

12.06.24

Melanie A. Bachman
Executive Director
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

Re: Notice of Exempt Modifications – AT&T Site CT1021
AT&T Telecommunications Facility @ 77 Town Farm RD – Enfield CT

Dear Ms. Bachman,

New Cingular Wireless, PCS, LLC (“AT&T”) currently maintains a wireless telecommunications facility on an existing 187’ self-support tower at the above referenced address, latitude 41.96593, longitude - 72.55270. Said self-support tower is owned by the Town of Enfield CT and managed by American Tower Corporation.

AT&T desires to modify its existing telecommunications facility by removing (3) Antennas,(9) RRHs, (12) Diplexers, (6) TMAs. Additionally installing (1) Hoisting Anchor Grip, (3) Cable Hositing Anchors, (3) antennas, (9)RRUs,(1) Squid, (1) 2” Conduit and (2) Power Trunks as more particularly detailed and described on the enclosed Construction Drawings prepared by TEP Engineering, PLLC, last revised on 11/11/24. The centerline height of the existing antennas is and will remain at 150 feet.

Please accept this letter as notification pursuant to R.C.S.A §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 the following individuals: Christopher Bromson.,Town Manager of the Town of Enfield CT; Lauren Whitten, Director of Planning for Enfield CT; and American Tower Corporation, tower manager.

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

1. The proposed modifications will not result in an increase in the height of the existing structure.
2. The proposed modifications will not require an 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 modified facility will not increase radio frequency emissions at the facility to a level at or above the Federal Communications Commissions safety standard. *Please see the RF emissions calculation for AT&T’s modified facility enclosed herewith.*
5. The proposed modifications will not cause an ineligible change or alternation in the physical or environmental characteristics of the site.

6. The existing structure and its foundation can support the proposed loading. Please see the structural analysis dated 09/22/24 and prepared by Airosmith Engineering enclosed herewith.

For the foregoing reasons, AT&T 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).

Best Regards,

Adam Wolfrey

Site Acquisition Consultant – Agent for AT&T

Centerline Communications LLC

750 West Center St. Ste 301

West Bridgewater, MA 02379

508-667-3100

awolfrey@clinellc.com

Enclosures: Exhibit 1 – Property Card and GIS
 Exhibit 2 – Construction Drawings
 Exhibit 3 – Structural Analysis
 Exhibit 4 – Mount Analysis
 Exhibit 5 – RF Emissions Analysis Report Evaluation
 Exhibit 6 – Available Town of Enfield Original Tower Approval(Not Available)
 Exhibit 7 – Notice Delivery Confirmations

Cc: Christopher Bromson, Town of Enfield CT – Town Manager & Owner
 Lauren Whitten, Town of Enfield – Director of Planning
 American Tower Corporation, Tower Manager

EXHIBIT 1

EXHIBIT 2

EXHIBIT 3

EXHIBIT 4

EXHIBIT 5

EXHIBIT 6

EXHIBIT 7

77 TOWN FARM RD

Location

77 TOWN FARM RD

Mblu

071/ / 0003/ /

Acct#

002800010010

Owner

ENFIELD TOWN OF

Assessment

\$1,523,000

Appraisal

\$2,175,700

PID

4350

Building Count

2

Fire District

1

Current Value

Appraisal			
Valuation Year	Improvements	Land	Total
2023	\$988,200	\$1,187,500	\$2,175,700

Assessment			
Valuation Year	Improvements	Land	Total
2023	\$691,800	\$831,200	\$1,523,000

Owner of Record

Owner

ENFIELD TOWN OF

Sale Price

\$0

Co-Owner

REFUSE AREA (DUMP)

Certificate

1

Address

820 ENFIELD ST

Book & Page

0000/0000

ENFIELD, CT 06082

Sale Date

Instrument

Ownership History

Ownership History					
Owner	Sale Price	Certificate	Book & Page	Instrument	Sale Date
ENFIELD TOWN OF	\$0	1	0000/0000		

Building Information

Building 1 : Section 1

Year Built:

1970

Living Area:

160

Replacement Cost:

\$7,484

Building Percent Good:

52

Replacement Cost
Less Depreciation: \$3,900

Building Attributes	
Field	Description
Style:	Job Shop
Model	Ind/Comm
Grade	Minimum
Stories:	1
Occupancy	1.00
Exterior Wall 1	Pre-finish Metl
Exterior Wall 2	
Roof Structure	Flat
Roof Cover	Metal/Tin
Interior Wall 1	Minim/Masonry
Interior Wall 2	
Interior Floor 1	Minimum/Plywd
Interior Floor 2	
Heating Fuel	Electric
Heating Type	Electr Basebrd
AC Type	None
Struct Class	
Bldg Use	Exempt Comm
Total Rooms	
Total Bedrms	
Total Baths	
Total H Bths	
Extra Fixtures	
1st Floor Use:	
Heat/AC	
Frame Type	Steel
Baths/Plumbing	None
Ceiling/Wall	Ceil Walls
Rooms/Prtns	Average
Wall Height	7.00
% Comn Wall	

Building 2 : Section 1

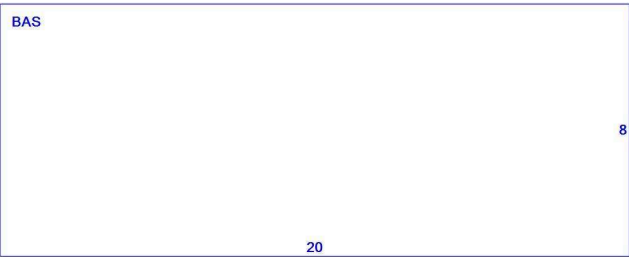
Year Built:
Living Area: 0
Replacement Cost: \$0
Building Percent Good:
Replacement Cost
Less Depreciation: \$0

Building Photo



(https://images.vgsi.com/photos2/EnfieldCTPhotos/\00\01\68\96.jpg)

Building Layout



(ParcelSketch.ashx?pid=4350&bid=4350)

Building Sub-Areas (sq ft)			<u>Legend</u>
Code	Description	Gross Area	Living Area
BAS	First Floor	160	160
		160	160

Building Attributes : Bldg 2 of 2	
Field	Description
Style	Outbuildings
Model	
Grade:	
Stories	
Occupancy	
Exterior Wall 1	
Exterior Wall 2	
Roof Structure	
Roof Cover	
Interior Wall 1	
Interior Wall 2	
Interior Flr 1	
Interior Flr 2	
Heat Fuel	
Heat Type:	
AC Type:	
Total Bedrooms:	
Full Bthrms:	
Half Baths:	
Extra Fixtures	
Total Rooms:	
Bath Style:	
Kitchen Style:	
Extra Kitchens	
Fireplace(s)	
Extra Opening(s)	
Gas Fireplace(s)	
Blocked FPL(s)	
Bsmt Garage(s)	
Fin Bsmt	
FBM Quality	
Whirlpool(s)	
Sauna	
Walk Out	
Solar	
Fndtn Cndtn	
Basement	

Building Photo



(https://images.vgsi.com/photos2/EnfieldCTPhotos///0035/DSCF0053_357)

Building Layout

 Building Layout (ParcelSketch.ashx?pid=4350&bid=30274)

Building Sub-Areas (sq ft)	Legend
No Data for Building Sub-Areas	

Extra Features

Extra Features	Legend
No Data for Extra Features	

Land

Land Use	Land Line Valuation
Use Code 930	Size (Acres) 173.60
Description Exempt Ind	Frontage 1513
Zone R88	Depth
Neighborhood C500	Assessed Value \$831,200
Alt Land Appr No	Appraised Value \$1,187,500
Category	

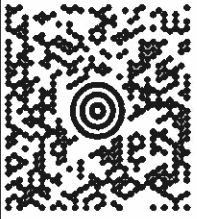
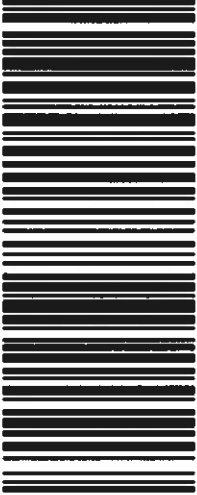
Outbuildings

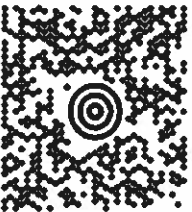
Outbuildings						Legend
Code	Description	Sub Code	Sub Description	Size	Value	Bldg #
SHD1	Shed	MS	Masonry	100.00 S.F.	\$800	1
SCL2	SCALES-ELECT			60.00 TONS	\$23,100	1
TWR2	Cell Twr 2 Carriers			1.00 UNITS	\$206,300	2
SHD1	Shed	MS	Masonry	140.00 S.F.	\$1,800	1
TWR5	Cell Twr5 Carriers			1.00 UNITS	\$740,600	2
FN3	FENCE-8' CHAIN			256.00 L.F.	\$4,100	1
SHD2	Shed gd	MS	Masonry	240.00 S.F.	\$2,900	2
SHD2	Shed gd	MS	Masonry	240.00 S.F.	\$2,900	2
SHD2	Shed gd	MS	Masonry	144.00 S.F.	\$1,800	2

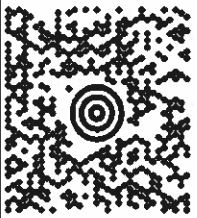
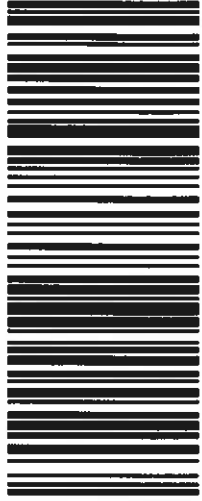
Valuation History

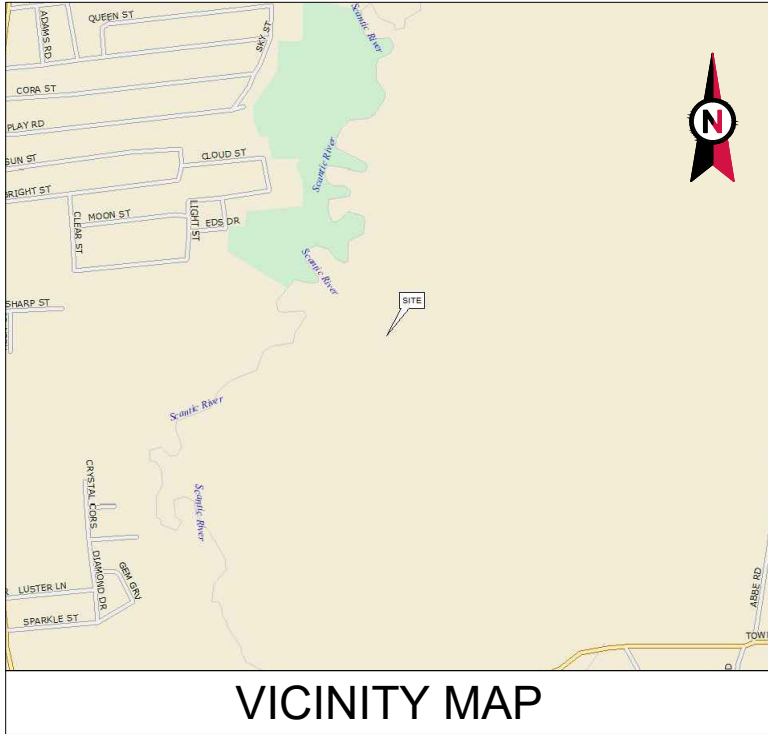
Appraisal			
Valuation Year	Improvements	Land	Total
2022	\$988,200	\$1,187,500	\$2,175,700
2021	\$802,500	\$1,187,500	\$1,990,000
2020	\$802,530	\$1,097,420	\$1,899,950

Assessment			
Valuation Year	Improvements	Land	Total
2022	\$691,800	\$831,200	\$1,523,000
2021	\$561,900	\$831,200	\$1,393,100
2020	\$561,770	\$768,200	\$1,329,970

CENTERLINE COMMUNICATIONS LLC 7817134725 750 W CENTER STREET WEST BRIDGEWATER MA 02379		1 LBS DWT: 1,1,1	1 OF 1
SHIP TO: AMERICAN TOWER CORP 10 PRESIDENTIAL WAY WOBURN MA 01801-1053			
		MA 018 9-04 	
UPS GROUND TRACKING #: 1Z 9Y4 503 03 1218 8585			
			
BILLING: P/P			
CS 24.9.00.		WNTNW50 49.0A 12/2024*	
		 ™	

CENTERLINE COMMUNICATIONS LLC 7817134725 750 W CENTER STREET WEST BRIDGEWATER MA 02379		1 LBS	1 OF 1
DWT: 1,1,1			
SHIP TO: TOWN MANAGER - C BROMSON TOWN OF ENFIELD CT 820 ENFIELD ST ENFIELD CT 06082-2964			
		CT 060 6-02 	
UPS GROUND			
TRACKING #: 1Z 9Y4 503 03 0990 7590 			
BILLING: P/P			
CS 24.9.00.		WNTNV50 49 DA 12/2024*	
		 TM	

CENTERLINE COMMUNICATIONS LLC 7817134725 750 W CENTER STREET WEST BRIDGEWATER MA 02379		1 LBS	1 OF 1
SHIP TO: PLANNING - LAUREN WHITTEN TOWN OF ENFIELD CT 820 ENFIELD ST ENFIELD CT 06082-2964			
		CT 060 6-02 	
UPS GROUND			
TRACKING #: 1Z 9Y4 503 03 1142 8602 			
BILLING: P/P			
CS 24.9.00.		WNTNV50 49.0A 12/2024*  TM	



VICINITY MAP



AMERICAN TOWER®

ATC SITE NAME: ENFD - ENFIELD
ATC SITE NUMBER: 302489
AT&T MOBILITY SITE ID: CTL01021
AT&T MOBILITY FA LOCATION CODE: 10034985
AT&T MOBILITY SITE NAME: ENFIELD-TOWN FARM RD
AT&T MOBILITY USID: 59340
SITE ADDRESS: 77 TOWN FARM RD
ENFIELD, CT 06082-5152



LOCATION MAP

AT&T MOBILITY
ANTENNA AMENDMENT PLAN

AT&T MOBILITY PACE NUMBER(S): **MRCTB055067**, MRCTB056379,
MRCTB054783, MRCTB053474, MRCTB056386, MRCTB055004, MRCTB053472.

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. 2021 INTERNATIONAL BUILDING CODE (IBC) 2. 2020 NATIONAL ELECTRIC CODE (NEC) 3. LOCAL BUILDING CODE 4. CITY/COUNTY ORDINANCES	<u>SITE ADDRESS:</u> 77 TOWN FARM RD ENFIELD, CT 06082-5152 COUNTY: HARTFORD <u>GEOGRAPHIC COORDINATES:</u> LATITUDE: 41.96593 LONGITUDE: -72.55270 GROUND ELEVATION: 159' AMSL <u>ZONING INFORMATION:</u> JURISDICTION: TOWN OF ENFIELD PARCEL ID: 09003049-71-3	THE PROPOSED PROJECT INCLUDES MODIFYING GROUND BASED AND TOWER MOUNTED EQUIPMENT AS INDICATED PER BELOW: <u>TOWER WORK:</u> REMOVE (3) ANTENNA(S), (9) RRH(s), (12) DIPLEXER(S), AND (6) TMA(s). INSTALL (1) HOISTING ANCHOR GRIP(S), (3) CABLE HOISTING ANCHOR(S), (3) ANTENNA(S), (9) RRU(s), (1) SQUID(S), (1) 2" CONDUIT(S), AND (2) 0.96" 6 AWG 6 DC POWER TRUNK(S). EXISTING (6) ANTENNA(S), (3) RRU(s), (2) SQUID(S), (6) 1-5/8" COAX CABLE(S), (2) 2" CONDUIT(S), (3) 0.39" (18 PAIR) FIBER TRUNK(S), (2) 0.78" 8 AWG 6 DC POWER TRUNK(S), AND (1) 0.96" 6 AWG 6 DC POWER TRUNK(S) TO REMAIN.	SHEET NO:	DESCRIPTION:	REV:	DATE:	BY:
			G-001	TITLE SHEET	0	11/11/24	MFM
			G-002	GENERAL NOTES	0	11/11/24	MFM
			C-001	OVERALL SITE PLAN	0	11/11/24	MFM
			C-101	DETAILED SITE PLAN	0	11/11/24	MFM
			C-201	TOWER ELEVATION	0	11/11/24	MFM
			C-401	ANTENNA INSTALLATION	0	11/11/24	MFM
			C-402	ANTENNA SCHEDULE	0	11/11/24	MFM
			C-501	CONSTRUCTION DETAILS	0	11/11/24	MFM
			E-101	GROUNDING PLAN	0	11/11/24	MFM
UTILITY COMPANIES POWER COMPANY: CONNECTICUT LIGHT AND POWER COMPANY PHONE: (800) 286-2000 TELEPHONE COMPANY: AT&T PHONE: (800) 331-0500	<u>TOWER OWNER:</u> AMERICAN TOWER 10 PRESIDENTIAL WAY WOBURN, MA 01801 <u>ENGINEER:</u> TEP ENGINEERING, PLLC 326 TRYON RD RALEIGH, NC 27603	<u>APPLICANT:</u> AT&T MOBILITY <u>PROPERTY OWNER:</u> ENFIELD TOWN OF & REFUSE AREA (DUMP) 820 ENFIELD ST ENFIELD, CT 06082	E-501	GROUNDING DETAILS	0	11/11/24	MFM
			R-601	SUPPLEMENTAL			
			R-602	SUPPLEMENTAL			
			R-603	SUPPLEMENTAL			
			R-604	SUPPLEMENTAL			
			R-605	SUPPLEMENTAL			
 Know what's below. Call before you dig.	PROJECT TEAM						
	PROJECT LOCATION DIRECTIONS						
	I-91 N. TO EXIT 46. TURN RIGHT OFF EXIT ONTO RT 5 N. TURN RIGHT ONTO POST OFFICE ROAD. THIS WILL TURN INTO TOWNE FARM ROAD. LOOK FOR TOWN TRANSFER STATION ON LEFT. ACCESS TO SITE IS GAINED BY ENTERING THE TOWN TRANSFER STATION AT ATTENDANT SHACK. FOLLOW ROAD AROUND BEHIND TRANSFER STATION TO TOWER. NOTE: GATE AT ENTRANCE IS LOCKED WHEN THE STATION IS CLOSED.		PROJECT NOTES				
		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. 6. THE PROJECT DEPICTED IN THESE PLANS QUALIFIES AS AN ELIGIBLE FACILITIES REQUEST ENTITLED TO EXPEDITED REVIEW UNDER 47 U.S.C. § 1455(A) AS A MODIFICATION OF AN EXISTING WIRELESS TOWER THAT INVOLVES THE COLLOCATION, REMOVAL, AND/OR REPLACEMENT OF TRANSMISSION EQUIPMENT THAT IS NOT A SUBSTANTIAL CHANGE UNDER CFR § 1.61000 (B)(7).					



PLANS PREPARED BY:

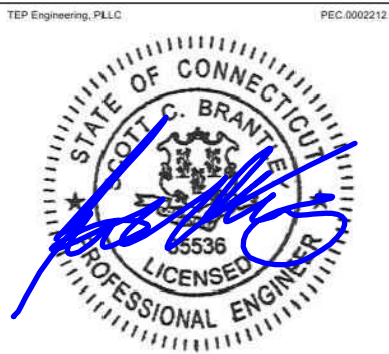


TEP ENGINEERING, PLLC
326 TRYON ROAD
RALEIGH, NC 27603-3530
OFFICE: (919) 661-6351
www.tepgroup.net

TEP IS A FAMILY OF COMPANIES LICENSED TO PROVIDE DIFFERENT SERVICES IN DIFFERENT JURISDICTIONS. DEPENDING ON THE JURISDICTION, PROFESSIONAL ENGINEERING AND LAND SURVEYING SERVICES ARE PROVIDED BY TEP OPO LLC, A DELAWARE LIMITED LIABILITY COMPANY, TEP ENGINEERING, LLC, A NORTH CAROLINA PROFESSIONAL LIMITED LIABILITY COMPANY, OR M&H ENGINEERING, LLC, A NEW YORK PROFESSIONAL LIMITED LIABILITY COMPANY. GENERAL CONTRACTOR SERVICES ARE PROVIDED BY TEP OPO LLC, A DELAWARE LIMITED LIABILITY COMPANY. WE ACQUIRE THE REQUISITE LICENSES IN EACH STATE. ADDITIONAL INFORMATION CAN BE OBTAINED FROM THE COMPANY.

REV.	DESCRIPTION	BY	DATE
A	PRELIMINARY	ANM	10/25/24
B	100% CONSTRUCTION	MFM	11/11/24

ATC SITE NUMBER: 302489
ATC SITE NAME: ENFD - ENFIELD
AT&T MOBILITY SITE NUMBER:
CTL01021
AT&T MOBILITY SITE NAME:
ENFIELD-TOWN FARM RD
SITE ADDRESS:
77 TOWN FARM RD
ENFIELD, CT 06082-5152



SEAL: 11/11/24



DATE DRAWN:	11/11/24
ATC JOB NO:	14878510
CUSTOMER NAME:	ENFIELD-TOWN FARM RD
CUSTOMER ID:	CTL01021

TITLE SHEET	
SHEET NUMBER: G-001	REVISION: 0

GENERAL CONSTRUCTION NOTES:

1. OWNER FURNISHED MATERIALS, AT&T MOBILITY "THE COMPANY" WILL PROVIDE AND THE CONTRACTOR WILL INSTALL
- A. BTS EQUIPMENT FRAME (PLATFORM) AND ICEBRIDGE SHELTER (GROUND BUILD/CO-LOCATE ONLY)

B. AC/TELCO INTERFACE BOX (PPC)

C. ICE BRIDGE (CABLE TRAY WITH COVER) (GROUND BUILD/CO-LOCATE ONLY, GC TO FURNISH AND INSTALL FOR ROOFTOP INSTALLATION)

D. TOWERS, MONOPOLES

E. TOWER LIGHTING

F. GENERATORS & LIQUID PROPANE TANK

G. ANTENNA STANDARD BRACKETS, FRAMES AND PIPES FOR MOUNTING

H. ANTENNAS (INSTALLED BY OTHERS)

I. TRANSMISSION LINE

J. TRANSMISSION LINE JUMPERS

K. TRANSMISSION LINE CONNECTORS WITH WEATHERPROOFING KITS

L. TRANSMISSION LINE GROUND KITS

M. HANGERS

N. HOISTING GRIPS

O. BTS EQUIPMENT
2. THE CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL OTHER MATERIALS FOR THE COMPLETE INSTALLATION OF THE SITE INCLUDING, BUT NOT LIMITED TO, SUCH MATERIALS AS FENCING, STRUCTURAL STEEL SUPPORTING SUB-FRAME FOR PLATFORM, ROOFING LABOR AND MATERIALS, GROUNDING RINGS, GROUNDING WIRES, COPPER-CLAD OR XIT CHEMICAL GROUND ROD(S), BUSS BARS, TRANSFORMERS AND DISCONNECT SWITCHES WHERE APPLICABLE, TEMPORARY ELECTRICAL POWER, CONDUIT, LANDSCAPING COMPOUND STONE, CRANES, CORE DRILLING, SLEEPERS AND RUBBER MATTING, REBAR, CONCRETE CAISSONS, PADS AND/OR AUGER MOUNTS, MISCELLANEOUS FASTENERS, CABLE TRAYS, NON-STANDARD ANTENNA FRAMES AND ALL OTHER MATERIAL AND LABOR REQUIRED TO COMPLETE THE JOB ACCORDING TO THE DRAWINGS AND SPECIFICATIONS. IT IS THE POSITION OF AT&T MOBILITY TO APPLY FOR PERMITTING AND CONTRACTOR RESPONSIBLE FOR PICKUP AND PAYMENT OF REQUIRED PERMITS.
3. ALL WORK SHALL CONFORM TO ALL CURRENT APPLICABLE FEDERAL, STATE, AND LOCAL CODES, INCLUDING ANSI/EIA/TIA-222, AND COMPLY WITH ATC CONSTRUCTION SPECIFICATIONS.
4. CONTRACTOR SHALL CONTACT LOCAL 811 FOR IDENTIFICATION OF UNDERGROUND UTILITIES PRIOR TO START OF CONSTRUCTION.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL REQUIRED INSPECTIONS.
6. 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.
7. DO NOT CHANGE SIZE OR SPACING OF STRUCTURAL ELEMENTS.
8. DETAILS SHOWN ARE TYPICAL; SIMILAR DETAILS APPLY TO SIMILAR CONDITIONS UNLESS OTHERWISE NOTED.
9. THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY WHICH SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
10. CONTRACTOR SHALL BRACE STRUCTURES UNTIL ALL STRUCTURAL ELEMENTS NEEDED FOR STABILITY ARE INSTALLED. THESE ELEMENTS ARE AS FOLLOWS: LATERAL BRACING, ANCHOR BOLTS, ETC.
11. CONTRACTOR SHALL DETERMINE EXACT LOCATION OF EXISTING UTILITIES, GROUNDS DRAINS, DRAIN PIPES, VENTS, ETC. BEFORE COMMENCING WORK.
12. INCORRECTLY FABRICATED, DAMAGED, OR OTHERWISE MISFITTING OR NONCONFORMING MATERIALS OR CONDITIONS SHALL BE REPORTED TO THE AT&T MOBILITY REP PRIOR TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH REMEDIAL ACTION SHALL REQUIRE WRITTEN APPROVAL BY THE AT&T MOBILITY REP PRIOR TO PROCEEDING.
13. EACH CONTRACTOR SHALL COOPERATE WITH THE AT&T MOBILITY REP, AND COORDINATE HIS WORK WITH THE WORK OF OTHERS.
14. CONTRACTOR SHALL REPAIR ANY DAMAGE CAUSED BY CONSTRUCTION OF THIS PROJECT TO MATCH EXISTING PRE-CONSTRUCTION CONDITIONS TO THE SATISFACTION OF THE AT&T MOBILITY CONSTRUCTION MANAGER.
15. ALL CABLE/CONDUIT ENTRY/EXIT PORTS SHALL BE WEATHERPROOFED DURING INSTALLATION USING A SILICONE SEALANT.
16. WHERE EXISTING CONDITIONS DO NOT MATCH THOSE SHOWN IN THIS PLAN SET, CONTRACTOR SHALL NOTIFY THE AT&T MOBILITY REP AND ENGINEER OF RECORD IMMEDIATELY.
17. CONTRACTOR SHALL ENSURE ALL SUBCONTRACTORS ARE PROVIDED WITH A COMPLETE AND CURRENT SET OF DRAWINGS AND SPECIFICATIONS FOR THIS PROJECT.
18. CONTRACTOR SHALL REMOVE ALL RUBBISH AND DEBRIS FROM THE SITE AT THE END OF EACH DAY.
19. CONTRACTOR SHALL COORDINATE WORK SCHEDULE WITH AMERICAN TOWER CORPORATION (ATC) AND TAKE PRECAUTIONS TO MINIMIZE IMPACT AND DISRUPTION OF OTHER OCCUPANTS OF THE FACILITY.
20. CONTRACTOR SHALL FURNISH AT&T MOBILITY AND AMERICAN TOWER CORPORATION (ATC) WITH A PDF MARKED UP AS-BUILT SET OF DRAWINGS UPON COMPLETION OF WORK.
21. PRIOR TO SUBMISSION OF BID, CONTRACTOR SHALL COORDINATE WITH AT&T MOBILITY 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.

22. PRIOR TO SUBMISSION OF BID, CONTRACTOR SHALL COORDINATE WITH AT&T MOBILITY REP TO DETERMINE IF ANY PERMITS WILL BE OBTAINED BY CONTRACTOR. ALL REQUIRED PERMITS NOT OBTAINED BY AT&T MOBILITY MUST BE OBTAINED, AND PAID FOR, BY THE CONTRACTOR.
23. CONTRACTOR SHALL INSTALL ALL SITE SIGNAGE IN ACCORDANCE WITH AT&T MOBILITY SPECIFICATIONS AND REQUIREMENTS.
24. CONTRACTOR SHALL SUBMIT ALL SHOP DRAWINGS TO AT&T MOBILITY FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.
25. ALL EQUIPMENT SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS AND LOCATED ACCORDING TO AT&T MOBILITY SPECIFICATIONS, AND AS SHOWN IN THESE PLANS.
26. 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.
27. CONTRACTOR SHALL NOTIFY AT&T MOBILITY 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.
28. WHEN THE PROJECT SCOPE REQUIRES THE USE OF THE SAFETY CLIMB, THE GENERAL CONTRACTOR SHALL ENSURE THE SAFETY CLIMB IS FREE OF OBSTRUCTIONS, NOT RUBBING ON OR TRAPPED BY ANY INSTALLED CUSTOMER EQUIPMENT, IS VISUALLY TAUT, MEETS MANUFACTURER INSTALLATION SPECIFICATIONS, AND IS FIRMLY SECURED AT ALL CABLE GUIDE LOCATIONS UPON PROJECT COMPLETION.
29. COMPLETION OF PROJECT SHALL NOT OBSTRUCT, TRAP, LOOSEN, OR OTHERWISE CAUSE FAILURE TO MEET MANUFACTURER INSTALLATION REQUIREMENTS FOR THE SAFETY CLIMB.
30. 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.
31. 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 NEGLECT ON THE PART OF THIS CONTRACTOR OR HIS REPRESENTATIVES, OR BY THE ELEMENTS DUE TO NEGLECT 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.
32. 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 AT&T MOBILITY REP. ANY WORK FOUND BY THE AT&T MOBILITY REP TO BE OF INFERIOR QUALITY AND/OR WORKMANSHIP SHALL BE REPLACED AND/OR REWORKED AT CONTRACTOR EXPENSE UNTIL APPROVAL IS OBTAINED.
33. 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.
34. AT&T MOBILITY FURNISHED EQUIPMENT SHALL BE PICKED-UP AT THE AT&T MOBILITY WAREHOUSE, NO LATER THAN 48HR AFTER BEING NOTIFIED INSURED, STORED, UNCRATE, PROTECTED AND INSTALLED BY THE CONTRACTOR WITH ALL APPURTENANCES REQUIRED TO PLACE THE EQUIPMENT IN OPERATION, READY FOR USE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE EQUIPMENT AFTER PICKING IT UP.
35. AT&T MOBILITY OR HIS ARCHITECT/ENGINEER RESERVES THE RIGHT TO REJECT ANY EQUIPMENT OR MATERIALS WHICH, IN HIS OWN OPINION ARE NOT IN COMPLIANCE WITH THE CONTRACT DOCUMENTS, EITHER BEFORE OR AFTER INSTALLATION AND THE EQUIPMENT SHALL BE REPLACED WITH EQUIPMENT CONFORMING TO THE REQUIREMENTS OF THE CONTRACT DOCUMENTS BY THE CONTRACTOR AT NO COST TO AT&T MOBILITY OR THEIR ARCHITECT/ENGINEER.

SPECIAL CONSTRUCTION

ANTENNA INSTALLATION NOTES:

1. WORK INCLUDED:
- A. ANTENNA AND COAXIAL CABLES ARE FURNISHED BY AT&T MOBILITY UNDER A SEPARATE CONTRACT. THE CONTRACTOR SHALL ASSIST ANTENNA INSTALLATION CONTRACTOR IN TERMS OF COORDINATION AND SITE ACCESS. ERECTION SUBCONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF PERSONNEL.

B. INSTALL ANTENNAS AS INDICATED ON DRAWINGS AND AT&T MOBILITY SPECIFICATIONS.

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

D. INSTALL FURNISHED GALVANIZED STEEL OR ALUMINUM WAVEGUIDE.

E. CONTRACTOR SHALL PROVIDE FOUR (4) SETS OF SWEEP TESTS USING ANRITZU-PACKARD 8713B RF SCALAR NETWORK ANALYZER. SUBMIT FREQUENCY DOMAIN REFLECTOMETER(FDR) TESTS RESULTS TO THE PROJECT MANAGER. SWEEP TESTS SHALL BE AS PER ATTACHED RFS "MINIMUM FIELD TESTING RECOMMENDED FOR ANTENNA AND HELIAX COAXIAL CABLE SYSTEMS" DATED 10/5/93. TESTING SHALL BE PERFORMED BY AN INDEPENDENT TESTING SERVICE AND BE BOUND AND SUBMITTED WITHIN ONE WEEK OF WORK COMPLETION.

F. INSTALL COAXIAL CABLES AND TERMINATING BETWEEN ANTENNAS AND EQUIPMENT PER MANUFACTURER'S RECOMMENDATIONS. WEATHERPROOF ALL CONNECTIONS BETWEEN THE ANTENNA AND EQUIPMENT PER MANUFACTURER'S REQUIREMENTS. TERMINATE ALL COAXIAL CABLE THREE (3) FEET IN EXCESS OF ENTRY PORT LOCATION UNLESS OTHERWISE STATED.

G. ANTENNA AND COAXIAL CABLE GROUNDING:

2. ALL EXTERIOR #6 GREEN GROUND WIRE "DAISY CHAIN" CONNECTIONS ARE TO BE WEATHER SEALED WITH RFS CONNECTORS/SPLICE WEATHERPROOFING KIT #221213 OR EQUAL.
3. ALL COAXIAL CABLE GROUNDING KITS ARE TO BE INSTALLED ON STRAIGHT RUNS OF COAXIAL CABLE (NOT WITHIN BENDS)

ALL DISCREPANCIES FROM WHAT IS SHOWN ON THESE CONSTRUCTION DRAWINGS SHALL BE COMMUNICATED TO ATC ENGINEERING IMMEDIATELY FOR CORRECTION OR RE-DESIGN. FAILURE TO COMMUNICATE DIRECTLY WITH ATC ENGINEERING OR ANY CHANGES FROM THE DESIGN CONDUCTED WITHOUT PRIOR APPROVAL FROM ATC ENGINEERING SHALL BE THE SOLE RESPONSIBILITY OF THE GENERAL CONTRACTOR.



PLANS PREPARED BY:



TEP ENGINEERING, PLLC
326 TRYON ROAD
RALEIGH, NC 27603-3530
OFFICE: (919) 661-6351
www.tepgroup.net

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REV.	DESCRIPTION	BY	DATE
A	PRELIMINARY	ANM	10/25/24
B	100% CONSTRUCTION	MFM	11/11/24
C			
D			
E			

ATC SITE NUMBER: 302489

ATC SITE NAME: ENFD - ENFIELD

AT&T MOBILITY SITE NUMBER:

CTL01021

AT&T MOBILITY SITE NAME:

ENFIELD-TOWN FARM RD

SITE ADDRESS:
77 TOWN FARM RD
ENFIELD, CT 06082-5152

TEP Engineering, PLLC PEG.0002212



SEAL: 11/11/24



DATE DRAWN:	11/11/24
ATC JOB NO:	14878510
CUSTOMER NAME:	ENFIELD-TOWN FARM RD
CUSTOMER ID:	CTL01021

GENERAL NOTES

SHEET NUMBER:

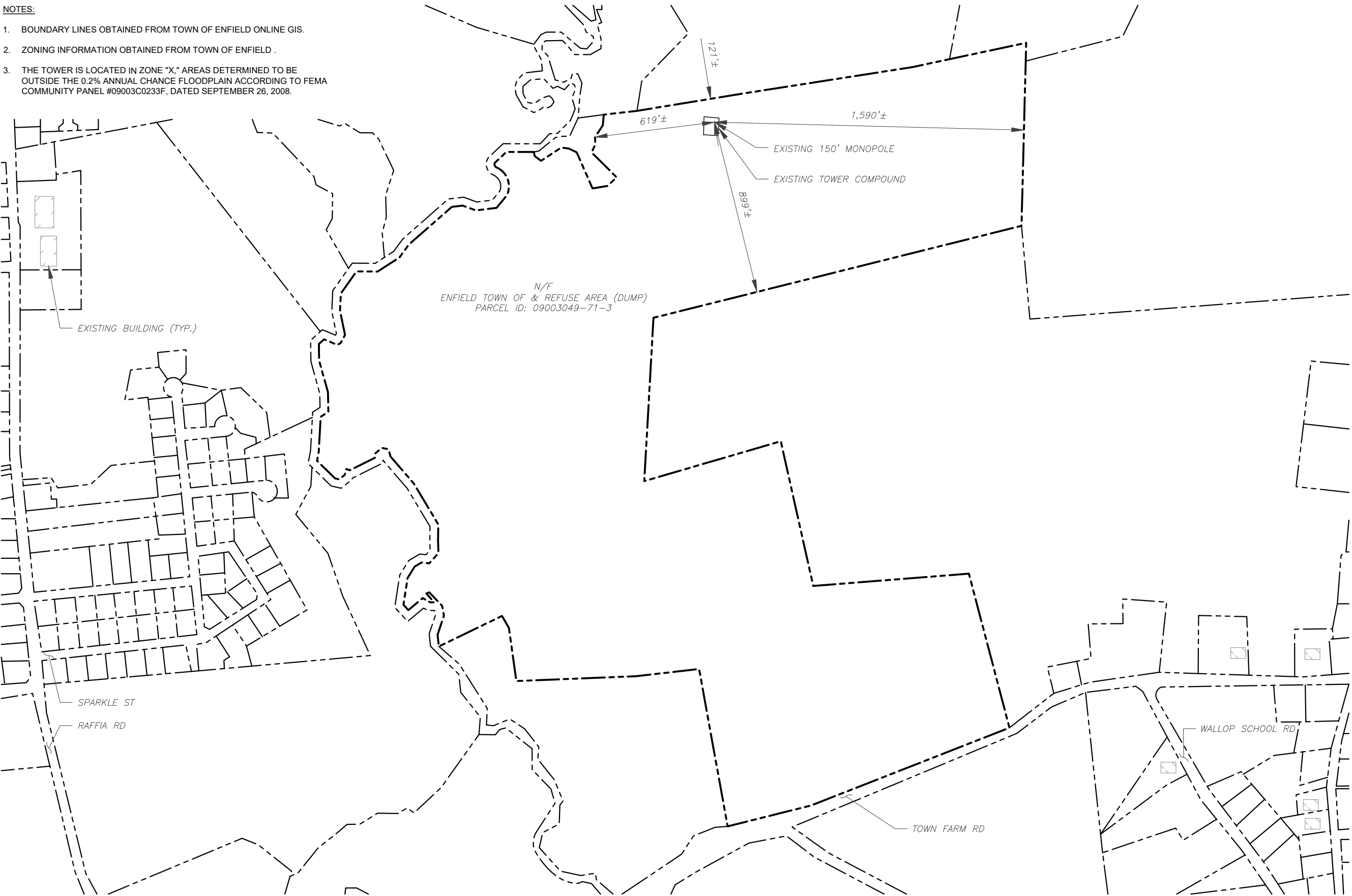
G-002

REVISION:

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NOTES:

- BOUNDARY LINES OBTAINED FROM TOWN OF ENFIELD ONLINE GIS.
- ZONING INFORMATION OBTAINED FROM TOWN OF ENFIELD .
- THE TOWER IS LOCATED IN ZONE "X," AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN ACCORDING TO FEMA COMMUNITY PANEL #09003C0233F, DATED SEPTEMBER 26, 2008.



LEGEND

- EXISTING PROPERTY LINE
- - - EXISTING ADJACENT PROPERTY LINE
- - - EXISTING LEASE AREA

1 OVERALL SITE PLAN
SCALE: 1" = 500'

0 500' 1000'

SCALE: 1"=500' (11X17)
1"=250' (22X34)



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ENFIELD, CT 06082-5152

TEP Engineering, PLLC PEG.0002212

STATE OF CONNECTICUT
STT C. BRANTLEY
PROFESSIONAL ENGINEER
11/11/24

AT&T

DATE DRAWN:	11/11/24
ATC JOB NO:	14878510
CUSTOMER NAME:	ENFIELD-TOWN FARM RD
CUSTOMER ID:	CTL01021

OVERALL SITE PLAN

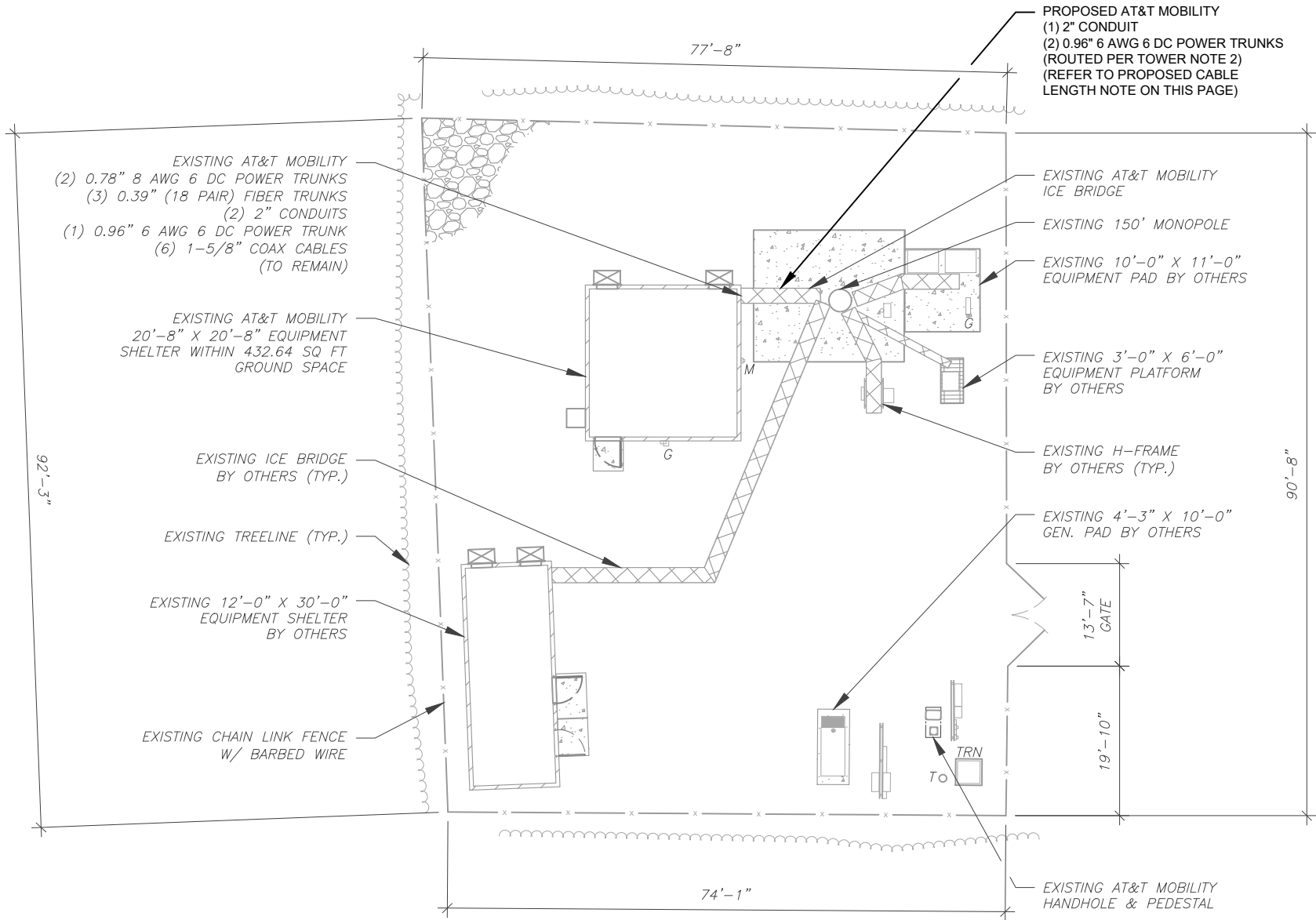
SHEET NUMBER:	REVISION:
C-001	0

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. THIS CONSTRUCTION DRAWING SET IS NOT INTENDED TO REPRESENT ANY ELECTRICAL DESIGN OTHER THAN THE GROUNDING SHOWN, OR TO BE USED TO OBTAIN AN ELECTRICAL PERMIT. AN ELECTRICAL PERMIT IS REQUIRED TO WIRE UP THE PROPOSED EQUIPMENT. ANY ELECTRICAL UPGRADES WILL BE ENGINEERED AND PERMITTED IN A SEPARATE CONSTRUCTION DRAWING SET.

LEGEND

⊗	GROUNDING TEST WELL
ATS	AUTOMATIC TRANSFER SWITCH
B	BOLLARD
CSC	CELL SITE CABINET
D	DISCONNECT
E	ELECTRICAL
F	FIBER
GEN	GENERATOR
G	GENERATOR RECEPTACLE
HH, V	HAND HOLE, VAULT
IB	ICE BRIDGE
K	KENTROX BOX
LC	LIGHTING CONTROL
M	METER
PB	PULL BOX
PP	POWER POLE
T	TELCO
TRN	TRANSFORMER
— x —	CHAINLINK FENCE

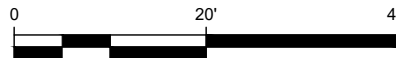


PROPOSED CABLE NOTES:

1. ESTIMATED LENGTH OF PROPOSED CABLE IS **200'**. ESTIMATED LENGTH OF CABLE WAS PROVIDED BY CUSTOMER OR CALCULATED BY ADDING THE RAD CENTER AND THE DISTANCE FROM THE SHELTER ENTRY PLATE TO THE TOWER (ALONG THE ICE BRIDGE) AND A SAFETY FACTOR MEASUREMENT OF 15% (OF THE TWO PREVIOUS VALUES). CDS DEFER TO GREATEST CABLE LENGTH.
2. ROUTE PROPOSED CABLES ALONG SAME PATH AS EXISTING CABLES AND IN ACCORDANCE WITH STRUCTURAL ANALYSIS. IF ADEQUATE SPACE EXISTS, ROUTE CABLES THROUGH ENTRY PORT HOLE, UP INSIDE OF MONOPOLE, AND THROUGH EXIT PORT HOLE. IF ROUTING OUTSIDE THE MONOPOLE, ATTACH CABLES USING STAND-OFF ADAPTERS MOUNTED TO TOWER USING STAINLESS STEEL BANDING. ADEQUATELY SECURE CABLES USING EITHER APPROPRIATELY SIZED STAINLESS STEEL SNAP-INS OR MOUNTING HARDWARE AND BRACKETS AS SPECIFIED BY CABLE MANUFACTURER.

1 DETAILED SITE PLAN

SCALE: 1" = 20'



SCALE: 1"=20' (11X17)
1"=10' (22X34)



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B	100% CONSTRUCTION	MFM	11/11/24
C			
D			
E			

ATC SITE NUMBER: 302489

ATC SITE NAME: ENFD - ENFIELD

AT&T MOBILITY SITE NUMBER:

CTL01021

AT&T MOBILITY SITE NAME:

ENFIELD-TOWN FARM RD

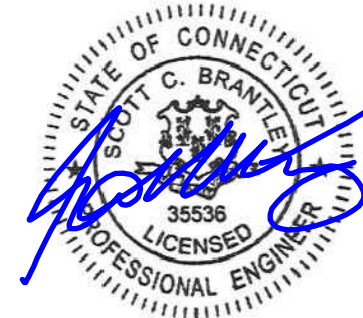
SITE ADDRESS:

77 TOWN FARM RD

ENFIELD, CT 06082-5152

TEP Engineering, PLLC

PEC.0002212



SEAL:

11/11/24



DATE DRAWN:	11/11/24
ATC JOB NO:	14878510
CUSTOMER NAME:	ENFIELD-TOWN FARM RD
CUSTOMER ID:	CTL01021

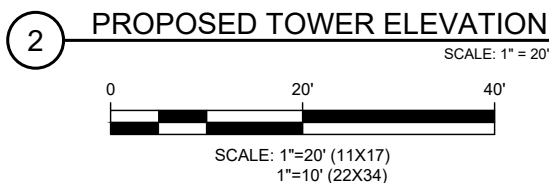
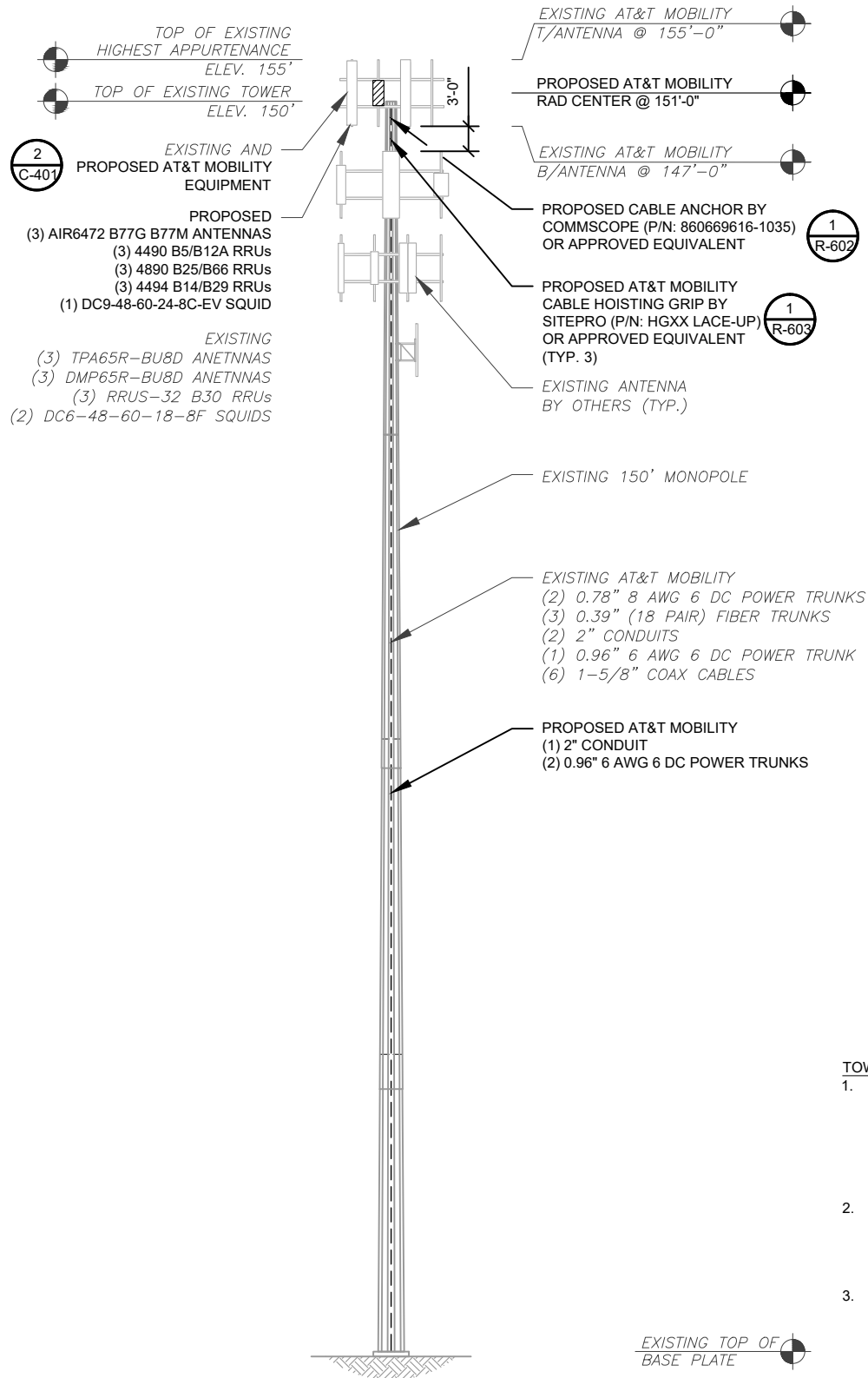
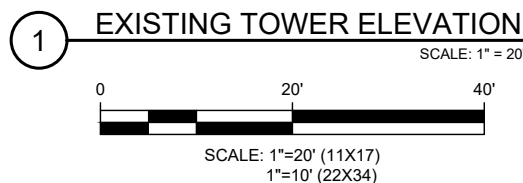
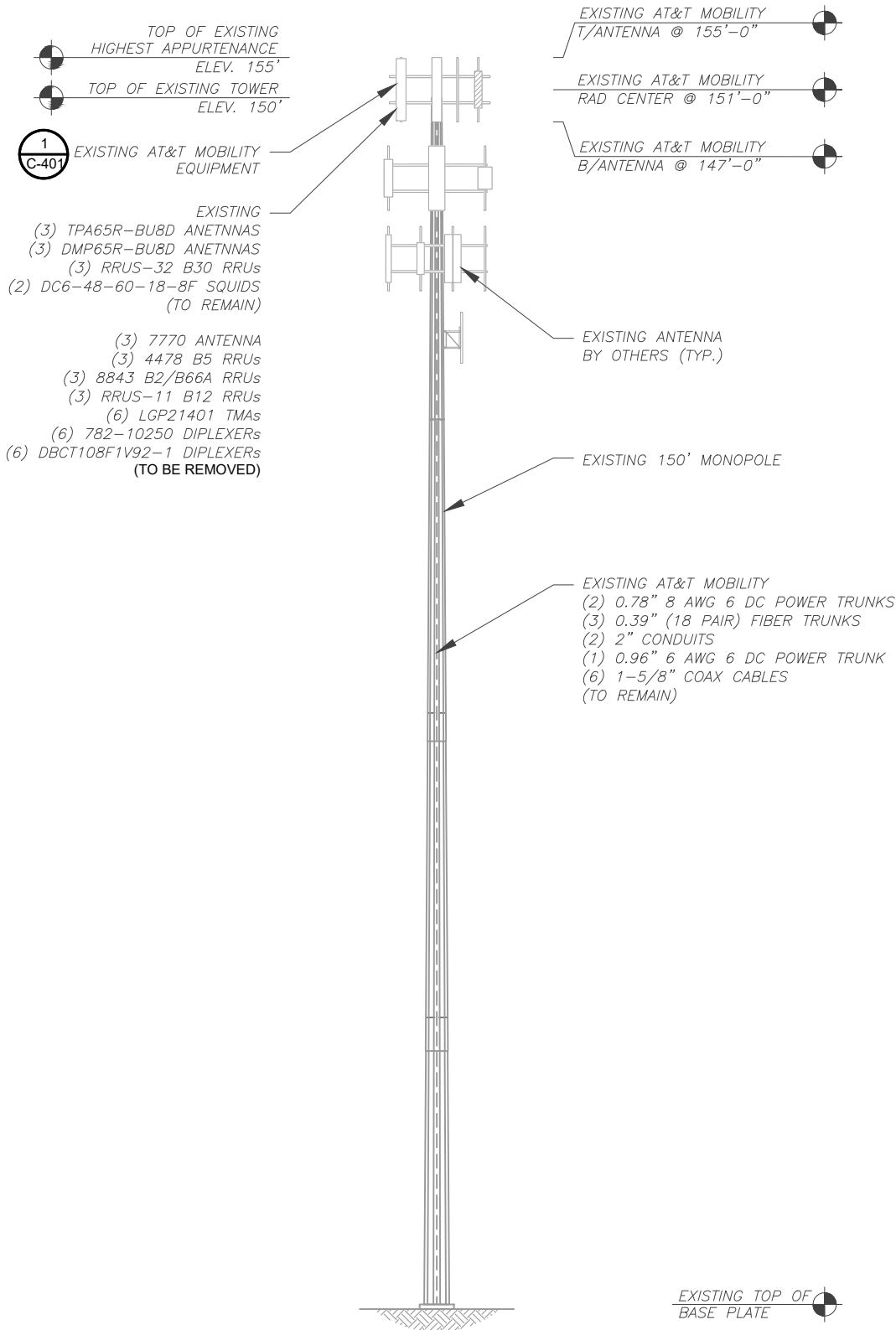
DETAILED SITE PLAN

SHEET NUMBER:

C-101

REVISION:

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PER MOUNT ANALYSIS COMPLETED BY TEP, DATED OCTOBER 02, 2024. THE EXISTING MOUNT MUST BE MODIFIED TO 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 R-602

1 R-603

- TOWER NOTES:
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONFIRM WITH THE PROJECT MANAGER THAT THEY HAVE THE MOST RECENT VERSION OF THE STRUCTURAL ANALYSIS BEFORE COMMENCING WORK. EXISTING AND PROPOSED TOWER APPURTENANCES, MOUNTS, AND ANTENNAS ARE SHOWN BASED ON THE STRUCTURAL ANALYSIS.
 - WHERE APPLICABLE, ALL NEW ANTENNAS, EQUIPMENT, MOUNTS, CABLING, ETC. SHALL BE PAINTED/SOCKED TO MATCH EXISTING EQUIPMENT IN ACCORDANCE WITH FAA, JURISDICTION, AND/OR OTHER LOCAL REQUIREMENTS.
 - ROUTE PROPOSED CABLES ALONG SAME PATH AS EXISTING CABLES AND IN ACCORDANCE WITH STRUCTURAL ANALYSIS. IF ADEQUATE SPACE EXISTS, ROUTE CABLES THROUGH ENTRY PORT HOLE, UP INSIDE OF MONOPOLE, AND THROUGH EXIT PORT HOLE. IF ROUTING OUTSIDE THE MONOPOLE, ATTACH CABLES USING STAND-OFF ADAPTERS MOUNTED TO TOWER USING STAINLESS STEEL BANDING. ADEQUATELY SECURE CABLES USING EITHER APPROPRIATELY SIZED STAINLESS STEEL SNAP-INS OR MOUNTING HARDWARE AND BRACKETS AS SPECIFIED BY CABLE MANUFACTURER.
 - TOWER ELEVATION DEPICTION MAY NOT REFLECT ALL EQUIPMENT INCLUDED IN STRUCTURAL ANALYSIS. REFER TO STRUCTURAL ANALYSIS FOR FULL TOWER LOADING.



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AT&T MOBILITY SITE NUMBER:

CTL01021

AT&T MOBILITY SITE NAME:

ENFIELD-TOWN FARM RD

SITE ADDRESS:

77 TOWN FARM RD
ENFIELD, CT 06082-5152

TEP Engineering, PLLC

REC.0002212



SEAL: 11/11/24

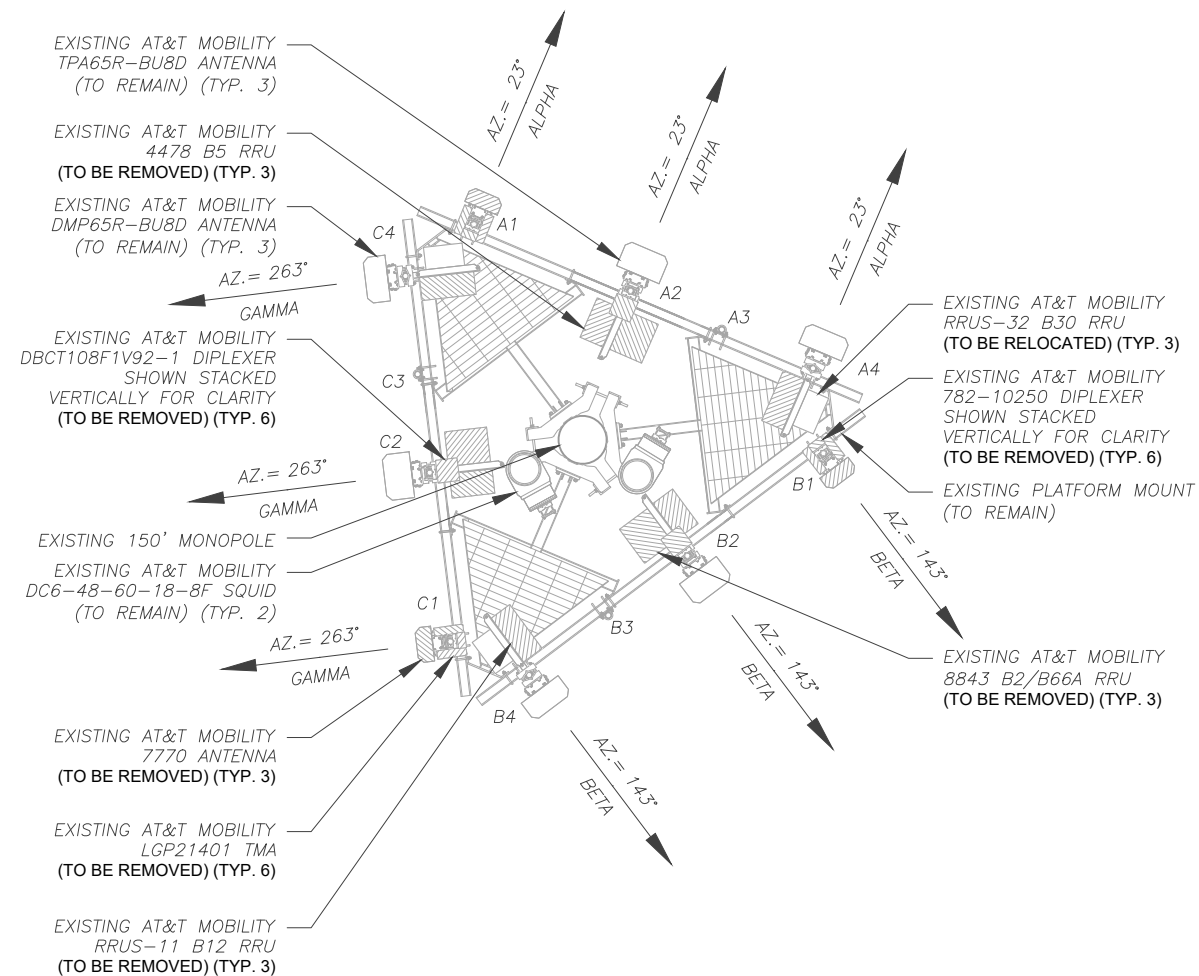


DATE DRAWN:	11/11/24
ATC JOB NO:	14878510
CUSTOMER NAME:	ENFIELD-TOWN FARM RD
CUSTOMER ID:	CTL01021

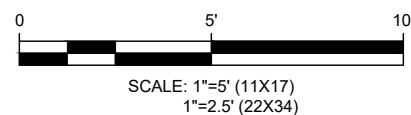
TOWER ELEVATION

SHEET NUMBER:	REVISION:
C-201	0

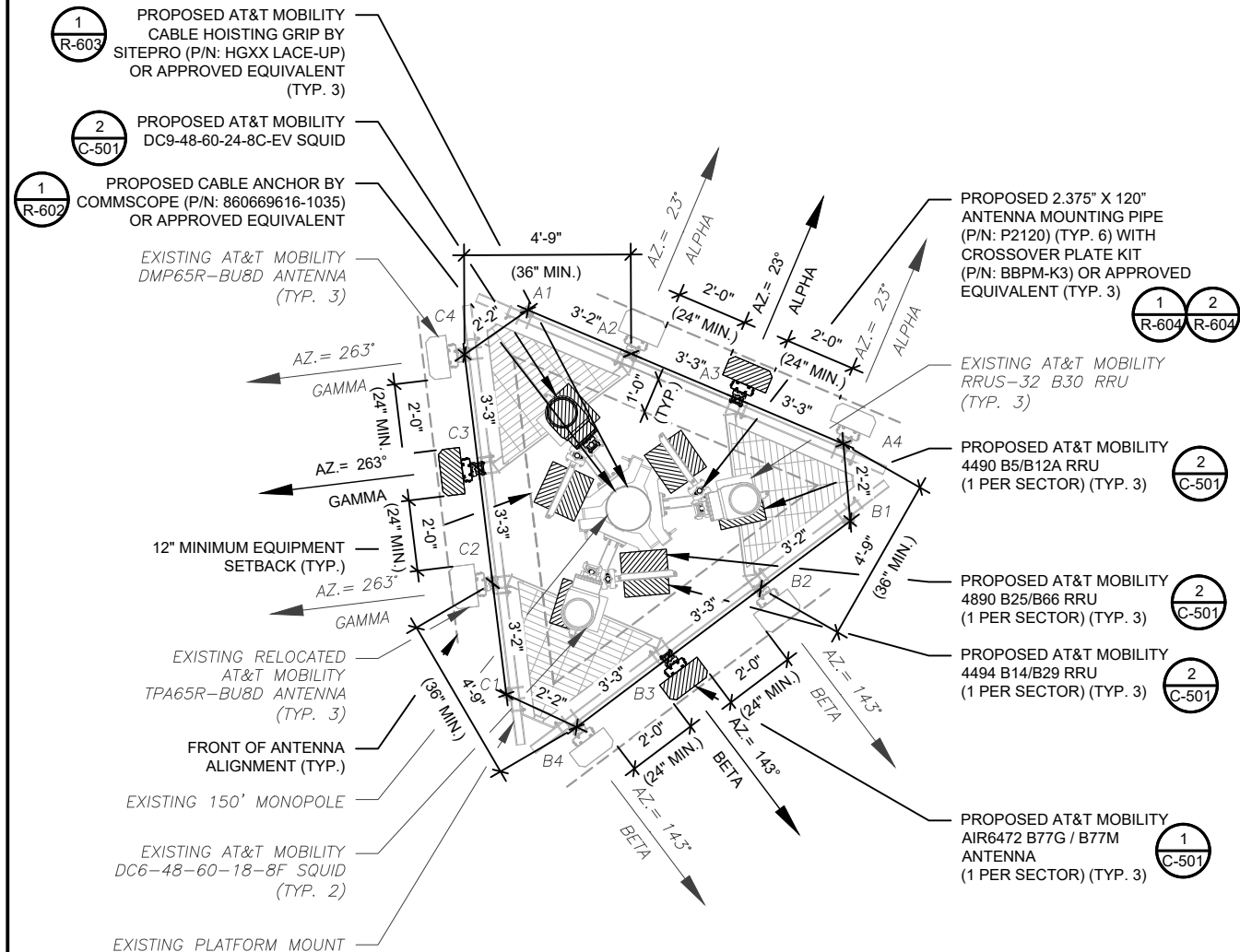
EXISTING CONFIGURATIONS ARE BASED ON RFDS.
CONTRACTOR TO VERIFY EXISTING CONDITIONS.



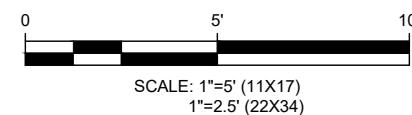
1 EXISTING ANTENNA PLAN



PER MOUNT ANALYSIS COMPLETED BY TEP,
DATED OCTOBER 02, 2024, THE EXISTING MOUNT
MUST BE MODIFIED TO 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



PLANS PREPARED BY:



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TEP Engineering, PLLC PEC.0002212



SEAL: 11/11/24



DATE DRAWN:	11/11/24
ATC JOB NO:	14878510
CUSTOMER NAME:	ENFIELD-TOWN FARM RD
CUSTOMER ID:	CTL01021

ANTENNA INSTALLATION

SHEET NUMBER:

C-401

REVISION:

0

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EXISTING ANTENNA SCHEDULE									
LOCATION			ANTENNA SUMMARY				NON ANTENNA SUMMARY		
SECTOR	RAD	AZ	POS	ANTENNA	BAND	MECH D-TILT	STATUS	ADDITIONAL TOWER MOUNTED EQUIPMENT	STATUS
ALPHA	151'	23°	A1	7770	UMTS 850/UMTS 1900	0°	RMV	(2) LGP21401 (2) 782-10250	RMV RMV
			A2	—	—	—	—	—	—
			A3	TPA65R—BU8D	LTE 850/5G 850/ LTE AWS/LTE 1900	0°	RMN	(1) 4478 B5 (1) 8843 B2/B66A (2) DBCT108F1V92-1	RMV RMV RMV
			A4	DMP65R—BU8D	LTE 700/LTE WCS	0°	RMN	(1) RRUS-11 B12 (1) RRUS-32 B30	RMV REL
BETA	151'	143°	B1	7770	UMTS 850/UMTS 1900	0°	RMV	(2) LGP21401 (2) 782-10250	RMV RMV
			B2	—	—	—	—	—	—
			B3	TPA65R—BU8D	LTE 850/5G 850/ LTE AWS/LTE 1900	0°	RMN	(1) 4478 B5 (1) 8843 B2/B66A	RMV RMV
			B4	DMP65R—BU8D	LTE 700/LTE WCS	0°	RMN	(1) RRUS-11 B12 (1) RRUS-32 B30	RMV REL
GAMMA	151'	263°	C1	7770	UMTS 850/UMTS 1900	0°	RMV	(2) LGP21401 (2) 782-10250	RMV RMV
			C2	—	—	—	—	—	—
			C3	TPA65R—BU8D	LTE 850/5G 850/ LTE AWS/LTE 1900	0°	RMN	(1) 4478 B5 (1) 8843 B2/B66A (2) DBCT108F1V92-1	RMV RMV RMV
			C4	DMP65R—BU8D	LTE 700/LTE WCS	0°	RMN	(1) RRUS-11 B12 (1) RRUS-32 B30	RMV REL

NOTES

1. GC TO VERIFY THE FINAL RFDS MATCHES THE FINAL CONSTRUCTION DRAWINGS. GC TO NOTIFY ATC PM OF ANY DISCREPANCY PRIOR TO INSTALLING THE EQUIPMENT.

2. GC TO CAP ALL UNUSED PORTS.

3. CONFIRM SPACING OF PROPOSED EQUIP DOES NOT CAUSE TOWER CONFLICTS NOR IMPEDE TOWER CLIMBING PEGS.

4. THE ANTENNA ORIENTATION PLAN IS A SCHEMATIC. ATC DID NOT CONFIRM EXISTING SITE CONDITIONS INCLUDING, BUT NOT LIMITED TO, ANTENNA AZIMUTHS, MOUNT CONFIGURATIONS AND TOWER ORIENTATION. SCALES SHOWN ARE FOR REFERENCE ONLY AND EXISTING DIMENSIONS ARE APPROXIMATE. THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS PRIOR TO INSTALLATION AND NOTIFY ATC OF ANY DISCREPANCIES.

5. CONTRACTOR TO ENSURE PROPER SEPARATION IN ACCORDANCE WITH AT&T'S FIRSTNET REQUIREMENTS.

STATUS ABBREVIATIONS

RMV: TO BE REMOVED

RMN: TO REMAIN

REL: TO BE RELOCATED

ADD: TO BE ADDED

CABLE LENGTHS FOR JUMPERS

JUNCTION BOX TO RRU: 15'

RRU TO ANTENNA: 10'

FINAL ANTENNA SCHEDULE									
LOCATION			ANTENNA SUMMARY				NON ANTENNA SUMMARY		
SECTOR	RAD	AZ	POS	ANTENNA	BAND	MECH D-TILT	STATUS	ADDITIONAL TOWER MOUNTED EQUIPMENT	STATUS
ALPHA	151'	23°	A1	-	-	-	-	-	-
			A2	TPA65R—BU8DA—K	LTE 1900/LTE AWS/ LTE 700/5G 1900/5G AWS	0°	RMN	(1) 4890 B25/B66 (1) 4494 B14/B29	ADD ADD
			A3	AIR6472 B77G B77M	5G CBAND/5G DOD	0°	ADD	-	-
			A4	DMP65R—BU8DA	LTE 700/LTE WCS/5G 850	0°	RMN	(1) 4490 B5/B12 (1) RRUS—32 B30	ADD RMN
BETA	151'	143°	B1	-	-	-	-	-	-
			B2	TPA65R—BU8DA—K	LTE 1900/LTE AWS/ LTE 700/5G 1900/5G AWS	0°	RMN	(1) 4890 B25/B66 (1) 4494 B14/B29	ADD ADD
			B3	AIR6472 B77G B77M	5G CBAND/5G DOD	0°	ADD	-	-
			B4	DMP65R—BU8DA	LTE 700/LTE WCS/5G 850	0°	RMN	(1) 4490 B5/B12 (1) RRUS—32 B30	ADD RMN
GAMMA	151'	263°	C1	-	-	-	-	-	-
			C2	TPA65R—BU8DA—K	LTE 1900/LTE AWS/ LTE 700/5G 1900/5G AWS	0°	RMN	(1) 4890 B25/B66 (1) 4494 B14/B29	ADD ADD
			C3	AIR6472 B77G B77M	5G CBAND/5G DOD	0°	ADD	-	-
			C4	DMP65R—BU8DA	LTE 700/LTE WCS/5G 850	0°	RMN	(1) 4490 B5/B12 (1) RRUS—32 B30	ADD RMN

EXISTING FIBER DISTRIBUTION/SQUID		EXISTING CABLING SUMMARY			
MODEL NUMBER	STATUS	COAX	DC/RET	FIBER	STATUS
(2) DC6—48—60—18—8F	RMN	(6) 1—5/8"	(4) 0.78" 8 AWG 6	(3) 0.39" (18 PAIR)	RMN
—	—	(2) 2" CONDUIT	(1) 0.96" 6 AWG 6	—	RMN

FINAL FIBER DISTRIBUTION/SQUID		FINAL CABLING SUMMARY			
MODEL NUMBER	STATUS	COAX	DC	FIBER	STATUS
(2) DC6—48—60—18—8F	RMN	(6) 1—5/8"	(4) 0.78" 8 AWG 6	(3) 0.39" (18 PAIR)	RMN
-	-	(2) 2" CONDUIT	(1) 0.96" 6 AWG 6	-	RMN
(1) DC9-48-60-24-8C-EV	ADD	(1) 2" CONDUIT	(2) 0.96" 6 AWG 6	-	ADD

1

EQUIPMENT SCHEDULES

1

EQUIPMENT SCHEDULES



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RALEIGH, NC 27603-3530
OFFICE: (919) 661-6351
www.tepgroup.net

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REV.	DESCRIPTION	BY	DATE
A	PRELIMINARY	ANM	10/25/24
B	100% CONSTRUCTION	MFM	11/11/24
C			
D			
E			

ATC SITE NUMBER: 302489

ATC SITE NAME: ENFD - ENFIELD

AT&T MOBILITY SITE NUMBER:

CTL01021

AT&T MOBILITY SITE NAME:

ENFIELD-TOWN FARM RD

SITE ADDRESS:
77 TOWN FARM RD
ENFIELD, CT 06082-5152

TEP Engineering, PLLC

REC.0002212



SEAL: 11/11/24



DATE DRAWN: 11/11/24

ATC JOB NO: 14878510

CUSTOMER NAME: ENFIELD-TOWN FARM RD

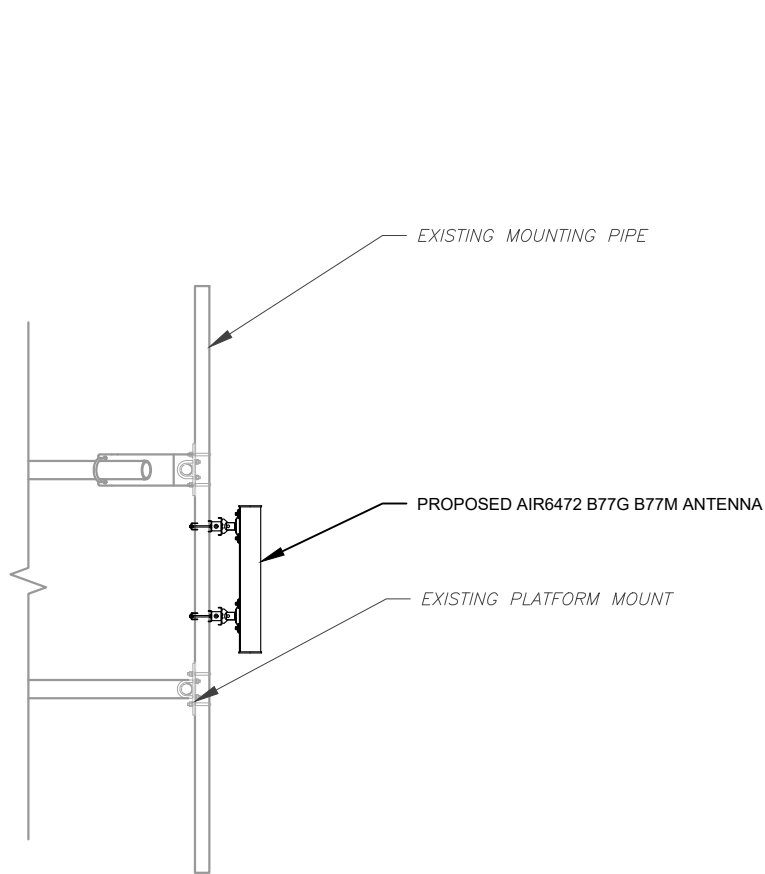
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ANTENNA SCHEDULE

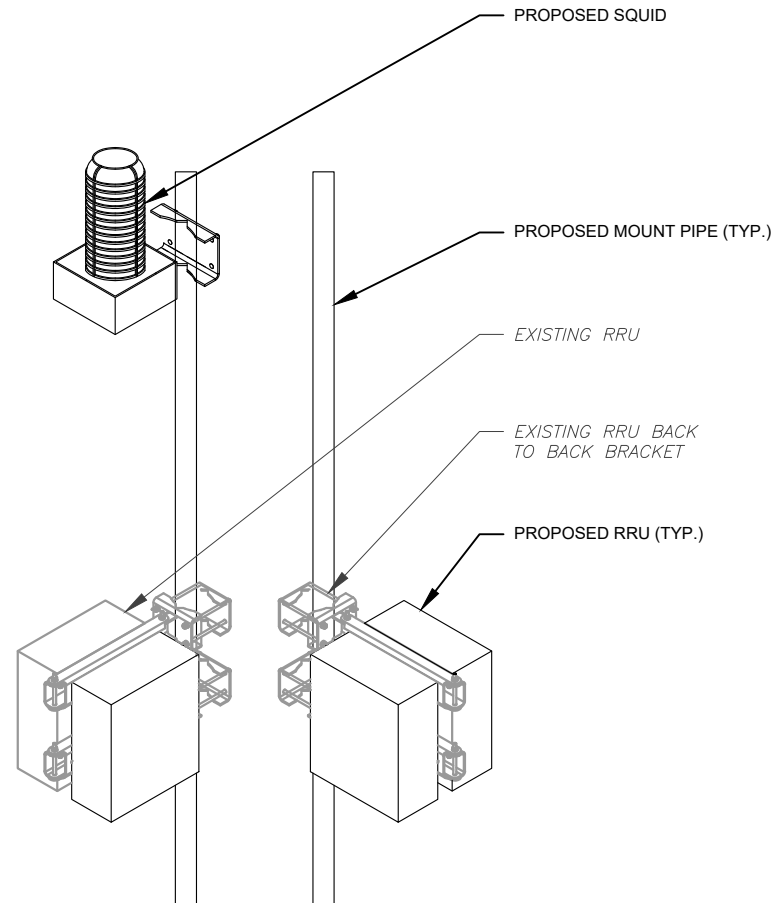
SHEET NUMBER:
C-402

REVISION:
0

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1 PROPOSED 5G ANTENNA MOUNTING DETAIL
SCALE: N.T.S.



2 PROPOSED RRU & SQUID MOUNTING DETAIL
SCALE: N.T.S.



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0	100% CONSTRUCTION	MFM	11/11/24

ATC SITE NUMBER: 302489

ATC SITE NAME: ENFD - ENFIELD

AT&T MOBILITY SITE NUMBER:

CTL01021

AT&T MOBILITY SITE NAME:

ENFIELD-TOWN FARM RD

SITE ADDRESS:

77 TOWN FARM RD

ENFIELD, CT 06082-5152

TEP Engineering, PLLC

PEC.0002212



SEAL:

11/11/24



DATE DRAWN:	11/11/24
ATC JOB NO:	14878510
CUSTOMER NAME:	ENFIELD-TOWN FARM RD
CUSTOMER ID:	CTL01021

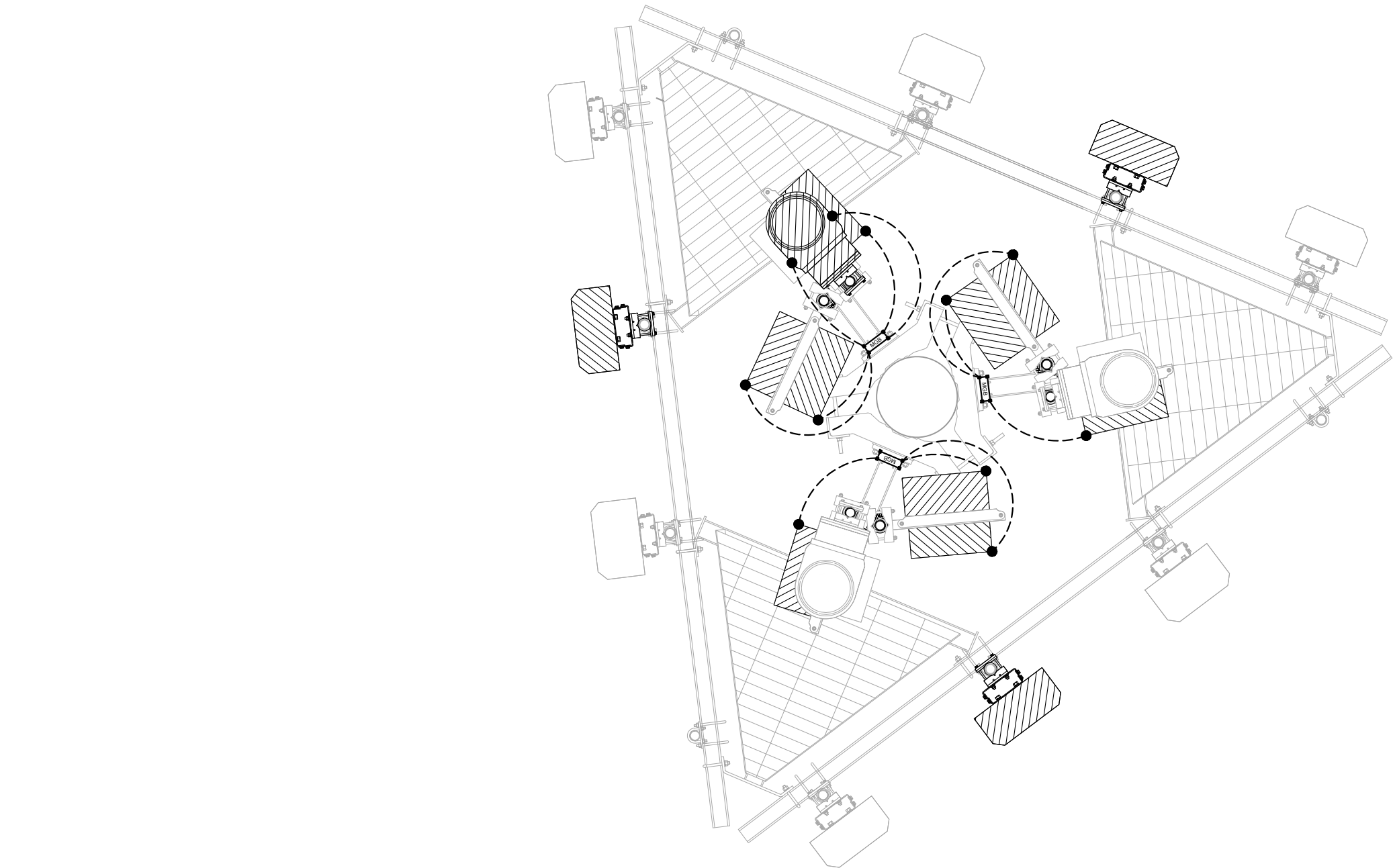
CONSTRUCTION
DETAILS

SHEET NUMBER:

C-501

REVISION:

0



LEGEND	
	EXOTHERMIC CONNECTION
	MECHANICAL CONNECTION
	ANTENNA GROUND BAR
	MASTER GROUND BAR

1

ANTENNA GROUNDING PLAN

SCALE: N.T.S.



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REV.	DESCRIPTION	BY	DATE
A	PRELIMINARY	ANM	10/25/24
0	100% CONSTRUCTION	MFM	11/11/24

ATC SITE NUMBER: 302489
ATC SITE NAME: ENFD - ENFIELD
AT&T MOBILITY SITE NUMBER:
CTL01021
AT&T MOBILITY SITE NAME:
ENFIELD-TOWN FARM RD
SITE ADDRESS:
77 TOWN FARM RD
ENFIELD, CT 06082-5152

TEP Engineering, PLLC PEC.0002212



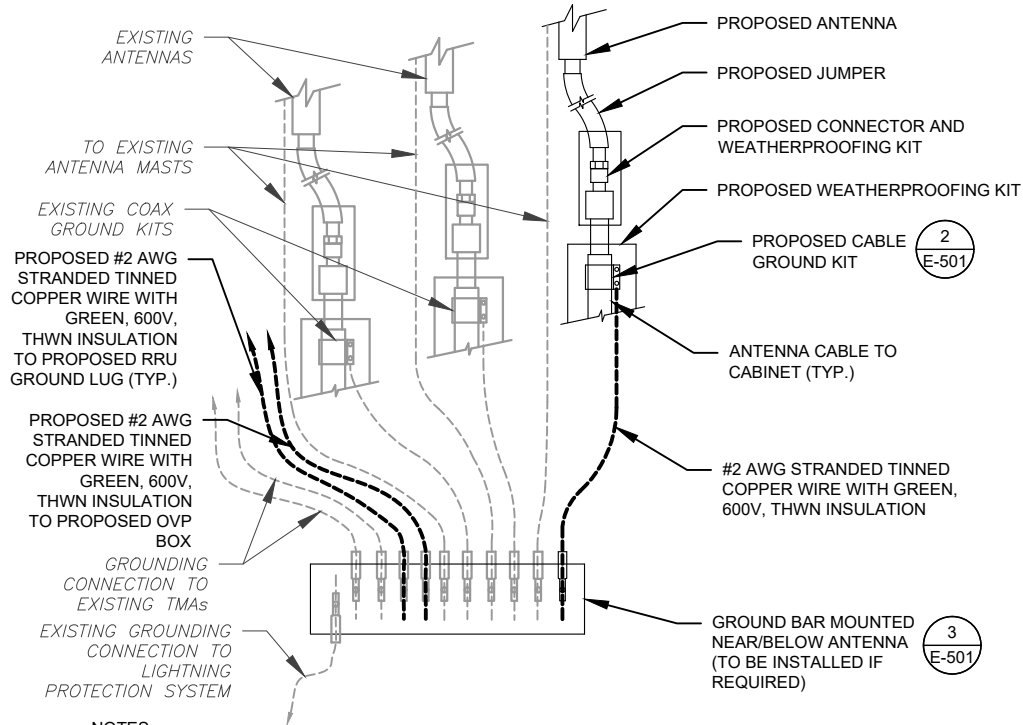
SEAL: 11/11/24



DATE DRAWN:	11/11/24
ATC JOB NO:	14878510
CUSTOMER NAME:	ENFIELD-TOWN FARM RD
CUSTOMER ID:	CTL01021

GROUNDING PLAN

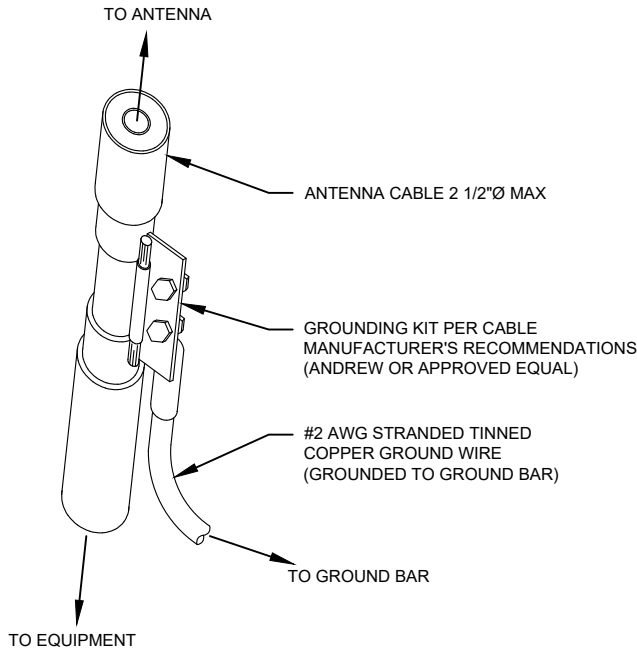
SHEET NUMBER:	REVISION:
E-101	0



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 AT&T MOBILITY GROUNDING STANDARDS, LATEST EDITION, AND COMPLY WITH AT&T MOBILITY GROUNDING CHECKLIST, LATEST VERSION. WHEN NATIONAL AND LOCAL GROUNDING CODES ARE MORE STRINGENT THEY SHALL GOVERN.

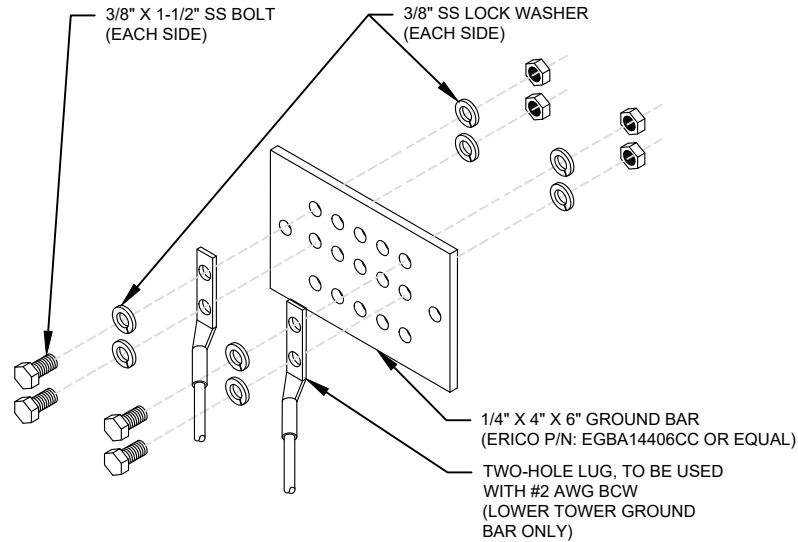
1 TYPICAL ANTENNA GROUNDING DIAGRAM
SCALE: N.T.S.



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.

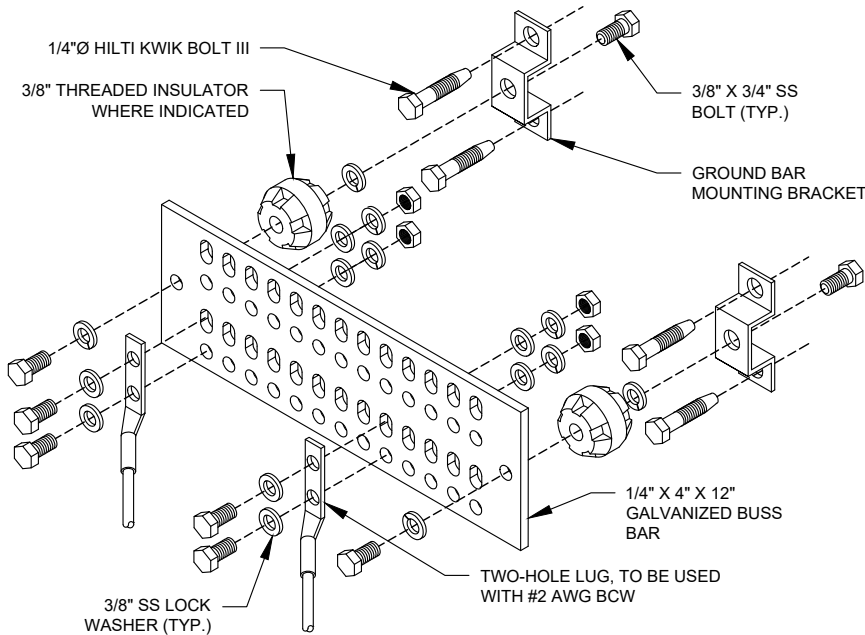
2 CABLE GROUND KIT CONNECTION DETAIL
SCALE: N.T.S.



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.

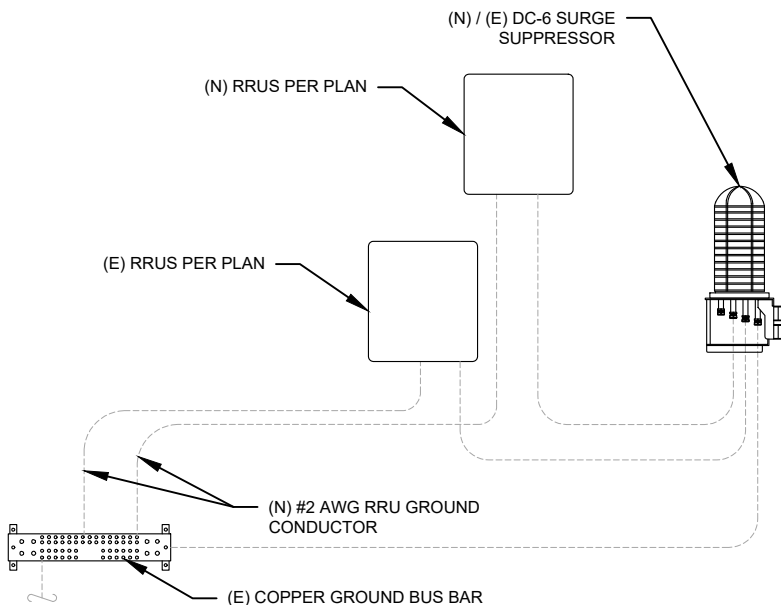
3 TOWER GROUND BAR DETAIL
SCALE: N.T.S.



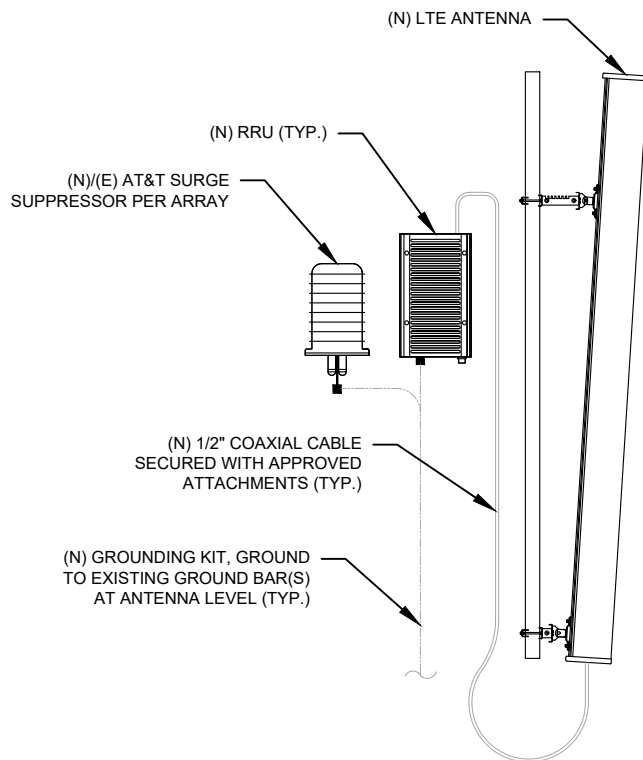
GROUND BAR NOTES

1. GROUND KITS COME WITH ALL HARDWARE, NUTS, BOLTS, WASHERS, ETC. EXCEPT THE STRUCTURAL MOUNTING MEMBER(S).
2. GROUND BAR SHALL BE BOLTED TO STRUCTURAL MEMBER OR ANCHORED TO CONCRETE SLAB W/ HILTI KWIK BOLT III.

4 MAIN GROUND BAR DETAIL
SCALE: N.T.S.



5 RRU GROUNDING
SCALE: N.T.S.



6 ANTENNA/RRU GROUNDING
SCALE: N.T.S.

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A	PRELIMINARY	ANM	10/25/24
D	100% CONSTRUCTION	MFM	11/11/24

ATC SITE NUMBER: 302489
ATC SITE NAME: ENFD - ENFIELD
AT&T MOBILITY SITE NUMBER:
CTL01021
AT&T MOBILITY SITE NAME:
ENFIELD-TOWN FARM RD
SITE ADDRESS:
77 TOWN FARM RD
ENFIELD, CT 06082-5152

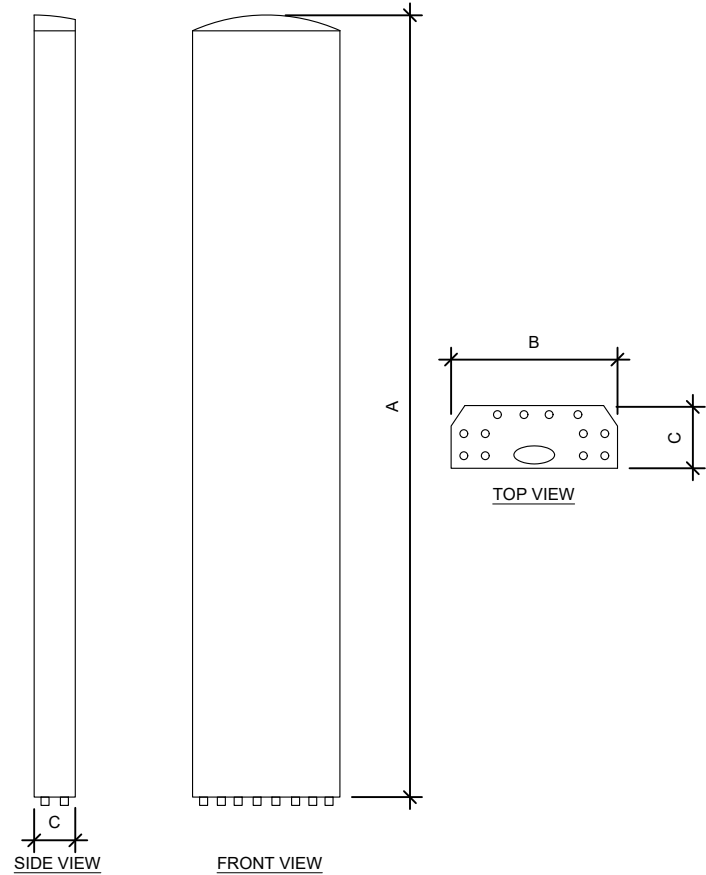
TEP Engineering, PLLC
PEC.0002212

STATE OF CONNECTICUT
SCOTT C. BRANTLEY
06536
PROFESSIONAL ENGINEER

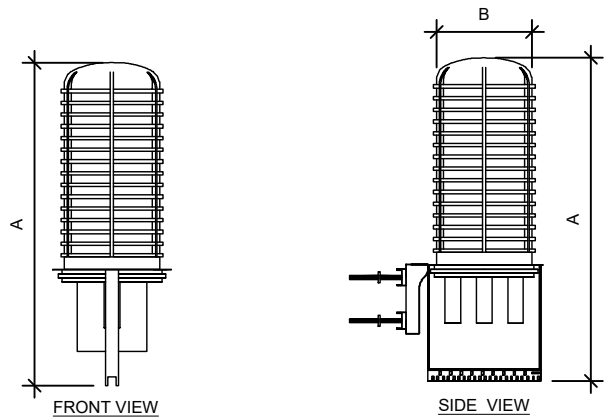
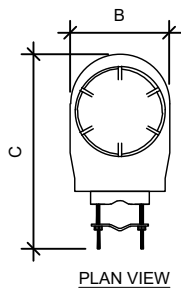
SEAL: 11/11/24

	AT&T
DATE DRAWN:	11/11/24
ATC JOB NO:	14878510
CUSTOMER NAME:	ENFIELD-TOWN FARM RD
CUSTOMER ID:	CTL01021

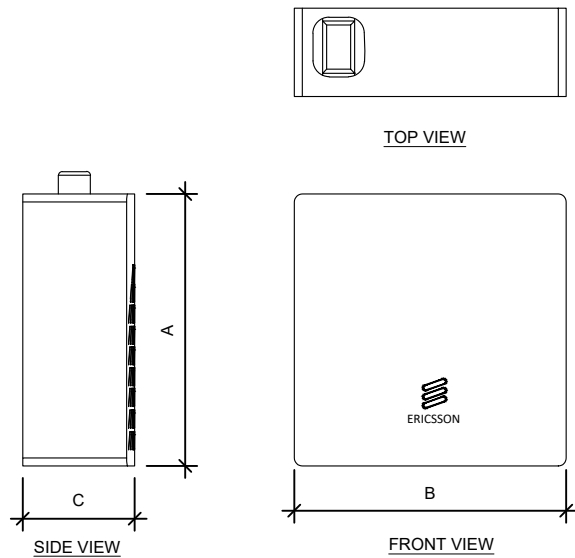
GROUNDING DETAILS	
SHEET NUMBER: E-501	REVISION: 0



ANTENNA SPECIFICATIONS				
ANTENNA MODEL	A	B	C	WEIGHT (LBS)
AIR6472 B77G B77M	36.3"	15.8"	7.4"	67.2



RAYCAP SPECIFICATIONS				
RAYCAP MODEL	A	B	C	WEIGHT (LBS)
DC9-48-60-24-8C-EV	25.9"	12.4"	9.7"	18.5



RRU SPECIFICATIONS				
RRU MODEL	A	B	C	WEIGHT (LBS)
4494 B14/B29	17.5"	15.1"	5.6"	57.3
4490 B5/B12A	20.6"	15.7"	7.0"	68.4
4890 B25/B66	20.6"	15.7"	7.2"	69.5



EQUIPMENT SPECIFICATIONS

SCALE: N.T.S.

SUPPLEMENTAL

SHEET NUMBER:

R-601

REVISION:

-

860669616-1035



Monopole Hoisting Grip Anchor,10"-35"

Engineered attachment anchor point solution for 10" to 35" diameter monopoles to accommodate and support cable via the wire mesh grip.

- MAXIMUM LOAD PER EYEBOLT = 1000 LBS
- MAXIMUM LOAD PER MOUNT = 3000 LBS
- REVIEWED FOR USE WITH A MINIMUM POLE DIAMETER OF 10" WITH WALL THICKNESS OF 3/16" AND A YIELD STRENGTH OF 36 KSI. FOR USE ON THINNER MATERIAL REQUIRES ADDITIONAL ENGINEERING REVIEW

Supports all cables types anchored with a hoisting grip including Hybrid cable.
860669616-1035-T Mounting Kit for Top of Monopole ordered separately

- Competent person to make determination of usage on the structure

Product Classification

Portfolio	CommScope®
Product Type	Universal ring mount
Warranty	One year

General Specifications

Pipe, quantity	0
Sectors, quantity	3

Dimensions

Height	101.6 mm 4 in
Compatible Diameter	254 mm 10 in 889 mm 35 in
Mounting Diameter, maximum	889 mm 35 in
Mounting Diameter, minimum	254 mm 10 in

Material Specifications

Material Type	Hot dip galvanized steel
---------------	--------------------------

860669616-1035

Mechanical Specifications

Wind Rating Test Method	TIA/EIA-222
-------------------------	-------------

Packaging and Weights

Included	Mount Threaded rod
Packaging quantity	1
Weight, net	22.68 kg 50 lb

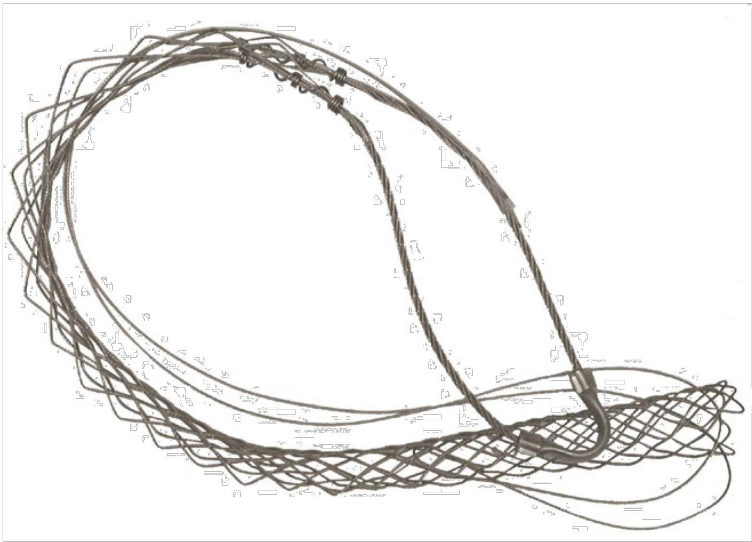
Regulatory Compliance/Certifications

Agency	Classification
CHINA-ROHS	Below maximum concentration value
REACH-SVHC	Compliant as per SVHC revision on www.commscope.com/ProductCompliance
ROHS	Compliant
UK-ROHS	Compliant/Exempted

* Footnotes

Warranty	For more information, please consult our Product Warranty guidelines
----------	--

HGxx: Lace-Up Hoisting Grips



Features:

- Lace-up design allows installation after connectors have been installed
- Longer grips result in less cable stress and greater resistance to pull-out, flexure, and vibration
- Use for lifting cables and for strain relief at 200' intervals on long cable runs

Construction:

- Stainless steel braided wire construction

Part #	Cable Size & Type	Overall Length	Mesh Length	Weight
HG12	1/2" Coax & LMR-600	15"	8"	0.1 lb
HG58	5/8" Coax & LMR-900	29"	22"	0.3 lb
HG78	7/8" Coax & LMR-1200	34"	21-1/2"	0.4 lb
HG114	1-1/4" Coax & LMR-1700	40"	27"	0.4 lb
HG158	1-5/8" Coax	45"	30"	0.4 lb
HG214	2-1/4" Coax	45"	30"	0.6 lb

created on: 12/12/2017

New York
1-888-438-7761

Georgia
1-866-901-0603

Indiana
1-888-753-7446

Oregon
1-888-880-9191

California
1-888-776-1937

Texas
1-888-809-5151

Florida
1-844-278-6371

Pxxx: Bulk Pipe



A valmont COMPANY

Part #	Length	OD x Length (in)
Schedule 40		
P260	5'-0"	2-3/8" x 60"
P263	5'-3"	2-3/8" x 63"
P272	6'-0"	2-3/8" x 72"
P284	7'-0"	2-3/8" x 84"
P296	8'-0"	2-3/8" x 96"
P2108	9'-0"	2-3/8" x 108"
P2120	10'-0"	2-3/8" x 120"
P2126	10'-6"	2-3/8" x 126"
P2150	12'-6"	2-3/8" x 150"
P2174	14'-6"	2-3/8" x 174"
P2252	21'-0"	2-3/8" x 252"
P3072	6'-0"	2-7/8" x 72"
P3084	7'-0"	2-7/8" x 84"
P3096	8'-0"	2-7/8" x 96"
P30108	9'-0"	2-7/8" x 108"
P30120	10'-0"	2-7/8" x 120"
P30126	10'-6"	2-7/8" x 126"
P30150	12'-6"	2-7/8" x 150"
P30174	14'-6"	2-7/8" x 174"
P30252	21'-0"	2-7/8" x 252"
P360	5'-0"	3-1/2" x 60"
P372	6'-0"	3-1/2" x 72"
P384	7'-0"	3-1/2" x 84"
P396	8'-0"	3-1/2" x 96"
P3150	12'-6"	3-1/2" x 150"
P3160	13'-4"	3-1/2" x 160"
P3174	14'-6"	3-1/2" x 174"
P3216	18'-0"	3-1/2" x 216"
P3252	21'-0"	3-1/2" x 252"
P472	6'-0"	4-1/2" x 72"
P4126	10'-6"	4-1/2" x 126"
P4252	21'-0"	4-1/2" x 252"



Features:

- Factory cut end, hot-dip galvanized pipe

Construction:

- ASTM A53 Grade B
- Schedule 40 or Schedule 80

Design Criteria:

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

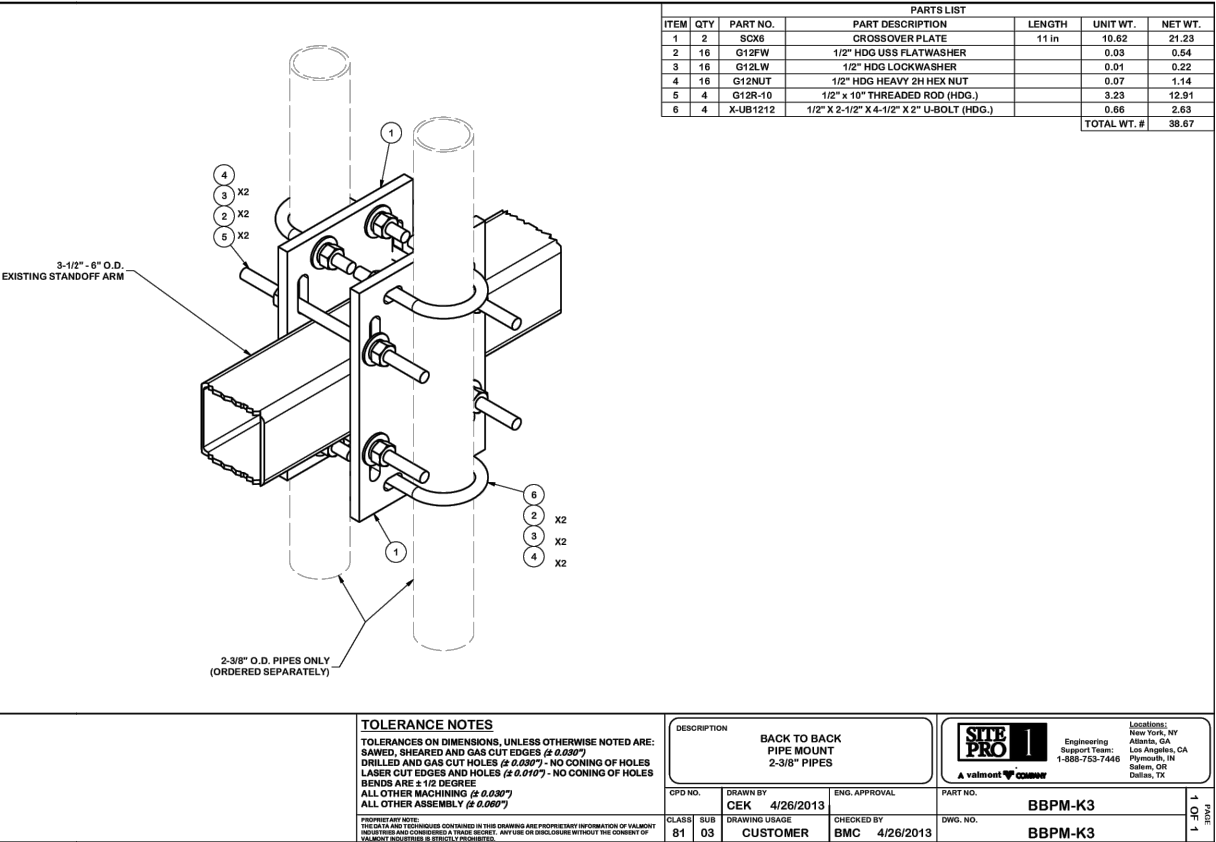
Part #	Length	OD x Length (in)
Schedule 80		
P2252-80	21'	2-1/2" x 252"
P30126-80	10'-6"	2-7/8" x 126"
P30252-80	21'	2-7/8" x 252"
P3252-80	21'	3-1/2" x 252"

created on: 03/09/2023

SitePro1.com

888-438-7761

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SUPPLEMENTAL

SHEET NUMBER:
R-604

REVISION:
-



This report was prepared for American Tower Corporation by



Eng. Number 14878510_C8_01
October 2, 2024
Page 2

Conclusion

Based on the analysis results, the antenna mount meets the requirements per the applicable codes listed above provided the modifications listed below are completed:

- Relocate existing mount pipes along face to achieve AT&T’s 12-ft face, 4-position configuration.
- Install (6) SitePro P2120 2.0SCH40 x 10’-0” Mount Pipes (CONMAT # ANT.55993) to the support horizontals to accommodate the proposed radio installation. Utilize (3) SitePro BBPM-K3 Back-to-Back Pipe Mount Kits (CONMAT # ANT.56902).
- Kicker kit connection is to be relocated along the support horizontal members to make room for the proposed radio mount pipes.

No structural failures were addressed with the noted contingencies. Contingencies address Carrier’s antenna spacing requirements.

If you have any questions or require additional information, please reach out to your American Tower contact. If you do not have an American Tower contact and have an Engineering question, please contact MountAnalysis@americantower.com. Please include the American Tower site name, site number, and engineering number in the subject line for any questions.

Antenna Mount Analysis Report

Mount Type : 12.5 ft Platform
ATC Site Name : Enfd - Enfield
ATC Site Number : 302489
Engineering Number : 14878510_C8_01
Mount Elevation : 151.5 ft
Carrier : AT&T Mobility
Carrier Site Name : Enfield-Town Farm RD
Carrier Site Number : WSCTB0029186
Site Location : 77 Town Farm Road
Enfield, CT 06082-5152
41.9659, -72.5527
County : Hartford
Date : October 2, 2024
Max Usage : 63%
Result : Contingent Pass

Prepared By: Sean D. Jones, P.E.
TEP No. 68085.1001204
Reviewed By:

TEP – 326 Tryon Road - Raleigh, NC 27603 - 919.661.6351 Office - 919.661.6350 Fax - www.tepgroup.net
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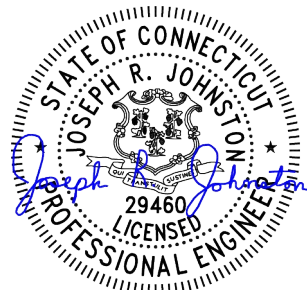
Structural Analysis Report

Structure : 150 ft Monopole
ATC Asset Name : Enfd - Enfield
ATC Asset Number : 302489
Engineering Number : 14878510_C3_04
Proposed Carrier : AT&T MOBILITY
Carrier Site Name : ENFIELD-TOWN FARM RD
Carrier Site Number : WSCTB0029186
Site Location : 77 Town Farm Road
Enfield, CT 06082-5152
41.9659° N, 72.5527° W
County : Hartford
Date : September 22, 2024
Max Usage : 89%
Analysis Result : Pass

Created By:

Brad Davenport
Airosmith Engineering

Brad Davenport



9/23/2024

COA: PEC.0001553

Table of Contents

Introduction	3
Supporting Documents	3
Analysis	3
Conclusion	3
Structure Usages	4
Maximum Reactions	4
Tower Loading	5
Standard Conditions	Attached
Calculations	Attached

Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 150 ft Monopole tower to reflect the change in loading by AT&T MOBILITY.

Supporting Documents

Tower:	ITT Meyer Specification #AT-8935, Type B, dated April 13, 1984 Mapping by Smith Cullum Acquisition #CT-0025, dated May 14, 2001
Foundation:	Southern New England Telephone Drawing , dated July 6, 1985 Mapping by SGS Job#2207447, dated June 22, 2022
Geotechnical:	MB & A Project #011107, dated July 16, 2001 SpectraSite Site #CT-0025, dated September 20, 2002
Modification:	ATC Job #40071639, dated December 6, 2007 ATC Job #48982632, dated April 25, 2012 ATC Job #613768312, dated February 2, 2016
Site Specific Study:	ICE Report for Site 302489, dated April 24, 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:	125 mph (3-second gust)
Basic Wind Speed w/ Ice:	77 mph (3-second gust) w/ 1.65" radial ice concurrent
Code(s):	ANSI/TIA-222-H / 2021 IBC / 2022 Connecticut State Building Code
Exposure Category:	B
Risk Category:	II
Topographic Factor Procedure:	Method 1
Topographic Category:	1
Spectral Response:	$S_s = 0.17$, $S_i = 0.06$
Site Class:	D - Stiff Soil - Default

**Wind pressures have been determined per the site-specific climatic study in accordance with ASCE 7-16 Section 26.5.3, IBC Section 1609.3, and TIA-222-H Section 2.6.6.2.3.*

**Ice thickness and wind pressures have been determined per the site-specific climatic study in accordance with ASCE 7-16 Section 10.1.1, IBC Section 1614, and TIA-222-H Section 2.6.4.1.*

**Wind load and Ice thickness have been reduced by applicable existing structure load modification factors in accordance with TIA-222, ANNEX-S*

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 reach out to your American Tower contact. If you do not have an American Tower contact and have an Engineering question, please contact Engineering@americantower.com. Please include the American Tower asset name, asset number, and engineering number in the subject line for any questions.

Structure Usages

Structural Component	Usage	Control	Result
Pole Shaft	89.0%	1.2D + 1.0W	Pass
Reinforcement	89.2%	0 ft to 121 ft	Pass
Upper Termination	64.6%	23.6 ft to 68.7 ft	Pass
Intermediate Connector	88.4%	0 ft to 121 ft	Pass
Lower Termination	51.1%	119.13 ft to 124.5 ft	Pass
Serviceability Usage	47.2%	1.0D + 1.0W	Pass
Upper Flange Plate @ 110.0 ft	62.5%	Bolts	Pass
Base Plate @ 0.0 ft	75.0%	Dywidag	Pass
Foundation	81.4%	Overturning Moment	Pass

Maximum Reactions

Foundation	Moment (k-ft)	Axial (k)	Shear (k)
Monopole Base	3,568.2	63.6	34.4

**Reactions shown reflect the results from the Load Case with maximum Moment*

Structure base reactions were analyzed using available geotechnical and foundation information.

AT&T MOBILITY Final Loading

Elev (ft)	Qty	Equipment	Lines
151.0	1	Raycap DC9-48-60-24-8C-EV (Enclosure)	(3) 0.39" (10mm) Fiber Trunk (2) 0.78" (19.7mm) 8 AWG 6 (3) 0.96" (24.3mm) Cable (6) 1 5/8" Coax (3) 2" conduit
	2	Raycap DC6-48-60-18-8F ("Squid")	
	3	CCI DMP65R-BU8D	
	3	CCI TPA65R-BU8D (87.5 lbs)	
	3	Ericsson AIR 6472 B77G B77M (67.2lbs)	
	3	Ericsson RRUS 32 B30	
	3	Ericsson RRUS 4490	
	3	Ericsson RRUS 4890	
	3	Ericsson Radio 4494 44B14 20B29 M01	
150.0	1	Platform with Handrails	-
	3	Mount Reinforcement	

Install proposed lines inside the pole shaft.

Other Existing/Reserved Loading

Elev (ft)	Qty	Equipment	Lines	Carrier
157.1	1	Decibel DB809KE-SY	-	SPOK HOLDINGS, INC.
157.0	-	-	(1) 1 5/8" Coax	SPOK HOLDINGS, INC.
151.0	-	-	(1) 3" conduit	AT&T MOBILITY
140.0	1	Platform w/ Handrails	(4) 1 5/8" Coax (3) 1 5/8" Hybriflex	T-MOBILE
	3	Commscope SDX1926Q-43		
	3	Ericsson 4424 B25		
	3	Ericsson Air6449 B41		
	3	Ericsson RRUS 4415 B66		
	3	Ericsson Radio 4449 B71 B85A		
	3	RFS APX16DWV-16DWVS-E-A20		
	3	RFS APXVAALL24 43-U-NA20		
130.0	1	Raycap RCMD-6627-PF-48	(3) 1 1/4" Hybriflex Cable (24) 1 5/8" Coax	VERIZON WIRELESS
	2	Kaelus KA-6030		
	3	Amphenol Antel BXA-80080-6CF-EDIN-X		
	3	Samsung B2/B66A RRH-BR049		
	3	Samsung B5/B13 RRH-BR04C		
	3	Samsung MT6407-77A		
	3	Samsung RT4401-48A		
	6	Commscope NHH-65B-R2B		
127.0	1	Low Profile Platform	-	VERIZON WIRELESS
119.7	3	76" x 6" Panel	-	METRO PCS INC
111.0	3	Side Arm	-	CLEARWIRE
110.6	2	DragonWave A-ANT-11G-2-C	-	CLEARWIRE CORPORATION
109.5	2	DragonWave Horizon Compact	-	CLEARWIRE CORPORATION
109.0	-	-	(2) 1/2" Coax	CLEARWIRE CORPORATION
107.8	3	Argus LLPX310R	-	CLEARWIRE CORPORATION
107.1	1	24" x 24" Junction Box	-	CLEARWIRE CORPORATION
107.0	3	Alcatel-Lucent 1900MHz RRH (65MHz) w/ solar shield	(2) 2" conduit	CLEARWIRE CORPORATION
59.0	1	Channel Master Type 120	-	SPOK HOLDINGS, INC.
58.0	-	-	(1) 0.28" (7mm) RG-6	SPOK HOLDINGS, INC.
40.0	1	Blank Exhibit	-	SPOK HOLDINGS, INC.

(If table breaks across pages, please see previous page for data in merged cells)



Standard Conditions

All engineering services performed by A.T. Engineering Services LLC 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 Services LLC

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

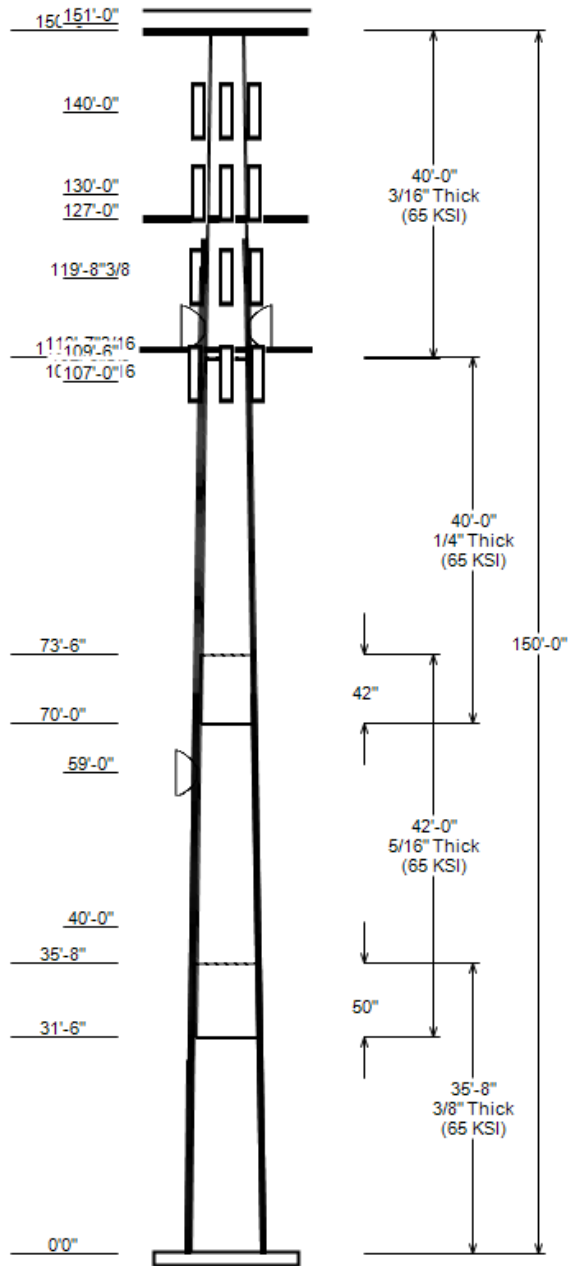
All assets of American Tower Corporation, its affiliates, and subsidiaries (collectively "American Tower") are inspected at regular intervals. Based upon these inspections and in the absence of information to the contrary, American Tower assumes that all structures were constructed in accordance with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

Unless explicitly agreed by both the client and A.T. Engineering Services LLC, 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 Services LLC is not responsible for the conclusions, opinions and recommendations made by others based on the information supplied herein.

ANALYSIS PARAMETERS

Design Wind:	122 mph	Ice Wind:	75 mph w/ 1.4" ice	Service Wind:	60 mph
Risk Category:	II	Exposure:	B	S _g :	0.174
Topo Factor:	Method 1	Topo Feature:		S _i :	0.055
Structure Height:	150.0 ft	Base Elevation:	0.00 ft	Topo Category:	1
Base Diameter:	37.38 in	Base Rotation:	0.00°	Structure Type:	Taper
	157'-1 3/16"			Taper:	0.1570 (in/ft)



POLE SECTION PROPERTIES

Section	Length (ft)	Flat Diameter (in)		Thick (in)	Joint Type	Joint Length (in)	Pole Shape	Yield Strength (ksi)
		Top	Bottom					
1	35.667	31.79	37.38	0.375		0.00	12 Sides	65
2	42.000	26.49	33.07	0.312	Slip Joint	50.00	12 Sides	65
3	40.000	21.27	27.54	0.250	Slip Joint	42.00	12 Sides	65
4	40.000	15.00	21.27	0.188	Butt Joint	0.00	12 Sides	65

DISCRETE APPURTENANCE

Elev (ft)	Description
157.1	(1) Decibel DB809KE-SY
151.0	(1) Raycap DC9-48-60-24-8C-EV (Enclo
151.0	(3) CCI TPA65R-BU8D (87.5 lbs)
151.0	(3) Ericsson RRUS 32 B30
151.0	(3) Ericsson AIR 6472 B77G B77M (67.2l
151.0	(3) CCI DMP65R-BU8D
151.0	(3) Ericsson Radio 4494 44B14 20B29 M
151.0	(3) Ericsson RRUS 4890
151.0	(3) Ericsson RRUS 4490
151.0	(2) Raycap DC6-48-60-18-8F ("Squid")
150.0	(1) Generic Round Platform with Handrail
150.0	(3) Mount Reinforcement
140.0	(3) RFS APXVAALL24 43-U-NA20
140.0	(3) Ericsson Radio 4449 B71 B85A
140.0	(3) Ericsson Air6449 B41
140.0	(3) Generic Mount Reinforcement
140.0	(3) RFS APX16DWV-16DWVS-E-A20
140.0	(3) Ericsson RRUS 4415 B66
140.0	(3) Ericsson 4424 B25
140.0	(3) Commscope SDX1926Q-43
140.0	(1) Round Platform w/ Flat Handrails
130.0	(3) Samsung B5/B13 RRH-BR04C
130.0	(2) Kaelus KA-6030
130.0	(3) Amphenol Antel BXA-80080-6CF-EDI
130.0	(3) Samsung RT4401-48A
130.0	(3) Samsung MT6407-77A
130.0	(6) Commscope NHH-65B-R2B
130.0	(1) Raycap RCMD-6627-PF-48
130.0	(3) Samsung B2/B66A RRH-BR049
127.0	(1) Generic Round Low Profile Platform
119.7	(3) Generic 76" x 6" Panel
111.0	(3) Generic Round Side Arm
110.6	(2) DragonWave A-ANT-11G-2-C
109.5	(2) DragonWave Horizon Compact
107.8	(3) Argus LLPX310R
107.1	(1) Generic 24" x 24" Junction Box
107.0	(3) Alcatel-Lucent 1900MHz RRH (65MH
59.0	(1) Channel Master Type 120
40.0	(1) Generic Blank Exhibit

LINEAR APPURTENANCE

Elev To (ft)	Description
157.0	(1) 1 5/8" Coax
151.0	(6) 1 5/8" Coax
151.0	(2) 0.78" (19.7mm) 8 AWG 6
151.0	(3) 2" conduit
151.0	(3) 0.39" (10mm) Fiber Trunk
151.0	(1) 3" conduit
151.0	(3) 0.96" (24.3mm) Cable
140.0	(4) 1 5/8" Coax
140.0	(3) 1 5/8" Hybriflex
130.0	(6) 1 5/8" Coax
130.0	(3) 1 1/4" Hybriflex Cable
130.0	(6) 1 5/8" Coax
130.0	(12) 1 5/8" Coax
129.0	(1) #20 w/ W Brackets
129.0	(1) #20 w/ W Brackets
129.0	(1) W8 Brackets for #20
129.0	(1) W8 Brackets for #20
129.0	(1) W8 Brackets for #20
129.0	(1) #20 w/ W Brackets
125.0	(1) #20 w/ Angle Brackets
125.0	(1) #20 w/ Angle Brackets
125.0	(1) #20 w/ Angle Brackets
109.0	(2) 1/2" Coax
107.0	(2) 2" conduit
76.7	(1) W8 Brackets for #20
76.7	(1) #20 w/ W Brackets
76.7	(1) #20 w/ W Brackets
76.7	(1) W8 Brackets for #20
76.7	(1) W8 Brackets for #20
76.7	(1) W8 Brackets for #20
76.7	(1) #20 w/ W Brackets
76.7	(1) #20 w/ W Brackets
58.0	(1) 0.28" (7mm) RG-6

DISH SERVICEABILITY

Load Case	Elevation (ft)	Deflection (in)	Rotation (°)
1.0D + 1.0W	59.0	3.6231	0.5689
1.0D + 1.0W	110.6	13.2411	1.2274

GLOBAL BASE REACTIONS

Load Case	Moment (kip-ft)	Axial (kip)	Shear (kip)
1.2D + 1.0W	3568.22	63.57	34.39
0.9D + 1.0W	3506.05	47.66	34.35
1.2D + 1.0Di + 1.0Wi	2439.71	98.41	22.33
1.2D + 1.0Ev + 1.0Eh	207.29	63.35	1.60
0.9D + 1.0Ev + 1.0Eh	202.62	44.18	1.60
1.0D + 1.0W	767.15	53.03	7.46

ANALYSIS PARAMETERS

Location:	Hartford County,CT	Height:	150 ft
Type and Shape:	Taper, 12 Sides	Base Diameter:	37.38 in
Manufacturer:	ITT Meyer	Top Diameter:	15.00 in
K _d (non-service):	0.95	Taper:	0.1570 in/ft
K _e :	0.99	Rotation:	0.000°

ICE & WIND PARAMETERS

Risk Category:	II	Design Wind Speed:	122 mph
Exposure Category:	B	Design Wind Speed w/ Ice:	75 mph
Topo Factor Procedure:	Method 1	Design Ice Thickness:	1.40 in
Topographic Category:	1	Service Wind Speed:	60 mph
Crest Height:	0 ft	HMSL:	159.00 ft

SEISMIC PARAMETERS

Analysis Method:	Equivalent Lateral Force Method				
Site Class:	D - Stiff Soil	Period Based on Rayleigh Method (sec):			2.93
T _L (sec):	6	P:	1	C _s :	0.030
S _{ds} :	0.186	S _{d1} :	0.088	C _s Max:	0.030
S _s :	0.174	S ₁ :	0.055	C _s Min:	0.030
F _a :	1.600	F _v :	2.400		

LOAD CASES

1.2D + 1.0W	121.83 mph Wind with No Ice
0.9D + 1.0W	121.83 mph Wind with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	75.05 mph Wind with 1.402" Radial Ice
1.2D + 1.0Ev + 1.0Eh	Seismic
0.9D - 1.0Ev + 1.0Eh	Seismic (Reduced DL)
1.0D + 1.0W	60 mph Wind with No Ice

SHAFT SECTION PROPERTIES																			
Section	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Joint Len (in)	Weight (lb)	Bottom						Top						
							Dia (in)	Elev (ft)	Area (in²)	Ix (in⁴)	W/t Ratio	D/t Ratio	Dia (in)	Elev (ft)	Area (in²)	Ix (in⁴)	W/t Ratio	D/t Ratio	Taper (in/ft)
1-12	35.67	0.3750	65		0.00	5,014	37.38	0.003	44.68	7,810.1	24.03	99.68	31.79	35.67	37.93	4,778.9	20.04	84.78	0.1567
2-12	42.00	0.3125	65	Slip	50.00	4,237	33.07	31.500	32.96	4,514.2	25.68	105.82	26.49	73.50	26.34	2,303.3	20.03	84.76	0.1567
3-12	40.00	0.2500	65	Slip	42.00	2,646	27.54	70.000	21.97	2,087.4	26.83	110.14	21.27	110.00	16.92	954.0	20.12	85.07	0.1567
4-12	40.00	0.1875	65	Butt	0.00	1,475	21.27	110.000	12.73	721.9	27.71	113.43	15.00	150.00	8.94	250.5	18.76	80.00	0.1567
Total Shaft Weight						13,372													

DISCRETE APPURTENANCE PROPERTIES										
Attach Elev (ft)	Description	Qty	Ka	Vert Ecc (ft)	No Ice			Ice		
					Weight (lb)	EPAA (sf)	Orientation Factor	Weight (lb)	EPAA (sf)	Orientation Factor
157.10	Decibel DB809KE-SY	1	1.00	0.000	26.00	3.400	1.00	106.24	7.200	1.00
151.00	CCI DMP65R-BU8D	3	0.75	0.000	95.70	17.871	0.63	413.50	21.317	0.63
151.00	CCI TPA65R-BU8D (87.5 lbs)	3	0.75	0.000	87.50	18.089	0.63	409.87	21.541	0.63
151.00	Ericsson AIR 6472 B77G B77M (6	3	0.75	0.000	67.20	4.779	0.65	174.97	6.217	0.65
151.00	Ericsson RRUS 32 B30	3	0.75	0.000	60.00	2.743	0.67	128.79	3.836	0.67
151.00	Ericsson RRUS 4890	3	0.75	0.000	69.50	2.695	0.67	135.91	3.708	0.67
151.00	Ericsson RRUS 4490	3	0.75	0.000	68.40	2.695	0.67	134.03	3.708	0.67
151.00	Raycap DC9-48-60-24-8C-EV (Enc	1	0.75	0.000	18.50	2.676	1.00	96.83	3.741	1.00
151.00	Ericsson Radio 4494 44B14 20B2	3	0.75	0.000	57.30	2.202	0.67	108.70	3.114	0.67
151.00	Raycap DC6-48-60-18-8F ("Squid	2	0.75	0.000	18.90	1.470	1.00	76.60	2.123	1.00
150.00	Mount Reinforcement	3	0.75	0.000	200.00	4.980	0.67	330.28	8.224	0.67
150.00	Generic Round Platform with Ha	1	1.00	0.000	2500.00	27.200	1.00	4014.46	50.056	1.00
140.00	RFS APXVAALL24 43-U-NA20	3	0.75	0.000	122.80	20.243	0.63	484.45	23.687	0.63
140.00	RFS APX16DWV-16DWVS-E-A20	3	0.75	0.000	40.70	6.586	0.60	149.16	8.597	0.60
140.00	Ericsson Air6449 B41	3	0.75	0.000	104.00	5.682	0.63	230.53	7.156	0.63
140.00	Generic Mount Reinforcement	3	0.75	0.000	200.00	4.980	0.67	379.69	9.596	0.67
140.00	Round Platform w/ Flat Handrai	1	1.00	0.000	2500.00	34.800	1.00	4117.06	57.310	1.00
140.00	Ericsson Radio 4449 B71 B85A	3	0.75	0.000	75.00	1.650	0.50	130.84	2.439	0.50
140.00	Ericsson RRUS 4415 B66	3	0.75	0.000	46.00	1.650	0.50	86.20	2.439	0.50
140.00	Ericsson 4424 B25	3	0.75	0.000	86.00	2.052	0.50	153.70	2.928	0.50
140.00	Commscope SDX1926Q-43	3	0.75	0.000	6.20	0.242	0.50	14.18	0.569	0.50
130.00	Commscope NHH-65B-R2B	6	0.80	0.000	43.70	8.079	0.69	204.49	10.648	0.69
130.00	Amphenol Antel BXA-80080-6CF-E	3	0.80	0.000	18.00	5.760	0.73	134.59	7.943	0.73
130.00	Samsung MT6407-77A	3	0.80	0.000	81.60	4.709	0.61	175.60	6.110	0.61
130.00	Raycap RCMDC-6627-PF-48	1	0.80	0.000	32.00	4.056	0.50	149.21	5.315	0.50
130.00	Samsung B5/B13 RRH-BR04C	3	0.80	0.000	70.30	1.875	0.50	123.05	2.707	0.50
130.00	Samsung B2/B66A RRH-BR049	3	0.80	0.000	84.40	1.875	0.50	143.23	2.707	0.50
130.00	Kaelus KA-6030	2	0.80	0.000	17.60	0.963	0.50	39.34	1.566	0.50
130.00	Samsung RT4401-48A	3	0.80	0.000	18.60	0.996	0.50	43.50	1.627	0.50
127.00	Generic Round Low Profile Plat	1	1.00	0.000	1875.00	21.700	1.00	2620.40	39.371	1.00
119.70	Generic 76" x 6" Panel	3	1.00	0.000	40.00	5.030	0.69	121.43	7.285	0.69
111.00	Generic Round Side Arm	3	1.00	0.000	187.50	5.200	0.67	270.58	7.669	0.67
110.60	DragonWave A-ANT-11G-2-C	2	1.00	1.000	27.00	4.688	1.00	115.51	5.845	1.00
109.50	DragonWave Horizon Compact	2	0.80	1.000	10.60	0.721	0.50	30.99	1.237	0.50
107.80	Argus LLPX310R	3	0.80	0.000	28.60	4.292	0.63	110.23	5.790	0.63
107.10	Generic 24" x 24" Junction Box	1	0.80	4.000	20.00	4.800	0.50	123.96	6.087	0.50
107.00	Alcatel-Lucent 1900MHz RRH (65	3	0.80	0.000	60.00	2.583	0.50	143.41	3.591	0.50
59.00	Channel Master Type 120	1	1.00	0.000	126.00	20.190	1.00	300.86	22.749	1.00
40.00	Generic Blank Exhibit	1	1.00	0.000	0.00	0.010	1.00	0.00	0.010	1.00
Totals		Row Count: 39		98		13,433.80		27,472.10		

LINEAR APPURTENANCE PROPERTIES												
Load Case Azimuth (deg): 0.00												
Elev From (ft)	Elev To (ft)	Qty	Description	Diameter (in)	Weight (lb/ft)	Flat	Max/ Row	Distance Between Rows(in)	Distance Between Cols(in)	Azimuth (deg)	Distance From Face (in)	Exposed To Wind Carrier
0.00	157.00	1	1 1/8" Coax	1.98	0.82	N	0	0	0	0	0	N SPOK HOLDINGS, INC.
0.00	151.00	6	1 1/8" Coax	1.98	0.82	N	0	0	0	0	0	N AT&T MOBILITY
0.00	151.00	3	2" conduit	2.38	3.65	N	0	0	0	0	0	N AT&T MOBILITY

ASSET: 302489, Enfd - Enfield
CUSTOMER: AT&T MOBILITY

CODE: ANSI/TIA-222-H
PROJECT: 14878510_C3_04

LINEAR APPURTENANCE PROPERTIES

Load Case Azimuth (deg): 0.00

Elev From (ft)	Elev To (ft)	Qty	Description	Diameter (in)	Weight (lb/ft)	Flat	Max/ Row	Distance Between Rows(in)	Distance Between Cols(in)	Azimuth (deg)	Distance From Face (in)	Exposed To Wind	Carrier
0.00	151.00	3	0.39" (10mm) Fiber Tr	0.39	0.06	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	151.00	3	0.96" (24.3mm) Cable	0.96	0.88	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	151.00	2	0.78" (19.7mm) 8 AWG	0.78	0.59	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	151.00	1	3" conduit	3.5	7.58	N	0	0	0	0	0	N	AT&T MOBILITY
10.00	140.00	4	1 5/8" Coax	1.98	0.82	N	0	0	0	0	0	N	T-MOBILE
10.00	140.00	3	1 5/8" Hybriflex	1.98	1.3	N	3	1	1	210	1	Y	T-MOBILE
0.00	130.00	12	1 5/8" Coax	1.98	0.82	N	0	0	0	0	0	N	VERIZON WIRELESS
10.00	130.00	6	1 5/8" Coax	1.98	0.82	N	3	1	1	15	1	Y	VERIZON WIRELESS
10.00	130.00	6	1 5/8" Coax	1.98	0.82	N	3	1	1	90	1	Y	VERIZON WIRELESS
10.00	130.00	3	1 1/4" Hybriflex Cabl	1.54	1	N	3	1	1	85	1	Y	VERIZON WIRELESS
114.00	129.00	1	#20 w/ W Brackets	2.5	0	N	1	0	0	180	8.28	Y	
114.00	129.00	1	W8 Brackets for #20	2.48	6.3	Y	1	0	0	300	2.9	Y	
114.00	129.00	1	W8 Brackets for #20	2.48	6.3	Y	1	0	0	180	2.9	Y	
114.00	129.00	1	#20 w/ W Brackets	2.5	0	N	1	0	0	90	8.28	Y	
114.00	129.00	1	W8 Brackets for #20	2.48	6.3	Y	1	0	0	90	2.9	Y	
114.00	129.00	1	#20 w/ W Brackets	2.5	0	N	1	0	0	300	8.28	Y	
0.00	125.00	1	#20 w/ Angle Brackets	4	4.68	N	1	0	0	113	0	Y	
0.00	125.00	1	#20 w/ Angle Brackets	4	4.68	N	1	0	0	203	0	Y	
0.00	125.00	1	#20 w/ Angle Brackets	4	4.68	N	1	0	0	293	0	Y	
0.00	125.00	1	#20 w/ Angle Brackets	4	4.68	N	1	0	0	23	0	Y	
10.00	109.00	2	1/2" Coax	0.63	0.15	N	2	1	1	300	1	Y	CLEARWIRE CORPORATI
10.00	107.00	2	2" conduit	2.38	3.65	N	2	1	1	330	3	Y	CLEARWIRE CORPORATI
0.00	76.70	1	W8 Brackets for #20	2.48	6.3	Y	1	0	0	0	2.9	Y	
0.00	76.70	1	W8 Brackets for #20	2.48	6.3	Y	1	0	0	270	2.9	Y	
0.00	76.70	1	W8 Brackets for #20	2.48	6.3	Y	1	0	0	90	2.9	Y	
0.00	76.70	1	#20 w/ W Brackets	2.5	0	N	1	0	0	90	8.28	Y	
0.00	76.70	1	#20 w/ W Brackets	2.5	0	N	1	0	0	0	8.28	Y	
0.00	76.70	1	#20 w/ W Brackets	2.5	0	N	1	0	0	180	8.28	Y	
0.00	76.70	1	W8 Brackets for #20	2.48	6.3	Y	1	0	0	180	2.9	Y	
0.00	76.70	1	#20 w/ W Brackets	2.5	0	N	1	0	0	270	8.28	Y	
0.00	58.00	1	0.28" (7mm) RG-6	0.28	0.03	N	1	1	1	15	1	Y	SPOK HOLDINGS, INC.

ADDITIONAL STEEL

Intermediate Connectors

Elev From (ft)	Elev To (ft)	Qty	Description	Fy (ksi)	Offset (in)	Bracket Type	Spacing (in)	Length (in)	Connectors	Continuation?
0.00	121.00	4	SOL #20 All Thread Bar	75	2.19	6" Angle Bracket	30.00	3.31	5/8" A36 U-Bolt	N
0.00	23.60	4	SOL #20 All Thread Bar	80	8.28	6" T Bracket	30.00	3.31	5/8" A36 U-Bolt	N
23.60	68.70	4	SOL #20 All Thread Bar	80	8.28	6" T Bracket	30.00	3.31	5/8" A36 U-Bolt	Y
119.13	124.50	3	SOL #20 (15 deg Offset)	80	8.28	6" T Bracket	30.00	3.31	5/8" A36 U-Bolt	N

SEGMENT PROPERTIES

Seg Top Elev (ft)	Description	(Max Length: 5 ft)	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)	Additional Reinforcing		
													Area (in ²)	Ix (in ⁴)	Weight (lb)
0.00			0.3750	37.380	44.684	7,810.10	24.03	99.68	78.5	403.6	0.0	0.0	39.280	12,967.70	0.0
5.00			0.3750	36.596	43.737	7,324.40	23.47	97.59	79.1	386.6	0.0	752.2	39.280	12,564.70	668.0
10.00			0.3750	35.813	42.791	6,859.30	22.91	95.50	79.7	370.0	0.0	736.1	39.280	12,168.20	668.0
15.00			0.3750	35.029	41.845	6,414.30	22.35	93.41	80.3	353.7	0.0	720.0	39.280	11,778.10	668.0
20.00			0.3750	34.246	40.899	5,989.00	21.79	91.32	80.9	337.8	0.0	703.9	39.280	11,394.50	668.0
23.60	Reinf. Top Reinf Bottom		0.3750	33.682	40.218	5,694.80	21.39	89.82	81.4	326.6	0.0	496.8	39.280	11,122.30	481.0
25.00			0.3750	33.462	39.953	5,583.00	21.23	89.23	81.6	322.3	0.0	191.0	39.280	11,017.40	187.0
30.00			0.3750	32.679	39.007	5,195.70	20.67	87.14	81.9	307.1	0.0	671.7	39.280	10,646.70	668.0
31.50	Bot - Section 2		0.3750	32.444	38.723	5,083.10	20.50	86.52	81.9	302.7	0.0	198.4	39.280	10,536.70	200.4
35.00			0.3750	31.895	38.061	4,826.70	20.11	85.05	81.9	292.3	0.0	846.5	39.280	10,572.50	467.6
35.67	Top - Section 1		0.3125	32.416	32.304	4,249.60	25.12	103.73	77.3	253.3	0.0	159.6	39.280	10,523.70	89.1
40.00			0.3125	31.737	31.621	3,985.60	24.53	101.56	78	242.6	0.0	471.3	39.280	10,209.60	578.9
45.00			0.3125	30.953	30.833	3,694.90	23.86	99.05	78.7	230.6	0.0	531.3	39.280	9,853.10	668.0
50.00			0.3125	30.170	30.044	3,418.60	23.19	96.54	79.4	218.9	0.0	517.9	39.280	9,503.10	668.0
55.00			0.3125	29.386	29.256	3,156.50	22.52	94.04	80.2	207.5	0.0	504.5	39.280	9,159.60	668.0
59.00			0.3125	28.760	28.625	2,956.70	21.98	92.03	80.7	198.6	0.0	393.9	39.280	8,889.40	534.4
60.00			0.3125	28.603	28.467	2,908.10	21.85	91.53	80.9	196.4	0.0	97.1	39.280	8,822.50	133.6
65.00			0.3125	27.819	27.679	2,673.10	21.17	89.02	81.6	185.6	0.0	477.6	39.280	8,491.90	668.0
68.70	Reinf. Top		0.3125	27.240	27.096	2,507.60	20.68	87.17	81.9	177.8	0.0	344.8	39.280	8,251.40	494.3
70.00	Bot - Section 3		0.3125	27.036	26.891	2,451.20	20.50	86.52	81.9	175.1	0.0	119.4	19.640	2,879.10	86.8
73.50	Top - Section 2		0.2500	26.988	21.524	1,964.00	26.25	107.95	76.1	140.6	0.0	575.9	19.640	2,870.70	233.8
75.00			0.2500	26.752	21.335	1,912.70	25.99	107.01	76.4	138.1	0.0	109.4	19.640	2,830.00	100.2
80.00			0.2500	25.969	20.704	1,748.00	25.15	103.88	77.3	130.0	0.0	357.6	19.640	2,696.60	334.0
85.00			0.2500	25.185	20.073	1,593.10	24.31	100.74	78.2	122.2	0.0	346.9	19.640	2,566.40	334.0
90.00			0.2500	24.402	19.442	1,447.60	23.47	97.61	79.1	114.6	0.0	336.2	19.640	2,439.50	334.0
95.00			0.2500	23.618	18.812	1,311.20	22.63	94.47	80	107.2	0.0	325.4	19.640	2,315.70	334.0
100.00			0.2500	22.835	18.181	1,183.70	21.79	91.34	80.9	100.1	0.0	314.7	19.640	2,195.20	334.0
105.00			0.2500	22.051	17.550	1,064.70	20.96	88.21	81.9	93.3	0.0	304.0	19.640	2,078.00	334.0
107.00			0.2500	21.738	17.298	1,019.50	20.62	86.95	81.9	90.6	0.0	118.6	19.640	2,032.00	133.6
107.10			0.2500	21.722	17.285	1,017.20	20.60	86.89	81.9	90.5	0.0	5.9	19.640	2,029.70	6.7
107.80			0.2500	21.613	17.197	1,001.70	20.48	86.45	81.9	89.5	0.0	41.1	19.640	2,013.70	46.8
109.50			0.2500	21.346	16.983	964.70	20.20	85.39	81.9	87.3	0.0	98.9	19.640	1,975.20	113.6
110.00	Top - Section 3		0.2500	21.268	16.919	954.00	20.12	85.07	81.9	86.7	0.0	28.8	19.640	1,963.90	33.4
110.00	Bot - Section 4		0.1875	21.268	12.727	721.90	27.71	113.43	74.5	65.6	0.0		19.640	1,963.90	
110.60			0.1875	21.174	12.671	712.30	27.58	112.93	74.6	65.0	0.0	25.9	19.640	1,950.40	40.1
111.00			0.1875	21.111	12.633	705.90	27.49	112.59	74.7	64.6	0.0	17.2	19.640	1,941.50	26.7
115.00			0.1875	20.484	12.254	644.40	26.59	109.25	75.7	60.8	0.0	169.4	19.640	1,853.10	267.2
119.13	Reinf Bottom		0.1875	19.837	11.864	584.70	25.67	105.80	76.7	56.9	0.0	169.5	19.640	1,764.00	275.9
119.70			0.1875	19.748	11.810	576.70	25.54	105.32	76.9	56.4	0.0	23.0	32.450	4,156.00	66.6
120.00			0.1875	19.701	11.781	572.60	25.47	105.07	76.9	56.1	0.0	12.0	32.450	4,143.60	35.1
121.00	Reinf. Top		0.1875	19.544	11.687	558.90	25.25	104.24	77.2	55.2	0.0	39.9	32.450	4,102.40	116.9
124.50	Reinf. Top		0.1875	18.996	11.356	512.70	24.47	101.31	78	52.1	0.0	137.2	12.810	2,308.50	175.4
125.00			0.1875	18.917	11.308	506.40	24.35	100.89	78.2	51.7	0.0	19.3			
127.00			0.1875	18.604	11.119	481.40	23.91	99.22	78.6	50.0	0.0	76.3			
130.00			0.1875	18.134	10.835	445.40	23.24	96.71	79.4	47.5	0.0	112.1			
135.00			0.1875	17.350	10.362	389.60	22.12	92.54	80.6	43.4	0.0	180.3			
140.00			0.1875	16.567	9.889	338.60	21.00	88.36	81.8	39.5	0.0	172.3			
145.00			0.1875	15.783	9.416	292.30	19.88	84.18	81.9	35.8	0.0	164.2			
150.00			0.1875	15.000	8.943	250.50	18.76	80.00	81.9	32.3	0.0	156.2			
Totals:												13,372.2	12,941.1		

CALCULATED FORCES

Load Case: 1.2D + 1.0W			121.83 mph Wind with No Ice									25 Iterations		
Gust Response Factor:		1.10												
Dead load Factor:		1.20												
Wind Load Factor:		1.00												
Seg	Pu	Vu	Tu	Mu	Mu	Resultant	Phi	Phi	Phi	Phi	Total			
Elev	FY (-)	FX (-)	MY	MZ	MX	Moment	Pn	Vn	Tn	Mn	Deflect	Rotation		
(ft)	(kips)	(kips)	(ft-kips)	(ft-kips)	(ft-kips)	(ft-kips)	(kips)	(kips)	(ft-kips)	(ft-kips)	(in)	(deg)	Ratio	
0.00	-63.57	-34.39	0.00	-3,568.2	0.00	3,568.22	3,157.17	784.20	2,737.77	2,376.61	0	0	0.577	

CALCULATED FORCES

5.00	-61.23	-33.94	0.00	-3,396.3	0.00	3,396.28	3,114.35	767.59	2,623.11	2,294.24	0.13	-0.24	0.557
10.00	-58.92	-33.47	0.00	-3,226.6	0.00	3,226.61	3,070.50	750.99	2,510.89	2,212.51	0.51	-0.48	0.538
15.00	-56.47	-32.95	0.00	-3,059.2	0.00	3,059.24	3,025.61	734.39	2,401.13	2,131.46	1.13	-0.71	0.518
20.00	-54.07	-32.44	0.00	-2,894.5	0.00	2,894.52	2,979.68	717.78	2,293.82	2,051.14	2	-0.94	0.497
23.60	-52.36	-32.11	0.00	-2,777.7	0.00	2,777.72	2,945.97	705.83	2,218.08	1,993.78	2.78	-1.11	0.483
25.00	-51.65	-31.86	0.00	-2,732.8	0.00	2,732.77	2,932.71	701.18	2,188.97	1,971.59	3.11	-1.18	0.477
30.00	-49.32	-31.39	0.00	-2,573.5	0.00	2,573.48	2,875.21	684.57	2,086.57	1,886.65	4.47	-1.4	0.458
31.50	-48.59	-31.16	0.00	-2,526.4	0.00	2,526.39	2,854.29	679.59	2,056.33	1,859.14	4.92	-1.47	0.453
35.00	-46.51	-30.81	0.00	-2,417.3	0.00	2,417.33	2,805.48	667.97	1,986.62	1,795.73	6.06	-1.63	0.432
35.67	-46.07	-30.61	0.00	-2,396.8	0.00	2,396.79	2,248.07	566.94	1,717.07	1,468.70	6.29	-1.66	0.482
40.00	-44.16	-30.03	0.00	-2,264.2	0.00	2,264.16	2,218.59	554.95	1,645.23	1,418.49	7.88	-1.85	0.460
45.00	-41.98	-29.36	0.00	-2,114.0	0.00	2,114.03	2,183.60	541.11	1,564.24	1,360.97	9.94	-2.07	0.435
50.00	-39.82	-28.65	0.00	-1,967.2	0.00	1,967.25	2,147.58	527.27	1,485.29	1,303.95	12.22	-2.28	0.410
55.00	-37.70	-27.96	0.00	-1,824.0	0.00	1,824.00	2,110.52	513.44	1,408.39	1,247.47	14.72	-2.49	0.385
59.00	-35.91	-26.78	0.00	-1,712.2	0.00	1,712.17	2,080.12	502.37	1,348.34	1,202.71	16.88	-2.65	0.365
60.00	-35.47	-26.48	0.00	-1,685.4	0.00	1,685.39	2,072.41	499.60	1,333.53	1,191.58	17.44	-2.69	0.361
65.00	-33.40	-25.75	0.00	-1,553.0	0.00	1,552.99	2,033.27	485.76	1,260.72	1,136.35	20.36	-2.89	0.337
68.70	-31.89	-25.25	0.00	-1,457.7	0.00	1,457.72	1,997.21	475.53	1,208.15	1,092.40	22.66	-3.03	0.320
68.70	-31.89	-25.25	0.00	-1,457.7	0.00	1,457.72	1,997.21	475.53	1,208.15	1,092.40	22.66	-3.03	0.629
70.00	-31.42	-25.00	0.00	-1,424.9	0.00	1,424.90	1,982.10	471.93	1,189.95	1,075.84	23.49	-3.08	0.621
73.50	-29.94	-24.54	0.00	-1,337.4	0.00	1,337.42	1,473.96	377.74	952.81	802.32	25.85	-3.34	0.692
75.00	-29.41	-24.22	0.00	-1,300.6	0.00	1,300.60	1,466.28	374.42	936.13	791.05	26.91	-3.45	0.678
80.00	-27.93	-23.50	0.00	-1,179.5	0.00	1,179.48	1,440.00	363.35	881.62	753.69	30.72	-3.82	0.630
85.00	-26.51	-22.94	0.00	-1,062.0	0.00	1,061.96	1,412.68	352.28	828.74	716.65	34.92	-4.18	0.581
90.00	-25.12	-22.37	0.00	-947.2	0.00	947.25	1,384.32	341.21	777.49	679.98	39.47	-4.52	0.532
95.00	-23.76	-21.77	0.00	-835.4	0.00	835.42	1,354.92	330.14	727.89	643.72	44.38	-4.85	0.482
100.00	-22.43	-21.16	0.00	-726.6	0.00	726.57	1,324.47	319.08	679.91	607.94	49.62	-5.15	0.431
105.00	-21.13	-20.64	0.00	-620.8	0.00	620.77	1,292.99	308.01	633.57	572.68	55.17	-5.44	0.379
107.00	-20.42	-20.31	0.00	-579.5	0.00	579.50	1,275.03	303.58	615.50	556.51	57.47	-5.55	0.360
107.10	-20.38	-20.20	0.00	-577.2	0.00	577.16	1,274.10	303.36	614.60	555.69	57.58	-5.55	0.359
107.80	-20.12	-19.81	0.00	-563.0	0.00	563.02	1,267.59	301.81	608.34	550.00	58.4	-5.59	0.352
109.50	-19.68	-19.61	0.00	-529.3	0.00	529.32	1,251.78	298.04	593.27	536.29	60.4	-5.68	0.336
110.00	-19.56	-19.54	0.00	-519.5	0.00	519.52	1,247.13	296.94	588.87	532.29	61	-5.7	0.331
110.00	-19.56	-19.54	0.00	-519.5	0.00	519.52	853.24	223.36	444.19	366.34	61	-5.7	0.398
110.60	-19.40	-19.09	0.00	-507.4	0.00	507.42	851.10	222.37	440.24	363.78	61.72	-5.73	0.389
111.00	-18.66	-18.43	0.00	-499.8	0.00	499.78	849.67	221.70	437.62	362.07	62.2	-5.75	0.384
115.00	-17.76	-17.79	0.00	-426.0	0.00	426.05	834.99	215.06	411.80	345.06	67.1	-5.95	0.334
119.13	-16.77	-17.25	0.00	-352.6	0.00	352.57	819.14	208.21	385.96	327.62	72.33	-6.14	0.282
119.70	-16.51	-16.72	0.00	-342.7	0.00	342.74	816.90	207.26	382.46	325.22	73.06	-6.16	0.140
120.00	-16.42	-16.64	0.00	-337.7	0.00	337.72	815.71	206.76	380.63	323.96	73.45	-6.17	0.138
121.00	-16.13	-16.37	0.00	-321.1	0.00	321.08	811.73	205.10	374.54	319.77	74.74	-6.19	0.132
121.00	-16.13	-16.37	0.00	-321.1	0.00	321.08	811.73	205.10	374.54	319.77	74.74	-6.19	0.207
124.50	-15.39	-15.90	0.00	-263.8	0.00	263.78	797.47	199.29	353.62	305.16	79.29	-6.25	0.173
124.50	-15.39	-15.90	0.00	-263.8	0.00	263.78	797.47	199.29	353.62	305.16	79.29	-6.25	0.890
125.00	-15.29	-15.80	0.00	-255.8	0.00	255.83	795.39	198.46	350.69	303.09	79.94	-6.26	0.870
127.00	-12.83	-14.37	0.00	-224.2	0.00	224.24	786.97	195.14	339.05	294.81	82.62	-6.53	0.782
130.00	-11.30	-11.64	0.00	-181.1	0.00	181.13	774.02	190.16	321.97	282.49	86.84	-6.89	0.660
135.00	-10.83	-11.37	0.00	-122.9	0.00	122.93	751.62	181.86	294.48	262.21	94.31	-7.38	0.487
140.00	-5.55	-6.32	0.00	-66.1	0.00	66.10	728.18	173.55	268.22	242.31	102.21	-7.72	0.282
145.00	-5.21	-6.00	0.00	-34.5	0.00	34.51	694.06	165.25	243.18	219.78	110.4	-7.93	0.166
150.00	0.00	-5.22	0.00	-4.5	0.00	4.48	659.19	156.95	219.37	198.13	118.74	-8.03	0.024

CALCULATED FORCES

Load Case: 0.9D + 1.0W

121.83 mph Wind with No Ice (Reduced DL)

25 Iterations

Gust Response Factor: 1.10
 Dead Load Factor: 0.90
 Wind Load Factor: 1.00

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	-47.66	-34.35	0.00	-3,506.0	0.00	3,506.05	3,157.17	784.20	2,737.77	2,376.61	0	0	0.564
5.00	-45.88	-33.83	0.00	-3,334.3	0.00	3,334.29	3,114.35	767.59	2,623.11	2,294.24	0.13	-0.23	0.545
10.00	-44.11	-33.31	0.00	-3,165.1	0.00	3,165.13	3,070.50	750.99	2,510.89	2,212.51	0.5	-0.47	0.525
15.00	-42.25	-32.73	0.00	-2,998.6	0.00	2,998.57	3,025.61	734.39	2,401.13	2,131.46	1.11	-0.7	0.505
20.00	-40.42	-32.18	0.00	-2,834.9	0.00	2,834.94	2,979.68	717.78	2,293.82	2,051.14	1.97	-0.93	0.485
23.60	-39.13	-31.83	0.00	-2,719.1	0.00	2,719.07	2,945.97	705.83	2,218.08	1,993.78	2.73	-1.09	0.471
25.00	-38.58	-31.55	0.00	-2,674.5	0.00	2,674.51	2,932.71	701.18	2,188.97	1,971.59	3.06	-1.15	0.465
30.00	-36.81	-31.06	0.00	-2,516.8	0.00	2,516.78	2,875.21	684.57	2,086.57	1,886.65	4.38	-1.37	0.446
31.50	-36.26	-30.81	0.00	-2,470.2	0.00	2,470.19	2,854.29	679.59	2,056.33	1,859.14	4.83	-1.44	0.441
35.00	-34.69	-30.45	0.00	-2,362.4	0.00	2,362.37	2,805.48	667.97	1,986.62	1,795.73	5.94	-1.6	0.421
35.67	-34.35	-30.23	0.00	-2,342.1	0.00	2,342.07	2,248.07	566.94	1,717.07	1,468.70	6.17	-1.63	0.468
40.00	-32.90	-29.62	0.00	-2,211.1	0.00	2,211.10	2,218.59	554.95	1,645.23	1,418.49	7.73	-1.81	0.447
45.00	-31.24	-28.92	0.00	-2,063.0	0.00	2,063.00	2,183.60	541.11	1,564.24	1,360.97	9.74	-2.02	0.423
50.00	-29.61	-28.20	0.00	-1,918.4	0.00	1,918.40	2,147.58	527.27	1,485.29	1,303.95	11.97	-2.23	0.398
55.00	-28.01	-27.49	0.00	-1,777.4	0.00	1,777.41	2,110.52	513.44	1,408.39	1,247.47	14.42	-2.44	0.374
59.00	-26.67	-26.32	0.00	-1,667.4	0.00	1,667.44	2,080.12	502.37	1,348.34	1,202.71	16.53	-2.59	0.354
60.00	-26.33	-26.00	0.00	-1,641.1	0.00	1,641.12	2,072.41	499.60	1,333.53	1,191.58	17.08	-2.63	0.349
65.00	-24.77	-25.27	0.00	-1,511.1	0.00	1,511.10	2,033.27	485.76	1,260.72	1,136.35	19.94	-2.83	0.326
68.70	-23.63	-24.78	0.00	-1,417.6	0.00	1,417.59	1,997.21	475.53	1,208.15	1,092.40	22.19	-2.96	0.310
68.70	-23.63	-24.78	0.00	-1,417.6	0.00	1,417.59	1,997.21	475.53	1,208.15	1,092.40	22.19	-2.96	0.610
70.00	-23.27	-24.51	0.00	-1,385.4	0.00	1,385.38	1,982.10	471.93	1,189.95	1,075.84	23	-3.01	0.602
73.50	-22.15	-24.05	0.00	-1,299.6	0.00	1,299.61	1,473.96	377.74	952.81	802.32	25.3	-3.26	0.670
75.00	-21.74	-23.70	0.00	-1,263.5	0.00	1,263.54	1,466.28	374.42	936.13	791.05	26.35	-3.37	0.656
80.00	-20.61	-22.96	0.00	-1,145.0	0.00	1,145.03	1,440.00	363.35	881.62	753.69	30.07	-3.73	0.609
85.00	-19.53	-22.37	0.00	-1,030.2	0.00	1,030.25	1,412.68	352.28	828.74	716.65	34.16	-4.08	0.562
90.00	-18.47	-21.78	0.00	-918.4	0.00	918.39	1,384.32	341.21	777.49	679.98	38.61	-4.41	0.514
95.00	-17.44	-21.17	0.00	-809.5	0.00	809.50	1,354.92	330.14	727.89	643.72	43.39	-4.73	0.465
100.00	-16.43	-20.56	0.00	-703.6	0.00	703.63	1,324.47	319.08	679.91	607.94	48.5	-5.02	0.416
105.00	-15.46	-20.05	0.00	-600.8	0.00	600.84	1,292.99	308.01	633.57	572.68	53.91	-5.3	0.365
107.00	-14.92	-19.73	0.00	-560.7	0.00	560.74	1,275.03	303.58	615.50	556.51	56.15	-5.4	0.346
107.10	-14.89	-19.62	0.00	-558.4	0.00	558.45	1,274.10	303.36	614.60	555.69	56.26	-5.41	0.345
107.80	-14.71	-19.23	0.00	-544.7	0.00	544.72	1,267.59	301.81	608.34	550.00	57.05	-5.44	0.338
109.50	-14.38	-19.04	0.00	-512.0	0.00	512.01	1,251.78	298.04	593.27	536.29	59.01	-5.53	0.323
110.00	-14.28	-18.97	0.00	-502.5	0.00	502.49	1,247.13	296.94	588.87	532.29	59.59	-5.55	0.318
110.00	-14.28	-18.97	0.00	-502.5	0.00	502.49	853.24	223.36	444.19	366.34	59.59	-5.55	0.382
110.60	-14.17	-18.52	0.00	-490.7	0.00	490.73	851.10	222.37	440.24	363.78	60.29	-5.58	0.374
111.00	-13.63	-17.87	0.00	-483.3	0.00	483.32	849.67	221.70	437.62	362.07	60.75	-5.6	0.369
115.00	-12.95	-17.24	0.00	-411.8	0.00	411.82	834.99	215.06	411.80	345.06	65.53	-5.8	0.320
119.13	-12.21	-16.72	0.00	-340.6	0.00	340.62	819.14	208.21	385.96	327.62	70.62	-5.97	0.271
119.70	-12.03	-16.20	0.00	-331.1	0.00	331.09	816.90	207.26	382.46	325.22	71.33	-6	0.134
120.00	-11.96	-16.12	0.00	-326.2	0.00	326.23	815.71	206.76	380.63	323.96	71.71	-6	0.132
121.00	-11.75	-15.85	0.00	-310.1	0.00	310.11	811.73	205.10	374.54	319.77	72.96	-6.02	0.126
121.00	-11.75	-15.85	0.00	-310.1	0.00	310.11	811.73	205.10	374.54	319.77	72.96	-6.02	0.197
124.50	-11.20	-15.40	0.00	-254.6	0.00	254.62	797.47	199.29	353.62	305.16	77.4	-6.08	0.164
124.50	-11.20	-15.40	0.00	-254.6	0.00	254.62	797.47	199.29	353.62	305.16	77.4	-6.08	0.854
125.00	-11.12	-15.29	0.00	-246.9	0.00	246.92	795.39	198.46	350.69	303.09	78.03	-6.09	0.835
127.00	-9.30	-13.92	0.00	-216.3	0.00	216.34	786.97	195.14	339.05	294.81	80.64	-6.35	0.751
130.00	-8.20	-11.22	0.00	-174.6	0.00	174.58	774.02	190.16	321.97	282.49	84.74	-6.7	0.632
135.00	-7.84	-10.93	0.00	-118.5	0.00	118.49	751.62	181.86	294.48	262.21	92	-7.17	0.466
140.00	-4.00	-6.09	0.00	-63.8	0.00	63.82	728.18	173.55	268.22	242.31	99.68	-7.5	0.270
145.00	-3.75	-5.78	0.00	-33.4	0.00	33.39	694.06	165.25	243.18	219.78	107.64	-7.71	0.159
150.00	0.00	-5.22	0.00	-4.5	0.00	4.48	659.19	156.95	219.37	198.13	115.74	-7.8	0.024

CALCULATED FORCES

Load Case: 1.2D + 1.0Di + 1.0Wi			75.05 mph Wind with 1.402" Radial Ice									25 Iterations			
Gust Response Factor: 1.10		Ice Dead Load Factor				1.00				Ice Importance Factor				1.00	
Dead load Factor: 1.20															
Wind Load Factor: 1.00															
Seg	Pu	Vu	Tu	Mu	Mu	Resultant	Phi	Phi	Phi	Phi	Total	Rotation			
Elev	FY (-)	FX (-)	MY	MZ	MX	Moment	Pn	Vn	Tn	Mn	Deflect	(deg)	Ratio		
(ft)	(kips)	(kips)	(ft-kips)	(ft-kips)	(ft-kips)	(ft-kips)	(kips)	(kips)	(ft-kips)	(ft-kips)	(in)				
0.00	-98.41	-22.33	0.00	-2,439.7	0.00	2,439.71	3,157.17	784.20	2,737.77	2,376.61	0	0	0.403		
5.00	-95.63	-22.29	0.00	-2,328.0	0.00	2,328.05	3,114.35	767.59	2,623.11	2,294.24	0.09	-0.16	0.391		
10.00	-92.81	-22.21	0.00	-2,216.6	0.00	2,216.63	3,070.50	750.99	2,510.89	2,212.51	0.35	-0.33	0.378		
15.00	-89.47	-22.12	0.00	-2,105.6	0.00	2,105.56	3,025.61	734.39	2,401.13	2,131.46	0.78	-0.49	0.364		
20.00	-86.14	-21.93	0.00	-1,995.0	0.00	1,994.98	2,979.68	717.78	2,293.82	2,051.14	1.37	-0.65	0.351		
23.60	-83.74	-21.78	0.00	-1,916.0	0.00	1,916.04	2,945.97	705.83	2,218.08	1,993.78	1.91	-0.76	0.341		
25.00	-82.78	-21.73	0.00	-1,885.6	0.00	1,885.55	2,932.71	701.18	2,188.97	1,971.59	2.14	-0.81	0.337		
30.00	-79.47	-21.50	0.00	-1,776.9	0.00	1,776.93	2,875.21	684.57	2,086.57	1,886.65	3.07	-0.96	0.324		
31.50	-78.46	-21.40	0.00	-1,744.7	0.00	1,744.68	2,854.29	679.59	2,056.33	1,859.14	3.38	-1.01	0.320		
35.00	-75.67	-21.17	0.00	-1,669.8	0.00	1,669.77	2,805.48	667.97	1,986.62	1,795.73	4.16	-1.12	0.306		
35.67	-75.12	-21.11	0.00	-1,655.7	0.00	1,655.66	2,248.07	566.94	1,717.07	1,468.70	4.32	-1.14	0.341		
40.00	-72.35	-20.78	0.00	-1,564.2	0.00	1,564.19	2,218.59	554.95	1,645.23	1,418.49	5.42	-1.27	0.326		
45.00	-69.16	-20.37	0.00	-1,460.3	0.00	1,460.27	2,183.60	541.11	1,564.24	1,360.97	6.83	-1.42	0.308		
50.00	-66.07	-19.91	0.00	-1,358.4	0.00	1,358.44	2,147.58	527.27	1,485.29	1,303.95	8.4	-1.57	0.290		
55.00	-63.00	-19.41	0.00	-1,258.9	0.00	1,258.90	2,110.52	513.44	1,408.39	1,247.47	10.13	-1.71	0.273		
59.00	-60.29	-18.71	0.00	-1,181.2	0.00	1,181.25	2,080.12	502.37	1,348.34	1,202.71	11.61	-1.83	0.259		
60.00	-59.66	-18.56	0.00	-1,162.5	0.00	1,162.54	2,072.41	499.60	1,333.53	1,191.58	12	-1.86	0.255		
65.00	-56.64	-18.00	0.00	-1,069.7	0.00	1,069.72	2,033.27	485.76	1,260.72	1,136.35	14.02	-1.99	0.238		
68.70	-54.44	-17.58	0.00	-1,003.1	0.00	1,003.14	1,997.21	475.53	1,208.15	1,092.40	15.6	-2.09	0.227		
68.70	-54.44	-17.58	0.00	-1,003.1	0.00	1,003.14	1,997.21	475.53	1,208.15	1,092.40	15.6	-2.09	0.442		
70.00	-53.75	-17.43	0.00	-980.3	0.00	980.29	1,982.10	471.93	1,189.95	1,075.84	16.17	-2.12	0.436		
73.50	-51.63	-17.06	0.00	-919.3	0.00	919.28	1,473.96	377.74	952.81	802.32	17.8	-2.3	0.486		
75.00	-50.86	-16.90	0.00	-893.7	0.00	893.69	1,466.28	374.42	936.13	791.05	18.53	-2.38	0.476		
80.00	-48.61	-16.50	0.00	-809.2	0.00	809.21	1,440.00	363.35	881.62	753.69	21.16	-2.63	0.442		
85.00	-46.51	-16.15	0.00	-726.7	0.00	726.71	1,412.68	352.28	828.74	716.65	24.05	-2.88	0.407		
90.00	-44.43	-15.76	0.00	-646.0	0.00	645.96	1,384.32	341.21	777.49	679.98	27.18	-3.11	0.372		
95.00	-42.37	-15.32	0.00	-567.2	0.00	567.18	1,354.92	330.14	727.89	643.72	30.56	-3.33	0.336		
100.00	-40.34	-14.84	0.00	-490.6	0.00	490.59	1,324.47	319.08	679.91	607.94	34.16	-3.54	0.300		
105.00	-38.35	-14.36	0.00	-416.4	0.00	416.37	1,292.99	308.01	633.57	572.68	37.98	-3.73	0.262		
107.00	-37.14	-14.04	0.00	-387.6	0.00	387.65	1,275.03	303.58	615.50	556.51	39.55	-3.8	0.249		
107.10	-36.99	-13.98	0.00	-386.1	0.00	386.10	1,274.10	303.36	614.60	555.69	39.63	-3.81	0.248		
107.80	-36.43	-13.74	0.00	-376.3	0.00	376.31	1,267.59	301.81	608.34	550.00	40.19	-3.83	0.243		
109.50	-35.74	-13.55	0.00	-352.9	0.00	352.94	1,251.78	298.04	593.27	536.29	41.57	-3.89	0.231		
110.00	-35.55	-13.49	0.00	-346.2	0.00	346.16	1,247.13	296.94	588.87	532.29	41.98	-3.91	0.228		
110.00	-35.55	-13.49	0.00	-346.2	0.00	346.16	853.24	223.36	444.19	366.34	41.98	-3.91	0.274		
110.60	-35.14	-13.24	0.00	-337.9	0.00	337.89	851.10	222.37	440.24	363.78	42.47	-3.93	0.268		
111.00	-34.12	-12.85	0.00	-332.6	0.00	332.60	849.67	221.70	437.62	362.07	42.8	-3.94	0.264		
115.00	-32.67	-12.34	0.00	-281.2	0.00	281.18	834.99	215.06	411.80	345.06	46.16	-4.07	0.229		
119.13	-31.04	-11.69	0.00	-230.2	0.00	230.21	819.14	208.21	385.96	327.62	49.74	-4.19	0.192		
119.70	-30.44	-11.33	0.00	-223.5	0.00	223.54	816.90	207.26	382.46	325.22	50.24	-4.21	0.097		
120.00	-30.31	-11.26	0.00	-220.1	0.00	220.14	815.71	206.76	380.63	323.96	50.5	-4.21	0.095		
121.00	-29.86	-11.03	0.00	-208.9	0.00	208.88	811.73	205.10	374.54	319.77	51.39	-4.23	0.091		
121.00	-29.86	-11.03	0.00	-208.9	0.00	208.88	811.73	205.10	374.54	319.77	51.39	-4.23	0.145		
124.50	-28.56	-10.44	0.00	-170.3	0.00	170.27	797.47	199.29	353.62	305.16	54.5	-4.27	0.121		
124.50	-28.56	-10.44	0.00	-170.3	0.00	170.27	797.47	199.29	353.62	305.16	54.5	-4.27	0.597		
125.00	-28.39	-10.36	0.00	-165.0	0.00	165.05	795.39	198.46	350.69	303.09	54.95	-4.28	0.583		
127.00	-25.00	-9.28	0.00	-144.3	0.00	144.33	786.97	195.14	339.05	294.81	56.78	-4.45	0.524		
130.00	-21.12	-7.57	0.00	-116.5	0.00	116.48	774.02	190.16	321.97	282.49	59.65	-4.68	0.441		
135.00	-20.42	-7.35	0.00	-78.6	0.00	78.62	751.62	181.86	294.48	262.21	64.72	-4.99	0.329		
140.00	-10.78	-4.03	0.00	-41.9	0.00	41.86	728.18	173.55	268.22	242.31	70.07	-5.21	0.188		
145.00	-10.24	-3.84	0.00	-21.7	0.00	21.69	694.06	165.25	243.18	219.78	75.6	-5.35	0.114		
150.00	0.00	-2.86	0.00	-2.5	0.00	2.48	659.19	156.95	219.37	198.13	81.23	-5.4	0.013		

CALCULATED FORCES

Load Case: 1.0D + 1.0W

60 mph Wind with No Ice

24 Iterations

Gust Response Factor: 1.10
Dead Load Factor: 1.00
Wind Load Factor: 1.00

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	-53.03	-7.46	0.00	-767.2	0.00	767.15	3,157.17	784.20	2,737.77	2,376.61	0	0	0.130
5.00	-51.20	-7.35	0.00	-729.8	0.00	729.85	3,114.35	767.59	2,623.11	2,294.24	0.03	-0.05	0.126
10.00	-49.38	-7.24	0.00	-693.1	0.00	693.09	3,070.50	750.99	2,510.89	2,212.51	0.11	-0.1	0.121
15.00	-47.43	-7.12	0.00	-656.9	0.00	656.86	3,025.61	734.39	2,401.13	2,131.46	0.24	-0.15	0.117
20.00	-45.51	-7.01	0.00	-621.2	0.00	621.25	2,979.68	717.78	2,293.82	2,051.14	0.43	-0.2	0.112
23.60	-44.13	-6.93	0.00	-596.0	0.00	596.03	2,945.97	705.83	2,218.08	1,993.78	0.6	-0.24	0.109
25.00	-43.60	-6.87	0.00	-586.3	0.00	586.32	2,932.71	701.18	2,188.97	1,971.59	0.67	-0.25	0.108
30.00	-41.71	-6.77	0.00	-552.0	0.00	551.95	2,875.21	684.57	2,086.57	1,886.65	0.96	-0.3	0.103
31.50	-41.14	-6.72	0.00	-541.8	0.00	541.80	2,854.29	679.59	2,056.33	1,859.14	1.06	-0.32	0.102
35.00	-39.44	-6.64	0.00	-518.3	0.00	518.29	2,805.48	667.97	1,986.62	1,795.73	1.3	-0.35	0.097
35.67	-39.12	-6.59	0.00	-513.9	0.00	513.86	2,248.07	566.94	1,717.07	1,468.70	1.35	-0.36	0.109
40.00	-37.59	-6.46	0.00	-485.3	0.00	485.29	2,218.59	554.95	1,645.23	1,418.49	1.69	-0.4	0.104
45.00	-35.84	-6.32	0.00	-453.0	0.00	452.97	2,183.60	541.11	1,564.24	1,360.97	2.13	-0.44	0.098
50.00	-34.10	-6.16	0.00	-421.4	0.00	421.39	2,147.58	527.27	1,485.29	1,303.95	2.62	-0.49	0.093
55.00	-32.37	-6.01	0.00	-390.6	0.00	390.59	2,110.52	513.44	1,408.39	1,247.47	3.16	-0.53	0.087
59.00	-30.88	-5.75	0.00	-366.6	0.00	366.55	2,080.12	502.37	1,348.34	1,202.71	3.62	-0.57	0.082
60.00	-30.54	-5.69	0.00	-360.8	0.00	360.80	2,072.41	499.60	1,333.53	1,191.58	3.74	-0.58	0.081
65.00	-28.84	-5.53	0.00	-332.4	0.00	332.36	2,033.27	485.76	1,260.72	1,136.35	4.37	-0.62	0.076
68.70	-27.60	-5.42	0.00	-311.9	0.00	311.90	1,997.21	475.53	1,208.15	1,092.40	4.86	-0.65	0.072
68.70	-27.60	-5.42	0.00	-311.9	0.00	311.90	1,997.21	475.53	1,208.15	1,092.40	4.86	-0.65	0.140
70.00	-27.25	-5.36	0.00	-304.8	0.00	304.85	1,982.10	471.93	1,189.95	1,075.84	5.04	-0.66	0.138
73.50	-26.05	-5.27	0.00	-286.1	0.00	286.08	1,473.96	377.74	952.81	802.32	5.55	-0.72	0.154
75.00	-25.67	-5.19	0.00	-278.2	0.00	278.18	1,466.28	374.42	936.13	791.05	5.78	-0.74	0.151
80.00	-24.51	-5.04	0.00	-252.2	0.00	252.20	1,440.00	363.35	881.62	753.69	6.59	-0.82	0.141
85.00	-23.41	-4.91	0.00	-227.0	0.00	227.02	1,412.68	352.28	828.74	716.65	7.49	-0.9	0.130
90.00	-22.31	-4.79	0.00	-202.5	0.00	202.46	1,384.32	341.21	777.49	679.98	8.47	-0.97	0.119
95.00	-21.23	-4.66	0.00	-178.5	0.00	178.53	1,354.92	330.14	727.89	643.72	9.52	-1.04	0.108
100.00	-20.15	-4.53	0.00	-155.2	0.00	155.24	1,324.47	319.08	679.91	607.94	10.65	-1.1	0.097
105.00	-19.09	-4.41	0.00	-132.6	0.00	132.61	1,292.99	308.01	633.57	572.68	11.84	-1.16	0.086
107.00	-18.49	-4.34	0.00	-123.8	0.00	123.78	1,275.03	303.58	615.50	556.51	12.33	-1.19	0.081
107.10	-18.45	-4.32	0.00	-123.3	0.00	123.28	1,274.10	303.36	614.60	555.69	12.35	-1.19	0.081
107.80	-18.22	-4.24	0.00	-120.3	0.00	120.26	1,267.59	301.81	608.34	550.00	12.53	-1.2	0.080
109.50	-17.86	-4.19	0.00	-113.0	0.00	113.05	1,251.78	298.04	593.27	536.29	12.96	-1.22	0.076
110.00	-17.76	-4.18	0.00	-111.0	0.00	110.96	1,247.13	296.94	588.87	532.29	13.09	-1.22	0.075
110.00	-17.76	-4.18	0.00	-111.0	0.00	110.96	853.24	223.36	444.19	366.34	13.09	-1.22	0.090
110.60	-17.59	-4.08	0.00	-108.4	0.00	108.37	851.10	222.37	440.24	363.78	13.24	-1.23	0.088
111.00	-16.96	-3.94	0.00	-106.7	0.00	106.74	849.67	221.70	437.62	362.07	13.34	-1.23	0.087
115.00	-16.20	-3.80	0.00	-91.0	0.00	90.98	834.99	215.06	411.80	345.06	14.4	-1.27	0.076
119.13	-15.36	-3.69	0.00	-75.3	0.00	75.28	819.14	208.21	385.96	327.62	15.52	-1.31	0.065
119.70	-15.09	-3.57	0.00	-73.2	0.00	73.18	816.90	207.26	382.46	325.22	15.67	-1.32	0.033
120.00	-15.02	-3.56	0.00	-72.1	0.00	72.10	815.71	206.76	380.63	323.96	15.76	-1.32	0.032
121.00	-14.77	-3.50	0.00	-68.6	0.00	68.55	811.73	205.10	374.54	319.77	16.03	-1.32	0.031
121.00	-14.77	-3.50	0.00	-68.6	0.00	68.55	811.73	205.10	374.54	319.77	16.03	-1.32	0.050
124.50	-14.12	-3.40	0.00	-56.3	0.00	56.31	797.47	199.29	353.62	305.16	17.01	-1.34	0.042
124.50	-14.12	-3.40	0.00	-56.3	0.00	56.31	797.47	199.29	353.62	305.16	17.01	-1.34	0.203
125.00	-14.05	-3.37	0.00	-54.6	0.00	54.61	795.39	198.46	350.69	303.09	17.15	-1.34	0.198
127.00	-11.95	-3.07	0.00	-47.9	0.00	47.86	786.97	195.14	339.05	294.81	17.72	-1.4	0.178
130.00	-10.49	-2.48	0.00	-38.6	0.00	38.65	774.02	190.16	321.97	282.49	18.63	-1.47	0.151
135.00	-10.13	-2.42	0.00	-26.2	0.00	26.24	751.62	181.86	294.48	262.21	20.23	-1.58	0.114
140.00	-5.26	-1.35	0.00	-14.1	0.00	14.12	728.18	173.55	268.22	242.31	21.93	-1.65	0.066
145.00	-4.96	-1.28	0.00	-7.4	0.00	7.38	694.06	165.25	243.18	219.78	23.68	-1.7	0.041
150.00	0.00	-1.13	0.00	-1.0	0.00	0.97	659.19	156.95	219.37	198.13	25.47	-1.72	0.005

EQUIVALENT LATERAL FORCES METHOD ANALYSIS

(Based on ASCE7-16 Chapters 11, 12 and 15)

Spectral Response Acceleration for Short Period (S_S):	0.174
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.055
Long-Period Transition Period (T_L - Seconds):	6
Importance Factor (I_e):	1.000
Site Coefficient F_a :	1.600
Site Coefficient F_v :	2.400
Response Modification Coefficient (R):	1.500
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.186
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.088
Seismic Response Coefficient (C_s):	0.030
Upper Limit C_s :	0.030
Lower Limit C_s :	0.030
Period based on Rayleigh Method (sec):	2.930
Redundancy Factor (p):	1.000
Seismic Force Distribution Exponent (k):	2.000
Total Unfactored Dead Load:	53.040 k
Seismic Base Shear (E):	1.590 k

SEISMIC FORCES

1.2D + 1.0Ev + 1.0Eh

Seismic

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
47	147.5	298	6,473	0.014	23	368
46	142.5	306	6,205	0.014	22	378
45	137.5	350	6,608	0.015	24	432
44	132.5	358	6,278	0.014	22	442
43	128.5	324	5,354	0.012	19	401
42	126	230	3,657	0.008	13	285
41	124.75	67	1,045	0.002	4	83
40	122.75	648	9,759	0.022	35	801
39	120.5	253	3,667	0.008	13	312
38	119.85	76	1,089	0.002	4	94
37	119.415	144	2,056	0.005	7	178
36	117.065	841	11,523	0.026	41	1,040
35	113	763	9,741	0.022	35	944
34	110.8	75	917	0.002	3	92
33	110.3	112	1,364	0.003	5	139
32	109.75	101	1,213	0.003	4	125
31	108.65	343	4,054	0.009	14	425
30	107.45	142	1,638	0.004	6	175
29	107.05	20	232	0.000	1	25
28	106	421	4,731	0.011	17	521
27	102.5	1,060	11,139	0.025	40	1,312
26	97.5	1,071	10,181	0.023	36	1,325
25	92.5	1,082	9,255	0.021	33	1,338
24	87.5	1,092	8,364	0.019	30	1,351
23	82.5	1,103	7,508	0.017	27	1,365
22	77.5	1,157	6,947	0.016	25	1,431
21	74.25	374	2,062	0.005	7	463
20	71.75	1,194	6,144	0.014	22	1,477
19	69.35	349	1,678	0.004	6	432
18	66.85	1,245	5,563	0.012	20	1,540
17	62.5	1,694	6,617	0.015	24	2,096
16	59.5	340	1,205	0.003	4	421
15	57	1,367	4,441	0.010	16	1,691
14	52.5	1,721	4,743	0.011	17	2,129
13	47.5	1,734	3,913	0.009	14	2,146
12	42.5	1,748	3,157	0.007	11	2,162
11	37.8334	1,525	2,184	0.005	8	1,887
10	35.3334	322	402	0.001	1	398

SEISMIC FORCES

1.2D + 1.0Ev + 1.0Eh

Seismic

Segment	Height Above Base (ft)	Weight (lb)	W _z (lb-ft)	C _{vx}	Horizontal Force (lb)	Vertical Force (lb)
9	33.25	1,698	1,877	0.004	7	2,101
8	30.75	563	533	0.001	2	697
7	27.5	1,888	1,428	0.003	5	2,336
6	24.3	532	314	0.001	1	658
5	21.8	1,373	652	0.002	2	1,698
4	17.5	1,920	588	0.001	2	2,376
3	12.5	1,936	303	0.001	1	2,396
2	7.5	1,814	102	0.000	0	2,245
1	2.5	1,830	11	0.000	0	2,265
Decibel DB809KE-SY	150	26	585	0.001	2	32
Raycap DC6-48-60-18-8F ("Squid")	150	38	850	0.002	3	47
Ericsson Radio 4494 44B14 20B29 M01	150	172	3,868	0.009	14	213
Raycap DC9-48-60-24-8C-EV (Enclosure)	150	18	416	0.001	1	23
Ericsson RRUS 4490	150	205	4,617	0.010	16	254
Ericsson RRUS 4890	150	208	4,691	0.010	17	258
Ericsson RRUS 32 B30	150	180	4,050	0.009	14	223
Ericsson AIR 6472 B77G B77M (67.2lbs)	150	202	4,536	0.010	16	249
CCI DMP65R-BU8D	150	287	6,460	0.014	23	355
CCI TPA65R-BU8D (87.5 lbs)	150	262	5,906	0.013	21	325
Mount Reinforcement	150	600	13,500	0.030	48	742
Generic Round Platform with Handrails	150	2,500	56,250	0.126	200	3,093
Commscope SDX1926Q-43	140	19	365	0.001	1	23
Ericsson Radio 4449 B71 B85A	140	225	4,410	0.010	16	278
Ericsson RRUS 4415 B66	140	138	2,705	0.006	10	171
Ericsson 4424 B25	140	258	5,057	0.011	18	319
Generic Mount Reinforcement	140	600	11,760	0.026	42	742
Ericsson Air6449 B41	140	312	6,115	0.014	22	386
RFS APX16DWV-16DWVS-E-A20	140	122	2,393	0.005	9	151
RFS APXVAALL24 43-U-NA20	140	368	7,221	0.016	26	456
Round Platform w/ Flat Handrails	140	2,500	49,000	0.110	175	3,093
Kaelus KA-6030	130	35	595	0.001	2	44
Samsung RT4401-48A	130	56	943	0.002	3	69
Samsung B5/B13 RRH-BR04C	130	211	3,564	0.008	13	261
Samsung B2/B66A RRH-BR049	130	253	4,279	0.010	15	313
Raycap RCMDC-6627-PF-48	130	32	541	0.001	2	40
Samsung MT6407-77A	130	245	4,137	0.009	15	303
Amphenol Antel BXA-80080-6CF-EDIN-X	130	54	913	0.002	3	67
Commscope NHH-65B-R2B	130	262	4,431	0.010	16	324
Generic Round Low Profile Platform	127	1,875	30,242	0.068	108	2,320
Generic 76" x 6" Panel	119.7	120	1,719	0.004	6	148
Generic Round Side Arm	111	562	6,931	0.016	25	696
DragonWave A-ANT-11G-2-C	110.6	54	661	0.002	2	67
DragonWave Horizon Compact	109.5	21	254	0.001	1	26
Argus LLPX310R	107.8	86	997	0.002	4	106
Generic 24" x 24" Junction Box	107.1	20	229	0.000	1	25
Alcatel-Lucent 1900MHz RRH (65MHz) w/ solar shield	107	180	2,061	0.005	7	223
Channel Master Type 120	59	126	439	0.001	2	156
Generic Blank Exhibit	40	0	0	0.000	0	0
Totals:		53,037	446,605	1.000	1,591	65,613

SEISMIC FORCES

0.9D - 1.0Ev + 1.0Eh

Seismic (Reduced DL)

Segment	Height Above Base (ft)	Weight (lb)	W _z (lb-ft)	C _{vx}	Horizontal Force (lb)	Vertical Force (lb)
47	147.5	298	6,473	0.014	23	257
46	142.5	306	6,205	0.014	22	264
45	137.5	350	6,608	0.015	24	302
44	132.5	358	6,278	0.014	22	309
43	128.5	324	5,354	0.012	19	280
42	126	230	3,657	0.008	13	199
41	124.75	67	1,045	0.002	4	58

SEISMIC FORCES

0.9D - 1.0Ev + 1.0Eh

Seismic (Reduced DL)

Segment	Height Above Base (ft)	Weight (lb)	W _z (lb-ft)	C _{vx}	Horizontal Force (lb)	Vertical Force (lb)
40	122.75	648	9,759	0.022	35	559
39	120.5	253	3,667	0.008	13	218
38	119.85	76	1,089	0.002	4	65
37	119.415	144	2,056	0.005	7	124
36	117.065	841	11,523	0.026	41	726
35	113	763	9,741	0.022	35	658
34	110.8	75	917	0.002	3	64
33	110.3	112	1,364	0.003	5	97
32	109.75	101	1,213	0.003	4	87
31	108.65	343	4,054	0.009	14	296
30	107.45	142	1,638	0.004	6	122
29	107.05	20	232	0.000	1	17
28	106	421	4,731	0.011	17	363
27	102.5	1,060	11,139	0.025	40	915
26	97.5	1,071	10,181	0.023	36	924
25	92.5	1,082	9,255	0.021	33	933
24	87.5	1,092	8,364	0.019	30	943
23	82.5	1,103	7,508	0.017	27	952
22	77.5	1,157	6,947	0.016	25	998
21	74.25	374	2,062	0.005	7	323
20	71.75	1,194	6,144	0.014	22	1,030
19	69.35	349	1,678	0.004	6	301
18	66.85	1,245	5,563	0.012	20	1,074
17	62.5	1,694	6,617	0.015	24	1,462
16	59.5	340	1,205	0.003	4	294
15	57	1,367	4,441	0.010	16	1,180
14	52.5	1,721	4,743	0.011	17	1,485
13	47.5	1,734	3,913	0.009	14	1,496
12	42.5	1,748	3,157	0.007	11	1,508
11	37.8334	1,525	2,184	0.005	8	1,316
10	35.3334	322	402	0.001	1	278
9	33.25	1,698	1,877	0.004	7	1,465
8	30.75	563	533	0.001	2	486
7	27.5	1,888	1,428	0.003	5	1,629
6	24.3	532	314	0.001	1	459
5	21.8	1,373	652	0.002	2	1,184
4	17.5	1,920	588	0.001	2	1,657
3	12.5	1,936	303	0.001	1	1,671
2	7.5	1,814	102	0.000	0	1,566
1	2.5	1,830	11	0.000	0	1,579
Decibel DB809KE-SY	150	26	585	0.001	2	22
Raycap DC6-48-60-18-8F ("Squid")	150	38	850	0.002	3	33
Ericsson Radio 4494 44B14 20B29 M01	150	172	3,868	0.009	14	148
Raycap DC9-48-60-24-8C-EV (Enclosure)	150	18	416	0.001	1	16
Ericsson RRUS 4490	150	205	4,617	0.010	16	177
Ericsson RRUS 4890	150	208	4,691	0.010	17	180
Ericsson RRUS 32 B30	150	180	4,050	0.009	14	155
Ericsson AIR 6472 B77G B77M (67.2lbs)	150	202	4,536	0.010	16	174
CCI DMP65R-BU8D	150	287	6,460	0.014	23	248
CCI TPA65R-BU8D (87.5 lbs)	150	262	5,906	0.013	21	227
Mount Reinforcement	150	600	13,500	0.030	48	518
Generic Round Platform with Handrails	150	2,500	56,250	0.126	200	2,157
Commscope SDX1926Q-43	140	19	365	0.001	1	16
Ericsson Radio 4449 B71 B85A	140	225	4,410	0.010	16	194
Ericsson RRUS 4415 B66	140	138	2,705	0.006	10	119
Ericsson 4424 B25	140	258	5,057	0.011	18	223
Generic Mount Reinforcement	140	600	11,760	0.026	42	518
Ericsson Air6449 B41	140	312	6,115	0.014	22	269
RFS APX16DWV-16DWVS-E-A20	140	122	2,393	0.005	9	105
RFS APXVAALL24 43-U-NA20	140	368	7,221	0.016	26	318
Round Platform w/ Flat Handrails	140	2,500	49,000	0.110	175	2,157

SEISMIC FORCES

0.9D - 1.0Ev + 1.0Eh

Seismic (Reduced DL)

Segment	Height Above Base (ft)	Weight (lb)	W _z (lb-ft)	C _{vx}	Horizontal Force (lb)	Vertical Force (lb)
Kaelus KA-6030	130	35	595	0.001	2	30
Samsung RT4401-48A	130	56	943	0.002	3	48
Samsung B5/B13 RRH-BR04C	130	211	3,564	0.008	13	182
Samsung B2/B66A RRH-BR049	130	253	4,279	0.010	15	218
Raycap RCMDC-6627-PF-48	130	32	541	0.001	2	28
Samsung MT6407-77A	130	245	4,137	0.009	15	211
Amphenol Antel BXA-80080-6CF-EDIN-X	130	54	913	0.002	3	47
Commscope NHH-65B-R2B	130	262	4,431	0.010	16	226
Generic Round Low Profile Platform	127	1,875	30,242	0.068	108	1,618
Generic 76" x 6" Panel	119.7	120	1,719	0.004	6	104
Generic Round Side Arm	111	562	6,931	0.016	25	485
DragonWave A-ANT-11G-2-C	110.6	54	661	0.002	2	47
DragonWave Horizon Compact	109.5	21	254	0.001	1	18
Argus LLPX310R	107.8	86	997	0.002	4	74
Generic 24" x 24" Junction Box	107.1	20	229	0.000	1	17
Alcatel-Lucent 1900MHz RRH (65MHz) w/ solar shield	107	180	2,061	0.005	7	155
Channel Master Type 120	59	126	439	0.001	2	109
Generic Blank Exhibit	40	0	0	0.000	0	0
Totals:		53,037	446,605	1.000	1,591	45,764

1.2D + 1.0Ev + 1.0Eh

Seismic

CALCULATED FORCES

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (fr-kips)	Mu Mx (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (kips)	Phi Mn (kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-63.35	-1.60	0.00	-207.29	0.00	207.29	3,157.17	784.20	2,738	2,376.61	0.00	0.00	0.04
5.00	-61.10	-1.61	0.00	-199.30	0.00	199.30	3,114.35	767.59	2,623	2,294.24	0.01	-0.01	0.04
10.00	-58.71	-1.62	0.00	-191.24	0.00	191.24	3,070.50	750.99	2,511	2,212.51	0.03	-0.03	0.04
15.00	-56.33	-1.63	0.00	-183.11	0.00	183.11	3,025.61	734.39	2,401	2,131.46	0.07	-0.04	0.04
20.00	-54.63	-1.64	0.00	-174.94	0.00	174.94	2,979.68	717.78	2,294	2,051.14	0.12	-0.06	0.04
23.60	-53.97	-1.65	0.00	-169.03	0.00	169.03	2,945.97	705.83	2,218	1,993.78	0.16	-0.07	0.04
23.60	-53.97	-1.65	0.00	-169.03	0.00	169.03	2,945.97	705.83	2,218	1,993.78	0.16	-0.07	0.04
25.00	-51.64	-1.65	0.00	-166.72	0.00	166.72	2,932.71	701.18	2,189	1,971.59	0.18	-0.07	0.04
30.00	-50.94	-1.65	0.00	-158.48	0.00	158.48	2,875.21	684.57	2,087	1,886.65	0.26	-0.08	0.04
31.50	-48.84	-1.65	0.00	-156.00	0.00	156.00	2,854.29	679.59	2,056	1,859.14	0.29	-0.09	0.04
35.00	-48.44	-1.65	0.00	-150.23	0.00	150.23	2,805.48	667.97	1,987	1,795.73	0.36	-0.10	0.04
35.67	-46.55	-1.65	0.00	-149.13	0.00	149.13	2,248.07	566.94	1,717	1,468.70	0.37	-0.10	0.04
40.00	-44.39	-1.64	0.00	-142.00	0.00	142.00	2,218.59	554.95	1,645	1,418.49	0.47	-0.11	0.04
45.00	-42.25	-1.63	0.00	-133.79	0.00	133.79	2,183.60	541.11	1,564	1,360.97	0.59	-0.13	0.04
50.00	-40.12	-1.62	0.00	-125.63	0.00	125.63	2,147.58	527.27	1,485	1,303.95	0.73	-0.14	0.03
55.00	-38.43	-1.61	0.00	-117.52	0.00	117.52	2,110.52	513.44	1,408	1,247.47	0.89	-0.15	0.03
59.00	-37.85	-1.61	0.00	-111.09	0.00	111.09	2,080.12	502.37	1,348	1,202.71	1.02	-0.16	0.03
60.00	-35.75	-1.58	0.00	-109.49	0.00	109.49	2,072.41	499.60	1,334	1,191.58	1.05	-0.17	0.03
65.00	-34.21	-1.56	0.00	-101.58	0.00	101.58	2,033.27	485.76	1,261	1,136.35	1.23	-0.18	0.03
68.70	-33.78	-1.56	0.00	-95.80	0.00	95.80	1,997.21	475.53	1,208	1,092.40	1.37	-0.19	0.03
68.70	-33.78	-1.56	0.00	-95.80	0.00	95.80	1,997.21	475.53	1,208	1,092.40	1.37	-0.19	0.05
70.00	-32.30	-1.54	0.00	-93.78	0.00	93.78	1,982.10	471.93	1,190	1,075.84	1.43	-0.19	0.05
73.50	-31.84	-1.54	0.00	-88.39	0.00	88.39	1,473.96	377.74	953	802.32	1.57	-0.21	0.06
75.00	-30.41	-1.51	0.00	-86.09	0.00	86.09	1,466.28	374.42	936	791.05	1.64	-0.22	0.06
80.00	-29.05	-1.49	0.00	-78.52	0.00	78.52	1,440.00	363.35	882	753.69	1.88	-0.24	0.05
85.00	-27.69	-1.47	0.00	-71.05	0.00	71.05	1,412.68	352.28	829	716.65	2.14	-0.26	0.05
90.00	-26.35	-1.44	0.00	-63.70	0.00	63.70	1,384.32	341.21	777	679.98	2.43	-0.29	0.04
95.00	-25.03	-1.41	0.00	-56.49	0.00	56.49	1,354.92	330.14	728	643.72	2.74	-0.31	0.04
100.00	-23.72	-1.37	0.00	-49.45	0.00	49.45	1,324.47	319.08	680	607.94	3.08	-0.33	0.04
105.00	-23.20	-1.35	0.00	-42.61	0.00	42.61	1,292.99	308.01	634	572.68	3.43	-0.35	0.03
107.00	-22.95	-1.35	0.00	-39.90	0.00	39.90	1,275.03	303.58	616	556.51	3.58	-0.36	0.03
107.10	-22.75	-1.34	0.00	-39.77	0.00	39.77	1,274.10	303.36	615	555.69	3.59	-0.36	0.03
107.80	-22.22	-1.32	0.00	-38.83	0.00	38.83	1,267.59	301.81	608	550.00	3.64	-0.36	0.03
109.50	-22.07	-1.31	0.00	-36.59	0.00	36.59	1,251.78	298.04	593	536.29	3.77	-0.37	0.03
110.00	-21.93	-1.31	0.00	-35.93	0.00	35.93	1,247.13	296.94	589	532.29	3.81	-0.37	0.03

ASSET: 302489, Enfd - Enfield
CUSTOMER: AT&T MOBILITY

CODE: ANSI/TIA-222-H
PROJECT: 14878510_C3_04

CALCULATED FORCES

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (fr-kips)	Mu Mx (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (kips)	Phi Mn (kips)	Total Deflect (in)	Rotation (deg)	Ratio
110.00	-21.93	-1.31	0.00	-35.93	0.00	35.93	853.24	223.36	444	366.34	3.81	-0.37	0.04
110.60	-21.77	-1.30	0.00	-35.15	0.00	35.15	851.10	222.37	440	363.78	3.86	-0.37	0.04
111.00	-20.13	-1.24	0.00	-34.63	0.00	34.63	849.67	221.70	438	362.07	3.89	-0.37	0.04
115.00	-19.09	-1.19	0.00	-29.68	0.00	29.68	834.99	215.06	412	345.06	4.20	-0.38	0.03
119.13	-18.91	-1.19	0.00	-24.76	0.00	24.76	819.14	208.21	386	327.62	4.54	-0.40	0.03
119.70	-18.67	-1.18	0.00	-24.08	0.00	24.08	816.90	207.26	382	325.22	4.59	-0.40	0.02
120.00	-18.36	-1.16	0.00	-23.73	0.00	23.73	815.71	206.76	381	323.96	4.61	-0.40	0.02
121.00	-17.56	-1.12	0.00	-22.57	0.00	22.57	811.73	205.10	375	319.77	4.70	-0.40	0.01
121.00	-17.56	-1.12	0.00	-22.57	0.00	22.57	811.73	205.10	375	319.77	4.70	-0.40	0.02
124.50	-17.47	-1.12	0.00	-18.64	0.00	18.64	797.47	199.29	354	305.16	4.99	-0.41	0.02
124.50	-17.47	-1.12	0.00	-18.64	0.00	18.64	797.47	199.29	354	305.16	4.99	-0.41	0.08
125.00	-17.19	-1.11	0.00	-18.08	0.00	18.08	795.39	198.46	351	303.09	5.04	-0.41	0.08
127.00	-14.47	-0.96	0.00	-15.87	0.00	15.87	786.97	195.14	339	294.81	5.21	-0.43	0.07
130.00	-12.60	-0.87	0.00	-12.98	0.00	12.98	774.02	190.16	322	282.49	5.49	-0.45	0.06
135.00	-12.17	-0.84	0.00	-8.65	0.00	8.65	751.62	181.86	294	262.21	5.98	-0.49	0.05
140.00	-6.18	-0.46	0.00	-4.43	0.00	4.43	728.18	173.55	268	242.31	6.50	-0.51	0.03
145.00	-5.81	-0.43	0.00	-2.15	0.00	2.15	694.06	165.25	243	219.78	7.04	-0.52	0.02
150.00	0.00	-0.38	0.00	0.00	0.00	0.00	659.19	156.95	219	198.13	7.59	-0.53	0.00

0.9D - 1.0Ev + 1.0Eh

Seismic (Reduced DL)

CALCULATED FORCES

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (fr-kips)	Mu Mx (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (kips)	Phi Mn (kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-44.18	-1.60	0.00	-202.62	0.00	202.62	3,157.17	784.20	2,738	2,376.61	0.00	0.00	0.04
5.00	-42.62	-1.61	0.00	-194.64	0.00	194.64	3,114.35	767.59	2,623	2,294.24	0.01	-0.01	0.04
10.00	-40.95	-1.61	0.00	-186.61	0.00	186.61	3,070.50	750.99	2,511	2,212.51	0.03	-0.03	0.04
15.00	-39.29	-1.62	0.00	-178.55	0.00	178.55	3,025.61	734.39	2,401	2,131.46	0.06	-0.04	0.04
20.00	-38.11	-1.62	0.00	-170.45	0.00	170.45	2,979.68	717.78	2,294	2,051.14	0.11	-0.05	0.04
23.60	-37.65	-1.63	0.00	-164.60	0.00	164.60	2,945.97	705.83	2,218	1,993.78	0.16	-0.06	0.03
23.60	-37.65	-1.63	0.00	-164.60	0.00	164.60	2,945.97	705.83	2,218	1,993.78	0.16	-0.06	0.03
25.00	-36.02	-1.63	0.00	-162.32	0.00	162.32	2,932.71	701.18	2,189	1,971.59	0.18	-0.07	0.03
30.00	-35.53	-1.63	0.00	-154.20	0.00	154.20	2,875.21	684.57	2,087	1,886.65	0.26	-0.08	0.03
31.50	-34.07	-1.62	0.00	-151.75	0.00	151.75	2,854.29	679.59	2,056	1,859.14	0.28	-0.09	0.03
35.00	-33.79	-1.63	0.00	-146.07	0.00	146.07	2,805.48	667.97	1,987	1,795.73	0.35	-0.10	0.03
35.67	-32.47	-1.62	0.00	-144.99	0.00	144.99	2,248.07	566.94	1,717	1,468.70	0.36	-0.10	0.04
40.00	-30.96	-1.61	0.00	-137.97	0.00	137.97	2,218.59	554.95	1,645	1,418.49	0.46	-0.11	0.03
45.00	-29.47	-1.60	0.00	-129.91	0.00	129.91	2,183.60	541.11	1,564	1,360.97	0.58	-0.12	0.03
50.00	-27.98	-1.59	0.00	-121.91	0.00	121.91	2,147.58	527.27	1,485	1,303.95	0.71	-0.14	0.03
55.00	-26.80	-1.57	0.00	-113.97	0.00	113.97	2,110.52	513.44	1,408	1,247.47	0.86	-0.15	0.03
59.00	-26.40	-1.57	0.00	-107.67	0.00	107.67	2,080.12	502.37	1,348	1,202.71	0.99	-0.16	0.03
60.00	-24.94	-1.55	0.00	-106.10	0.00	106.10	2,072.41	499.60	1,334	1,191.58	1.03	-0.16	0.03
65.00	-23.86	-1.53	0.00	-98.37	0.00	98.37	2,033.27	485.76	1,261	1,136.35	1.20	-0.17	0.03
68.70	-23.56	-1.52	0.00	-92.72	0.00	92.72	1,997.21	475.53	1,208	1,092.40	1.34	-0.18	0.03
68.70	-23.56	-1.52	0.00	-92.72	0.00	92.72	1,997.21	475.53	1,208	1,092.40	1.34	-0.18	0.05
70.00	-22.53	-1.50	0.00	-90.74	0.00	90.74	1,982.10	471.93	1,190	1,075.84	1.39	-0.19	0.05
73.50	-22.21	-1.50	0.00	-85.48	0.00	85.48	1,473.96	377.74	953	802.32	1.53	-0.20	0.05
75.00	-21.21	-1.48	0.00	-83.23	0.00	83.23	1,466.28	374.42	936	791.05	1.60	-0.21	0.05
80.00	-20.26	-1.45	0.00	-75.86	0.00	75.86	1,440.00	363.35	882	753.69	1.83	-0.23	0.05
85.00	-19.31	-1.43	0.00	-68.59	0.00	68.59	1,412.68	352.28	829	716.65	2.08	-0.26	0.04
90.00	-18.38	-1.40	0.00	-61.45	0.00	61.45	1,384.32	341.21	777	679.98	2.36	-0.28	0.04
95.00	-17.46	-1.36	0.00	-54.47	0.00	54.47	1,354.92	330.14	728	643.72	2.67	-0.30	0.04
100.00	-16.54	-1.32	0.00	-47.66	0.00	47.66	1,324.47	319.08	680	607.94	2.99	-0.32	0.03
105.00	-16.18	-1.31	0.00	-41.04	0.00	41.04	1,292.99	308.01	634	572.68	3.34	-0.34	0.03
107.00	-16.00	-1.30	0.00	-38.43	0.00	38.43	1,275.03	303.58	616	556.51	3.48	-0.35	0.03
107.10	-15.86	-1.29	0.00	-38.30	0.00	38.30	1,274.10	303.36	615	555.69	3.49	-0.35	0.03
107.80	-15.49	-1.27	0.00	-37.39	0.00	37.39	1,267.59	301.81	608	550.00	3.54	-0.35	0.03
109.50	-15.39	-1.27	0.00	-35.23	0.00	35.23	1,251.78	298.04	593	536.29	3.66	-0.35	0.03
110.00	-15.29	-1.26	0.00	-34.59	0.00	34.59	1,247.13	296.94	589	532.29	3.70	-0.36	0.03
110.00	-15.29	-1.26	0.00	-34.59	0.00	34.59	853.24	223.36	444	366.34	3.70	-0.36	0.03

CALCULATED FORCES													
Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (fr-kips)	Mu Mx (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (kips)	Phi Mn (kips)	Total Deflect (in)	Rotation (deg)	Ratio
110.60	-15.18	-1.26	0.00	-33.84	0.00	33.84	851.10	222.37	440	363.78	3.75	-0.36	0.03
111.00	-14.04	-1.19	0.00	-33.33	0.00	33.33	849.67	221.70	438	362.07	3.78	-0.36	0.03
115.00	-13.31	-1.15	0.00	-28.56	0.00	28.56	834.99	215.06	412	345.06	4.08	-0.37	0.03
119.13	-13.19	-1.14	0.00	-23.81	0.00	23.81	819.14	208.21	386	327.62	4.41	-0.38	0.02
119.70	-13.02	-1.13	0.00	-23.16	0.00	23.16	816.90	207.26	382	325.22	4.46	-0.39	0.01
120.00	-12.80	-1.12	0.00	-22.82	0.00	22.82	815.71	206.76	381	323.96	4.48	-0.39	0.01
121.00	-12.24	-1.08	0.00	-21.70	0.00	21.70	811.73	205.10	375	319.77	4.56	-0.39	0.01
121.00	-12.24	-1.08	0.00	-21.70	0.00	21.70	811.73	205.10	375	319.77	4.56	-0.39	0.02
124.50	-12.18	-1.08	0.00	-17.92	0.00	17.92	797.47	199.29	354	305.16	4.85	-0.39	0.02
124.50	-12.18	-1.08	0.00	-17.92	0.00	17.92	797.47	199.29	354	305.16	4.85	-0.39	0.07
125.00	-11.99	-1.06	0.00	-17.38	0.00	17.38	795.39	198.46	351	303.09	4.89	-0.39	0.07
127.00	-10.09	-0.93	0.00	-15.25	0.00	15.25	786.97	195.14	339	294.81	5.06	-0.41	0.07
130.00	-8.79	-0.83	0.00	-12.46	0.00	12.46	774.02	190.16	322	282.49	5.33	-0.44	0.06
135.00	-8.49	-0.81	0.00	-8.30	0.00	8.30	751.62	181.86	294	262.21	5.80	-0.47	0.04
140.00	-4.31	-0.44	0.00	-4.25	0.00	4.25	728.18	173.55	268	242.31	6.31	-0.49	0.02
145.00	-4.05	-0.41	0.00	-2.06	0.00	2.06	694.06	165.25	243	219.78	6.83	-0.51	0.02
150.00	0.00	-0.38	0.00	0.00	0.00	0.00	659.19	156.95	219	198.13	7.36	-0.51	0.00

ANALYSIS SUMMARY

Load Case	Base 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 + 1.0W	34.39	0.00	63.57	0.00	0.00	3568.22	124.50	0.89
0.9D + 1.0W	34.35	0.00	47.66	0.00	0.00	3506.05	124.50	0.85
1.2D + 1.0Di + 1.0Wi	22.33	0.00	98.41	0.00	0.00	2439.71	124.50	0.6
1.2D + 1.0Ev + 1.0Eh	1.60	0.00	63.35	0.00	0.00	207.29	124.50	0.08
0.9D - 1.0Ev + 1.0Eh	1.60	0.00	44.18	0.00	0.00	202.62	124.50	0.07
1.0D + 1.0W	7.46	0.00	53.03	0.00	0.00	767.15	124.50	0.2

ADDITIONAL STEEL SUMMARY

Elev From (ft)	Elev To (ft)	Member	Intermediate Connectors				Max Member		
			VQ/I (k/in)	Shear Applied (kips)	phiVn (kips)	Ratio	Pu (kip)	phiPn (kip)	Ratio
0.00	23.60	SOL #20 All Thread Bar	249.6	7.5	16.8	0.4455	292.5	330.5	0.8852
0.00	121.00	SOL #20 All Thread Bar	495.2	14.9	16.8	0.8838	277.4	311.1	0.8917
23.60	68.70	SOL #20 All Thread Bar	272.0	8.2	16.8	0.4855	262.4	330.5	0.794
119.13	124.50	SOL #20 (15 deg Offset)	458.2	13.7	16.8	0.8177	110.7	284.5	0.3889

Elev From (ft)	Elev To (ft)	Member	Upper Termination Connectors					Lower Termination Connectors				
			MQ/I (kips)	phiVn (kips)	Number Required	Number Actual	Ratio	MQ/I (kips)	phiVn (kip)	Number Required	Number Actual	Ratio
0.00	23.60	SOL #20 All Thread Bar	0	12	0	24	0.0000	0	12	0	0	0.0000
0.00	121.00	SOL #20 All Thread Bar	53.6614	12	5	10	0.4472	0	12	0	0	0.0000
23.60	68.70	SOL #20 All Thread Bar	185.9668	12	16	24	0.6457	0	12	0	0	0.0000
119.13	124.50	SOL #20 (15 deg Offset)	90.8684	12	8	12	0.6310	73.5728	12	7	12	0.5109

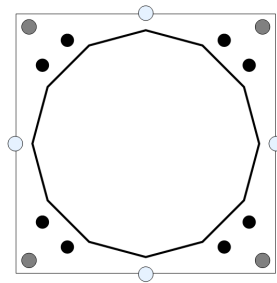
BASE PLATE ANALYSIS @ 0 FT

APPLIED REACTIONS

Moment (k-ft)	Axial (k)	Shear (k)
3568.22	63.57	34.39

PLATE PARAMETERS (ID# 15518)

Width:	44	in
Shape:	Square	
Thickness:	2.5	in
Grade:	A572-60	
Yield Strength:	60	ksi
Tensile Strength:	75	ksi
Clip Length:	0	in
Rod Detail Type:	c	
Clear Distance	-	in
Base Weld Size:	0.125	in
Orientation Offset:	-	°
Analysis Type:	Elastic	
Neutral Axis:	135	°



ANCHOR ROD PARAMETERS

Class	Arrangement	Quantity	Diameter (in)	Circle (in)	Grade	F _y (ksi)	F _u (ksi)	Spacing (in)	Offset (°)
Original [ID#15887]	Cluster	8	2.25	44	A615-75	75	100	6	-
Bypass [ID#19160]	Cluster	4	2.5	56	A615-75	75	100		45

DYWIDAG BAR PARAMETERS

Quantity	Bar Size	Bar Diameter (in)	F _y (ksi)	F _u (ksi)	Bracket Type	Bracket Offset (in)	Circle (in)	Offset (°)
4 [ID# 1393]	#20	2.5	80	100	Angle	2.19	44.26	-

COMPONENT PROPERTIES

Component	ID	Gross Area (in ²)	Net Area (in ²)	Individual Inertia (in ⁴)	Moment of Inertia (in ⁴)	Threads/in
Pole	37.38"ø x 0.375" (12 Sides)	43.0992	-	-	7379.37	-
Bolt Group	Original (8) 2.25"ø	3.9761	3.2477	0.8393	5566.40	4.5
Bolt Group	Bypass (4) 2.5"ø	4.9087	3.9988	1.2725	6275.25	4.0
Dywidag Group	(4) #20	4.9087	4.9087	1.9175	4815.65	-

REACTION DISTRIBUTION

Component	ID	Moment M _u (k-ft)	Axial Load P _u (k)	Shear V _u (k)	Moment Factor
Pole	37.38"ø x 0.375" (12 Sides)	1166.9	63.57	34.39	0.327
Bolt Group	Original (8) 2.25"ø	1166.9	-	34.39	0.327
Bolt Group	Bypass (4) 2.5"ø	992.3	-	0.00	0.278
Dywidag Group	(4) #20	1409.0	-	-	0.395

BASE PLATE BEND LINE ANALYSIS @ 0 FT

POLE PROPERTIES				PLATE PROPERTIES						
Flat-to-Flat Diameter:	37.50	in		Flat Width:	10.049	in		Neutral Axis:	135	°
Point-to-Point Diameter:	38.83	in		Flat Radians:	0.524	rad				
Orientation Offset:	-	°								
Bend Line	Chord Length (in)	Additional Length (in)	Section Modulus (in³)	Applied Moment M _u (k-in)	Moment Capacity ΦM _n (k-in)	Flexure Result M _u /ΦM _n				
Flats	24.720	0.00	38.626	592.7	2085.8	28.4%	✓			
Corners	23.397	0.00	36.558	367.8	1974.2	18.6%	✓			

ELASTIC ANCHOR ROD ANALYSIS

Class	Group Quantity	Rod Diameter (in)	Applied Axial Load P _u (k)	Applied Shear Load V _u (k)	Compressive Capacity ΦP _n (k)	Compressive Result	Interaction Result	
Original	8	2.25	170.0	1.0	243.6	0.698	70.6%	✓
Bypass	4	2.5	216.9	0.0	299.9	0.723	72.3%	✓

DYWIDAG BAR ANALYSIS

Group Quantity	Bar Size	Bar Circle (in)	Applied Axial Load P _u (k)	Compressive Capacity ΦP _n (k)	Compressive Result P _u / ΦP _n	
4	#20	44.26	276.0	368.2	75.0%	✓

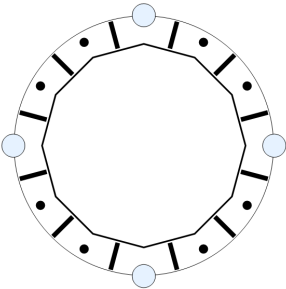
UPPER FLANGE PLATE ANALYSIS @ 110 FT

APPLIED REACTIONS

Moment (k-ft)	Axial (k)	Shear (k)
519.52	19.56	19.54

PLATE PARAMETERS (ID# 15519)

Width:	28	in
Shape:	Round	
Thickness:	1	in
Grade:	A572-60	
Yield Strength:	60	ksi
Tensile Strength:	75	ksi
Base Weld Size:	0.125	in
Orientation Offset:	-	°
Analysis Type:	Elastic	
Neutral Axis:	140	°



FLANGE BOLT PARAMETERS

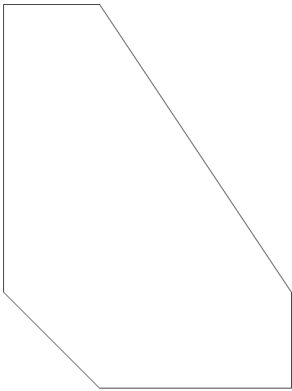
Class	Arrangement	Quantity	Diameter (in)	Circle (in)	Grade	F _y (ksi)	F _u (ksi)	Spacing (in)	Offset (°)
Original [ID#15888]	Radial	8	1	25.75	A325	92	120	-	-

DYWIDAG BAR PARAMETERS

Quantity	Bar Size	Bar Diameter (in)	F _y (ksi)	F _u (ksi)	Bracket Type	Bracket Offset (in)	Circle (in)	Offset (°)
4 [ID# 938]	#20	2.5	80	100	Angle	2.19	28.15	-

STIFFENER PARAMETERS

Arrangement:	Radial	
Quantity:	12	
Height:	4	in
Width:	3	in
Thickness:	0.5	in
Notch:	1	in
Grade:	A36	
Yield Strength:	36	ksi
Tensile Strength:	58	ksi
Horizontal Weld Type:	Fillet	
Horizontal Weld Fillet Size:	0.313	in
Vertical Weld Fillet Size:	0.188	in
Weld Strength:	70	ksi
Orientation Offset:	-	°



Component Properties						
Component	ID	Gross Area (in²)	Net Area (in²)	Individual Inertia (in⁴)	Moment of Inertia (in⁴)	Threads/in
Pole	21.268"Ø x 0.1875" (12 Sides)	12.2761	-	-	682.06	-
Bolt Group	Original (8) 1"Ø	0.7854	0.6057	0.0292	363.83	8.0
Dywidag Group	(4) #20	4.9087	4.9087	1.9175	1952.29	-
Stiffeners	(12) 4"H x 3"W x 0.5"T	1.0000	0.9000	4.5000	802.00	-

Reaction Distribution					
Component	ID	Moment M _u (k-ft)	Axial Load P _u (k)	Shear V _u (k)	Moment Factor
Pole	21.268"Ø x 0.1875" (12 Sides)	134.5	19.56	19.54	0.259
Bolt Group	Original (8) 1"Ø	134.5	-	19.54	0.259
Dywidag Group	(4) #20	385.0	-	-	0.741
Stiffeners	(12) 4"H x 3"W x 0.5"T	72.7	-	10.56	0.140

UPPER FLANGE PLATE BEND LINE ANALYSIS @ 110 FT

POLE PROPERTIES					PLATE PROPERTIES		
Flat-to-Flat Diameter:	21.39	in	Flat Width:	5.732	in	Neutral Axis:	140°
Point-to-Point Diameter:	22.15	in	Flat Radians:	0.524	rad	Bend Line Limits:	2.832 to 5.022 rad
Orientation Offset:	-	°					
Bend Line	Chord Length (in)	Additional Length (in)	Section Modulus (in³)	Applied Moment M _u (k-in)	Moment Capacity ΦM _n (k-in)	Flexure Result M _u /ΦM _n	
Flats	17.000	3.20	5.050	70.9	272.7	26.0%	✓
Corners	16.004	1.82	4.456	46.5	240.6	19.3%	✓
Circumferential	32.543	12.26	11.201	76.0	604.8	12.6%	✓

ELASTIC FLANGE BOLT ANALYSIS

Class	Group Quantity	Bolt Diameter (in)	Applied Axial Load P _u (k)	Applied Shear Load V _u (k)	Compressive Capacity ΦP _n (k)	Compressive Result	Interaction Result
Original	8	1	33.1	0.7	54.5	0.606	62.5% ✓

DYWIDAG BAR ANALYSIS

Group Quantity	Bar Size	Bar Circle (in)	Applied Axial Load P _u (k)	Compressive Capacity ΦP _n (k)	Compressive Result P _u / ΦP _n	
4	#20	28.15	128.9	368.2	35.0%	✓

UPPER FLANGE PLATE STIFFENER ANALYSIS

Quantity:	12	
Height:	4	in
Width:	3	in
Effective Width:	3.000	in
Thickness:	0.5	in
Notch:	1	in
Grade:	A36	
Yield Strength:	36	ksi
Tensile Strength:	58	ksi
Horizontal Weld Type:	Fillet	
Horizontal Weld Fillet Size:	0.313	in
Horizontal Weld Bevel Size:		in
Vertical Weld Fillet Size:	0.188	in
Weld Strength:	70	ksi
Electrode Coefficient:	1.000	

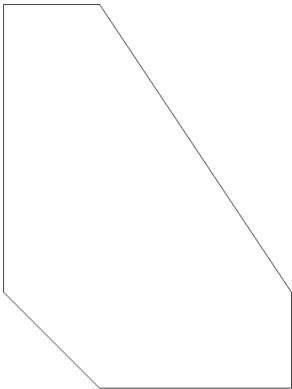


PLATE COMPRESSION

Radius of Gyration:	0.144	in ³
kl/r:	16.63	
4.71 √(E/F _y):	133.68	
Buckling Stress, F _e :	1035.22	ksi
Crit. Buckling Stress, F _{cr} :	907.89	ksi
Applied Compression, P _u :	12.06	k
Compressive Capacity, ΦP:	817.10	k
Compressive Result, P _u /ΦP _n :	0.7%	✓

PLATE TENSION

Gross Cross Section:	1.0000	in ²
Net Cross Section:	0.9000	in ²
Applied Tension, T _u :	11.60	k
Tensile Capacity, ΦT _n :	32.40	k
Tension Result, T _u /ΦT _n :	17.9%	✓

VERTICAL WELD TO POLE

Vertical Eccentricity Ratio, a=e _x /l:	0.250	
Spacing Ratio, k:	0.125	
Weld Coefficient, C:	3.310	
Applied Compression, P _u :	12.06	k
Compressive Capacity, ΦP _n :	29.87	k
Horizontal Eccentricity Ratio, a=e _x /l:	0.333	
Weld Coefficient, C:	2.970	
Applied Shear, V _u :	0.12	k
Shear Capacity, ΦV _n :	26.80	k
Weld Result, P _u /ΦP _n + V _u /ΦV _n :	40.8%	✓

HORIZONTAL WELD TO PLATE

Horizontal Eccentricity Ratio, a=e _x /l:	0.167	
Spacing Ratio, k:	0.167	
Weld Coefficient, C:	3.940	
Effective Fillet Size:	0.313	in
Applied Compression, P _u :	12.06	k
Compressive Capacity, ΦP _n :	44.40	k
Vertical Eccentricity Ratio, a=e _x /l:	0.222	
Weld Coefficient, C:	3.510	
Applied Shear, V _u :	0.12	k
Shear Capacity, ΦV _n :	39.55	k
Weld Result, P _u /ΦP _n + V _u /ΦV _n :	27.5%	✓

Site Name: ENFD - ENFIELD
Site Number: 302489
Tower Type: MP
Design Loads (Factored) - Analysis per TIA-222-H Standards

Monolithic Mat & Pier Foundation Analysis

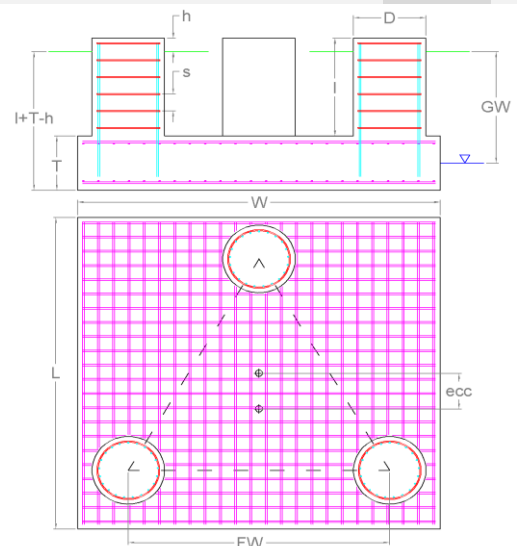
Foundation Analysis Parameters		
Design / Analysis / Mapping:	Analysis	-
Compression/Leg:	63.6	k
Uplift/Leg:	0.0	k
Global Shear:	34.4	k
Global Moment:	3,568.2	k-ft
Global Axial:	63.6	k
Depth to Base of Foundation (l + t - h):	7.917	ft
Diameter of Pier (d):	5	ft
Length of Pier (l):	4.917	ft
Height of Pier above Ground (h):	0	ft
Width of Pad (W):	18	ft
Length of Pad (L):	18	ft
Thickness of Pad (t):	3	ft
Tower Leg Center to Center:	0	ft
Number of Tower Legs:	1	-
Tower Center from Mat Center:	0	ft
Depth Below Ground Surface to Water Table:	99	ft
Unit Weight of Concrete:	150	pcf
Unit Weight of Soil Above Water Table:	115	pcf
Unit Weight of Water:	62.4	pcf
Unit Weight of Soil Below Water Table:	52.6	pcf
Friction Angle of Uplift:	15	°
Coefficient of Shear Friction:	0.30	-
Ultimate Compressive Bearing Pressure (Gross):	11,313	psf
Ultimate Passive Pressure on Pad Face:	738	psf
$f_{\text{Soil and Concrete Weight}}$:	1.2	-
f_{Soil} :	0.75	-
Pier Shape:	Square	

Foundation Steel Parameters		
Shear/Leg (Compression):	34.4	k
Shear/Leg (Uplift):	34.4	k
Concrete Strength (f'_c):	3,000	psi
Pad Tension Steel Depth:	31.75	in
Dead Load Factor:	0.9	-
f_{Shear} :	0.75	-
$f_{\text{Flexure / Tension}}$:	0.9	-
$f_{\text{Compression}}$:	0.65	-
b:	0.85	-
Bottom Pad Rebar Size #:	10	-
# of Bottom Pad Rebar:	34	-
Pad Bottom Steel Area:	43.18	in ²
Pad Steel F_y :	60,000	psi
Top Pad Rebar Size #:	10	-
# of Top Pad Rebar:	34	-
Pad Top Steel Area:	43.18	in ²
Pier Rebar Size #:	11	-
Pier Steel Area (Single Bar):	1.56	in ²
# of Pier Rebar:	52	-
Pier Steel F_y :	60,000	psi
Pier Cage Diameter:	51.6	in
Rebar Strain Limit:	0.008	-
Steel Elastic Modulus:	29,000	ksi
Tie Rebar Size #:	4	-
Tie Steel Area (Single Bar):	0.20	in ²
Tie Spacing:	12	in
Tie Steel F_y :	60,000	psi
Clear Cover:	3	in

Overturning Moment Usage		
Design OTM:	3840.5	k-ft
OTM Resistance:	4719.5	k-ft
Design OTM / OTM Resistance:	81.4%	Pass

Soil Bearing Pressure Usage		
Net Bearing Pressure:	6414	psf
Factored Nominal Bearing Pressure:	8485	psf
Factored Nominal (Net) Bearing Pressure:	75.6%	Pass
Load Direction Controlling Design Bearing Pressure:	Diagonal to Pad Edge	

Sliding Factor of Safety		
Ultimate Friction Resistance:	101.5	k
Ultimate Passive Pressure Resistance:	39.8	k
Total Factored Sliding Resistance:	76.1	k
Sliding Design / Sliding Resistance:	45.2%	Pass



Pad Strength Capacity			
Factored One Way Shear (V_u):	316.4	k	ACI 318-14 25.5.5.1
One Way Shear Capacity (ϕV_c):	474.7	k	
$V_u / \phi V_c$:	67%	Pass	
Load Direction Controlling Shear Capacity:	Diagonal to Pad Edge		
Lower Steel Pad Factored Moment (M_u):	1965.6	k-ft	ACI 318-14 22.3.1.1
Lower Steel Pad Moment Capacity (ϕM_n):	5780.9	k-ft	
$M_u / \phi M_n$:	34%	Pass	
Load Direction Controlling Flexural Capacity:	Parallel to Pad Edge		
Upper Steel Pad Factored Moment (M_u):	386.1	k-ft	
Upper Steel Pad Moment Capacity (ϕM_n):	5780.9	k-ft	
$M_u / \phi M_n$:	7%	Pass	
Lower Pad Flexural Reinforcement Ratio:	0.0063		
Upper Pad Flexural Reinforcement Ratio:	0.0063		OK - ACI 318-14 7.6.1.1 & 8.6.1.1
Pad Shrinkage Reinforcement Ratio:	0.0126		OK - ACI 318-14 24.4.3.2
Lower Pad Reinforcement Spacing:	6.3	in	OK - ACI 318-14 7.7.2.3, 8.7.2.2, & 24.4.3.3
Upper Pad Reinforcement Spacing:	6.3	in	OK - ACI 318-14 7.7.2.3, 8.7.2.2, & 24.4.3.3
Ultimate Punching Shear Stress, v_u :	55.80	psi	ACI 318-14 R8.4.4.2.3
Nominal Punching Shear Capacity (ϕV_c):	164.3	psi	ACI 318-14 22.6.5.2
$v_u / \phi V_c$:	34%	Pass	
Pier Moment Pad Flexure Transfer Ratio, ν_f :	0.60		TIA-222-H 9.4.2
Moment Transfer Effective Flexural Width, B_{eff} :	14.00	ft	TIA-222-H 9.4.2
Neutral Axis Depth:	4.89	ft	
Moment Transfer Flexural Capacity ($\phi M_{sc,f}$):	55918.16	k-in	
$g_f M_{sc} / \phi M_{sc,f}$:	0%	Pass	

Pier Strength Capacity			
Factored Moment in Pier (M_u):	3737.3	k-ft	
Pier Moment Capacity (ϕM_n):	9214.4	k-ft	
$M_u / \phi M_n$:	41%	Pass	
Factored Shear in Pier (V_u):	34.4	k	ACI 318-14 22.5.1.1
Pier Shear Capacity (ϕV_n):	370.4	k	
$V_u / \phi V_c$:	9%	Pass	
Pier Shear Reinforcement Ratio:	0.0007		OK - No Ties Necessary for Shear - ACI11.5.6.1
Factored Tension in Pier (T_u):	0.0	k	
Pier Tension Capacity (ϕT_n):	4380.5	k	
$T_u / \phi T_n$:	0%	Pass	
Factored Compression in Pier (P_u):	63.6	k	ACI 318-14 22.4.2.1
Pier Compression Capacity (ϕP_n):	3690.3	k	
$P_u / \phi P_n$:	2%	Pass	
Pier Compression Reinforcement Ratio:	0.029		OK - TIA-222-H 9.4.1
Minimum Depth to Develop Vertical Rebar:	63	in	ACI 318-14 25.4.2.3
Minimum Hook Development Length:	31	in	ACI 318-14 25.4.3.1
Minimum Mat Thickness / Edge Distance from Pier:	34.0	in	
Minimum Foundation Depth:	8.85	ft	
$M_u / \phi M_n + T_u / \phi T_n$:	41%	Pass	



AMERICAN TOWER®
C O R P O R A T I O N

This report was prepared for American Tower Corporation by



Antenna Mount Analysis Report

Mount Type : 12.5 ft Platform
ATC Site Name : Enfd - Enfield
ATC Site Number : 302489
Engineering Number : 14878510_C8_01
Mount Elevation : 151.5 ft
Carrier : AT&T Mobility
Carrier Site Name : Enfield-Town Farm RD
Carrier Site Number : WSCTB0029186
Site Location : 77 Town Farm Road
Enfield, CT 06082-5152
41.9659, -72.5527

County : Hartford
Date : October 2, 2024
Max Usage : 63%
Result : Contingent Pass

Prepared By:

Sean D. Jones, P.E.

TEP No. 68085.1001204

Reviewed By:



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Calculations.....	Attached



Introduction

The purpose of this report is to summarize results of the antenna mount analysis performed for AT&T Mobility at 151.5 ft.

Supporting Documents

Spec. Sheet	Spec Sheet for Site Pro 1 RMQP
Mount Analysis	ATC, Engineering Number: 13753208_C8_04, dated September 22, 2022
RFDS	RFDS ID: 4817694, dated April 15, 2024
Photos	Site photos from 2024
Site Specific Study	ICE Report for Site 302489, dated April 24, 2019

Analysis

This antenna mount was analyzed using RISA-3D v22 analysis software.

Basic Wind Speed:	125 mph (3-second gust)
Basic Wind Speed w/ Ice:	77 mph (3-second gust) w/ 1.65" radial ice concurrent
Codes:	ANSI/TIA-222-H / 2021 IBC / 2022 Connecticut Building Code
Risk Category:	II
Exposure Category:	B
Topographic Procedure:	Method 2
Topographic Feature:	Flat
Crest Height:	0 ft
Crest Length:	0 ft
Spectral Response:	$S_s = 0.174$, $S_1 = 0.055$
Site Class:	D - Default
Live Loads:	$L_m = 500 \text{ lbs}^*$, $L_v = 250 \text{ lbs}^*$

*Live Load(s) reduction is confirmed to either not govern or not be applicable

*Ice thickness and wind pressures have been determined per the site-specific climatic study in accordance with ASCE 7-16 Section 10.1.1, IBC Section 1614, and TIA-222-H Section 2.6.4.1



Conclusion

Based on the analysis results, the antenna mount meets the requirements per the applicable codes listed above provided the modifications listed below are completed:

- Relocate existing mount pipes along face to achieve AT&T's 12-ft face, 4-position configuration.
- Install (6) SitePro P2120 2.0SCH40 x 10'-0" Mount Pipes (CONMAT # ANT.55993) to the support horizontals to accommodate the proposed radio installation. Utilize (3) SitePro BBPM-K3 Back-to-Back Pipe Mount Kits (CONMAT # ANT.56902).
- Kicker kit connection is to be relocated along the support horizontal members to make room for the proposed radio mount pipes.

No structural failures were addressed with the noted contingencies. Contingencies address Carrier's antenna spacing requirements.

If you have any questions or require additional information, please reach out to your American Tower contact. If you do not have an American Tower contact and have an Engineering question, please contact MountAnalysis@americantower.com. Please include the American Tower site name, site number, and engineering number in the subject line for any questions.

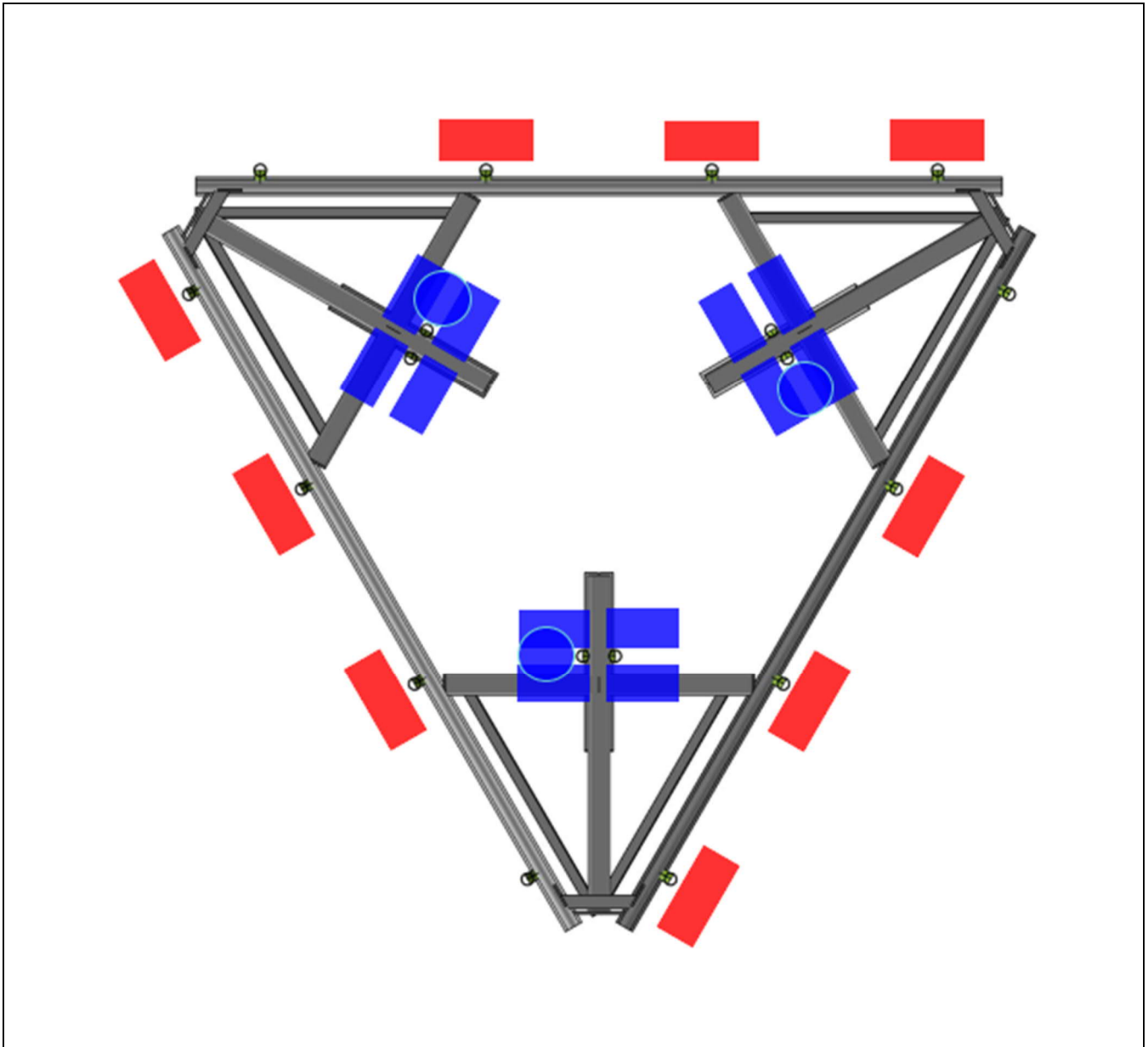
Antenna Loading

Mount Centerline (ft)	Antenna Centerline (ft)	Qty	Antenna Model
151.5	151.0	3	Ericsson AIR 6472 B77G B77M (67.2lbs)
		3	CCI TPA65R-BU8D (87.5lbs)
		3	CCI DMP65R-BU8D
		2	Raycap DC6-48-60-18-8F ("Squid")
		1	Raycap DC9-48-60-24-8C-EV (Enclosure)
		3	Ericsson Radio 4494 44B14 20B29 M01
		3	Ericsson RRUS 4890
		3	Ericsson RRUS 4490
		3	Ericsson RRUS 32 B30

Structure Usages

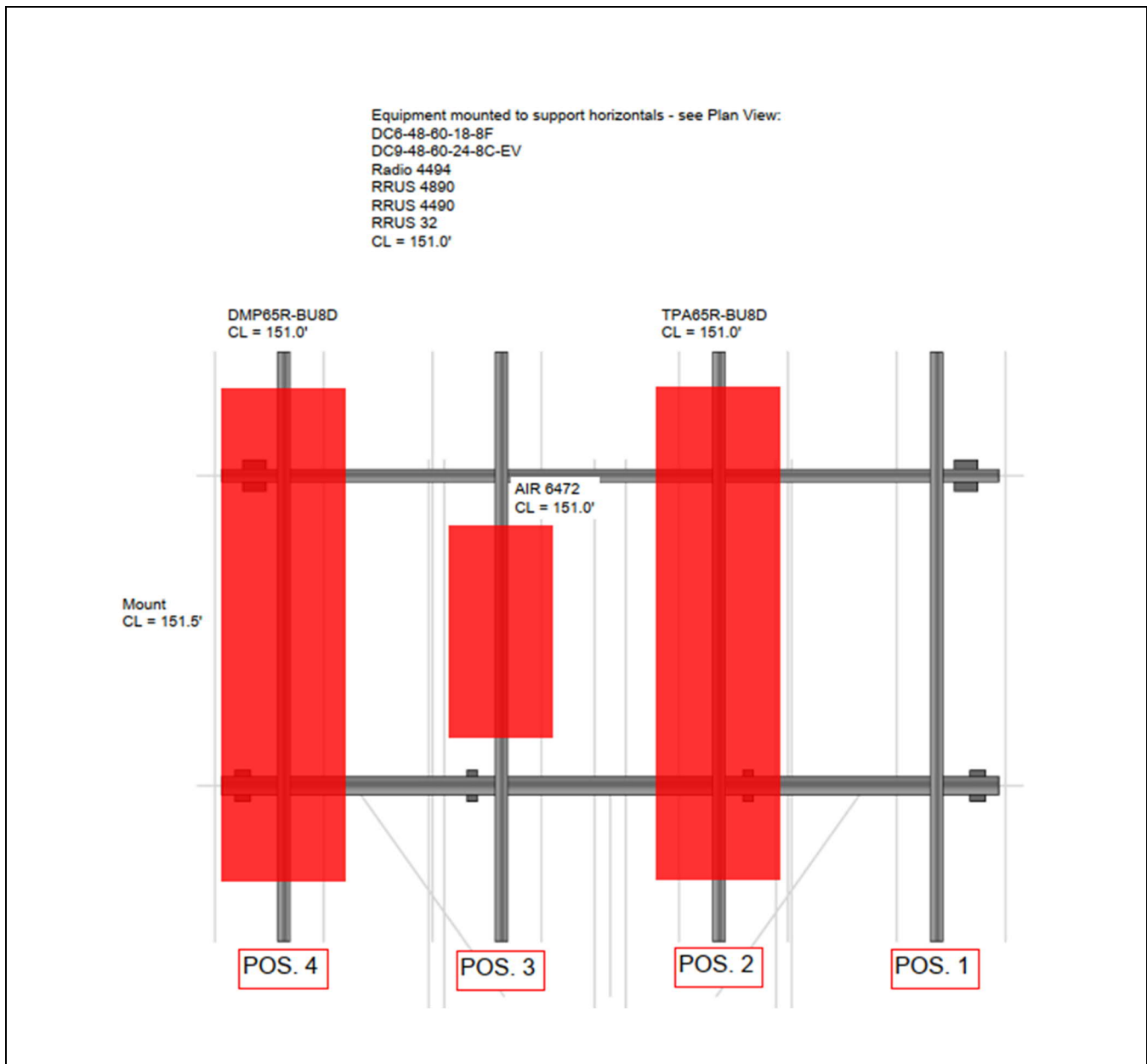
Structural Component	Controlling Usage	Pass/Fail
Horizontals	60%	Pass
Mount Pipes	63%	Pass
Support Rails	59%	Pass
Mod Kits	15%	Pass
Mount-to-Tower Connections	35%	Pass
Mount-to-Tower Interaction	14%	Pass

Mount Layout





Equipment Layout





Standard Conditions

All engineering services performed by TEP 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 TEP

It is the responsibility of the client to ensure that the information provided to TEP and used in the performance of our engineering services is correct and complete.

TEP assumes that all structures were constructed in accordance with the drawings and specifications.

TEP assumes that the mount has been maintained in accordance with the manufacturer's specification.

TEP assumes that all mount components are in sufficient condition to carry their full design capacity for this analysis.

Serviceability with respect to antenna twist, tilt, roll, or lateral translation, is not checked and is left to the carrier or tower owner to ensure conformance.

All material grades used for this analysis, unless verified by mount manufacturer design, were assumed per AISC Table 2-4, 15th Edition. See RISA 3-D output for confirmation on grades used in this analysis.

All connections are to be verified for condition and tightness by the installation contractor preceding any changes to the appurtenance mounting system and/or equipment attached to it.

Installation of all equipment and steel should be confirmed not to cause tower conflicts nor impede the tower climbing pegs.

Unless explicitly agreed by both the client and TEP, 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. TEP is not responsible for the conclusions, opinions and recommendations made by others based on the information supplied herein.



Site Number: 302489
 Project Number: 14878510_C8_01
 Carrier: AT&T Mobility
 Mount Elevation: 151.5
 Date: 10/2/2024

Monopole Connection Capacity Check

Applied Loads from RISA 3D

Controlling Load Combination		42	
Node Label / Orientation (Degrees)		SA-2	270
Force in X	F _x	-1762.7	lbs
Force in Y	F _y	1604.5	lbs
Force in Z	F _z	23.3	lbs
Moment about X	M _x	-9.4	lb-ft
Moment about Y	M _y	15.8	lb-ft
Moment about Z	M _z	-1001.2	lb-ft

Monopole Properties

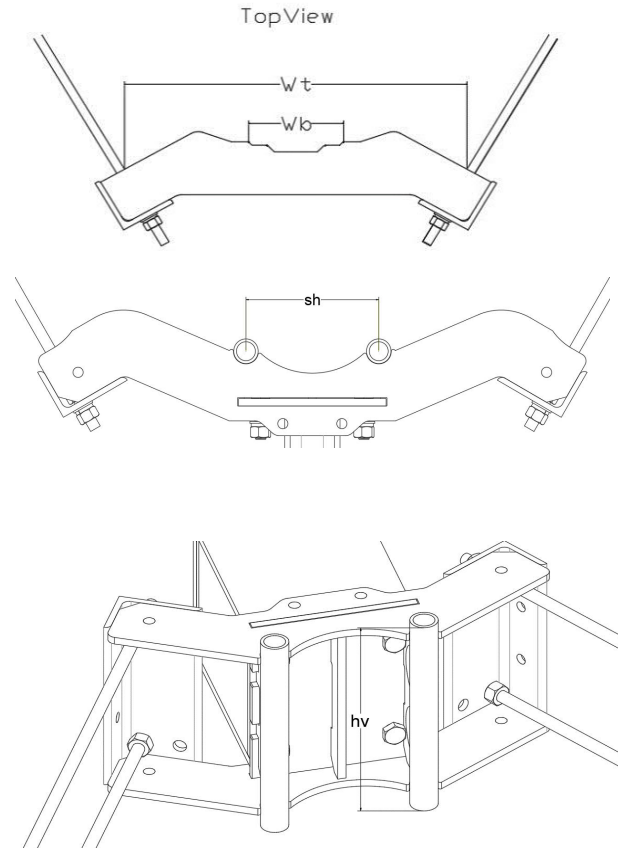
Monopole Yield Strength	F _y	65	ksi
Pole Thickness	t	0.188	in
Pole Diameter	D	15.00	in
Pole D/t Ratio	D/t	79.787234	

Collar Properties

Collar		LWRM	
Collar Type		Tri	
Bearing Zone Type		Horizontal	
Bearing Point Width	B _p / S _h / W _b	4.00	in
Threaded Rod Width	W _t	24	in
Collar Height	h _v	9.5	in
Aspect Ratio	AR	0.42	
	C _v	1.625	
Applied Force	R _u	1.96	k
Collar / Shaft Capacity	φR _n	14.5	k
Utilization Ratio	R _u /φR _n	14%	Pass

Threaded Rod Properties

Quantity	n	3	
Rod Diameter	D _B	5/8	in
Vertical Rod 1 Spacing	S ₁	7	in
Vertical Rod 2 Spacing	S ₂	4 3/4	in
Vertical Rod 3 Spacing	S ₃	2 1/2	in
Rod Grade		J429-2	
Rod F _y	F _{yB}	57	ksi
Rod F _u	F _{uB}	74	ksi
Max Applied Tension	T _u	0.64	k
Tensile Strength	φT _n	12.5	k
Utilization Ratio	T _u /φT _n	5%	Pass





Site Number:	302489
Project Number:	14878510_C8_01
Carrier:	AT&T Mobility
Mount Elevation:	151.5
Date:	10/2/2024

Mount-to-Tower Connection Analysis

Applied Loads from RISA 3D

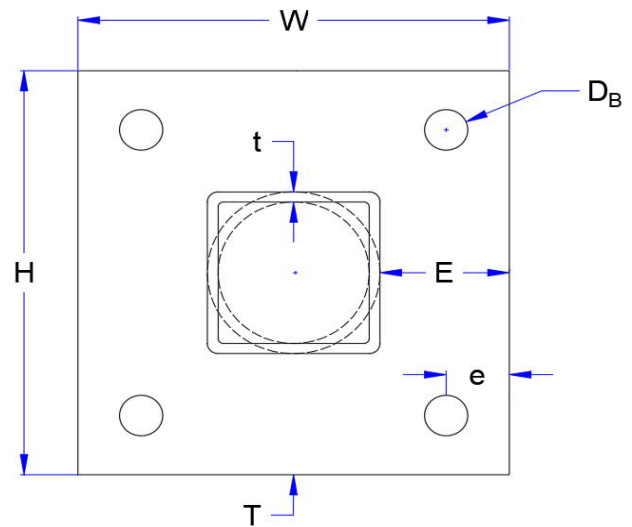
Controlling Load Combination & Orientation		28	150
Node Label		SA-3	
Force in X	F _x	-1087.9	lbs
Force in Y	F _y	592.9	lbs
Force in Z	F _z	-1395.6	lbs
Moment about X	M _x	-312.2	lb-ft
Moment about Y	M _y	1994.8	lb-ft
Moment about Z	M _z	1348.1	lb-ft

Bolt Shear and Tensile Capacity

Bolt Quantity	n	4	
Bolt Diameter	D _B	5/8	in
Bolt Horz. Edge Distance	e _h	1	in
Bolt Vert. Edge Distance	e _v	1	in
Bolt Grade		A325	
Bolt F _y	F _{yB}	92	ksi
Bolt F _u	F _{uB}	120	ksi
Applied Shear	V _u	0.20	k
Applied Tension	T _u	2.49	k
Tensile Strength	φT _n	20.3	k
Shear Strength	φV _n	13.8	k
Interaction Capacity	(V _u /φV _n) ² + (T _u /φT _n) ²	12%	Pass

Plate Flexural Capacity

Plate Height	H	8	in
Plate Width	W	8	in
Plate Thickness	T	3/4	in
Plate Grade		A36	
Plate F _y	F _{yP}	36	ksi
Plate F _u	F _{uP}	58	ksi
Shear Capacity	φV _n	53.8	k
Applied Moment	M _u	3.1	k-in
Flexural Strength	φM _n	15.7	k-in
Flexural Capacity	M _u /φM _n	20%	Pass



Weld Capacity

Standoff Type		Tube	
Standoff Member		HSS4x4x4	
Member Edge Distance	E	2	in
Member Height	h	4	in
Member Width	w	4	in
Member Thickness	t	0.250	in
Member Grade		A53 Gr. B	
Member Fy	Fy _M	35	ksi
Member Fu	Fu _M	60	ksi
Weld Size	a	3/16	in
Weld Section Modulus	S	2.5	in ³
Applied Weld Stress	σ _u	11.0	ksi
Capacity Weld Stress	φσ _n	31.5	ksi
Weld Capacity	σ _u /φσ _n	35%	Pass
Minimum Base Metal Thickness		0.155	in
Controlling Base Metal Thickness		0.250	in
Base Metal Result		Acceptable	

Prying Action Considerations

Moment Arm	b	1.24	in
Effective Moment Arm	b'	0.92	in
Tributary Length	p	3.44	in
Effective Edge Distance	a'	1.31	in
Minimum Thickness	t _{min}	0.17	in
No Prying Thickness	t _{np}	0.23	in
Min Bolt Strength Thickness	t _c	0.65	k-in
Prying Action Bolt Tension	T _{up}	0.00	k



Enfd - Enfield (302489)

TEP No. 68085.1001204

Analysis By: GK 10/2/2024

Checked By: RAL 10/2/2024

Code Revisions:	TIA-222-H	IBC 2021
Tower Type:	Monopole	

Wind Inputs:

Ult. Wind Velocity:	125	mph
Live Load Velocity:	30	mph
Ice Wind Velocity:	77	mph
Base Ice Thickness:	1.65	inches
Mount Centerline:	151.5	ft
Antenna Centerline:	151.0	ft
Exposure Category:	B	
Topo Category:	1	
Risk Category:	II	
Ground Elevation:	158	ft

Wind Calculations:

K_{zt} :	1.000	Section 2.6.6
K_d :	0.950	
$K_{z-Mount}$:	1.113	Section 2.6.5.2
$K_{z-Antenna}$:	1.112	Section 2.6.5.2
K_{iz} :	1.164	Section 2.6.10
Ice Thickness:	1.921	inches - Section 2.6.10
K_e :	0.994	Table 2-6

Without Ice - (psf)	With Ice - (psf)
$(q_z G_h)_{Mount}$: 42.04	$(q_z G_h)_{Mount}$: 15.95
$(q_z G_h)_{Antenna}$: 42.00	$(q_z G_h)_{Antenna}$: 15.94

Seismic Code Revisions:	TIA-222-H
Seismic Risk Category:	II

Seismic Input

S_{DS} :	0.186	Design Short Period Spectral Accel.
I_p :	1.0	Importance Factor
R_p :	2.0	Response Modification Factor
ρ :	1.0	
A_s :	1.0	Applification Factor - TIA-222-H Section 2.7.8.1
S_1 :	0.055	Spectral Acceleration at a Period of 1 Second

Seismic Design Force TIA-H Sec 2.7.7.1.1

Cs: 0.093 kips/kip TIA-H Sec 2.7.7.1.1

Cs-min: 0.030 kips/kip



Enfd - Enfield (302489)
TEP No. 68085.1001204
Analysis By: GK 10/2/2024
Checked By: RAL 10/2/2024

Antenna Loads are Calculated in Accordance with TIA-222-H

Azimuth is the absolute angle measured clockwise from RISA-3D global X-axis.

										Distance from start node of the member		
MFR	Model	Height (in)	Width (in)	Depth (in)	Wt. (lbs)	Azimuth°	Qty	Shape	Member Label	Location #1 (ft,%)	Location #2 (ft,%)	Location #3 (ft,%)
CCI ANTENNAS	TPA65R-BU8DA-K	96.00	20.70	7.70	87.50	0.00	1	Flat	MP-2	1.00	8.00	
ERICSSON	AIR 6472 B77G B77M	36.30	15.80	7.40	67.20	0.00	1	Flat	MP-3	3.50	5.50	
CCI ANTENNAS	DMP65R-BU8D	96.00	20.70	7.70	95.70	0.00	1	Flat	MP-4	1.00	8.00	
ERICSSON	Radio 4494 44B14 20B29 M01	17.50	15.10	5.60	57.30	300.00	1	Flat	RRU-1	2.00		
ERICSSON	4890 B25/B66	20.60	15.70	7.20	69.50	300.00	1	Flat	RRU-1	2.00		
ERICSSON	4490 B5/B12	20.60	15.70	7.00	68.40	60.00	1	Flat	RRU-2	2.00		
ERICSSON	RRUS-32 B30	27.20	12.10	7.00	60.00	60.00	1	Flat	RRU-2	2.00		
RAYCAP	DC6-48-60-18-8F	24.00	11.00	11.00	18.90	0.00	1	Round	RRU-1	1.00		
CCI ANTENNAS	TPA65R-BU8DA-K	96.00	20.70	7.70	87.50	120.00	1	Flat	MP-6	1.00	8.00	
ERICSSON	AIR 6472 B77G B77M	36.30	15.80	7.40	67.20	120.00	1	Flat	MP-7	3.50	5.50	
CCI ANTENNAS	DMP65R-BU8D	96.00	20.70	7.70	95.70	120.00	1	Flat	MP-8	1.00	8.00	
ERICSSON	Radio 4494 44B14 20B29 M01	17.50	15.10	5.60	57.30	60.00	1	Flat	RRU-3	2.00		
ERICSSON	4890 B25/B66	20.60	15.70	7.20	69.50	60.00	1	Flat	RRU-3	2.00		
ERICSSON	4490 B5/B12	20.60	15.70	7.00	68.40	180.00	1	Flat	RRU-4	2.00		
ERICSSON	RRUS-32 B30	27.20	12.10	7.00	60.00	180.00	1	Flat	RRU-4	2.00		
RAYCAP	DC6-48-60-18-8F	24.00	11.00	11.00	18.90	0.00	1	Round	RRU-3	1.00		
CCI ANTENNAS	TPA65R-BU8DA-K	96.00	20.70	7.70	87.50	240.00	1	Flat	MP-10	1.00	8.00	
ERICSSON	AIR 6472 B77G B77M	36.30	15.80	7.40	67.20	240.00	1	Flat	MP-11	3.50	5.50	
CCI ANTENNAS	DMP65R-BU8D	96.00	20.70	7.70	95.70	240.00	1	Flat	MP-12	1.00	8.00	
ERICSSON	Radio 4494 44B14 20B29 M01	17.50	15.10	5.60	57.30	180.00	1	Flat	RRU-5	2.00		
ERICSSON	4890 B25/B66	20.60	15.70	7.20	69.50	180.00	1	Flat	RRU-5	2.00		
ERICSSON	4490 B5/B12	20.60	15.70	7.00	68.40	300.00	1	Flat	RRU-6	2.00		
ERICSSON	RRUS-32 B30	27.20	12.10	7.00	60.00	300.00	1	Flat	RRU-6	2.00		
RAYCAP	C9-48-60-24-8C-EV ENCLOSURE ONLY	25.90	12.40	9.70	18.50	0.00	1	Flat	RRU-5	1.00		

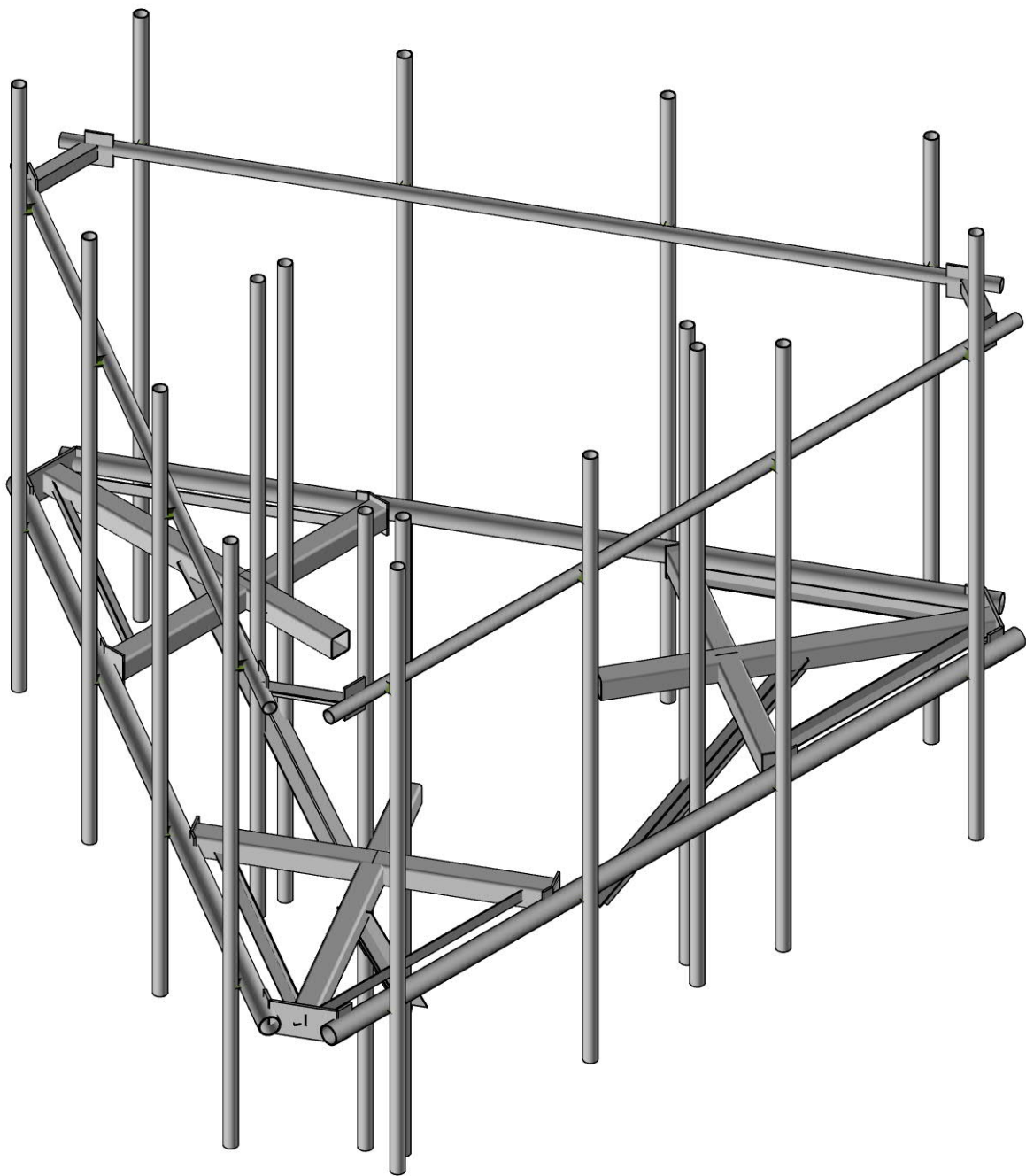


Enfd - Enfield (302489)
 TEP No. 68085.1001204
 Analysis By: GK 10/2/2024
 Checked By: RAL 10/2/2024

Member Forces are Calculated in Accordance with TIA-222-H

Member Name	Wind Proj. (in)	Length (in)	Shape	θ (°)	Perimeter (in)
CP1-1	6.000	3.00	Flat	90.00	13.00
CP1-2	6.000	10.71	Flat	30.00	13.00
CP1-3	6.000	3.00	Flat	-30.00	13.00
CP2-1	6.000	3.00	Flat	-30.00	13.00
CP2-2	6.000	10.71	Flat	90.00	13.00
CP2-3	6.000	3.00	Flat	30.00	13.00
CP3-1	6.000	3.00	Flat	30.00	13.00
CP3-2	6.000	10.71	Flat	-30.00	13.00
CP3-3	6.000	3.00	Flat	90.00	13.00
FF-TH	3.500	150.00	Round	90.00	11.00
SF1-TH	3.500	150.00	Round	-30.00	11.00
SF2-TH	3.500	150.00	Round	30.00	11.00
M93B	2.000	49.09	Flat	90.00	8.00
M96B	2.000	49.09	Flat	90.00	8.00
M93C	2.000	49.09	Flat	30.00	8.00
M94A	2.000	49.09	Flat	30.00	8.00
M95B	2.000	49.09	Flat	-30.00	8.00
M96C	2.000	49.09	Flat	-30.00	8.00
GSI-1A	4.000	28.75	Flat	30.00	16.00
GSI-1B	4.000	28.75	Flat	30.00	16.00
GSI-2A	4.000	28.75	Flat	90.00	16.00
GSI-2B	4.000	28.75	Flat	90.00	16.00
GSI-3A	4.000	28.75	Flat	-30.00	16.00
GSI-3B	4.000	28.75	Flat	-30.00	16.00
IP1-1	6.000	2.00	Flat	-89.90	12.75
IP1-2	6.000	4.01	Flat	-60.00	12.75
IP2-1	6.000	2.00	Flat	-30.10	12.75
IP2-2	6.000	4.01	Flat	-60.00	12.75
IP3-1	6.000	2.00	Flat	-29.90	12.75
IP3-2	6.000	4.01	Flat	0.00	12.75
IP4-1	6.000	2.00	Flat	29.90	12.75
IP4-2	6.000	4.01	Flat	0.00	12.75
IP5-1	6.000	2.00	Flat	30.10	12.75

IP5-2	6.000	4.01	Flat	60.00	12.75
IP6-1	6.000	2.00	Flat	89.90	12.75
IP6-2	6.000	4.01	Flat	60.00	12.75
MP-1	2.375	114.00	Round		7.46
MP-3	2.375	114.00	Round		7.46
MP-4	2.375	114.00	Round		7.46
RRU-5	2.375	120.00	Round		7.46
RRU-4	2.375	120.00	Round		7.46
MP-2	2.375	114.00	Round		7.46
MP-9	2.375	114.00	Round		7.46
MP-11	2.375	114.00	Round		7.46
MP-12	2.375	114.00	Round		7.46
MP-10	2.375	114.00	Round		7.46
MP-5	2.375	114.00	Round		7.46
MP-7	2.375	114.00	Round		7.46
MP-8	2.375	114.00	Round		7.46
MP-6	2.375	114.00	Round		7.46
RRU-3	2.375	120.00	Round		7.46
RRU-2	2.375	120.00	Round		7.46
RRU-1	2.375	120.00	Round		7.46
RRU-6	2.375	120.00	Round		7.46
SRC1	2.500	13.71	Flat	30.00	10.00
SRC2	2.500	13.71	Flat	90.00	10.00
SRC3	2.500	13.71	Flat	-30.00	10.00
SRCP1-1	6.000	4.50	Flat	90.00	12.75
SRCP1-2	6.000	4.50	Flat	-30.00	12.75
SRCP2-1	6.000	4.50	Flat	-30.00	12.75
SRCP2-2	6.000	4.50	Flat	30.00	12.75
SRCP3-1	6.000	4.50	Flat	30.00	12.75
SRCP3-2	6.000	4.50	Flat	90.00	12.75
SA-1	4.000	63.00	Flat	-60.00	16.00
SA-2	4.000	63.00	Flat	0.00	16.00
SA-3	4.000	63.00	Flat	60.00	16.00
SR-1	2.375	150.00	Round	90.00	7.46
SR-2	2.375	150.00	Round	-30.00	7.46
SR-3	2.375	150.00	Round	30.00	7.46
M118	5.000	52.42	Flat		15.00
M119	5.000	52.42	Flat		15.00
M120	5.000	52.42	Flat		15.00



Envelope Only Solution



TEP

GK

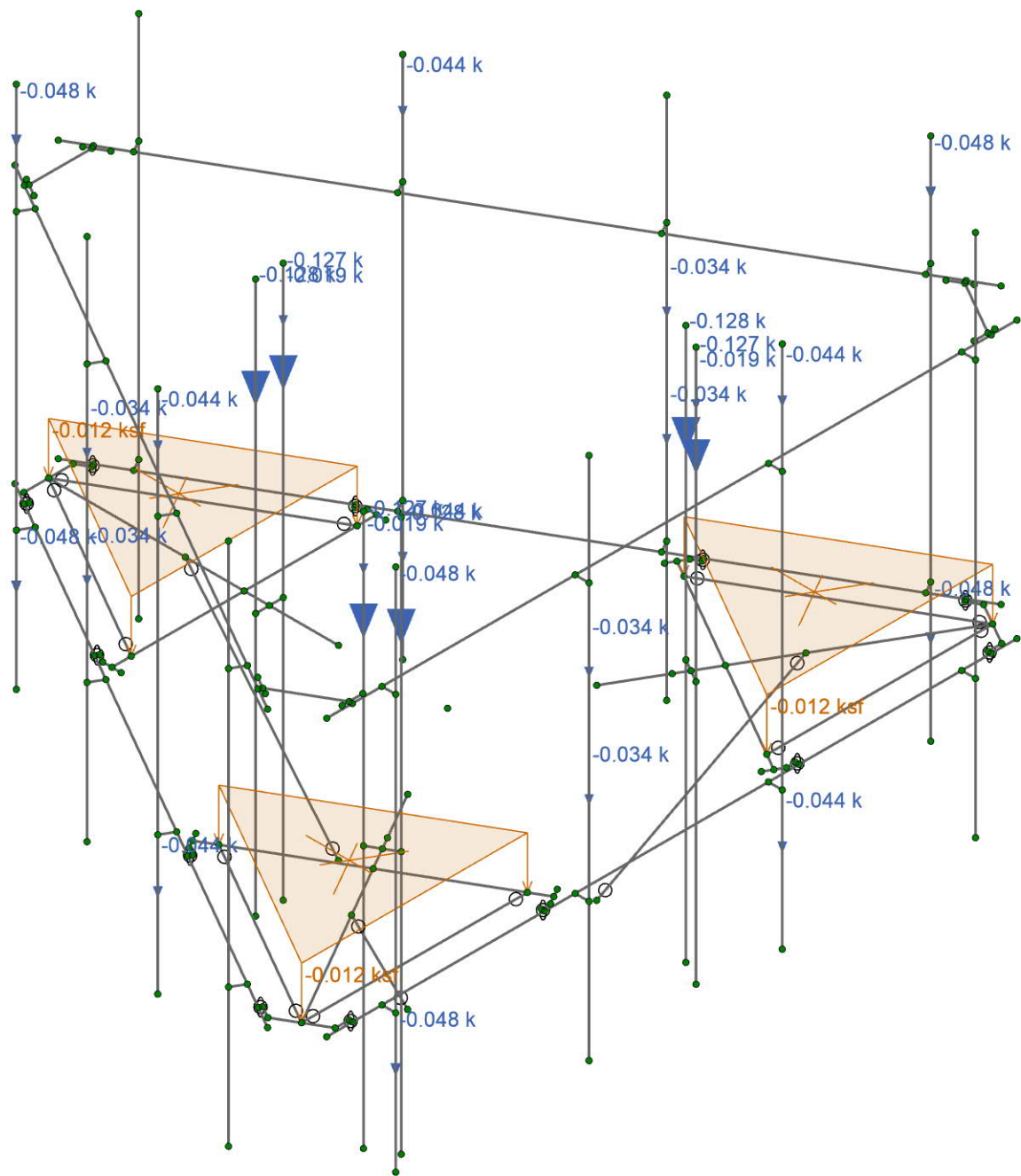
TEP No. 68085.1001204

Enfd - Enfield (302489)

SK-1

Oct 02, 2024 at 01:27 PM

PL-22 (12.5ft FW - ATC).r3d



Loads: BLC 1, Dead
Envelope Only Solution



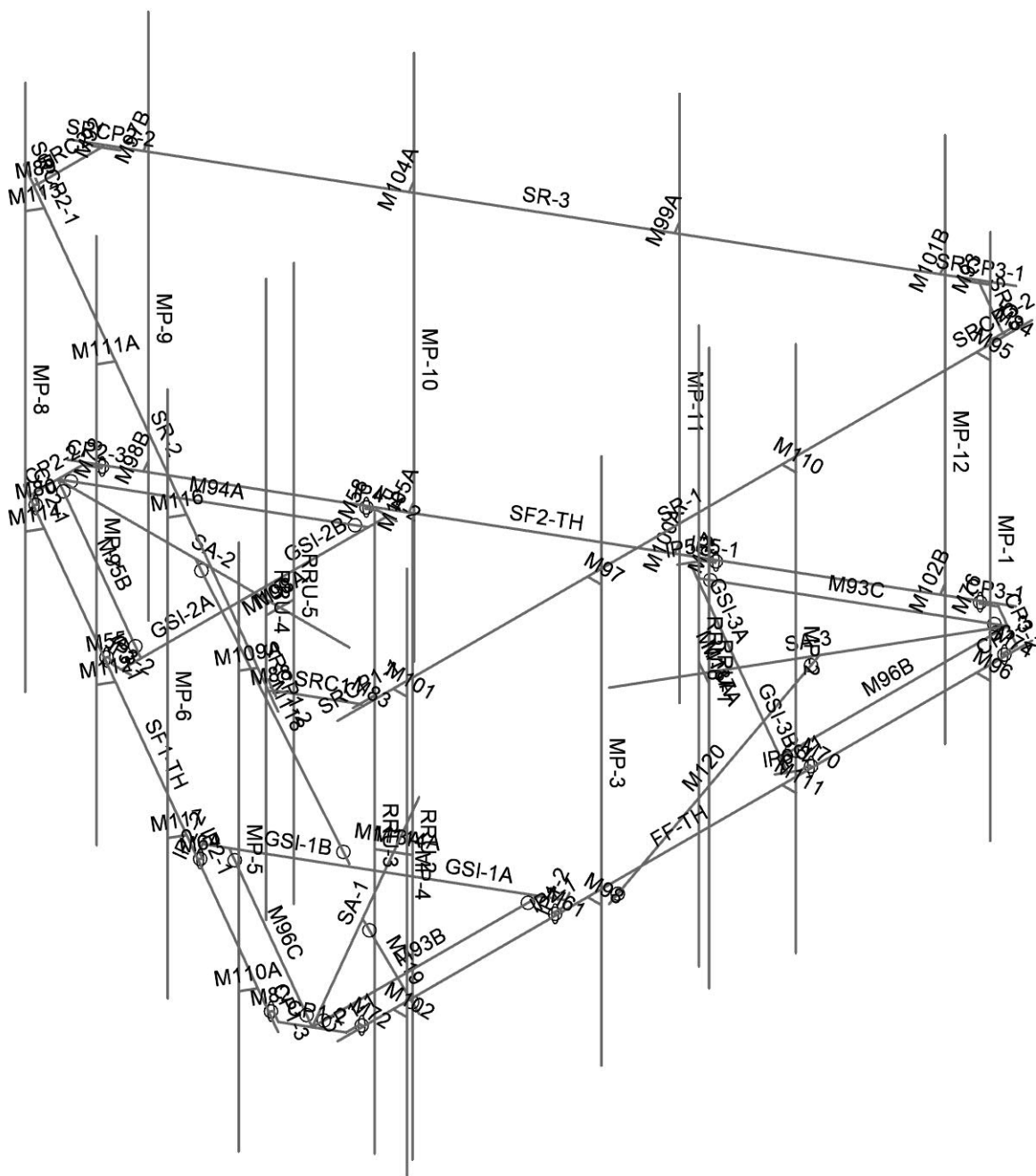
TEP
GK
TEP No. 68085.1001204

Enfd - Enfield (302489)

SK-2

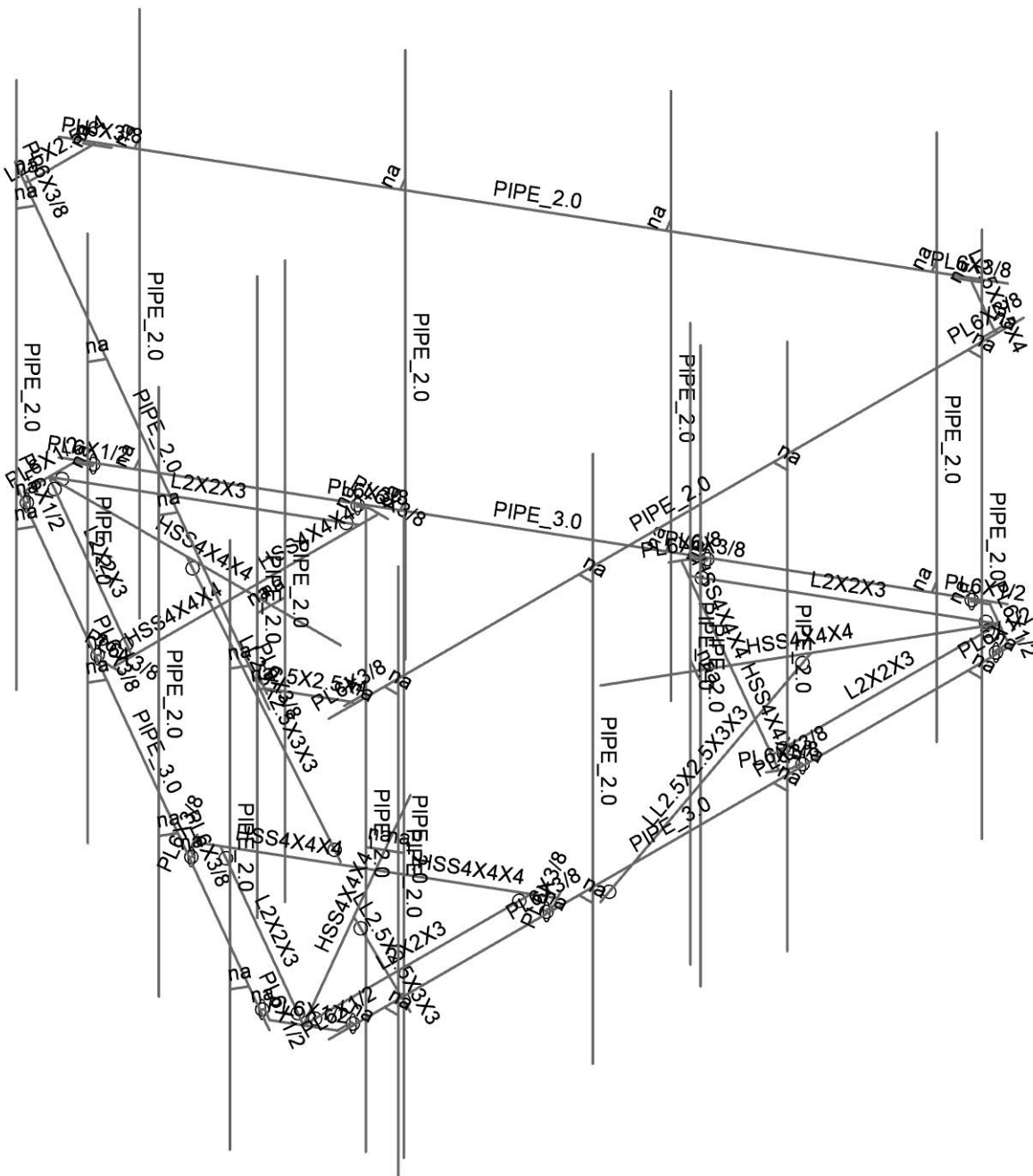
Oct 02, 2024 at 01:28 PM

PL-22 (12.5ft FW - ATC).r3d



TEP No. 68085.1001204

PL-22 (12.5ft FW - ATC).r3d



TEP

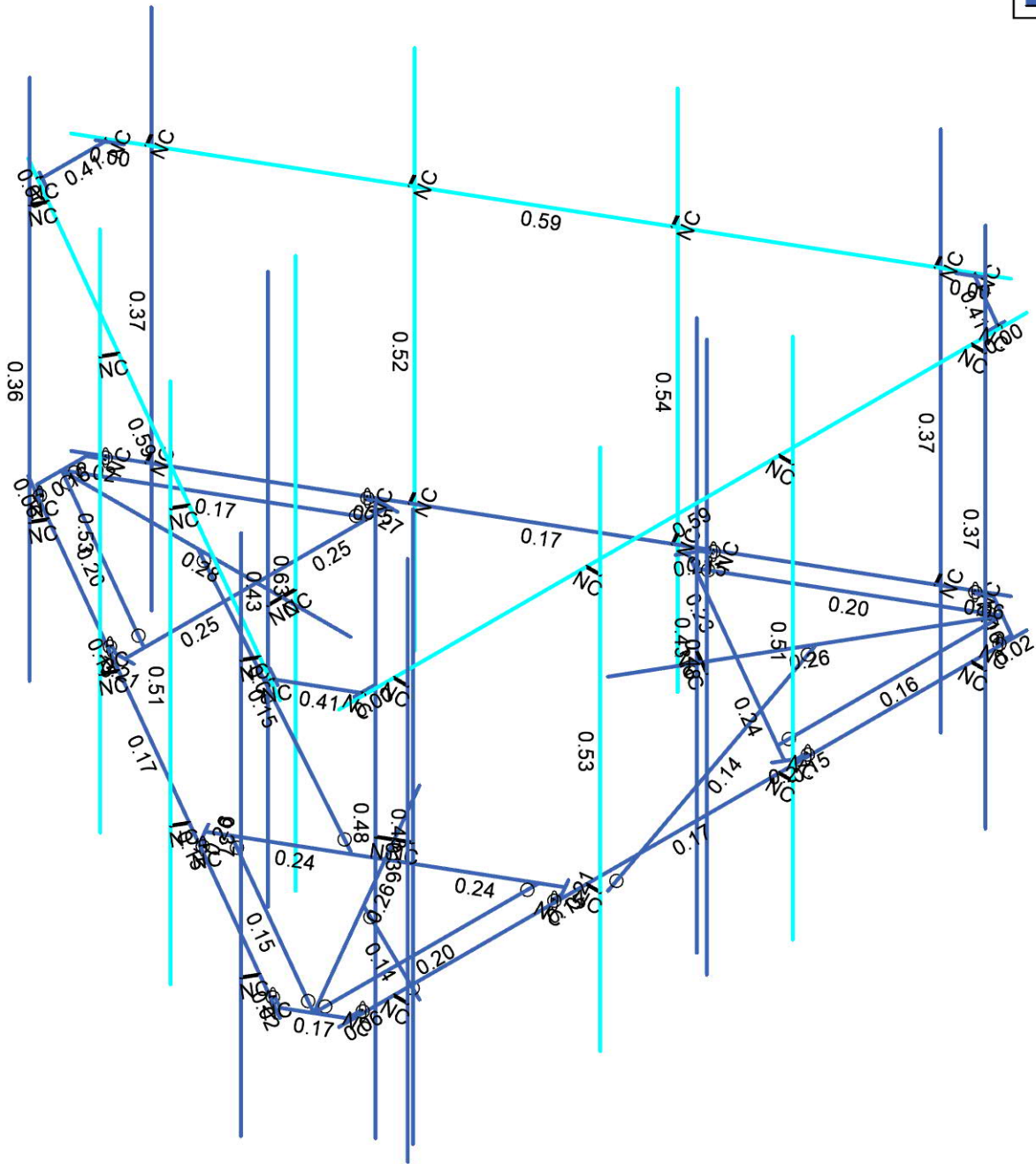
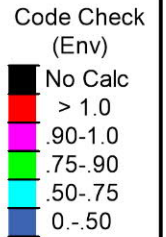
GK

Enfd - Enfield (302489)

SK-4

Oct 02, 2024 at 01:28 PM

PL-22 (12.5ft FW - ATC).r3d



Member Code Checks Displayed (Enveloped)
Envelope Only Solution



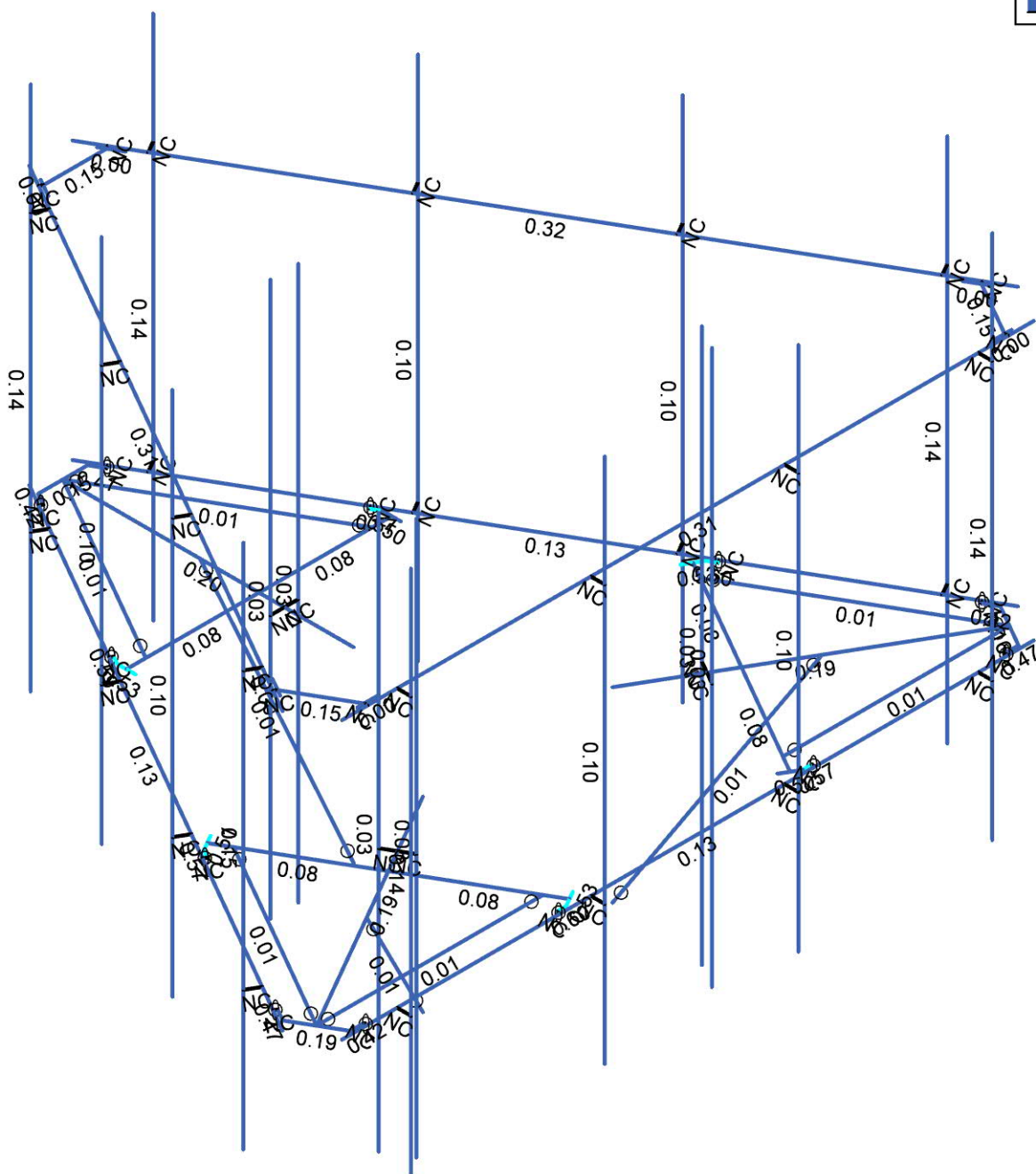
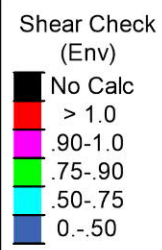
TEP
GK
TEP No. 68085.1001204

Enfd - Enfield (302489)

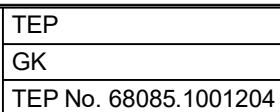
SK-5

Oct 02, 2024 at 01:28 PM

PL-22 (12.5ft FW - ATC).r3d



Member Shear Checks Displayed (Enveloped)
Envelope Only Solution



Enfd - Enfield (302489)

SK-6

Oct 02, 2024 at 01:28 PM

PL-22 (12.5ft FW - ATC).r3d



Company : TEP
Designer : GK
Job Number : TEP No. 68085.1001204
Model Name : Enfd - Enfield (302489)

10/2/2024
1:30:18 PM
Checked By : RAL

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Nodal	Point	Distributed	Area(Member)
1	Dead	None		-1			33		3
2	0 Wind - No Ice	None					33	72	
3	30 Wind - No Ice	None					66	144	
4	45 Wind - No Ice	None					66	144	
5	60 Wind - No Ice	None					66	144	
6	90 Wind - No Ice	None					33	72	
7	120 Wind - No Ice	None					66	144	
8	135 Wind - No Ice	None					66	144	
9	150 Wind - No Ice	None					66	144	
10	180 Wind - No Ice	None					33	72	
11	210 Wind - No Ice	None					66	144	
12	225 Wind - No Ice	None					66	144	
13	240 Wind - No Ice	None					66	144	
14	270 Wind - No Ice	None					33	72	
15	300 Wind - No Ice	None					66	144	
16	315 Wind - No Ice	None					66	144	
17	330 Wind - No Ice	None					66	144	
18	Ice Weight	None					33	72	3
19	0 Wind - Ice	None					33	72	
20	30 Wind - Ice	None					66	144	
21	45 Wind - Ice	None					66	144	
22	60 Wind - Ice	None					66	144	
23	90 Wind - Ice	None					33	72	
24	120 Wind - Ice	None					66	144	
25	135 Wind - Ice	None					66	144	
26	150 Wind - Ice	None					66	144	
27	180 Wind - Ice	None					33	72	
28	210 Wind - Ice	None					66	144	
29	225 Wind - Ice	None					66	144	
30	240 Wind - Ice	None					66	144	
31	270 Wind - Ice	None					33	72	
32	300 Wind - Ice	None					66	144	
33	315 Wind - Ice	None					66	144	
34	330 Wind - Ice	None					66	144	
35	Lm	None				1			
36	Lv	None				1			
37	Seismic Load X	ELX	-1				33		
38	Seismic Load Z	ELZ			-1		33		
39	BLC 1 Transient Area Loads	None						15	
40	BLC 18 Transient Area Loads	None						15	

Load Combinations

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor
1	1.4D	Yes	Y	1	1.4				
2	0.9D+1.0 0-Wind	Yes	Y	1	0.9	2	1		
3	0.9D+1.0 30-Wind	Yes	Y	1	0.9	3	1		
4	0.9D+1.0 45-Wind	Yes	Y	1	0.9	4	1		
5	0.9D+1.0 60-Wind	Yes	Y	1	0.9	5	1		
6	0.9D+1.0 90-Wind	Yes	Y	1	0.9	6	1		
7	0.9D+1.0 120-Wind	Yes	Y	1	0.9	7	1		
8	0.9D+1.0 135-Wind	Yes	Y	1	0.9	8	1		
9	0.9D+1.0 150-Wind	Yes	Y	1	0.9	9	1		
10	0.9D+1.0 180-Wind	Yes	Y	1	0.9	10	1		
11	0.9D+1.0 210-Wind	Yes	Y	1	0.9	11	1		



Company : TEP
Designer : GK
Job Number : TEP No. 68085.1001204
Model Name : Enfd - Enfield (302489)

10/2/2024
1:30:18 PM
Checked By : RAL

Load Combinations (Continued)

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor
12	0.9D+1.0 225-Wind	Yes	Y	1	0.9	12	1		
13	0.9D+1.0 240-Wind	Yes	Y	1	0.9	13	1		
14	0.9D+1.0 270-Wind	Yes	Y	1	0.9	14	1		
15	0.9D+1.0 300-Wind	Yes	Y	1	0.9	15	1		
16	0.9D+1.0 315-Wind	Yes	Y	1	0.9	16	1		
17	0.9D+1.0 330-Wind	Yes	Y	1	0.9	17	1		
18	1.2D+1.0 0-Wind	Yes	Y	1	1.2	2	1		
19	1.2D+1.0 30-Wind	Yes	Y	1	1.2	3	1		
20	1.2D+1.0 45-Wind	Yes	Y	1	1.2	4	1		
21	1.2D+1.0 60-Wind	Yes	Y	1	1.2	5	1		
22	1.2D+1.0 90-Wind	Yes	Y	1	1.2	6	1		
23	1.2D+1.0 120-Wind	Yes	Y	1	1.2	7	1		
24	1.2D+1.0 135-Wind	Yes	Y	1	1.2	8	1		
25	1.2D+1.0 150-Wind	Yes	Y	1	1.2	9	1		
26	1.2D+1.0 180-Wind	Yes	Y	1	1.2	10	1		
27	1.2D+1.0 210-Wind	Yes	Y	1	1.2	11	1		
28	1.2D+1.0 225-Wind	Yes	Y	1	1.2	12	1		
29	1.2D+1.0 240-Wind	Yes	Y	1	1.2	13	1		
30	1.2D+1.0 270-Wind	Yes	Y	1	1.2	14	1		
31	1.2D+1.0 300-Wind	Yes	Y	1	1.2	15	1		
32	1.2D+1.0 315-Wind	Yes	Y	1	1.2	16	1		
33	1.2D+1.0 330-Wind	Yes	Y	1	1.2	17	1		
34	1.2D+1.0Di+1.0 0-Wind Ice	Yes	Y	1	1.2	18	1	19	1
35	1.2D+1.0Di+1.0 30-Wind Ice	Yes	Y	1	1.2	18	1	20	1
36	1.2D+1.0Di+1.0 45-Wind Ice	Yes	Y	1	1.2	18	1	21	1
37	1.2D+1.0Di+1.0 60-Wind Ice	Yes	Y	1	1.2	18	1	22	1
38	1.2D+1.0Di+1.0 90-Wind Ice	Yes	Y	1	1.2	18	1	23	1
39	1.2D+1.0Di+1.0 120-Wind Ice	Yes	Y	1	1.2	18	1	24	1
40	1.2D+1.0Di+1.0 135-Wind Ice	Yes	Y	1	1.2	18	1	25	1
41	1.2D+1.0Di+1.0 150-Wind Ice	Yes	Y	1	1.2	18	1	26	1
42	1.2D+1.0Di+1.0 180-Wind Ice	Yes	Y	1	1.2	18	1	27	1
43	1.2D+1.0Di+1.0 210-Wind Ice	Yes	Y	1	1.2	18	1	28	1
44	1.2D+1.0Di+1.0 225-Wind Ice	Yes	Y	1	1.2	18	1	29	1
45	1.2D+1.0Di+1.0 240-Wind Ice	Yes	Y	1	1.2	18	1	30	1
46	1.2D+1.0Di+1.0 270-Wind Ice	Yes	Y	1	1.2	18	1	31	1
47	1.2D+1.0Di+1.0 300-Wind Ice	Yes	Y	1	1.2	18	1	32	1
48	1.2D+1.0Di+1.0 315-Wind Ice	Yes	Y	1	1.2	18	1	33	1
49	1.2D+1.0Di+1.0 330-Wind Ice	Yes	Y	1	1.2	18	1	34	1
50	1.2D+1.5Lv	Yes	Y	36	1.5	1	1.2		
51	1.2D+1.5Lm+1.0 0-Wind	Yes	Y	1	1.2	2	0.058	35	1.5
52	1.2D+1.5Lm+1.0 30-Wind	Yes	Y	1	1.2	3	0.058	35	1.5
53	1.2D+1.5Lm+1.0 45-Wind	Yes	Y	1	1.2	4	0.058	35	1.5
54	1.2D+1.5Lm+1.0 60-Wind	Yes	Y	1	1.2	5	0.058	35	1.5
55	1.2D+1.5Lm+1.0 90-Wind	Yes	Y	1	1.2	6	0.058	35	1.5
56	1.2D+1.5Lm+1.0 120-Wind	Yes	Y	1	1.2	7	0.058	35	1.5
57	1.2D+1.5Lm+1.0 135-Wind	Yes	Y	1	1.2	8	0.058	35	1.5
58	1.2D+1.5Lm+1.0 150-Wind	Yes	Y	1	1.2	9	0.058	35	1.5
59	1.2D+1.5Lm+1.0 180-Wind	Yes	Y	1	1.2	10	0.058	35	1.5
60	1.2D+1.5Lm+1.0 210-Wind	Yes	Y	1	1.2	11	0.058	35	1.5
61	1.2D+1.5Lm+1.0 225-Wind	Yes	Y	1	1.2	12	0.058	35	1.5
62	1.2D+1.5Lm+1.0 240-Wind	Yes	Y	1	1.2	13	0.058	35	1.5
63	1.2D+1.5Lm+1.0 270-Wind	Yes	Y	1	1.2	14	0.058	35	1.5
64	1.2D+1.5Lm+1.0 300-Wind	Yes	Y	1	1.2	15	0.058	35	1.5
65	1.2D+1.5Lm+1.0 315-Wind	Yes	Y	1	1.2	16	0.058	35	1.5
66	1.2D+1.5Lm+1.0 330-Wind	Yes	Y	1	1.2	17	0.058	35	1.5



Company : TEP
Designer : GK
Job Number : TEP No. 68085.1001204
Model Name : Enfd - Enfield (302489)

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Load Combinations (Continued)

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor
67	(1.2+0.2Sds)D+1.0 0 Seismic	Yes	Y	1	1.237	ELX	0.093		
68	(1.2+0.2Sds)D+1.0 30 Seismic	Yes	Y	1	1.237	ELX	0.081	ELZ	0.046
69	(1.2+0.2Sds)D+1.0 45 Seismic	Yes	Y	1	1.237	ELX	0.066	ELZ	0.066
70	(1.2+0.2Sds)D+1.0 60 Seismic	Yes	Y	1	1.237	ELX	0.046	ELZ	0.081
71	(1.2+0.2Sds)D+1.0 90 Seismic	Yes	Y	1	1.237			ELZ	0.093
72	(1.2+0.2Sds)D+1.0 120 Seismic	Yes	Y	1	1.237	ELX	-0.046	ELZ	0.081
73	(1.2+0.2Sds)D+1.0 135 Seismic	Yes	Y	1	1.237	ELX	-0.066	ELZ	0.066
74	(1.2+0.2Sds)D+1.0 150 Seismic	Yes	Y	1	1.237	ELX	-0.081	ELZ	0.046
75	(1.2+0.2Sds)D+1.0 180 Seismic	Yes	Y	1	1.237	ELX	-0.093		
76	(1.2+0.2Sds)D+1.0 210 Seismic	Yes	Y	1	1.237	ELX	-0.081	ELZ	-0.046
77	(1.2+0.2Sds)D+1.0 225 Seismic	Yes	Y	1	1.237	ELX	-0.066	ELZ	-0.066
78	(1.2+0.2Sds)D+1.0 240 Seismic	Yes	Y	1	1.237	ELX	-0.046	ELZ	-0.081
79	(1.2+0.2Sds)D+1.0 270 Seismic	Yes	Y	1	1.237			ELZ	-0.093
80	(1.2+0.2Sds)D+1.0 300 Seismic	Yes	Y	1	1.237	ELX	0.046	ELZ	-0.081
81	(1.2+0.2Sds)D+1.0 315 Seismic	Yes	Y	1	1.237	ELX	0.066	ELZ	-0.066
82	(1.2+0.2Sds)D+1.0 330 Seismic	Yes	Y	1	1.237	ELX	0.081	ELZ	-0.046
83	(0.9-0.2Sds)*DL+1.0 0 Seismic	Yes	Y	1	0.863	ELX	0.093		
84	(0.9-0.2Sds)*DL+1.0 30 Seismic	Yes	Y	1	0.863	ELX	0.081	ELZ	0.046
85	(0.9-0.2Sds)*DL+1.0 Seismic	Yes	Y	1	0.863	ELX	0.066	ELZ	0.066
86	(0.9-0.2Sds)*DL+1.0 60 Seismic	Yes	Y	1	0.863	ELX	0.046	ELZ	0.081
87	(0.9-0.2Sds)*DL+1.0 90 Seismic	Yes	Y	1	0.863			ELZ	0.093
88	(0.9-0.2Sds)*DL+1.0 120 Seismic	Yes	Y	1	0.863	ELX	-0.046	ELZ	0.081
89	(0.9-0.2Sds)*DL+1.0 135 Seismic	Yes	Y	1	0.863	ELX	-0.066	ELZ	0.066
90	(0.9-0.2Sds)*DL+1.0 150 Seismic	Yes	Y	1	0.863	ELX	-0.081	ELZ	0.046
91	(0.9-0.2Sds)*DL+1.0 180 Seismic	Yes	Y	1	0.863	ELX	-0.093		
92	(0.9-0.2Sds)*DL+1.0 210 Seismic	Yes	Y	1	0.863	ELX	-0.081	ELZ	-0.046
93	(0.9-0.2Sds)*DL+1.0 225 Seismic	Yes	Y	1	0.863	ELX	-0.066	ELZ	-0.066
94	(0.9-0.2Sds)*DL+1.0 240 Seismic	Yes	Y	1	0.863	ELX	-0.046	ELZ	-0.081
95	(0.9-0.2Sds)*DL+1.0 270 Seismic	Yes	Y	1	0.863			ELZ	-0.093
96	(0.9-0.2Sds)*DL+1.0 300 Seismic	Yes	Y	1	0.863	ELX	0.046	ELZ	-0.081
97	(0.9-0.2Sds)*DL+1.0 315 Seismic	Yes	Y	1	0.863	ELX	0.066	ELZ	-0.066
98	(0.9-0.2Sds)*DL+1.0 330 Seismic	Yes	Y	1	0.863	ELX	0.081	ELZ	-0.046

Member Primary Data

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
1	CP1-1	N133	N134		Corner Plate	None	None	A53 Gr.B	Typical
2	CP1-2	N133	N148		Corner Plate	None	None	A53 Gr.B	Typical
3	CP1-3	N148	N149		Corner Plate	None	None	A53 Gr.B	Typical
4	CP2-1	N145	N146		Corner Plate	None	None	A53 Gr.B	Typical
5	CP2-2	N145	N142		Corner Plate	None	None	A53 Gr.B	Typical
6	CP2-3	N142	N143		Corner Plate	None	None	A53 Gr.B	Typical
7	CP3-1	N139	N140		Corner Plate	None	None	A53 Gr.B	Typical
8	CP3-2	N139	N136		Corner Plate	None	None	A53 Gr.B	Typical
9	CP3-3	N136	N137		Corner Plate	None	None	A53 Gr.B	Typical
10	FF-TH	FF-1	FF-2		Face Horiz	None	None	A53 Gr.B	Typical
11	SF1-TH	SF1-1	SF1-2		Face Horiz	None	None	A53 Gr.B	Typical
12	SF2-TH	SF2-1	SF2-2		Face Horiz	None	None	A53 Gr.B	Typical
13	M93B	GSIP-1A	SA-1B		Grating Support	None	None	A53 Gr.B	Typical
14	M96B	N157B	SA-3B		Grating Support	None	None	A53 Gr.B	Typical
15	M93C	N158B	SA-3B		Grating Support	None	None	A53 Gr.B	Typical
16	M94A	N161A	SA-2B		Grating Support	None	None	A53 Gr.B	Typical
17	M95B	N162	SA-2B		Grating Support	None	None	A53 Gr.B	Typical
18	M96C	N165A	SA-1B		Grating Support	None	None	A53 Gr.B	Typical
19	GSI-1A	N114	GSI1-2		Internal	None	None	A53 Gr.B	Typical
20	GSI-1B	GSI1-2	N122		Internal	None	None	A53 Gr.B	Typical



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Member Primary Data (Continued)

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
21	GS1-2A	N104	GS12-2		Internal	None	None	A53 Gr.B	Typical
22	GS1-2B	GS12-2	N112		Internal	None	None	A53 Gr.B	Typical
23	GS1-3A	N124	GS13-2		Internal	None	None	A53 Gr.B	Typical
24	GS1-3B	GS13-2	N132		Internal	None	None	A53 Gr.B	Typical
25	IP1-1	N113	N115		Internal Plate	None	None	A53 Gr.B	Typical
26	IP1-2	N117	N113		Internal Plate	None	None	A53 Gr.B	Typical
27	IP2-1	N118	N119		Internal Plate	None	None	A53 Gr.B	Typical
28	IP2-2	N121	N118		Internal Plate	None	None	A53 Gr.B	Typical
29	IP3-1	N103	N105		Internal Plate	None	None	A53 Gr.B	Typical
30	IP3-2	N107A	N103		Internal Plate	None	None	A53 Gr.B	Typical
31	IP4-1	N108	N109		Internal Plate	None	None	A53 Gr.B	Typical
32	IP4-2	N111	N108		Internal Plate	None	None	A53 Gr.B	Typical
33	IP5-1	N123	N125		Internal Plate	None	None	A53 Gr.B	Typical
34	IP5-2	N127	N123		Internal Plate	None	None	A53 Gr.B	Typical
35	IP6-1	N128	N129		Internal Plate	None	None	A53 Gr.B	Typical
36	IP6-2	N131	N128		Internal Plate	None	None	A53 Gr.B	Typical
37	MP-1	N181	N184		Mount Pipe	None	None	A53 Gr.B	Typical
38	MP-3	N182	N185		Mount Pipe	None	None	A53 Gr.B	Typical
39	MP-4	N187	N188		Mount Pipe	None	None	A53 Gr.B	Typical
40	RRU-5	N157C	N158C		Mount Pipe	None	None	A53 Gr.B	Typical
41	RRU-4	N161B	N162A		Mount Pipe	None	None	A53 Gr.B	Typical
42	MP-2	N180A	N181A		Mount Pipe	None	None	A53 Gr.B	Typical
43	MP-9	N158A	N160		Mount Pipe	None	None	A53 Gr.B	Typical
44	MP-11	N159	N161		Mount Pipe	None	None	A53 Gr.B	Typical
45	MP-12	N162C	N163A		Mount Pipe	None	None	A53 Gr.B	Typical
46	MP-10	N168B	N169A		Mount Pipe	None	None	A53 Gr.B	Typical
47	MP-5	N182A	N184A		Mount Pipe	None	None	A53 Gr.B	Typical
48	MP-7	N183	N185A		Mount Pipe	None	None	A53 Gr.B	Typical
49	MP-8	N186	N187A		Mount Pipe	None	None	A53 Gr.B	Typical
50	MP-6	N192	N193		Mount Pipe	None	None	A53 Gr.B	Typical
51	RRU-3	N186A	N187B		Mount Pipe	None	None	A53 Gr.B	Typical
52	RRU-2	N189A	N190A		Mount Pipe	None	None	A53 Gr.B	Typical
53	RRU-1	N194A	N195A		Mount Pipe	None	None	A53 Gr.B	Typical
54	RRU-6	N197	N198A		Mount Pipe	None	None	A53 Gr.B	Typical
55	M55	N107	N105		RIGID	None	None	RIGID	Typical
56	M58	N110	N109		RIGID	None	None	RIGID	Typical
57	M61	N116	N115		RIGID	None	None	RIGID	Typical
58	M64	N120	N119		RIGID	None	None	RIGID	Typical
59	M67	N126	N125		RIGID	None	None	RIGID	Typical
60	M70	N130	N129		RIGID	None	None	RIGID	Typical
61	M72	N134	N135		RIGID	None	None	RIGID	Typical
62	M74	N137	N138		RIGID	None	None	RIGID	Typical
63	M76	N140	N141		RIGID	None	None	RIGID	Typical
64	M78	N143	N144		RIGID	None	None	RIGID	Typical
65	M80	N146	N147		RIGID	None	None	RIGID	Typical
66	M82	N149	N150		RIGID	None	None	RIGID	Typical
67	M83	N88	N89		RIGID	None	None	RIGID	Typical
68	M84	N90	N91		RIGID	None	None	RIGID	Typical
69	M88	N99	N100		RIGID	None	None	RIGID	Typical
70	M89	N97	N98		RIGID	None	None	RIGID	Typical
71	M92	N154	N155		RIGID	None	None	RIGID	Typical
72	M93	N152	N153		RIGID	None	None	RIGID	Typical
73	M95	N166	N174		RIGID	None	None	RIGID	Typical
74	M96	N165	N173		RIGID	None	None	RIGID	Typical
75	M97	N168	N176		RIGID	None	None	RIGID	Typical



Company : TEP
Designer : GK
Job Number : TEP No. 68085.1001204
Model Name : Enfd - Enfield (302489)

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Member Primary Data (Continued)

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
76	M98	N167	N175		RIGID	None	None	RIGID	Typical
77	M101	N172	N180		RIGID	None	None	RIGID	Typical
78	M102	N171	N179		RIGID	None	None	RIGID	Typical
79	M98A	N155B	N156B		RIGID	None	None	RIGID	Typical
80	M100	N155B	N160A		RIGID	None	None	RIGID	Typical
81	M110	N177	N179A		RIGID	None	None	RIGID	Typical
82	M111	N176A	N178		RIGID	None	None	RIGID	Typical
83	M97B	N147A	N153A		RIGID	None	None	RIGID	Typical
84	M98B	N146A	N152A		RIGID	None	None	RIGID	Typical
85	M99A	N149A	N155A		RIGID	None	None	RIGID	Typical
86	M100A	N148A	N154A		RIGID	None	None	RIGID	Typical
87	M101B	N151A	N157A		RIGID	None	None	RIGID	Typical
88	M102B	N150A	N156A		RIGID	None	None	RIGID	Typical
89	M104A	N165C	N167B		RIGID	None	None	RIGID	Typical
90	M105A	N164A	N166B		RIGID	None	None	RIGID	Typical
91	M109A	N171B	N177A		RIGID	None	None	RIGID	Typical
92	M110A	N170A	N176B		RIGID	None	None	RIGID	Typical
93	M111A	N173B	N179B		RIGID	None	None	RIGID	Typical
94	M112	N172B	N178A		RIGID	None	None	RIGID	Typical
95	M113	N175B	N181B		RIGID	None	None	RIGID	Typical
96	M114	N174B	N180B		RIGID	None	None	RIGID	Typical
97	M116	N189	N191		RIGID	None	None	RIGID	Typical
98	M117	N188A	N190		RIGID	None	None	RIGID	Typical
99	M113A	N184B	N185B		RIGID	None	None	RIGID	Typical
100	M114A	N184B	N188B		RIGID	None	None	RIGID	Typical
101	M117A	N192A	N193A		RIGID	None	None	RIGID	Typical
102	M118A	N192A	N196A		RIGID	None	None	RIGID	Typical
103	SRC1	N88	N99	180	SRC	None	None	A36 Gr.36	Typical
104	SRC2	N97	N154	180	SRC	None	None	A36 Gr.36	Typical
105	SRC3	N152	N90	180	SRC	None	None	A36 Gr.36	Typical
106	SRCP1-1	N94	N95		SRC Plate	None	None	A36 Gr.36	Typical
107	SRCP1-2	N101	N96		SRC Plate	None	None	A36 Gr.36	Typical
108	SRCP2-1	N102	N106		SRC Plate	None	None	A36 Gr.36	Typical
109	SRCP2-2	N156	N151		SRC Plate	None	None	A36 Gr.36	Typical
110	SRCP3-1	N157	N158		SRC Plate	None	None	A36 Gr.36	Typical
111	SRCP3-2	N92	N93		SRC Plate	None	None	A36 Gr.36	Typical
112	SA-1	SA-1	SA-1B		Support Arm	None	None	A53 Gr.B	Typical
113	SA-2	SA-2	SA-2B		Support Arm	None	None	A53 Gr.B	Typical
114	SA-3	SA-3	SA-3B		Support Arm	None	None	A53 Gr.B	Typical
115	SR-1	N82	N83		Support Rail	None	None	A53 Gr.B	Typical
116	SR-2	N84	N85		Support Rail	None	None	A53 Gr.B	Typical
117	SR-3	N86	N87		Support Rail	None	None	A53 Gr.B	Typical
118	M118	N194	N195		kickers	None	None	A36 Gr.36	Typical
119	M119	N196	N200		kickers	None	None	A36 Gr.36	Typical
120	M120	N198	N201		kickers	None	None	A36 Gr.36	Typical

Hot Rolled Steel Design Parameters

	Label	Shape	Length [ft]	Lb y-y [ft]	Lb z-z [ft]	K y-y	K z-z	Channel Conn.	a [ft]	Function
1	CP1-1	Corner Plate	0.25			1	1	N/A	N/A	Lateral
2	CP1-2	Corner Plate	0.893	0.5	0.5	1	1	N/A	N/A	Lateral
3	CP1-3	Corner Plate	0.25			1	1	N/A	N/A	Lateral
4	CP2-1	Corner Plate	0.25			1	1	N/A	N/A	Lateral
5	CP2-2	Corner Plate	0.893	0.5	0.5	1	1	N/A	N/A	Lateral
6	CP2-3	Corner Plate	0.25			1	1	N/A	N/A	Lateral
7	CP3-1	Corner Plate	0.25			1	1	N/A	N/A	Lateral



Company : TEP
Designer : GK
Job Number : TEP No. 68085.1001204
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Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Length [ft]	Lb y-y [ft]	Lb z-z [ft]	K y-y	K z-z	Channel Conn.	a [ft]	Function
8	CP3-2	Corner Plate	0.893	0.5	0.5	1	1	N/A	N/A	Lateral
9	CP3-3	Corner Plate	0.25			1	1	N/A	N/A	Lateral
10	FF-TH	Face Horiz	12.5	4.9		2.1	2.1	N/A	N/A	Lateral
11	SF1-TH	Face Horiz	12.5	4.9		2.1	2.1	N/A	N/A	Lateral
12	SF2-TH	Face Horiz	12.5	4.9		2.1	2.1	N/A	N/A	Lateral
13	M93B	Grating Support	4.091			1	1	N/A	N/A	Lateral
14	M96B	Grating Support	4.091			1	1	N/A	N/A	Lateral
15	M93C	Grating Support	4.091			1	1	N/A	N/A	Lateral
16	M94A	Grating Support	4.091			1	1	N/A	N/A	Lateral
17	M95B	Grating Support	4.091			1	1	N/A	N/A	Lateral
18	M96C	Grating Support	4.091			1	1	N/A	N/A	Lateral
19	GSI-1A	Internal	2.395			0.8	0.8	N/A	N/A	Lateral
20	GSI-1B	Internal	2.395			0.8	0.8	N/A	N/A	Lateral
21	GSI-2A	Internal	2.395			0.8	0.8	N/A	N/A	Lateral
22	GSI-2B	Internal	2.395			0.8	0.8	N/A	N/A	Lateral
23	GSI-3A	Internal	2.395			0.8	0.8	N/A	N/A	Lateral
24	GSI-3B	Internal	2.395			0.8	0.8	N/A	N/A	Lateral
25	IP1-1	Internal Plate	0.167			1	1	N/A	N/A	Lateral
26	IP1-2	Internal Plate	0.334			1	1	N/A	N/A	Lateral
27	IP2-1	Internal Plate	0.167			1	1	N/A	N/A	Lateral
28	IP2-2	Internal Plate	0.334			1	1	N/A	N/A	Lateral
29	IP3-1	Internal Plate	0.167			1	1	N/A	N/A	Lateral
30	IP3-2	Internal Plate	0.334			1	1	N/A	N/A	Lateral
31	IP4-1	Internal Plate	0.167			1	1	N/A	N/A	Lateral
32	IP4-2	Internal Plate	0.334			1	1	N/A	N/A	Lateral
33	IP5-1	Internal Plate	0.167			1	1	N/A	N/A	Lateral
34	IP5-2	Internal Plate	0.334			1	1	N/A	N/A	Lateral
35	IP6-1	Internal Plate	0.167			1	1	N/A	N/A	Lateral
36	IP6-2	Internal Plate	0.334			1	1	N/A	N/A	Lateral
37	MP-1	Mount Pipe	9.5	Segment	Segment	2.1	2.1	N/A	N/A	Lateral
38	MP-3	Mount Pipe	9.5	Segment	Segment	2.1	2.1	N/A	N/A	Lateral
39	MP-4	Mount Pipe	9.5	Segment	Segment	2.1	2.1	N/A	N/A	Lateral
40	RRU-5	Mount Pipe	10	Segment	Segment	2.1	2.1	N/A	N/A	Lateral
41	RRU-4	Mount Pipe	10	Segment	Segment	2.1	2.1	N/A	N/A	Lateral
42	MP-2	Mount Pipe	9.5	Segment	Segment	2.1	2.1	N/A	N/A	Lateral
43	MP-9	Mount Pipe	9.5	Segment	Segment	2.1	2.1	N/A	N/A	Lateral
44	MP-11	Mount Pipe	9.5	Segment	Segment	2.1	2.1	N/A	N/A	Lateral
45	MP-12	Mount Pipe	9.5	Segment	Segment	2.1	2.1	N/A	N/A	Lateral
46	MP-10	Mount Pipe	9.5	Segment	Segment	2.1	2.1	N/A	N/A	Lateral
47	MP-5	Mount Pipe	9.5	Segment	Segment	2.1	2.1	N/A	N/A	Lateral
48	MP-7	Mount Pipe	9.5	Segment	Segment	2.1	2.1	N/A	N/A	Lateral
49	MP-8	Mount Pipe	9.5	Segment	Segment	2.1	2.1	N/A	N/A	Lateral
50	MP-6	Mount Pipe	9.5	Segment	Segment	2.1	2.1	N/A	N/A	Lateral
51	RRU-3	Mount Pipe	10	Segment	Segment	2.1	2.1	N/A	N/A	Lateral
52	RRU-2	Mount Pipe	10	Segment	Segment	2.1	2.1	N/A	N/A	Lateral
53	RRU-1	Mount Pipe	10	Segment	Segment	2.1	2.1	N/A	N/A	Lateral
54	RRU-6	Mount Pipe	10	Segment	Segment	2.1	2.1	N/A	N/A	Lateral
55	SRC1	SRC	1.143			0.65	0.65	N/A	N/A	Lateral
56	SRC2	SRC	1.143			0.65	0.65	N/A	N/A	Lateral
57	SRC3	SRC	1.143			0.65	0.65	N/A	N/A	Lateral
58	SRCP1-1	SRC Plate	0.375			0.65	0.65	N/A	N/A	Lateral
59	SRCP1-2	SRC Plate	0.375			0.65	0.65	N/A	N/A	Lateral
60	SRCP2-1	SRC Plate	0.375			0.65	0.65	N/A	N/A	Lateral
61	SRCP2-2	SRC Plate	0.375			0.65	0.65	N/A	N/A	Lateral
62	SRCP3-1	SRC Plate	0.375			0.65	0.65	N/A	N/A	Lateral



Company : TEP
Designer : GK
Job Number : TEP No. 68085.1001204
Model Name : Enfd - Enfield (302489)

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Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Length [ft]	Lb y-y [ft]	Lb z-z [ft]	K y-y	K z-z	Channel Conn.	a [ft]	Function
63	SRCP3-2	SRC Plate	0.375			0.65	0.65	N/A	N/A	Lateral
64	SA-1	Support Arm	5.25	3.54		2.1	2.1	N/A	N/A	Lateral
65	SA-2	Support Arm	5.25	3.54		2.1	2.1	N/A	N/A	Lateral
66	SA-3	Support Arm	5.25	3.54		2.1	2.1	N/A	N/A	Lateral
67	SR-1	Support Rail	12.5			2.1	2.1	N/A	N/A	Lateral
68	SR-2	Support Rail	12.5			2.1	2.1	N/A	N/A	Lateral
69	SR-3	Support Rail	12.5			2.1	2.1	N/A	N/A	Lateral
70	M118	kickers	4.368			1	1	N/A	N/A	Lateral
71	M119	kickers	4.368			1	1	N/A	N/A	Lateral
72	M120	kickers	4.368			1	1	N/A	N/A	Lateral

Cold Formed Steel Design Parameters

No Data to Print...

Node Boundary Conditions

	Node Label	X [k/in]	Y [k/in]	Z [k/in]	X Rot [k-ft/rad]	Y Rot [k-ft/rad]	Z Rot [k-ft/rad]
1	SA-1	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
2	SA-3	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
3	SA-2	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
4	N194	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
5	N196	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
6	N198	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction

Member Advanced Data

	Label	I Release	J Release	Col-Wall Vert Release	Physical	Deflection Ratio Options	Seismic DR
1	CP1-1				Yes	** NA **	None
2	CP1-2				Yes	** NA **	None
3	CP1-3				Yes	** NA **	None
4	CP2-1				Yes	** NA **	None
5	CP2-2				Yes	** NA **	None
6	CP2-3				Yes	** NA **	None
7	CP3-1				Yes	** NA **	None
8	CP3-2				Yes	** NA **	None
9	CP3-3				Yes	** NA **	None
10	FF-TH				Yes	** NA **	None
11	SF1-TH				Yes	** NA **	None
12	SF2-TH				Yes	** NA **	None
13	M93B	BenPIN	BenPIN		Yes	** NA **	None
14	M96B	BenPIN	BenPIN		Yes	** NA **	None
15	M93C	BenPIN	BenPIN		Yes	** NA **	None
16	M94A	BenPIN	BenPIN		Yes	** NA **	None
17	M95B	BenPIN	BenPIN		Yes	** NA **	None
18	M96C	BenPIN	BenPIN		Yes	** NA **	None
19	GSI-1A				Yes	** NA **	None
20	GSI-1B				Yes	** NA **	None
21	GSI-2A				Yes	** NA **	None
22	GSI-2B				Yes	** NA **	None
23	GSI-3A				Yes	** NA **	None
24	GSI-3B				Yes	** NA **	None
25	IP1-1				Yes	** NA **	None
26	IP1-2				Yes	** NA **	None
27	IP2-1				Yes	** NA **	None
28	IP2-2				Yes	** NA **	None



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Member Advanced Data (Continued)

	Label	I Release	J Release	Col-Wall Vert Release	Physical	Deflection Ratio Options	Seismic DR
29	IP3-1				Yes	** NA **	None
30	IP3-2				Yes	** NA **	None
31	IP4-1				Yes	** NA **	None
32	IP4-2				Yes	** NA **	None
33	IP5-1				Yes	** NA **	None
34	IP5-2				Yes	** NA **	None
35	IP6-1				Yes	** NA **	None
36	IP6-2				Yes	** NA **	None
37	MP-1				Yes	** NA **	None
38	MP-3				Yes	** NA **	None
39	MP-4				Yes	** NA **	None
40	RRU-5				Yes	** NA **	None
41	RRU-4				Yes	** NA **	None
42	MP-2				Yes	** NA **	None
43	MP-9				Yes	** NA **	None
44	MP-11				Yes	** NA **	None
45	MP-12				Yes	** NA **	None
46	MP-10				Yes	** NA **	None
47	MP-5				Yes	** NA **	None
48	MP-7				Yes	** NA **	None
49	MP-8				Yes	** NA **	None
50	MP-6				Yes	** NA **	None
51	RRU-3				Yes	** NA **	None
52	RRU-2				Yes	** NA **	None
53	RRU-1				Yes	** NA **	None
54	RRU-6				Yes	** NA **	None
55	M55	OOOXXO			Yes	** NA **	None
56	M58	OOOXXO			Yes	** NA **	None
57	M61	OOOXXO			Yes	** NA **	None
58	M64	OOOXXO			Yes	** NA **	None
59	M67	OOOXXO			Yes	** NA **	None
60	M70	OOOXXO			Yes	** NA **	None
61	M72		OOOXXO		Yes	** NA **	None
62	M74		OOOXXO		Yes	** NA **	None
63	M76		OOOXXO		Yes	** NA **	None
64	M78		OOOXXO		Yes	** NA **	None
65	M80		OOOXXO		Yes	** NA **	None
66	M82		OOOXXO		Yes	** NA **	None
67	M83				Yes	** NA **	None
68	M84				Yes	** NA **	None
69	M88				Yes	** NA **	None
70	M89				Yes	** NA **	None
71	M92				Yes	** NA **	None
72	M93				Yes	** NA **	None
73	M95				Yes	** NA **	None
74	M96				Yes	** NA **	None
75	M97				Yes	** NA **	None
76	M98				Yes	** NA **	None
77	M101				Yes	** NA **	None
78	M102				Yes	** NA **	None
79	M98A				Yes	** NA **	None
80	M100				Yes	** NA **	None
81	M110				Yes	** NA **	None
82	M111				Yes	** NA **	None
83	M97B				Yes	** NA **	None



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Member Advanced Data (Continued)

	Label	I Release	J Release	Col-Wall Vert Release	Physical	Deflection Ratio Options	Seismic DR
84	M98B				Yes	** NA **	None
85	M99A				Yes	** NA **	None
86	M100A				Yes	** NA **	None
87	M101B				Yes	** NA **	None
88	M102B				Yes	** NA **	None
89	M104A				Yes	** NA **	None
90	M105A				Yes	** NA **	None
91	M109A				Yes	** NA **	None
92	M110A				Yes	** NA **	None
93	M111A				Yes	** NA **	None
94	M112				Yes	** NA **	None
95	M113				Yes	** NA **	None
96	M114				Yes	** NA **	None
97	M116				Yes	** NA **	None
98	M117				Yes	** NA **	None
99	M113A				Yes	** NA **	None
100	M114A				Yes	** NA **	None
101	M117A				Yes	** NA **	None
102	M118A				Yes	** NA **	None
103	SRC1				Yes	** NA **	None
104	SRC2				Yes	** NA **	None
105	SRC3				Yes	** NA **	None
106	SRCP1-1				Yes	** NA **	None
107	SRCP1-2				Yes	** NA **	None
108	SRCP2-1				Yes	** NA **	None
109	SRCP2-2				Yes	** NA **	None
110	SRCP3-1				Yes	** NA **	None
111	SRCP3-2				Yes	** NA **	None
112	SA-1				Yes	** NA **	None
113	SA-2				Yes	** NA **	None
114	SA-3				Yes	** NA **	None
115	SR-1				Yes	** NA **	None
116	SR-2				Yes	** NA **	None
117	SR-3				Yes	** NA **	None
118	M118	BenPIN	BenPIN		Yes	** NA **	None
119	M119	BenPIN	BenPIN		Yes	** NA **	None
120	M120	BenPIN	BenPIN		Yes	** NA **	None

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm. Coeff. [10^{-6}F^{-1}]	Density [k/ft ³]	Yield [ksi]	Ry	Fu [ksi]	Rt
1	A992	29000	11154	0.3	0.65	0.49	50	1.1	65	1.1
2	A36 Gr.36	29000	11154	0.3	0.65	0.49	36	1.5	58	1.2
3	A572 Gr.50	29000	11154	0.3	0.65	0.49	50	1.1	65	1.1
4	A500 Gr.B RND	29000	11154	0.3	0.65	0.527	42	1.4	58	1.3
5	A500 Gr.B Rect	29000	11154	0.3	0.65	0.527	46	1.4	58	1.3
6	A53 Gr.B	29000	11154	0.3	0.65	0.49	35	1.6	60	1.2
7	A1085	29000	11154	0.3	0.65	0.49	50	1.4	65	1.3
8	J429 Gr.5	29000	11154	0.3	0.65	0.49	92	1.5	120	1.2

Cold Formed Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm. Coeff. [10^{-6}F^{-1}]	Density [k/ft ³]	Yield [ksi]	Fu [ksi]
1	A653 SS Gr33	29500	11346	0.3	0.65	0.49	33	45
2	A653 SS Gr50/1	29500	11346	0.3	0.65	0.49	50	65



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Envelope Node Reactions

Node Label			X [k]	LC	Y [k]	LC	Z [k]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
1	SA-1	max	2.478	3	1.448	21	4.063	5	0.605	10	2.094	17	1.32	24
2		min	-3.202	42	-0.888	13	-5.27	29	-1.225	34	-2.1	25	-1.033	16
3	SA-3	max	2.48	16	1.448	31	5.224	23	1.219	34	2.099	11	1.348	28
4		min	-3.176	24	-0.888	7	-4.019	15	-0.515	10	-2.105	19	-1.122	4
5	SA-2	max	6.809	34	1.604	42	1.741	22	1.442	6	2.166	6	0.097	2
6		min	-4.798	10	-1	2	-1.74	14	-1.48	30	-2.172	30	-1.001	42
7	N194	max	1.42	10	5.203	34	0.052	6	0	5	0.001	29	0	98
8		min	-4.211	34	-1.78	10	-0.052	14	0	29	-0.001	5	0	1
9	N196	max	1.964	45	4.858	45	3.399	45	0	23	0.001	23	0	23
10		min	-0.67	5	-1.681	5	-1.159	5	0	15	0	15	0	15
11	N198	max	1.964	39	4.859	39	1.159	15	0	18	0.001	18	0	10
12		min	-0.669	15	-1.681	15	-3.399	39	0	10	0	10	0	18
13	Totals:	max	7.454	18	12.221	47	7.35	22						
14		min	-7.454	26	2.946	88	-7.35	14						

Envelope AISC 15TH (360-16): LRFD Member Steel Code Checks

Member	Shape	Code Check	Loc [ft]	LC	Shear Check	Loc [ft]	Dir	LC	phi*Pnc [k]	phi*Pnt [k]	phi*Mn y-y [k-ft]	phi*Mn z-z [k-ft]	Cb	Eqn
1	RRU-5	PIPE 2.0	0.626	5.208	18	0.035	5.208	18	8.093	32.13	1.872	1.872	1	H1-1b
2	SR-3	PIPE 2.0	0.591	0.911	7	0.322	11.979	28	1.428	32.13	1.872	1.872	1	H1-1a
3	SR-1	PIPE 2.0	0.591	0.911	13	0.312	11.979	33	1.428	32.13	1.872	1.872	1	H1-1a
4	SR-2	PIPE 2.0	0.59	0.911	2	0.31	11.979	22	1.428	32.13	1.872	1.872	1	H1-1a
5	MP-11	PIPE 2.0	0.541	6.927	32	0.104	6.927	30	8.922	32.13	1.872	1.872	1	H1-1b
6	MP-3	PIPE 2.0	0.529	6.927	21	0.104	6.927	19	8.922	32.13	1.872	1.872	1	H1-1b
7	MP-7	PIPE 2.0	0.529	6.927	26	0.103	6.927	25	8.922	32.13	1.872	1.872	1	H1-1b
8	MP-10	PIPE 2.0	0.522	6.927	32	0.095	6.927	19	8.922	32.13	1.872	1.872	1	H1-1b
9	MP-2	PIPE 2.0	0.512	6.927	21	0.096	6.927	25	8.922	32.13	1.872	1.872	1	H1-1b
10	MP-6	PIPE 2.0	0.511	6.927	26	0.096	6.927	30	8.922	32.13	1.872	1.872	1	H1-1b
11	RRU-1	PIPE 2.0	0.475	5.208	23	0.028	5.208	23	8.093	32.13	1.872	1.872	1	H1-1b
12	RRU-3	PIPE 2.0	0.475	5.208	29	0.028	5.208	29	8.093	32.13	1.872	1.872	1	H1-1b
13	RRU-4	PIPE 2.0	0.43	5.208	18	0.026	5.208	18	8.093	32.13	1.872	1.872	1	H1-1b
14	RRU-6	PIPE 2.0	0.43	5.208	23	0.026	5.208	23	8.093	32.13	1.872	1.872	1	H1-1b
15	RRU-2	PIPE 2.0	0.43	5.208	29	0.026	5.208	29	8.093	32.13	1.872	1.872	1	H1-1b
16	SRC2	L2.5X2.5X4	0.41	1.143	33	0.148	1.143	y 22	37.868	38.556	1.114	2.537	1.5	H2-1
17	SRC3	L2.5X2.5X4	0.409	1.143	22	0.15	1.143	y 28	37.868	38.556	1.114	2.537	1.5	H2-1
18	SRC1	L2.5X2.5X4	0.408	1.143	27	0.149	1.143	y 33	37.868	38.556	1.114	2.537	1.5	H2-1
19	MP-1	PIPE 2.0	0.374	6.927	29	0.143	6.927	27	8.922	32.13	1.872	1.872	1	H1-1b
20	MP-5	PIPE 2.0	0.374	6.927	18	0.147	6.927	32	8.922	32.13	1.872	1.872	1	H1-1b
21	MP-9	PIPE 2.0	0.371	6.927	24	0.143	6.927	22	8.922	32.13	1.872	1.872	1	H1-1b
22	MP-12	PIPE 2.0	0.366	6.927	24	0.143	6.927	20	8.922	32.13	1.872	1.872	1	H1-1b
23	MP-8	PIPE 2.0	0.359	6.927	28	0.142	6.927	31	8.922	32.13	1.872	1.872	1	H1-1b
24	MP-4	PIPE 2.0	0.357	6.927	23	0.142	6.927	26	8.922	32.13	1.872	1.872	1	H1-1b
25	SA-2	HSS4X4X4	0.285	2.734	34	0.202	0	z 30	72.085	106.155	12.311	12.311	1.625	H1-1b
26	IP4-2	PL6X3/8	0.266	0.167	22	0.497	0.167	y 29	66.073	70.875	0.554	8.859	1.34	H1-1b
27	IP6-2	PL6X3/8	0.266	0.167	27	0.496	0.167	y 18	66.073	70.875	0.554	8.859	1.343	H1-1b
28	IP2-2	PL6X3/8	0.264	0.167	33	0.507	0.167	y 24	66.073	70.875	0.554	8.859	1.345	H1-1b
29	SA-3	HSS4X4X4	0.262	2.734	39	0.19	0	z 19	72.085	106.155	12.311	12.311	1.628	H1-1b
30	SA-1	HSS4X4X4	0.261	2.734	45	0.19	0	z 25	72.085	106.155	12.311	12.311	1.628	H1-1b
31	GSI-2B	HSS4X4X4	0.255	0	34	0.082	0	y 34	104.921	106.155	12.311	12.311	1.685	H1-1b
32	GSI-2A	HSS4X4X4	0.247	2.395	34	0.079	2.395	y 34	104.921	106.155	12.311	12.311	1.681	H1-1b
33	GSI-3B	HSS4X4X4	0.244	0	40	0.079	0	y 39	104.921	106.155	12.311	12.311	1.678	H1-1b
34	GSI-1B	HSS4X4X4	0.241	0	45	0.079	0	y 45	104.921	106.155	12.311	12.311	1.688	H1-1b
35	GSI-1A	HSS4X4X4	0.236	2.395	44	0.076	2.395	y 45	104.921	106.155	12.311	12.311	1.674	H1-1b
36	GSI-3A	HSS4X4X4	0.235	2.395	39	0.076	2.395	y 39	104.921	106.155	12.311	12.311	1.684	H1-1b
37	IP3-2	PL6X3/8	0.21	0.167	30	0.53	0.167	y 23	66.073	70.875	0.554	8.859	1.328	H1-1b



Company : TEP
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Envelope AISC 15TH (360-16): LRFD Member Steel Code Checks (Continued)

	Member	Shape	Code	Check	Loc[ft]	LC	Shear	Check	Loc[ft]	Dir	LC	phi*	Pnc [k]	phi*	Pnt [k]	phi*	Mn y-y [k-ft]	phi*	Mn z-z [k-ft]	Cb	Eqn
38	IP1-2	PL6X3/8	0.209	0.167	25	0.53	0.167	y	18	66.073	70.875	0.554	8.859	1.332	H1-1b						
39	IP5-2	PL6X3/8	0.209	0.167	19	0.532	0.167	y	28	66.073	70.875	0.554	8.859	1.334	H1-1b						
40	M95B	L2X2X3	0.202	2.003	32	0.01	0	y	39	10.065	22.743	0.542	1.118	1.5	H2-1						
41	M93B	L2X2X3	0.2	1.96	27	0.01	0	y	34	10.065	22.743	0.542	1.118	1.5	H2-1						
42	M93C	L2X2X3	0.199	1.918	22	0.01	0	y	43	10.065	22.743	0.542	1.11	1.44	H2-1						
43	SF1-TH	PIPE 3.0	0.173	4.036	14	0.125	8.464	23	6.489	65.205	5.749	5.749	1	H1-1b*							
44	FF-TH	PIPE 3.0	0.172	4.036	9	0.125	8.464	18	6.489	65.205	5.749	5.749	1	H1-1b*							
45	SF2-TH	PIPE 3.0	0.172	4.036	3	0.125	8.464	29	6.489	65.205	5.749	5.749	1	H1-1b*							
46	M94A	L2X2X3	0.17	1.918	34	0.012	0	y	45	10.065	22.743	0.542	1.056	1.139	H2-1						
47	CP1-2	PL6X1/2	0.166	0.446	28	0.193	0.446	y	65	86.501	94.5	0.984	11.813	1.249	H1-1b						
48	CP3-2	PL6X1/2	0.158	0.446	23	0.158	0.446	y	43	86.501	94.5	0.984	11.813	1.146	H1-1b						
49	CP2-2	PL6X1/2	0.157	0.446	18	0.154	0.446	y	38	86.501	94.5	0.984	11.813	1.147	H1-1b						
50	M96B	L2X2X3	0.156	1.875	24	0.012	0	y	34	10.065	22.743	0.542	1.056	1.139	H2-1						
51	M96C	L2X2X3	0.152	1.833	30	0.012	0	y	41	10.065	22.743	0.542	1.056	1.138	H2-1						
52	IP5-1	PL6X3/8	0.152	0.167	30	0.599	0	y	21	69.65	70.875	0.554	8.859	1.674	H1-1b						
53	IP1-1	PL6X3/8	0.151	0.167	19	0.598	0	y	26	69.65	70.875	0.554	8.859	1.673	H1-1b						
54	IP3-1	PL6X3/8	0.151	0.167	25	0.593	0	y	31	69.65	70.875	0.554	8.859	1.672	H1-1b						
55	M118	LL2.5X2.5X3X3	0.15	0	34	0.005	4.368	z	29	44.497	58.32	3.954	2.55	1	H1-1b*						
56	IP4-1	PL6X3/8	0.148	0	30	0.566	0	y	21	69.65	70.875	0.554	8.859	1.668	H1-1b						
57	IP6-1	PL6X3/8	0.147	0	19	0.571	0	y	26	69.65	70.875	0.554	8.859	1.668	H1-1b						
58	IP2-1	PL6X3/8	0.146	0	25	0.571	0	y	31	69.65	70.875	0.554	8.859	1.668	H1-1b						
59	M120	LL2.5X2.5X3X3	0.14	0	39	0.005	4.368	z	18	44.497	58.32	3.954	2.55	1	H1-1b*						
60	M119	LL2.5X2.5X3X3	0.14	0	45	0.005	4.368	z	24	44.497	58.32	3.954	2.55	1	H1-1b*						
61	CP1-1	PL6X1/2	0.058	0	2	0.422	0	y	26	92.433	94.5	0.984	11.813	1.665	H1-1b						
62	CP3-1	PL6X1/2	0.058	0	13	0.422	0	y	21	92.433	94.5	0.984	11.813	1.665	H1-1b						
63	CP2-1	PL6X1/2	0.058	0	7	0.419	0	y	31	92.433	94.5	0.984	11.813	1.665	H1-1b						
64	CP1-3	PL6X1/2	0.022	0.25	29	0.471	0	y	31	92.433	94.5	0.984	11.813	1.668	H1-1b						
65	CP3-3	PL6X1/2	0.022	0.25	23	0.471	0	y	26	92.433	94.5	0.984	11.813	1.668	H1-1b						
66	CP2-3	PL6X1/2	0.021	0.25	18	0.468	0	y	21	92.433	94.5	0.984	11.813	1.668	H1-1b						
67	SRCP3-2	PL6X3/8	0.002	0.25	42	0	0.25	y	43	70.151	72.9	0.57	9.113	2.235	H1-1b						
68	SRCP1-1	PL6X3/8	0.002	0.25	42	0	0.25	y	49	70.151	72.9	0.57	9.113	2.235	H1-1b						
69	SRCP3-1	PL6X3/8	0.002	0.25	37	0	0.25	y	44	70.151	72.9	0.57	9.113	2.235	H1-1b						
70	SRCP2-1	PL6X3/8	0.002	0.25	39	0	0.25	y	38	70.151	72.9	0.57	9.113	2.235	H1-1b						
71	SRCP1-2	PL6X3/8	0.002	0.25	47	0	0.25	y	49	70.151	72.9	0.57	9.113	2.235	H1-1b						
72	SRCP2-2	PL6X3/8	0.002	0.25	45	0	0.25	y	38	70.151	72.9	0.57	9.113	2.235	H1-1b						

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CENTERLINE

Radio Frequency Exposure Analysis Report

November 25, 2024

AT&T

Site Name: ENFIELD-TOWN FARM RD

Site ID: CTL01021

FA#: 10034985

USID: 59340

Site Address: TOWN FARM ROAD, ENFIELD, CT 06082



Michael Fischer, P.E.

Registered Professional Engineer (Electrical)

Connecticut License Number 33928

Expires January 31, 2025

Signed 25 November 2024

Site Compliance Summary

AT&T Compliance Status:	Compliant
Cumulative Calculated Power Density (Ground Level):	2.70507 $\mu\text{W}/\text{cm}^2$
Cumulative General Population % MPE (Ground Level):	0.32992%



November 25, 2024

Centerline

Attn: Ryan Burgdorfer, Project Manager I -- SAC

750 W Center St, Suite 301

West Bridgewater, MA 02379

RF Exposure Analysis for Site: **ENFIELD-TOWN FARM RD**

Centerline was contracted to analyze the proposed AT&T facility at **TOWN FARM ROAD, ENFIELD, CT 06082** for the purpose of determining whether the predictive exposure from the proposed facility is within specified federal limits.

All information used in this report was analyzed as a percentage of the Maximum Permissible Exposure (% MPE) limits as detailed in 47 CFR § 1.1310 as well as Federal Communications Commission (FCC) OET Bulletin 65 Edition 97-01. The FCC MPE limits are typically expressed in units of milliwatts per square centimeter (mW/cm^2) or microwatts per square centimeter ($\mu\text{W}/\text{cm}^2$). The exposure limits vary depending upon the frequencies being utilized. The General Population/Uncontrolled MPE limit (in mW/cm^2) for frequencies between 300 and 1500 is defined as frequency (in MHz) divided by 1500 ($f_{\text{MHz}}/1500$). Frequencies between 1500 and 100,000 MHz have a General Population/Uncontrolled MPE limit of $1 \text{ mW}/\text{cm}^2$ ($1000 \mu\text{W}/\text{cm}^2$). The calculated power density at each sample point divided by the limit at each calculated frequency provides a result in % MPE. Summing the calculated % MPE from all contributors provides a cumulative % MPE at a particular sample point. Wireless carriers use different frequency bands with varying MPE limits; therefore, it is useful to report results in terms of % MPE as opposed to power density.

All results were compared to the FCC radio frequency exposure rules as detailed in 47 CFR § 1.1307(b) to determine compliance with the 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.

Occupational/controlled exposure limits apply to situations in which persons are exposed as a consequence of their employment and in which those persons who are exposed have been made fully aware of the potential for exposure and can exercise control over their exposure. Occupational/controlled exposure limits also apply where exposure is of a transient nature as a result of incidental passage through a location where exposure levels may be above general population/uncontrolled limits, as long as the exposed person has been made fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means. Additional details can be found in FCC OET 65.



Calculation Methodology

Centerline has performed theoretical modeling of the site using a software tool, RoofMaster®, which incorporates calculation methodologies detailed in FCC OET 65. RoofMaster® uses a cylindrical model for conservative power density predictions within the near field of the antenna where the antenna pattern has not truly formed yet. Within this area power density values tend to decrease based upon an inverse distance function. At the point where it is appropriate for modeling to change from near-field calculations to far-field calculations, the power decreases inversely with the square of the distance. The modeling is based on worst-case assumptions in terms of transmitter power and duty cycle. No losses were included in the power calculations unless they were specifically provided for the project.

In OET 65, a far field model is presented to calculate the spatial peak power density. The RoofMaster® implementation of this model incorporates antenna manufacturer's horizontal and vertical pattern data to determine the power density in all directions. This model yields the power density at a single point in space. In order to determine the spatial power density for comparison to the FCC limits, the average of several points calculated within the human profile (0-6') must be conducted. RoofMaster® calculates seven power density values between 0-6' above the specified study plane and performs a linear spatial average.



Data & Results

The following table details the antennas and operating parameters for the AT&T antenna system as well as any other antenna systems at the site. This is based on antenna information provided by the client and data compiled from other sources where necessary. The data below was input into Roofmaster® to perform the theoretical exposure calculations at ground level.

The theoretical calculations performed in Roofmaster® determine the cumulative exposure at all sample points at ground level (0-6' spatial average). The results from highest cumulative sample point at ground level surrounding the site are displayed in the table below. The contribution from directional antennas to the maximum cumulative totals varies greatly depending on location; therefore, the contribution from one antenna sector at the highest calculated exposure point may be greater or less than other sectors since sectorized directional antennas are pointed in different directions and there is not much overlapping exposure.

The contribution to the cumulative power density and % MPE for each antenna/frequency band is listed in the table(s) below. The cumulative power density and cumulative % MPE are displayed at the bottom of the table(s) below.



Maximum Calculated Cumulative Power Density (Location: approximately 9' west of site)

Antenna ID	Make / Model	Frequency Band (MHz)	Antenna Gain (dBd)	Antenna Centerline (ft)	Channel Count	TX Power/ Channel (watts)	ERP (watts)	Calculated Power Density ($\mu\text{W}/\text{cm}^2$)	General Population MPE Limit ($\mu\text{W}/\text{cm}^2$)	General Population % MPE
AT&T A 1	CCI SON_TPA65R-BU8D	700	13.05	151.00	4.00	30.00	2422.04	0.04487	466.67	0.00962
AT&T A 1	CCI SON_TPA65R-BU8D	700	13.05	151.00	4.00	15.00	1211.02	0.02244	466.67	0.00481
AT&T A 1	CCI SON_TPA65R-BU8D	1900	15.65	151.00	4.00	45.00	6611.08	0.07071	1000.00	0.00707
AT&T A 1	CCI SON_TPA65R-BU8D	2100	15.85	151.00	4.00	45.00	6922.65	0.06805	1000.00	0.00681
AT&T A 2	ERICSSON SON_AIR6472	3450	17.05	151.00	1.00	54.22	2748.90	0.05018	1000.00	0.00502
AT&T A 2	ERICSSON SON_AIR6472	3700	16.95	151.00	1.00	81.33	4029.50	0.07169	1000.00	0.00717
AT&T A 3	CCI SON_DMP65R-BU8D	700	12.25	151.00	4.00	45.00	3021.85	0.05979	466.67	0.01281
AT&T A 3	CCI SON_DMP65R-BU8D	850	12.75	151.00	4.00	45.00	3390.57	0.06194	566.67	0.01093
AT&T A 3	CCI SON_DMP65R-BU8D	2300	15.25	151.00	4.00	18.75	2512.24	0.03369	1000.00	0.00337
AT&T B 4	CCI SON_TPA65R-BU8D	700	13.05	151.00	4.00	30.00	2422.04	0.00010	466.67	0.00002
AT&T B 4	CCI SON_TPA65R-BU8D	700	13.05	151.00	4.00	15.00	1211.02	0.00005	466.67	0.00001
AT&T B 4	CCI SON_TPA65R-BU8D	1900	15.65	151.00	4.00	45.00	6611.08	0.00010	1000.00	0.00001
AT&T B 4	CCI SON_TPA65R-BU8D	2100	15.85	151.00	4.00	45.00	6922.65	0.00013	1000.00	0.00001
AT&T B 5	ERICSSON SON_AIR6472	3450	17.05	151.00	1.00	54.22	2748.90	0.00010	1000.00	0.00001
AT&T B 5	ERICSSON SON_AIR6472	3700	16.95	151.00	1.00	81.33	4029.50	0.00019	1000.00	0.00002
AT&T B 6	CCI SON_DMP65R-BU8D	700	12.25	151.00	4.00	45.00	3021.85	0.00009	466.67	0.00002
AT&T B 6	CCI SON_DMP65R-BU8D	850	12.75	151.00	4.00	45.00	3390.57	0.00005	566.67	0.00001
AT&T B 6	CCI SON_DMP65R-BU8D	2300	15.25	151.00	4.00	18.75	2512.24	0.00005	1000.00	0.00001
AT&T C 7	CCI SON_TPA65R-BU8D	700	13.05	151.00	4.00	30.00	2422.04	0.00011	466.67	0.00002
AT&T C 7	CCI SON_TPA65R-BU8D	700	13.05	151.00	4.00	15.00	1211.02	0.00006	466.67	0.00001
AT&T C 7	CCI SON_TPA65R-BU8D	1900	15.65	151.00	4.00	45.00	6611.08	0.00005	1000.00	0.00001
AT&T C 7	CCI SON_TPA65R-BU8D	2100	15.85	151.00	4.00	45.00	1730.66	0.00005	1000.00	0.00001
AT&T C 8	ERICSSON SON_AIR6472	3450	17.05	151.00	1.00	54.22	2748.90	0.00011	1000.00	0.00001
AT&T C 8	ERICSSON SON_AIR6472	3700	16.95	151.00	1.00	81.33	4029.50	0.00025	1000.00	0.00003
AT&T C 9	CCI SON_DMP65R-BU8D	700	12.25	151.00	4.00	45.00	755.46	0.00001	466.67	0.00000
AT&T C 9	CCI SON_DMP65R-BU8D	850	12.75	151.00	4.00	45.00	847.64	0.00007	566.67	0.00001
AT&T C 9	CCI SON_DMP65R-BU8D	2300	15.25	151.00	4.00	18.75	628.06	0.00001	1000.00	0.00000
T-Mobile A 10	GENERIC PANEL 2.5FT	2500	22.35	140.00	1.00	120.00	20614.90	0.69257	1000.00	0.06926
T-Mobile A 10	GENERIC PANEL 2.5FT	2500	22.35	140.00	1.00	120.00	20614.90	0.69257	1000.00	0.06926
T-Mobile A 11	GENERIC PANEL 6FT	600	12.33	140.00	4.00	40.00	684.01	0.08124	400.00	0.02031
T-Mobile A 11	GENERIC PANEL 6FT	700	12.33	140.00	4.00	40.00	684.01	0.08124	466.67	0.01741
T-Mobile A 12	GENERIC PANEL 4FT	1900	14.65	140.00	4.00	40.00	1166.97	0.11692	1000.00	0.01169
T-Mobile A 12	GENERIC PANEL 4FT	2100	14.65	140.00	4.00	40.00	1166.97	0.13013	1000.00	0.01301
T-Mobile B 13	GENERIC PANEL 2.5FT	2500	22.35	140.00	1.00	120.00	20614.90	0.00626	1000.00	0.00063
T-Mobile B 13	GENERIC PANEL 2.5FT	2500	22.35	140.00	1.00	120.00	20614.90	0.00626	1000.00	0.00063
T-Mobile B 14	GENERIC PANEL 6FT	600	12.33	140.00	4.00	40.00	684.01	0.00034	400.00	0.00009



Antenna ID	Make / Model	Frequency Band (MHz)	Antenna Gain (dBd)	Antenna Centerline (ft)	Channel Count	TX Power/ Channel (watts)	ERP (watts)	Calculated Power Density ($\mu\text{W}/\text{cm}^2$)	General Population MPE Limit ($\mu\text{W}/\text{cm}^2$)	General Population % MPE
T-Mobile B 14	GENERIC PANEL 6FT	700	12.33	140.00	4.00	40.00	684.01	0.00034	466.67	0.00007
T-Mobile B 15	GENERIC PANEL 4FT	1900	14.65	140.00	4.00	40.00	1166.97	0.00008	1000.00	0.00001
T-Mobile B 15	GENERIC PANEL 4FT	2100	14.65	140.00	4.00	40.00	1166.97	0.00006	1000.00	0.00001
T-Mobile C 16	GENERIC PANEL 2.5FT	2500	22.35	140.00	1.00	120.00	20614.90	0.00835	1000.00	0.00084
T-Mobile C 16	GENERIC PANEL 2.5FT	2500	22.35	140.00	1.00	120.00	20614.90	0.00835	1000.00	0.00084
T-Mobile C 17	GENERIC PANEL 6FT	600	12.33	140.00	4.00	40.00	684.01	0.00020	400.00	0.00005
T-Mobile C 17	GENERIC PANEL 6FT	700	12.33	140.00	4.00	40.00	684.01	0.00020	466.67	0.00004
T-Mobile C 18	GENERIC PANEL 4FT	1900	14.65	140.00	4.00	40.00	1166.97	0.00001	1000.00	0.00000
T-Mobile C 18	GENERIC PANEL 4FT	2100	14.65	140.00	4.00	40.00	1166.97	0.00018	1000.00	0.00002
Unknown A 19	GENERIC PANEL 6FT	850	12.62	130.00	4.00	40.00	731.24	0.09786	566.67	0.01727
Unknown A 20	GENERIC PANEL 6FT	1900	15.84	130.00	4.00	40.00	1534.83	0.09781	1000.00	0.00978
Unknown A 21	GENERIC PANEL 6FT	2100	16.39	130.00	4.00	40.00	1742.05	0.10295	1000.00	0.01030
Unknown A 21	GENERIC PANEL 6FT	700	12.33	130.00	4.00	40.00	684.01	0.09498	466.67	0.02035
Unknown B 22	GENERIC PANEL 6FT	850	12.62	130.00	4.00	40.00	731.24	0.00001	566.67	0.00000
Unknown B 23	GENERIC PANEL 6FT	1900	15.84	130.00	4.00	40.00	1534.83	0.00002	1000.00	0.00000
Unknown B 24	GENERIC PANEL 6FT	2100	16.39	130.00	4.00	40.00	1742.05	0.00003	1000.00	0.00000
Unknown B 24	GENERIC PANEL 6FT	700	12.33	130.00	4.00	40.00	684.01	0.00040	466.67	0.00009
Unknown C 25	GENERIC PANEL 6FT	850	12.62	130.00	4.00	40.00	731.24	0.00028	566.67	0.00005
Unknown C 26	GENERIC PANEL 6FT	1900	15.84	130.00	4.00	40.00	1534.83	0.00016	1000.00	0.00002
Unknown C 27	GENERIC PANEL 6FT	2100	16.39	130.00	4.00	40.00	1742.05	0.00010	1000.00	0.00001
Unknown C 27	GENERIC PANEL 6FT	700	12.33	130.00	4.00	40.00	684.01	0.00023	466.67	0.00005
							Cumulative Power Density:	2.70507 $\mu\text{W}/\text{cm}^2$	Cumulative % MPE:	0.32992%



Summary

The theoretical calculations performed for this analysis yielded cumulative power density totals in all areas at ground level that are within the allowable federal limits for public exposure to RF energy. Therefore, the site is **compliant** with FCC rules and regulations.

Katrina Styx
RF EME Technical Writer II
Centerline