/8 x 1"	.003	0	9	.000	0	y	12	12655.26	16875	131.835	351.5...	H1-1b
266	M439	3/8 x 1"	.003	0	9	.000	0	y	12	12655.26	16875	131.835	351.5...	H1-1b
267	M323	3/8 x 1"	.003	0	12	.000	0	y	14	12655.26	16875	131.835	351.5...	H1-1b
268	M327A	3/8 x 1"	.003	0	12	.000	.871	y	14	12655.26	16875	131.835	351.5...	H1-1b



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

Member	Shape	Code Ch...	Loc[ft]	LC	Shear C...	Loc[ft]	Dir	LC	phi*Pnc [lb]	phi*Pnt ...	phi*Mn y-y [l...	phi*M.....	Eqn
269	M333		0	16	.001	.22	y	18	13563.658	16875	131.835	351.5...	H1-1b
270	M337A		0	21	.001	.22	y	24	13563.658	16875	131.835	351.5...	H1-1b
271	M449		0	21	.001	.22	y	21	13563.658	16875	131.835	351.5...	H1-1b
272	M222		0	25	.001	.22	y	27	13563.658	16875	131.835	351.5...	H1-1b
273	M448		.5	23	.000	.5	y	21	13547.753	16875	131.835	351.5...	H1-1b
274	M332		.5	20	.000	.5	y	17	13547.753	16875	131.835	351.5...	H1-1b
275	M221		.5	17	.000	.5	y	26	13547.753	16875	131.835	351.5...	H1-1b
276	M336A		.5	26	.000	.5	y	23	13547.753	16875	131.835	351.5...	H1-1b
277	M219		.472	16	.000	.472	z	27	54589.693	67500	527.344	5625...	H1-1b
278	M334A		.472	25	.000	.472	z	24	54589.693	67500	527.344	5625...	H1-1b
279	M446		.472	23	.000	.472	z	21	54589.693	67500	527.344	5625...	H1-1b
280	M330		.472	19	.000	.472	z	17	54589.693	67500	527.344	5625...	H1-1b

THE MAXIMUM MEMBER STRESS IS AT 39% OF ITS CAPACITY. THEREFORE IT IS ADEQUATE TO SUPPORT THE PROPOSED T-MOBILE UPGRADE.

SERVICE DEFLECTION = $1.05" \times [(60\text{MPH})^2 / (97\text{MPH})^2] = 0.4" < 1.6"$ HENCE, OK.

BASED ON THE CURRENT REACTIONS AND STRESS RATIO'S IN THE FRAME MEMBERS, WE EXPECT THE CONNECTIONS TO BE ADEQUATE TO SUPPORT THE PROPOSED UPGRADE.

APPENDIX D
MANUFACTURER DRAWINGS

CONNECTICUT DESIGN CRITERIA - STATE

Revison:

CT is NOT a Home Rule State; Tab added only for Design Criteria

(APPENDIX N) MUNICIPALITY - SPECIFIC STRUCTURAL DESIGN PARAMETERS

Municipality	Ground Snow Load	Wind Design Parameters							
		MCE Spectral Accelerations (%g)		Ultimate Design Wind Speeds, V_{ult} (mph)			Nominal Design Wind Speeds, V_{asd} (mph)		
		S_s	S_1	Risk Cat. I	Risk Cat. II	Risk Cat III-IV	Risk Cat. I	Risk Cat. II	Risk Cat. III-IV
Andover	30	0.176	0.063	120	130	140	93	101	108
Ansonia	30	0.195	0.064	115	125	135	89	97	105
Ashford	35	0.173	0.063	120	130	140	93	101	108
Avon	35	0.181	0.064	110	120	130	85	93	101
Barkhamsted	40	0.177	0.065	110	120	125	85	93	97
Beacon Falls	30	0.192	0.064	115	125	135	89	97	105
Berlin	30	0.183	0.063	115	125	135	89	97	105
Bethany	30	0.189	0.063	115	125	135	89	97	105
Bethel	30	0.215	0.066	110	120	125	85	93	97
Bethlehem	35	0.190	0.065	110	120	125	85	93	97
Bloomfield	35	0.180	0.064	115	125	130	89	97	101
Bolton	30	0.177	0.063	115	125	135	89	97	105
Bozrah	30	0.170	0.061	120	135	145	93	105	112
Branford	30	0.180	0.061	120	130	140	93	101	108
Bridgeport	30	0.209	0.064	115	125	135	89	97	105
Bridgewater	35	0.201	0.066	110	120	125	85	93	97
Bristol	35	0.185	0.064	110	120	130	85	93	101
Brookfield	35	0.208	0.066	110	120	125	85	93	97
Brooklyn	35	0.171	0.062	120	130	140	93	101	108
Burlington	35	0.182	0.064	110	120	130	85	93	101
Canaan	40	0.173	0.065	105	115	120	81	89	93
Canterbury	35	0.171	0.061	120	130	140	93	101	108
Canton	35	0.180	0.064	110	120	130	85	93	101
Chaplin	35	0.173	0.062	120	130	140	93	101	108
Cheshire	30	0.186	0.063	115	125	135	89	97	105
Chester	30	0.172	0.060	120	130	140	93	101	108
Clinton	30	0.169	0.059	120	135	140	93	105	108
Colchester	30	0.174	0.061	120	130	140	93	101	108
Colebrook	40	0.174	0.065	105	115	125	81	89	97
Columbia	30	0.175	0.062	120	130	140	93	101	108
Cornwall	40	0.180	0.065	105	115	120	81	89	93
Coventry	30	0.176	0.063	120	130	140	93	101	108
Cromwell	30	0.181	0.063	115	125	135	89	97	105
Danbury	30	0.217	0.067	110	120	125	85	93	97
Darien	30	0.242	0.068	110	120	130	85	93	101
Deep River	30	0.170	0.060	120	130	140	93	101	108
Derby	30	0.195	0.064	115	125	135	89	97	105
Durham	30	0.179	0.062	115	130	140	89	101	108
Eastford	40	0.172	0.063	120	130	140	93	101	108
East Granby	35	0.177	0.065	110	120	130	85	93	101
East Haddam	30	0.172	0.061	120	130	140	93	101	108
East Hampton	30	0.177	0.062	120	130	140	93	101	108

East Hartford	30	0.180	0.064	115	125	135	89	97	105
East Haven	30	0.182	0.062	120	130	140	93	101	108
East Lyme	30	0.164	0.059	125	135	145	97	105	112
Easton	30	0.215	0.066	110	120	130	85	93	101
East Windsor	35	0.177	0.064	115	125	135	89	97	105
Ellington	35	0.176	0.064	115	125	135	89	97	105
Enfield	35	0.176	0.065	110	125	130	85	97	101
Essex	30	0.168	0.059	120	135	145	93	105	112
Fairfield	30	0.215	0.065	115	125	135	89	97	105
Farmington	35	0.183	0.064	115	125	135	89	97	105
Franklin	30	0.171	0.061	120	130	140	93	101	108
Glastonbury	30	0.180	0.063	115	125	135	89	97	105
Goshen	40	0.181	0.065	105	115	125	81	89	97
Granby	35	0.176	0.065	110	120	130	85	93	101
Greenwich	30	0.259	0.070	110	120	130	85	93	101
Griswold	30	0.168	0.060	125	135	145	97	105	112
Groton	30	0.160	0.058	125	135	145	97	105	112
Guilford	30	0.176	0.061	120	130	140	93	101	108
Haddam	30	0.175	0.061	120	130	140	93	101	108
Hamden	30	0.185	0.063	115	125	135	89	97	105
Hampton	35	0.172	0.062	120	130	140	93	101	108
Hartford	30	0.181	0.064	115	125	135	89	97	105
Hartland	40	0.175	0.065	110	120	125	85	93	97
Harwinton	35	0.183	0.065	110	120	130	85	93	101
Hebron	30	0.177	0.063	120	130	140	93	101	108
Kent	40	0.188	0.065	105	115	120	81	89	93
Killingly	40	0.171	0.062	120	130	140	93	101	108
Killingworth	30	0.173	0.061	120	130	140	93	101	108
Lebanon	30	0.173	0.062	120	130	140	93	101	108
Ledyard	30	0.163	0.059	125	135	145	97	105	112
Lisbon	30	0.169	0.061	125	135	145	97	105	112
Litchfield	40	0.184	0.065	110	120	125	85	93	97
Lyme	30	0.164	0.059	125	135	145	97	105	112
Madison	30	0.173	0.060	120	130	140	93	101	108
Manchester	30	0.178	0.064	115	125	135	89	97	105
Mansfield	35	0.173	0.062	120	130	140	93	101	108
Marlborough	30	0.177	0.062	120	130	140	93	101	108
Meriden	30	0.183	0.063	115	125	135	89	97	105
Middlebury	35	0.191	0.064	110	120	130	85	93	101
Middlefield	30	0.181	0.063	115	125	135	89	97	105
Middletown	30	0.180	0.063	115	130	135	89	101	105
Milford	30	0.194	0.063	115	125	135	89	97	105
Monroe	30	0.205	0.065	110	120	130	85	93	101
Montville	30	0.165	0.059	125	135	145	97	105	112
Morris	35	0.187	0.065	110	120	125	85	93	97
Naugatuck	30	0.190	0.064	110	125	135	85	97	105
New Britain	30	0.183	0.064	115	125	135	89	97	105
New Canaan	30	0.240	0.068	110	120	130	85	93	101
New Fairfield	35	0.212	0.067	105	115	125	81	89	97
New Hartford	40	0.180	0.065	110	120	130	85	93	101
New Haven	30	0.186	0.062	115	125	135	89	97	105
Newington	30	0.182	0.064	115	125	135	89	97	105
New London	30	0.161	0.058	125	135	145	97	105	112

Ice

Results:

Ice Thickness:	0.75 in.
Concurrent Temperature:	15 F
Gust Speed:	50 mph

Data Source: Standard ASCE/SEI 7-10, Figs. 10-2 through 10-8

Date Accessed: Wed Jul 29 2020

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.

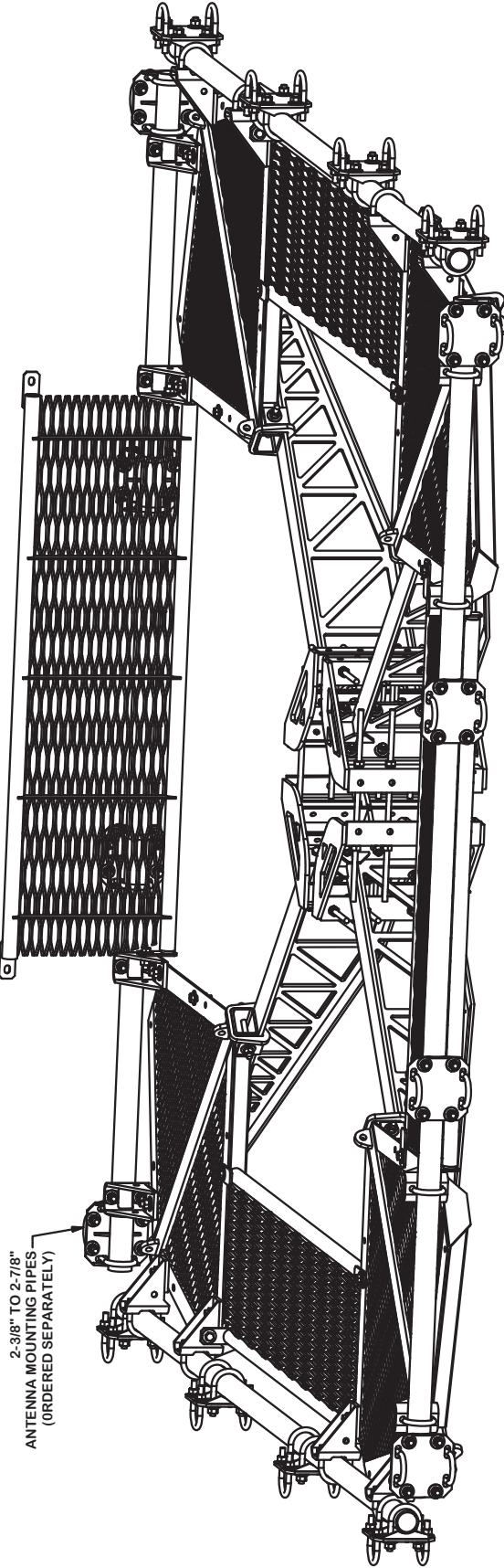
The ASCE 7 Hazard Tool is provided for your convenience, for informational purposes only, and is provided “as is” and without warranties of any kind. The location data included herein has been obtained from information developed, produced, and maintained by third party providers; or has been extrapolated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

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PARTS LIST

ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.
1	4	X-LPP-CW	LOW PROFILE PLATFORM CORNER WELDMENT		198.75	795.01
2	4	X-LPP-SA12	SIDE ARM WELDMENT FOR 12" LOW PROFILE PLATFORMS		119.21	476.84
3	4	X-RM4HD	WELDMENT FOR 4-SIDED HEAVY DUTY RING MOUNT		71.27	285.08
4	4	X-LPP-W12	WALKWAY FOR 12" LOW PROFILE PLATFORM		86.48	345.92
5	16	X-LPP-PC	FACE PIPE CONNECTION BRACKET FORTRESS PLATFORM		7.01	112.15
6	16	X-SCX3-FR	FORTRESS CROSSOVER PLATE		6.61	105.82
7	16	X-LPP-A7	CORNER WELDMENT ATTACHMENT ANGLE	2 1/2 in	1.27	20.33
8	8	X-LPP-H	HINGE FOR LOW PROFILE PLATFORM WALKWAY		2.78	22.22
9	4	P30150	2-7/8" X 150" (2-1/2" SCH. 40) GALVANIZED PIPE	150 in	76.94	307.75
10	16	G58R-48	5/8" x 48" THREADED ROD (HDG.)	48 in	0.40	6.38
10	16	G58R-24	5/8" x 24" THREADED ROD (HDG.)	24 in	0.40	6.38
11	8	G58R-8	5/8" x 8" THREADED ROD (HDG.)		0.70	5.58
12	64	X-UB5300	5/8" X 3" X 5-1/4" X 2-1/2" U-BOLT (HDG.)		1.15	73.56
13	32	X-UB5258	5/8" X 2-5/8" X 4-1/2" X 2" U-BOLT (HDG.)		1.00	32.00
14	16	X-UB5304	5/8" X 3" X 4-1/4" X 2-1/2" U-BOLT (HDG.)		0.98	15.60
15	64	G58214	5/8" x 2-1/4" HDG HEX BOLT GR5		0.29	18.66
16	256	G58FW	5/8" HDG USS FLATWASHER	1/8 in	0.07	18.04
17	272	G58LW	5/8" HDG LOCKWASHER		0.03	7.10
18	272	G58NUT	5/8" HDG HEAVY 2H HEX NUT		0.13	35.33
					TOTAL	2777.35



2-3/8" TO 2-7/8"
ANTENNA MOUNTING PIPES
(ORDERED SEPARATELY)

TOLERANCE NOTES

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

PROPRIETARY NOTE: THE INFORMATION CONTAINED IN THIS DRAWING IS PROPRIETARY INFORMATION OF VALMONT INDUSTRIES AND IS TO BE KEPT AS A TRADE SECRET. ANY USE OR DISCLOSURE WITHOUT THE CONSENT OF VALMONT INDUSTRIES IS STRICTLY PROHIBITED.

DESCRIPTION
 12' FORTRESS™
 QUAD-PLATFORM MOUNT
 WITH WALKWAYS

OPD NO.	DRAWN BY	ENG. APPROVAL
	CEK	8/9/2017
CLASS	DRAWING USAGE	CHECKED BY
81	CUSTOMER	BMC
SUB		8/30/2017
02		

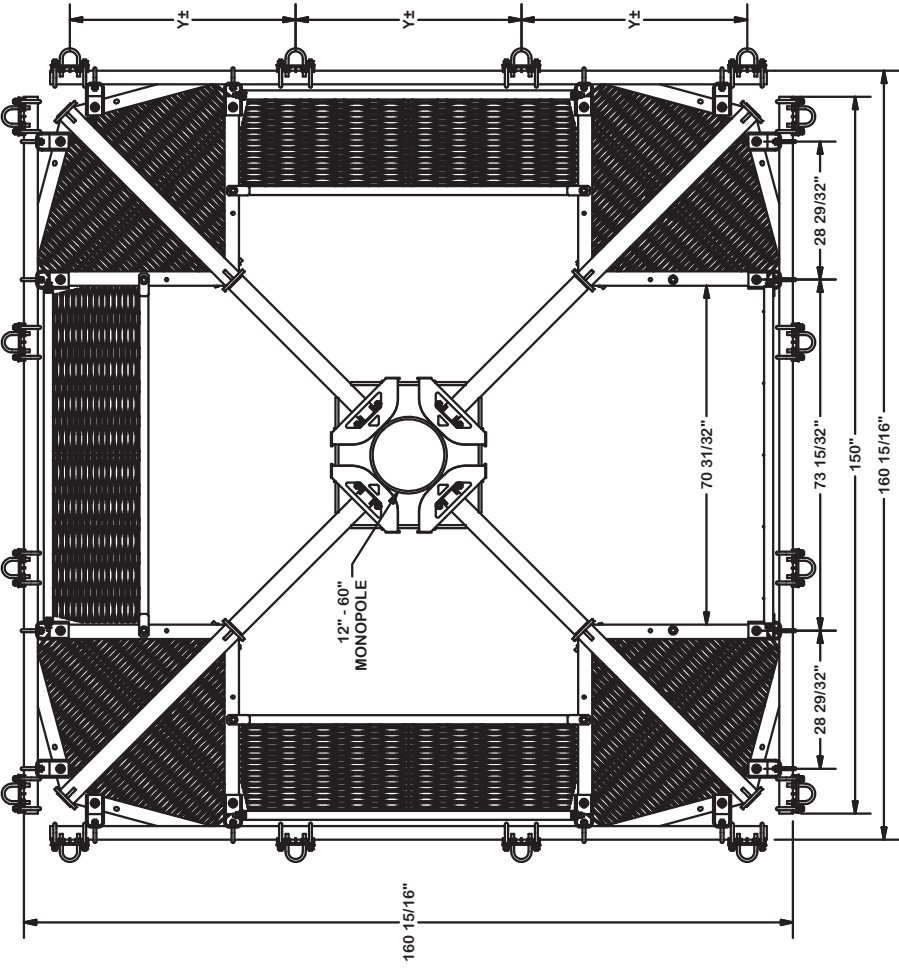


Locations:
 New York, NY
 Atlanta, GA
 Los Angeles, CA
 Plymouth, IN
 Dallas, TX
 Dallas, TX

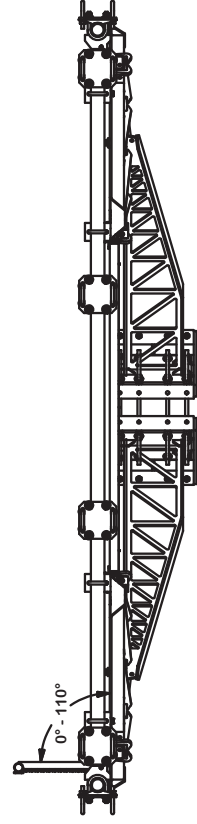
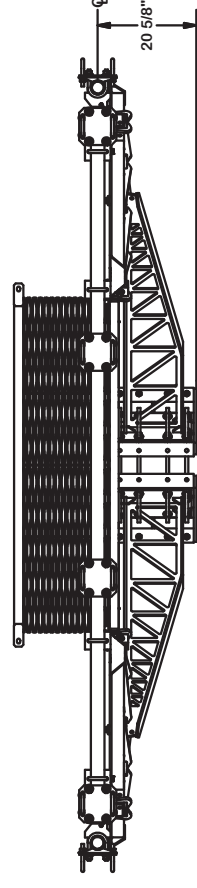
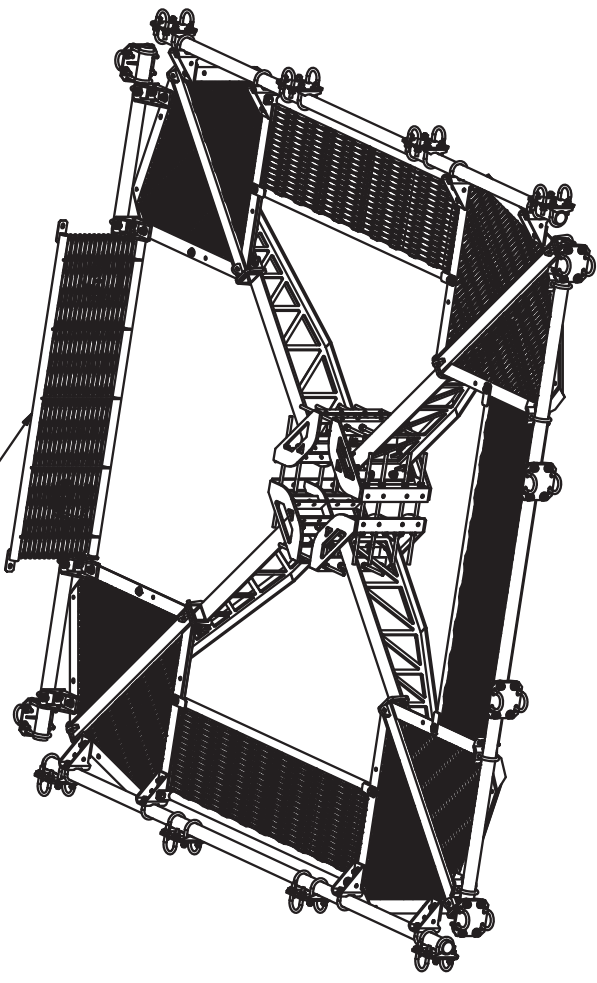
Engineering
 Support Team:
 1-888-653-7446

PART NO. F4P-12W
 DWG. NO. F4P-12W

PAGE 1 OF 4



TO GAIN ACCESS ALL WALKWAYS OPEN WITH REMOVAL OF TWO INSIDE BOLTS



TOLERANCE NOTES

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

PROPRIETARY NOTE: ALL DIMENSIONS AND TOLERANCES CONTAINED IN THIS DRAWING ARE PROPRIETARY INFORMATION OF VALMONT INDUSTRIES AND CONSIDERED A TRADE SECRET. ANY USE OR DISCLOSURE WITHOUT THE CONSENT OF VALMONT INDUSTRIES IS STRICTLY PROHIBITED.

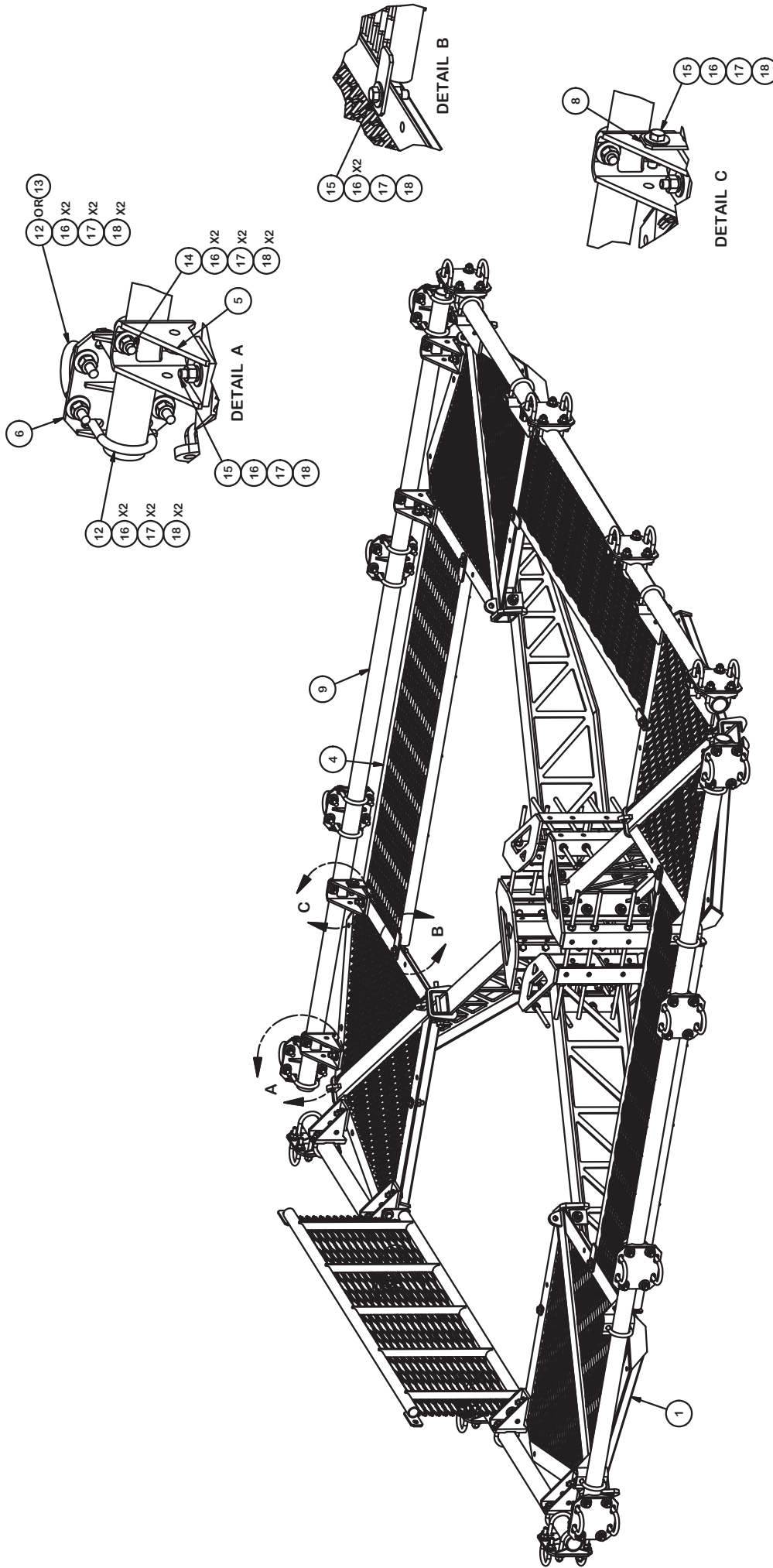
DESCRIPTION
**12' FORTRESS™
 QUAD-PLATFORM MOUNT
 WITH WALKWAYS**

CPD NO.	DRAWN BY	ENG. APPROVAL	PART NO.
81	CEK	8/9/2017	F4P-12W
CLASS	DRAWING USAGE	CHECKED BY	DWG. NO.
81	CUSTOMER	BMC	F4P-12W
SUB			
02			



Engineering
 Support Team:
 1-888-653-7446

Locations:
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 Atlanta, GA
 Los Angeles, CA
 Plymouth, IN
 Dallas, TX



TOLERANCE NOTES

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

PROPRIETARY NOTE: DIMENSIONS CONTAINED IN THIS DRAWING ARE PROPRIETARY INFORMATION OF VALMONT INDUSTRIES AND CONSIDERED A TRADE SECRET. ANY USE OR DISCLOSURE WITHOUT THE CONSENT OF VALMONT INDUSTRIES IS STRICTLY PROHIBITED.

DESCRIPTION
 12' FORTRESS™
 QUAD-PLATFORM MOUNT
 WITH WALKWAYS

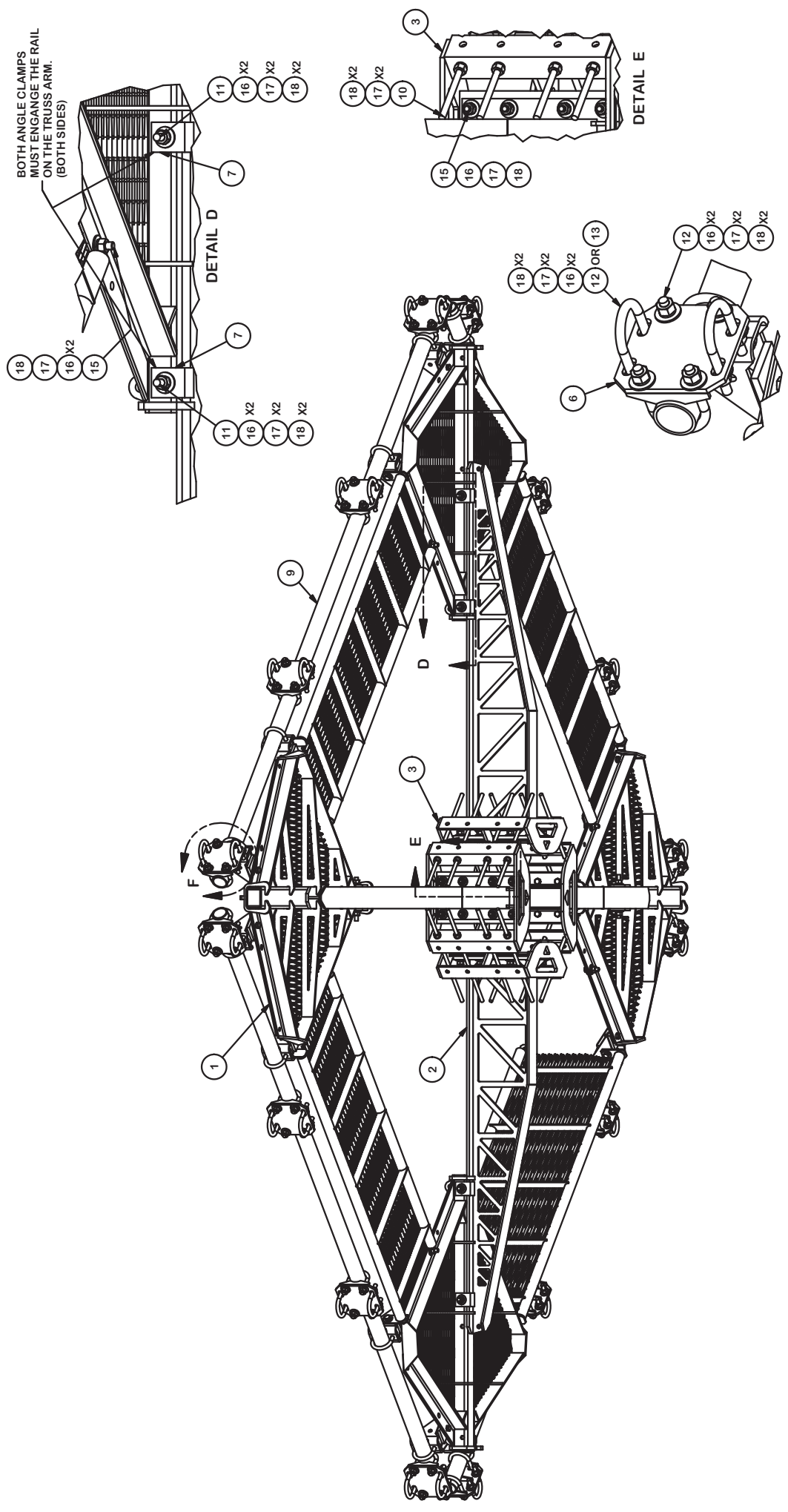
CPD NO.	DRAWN BY	ENG. APPROVAL
	CEK	8/9/2017
CLASS	DRAWING USAGE	CHECKED BY
81	CUSTOMER	BMC
SUB		8/30/2017
02		



Locations:
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 Los Angeles, CA
 Plymouth, IN
 Dallas, TX

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 Support Team:
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PART NO.	PAGE
F4P-12W	3 OF 4
DWG. NO.	
F4P-12W	



SITE PRO
A Valmont COMPANY

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

Engineering
Support Team:
1-888-753-7446

PART NO. **F4P-12W**
DWG. NO. **F4P-12W**

PAGE **4 OF 4**

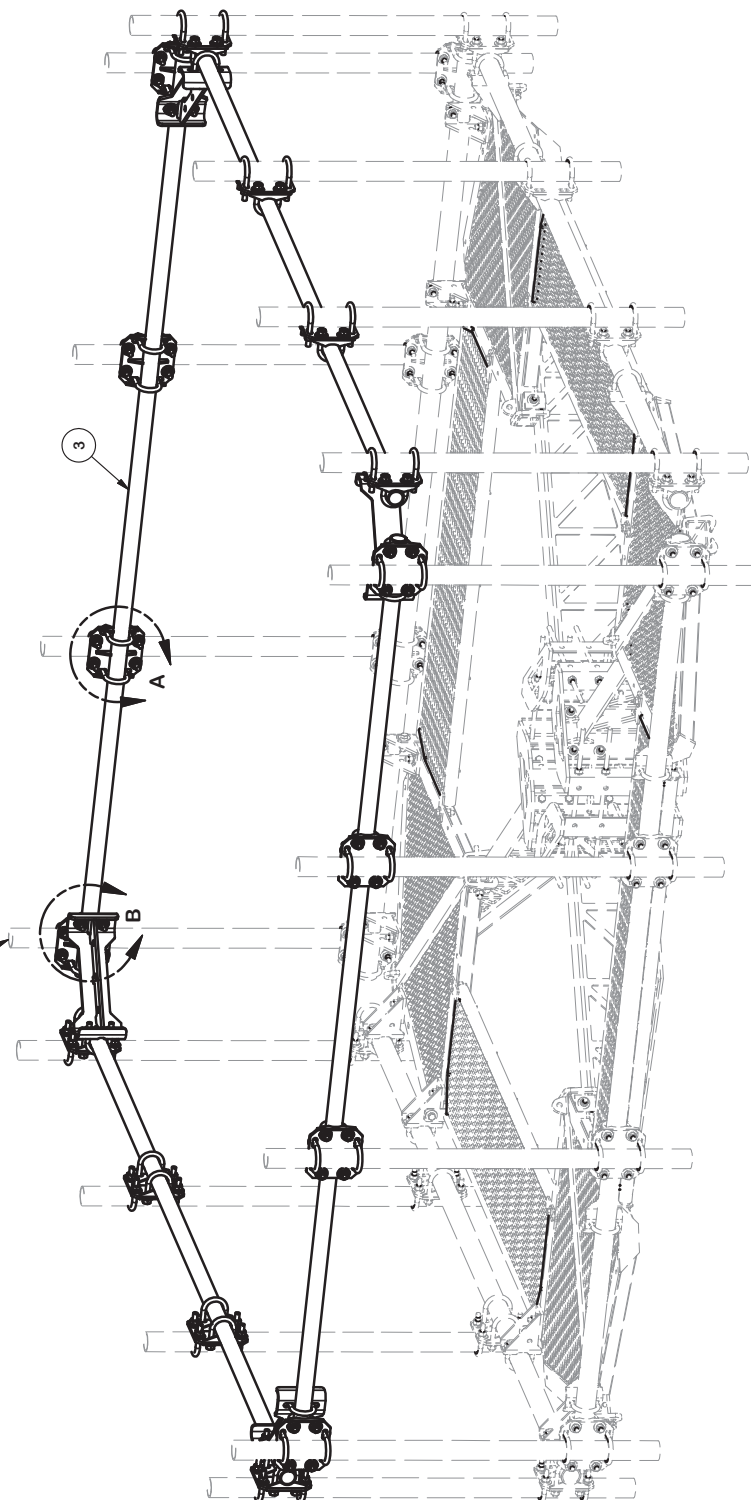
DESCRIPTION		ENG. APPROVAL	
12' FORTRESS™ QUAD-PLATFORM MOUNT WITH WALKWAYS		DRAWN BY CEK	8/9/2017
CLASS	SUB	CHECKED BY	
81	02	BMC	8/30/2017
CUSTOMER			

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

PROPRIETARY NOTE: THE INFORMATION CONTAINED IN THIS DRAWING IS PROPRIETARY INFORMATION OF VALMONT INDUSTRIES AND CONSIDERED A TRADE SECRET. ANY USE OR DISCLOSURE WITHOUT THE CONSENT OF VALMONT INDUSTRIES IS STRICTLY PROHIBITED.

PARTS LIST		
ITEM	QTY	PART NO.
1	4	X-F4PHRW
2	16	X-SCX3-FR
3	4	P2150
4	32	X-UBS300
5	72	X-UBS258
6	144	G58FW
7	144	G58LW
8	144	G58NUT

PART DESCRIPTION		
CORNER WELDMENT FOR 4-SIDED FORTRESS PLATFORM HADNRAIL KITS	LENGTH	NET WT.
FORTRESS CROSSOVER PLATE		19.32
2-3/8" O.D. X 150" SCH 40 GALVANIZED PIPE	150 in	6.61
5/8" X 3" X 5-1/4" X 2-1/2" U-BOLT (HDG.)		45.77
5/8" X 2-5/8" X 4-1/2" X 2" U-BOLT (HDG.)		1.15
5/8" HDG USS FLATWASHER	1/8 in	1.00
5/8" HDG LOCKWASHER		0.07
5/8" HDG HEAVY 2H HEX NUT		0.03
		0.13
		18.70
		507.57



2-3/8" TO 2-7/8"
ANTENNA MOUNTING PIPES
(ORDERED SEPARATELY)

TOLERANCE NOTES

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 DRILLED AND GAS CUT HOLES ($\pm 0.030"$) - NO CONING OF HOLES
 LASER CUT EDGES AND HOLES ($\pm 0.010"$) - NO CONING OF HOLES
 BENDS ARE $\pm 1/2$ DEGREE
 ALL OTHER MACHINING ($\pm 0.030"$)
 ALL OTHER ASSEMBLY ($\pm 0.060"$)

PROPRIETARY NOTE: DIMENSIONS CONTAINED IN THIS DRAWING ARE PROPRIETARY INFORMATION OF VALMONT INDUSTRIES AND CONSIDERED A TRADE SECRET. ANY USE OR DISCLOSURE WITHOUT THE CONSENT OF VALMONT INDUSTRIES IS STRICTLY PROHIBITED.

DESCRIPTION

HANDRAIL KIT FOR
 12' 4-SIDED FORTRESS™ PLATFORM

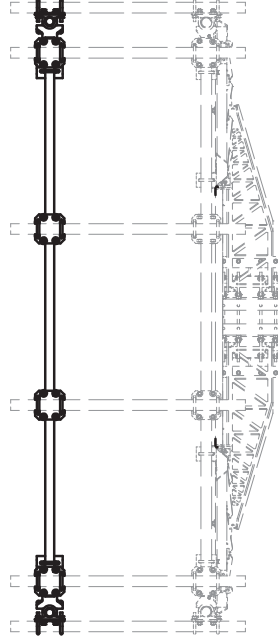
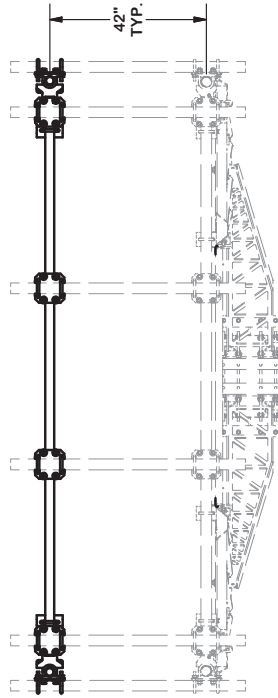
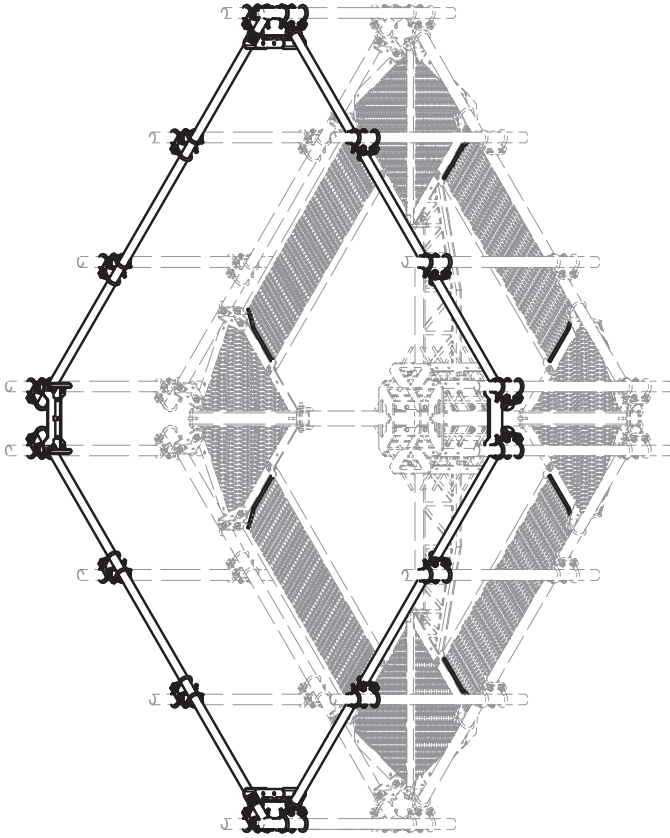
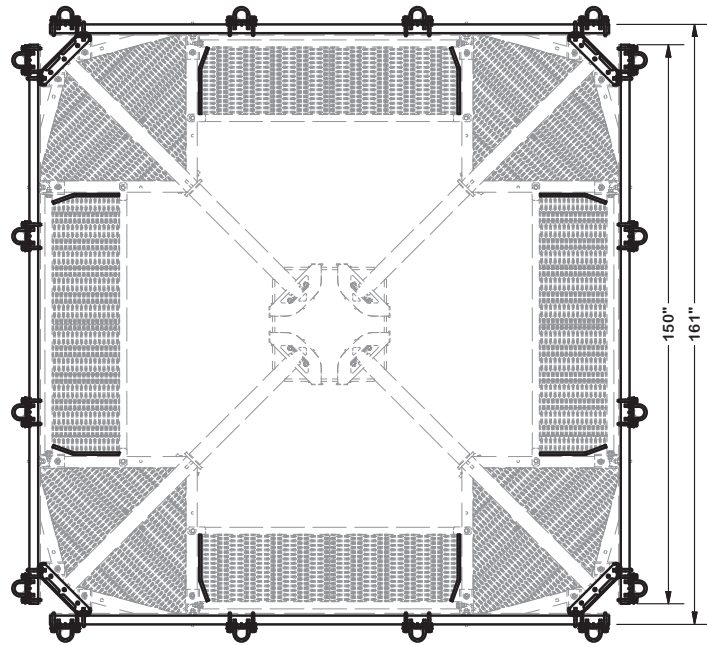
OPD NO.	DRAWN BY	ENG. APPROVAL
CLASS / SUB	CEK	8/29/2017
81 / 02	DRAWING USAGE	CHECKED BY
	CUSTOMER	



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

Engineering
 Support Team:
 1-888-653-7446

PART NO.	F4P-HRK12	PAGE	1 OF 2
DWG. NO.	F4P-HRK12		



TOLERANCE NOTES

TOLERANCES ON DIMENSIONS, UNLESS OTHERWISE NOTED ARE:
 SAWED, SHEARED AND GAS CUT EDGES (± 0.0307)
 DRILLED AND GAS CUT HOLES (± 0.0307) - NO CONING OF HOLES
 LASER CUT EDGES AND HOLES (± 0.0107) - NO CONING OF HOLES
 BENDS ARE $\pm 1/2$ DEGREE
 ALL OTHER MACHINING (± 0.0307)
 ALL OTHER ASSEMBLY (± 0.0607)

PROPRIETARY NOTE: INFORMATION CONTAINED IN THIS DRAWING IS PROPRIETARY INFORMATION OF VALMONT INDUSTRIES AND CONSIDERED A TRADE SECRET. ANY USE OR DISCLOSURE WITHOUT THE CONSENT OF VALMONT INDUSTRIES IS STRICTLY PROHIBITED.

DESCRIPTION

**HANDRAIL KIT FOR
 12' 4-SIDED FORTRESS™ PLATFORM**

OPD NO. DRAWN BY ENG. APPROVAL

CLASS SUB CHECKED BY

81 02 CUSTOMER



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

Engineering
 Support Team:
 1-888-753-7446

PART NO. **F4P-HRK12**

DWG. NO. **F4P-HRK12**

Exhibit F

RADIO FREQUENCY EMISSIONS ANALYSIS REPORT
EVALUATION OF HUMAN EXPOSURE POTENTIAL
TO NON-IONIZING EMISSIONS

T-Mobile Existing Facility

Site ID: CT11077C

Fairfield Fire Rescue #5
3965 Congress Street (Fairfield Fire Rescue #5)
Fairfield, Connecticut 06824

August 14, 2020

EBI Project Number: 6220003899

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general population allowable limit:	34.72%

August 14, 2020

T-Mobile

Attn: Jason Overbey, RF Manager
35 Griffin Road South
Bloomfield, Connecticut 06002

Emissions Analysis for Site: CT11077C - Fairfield Fire Rescue #5

EBI Consulting was directed to analyze the proposed T-Mobile facility located at **3965 Congress Street (Fairfield Fire Rescue #5)** in **Fairfield, Connecticut** 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 97-01 and ANSI/IEEE Std C95.1. The FCC regulates Maximum Permissible Exposure in units of microwatts per square centimeter ($\mu\text{W}/\text{cm}^2$). The number of $\mu\text{W}/\text{cm}^2$ 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.

Public exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter ($\mu\text{W}/\text{cm}^2$). The general population exposure limits for the 600 MHz and 700 MHz frequency bands are approximately $400 \mu\text{W}/\text{cm}^2$ and $467 \mu\text{W}/\text{cm}^2$, respectively. The general population exposure limit for the 1900 MHz (PCS), 2100 MHz (AWS) and 11 GHz frequency bands is $1000 \mu\text{W}/\text{cm}^2$. 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 done for the proposed T-Mobile Wireless antenna facility located at 3965 Congress Street (Fairfield Fire Rescue #5) in Fairfield, Connecticut 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 manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was focused at the base of the tower. For this report, the sample point is the top of a 6-foot person standing at the base of the tower.

For all calculations, all equipment was calculated using the following assumptions:

- 1) 2 LTE channels (600 MHz Band) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.
- 2) 1 NR channel (600 MHz Band) was considered for each sector of the proposed installation. This Channel has a transmit power of 80 Watts.
- 3) 2 LTE channels (700 MHz Band) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.
- 4) 4 GSM channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.
- 5) 4 LTE channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.

- 6) 2 UMTS channels (AWS Band - 2100 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.
- 7) 2 LTE channels (AWS Band – 2100 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.
- 8) 2 LTE channels (BRS Band - 2500 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.
- 9) 2 NR channels (BRS Band - 2500 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.
- 10) All radios at the proposed installation were considered to be running at full power and were uncombined in their RF transmissions paths per carrier prescribed configuration. 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. This is rarely the case, and if so, is never continuous.
- 11) For the following calculations, the sample point was the top of a 6-foot person standing at the base of the tower. The maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was used in this direction. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.
- 12) The antennas used in this modeling are the Ericsson AIR 32 for the 2100 MHz / 1900 MHz / 1900 MHz channel(s), the RFS APXVAARR24_43-U-NA20 for the 700 MHz / 600 MHz / 600 MHz / 1900 MHz / 2100 MHz channel(s), the Ericsson AIR6449 B4I for the 2500 MHz / 2500 MHz channel(s) in Sector A, the Ericsson AIR 32 for the 2100 MHz / 1900 MHz / 1900 MHz channel(s), the RFS APXVAARR24_43-U-NA20 for the 700 MHz / 600 MHz / 600 MHz / 1900 MHz / 2100 MHz channel(s), the Ericsson AIR6449 B4I for the 2500 MHz / 2500 MHz channel(s) in Sector B, the Ericsson AIR 32 for the 2100 MHz / 1900 MHz / 1900 MHz channel(s), the RFS APXVAARR24_43-U-NA20 for the 700 MHz / 600 MHz / 600 MHz / 1900 MHz / 2100 MHz channel(s), the Ericsson AIR6449 B4I for the 2500 MHz / 2500 MHz channel(s) in Sector C. This is based on feedback from the carrier with regard to anticipated antenna selection. All Antenna gain values and associated transmit power levels are shown in the Site Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 10 dB for directional panel antennas and

20 dB for highly focused parabolic microwave dishes, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

- 13) The antenna mounting height centerline of the proposed antennas is 116 feet above ground level (AGL).
- 14) Emissions values for additional carriers were taken from the Connecticut Siting Council active database. Values in this database are provided by the individual carriers themselves.
- 15) All calculations were done with respect to uncontrolled / general population threshold limits.

T-Mobile Site Inventory and Power Data

Sector:	A	Sector:	B	Sector:	C
Antenna #:	1	Antenna #:	1	Antenna #:	1
Make / Model:	Ericsson AIR 32	Make / Model:	Ericsson AIR 32	Make / Model:	Ericsson AIR 32
Frequency Bands:	2100 MHz / 1900 MHz / 1900 MHz	Frequency Bands:	2100 MHz / 1900 MHz / 1900 MHz	Frequency Bands:	2100 MHz / 1900 MHz / 1900 MHz
Gain:	15.85 dBd / 15.35 dBd / 15.35 dBd	Gain:	15.85 dBd / 15.35 dBd / 15.35 dBd	Gain:	15.85 dBd / 15.35 dBd / 15.35 dBd
Height (AGL):	116 feet	Height (AGL):	116 feet	Height (AGL):	116 feet
Channel Count:	8	Channel Count:	8	Channel Count:	8
Total TX Power (W):	360 Watts	Total TX Power (W):	360 Watts	Total TX Power (W):	360 Watts
ERP (W):	12,841.53	ERP (W):	12,841.53	ERP (W):	12,841.53
Antenna A1 MPE %:	3.43%	Antenna B1 MPE %:	3.43%	Antenna C1 MPE %:	3.43%
Antenna #:	2	Antenna #:	2	Antenna #:	2
Make / Model:	RFS APXVAARR24_43-U-NA20	Make / Model:	RFS APXVAARR24_43-U-NA20	Make / Model:	RFS APXVAARR24_43-U-NA20
Frequency Bands:	700 MHz / 600 MHz / 600 MHz / 1900 MHz / 2100 MHz	Frequency Bands:	700 MHz / 600 MHz / 600 MHz / 1900 MHz / 2100 MHz	Frequency Bands:	700 MHz / 600 MHz / 600 MHz / 1900 MHz / 2100 MHz
Gain:	13.35 dBd / 12.95 dBd / 12.95 dBd / 15.65 dBd / 16.35 dBd	Gain:	13.35 dBd / 12.95 dBd / 12.95 dBd / 15.65 dBd / 16.35 dBd	Gain:	13.35 dBd / 12.95 dBd / 12.95 dBd / 15.65 dBd / 16.35 dBd
Height (AGL):	116 feet	Height (AGL):	116 feet	Height (AGL):	116 feet
Channel Count:	9	Channel Count:	9	Channel Count:	9
Total TX Power (W):	380 Watts	Total TX Power (W):	380 Watts	Total TX Power (W):	380 Watts
ERP (W):	11,055.53	ERP (W):	11,055.53	ERP (W):	11,055.53
Antenna A2 MPE %:	4.46%	Antenna B2 MPE %:	4.46%	Antenna C2 MPE %:	4.46%
Antenna #:	3	Antenna #:	3	Antenna #:	3
Make / Model:	Ericsson AIR6449 B4I	Make / Model:	Ericsson AIR6449 B4I	Make / Model:	Ericsson AIR6449 B4I
Frequency Bands:	2500 MHz / 2500 MHz	Frequency Bands:	2500 MHz / 2500 MHz	Frequency Bands:	2500 MHz / 2500 MHz
Gain:	22.05 dBd / 22.05 dBd	Gain:	22.05 dBd / 22.05 dBd	Gain:	22.05 dBd / 22.05 dBd
Height (AGL):	116 feet	Height (AGL):	116 feet	Height (AGL):	116 feet
Channel Count:	4	Channel Count:	4	Channel Count:	4
Total TX Power (W):	160 Watts	Total TX Power (W):	160 Watts	Total TX Power (W):	160 Watts
ERP (W):	25,651.93	ERP (W):	25,651.93	ERP (W):	25,651.93
Antenna A3 MPE %:	6.85%	Antenna B3 MPE %:	6.85%	Antenna C3 MPE %:	6.85%

Site Composite MPE %	
Carrier	MPE %
T-Mobile (Max at Sector A):	14.74%
AT&T	3.87%
Sprint	3.58%
Nextel	0.51%
Town	0.13%
Verizon	11.89%
Site Total MPE % :	34.72%

T-Mobile MPE % Per Sector	
T-Mobile Sector A Total:	14.74%
T-Mobile Sector B Total:	14.74%
T-Mobile Sector C Total:	14.74%
Site Total MPE % :	34.72%

T-Mobile Maximum MPE Power Values (Sector A)

T-Mobile Frequency Band / Technology (Sector A)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu\text{W}/\text{cm}^2$)	Frequency (MHz)	Allowable MPE ($\mu\text{W}/\text{cm}^2$)	Calculated % MPE
T-Mobile 2100 MHz LTE	2	2307.55	116.0	12.33	2100 MHz LTE	1000	1.23%
T-Mobile 1900 MHz LTE	2	2056.61	116.0	10.99	1900 MHz LTE	1000	1.10%
T-Mobile 1900 MHz GSM	4	1028.30	116.0	10.99	1900 MHz GSM	1000	1.10%
T-Mobile 700 MHz LTE	2	648.82	116.0	3.47	700 MHz LTE	467	0.74%
T-Mobile 600 MHz LTE	2	591.73	116.0	3.16	600 MHz LTE	400	0.79%
T-Mobile 600 MHz NR	1	1577.94	116.0	4.22	600 MHz NR	400	1.05%
T-Mobile 1900 MHz LTE	2	2203.69	116.0	11.78	1900 MHz LTE	1000	1.18%
T-Mobile 2100 MHz UMTS	2	1294.56	116.0	6.92	2100 MHz UMTS	1000	0.69%
T-Mobile 2500 MHz LTE	2	6412.98	116.0	34.27	2500 MHz LTE	1000	3.43%
T-Mobile 2500 MHz NR	2	6412.98	116.0	34.27	2500 MHz NR	1000	3.43%
						Total:	14.74%

• NOTE: Totals may vary by approximately 0.01% due to summation of remainders in calculations.

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:	14.74%
Sector B:	14.74%
Sector C:	14.74%
T-Mobile Maximum MPE % (Sector A):	14.74%
Site Total:	34.72%
Site Compliance Status:	COMPLIANT

The anticipated composite MPE value for this site assuming all carriers present is **34.72%** 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.

Exhibit G




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 09/07/2020



Mailed from 01566 062S0000000101

PRIORITY MAIL 2-DAY™

Expected Delivery Date: 09/11/2020
 Ref#: 077C ZAP
0006

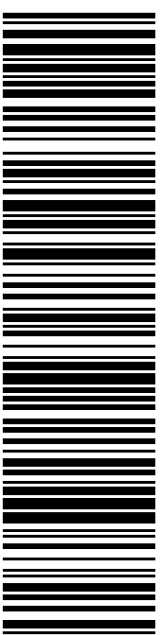
DEBORAH CHASE
 NORTHEAST SITE SOLUTIONS, LLC
 420 MAIN ST STE 2
 STURBRIDGE MA 01566-1359

Carrier -- Leave if No Response

C005

SHIP TO: JIM WENDT
 PLANNING DIRECTOR-TOWN OF FAIRFIELD
 725 OLD POST RD
 SULLIVAN INDEPENDENCE HALL
 FAIRFIELD CT 06824-6684

USPS TRACKING #



9405 5036 9930 0016 9987 41

Electronic Rate Approved #038555749



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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 0016 9987 41

Trans. #: 504846499	Priority Mail® Postage: \$7.75
Print Date: 09/04/2020	Total: \$7.75
Ship Date: 09/07/2020	
Expected Delivery Date: 09/11/2020	


From: DEBORAH CHASE Ref#: 077C ZAP
 NORTHEAST SITE SOLUTIONS, LLC
 420 MAIN ST STE 2
 STURBRIDGE MA 01566-1359

To: JIM WENDT
 PLANNING DIRECTOR-TOWN OF FAIRFIELD
 725 OLD POST RD
 SULLIVAN INDEPENDENCE HALL
 FAIRFIELD CT 06824-6684

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 \$7.75

9405 5036 9930 0016 9987 65 0077 5000 0020 6824



09/07/2020

Mailed from 01566 062S0000000311

PRIORITY MAIL 2-DAY™

Expected Delivery Date: 09/11/2020
Ref#: 077C-ZAP
0006


DEBORAH CHASE
NORTHEAST SITE SOLUTIONS, LLC
420 MAIN ST STE 2
STURBRIDGE MA 01566-1359

Carrier -- Leave if No Response

C005

SHIP BETSY BROWNE
TO: TOWN CLERK-TOWN OF FAIRFIELD
725 OLD POST RD
SULLIVAN INDEPENDENCE HALL
FAIRFIELD CT 06824-6684

USPS TRACKING #



9405 5036 9930 0016 9987 65

Electronic Rate Approved #038555749



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Click-N-Ship® Label Record

USPS TRACKING # :
9405 5036 9930 0016 9987 65

Trans. #: 504846499	Priority Mail® Postage: \$7.75
Print Date: 09/04/2020	Total: \$7.75
Ship Date: 09/07/2020	
Expected Delivery Date: 09/11/2020	


From: DEBORAH CHASE Ref#: 077C-ZAP
NORTHEAST SITE SOLUTIONS, LLC
420 MAIN ST STE 2
STURBRIDGE MA 01566-1359

To: BETSY BROWNE
TOWN CLERK-TOWN OF FAIRFIELD
725 OLD POST RD
SULLIVAN INDEPENDENCE HALL
FAIRFIELD CT 06824-6684

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09/07/2020

Mailed from 01566 062S0000000314

9405 5036 9930 0016 9987 89

9405 5036 9930 0016 9987 89

Electronic Rate Approved #038555749

PRIORITY MAIL 2-DAY™

DEBORAH CHASE Expected Delivery Date: 09/11/2020
 NORTHEAST SITE SOLUTIONS, LLC Ref#: 077CANCH
 420 MAIN ST STE 2 **0006**
 STURBRIDGE MA 01566-1359

Carrier -- Leave if No Response **C005**

SHIP TO: BRENDA L KUPCHICK
 FIRST SELECTWOMAN-TOWN OF FAIRFIELD
 725 OLD POST RD
 SULLIVAN INDEPENDENCE HALL
 FAIRFIELD CT 06824-6684

USPS TRACKING #



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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 0016 9987 89

Trans. #: 504846499	Priority Mail® Postage: \$7.75
Print Date: 09/04/2020	Total: \$7.75
Ship Date: 09/07/2020	
Expected Delivery Date: 09/11/2020	

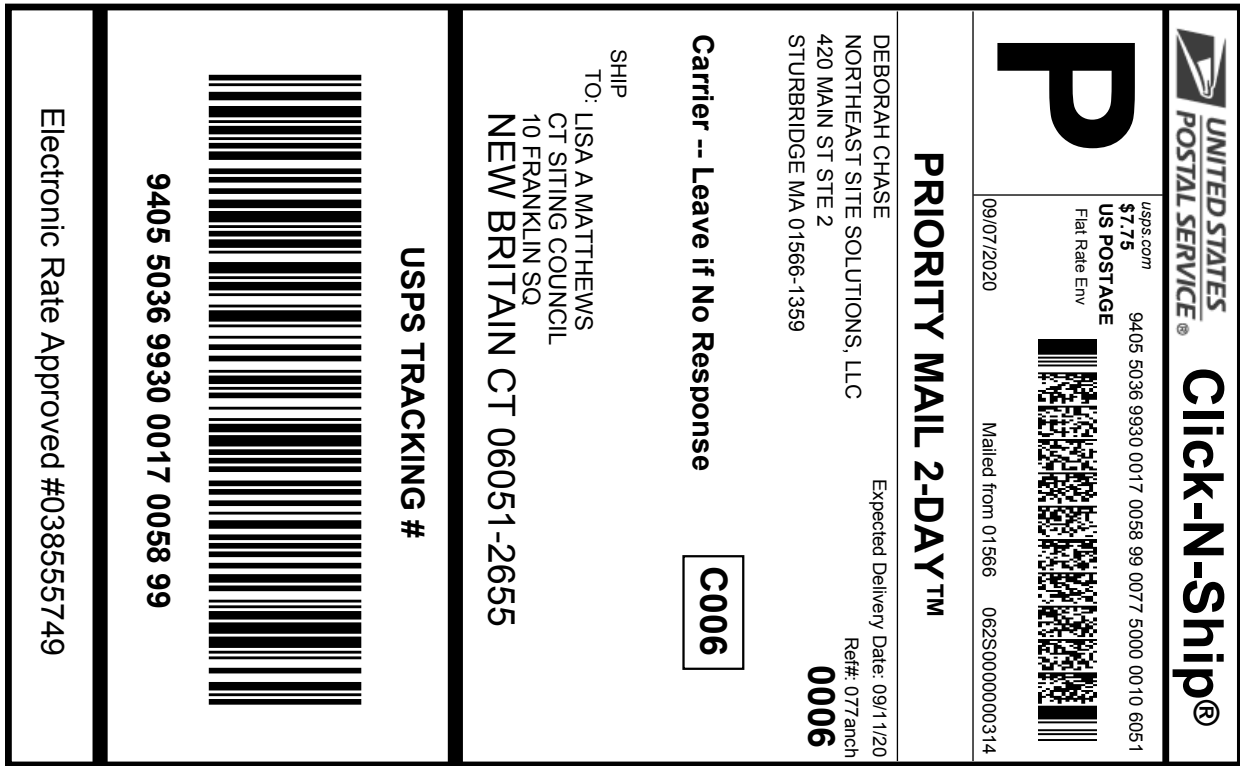
From: DEBORAH CHASE Ref#: 077CANCH
 NORTHEAST SITE SOLUTIONS, LLC
 420 MAIN ST STE 2
 STURBRIDGE MA 01566-1359

To: BRENDA L KUPCHICK
 FIRST SELECTWOMAN-TOWN OF FAIRFIELD
 725 OLD POST RD
 SULLIVAN INDEPENDENCE HALL
 FAIRFIELD CT 06824-6684

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- Place your label so it does not wrap around the edge of the package.
- 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.
- 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.
- Mail your package on the "Ship Date" you selected when creating this label.

Click-N-Ship® Label Record

USPS TRACKING # :	
9405 5036 9930 0017 0058 99	
Trans. #:	504846684
Print Date:	09/04/2020
Ship Date:	09/07/2020
Expected Delivery Date:	09/11/2020
Priority Mail® Postage:	\$7.75
Total:	\$7.75
From:	DEBORAH CHASE NORTHEAST SITE SOLUTIONS, LLC 420 MAIN ST STE 2 STURBRIDGE MA 01566-1359
	Ref#: 077anch
To:	LISA A MATTHEWS CT SITING COUNCIL 10 FRANKLIN SQ NEW BRITAIN CT 06051-2655
<small>* 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.</small>	



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Exhibit H

Deborah Chase

From: Deborah Chase
Sent: Friday, September 11, 2020 11:45 AM
To: 'firstselectwoman@fairfieldct.org'; 'jwendt@fairfieldct.org'; 'bbrowne@town.fairfield.ct.us'
Subject: 3965 CONGRESS STREET FAIRFIELD, CT 06824 T-MOBILE EM APPLICATION (CT11077C-ANCHOR)
Attachments: 3965 CONGRESS STREET (FAIRFIELD FIRE RESCUE #5) FAIRFIELD, CT 06824 (CT11077C-ANCHOR).pdf

Good morning

On behalf of our client, (T-Mobile), I am forwarding copies of T-Mobile's Exempt Modification Request to

collocate on a wireless telecommunications facility located at 3965 Congress Street in Fairfield, CT

Hard copies will be sent as well for your records.

Please do not hesitate to contact me with any questions regarding T-Mobile's Exempt Modification Request.

Thank you very much

Deborah Chase

Senior Project Coordinator & Analyst

Mobile: 860-490-8839



🌱 Save a tree. Refuse. Reduce. Reuse. Recycle.