



10 INDUSTRIAL AVE,
SUITE 3
MAHWAH NJ 07430

PHONE: 201.684.0055
FAX: 201.684.0066

July 29, 2019

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

RE: Notice of Exempt Modification
77 Springbrook Road, Old Saybrook, CT 06745
Latitude: 41.3139000000
Longitude: -72.36420000
T-Mobile Site#: CTHA540A – L600

Dear Ms. Bachman:

T-Mobile currently maintains nine (9) antennas at the 162-foot level of the existing 175-foot monopole at 77 Springbrook Road, Old Saybrook, CT. The 175-foot monopole is owned and operated by American Tower Corporation. The property is owned by Crossroads Communications of Old Saybrook LLC. T-Mobile now intends to replace six (6) of its existing antennas with six (6) new 600/700/1900/2100 MHz antennas. The new antennas will be installed at the same 162-foot level of the tower. Mount modifications are also required as detailed in the enclosed mount analysis.

Planned Modifications:

Tower:

Remove

(6) 1-5/8" coax

Remove and Replace:

(3) Andrew – LNX-6515DS-A1M (remove) – Add (3) RFS APXVAARR24_43-UNA20 600/700 MHz

(3) AIR 21 B2P B4A (remove) – Add (3) AIR 32 1900/2100 MHz

Install New:

(3) Ericsson Radio 4449 B12, B71

(3) 1-5/8" hybrid

Existing to Remain:

(3) AIR 21 B4A B2P

(6) 1-5/8" coax

(1) 1-5/8" Hybrid

Ground:

Replace: Existing cabinet with new 6102 cabinet

This tower was originally approved by the Town of Old Saybrook on April 28, 2008. This approval did not come with conditions that would be violated by this modification. A copy of this approval is enclosed.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies § 16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to First Selectman -Carl Fortuna, Elected Official, and Christine Nelson, Town Planner for the Town of Old Saybrook, as well as the tower owner and property owner.

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,

Kyle Richers

Transcend Wireless

Cell: 908-447-4716

Email: krichers@transcendwireless.com

Attachments

cc: Carl Fortuna – Town of Old Saybrook First Selectman

Christine Nelson – Town of Old Saybrook Town Planner

American Tower – Tower Owner

Crossroad Communications of Old Saybrook LLC – Property Owner

Kyle Richers

From: UPS Quantum View <pkginfo@ups.com>
Sent: Monday, July 29, 2019 10:18 AM
To: krichers@transcendwireless.com
Subject: UPS Ship Notification, Reference Number 1: CTHA540A CSC ZO



You have a package coming.

Scheduled Delivery Date: Tuesday, 07/30/2019

This message was sent to you at the request of TRANSCEND WIRELESS to notify you that the shipment information below has been transmitted to UPS. The physical package may or may not have actually been tendered to UPS for shipment. To verify the actual transit status of your shipment, click on the tracking link below.

Shipment Details

From: TRANSCEND WIRELESS

Tracking Number: [1ZV257424296048092](#)

Ship To: Christine Nelson
Town of Old Saybrook
302 Main Street
OLD SAYBROOK, CT 064752384
US

UPS Service: UPS GROUND

Number of Packages: 1

Scheduled Delivery: 07/30/2019

Signature Required: A signature is required for package delivery

Weight: 1.0 LBS

Reference Number 1: CTHA540A CSC ZO



[Download the UPS mobile app](#)

Kyle Richers

From: UPS Quantum View <pkginfo@ups.com>
Sent: Monday, July 29, 2019 10:22 AM
To: krichers@transcendwireless.com
Subject: UPS Ship Notification, Reference Number 1: CTHA540A CSC EO



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Scheduled Delivery Date: Tuesday, 07/30/2019

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Shipment Details

From: TRANSCEND WIRELESS
Tracking Number: [1ZV257424297258103](#)
Ship To: Carl Fortuna
Town of Old Saybrook
302 Main Street
OLD SAYBROOK, CT 064752384
US
UPS Service: UPS GROUND
Number of Packages: 1
Scheduled Delivery: 07/30/2019
Signature Required: A signature is required for package delivery
Weight: 1.0 LBS
Reference Number 1: CTHA540A CSC EO



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Kyle Richers

From: UPS Quantum View <pkginfo@ups.com>
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To: krichers@transcendwireless.com
Subject: UPS Ship Notification, Reference Number 1: CTHA540A CSC ATC



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Shipment Details

From:	TRANSCEND WIRELESS
Tracking Number:	1ZV257424298488112
Ship To:	American Tower Corporation 10 Presidential Way WOBURN, MA 018011053 US
UPS Service:	UPS GROUND
Number of Packages:	1
Scheduled Delivery:	07/30/2019
Signature Required:	A signature is required for package delivery
Weight:	1.0 LBS
Reference Number 1:	CTHA540A CSC ATC



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Kyle Richers

From: UPS Quantum View <pkginfo@ups.com>
Sent: Monday, July 29, 2019 10:24 AM
To: krichers@transcendwireless.com
Subject: UPS Ship Notification, Reference Number 1: CTHA540A CSC PO



A signature is required for package delivery

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Scheduled Delivery Date: Tuesday, 07/30/2019

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[Manage Preferences](#)

[View Delivery Planner](#)

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Shipment Details

From: TRANSCEND WIRELESS
Tracking Number: [1ZV257424299738126](#)
Ship To: Crossroads Communications
157 North Seir Hill Road
NORWALK, CT 068501333
US

UPS Service:	UPS GROUND
Number of Packages:	1
Package Weight:	1.0 LBS
Scheduled Delivery:	07/30/2019
Signature Required:	A signature is required for package delivery
Reference Number 1:	CTHA540A CSC PO



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77 SPRINGBROOK RD

Location 77 SPRINGBROOK RD

MBLU 058/ 017/ 0001/ /

Acct# 00598500

Owner CROSSROADS
COMMUNICATIONS OF OLD

Assessment \$224,500

Appraisal \$320,700

PID 6223

Building Count 1

Current Value

Appraisal			
Valuation Year	Improvements	Land	Total
2018	\$141,100	\$179,600	\$320,700

Assessment			
Valuation Year	Improvements	Land	Total
2018	\$98,800	\$125,700	\$224,500

Owner of Record

Owner CROSSROADS COMMUNICATIONS OF OLD
Co-Owner SAYBROOK LLC
Address 157 NORTH SEIR HILL RD
NORWALK, CT 06850

Sale Price \$275,000
Certificate
Book & Page 0339/0287
Sale Date 10/28/1996
Instrument UNKQ

Ownership History

Ownership History					
Owner	Sale Price	Certificate	Book & Page	Instrument	Sale Date
CROSSROADS COMMUNICATIONS OF OLD	\$275,000		0339/0287	UNKQ	10/28/1996

Building Information

Building 1 : Section 1

Year Built: 1956
Living Area: 2,044

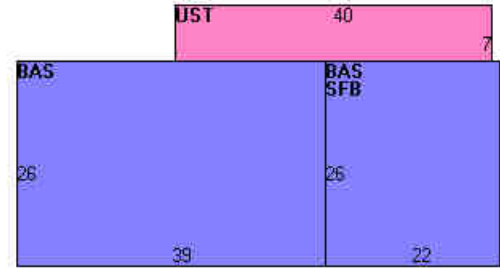
Building Attributes	
Field	Description
STYLE	Office Bldg
MODEL	Commercial

Building Photo

 Building Photo
(<http://images.vgsi.com/photos/OldSaybrookCTPhotos/\00\02\0>)

Grade	Average
Stories:	1
Occupancy	1.00
Exterior Wall 1	Aluminum Sidng
Exterior Wall 2	
Roof Structure	Gable/Hip
Roof Cover	Asph/F Gls/Cmp
Interior Wall 1	Plywood Panel
Interior Wall 2	Drywall/Sheet
Interior Floor 1	Carpet
Interior Floor 2	
Heating Fuel	Oil
Heating Type	Forced Air-Duc
AC Type	Central
Struct Class	
Bldg Use	RAD/TV TR
Total Rooms	
Total Bedrms	00
Total Baths	0
Usrflid 218	
Usrflid 219	
1st Floor Use:	4330
Heat/AC	NONE
Frame Type	WOOD FRAME
Baths/Plumbing	AVERAGE
Ceiling/Wall	CEIL & WALLS
Rooms/Prtns	AVERAGE
Wall Height	8.00
% Conn Wall	0.00

Building Layout



(<http://images.vgsi.com/photos/OldSaybrookCTPhotos//Sketches>)

Building Sub-Areas (sq ft)		Legend	
Code	Description	Gross Area	Living Area
BAS	First Floor	1,586	1,586
SFB	Bsmt, Above grade-Finished	572	458
UST	Utility, Storage, Unfinished	280	0
		2,438	2,044

Extra Features

Extra Features	Legend
No Data for Extra Features	

Land

Land Use

Use Code 4330
Description RAD/TV TR

Land Line Valuation

Size (Acres) 0.46
Depth 0

Zone B2

Assessed Value \$125,700

Appraised Value \$179,600

Outbuildings

Outbuildings	Legend
No Data for Outbuildings	

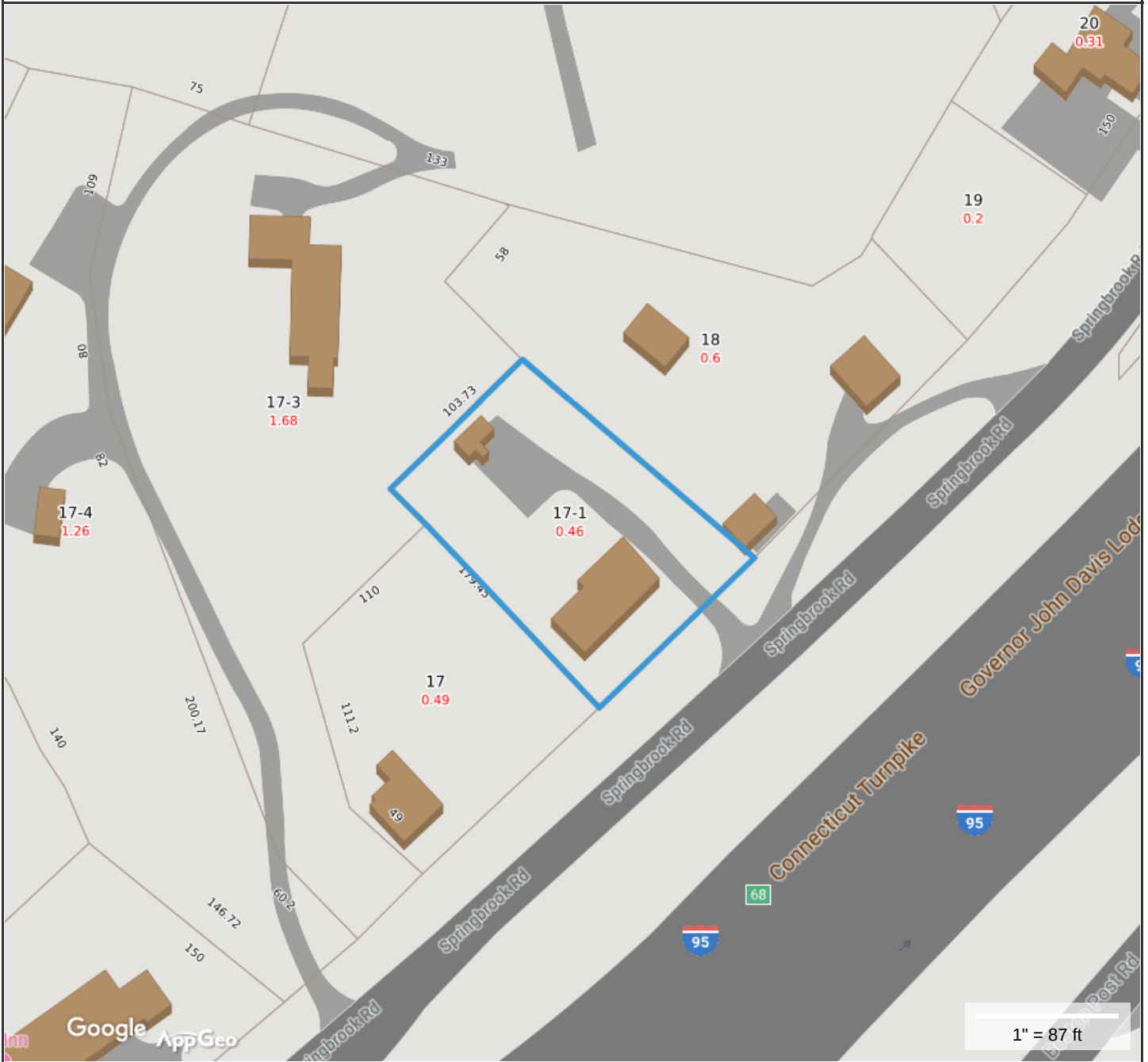
Valuation History

Appraisal			
Valuation Year	Improvements	Land	Total
2018	\$141,100	\$179,600	\$320,700
2016	\$106,700	\$217,900	\$324,600
2015	\$106,700	\$217,900	\$324,600

Assessment			
Valuation Year	Improvements	Land	Total
2018	\$98,800	\$125,700	\$224,500
2016	\$74,700	\$152,500	\$227,200
2015	\$74,700	\$152,500	\$227,200

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CTHA540A



Property Information

Property ID 058/017-0001
Location 77 SPRINGBROOK RD
Owner CROSSROADS COMMUNICATIONS OF OLD



**MAP FOR REFERENCE ONLY
 NOT A LEGAL DOCUMENT**

Town of Old Saybrook, CT makes no claims and no warranties, expressed or implied, concerning the validity or accuracy of the GIS data presented on this map.

Geometry updated July 2018
 Data updated 11/19/2018

TOWN OF OLD SAYBROOK, CONNECTICUT

302 Main Street, Old Saybrook, CT 06475 Phone - 860-395-3130, Fax - 860-395-1216

FOR OFFICE USE: MAP: 58 LOT: 17-1 Building Permit # 24780
FM# 2899 ZC# 05-05-6 Date Received: 4.21.08
FLOOD ZONE:

APPLICATION FOR PLAN EXAMINATION AND BUILDING PERMIT:

LOCATION: 77 SPRINGBROOK ROAD, OLD SAYBROOK, CT

TYPE OF IMPROVEMENT: Construction of a 175' tower w/ Verizon
Collocation and demo of existing Guyed Tower

ROOFING -- # SQUARES RIP - YES NO
PROPOSED USE: Communications / Commercial
(Residence, Store, Commercial, etc.)

INCLUDE SITE PLAN FOR ALL NEW CONSTRUCTION

COST:
Improvement: \$ 138,000
Electrical: \$ 12,000 CRS# - Lic Provided when
Pulling Elect. Permit
Plumbing: \$
Heating, A.C.: \$
TOTAL: \$ 150,000

OWNER OR LESSEE National Tower for Crossroads Communications of Old Saybrook, LLC
Mailing Address: Park Place West, 352 Park St. Suite 101
North Reading, MA 01864 Phone# 781-389-6909

CONTRACTOR: Bell Atlantic Inc. / Verizon
Address: 99 East River Drive, 9th Floor, East Hartford CT 06108

LICENSE NUMBER 900296 Phone# 860-982-4246

CERTIFICATION

I hereby certify that I am the owner of record of the named property, or that the proposed work is authorized by the owner of record and that I have been authorized by the owner to make this application as his authorized agent and I agree to conform to all applicable laws of this jurisdiction. In addition, if a permit for work described in this application is issued, I certify that the code official or the code official's authorized representative shall have the authority to enter areas covered by such permit at any reasonable hour to enforce provisions of the code(s) applicable to such permit. Any application for which a permit has not been issued within 120 days of the date of application shall be considered void and any fees associated with that application will be forfeited.

Signature of Applicant: [Signature] Phone# 781-389-6909
Address: 352 Park Street, Suite 101
North Reading MA 01864

FOR OFFICE USE: BUILDING PERMIT FEES 1539 PAID ISSUED ON:

APPROVED BY: [Signature] 4/28/08 Building Official/Date

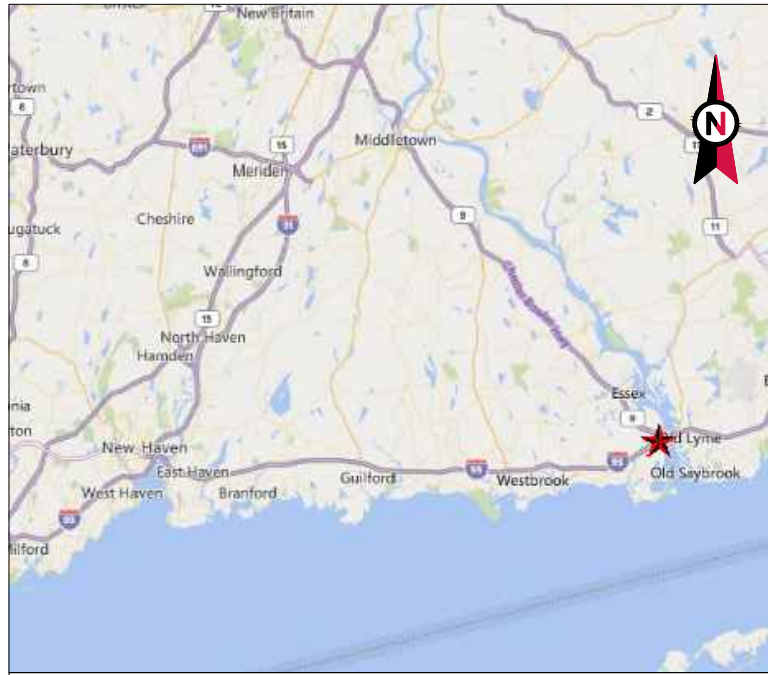
NOTE: No Accessory Structures Included in this permit

TYPE: 2B USE GROUP: B SEASONAL:
NOTE: WORK MUST BEGIN WITHIN 180 CALENDAR DAYS

OVER FOR ADDITIONAL INFORMATION

ORIGINAL [Stamp]

24



VICINITY MAP



AMERICAN TOWER®

ATC SITE NAME: OLD SAYBROOK
 ATC SITE NUMBER: 370625
 T-MOBILE SITE ID: CTHA540A
 SITE ADDRESS: 77 SPRINGBROOK ROAD
 OLD SAYBROOK, CT 06745



LOCATION MAP

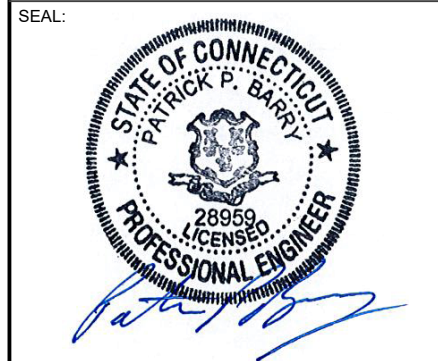
**T-MOBILE L600 ANTENNA AMENDMENT
 67D95ADB CONFIGURATION**

AMERICAN TOWER®
 A.T. ENGINEERING SERVICE, PLLC
 3500 REGENCY PARKWAY
 SUITE 100
 CARY, NC 27518
 PHONE: (919) 468-0112
 COA: PEC.0001553

THESE DRAWINGS AND/OR THE ACCOMPANYING SPECIFICATION AS INSTRUMENTS OR SERVICE ARE THE EXCLUSIVE PROPERTY OF AMERICAN TOWER. THEIR USE AND PUBLICATION SHALL BE RESTRICTED TO THE ORIGINAL SITE FOR WHICH THEY ARE PREPARED. ANY USE OR DISCLOSURE OTHER THAN THAT WHICH RELATES TO AMERICAN TOWER OR THE SPECIFIED CARRIER IS STRICTLY PROHIBITED. TITLE TO THESE DOCUMENTS SHALL REMAIN THE PROPERTY OF AMERICAN TOWER WHETHER OR NOT THE PROJECT IS EXECUTED. NEITHER THE ARCHITECT NOR THE ENGINEER WILL BE PROVIDING ON-SITE CONSTRUCTION REVIEW OF THIS PROJECT. CONTRACTOR(S) MUST VERIFY ALL DIMENSIONS AND ADVISE AMERICAN TOWER OF ANY DISCREPANCIES. ANY PRIOR ISSUANCE OF THIS DRAWING IS SUPERSEDED BY THE LATEST VERSION ON FILE WITH AMERICAN TOWER.

REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	LR	06/26/19
1	MA UPDATE	LR	07/25/19

ATC SITE NUMBER:
370625
 ATC SITE NAME:
OLD SAYBROOK
 SITE ADDRESS:
 77 SPRINGBROOK ROAD
 OLD SAYBROOK, CT 06475



Authorized by "EOR"
 Jul 25 2019 12:59 PM
 T-Mobile design

DRAWN BY:	EF
APPROVED BY:	PB
DATE DRAWN:	06/26/19
ATC JOB NO:	12951825

TITLE SHEET

SHEET NUMBER:
G-001
 REVISION:
1

COMPLIANCE CODE	PROJECT SUMMARY	PROJECT DESCRIPTION	SHEET INDEX				
ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNMENT AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES. 1. INTERNATIONAL BUILDING CODE (IBC) 2. NATIONAL ELECTRIC CODE (NEC) 3. LOCAL BUILDING CODE 4. CITY/COUNTY ORDINANCES	<u>SITE ADDRESS:</u> 77 SPRINGBROOK ROAD OLD SAYBROOK, CT 06475 COUNTY: MIDDLESEX <u>1A CERTIFICATE SUMMARY:</u> LATITUDE: 41° 18' 49.8" N LONGITUDE: 71° 21' 50.5" W GROUND ELEVATION: 53' AMSL TOWER HEIGHT: 175' AGL	THE PROPOSED PROJECT INCLUDES MODIFYING GROUND BASED AND TOWER MOUNTED EQUIPMENT AS INDICATED PER BELOW: REMOVE (6) PANELS, AND (6) 1-5/8" COAX CABLES INSTALL (6) NEW PANELS, (3) RRU's, MOUNT MODIFICATIONS, AND (3) 1-5/8" HYBRID CABLES EXISTING (3) PANELS, (6) 1-5/8" COAX CABLES, AND (1) 1-5/8" HYBRID CABLE TO REMAIN	SHEET NO:	DESCRIPTION:	REV:	DATE:	BY:
	<u>PROJECT TEAM</u> <u>TOWER OWNER:</u> AMERICAN TOWER 10 PRESIDENTIAL WAY WOBURN, MA 01801 <u>ENGINEER:</u> ATC TOWER SERVICES, LLC 3500 REGENCY PKWY STE 100 CARY, NC 27518 <u>PROPERTY OWNER:</u> CROSSROADS COMMUNICATIONS OF OLD SAYBROOK 157 N SEIR HILL RD NORWALK, CT, 06850	<u>PROJECT NOTES</u> 1. THE FACILITY IS UNMANNED. 2. A TECHNICIAN WILL VISIT THE SITE APPROXIMATELY ONCE A MONTH FOR ROUTINE INSPECTION AND MAINTENANCE. 3. THE PROJECT WILL NOT RESULT IN ANY SIGNIFICANT LAND DISTURBANCE OR EFFECT OF STORM WATER DRAINAGE. 4. NO SANITARY SEWER, POTABLE WATER OR TRASH DISPOSAL IS REQUIRED. 5. HANDICAP ACCESS IS NOT REQUIRED.					
<u>UTILITY COMPANIES</u> POWER COMPANY: NORTHEAST UTILITIES PHONE: (888) 783-6617 TELEPHONE COMPANY: FRONTIER COMMUNICATIONS PHONE: (800) 921-8102		<u>PROJECT LOCATION DIRECTIONS</u> FROM DOWNTOWN NEW HAVEN CT START OUT GOING NORTHEAST ON CHURCH ST TOWARD WALL ST. CHURCH ST BECOMES WHITNEY AVE. TURN RIGHT ONTO TRUMBULL ST. TAKE THE I-91 S/I-91 N RAMP. MERGE ONTO I-91 S TOWARD I-95/NEW LONDON/N.Y.CITY. MERGE ONTO I-95 N/GOVERNOR JOHN DAVIS LODGE TPKE N VIA THE EXIT ON THE LEFT TOWARD NEW LONDON. TAKE THE CT-154 EXIT, EXIT 67, TOWARD OLD SAYBROOK. MERGE ONTO MIDDLESEX TURNPIKE/CT-154 TOWARD R R STATION. URN LEFT ONTO BOSTON POST RD/US-1 N. TURN LEFT ONTO SPRINGBROOK RD. 77 SPRINGBROOK RD IS ON THE LEFT.					



Know what's below.
 Call before you dig.

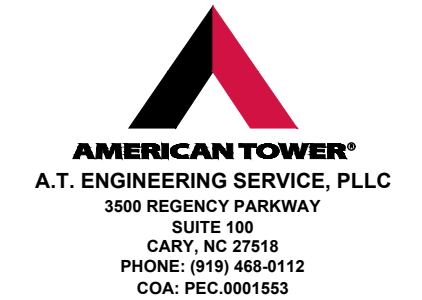
GENERAL CONSTRUCTION NOTES:

1. ALL WORK SHALL CONFORM TO ALL CURRENT APPLICABLE FEDERAL, STATE, AND LOCAL CODES, INCLUDING ANSIEIA/TIA-222, AND COMPLY WITH ATC MASTER SPECIFICATIONS.
2. CONTRACTOR SHALL CONTACT LOCAL 811 FOR IDENTIFICATION OF UNDERGROUND UTILITIES PRIOR TO START OF CONSTRUCTION.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL REQUIRED INSPECTIONS.
4. ALL DIMENSIONS TO, OF, AND ON EXISTING BUILDINGS, DRAINAGE STRUCTURES, AND SITE IMPROVEMENTS SHALL BE VERIFIED IN FIELD BY CONTRACTOR WITH ALL DISCREPANCIES REPORTED TO THE ENGINEER.
5. DO NOT CHANGE SIZE OR SPACING OF STRUCTURAL ELEMENTS.
6. DETAILS SHOWN ARE TYPICAL; SIMILAR DETAILS APPLY TO SIMILAR CONDITIONS UNLESS OTHERWISE NOTED.
7. THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY WHICH SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
8. CONTRACTOR SHALL BRACE STRUCTURES UNTIL ALL STRUCTURAL ELEMENTS NEEDED FOR STABILITY ARE INSTALLED. THESE ELEMENTS ARE AS FOLLOWS: LATERAL BRACING, ANCHOR BOLTS, ETC.
9. CONTRACTOR SHALL DETERMINE EXACT LOCATION OF EXISTING UTILITIES, GROUNDS DRAINS, DRAIN PIPES, VENTS, ETC. BEFORE COMMENCING WORK.
10. INCORRECTLY FABRICATED, DAMAGED, OR OTHERWISE MISFITTING OR NONCONFORMING MATERIALS OR CONDITIONS SHALL BE REPORTED TO THE T-MOBILE WIRELESS REP PRIOR TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH REMEDIAL ACTION SHALL REQUIRE WRITTEN APPROVAL BY THE T-MOBILE WIRELESS REP PRIOR TO PROCEEDING.
11. EACH CONTRACTOR SHALL COOPERATE WITH THE T-MOBILE WIRELESS REP, AND COORDINATE HIS WORK WITH THE WORK OF OTHERS.
12. CONTRACTOR SHALL REPAIR ANY DAMAGE CAUSED BY CONSTRUCTION OF THIS PROJECT TO MATCH EXISTING PRE-CONSTRUCTION CONDITIONS TO THE SATISFACTION OF THE T-MOBILE WIRELESS CONSTRUCTION MANAGER.
13. ALL CABLE/CONDUIT ENTRY/EXIT PORTS SHALL BE WEATHERPROOFED DURING INSTALLATION USING A SILICONE SEALANT.
14. WHERE EXISTING CONDITIONS DO NOT MATCH THOSE SHOWN IN THIS PLAN SET, CONTRACTOR SHALL NOTIFY THE T-MOBILE WIRELESS REP IMMEDIATELY.
15. CONTRACTOR SHALL ENSURE ALL SUBCONTRACTORS ARE PROVIDED WITH A COMPLETE AND CURRENT SET OF DRAWINGS AND SPECIFICATIONS FOR THIS PROJECT.
16. CONTRACTOR SHALL REMOVE ALL RUBBISH AND DEBRIS FROM THE SITE AT THE END OF EACH DAY.
17. CONTRACTOR SHALL COORDINATE WORK SCHEDULE WITH LANDLORD AND TAKE PRECAUTIONS TO MINIMIZE IMPACT AND DISRUPTION OF OTHER OCCUPANTS OF THE FACILITY.
18. CONTRACTOR SHALL FURNISH T-MOBILE WIRELESS WITH A PDF MARKED UP AS-BUILT SET OF DRAWINGS UPON COMPLETION OF WORK.
19. PRIOR TO SUBMISSION OF BID, CONTRACTOR SHALL COORDINATE WITH T-MOBILE WIRELESS REP TO DETERMINE WHAT, IF ANY, ITEMS WILL BE PROVIDED. ALL ITEMS NOT PROVIDED SHALL BE PROVIDED AND INSTALLED BY THE CONTRACTOR. CONTRACTOR WILL INSTALL ALL ITEMS PROVIDED.
20. PRIOR TO SUBMISSION OF BID, CONTRACTOR SHALL COORDINATE WITH T-MOBILE WIRELESS REP TO DETERMINE IF ANY PERMITS WILL BE OBTAINED BY CONTRACTOR. ALL REQUIRED PERMITS NOT OBTAINED BY T-MOBILE WIRELESS MUST BE OBTAINED, AND PAID FOR, BY THE CONTRACTOR.
21. CONTRACTOR SHALL INSTALL ALL SITE SIGNAGE IN ACCORDANCE WITH T-MOBILE WIRELESS SPECIFICATIONS AND REQUIREMENTS.
22. CONTRACTOR SHALL SUBMIT ALL SHOP DRAWINGS TO T-MOBILE WIRELESS FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.
23. ALL EQUIPMENT SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS AND LOCATED ACCORDING TO T-MOBILE WIRELESS SPECIFICATIONS, AND AS SHOWN IN THESE PLANS.
24. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
25. CONTRACTOR SHALL NOTIFY T-MOBILE WIRELESS REP A MINIMUM OF 48 HOURS IN ADVANCE OF POURING CONCRETE OR BACKFILLING ANY UNDERGROUND UTILITIES, FOUNDATIONS OR SEALING ANY WALL, FLOOR OR ROOF PENETRATIONS FOR ENGINEERING REVIEW AND APPROVAL.
26. CONTRACTOR SHALL BE RESPONSIBLE FOR SITE SAFETY INCLUDING COMPLIANCE WITH ALL APPLICABLE OSHA STANDARDS AND RECOMMENDATIONS AND SHALL PROVIDE ALL NECESSARY SAFETY DEVICES INCLUDING PPE AND PPM AND CONSTRUCTION DEVICES SUCH AS WELDING AND FIRE PREVENTION, TEMPORARY SHORING, SCAFFOLDING, TRENCH BOXES/SLOPING, BARRIERS, ETC.

27. THE CONTRACTOR SHALL PROTECT AT HIS OWN EXPENSE, ALL EXISTING FACILITIES AND SUCH OF HIS NEW WORK LIABLE TO INJURY DURING THE CONSTRUCTION PERIOD. ANY DAMAGE CAUSED BY NEGLIGENCE ON THE PART OF THIS CONTRACTOR OR HIS REPRESENTATIVES, OR BY THE ELEMENTS DUE TO NEGLIGENCE ON THE PART OF THIS CONTRACTOR OR HIS REPRESENTATIVES, EITHER TO THE EXISTING WORK, OR TO HIS WORK OR THE WORK OF ANY OTHER CONTRACTOR, SHALL BE REPAIRED AT HIS EXPENSE TO THE OWNER'S SATISFACTION.
28. ALL WORK SHALL BE INSTALLED IN A FIRST CLASS, NEAT AND WORKMANLIKE MANNER BY MECHANICS SKILLED IN THE TRADE INVOLVED. THE QUALITY OF WORKMANSHIP SHALL BE SUBJECT TO THE APPROVAL OF THE T-MOBILE WIRELESS REP. ANY WORK FOUND BY THE T-MOBILE WIRELESS REP TO BE OF INFERIOR QUALITY AND/OR WORKMANSHIP SHALL BE REPLACED AND/OR REWORKED AT CONTRACTOR EXPENSE UNTIL APPROVAL IS OBTAINED.
29. IN ORDER TO ESTABLISH STANDARDS OF QUALITY AND PERFORMANCE, ALL TYPES OF MATERIALS LISTED HEREINAFTER BY MANUFACTURER'S NAMES AND/OR MANUFACTURER'S CATALOG NUMBER SHALL BE PROVIDED BY THESE MANUFACTURERS AS SPECIFIED.

STRUCTURAL STEEL NOTES:

1. STRUCTURAL STEEL SHALL CONFORM TO THE LATEST EDITION OF THE AISC "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS."
2. STRUCTURAL STEEL ROLLED SHAPES, PLATES AND BARS SHALL CONFORM TO THE FOLLOWING ASTM DESIGNATIONS:
 - A. ASTM A-572, GRADE 50 - ALL W SHAPES, UNLESS NOTED OR A992 OTHERWISE
 - B. ASTM A-36 - ALL OTHER ROLLED SHAPES, PLATES AND BARS UNLESS NOTED OTHERWISE.
 - C. ASTM A-500, GRADE B - HSS SECTION (SQUARE, RECTANGULAR, AND ROUND)
 - D. ASTM A-325, TYPE SC OR N - ALL BOLTS FOR CONNECTING STRUCTURAL MEMBERS
 - E. ASTM F-1554 07 - ALL ANCHOR BOLTS, UNLESS NOTED OTHERWISE
3. ALL EXPOSED STRUCTURAL STEEL MEMBERS SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION PER ASTM A123. EXPOSED STEEL HARDWARE AND ANCHOR BOLTS SHALL BE GALVANIZED PER ASTM A153 OR B695.
4. ALL FIELD CUT SURFACES, FIELD DRILLED HOLES AND GROUND SURFACES WHERE EXISTING PAINT OR GALVANIZATION REMOVAL WAS REQUIRED SHALL BE REPAIRED WITH (2) BRUSHED COATS OF ZRC GALVILITE COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURER'S RECOMMENDATIONS.
5. DO NOT DRILL HOLES THROUGH STRUCTURAL STEEL MEMBERS EXCEPT AS SHOWN AND DETAILED ON STRUCTURAL DRAWINGS.
6. CONNECTIONS:
 - A. ALL WELDING TO BE PERFORMED BY AWS CERTIFIED WELDERS AND CONDUCTED IN ACCORDANCE WITH THE LATEST EDITION OF THE AWS WELDING CODE D1.1.
 - B. ALL WELDS SHALL BE INSPECTED VISUALLY. 25% OF WELDS SHALL BE INSPECTED WITH DYE PENETRANT OR MAGNETIC PARTICLE TO MEET THE ACCEPTANCE CRITERIA OF AWS D1.1. REPAIR ALL WELDS AS NECESSARY.
 - C. INSPECTION SHALL BE PERFORMED BY AN AWS CERTIFIED WELD INSPECTOR.
 - D. IT IS THE CONTRACTORS RESPONSIBILITY TO PROVIDE BURNING/WELDING PERMITS AS REQUIRED BY LOCAL GOVERNING AUTHORITY AND IF REQUIRED SHALL HAVE FIRE DEPARTMENT DETAIL FOR ANY WELDING ACTIVITY.
 - E. ALL ELECTRODES TO BE LOW HYDROGEN, MATCHING FILLER METAL, PER AWS D1.1, UNLESS NOTED OTHERWISE.
 - F. MINIMUM WELD SIZE TO BE 0.1875 INCH FILLET WELDS, UNLESS NOTED OTHERWISE.
 - G. PRIOR TO FIELD WELDING GALVANIZING MATERIAL, CONTRACTOR SHALL GRIND OFF GALVANIZING 1/2" BEYOND ALL FIELD WELD SURFACES. AFTER WELD AND WELD INSPECTION IS COMPLETE, REPAIR ALL GROUND AND WELDED SURFACES WITH ZRC GALVILITE COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURERS RECOMMENDATIONS.



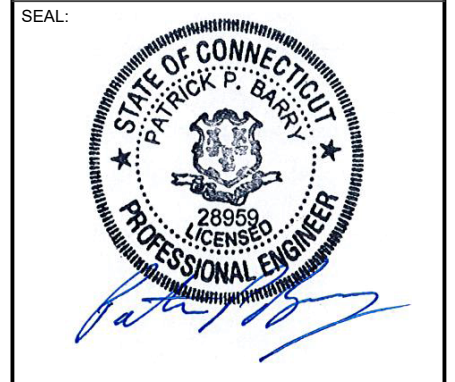
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REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	LR	06/26/19

ATC SITE NUMBER:
370625

ATC SITE NAME:
OLD SAYBROOK

SITE ADDRESS:
77 SPRINGBROOK ROAD
OLD SAYBROOK, CT 06475



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Jul 25 2019 12:59 PM
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DRAWN BY:	EF
APPROVED BY:	PB
DATE DRAWN:	06/26/19
ATC JOB NO:	12951825

GENERAL NOTES

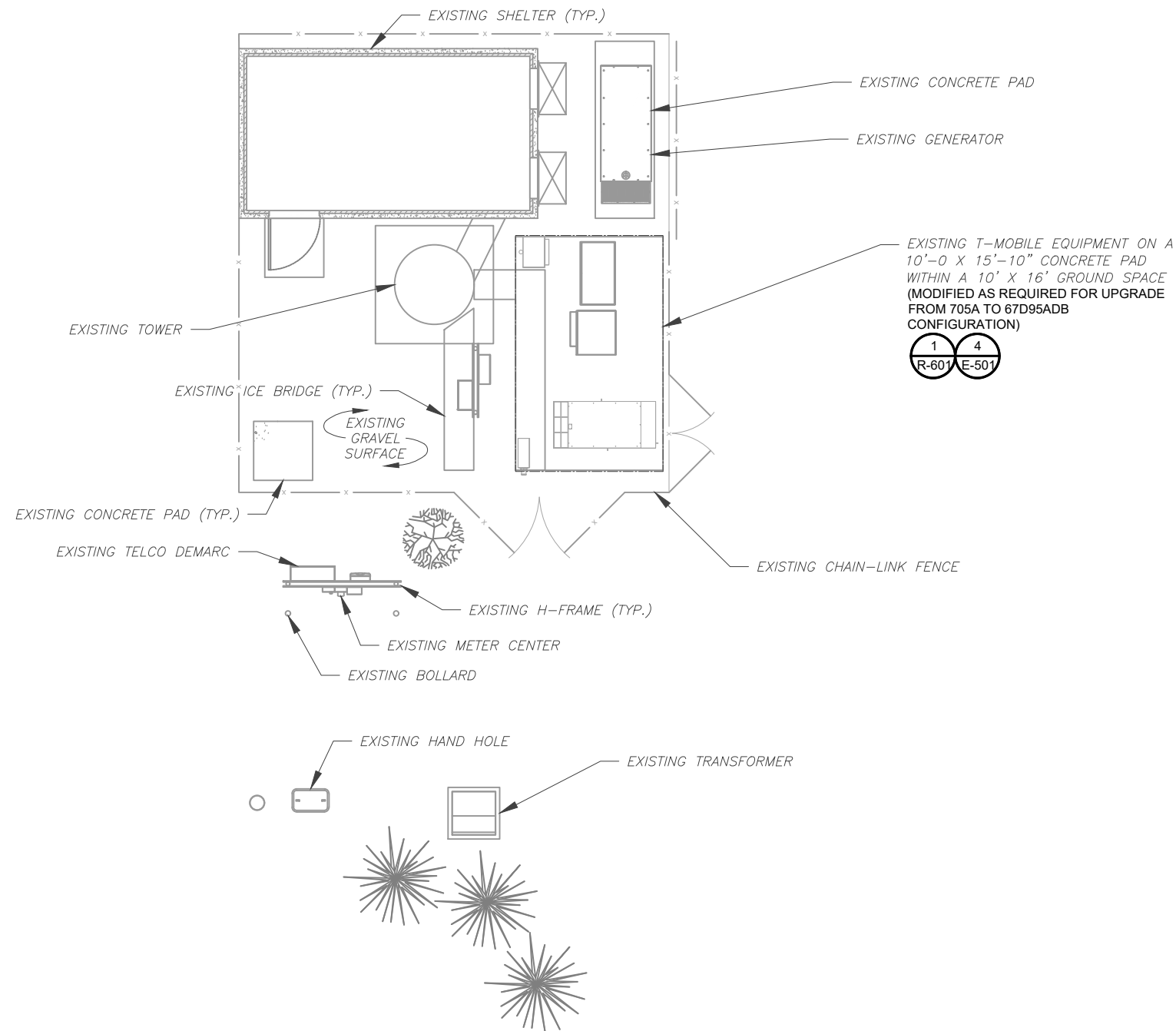
SHEET NUMBER:	REVISION:
G-002	0

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SITE PLAN NOTES:

1. THIS SITE PLAN REPRESENTS THE BEST PRESENT KNOWLEDGE AVAILABLE TO THE ENGINEER AT THE TIME OF THIS DESIGN. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO CONSTRUCTION AND VERIFY ALL EXISTING CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT.
2. ICE BRIDGE, CABLE LADDER, COAX PORT, AND COAX CABLE ARE SHOWN FOR REFERENCE ONLY. CONTRACTOR SHALL CONFIRM THE EXACT LOCATION OF ALL PROPOSED AND EXISTING EQUIPMENT AND STRUCTURES DEPICTED ON THIS PLAN. BEFORE UTILIZING EXISTING CABLE SUPPORTS, COAX PORTS, INSTALLING NEW PORTS OR ANY OTHER EQUIPMENT, CONTRACTOR SHALL VERIFY ALL ASPECTS OF THE COMPONENTS MEET THE ATC SPECIFICATIONS.
3. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE WITH THE T-MOBILE REPRESENTATIVE AND LOCAL UTILITY COMPANY FOR THE INSTALLATION OF CONDUITS, CONDUCTORS, BREAKERS, DISCONNECTS, OR ANY OTHER EQUIPMENT REQUIRED FOR ELECTRICAL SERVICE. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH LATEST EDITION OF THE STATE AND NATIONAL CODES, ORDINANCES AND REGULATIONS APPLICABLE TO THIS PROJECT.

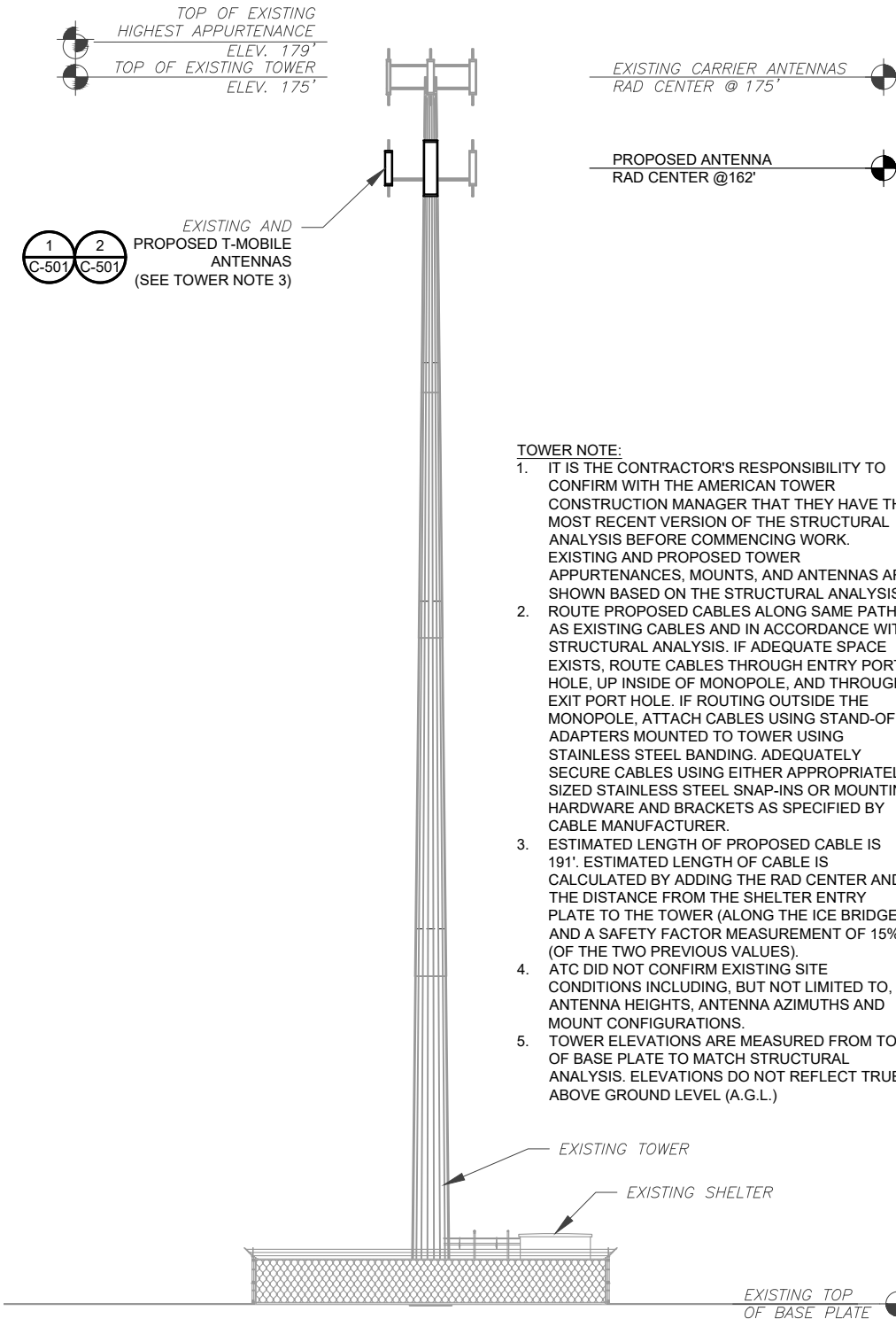
PER MOUNT ANALYSIS COMPLETED BY CLS ENGINEERING, DATED 07-05-19, THE EXISTING MOUNT CAN NOT ADEQUATELY SUPPORT THE PROPOSED LOADING. THE MOUNT MODIFICATION PROPOSED IN THE MOUNT ANALYSIS, INCLUDED AT THE END OF THIS PLAN SET, MUST BE INSTALLED PRIOR TO THE INSTALLATION OF THE PROPOSED ANTENNAS AND OTHER EQUIPMENT



1 DETAILED SITE PLAN

0 10' 20'

SCALE: 1"=10' (11X17)
1"=5' (22X34)



2 TOWER ELEVATION

SCALE: NOT TO SCALE

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A.T. ENGINEERING SERVICE, PLLC
 3500 REGENCY PARKWAY
 SUITE 100
 CARY, NC 27518
 PHONE: (919) 468-0112
 COA: PEC.0001553

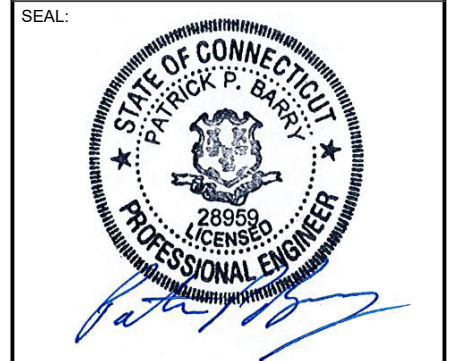
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REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	LR	06/26/19
1	MA UPDATE	LR	07/25/19

ATC SITE NUMBER:
370625

ATC SITE NAME:
OLD SAYBROOK

SITE ADDRESS:
 77 SPRINGBROOK ROAD
 OLD SAYBROOK, CT 06475



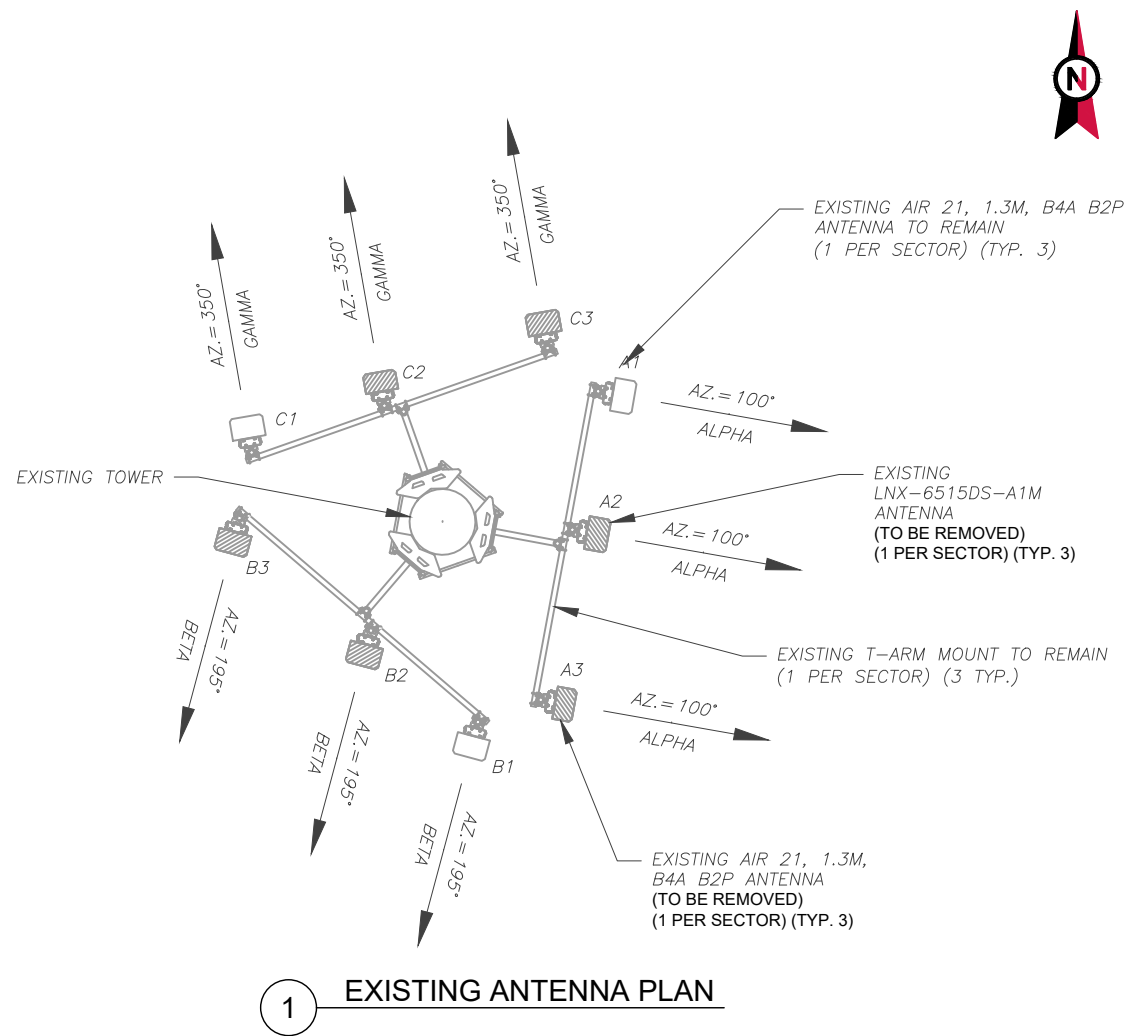
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T-Mobile design

DRAWN BY:	EF
APPROVED BY:	PB
DATE DRAWN:	06/26/19
ATC JOB NO:	12951825

DETAILED SITE PLAN & TOWER ELEVATION

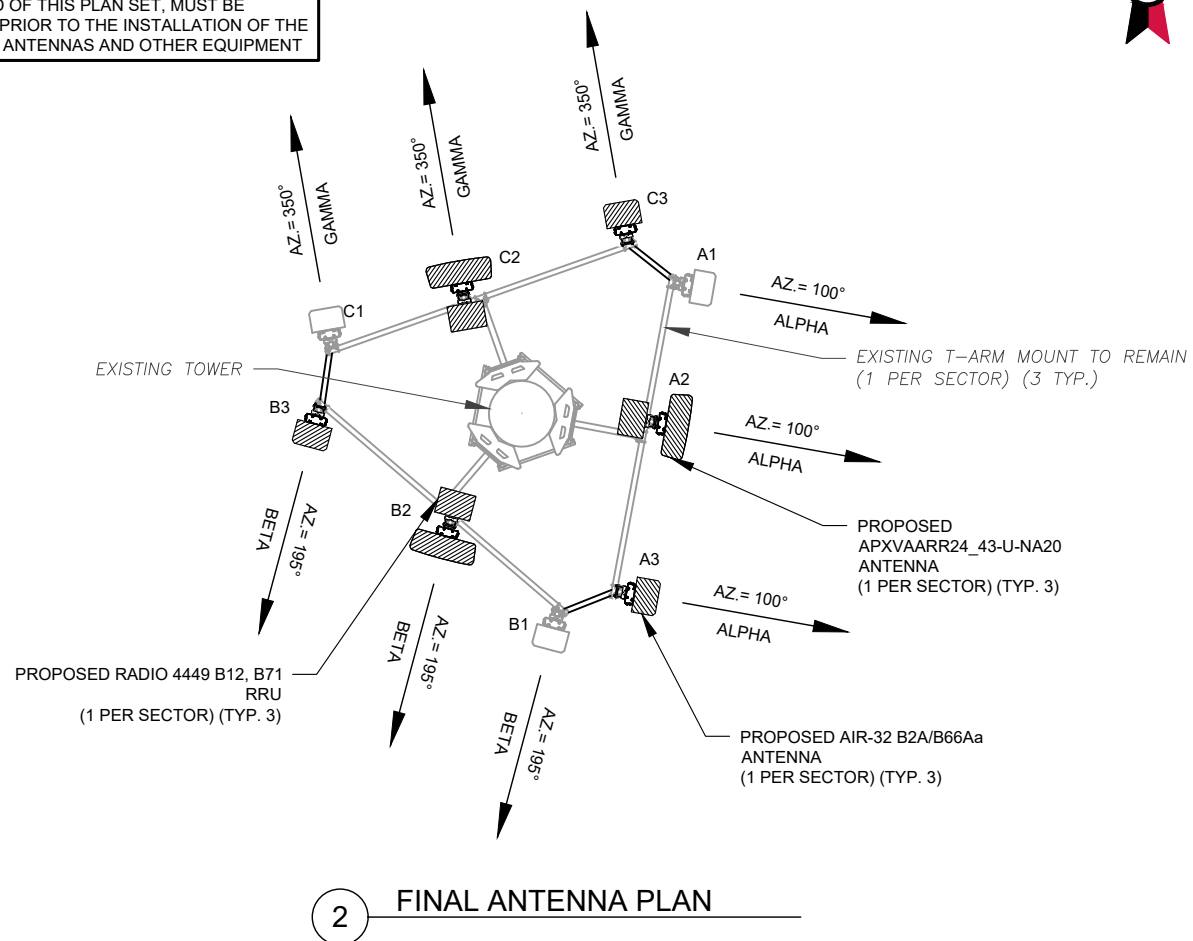
SHEET NUMBER:	REVISION:
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1 EXISTING ANTENNA PLAN

PER MOUNT ANALYSIS COMPLETED BY CLS ENGINEERING, DATED 07-05-19, THE EXISTING MOUNT CAN NOT ADEQUATELY SUPPORT THE PROPOSED LOADING. THE MOUNT MODIFICATION PROPOSED IN THE MOUNT ANALYSIS, INCLUDED AT THE END OF THIS PLAN SET, MUST BE INSTALLED PRIOR TO THE INSTALLATION OF THE PROPOSED ANTENNAS AND OTHER EQUIPMENT



2 FINAL ANTENNA PLAN

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A.T. ENGINEERING SERVICE, PLLC
 3500 REGENCY PARKWAY
 SUITE 100
 CARY, NC 27518
 PHONE: (919) 468-0112
 COA: PEC.0001553

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REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	LR	06/26/19
1	MA UPDATE	LR	07/25/19

ATC SITE NUMBER:
370625

ATC SITE NAME:
OLD SAYBROOK

SITE ADDRESS:
 77 SPRINGBROOK ROAD
 OLD SAYBROOK, CT 06475

EXISTING ANTENNA / EQUIPMENT SCHEDULE							
SECTOR	ANT.	MANUFACTURER (MODEL #)	RAD CENTER	AZIMUTH (TN)	MECH. D-TILT	ELEC. D-TILT	ADDITIONAL TOWER MOUNTED EQUIPMENT
ALPHA	A1	AIR 21, 1.3M, B4A B2P	162'-0"	100°	0°	2°	-
ALPHA	A2	LNX-6515DS-A1M	162'-0"	100°	0°	2°	-
ALPHA	A3	AIR 21, 1.3M, B4A B2P	162'-0"	100°	0°	2°	-
BETA	B1	AIR 21, 1.3M, B4A B2P	162'-0"	195°	0°	2°	-
BETA	B2	LNX-6515DS-A1M	162'-0"	195°	0°	2°	-
BETA	B3	AIR 21, 1.3M, B4A B2P	162'-0"	195°	0°	2°	-
GAMMA	C1	AIR 21, 1.3M, B4A B2P	162'-0"	350°	0°	2°	-
GAMMA	C2	LNX-6515DS-A1M	162'-0"	350°	0°	2°	-
GAMMA	C3	AIR 21, 1.3M, B4A B2P	162'-0"	350°	0°	2°	-

- NOTES
- BASED ON APPROVED ATC APPLICATION 12927162, DATED 04/03/2019. CONFIRM WITH T-MOBILE REP FOR APPLICABLE UPDATES/REVISIONS AND MOST RECENT RFDS FOR NSN CONFIGURATION (CONFIG). GC TO CAP ALL UNUSED PORTS.
 - ATC HAS NOT YET VERIFIED ANY EXISTING ANTENNA CONFIG OR MOUNT CONFIG. CONTRACTOR TO VERIFY MOUNT CONFIG HAS SUFFICIENT SPACE FOR PROPOSED LESSEE EQUIPMENT (EQUIP) (I.E. CLEARANCES, MOUNT PIPE, SUFFICIENT LENGTH, ETC.) ATC DID NOT ANALYZE ANTENNA MOUNT TO DETERMINE ADEQUATE STRUCTURAL CAPACITY FOR ANY LESSEE LOADING.
 - ALL PROPOSED EQUIP INCLUDING ANTENNAS, COAX, ETC. SHALL BE MOUNTED IN ACCORDANCE WITH THE TOWER STRUCTURAL ANALYSIS ON FILE WITH ATC'S CM.
 - CONFIRM SPACING OF PROPOSED EQUIP DOES NOT CAUSE TOWER CONFLICTS NOR IMPEDE TOWER CLIMBING PEGS.
 - POSITIONS START WITH FIRST PIPE ON THE LEFT SIDE (AS VIEWED FROM BEHIND THE MOUNT).

FINAL ANTENNA / EQUIPMENT SCHEDULE							
SECTOR	ANT.	MANUFACTURER (MODEL #)	RAD CENTER	AZIMUTH (TN)	MECH. D-TILT	ELEC. D-TILT	ADDITIONAL TOWER MOUNTED EQUIPMENT
ALPHA	A1	AIR 21, 1.3M, B4A B2P	162'-0"	100°	0°	2°	-
ALPHA	A2	APXVAARR24_43-U-NA20	162'-0"	100°	0°	2°	RADIO 4449 B12,B71
ALPHA	A3	AIR-32 B2A/B66AA	162'-0"	100°	0°	2°	-
BETA	B1	AIR 21, 1.3M, B4A B2P	162'-0"	195°	0°	2°	-
BETA	B2	APXVAARR24_43-U-NA20	162'-0"	195°	0°	2°	RADIO 4449 B12,B71
BETA	B3	AIR-32 B2A/B66AA	162'-0"	195°	0°	2°	-
GAMMA	C1	AIR 21, 1.3M, B4A B2P	162'-0"	350°	0°	2°	-
GAMMA	C2	APXVAARR24_43-U-NA20	162'-0"	350°	0°	2°	RADIO 4449 B12,B71
GAMMA	C3	AIR-32 B2A/B66AA	162'-0"	350°	0°	2°	-

CURRENT FIBER DISTRIBUTION/OVP BOX		CURRENT CABLING SUMMARY			STATUS ABBREVIATIONS		
MODEL NUMBER	STATUS	COAX	HYBRID	STATUS	RMV:	REL:	DSC:
-	-	(6) 1-5/8"	(1) 1-5/8"	RMN	TO BE REMOVED	TO BE RELOCATED	TO BE DISCONNECTED & REMAIN
-	-	(6) 1-5/8"	-	RMV	ADD: TO BE ADDED		

3 ANTENNA SCHEDULE

PROPOSED FIBER DISTRIBUTION/OVP BOX		PROPOSED CABLING SUMMARY		
MODEL NUMBER	STATUS	COAX	HYBRID	STATUS
-	-	(6) 1-5/8"	(1) 1-5/8"	RMN
-	-	-	(3) 1-5/8"	ADD

SEAL:

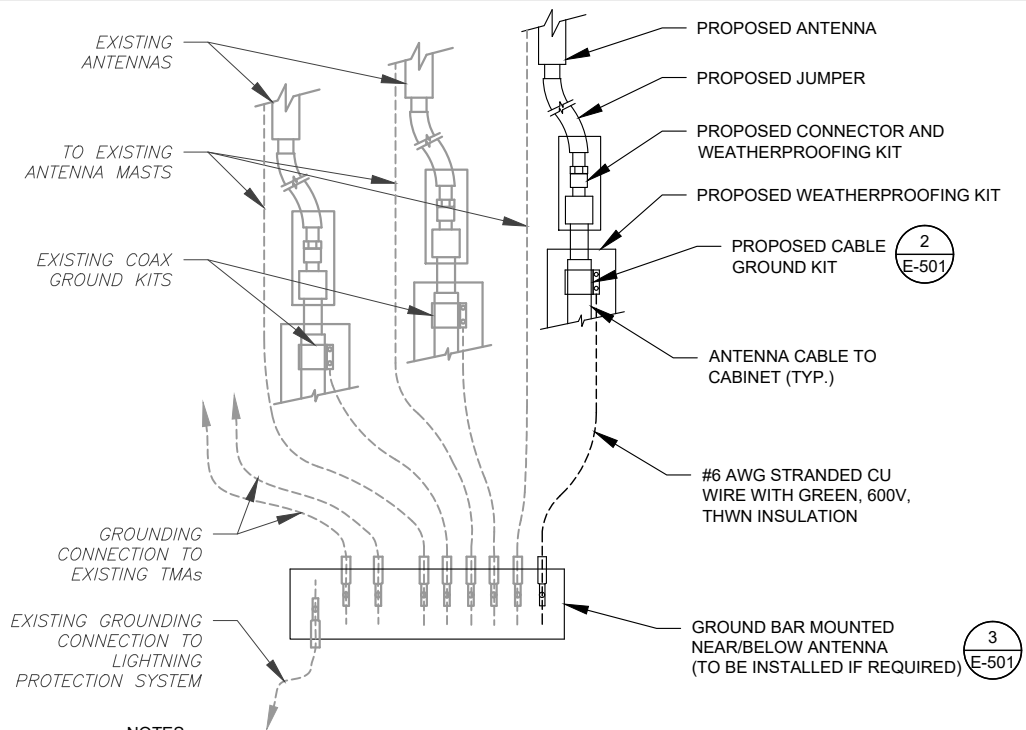
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 T-Mobile sign

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DATE DRAWN:	06/26/19
ATC JOB NO:	12951825

ANTENNA INFORMATION & SCHEDULE

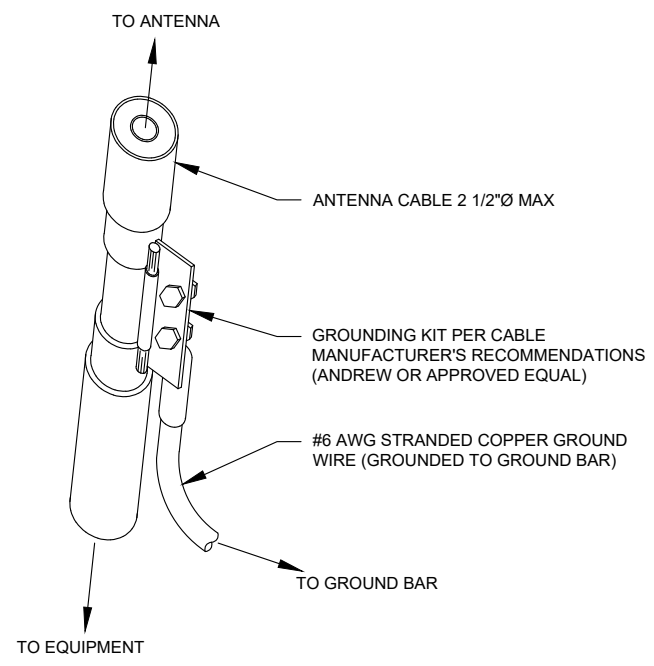
SHEET NUMBER:
C-501

REVISION:
1



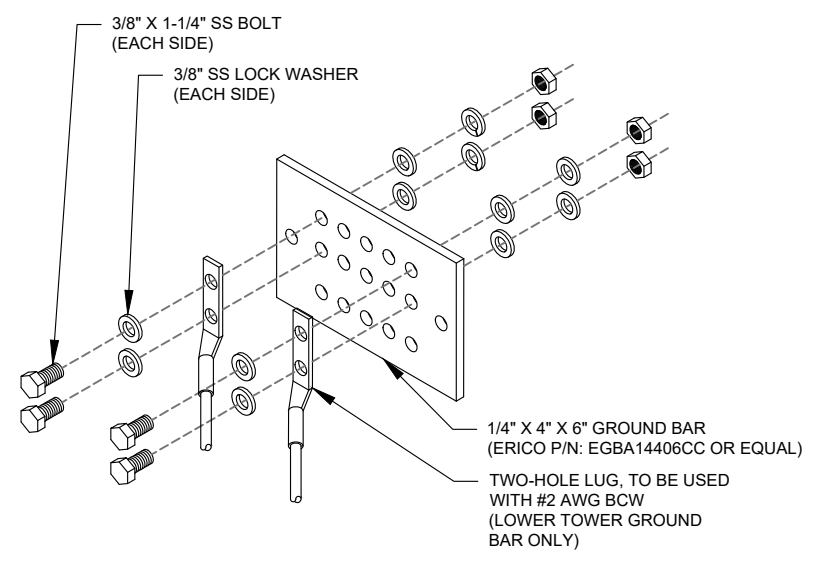
- NOTES:**
1. THIS DETAIL IS INTENDED TO SHOW THE GENERAL GROUNDING REQUIREMENTS. SLIGHT ADJUSTMENTS MAY BE REQUIRED BASED ON EXISTING SITE CONDITIONS. THE CONTRACTOR SHALL MAKE FIELD ADJUSTMENTS AS NEEDED AND INFORM THE CONSTRUCTION MANAGER OF ANY CONFLICTS.
 2. SITE GROUNDING SHALL COMPLY WITH T-MOBILE GROUNDING STANDARDS, LATEST EDITION, AND COMPLY WITH T-MOBILE GROUNDING CHECKLIST, LATEST VERSION. WHEN NATIONAL AND LOCAL GROUNDING CODES ARE MORE STRINGENT THEY SHALL GOVERN.

1 TYPICAL ANTENNA GROUNDING DIAGRAM
SCALE: NOT TO SCALE



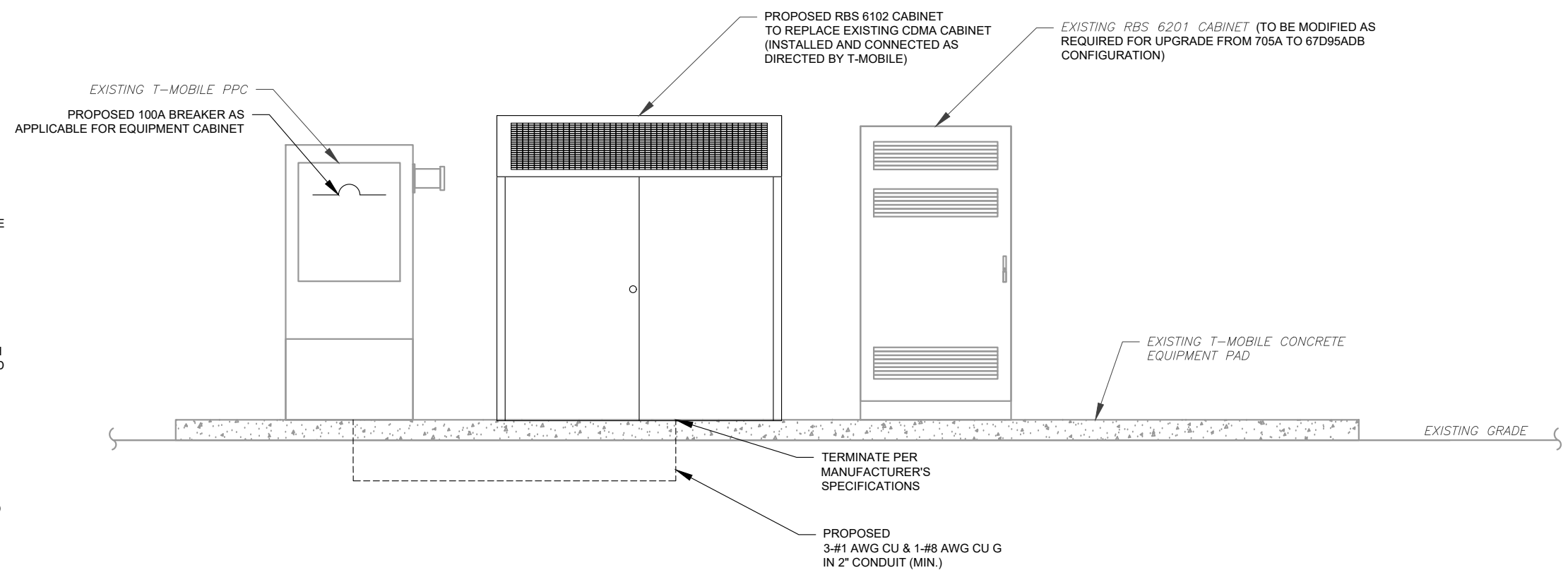
- GROUND KIT NOTES:**
1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
 2. CONTRACTOR SHALL PROVIDE WEATHERPROOFING KIT (ANDREW PART NUMBER 221213) AND INSTALL/TAPE PER MANUFACTURER'S SPECIFICATIONS.

2 CABLE GROUND KIT CONNECTION DETAIL
SCALE: NOT TO SCALE



- GROUND BAR NOTES:**
1. GROUND BAR KITS COME WITH ALL HARDWARE, NUTS, BOLTS, WASHERS, ETC. EXCEPT THE STRUCTURAL MOUNTING MEMBER(S).
 2. GROUND BAR TO BE BONDED DIRECTLY TO TOWER.

3 TOWER GROUND BAR DETAIL
SCALE: NOT TO SCALE



- ELECTRICAL NOTES:**
1. THIS DIAGRAM REPRESENTS THE BEST PRESENT KNOWLEDGE AVAILABLE TO THE ENGINEER AT THE TIME OF THIS DESIGN. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO CONSTRUCTION AND VERIFY ALL EXISTING CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT.
 2. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE WITH THE T-MOBILE REPRESENTATIVE AND LOCAL UTILITY COMPANY FOR THE INSTALLATION OF CONDUITS, CONDUCTORS, BREAKERS, DISCONNECTS, OR ANY OTHER EQUIPMENT REQUIRED FOR ELECTRICAL SERVICE. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH LATEST EDITION OF THE STATE AND NATIONAL CODES, ORDINANCES AND REGULATIONS APPLICABLE TO THIS PROJECT.
 3. ATC HAS NOT YET VERIFIED ANY EXISTING T-MOBILE GROUND EQUIPMENT OR ELECTRICAL LOADING. PROPOSED WORK BASED ON INSTALLATION CONFIGURATION PROVIDED BY T-MOBILE. CONTRACTOR TO VERIFY EXISTING T-MOBILE PANEL HAS SUFFICIENT SPACE FOR PROPOSED BREAKER.

4 ELECTRICAL UPGRADE DIAGRAM
SCALE: NOT TO SCALE

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REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	LR	06/26/19

ATC SITE NUMBER:
370625

ATC SITE NAME:
OLD SAYBROOK

SITE ADDRESS:
77 SPRINGBROOK ROAD
OLD SAYBROOK, CT 06475

SEAL:

Authorized by "EOR"
Jul 25 2019 12:59 PM
T-Mobile design

DRAWN BY:	EF
APPROVED BY:	PB
DATE DRAWN:	06/26/19
ATC JOB NO:	12951825

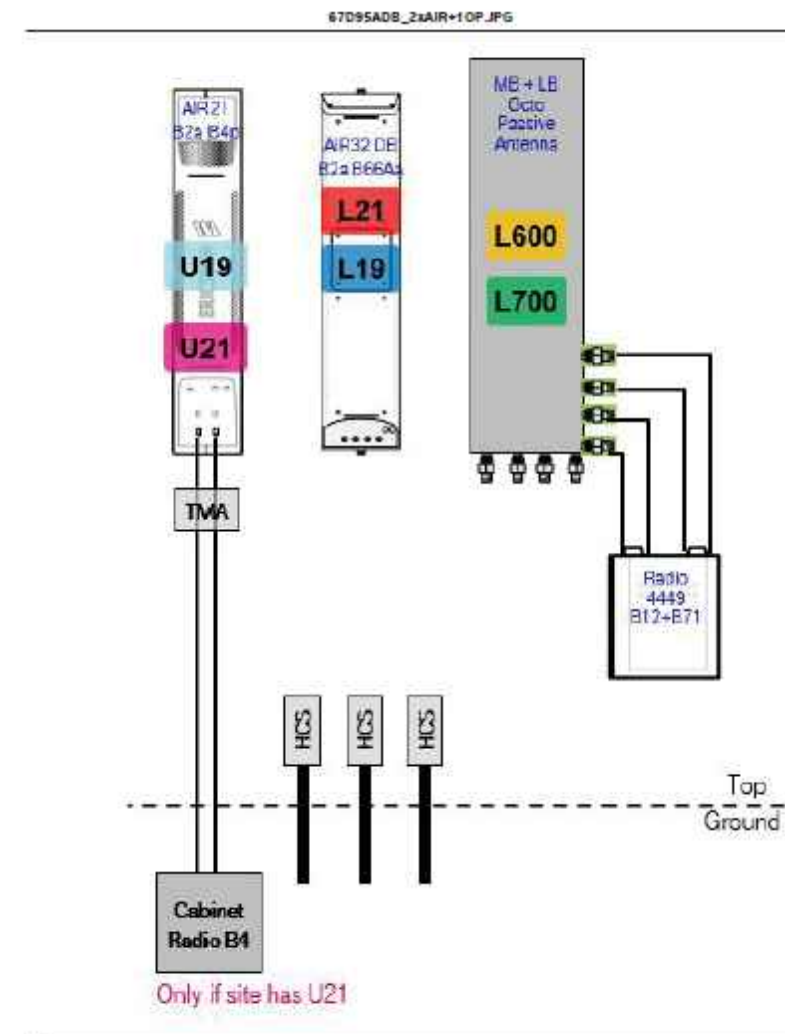
GROUNDING DETAILS	
SHEET NUMBER:	REVISION:
E-501	0

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Existing RAN Equipment	
Template: 705ALV2 U19 shutdown	
Enclosure	1
Enclosure Type	Legacy ODE
Baseband	DUW30 L2100 L1900 DUS41 L700
Hybrid Cable System	Ericsson 9x18 HCB "Select Length"

Proposed RAN Equipment	
Template: 67D95ADB	
Enclosure	1
Enclosure Type	RBS 6102
Baseband	DUW30 L2100 L1900 L700 L600 BB 6630 BB 6630 (DARK) BB 6630
Hybrid Cable System	Ericsson 9x18 HCB "Select Length" Ericsson 6x12 HCB "Select Length & AWG" (x3)
RAN Scope of Work: Replace existing RBS6201 ODE cabinet with (1) full RBS6102. Replace (2) DUS41 with (1) BB6630 for L2100, L1900, L700, and L600. Add (1) BB6630 for future 5G NR600. Remove B12 Radios from existing cabinet. Add (3) 6X12 HCS. Existing: (6) 1-5/8"; (1) 8X18.	

1 CABINET CONFIGURATION
SCALE: NOT TO SCALE



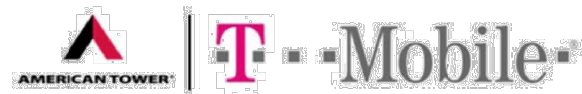
Notes:

2 ANTENNA CONFIGURATION
SCALE: NOT TO SCALE

NOTE: THIS SHEET CREATED BY OTHERS AND PROVIDED BY REQUEST OF CUSTOMER WITHOUT EDIT.

SUPPLEMENTAL

SHEET NUMBER: R-601
REVISION: 0



**Mount Analysis of Existing T-Arms for
 American Tower on behalf of T-Mobile
 370625 - Old Saybrook, CT
 Project #: 12927162
 T-Mobile Site ID: CTHA540A
 Program: L600**

CLS Engineering PLLC Project #41124-12927162-01-MA-R1
 July 5, 2019

MOUNT DESCRIPTION	Existing T-Arms at 162 ft AGL
ANTENNA ELEVATION	Nominal Rad. Elevation of 162 ft AGL
SITE DESCRIPTION	175 ft Monopole
SITE ADDRESS	77 Springbrook Road, Old Saybrook, CT 06475, Middlesex County
GPS COORDINATES	41.313800, -72.36400
ANALYSIS STANDARD	2015 IBC / 2018 Connecticut Building Code / TIA-222-G
LOADING CRITERIA	135 mph, V_{ult} / 104.6 mph, V_{asd} (3-Second Gust) w/o ice & 50 mph (3-Second Gust) w/ 0.75"

■ ANALYSIS RESULT: **Pass (Conditional)**

MEMBER USAGE	69%	Pass
COLLAR USAGE	98%	Pass

Modifications are proposed to bring mounts into compliance; see conclusion for details.

Prepared by:
Sean Rock, E.I.

Reviewed and Approved by:
Tyler M. Barker, P.E.



Tyler M. Barker
CLS Engineering, PLLC
Director of Engineering
PE # 32402 Exp. 11/31/2020
COA # PEC.081833 Exp. 8/14/2019



Digitally signed by
Tyler Barker
DN: c=US,
o=Telamon
Corporation,
ou=A01427E0000016
A4525ADF800001D1
7, cn=Tyler Barker
Date: 2019.07.08
09:07:51 -04'00'

Mount Analysis for American Tower on behalf of T-Mobile
370625 - Old Saybrook, CT

July 5, 2019
 CLS Engineering PLLC Project #41124-12927162-01-MA-R1

■ RESULTS SUMMARY

Existing Mount Usages:

COMPONENT	PEAK USAGE	RESULT
Collar Reactions	135%	Fail
Mount Pipes	105%	Acceptable
Connections	96%	Pass
Stand-Off Horizontals	97%	Pass
Face Horizontals	56%	Pass

*Usages upto 105% are considered acceptable.

Modified Mount Usages:

COMPONENT	PEAK USAGE	RESULT
Collar Reactions	98%	Pass
Connections	84%	Pass
Face Horizontals	69%	Pass
Stand-Off Horizontals	53%	Pass
Mount Pipes	48%	Pass
Stiff Arms	22%	Pass
Vertical Pipe	6%	Pass

■ CONCLUSION AND RECOMMENDATIONS

According to our structural analysis, the mounts have been found to **CONDITIONALLY PASS**. The mounting configuration considered in this analysis will be capable of supporting the referenced loading pursuant to referenced standards once the following scope is executed:

- Install (1) proposed Site Pro 1 PRK-1245 reinforcement kit on existing T-Arm mount as shown in the following sketches. Field-Cut proposed angles as required. Maintain minimum bolt edge distance as required.
- Replace (1) existing mount pipe at Position 2 with 8 ft. long, Pipe 2.5 STD, A53 Gr. B mount pipe at each sector (3 total). Connect to existing face horizontal pipe with Site Pro 1 SCX45-K crossover plate kit or equal (3 total).
- Install (2) 6 ft. long, Pipe 2 STD, A53 Gr. B, bracing pipes at each sector (6 total). Connect to outermost mount pipes of adjacent sector with Site Pro 1 SCX1-K crossover plate kit or equal (12 total).

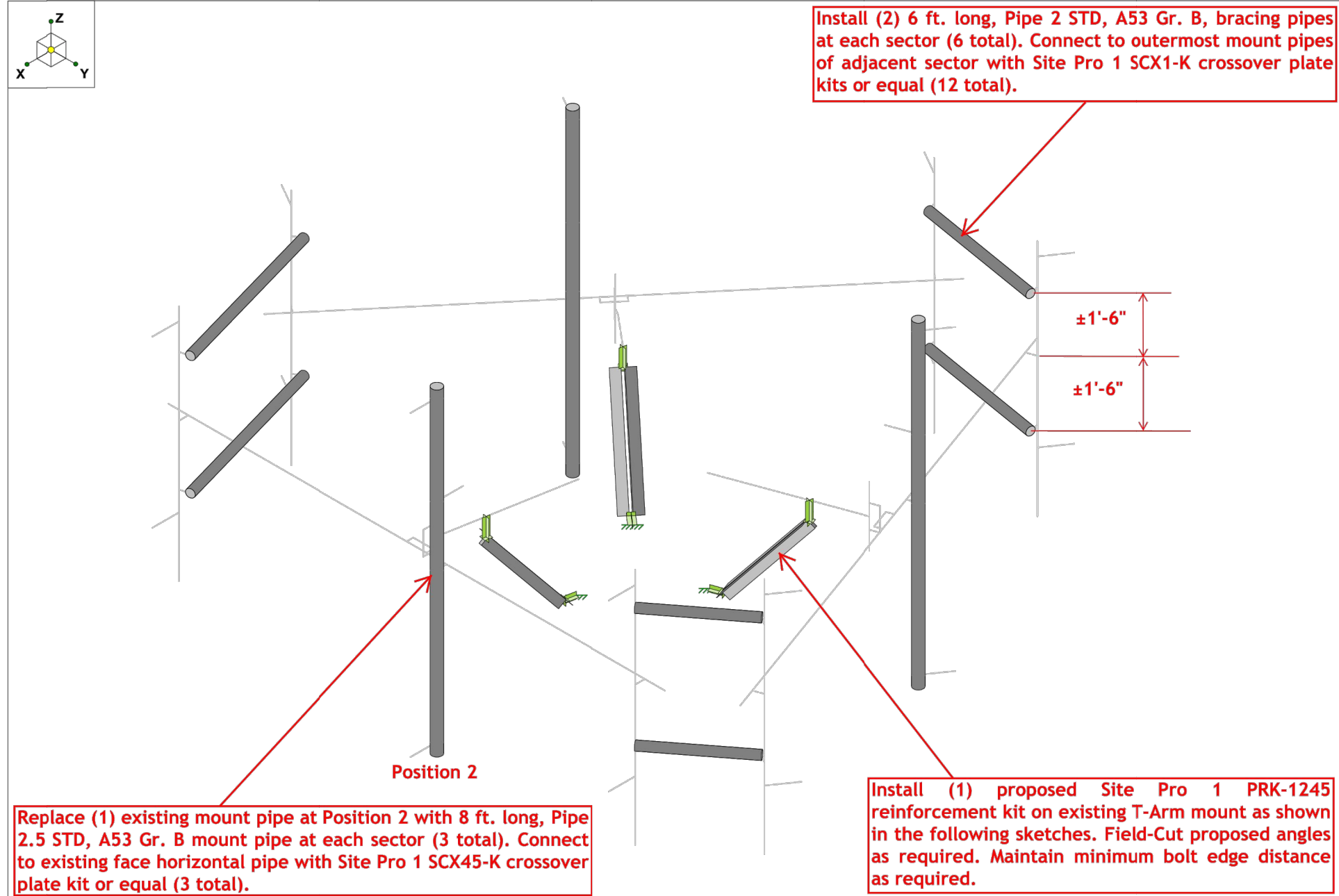
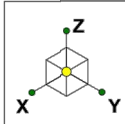
See following sketches and Site Pro 1 assembly drawings for additional details.

NOTE: THIS SHEET WAS CREATED BY OTHERS AND PROVIDED AT THE REQUEST OF THE CUSTOMER WITHOUT EDIT. PLEASE REFERENCE THE MOUNT ANALYSIS REPORT FOR COMPLETE MOUNT ANALYSIS CALCULATIONS AND DETAILS. SUPPLEMENTAL PAGES INCLUDED IN THE CONSTRUCTION DRAWINGS ARE FOR REFERENCE ONLY. GENERAL CONTRACTOR IS TO VERIFY THEY HAVE THE MOST RECENT MOUNT ANALYSIS PRIOR TO CONSTRUCTION.

SUPPLEMENTAL

SHEET NUMBER: R-602	REVISION: 0
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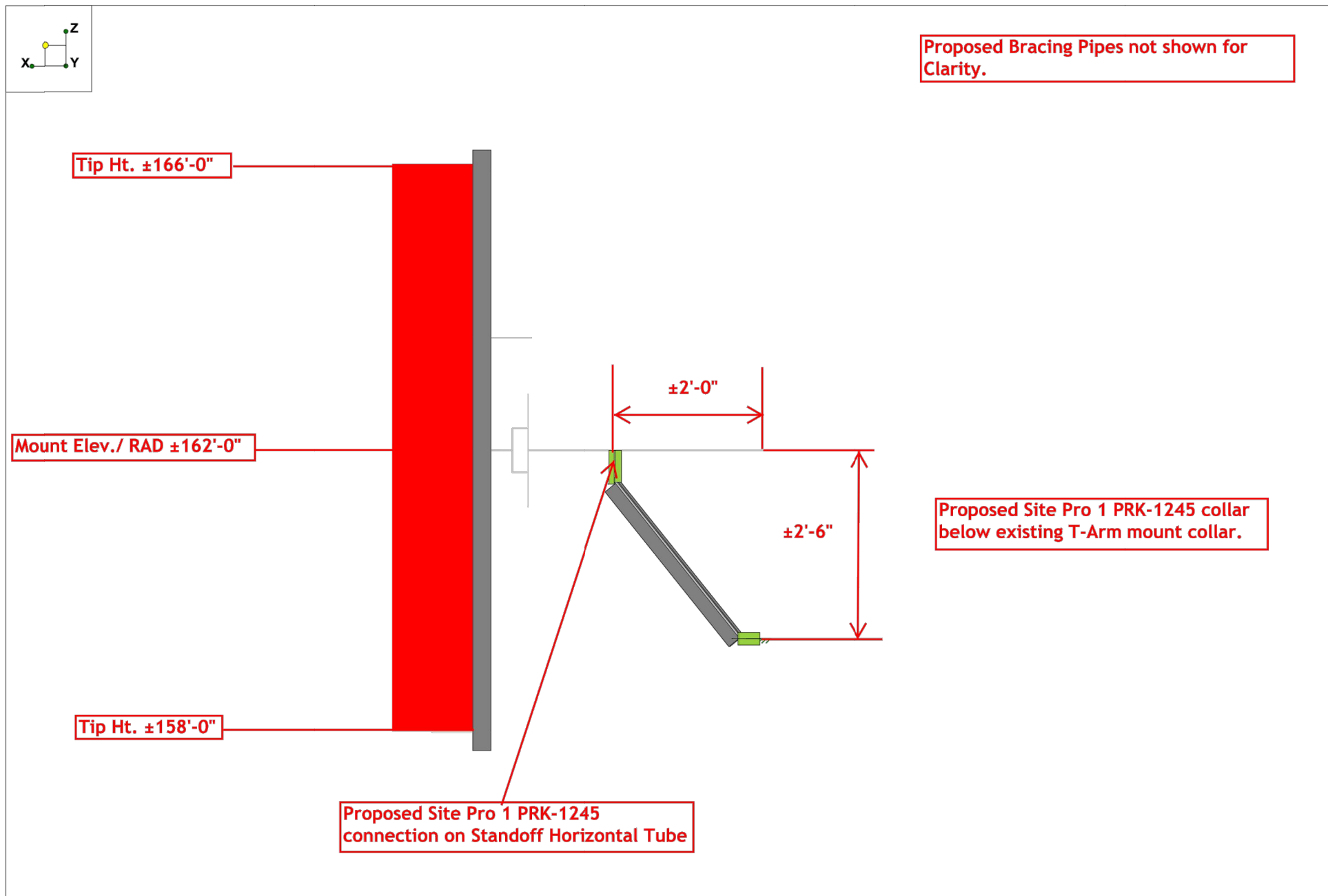


CLS		IN - 1
ST	41124-12927162-OLD SAYBROOK	Apr 10, 2019 at 11:12 AM
41124-12927162-01-MA	Installation Sketch - Isometric View	41124-12927162-01-MA.r3d

1 MOUNT ANALYSIS
SCALE: NOT TO SCALE

NOTE: THIS SHEET WAS CREATED BY OTHERS AND PROVIDED AT THE REQUEST OF THE CUSTOMER WITHOUT EDIT. PLEASE REFERENCE THE MOUNT ANALYSIS REPORT FOR COMPLETE MOUNT ANALYSIS CALCULATIONS AND DETAILS. SUPPLEMENTAL PAGES INCLUDED IN THE CONSTRUCTION DRAWINGS ARE FOR REFERENCE ONLY. GENERAL CONTRACTOR IS TO VERIFY THEY HAVE THE MOST RECENT MOUNT ANALYSIS PRIOR TO CONSTRUCTION.

SUPPLEMENTAL	
SHEET NUMBER: R-603	REVISION: 0



CLS		IN - 2
ST	41124-12927162-OLD SAYBROOK	Apr 9, 2019 at 2:16 PM
41124-12927162-01-MA	Installation Sketch - Side Elevation	41124-12927162-01-MA IMAGES.r3d

1 MOUNT ANALYSIS
SCALE: NOT TO SCALE

NOTE: THIS SHEET WAS CREATED BY OTHERS AND PROVIDED AT THE REQUEST OF THE CUSTOMER WITHOUT EDIT. PLEASE REFERENCE THE MOUNT ANALYSIS REPORT FOR COMPLETE MOUNT ANALYSIS CALCULATIONS AND DETAILS. SUPPLEMENTAL PAGES INCLUDED IN THE CONSTRUCTION DRAWINGS ARE FOR REFERENCE ONLY. GENERAL CONTRACTOR IS TO VERIFY THEY HAVE THE MOST RECENT MOUNT ANALYSIS PRIOR TO CONSTRUCTION.

SUPPLEMENTAL	
SHEET NUMBER: R-604	REVISION: 0



AMERICAN TOWER®
CORPORATION

Structural Analysis Report

Structure : 175 ft Monopole
ATC Site Name : Old Saybrook, CT
ATC Site Number : 370625
Engineering Number : 12927162_C3_04
Proposed Carrier : METRO PCS INC
Carrier Site Name : Crown Old Saybrook Monopole
Carrier Site Number : CTHA540A
Site Location : 77 Springbrook Road
Old Saybrook, CT 06475-0000
41.313800,-72.364000
County : Middlesex
Date : July 16, 2019
Max Usage : 70%
Result : Pass

Prepared By:
Nicole Davis
Engineer Intern

Reviewed By:



Authorized by "EOR"
Jul 19 2019 2:49 PM

COA: PEC.0001553



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Calculations Attached



Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 175 ft monopole to reflect the change in loading by METRO PCS INC.

Supporting Documents

Tower Drawings	DaVinci, Valmont Job #08242-1120, dated April 17, 2008
Foundation Drawing	DaVinci, Valmont Job #08242-1120, dated April 17, 2008
Geotechnical Report	JGI Project #J2085121, dated March 12, 2008
Mount Analysis	CLS Project #41124-12927162-01-MA-R1, dated July 5, 2019

Analysis

The tower was analyzed using American Tower Corporation's tower analysis software. This program considers an elastic three-dimensional model and second-order effects per ANSI/TIA-222.

Basic Wind Speed:	102 mph (3-second gust, V_{ASD})/132 mph (3-second gust, V_{ULT})
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) w/ 3/4" radial ice concurrent
Code:	ANSI/TIA-222-G / 2015 IBC / 2018 Connecticut State Building Code
Structure Class:	II
Exposure Category:	C
Topographic Category:	1
Crest Height:	0 ft
Spectral Response:	$S_s = 0.17, S_1 = 0.06$
Site Class:	D - Stiff Soil

Conclusion

Based on the analysis results, the structure meets the requirements per the applicable codes listed above. The tower and foundation can support the equipment as described in this report.

If you have any questions or require additional information, please contact American Tower via email at Engineering@americantower.com. Please include the American Tower site name, site number, and engineering number in the subject line for any questions.



Existing and Reserved Equipment

Elev. ¹ (ft)	Qty	Antenna	Mount Type	Lines	Carrier
173.0	6	Commscope JAHH-65B-R3B	Platform with Handrails	(2) 1 5/8" (1.63"-41.3mm) Fiber (16) 1 5/8" Coax	VERIZON WIRELESS
	3	Andrew SBNHH-1D65B			
	2	RFS DB-T1-6Z-8AB-OZ			
	3	Antel BXA-80063/4CF			
	3	Samsung B2/B66A RRH-BR049			
	3	RFS FDJ85020Q4-S1			
	3	Samsung B5/B13 RRH-BR04C			
162.0	3	-	-	(6) 1 5/8" Coax	METRO PCS INC
104.0	1	Generic 7' Omni	Side Arm	(1) 7/8" Coax	OTHER

Equipment to be Removed

Elev. ¹ (ft)	Qty	Antenna	Mount Type	Lines	Carrier
162.0	3	Ericsson AIR 21, 1.3M, B2A B4P (91.5 lbs)	T-Arms	(6) 1 5/8" Coax (1) 1 5/8" Hybriflex	METRO PCS INC
	3	Andrew LNX-6515DS-A1M			
	3	Ericsson AIR 21, 1.3M, B4A B2P (90.4 lbs)			

Proposed Equipment

Elev. ¹ (ft)	Qty	Antenna	Mount Type	Lines	Carrier
162.0	3	Ericsson Radio 4449 B12,B71	T-Arms with Site Pro 1 PRK-1245 Reinforcement, Site Pro SCX45-K Crossover Plate Kits, and Site Pro 1 SCZ1-K Crossover Place Kits	(4) 1 5/8" (1.63"-41.3mm) Fiber	METRO PCS INC
	3	Ericsson AIR 21, 1.3M, B4A B2P			
	3	Ericsson AIR-32 B2A/B66Aa			
	3	RFS APXVAARR24_43-U-NA20			

¹ Contracted elevations are shown for appurtenances within contracted installation tolerances. Appurtenances outside of contract limits are shown at installed elevations.

Install proposed lines inside the pole shaft.



Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Anchor Bolts	41%	Pass
Shaft	69%	Pass
Base Plate	40%	Pass

Foundations

Reaction Component	Original Design Reactions	Analysis Reactions	% of Design
Moment (Kips-Ft)	5,400.0	3,787.0	70%
Shear (Kips)	48.0	32.7	68%

The structure base reactions resulting from this analysis are acceptable when compared to those shown on the original structure drawings, therefore no modification or reinforcement of the foundation will be required.

Deflection and Sway*

Antenna Elevation (ft)	Antenna	Carrier	Deflection (ft)	Sway (Rotation) (°)
164.0	Ericsson Radio 4449 B12,B71	METRO PCS INC	1.435	1.124
	Ericsson AIR 21, 1.3M, B4A B2P			
	Ericsson AIR-32 B2A/B66Aa			
	RFS APXVAARR24_43-U-NA20			

*Deflection and Sway was evaluated considering a design wind speed of 60 mph (3-Second Gust) per ANSI/TIA-222-G



Standard Conditions

All engineering services performed by A.T. Engineering Service, PLLC are prepared on the basis that the information used is current and correct. This information may consist of, but is not limited to the following:

- Information supplied by the client regarding antenna, mounts and feed line loading
- Information from drawings, design and analysis documents, and field notes in the possession of A.T. Engineering Service, PLLC

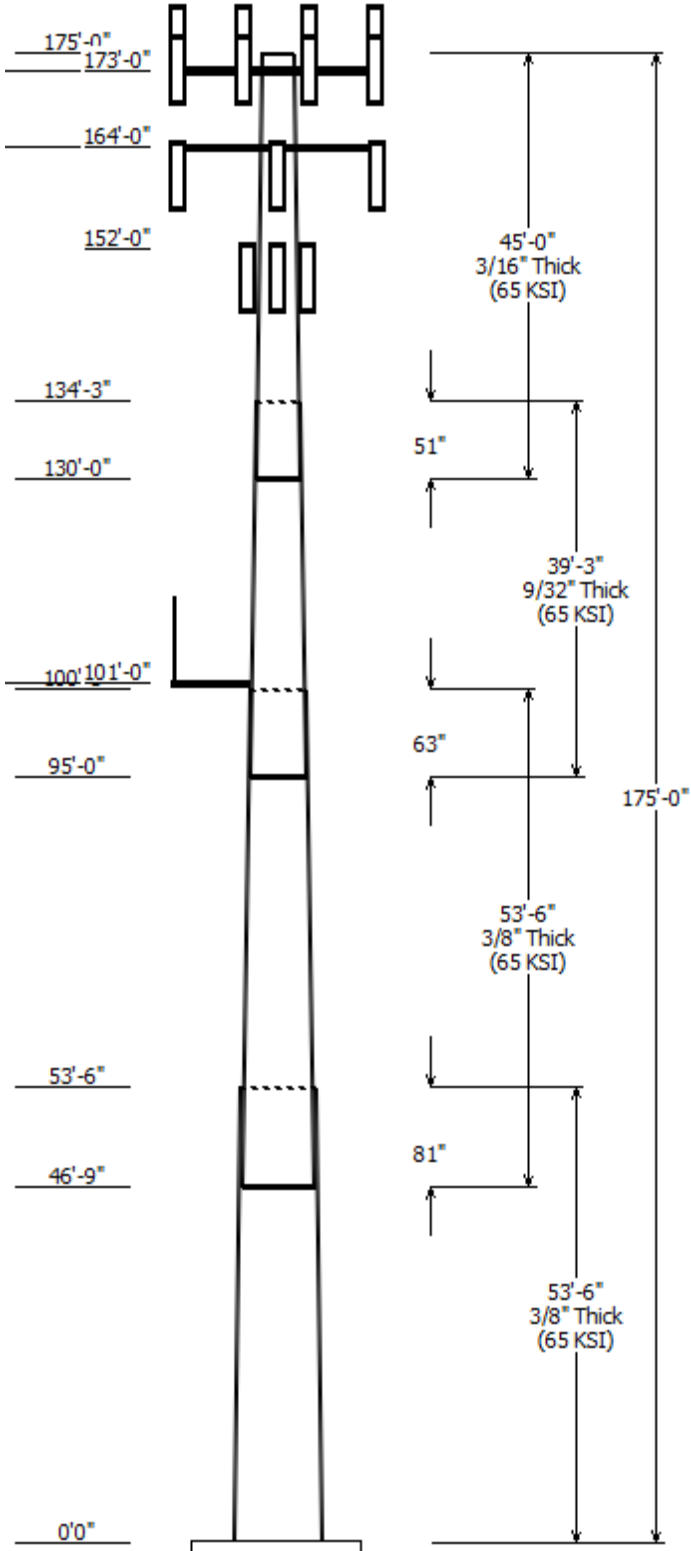
It is the responsibility of the client to ensure that the information provided to A.T. Engineering Service, PLLC and used in the performance of our engineering services is correct and complete.

All assets of American Tower Corporation, its affiliates and subsidiaries (collectively "American Tower") are inspected at regular intervals. Based upon these inspections and in the absence of information to the contrary, American Tower assumes that all structures were constructed in accordance with the drawings and specifications.

Unless explicitly agreed by both the client and A.T. Engineering Service, PLLC, all services will be performed in accordance with the current revision of ANSI/TIA-222.

All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. A.T. Engineering Service, PLLC is not responsible for the conclusions, opinions and recommendations made by others based on the information supplied herein.

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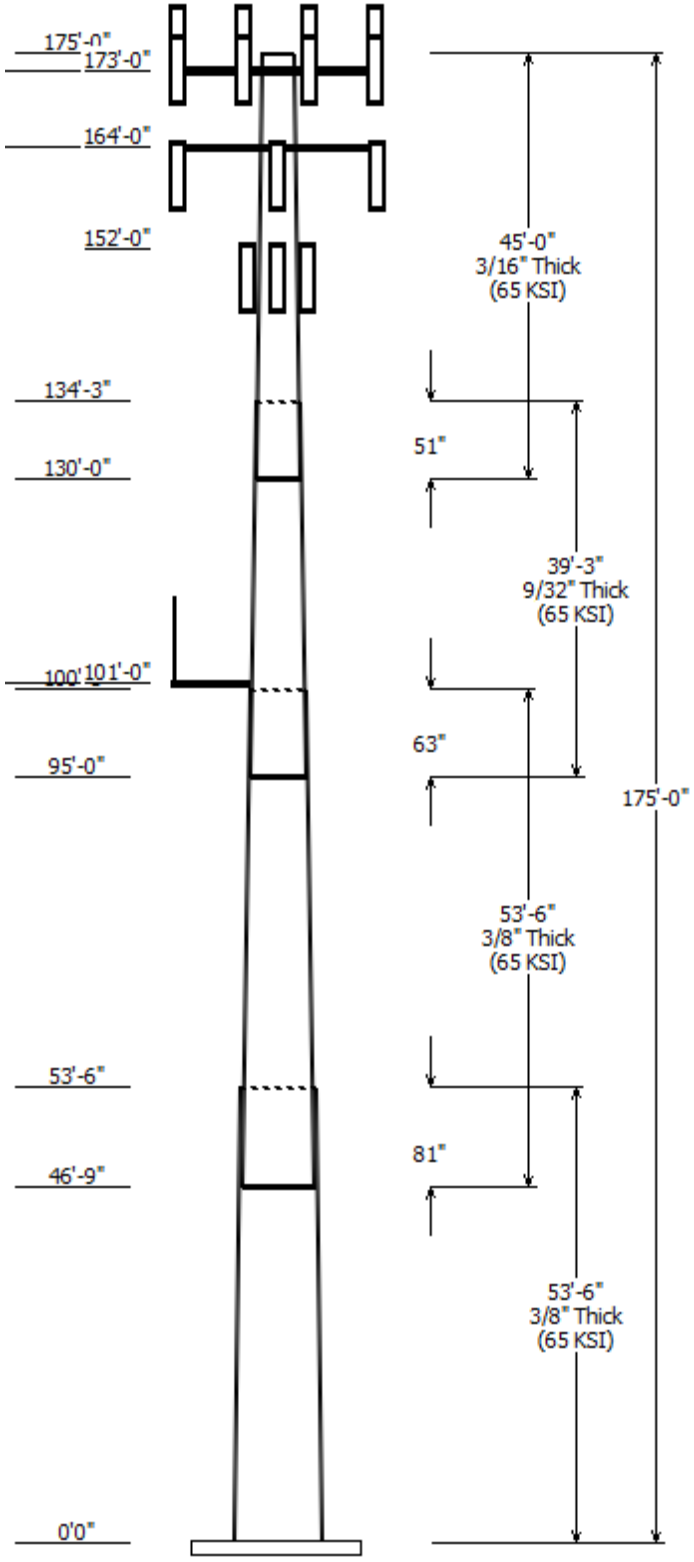
Job Information		
Client :	METRO PCS INC	Code: ANSI/TIA-222-G
Pole :	370625	
Location :	Old Saybrook, CT	
Description :	Shape : 18 Sides	Struct Class : II
	Height : 175.00 (ft)	Exposure : C
		Topo : 1
Base Elev (ft):	0.00	
Taper:	0.265014in/ft	

Sections Properties							
Shaft Section	Length (ft)	Diameter (in)		Thick (in)	Joint Type	Overlap Length (in)	Steel Grade
		Accross Top	Flats Bottom				
1	53.500	50.51	64.69	0.375		0.000	18 Sides 65
2	53.500	38.87	53.05	0.375	Slip Joint	81.000	18 Sides 65
3	39.250	30.42	40.82	0.281	Slip Joint	63.000	18 Sides 65
4	45.000	20.00	31.92	0.188	Slip Joint	51.000	18 Sides 65

Discrete Appurtenance			
Attach Elev (ft)	Force Elev (ft)	Qty	Description
173.000	173.000	1	Flat Platform w/ Handrails
173.000	173.000	6	Commscope JAHH-65B-R3B
173.000	175.000	3	Andrew SBNHH-1D65B
173.000	175.000	2	RFS DB-T1-6Z-8AB-0Z
173.000	173.000	3	Antel BXA-80063/4CF
173.000	173.000	3	Samsung B2/B66A RRH-BR049
173.000	173.000	3	Samsung B5/B13 RRH-BR04C
173.000	173.000	3	RFS FDJ85020Q4-S1
164.000	162.000	3	RFS APXVAARR24_43-U-NA20
164.000	162.000	3	Ericsson AIR-32 B2A/B66Aa
164.000	162.000	3	Ericsson AIR 21, 1.3M, B4A B2P
164.000	162.000	3	Ericsson Radio 4449 B12,B71
164.000	164.000	3	Round T-Arms
152.000	150.000	3	RFS APXV18-206517S-C
101.000	104.000	1	Generic 7' Omni
101.000	101.000	1	Round Side Arm

Linear Appurtenance			
Elev (ft) From	To	Description	Exposed To Wind
0.000	101.0	7/8" Coax	Yes
0.000	152.0	1 5/8" Coax	No
0.000	164.0	1 5/8" (1.63")	No
0.000	164.0	1 5/8" Coax	No
0.000	173.0	1 5/8" (1.63")	No
0.000	173.0	1 5/8" Coax	No

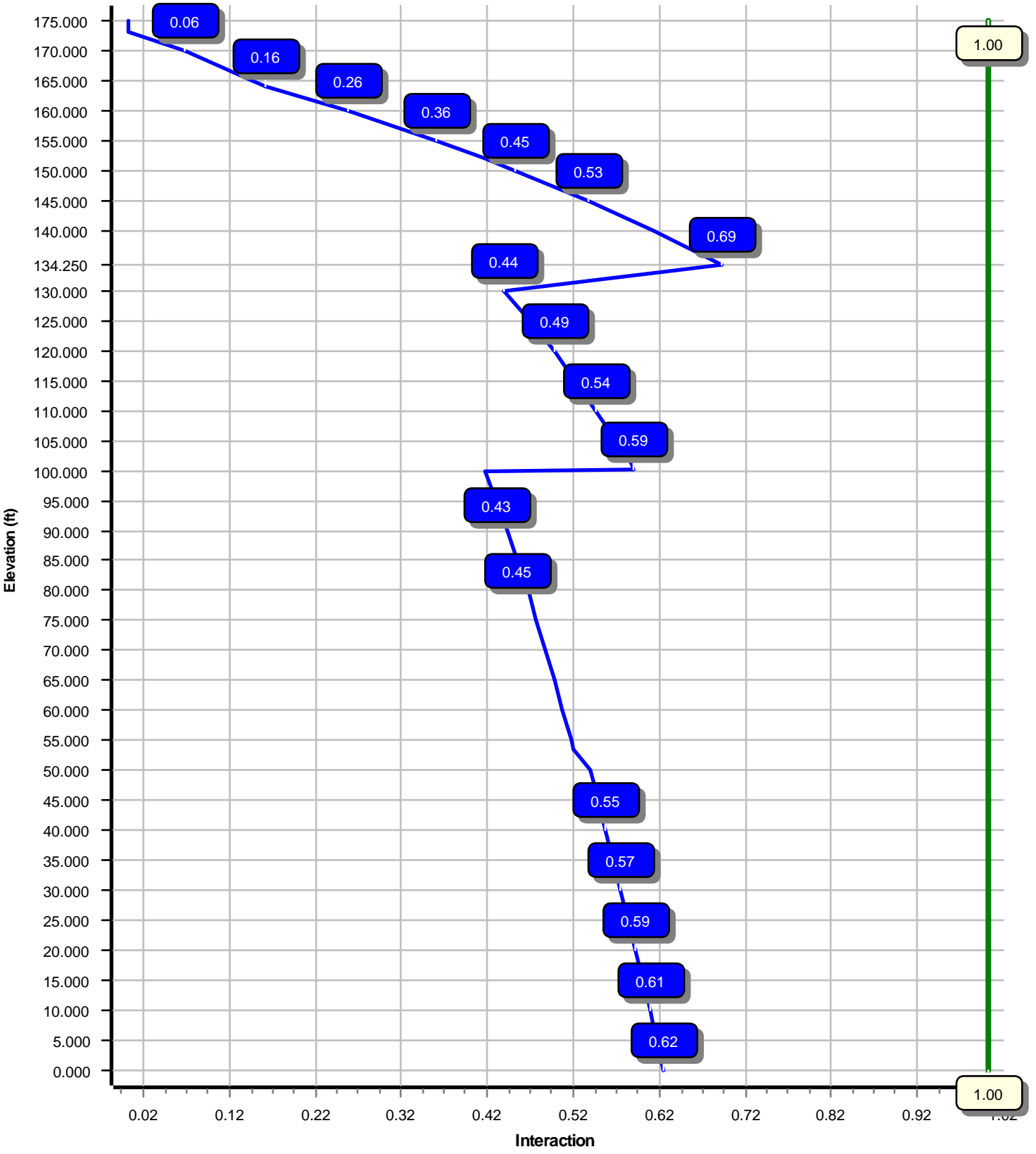
Load Cases	
1.2D + 1.6W	103 mph with No Ice
0.9D + 1.6W	103 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	50 mph with 0.75 in Radial Ice
(1.2 + 0.2Sds) * DL + E	Seismic Equivalent Lateral Forces Method
(1.2 + 0.2Sds) * DL + E	Seismic Equivalent Modal Analysis Method
(0.9 - 0.2Sds) * DL + E	Seismic (Reduced DL) Equivalent Lateral
(0.9 - 0.2Sds) * DL + E	Seismic (Reduced DL) Equivalent Modal
1.0D + 1.0W	Serviceability 60 mph



Reactions			
Load Case	Moment (kip-ft)	Shear (kip)	Axial (kip)
1.2D + 1.6W	3786.96	32.73	47.64
0.9D + 1.6W	3754.49	32.72	35.72
1.2D + 1.0Di + 1.0Wi	980.50	8.86	68.27
(1.2 + 0.2Sds) * DL + E ELFM	163.30	1.19	47.28
(1.2 + 0.2Sds) * DL + E EMAM	222.60	1.67	47.28
(0.9 - 0.2Sds) * DL + E ELFM	161.62	1.19	33.10
(0.9 - 0.2Sds) * DL + E EMAM	220.12	1.67	33.10
1.0D + 1.0W	715.15	6.21	39.73

Dish Deflections			
Load Case	Attach Elev (ft)	Deflection (in)	Rotation (deg)
	0.00	0.000	0.000

Load Case : 1.2D + 1.6W
Max Ratio 69.10% at 134.3 ft



Site Number: 370625

Code: ANSI/TIA-222-G

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Site Name: Old Saybrook, CT

Engineering Number: 12927162_C3_04

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Customer: METRO PCS INC

Analysis Parameters

Location :	Middlesex County, CT	Height (ft) :	175
Code :	ANSI/TIA-222-G	Base Diameter (in) :	64.69
Shape :	18 Sides	Top Diameter (in) :	20.00
Pole Type :	Taper	Taper (in/ft) :	0.265
Pole Manufacturer :	Valmont	Rotation (deg) :	0.00

Ice & Wind Parameters

Structure Class:	II	Design Wind Speed Without Ice:	103 mph
Exposure Category:	C	Design Wind Speed With Ice:	50 mph
Topographic Category:	1	Operational Wind Speed:	60 mph
Crest Height:	0 ft	Design Ice Thickness:	0.75 in

Seismic Parameters

Analysis Method: Equivalent Modal Analysis & Equivalent Lateral Force Methods

Site Class: D - Stiff Soil

Period Based on Rayleigh Method (sec): 2.19

T_L (sec):	6	p :	1	C_s :	0.030
S_s :	0.165	S_1 :	0.059	C_s Max:	0.030
F_a :	1.600	F_v :	2.400	C_s Min:	0.030
S_{ds} :	0.176	S_{d1} :	0.094		

Load Cases

1.2D + 1.6W	103 mph with No Ice
0.9D + 1.6W	103 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	50 mph with 0.75 in Radial Ice
(1.2 + 0.2Sds) * DL + E ELFM	Seismic Equivalent Lateral Forces Method
(1.2 + 0.2Sds) * DL + E EMAM	Seismic Equivalent Modal Analysis Method
(0.9 - 0.2Sds) * DL + E ELFM	Seismic (Reduced DL) Equivalent Lateral Forces Method
(0.9 - 0.2Sds) * DL + E EMAM	Seismic (Reduced DL) Equivalent Modal Analysis Method
1.0D + 1.0W	Serviceability 60 mph

Site Number: 370625

Code: ANSI/TIA-222-G

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Site Name: Old Saybrook, CT

Engineering Number: 12927162_C3_04

7/16/2019 1:24:32 PM

Customer: METRO PCS INC

Shaft Section Properties

Sect Info	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Joint Len (in)	Weight (lb)	Bottom						Top						
							Dia (in)	Elev (ft)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	Dia (in)	Elev (ft)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	Taper (in/ft)
1-18	53.500	0.3750	65		0.00	12,399	64.69	0.00	76.55	40004.8	28.65	172.51	50.51	53.50	59.67	18951.5	21.99	134.70	0.265014
2-18	53.500	0.3750	65	Slip	81.00	9,877	53.05	46.75	62.69	21978.8	23.18	141.47	38.87	100.25	45.82	8579.6	16.51	103.66	0.265014
3-18	39.250	0.2813	65	Slip	63.00	4,214	40.82	95.00	36.19	7517.0	23.83	145.16	30.42	134.25	26.91	3088.9	17.31	108.18	0.265014
4-18	45.000	0.1875	65	Slip	51.00	2,349	31.92	130.00	18.89	2403.8	28.26	170.27	20.00	175.00	11.79	584.7	17.04	106.67	0.265014
Shaft Weight						28,839													

Discrete Appurtenance Properties

Attach Elev (ft)	Description	Qty	Ka	Vert Ecc (ft)	Weight (lb)	No Ice EPAa (sf)	Orientation Factor	Weight (lb)	Ice EPAa (sf)	Orientation Factor
173.00	RFS FDJ85020Q4-S1	3	0.75	0.000	23.60	0.960	0.50	57.44	1.690	0.50
173.00	Samsung B5/B13 RRH-BR04C	3	0.75	0.000	70.30	1.880	0.50	128.39	2.799	0.50
173.00	Samsung B2/B66A RRH-BR049	3	0.75	0.000	84.40	1.880	0.50	149.19	2.799	0.50
173.00	Antel BXA-80063/4CF	3	0.75	0.000	9.90	4.710	0.65	111.76	6.579	0.65
173.00	RFS DB-T1-6Z-8AB-0Z	2	0.75	2.000	44.00	4.800	0.72	171.82	6.243	0.72
173.00	Andrew SBNHH-1D65B	3	0.75	2.000	50.70	8.170	0.69	228.90	11.043	0.69
173.00	Commscope JAHH-65B-R3B	6	0.75	0.000	60.60	9.110	0.69	266.05	11.927	0.69
173.00	Flat Platform w/ Handrails	1	1.00	0.000	2,000.00	42.400	1.00	3,443.30	63.699	1.00
164.00	Ericsson Radio 4449 B12,B71	3	0.80	-2.000	74.00	1.640	0.50	130.53	2.493	0.50
164.00	Ericsson AIR 21, 1.3M, B4A B2P	3	0.80	-2.000	81.50	6.090	0.70	228.33	8.275	0.70
164.00	Ericsson AIR-32 B2A/B66Aa	3	0.80	-2.000	132.20	6.510	0.71	293.37	8.722	0.71
164.00	Round T-Arms	3	0.75	0.000	250.00	9.700	0.67	461.04	18.025	0.67
164.00	RFS APXVAARR24_43-U-NA20	3	0.80	-2.000	127.90	20.240	0.63	524.33	23.985	0.63
152.00	RFS APXV18-206517S-C	3	1.00	-2.000	26.40	5.160	0.68	119.31	7.532	0.68
101.00	Generic 7' Omni	1	1.00	3.000	25.00	2.100	1.00	76.57	3.900	1.00
101.00	Round Side Arm	1	1.00	0.000	150.00	5.200	1.00	220.43	7.816	1.00
Totals	Num Loadings:16	44			5,419.30			12,978.07		

Linear Appurtenance Properties

Load Case Azimuth (deg) : 0

Elev From (ft)	Elev To (ft)	Qty	Description	Coax Dia (in)	Coax Wt (lb/ft)	Max Coax / Flat Row	Dist Between Rows (in)	Dist Between Cols (in)	Azimuth (deg)	Dist From Face (in)	Dist To Wind Carrier	Exposed	
0.00	173.00	2	1 5/8" (1.63"-41.3mm)	1.63	1.61	N	0	0.00	0.00	0	0.00	N	VERIZON WIRELESS
0.00	173.00	16	1 5/8" Coax	1.98	0.82	N	0	0.00	0.00	0	0.00	N	VERIZON WIRELESS
0.00	164.00	4	1 5/8" (1.63"-41.3mm)	1.63	1.61	N	0	0.00	0.00	0	0.00	N	METRO PCS INC
0.00	164.00	6	1 5/8" Coax	1.98	0.82	N	0	0.00	0.00	0	0.00	N	METRO PCS INC
0.00	152.00	6	1 5/8" Coax	1.98	0.82	N	0	0.00	0.00	0	0.00	N	METRO PCS INC
0.00	101.00	1	7/8" Coax	1.09	0.33	N	1	1.00	1.00	90	1.00	Y	OTHER

Segment Properties (Max Len : 5. ft)

Seg Top Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	F'y (ksi)	S (in ³)	Z (in ³)	Weight (lb)
0.00		0.3750	64.690	76.548	40,004.8	28.65	172.51	67.7	1218.	0.0	0.0
5.00		0.3750	63.365	74.971	37,582.8	28.03	168.97	68.4	1168.	0.0	1,289.0
10.00		0.3750	62.040	73.394	35,260.5	27.41	165.44	69.2	1119.	0.0	1,262.1
15.00		0.3750	60.715	71.817	33,036.0	26.79	161.91	69.9	1071.	0.0	1,235.3
20.00		0.3750	59.390	70.240	30,907.0	26.16	158.37	70.6	1025.	0.0	1,208.5
25.00		0.3750	58.065	68.663	28,871.5	25.54	154.84	71.4	979.4	0.0	1,181.6
30.00		0.3750	56.740	67.086	26,927.4	24.92	151.31	72.1	934.7	0.0	1,154.8
35.00		0.3750	55.415	65.508	25,072.6	24.29	147.77	72.8	891.2	0.0	1,128.0
40.00		0.3750	54.089	63.931	23,305.0	23.67	144.24	73.6	848.6	0.0	1,101.1
45.00		0.3750	52.764	62.354	21,622.4	23.05	140.70	74.3	807.1	0.0	1,074.3
46.75	Bot - Section 2	0.3750	52.301	61.802	21,053.3	22.83	139.47	74.6	792.9	0.0	369.7
50.00		0.3750	51.439	60.777	20,022.9	22.42	137.17	75.0	766.7	0.0	1,365.5
53.50	Top - Section 1	0.3750	51.262	60.566	19,814.8	22.34	136.70	75.1	761.3	0.0	1,445.2
55.00		0.3750	50.864	60.093	19,354.0	22.15	135.64	75.3	749.4	0.0	307.9
60.00		0.3750	49.539	58.516	17,869.9	21.53	132.10	76.1	710.5	0.0	1,009.0
65.00		0.3750	48.214	56.938	16,463.6	20.91	128.57	76.8	672.6	0.0	982.2
70.00		0.3750	46.889	55.361	15,133.1	20.28	125.04	77.5	635.7	0.0	955.3
75.00		0.3750	45.564	53.784	13,876.2	19.66	121.50	78.3	599.8	0.0	928.5
80.00		0.3750	44.239	52.207	12,691.0	19.04	117.97	79.0	565.0	0.0	901.7
85.00		0.3750	42.914	50.630	11,575.3	18.42	114.44	79.7	531.3	0.0	874.8
90.00		0.3750	41.589	49.053	10,526.9	17.79	110.90	80.5	498.5	0.0	848.0
95.00	Bot - Section 3	0.3750	40.264	47.476	9,543.8	17.17	107.37	81.2	466.9	0.0	821.2
100.00		0.3750	38.939	45.899	8,624.0	16.55	103.84	81.9	436.2	0.0	1,400.0
100.2	Top - Section 2	0.2813	39.435	34.951	6,769.4	22.96	140.21	74.4	338.1	0.0	68.8
101.0		0.2813	39.236	34.773	6,666.8	22.84	139.51	74.5	334.7	0.0	89.0
105.0		0.2813	38.176	33.827	6,137.3	22.17	135.74	75.3	316.6	0.0	466.9
110.0		0.2813	36.851	32.644	5,515.7	21.34	131.03	76.3	294.8	0.0	565.5
115.0		0.2813	35.526	31.461	4,937.6	20.51	126.31	77.3	273.7	0.0	545.3
120.0		0.2813	34.201	30.278	4,401.4	19.68	121.60	78.3	253.5	0.0	525.2
125.0		0.2813	32.876	29.096	3,905.4	18.85	116.89	79.2	234.0	0.0	505.1
130.0	Bot - Section 4	0.2813	31.551	27.913	3,448.2	18.02	112.18	80.2	215.3	0.0	485.0
134.2	Top - Section 3	0.1875	30.799	18.217	2,156.8	27.20	164.26	69.4	137.9	0.0	664.7
135.0		0.1875	30.601	18.099	2,115.1	27.01	163.20	69.6	136.1	0.0	46.3
140.0		0.1875	29.276	17.310	1,850.5	25.77	156.14	71.1	124.5	0.0	301.2
145.0		0.1875	27.950	16.522	1,608.9	24.52	149.07	72.6	113.4	0.0	287.8
150.0		0.1875	26.625	15.733	1,389.4	23.28	142.00	74.0	102.8	0.0	274.4
152.0		0.1875	26.095	15.418	1,307.5	22.78	139.18	74.6	98.7	0.0	106.0
155.0		0.1875	25.300	14.945	1,190.8	22.03	134.93	75.5	92.7	0.0	155.0
160.0		0.1875	23.975	14.156	1,012.1	20.78	127.87	77.0	83.1	0.0	247.6
164.0		0.1875	22.915	13.525	882.7	19.79	122.21	78.1	75.9	0.0	188.4
165.0		0.1875	22.650	13.368	852.2	19.54	120.80	78.4	74.1	0.0	45.8
170.0		0.1875	21.325	12.579	710.1	18.29	113.73	79.9	65.6	0.0	220.7
173.0		0.1875	20.530	12.106	632.9	17.54	109.49	80.8	60.7	0.0	126.0
175.0		0.1875	20.000	11.790	584.7	17.04	106.67	81.4	57.6	0.0	81.3
											28,839.5

Load Case: 1.2D + 1.6W	103 mph with No Ice	25 Iterations
Gust Response Factor :1.10		Wind Importance Factor :1.00
Dead Load Factor :1.20		
Wind Load Factor :1.60		

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces		Discrete Forces			Linear Forces		Sum of Forces				
		Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		339.8	0.0					0.0	0.0	339.8	0.0	0.0	0.0
5.00		672.6	1,546.8					0.0	197.7	672.6	1,744.5	0.0	0.0
10.00		658.6	1,514.6					0.0	197.7	658.6	1,712.3	0.0	0.0
15.00		654.6	1,482.4					0.0	197.7	654.6	1,680.1	0.0	0.0
20.00		667.8	1,450.2					0.0	197.7	667.8	1,647.9	0.0	0.0
25.00		684.7	1,418.0					0.0	197.7	684.7	1,615.7	0.0	0.0
30.00		695.5	1,385.8					0.0	197.7	695.5	1,583.5	0.0	0.0
35.00		701.7	1,353.6					0.0	197.7	701.7	1,551.3	0.0	0.0
40.00		704.6	1,321.4					0.0	197.7	704.6	1,519.1	0.0	0.0
45.00		475.9	1,289.2					0.0	197.7	475.9	1,486.9	0.0	0.0
46.75	Bot - Section 2	355.3	443.6					0.0	69.2	355.3	512.8	0.0	0.0
50.00		481.1	1,638.6					0.0	128.5	481.1	1,767.1	0.0	0.0
53.50	Top - Section 1	355.5	1,734.2					0.0	138.4	355.5	1,872.6	0.0	0.0
55.00		459.5	369.5					0.0	59.3	459.5	428.8	0.0	0.0
60.00		703.0	1,210.8					0.0	197.7	703.0	1,408.5	0.0	0.0
65.00		695.8	1,178.6					0.0	197.7	695.8	1,376.3	0.0	0.0
70.00		687.3	1,146.4					0.0	197.7	687.3	1,344.1	0.0	0.0
75.00		677.7	1,114.2					0.0	197.7	677.7	1,311.9	0.0	0.0
80.00		667.0	1,082.0					0.0	197.7	667.0	1,279.7	0.0	0.0
85.00		655.3	1,049.8					0.0	197.7	655.3	1,247.5	0.0	0.0
90.00		642.8	1,017.6					0.0	197.7	642.8	1,215.3	0.0	0.0
95.00	Bot - Section 3	633.9	985.4					0.0	197.7	633.9	1,183.1	0.0	0.0
100.00		331.3	1,680.1					0.0	197.7	331.3	1,877.8	0.0	0.0
100.25	Top - Section 2	62.3	82.5					0.0	9.9	62.3	92.4	0.0	0.0
101.00	Appurtenance(s)	292.9	106.8	421.2	0.0	365.1	210.0	0.0	29.7	714.1	346.4	0.0	0.0
105.00		547.2	560.2					0.0	156.6	547.2	716.8	0.0	0.0
110.00		594.2	678.6					0.0	195.7	594.2	874.3	0.0	0.0
115.00		578.2	654.4					0.0	195.7	578.2	850.1	0.0	0.0
120.00		561.6	630.3					0.0	195.7	561.6	826.0	0.0	0.0
125.00		544.5	606.1					0.0	195.7	544.5	801.8	0.0	0.0
130.00	Bot - Section 4	491.3	582.0					0.0	195.7	491.3	777.7	0.0	0.0
134.25	Top - Section 3	262.1	797.6					0.0	166.4	262.1	964.0	0.0	0.0
135.00		291.7	55.6					0.0	29.4	291.7	85.0	0.0	0.0
140.00		496.6	361.5					0.0	195.7	496.6	557.2	0.0	0.0
145.00		477.7	345.4					0.0	195.7	477.7	541.1	0.0	0.0
150.00		324.9	329.3					0.0	195.7	324.9	525.0	0.0	0.0
152.00	Appurtenance(s)	224.2	127.2	658.9	0.0	-1,317.8	95.0	0.0	78.3	883.1	300.5	0.0	0.0
155.00		347.6	186.0					0.0	99.7	347.6	285.7	0.0	0.0
160.00		378.3	297.1					0.0	166.2	378.3	463.3	0.0	0.0
164.00	Appurtenance(s)	204.1	226.1	4,361.2	0.0	-6,857.1	2,396.2	0.0	133.0	4,565.3	2,755.2	0.0	0.0
165.00		233.7	54.9					0.0	19.6	233.7	74.5	0.0	0.0
170.00		304.9	264.9					0.0	98.0	304.9	362.9	0.0	0.0
173.00	Appurtenance(s)	183.1	151.2	6,501.5	0.0	2,310.6	3,802.0	0.0	58.8	6,684.6	4,012.0	0.0	0.0
175.00		72.0	97.6					0.0	0.0	72.0	97.6	0.0	0.0
Totals:										33,017.3	47,675.7	0.00	0.00

Load Case: 1.2D + 1.6W 103 mph with No Ice 25 Iterations
Gust Response Factor :1.10
Dead Load Factor :1.20
Wind Load Factor :1.60
Wind Importance Factor :1.00

Calculated Forces

Table with 14 columns: Seg Elev (ft), Pu FY (-) (kips), Vu FX (-) (kips), Tu MY (ft-kips), Mu MZ (ft-kips), Mu MX (ft-kips), Resultant Moment (ft-kips), phi Pn (kips), phi Vn (kips), phi Tn (ft-kips), phi Mn (ft-kips), Total Deflect (in), Rotation (deg), Ratio

Site Number: 370625

Code: ANSI/TIA-222-G

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Site Name: Old Saybrook, CT

Engineering Number: 12927162_C3_04

7/16/2019 1:24:34 PM

Customer: METRO PCS INC

Load Case: 1.2D + 1.6W

103 mph with No Ice

25 Iterations

Gust Response Factor :1.10

Wind Importance Factor :1.00

Dead Load Factor :1.20

Wind Load Factor :1.60

175.00 0.00 -0.07 0.00 0.00 0.00 0.00 0.00 863.27 431.63 701.67 351.36 105.11 -6.05 0.000

Load Case: 0.9D + 1.6W	103 mph with No Ice (Reduced DL)	25 Iterations
Gust Response Factor :1.10		Wind Importance Factor :1.00
Dead Load Factor :0.90		
Wind Load Factor :1.60		

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces		Discrete Forces			Linear Forces		Sum of Forces				
		Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		339.8	0.0					0.0	0.0	339.8	0.0	0.0	0.0
5.00		672.6	1,160.1					0.0	148.3	672.6	1,308.3	0.0	0.0
10.00		658.6	1,135.9					0.0	148.3	658.6	1,284.2	0.0	0.0
15.00		654.6	1,111.8					0.0	148.3	654.6	1,260.0	0.0	0.0
20.00		667.8	1,087.6					0.0	148.3	667.8	1,235.9	0.0	0.0
25.00		684.7	1,063.5					0.0	148.3	684.7	1,211.7	0.0	0.0
30.00		695.5	1,039.3					0.0	148.3	695.5	1,187.6	0.0	0.0
35.00		701.7	1,015.2					0.0	148.3	701.7	1,163.4	0.0	0.0
40.00		704.6	991.0					0.0	148.3	704.6	1,139.3	0.0	0.0
45.00		475.9	966.9					0.0	148.3	475.9	1,115.1	0.0	0.0
46.75	Bot - Section 2	355.3	332.7					0.0	51.9	355.3	384.6	0.0	0.0
50.00		481.1	1,228.9					0.0	96.4	481.1	1,325.3	0.0	0.0
53.50	Top - Section 1	355.5	1,300.6					0.0	103.8	355.5	1,404.4	0.0	0.0
55.00		459.5	277.1					0.0	44.5	459.5	321.6	0.0	0.0
60.00		703.0	908.1					0.0	148.3	703.0	1,056.4	0.0	0.0
65.00		695.8	883.9					0.0	148.3	695.8	1,032.2	0.0	0.0
70.00		687.3	859.8					0.0	148.3	687.3	1,008.1	0.0	0.0
75.00		677.7	835.6					0.0	148.3	677.7	983.9	0.0	0.0
80.00		667.0	811.5					0.0	148.3	667.0	959.8	0.0	0.0
85.00		655.3	787.3					0.0	148.3	655.3	935.6	0.0	0.0
90.00		642.8	763.2					0.0	148.3	642.8	911.5	0.0	0.0
95.00	Bot - Section 3	633.9	739.0					0.0	148.3	633.9	887.3	0.0	0.0
100.00		331.3	1,260.0					0.0	148.3	331.3	1,408.3	0.0	0.0
100.25	Top - Section 2	62.3	61.9					0.0	7.4	62.3	69.3	0.0	0.0
101.00	Appurtenance(s)	292.9	80.1	421.2	0.0	365.1	157.5	0.0	22.2	714.1	259.8	0.0	0.0
105.00		547.2	420.2					0.0	117.4	547.2	537.6	0.0	0.0
110.00		594.2	508.9					0.0	146.8	594.2	655.7	0.0	0.0
115.00		578.2	490.8					0.0	146.8	578.2	637.6	0.0	0.0
120.00		561.6	472.7					0.0	146.8	561.6	619.5	0.0	0.0
125.00		544.5	454.6					0.0	146.8	544.5	601.4	0.0	0.0
130.00	Bot - Section 4	491.3	436.5					0.0	146.8	491.3	583.3	0.0	0.0
134.25	Top - Section 3	262.1	598.2					0.0	124.8	262.1	723.0	0.0	0.0
135.00		291.7	41.7					0.0	22.0	291.7	63.7	0.0	0.0
140.00		496.6	271.1					0.0	146.8	496.6	417.9	0.0	0.0
145.00		477.7	259.0					0.0	146.8	477.7	405.8	0.0	0.0
150.00		324.9	247.0					0.0	146.8	324.9	393.7	0.0	0.0
152.00	Appurtenance(s)	224.2	95.4	658.9	0.0	-1,317.8	71.3	0.0	58.7	883.1	225.4	0.0	0.0
155.00		347.6	139.5					0.0	74.8	347.6	214.3	0.0	0.0
160.00		378.3	222.8					0.0	124.6	378.3	347.5	0.0	0.0
164.00	Appurtenance(s)	204.1	169.5	4,361.2	0.0	-6,857.1	1,797.1	0.0	99.7	4,565.3	2,066.4	0.0	0.0
165.00		233.7	41.2					0.0	14.7	233.7	55.9	0.0	0.0
170.00		304.9	198.7					0.0	73.5	304.9	272.2	0.0	0.0
173.00	Appurtenance(s)	183.1	113.4	6,501.5	0.0	2,310.6	2,851.5	0.0	44.1	6,684.6	3,009.0	0.0	0.0
175.00		72.0	73.2					0.0	0.0	72.0	73.2	0.0	0.0
Totals:										33,017.3	35,756.8	0.00	0.00

Load Case: 0.9D + 1.6W

103 mph with No Ice (Reduced DL)

25 Iterations

Gust Response Factor :1.10

Wind Importance Factor :1.00

Dead Load Factor :0.90

Wind Load Factor :1.60

Calculated Forces

Table with 15 columns: Seg Elev (ft), Pu FY (-) (kips), Vu FX (-) (kips), Tu MY (ft-kips), Mu MZ (ft-kips), Mu MX (ft-kips), Resultant Moment (ft-kips), phi Pn (kips), phi Vn (kips), phi Tn (ft-kips), phi Mn (ft-kips), Total Deflect (in), Rotation (deg), Ratio. Rows range from 0.00 to 173.00.

Site Number: 370625

Code: ANSI/TIA-222-G

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Site Name: Old Saybrook, CT

Engineering Number: 12927162_C3_04

7/16/2019 1:24:36 PM

Customer: METRO PCS INC

Load Case: 0.9D + 1.6W

103 mph with No Ice (Reduced DL)

25 Iterations

Gust Response Factor :1.10

Wind Importance Factor :1.00

Dead Load Factor :0.90

Wind Load Factor :1.60

175.00 0.00 -0.07 0.00 0.00 0.00 0.00 0.00 863.27 431.63 701.67 351.36 103.84 -5.97 0.000

Load Case: 1.2D + 1.0Di + 1.0Wi	50 mph with 0.75 in Radial Ice	24 Iterations
Gust Response Factor :1.10	Ice Dead Load Factor :1.00	Wind Importance Factor :1.00
Dead Load Factor :1.20		Ice Importance Factor :1.00
Wind Load Factor :1.00		

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces		Discrete Forces			Linear Forces		Sum of Forces				
		Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		95.7	0.0					0.0	0.0	95.7	0.0	0.0	0.0
5.00		189.9	2,015.2					9.2	203.6	199.1	2,218.8	0.0	0.0
10.00		186.6	2,027.8					9.6	204.6	196.2	2,232.3	0.0	0.0
15.00		186.0	2,011.7					9.8	205.1	195.8	2,216.8	0.0	0.0
20.00		190.2	1,986.3					10.3	205.4	200.4	2,191.8	0.0	0.0
25.00		195.4	1,956.1					10.9	205.7	206.3	2,161.8	0.0	0.0
30.00		198.8	1,922.9					11.5	205.9	210.3	2,128.8	0.0	0.0
35.00		201.0	1,887.5					12.0	206.1	213.0	2,093.6	0.0	0.0
40.00		202.2	1,850.6					12.4	206.3	214.7	2,056.9	0.0	0.0
45.00		136.8	1,812.5					12.8	206.4	149.6	2,018.9	0.0	0.0
46.75	Bot - Section 2	102.2	626.6					4.6	72.3	106.8	698.9	0.0	0.0
50.00		138.5	1,979.6					8.6	134.3	147.1	2,113.9	0.0	0.0
53.50	Top - Section 1	102.5	2,097.7					9.4	144.7	111.9	2,242.3	0.0	0.0
55.00		132.7	524.9					4.1	62.0	136.8	586.9	0.0	0.0
60.00		203.2	1,718.6					13.8	206.8	217.1	1,925.4	0.0	0.0
65.00		201.6	1,677.5					14.1	206.9	215.7	1,884.4	0.0	0.0
70.00		199.6	1,635.9					14.4	207.0	214.0	1,842.9	0.0	0.0
75.00		197.2	1,593.8					14.7	207.1	211.9	1,800.9	0.0	0.0
80.00		194.6	1,551.4					14.9	207.2	209.5	1,758.6	0.0	0.0
85.00		191.7	1,508.6					15.2	207.3	206.9	1,715.9	0.0	0.0
90.00		188.5	1,465.4					15.4	207.4	203.9	1,672.8	0.0	0.0
95.00	Bot - Section 3	186.3	1,422.0					15.6	207.5	201.9	1,629.5	0.0	0.0
100.00		97.5	2,111.1					15.8	207.5	113.3	2,318.6	0.0	0.0
100.25	Top - Section 2	18.4	104.1					0.8	10.4	19.2	114.5	0.0	0.0
101.00	Appurtenance(s)	86.4	171.2	99.6	0.0	99.9	286.9	2.4	31.1	188.4	489.2	0.0	0.0
105.00		161.8	895.9					0.0	156.6	161.8	1,052.5	0.0	0.0
110.00		176.2	1,086.0					0.0	195.7	176.2	1,281.7	0.0	0.0
115.00		172.0	1,049.7					0.0	195.7	172.0	1,245.4	0.0	0.0
120.00		167.7	1,013.2					0.0	195.7	167.7	1,208.9	0.0	0.0
125.00		163.3	976.5					0.0	195.7	163.3	1,172.2	0.0	0.0
130.00	Bot - Section 4	147.8	939.7					0.0	195.7	147.8	1,135.4	0.0	0.0
134.25	Top - Section 3	79.0	1,095.9					0.0	166.4	79.0	1,262.3	0.0	0.0
135.00		88.3	108.0					0.0	29.4	88.3	137.4	0.0	0.0
140.00		150.8	697.3					0.0	195.7	150.8	893.1	0.0	0.0
145.00		145.8	668.1					0.0	195.7	145.8	863.8	0.0	0.0
150.00		99.6	638.7					0.0	195.7	99.6	834.4	0.0	0.0
152.00	Appurtenance(s)	69.1	249.0	141.6	0.0	-283.3	293.6	0.0	78.3	210.7	620.8	0.0	0.0
155.00		107.5	363.7					0.0	99.7	107.5	463.4	0.0	0.0
160.00		117.6	579.5					0.0	166.2	117.6	745.7	0.0	0.0
164.00	Appurtenance(s)	63.7	443.4	892.5	0.0	-1,274.6	4,513.0	0.0	133.0	956.3	5,089.3	0.0	0.0
165.00		73.5	108.7					0.0	19.6	73.5	128.3	0.0	0.0
170.00		96.2	519.9					0.0	98.0	96.2	617.9	0.0	0.0
173.00	Appurtenance(s)	58.2	299.3	1,353.7	0.0	454.9	6,852.3	0.0	58.8	1,411.9	7,210.4	0.0	0.0
175.00		22.9	194.1					0.0	0.0	22.9	194.1	0.0	0.0
Totals:										8,934.69	68,271.5	0.00	0.00

Site Number: 370625

Code: ANSI/TIA-222-G

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Site Name: Old Saybrook, CT

Engineering Number: 12927162_C3_04

7/16/2019 1:24:38 PM

Customer: METRO PCS INC

Load Case: 1.2D + 1.0Di + 1.0Wi

50 mph with 0.75 in Radial Ice

24 Iterations

Gust Response Factor :1.10

Ice Dead Load Factor :1.00

Wind Importance Factor :1.00

Dead Load Factor :1.20

Ice Importance Factor :1.00

Wind Load Factor :1.00

175.00 0.00 -0.02 0.00 0.00 0.00 0.00 0.00 863.27 431.63 701.67 351.36 26.17 -1.48 0.000

Load Case: 1.0D + 1.0W	Serviceability 60 mph	23 Iterations
Gust Response Factor :1.10		Wind Importance Factor :1.00
Dead Load Factor :1.00		
Wind Load Factor :1.00		

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces		Discrete Forces			Linear Forces		Sum of Forces				
		Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		64.5	0.0					0.0	0.0	64.5	0.0	0.0	0.0
5.00		127.6	1,289.0					0.0	164.8	127.6	1,453.7	0.0	0.0
10.00		125.0	1,262.1					0.0	164.8	125.0	1,426.9	0.0	0.0
15.00		124.2	1,235.3					0.0	164.8	124.2	1,400.1	0.0	0.0
20.00		126.7	1,208.5					0.0	164.8	126.7	1,373.2	0.0	0.0
25.00		129.9	1,181.6					0.0	164.8	129.9	1,346.4	0.0	0.0
30.00		132.0	1,154.8					0.0	164.8	132.0	1,319.6	0.0	0.0
35.00		133.2	1,128.0					0.0	164.8	133.2	1,292.7	0.0	0.0
40.00		133.7	1,101.1					0.0	164.8	133.7	1,265.9	0.0	0.0
45.00		90.3	1,074.3					0.0	164.8	90.3	1,239.1	0.0	0.0
46.75	Bot - Section 2	67.4	369.7					0.0	57.7	67.4	427.3	0.0	0.0
50.00		91.3	1,365.5					0.0	107.1	91.3	1,472.6	0.0	0.0
53.50	Top - Section 1	67.5	1,445.2					0.0	115.3	67.5	1,560.5	0.0	0.0
55.00		87.2	307.9					0.0	49.4	87.2	357.4	0.0	0.0
60.00		133.4	1,009.0					0.0	164.8	133.4	1,173.7	0.0	0.0
65.00		132.0	982.2					0.0	164.8	132.0	1,146.9	0.0	0.0
70.00		130.4	955.3					0.0	164.8	130.4	1,120.1	0.0	0.0
75.00		128.6	928.5					0.0	164.8	128.6	1,093.2	0.0	0.0
80.00		126.6	901.7					0.0	164.8	126.6	1,066.4	0.0	0.0
85.00		124.4	874.8					0.0	164.8	124.4	1,039.6	0.0	0.0
90.00		122.0	848.0					0.0	164.8	122.0	1,012.7	0.0	0.0
95.00	Bot - Section 3	120.3	821.2					0.0	164.8	120.3	985.9	0.0	0.0
100.00		62.9	1,400.0					0.0	164.8	62.9	1,564.8	0.0	0.0
100.25	Top - Section 2	11.8	68.8					0.0	8.2	11.8	77.0	0.0	0.0
101.00	Appurtenance(s)	55.6	89.0	79.9	0.0	69.3	175.0	0.0	24.7	135.5	288.7	0.0	0.0
105.00		103.8	466.9					0.0	130.5	103.8	597.3	0.0	0.0
110.00		112.7	565.5					0.0	163.1	112.7	728.6	0.0	0.0
115.00		109.7	545.3					0.0	163.1	109.7	708.4	0.0	0.0
120.00		106.6	525.2					0.0	163.1	106.6	688.3	0.0	0.0
125.00		103.3	505.1					0.0	163.1	103.3	668.2	0.0	0.0
130.00	Bot - Section 4	93.2	485.0					0.0	163.1	93.2	648.1	0.0	0.0
134.25	Top - Section 3	49.7	664.7					0.0	138.6	49.7	803.3	0.0	0.0
135.00		55.4	46.3					0.0	24.5	55.4	70.8	0.0	0.0
140.00		94.2	301.2					0.0	163.1	94.2	464.3	0.0	0.0
145.00		90.6	287.8					0.0	163.1	90.6	450.9	0.0	0.0
150.00		61.7	274.4					0.0	163.1	61.7	437.5	0.0	0.0
152.00	Appurtenance(s)	42.6	106.0	125.0	0.0	-250.1	79.2	0.0	65.2	167.6	250.4	0.0	0.0
155.00		66.0	155.0					0.0	83.1	66.0	238.1	0.0	0.0
160.00		71.8	247.6					0.0	138.5	71.8	386.1	0.0	0.0
164.00	Appurtenance(s)	38.7	188.4	827.6	0.0	-1,301.2	1,996.8	0.0	110.8	866.3	2,296.0	0.0	0.0
165.00		44.3	45.8					0.0	16.3	44.3	62.1	0.0	0.0
170.00		57.8	220.7					0.0	81.7	57.8	302.4	0.0	0.0
173.00	Appurtenance(s)	34.8	126.0	1,233.7	0.0	438.5	3,168.3	0.0	49.0	1,268.5	3,343.3	0.0	0.0
175.00		13.7	81.3					0.0	0.0	13.7	81.3	0.0	0.0
Totals:										6,265.35	39,729.8	0.00	0.00

Site Number: 370625

Code: ANSI/TIA-222-G

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Site Name: Old Saybrook, CT

Engineering Number: 12927162_C3_04

7/16/2019 1:24:40 PM

Customer: METRO PCS INC

Load Case: 1.0D + 1.0W

Serviceability 60 mph

23 Iterations

Gust Response Factor :1.10

Wind Importance Factor :1.00

Dead Load Factor :1.00

Wind Load Factor :1.00

175.00 0.00 -0.01 0.00 0.00 0.00 0.00 0.00 863.27 431.63 701.67 351.36 19.85 -1.14 0.000

Equivalent Lateral Forces Method Analysis

(Based on ASCE7-10 Chapters 11, 12, 15)

Spectral Response Acceleration for Short Period (S_s):	0.17
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.06
Long-Period Transition Period (T_L):	6
Importance Factor (I_E):	1.00
Site Coefficient F_a :	1.60
Site Coefficient F_v :	2.40
Response Modification Coefficient (R):	1.50
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.18
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.09
Seismic Response Coefficient (C_s):	0.03
Upper Limit C_s	0.03
Lower Limit C_s	0.03
Period based on Rayleigh Method (sec):	2.19
Redundancy Factor (ρ):	1.00
Seismic Force Distribution Exponent (k):	1.85
Total Unfactored Dead Load:	39.73 k
Seismic Base Shear (E):	1.19 k

Load Case (1.2 + 0.2Sds) * DL + E ELFM Seismic Equivalent Lateral Forces Method

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
43	174.00	81	1,118	0.006	7	100
42	171.50	175	2,342	0.013	16	216
41	167.50	302	3,874	0.022	26	374
40	164.50	62	769	0.004	5	77
39	162.00	299	3,604	0.020	24	370
38	157.50	386	4,414	0.025	29	477
37	153.50	238	2,596	0.014	17	294
36	151.00	171	1,811	0.010	12	212
35	147.50	437	4,432	0.025	29	540
34	142.50	451	4,286	0.024	28	557
33	137.50	464	4,132	0.023	27	574
32	134.63	71	606	0.003	4	87
31	132.13	803	6,641	0.037	44	992
30	127.50	648	5,016	0.028	33	800
29	122.50	668	4,803	0.027	32	825
28	117.50	688	4,581	0.026	30	850
27	112.50	708	4,351	0.024	29	875
26	107.50	729	4,115	0.023	27	900
25	103.00	597	3,117	0.017	21	738
24	100.63	114	568	0.003	4	140
23	100.13	77	381	0.002	3	95
22	97.50	1,565	7,379	0.041	49	1,933
21	92.50	986	4,219	0.024	28	1,218

20	87.50	1,013	3,911	0.022	26	1,251
19	82.50	1,040	3,601	0.020	24	1,284
18	77.50	1,066	3,291	0.018	22	1,317
17	72.50	1,093	2,983	0.017	20	1,350
16	67.50	1,120	2,678	0.015	18	1,384
15	62.50	1,147	2,379	0.013	16	1,417
14	57.50	1,174	2,087	0.012	14	1,450
13	54.25	357	571	0.003	4	441
12	51.75	1,560	2,284	0.013	15	1,928
11	48.38	1,473	1,903	0.011	13	1,819
10	45.88	427	501	0.003	3	528
9	42.50	1,239	1,261	0.007	8	1,530
8	37.50	1,266	1,022	0.006	7	1,564
7	32.50	1,293	801	0.004	5	1,597
6	27.50	1,320	601	0.003	4	1,630
5	22.50	1,346	423	0.002	3	1,663
4	17.50	1,373	271	0.002	2	1,696
3	12.50	1,400	149	0.001	1	1,729
2	7.50	1,427	59	0.000	0	1,762
1	2.50	1,454	8	0.000	0	1,796
RFS FDJ85020Q4-S1	173.00	71	963	0.005	6	87
Samsung B5/B13 RRH-B	173.00	211	2,868	0.016	19	261
Samsung B2/B66A RRH-	173.00	253	3,443	0.019	23	313
Antel BXA-80063/4CF	173.00	30	404	0.002	3	37
RFS DB-T1-6Z-8AB-0Z	173.00	88	1,197	0.007	8	109
Andrew SBNHH-1D65B	173.00	152	2,068	0.012	14	188
Commscope JAHH-65B-R	173.00	364	4,945	0.028	33	449
Flat Platform w/ Han	173.00	2,000	27,198	0.152	181	2,470
Ericsson Radio 4449	164.00	222	2,735	0.015	18	274
Ericsson AIR 21, 1.3	164.00	244	3,013	0.017	20	302
Ericsson AIR-32 B2A/	164.00	397	4,887	0.027	32	490
Round T-Arms	164.00	750	9,241	0.052	61	926
RFS APXVAARR24_43-U-	164.00	384	4,728	0.026	31	474
RFS APXV18-206517S-C	152.00	79	848	0.005	6	98
Generic 7' Omni	101.00	25	126	0.001	1	31
Round Side Arm	101.00	150	755	0.004	5	185
		39,730	179,357	1.000	1,192	49,074

Load Case (0.9 - 0.2Sds) * DL + E ELMF

Seismic (Reduced DL) Equivalent Lateral Forces Method

Segment	Height Above Base (ft)	Weight (lb)	W _z (lb-ft)	C _{vx}	Horizontal Force (lb)	Vertical Force (lb)
43	174.00	81	1,118	0.006	7	70
42	171.50	175	2,342	0.013	16	151
41	167.50	302	3,874	0.022	26	262
40	164.50	62	769	0.004	5	54
39	162.00	299	3,604	0.020	24	259
38	157.50	386	4,414	0.025	29	334
37	153.50	238	2,596	0.014	17	206
36	151.00	171	1,811	0.010	12	148
35	147.50	437	4,432	0.025	29	378
34	142.50	451	4,286	0.024	28	390
33	137.50	464	4,132	0.023	27	402
32	134.63	71	606	0.003	4	61
31	132.13	803	6,641	0.037	44	695
30	127.50	648	5,016	0.028	33	560
29	122.50	668	4,803	0.027	32	578
28	117.50	688	4,581	0.026	30	595
27	112.50	708	4,351	0.024	29	613
26	107.50	729	4,115	0.023	27	630

Site Number: 370625

Code: ANSI/TIA-222-G

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Site Name: Old Saybrook, CT

Engineering Number: 12927162_C3_04

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Customer: METRO PCS INC

25	103.00	597	3,117	0.017	21	517
24	100.63	114	568	0.003	4	98
23	100.13	77	381	0.002	3	67
22	97.50	1,565	7,379	0.041	49	1,353
21	92.50	986	4,219	0.024	28	853
20	87.50	1,013	3,911	0.022	26	876
19	82.50	1,040	3,601	0.020	24	899
18	77.50	1,066	3,291	0.018	22	922
17	72.50	1,093	2,983	0.017	20	945
16	67.50	1,120	2,678	0.015	18	969
15	62.50	1,147	2,379	0.013	16	992
14	57.50	1,174	2,087	0.012	14	1,015
13	54.25	357	571	0.003	4	309
12	51.75	1,560	2,284	0.013	15	1,350
11	48.38	1,473	1,903	0.011	13	1,273
10	45.88	427	501	0.003	3	370
9	42.50	1,239	1,261	0.007	8	1,072
8	37.50	1,266	1,022	0.006	7	1,095
7	32.50	1,293	801	0.004	5	1,118
6	27.50	1,320	601	0.003	4	1,141
5	22.50	1,346	423	0.002	3	1,164
4	17.50	1,373	271	0.002	2	1,188
3	12.50	1,400	149	0.001	1	1,211
2	7.50	1,427	59	0.000	0	1,234
1	2.50	1,454	8	0.000	0	1,257
RFS FDJ85020Q4-S1	173.00	71	963	0.005	6	61
Samsung B5/B13 RRH-B	173.00	211	2,868	0.016	19	182
Samsung B2/B66A RRH-	173.00	253	3,443	0.019	23	219
Antel BXA-80063/4CF	173.00	30	404	0.002	3	26
RFS DB-T1-6Z-8AB-0Z	173.00	88	1,197	0.007	8	76
Andrew SBNHH-1D65B	173.00	152	2,068	0.012	14	132
Commscope JAHH-65B-R	173.00	364	4,945	0.028	33	314
Flat Platform w/ Han	173.00	2,000	27,198	0.152	181	1,730
Ericsson Radio 4449	164.00	222	2,735	0.015	18	192
Ericsson AIR 21, 1.3	164.00	244	3,013	0.017	20	211
Ericsson AIR-32 B2A/	164.00	397	4,887	0.027	32	343
Round T-Arms	164.00	750	9,241	0.052	61	649
RFS APXVAARR24_43-U-	164.00	384	4,728	0.026	31	332
RFS APXV18-206517S-C	152.00	79	848	0.005	6	68
Generic 7' Omni	101.00	25	126	0.001	1	22
Round Side Arm	101.00	150	755	0.004	5	130
		39,730	179,357	1.000	1,192	34,358

Load Case (1.2 + 0.2Sds) * DL + E ELFM Seismic Equivalent Lateral Forces Method

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-47.28	-1.19	0.00	-163.30	0.00	163.30	4,663.96	2,331.98	12,350.3	6,184.38	0.00	0.00	0.037
5.00	-45.52	-1.20	0.00	-157.34	0.00	157.34	4,617.32	2,308.66	11,973.5	5,995.65	0.00	-0.01	0.036
10.00	-43.79	-1.20	0.00	-151.35	0.00	151.35	4,568.59	2,284.30	11,596.4	5,806.85	0.01	-0.01	0.036
15.00	-42.09	-1.20	0.00	-145.35	0.00	145.35	4,517.79	2,258.89	11,219.5	5,618.13	0.03	-0.02	0.035
20.00	-40.43	-1.20	0.00	-139.33	0.00	139.33	4,464.90	2,232.45	10,843.2	5,429.68	0.05	-0.02	0.035
25.00	-38.80	-1.20	0.00	-133.31	0.00	133.31	4,409.93	2,204.97	10,467.7	5,241.66	0.08	-0.03	0.034
30.00	-37.20	-1.20	0.00	-127.30	0.00	127.30	4,352.89	2,176.44	10,093.5	5,054.25	0.11	-0.04	0.034
35.00	-35.64	-1.20	0.00	-121.29	0.00	121.29	4,293.76	2,146.88	9,720.79	4,867.62	0.15	-0.04	0.033
40.00	-34.11	-1.19	0.00	-115.30	0.00	115.30	4,232.55	2,116.28	9,349.96	4,681.93	0.20	-0.05	0.033
45.00	-33.58	-1.19	0.00	-109.34	0.00	109.34	4,169.26	2,084.63	8,981.38	4,497.36	0.26	-0.06	0.032
46.75	-31.76	-1.18	0.00	-107.26	0.00	107.26	4,146.62	2,073.31	8,852.97	4,433.06	0.28	-0.06	0.032
50.00	-29.83	-1.16	0.00	-103.43	0.00	103.43	4,103.90	2,051.95	8,615.37	4,314.09	0.32	-0.06	0.031
53.50	-29.39	-1.16	0.00	-99.35	0.00	99.35	4,094.98	2,047.49	8,566.54	4,289.64	0.37	-0.07	0.030
55.00	-27.94	-1.15	0.00	-97.61	0.00	97.61	4,074.88	2,037.44	8,457.42	4,234.99	0.39	-0.07	0.030
60.00	-26.52	-1.13	0.00	-91.87	0.00	91.87	4,006.53	2,003.26	8,095.71	4,053.87	0.47	-0.08	0.029
65.00	-25.14	-1.12	0.00	-86.20	0.00	86.20	3,936.09	1,968.05	7,737.41	3,874.46	0.55	-0.08	0.029
70.00	-23.79	-1.10	0.00	-80.62	0.00	80.62	3,863.58	1,931.79	7,382.86	3,696.92	0.65	-0.09	0.028
75.00	-22.47	-1.08	0.00	-75.13	0.00	75.13	3,788.99	1,894.50	7,032.42	3,521.44	0.75	-0.10	0.027
80.00	-21.19	-1.05	0.00	-69.74	0.00	69.74	3,712.32	1,856.16	6,686.41	3,348.18	0.86	-0.11	0.027
85.00	-19.94	-1.03	0.00	-64.48	0.00	64.48	3,633.57	1,816.78	6,345.19	3,177.31	0.97	-0.11	0.026
90.00	-18.72	-1.00	0.00	-59.34	0.00	59.34	3,552.73	1,776.37	6,009.09	3,009.01	1.10	-0.12	0.025
95.00	-16.79	-0.95	0.00	-54.34	0.00	54.34	3,469.82	1,734.91	5,678.46	2,843.45	1.23	-0.13	0.024
100.00	-16.69	-0.95	0.00	-49.60	0.00	49.60	3,384.83	1,692.41	5,353.64	2,680.80	1.37	-0.14	0.023
100.25	-16.55	-0.94	0.00	-49.36	0.00	49.36	2,340.16	1,170.08	3,767.44	1,886.52	1.38	-0.14	0.033
101.00	-15.60	-0.92	0.00	-48.65	0.00	48.65	2,332.87	1,166.43	3,736.50	1,871.03	1.40	-0.14	0.033
105.00	-14.70	-0.89	0.00	-44.99	0.00	44.99	2,293.18	1,146.59	3,572.27	1,788.79	1.52	-0.15	0.032
110.00	-13.82	-0.86	0.00	-40.55	0.00	40.55	2,241.70	1,120.85	3,369.07	1,687.04	1.68	-0.16	0.030
115.00	-12.97	-0.83	0.00	-36.25	0.00	36.25	2,188.14	1,094.07	3,168.50	1,586.61	1.85	-0.17	0.029
120.00	-12.15	-0.80	0.00	-32.11	0.00	32.11	2,132.50	1,066.25	2,970.92	1,487.67	2.03	-0.18	0.027
125.00	-11.34	-0.76	0.00	-28.13	0.00	28.13	2,074.78	1,037.39	2,776.66	1,390.39	2.22	-0.19	0.026
130.00	-10.35	-0.72	0.00	-24.31	0.00	24.31	2,014.98	1,007.49	2,586.06	1,294.95	2.42	-0.20	0.024
134.25	-10.27	-0.71	0.00	-21.27	0.00	21.27	1,137.98	568.99	1,433.87	718.00	2.60	-0.20	0.039
135.00	-9.69	-0.69	0.00	-20.73	0.00	20.73	1,134.17	567.08	1,419.73	710.92	2.63	-0.21	0.038
140.00	-9.13	-0.66	0.00	-17.31	0.00	17.31	1,107.59	553.79	1,325.68	663.83	2.85	-0.22	0.034
145.00	-8.59	-0.63	0.00	-14.02	0.00	14.02	1,078.93	539.46	1,232.17	617.00	3.08	-0.23	0.031
150.00	-8.38	-0.62	0.00	-10.89	0.00	10.89	1,048.18	524.09	1,139.55	570.62	3.33	-0.24	0.027
152.00	-7.99	-0.59	0.00	-9.66	0.00	9.66	1,035.30	517.65	1,102.82	552.23	3.43	-0.25	0.025
155.00	-7.51	-0.56	0.00	-7.88	0.00	7.88	1,015.36	507.68	1,048.15	524.85	3.59	-0.25	0.022
160.00	-7.14	-0.54	0.00	-5.08	0.00	5.08	980.46	490.23	958.32	479.87	3.86	-0.26	0.018
164.00	-4.60	-0.36	0.00	-2.94	0.00	2.94	951.04	475.52	887.82	444.57	4.08	-0.26	0.011
165.00	-4.23	-0.33	0.00	-2.58	0.00	2.58	943.48	471.74	870.40	435.85	4.13	-0.26	0.010
170.00	-4.01	-0.31	0.00	-0.94	0.00	0.94	904.41	452.21	784.74	392.95	4.41	-0.27	0.007
173.00	0.00	0.00	0.00	0.00	0.00	0.00	879.98	439.99	734.56	367.83	4.58	-0.27	0.000
175.00	0.00	0.00	0.00	0.00	0.00	0.00	863.27	431.63	701.67	351.36	4.69	-0.27	0.000

Load Case (0.9 - 0.2Sds) * DL + E ELMF

Seismic (Reduced DL) Equivalent Lateral Forces Method

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-33.10	-1.19	0.00	-161.62	0.00	161.62	4,663.96	2,331.98	12,350.3	6,184.38	0.00	0.00	0.033
5.00	-31.87	-1.20	0.00	-155.66	0.00	155.66	4,617.32	2,308.66	11,973.5	5,995.65	0.00	-0.01	0.033
10.00	-30.66	-1.20	0.00	-149.68	0.00	149.68	4,568.59	2,284.30	11,596.4	5,806.85	0.01	-0.01	0.032
15.00	-29.47	-1.20	0.00	-143.70	0.00	143.70	4,517.79	2,258.89	11,219.5	5,618.13	0.03	-0.02	0.032
20.00	-28.30	-1.20	0.00	-137.70	0.00	137.70	4,464.90	2,232.45	10,843.2	5,429.68	0.05	-0.02	0.032
25.00	-27.16	-1.20	0.00	-131.71	0.00	131.71	4,409.93	2,204.97	10,467.7	5,241.66	0.08	-0.03	0.031
30.00	-26.04	-1.19	0.00	-125.73	0.00	125.73	4,352.89	2,176.44	10,093.5	5,054.25	0.11	-0.04	0.031
35.00	-24.95	-1.19	0.00	-119.76	0.00	119.76	4,293.76	2,146.88	9,720.79	4,867.62	0.15	-0.04	0.030
40.00	-23.88	-1.18	0.00	-113.82	0.00	113.82	4,232.55	2,116.28	9,349.96	4,681.93	0.20	-0.05	0.030
45.00	-23.51	-1.18	0.00	-107.91	0.00	107.91	4,169.26	2,084.63	8,981.38	4,497.36	0.26	-0.06	0.030
46.75	-22.23	-1.17	0.00	-105.84	0.00	105.84	4,146.62	2,073.31	8,852.97	4,433.06	0.28	-0.06	0.029
50.00	-20.89	-1.15	0.00	-102.05	0.00	102.05	4,103.90	2,051.95	8,615.37	4,314.09	0.32	-0.06	0.029
53.50	-20.58	-1.15	0.00	-98.01	0.00	98.01	4,094.98	2,047.49	8,566.54	4,289.64	0.37	-0.07	0.028
55.00	-19.56	-1.14	0.00	-96.28	0.00	96.28	4,074.88	2,037.44	8,457.42	4,234.99	0.39	-0.07	0.028
60.00	-18.57	-1.12	0.00	-90.60	0.00	90.60	4,006.53	2,003.26	8,095.71	4,053.87	0.46	-0.08	0.027
65.00	-17.60	-1.10	0.00	-84.99	0.00	84.99	3,936.09	1,968.05	7,737.41	3,874.46	0.55	-0.08	0.026
70.00	-16.65	-1.09	0.00	-79.46	0.00	79.46	3,863.58	1,931.79	7,382.86	3,696.92	0.64	-0.09	0.026
75.00	-15.73	-1.06	0.00	-74.04	0.00	74.04	3,788.99	1,894.50	7,032.42	3,521.44	0.74	-0.10	0.025
80.00	-14.83	-1.04	0.00	-68.71	0.00	68.71	3,712.32	1,856.16	6,686.41	3,348.18	0.85	-0.11	0.025
85.00	-13.96	-1.01	0.00	-63.51	0.00	63.51	3,633.57	1,816.78	6,345.19	3,177.31	0.96	-0.11	0.024
90.00	-13.10	-0.99	0.00	-58.44	0.00	58.44	3,552.73	1,776.37	6,009.09	3,009.01	1.08	-0.12	0.023
95.00	-11.75	-0.94	0.00	-53.50	0.00	53.50	3,469.82	1,734.91	5,678.46	2,843.45	1.21	-0.13	0.022
100.00	-11.68	-0.93	0.00	-48.82	0.00	48.82	3,384.83	1,692.41	5,353.64	2,680.80	1.35	-0.14	0.022
100.25	-11.59	-0.93	0.00	-48.58	0.00	48.58	2,340.16	1,170.08	3,767.44	1,886.52	1.36	-0.14	0.031
101.00	-10.92	-0.90	0.00	-47.89	0.00	47.89	2,332.87	1,166.43	3,736.50	1,871.03	1.38	-0.14	0.030
105.00	-10.29	-0.88	0.00	-44.27	0.00	44.27	2,293.18	1,146.59	3,572.27	1,788.79	1.50	-0.15	0.029
110.00	-9.68	-0.85	0.00	-39.89	0.00	39.89	2,241.70	1,120.85	3,369.07	1,687.04	1.65	-0.15	0.028
115.00	-9.08	-0.82	0.00	-35.65	0.00	35.65	2,188.14	1,094.07	3,168.50	1,586.61	1.82	-0.16	0.027
120.00	-8.50	-0.78	0.00	-31.57	0.00	31.57	2,132.50	1,066.25	2,970.92	1,487.67	2.00	-0.17	0.025
125.00	-7.94	-0.75	0.00	-27.65	0.00	27.65	2,074.78	1,037.39	2,776.66	1,390.39	2.19	-0.18	0.024
130.00	-7.25	-0.71	0.00	-23.89	0.00	23.89	2,014.98	1,007.49	2,586.06	1,294.95	2.39	-0.19	0.022
134.25	-7.19	-0.70	0.00	-20.89	0.00	20.89	1,137.98	568.99	1,433.87	718.00	2.56	-0.20	0.035
135.00	-6.78	-0.67	0.00	-20.36	0.00	20.36	1,134.17	567.08	1,419.73	710.92	2.59	-0.20	0.035
140.00	-6.39	-0.65	0.00	-16.99	0.00	16.99	1,107.59	553.79	1,325.68	663.83	2.81	-0.22	0.031
145.00	-6.02	-0.62	0.00	-13.77	0.00	13.77	1,078.93	539.46	1,232.17	617.00	3.04	-0.23	0.028
150.00	-5.87	-0.60	0.00	-10.69	0.00	10.69	1,048.18	524.09	1,139.55	570.62	3.29	-0.24	0.024
152.00	-5.59	-0.58	0.00	-9.48	0.00	9.48	1,035.30	517.65	1,102.82	552.23	3.39	-0.24	0.023
155.00	-5.26	-0.55	0.00	-7.74	0.00	7.74	1,015.36	507.68	1,048.15	524.85	3.54	-0.25	0.020
160.00	-5.00	-0.53	0.00	-4.99	0.00	4.99	980.46	490.23	958.32	479.87	3.80	-0.26	0.015
164.00	-3.22	-0.35	0.00	-2.88	0.00	2.88	951.04	475.52	887.82	444.57	4.02	-0.26	0.010
165.00	-2.96	-0.32	0.00	-2.53	0.00	2.53	943.48	471.74	870.40	435.85	4.07	-0.26	0.009
170.00	-2.81	-0.31	0.00	-0.92	0.00	0.92	904.41	452.21	784.74	392.95	4.35	-0.26	0.005
173.00	0.00	0.00	0.00	0.00	0.00	0.00	879.98	439.99	734.56	367.83	4.52	-0.26	0.000
175.00	0.00	0.00	0.00	0.00	0.00	0.00	863.27	431.63	701.67	351.36	4.63	-0.26	0.000

Equivalent Modal Analysis Method

(Based on ASCE7-10 Chapters 11, 12 & 15 and ANSI/TIA-G, section 2.7)

Spectral Response Acceleration for Short Period (S_s):	0.17
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.06
Importance Factor (I_E):	1.00
Site Coefficient F_a :	1.60
Site Coefficient F_v :	2.40
Response Modification Coefficient (R):	1.50
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.18
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.09
Period Based on Rayleigh Method (sec):	2.19
Redundancy Factor (ρ):	1.00

Load Case (1.2 + 0.2Sds) * DL + E EMAM Seismic Equivalent Modal Analysis Method

Segment	Height Above Base (ft)	Weight (lb)	a	b	c	Saz	Horizontal Force (lb)	Vertical Force (lb)
43	174.00	81	1.868	1.868	1.100	0.324	18	100
42	171.50	175	1.815	1.608	1.004	0.293	34	216
41	167.50	302	1.731	1.245	0.864	0.247	50	374
40	164.50	62	1.670	1.012	0.769	0.215	9	77
39	162.00	299	1.620	0.841	0.697	0.190	38	370
38	157.50	386	1.531	0.580	0.580	0.148	38	477
37	153.50	238	1.454	0.394	0.490	0.114	18	294
36	151.00	171	1.407	0.298	0.439	0.095	11	212
35	147.50	437	1.343	0.184	0.375	0.071	21	540
34	142.50	451	1.253	0.061	0.296	0.040	12	557
33	137.50	464	1.167	-0.024	0.231	0.015	5	574
32	134.63	71	1.119	-0.059	0.198	0.003	0	87
31	132.13	803	1.077	-0.082	0.173	-0.006	-3	992
30	127.50	648	1.003	-0.109	0.133	-0.020	-9	800
29	122.50	668	0.926	-0.121	0.098	-0.029	-13	825
28	117.50	688	0.852	-0.119	0.070	-0.033	-15	850
27	112.50	708	0.781	-0.108	0.049	-0.033	-16	875
26	107.50	729	0.713	-0.091	0.032	-0.028	-14	900
25	103.00	597	0.655	-0.072	0.022	-0.020	-8	738
24	100.63	114	0.625	-0.062	0.018	-0.016	-1	140
23	100.13	77	0.619	-0.060	0.017	-0.014	-1	95
22	97.50	1,565	0.587	-0.048	0.013	-0.008	-9	1,933
21	92.50	986	0.528	-0.026	0.008	0.003	2	1,218
20	87.50	1,013	0.472	-0.006	0.006	0.015	10	1,251
19	82.50	1,040	0.420	0.012	0.006	0.025	17	1,284
18	77.50	1,066	0.371	0.027	0.008	0.033	24	1,317
17	72.50	1,093	0.324	0.039	0.010	0.039	29	1,350
16	67.50	1,120	0.281	0.049	0.014	0.043	32	1,384
15	62.50	1,147	0.241	0.057	0.018	0.045	34	1,417
14	57.50	1,174	0.204	0.062	0.023	0.046	36	1,450
13	54.25	357	0.182	0.065	0.026	0.046	11	441
12	51.75	1,560	0.165	0.067	0.028	0.045	47	1,928
11	48.38	1,473	0.144	0.068	0.031	0.045	44	1,819
10	45.88	427	0.130	0.069	0.033	0.045	13	528

9	42.50	1,239	0.111	0.070	0.036	0.044	36	1,530
8	37.50	1,266	0.087	0.071	0.039	0.043	36	1,564
7	32.50	1,293	0.065	0.072	0.041	0.042	36	1,597
6	27.50	1,320	0.047	0.071	0.042	0.041	36	1,630
5	22.50	1,346	0.031	0.068	0.041	0.039	35	1,663
4	17.50	1,373	0.019	0.063	0.037	0.036	33	1,696
3	12.50	1,400	0.010	0.054	0.031	0.032	30	1,729
2	7.50	1,427	0.003	0.039	0.022	0.024	23	1,762
1	2.50	1,454	0.000	0.016	0.009	0.011	10	1,796
RFS FDJ85020Q4-S1	173.00	71	1.847	1.761	1.060	0.311	15	87
Samsung B5/B13 RRH-B	173.00	211	1.847	1.761	1.060	0.311	44	261
Samsung B2/B66A RRH-	173.00	253	1.847	1.761	1.060	0.311	53	313
Antel BXA-80063/4CF	173.00	30	1.847	1.761	1.060	0.311	6	37
RFS DB-T1-6Z-8AB-0Z	173.00	88	1.847	1.761	1.060	0.311	18	109
Andrew SBNHH-1D65B	173.00	152	1.847	1.761	1.060	0.311	32	188
Commscope JAHH-65B-	173.00	364	1.847	1.761	1.060	0.311	75	449
Flat Platform w/ Han	173.00	2,000	1.847	1.761	1.060	0.311	415	2,470
Ericsson Radio 4449	164.00	222	1.660	0.976	0.754	0.210	31	274
Ericsson AIR 21, 1.3	164.00	244	1.660	0.976	0.754	0.210	34	302
Ericsson AIR-32 B2A/	164.00	397	1.660	0.976	0.754	0.210	55	490
Round T-Arms	164.00	750	1.660	0.976	0.754	0.210	105	926
RFS APXVAARR24_43-U-	164.00	384	1.660	0.976	0.754	0.210	54	474
RFS APXV18-206517S-C	152.00	79	1.426	0.335	0.459	0.103	5	98
Generic 7' Omni	101.00	25	0.630	-0.064	0.018	-0.016	0	31
Round Side Arm	101.00	150	0.630	-0.064	0.018	-0.016	-2	185
		39,730	55.414	27.320	20.926	5.896	1,680	49,074

Load Case (0.9 - 0.2Sds) * DL + E EMAM

Seismic (Reduced DL) Equivalent Modal Analysis Method

Segment	Height Above Base (ft)	Weight (lb)	a	b	c	Saz	Horizontal Force (lb)	Vertical Force (lb)
43	174.00	81	1.868	1.868	1.100	0.324	18	70
42	171.50	175	1.815	1.608	1.004	0.293	34	151
41	167.50	302	1.731	1.245	0.864	0.247	50	262
40	164.50	62	1.670	1.012	0.769	0.215	9	54
39	162.00	299	1.620	0.841	0.697	0.190	38	259
38	157.50	386	1.531	0.580	0.580	0.148	38	334
37	153.50	238	1.454	0.394	0.490	0.114	18	206
36	151.00	171	1.407	0.298	0.439	0.095	11	148
35	147.50	437	1.343	0.184	0.375	0.071	21	378
34	142.50	451	1.253	0.061	0.296	0.040	12	390
33	137.50	464	1.167	-0.024	0.231	0.015	5	402
32	134.63	71	1.119	-0.059	0.198	0.003	0	61
31	132.13	803	1.077	-0.082	0.173	-0.006	-3	695
30	127.50	648	1.003	-0.109	0.133	-0.020	-9	560
29	122.50	668	0.926	-0.121	0.098	-0.029	-13	578
28	117.50	688	0.852	-0.119	0.070	-0.033	-15	595
27	112.50	708	0.781	-0.108	0.049	-0.033	-16	613
26	107.50	729	0.713	-0.091	0.032	-0.028	-14	630
25	103.00	597	0.655	-0.072	0.022	-0.020	-8	517
24	100.63	114	0.625	-0.062	0.018	-0.016	-1	98
23	100.13	77	0.619	-0.060	0.017	-0.014	-1	67
22	97.50	1,565	0.587	-0.048	0.013	-0.008	-9	1,353
21	92.50	986	0.528	-0.026	0.008	0.003	2	853
20	87.50	1,013	0.472	-0.006	0.006	0.015	10	876
19	82.50	1,040	0.420	0.012	0.006	0.025	17	899
18	77.50	1,066	0.371	0.027	0.008	0.033	24	922
17	72.50	1,093	0.324	0.039	0.010	0.039	29	945
16	67.50	1,120	0.281	0.049	0.014	0.043	32	969

Site Number: 370625

Code: ANSI/TIA-222-G

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Site Name: Old Saybrook, CT

Engineering Number: 12927162_C3_04

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Customer: METRO PCS INC

15	62.50	1,147	0.241	0.057	0.018	0.045	34	992
14	57.50	1,174	0.204	0.062	0.023	0.046	36	1,015
13	54.25	357	0.182	0.065	0.026	0.046	11	309
12	51.75	1,560	0.165	0.067	0.028	0.045	47	1,350
11	48.38	1,473	0.144	0.068	0.031	0.045	44	1,273
10	45.88	427	0.130	0.069	0.033	0.045	13	370
9	42.50	1,239	0.111	0.070	0.036	0.044	36	1,072
8	37.50	1,266	0.087	0.071	0.039	0.043	36	1,095
7	32.50	1,293	0.065	0.072	0.041	0.042	36	1,118
6	27.50	1,320	0.047	0.071	0.042	0.041	36	1,141
5	22.50	1,346	0.031	0.068	0.041	0.039	35	1,164
4	17.50	1,373	0.019	0.063	0.037	0.036	33	1,188
3	12.50	1,400	0.010	0.054	0.031	0.032	30	1,211
2	7.50	1,427	0.003	0.039	0.022	0.024	23	1,234
1	2.50	1,454	0.000	0.016	0.009	0.011	10	1,257
RFS FDJ85020Q4-S1	173.00	71	1.847	1.761	1.060	0.311	15	61
Samsung B5/B13 RRH-B	173.00	211	1.847	1.761	1.060	0.311	44	182
Samsung B2/B66A RRH-	173.00	253	1.847	1.761	1.060	0.311	53	219
Antel BXA-80063/4CF	173.00	30	1.847	1.761	1.060	0.311	6	26
RFS DB-T1-6Z-8AB-OZ	173.00	88	1.847	1.761	1.060	0.311	18	76
Andrew SBNHH-1D65B	173.00	152	1.847	1.761	1.060	0.311	32	132
Commscope JAHH-65B-	173.00	364	1.847	1.761	1.060	0.311	75	314
Flat Platform w/ Han	173.00	2,000	1.847	1.761	1.060	0.311	415	1,730
Ericsson Radio 4449	164.00	222	1.660	0.976	0.754	0.210	31	192
Ericsson AIR 21, 1.3	164.00	244	1.660	0.976	0.754	0.210	34	211
Ericsson AIR-32 B2A/	164.00	397	1.660	0.976	0.754	0.210	55	343
Round T-Arms	164.00	750	1.660	0.976	0.754	0.210	105	649
RFS APXVAARR24_43-U-	164.00	384	1.660	0.976	0.754	0.210	54	332
RFS APXV18-206517S-C	152.00	79	1.426	0.335	0.459	0.103	5	68
Generic 7' Omni	101.00	25	0.630	-0.064	0.018	-0.016	0	22
Round Side Arm	101.00	150	0.630	-0.064	0.018	-0.016	-2	130
		39,730	55.414	27.320	20.926	5.896	1,680	34,358

Load Case (1.2 + 0.2Sds) * DL + E EMAM Seismic Equivalent Modal Analysis Method

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-47.28	-1.67	0.00	-222.60	0.00	222.60	4,663.96	2,331.98	12,350.39	6,184.38	0.00	0.00	0.046
5.00	-45.52	-1.65	0.00	-214.25	0.00	214.25	4,617.32	2,308.66	11,973.50	5,995.65	0.00	-0.01	0.046
10.00	-43.79	-1.63	0.00	-205.97	0.00	205.97	4,568.59	2,284.30	11,596.46	5,806.85	0.02	-0.02	0.045
15.00	-42.09	-1.60	0.00	-197.82	0.00	197.82	4,517.79	2,258.89	11,219.59	5,618.13	0.04	-0.02	0.045
20.00	-40.43	-1.57	0.00	-189.81	0.00	189.81	4,464.90	2,232.45	10,843.25	5,429.68	0.07	-0.03	0.044
25.00	-38.80	-1.54	0.00	-181.95	0.00	181.95	4,409.93	2,204.97	10,467.77	5,241.66	0.11	-0.04	0.044
30.00	-37.20	-1.51	0.00	-174.24	0.00	174.24	4,352.89	2,176.44	10,093.50	5,054.25	0.15	-0.05	0.043
35.00	-35.64	-1.48	0.00	-166.69	0.00	166.69	4,293.76	2,146.88	9,720.79	4,867.62	0.21	-0.06	0.043
40.00	-34.10	-1.45	0.00	-159.30	0.00	159.30	4,232.55	2,116.28	9,349.96	4,681.93	0.28	-0.07	0.042
45.00	-33.58	-1.44	0.00	-152.08	0.00	152.08	4,169.26	2,084.63	8,981.38	4,497.36	0.35	-0.08	0.042
46.75	-31.76	-1.39	0.00	-149.56	0.00	149.56	4,146.62	2,073.31	8,852.97	4,433.06	0.38	-0.08	0.041
50.00	-29.83	-1.35	0.00	-145.04	0.00	145.04	4,103.90	2,051.95	8,615.37	4,314.09	0.44	-0.09	0.041
53.50	-29.39	-1.34	0.00	-140.33	0.00	140.33	4,094.98	2,047.49	8,566.54	4,289.64	0.50	-0.09	0.040
55.00	-27.94	-1.30	0.00	-138.33	0.00	138.33	4,074.88	2,037.44	8,457.42	4,234.99	0.53	-0.10	0.040
60.00	-26.52	-1.27	0.00	-131.82	0.00	131.82	4,006.53	2,003.26	8,095.71	4,053.87	0.64	-0.11	0.039
65.00	-25.14	-1.24	0.00	-125.47	0.00	125.47	3,936.09	1,968.05	7,737.41	3,874.46	0.76	-0.12	0.039
70.00	-23.79	-1.21	0.00	-119.28	0.00	119.28	3,863.58	1,931.79	7,382.86	3,696.92	0.89	-0.13	0.038
75.00	-22.47	-1.19	0.00	-113.22	0.00	113.22	3,788.99	1,894.50	7,032.42	3,521.44	1.03	-0.14	0.038
80.00	-21.19	-1.17	0.00	-107.27	0.00	107.27	3,712.32	1,856.16	6,686.41	3,348.18	1.18	-0.15	0.038
85.00	-19.94	-1.16	0.00	-101.40	0.00	101.40	3,633.57	1,816.78	6,345.19	3,177.31	1.34	-0.16	0.037
90.00	-18.72	-1.16	0.00	-95.58	0.00	95.58	3,552.73	1,776.37	6,009.09	3,009.01	1.52	-0.17	0.037
95.00	-16.78	-1.17	0.00	-89.77	0.00	89.77	3,469.82	1,734.91	5,678.46	2,843.45	1.71	-0.19	0.036
100.00	-16.69	-1.17	0.00	-83.93	0.00	83.93	3,384.83	1,692.41	5,353.64	2,680.80	1.91	-0.20	0.036
100.25	-16.55	-1.17	0.00	-83.63	0.00	83.63	2,340.16	1,170.08	3,767.44	1,886.52	1.92	-0.20	0.051
101.00	-15.59	-1.18	0.00	-82.75	0.00	82.75	2,332.87	1,166.43	3,736.50	1,871.03	1.95	-0.20	0.051
105.00	-14.69	-1.20	0.00	-78.03	0.00	78.03	2,293.18	1,146.59	3,572.27	1,788.79	2.13	-0.22	0.050
110.00	-13.82	-1.21	0.00	-72.05	0.00	72.05	2,241.70	1,120.85	3,369.07	1,687.04	2.37	-0.23	0.049
115.00	-12.97	-1.23	0.00	-66.00	0.00	66.00	2,188.14	1,094.07	3,168.50	1,586.61	2.62	-0.25	0.048
120.00	-12.14	-1.24	0.00	-59.86	0.00	59.86	2,132.50	1,066.25	2,970.92	1,487.67	2.89	-0.27	0.046
125.00	-11.34	-1.25	0.00	-53.65	0.00	53.65	2,074.78	1,037.39	2,776.66	1,390.39	3.19	-0.29	0.044
130.00	-10.35	-1.25	0.00	-47.41	0.00	47.41	2,014.98	1,007.49	2,586.06	1,294.95	3.50	-0.31	0.042
134.25	-10.26	-1.25	0.00	-42.10	0.00	42.10	1,137.98	568.99	1,433.87	718.00	3.78	-0.32	0.068
135.00	-9.69	-1.25	0.00	-41.16	0.00	41.16	1,134.17	567.08	1,419.73	710.92	3.83	-0.32	0.066
140.00	-9.13	-1.23	0.00	-34.93	0.00	34.93	1,107.59	553.79	1,325.68	663.83	4.18	-0.35	0.061
145.00	-8.59	-1.21	0.00	-28.75	0.00	28.75	1,078.93	539.46	1,232.17	617.00	4.56	-0.37	0.055
150.00	-8.38	-1.20	0.00	-22.68	0.00	22.68	1,048.18	524.09	1,139.55	570.62	4.97	-0.40	0.048
152.00	-7.98	-1.18	0.00	-20.27	0.00	20.27	1,035.30	517.65	1,102.82	552.23	5.14	-0.41	0.044
155.00	-7.51	-1.14	0.00	-16.73	0.00	16.73	1,015.36	507.68	1,048.15	524.85	5.40	-0.42	0.039
160.00	-7.14	-1.10	0.00	-11.03	0.00	11.03	980.46	490.23	958.32	479.87	5.84	-0.44	0.030
164.00	-4.60	-0.79	0.00	-6.62	0.00	6.62	951.04	475.52	887.82	444.57	6.21	-0.45	0.020
165.00	-4.22	-0.74	0.00	-5.83	0.00	5.83	943.48	471.74	870.40	435.85	6.31	-0.45	0.018
170.00	-4.01	-0.71	0.00	-2.12	0.00	2.12	904.41	452.21	784.74	392.95	6.78	-0.45	0.010
173.00	0.00	0.00	0.00	0.00	0.00	0.00	879.98	439.99	734.56	367.83	7.06	-0.45	0.000
175.00	0.00	0.00	0.00	0.00	0.00	0.00	863.27	431.63	701.67	351.36	7.25	-0.45	0.000

Site Number: 370625

Code: ANSI/TIA-222-G

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Site Name: Old Saybrook, CT

Engineering Number: 12927162_C3_04

7/16/2019 1:24:40 PM

Customer: METRO PCS INC

Load Case (0.9 - 0.2Sds) * DL + E EMAM Seismic (Reduced DL) Equivalent Modal Analysis Method

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-33.10	-1.67	0.00	-220.12	0.00	220.12	4,663.96	2,331.98	12,350.39	6,184.38	0.00	0.00	0.043
5.00	-31.87	-1.65	0.00	-211.76	0.00	211.76	4,617.32	2,308.66	11,973.50	5,995.65	0.00	-0.01	0.042
10.00	-30.66	-1.63	0.00	-203.51	0.00	203.51	4,568.59	2,284.30	11,596.46	5,806.85	0.02	-0.02	0.042
15.00	-29.47	-1.60	0.00	-195.38	0.00	195.38	4,517.79	2,258.89	11,219.59	5,618.13	0.04	-0.02	0.041
20.00	-28.30	-1.56	0.00	-187.40	0.00	187.40	4,464.90	2,232.45	10,843.25	5,429.68	0.07	-0.03	0.041
25.00	-27.16	-1.53	0.00	-179.57	0.00	179.57	4,409.93	2,204.97	10,467.77	5,241.66	0.10	-0.04	0.040
30.00	-26.04	-1.50	0.00	-171.91	0.00	171.91	4,352.89	2,176.44	10,093.50	5,054.25	0.15	-0.05	0.040
35.00	-24.95	-1.47	0.00	-164.42	0.00	164.42	4,293.76	2,146.88	9,720.79	4,867.62	0.21	-0.06	0.040
40.00	-23.88	-1.43	0.00	-157.09	0.00	157.09	4,232.55	2,116.28	9,349.96	4,681.93	0.27	-0.07	0.039
45.00	-23.51	-1.42	0.00	-149.93	0.00	149.93	4,169.26	2,084.63	8,981.38	4,497.36	0.35	-0.08	0.039
46.75	-22.23	-1.38	0.00	-147.44	0.00	147.44	4,146.62	2,073.31	8,852.97	4,433.06	0.38	-0.08	0.039
50.00	-20.88	-1.33	0.00	-142.96	0.00	142.96	4,103.90	2,051.95	8,615.37	4,314.09	0.43	-0.09	0.038
53.50	-20.58	-1.32	0.00	-138.31	0.00	138.31	4,094.98	2,047.49	8,566.54	4,289.64	0.50	-0.09	0.037
55.00	-19.56	-1.29	0.00	-136.32	0.00	136.32	4,074.88	2,037.44	8,457.42	4,234.99	0.53	-0.10	0.037
60.00	-18.57	-1.25	0.00	-129.89	0.00	129.89	4,006.53	2,003.26	8,095.71	4,053.87	0.63	-0.11	0.037
65.00	-17.60	-1.22	0.00	-123.63	0.00	123.63	3,936.09	1,968.05	7,737.41	3,874.46	0.75	-0.12	0.036
70.00	-16.65	-1.20	0.00	-117.51	0.00	117.51	3,863.58	1,931.79	7,382.86	3,696.92	0.88	-0.13	0.036
75.00	-15.73	-1.17	0.00	-111.54	0.00	111.54	3,788.99	1,894.50	7,032.42	3,521.44	1.02	-0.14	0.036
80.00	-14.83	-1.16	0.00	-105.68	0.00	105.68	3,712.32	1,856.16	6,686.41	3,348.18	1.17	-0.15	0.036
85.00	-13.96	-1.15	0.00	-99.90	0.00	99.90	3,633.57	1,816.78	6,345.19	3,177.31	1.33	-0.16	0.035
90.00	-13.10	-1.14	0.00	-94.17	0.00	94.17	3,552.73	1,776.37	6,009.09	3,009.01	1.50	-0.17	0.035
95.00	-11.75	-1.15	0.00	-88.45	0.00	88.45	3,469.82	1,734.91	5,678.46	2,843.45	1.69	-0.18	0.034
100.00	-11.68	-1.15	0.00	-82.69	0.00	82.69	3,384.83	1,692.41	5,353.64	2,680.80	1.89	-0.20	0.034
100.25	-11.58	-1.15	0.00	-82.41	0.00	82.41	2,340.16	1,170.08	3,767.44	1,886.52	1.90	-0.20	0.049
101.00	-10.92	-1.16	0.00	-81.54	0.00	81.54	2,332.87	1,166.43	3,736.50	1,871.03	1.93	-0.20	0.048
105.00	-10.29	-1.18	0.00	-76.89	0.00	76.89	2,293.18	1,146.59	3,572.27	1,788.79	2.10	-0.21	0.047
110.00	-9.67	-1.19	0.00	-71.00	0.00	71.00	2,241.70	1,120.85	3,369.07	1,687.04	2.33	-0.23	0.046
115.00	-9.08	-1.21	0.00	-65.03	0.00	65.03	2,188.14	1,094.07	3,168.50	1,586.61	2.58	-0.25	0.045
120.00	-8.50	-1.22	0.00	-58.98	0.00	58.98	2,132.50	1,066.25	2,970.92	1,487.67	2.85	-0.27	0.044
125.00	-7.94	-1.23	0.00	-52.87	0.00	52.87	2,074.78	1,037.39	2,776.66	1,390.39	3.14	-0.28	0.042
130.00	-7.24	-1.23	0.00	-46.72	0.00	46.72	2,014.98	1,007.49	2,586.06	1,294.95	3.45	-0.30	0.040
134.25	-7.18	-1.23	0.00	-41.48	0.00	41.48	1,137.98	568.99	1,433.87	718.00	3.73	-0.32	0.064
135.00	-6.78	-1.23	0.00	-40.55	0.00	40.55	1,134.17	567.08	1,419.73	710.92	3.78	-0.32	0.063
140.00	-6.39	-1.22	0.00	-34.41	0.00	34.41	1,107.59	553.79	1,325.68	663.83	4.12	-0.35	0.058
145.00	-6.01	-1.20	0.00	-28.33	0.00	28.33	1,078.93	539.46	1,232.17	617.00	4.50	-0.37	0.051
150.00	-5.86	-1.19	0.00	-22.34	0.00	22.34	1,048.18	524.09	1,139.55	570.62	4.90	-0.39	0.045
152.00	-5.59	-1.16	0.00	-19.97	0.00	19.97	1,035.30	517.65	1,102.82	552.23	5.07	-0.40	0.042
155.00	-5.25	-1.12	0.00	-16.48	0.00	16.48	1,015.36	507.68	1,048.15	524.85	5.32	-0.41	0.037
160.00	-5.00	-1.08	0.00	-10.87	0.00	10.87	980.46	490.23	958.32	479.87	5.76	-0.43	0.028
164.00	-3.22	-0.78	0.00	-6.53	0.00	6.53	951.04	475.52	887.82	444.57	6.13	-0.44	0.018
165.00	-2.96	-0.73	0.00	-5.75	0.00	5.75	943.48	471.74	870.40	435.85	6.22	-0.44	0.016
170.00	-2.80	-0.70	0.00	-2.09	0.00	2.09	904.41	452.21	784.74	392.95	6.68	-0.45	0.008
173.00	0.00	0.00	0.00	0.00	0.00	0.00	879.98	439.99	734.56	367.83	6.97	-0.45	0.000
175.00	0.00	0.00	0.00	0.00	0.00	0.00	863.27	431.63	701.67	351.36	7.15	-0.45	0.000

Site Number: 370625

Code: ANSI/TIA-222-G

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Site Name: Old Saybrook, CT

Engineering Number: 12927162_C3_04

7/16/2019 1:24:40 PM

Customer: METRO PCS INC

Analysis Summary

Load Case	Reactions						Max Usage	
	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)	Elev (ft)	Interaction Ratio
1.2D + 1.6W	32.73	0.00	47.64	0.00	0.00	3786.96	134.25	0.69
0.9D + 1.6W	32.72	0.00	35.72	0.00	0.00	3754.49	134.25	0.68
1.2D + 1.0Di + 1.0Wi	8.86	0.00	68.27	0.00	0.00	980.50	134.25	0.18
(1.2 + 0.2Sds) * DL + E ELFM	1.19	0.00	47.28	0.00	0.00	163.30	134.25	0.04
(1.2 + 0.2Sds) * DL + E EMAM	1.67	0.00	47.28	0.00	0.00	222.60	134.25	0.07
(0.9 - 0.2Sds) * DL + E ELFM	1.19	0.00	33.10	0.00	0.00	161.62	134.25	0.04
(0.9 - 0.2Sds) * DL + E EMAM	1.67	0.00	33.10	0.00	0.00	220.12	134.25	0.06
1.0D + 1.0W	6.21	0.00	39.73	0.00	0.00	715.15	134.25	0.14



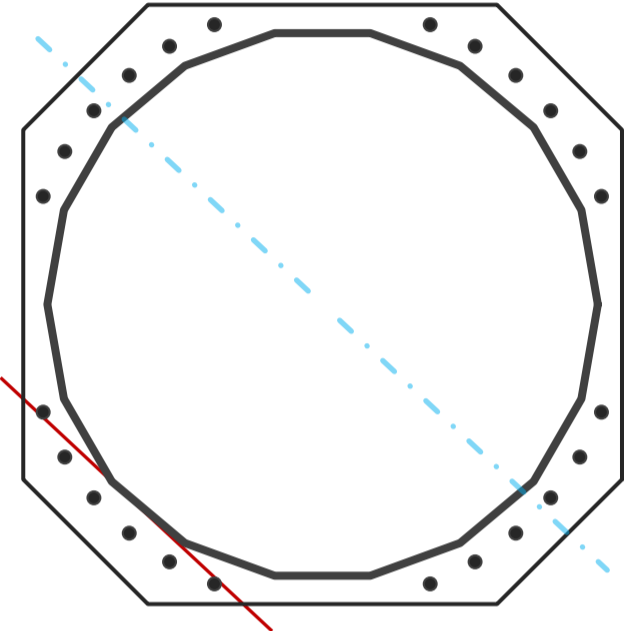
Base Plate & Anchor Rod Analysis

Pole Dimensions		
Number of Sides	18	-
Diameter	64.69	in
Thickness	0.375	in
Orientation Offset	0	°

Base Reactions		
Moment, Mu	3787.0	k-ft
Axial, Pu	47.6	k
Shear, Vu	32.7	k
Neutral Axis	137	°

Report Capacities		
Component	Capacity	Result
Base Plate	40%	Pass
Anchor Rods	41%	Pass
Dwyidag	-	-

Base Plate		
Shape	Square	-
Width	72	in
Thickness	2 3/4	in
Grade	A572-50	-
Yield Strength, Fy	50	ksi
Tensile Strength, Fu	65	ksi
Clip	15	in
Orientation Offset	0	°
Anchor Rod Detail	d	η=0.5
Clear Distance	3	in
Applied Moment, Mu	1247.1	k
Bending Stress, φMn	3116.7	k



Original Anchor Rods		
Arrangement	Cluster	-
Quantity	24	-
Diameter, φ	2 1/4	in
Bolt Circle	72	in
Grade	A615-75	-
Yield Strength, Fy	75	ksi
Tensile Strength, Fu	100	ksi
Spacing	6.0	in
Orientation Offset	0	°
Applied Force, Pu	107.0	k
Anchor Rods, φPn	259.8	k

Calculations for Monopole Base Plate & Anchor Rod Analysis

Reaction Distribution

Reaction	Shear Vu	Moment Mu	Factor
-	k	k-ft	-
Base Forces	32.7	3787.0	1.00
Anchor Rod Forces	32.7	3787.0	1.00
Additional Bolt (Grp1) Forces	0.0	0.0	0.00
Additional Bolt (Grp2) Forces	0.0	0.0	0.00
Dywidag Forces	0.0	0.0	0.00
Stiffener Forces	0.0	0.0	0.00

Geometric Properties

Section	Gross Area	Net Area	Individual Inertia	Threads per Inch	Moment of Inertia
-	in ²	in ²	in ⁴	#	in ⁴
Pole	75.3852	4.1881	0.1969		38981.66
Bolt	3.9761	3.2477	0.8393	4.5	50528.21
Bolt1	0.0000	0.0000	0.0000	0	0.00
Bolt2	0.0000	0.0000	0.0000	0	0.00
Dywidag	0.0000	0.0000	0.0000		0.00
Stiffener	0.0000	0.0000	0.0000		0.00

Base Plate		
Shape	Square	-
Width, W	72	in
Thickness, t	2.75	in
Yield Strength, Fy	50	ksi
Tensile Strength, Fu	65	ksi
Base Plate Chord	31.610	in
Detail Type	d	-
Detail Factor	0.50	-
Clear Distance	3	-

Anchor Rods		
Anchor Rod Quantity, N	24	-
Rod Diameter, d	2.25	in
Bolt Circle, BC	72	in
Yield Strength, Fy	75	ksi
Tensile Strength, Fu	100	ksi
Applied Axial, Pu	107.0	k
Applied Shear, Vu	0.1	k
Compressive Capacity, φPn	259.8	k
Tensile Capacity, φRnt	0.412	OK
Interaction Capacity	0.413	OK

External Base Plate		
Chord Length AA	36.633	in
Additional AA	0.000	in
Section Modulus, Z	69.260	in ³
Applied Moment, Mu	1247.1	k-ft
Bending Capacity, φMn	3116.7	k-ft
Capacity, Mu/φMn	0.400	OK
Chord Length AB	35.628	in
Additional AB	0.000	in
Section Modulus, Z	67.359	in ³
Applied Moment, Mu	985.4	k-ft
Bending Capacity, φMn	3031.1	k-ft
Capacity, Mu/φMn	0.325	OK
Bend Line Length	0.000	in
Additional Bend Line	0.000	in
Section Modulus, Z	0.000	in ³
Applied Moment, Mu	0.0	k-ft
Bending Capacity, φMn	0.0	k-ft
Capacity, Mu/φMn		

Internal Base Plate		
Arc Length	0.000	in
Section Modulus, Z	0.000	in ³
Moment Arm	0.000	in
Applied Moment, Mu	0.0	k-ft
Bending Capacity, φMn	0.0	k-ft
Capacity, Mu/φMn		

**Mount Analysis of Existing T-Arms for
 American Tower on behalf of T-Mobile
 370625 - Old Saybrook, CT
 Project #: 12927162
 T-Mobile Site ID: CTHA540A
 Program: L600**

CLS Engineering PLLC Project #41124-12927162-01-MA-R1
 July 5, 2019

MOUNT DESCRIPTION	Existing T-Arms at 162 ft AGL
ANTENNA ELEVATION	Nominal Rad. Elevation of 162 ft AGL
SITE DESCRIPTION	175 ft Monopole
SITE ADDRESS	77 Springbrook Road, Old Saybrook, CT 06475, Middlesex County
GPS COORDINATES	41.313800, -72.36400
ANALYSIS STANDARD	2015 IBC / 2018 Connecticut Building Code / TIA-222-G
LOADING CRITERIA	135 mph, V_{ult} / 104.6 mph, V_{asd} (3-Second Gust) w/o ice & 50 mph (3-Second Gust) w/ 0.75"

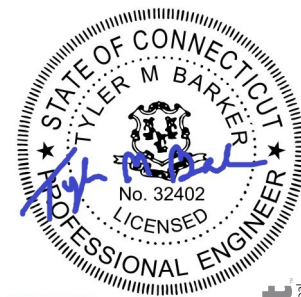
■ ANALYSIS RESULT: **Pass (Conditional)**

MEMBER USAGE	69%	Pass
COLLAR USAGE	98%	Pass

Modifications are proposed to bring mounts into compliance; see conclusion for details.

Prepared by:
Sean Rock, E.I.

Reviewed and Approved by:
Tyler M. Barker, P.E.



Tyler M. Barker
 CLS Engineering, PLLC
 Director of Engineering
 PE # 32402 Exp. 1/31/2020
 COA # PEC.001833 Exp. 8/14/2019



Digitally signed by
 Tyler Barker
 DN: c=US,
 o=Telamon
 Corporation,
 ou=A01427E0000016
 A4525ADF800001D1
 7, cn=Tyler Barker
 Date: 2019.07.08
 09:07:51 -04'00'

■ INTRODUCTION

The proposed equipment is to be mounted to the existing T-Arms. This proposed mounting configuration was analyzed using RISA-3D, a commercially available finite element analysis software package. A selection of input and output from our analysis is attached to the end of this report.

■ STRUCTURAL DOCUMENTS PROVIDED

STRUCTURAL DATA	Site Photos, dated June 05, 2018 Site Pro 1 Drawing #PRK-1245, dated April 10, 2014 Site Pro 1 Drawing #PUCK, dated September 01, 2010 Site Pro 1 Drawing #SCX-45K, dated February 19, 2015
PREVIOUS ANALYSES	Structural Evaluation by ATC, Engineering #12927162_C2_02, dated April 08, 2019 Tower SA by ATC, Engineering #12616992_C3_01, dated October 25, 2018
LOADING DATA	ATC Application, Project #12927162, dated April 03, 2019

■ ANALYSIS CRITERIA

STANDARD	2015 IBC / 2018 Connecticut Building Code / TIA-222-G
BASIC WIND SPEED	135 mph, V_{ult} / 104.6 mph, V_{asd} (3-Second Gust)
BASIC WIND SPEED W/ ICE	50 mph (3-Second Gust) w/ 0.75" Radial Ice (Escalating)
EXPOSURE CATEGORY	C
MAX. TOPOGRAPHIC FACTOR, K_{zt}	1.00
RISK CATEGORY	II
MAINTENANCE LIVE LOAD	L_M : 500 lb

■ FINAL EQUIPMENT

ELEVATION (ft)		ANTENNAS	
MOUNT	RAD.	#	NAME
162.0	162.0	3	Ericsson AIR 32 B2A/B66AA
		3	Ericsson AIR 21, 1.3 M, B4A B2P
		3	Ericsson RADIO 4449 B12/B71
		3	RFS Celwave APXVAARR24_43-U-NA20

■ **RESULTS SUMMARY**

Existing Mount Usages:

COMPONENT	PEAK USAGE	RESULT
Collar Reactions	135%	Fail
Mount Pipes	105%	Acceptable
Connections	96%	Pass
Stand-Off Horizontals	97%	Pass
Face Horizontals	56%	Pass

*Usages upto 105% are considered acceptable.

Modified Mount Usages:

COMPONENT	PEAK USAGE	RESULT
Collar Reactions	98%	Pass
Connections	84%	Pass
Face Horizontals	69%	Pass
Stand-Off Horizontals	53%	Pass
Mount Pipes	48%	Pass
Stiff Arms	22%	Pass
Vertical Pipe	6%	Pass

■ **CONCLUSION AND RECOMMENDATIONS**

According to our structural analysis, the mounts have been found to **CONDITIONALLY PASS**. The mounting configuration considered in this analysis will be capable of supporting the referenced loading pursuant to referenced standards once the following scope is executed:

- Install (1) proposed Site Pro 1 PRK-1245 reinforcement kit on existing T-Arm mount as shown in the following sketches. Field-Cut proposed angles as required. Maintain minimum bolt edge distance as required.
- Replace (1) existing mount pipe at Position 2 with 8 ft. long, Pipe 2.5 STD, A53 Gr. B mount pipe at each sector (3 total). Connect to existing face horizontal pipe with Site Pro 1 SCX45-K crossover plate kit or equal (3 total).
- Install (2) 6 ft. long, Pipe 2 STD, A53 Gr. B, bracing pipes at each sector (6 total). Connect to outermost mount pipes of adjacent sector with Site Pro 1 SCX1-K crossover plate kit or equal (12 total).

See following sketches and Site Pro 1 assembly drawings for additional details.

■ ASSUMPTIONS AND CONDITIONS

This analysis is inclusive of the antenna supporting frames/mounts and all recorded connections that will support the equipment listed in this report. It considers only the theoretical capacity of structural components and it is not a condition assessment. The validity of the analysis may be dependent on the accuracy of structural information supplied by others. The client is responsible for verifying this information. If any provided information is revised after completion of this analysis, CLS Engineering PLLC should be notified immediately to revise results.

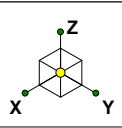
This analysis assumes the following:

1. The tower or other superstructure and mounts (if existing) were properly constructed as per the original design and have been properly maintained in accordance with applicable code standards.
2. Member sizes and strengths are accurate as supplied or are assumed as stated in the calculations.
3. In the absence of sufficient design information, all welds and connections are assumed to develop at least the capacity of the connected member, unless otherwise stated in this analysis.
4. All prior structural modifications, if any, are assumed to be correctly installed and fully effective.
5. The loading configuration is complete and accurate as supplied and/or as modeled in the previous analysis. All appurtenances are assumed to be properly installed and supported as per manufacturer requirements.
6. Some conservative assumptions may be used regarding appurtenances and their projected areas based on careful interpretation of data supplied, previous experience and standard industry practice.

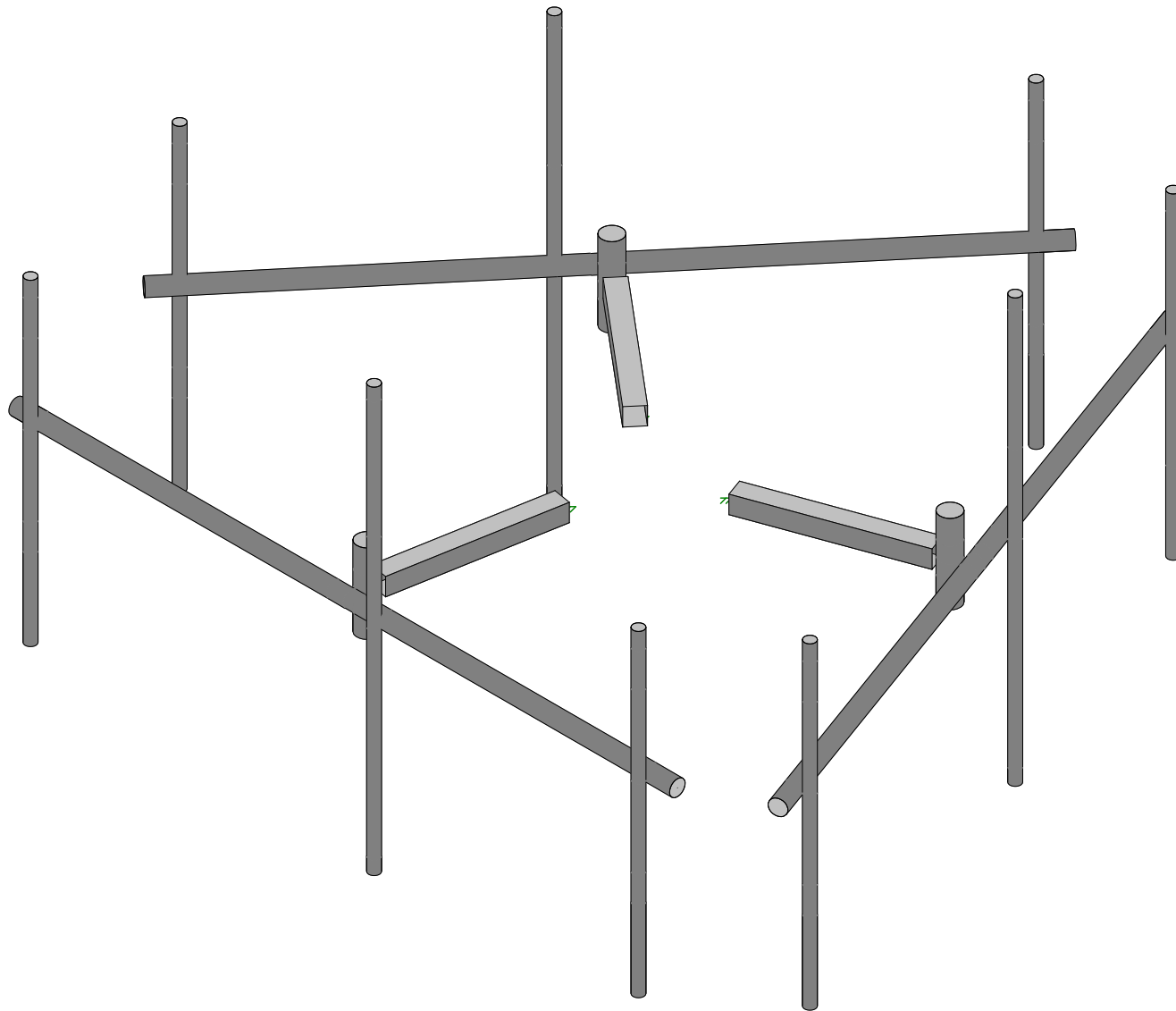
All opinions and conclusions are considered accurate to a reasonable degree of engineering certainty based upon the evidence available at the time of the report. All opinions and conclusions contained herein are subject to revision based upon receipt of new or updated information. All services are provided exercising a level of care and diligence equivalent to the standard of our profession. No warranty or guarantee, either expressed or implied, is offered. All services are confidential in nature and this report will not be released to any other party without the client's consent. The use of this analysis is limited to the expressed purpose for which it was commissioned and it may not be reused, copied or disseminated for any other purpose without consent from CLS Engineering PLLC.

All services were performed, results obtained and recommendations made in accordance with generally accepted engineering principles and practices. CLS Engineering PLLC is not responsible for the conclusions, opinions or recommendations made by others based on the information supplied in this analysis.

It is not possible to have the fully detailed information necessary to perform a complete and thorough analysis of every structural sub-component of an existing structure. The structural analysis by CLS Engineering PLLC verifies the adequacy of the primary members of the structure. CLS Engineering PLLC provides a limited scope of service in that we cannot verify the adequacy of every weld, bolt, gusset, etc.



Existing T-Arm mount to be modified.

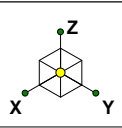


Envelope Only Solution

CLS
ST
41124-12927162-01-MA

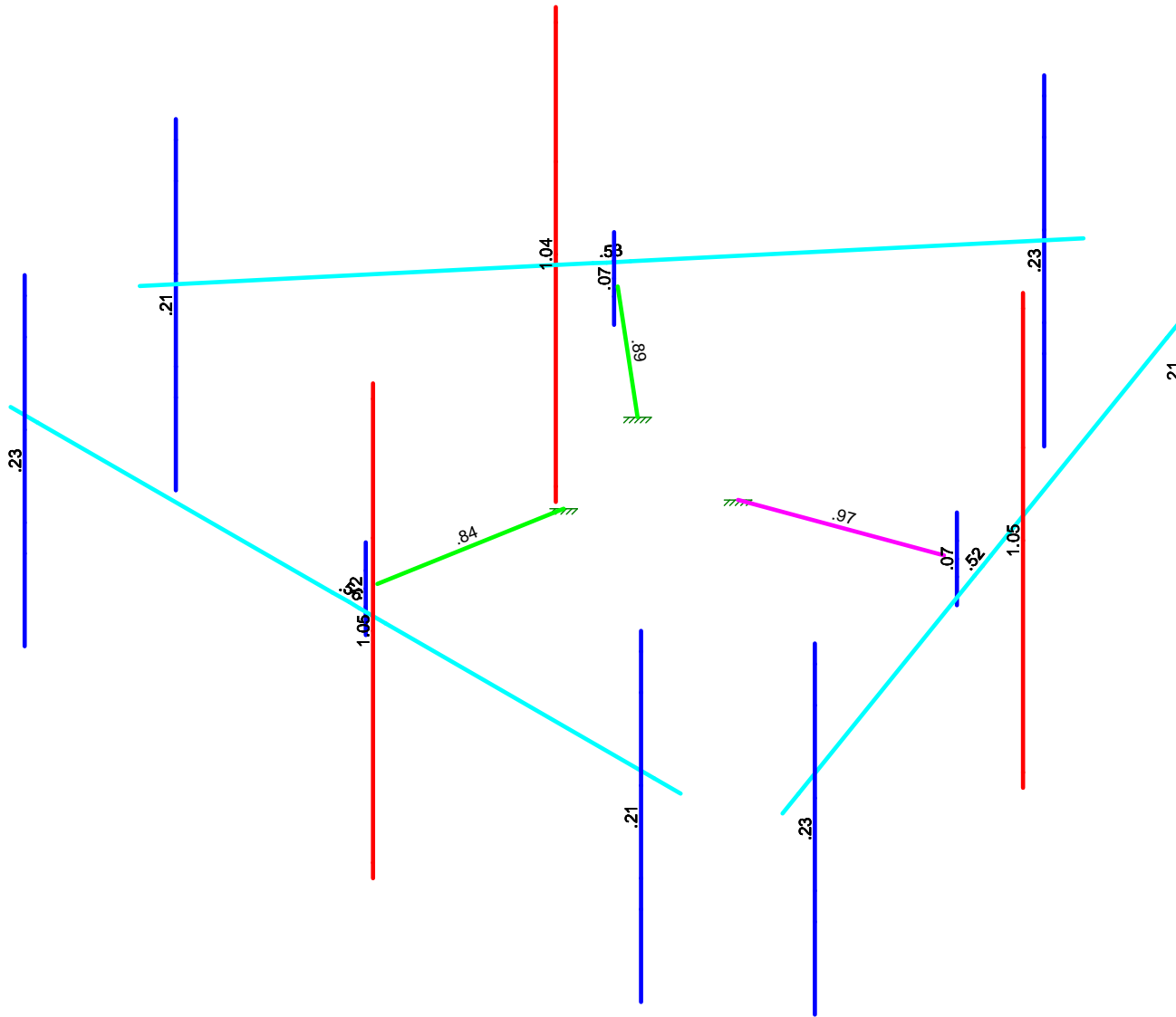
41124-12927162-OLD SAYBROOK
Rendered

FM - 1
Apr 10, 2019 at 11:43 AM
41124-12927162-01-MA.r3d



Existing T-Arm mount to be modified.

Code Check (Env)	
Black	No Calc
Red	> 1.0
Magenta	.90-1.0
Green	.75-.90
Cyan	.50-.75
Blue	0-.50

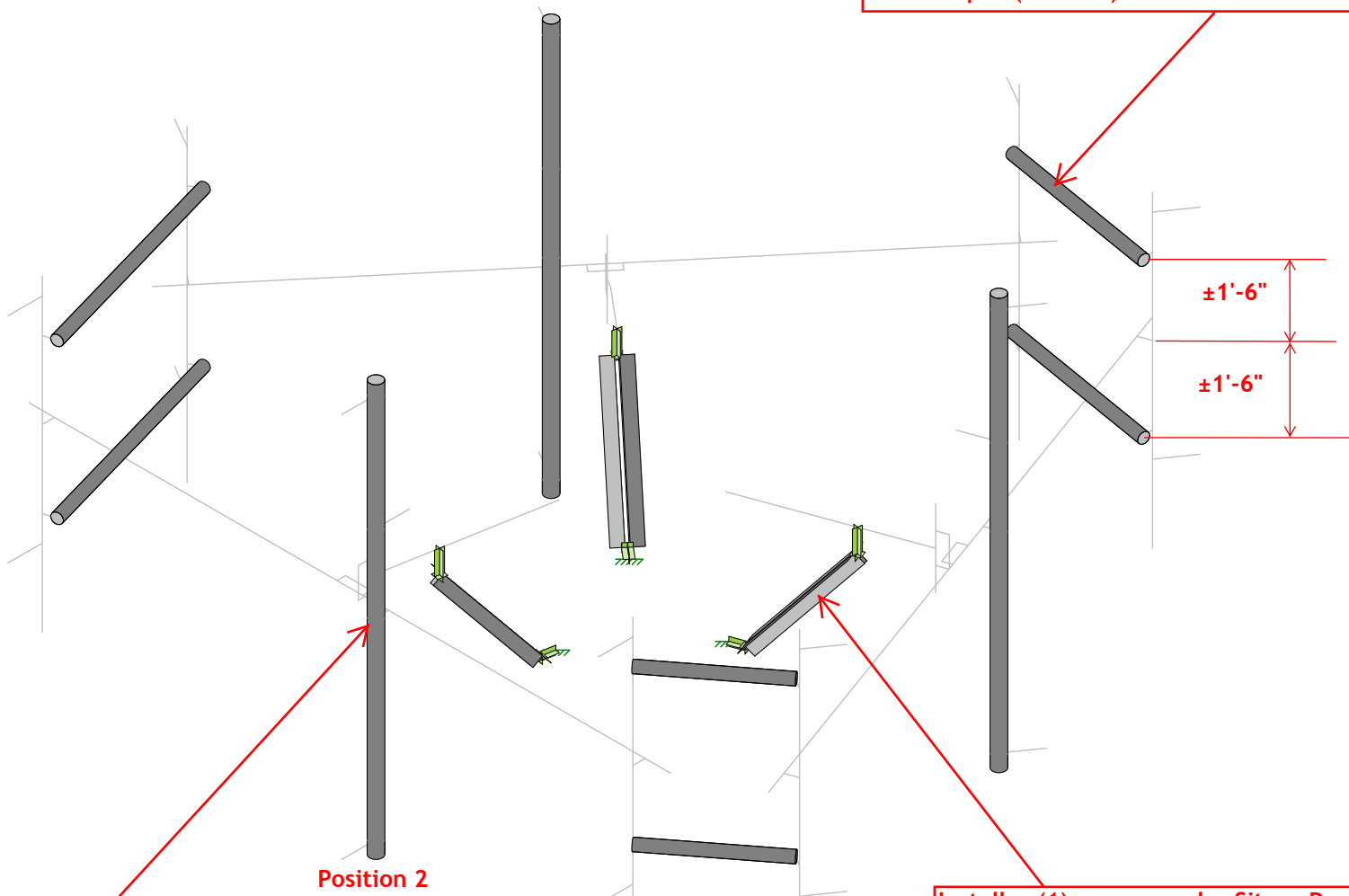
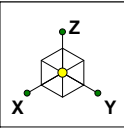


Member Code Checks Displayed (Enveloped)
Envelope Only Solution

CLS
ST
41124-12927162-01-MA

41124-12927162-OLD SAYBROOK
Envelope Member Unity Check Results - Bending

FM - 2
Apr 10, 2019 at 11:43 AM
41124-12927162-01-MA.r3d



Install (2) 6 ft. long, Pipe 2 STD, A53 Gr. B, bracing pipes at each sector (6 total). Connect to outermost mount pipes of adjacent sector with Site Pro 1 SCX1-K crossover plate kits or equal (12 total).

Replace (1) existing mount pipe at Position 2 with 8 ft. long, Pipe 2.5 STD, A53 Gr. B mount pipe at each sector (3 total). Connect to existing face horizontal pipe with Site Pro 1 SCX45-K crossover plate kit or equal (3 total).

Install (1) proposed Site Pro 1 PRK-1245 reinforcement kit on existing T-Arm mount as shown in the following sketches. Field-Cut proposed angles as required. Maintain minimum bolt edge distance as required.

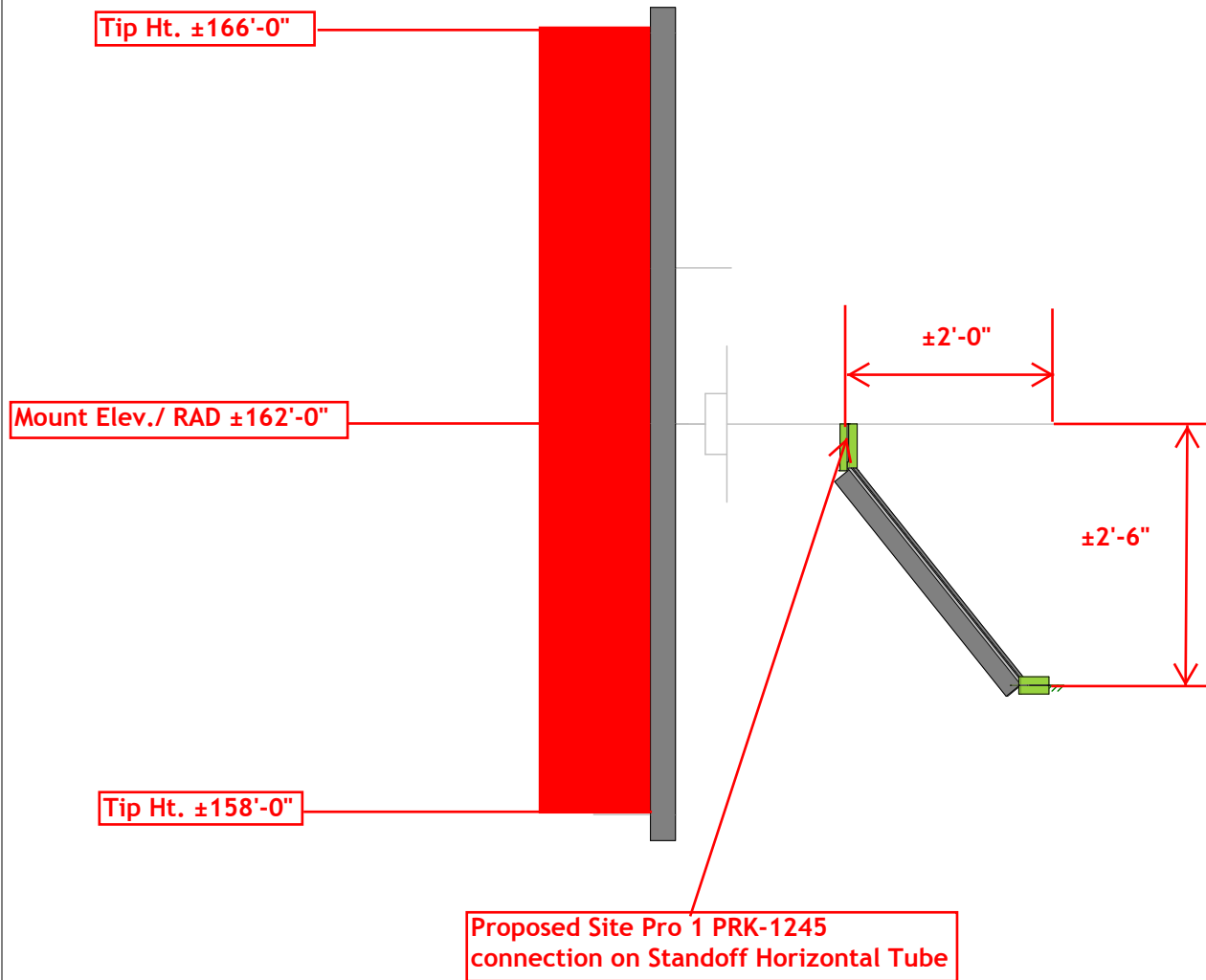
CLS
ST
41124-12927162-01-MA

41124-12927162-OLD SAYBROOK
Installation Sketch - Isometric View

IN - 1
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41124-12927162-01-MA.r3d



Proposed Bracing Pipes not shown for Clarity.

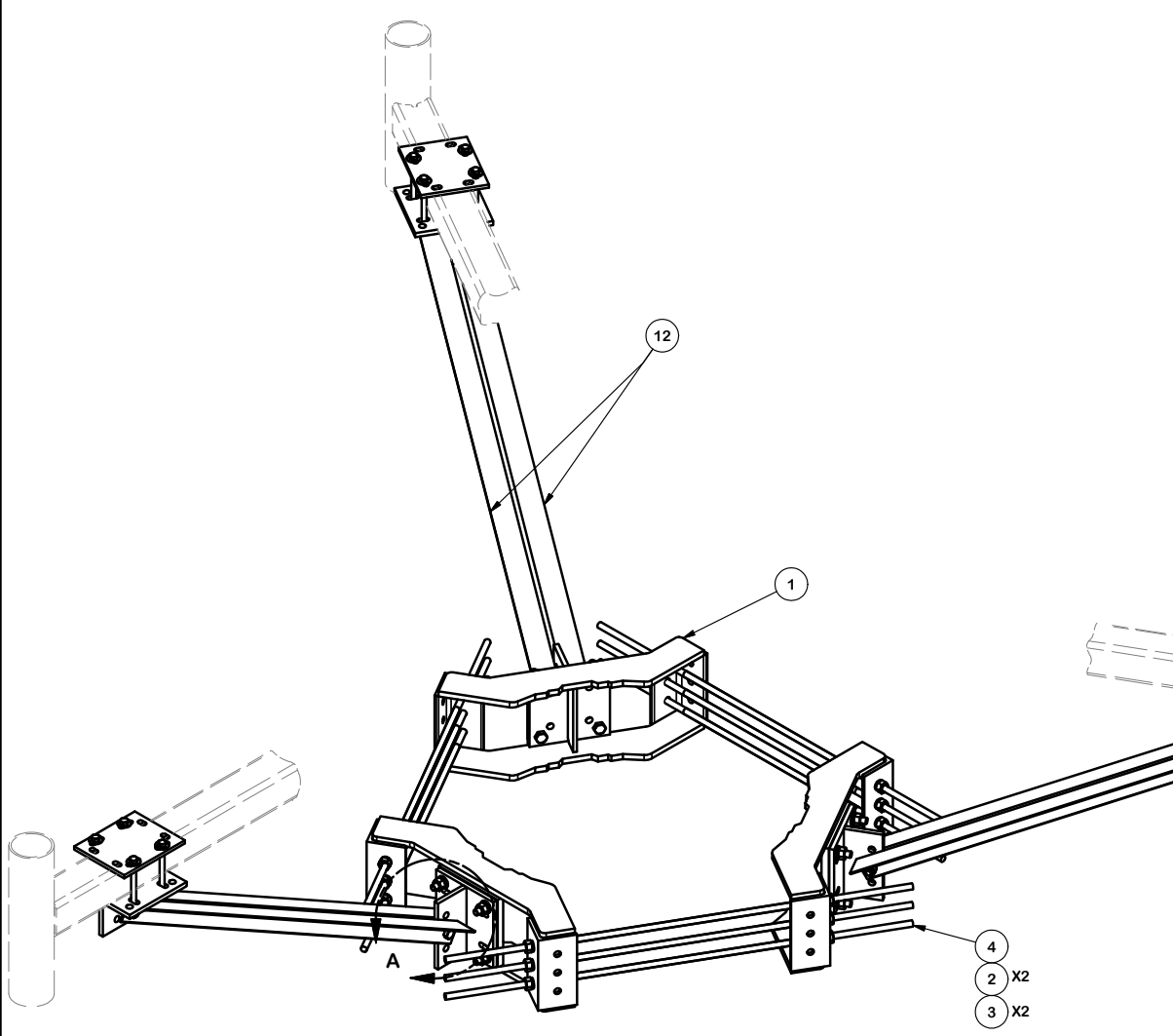


Proposed Site Pro 1 PRK-1245 collar below existing T-Arm mount collar.

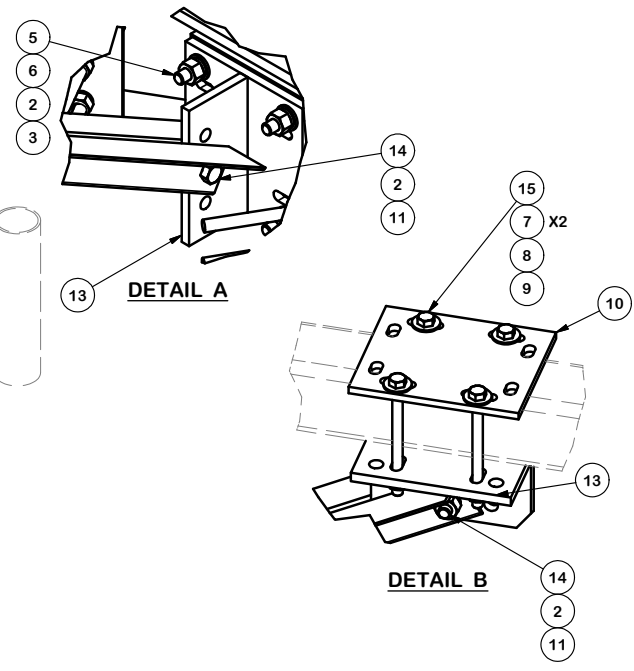
CLS
ST
41124-12927162-01-MA

41124-12927162-OLD SAYBROOK
Installation Sketch - Side Elevation

IN - 2
Apr 9, 2019 at 2:16 PM
41124-12927162-01-MA IMAGES.r3d



PARTS LIST						
ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.
1	3	X-LWRM	RING MOUNT WELDMENT		68.81	206.42
2	36	G58LW	5/8" HDG LOCKWASHER		0.03	0.94
3	30	A58NUT	5/8" HDG A325 HEX NUT		0.13	3.90
4	9	G58R-24	5/8" x 24" THREADED ROD (HDG.)		0.55	4.94
4	9	G58R-48	5/8" x 48" THREADED ROD (HDG.)		0.55	4.94
5	12	A58234	5/8" x 2-3/4" HDG A325 HEX BOLT	2 3/4 in	0.36	4.27
6	12	A58FW	5/8" HDG A325 FLATWASHER		0.03	0.41
7	24	G12FW	1/2" HDG USS FLATWASHER		0.03	0.82
8	12	G12LW	1/2" HDG LOCKWASHER		0.01	0.17
9	12	G12NUT	1/2" HDG HEAVY 2H HEX NUT		0.07	0.86
10	3	SCX4	CROSSOVER PLATE	8 1/2 in	6.02	18.06
11	6	G58NUT	5/8" HDG HEAVY 2H HEX NUT		0.13	0.78
12	6	X-253993	PLATFORM REINFORCEMENT KIT ANGLE	52 25/32 in	14.33	85.99
13	6	X-253992	T-BRACKET FOR REINFORCEMENT KIT		13.55	81.27
14	6	G5802	5/8" x 2" HDG HEX BOLT GR5		0.27	1.62
15	12	G12065	1/2" x 6-1/2" HDG HEX BOLT GR5 FULL THREAD	6 1/2 in	0.41	4.91
TOTAL WT. #						464.91



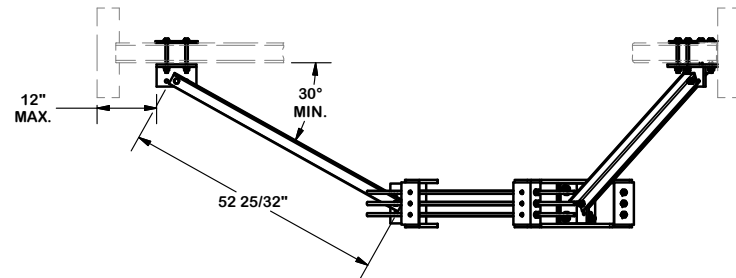
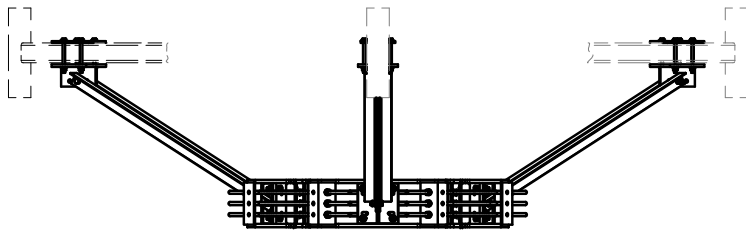
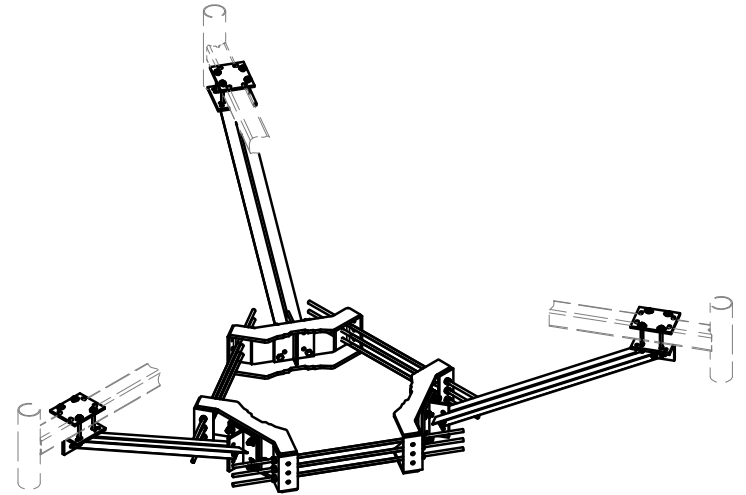
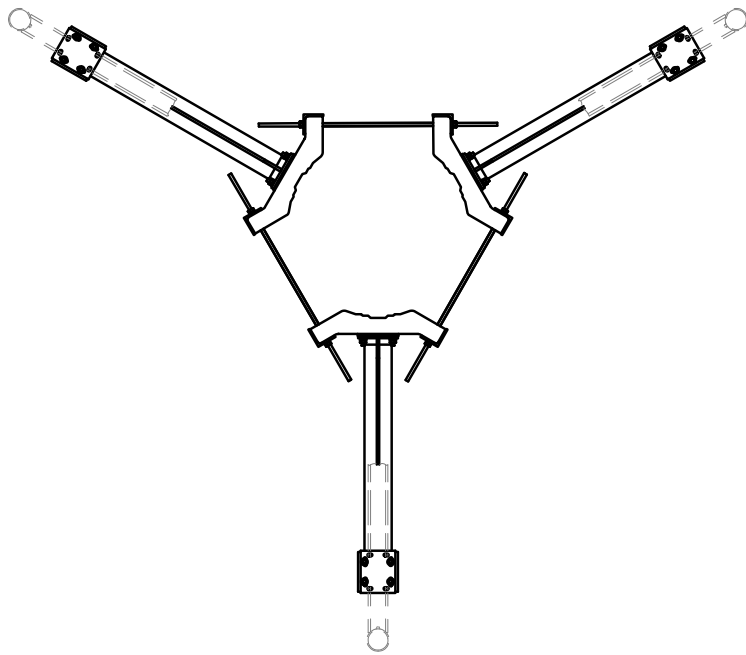
TOLERANCE NOTES

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 DATA AND TECHNIQUES 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		PLATFORM REINFORCEMENT ON A 12" TO 45" POLE 4' 6" ANGLE	
CPD NO.	DRAWN BY	ENG. APPROVAL	
4488	CEK 4/10/2014		
CLASS	SUB	DRAWING USAGE	CHECKED BY
81	01	CUSTOMER	BMC 4/10/2014

 A valmont COMPANY	Locations: New York, NY Atlanta, GA Los Angeles, CA Plymouth, IN Salem, OR Dallas, TX
	Engineering Support Team: 1-888-753-7446
PART NO.	PRK-1245
DWG. NO.	PRK-1245



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 ($\pm 0.060"$)

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DESCRIPTION

PLATFORM REINFORCEMENT
 ON A 12" TO 45" POLE
 4' 6" ANGLE



Engineering Support Team:
 1-888-753-7446

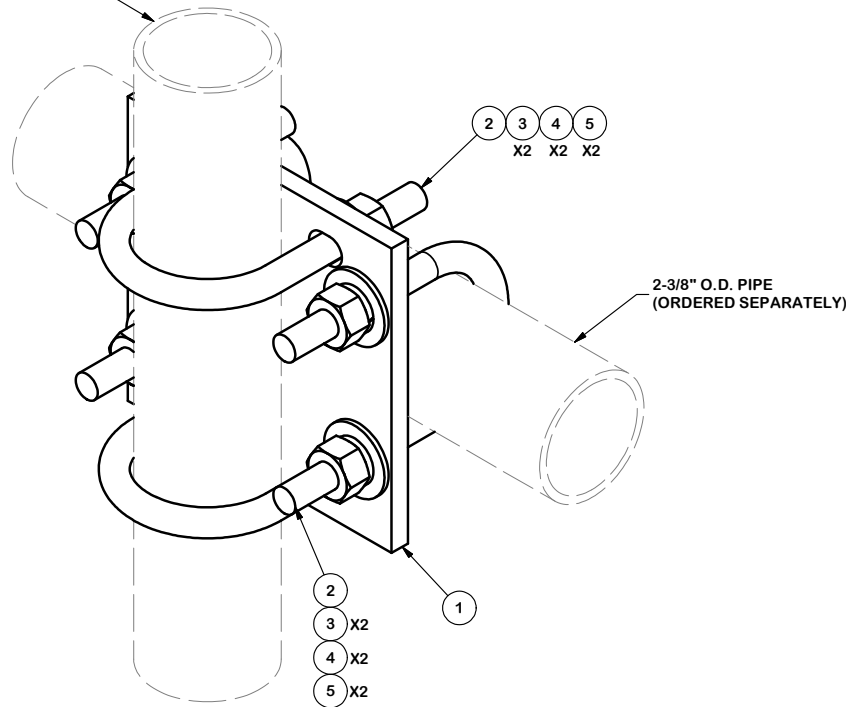
Locations:
 New York, NY
 Atlanta, GA
 Los Angeles, CA
 Plymouth, IN
 Salem, OR
 Dallas, TX

CPD NO. 4488	DRAWN BY CEK 4/10/2014	ENG. APPROVAL
CLASS 81	SUB 01	DRAWING USAGE CUSTOMER
	CHECKED BY BMC 4/10/2014	

PART NO. PRK-1245	PAGE 2 OF 2
DWG. NO. PRK-1245	

PARTS LIST						
ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.
1	1	SCX1	CROSSOVER PLATE 2-3/8" X 2-3/8"		3.71	3.71
2	4	X-UB1212	1/2" X 2-1/2" X 4-1/2" X 2" U-BOLT (HDG.)		0.63	2.50
3	8	G12FW	1/2" HDG USS FLATWASHER		0.03	0.27
4	8	G12LW	1/2" HDG LOCKWASHER		0.01	0.11
5	8	G12NUT	1/2" HDG HEAVY 2H HEX NUT		0.07	0.57
					TOTAL WT. #	7.16

2-3/8" O.D. ANTENNA PIPE
(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 DATA AND TECHNIQUES 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
CROSSOVER PLATE

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

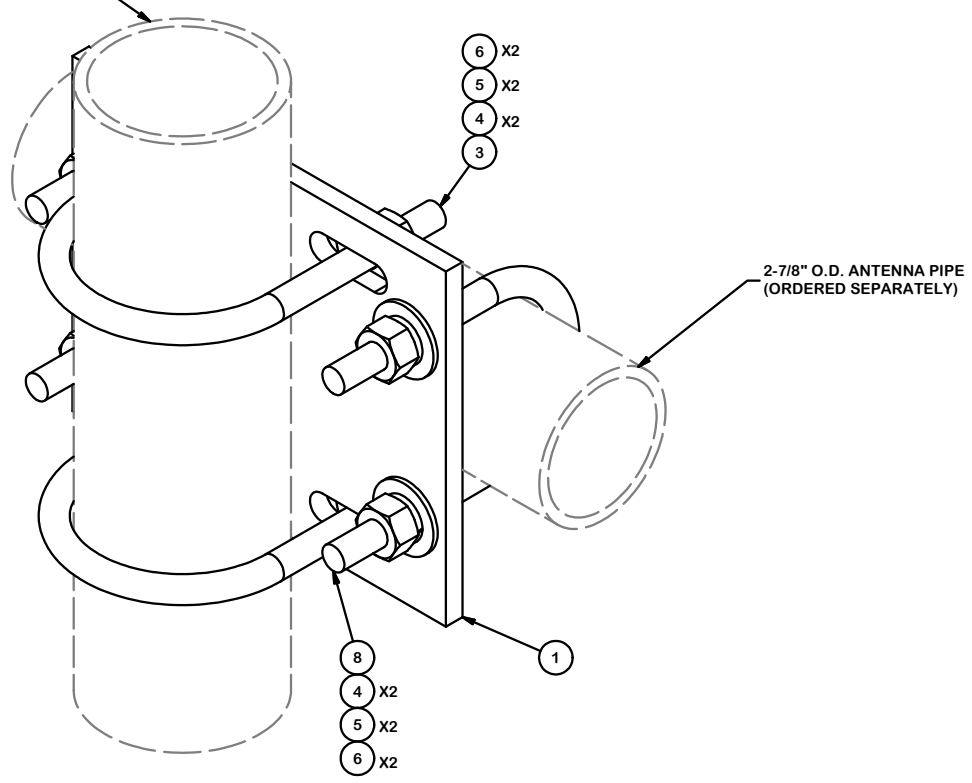
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	CEK 6/30/2011	
CLASS	SUB	DRAWING USAGE
81	01	CUSTOMER
		CHECKED BY
		CEK 8/23/2012

PART NO.	SCX1-K
DWG. NO.	SCX1-K

REV	DESCRIPTION OF REVISIONS	CPD	BY	DATE
A	ADDED MISSING U-BOLT AND HRDWE		KC8	7/5/2012
REVISION HISTORY				

PARTS LIST						
ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.
1	1	SCX4	CROSSOVER PLATE	8 1/2 in	6.02	6.02
3	2	X-UB1358	1/2" X 3-5/8" X 5-1/2" X 3" U-BOLT (HDG.)		0.73	1.46
8	2	X-UB1300	1/2" X 3" X 5" X 2" U-BOLT (HDG.)		0.73	1.46
4	8	G12FW	1/2" HDG USS FLATWASHER		0.03	0.27
5	8	G12LW	1/2" HDG LOCKWASHER		0.01	0.11
6	8	G12NUT	1/2" HDG HEAVY 2H HEX NUT		0.07	0.57
TOTAL WT. #						9.92

3-1/2" O.D. ANTENNA PIPE
(ORDERED SEPRATELY)



2-7/8" O.D. ANTENNA PIPE
(ORDERED SEPRATELY)

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 DATA AND TECHNIQUES 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	CROSSOVER PLATE KIT	
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CPD NO.	DRAWN BY	ENG. APPROVAL
CLASS	DRAWING USAGE	CHECKED BY
81	01	CUSTOMER
		BMC 2/19/2015

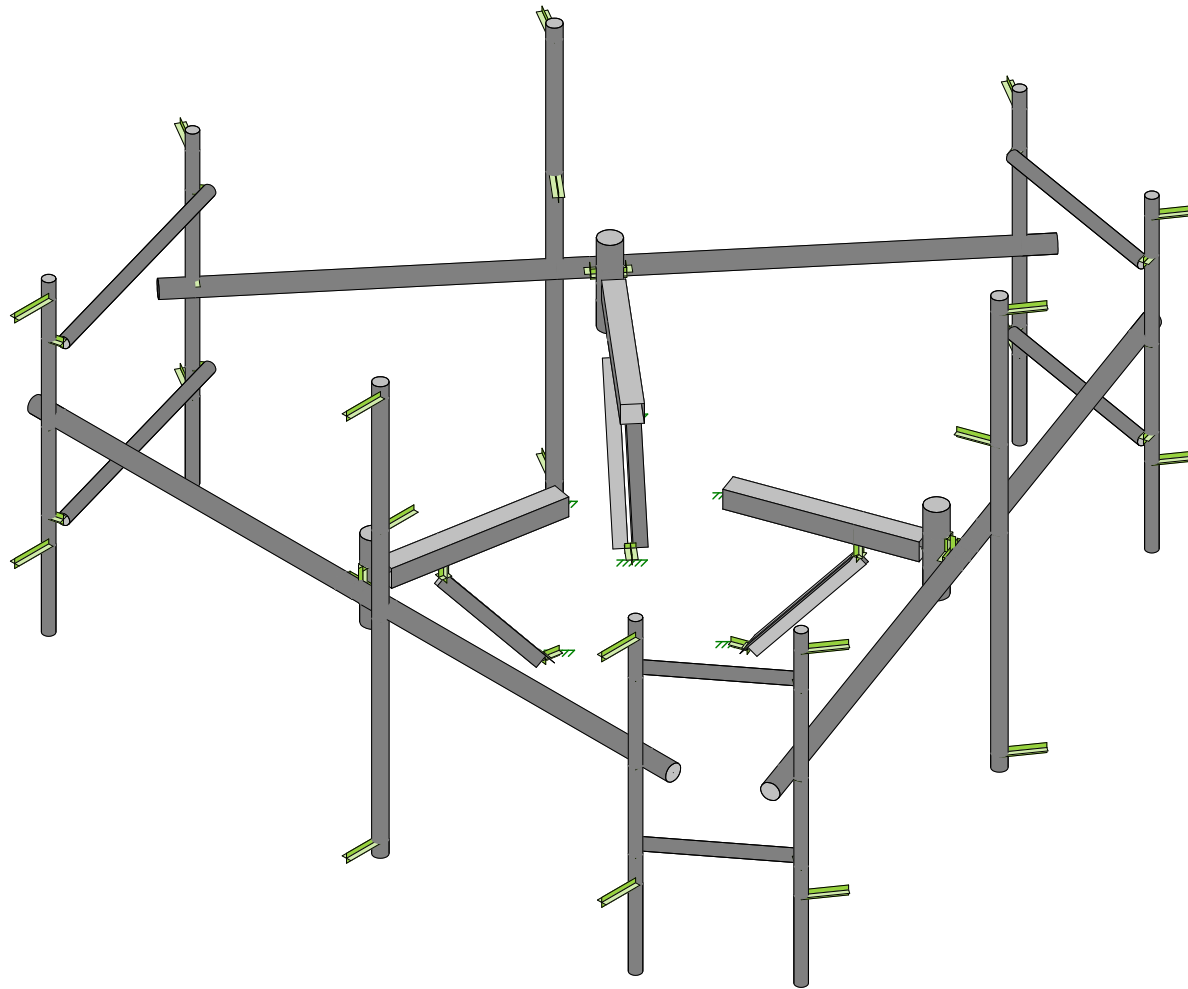
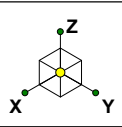
 A valmont COMPANY	Locations: New York, NY Atlanta, GA Los Angeles, CA Plymouth, IN Salem, OR Dallas, TX
	Engineering Support Team: 1-888-753-7446
PART NO.	SCX45-K
DWG. NO.	SCX45-K

Wind & Ice Loading			
Nominal Mount Elevation (AGL), z_{mount}	162 ft	K_a	0.90
Nominal Rad Elevation (AGL), z_{rad}	162 ft	K_d	0.95
Elevation AMSL (ft)	-	K_e	-
TIA Standard	G	K_z	1.40
Basic Wind Speed, V_{ult} (bare)	135 mph	K_{zt}	1.00
Basic Wind Speed, V (ice)	50 mph	K_s	-
Design Ice Thickness, t_i	3/4 in	t_{iz}	1.76 in
Exposure Category	C	G_h	1.00
Risk Category	II	q_z (bare)	62.1 psf
Seismic Response Coeff., C_s	-	q_z (ice)	8.5 psf

Live Loading	
At Mount Pipes, L_M	500 lb
Joint Labels Considered	M1A
	M2A
	M3A

Section Set Label	Shape Label	F_A (lb/ft)		Ice Wt. (lb/ft)
		Bare	Ice	
Standoff Horizontal	HSS4X4X3	37.26	3.08	14.72
Vertical Pipe	PIPE_4.0	25.15	6.15	13.45
Face Horizontal	PIPE_3.0	19.56	5.38	11.30
Mount Pipe	PIPE_2.0	13.27	4.52	8.88
MOD Mount Pipe	PIPE_2.5	16.07	4.90	9.96
MOD PRK	L2.5x2.5x3	23.28	2.94	10.36
MOD Bracing Pipe	PIPE_2.0	13.27	4.52	8.88

Appurtenances																														
Appurtenance Model	Status	Azimuth Offset (°, U)	Rad Elev. Override (ft)	Swap Width & Depth	Area Factor		Qty. per Azimuth			Total Qty. Override	0° Joints		120° Joints		240° Joints		Height (in)	Width (in)	Depth (in)	Weight (Bare) (lb)	Shape	Weight of Ice (lb)	EPA _A (Bare) (ft²)		EPA _A (Ice) (ft²)		F _A (Bare) (lb)		F _A (Ice) (lb)	
					Front	Side	0°	120°	240°		1	2	1	2	1	2							N	T	N	T	N	T	N	T
AIR 21, 1.3 M, B4A B2P				<input type="checkbox"/>			1				A1	A2					56	12	7.9	81.5	Flat	169.68	6.05	4.31	8.08	6.23	338.06	240.87	61.92	47.77
APXVAARR24_43-U-NA20				<input type="checkbox"/>			1				A3	A4					0	0	0	153.3	Generic	396.02	14.67	5.32	17.34	7.68	819.81	297.30	132.95	58.85
AIR 32 B2A/B66AA				<input type="checkbox"/>			1				A5	A6					56.6	12.9	8.7	132.2	Flat	184.92	6.51	4.71	8.58	6.67	363.80	263.34	65.76	51.13
RADIO 4449 B12/B71				<input type="checkbox"/>	0.25		1	1	1		R1A		R1B		R1G		14.9	13.2	9.3	74	Flat	68.61	0.41	1.15	0.64	1.97	22.90	64.53	4.92	15.08
AIR 21, 1.3 M, B4A B2P		-10		<input type="checkbox"/>					1				B1	B2			56	12	7.9	81.5	Flat	169.68	6.05	4.31	8.08	6.23	338.06	240.87	61.92	47.77
APXVAARR24_43-U-NA20		-10		<input type="checkbox"/>					1				B3	B4			0	0	0	153.3	Generic	396.02	14.67	5.32	17.34	7.68	819.81	297.30	132.95	58.85
AIR 32 B2A/B66AA		-10		<input type="checkbox"/>					1				B5	B6			56.6	12.9	8.7	132.2	Flat	161.18	6.51	4.71	8.58	6.67	363.80	263.34	65.76	51.13
AIR 21, 1.3 M, B4A B2P		-35		<input type="checkbox"/>					1						G1	G2	56	12	7.9	81.5	Flat	169.68	6.05	4.31	8.08	6.23	338.06	240.87	61.92	47.77
APXVAARR24_43-U-NA20		-35		<input type="checkbox"/>					1						G3	G4	0	0	0	153.3	Generic	396.02	14.67	5.32	17.34	7.68	819.81	297.30	132.95	58.85
AIR 32 B2A/B66AA		-35		<input type="checkbox"/>					1						G5	G6	56.6	12.9	8.7	132.2	Flat	161.18	6.51	4.71	8.58	6.67	363.80	263.34	65.76	51.13

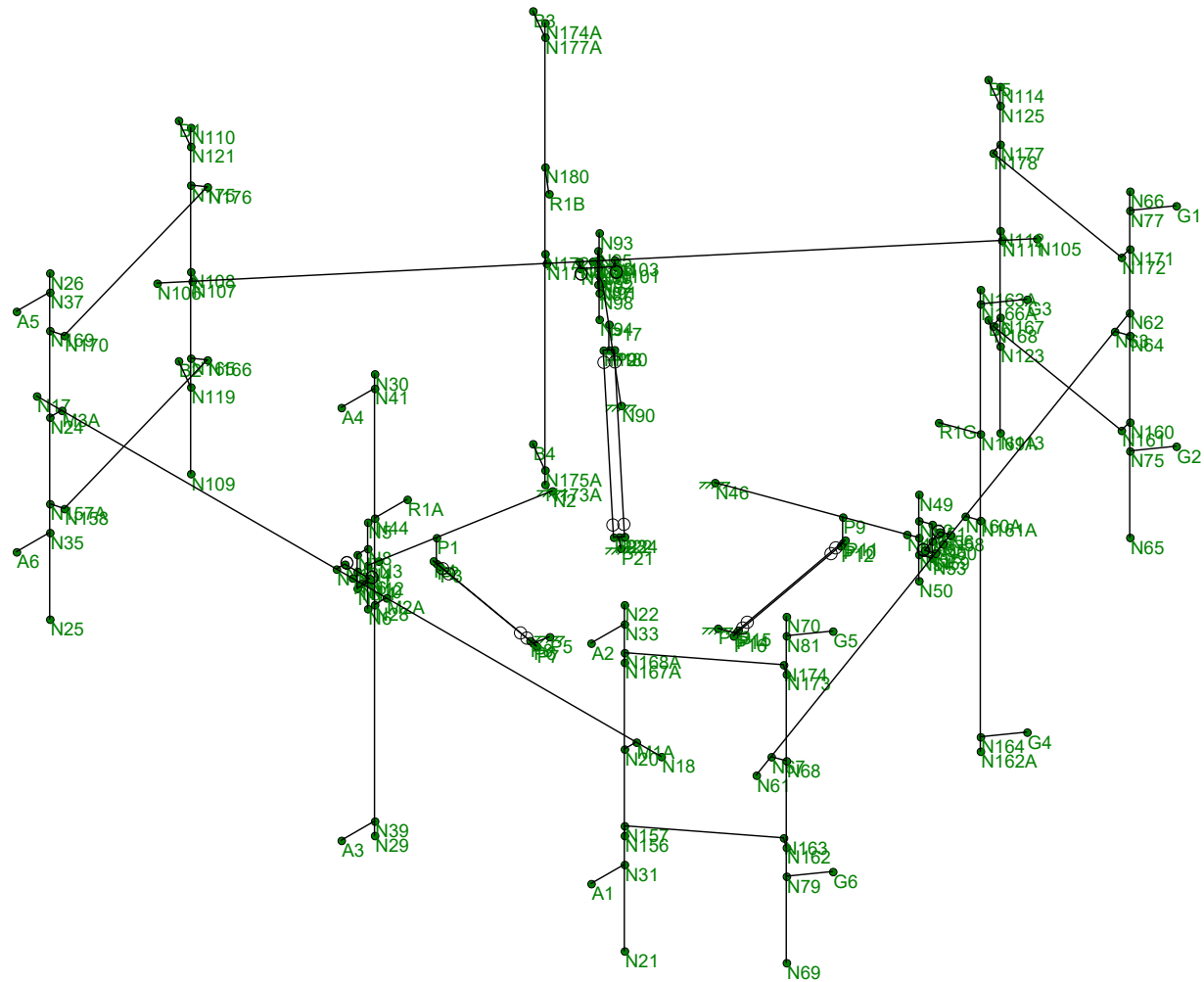
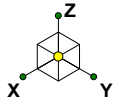


Envelope Only Solution

CLS
SMR
41124-12927162-01-MA-R1

41124-12927162-OLD SAYBROOK
Rendered

SK - 1
July 5, 2019 at 12:48 PM
41124-12927162-01-MA-R1.r3d

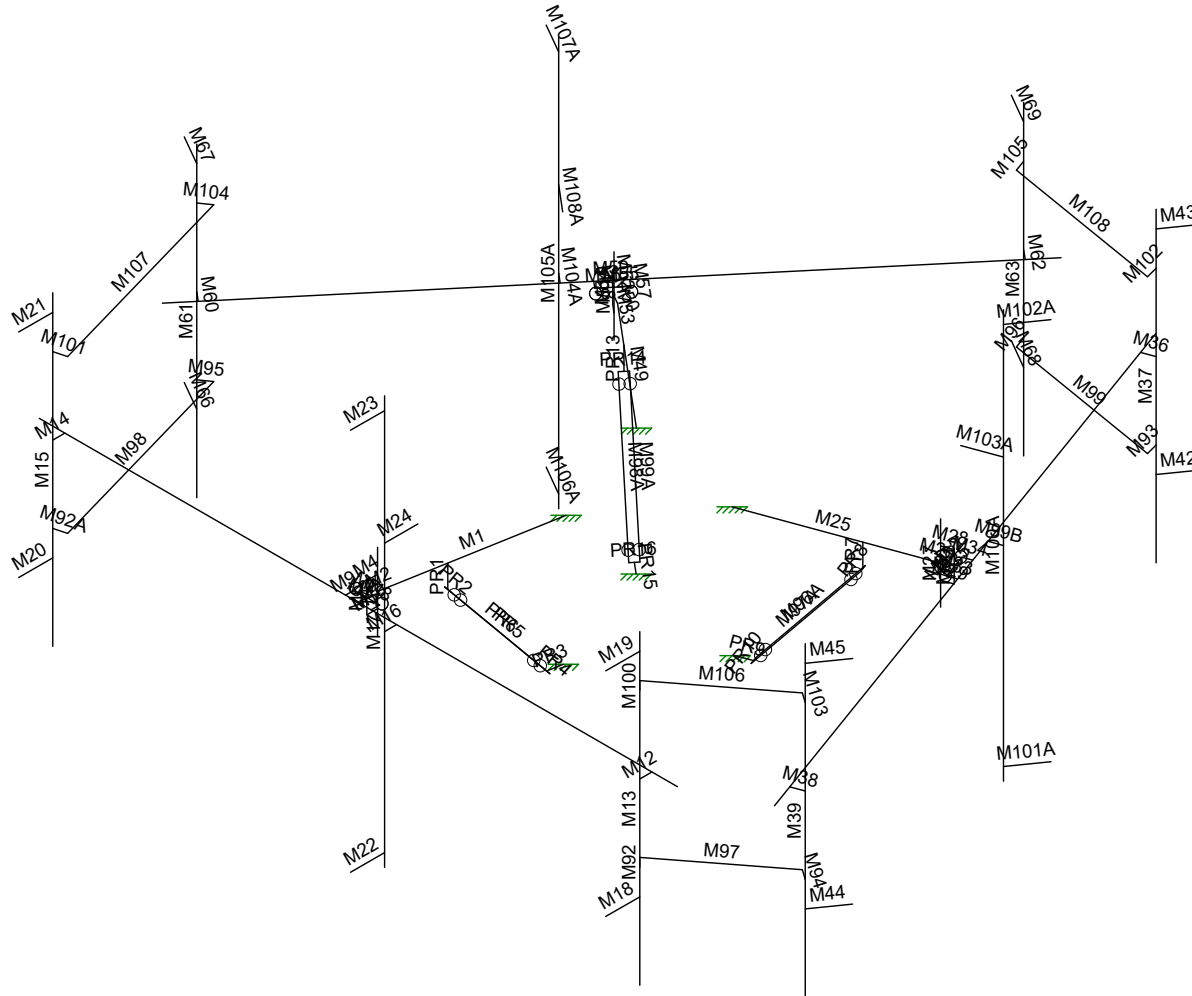
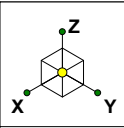


Envelope Only Solution

CLS
SMR
41124-12927162-01-MA-R1

41124-12927162-OLD SAYBROOK
Joint Labels

SK - 2
July 5, 2019 at 12:48 PM
41124-12927162-01-MA-R1.r3d

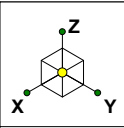


Envelope Only Solution

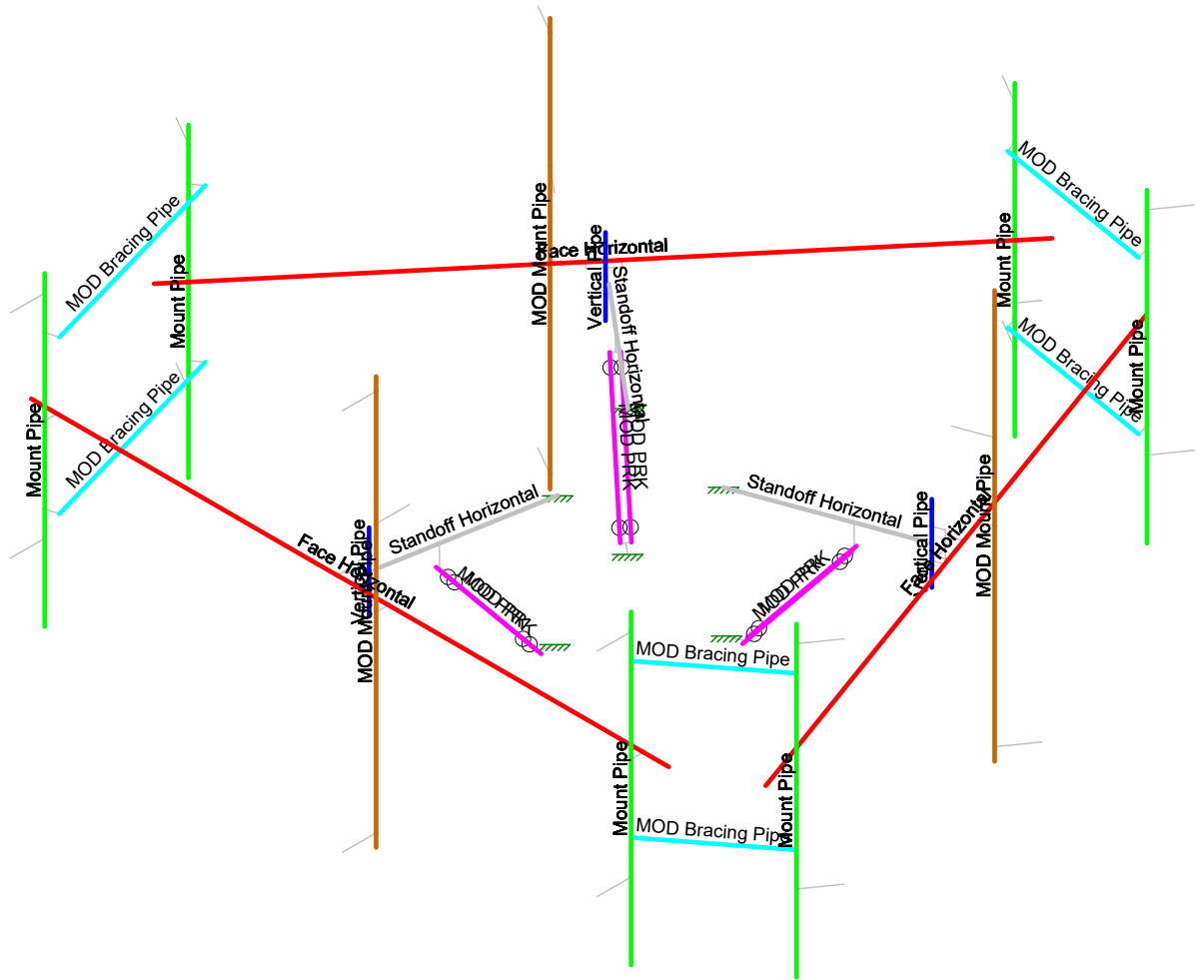
CLS
SMR
41124-12927162-01-MA-R1

41124-12927162-OLD SAYBROOK
Member Labels

SK - 3
July 5, 2019 at 12:48 PM
41124-12927162-01-MA-R1.r3d



Section Sets	
Blue	Vertical Pipe
Green	Mount Pipe
Red	Face Horizontal
Grey	Standoff Horizontal
Magenta	MOD PRK
Cyan	MOD Bracing Pipe
Brown	MOD Mount Pipe
Yellow	RIGID

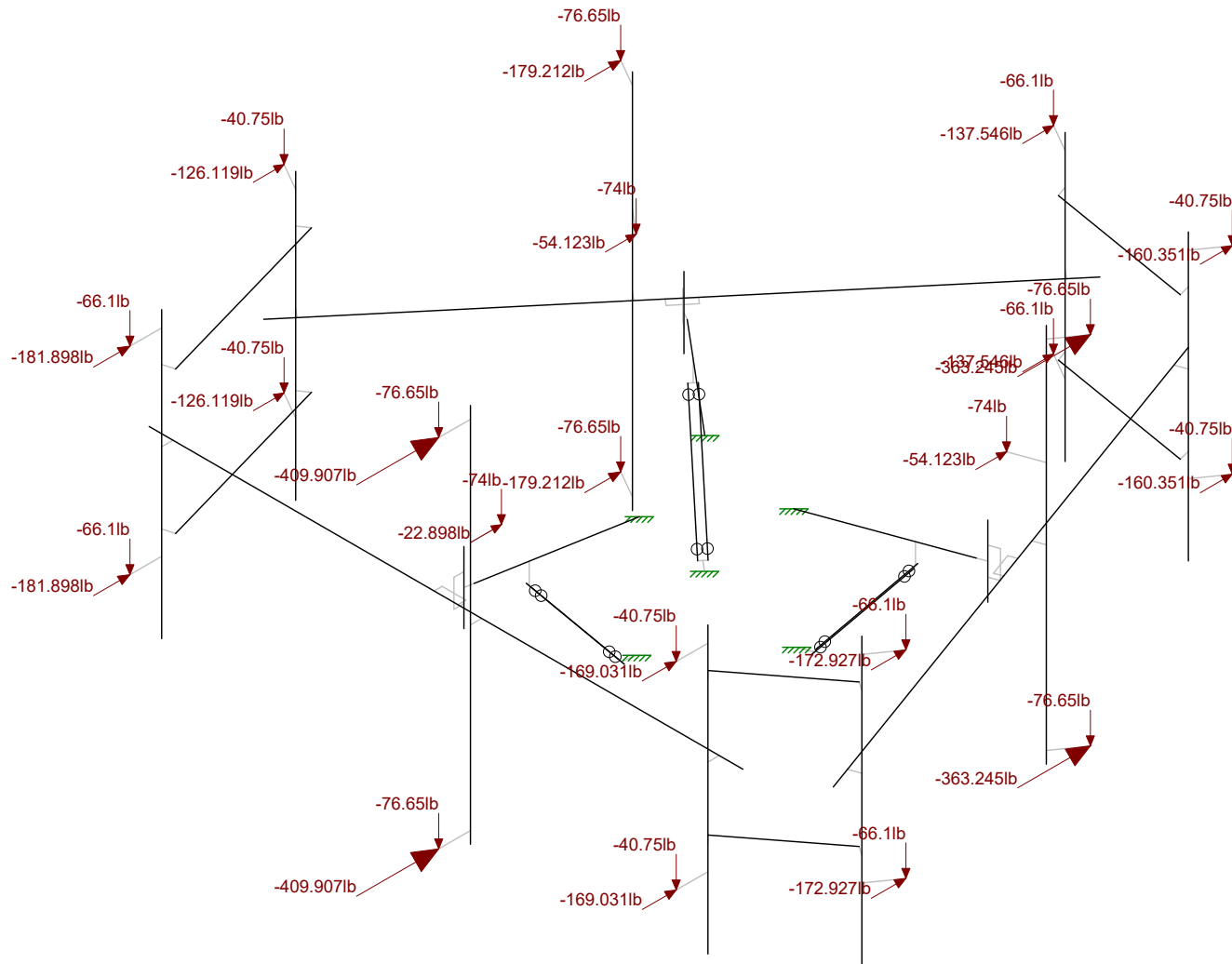
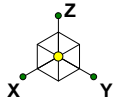


Envelope Only Solution

CLS
SMR
41124-12927162-01-MA-R1

41124-12927162-OLD SAYBROOK
Section Sets

SK - 4
July 5, 2019 at 12:48 PM
41124-12927162-01-MA-R1.r3d

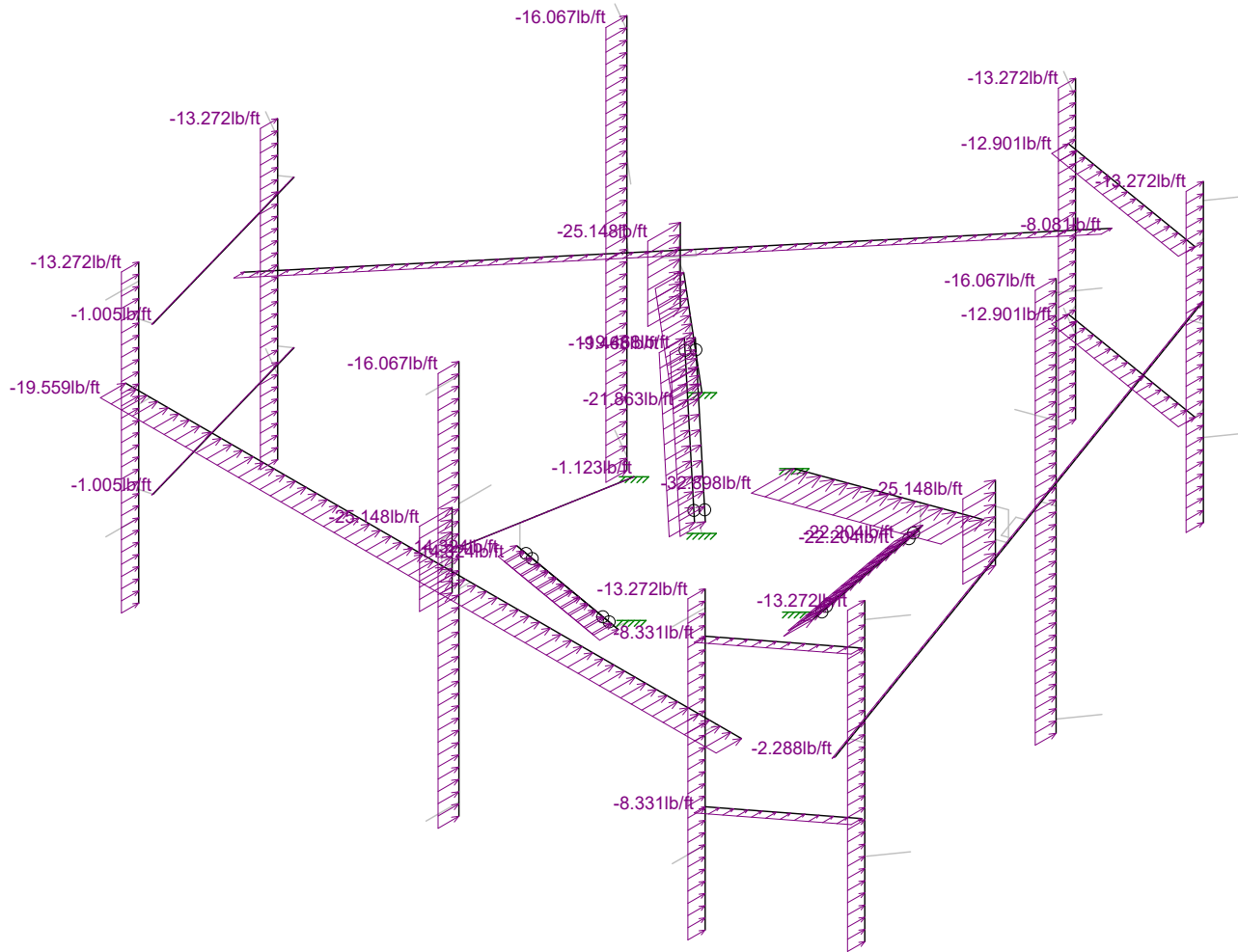
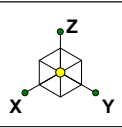


Loads: LC 1, DISPLAY (1.0D + 1.0W_0°)
Envelope Only Solution

CLS
SMR
41124-12927162-01-MA-R1

41124-12927162-OLD SAYBROOK
Joint Loads - Dead and Normal Wind

SK - 5
July 5, 2019 at 12:49 PM
41124-12927162-01-MA-R1.r3d

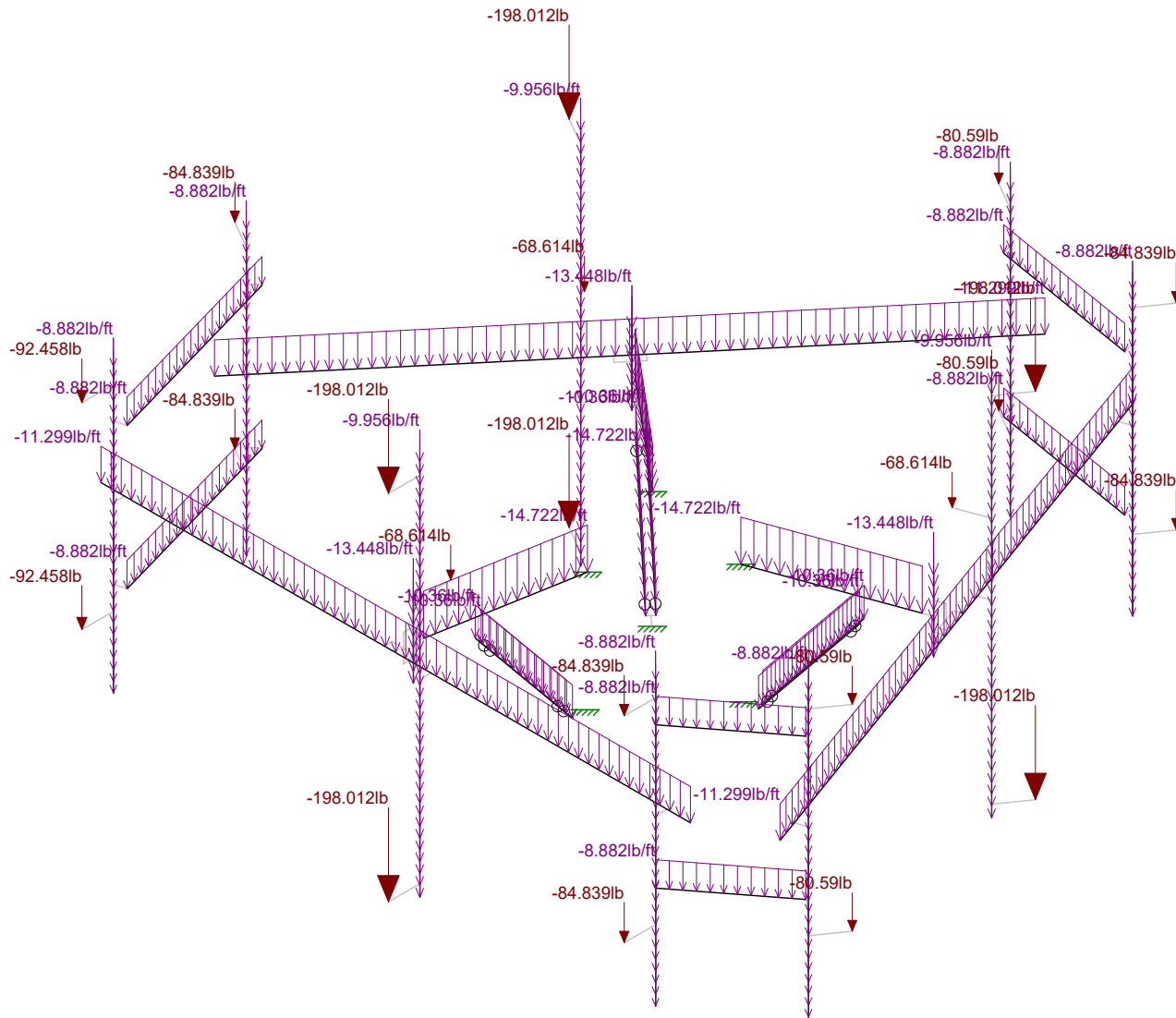
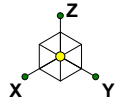


Loads: BLC 4, Structure Wind 0°
Envelope Only Solution

CLS
SMR
41124-12927162-01-MA-R1

41124-12927162-OLD SAYBROOK
Distributed Load - Normal Wind

SK - 6
July 5, 2019 at 12:49 PM
41124-12927162-01-MA-R1.r3d

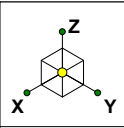


Loads: BLC 2, Ice Dead
Envelope Only Solution

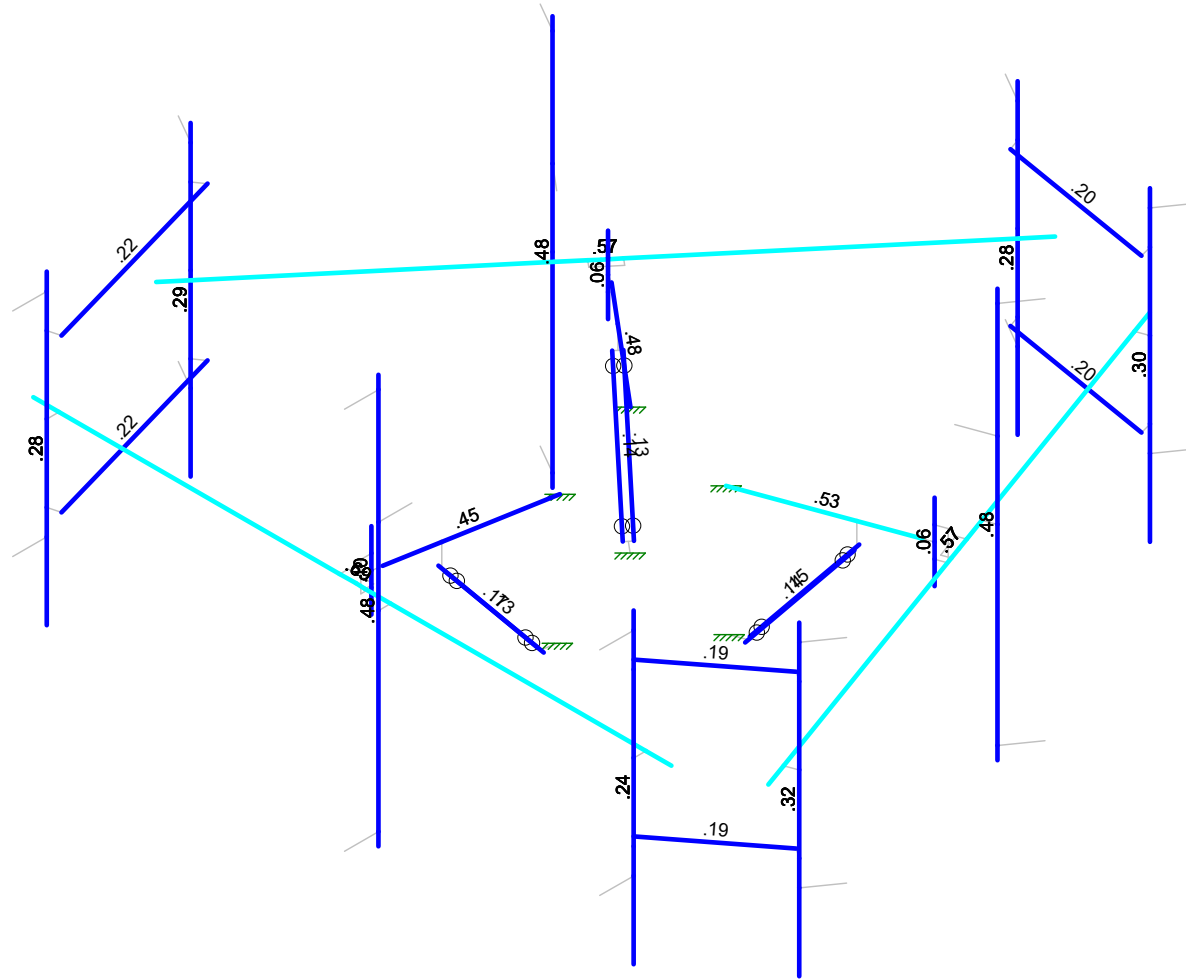
CLS
SMR
41124-12927162-01-MA-R1

41124-12927162-OLD SAYBROOK
Ice Dead Loads

SK - 7
July 5, 2019 at 12:49 PM
41124-12927162-01-MA-R1.r3d

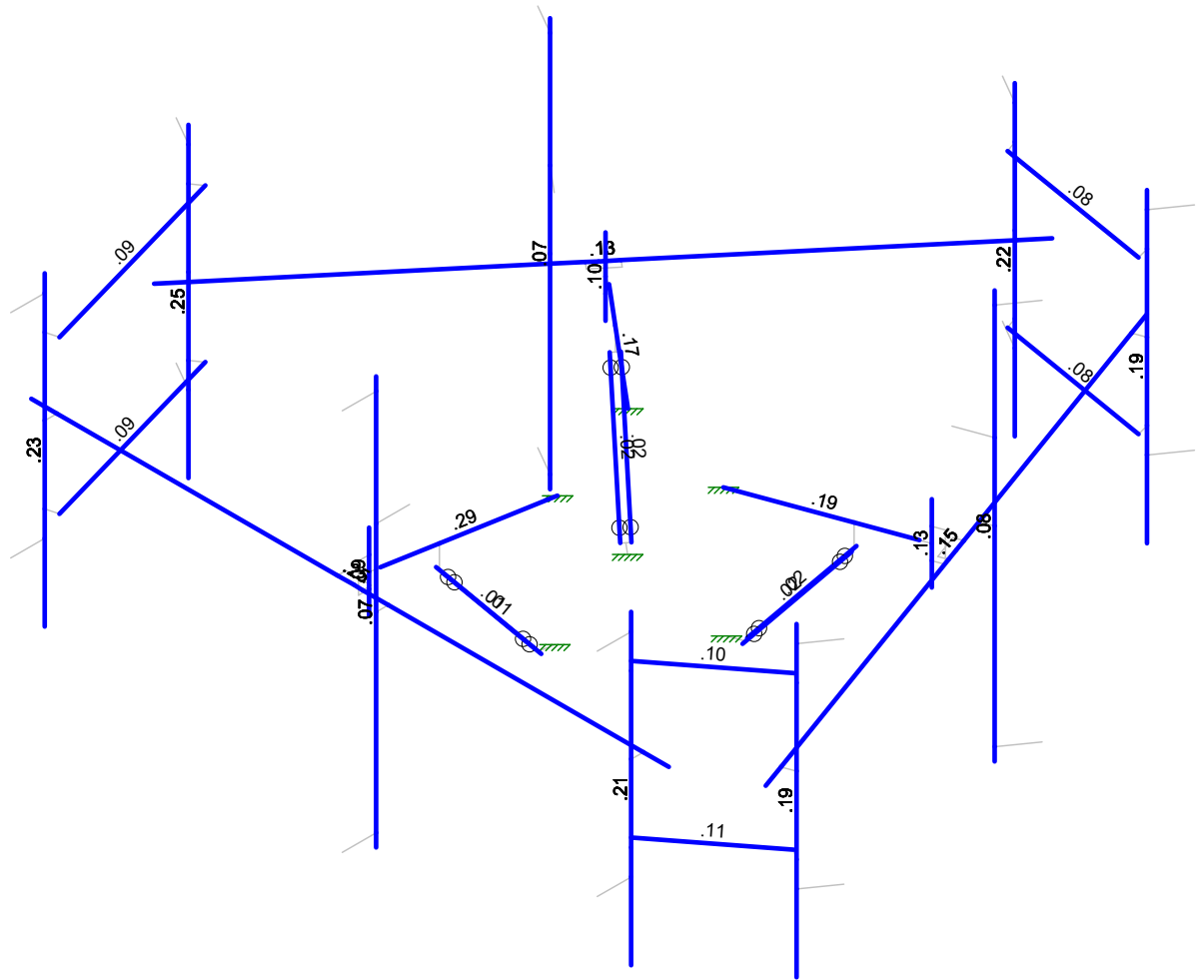
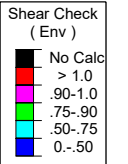
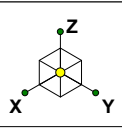


Code Check (Env)	
Black	No Calc
Red	> 1.0
Magenta	.90-1.0
Green	.75-.90
Cyan	.50-.75
Blue	0.-.50



Member Code Checks Displayed (Enveloped)
Envelope Only Solution

CLS	41124-12927162-OLD SAYBROOK Envelope Member Unity Check Results - Bending	SK - 8
SMR		July 5, 2019 at 12:49 PM
41124-12927162-01-MA-R1		41124-12927162-01-MA-R1.r3d



Member Shear Checks Displayed (Enveloped)
Envelope Only Solution

CLS
SMR
41124-12927162-01-MA-R1

41124-12927162-OLD SAYBROOK
Envelope Member Check Results - Shear

SK - 9
July 5, 2019 at 12:50 PM
41124-12927162-01-MA-R1.r3d

BOLTED CONNECTION ROTATIONAL SLIP RESISTANCE OF U-BOLT CONNECTION TO VERTICAL PIPE

v. 2017.11.20

DESIGN LOADS	
Factored Moment, M_u (lb-ft)	1022.799

BOLT PROPERTIES	
Bolt Type	U-Bolt
# of U-Bolts	1
Hole Type	Standard
Bolt Grade	A36
Bolt Diameter, d (in)	0.625
Leg Width, W_{leg} (in)	4.5
Bolt Torque Override, T (lb-ft)	50
Bolt Pretension Stress Override (ksi)	
Bolt Ultimate Strength, F_u (ksi)	58
Specified Torque, T (lb-ft)	50.00
Clamping Force per Bolt, P_u (lb)	4800.00
Bolt Pretension Stress (ksi)	15.65
Tensile Strength per Bolt, ϕP_n (lb)	10009.22
Slip Resistance per Bolt, ϕM_n (lb-ft)	610.20
Total Slip Resistance, ϕM_n (lb-ft)	1220.40
Connection Slip Usage, $M_u / \phi M_n$	0.84

FACTORS	
Nut Factor, K	0.20
$\phi_{(BOLT\ TENSION)}$	0.75
$\phi_{(SLIP-CRITICAL)}$	1.00
Mean Slip Coefficient, μ	0.30
Installed Pretension Ratio, D_u	1.13

Rule-of-thumb estimate

AISC 15th, J3.6

AISC 15th, J3.8

AISC 15th, J3.8

AISC 15th, J3.8

Using Torque Override

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

T-Mobile Existing Facility

Site ID: CTHA540A

**Crown Old Saybrook Monopole
85 Springbrook Road
Old Saybrook, Connecticut 06475**

June 12, 2019

EBI Project Number: 6219002197

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general population allowable limit:	4.16%

June 12, 2019

T-Mobile

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

Emissions Analysis for Site: CTHA540A - Crown Old Saybrook Monopole

EBI Consulting was directed to analyze the proposed T-Mobile facility located at **85 Springbrook Road** in **Old Saybrook, 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 85 Springbrook Road in Old Saybrook, 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) 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.
- 3) 2 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.
- 4) 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.
- 5) 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.

- 6) 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.
- 7) 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.
- 8) The antennas used in this modeling are the Ericsson AIR 21 for the 2100 MHz channel(s), the RFS APXVAARR24_43-U-NA20 for the 600 MHz / 700 MHz channel(s), the Ericsson AIR 32 for the 1900 MHz / 2100 MHz channel(s) in Sector A, the Ericsson AIR 21 for the 2100 MHz channel(s), the RFS APXVAARR24_43-U-NA20 for the 600 MHz / 700 MHz channel(s), the Ericsson AIR 32 for the 1900 MHz / 2100 MHz channel(s) in Sector B, the Ericsson AIR 21 for the 2100 MHz channel(s), the RFS APXVAARR24_43-U-NA20 for the 600 MHz / 700 MHz channel(s), the Ericsson AIR 32 for the 1900 MHz / 2100 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.
- 9) The antenna mounting height centerline of the proposed antennas is 162 feet above ground level (AGL).
- 10) 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.
- 11) 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 21	Make / Model:	Ericsson AIR 21	Make / Model:	Ericsson AIR 21
Frequency Bands:	2100 MHz	Frequency Bands:	2100 MHz	Frequency Bands:	2100 MHz
Gain:	15.35 dBd	Gain:	15.35 dBd	Gain:	15.35 dBd
Height (AGL):	162 feet	Height (AGL):	162 feet	Height (AGL):	162 feet
Channel Count:	2	Channel Count:	2	Channel Count:	2
Total TX Power (W):	60 Watts	Total TX Power (W):	60 Watts	Total TX Power (W):	60 Watts
ERP (W):	2,056.61	ERP (W):	2,056.61	ERP (W):	2,056.61
Antenna A1 MPE %:	0.28%	Antenna B1 MPE %:	0.28%	Antenna C1 MPE %:	0.28%
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:	600 MHz / 700 MHz	Frequency Bands:	600 MHz / 700 MHz	Frequency Bands:	600 MHz / 700 MHz
Gain:	12.95 dBd / 13.35 dBd	Gain:	12.95 dBd / 13.35 dBd	Gain:	12.95 dBd / 13.35 dBd
Height (AGL):	162 feet	Height (AGL):	162 feet	Height (AGL):	162 feet
Channel Count:	4	Channel Count:	4	Channel Count:	4
Total TX Power (W):	120 Watts	Total TX Power (W):	120 Watts	Total TX Power (W):	120 Watts
ERP (W):	2,481.08	ERP (W):	2,481.08	ERP (W):	2,481.08
Antenna A2 MPE %:	0.79%	Antenna B2 MPE %:	0.79%	Antenna C2 MPE %:	0.79%
Antenna #:	3	Antenna #:	3	Antenna #:	3
Make / Model:	Ericsson AIR 32	Make / Model:	Ericsson AIR 32	Make / Model:	Ericsson AIR 32
Frequency Bands:	1900 MHz / 2100 MHz	Frequency Bands:	1900 MHz / 2100 MHz	Frequency Bands:	1900 MHz / 2100 MHz
Gain:	15.35 dBd / 15.85 dBd	Gain:	15.35 dBd / 15.85 dBd	Gain:	15.35 dBd / 15.85 dBd
Height (AGL):	162 feet	Height (AGL):	162 feet	Height (AGL):	162 feet
Channel Count:	4	Channel Count:	4	Channel Count:	4
Total TX Power (W):	240 Watts	Total TX Power (W):	240 Watts	Total TX Power (W):	240 Watts
ERP (W):	8,728.31	ERP (W):	8,728.31	ERP (W):	8,728.31
Antenna A3 MPE %:	1.20%	Antenna B3 MPE %:	1.20%	Antenna C3 MPE %:	1.20%

Site Composite MPE %	
Carrier	MPE %
T-Mobile (Max at Sector A):	2.26%
Verizon	1.9%
Site Total MPE % :	4.16%

T-Mobile MPE % Per Sector	
T-Mobile Sector A Total:	2.26%
T-Mobile Sector B Total:	2.26%
T-Mobile Sector C Total:	2.26%
Site Total MPE % :	
	4.16%

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 UMTS	2	1028.30	162.0	2.82	2100 MHz UMTS	1000	0.28%
T-Mobile 600 MHz LTE	2	591.73	162.0	1.62	600 MHz LTE	400	0.41%
T-Mobile 700 MHz LTE	2	648.82	162.0	1.78	700 MHz LTE	467	0.38%
T-Mobile 1900 MHz LTE	2	2056.61	162.0	5.63	1900 MHz LTE	1000	0.56%
T-Mobile 2100 MHz LTE	2	2307.55	162.0	6.32	2100 MHz LTE	1000	0.63%
						Total:	2.26%

• 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:	2.26%
Sector B:	2.26%
Sector C:	2.26%
T-Mobile Maximum MPE % (Sector A):	2.26%
Site Total:	4.16%
Site Compliance Status:	COMPLIANT

The anticipated composite MPE value for this site assuming all carriers present is **4.16%** 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.