

UPS CampusShip: View/Print Label

1. **Ensure there are no other shipping or tracking labels attached to your package.** Select the Print button on the print dialog box that appears. Note: If your browser does not support this function select Print from the File menu to print the label.
2. **Fold the printed label at the solid line below.** Place the label in a UPS Shipping Pouch. If you do not have a pouch, affix the folded label using clear plastic shipping tape over the entire label.
3. **GETTING YOUR SHIPMENT TO UPS**
Customers with a Daily Pickup
Your driver will pickup your shipment(s) as usual.

Customers without a Daily Pickup

Take your package to any location of The UPS Store®, UPS Access Point™ location, UPS Drop Box, UPS Customer Center, Staples® or Authorized Shipping Outlet near you. Items sent via UPS Return Services(SM) (including via Ground) are also accepted at Drop Boxes. To find the location nearest you, please visit the Resources area of CampusShip and select UPS Locations.

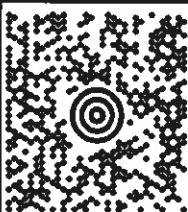
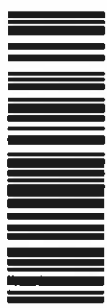
Schedule a same day or future day Pickup to have a UPS driver pickup all your CampusShip packages.
Hand the package to any UPS driver in your area.

UPS Access Point™
CVS STORE # 972
555 WASHINGTON ST
SOUTH EASTON ,MA 02375

UPS Access Point™
CVS STORE # 7232
689 DEPOT ST
NORTH EASTON ,MA 02356

UPS Access Point™
TOWN LINE GENERAL STORE
450 E CENTER ST
WEST BRIDGEWATER ,MA 02379

FOLD HERE

1 LBS		1 OF 1	
SHIP TO: PATRICIA NOWAK 508-265-5599 CENTERLINE COMMUNICATIONS, LLC 750 WEST CENTER STREET WEST BRIDGEWATER MA 02379			
MELANIE A. BACHMAN 18608272935 CONNECTICUT SITING COUNCIL EXECUTIVE DIRECTOR TEN FRANKLIN SQUARE NEW BRITAIN CT 06051-2655			
		CT 067 9-06 	
UPS GROUND		TRACKING #: 1Z 9Y4 503 03 2313 4399	
			
BILLING: P/P		Reference # 1: CT2339 - CSC 2	
		CS 22.0.12. WNTNV50 31.0A 07/2020*	

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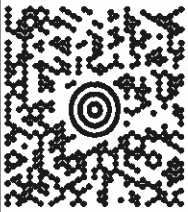
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1 LBS		1 OF 1	
SHIP TO: PATRICIA NOWAK 508-265-5599 CENTERLINE COMMUNICATIONS, LLC 750 WEST CENTER STREET WEST BRIDGEWATER MA 02379			
BARBARA HENRY TOWN OF ROXBURY FIRST SELECTWOMAN'S OFFICE 29 NORTH STREET ROXBURY CT 06783-1405			
CT 068 0-03 			
UPS GROUND TRACKING #: 1Z 9Y4 503 03 3786 1005			
			
BILLING: P/P			
Reference # 1: CT2339 - Selectwoman 2 CS 22.0.12. WNTNV50 31.0A 07/2020*			
			

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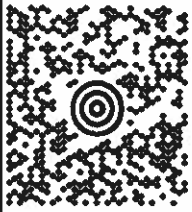
Take your package to any location of The UPS Store®, UPS Access Point(TM) location, UPS Drop Box, UPS Customer Center, Staples® or Authorized Shipping Outlet near you. Items sent via UPS Return Services(SM) (including via Ground) are also accepted at Drop Boxes. To find the location nearest you, please visit the Resources area of CampusShip and select UPS Locations.
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WEST BRIDGEWATER ,MA 02379

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1 LBS		1 OF 1	
SHIP TO: PATRICIA NOWAK 508-265-5599 CENTERLINE COMMUNICATIONS, LLC 750 WEST CENTER STREET WEST BRIDGEWATER MA 02379			
JOHN CODY TOWN OF ROXBURY ZONING ENFORCEMENT OFFICER 29 NORTH STREET ROXBURY CT 06783-1405			
		CT 068 0-03 	
UPS GROUND		TRACKING #: 1Z 9Y4 503 03 3718 0616	
		BILLING: P/P	
Reference # 1: CT2339 - ZEO 2			
CS 22.0.12. WINTNVS0 31.0A 07/2020*			

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SHIP TO: PATRICIA NOWAK 508-265-5599 CENTERLINE COMMUNICATIONS, LLC 750 WEST CENTER STREET WEST BRIDGEWATER MA 02379	SHIP TO: APEX ACRES LLC 562 UPPER GRASSY HILL ROAD WOODBURY CT 06798-3107	CT 067 9-05 	UPS GROUND TRACKING #: 1Z 9Y4 503 03 3199 3222 	BILLING: P/P	Reference # 1: CT2339 - Owner 2 CS 22-0.12. WNTNVS0 31-0A 07/2020* 
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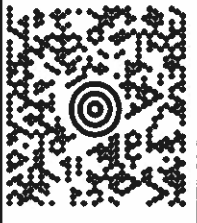
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1 LBS		1 OF 1	
PATRICIA NOWAK 508-265-5599 CENTERLINE COMMUNICATIONS, LLC 750 WEST CENTER STREET WEST BRIDGEWATER MA 02379			
SHIP TO: LAND MANAGEMENT 7814287250 AMERICAN TOWER CORPORATION 10 PRESIDENTIAL WAY WOBURN MA 01801-1053			
		MA 018 9-04 	
UPS GROUND		TRACKING #: 1Z 9Y4 503 03 2319 8839	
			
BILLING: P/P			
Reference # 1: CT2339 - ATC 2			
CS 22.0.12. WNTNV50 31.0A 07/2020*			

September 11, 2020

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

Regarding: Notice of Exempt Modification – AT&T Site CT2339
Address: 377 Southbury Road, Roxbury, CT 06783

Dear Ms. Bachman:

New Cingular Wireless, PCS, LLC (hereinafter “AT&T”) currently maintains a wireless telecommunications facility on an existing 170’ monopole tower (the “Tower”) at the above-referenced address, latitude 41.515200, longitude -73.263000. Said Tower is owned by American Tower Corporation.

AT&T desires to modify its existing telecommunications facility on the Tower by swapping (6) Antennas and swapping (9) Remote Radio Units, as well as, other related modifications, as more particularly detailed and described in the enclosed Construction Drawings prepared by SMW Engineering Group, Inc, dated July 20, 2020. Enclosed please also find a Mount Analysis prepared by CLS Engineering PLLC dated August 7, 2020. The centerline height of the antennas will be at 166 feet.

The Tower was originally approved by the Connecticut Siting Council on March 21, 2013 under Docket No. 428. Enclosed please find a copy of the approval

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: The Honorable Barbara Henry, First Selectwoman of the Town of Roxbury; John Cody, Zoning Enforcement Officer of the Town of Roxbury; Apex Acres LLC, as the property owner; and American Tower Corporation, as Tower owner. Enclosed please find a property card and a GIS map of the property.

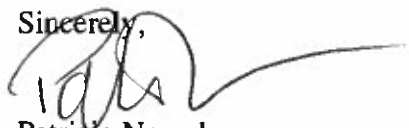
The planned modifications to the facility fall squarely within those activities explicitly provided for in R.C.S.A. § 16-50j-72(b)(2). Specifically:

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 Commission safety standard. *Please see Radio Frequency Emissions Report for AT&T's modified facility enclosed herewith.*
5. The proposed modifications will not cause an ineligible change or alteration 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 Report dated June 19, 2020 and prepared by American Tower Corporation.*

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).

Sincerely,

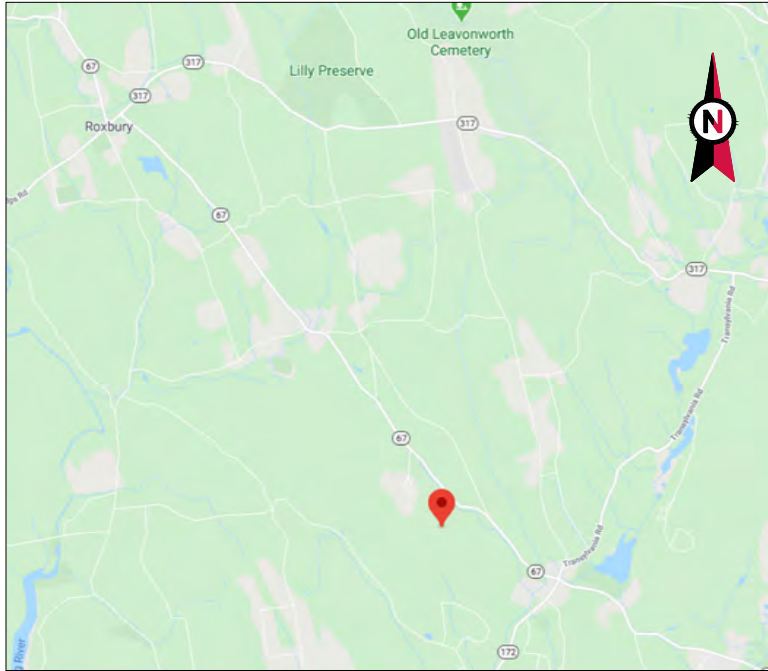


Patricia Nowak
Site Acquisition Consultant
Centerline Communications, LLC
750 West Center Street, Suite 301
West Bridgewater, MA 02379
pnowak@clinellc.com

Enclosures: Exhibit 1 – Construction Drawings
 Exhibit 2 - Mount Analysis
 Exhibit 3 – CSC Decision
 Exhibit 4 – Property Card and GIS Map
 Exhibit 5 – Radio Frequency Emissions Report
 Exhibit 6 – Structural Analysis

cc: The Honorable Barbara Henry, First Selectwoman of the Town of Roxbury
 John Cody, Zoning Enforcement Officer of the Town of Roxbury
 Apex Acres LLC, as the property owner
 American Tower Corporation, as Tower owner

EXHIBIT 1



VICINITY MAP

CURRENT PROJECTS:

3C - PACE #: MRCTB046617
4C - PACE #: MRCTB046508
4TX4RX - PACE #: MRCTB046917
4TX4RX - PACE #: MRCTB046916
5G NR - PACE #: MRCTB046744



AMERICAN TOWER®

ATC SITE NAME: ROXBURY CT
ATC SITE NUMBER: 280501
AT&T SITE ID: CTL02339
AT&T FA CODE:10113268
AT&T SITE NAME: ROXBURY SOUTHBURY RD
SITE ADDRESS: 377 SOUTHBURY ROAD
ROXBURY, CT 06783-2102



LOCATION MAP

AT&T MOBILITY
ANTENNA AMENDMENT PLAN

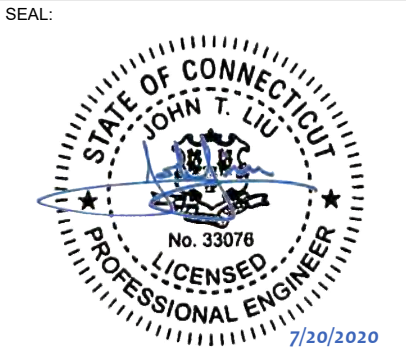
COMPLIANCE CODE	PROJECT SUMMARY	PROJECT DESCRIPTION	SHEET INDEX					
ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNMENT AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES. 1. INTERNATIONAL BUILDING CODE (IBC) 2. NATIONAL ELECTRIC CODE (NEC) 3. LOCAL BUILDING CODE 4. CITY/COUNTY ORDINANCES	<u>SITE ADDRESS:</u> 377 SOUTHBURY ROAD ROXBURY, CT 06783-2102 COUNTY: LITCHFIELD <u>GEOGRAPHIC COORDINATES:</u> LATITUDE: 41.51519444 LONGITUDE: -73.263 GROUND ELEVATION: 723' AMSL	THE PROPOSED PROJECT INCLUDES MODIFYING GROUND BASED AND TOWER MOUNTED EQUIPMENT AS INDICATED PER BELOW: <u>TOWER WORK:</u> REMOVE (6) LTE ANTENNAS, (3) LTE/UMTS ANTENNAS, AND (9) LTE RRH'S INSTALL (6) LTE ANTENNAS AND (9) LTE RRH'S EXISTING (3) LTE ANTENNAS, (3) LTE RRH'S, (3) DC6 SQUIDS, (6) 0.78" DC TRUNKS, (3) 0.39" FIBER TRUNKS, AND (3) 3/8" CONTROL CABLES TO REMAIN <u>GROUND WORK:</u> INSTALL (1) 6630 AND (1) IDLE	SHEET NO:	DESCRIPTION:	REV:	DATE:	BY:	
			G-001	TITLE SHEET	0	07/20/20	ZDS	
			G-002	GENERAL NOTES	0	07/20/20	ZDS	
			C-101	DETAILED SITE PLAN	0	07/20/20	ZDS	
			C-201	TOWER ELEVATION	0	07/20/20	ZDS	
			C-401	ANTENNA INFORMATION & SCHEDULE	0	07/20/20	ZDS	
			C-501	CONSTRUCTION DETAILS	0	07/20/20	ZDS	
			C-502	EQUIPMENT SPECIFICATIONS	0	07/20/20	ZDS	
			E-501	GROUNDING DETAILS	0	07/20/20	ZDS	
			R-601	SUPPLEMENTAL	0	07/20/20	ZDS	
			R-602	SUPPLEMENTAL	0	07/20/20	ZDS	
UTILITY COMPANIES	PROJECT TEAM	PROJECT NOTES						
POWER COMPANY: EVERSOURCE PHONE: (877) 659-6326 TELEPHONE COMPANY: FRONTIER COMMUNICATIONS PHONE: (800) 376-6843	<u>TOWER OWNER:</u> AMERICAN TOWER 10 PRESIDENTIAL WAY WOBURN, MA 01801 <u>ENGINEER:</u> JEREMY SHARIT jsharit@smweng.com SMW ENGINEERING GROUP INC. 158 BUSINESS CENTER DR. BIRMINGHAM, AL. 35244 JOB# 20-10276 <u>PROPERTY OWNER:</u> CN BUILDERS INC 3 ALEXANDER LANE WESTON, CT 06883	<u>APPLICANT:</u> AT&T MOBILITY 1. THE FACILITY IS UNMANNED. 2. A TECHNICIAN WILL VISIT THE SITE APPROXIMATELY ONCE A MONTH FOR ROUTINE INSPECTION AND MAINTENANCE. 3. THE PROJECT WILL NOT RESULT IN ANY SIGNIFICANT LAND DISTURBANCE OR EFFECT OF STORM WATER DRAINAGE. 4. NO SANITARY SEWER, POTABLE WATER OR TRASH DISPOSAL IS REQUIRED. 5. HANDICAP ACCESS IS NOT REQUIRED.						
		<u>PROJECT LOCATION DIRECTIONS</u> FROM DANBURY CT START OUT GOING SOUTH ON FEDERAL RD TOWARD MORGAN AVE. TURN SHARP LEFT ONTO WHITE ST. WHITE ST BECOMES NEWTOWN RD. MERGE ONTO I-84 E VIA THE RAMP ON THE LEFT TOWARD WATERBURY. TAKE THE US-6 E/CT-67 EXIT, EXIT 15, TOWARD SOUTHBURY. KEEP LEFT TO TAKE THE RAMP TOWARD SOUTHBURY/WOODBURY. TURN LEFT ONTO US-6 E/CT-67/CHURCH HILL RD. CONTINUE TO FOLLOW US-6 E/CT-67. TURN LEFT ONTO CT-67/ROXBURY RD. CONTINUE TO FOLLOW CT-67. 409 SOUTHBURY RD, ROXBURY, CT 06783-2103, 409 SOUTHBURY RD IS ON THE LEFT.						
 Know what's below. Call before you dig.								



TOGETHER PLANNING A BETTER TOMORROW
158 BUSINESS CENTER DRIVE
BIRMINGHAM, AL 35244
TEL: 205-252-6985 FAX: 205-320-1504

REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	ZDS	07/20/20

ATC SITE NUMBER:
280501
ATC SITE NAME:
ROXBURY CT
AT&T MOBILITY SITE NAME:
ROXBURY SOUTHBURY RD
SITE ADDRESS:
377 SOUTHBURY ROAD
ROXBURY, CT 06783-2102



DATE DRAWN:	07/20/20
ATC JOB NO:	13222822_G3
CUSTOMER ID:	ROXBURY SOUTHBURY RD
CUSTOMER #:	10113268

TITLE SHEET

SHEET NUMBER: G-001	REVISION: 0
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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. 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.
29. 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.
30. 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.
31. 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.
32. 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.
33. 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 OD COORDINATION AND SITE ACCESS. ERECTION SUBCONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF PERSONNEL AND

B. INSTALL ANTENNA AS INDICATE 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 AND PROVIDE PRINTOUT OF THAT TEST.

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 GREED 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.



AMERICAN TOWER®



ENGINEERING GROUP, INC.

TOGETHER PLANNING A BETTER TOMORROW

158 BUSINESS CENTER DRIVE
BIRMINGHAM, AL 35244
TEL: 205-252-6985 FAX: 205-320-1504

REV.	DESCRIPTION	BY	DATE
△0	FOR CONSTRUCTION	ZDS	07/20/20
△			
△			
△			
△			
△			

ATC SITE NUMBER:

280501

ATC SITE NAME:

ROXBURY CT

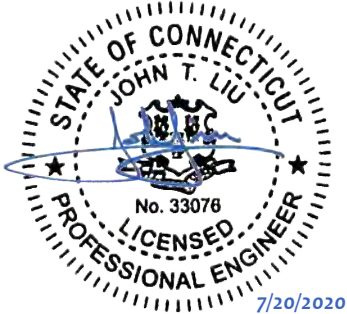
AT&T MOBILITY SITE NAME:

ROXBURY SOUTHBURY RD

SITE ADDRESS:

377 SOUTHBURY ROAD
ROXBURY, CT 06783-2102

SEAL:



DATE DRAWN:	07/20/20
ATC JOB NO:	13222822_G3
CUSTOMER ID:	ROXBURY SOUTHBURY RD
CUSTOMER #:	10113268

GENERAL NOTES

SHEET NUMBER:

G-002

REVISION:

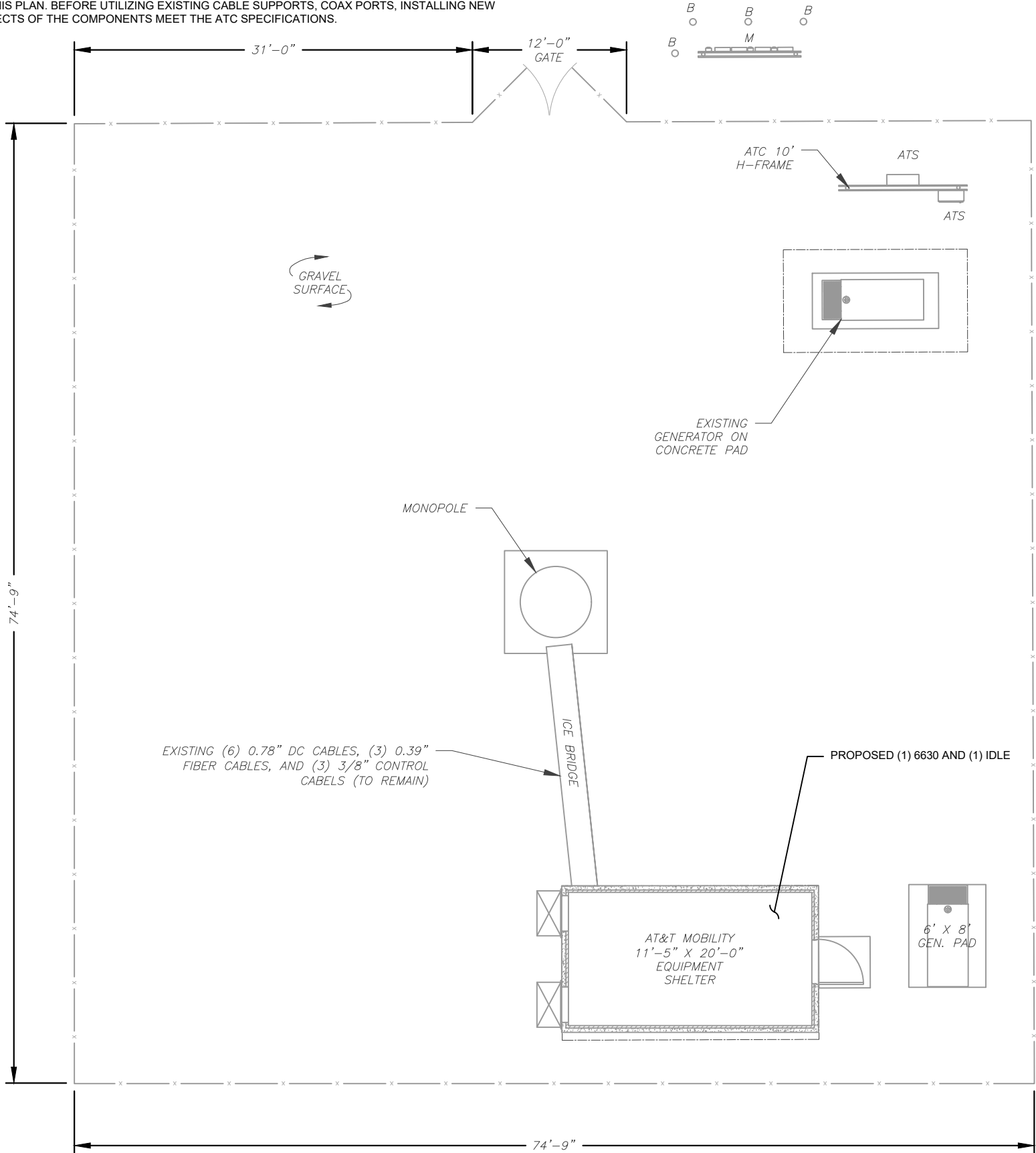
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SITE PLAN NOTES:

1. THIS SITE PLAN REPRESENTS THE BEST PRESENT KNOWLEDGE AVAILABLE TO THE ENGINEER AT THE TIME OF THIS DESIGN. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO CONSTRUCTION AND VERIFY ALL EXISTING CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT.
2. ICE BRIDGE, CABLE LADDER, COAX PORT, AND COAX CABLE ARE SHOWN FOR REFERENCE ONLY. CONTRACTOR SHALL CONFIRM THE EXACT LOCATION OF ALL PROPOSED AND EXISTING EQUIPMENT AND STRUCTURES DEPICTED ON THIS PLAN. BEFORE UTILIZING EXISTING CABLE SUPPORTS, COAX PORTS, INSTALLING NEW PORTS OR ANY OTHER EQUIPMENT, CONTRACTOR SHALL VERIFY ALL ASPECTS OF THE COMPONENTS MEET THE ATC SPECIFICATIONS.

LEGEND	
⊗	GROUNDING TEST WELL
ATS	AUTOMATIC TRANSFER SWITCH
B	BOLLARD
CSC	CELL SITE CABINET
D	DISCONNECT
E	ELECTRICAL
F	FIBER
GEN	GENERATOR
G	GENERATOR RECEPTACAL
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 LENGTH:**
1. ESTIMATED LENGTH OF PROPOSED CABLE IS **201'**. 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.



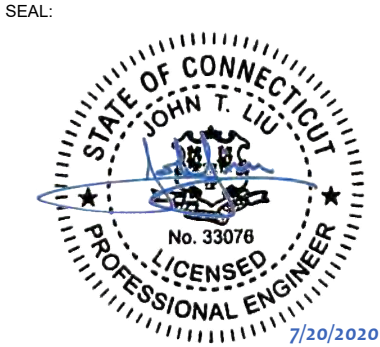
1 DETAILED SITE PLAN



TOGETHER PLANNING A BETTER TOMORROW
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BIRMINGHAM, AL 35244
TEL: 205-252-6985 FAX: 205-320-1504

REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	ZDS	07/20/20
1			
2			
3			
4			

ATC SITE NUMBER:
280501
ATC SITE NAME:
ROXBURY CT
AT&T MOBILITY SITE NAME:
ROXBURY SOUTHBURY RD
SITE ADDRESS:
377 SOUTHBURY ROAD
ROXBURY, CT 06783-2102



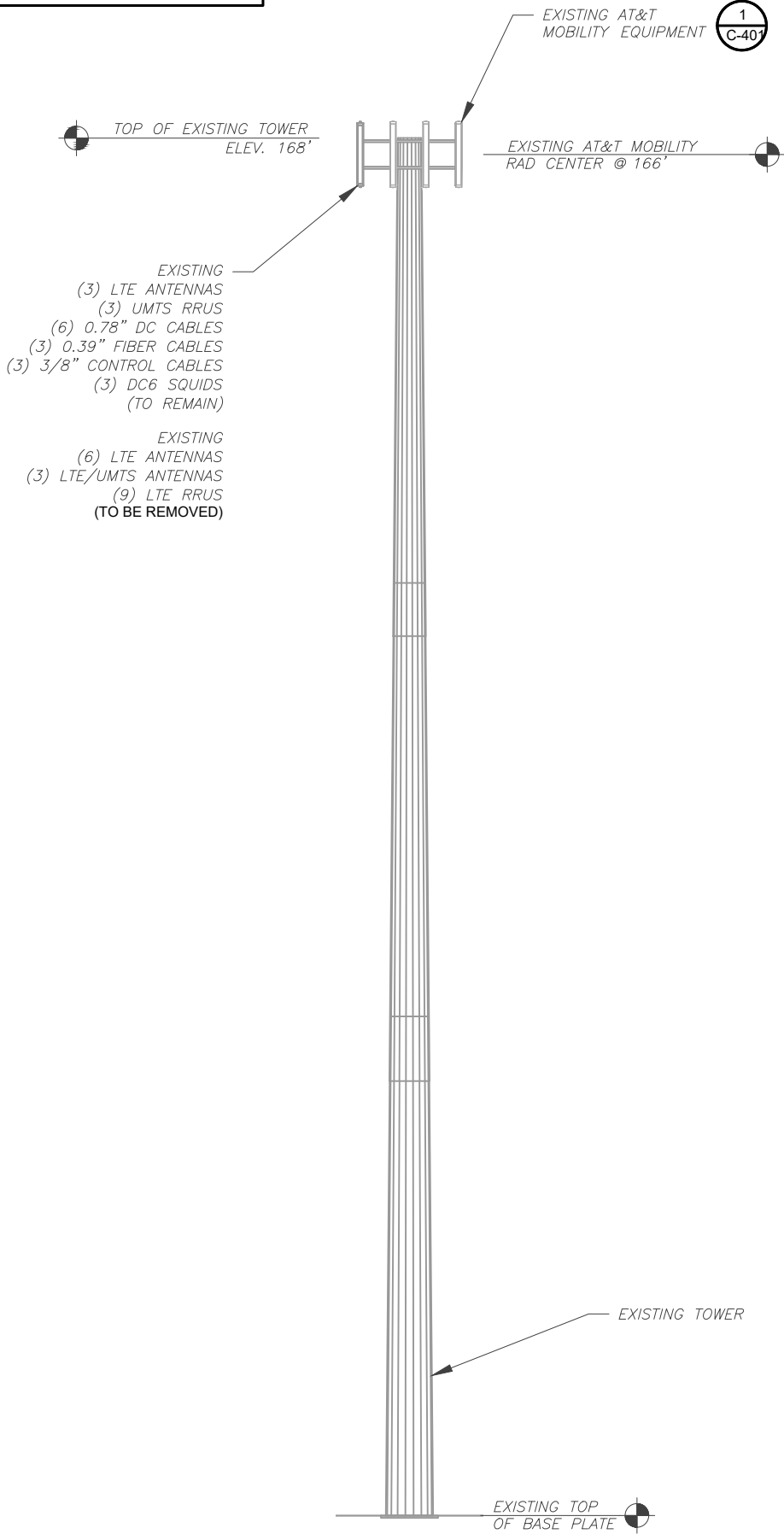
DATE DRAWN:	07/20/20
ATC JOB NO:	13222822_G3
CUSTOMER ID:	ROXBURY SOUTHBURY RD
CUSTOMER #:	10113268

DETAILED SITE PLAN

SHEET NUMBER:
C-101

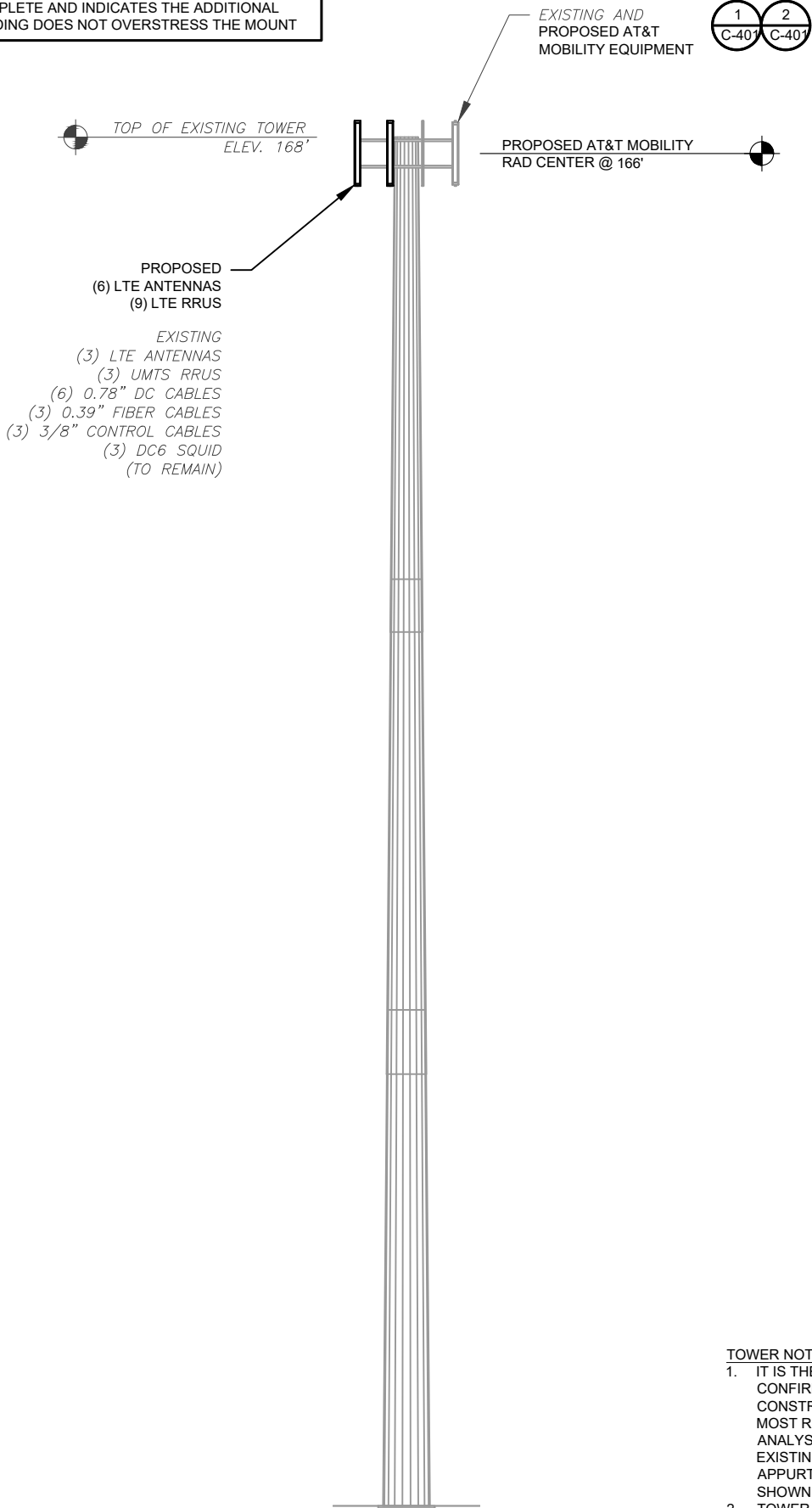
REVISION:
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EXISTING AND FINAL CONFIGURATIONS ARE BASED ON RFDS. CONTRACTOR TO VERIFY EXISTING CONDITIONS.



1 EXISTING TOWER ELEVATION
SCALE: 1" = 20'

ATC IS ANALYZING THE ANTENNA MOUNT UNDER A SEPARATE PROJECT. CONSTRUCTION IS NOT TO PROCEED UNTIL THE MOUNT ANALYSIS IS COMPLETE AND INDICATES THE ADDITIONAL LOADING DOES NOT OVERSTRESS THE MOUNT



2 FINAL TOWER ELEVATION
SCALE: 1" = 20'

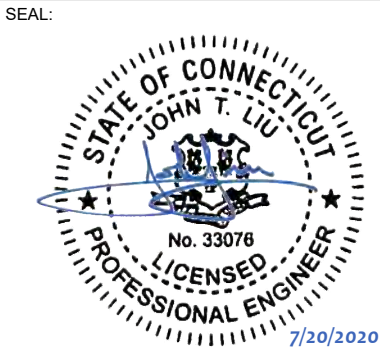
- TOWER NOTE:
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONFIRM WITH THE AMERICAN TOWER CONSTRUCTION MANAGER THAT THEY HAVE THE MOST RECENT VERSION OF THE STRUCTURAL ANALYSIS BEFORE COMMENCING WORK. EXISTING AND PROPOSED TOWER APPURTENANCES, MOUNTS, AND ANTENNAS ARE SHOWN BASED ON THE STRUCTURAL ANALYSIS.
 - TOWER ELEVATIONS ARE MEASURED FROM TOP OF BASE PLATE TO MATCH STRUCTURAL ANALYSIS. ELEVATIONS DO NOT REFLECT TRUE ABOVE GROUND LEVEL (A.G.L.)



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ATC SITE NUMBER:
280501
ATC SITE NAME:
ROXBURY CT
AT&T MOBILITY SITE NAME:
ROXBURY SOUTHBURY RD
SITE ADDRESS:
377 SOUTHBURY ROAD
ROXBURY, CT 06783-2102

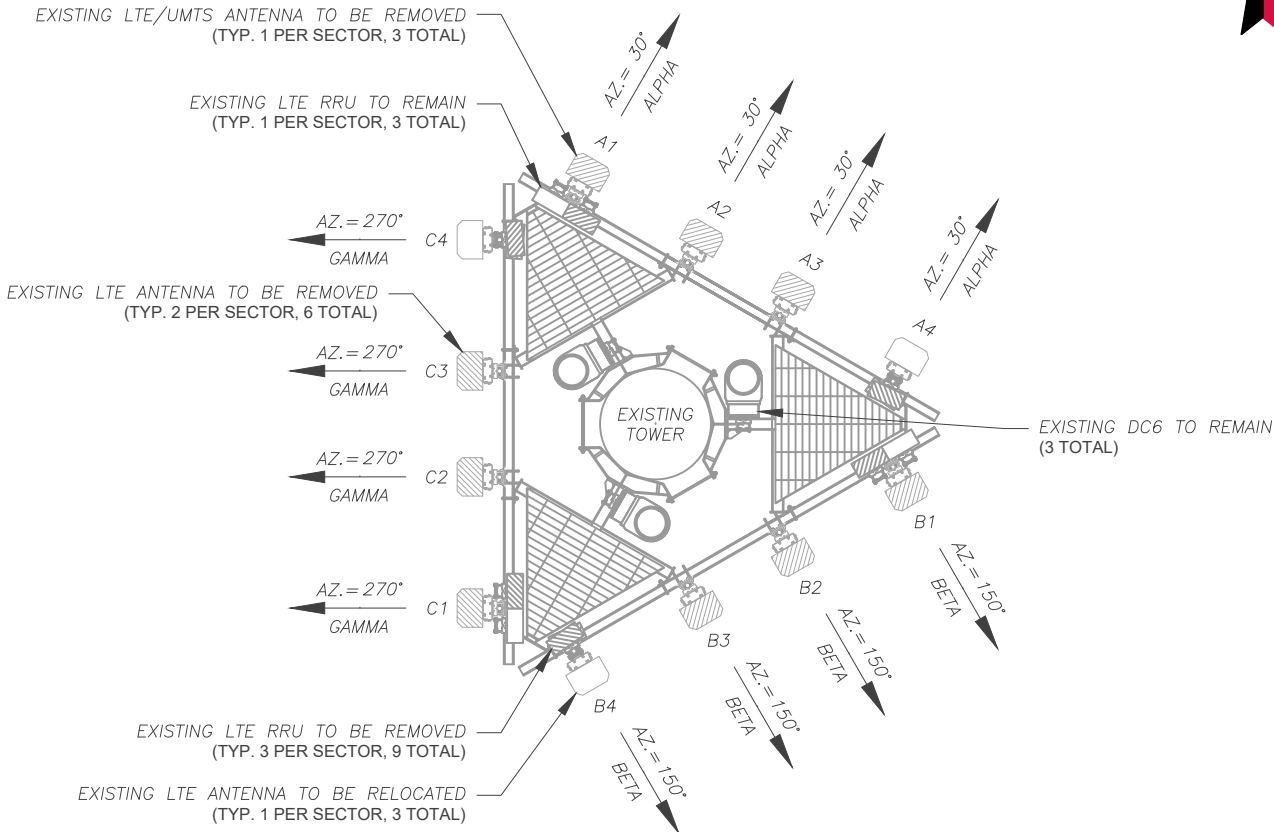


DATE DRAWN:	07/20/20
ATC JOB NO:	13222822_G3
CUSTOMER ID:	ROXBURY SOUTHBURY RD
CUSTOMER #:	10113268

TOWER ELEVATION

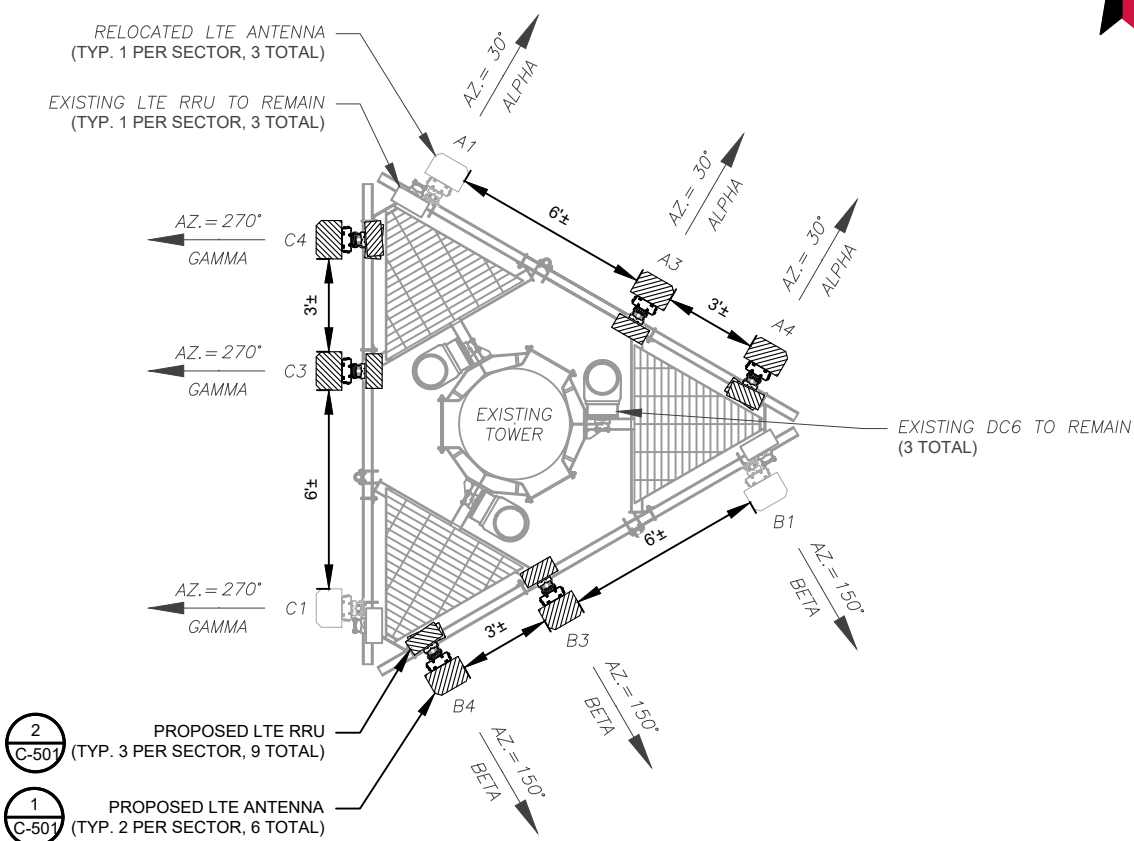
SHEET NUMBER:
C-201
REVISION:
0

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



1 CURRENT ANTENNA PLAN
SCALE: 1" = 5'

ATC IS ANALYZING THE ANTENNA MOUNT UNDER
A SEPARATE PROJECT. CONSTRUCTION IS NOT
TO PROCEED UNTIL THE MOUNT ANALYSIS IS
COMPLETE AND INDICATES THE ADDITIONAL
LOADING DOES NOT OVERSTRESS THE MOUNT



2 FINAL ANTENNA PLAN
SCALE: 1" = 5'

PROPOSED RRUs MUST BE
INSTALLED A MINIMUM OF 8"
AWAY FROM ALL ANTENNAS

EXISTING ANTENNA SCHEDULE								
LOCATION			ANTENNA SUMMARY				NON ANTENNA SUMMARY	
SECTOR	RAD	AZ	POS	ANTENNA	BAND	STATUS	ADDITIONAL TOWER MOUNTED EQUIPMENT	STATUS
ALPHA	166°	30°	A1	SBNH-1D6565C	LTE/UMTS	RMV	RRUS-11 B5	RMN
							RRUS-11 B2	RMV
			A2	SBNH-1D6565C	LTE	RMV	-	-
			A3	SBNH-1D6565C	LTE	RMV	-	-
BETA	166°	150°	A4	HPA-65R-BUU-H8	LTE	REL	RRUS-11 B12	RMV
							RRUS-12 B2	RMV
			B1	SBNH-1D6565C	LTE/UMTS	RMV	RRUS-11 B5	RMN
							RRUS-11 B2	RMV
GAMMA	166°	270°	B2	SBNH-1D6565C	LTE	RMV	-	-
			B3	SBNH-1D6565C	LTE	RMV	-	-
			B4	HPA-65R-BUU-H8	LTE	REL	RRUS-11 B12	RMV
							RRUS-12 B2	RMV
GAMMA	166°	270°	C1	SBNH-1D6565C	LTE/UMTS	RMV	RRUS-11 B5	RMN
							RRUS-11 B2	RMV
			C2	SBNH-1D6565C	LTE	RMV	-	-
			C3	SBNH-1D6565C	LTE	RMV	-	-
GAMMA	166°	270°	C4	HPA-65R-BUU-H8	LTE	REL	RRUS-11 B12	RMV
							RRUS-12 B2	RMV

- NOTES
- CONFIRM WITH AT&T MOBILITY REP FOR APPLICABLE UPDATES/REVISIONS AND MOST RECENT RFDS FOR NSN CONFIGURATION (CONFIG). GC TO CAP ALL UNUSED PORTS.
 - CONFIRM SPACING OF PROPOSED EQUIP DOES NOT CAUSE TOWER CONFLICTS NOR IMPEDE TOWER CLIMBING PEGS.
 - 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.
 - CONTRACTOR TO ENSURE PROPER SEPARATION IN ACCORDANCE WITH AT&T'S FIRSTNET REQUIREMENTS (SEE SHEET R-602)

FINAL ANTENNA SCHEDULE								
LOCATION			ANTENNA SUMMARY				NON ANTENNA SUMMARY	
SECTOR	RAD	AZ	POS	ANTENNA	BAND	STATUS	ADDITIONAL TOWER MOUNTED EQUIPMENT	STATUS
ALPHA	166°	30°	A1	HPA-65R-BUU-H8	LTE	REL	RRUS-11 B5	RMN
			A2	-	-	-	-	-
			A3	OPA65R-BU8DA	LTE	ADD	RRUS-4478 B14	ADD
			A4	DMP65R-BU8DA	LTE	ADD	RRUS-4449 B5/B12	ADD
BETA	166°	150°	B1	HPA-65R-BUU-H8	LTE	REL	RRUS-11 B5	RMN
			B2	-	-	-	-	-
			B3	OPA65R-BU8DA	LTE	ADD	RRUS-4478 B14	ADD
			B4	DMP65R-BU8DA	LTE	ADD	RRUS-4449 B5/B12	ADD
GAMMA	166°	270°	C1	HPA-65R-BUU-H8	LTE	REL	RRUS-11 B5	RMN
			C2	-	-	-	-	-
			C3	OPA65R-BU8DA	LTE	ADD	RRUS-4478 B14	ADD
			C4	DMP65R-BU8DA	LTE	ADD	RRUS-4449 B5/B12	ADD
GAMMA	166°	270°					RRUS-8843 B2/B66A	ADD
							RRUS-8843 B2/B66A	ADD

EXISTING FIBER DISTRIBUTION/SQUID		EXISTING CABLING SUMMARY			
MODEL NUMBER	STATUS	RET	DC	FIBER	STATUS
(3) DC6-48-60-18-8F	RMN	(3) 3/8"	(6) 0.78"	(3) 0.39"	RMN

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'

3 EQUIPMENT SCHEDULES

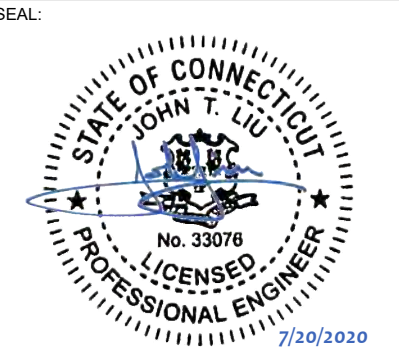
FINAL FIBER DISTRIBUTION/SQUID		FINAL CABLING SUMMARY			
MODEL NUMBER	STATUS	RET	DC	FIBER	STATUS
(3) DC6-48-60-18-8F	RMN	(3) 3/8"	(6) 0.78"	(3) 0.39"	RMN



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1			
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3			
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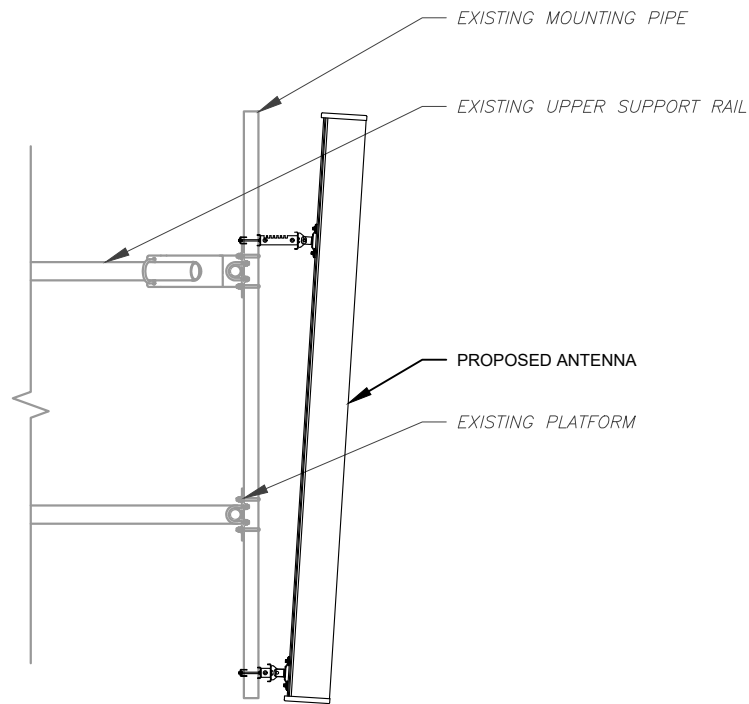
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280501
ATC SITE NAME:
ROXBURY CT
AT&T MOBILITY SITE NAME:
ROXBURY SOUTHBURY RD
SITE ADDRESS:
377 SOUTHBURY ROAD
ROXBURY, CT 06783-2102



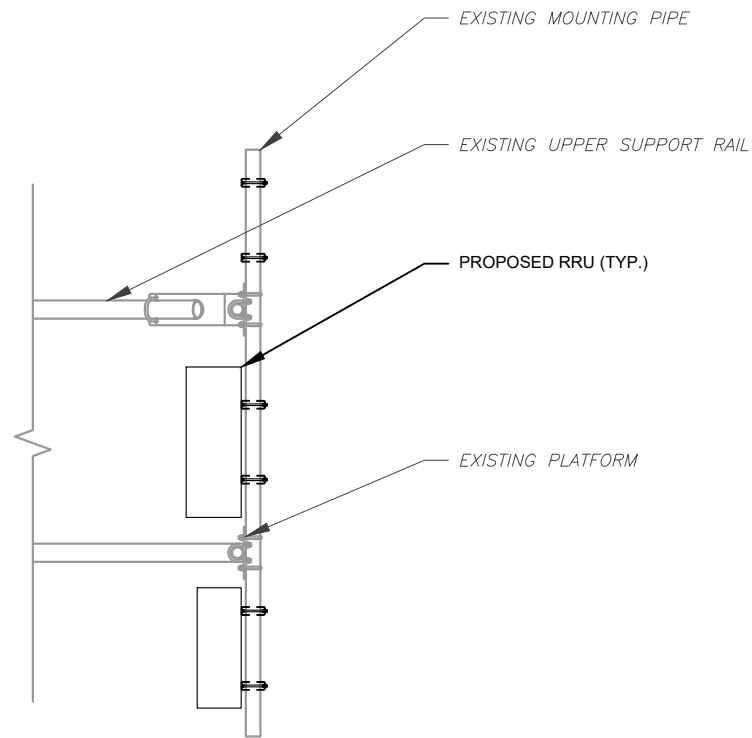
DATE DRAWN:	07/20/20
ATC JOB NO:	13222822_G3
CUSTOMER ID:	ROXBURY SOUTHBURY RD
CUSTOMER #:	10113268

RF SCHEDULE AND
ANTENNA INSTALLATION

SHEET NUMBER:
C-401
REVISION:
0



1 ANTENNA DETAIL
SCALE: N.T.S.



2 RRU DETAIL
SCALE: N.T.S.

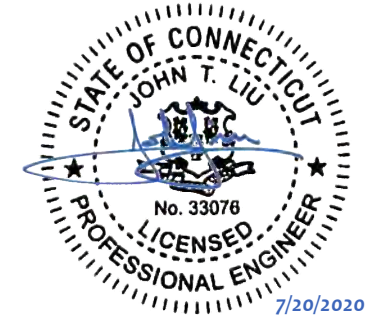


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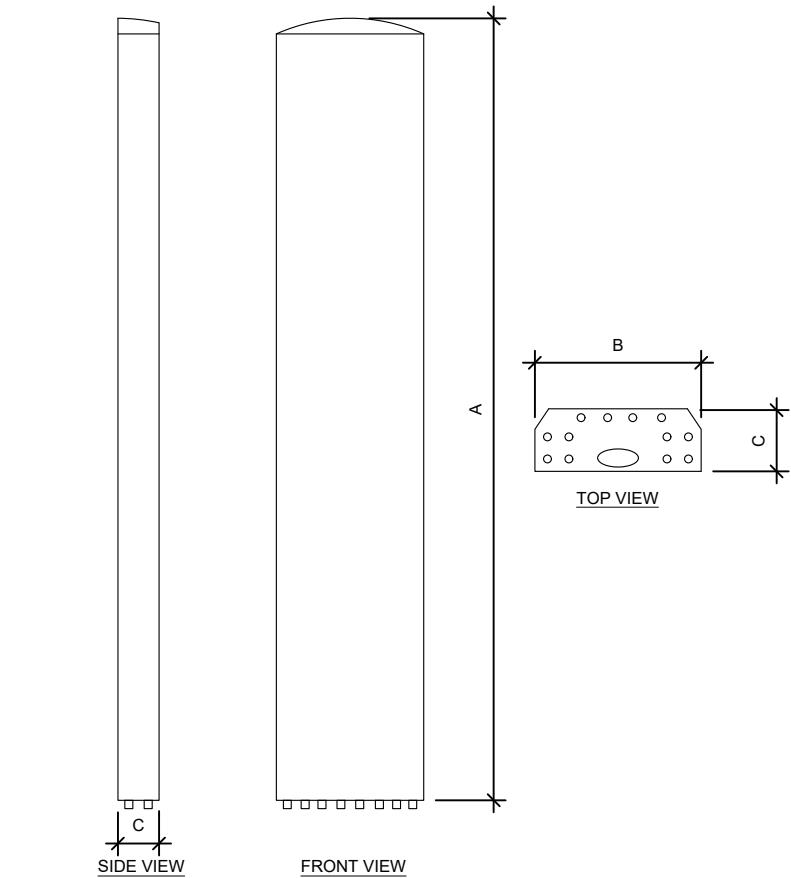
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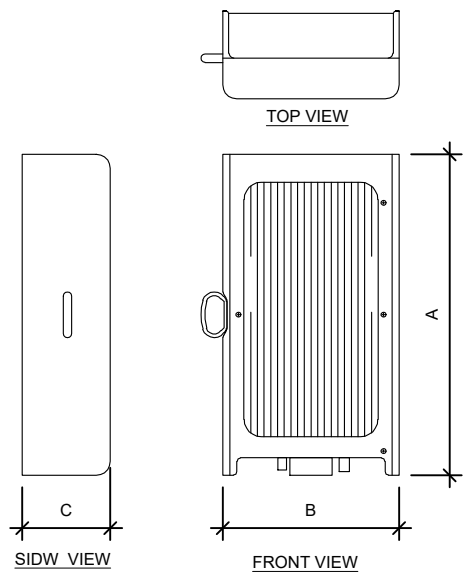
DATE DRAWN:	07/20/20
ATC JOB NO:	13222822_G3
CUSTOMER ID:	ROXBURY SOUTHBURY RD
CUSTOMER #:	10113268

CONSTRUCTION
DETAILS

SHEET NUMBER:	REVISION:
C-501	0



ANTENNA SPECIFICATIONS				
ANTENNA MODEL	A	B	C	WEIGHT (LBS)
CCI OPA65R-BU8DA	96.0"	21.0"	7.8"	76.5
CCI DMP65R-BU8DA	96.0"	20.7"	7.7"	95.7



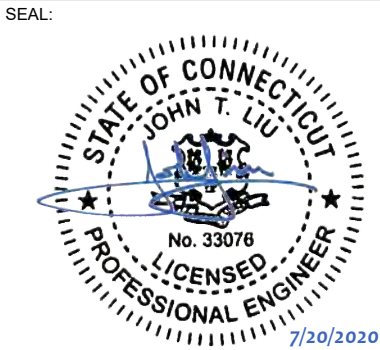
RRU SPECIFICATIONS				
RRU MODEL	A	B	C	WEIGHT (LBS)
4478 B14	18.1"	13.4"	8.3"	59.4
4449 B5, B12	17.9"	13.2"	9.4"	71.0
8843 B2/B66A	18.0"	13.2"	11.3"	75.0



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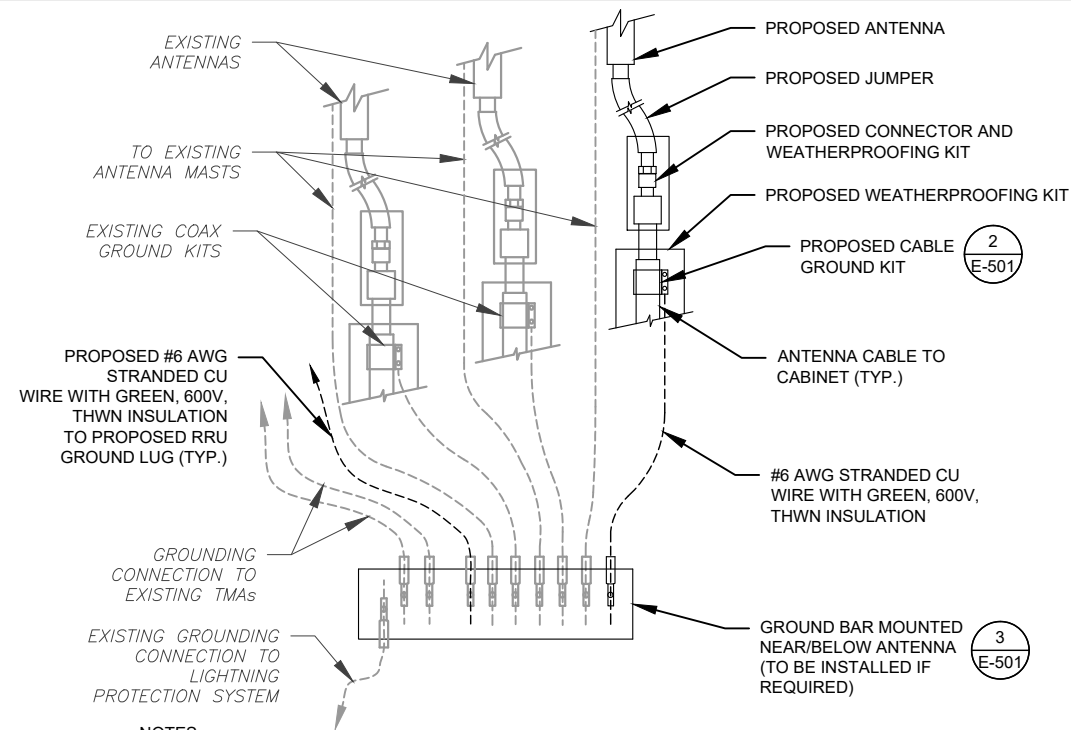
ATC SITE NUMBER:
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ATC SITE NAME:
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AT&T MOBILITY SITE NAME:
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DATE DRAWN:	07/20/20
ATC JOB NO:	13222822_G3
CUSTOMER ID:	ROXBURY SOUTHBURY RD
CUSTOMER #:	10113268

EQUIPMENT
SPECIFICATIONS

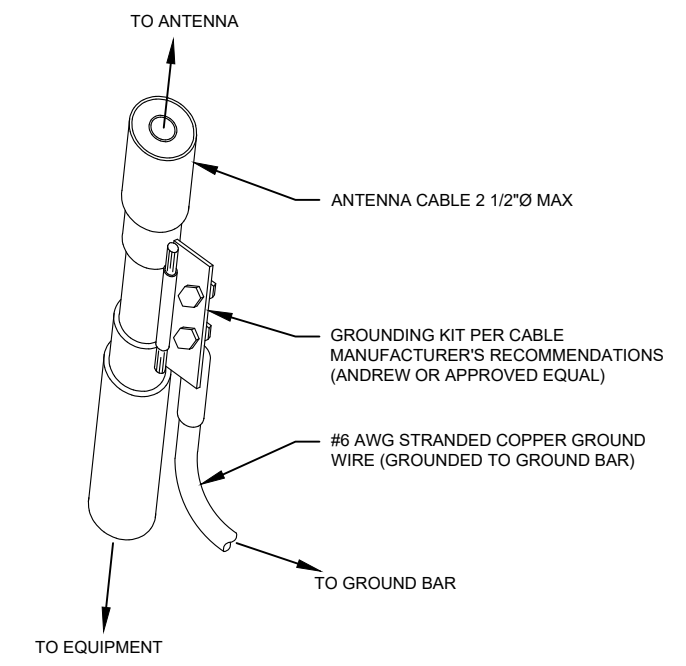
SHEET NUMBER:	REVISION:
C-502	0



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.

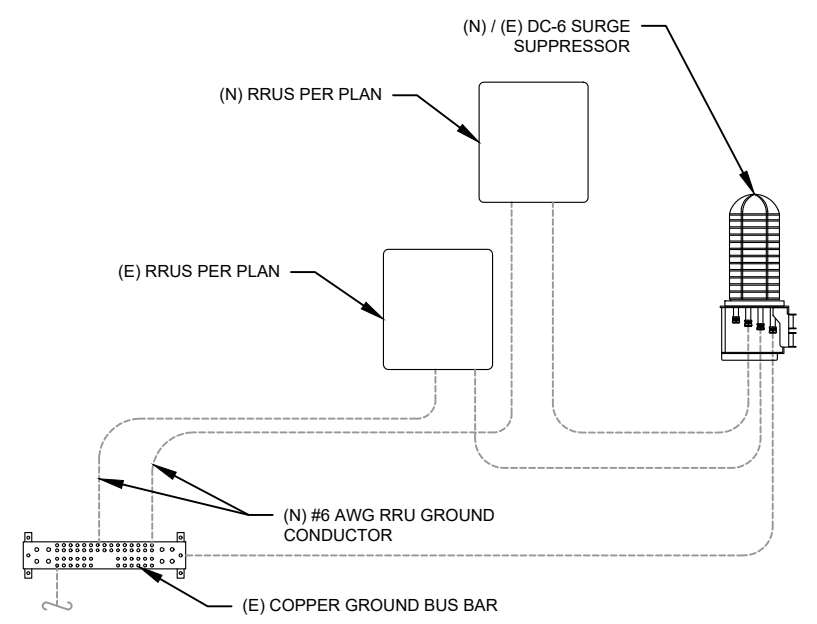
1 TYPICAL ANTENNA GROUNDING DIAGRAM
SCALE: N.T.S.



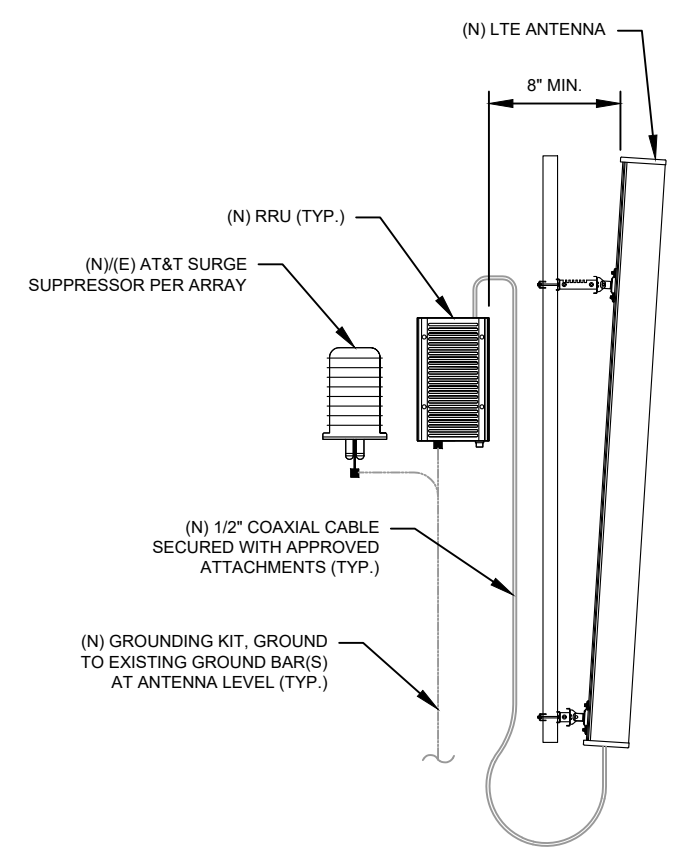
GROUND KIT NOTES:

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.



3 RRU GROUNDING
SCALE: N.T.S.

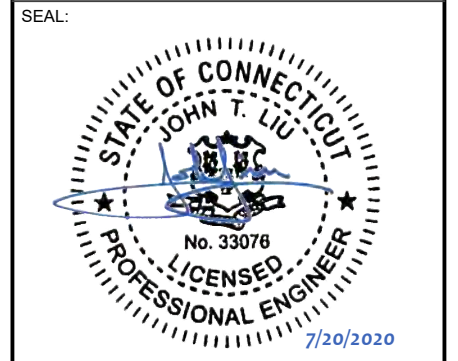


4 ANTENNA/RRU GROUNDING
SCALE: N.T.S.



REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	ZDS	07/20/20
1			
2			
3			
4			

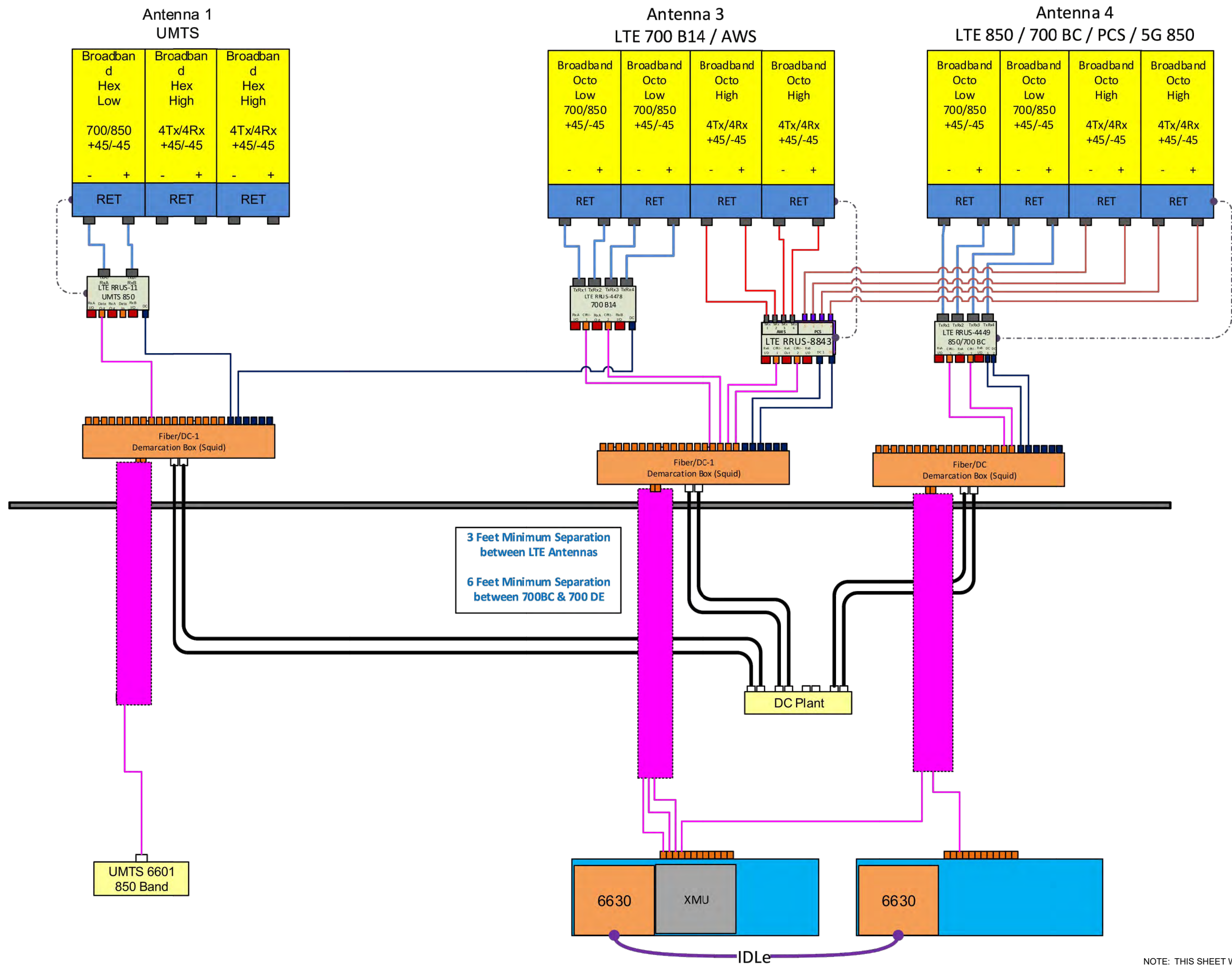
ATC SITE NUMBER:
280501
ATC SITE NAME:
ROXBURY CT
AT&T MOBILITY SITE NAME:
ROXBURY SOUTHBURY RD
SITE ADDRESS:
377 SOUTHBURY ROAD
ROXBURY, CT 06783-2102



DATE DRAWN:	07/20/20
ATC JOB NO:	13222822_G3
CUSTOMER ID:	ROXBURY SOUTHBURY RD
CUSTOMER #:	10113268

GROUNDING DETAILS

SHEET NUMBER: E-501	REVISION: 0
-------------------------------	-----------------------



NOTE: THIS SHEET WAS CREATED BY OTHERS AND PROVIDED AT THE REQUEST OF THE CUSTOMER WITHOUT EDIT. GENERAL CONTRACTOR IS TO CHECK WITH THE AT&T MOBILITY CM TO ENSURE THIS IS THE MOST RECENT VERSION OF THE RFDS.

EXHIBIT 2



AMERICAN TOWER®
CORPORATION

This report was prepared for American Tower Corporation by

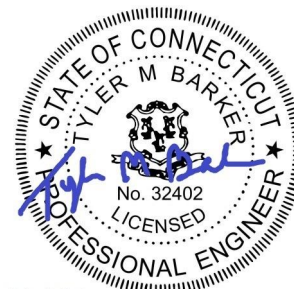
CLSENGINEERING
PLLC

Antenna Mount Analysis Report

ATC Site Name : Roxbury CT
ATC Asset Number : 280501
Engineering Number : 10113268
Mount Elevation : 166 ft
Carrier : AT&T Mobility
Carrier Site Name : MRCTB046508
Carrier Site Number : CTL02339
Site Location : 377 Southbury Rd
Roxbury, CT 06783-2102
41.51519444, -73.263
County : Litchfield
Date : August 7, 2020
Max Usage : 100%
Result : Pass

Prepared By:
Snehitha Narava
CLS Engineering PLLC

Reviewed By:
Tyler M. Barker, P.E.
CLS Engineering PLLC



Tyler M. Barker
CLS Engineering PLLC
Director of Engineering
PE # 32402 Exp. 1/31/2021
COA # PEC.001833 Exp. 8/14/2020

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Introduction	2
Supporting Documents	2
Analysis	2
Conclusion	2
Antenna Loading	3
Structure Usages	3
Standard Conditions	4

Introduction

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

Supporting Documents

Structural Data	Mount Mapping by MasTec Network Solutions, Job #202195, dated June 17, 2020 Site Photos dated August 23, 2018
Previous Analyses	Structural analysis by American Tower Corporation, Engg. No. #13222822_C3_04, dated June 19, 2020
Loading Data	AT&T RFDS ID #3720007, Version 2.00, dated May 28, 2020 AT&T Application, Project #13222822, dated June 12, 2020

Analysis

Codes	2015 IBC / TIA-222-G
Basic Wind Speed	120 mph, V_{ult} / 93 mph, V_{asd} (3-Second Gust)
Basic Wind Speed w/ Ice	40 mph (3-Second Gust) w/ 0.75" Radial Ice (Escalating)
Exposure Category	B
Max. Topographic Factor, K_{zt}	1.00
Risk Category	II
Maintenance Live Load	L_M : 500 lb
Spectral Response	S_S : 0.20; S_1 : 0.07; Site Class: D

Conclusion

Based on the analysis, the antenna mount meets the requirements per the applicable codes listed above. The mount can support the equipment as described in this report.

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

Antenna Loading

Elevation (ft)		Antennas	
Mount	Rad.	#	Name
166.0	166.0	3	CCI OPA65R-BU8D
		3	CCI DMP65R-BU8D
		3	CCI HPA-65R-BUU-H8
		3	Ericsson RRUS 11 B5
		3	Ericsson RRUS 4449 B5/B12
		3	Ericsson RRUS 4478 B14
		3	Ericsson RRUS 8843 B2/B66A
		3	Raycap DC6-48-60-18-8F

Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Collars	100%	Pass
Stand-Off Horizontals	100%	Pass
Mount Pipes	94%	Pass
Threaded Rod Clamps	90%	Pass
Offset Side Plate	79%	Pass
Platform Base	42%	Pass

Standard Conditions

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

This analysis assumes the following:

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

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

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

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

Wind & Ice Loading			
Nominal Mount Elevation (AGL), z_{mount}	166 ft	K_a	0.90
Nominal Rad Elevation (AGL), z_{rad}	166 ft	K_d	0.95
Elevation AMSL (ft)	-	K_e	-
TIA Standard	G	K_z	1.14
Basic Wind Speed, V_{ult} (bare)	120 mph	K_{zt}	1.00
Basic Wind Speed, V (ice)	40 mph	K_s	-
Design Ice Thickness, t_i	3/4 in	t_{iz}	1.76 in
Exposure Category	B	G_h	1.00
Risk Category	II	q_z (bare)	40.0 psf
Seismic Response Coeff., C_s	0.00	q_z (ice)	4.4 psf

Live Loading	
At Mount Pipes, L_M	500 lb
Joint Labels Considered	M1
	M2
	M3
	M4

Member Distributed Loading				
Section Set Label	Shape Label	F_A (lb/ft)		Ice Wt. (lb/ft)
		Bare	Ice	
Offset Tube	HSS4X4X4	24.00	1.61	14.77
Offset End Plate	0.5 x 6 Plate	36.00	3.82	12.71
Offset Side Plate	0.38 X 6 Plate	36.00	3.82	12.55
Platform Horizontal Pipe	PIPE_3.0	12.60	2.81	11.34
Grating Angle	L2x2x3	12.00	1.51	9.02
Mount Pipe	PIPE_2.0	8.55	2.36	8.91
Threaded Rod	1/2" SR	1.80	1.61	4.87

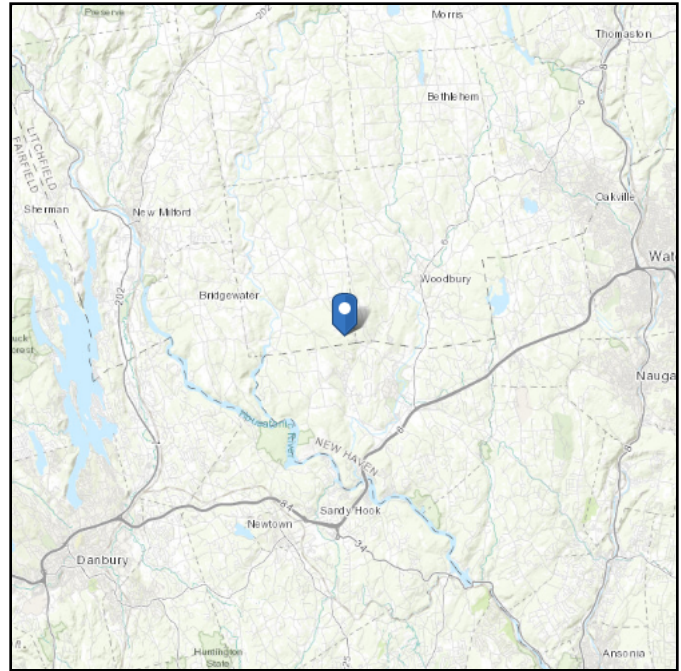
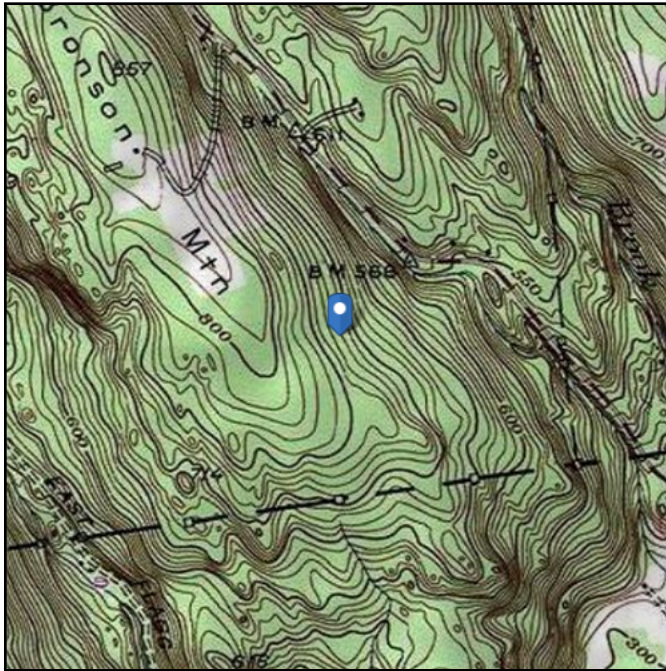
Appurtenances																														
Appurtenance Model	Status	Azimuth Offset (°, Ψ)	Rad Elev. Override (ft)	Swap Width & Depth	Area Factor		Qty. per Azimuth			Total Qty. Override	0° Joints		120° Joints		240° Joints		Height (in)	Width (in)	Depth (in)	Weight (Bare) (lb)	Shape	Weight of Ice (lb)	EPA _A (Bare) (ft²)		EPA _A (Ice) (ft²)		F _A (Bare) (lb)		F _A (Ice) (lb)	
					Front	Side	0°	120°	240°		1	2	1	2	1	2							N	T	N	T	N	T	N	T
HPA-65R-BUU-H8				☐			1	1	1	3	A1	A2	B1	B2	G1	G2	92.4	14.8	7.4	73	Generic	260.11	12.26	6.30	15.68	9.47	441.37	226.81	62.72	37.89
OPA65R-BU8D				☐			1	1	1	3	A3	A4	B3	B4	G3	G4	96	21	7.8	76.5	Generic	349.04	17.42	6.48	21.02	9.65	627.14	233.29	84.07	38.61
DMP65R-BU8D				☐			1	1	1	3	A5	A6	B5	B6	G5	G6	96	20.7	7.7	105.6	Generic	344.07	15.86	5.95	19.17	8.88	570.98	214.21	76.70	35.51
RRUS 8843 B2/B66A				☐	0.7	0.5	1	1	1	3	AR4		BR4		GR4		14.9	13.2	10.9	72	Flat	62.04	1.15	0.68	1.80	1.11	41.30	24.36	7.19	4.43
RRUS 4478 B14				☐	0.5		1	1	1	3	AR2		BR2		GR2		16.5	13.4	7.7	59.9	Flat	55.98	0.92	1.06	1.41	1.87	33.17	38.12	5.65	7.49
RRUS 4449 B5/B12				☐	0.7	0.5	1	1	1	3	AR3		BR3		GR3		17.9	13.19	9.44	71	Flat	65.26	1.38	0.70	2.09	1.16	49.58	25.35	8.36	4.63
RRUS 11 B5				☐	0.5		1	1	1	3	AR1		BR1		GR1		19.69	16.97	7.17	50.71	Flat	73.34	1.39	1.19	1.98	2.07	50.12	42.74	7.93	8.28
DC6-48-60-18-8F				☐			1	1	1	3	RC1		RC2		RC3		24	11	11	18.9	Round	62.46	1.28	1.28	1.94	1.94	46.20	46.20	7.77	7.77

ASCE 7 Hazards Report

Address:
No Address at This
Location

Standard: ASCE/SEI 7-16
Risk Category: II
Soil Class: D - Default (see
Section 11.4.3)

Elevation: 723.88 ft (NAVD 88)
Latitude: 41.515194
Longitude: -73.263



Wind

Results:

Wind Speed:	115 Vmph
10-year MRI	75 Vmph
25-year MRI	84 Vmph
50-year MRI	90 Vmph
100-year MRI	96 Vmph

Data Source: ASCE/SEI 7-16, Fig. 26.5-1B and Figs. CC.2-1–CC.2-4

Date Accessed: Thu Jul 02 2020

Value provided is 3-second gust wind speeds at 33 ft above ground for Exposure C Category, based on linear interpolation between contours. Wind speeds are interpolated in accordance with the 7-16 Standard. Wind speeds correspond to approximately a 7% probability of exceedance in 50 years (annual exceedance probability = 0.00143, MRI = 700 years).

Site is in a hurricane-prone region as defined in ASCE/SEI 7-16 Section 26.2. Glazed openings need not be protected against wind-borne debris.

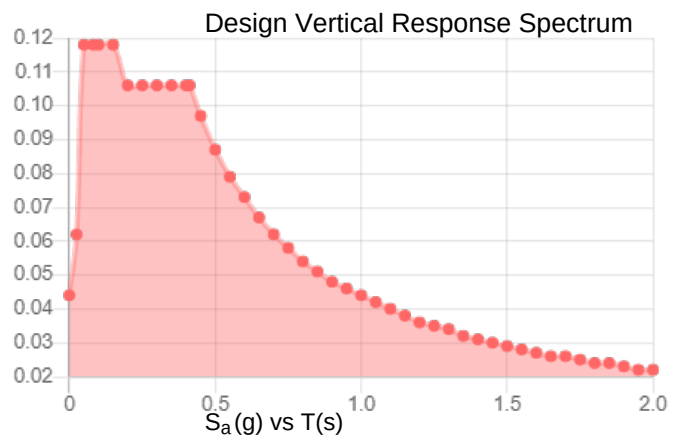
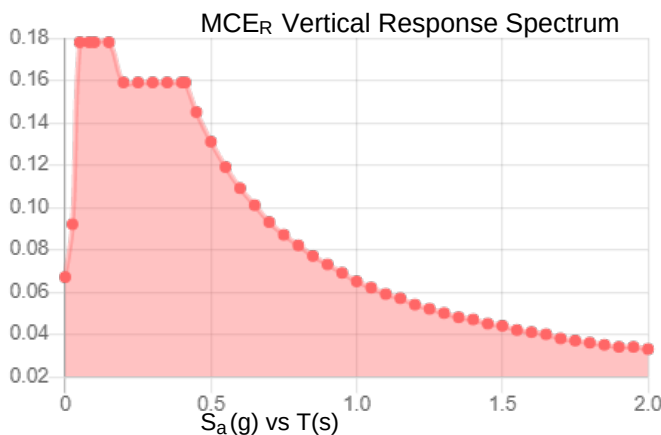
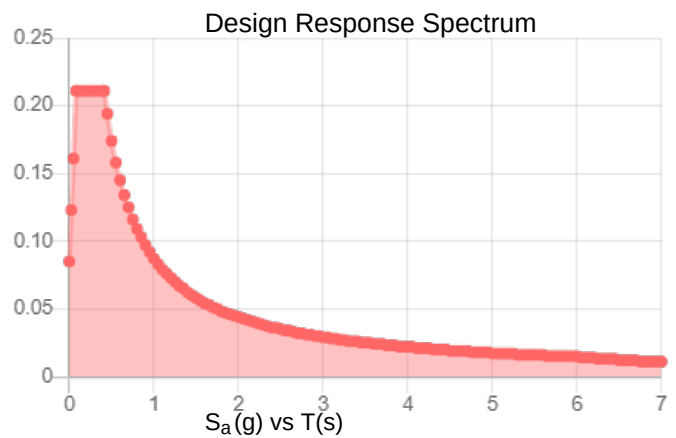
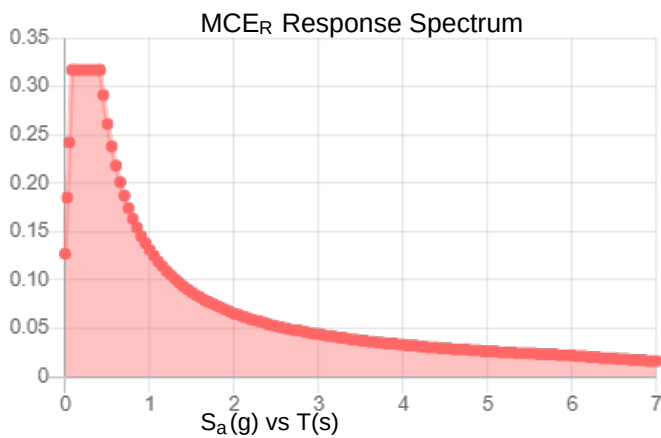
Mountainous terrain, gorges, ocean promontories, and special wind regions should be examined for unusual wind conditions.

Site Soil Class: D - Default (see Section 11.4.3)

Results:

S_S :	0.198	S_{D1} :	0.087
S_1 :	0.054	T_L :	6
F_a :	1.6	PGA :	0.11
F_v :	2.4	PGA _M :	0.174
S_{MS} :	0.317	F_{PGA} :	1.579
S_{M1} :	0.131	I_e :	1
S_{DS} :	0.211	C_v :	0.7

Seismic Design Category B



Data Accessed:

Thu Jul 02 2020

Date Source:

USGS Seismic Design Maps based on ASCE/SEI 7-16 and ASCE/SEI 7-16 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-16 Ch. 21 are available from USGS.

Ice

Results:

Ice Thickness: 1.00 in.
Concurrent Temperature: 15 F
Gust Speed: 50 mph

Data Source: Standard ASCE/SEI 7-16, Figs. 10-2 through 10-8

Date Accessed: Thu Jul 02 2020

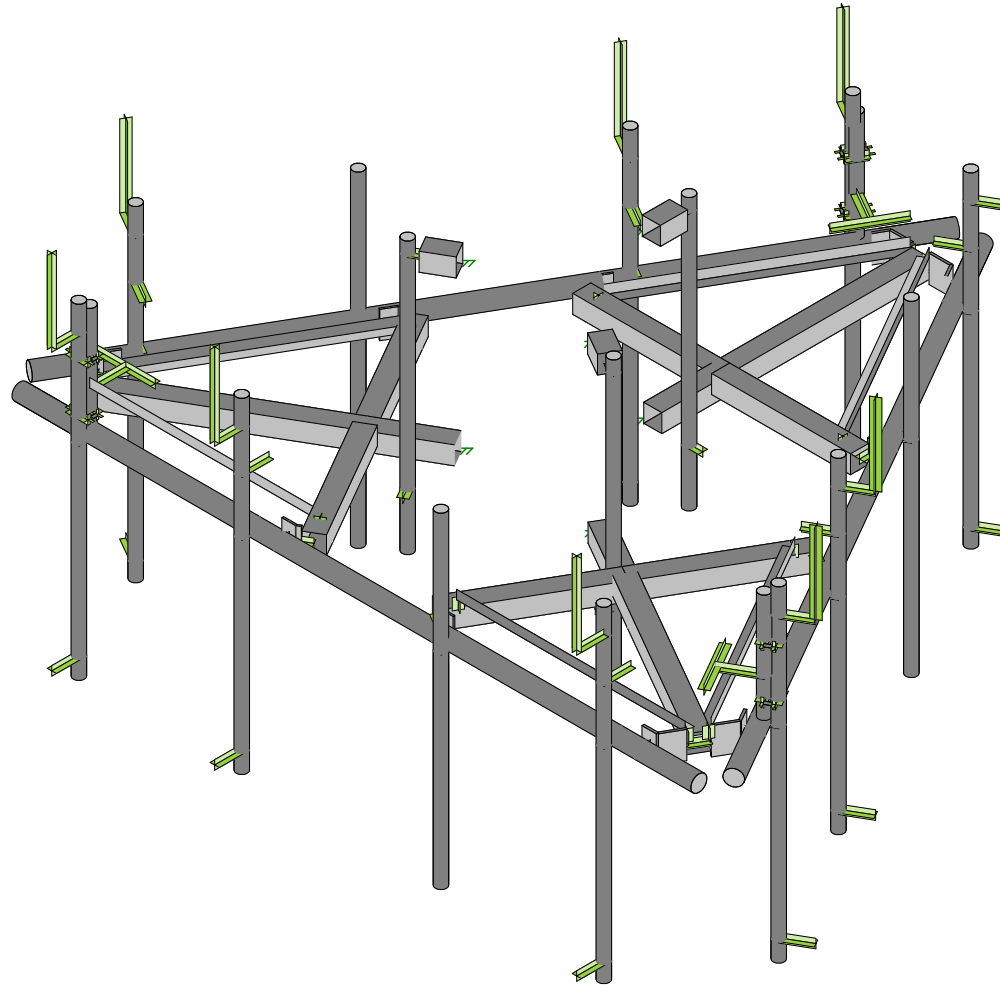
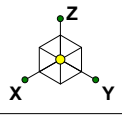
Ice thicknesses on structures in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

Values provided are equivalent radial ice thicknesses due to freezing rain with concurrent 3-second gust speeds, for a 500-year mean recurrence interval, and temperatures concurrent with ice thicknesses due to freezing rain. Thicknesses for ice accretions caused by other sources shall be obtained from local meteorological studies. Ice thicknesses in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

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

ASCE does not intend, nor should anyone interpret, the results provided by this Tool to replace the sound judgment of a competent professional, having knowledge and experience in the appropriate field(s) of practice, nor to substitute for the standard of care required of such professionals in interpreting and applying the contents of this Tool or the ASCE 7 standard.

In using this Tool, you expressly assume all risks associated with your use. Under no circumstances shall ASCE or its officers, directors, employees, members, affiliates, or agents be liable to you or any other person for any direct, indirect, special, incidental, or consequential damages arising from or related to your use of, or reliance on, the Tool or any information obtained therein. To the fullest extent permitted by law, you agree to release and hold harmless ASCE from any and all liability of any nature arising out of or resulting from any use of data provided by the ASCE 7 Hazard Tool.



Envelope Only Solution Telamon

CLS

SN

41124-13222822-01-MA-R1

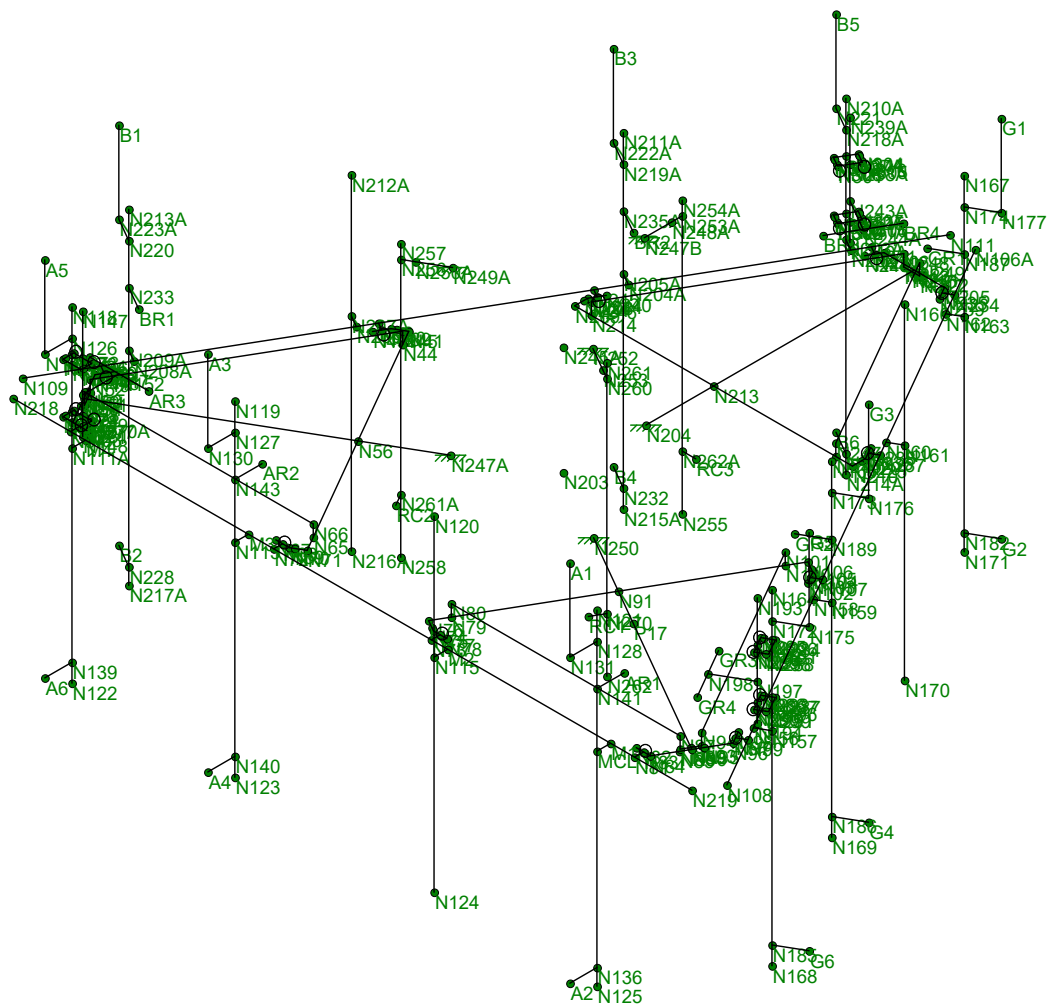
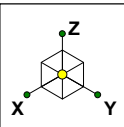
41124-13222822-Roxbury CT

Rendered

SK - 1

Aug 7, 2020 at 10:31 AM

41124-13222822-01-MA-R1.r3d

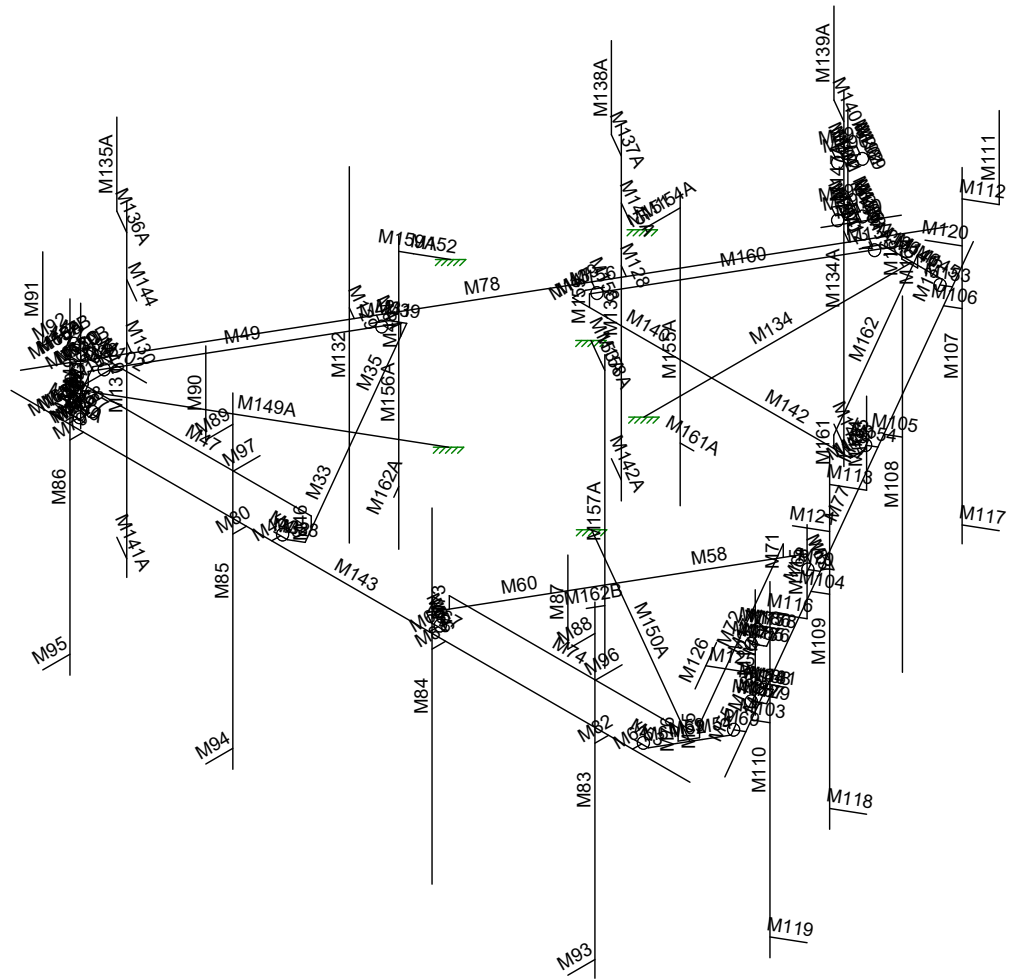
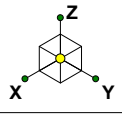


Envelope Only Solution Telamon

CLS
SN
41124-13222822-01-MA-R1

41124-13222822-Roxbury CT
Joint Labels

SK - 2
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41124-13222822-01-MA-R1.r3d

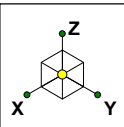


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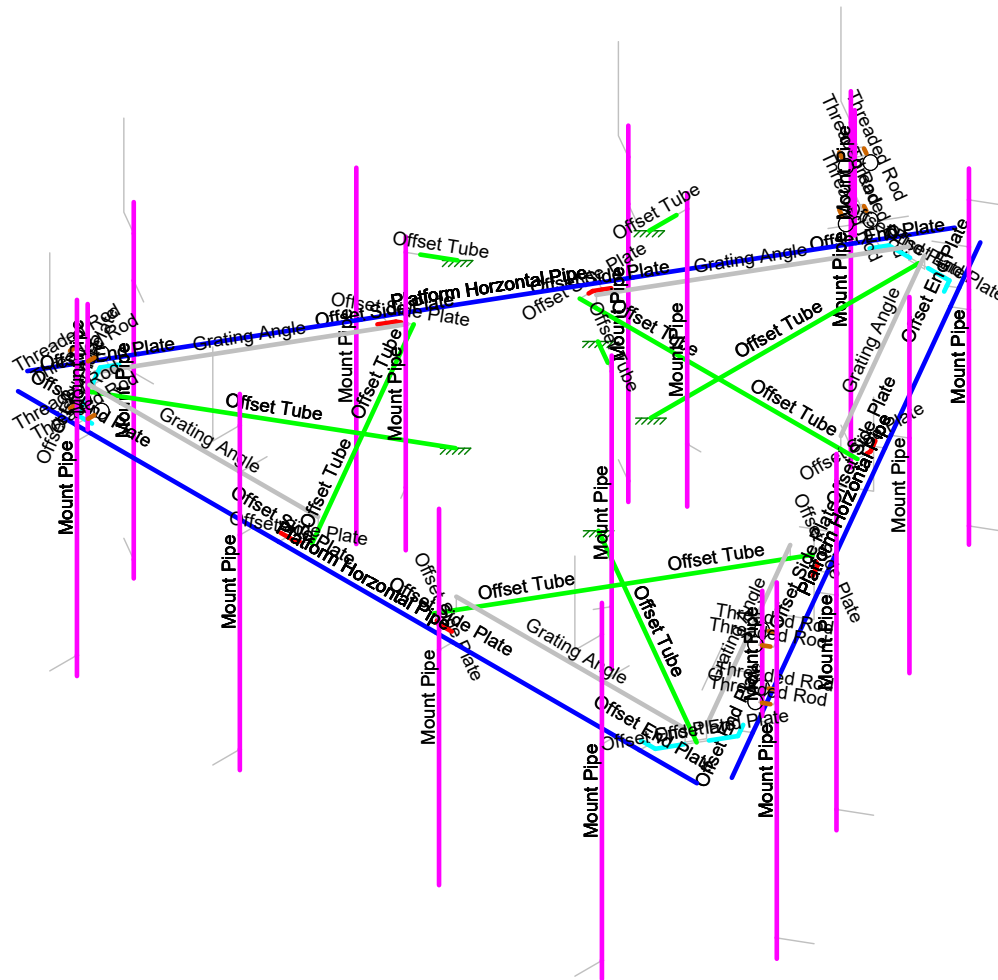
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SN
41124-13222822-01-MA-R1

41124-13222822-Roxbury CT
Member Labels

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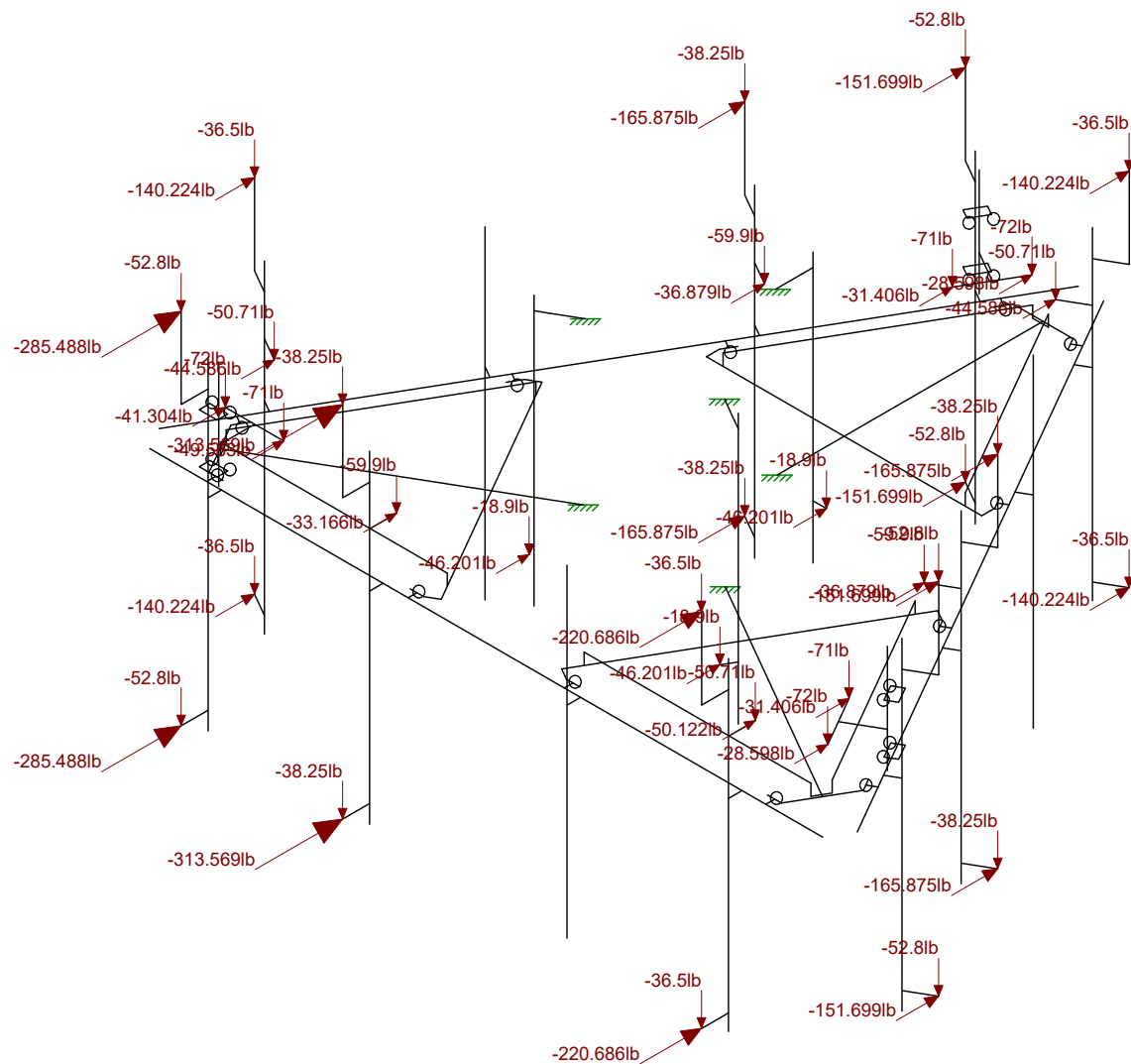


Section Sets	
█	Platform Horizontal Pipe
█	Offset Tube
█	Offset Side Plate
█	Grating Angle
█	Mount Pipe
█	Offset End Plate
█	Threaded Rod
█	RIGID

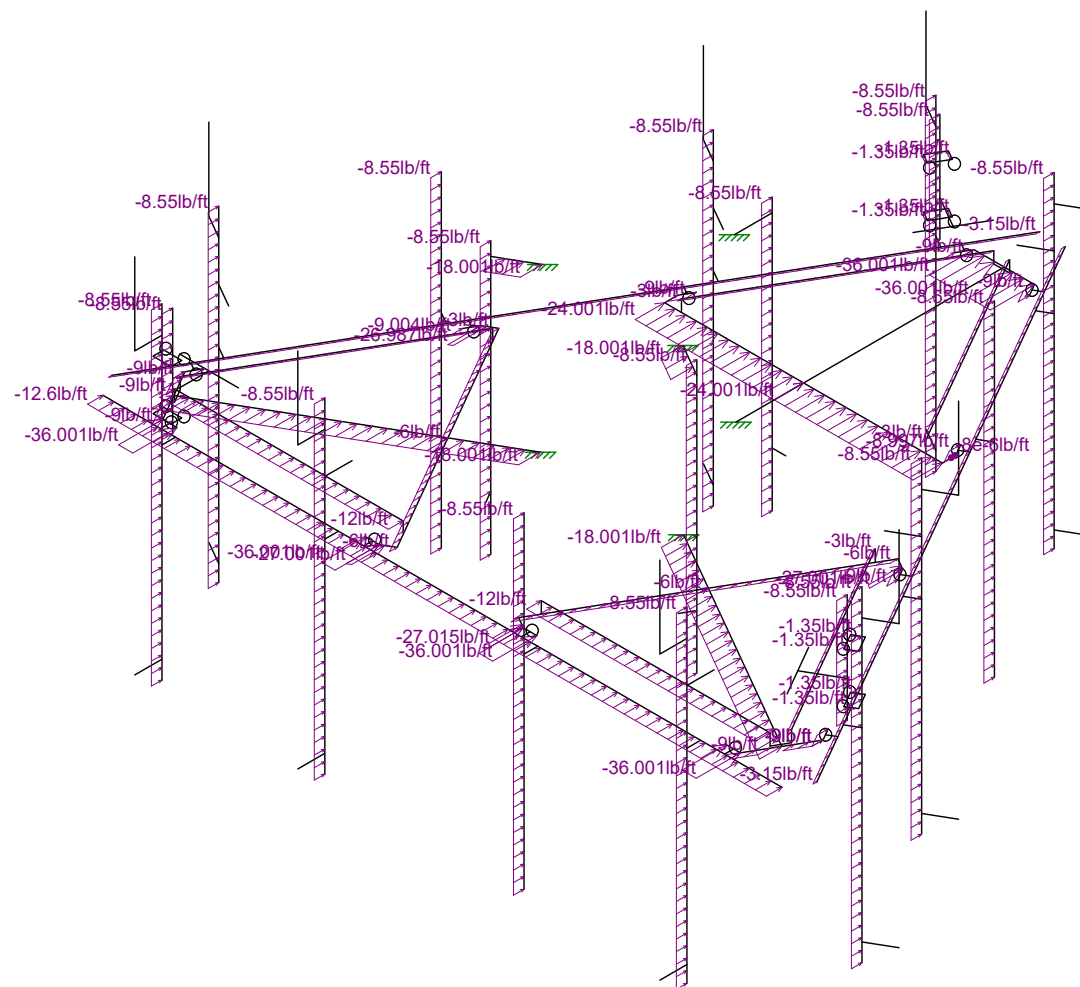


Envelope Only Solution Telamon

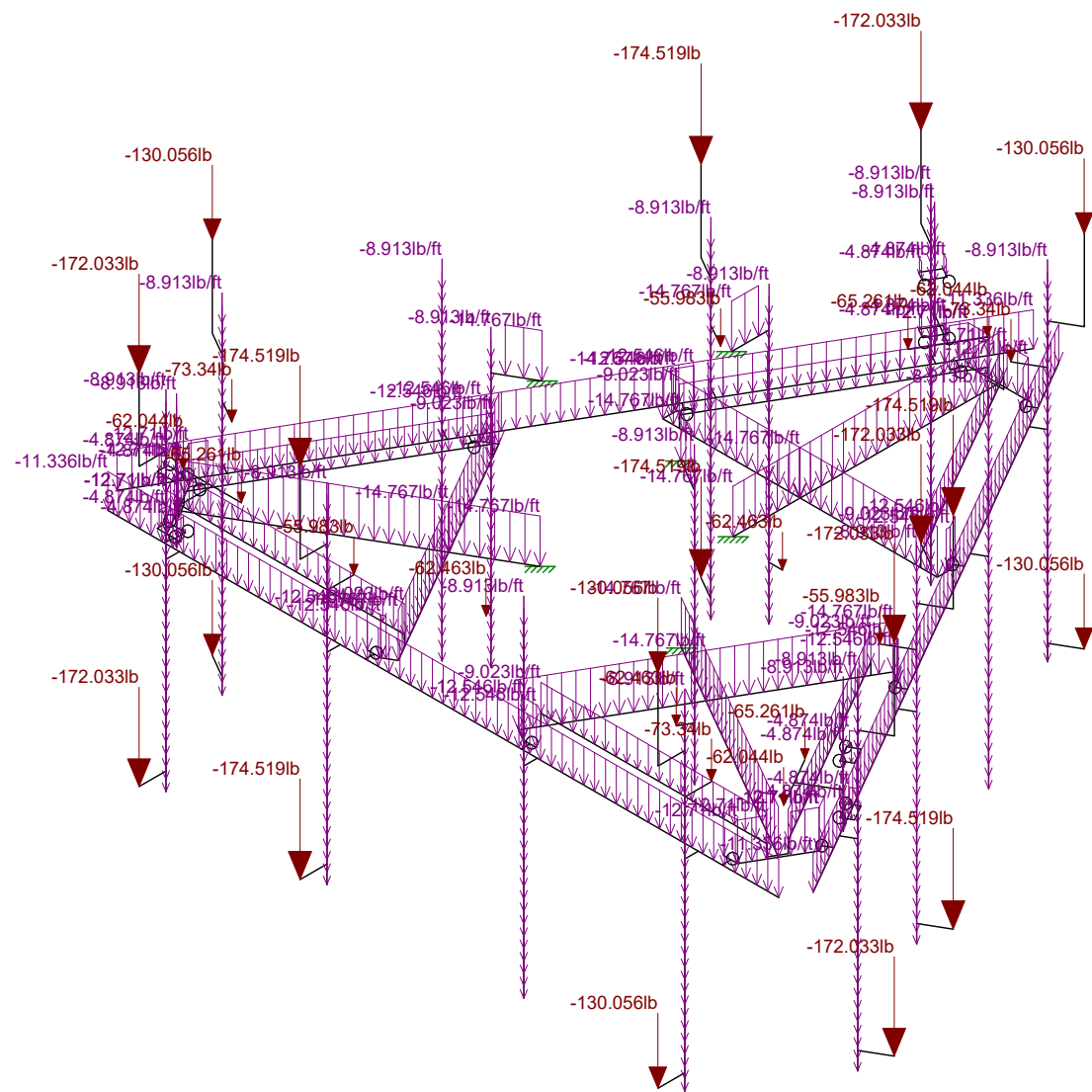
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SN		Aug 7, 2020 at 10:32 AM
41124-13222822-01-MA-R1		41124-13222822-01-MA-R1.r3d



41124-13222822-01-MA-R1.r3d



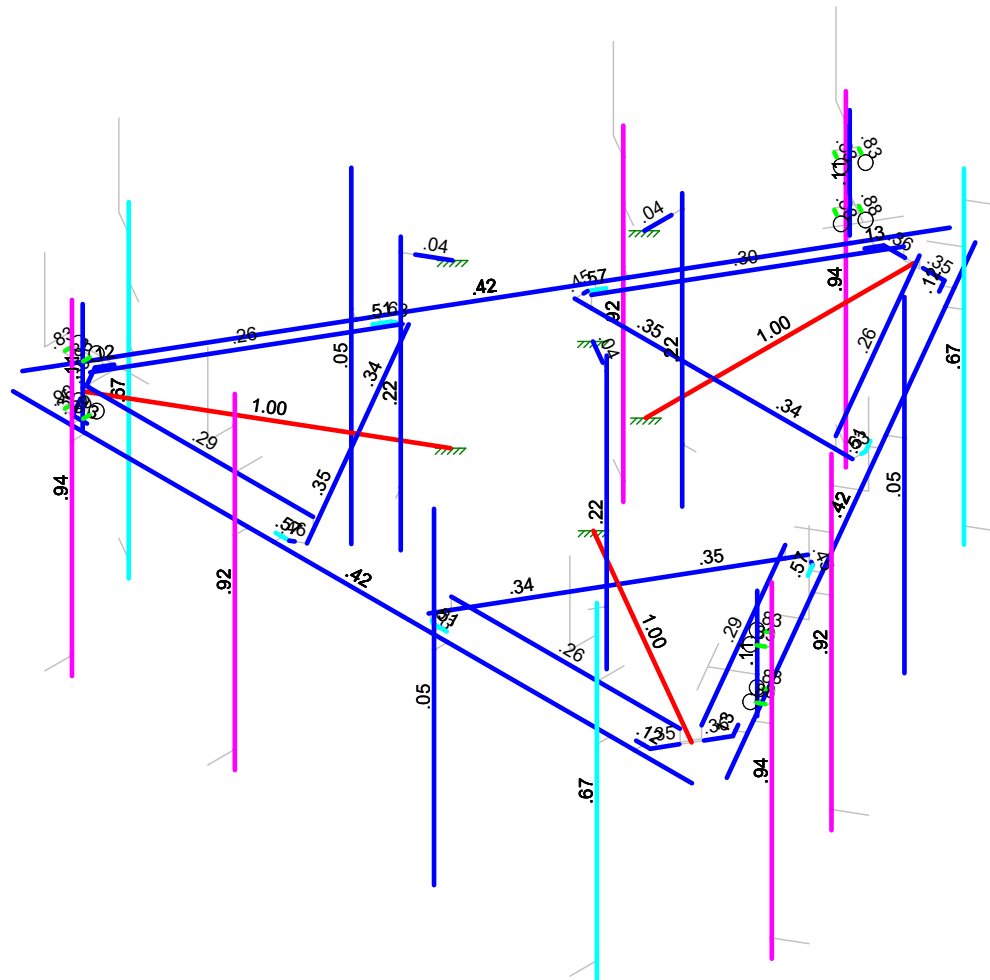
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41124-13222822-01-MA-R1

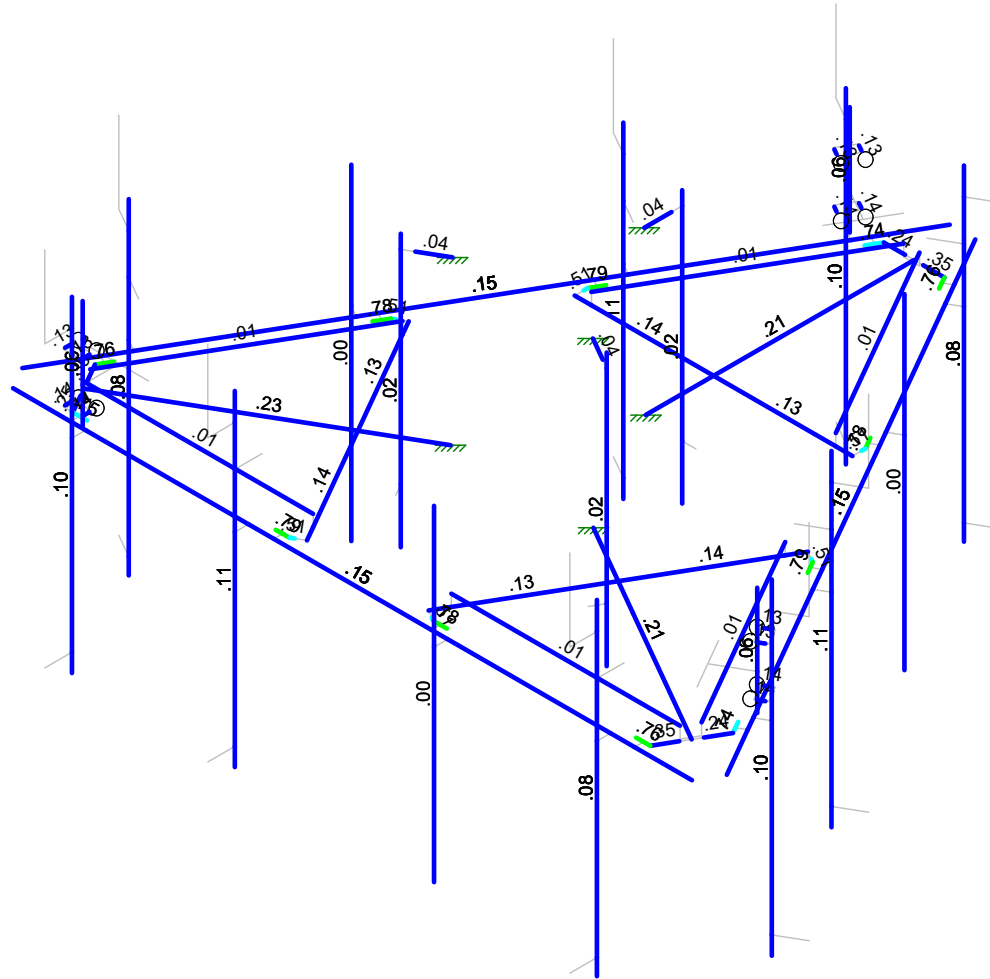
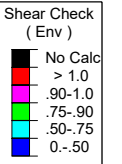
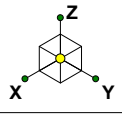
Ice Dead Loads

41124-13222822-01-MA-R1.r3d



Member Code Checks Displayed (Enveloped)
Envelope Only Solution

Telamon CLS	41124-13222822-Roxbury CT Envelope Member Unity Check Results - Bending	SK - 8
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Member Shear Checks Displayed (Enveloped)
Envelope Only Solution

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Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed Area(Me...	Surface(P...
1	Dead	DL			-1	33			
2	Ice Dead	RL				33		75	
4	Structure Wind 0°	None						68	
5	Structure Wind 30°	None						128	
6	Structure Wind 45°	None						150	
7	Structure Wind 60°	None						136	
8	Structure Wind 90°	None						64	
9	Structure Wind 120°	None						136	
10	Structure Wind 135°	None						150	
11	Structure Wind 150°	None						128	
12	Structure Wind w/ Ice ...	None						68	
13	Structure Wind w/ Ice ...	None						132	
14	Structure Wind w/ Ice ...	None						150	
15	Structure Wind w/ Ice ...	None						136	
16	Structure Wind w/ Ice ...	None						66	
17	Structure Wind w/ Ice ...	None						136	
18	Structure Wind w/ Ice ...	None						150	
19	Structure Wind w/ Ice ...	None						132	
20	Antenna Wind 0°	None				33			
21	Antenna Wind 30°	None				66			
22	Antenna Wind 45°	None				66			
23	Antenna Wind 60°	None				66			
24	Antenna Wind 90°	None				33			
25	Antenna Wind 120°	None				66			
26	Antenna Wind 135°	None				66			
27	Antenna Wind 150°	None				66			
28	Antenna Wind w/ Ice 0°	None				33			
29	Antenna Wind w/ Ice ...	None				66			
30	Antenna Wind w/ Ice ...	None				66			
31	Antenna Wind w/ Ice ...	None				66			
32	Antenna Wind w/ Ice ...	None				33			
33	Antenna Wind w/ Ice ...	None				66			
34	Antenna Wind w/ Ice ...	None				66			
35	Antenna Wind w/ Ice ...	None				66			
36	Seismic X	ELX							
37	Seismic Y	ELY							
38	Seismic Z	ELZ							
39	Maintenance Live 50...	OL1				1			
40	Maintenance Live 50...	OL2				1			
41	Maintenance Live 50...	OL3				1			
42	Maintenance Live 50...	OL4				1			

Load Combinations

	Description	Sol.	PD	SR	BLC Fact	BLC Fact	BLC Fact	BLC Fact	BLC Fact	BLC Fact	BLC Fact	BLC Fact	BLC Fact	BLC Fact	BLC Fact	BLC Fact	BLC Fact	BLC Fact	BLC Fact	BLC Fact
1	DISPLAY ...	Yes	Y		DL	1	20	1												
2	1.4D	Yes	Y		DL	1.4														
3	1.2D + 1.0...	Yes	Y		DL	1.2	4	1	20	1										
4	1.2D + 1.0...	Yes	Y		DL	1.2	5	1	21	1										
5	1.2D + 1.0...	Yes	Y		DL	1.2	6	1	22	1										
6	1.2D + 1.0...	Yes	Y		DL	1.2	7	1	23	1										
7	1.2D + 1.0...	Yes	Y		DL	1.2	8	1	24	1										
8	1.2D + 1.0...	Yes	Y		DL	1.2	9	1	25	1										
9	1.2D + 1.0...	Yes	Y		DL	1.2	10	1	26	1										
10	1.2D + 1.0...	Yes	Y		DL	1.2	11	1	27	1										

Load Combinations (Continued)

	Description	Sol.	PD	SR	BLC Fact.	BLC Fact.	BLC Fact.	BLC Fact.	BLC Fact.	BLC Fact.	BLC Fact.	BLC Fact.	BLC Fact.	BLC Fact.	BLC Fact.	BLC Fact.	BLC Fact.	BLC Fact.	BLC Fact.
11	1.2D + 1.0..	Yes	Y		DL 1.2	4	-1	20	-1										
12	1.2D + 1.0..	Yes	Y		DL 1.2	5	-1	21	-1										
13	1.2D + 1.0..	Yes	Y		DL 1.2	6	-1	22	-1										
14	1.2D + 1.0..	Yes	Y		DL 1.2	7	-1	23	-1										
15	1.2D + 1.0..	Yes	Y		DL 1.2	8	-1	24	-1										
16	1.2D + 1.0..	Yes	Y		DL 1.2	9	-1	25	-1										
17	1.2D + 1.0..	Yes	Y		DL 1.2	10	-1	26	-1										
18	1.2D + 1.0..	Yes	Y		DL 1.2	11	-1	27	-1										
19	1.2D + 1.0..	Yes	Y		DL 1.2	12	1	28	1	RL	1								
20	1.2D + 1.0..	Yes	Y		DL 1.2	13	1	29	1	RL	1								
21	1.2D + 1.0..	Yes	Y		DL 1.2	14	1	30	1	RL	1								
22	1.2D + 1.0..	Yes	Y		DL 1.2	15	1	31	1	RL	1								
23	1.2D + 1.0..	Yes	Y		DL 1.2	16	1	32	1	RL	1								
24	1.2D + 1.0..	Yes	Y		DL 1.2	17	1	33	1	RL	1								
25	1.2D + 1.0..	Yes	Y		DL 1.2	18	1	34	1	RL	1								
26	1.2D + 1.0..	Yes	Y		DL 1.2	19	1	35	1	RL	1								
27	1.2D + 1.0..	Yes	Y		DL 1.2	12	-1	28	-1	RL	1								
28	1.2D + 1.0..	Yes	Y		DL 1.2	13	-1	29	-1	RL	1								
29	1.2D + 1.0..	Yes	Y		DL 1.2	14	-1	30	-1	RL	1								
30	1.2D + 1.0..	Yes	Y		DL 1.2	15	-1	31	-1	RL	1								
31	1.2D + 1.0..	Yes	Y		DL 1.2	16	-1	32	-1	RL	1								
32	1.2D + 1.0..	Yes	Y		DL 1.2	17	-1	33	-1	RL	1								
33	1.2D + 1.0..	Yes	Y		DL 1.2	18	-1	34	-1	RL	1								
34	1.2D + 1.0..	Yes	Y		DL 1.2	19	-1	35	-1	RL	1								
35	1.2D + 1.0..	Yes	Y		DL 1.2	ELX	-1	ELY											
36	1.2D + 1.0..	Yes	Y		DL 1.2	ELX	-.866	ELY	.5										
37	1.2D + 1.0..	Yes	Y		DL 1.2	ELX	-.707	ELY	.707										
38	1.2D + 1.0..	Yes	Y		DL 1.2	ELX	-.5	ELY	.866										
39	1.2D + 1.0..	Yes	Y		DL 1.2	ELX		ELY	1										
40	1.2D + 1.0..	Yes	Y		DL 1.2	ELX	.5	ELY	.866										
41	1.2D + 1.0..	Yes	Y		DL 1.2	ELX	.707	ELY	.707										
42	1.2D + 1.0..	Yes	Y		DL 1.2	ELX	.866	ELY	.5										
43	1.2D + 1.0..	Yes	Y		DL 1.2	ELX	1	ELY											
44	1.2D + 1.0..	Yes	Y		DL 1.2	ELX	.866	ELY	-.5										
45	1.2D + 1.0..	Yes	Y		DL 1.2	ELX	.707	ELY	-.707										
46	1.2D + 1.0..	Yes	Y		DL 1.2	ELX	.5	ELY	-.866										
47	1.2D + 1.0..	Yes	Y		DL 1.2	ELX		ELY	-1										
48	1.2D + 1.0..	Yes	Y		DL 1.2	ELX	-.5	ELY	-.866										
49	1.2D + 1.0..	Yes	Y		DL 1.2	ELX	-.707	ELY	-.707										
50	1.2D + 1.0..	Yes	Y		DL 1.2	ELX	-.866	ELY	-.5										
51	0.9D + 1.0..	Yes	Y		DL .9	ELX	-1	ELY											
52	0.9D + 1.0..	Yes	Y		DL .9	ELX	-.866	ELY	.5										
53	0.9D + 1.0..	Yes	Y		DL .9	ELX	-.707	ELY	.707										
54	0.9D + 1.0..	Yes	Y		DL .9	ELX	-.5	ELY	.866										
55	0.9D + 1.0..	Yes	Y		DL .9	ELX		ELY	1										
56	0.9D + 1.0..	Yes	Y		DL .9	ELX	.5	ELY	.866										
57	0.9D + 1.0..	Yes	Y		DL .9	ELX	.707	ELY	.707										
58	0.9D + 1.0..	Yes	Y		DL .9	ELX	.866	ELY	.5										
59	0.9D + 1.0..	Yes	Y		DL .9	ELX	1	ELY											
60	0.9D + 1.0..	Yes	Y		DL .9	ELX	.866	ELY	-.5										
61	0.9D + 1.0..	Yes	Y		DL .9	ELX	.707	ELY	-.707										
62	0.9D + 1.0..	Yes	Y		DL .9	ELX	.5	ELY	-.866										
63	0.9D + 1.0..	Yes	Y		DL .9	ELX		ELY	-1										
64	0.9D + 1.0..	Yes	Y		DL .9	ELX	-.5	ELY	-.866										
65	0.9D + 1.0..	Yes	Y		DL .9	ELX	-.707	ELY	-.707										
66	0.9D + 1.0..	Yes	Y		DL .9	ELX	-.866	ELY	-.5										
67	1.2D + 1.5..	Yes	Y		DL 1.2	4	.066	20	.066	OL1	1.5								

Load Combinations (Continued)

	Description	Sol.	PD	SR	BLC Fact	BLC Fact	BLC Fact	BLC Fact	BLC Fact	BLC Fact	BLC Fact	BLC Fact	BLC Fact	BLC Fact	BLC Fact	BLC Fact	BLC Fact	BLC Fact	BLC Fact
68	1.2D + 1.5..	Yes	Y		DL 1.2	5	.066	21	.066	OL1	1.5								
69	1.2D + 1.5..	Yes	Y		DL 1.2	6	.066	22	.066	OL1	1.5								
70	1.2D + 1.5..	Yes	Y		DL 1.2	7	.066	23	.066	OL1	1.5								
71	1.2D + 1.5..	Yes	Y		DL 1.2	8	.066	24	.066	OL1	1.5								
72	1.2D + 1.5..	Yes	Y		DL 1.2	9	.066	25	.066	OL1	1.5								
73	1.2D + 1.5..	Yes	Y		DL 1.2	10	.066	26	.066	OL1	1.5								
74	1.2D + 1.5..	Yes	Y		DL 1.2	11	.066	27	.066	OL1	1.5								
75	1.2D + 1.5..	Yes	Y		DL 1.2	4	-.066	20	-.066	OL1	1.5								
76	1.2D + 1.5..	Yes	Y		DL 1.2	5	-.066	21	-.066	OL1	1.5								
77	1.2D + 1.5..	Yes	Y		DL 1.2	6	-.066	22	-.066	OL1	1.5								
78	1.2D + 1.5..	Yes	Y		DL 1.2	7	-.066	23	-.066	OL1	1.5								
79	1.2D + 1.5..	Yes	Y		DL 1.2	8	-.066	24	-.066	OL1	1.5								
80	1.2D + 1.5..	Yes	Y		DL 1.2	9	-.066	25	-.066	OL1	1.5								
81	1.2D + 1.5..	Yes	Y		DL 1.2	10	-.066	26	-.066	OL1	1.5								
82	1.2D + 1.5..	Yes	Y		DL 1.2	11	-.066	27	-.066	OL1	1.5								
83	1.2D + 1.5..	Yes	Y		DL 1.2	4	.066	20	.066	OL2	1.5								
84	1.2D + 1.5..	Yes	Y		DL 1.2	5	.066	21	.066	OL2	1.5								
85	1.2D + 1.5..	Yes	Y		DL 1.2	6	.066	22	.066	OL2	1.5								
86	1.2D + 1.5..	Yes	Y		DL 1.2	7	.066	23	.066	OL2	1.5								
87	1.2D + 1.5..	Yes	Y		DL 1.2	8	.066	24	.066	OL2	1.5								
88	1.2D + 1.5..	Yes	Y		DL 1.2	9	.066	25	.066	OL2	1.5								
89	1.2D + 1.5..	Yes	Y		DL 1.2	10	.066	26	.066	OL2	1.5								
90	1.2D + 1.5..	Yes	Y		DL 1.2	11	.066	27	.066	OL2	1.5								
91	1.2D + 1.5..	Yes	Y		DL 1.2	4	-.066	20	-.066	OL2	1.5								
92	1.2D + 1.5..	Yes	Y		DL 1.2	5	-.066	21	-.066	OL2	1.5								
93	1.2D + 1.5..	Yes	Y		DL 1.2	6	-.066	22	-.066	OL2	1.5								
94	1.2D + 1.5..	Yes	Y		DL 1.2	7	-.066	23	-.066	OL2	1.5								
95	1.2D + 1.5..	Yes	Y		DL 1.2	8	-.066	24	-.066	OL2	1.5								
96	1.2D + 1.5..	Yes	Y		DL 1.2	9	-.066	25	-.066	OL2	1.5								
97	1.2D + 1.5..	Yes	Y		DL 1.2	10	-.066	26	-.066	OL2	1.5								
98	1.2D + 1.5..	Yes	Y		DL 1.2	11	-.066	27	-.066	OL2	1.5								
99	1.2D + 1.5..	Yes	Y		DL 1.2	4	.066	20	.066	OL3	1.5								
100	1.2D + 1.5..	Yes	Y		DL 1.2	5	.066	21	.066	OL3	1.5								
101	1.2D + 1.5..	Yes	Y		DL 1.2	6	.066	22	.066	OL3	1.5								
102	1.2D + 1.5..	Yes	Y		DL 1.2	7	.066	23	.066	OL3	1.5								
103	1.2D + 1.5..	Yes	Y		DL 1.2	8	.066	24	.066	OL3	1.5								
104	1.2D + 1.5..	Yes	Y		DL 1.2	9	.066	25	.066	OL3	1.5								
105	1.2D + 1.5..	Yes	Y		DL 1.2	10	.066	26	.066	OL3	1.5								
106	1.2D + 1.5..	Yes	Y		DL 1.2	11	.066	27	.066	OL3	1.5								
107	1.2D + 1.5..	Yes	Y		DL 1.2	4	-.066	20	-.066	OL3	1.5								
108	1.2D + 1.5..	Yes	Y		DL 1.2	5	-.066	21	-.066	OL3	1.5								
109	1.2D + 1.5..	Yes	Y		DL 1.2	6	-.066	22	-.066	OL3	1.5								
110	1.2D + 1.5..	Yes	Y		DL 1.2	7	-.066	23	-.066	OL3	1.5								
111	1.2D + 1.5..	Yes	Y		DL 1.2	8	-.066	24	-.066	OL3	1.5								
112	1.2D + 1.5..	Yes	Y		DL 1.2	9	-.066	25	-.066	OL3	1.5								
113	1.2D + 1.5..	Yes	Y		DL 1.2	10	-.066	26	-.066	OL3	1.5								
114	1.2D + 1.5..	Yes	Y		DL 1.2	11	-.066	27	-.066	OL3	1.5								
115	1.2D + 1.5..	Yes	Y		DL 1.2	4	.066	20	.066	OL4	1.5								
116	1.2D + 1.5..	Yes	Y		DL 1.2	5	.066	21	.066	OL4	1.5								
117	1.2D + 1.5..	Yes	Y		DL 1.2	6	.066	22	.066	OL4	1.5								
118	1.2D + 1.5..	Yes	Y		DL 1.2	7	.066	23	.066	OL4	1.5								
119	1.2D + 1.5..	Yes	Y		DL 1.2	8	.066	24	.066	OL4	1.5								
120	1.2D + 1.5..	Yes	Y		DL 1.2	9	.066	25	.066	OL4	1.5								
121	1.2D + 1.5..	Yes	Y		DL 1.2	10	.066	26	.066	OL4	1.5								
122	1.2D + 1.5..	Yes	Y		DL 1.2	11	.066	27	.066	OL4	1.5								
123	1.2D + 1.5..	Yes	Y		DL 1.2	4	-.066	20	-.066	OL4	1.5								
124	1.2D + 1.5..	Yes	Y		DL 1.2	5	-.066	21	-.066	OL4	1.5								

Load Combinations (Continued)

	Description	Sol.	PD	SR	BLC Fact	BLC Fact	BLC Fact	BLC Fact	BLC Fact	BLC Fact	BLC Fact	BLC Fact	BLC Fact	BLC Fact	BLC Fact	BLC Fact	BLC Fact	BLC Fact	BLC Fact	BLC Fact
125	1.2D + 1.5...	Yes	Y		DL	1.2	6	-.066	22	-.066	OL4	1.5								
126	1.2D + 1.5...	Yes	Y		DL	1.2	7	-.066	23	-.066	OL4	1.5								
127	1.2D + 1.5...	Yes	Y		DL	1.2	8	-.066	24	-.066	OL4	1.5								
128	1.2D + 1.5...	Yes	Y		DL	1.2	9	-.066	25	-.066	OL4	1.5								
129	1.2D + 1.5...	Yes	Y		DL	1.2	10	-.066	26	-.066	OL4	1.5								
130	1.2D + 1.5...	Yes	Y		DL	1.2	11	-.066	27	-.066	OL4	1.5								

Hot Rolled Steel Properties

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

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design ...	Material	Design ...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	Platform Horizontal Pipe	PIPE 3.0	Beam	Pipe	A53 Gr.B	Typical	2.07	2.85	2.85	5.69
2	Offset Tube	HSS4X4X4	Beam	Square...	A36 Gr.36	Typical	3.37	7.8	7.8	12.8
3	Offset Side Plate	0.38 X 6 Plate	Beam	RECT	A36 Gr.36	Typical	2.28	.027	6.84	.105
4	Grating Angle	L2x2x3	Beam	Single ...	A36 Gr.36	Typical	.722	.271	.271	.009
5	Mount Pipe	PIPE 2.0	Beam	Pipe	A53 Gr.B	Typical	1.02	.627	.627	1.25
6	Offset End Plate	0.5 x 6 Plate	Beam	RECT	A36 Gr.36	Typical	3	.063	9	.237
7	Threaded Rod	1/2" SR	Beam	BAR	A36 Gr.36	Typical	.196	.003	.003	.006

Hot Rolled Steel Design Parameters

	Label	Shape	Length[in]	Lbyy[in]	Lbzz[in]	Lcomp top[in]	Lcomp bot[in]	L-torq...	Kyy	Kzz	Cb	Function
1	M134	Offset Tube	59.304									Lateral
2	M135	Offset End ...	3.122									Lateral
3	M136	Offset End ...	4.688									Lateral
4	M137	Offset End ...	3.122									Lateral
5	M138	Offset Side ...	.875									Lateral
6	M139	Offset Side ...	.875									Lateral
7	M140	Offset Tube	30.688									Lateral
8	M142	Offset Tube	30.687									Lateral
9	M143	Platform Ho...	150									Lateral
10	M145	Offset End ...	4.688									Lateral
11	M155	Offset Side ...	3									Lateral
12	M156	Offset Side ...	3									Lateral
13	M160	Grating Angle	50.542									Lateral
14	M162	Grating Angle	50.542									Lateral
15	M28	Offset End ...	3.122									Lateral
16	M29	Offset End ...	4.688									Lateral
17	M30	Offset End ...	3.122									Lateral
18	M31	Offset Side ...	.875									Lateral
19	M32	Offset Side ...	.875									Lateral
20	M33	Offset Tube	30.688									Lateral
21	M35	Offset Tube	30.687									Lateral
22	M36	Offset End ...	4.688									Lateral
23	M42	Offset Side ...	3									Lateral

Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Length[in]	Lbvy[in]	Lbzz[in]	Lcomp top[in]	Lcomp bot[in]	L-torg...	Kyy	Kzz	Cb	Function
24	M43	Offset Side ...	3									Lateral
25	M47	Grating Angle	50.542									Lateral
26	M49	Grating Angle	50.542									Lateral
27	M53	Offset End ...	3.122									Lateral
28	M54	Offset End ...	4.688									Lateral
29	M55	Offset End ...	3.122									Lateral
30	M56	Offset Side ...	.875									Lateral
31	M57	Offset Side ...	.875									Lateral
32	M58	Offset Tube	30.688									Lateral
33	M60	Offset Tube	30.687									Lateral
34	M61	Offset End ...	4.688									Lateral
35	M67	Offset Side ...	3									Lateral
36	M68	Offset Side ...	3									Lateral
37	M72	Grating Angle	50.542									Lateral
38	M74	Grating Angle	50.542									Lateral
39	M77	Platform Ho...	150									Lateral
40	M78	Platform Ho...	150									Lateral
41	M83	Mount Pipe	72									Lateral
42	M84	Mount Pipe	72									Lateral
43	M85	Mount Pipe	72									Lateral
44	M86	Mount Pipe	72									Lateral
45	M99	Mount Pipe	24									Lateral
46	M107	Mount Pipe	72									Lateral
47	M108	Mount Pipe	72									Lateral
48	M109	Mount Pipe	72									Lateral
49	M110	Mount Pipe	72									Lateral
50	M123	Mount Pipe	24									Lateral
51	M131	Mount Pipe	72									Lateral
52	M132	Mount Pipe	72									Lateral
53	M133	Mount Pipe	72									Lateral
54	M134A	Mount Pipe	72									Lateral
55	M147A	Mount Pipe	24									Lateral
56	M149A	Offset Tube	59.304									Lateral
57	M150A	Offset Tube	59.304									Lateral
58	M151	Offset Tube	6									Lateral
59	M152	Offset Tube	6									Lateral
60	M153A	Offset Tube	6									Lateral
61	M155A	Mount Pipe	60									Lateral
62	M156A	Mount Pipe	60									Lateral
63	M157A	Mount Pipe	60									Lateral
64	M169	Threaded R...	1.375									Lateral
65	M170	Threaded R...	1.375									Lateral
66	M171	Threaded R...	1.375									Lateral
67	M172	Threaded R...	1.375									Lateral
68	M185	Threaded R...	1.375									Lateral
69	M186	Threaded R...	1.375									Lateral
70	M187	Threaded R...	1.375									Lateral
71	M188	Threaded R...	1.375									Lateral
72	M201	Threaded R...	1.375									Lateral
73	M202	Threaded R...	1.375									Lateral
74	M203	Threaded R...	1.375									Lateral
75	M204	Threaded R...	1.375									Lateral

Member Advanced Data

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic...
1	M134						Yes				None
2	M135						Yes				None
3	M136						Yes				None
4	M137						Yes				None
5	M138						Yes				None
6	M139						Yes				None
7	M140						Yes				None
8	M141						Yes	** NA **			None
9	M142						Yes				None
10	M143						Yes				None
11	M145						Yes				None
12	M146						Yes	** NA **			None
13	M147						Yes	** NA **			None
14	M148						Yes	** NA **			None
15	M153		OOOXOO				Yes	** NA **			None
16	M154		OOOXOO				Yes	** NA **			None
17	M155						Yes				None
18	M156						Yes				None
19	M157		OOOXOO				Yes	** NA **			None
20	M158		OOOXOO				Yes	** NA **			None
21	M159						Yes	** NA **			None
22	M160						Yes				None
23	M161						Yes	** NA **			None
24	M162						Yes				None
25	M163						Yes	** NA **			None
26	M164						Yes	** NA **			None
27	M28						Yes				None
28	M29						Yes				None
29	M30						Yes				None
30	M31						Yes				None
31	M32						Yes				None
32	M33						Yes				None
33	M34						Yes	** NA **			None
34	M35						Yes				None
35	M36						Yes				None
36	M37						Yes	** NA **			None
37	M38						Yes	** NA **			None
38	M39						Yes	** NA **			None
39	M40		OOOXOO				Yes	** NA **			None
40	M41		OOOXOO				Yes	** NA **			None
41	M42						Yes				None
42	M43						Yes				None
43	M44		OOOXOO				Yes	** NA **			None
44	M45		OOOXOO				Yes	** NA **			None
45	M46						Yes	** NA **			None
46	M47						Yes				None
47	M48						Yes	** NA **			None
48	M49						Yes				None
49	M50						Yes	** NA **			None
50	M51						Yes	** NA **			None
51	M53						Yes				None
52	M54						Yes				None
53	M55						Yes				None
54	M56						Yes				None
55	M57						Yes				None
56	M58						Yes				None

Company : Telamon CLS
 Designer : SN
 Job Number : 41124-13222822-01-MA-R1
 Model Name : 41124-13222822-Roxbury CT

Aug 7, 2020
 10:37 AM
 Checked By: AS

Member Advanced Data (Continued)

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic...
57	M59						Yes	** NA **			None
58	M60						Yes				None
59	M61						Yes				None
60	M62						Yes	** NA **			None
61	M63						Yes	** NA **			None
62	M64						Yes	** NA **			None
63	M65		OOOXOO				Yes	** NA **			None
64	M66		OOOXOO				Yes	** NA **			None
65	M67						Yes				None
66	M68						Yes				None
67	M69		OOOXOO				Yes	** NA **			None
68	M70		OOOXOO				Yes	** NA **			None
69	M71						Yes	** NA **			None
70	M72						Yes				None
71	M73						Yes	** NA **			None
72	M74						Yes				None
73	M75						Yes	** NA **			None
74	M76						Yes	** NA **			None
75	M77						Yes				None
76	M78						Yes				None
77	M79						Yes	** NA **			None
78	M80						Yes	** NA **			None
79	M81						Yes	** NA **			None
80	M82						Yes	** NA **			None
81	M83						Yes				None
82	M84						Yes				None
83	M85						Yes				None
84	M86						Yes				None
85	M87						Yes	** NA **			None
86	M88						Yes	** NA **			None
87	M89						Yes	** NA **			None
88	M90						Yes	** NA **			None
89	M91						Yes	** NA **			None
90	M92						Yes	** NA **			None
91	M93						Yes	** NA **			None
92	M94						Yes	** NA **			None
93	M95						Yes	** NA **			None
94	M96						Yes	** NA **			None
95	M97						Yes	** NA **			None
96	M99						Yes				None
97	M101						Yes	** NA **			None
98	M102						Yes	** NA **			None
99	M103						Yes	** NA **			None
100	M104						Yes	** NA **			None
101	M105						Yes	** NA **			None
102	M106						Yes	** NA **			None
103	M107						Yes				None
104	M108						Yes				None
105	M109						Yes				None
106	M110						Yes				None
107	M111						Yes	** NA **			None
108	M112						Yes	** NA **			None
109	M113						Yes	** NA **			None
110	M114						Yes	** NA **			None
111	M115						Yes	** NA **			None
112	M116						Yes	** NA **			None
113	M117						Yes	** NA **			None

Company : Telamon CLS
 Designer : SN
 Job Number : 41124-13222822-01-MA-R1
 Model Name : 41124-13222822-Roxbury CT

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Member Advanced Data (Continued)

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic...
114	M118						Yes	** NA **			None
115	M119						Yes	** NA **			None
116	M120						Yes	** NA **			None
117	M121						Yes	** NA **			None
118	M123						Yes				None
119	M125						Yes	** NA **			None
120	M126						Yes	** NA **			None
121	M127						Yes	** NA **			None
122	M128						Yes	** NA **			None
123	M129						Yes	** NA **			None
124	M130						Yes	** NA **			None
125	M131						Yes				None
126	M132						Yes				None
127	M133						Yes				None
128	M134A						Yes				None
129	M135A						Yes	** NA **			None
130	M136A						Yes	** NA **			None
131	M137A						Yes	** NA **			None
132	M138A						Yes	** NA **			None
133	M139A						Yes	** NA **			None
134	M140A						Yes	** NA **			None
135	M141A						Yes	** NA **			None
136	M142A						Yes	** NA **			None
137	M143A						Yes	** NA **			None
138	M144						Yes	** NA **			None
139	M145A						Yes	** NA **			None
140	M147A						Yes				None
141	M149						Yes	** NA **			None
142	M150						Yes	** NA **			None
143	M149A						Yes				None
144	M150A						Yes				None
145	M151						Yes				None
146	M152						Yes				None
147	M153A						Yes				None
148	M154A						Yes	** NA **			None
149	M155A						Yes				None
150	M156A						Yes				None
151	M157A						Yes				None
152	M158A						Yes	** NA **			None
153	M159A						Yes	** NA **			None
154	M161A						Yes	** NA **			None
155	M162A						Yes	** NA **			None
156	M162B						Yes	** NA **			None
157	M157B						Yes	** NA **			None
158	M158B						Yes	** NA **			None
159	M159B						Yes	** NA **			None
160	M160A						Yes	** NA **			None
161	M161B						Yes	** NA **			None
162	M162C						Yes	** NA **			None
163	M163A						Yes	** NA **			None
164	M164A						Yes	** NA **			None
165	M165						Yes	** NA **			None
166	M166						Yes	** NA **			None
167	M167						Yes	** NA **			None
168	M168						Yes	** NA **			None
169	M169		AIIPIN				Yes				None
170	M170		AIIPIN				Yes				None

Member Advanced Data (Continued)

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic...
171	M171		AIIPIN				Yes				None
172	M172		AIIPIN				Yes				None
173	M173						Yes	** NA **			None
174	M174						Yes	** NA **			None
175	M175						Yes	** NA **			None
176	M176						Yes	** NA **			None
177	M177						Yes	** NA **			None
178	M178						Yes	** NA **			None
179	M179						Yes	** NA **			None
180	M180						Yes	** NA **			None
181	M181						Yes	** NA **			None
182	M182						Yes	** NA **			None
183	M183						Yes	** NA **			None
184	M184						Yes	** NA **			None
185	M185		AIIPIN				Yes				None
186	M186		AIIPIN				Yes				None
187	M187		AIIPIN				Yes				None
188	M188		AIIPIN				Yes				None
189	M189						Yes	** NA **			None
190	M190						Yes	** NA **			None
191	M191						Yes	** NA **			None
192	M192						Yes	** NA **			None
193	M193						Yes	** NA **			None
194	M194						Yes	** NA **			None
195	M195						Yes	** NA **			None
196	M196						Yes	** NA **			None
197	M197						Yes	** NA **			None
198	M198						Yes	** NA **			None
199	M199						Yes	** NA **			None
200	M200						Yes	** NA **			None
201	M201		AIIPIN				Yes				None
202	M202		AIIPIN				Yes				None
203	M203		AIIPIN				Yes				None
204	M204		AIIPIN				Yes				None

Envelope Joint Reactions

	Joint		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [lb-ft]	LC	MY [lb-ft]	LC	MZ [lb-ft]	LC
1	N204	max	2064.203	3	1568.186	15	2846.041	28	-19.197	111	8079.982	27	2294.855	7
2		min	-2619.303	11	-1568.94	7	757.38	51	-452.244	23	2094.385	51	-2299.894	15
3	N247A	max	2089.929	3	1713.952	14	2846.236	23	-1761.502	66	-1138.042	66	2294.958	18
4		min	-1810.796	11	-2193.336	6	757.417	51	-6782.298	23	-4423.868	19	-2300.139	10
5	N250	max	1352.649	4	2460.224	15	2846.881	34	7218.51	31	-956.659	66	2294.648	12
6		min	-1078.934	12	-1976.538	7	757.533	51	1866.594	51	-3672.321	19	-2299.695	4
7	N247B	max	88.95	3	100.95	15	164.796	23	274.469	15	300.824	11	65.079	7
8		min	-88.95	11	-100.95	7	37.789	51	-262.998	7	-236.648	3	-65.08	15
9	N252	max	97.951	3	91.95	15	164.796	27	293.688	15	247.749	11	65.655	13
10		min	-97.951	11	-91.95	7	37.789	51	-243.781	7	-289.728	3	-65.659	5
11	N249A	max	97.943	3	91.952	15	164.796	27	243.791	15	247.72	11	65.658	17
12		min	-97.943	11	-91.952	7	37.789	51	-293.697	7	-289.697	3	-65.654	9
13	Totals:	max	5736.064	3	5735.903	15	9028.05	27						
14		min	-5736.36	11	-5736.048	7	2385.697	51						

Company : Telamon CLS
 Designer : SN
 Job Number : 41124-13222822-01-MA-R1
 Model Name : 41124-13222822-Roxbury CT

Aug 7, 2020
 10:37 AM
 Checked By: AS

Envelope AISC 15th(360-16): ASD Steel Code Checks

	Member	Shape	Code Check	Loc[in]	LC	Shear	Loc[in]	Dir	LC	Pnc/om	Pnt/om	Mnyy/o	Mnzz/o	Cb	Eqn
1	M150A	HSS4X4X4	1.002	0	28	.207	0	y	29	67061.8...	72646.7...	8425.15	8425.15	2...	H1-1b
2	M149A	HSS4X4X4	1.002	0	34	.234	0	y	1...	67061.8...	72646.7...	8425.15	8425.15	2...	H1-1b
3	M134	HSS4X4X4	1.002	0	23	.207	0	y	23	67061.8...	72646.7...	8425.15	8425.15	2...	H1-1b
4	M86	PIPE 2.0	.937	26.905	3	.099	27.2...		17	13883.3...	21377.2...	1245.259	1245.259	2...	H1-1b
5	M110	PIPE 2.0	.937	26.905	14	.097	27.2...		12	13883.3...	21377.2...	1245.259	1245.259	2...	H1-1b
6	M134A	PIPE 2.0	.937	26.905	8	.097	27.2...		7	13883.3...	21377.2...	1245.259	1245.259	2...	H1-1b
7	M133	PIPE 2.0	.923	27.284	8	.106	27.2...		7	13883.3...	21377.2...	1245.259	1245.259	1...	H1-1b
8	M85	PIPE 2.0	.923	27.284	3	.108	27.2...		17	13883.3...	21377.2...	1245.259	1245.259	1...	H1-1b
9	M109	PIPE 2.0	.923	27.284	14	.106	27.2...		12	13883.3...	21377.2...	1245.259	1245.259	1...	H1-1b
10	M171	1/2" SR	.896	0	17	.144	1.375		17	4205.818	4232.695	35.273	35.273	1...	H1-1b
11	M172	1/2" SR	.889	0	5	.143	1.375		5	4205.818	4232.695	35.273	35.273	1...	H1-1b
12	M187	1/2" SR	.884	0	12	.142	1.375		12	4205.818	4232.695	35.273	35.273	1...	H1-1b
13	M203	1/2" SR	.884	0	7	.142	1.375		7	4205.818	4232.695	35.273	35.273	1...	H1-1b
14	M188	1/2" SR	.876	0	15	.141	1.375		15	4205.818	4232.695	35.273	35.273	1...	H1-1b
15	M204	1/2" SR	.876	0	10	.141	1.375		10	4205.818	4232.695	35.273	35.273	1...	H1-1b
16	M170	1/2" SR	.831	0	13	.131	1.375		12	4205.818	4232.695	35.273	35.273	1...	H1-1b
17	M186	1/2" SR	.830	0	7	.131	1.375		7	4205.818	4232.695	35.273	35.273	1...	H1-1b
18	M202	1/2" SR	.830	0	18	.131	1.375		18	4205.818	4232.695	35.273	35.273	1...	H1-1b
19	M169	1/2" SR	.827	0	9	.130	1.375		10	4205.818	4232.695	35.273	35.273	1...	H1-1b
20	M201	1/2" SR	.827	0	15	.130	1.375		15	4205.818	4232.695	35.273	35.273	1...	H1-1b
21	M185	1/2" SR	.827	0	4	.130	1.375		4	4205.818	4232.695	35.273	35.273	1...	H1-1b
22	M107	PIPE 2.0	.673	27.284	14	.082	27.2...		16	13883.3...	21377.2...	1245.259	1245.259	1...	H1-1b
23	M131	PIPE 2.0	.673	27.284	8	.082	27.2...		11	13883.3...	21377.2...	1245.259	1245.259	1...	H1-1b
24	M83	PIPE 2.0	.673	27.284	3	.085	27.2...		5	13883.3...	21377.2...	1245.259	1245.259	1...	H1-1b
25	M138	0.38 X 6 Pla...	.627	.875	12	.512	.875	y	30	48985.3...	49149.7...	389.102	6143.713	1.1	H1-1b
26	M56	0.38 X 6 Pla...	.627	.875	18	.512	.875	y	19	48985.3...	49149.7...	389.102	6143.713	1.1	H1-1b
27	M31	0.38 X 6 Pla...	.627	.875	7	.512	.875	y	24	48985.3...	49149.7...	389.102	6143.713	1.1	H1-1b
28	M68	0.38 X 6 Pla...	.567	1.5	15	.786	3	y	30	47252.0...	49149.7...	389.102	6143.713	3...	H1-1b
29	M156	0.38 X 6 Pla...	.567	1.5	10	.785	3	y	24	47252.0...	49149.7...	389.102	6143.713	3...	H1-1b
30	M43	0.38 X 6 Pla...	.567	1.5	4	.786	3	y	19	47252.0...	49149.7...	389.102	6143.713	3...	H1-1b
31	M67	0.38 X 6 Pla...	.513	1.5	18	.776	3	y	19	47252.3...	49149.7...	389.102	6143.713	3...	H1-1b
32	M155	0.38 X 6 Pla...	.513	1.5	12	.776	3	y	30	47252.3...	49149.7...	389.102	6143.713	3...	H1-1b
33	M42	0.38 X 6 Pla...	.513	1.5	7	.776	3	y	24	47252.3...	49149.7...	389.102	6143.713	3...	H1-1b
34	M32	0.38 X 6 Pla...	.456	.875	5	.510	.875	y	19	48985.3...	49149.7...	389.102	6143.713	1...	H1-1b
35	M57	0.38 X 6 Pla...	.451	.875	15	.510	.875	y	30	48985.3...	49149.7...	389.102	6143.713	1...	H1-1b
36	M139	0.38 X 6 Pla...	.451	.875	10	.510	.875	y	24	48985.3...	49149.7...	389.102	6143.713	1...	H1-1b
37	M143	PIPE 3.0	.420	92.368	34	.151	56.8...		34	18796.11	43383.2...	3824.85	3824.85	1...	H1-1b
38	M77	PIPE 3.0	.420	92.368	28	.151	56.8...		29	18796.11	43383.2...	3824.85	3824.85	1...	H1-1b
39	M78	PIPE 3.0	.420	92.368	23	.151	56.8...		23	18796.11	43383.2...	3824.85	3824.85	1...	H1-1b
40	M136	0.5 x 6 Plate	.357	4.688	10	.245	4.688	y	26	61177.7...	64670.6...	673.653	8083.832	1...	H1-1b
41	M29	0.5 x 6 Plate	.357	4.688	4	.245	4.688	y	21	61177.7...	64670.6...	673.653	8083.832	1...	H1-1b
42	M54	0.5 x 6 Plate	.357	4.688	15	.245	4.688	y	31	61177.7...	64670.6...	673.653	8083.832	1...	H1-1b
43	M58	HSS4X4X4	.354	30.688	23	.141	30.6...	y	30	71107.19	72646.7...	8425.15	8425.15	1...	H1-1b
44	M33	HSS4X4X4	.354	30.688	28	.141	30.6...	y	19	71107.19	72646.7...	8425.15	8425.15	1...	H1-1b
45	M140	HSS4X4X4	.354	30.688	34	.141	30.6...	y	25	71107.19	72646.7...	8425.15	8425.15	1...	H1-1b
46	M61	0.5 x 6 Plate	.345	0	10	.352	0	y	34	61177.7...	64670.6...	673.653	8083.832	1...	H1-1b
47	M36	0.5 x 6 Plate	.345	0	15	.352	0	y	23	61177.7...	64670.6...	673.653	8083.832	1...	H1-1b
48	M145	0.5 x 6 Plate	.345	0	4	.352	0	y	29	61177.7...	64670.6...	673.653	8083.832	1...	H1-1b
49	M60	HSS4X4X4	.338	0	26	.133	0	y	34	71107.2...	72646.7...	8425.15	8425.15	1...	H1-1b
50	M35	HSS4X4X4	.338	0	31	.133	0	y	23	71107.2...	72646.7...	8425.15	8425.15	1...	H1-1b
51	M142	HSS4X4X4	.338	0	20	.134	0	y	29	71107.2...	72646.7...	8425.15	8425.15	1...	H1-1b
52	M160	L2x2x3	.301	0	17	.008	0	z	8	6399.793	15564.0...	371.069	729.829	1...	H2-1
53	M47	L2x2x3	.287	0	11	.010	0	y	1...	6399.793	15564.0...	371.069	719.053	1...	H2-1
54	M72	L2x2x3	.286	0	6	.008	0	z	14	6399.793	15564.0...	371.069	719.05	1...	H2-1
55	M74	L2x2x3	.262	50.542	32	.011	50.5...	z	30	6399.838	15564.0...	371.069	766.074	1...	H2-1
56	M49	L2x2x3	.262	50.542	22	.011	50.5...	z	19	6399.838	15564.0...	371.069	766.13	1...	H2-1

Envelope AISC 15th(360-16): ASD Steel Code Checks (Continued)

	Member	Shape	Code Check	Loc[in]	LC	Shear	Loc[in]	Dir	LC	Pnc/om	Pnt/om	Mnny/o	Mnzz/o	Cb	Eqn
57	M162	L2x2x3	.262	50.542	27	.011	50.5...	z	25	6399.838	15564.0...	371.069	766.121	1...	H2-1
58	M157A	PIPE 2.0	.221	3.158	4	.024	3.158		8	15840.6...	21377.2...	1245.259	1245.259	1...	H1-1b
59	M155A	PIPE 2.0	.221	3.158	15	.024	3.158		3	15840.6...	21377.2...	1245.259	1245.259	1...	H1-1b
60	M156A	PIPE 2.0	.221	3.158	18	.024	3.158		14	15840.6...	21377.2...	1245.259	1245.259	1...	H1-1b
61	M137	0.5 x 6 Plate	.126	0	10	.744	0	y	27	63096.8...	64670.6...	673.653	8083.832	3...	H1-1b
62	M30	0.5 x 6 Plate	.126	0	4	.745	0	y	21	63096.8...	64670.6...	673.653	8083.832	3...	H1-1b
63	M55	0.5 x 6 Plate	.126	0	15	.744	0	y	32	63096.8...	64670.6...	673.653	8083.832	3...	H1-1b
64	M28	0.5 x 6 Plate	.122	0	15	.761	0	y	23	63096.8...	64670.6...	673.653	8083.832	3...	H1-1b
65	M135	0.5 x 6 Plate	.122	0	4	.761	0	y	29	63096.8...	64670.6...	673.653	8083.832	3...	H1-1b
66	M53	0.5 x 6 Plate	.122	0	10	.761	0	y	34	63096.8...	64670.6...	673.653	8083.832	3...	H1-1b
67	M147A	PIPE 2.0	.112	15.916	24	.059	9.095		6	20376.2...	21377.2...	1245.259	1245.259	1...	H1-1b
68	M123	PIPE 2.0	.112	15.916	30	.059	9.095		11	20376.2...	21377.2...	1245.259	1245.259	1...	H1-1b
69	M99	PIPE 2.0	.112	15.916	19	.062	9.095		17	20376.2...	21377.2...	1245.259	1245.259	1...	H1-1b
70	M84	PIPE 2.0	.048	27.284	9	.005	27.2...		9	13883.3...	21377.2...	1245.259	1245.259	2...	H1-1b
71	M132	PIPE 2.0	.048	27.284	14	.005	27.2...		14	13883.3...	21377.2...	1245.259	1245.259	2...	H1-1b
72	M108	PIPE 2.0	.048	27.284	3	.005	27.2...		3	13883.3...	21377.2...	1245.259	1245.259	2...	H1-1b
73	M153A	HSS4X4X4	.038	0	16	.044	0	z	4	72587.2...	72646.7...	8425.15	8425.15	1...	H1-1b
74	M152	HSS4X4X4	.038	0	6	.044	0	z	18	72587.2...	72646.7...	8425.15	8425.15	1...	H1-1b
75	M151	HSS4X4X4	.038	0	11	.044	0	z	15	72587.2...	72646.7...	8425.15	8425.15	1...	H1-1b

EXHIBIT 3

DOCKET NO. 428 – New Cingular Wireless PCS, LLC }	Connecticut
(AT&T) application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance, }	Siting
and operation of a telecommunications facility located at one of }	Council
two sites: Roxbury Tax Assessor Parcel ID #32-008 off of Route }	
67, Roxbury, Connecticut, or 126 Transylvania Road, Roxbury, Connecticut.	March 21, 2013

Decision and Order

Pursuant to the foregoing Findings of Fact and Opinion, the Connecticut Siting Council (Council) finds that the effects associated with the construction, maintenance, and operation of a telecommunications facility, including effects on the natural environment; ecological integrity and balance; public health and safety; scenic, historic, and recreational values; forests and parks; air and water purity; and fish and wildlife are not disproportionate, either alone or cumulatively with other effects, when compared to need, are not in conflict with the policies of the State concerning such effects, and are not sufficient reason to deny the application, and therefore directs that a Certificate of Environmental Compatibility and Public Need, as provided by General Statutes § 16-50k, be issued to New Cingular Wireless PCS, LLC (AT&T), hereinafter referred to as the Certificate Holder, for a telecommunications facility at Site A, located at Roxbury Tax Assessor Parcel ID #32-008 off of Route 67, Roxbury, Connecticut. The Council denies certification of Site B, located at 126 Transylvania Road, Roxbury, Connecticut.

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

1. The tower shall be constructed as a monopole, shifted 100 feet to the north of the proposed location and no taller than necessary to provide the proposed telecommunications services, sufficient to accommodate the antennas of AT&T and other entities, both public and private, but such tower shall not exceed a height of 170 feet above ground level. The height at the top of the Certificate Holder's antennas shall not exceed 170 feet above ground level.
2. The Certificate Holder shall prepare a Development and Management (D&M) Plan for this site in compliance with Sections 16-50j-75 through 16-50j-77 of the Regulations of Connecticut State Agencies. The D&M Plan shall be served on the Town of Roxbury for comment, and all parties and intervenors as listed in the service list, and submitted to and approved by the Council prior to the commencement of facility construction and shall include:
 - a) a final site plan(s) of site development to include specifications for the tower, tower foundation, antennas, equipment compound, radio equipment, Certificate Holder portion of the access road, utility line, and landscaping; and
 - b) construction plans for site clearing, grading, landscaping, water drainage, and erosion and sedimentation controls consistent with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control, as amended.
3. Prior to commencing construction of the AT&T portion of access road, the Certificate Holder shall submit to the Council a letter signed by the Roxbury Land Use Enforcement Officer who, pursuant to the condition in the Roxbury Inland Wetlands Commission permit dated September 2, 2010, shall be on the first day of construction of the landowner's portion of the access road and who shall indicate that construction is underway.

4. The Certificate Holder shall follow the Eastern Box Turtle protective measures recommended by the Department of Energy and Environmental Protection letter dated May 10, 2012.
5. Prior to the commencement of operation, the Certificate Holder shall provide the Council worst-case modeling of the electromagnetic radio frequency power density of all proposed entities' antennas at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin No. 65, August 1997. The Certificate Holder shall ensure a recalculated report of the electromagnetic radio frequency power density be submitted to the Council if and when circumstances in operation cause a change in power density above the levels calculated and provided pursuant to this Decision and Order.
6. Upon the establishment of any new State or federal radio frequency standards applicable to frequencies of this facility, the facility granted herein shall be brought into compliance with such standards.
7. The Certificate Holder shall permit public or private entities to share space on the proposed tower for fair consideration, or shall provide any requesting entity with specific legal, technical, environmental, or economic reasons precluding such tower sharing.
8. Unless otherwise approved by the Council, if the facility authorized herein is not fully constructed with at least one fully operational wireless telecommunications carrier providing wireless service within eighteen months from the date of the mailing of the Council's Findings of Fact, Opinion, and Decision and Order (collectively called "Final Decision"), this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made. The time between the filing and resolution of any appeals of the Council's Final Decision shall not be counted in calculating this deadline. Authority to monitor and modify this schedule, as necessary, is delegated to the Executive Director. The Certificate Holder shall provide written notice to the Executive Director of any schedule changes as soon as is practicable.
9. Any request for extension of the time period referred to in Condition 8 shall be filed with the Council not later than 60 days prior to the expiration date of this Certificate and shall be served on all parties and intervenors, as listed in the service list, and the Town of Roxbury. Any proposed modifications to this Decision and Order shall likewise be so served.
10. If the facility ceases to provide wireless services for a period of one year, this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made.
11. Any nonfunctioning antenna, and associated antenna mounting equipment, on this facility shall be removed within 60 days of the date the antenna ceased to function.
12. In accordance with Section 16-50j-77 of the Regulations of Connecticut State Agencies, the Certificate Holder shall provide the Council with written notice two weeks prior to the commencement of site construction activities. In addition, the Certificate Holder shall provide the Council with written notice of the completion of site construction, and the commencement of site operation.

13. The Certificate Holder shall remit timely payments associated with annual assessments and invoices submitted by the Council for expenses attributable to the facility under Conn. Gen. Stat. §16-50v.
14. This Certificate may be transferred in accordance with Conn. Gen. Stat. §16-50k(b), provided both the Certificate Holder/transferor and the transferee are current with payments to the Council for their respective annual assessments and invoices under Conn. Gen. Stat. §16-50v. In addition, both the Certificate Holder/transferor and the transferee shall provide the Council a written agreement as to the entity responsible for any quarterly assessment charges under Conn. Gen. Stat. §16-50v(b)(2) that may be associated with this facility.
15. The Certificate Holder shall maintain the facility and associated equipment, including but not limited to, the tower, tower foundation, antennas, equipment compound, radio equipment, access road, utility line and landscaping in a reasonable physical and operational condition that is consistent with this Decision and Order and a Development and Management Plan to be approved by the Council.
16. If the Certificate Holder is a wholly-owned subsidiary of a corporation or other entity and is sold/transferred to another corporation or other entity, the Council shall be notified of such sale and/or transfer and of any change in contact information for the individual or representative responsible for management and operations of the Certificate Holder within 30 days of the sale and/or transfer.

Pursuant to General Statutes § 16-50p, the Council hereby directs that a copy of the Findings of Fact, Opinion, and Decision and Order be served on each person listed below, and notice of issuance shall be published in the Voices.

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

The parties and intervenors to this proceeding are:

Applicant

New Cingular Wireless PCS, LLC

Its Representative

Lucia Chiocchio, Esq.
Daniel M. Laub, Esq.
Christopher B. Fisher, Esq.
Cuddy & Feder LLP
445 Hamilton Avenue, 14th Floor
White Plains, NY 10601

Michele Briggs
AT&T
500 Enterprise Drive
Rocky Hill, CT 06067-3900

Party

Town of Roxbury

Its Representative

Barbara Henry
First Selectman
Town of Roxbury
P.O. Box 203
Roxbury, CT 06783

Party

Town of Woodbury

Its Representative

Paul R. Jessell, Esq.
Slavin, Stauffacher & Scott, LLC
27 Siemon Company Drive, Suite 300W
Watertown, CT 06795

Gerald Stomski
First Selectman
Town of Woodbury
P.O. Box 369
Woodbury, CT 06798

Intervenor

Bronson Mountain Farm Homeowners Association

Its Representative

John W. Knuff, Esq.
Hurwitz, Sagarin, Slossberg
& Knuff, LLC
P.O. Box 112
Milford, CT 06460

EXHIBIT 4



Summary

ParcelId	00015800
Location Address	377 SOUTHBURY RD
Map-Block-Lot	32/008
Use Class/Description	Vacant
Assessing Neighborhood	B03
Survey	9/13
Acreage	96.49

Owner

Current Owner
 APEX ACRES LLC
 562 UPPER GRASSY HILL RD
 WOODBURY, CT 06798

Current Appraised Value

	2018	2017	2016	2015
+ Building Value	\$0	\$0	\$0	\$0
+ OB/Misc	\$0	\$0	\$0	\$0
+ Land Value	\$1,085,604	\$1,085,604	\$1,085,604	\$1,085,604
= Total Appraised Value	\$1,085,604	\$1,085,604	\$1,085,604	\$1,085,604

Assessment History

	2018	2017	2016	2015
+ Building Value	\$0	\$0	\$0	\$0
+ OB/Misc	\$0	\$0	\$0	\$0
+ Land Value	\$759,920	\$759,980	\$1,042,380	\$1,042,380
= Total Assessment	\$759,920	\$759,980	\$1,042,380	\$1,042,380

Land

Use	Class	Land Type	Zoning	Area	Value
Vacant	R	Cell Site	C	0.01	\$204,000
Vacant	R	Res Vac Excess	C	92.48	\$745,204
Vacant	R	Res Vacant House Lot	C	4	\$136,400

Sales History

Sale Date	Sale Price	Deed Book/Page	Reason	Valid Sale	Owner
6/24/2020	\$425,000	129/906		No	APEX ACRES LLC
7/3/2019	\$750,000	128/31		No	GENESIS ROXBURY CT LLC
1/1/1900	\$0	0040/0716		No	C N BUILDERS INC

Permit Information

Permit ID	Issue Date	Type	Amount	Inspection Date	% Complete	Date Complete	Comments
BP17-23	09-16-2016		\$40,000	1/1/1900 12:00:00 AM	100	01-01-1900	ANTENNA UPDATES
EP16-2	07-02-2014	Generator	\$27,600	1/1/1900 12:00:00 AM	100	01-01-1900	
EP14-34	11-21-2013	Electrical	\$10,000	1/1/1900 12:00:00 AM	100	01-01-1900	CELL TOWER

No data available for the following modules: Buildings Data, Commercial Building, Out Buildings\Extra Features, Sketch, Photos.

The Town of Roxbury Assessor makes every effort to produce the most accurate information possible. No warranties, expressed or implied are provided for the data herein, its use or interpretation. The assessment information is from the last certified tax roll. All other data is subject to change.

[User Privacy Policy](#)
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Last Data Upload: 7/23/2020, 1:05:54 AM

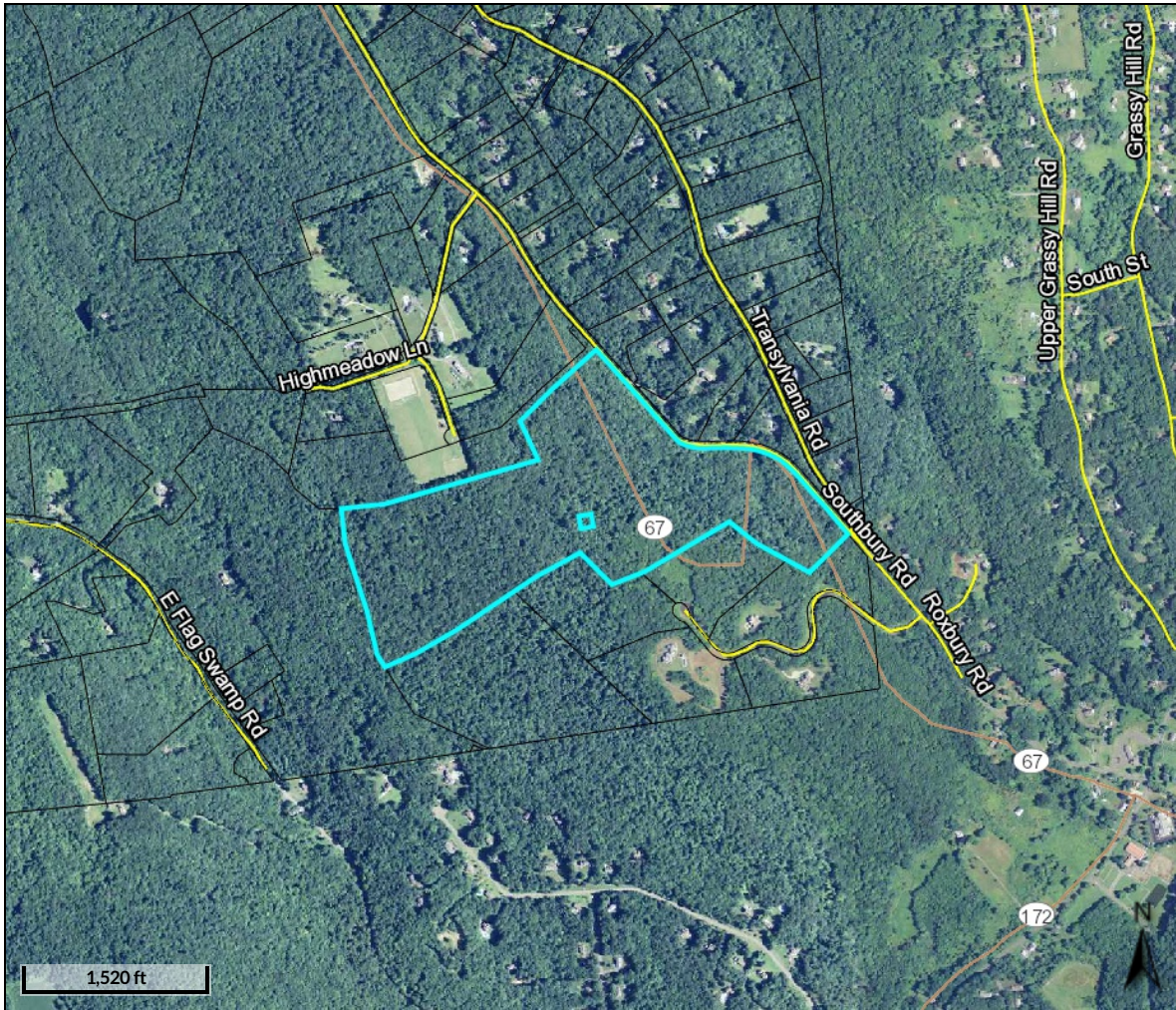
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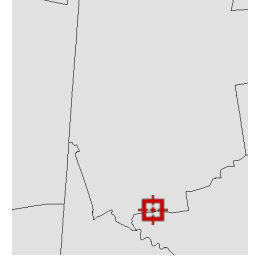


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Town of Roxbury, CT



Overview



Legend

- Parcels
- Roads

Parcel ID 00015800

Sec/Twp/Rng n/a

Property Address 377 SOUTHBURY RD

District n/a

Brief Tax Description n/a

Alternate ID 65065a7a-64e5-46

Class Vacant Land

Acreage 96.49

Owner Address APEX ACRES LLC

562 UPPER GRASSY HILL RD

WOODBURY, CT 06798

(Note: Not to be used on legal documents)

Date created: 7/24/2020

Last Data Uploaded: 7/24/2020 1:27:50 AM

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EXHIBIT 5



**Lawrence Behr
Associates** INC
www.lbagroup.com

Radio Frequency Emissions Report

SITE NAME:

280501 Roxbury CT

LOCATION:

Roxbury, Connecticut

COMPANY:

American Tower Corporation
Woburn, Massachusetts

September 9th, 2020

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POWER DENSITY CALCULATIONS.....	4
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APPENDIX 2 AT&T CHANNELS USED.....	5
APPENDIX 3 AT&T ANTENNA INFORMATION	6
APPENDIX 4 FCC OET-65 MPE LIMIT STUDY.....	7
APPENDIX 5 SUMMARY OF POWER DENSITY.....	8
APPENDIX 6 INFORMATION PERTAINING TO MPE STUDIES.....	9
APPENDIX 7 MPE STANDARDS METHODOLOGY	11



DISCLAIMER NOTICE

This work is based upon our best interpretation of available information. However, these data and their interpretation are constantly changing. Therefore, we do not warrant that any undertaking based on this report will be successful, or that others will not require further research or actions in support of this proposal or future undertaking. In the event of errors, our liability is strictly limited to replacement of this document with a corrected one. Liability for consequential damages is specifically disclaimed. Any use of this document constitutes an agreement to hold Lawrence Behr Associates, Inc. and its employees harmless and indemnify it for any and all liability, claims, demands, and litigation expenses and attorney's fees arising out of such use.

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GREENVILLE, NORTH CAROLINA

RADIO FREQUENCY EMISSIONS REPORT

280501 Roxbury CT

Roxbury, Connecticut

INTRODUCTION

Lawrence Behr Associates, Inc. (LBA) has been retained by American Tower Corporation (ATC) of Woburn, Massachusetts to evaluate the RF emissions of an existing tower at this location. AT&T is adding emitters to this site and the purpose of this study is to determine if, after the addition of the AT&T emitters, the site is in Compliance with FCC Regulations. This study determined that THIS SITE IS IN COMPLIANCE with Federal Regulations.

Details regarding the FCC Rules and the methodology used to determine compliance may be seen below.

SITE AND FACILITY CONSIDERATIONS

Site 280501 Roxbury CT is located at 377 Southbury Road in Roxbury, Connecticut at coordinates 41.51519, -73.263. The support structure is a 195' monopole.

All data used in this study was provided by one or more of the following sources:

1. ATC furnished data
2. Compiled from carrier and manufacturer standard configurations
3. Empirical data collected by LBA

AT&T proposes to add antennas to the tower at the 168' level. The structure does not support any other antennas. This study only considers the AT&T facility in detail.

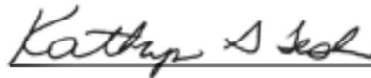
The load list may be seen in Appendix 1. Appendix 2 contains the AT&T channel counts, frequency bands, and power levels. AT&T Antenna information may be seen in Appendix 3.

POWER DENSITY CALCULATIONS

Based upon the provided information and the FCC limits for exposure as outlined in 47 CFR 1.1307(b)(1) - (b)(3), the power levels and percentages of the FCC's allowable general population limit are shown in Appendix 4. Calculations were done at industry standard average head height of six feet above ground level.

A summary of the power density from all emitters may be seen in Appendix 5.

These limits are based upon the Information Relating to MPE Standards found in Appendix 6. Study methodology may be seen in Appendix 7, which describes the Non-Ionizing Radiation Prediction Models. Approximate radiation patterns may be found in Appendix 5. This site **IS** in compliance with FCC OET-65 MPE limits.



September 9th, 2020

Kathryn G. Tesh
Wireless Services Manager



APPENDIX 1

Load List

Proposed	Customer	RAD Height (ft)	Equipment Quantity	Equipment Type	Manufacturer	Model Number	Mount Type	Azimuths	TX Frequency	RX Frequency
No	AT&T MOBILITY	168	3	PANEL	Andrew	SBNH-1D6565C (60.8 lbs)	Low Profile Platform	30/150/270		
No	AT&T MOBILITY	168	9	PANEL	CCI	HPA-65R-BUU-H8	Low Profile Platform	30/150/270	1930-1935, 2110-2120, 2345-2360, 716-728, 734-746	1710-1720, 1850-1855, 2305-2320, 704-716



APPENDIX 2

AT&T Channels Used

Antenna	Technology	Frequency Band	Channel Count	Transmitter Power per Channel (W)
AT&T A1	LTE	1900	3	40
AT&T A2	LTE	2100	3	25
AT&T A3	LTE	2300	3	25
AT&T A4	LTE	700	3	40
AT&T A5	LTE	700	3	40
AT&T B1	LTE	1900	3	40
AT&T B2	LTE	2100	3	25
AT&T B3	LTE	2300	3	25
AT&T B4	LTE	700	3	40
AT&T B5	LTE	700	3	40
AT&T C1	LTE	1900	3	40
AT&T C2	LTE	2100	3	25
AT&T C3	LTE	2300	3	25
AT&T C4	LTE	700	3	40
AT&T C5	LTE	700	3	40

APPENDIX 3

AT&T Antenna Information

Sector	Antenna Number	Antenna Make / Model	Antenna Centerline (ft)
A	AT&T A1	CCI HPA-65R-BUU-H8	168
A	AT&T A2	CCI HPA-65R-BUU-H8	168
A	AT&T A3	CCI HPA-65R-BUU-H8	168
A	AT&T A4	CCI HPA-65R-BUU-H8	168
A	AT&T A5	CCI HPA-65R-BUU-H8	168
B	AT&T B1	CCI HPA-65R-BUU-H8	168
B	AT&T B2	CCI HPA-65R-BUU-H8	168
B	AT&T B3	CCI HPA-65R-BUU-H8	168
B	AT&T B4	CCI HPA-65R-BUU-H8	168
B	AT&T B5	CCI HPA-65R-BUU-H8	168
C	AT&T C1	CCI HPA-65R-BUU-H8	168
C	AT&T C2	CCI HPA-65R-BUU-H8	168
C	AT&T C3	CCI HPA-65R-BUU-H8	168
C	AT&T C4	CCI HPA-65R-BUU-H8	168
C	AT&T C5	CCI HPA-65R-BUU-H8	168

APPENDIX 4

FCC OET-65 MPE Limit Study

Antenna ID	Antenna Make / Model	Frequency Band	Antenna Gain (dBd)	Antenna Height (ft)	Channel Count	TX Power (W)	ERP (W) (All Channels)	Total Power Density ($\mu\text{W}/\text{cm}^2$)	Allowable Public MPE ($\mu\text{W}/\text{cm}^2$)	Public MPE%
AT&T A1	CCI HPA-65R-BUU-H8	1900	14.95	168	3	40	6154.34	3.4830	1000.00	0.003483034
AT&T A2	CCI HPA-65R-BUU-H8	2100	15.25	168	3	25	4121.56	2.8916	1000.00	0.002891552
AT&T A3	CCI HPA-65R-BUU-H8	2300	15.55	168	3	25	4416.33	20.8200	1000.00	0.020819991
AT&T A4	CCI HPA-65R-BUU-H8	700	13.15	168	3	40	4066.13	3.2398	466.67	0.006942395
AT&T A5	CCI HPA-65R-BUU-H8	700	13.15	168	3	40	4066.13	3.2398	466.67	0.006942395
AT&T B1	CCI HPA-65R-BUU-H8	1900	14.95	168	3	40	6154.34	3.4830	1000.00	0.003483034
AT&T B2	CCI HPA-65R-BUU-H8	2100	15.25	168	3	25	4121.56	2.8916	1000.00	0.002891552
AT&T B3	CCI HPA-65R-BUU-H8	2300	15.55	168	3	25	4416.33	20.8200	1000.00	0.020819991
AT&T B4	CCI HPA-65R-BUU-H8	700	13.15	168	3	40	4066.13	3.2398	466.67	0.006942395
AT&T B5	CCI HPA-65R-BUU-H8	700	13.15	168	3	40	4066.13	3.2398	466.67	0.006942395
AT&T C1	CCI HPA-65R-BUU-H8	1900	14.95	168	3	40	6154.34	3.4830	1000.00	0.003483034
AT&T C2	CCI HPA-65R-BUU-H8	2100	15.25	168	3	25	4121.56	2.8916	1000.00	0.002891552
AT&T C3	CCI HPA-65R-BUU-H8	2300	15.55	168	3	25	4416.33	20.8200	1000.00	0.020819991
AT&T C4	CCI HPA-65R-BUU-H8	700	13.15	168	3	40	4066.13	3.2398	466.67	0.006942395
AT&T C5	CCI HPA-65R-BUU-H8	700	13.15	168	3	40	4066.13	3.2398	466.67	0.006942395
AT&T All Sectors									Total:	12.3238%



APPENDIX 5

Summary of Power Density

AT&T Sector	Power Density Value (% of General Population)
AT&T All Sectors:	12.3238%
Other Carriers:	0.0000%
Site Total:	12.3238%
Site Compliance Status:	Compliant



APPENDIX 6

Information Pertaining to MPE Studies

In 1985, the FCC first adopted guidelines to be used for evaluating human exposure to RF emissions. The FCC revised and updated these guidelines on August 1, 1996, as a result of a rule-making proceeding initiated in 1993. The new guidelines incorporate limits for Maximum Permissible Exposure (MPE) in terms of electric and magnetic field strength and power density for transmitters operating at frequencies between 300 kHz and 100 GHz.

The FCC's MPE limits are based on exposure limits recommended by the National Council on Radiation Protection and Measurements (NCRP) and, over a wide range of frequencies, the exposure limits were developed by the Institute of Electrical and Electronics Engineers, Inc., (IEEE) and adopted by the American National Standards Institute (ANSI) to replace the 1982 ANSI guidelines. Limits for localized absorption are based on recommendations of both ANSI/IEEE and NCRP.

The FCC's limits, and the NCRP and ANSI/IEEE limits on which they are based, are derived from exposure criteria quantified in terms of specific absorption rate (SAR). The basis for these limits is a whole-body averaged SAR threshold level of 4 watts per kilogram (4 W/kg), as averaged over the entire mass of the body, above which expert organizations have determined that potentially hazardous exposures may occur. The MPE limits are derived by incorporating safety factors that lead, in some cases, to limits that are more conservative than the limits originally adopted by the FCC in 1985. Where more conservative limits exist, they do not arise from a fundamental change in the RF safety criteria for whole-body averaged SAR, but from a precautionary desire to protect subgroups of the general population who, potentially, may be more at risk.

The FCC exposure limits are also based on data showing that the human body absorbs RF energy at some frequencies more efficiently than at others. The most restrictive limits occur in the frequency range of 30-300 MHz where whole-body absorption of RF energy by human beings is most efficient. At other frequencies, whole-body absorption is less efficient, and consequently, the MPE limits are less restrictive.

MPE limits are defined in terms of power density (units of milliwatts per centimeter squared: mW/cm²), electric field strength (units of volts per meter: V/m) and magnetic field strength (units of amperes per meter: A/m). The far-field of a transmitting antenna is where the electric field vector (E), the

magnetic field vector (H), and the direction of propagation can be considered to be all mutually orthogonal ("plane-wave" conditions).

The FCC guidelines define two separate tiers of exposure limits. As defined by the FCC, these limits are:

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

General population/uncontrolled exposure limits apply to situations in which the general public 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 public 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. Additional details can be found in FCC OET 65.

For the purposes of this study, only General population/uncontrolled exposure limits were studied.

APPENDIX 7

MPE Standards Methodology

This study predicts RF field strength and power density levels that emanate from communications system antennae. It considers all transmitter power levels (less filter and line losses) delivered to each active transmitting antenna at the communications site. Calculations are performed to determine power density and MPE levels for each antenna as well as composite levels from all antennas. The calculated levels are based on where a human (Observer) would be standing at various locations at the site. The point of interest where the MPE level is predicted is based on the height of the Observer.

Compliance with the FCC limits on RF emissions are determined by spatially averaging a person's exposure over the projected area of an adult human body, that is approximately six-feet or two-meters, as defined in the ANSI/IEEE C95.1 standard. The MPE limits are specified as time-averaged exposure limits. This means that exposure is averaged over an identifiable time interval. It is 30 minutes for the general population/uncontrolled RF environment and 6 minutes for the occupational/controlled RF environment. However, in the case of the general public, time averaging should not be applied because the general public is typically not aware of RF exposure and they do not have control of their exposure time. Therefore, it should be assumed that any RF exposure to the general public will be continuous.

The FCC's limits for exposure at different frequencies are shown in the following Tables.

Limits for Occupational/Controlled Exposure				
Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm ²)	Averaging Time E ² , H ² or S (minutes)
0.3 - 3.0	614	1.63	100*	6
3.0 - 30	1842/f	4.89/f	900/F ²	6
30 - 300	61.4	0.163	1.0	6
300 - 1500	--	--	f/300	6
1500 - 100,000	--	--	5	6



Where:

f = frequency

* = Plane-wave equivalent power density

Occupational/controlled limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when an individual is transient through a location where occupational/controlled limits apply provided he or she is made aware of the potential for exposure.

Limits for General Population/Uncontrolled Exposure				
Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm ²)	Averaging Time E ² , H ² or S (minutes)
0.3 - 1.34	614	1.63	100*	30
1.34 - 30	824/f	2.19/f	180/F ²	30
30 -300	27.5	0.073	0.2	30
300 -1500	--	--	f/1500	30
1500 -100,000	--	--	1.0	30

Where:

f = frequency

* = Plane-wave equivalent power density

General population/uncontrolled exposures apply in situations in which the general public may be exposed or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure.

It is important to understand that these limits apply cumulatively to all sources of RF emissions affecting a given area. For example, if several different communications system antennas occupy a shared facility such as a tower or rooftop, then the total exposure from all systems at the facility must be within compliance of the FCC guidelines.

The field strength emanating from an antenna can be estimated based on the characteristics of an antenna radiating in free space. There are basically two field areas associated with a radiating antenna. When close to the antenna, the region is known as the Near Field. Within this region, the characteristics of the RF fields are very complex and the wave front is extremely curved. As you move further from the antenna, the wave front has less curvature and becomes planar. The wave front still

has a curvature but it appears to occupy a flat plane in space (plane-wave radiation). This region is known as the Far Field.

Two models are utilized to predict Near and Far field power densities. They are based on the formulae in FCC OET 65. As this study is concerned only with Near Field calculations, we will only describe the model used for this study. For additional details, refer to FCC OET Bulletin 65.

Cylindrical Model (Near Field Predictions)

Spatially averaged plane-wave equivalent power densities parallel to the antenna may be estimated by dividing the antenna input power by the surface area of an imaginary cylinder surrounding the length of the radiating antenna. While the actual power density will vary along the height of the antenna, the average value along its length will closely follow the relation given by the following equation:

$$S = P \div 2\pi RL$$

Where:

S = Power Density

P = Total Power into antenna

R = Distance from the antenna

L = Antenna aperture length

For directional-type antennas, power densities can be estimated by dividing the input power by that portion of a cylindrical surface area corresponding to the angular beam width of the antenna. For example, for the case of a 120-degree azimuthal beam width, the surface area should correspond to 1/3 that of a full cylinder. This would increase the power density near the antenna by a factor of three over that for a purely omni-directional antenna. Mathematically, this can be represented by the following formula:

$$S = (180 / \theta_{BW}) P \div \pi RL$$

Where:

S = Power Density

θ_{BW} = Beam width of antenna in degrees (3 dB half-power point)

P = Total Power into antenna

R = Distance from the antenna

L = Antenna aperture length

If the antenna is a 360-degree omni-directional antenna, this formula would be equivalent to the previous formula.

Spherical Model (Far Field Predictions)

Spatially averaged plane-wave power densities in the Far Field of an antenna may be estimated by considering the additional factors of antenna gain and reflective waves that would contribute to exposure.

The radiation pattern of an antenna has developed in the Far Field region and the power gain needs to be considered in exposure predictions. Also, if the vertical radiation pattern of the antenna is considered, the exposure predictions would most likely be reduced significantly at ground level, resulting in a more realistic estimate of the actual exposure levels.

Additionally, to model a truly "worst case" prediction of exposure levels at or near a surface, such as at ground-level or on a rooftop, reflection off the surface of antenna radiation power can be assumed, resulting in a potential four-fold increase in power density.

These additional factors are considered and the Far Field prediction model is determined by the following equation:

$$S = EIRP \times Rc \div 4\pi R^2$$

Where:

S = Power Density

EIRP = Effective Radiated Power from antenna

Rc = Reflection Coefficient (2.56)

R = Distance from the antenna

The EIRP includes the antenna gain. If the antenna pattern is considered, the antenna gain is relative based on the horizontal and vertical pattern gain values at that particular location in space, on a rooftop or on the ground. However, it is recommended that the antenna radiation pattern characteristics not be considered to provide a conservative "worst case" prediction. This is the equation is utilized for the Far Field exposure predictions herein.

EXHIBIT 6



AMERICAN TOWER®
C O R P O R A T I O N

Structural Analysis Report

Structure : 170 ft Monopole
ATC Site Name : ROXBURY CT, CT
ATC Asset Number : 280501
Engineering Number : 13222822_C3_04
Proposed Carrier : AT&T MOBILITY
Carrier Site Name : MRCTB046508
Carrier Site Number : CTL02339
Site Location : 377 Southbury Road
Roxbury, CT 06783-2102
41.515200,-73.263000
County : Litchfield
Date : June 19, 2020
Max Usage : 44%
Result : Pass

Prepared By:
Hansol Shin
Structural Engineer I

Reviewed By:



COA: PEC.0001553



Table of Contents

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Calculations	Attached



Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 170 ft monopole to reflect the change in loading by AT&T MOBILITY.

Supporting Documents

Tower Drawings	Nello Dwg. No: 206088, dated July 12, 2013
Foundation Drawing	ATC Job #53876271, dated July 24, 2013
Geotechnical Report	Clarence Welti Assoc., Inc., dated July 22, 2013

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:	93 mph (3-Second Gust, Vasd) / 120 mph (3-Second Gust, Vult)
Basic Wind Speed w/ Ice:	40 mph (3-Second Gust) w/ 1" radial ice concurrent
Code:	ANSI/TIA-222-G / 2015 IBC / 2018 Connecticut State Building Code
Structure Class:	II
Exposure Category:	B
Topographic Category:	1
Crest Height:	0 ft
Spectral Response:	$S_s = 0.20$, $S_1 = 0.05$
Site Class:	D - Stiff Soil

Conclusion

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

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



Existing and Reserved Equipment

Elevation ¹ (ft)		Qty.	Antenna	Mount Type	Coax (in)	Carrier
Mount	RAD					
166.0	168.0	3	Raycap DC6-48-60-18-8F ("Squid")	Generic Round Low Profile Platform	(3) 0.39 (	AT&T MOBILITY
		3	Ericsson RRUS A2 B2			
		3	CCI HPA-65R-BUU-H8			

Equipment to be Removed

Elevation ¹ (ft)		Qty.	Antenna	Mount Type	Coax (in)	Carrier
Mount	RAD					

Proposed Equipment

Elevation ¹ (ft)		Qty.	Antenna	Mount Type	Coax (in)	Carrier
Mount	RAD					
166.0	166.0	3	Ericsson RRUS 8843 B2, B66A	Generic Round Low Profile Platform	(3) 0.39 (	AT&T MOBILITY
		3	Ericsson RRUS 4478 B14			
		3	Ericsson RRUS 4449 B5, B12			
		3	Ericsson RRUS 11 B5			
		3	CCI DMP65R-BU8D			
		3	CCI OPA65R-BU8D			

¹Mount elevation is defined as height above bottom of steel structure to the bottom of mount, RAD elevation is defined as center of antenna above ground level (AGL).

Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Anchor Bolts	28%	Pass
Shaft	31%	Pass
Base Plate	4%	Pass

Foundations

Reaction Component	Original Design Reactions	Analysis Reactions	% of Design
Moment (Kips-Ft)	4,906.6	1,845.4	38%
Shear (Kips)	39.5	17.5	44%

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

Deflection and Sway*

Antenna Elevation (ft)	Antenna	Carrier	Deflection (ft)	Sway (Rotation) (°)
166.0	Ericsson RRUS 8843 B2, B66A	AT&T MOBILITY	0.817	0.575
	Ericsson RRUS 4478 B14			
	Ericsson RRUS 4449 B5, B12			
	Ericsson RRUS 11 B5			
	CCI DMP65R-BU8D			
	CCI OPA65R-BU8D			

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



Standard Conditions

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

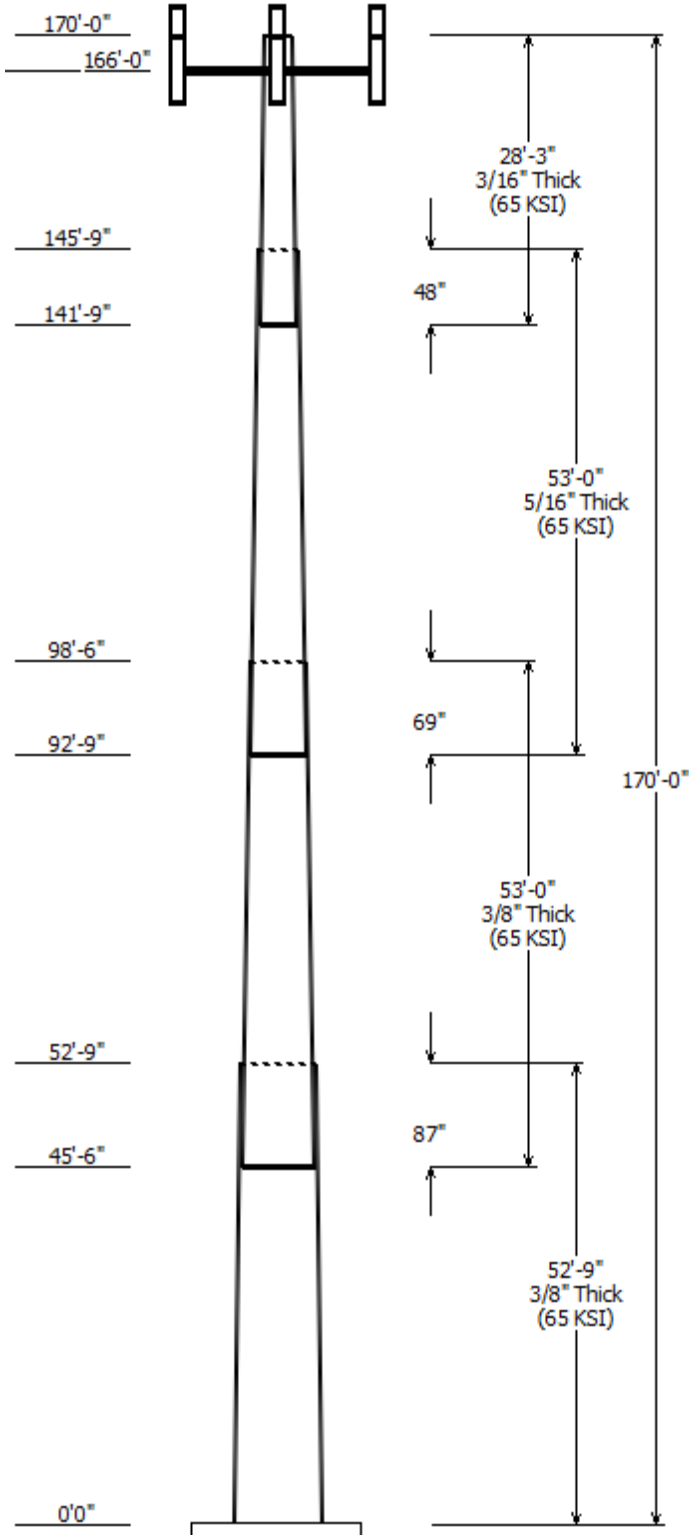
- Information supplied by the client regarding antenna, mounts and feed line loading
- Information from drawings, design and analysis documents, and field notes in the possession of A.T. Engineering Service, PLLC

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

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

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

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



Job Information

Client : AT&T MOBILITY
Pole : 280501 Code: ANSI/TIA-222-G
Location : ROXBURY CT, CT
Description : ATC280501 Struct Class : II
Shape : 18 Sides Exposure : B
Height : 170.00 (ft) Topo : 1
Base Elev (ft): 0.00
Taper: 0.27469@in/ft

Sections Properties

Shaft Section	Length (ft)	Diameter (in)		Thick (in)	Joint Type	Overlap Length (in)	Steel Grade
		Across	Flats				
1	52.750	50.45	64.94	0.375		0.000	18 Sides 65
2	53.000	38.64	53.19	0.375	Slip Joint	87.000	18 Sides 65
3	53.000	26.28	40.84	0.313	Slip Joint	69.000	18 Sides 65
4	28.250	20.00	27.76	0.188	Slip Joint	48.000	18 Sides 65

Discrete Appurtenance

Attach Elev (ft)	Force Elev (ft)	Qty	Description
166.000	166.000	1	Generic Round Low Profile
166.000	166.000	3	CCI OPA65R-BU8D
166.000	166.000	3	CCI DMP65R-BU8D
166.000	168.000	3	CCI HPA-65R-BUU-H8
166.000	166.000	3	Ericsson RRUS 11 B5
166.000	168.000	3	Ericsson RRUS A2 B2
166.000	166.000	3	Ericsson RRUS 4449 B5, B12
166.000	166.000	3	Ericsson RRUS 4478 B14
166.000	166.000	3	Ericsson RRUS 8843 B2, B66A
166.000	168.000	3	Raycap DC6-48-60-18-8F

Linear Appurtenance

Elev (ft)		Description	Exposed To Wind
From	To		
0.000	166.0	0.39" (10mm)	No
0.000	166.0	0.78" (19.7mm) 8	No
0.000	166.0	2" conduit	No
0.000	166.0	3/8" (0.38")	No
0.000	166.0	3/8" (0.38")	No

Load Cases

1.2D + 1.6W	93 mph with No Ice
0.9D + 1.6W	93 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	40 mph with 1.00 in Radial Ice
(1.2 + 0.2Sds) * DL + E	Seismic Equivalent Lateral Forces Method
(1.2 + 0.2Sds) * DL + E	Seismic Equivalent Modal Analysis Method
(0.9 - 0.2Sds) * DL + E	Seismic (Reduced DL) Equivalent Lateral
(0.9 - 0.2Sds) * DL + E	Seismic (Reduced DL) Equivalent Modal
1.0D + 1.0W	Serviceability 60 mph

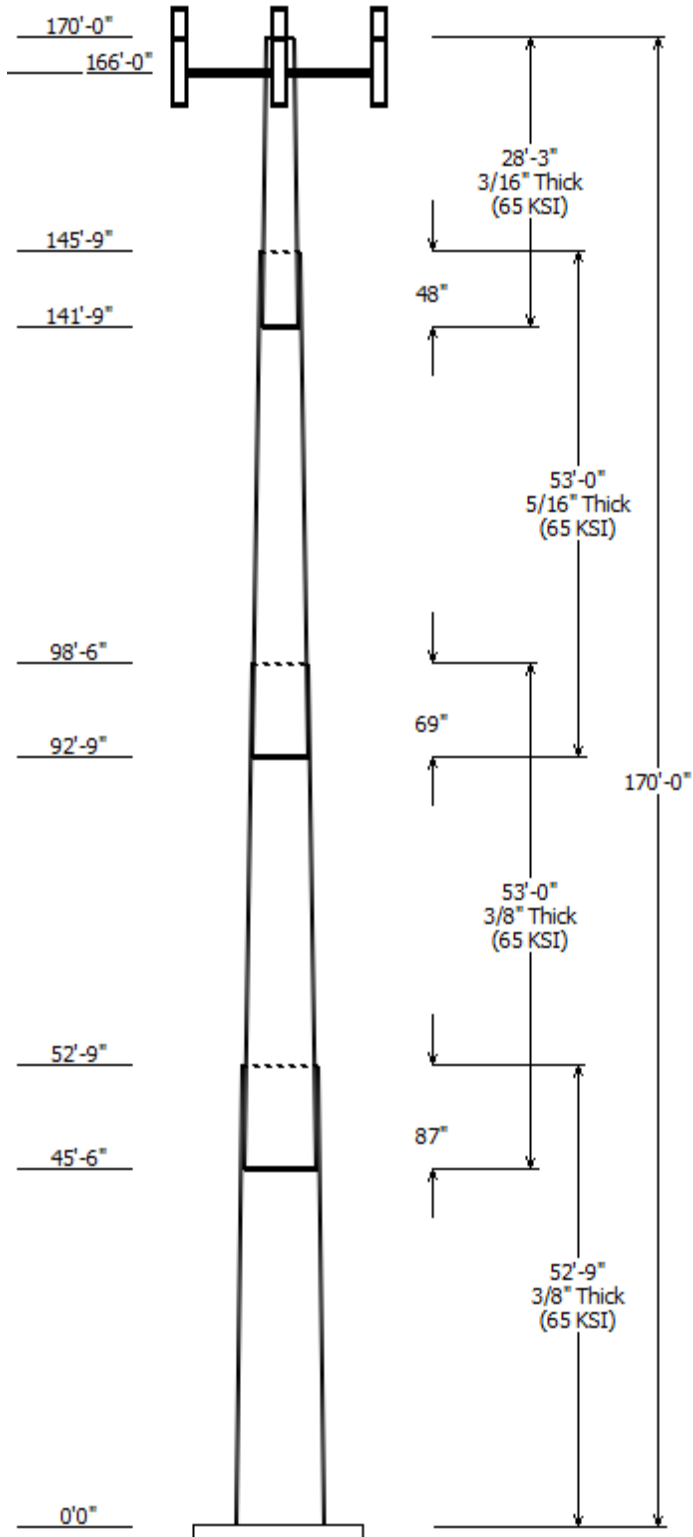
Reactions

Load Case	Moment (kip-ft)	Shear (kip)	Axial (kip)
1.2D + 1.6W	1845.36	17.46	42.60
0.9D + 1.6W	1833.58	17.45	31.95
1.2D + 1.0Di + 1.0Wi	400.51	3.84	67.90
(1.2 + 0.2Sds) * DL + E ELFM	180.32	1.44	42.40
(1.2 + 0.2Sds) * DL + E EMAM	251.54	2.08	42.40

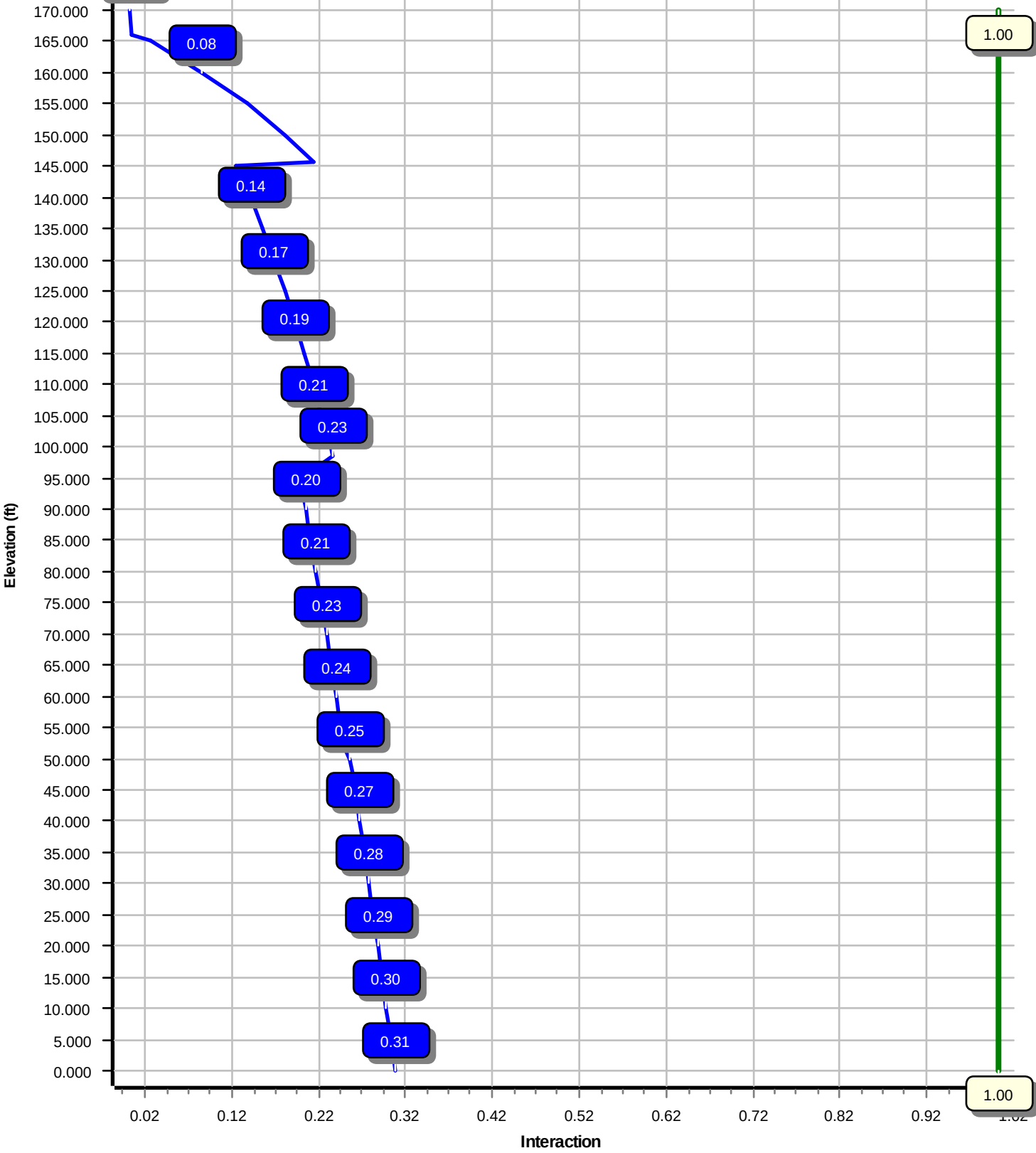
(0.9 - 0.2Sds) * DL + E ELFM	178.91	1.44	29.28
(0.9 - 0.2Sds) * DL + E EMAM	249.38	2.08	29.28
1.0D + 1.0W	427.72	4.06	35.51

Dish Deflections

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



Load Case : 1.2D + 1.6W
Max Ratio 30.58% at 0.0 ft



Site Number: 280501**Code: ANSI/TIA-222-G**

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Site Name: ROXBURY CT, CT**Engineering Number:13222822_C3_04****6/19/2020 10:22:54 AM****Customer: AT&T MOBILITY**

Analysis Parameters

Location :	Litchfield County, CT	Height (ft) :	170
Code :	ANSI/TIA-222-G	Base Diameter (in) :	64.95
Shape :	18 Sides	Top Diameter (in) :	20.00
Pole Type :	Taper	Taper (in/ft) :	0.275
Pole Manufacturer :	Nello Corp	Rotation (deg) :	0.00

Ice & Wind Parameters

Structure Class:	II	Design Wind Speed Without Ice:	93 mph
Exposure Category:	B	Design Wind Speed With Ice:	40 mph
Topographic Category:	1	Operational Wind Speed:	60 mph
Crest Height:	0 ft	Design Ice Thickness:	1.00 in

Seismic Parameters

Analysis Method: Equivalent Modal Analysis & Equivalent Lateral Force Methods

Site Class: D - Stiff Soil

Period Based on Rayleigh Method (sec): 1.85

T_L (sec):	6	p :	1.3	C_s :	0.031
S_s :	0.198	S_1 :	0.054	C_s Max:	0.031
F_a :	1.600	F_v :	2.400	C_s Min:	0.030
S_{ds} :	0.211	S_{d1} :	0.086		

Load Cases

1.2D + 1.6W	93 mph with No Ice
0.9D + 1.6W	93 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	40 mph with 1.00 in Radial Ice
(1.2 + 0.2S _{ds}) * DL + E ELFM	Seismic Equivalent Lateral Forces Method
(1.2 + 0.2S _{ds}) * DL + E EMAM	Seismic Equivalent Modal Analysis Method
(0.9 - 0.2S _{ds}) * DL + E ELFM	Seismic (Reduced DL) Equivalent Lateral Forces Method
(0.9 - 0.2S _{ds}) * DL + E EMAM	Seismic (Reduced DL) Equivalent Modal Analysis Method
1.0D + 1.0W	Serviceability 60 mph

Site Number: 280501

Code: ANSI/TIA-222-G

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Site Name: ROXBURY CT, CT

Engineering Number:13222822_C3_04

6/19/2020 10:22:54 AM

Customer: AT&T MOBILITY

Shaft Section Properties

Sect Info	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Joint Len (in)	Weight (lb)	Bottom				Top				W/t Ratio	D/t Ratio	Taper (in/ft)
							Dia (in)	Elev (ft)	Area (in ²)	Ix (in ⁴)	Dia (in)	Elev (ft)	Area (in ²)	Ix (in ⁴)			
1-18	52.750	0.3750	65		0.00	12,247	64.94	0.00	76.85	40486.9	28.78	173.19	50.45	52.75	59.61	18890.0	0.274690
2-18	53.000	0.3750	65	Slip	87.00	9,776	53.19	45.50	62.87	22165.0	23.25	141.86	38.64	98.50	45.54	8425.4	0.274690
3-18	53.000	0.3125	65	Slip	69.00	5,948	40.84	92.75	40.20	8344.5	21.28	130.70	26.28	145.75	25.76	2195.8	0.274690
4-18	28.250	0.1875	65	Slip	48.00	1,355	27.76	141.75	16.41	1576.1	24.34	148.05	20.00	170.00	11.79	584.7	0.274690
Shaft Weight						29,327											

Discrete Appurtenance Properties

Attach Elev (ft)	Description	Qty	Ka	Vert Ecc (ft)	Weight (lb)	No Ice EPAa (sf)	Orientation Factor	Weight (lb)	Ice EPAa (sf)	Orientation Factor
166.00	Raycap DC6-48-60-18-8F	3	0.80	2.000	31.80	1.470	1.00	115.05	2.412	1.00
166.00	Ericsson RRUS 8843 B2, B66A	3	0.80	0.000	72.00	1.639	0.50	154.70	2.779	0.50
166.00	Ericsson RRUS 4478 B14	3	0.80	0.000	59.90	1.842	0.50	134.50	3.052	0.50
166.00	Ericsson RRUS 4449 B5, B12	3	0.80	0.000	71.00	1.969	0.50	157.96	3.228	0.50
166.00	Ericsson RRUS A2 B2	3	0.80	2.000	22.00	2.064	0.50	81.50	3.337	0.50
166.00	Ericsson RRUS 11 B5	3	0.80	0.000	50.70	2.791	0.50	148.40	4.271	0.50
166.00	CCI HPA-65R-BUU-H8	3	0.80	2.000	68.00	12.976	0.67	414.69	17.806	0.67
166.00	CCI DMP65R-BU8D	3	0.80	0.000	95.70	17.871	0.63	554.30	22.843	0.63
166.00	CCI OPA65R-BU8D	3	0.80	0.000	76.50	18.089	0.63	541.75	23.071	0.63
166.00	Generic Round Low Profile	1	1.00	0.000	1,875.00	21.700	1.00	2,967.73	47.605	1.00
Totals	Num Loadings:10	28			3,517.80			9,876.26		

Linear Appurtenance Properties

Load Case Azimuth (deg) :

Elev From (ft)	Elev To (ft)	Qty	Description	Coax Dia (in)	Coax Wt (lb/ft)	Max Coax / Flat	Dist Between Rows	Dist Between Cols	Azimuth (deg)	Dist From Face (in)	Exposed To Wind	Carrier
0.00	166.00	3	0.39" (10mm) Fiber	0.39	0.06	N	0	0.00	0.00	0	N	AT&T MOBILITY
0.00	166.00	6	0.78" (19.7mm) 8 AWG	0.78	0.59	N	0	0.00	0.00	0	N	AT&T MOBILITY
0.00	166.00	3	2" conduit	2.38	3.65	N	0	0.00	0.00	0	N	AT&T MOBILITY
0.00	166.00	3	3/8" (0.38"- 9.5mm)	0.38	0.23	N	0	0.00	0.00	0	N	AT&T MOBILITY
0.00	166.00	3	3/8" (0.38"- 9.5mm)	0.38	0.23	N	0	0.00	0.00	0	N	AT&T MOBILITY

Site Number: 280501

Code: ANSI/TIA-222-G

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Site Name: ROXBURY CT, CT

Engineering Number:13222822_C3_04

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Customer: AT&T MOBILITY

Segment Properties (Max Len : 5. ft)

Seg Top Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	F'y (ksi)	S (in ³)	Z (in ³)	Weight (lb)
0.00		0.3750	64.947	76.854	40,486.9	28.78	173.19	67.6	1227.	0.0	0.0
5.00		0.3750	63.574	75.220	37,958.0	28.13	169.53	68.3	1176.	0.0	1,293.7
10.00		0.3750	62.200	73.585	35,536.7	27.48	165.87	69.1	1125.	0.0	1,265.9
15.00		0.3750	60.827	71.950	33,220.5	26.84	162.21	69.8	1075.	0.0	1,238.1
20.00		0.3750	59.454	70.316	31,007.3	26.19	158.54	70.6	1027.	0.0	1,210.2
25.00		0.3750	58.080	68.681	28,894.6	25.55	154.88	71.4	979.9	0.0	1,182.4
30.00		0.3750	56.707	67.046	26,880.2	24.90	151.22	72.1	933.6	0.0	1,154.6
35.00		0.3750	55.333	65.412	24,961.6	24.25	147.56	72.9	888.5	0.0	1,126.8
40.00		0.3750	53.960	63.777	23,136.5	23.61	143.89	73.6	844.5	0.0	1,099.0
45.00		0.3750	52.586	62.142	21,402.7	22.96	140.23	74.4	801.6	0.0	1,071.2
45.50	Bot - Section 2	0.3750	52.449	61.979	21,234.2	22.90	139.86	74.5	797.4	0.0	105.6
50.00		0.3750	51.213	60.508	19,757.7	22.32	136.57	75.2	759.9	0.0	1,889.2
52.75	Top - Section 1	0.3750	51.207	60.501	19,751.4	22.31	136.55	75.2	759.7	0.0	1,132.4
55.00		0.3750	50.589	59.765	19,039.7	22.02	134.90	75.5	741.3	0.0	460.4
60.00		0.3750	49.216	58.131	17,519.7	21.38	131.24	76.3	701.1	0.0	1,002.9
65.00		0.3750	47.842	56.496	16,082.9	20.73	127.58	77.0	662.1	0.0	975.1
70.00		0.3750	46.469	54.861	14,726.8	20.09	123.92	77.8	624.2	0.0	947.3
75.00		0.3750	45.096	53.227	13,449.2	19.44	120.25	78.5	587.4	0.0	919.5
80.00		0.3750	43.722	51.592	12,247.7	18.80	116.59	79.3	551.7	0.0	891.7
85.00		0.3750	42.349	49.957	11,120.0	18.15	112.93	80.1	517.2	0.0	863.9
90.00		0.3750	40.975	48.323	10,063.8	17.50	109.27	80.8	483.7	0.0	836.1
92.75	Bot - Section 3	0.3750	40.220	47.424	9,512.4	17.15	107.25	81.2	465.8	0.0	448.0
95.00		0.3750	39.602	46.688	9,076.6	16.86	105.60	81.6	451.4	0.0	665.7
98.50	Top - Section 2	0.3125	39.265	38.635	7,406.5	20.39	125.65	77.4	371.5	0.0	1,015.0
100.0		0.3125	38.853	38.226	7,173.9	20.16	124.33	77.7	363.7	0.0	196.2
105.0		0.3125	37.480	36.864	6,434.0	19.38	119.94	78.6	338.1	0.0	638.8
110.0		0.3125	36.106	35.502	5,746.7	18.61	115.54	79.5	313.5	0.0	615.6
115.0		0.3125	34.733	34.140	5,110.3	17.83	111.15	80.4	289.8	0.0	592.4
120.0		0.3125	33.360	32.777	4,522.6	17.06	106.75	81.3	267.0	0.0	569.3
125.0		0.3125	31.986	31.415	3,981.8	16.28	102.36	82.2	245.2	0.0	546.1
130.0		0.3125	30.613	30.053	3,486.0	15.51	97.96	82.6	224.3	0.0	522.9
135.0		0.3125	29.239	28.691	3,033.1	14.73	93.57	82.6	204.3	0.0	499.7
140.0		0.3125	27.866	27.328	2,621.3	13.96	89.17	82.6	185.3	0.0	476.5
141.7	Bot - Section 4	0.3125	27.385	26.852	2,486.4	13.69	87.63	82.6	178.8	0.0	161.3
145.0		0.3125	26.492	25.966	2,248.5	13.18	84.78	82.6	167.2	0.0	470.6
145.7	Top - Section 3	0.1875	26.661	15.755	1,395.1	23.31	142.19	74.0	103.1	0.0	106.4
150.0		0.1875	25.494	15.060	1,218.5	22.21	135.97	75.3	94.1	0.0	222.8
155.0		0.1875	24.120	14.243	1,030.7	20.92	128.64	76.8	84.2	0.0	249.3
160.0		0.1875	22.747	13.425	863.2	19.63	121.32	78.3	74.7	0.0	235.4
165.0		0.1875	21.373	12.608	715.0	18.34	113.99	79.8	65.9	0.0	221.5
166.0		0.1875	21.099	12.444	687.5	18.08	112.53	80.1	64.2	0.0	42.6
170.0		0.1875	20.000	11.790	584.7	17.04	106.67	81.4	57.6	0.0	164.9
											29,327.0

Site Number: 280501

Code: ANSI/TIA-222-G

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Site Name: ROXBURY CT, CT

Engineering Number:13222822_C3_04

6/19/2020 10:22:54 AM

Customer: AT&T MOBILITY

Load Case: 1.2D + 1.6W

93 mph with No Ice

23 Iterations

Gust Response Factor :1.10

Wind Importance Factor 1.00

Dead Load Factor :1.20

Wind Load Factor :1.60

Applied Segment Forces Summary

		Shaft Forces		Discrete Forces			Linear Forces		Sum of Forces				
Seg			Dead		Torsion	Moment	Dead		Dead		Torsion	Moment	
Elev		Wind FX	Load	Wind FX	MY	MZ	Load	Wind FX	Load	Wind FX	Load	MY	MZ
(ft)	Description	(lb)	(lb)	(lb)	(lb-ft)	(lb-ft)	(lb)	(lb)	(lb)	(lb)	(lb)	(lb-ft)	(lb)
0.00		229.0	0.0					0.0	0.0	229.0	0.0	0.0	0.0
5.00		453.1	1,552.4					0.0	96.3	453.1	1,648.7	0.0	0.0
10.00		443.3	1,519.0					0.0	96.3	443.3	1,615.3	0.0	0.0
15.00		433.5	1,485.7					0.0	96.3	433.5	1,582.0	0.0	0.0
20.00		423.7	1,452.3					0.0	96.3	423.7	1,548.6	0.0	0.0
25.00		413.9	1,418.9					0.0	96.3	413.9	1,515.2	0.0	0.0
30.00		408.9	1,385.5					0.0	96.3	408.9	1,481.8	0.0	0.0
35.00		412.1	1,352.2					0.0	96.3	412.1	1,448.5	0.0	0.0
40.00		417.6	1,318.8					0.0	96.3	417.6	1,415.1	0.0	0.0
45.00		230.9	1,285.4					0.0	96.3	230.9	1,381.7	0.0	0.0
45.50	Bot - Section 2	213.8	126.7					0.0	9.6	213.8	136.3	0.0	0.0
50.00		310.7	2,267.1					0.0	86.7	310.7	2,353.8	0.0	0.0
52.75	Top - Section 1	214.6	1,358.8					0.0	53.0	214.6	1,411.8	0.0	0.0
55.00		310.9	552.5					0.0	43.3	310.9	595.8	0.0	0.0
60.00		427.8	1,203.5					0.0	96.3	427.8	1,299.8	0.0	0.0
65.00		425.5	1,170.1					0.0	96.3	425.5	1,266.4	0.0	0.0
70.00		422.1	1,136.8					0.0	96.3	422.1	1,233.1	0.0	0.0
75.00		417.8	1,103.4					0.0	96.3	417.8	1,199.7	0.0	0.0
80.00		412.6	1,070.0					0.0	96.3	412.6	1,166.3	0.0	0.0
85.00		406.7	1,036.6					0.0	96.3	406.7	1,132.9	0.0	0.0
90.00		311.2	1,003.3					0.0	96.3	311.2	1,099.6	0.0	0.0
92.75	Bot - Section 3	199.6	537.6					0.0	53.0	199.6	590.5	0.0	0.0
95.00		228.8	798.9					0.0	43.3	228.8	842.2	0.0	0.0
98.50	Top - Section 2	197.5	1,218.0					0.0	67.4	197.5	1,285.5	0.0	0.0
100.00		252.2	235.4					0.0	28.9	252.2	264.3	0.0	0.0
105.00		382.3	766.5					0.0	96.3	382.3	862.8	0.0	0.0
110.00		373.2	738.7					0.0	96.3	373.2	835.0	0.0	0.0
115.00		363.6	710.9					0.0	96.3	363.6	807.2	0.0	0.0
120.00		353.5	683.1					0.0	96.3	353.5	779.4	0.0	0.0
125.00		342.9	655.3					0.0	96.3	342.9	751.6	0.0	0.0
130.00		331.9	627.5					0.0	96.3	331.9	723.8	0.0	0.0
135.00		320.5	599.7					0.0	96.3	320.5	696.0	0.0	0.0
140.00		211.0	571.9					0.0	96.3	211.0	668.2	0.0	0.0
141.75	Bot - Section 4	152.6	193.6					0.0	33.7	152.6	227.3	0.0	0.0
145.00		121.5	564.7					0.0	62.6	121.5	627.3	0.0	0.0
145.75	Top - Section 3	147.2	127.6					0.0	14.4	147.2	142.1	0.0	0.0
150.00		265.5	267.4					0.0	81.9	265.5	349.2	0.0	0.0
155.00		275.0	299.1					0.0	96.3	275.0	395.4	0.0	0.0
160.00		261.7	282.4					0.0	96.3	261.7	378.7	0.0	0.0
165.00		152.2	265.8					0.0	96.3	152.2	362.1	0.0	0.0
166.00	Appurtenance(s)	120.6	51.1	4,775.0	0.0	2,280.2	4,221.4	0.0	19.3	4,895.6	4,291.8	0.0	0.0
170.00		95.9	197.9					0.0	0.0	95.9	197.9	0.0	0.0
Totals:										17,663.8	42,610.9	0.00	0.00

Site Number: 280501

Code: ANSI/TIA-222-G

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Site Name: ROXBURY CT, CT

Engineering Number:13222822_C3_04

6/19/2020 10:22:56 AM

Customer: AT&T MOBILITY

Load Case: 1.2D + 1.6W

93 mph with No Ice

23 Iterations

Gust Response Factor :1.10

Wind Importance Factor 1.00

Dead Load Factor :1.20

Wind Load Factor :1.60

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-42.60	-17.46	0.00	-1,845.36	0.00	1,845.36	4,672.78	2,336.39	12,423.5	6,221.00	0.00	0.00	0.306
5.00	-40.93	-17.05	0.00	-1,758.07	0.00	1,758.07	4,624.81	2,312.41	12,032.9	6,025.42	0.03	-0.06	0.301
10.00	-39.30	-16.65	0.00	-1,672.82	0.00	1,672.82	4,574.61	2,287.30	11,642.1	5,829.72	0.14	-0.13	0.296
15.00	-37.70	-16.25	0.00	-1,589.58	0.00	1,589.58	4,522.17	2,261.08	11,251.4	5,634.10	0.30	-0.19	0.291
20.00	-36.14	-15.87	0.00	-1,508.31	0.00	1,508.31	4,467.49	2,233.75	10,861.3	5,438.74	0.54	-0.26	0.285
25.00	-34.60	-15.49	0.00	-1,428.98	0.00	1,428.98	4,410.58	2,205.29	10,472.1	5,243.85	0.85	-0.33	0.280
30.00	-33.11	-15.11	0.00	-1,351.56	0.00	1,351.56	4,351.44	2,175.72	10,084.2	5,049.60	1.23	-0.40	0.275
35.00	-31.64	-14.72	0.00	-1,276.02	0.00	1,276.02	4,290.06	2,145.03	9,697.96	4,856.19	1.68	-0.46	0.270
40.00	-30.21	-14.33	0.00	-1,202.41	0.00	1,202.41	4,226.45	2,113.22	9,313.77	4,663.81	2.21	-0.54	0.265
45.00	-28.82	-14.11	0.00	-1,130.76	0.00	1,130.76	4,160.60	2,080.30	8,932.02	4,472.65	2.80	-0.61	0.260
45.50	-28.68	-13.91	0.00	-1,123.71	0.00	1,123.71	4,153.89	2,076.94	8,894.00	4,453.61	2.87	-0.61	0.259
50.00	-26.32	-13.60	0.00	-1,061.12	0.00	1,061.12	4,092.51	2,046.26	8,553.10	4,282.90	3.48	-0.68	0.254
52.75	-24.90	-13.38	0.00	-1,023.73	0.00	1,023.73	4,092.24	2,046.12	8,551.61	4,282.16	3.88	-0.72	0.245
55.00	-24.30	-13.08	0.00	-993.63	0.00	993.63	4,060.87	2,030.44	8,382.12	4,197.29	4.23	-0.76	0.243
60.00	-22.99	-12.67	0.00	-928.21	0.00	928.21	3,989.54	1,994.77	8,007.97	4,009.94	5.06	-0.83	0.237
65.00	-21.71	-12.25	0.00	-864.87	0.00	864.87	3,915.97	1,957.98	7,637.58	3,824.47	5.97	-0.90	0.232
70.00	-20.47	-11.84	0.00	-803.61	0.00	803.61	3,840.17	1,920.08	7,271.33	3,641.07	6.95	-0.97	0.226
75.00	-19.26	-11.42	0.00	-744.44	0.00	744.44	3,762.13	1,881.06	6,909.59	3,459.93	8.01	-1.05	0.220
80.00	-18.09	-11.01	0.00	-687.33	0.00	687.33	3,681.85	1,840.93	6,552.75	3,281.25	9.15	-1.12	0.214
85.00	-16.95	-10.60	0.00	-632.28	0.00	632.28	3,599.35	1,799.67	6,201.20	3,105.21	10.37	-1.20	0.208
90.00	-15.85	-10.29	0.00	-579.25	0.00	579.25	3,514.60	1,757.30	5,855.31	2,932.01	11.67	-1.28	0.202
92.75	-15.26	-10.08	0.00	-550.97	0.00	550.97	3,467.04	1,733.52	5,667.62	2,838.02	12.42	-1.32	0.199
95.00	-14.41	-9.85	0.00	-528.28	0.00	528.28	3,427.62	1,713.81	5,515.46	2,761.83	13.05	-1.36	0.196
98.50	-13.12	-9.63	0.00	-493.82	0.00	493.82	2,691.87	1,345.93	4,307.85	2,157.13	14.07	-1.42	0.234
100.00	-12.86	-9.38	0.00	-479.37	0.00	479.37	2,672.80	1,336.40	4,231.73	2,119.01	14.52	-1.44	0.231
105.00	-11.99	-9.00	0.00	-432.46	0.00	432.46	2,607.79	1,303.90	3,980.49	1,993.20	16.08	-1.53	0.222
110.00	-11.15	-8.62	0.00	-387.48	0.00	387.48	2,540.55	1,270.27	3,733.36	1,869.45	17.73	-1.62	0.212
115.00	-10.34	-8.25	0.00	-344.39	0.00	344.39	2,471.07	1,235.53	3,490.72	1,747.95	19.47	-1.71	0.201
120.00	-9.56	-7.89	0.00	-303.15	0.00	303.15	2,399.36	1,199.68	3,252.95	1,628.89	21.31	-1.80	0.190
125.00	-8.81	-7.53	0.00	-263.73	0.00	263.73	2,325.41	1,162.70	3,020.44	1,512.47	23.25	-1.89	0.178
130.00	-8.09	-7.19	0.00	-226.07	0.00	226.07	2,232.77	1,116.39	2,773.14	1,388.63	25.28	-1.98	0.166
135.00	-7.39	-6.85	0.00	-190.13	0.00	190.13	2,131.57	1,065.78	2,526.21	1,264.98	27.39	-2.06	0.154
140.00	-6.73	-6.62	0.00	-155.86	0.00	155.86	2,030.36	1,015.18	2,290.79	1,147.10	29.60	-2.14	0.139
141.75	-6.50	-6.47	0.00	-144.27	0.00	144.27	1,994.94	997.47	2,211.11	1,107.20	30.39	-2.17	0.134
145.00	-5.88	-6.33	0.00	-123.25	0.00	123.25	1,929.15	964.58	2,066.89	1,034.98	31.89	-2.22	0.122
145.75	-5.74	-6.18	0.00	-118.50	0.00	118.50	1,049.04	524.52	1,142.04	571.87	32.24	-2.23	0.213
150.00	-5.39	-5.91	0.00	-92.25	0.00	92.25	1,020.28	510.14	1,061.41	531.49	34.25	-2.29	0.179
155.00	-5.00	-5.62	0.00	-62.72	0.00	62.72	984.38	492.19	968.07	484.76	36.70	-2.38	0.135
160.00	-4.63	-5.35	0.00	-34.62	0.00	34.62	946.25	473.12	876.75	439.03	39.24	-2.45	0.084
165.00	-4.27	-5.18	0.00	-7.88	0.00	7.88	905.88	452.94	787.82	394.50	41.83	-2.48	0.025
166.00	-0.19	-0.10	0.00	-0.42	0.00	0.42	897.53	448.77	770.36	385.75	42.35	-2.49	0.001
170.00	0.00	-0.10	0.00	0.00	0.00	0.00	863.27	431.63	701.67	351.36	44.43	-2.49	0.000

Site Number: 280501

Code: ANSI/TIA-222-G

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Site Name: ROXBURY CT, CT

Engineering Number:13222822_C3_04

6/19/2020 10:22:56 AM

Customer: AT&T MOBILITY

Load Case: 0.9D + 1.6W

93 mph with No Ice (Reduced DL)

23 Iterations

Gust Response Factor :1.10

Wind Importance Factor 1.00

Dead Load Factor :0.90

Wind Load Factor :1.60

Applied Segment Forces Summary

		Shaft Forces		Discrete Forces			Linear Forces		Sum of Forces				
Seg			Dead	Torsion		Moment	Dead		Dead	Torsion		Moment	
Elev		Wind FX	Load	Wind FX	MY	MZ	Load	Wind FX	Load	Wind FX	Load	MY	MZ
(ft)	Description	(lb)	(lb)	(lb)	(lb-ft)	(lb-ft)	(lb)	(lb)	(lb)	(lb)	(lb)	(lb-ft)	(lb)
0.00		229.0	0.0					0.0	0.0	229.0	0.0	0.0	0.0
5.00		453.1	1,164.3					0.0	72.2	453.1	1,236.5	0.0	0.0
10.00		443.3	1,139.3					0.0	72.2	443.3	1,211.5	0.0	0.0
15.00		433.5	1,114.3					0.0	72.2	433.5	1,186.5	0.0	0.0
20.00		423.7	1,089.2					0.0	72.2	423.7	1,161.4	0.0	0.0
25.00		413.9	1,064.2					0.0	72.2	413.9	1,136.4	0.0	0.0
30.00		408.9	1,039.2					0.0	72.2	408.9	1,111.4	0.0	0.0
35.00		412.1	1,014.1					0.0	72.2	412.1	1,086.4	0.0	0.0
40.00		417.6	989.1					0.0	72.2	417.6	1,061.3	0.0	0.0
45.00		230.9	964.1					0.0	72.2	230.9	1,036.3	0.0	0.0
45.50	Bot - Section 2	213.8	95.0					0.0	7.2	213.8	102.3	0.0	0.0
50.00		310.7	1,700.3					0.0	65.0	310.7	1,765.3	0.0	0.0
52.75	Top - Section 1	214.6	1,019.1					0.0	39.7	214.6	1,058.8	0.0	0.0
55.00		310.9	414.4					0.0	32.5	310.9	446.9	0.0	0.0
60.00		427.8	902.6					0.0	72.2	427.8	974.9	0.0	0.0
65.00		425.5	877.6					0.0	72.2	425.5	949.8	0.0	0.0
70.00		422.1	852.6					0.0	72.2	422.1	924.8	0.0	0.0
75.00		417.8	827.5					0.0	72.2	417.8	899.8	0.0	0.0
80.00		412.6	802.5					0.0	72.2	412.6	874.7	0.0	0.0
85.00		406.7	777.5					0.0	72.2	406.7	849.7	0.0	0.0
90.00		311.2	752.5					0.0	72.2	311.2	824.7	0.0	0.0
92.75	Bot - Section 3	199.6	403.2					0.0	39.7	199.6	442.9	0.0	0.0
95.00		228.8	599.1					0.0	32.5	228.8	631.6	0.0	0.0
98.50	Top - Section 2	197.5	913.5					0.0	50.6	197.5	964.1	0.0	0.0
100.00		252.2	176.5					0.0	21.7	252.2	198.2	0.0	0.0
105.00		382.3	574.9					0.0	72.2	382.3	647.1	0.0	0.0
110.00		373.2	554.1					0.0	72.2	373.2	626.3	0.0	0.0
115.00		363.6	533.2					0.0	72.2	363.6	605.4	0.0	0.0
120.00		353.5	512.3					0.0	72.2	353.5	584.6	0.0	0.0
125.00		342.9	491.5					0.0	72.2	342.9	563.7	0.0	0.0
130.00		331.9	470.6					0.0	72.2	331.9	542.8	0.0	0.0
135.00		320.5	449.8					0.0	72.2	320.5	522.0	0.0	0.0
140.00		211.0	428.9					0.0	72.2	211.0	501.1	0.0	0.0
141.75	Bot - Section 4	152.6	145.2					0.0	25.3	152.6	170.5	0.0	0.0
145.00		121.5	423.5					0.0	46.9	121.5	470.5	0.0	0.0
145.75	Top - Section 3	147.2	95.7					0.0	10.8	147.2	106.6	0.0	0.0
150.00		265.5	200.5					0.0	61.4	265.5	261.9	0.0	0.0
155.00		275.0	224.3					0.0	72.2	275.0	296.6	0.0	0.0
160.00		261.7	211.8					0.0	72.2	261.7	284.1	0.0	0.0
165.00		152.2	199.3					0.0	72.2	152.2	271.5	0.0	0.0
166.00	Appurtenance(s)	120.6	38.4	4,775.0	0.0	2,280.2	3,166.0	0.0	14.4	4,895.6	3,218.8	0.0	0.0
170.00		95.9	148.4					0.0	0.0	95.9	148.4	0.0	0.0
Totals:										17,663.8	31,958.1	0.00	0.00

Site Number: 280501

Code: ANSI/TIA-222-G

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Site Name: ROXBURY CT, CT

Engineering Number:13222822_C3_04

6/19/2020 10:22:57 AM

Customer: AT&T MOBILITY

Load Case: 0.9D + 1.6W

93 mph with No Ice (Reduced DL)

23 Iterations

Gust Response Factor :1.10

Wind Importance Factor 1.00

Dead Load Factor :0.90

Wind Load Factor :1.60

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-31.95	-17.45	0.00	-1,833.58	0.00	1,833.58	4,672.78	2,336.39	12,423.5	6,221.00	0.00	0.00	0.302
5.00	-30.69	-17.03	0.00	-1,746.32	0.00	1,746.32	4,624.81	2,312.41	12,032.9	6,025.42	0.03	-0.06	0.297
10.00	-29.46	-16.62	0.00	-1,661.16	0.00	1,661.16	4,574.61	2,287.30	11,642.1	5,829.72	0.13	-0.13	0.291
15.00	-28.26	-16.22	0.00	-1,578.06	0.00	1,578.06	4,522.17	2,261.08	11,251.4	5,634.10	0.30	-0.19	0.286
20.00	-27.08	-15.82	0.00	-1,496.98	0.00	1,496.98	4,467.49	2,233.75	10,861.3	5,438.74	0.54	-0.26	0.281
25.00	-25.93	-15.43	0.00	-1,417.89	0.00	1,417.89	4,410.58	2,205.29	10,472.1	5,243.85	0.84	-0.32	0.276
30.00	-24.80	-15.04	0.00	-1,340.74	0.00	1,340.74	4,351.44	2,175.72	10,084.2	5,049.60	1.22	-0.39	0.271
35.00	-23.70	-14.65	0.00	-1,265.52	0.00	1,265.52	4,290.06	2,145.03	9,697.96	4,856.19	1.67	-0.46	0.266
40.00	-22.63	-14.25	0.00	-1,192.27	0.00	1,192.27	4,226.45	2,113.22	9,313.77	4,663.81	2.19	-0.53	0.261
45.00	-21.58	-14.03	0.00	-1,121.00	0.00	1,121.00	4,160.60	2,080.30	8,932.02	4,472.65	2.78	-0.60	0.256
45.50	-21.47	-13.83	0.00	-1,113.99	0.00	1,113.99	4,153.89	2,076.94	8,894.00	4,453.61	2.85	-0.61	0.255
50.00	-19.70	-13.51	0.00	-1,051.78	0.00	1,051.78	4,092.51	2,046.26	8,553.10	4,282.90	3.45	-0.68	0.250
52.75	-18.64	-13.30	0.00	-1,014.62	0.00	1,014.62	4,092.24	2,046.12	8,551.61	4,282.16	3.86	-0.72	0.242
55.00	-18.18	-13.00	0.00	-984.70	0.00	984.70	4,060.87	2,030.44	8,382.12	4,197.29	4.20	-0.75	0.239
60.00	-17.20	-12.58	0.00	-919.71	0.00	919.71	3,989.54	1,994.77	8,007.97	4,009.94	5.03	-0.82	0.234
65.00	-16.24	-12.16	0.00	-856.82	0.00	856.82	3,915.97	1,957.98	7,637.58	3,824.47	5.92	-0.89	0.228
70.00	-15.30	-11.74	0.00	-796.02	0.00	796.02	3,840.17	1,920.08	7,271.33	3,641.07	6.90	-0.97	0.223
75.00	-14.40	-11.33	0.00	-737.32	0.00	737.32	3,762.13	1,881.06	6,909.59	3,459.93	7.95	-1.04	0.217
80.00	-13.52	-10.92	0.00	-680.68	0.00	680.68	3,681.85	1,840.93	6,552.75	3,281.25	9.08	-1.12	0.211
85.00	-12.66	-10.51	0.00	-626.10	0.00	626.10	3,599.35	1,799.67	6,201.20	3,105.21	10.29	-1.19	0.205
90.00	-11.83	-10.19	0.00	-573.56	0.00	573.56	3,514.60	1,757.30	5,855.31	2,932.01	11.58	-1.27	0.199
92.75	-11.39	-9.99	0.00	-545.53	0.00	545.53	3,467.04	1,733.52	5,667.62	2,838.02	12.32	-1.31	0.196
95.00	-10.75	-9.76	0.00	-523.05	0.00	523.05	3,427.62	1,713.81	5,515.46	2,761.83	12.95	-1.35	0.193
98.50	-9.79	-9.54	0.00	-488.90	0.00	488.90	2,691.87	1,345.93	4,307.85	2,157.13	13.96	-1.40	0.230
100.00	-9.59	-9.30	0.00	-474.59	0.00	474.59	2,672.80	1,336.40	4,231.73	2,119.01	14.40	-1.43	0.228
105.00	-8.94	-8.91	0.00	-428.12	0.00	428.12	2,607.79	1,303.90	3,980.49	1,993.20	15.94	-1.52	0.218
110.00	-8.31	-8.53	0.00	-383.56	0.00	383.56	2,540.55	1,270.27	3,733.36	1,869.45	17.58	-1.61	0.208
115.00	-7.70	-8.16	0.00	-340.90	0.00	340.90	2,471.07	1,235.53	3,490.72	1,747.95	19.31	-1.70	0.198
120.00	-7.11	-7.80	0.00	-300.08	0.00	300.08	2,399.36	1,199.68	3,252.95	1,628.89	21.14	-1.79	0.187
125.00	-6.55	-7.45	0.00	-261.06	0.00	261.06	2,325.41	1,162.70	3,020.44	1,512.47	23.05	-1.87	0.175
130.00	-6.01	-7.11	0.00	-223.79	0.00	223.79	2,232.77	1,116.39	2,773.14	1,388.63	25.06	-1.96	0.164
135.00	-5.49	-6.78	0.00	-188.23	0.00	188.23	2,131.57	1,065.78	2,526.21	1,264.98	27.16	-2.04	0.151
140.00	-4.99	-6.56	0.00	-154.32	0.00	154.32	2,030.36	1,015.18	2,290.79	1,147.10	29.35	-2.12	0.137
141.75	-4.82	-6.40	0.00	-142.84	0.00	142.84	1,994.94	997.47	2,211.11	1,107.20	30.13	-2.15	0.131
145.00	-4.35	-6.26	0.00	-122.04	0.00	122.04	1,929.15	964.58	2,066.89	1,034.98	31.61	-2.20	0.120
145.75	-4.25	-6.12	0.00	-117.34	0.00	117.34	1,049.04	524.52	1,142.04	571.87	31.96	-2.21	0.209
150.00	-3.99	-5.85	0.00	-91.34	0.00	91.34	1,020.28	510.14	1,061.41	531.49	33.96	-2.27	0.176
155.00	-3.69	-5.56	0.00	-62.11	0.00	62.11	984.38	492.19	968.07	484.76	36.39	-2.36	0.132
160.00	-3.42	-5.29	0.00	-34.29	0.00	34.29	946.25	473.12	876.75	439.03	38.90	-2.43	0.082
165.00	-3.15	-5.13	0.00	-7.82	0.00	7.82	905.88	452.94	787.82	394.50	41.46	-2.46	0.023
166.00	-0.14	-0.10	0.00	-0.41	0.00	0.41	897.53	448.77	770.36	385.75	41.98	-2.46	0.001
170.00	0.00	-0.10	0.00	0.00	0.00	0.00	863.27	431.63	701.67	351.36	44.04	-2.46	0.000

Site Number: 280501

Code: ANSI/TIA-222-G

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Site Name: ROXBURY CT, CT

Engineering Number:13222822_C3_04

6/19/2020 10:22:58 AM

Customer: AT&T MOBILITY

Load Case: 1.2D + 1.0Di + 1.0Wi

40 mph with 1.00 in Radial Ice

22 Iterations

Gust Response Factor :1.10

Ice Dead Load Factor 1.00

Wind Importance Factor 1.00

Dead Load Factor :1.20

Ice Importance Factor :1.00

Wind Load Factor :1.00

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces		Discrete Forces			Linear Forces		Sum of Forces				
		Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		51.2	0.0					0.0	0.0	51.2	0.0	0.0	0.0
5.00		101.6	2,182.7					0.0	96.3	101.6	2,279.0	0.0	0.0
10.00		99.9	2,209.6					0.0	96.3	99.9	2,305.9	0.0	0.0
15.00		98.1	2,197.8					0.0	96.3	98.1	2,294.1	0.0	0.0
20.00		96.1	2,173.4					0.0	96.3	96.1	2,269.7	0.0	0.0
25.00		94.2	2,142.4					0.0	96.3	94.2	2,238.7	0.0	0.0
30.00		93.3	2,107.2					0.0	96.3	93.3	2,203.5	0.0	0.0
35.00		94.3	2,069.2					0.0	96.3	94.3	2,165.5	0.0	0.0
40.00		95.8	2,029.1					0.0	96.3	95.8	2,125.4	0.0	0.0
45.00		53.0	1,987.4					0.0	96.3	53.0	2,083.7	0.0	0.0
45.50	Bot - Section 2	49.2	197.2					0.0	9.6	49.2	206.8	0.0	0.0
50.00		71.5	2,899.2					0.0	86.7	71.5	2,985.9	0.0	0.0
52.75	Top - Section 1	49.5	1,742.6					0.0	53.0	49.5	1,795.6	0.0	0.0
55.00		71.9	864.4					0.0	43.3	71.9	907.7	0.0	0.0
60.00		99.1	1,883.2					0.0	96.3	99.1	1,979.5	0.0	0.0
65.00		98.8	1,837.4					0.0	96.3	98.8	1,933.7	0.0	0.0
70.00		98.3	1,790.9					0.0	96.3	98.3	1,887.2	0.0	0.0
75.00		97.6	1,743.8					0.0	96.3	97.6	1,840.1	0.0	0.0
80.00		96.7	1,696.1					0.0	96.3	96.7	1,792.4	0.0	0.0
85.00		95.7	1,648.0					0.0	96.3	95.7	1,744.3	0.0	0.0
90.00		73.4	1,599.4					0.0	96.3	73.4	1,695.7	0.0	0.0
92.75	Bot - Section 3	47.2	861.2					0.0	53.0	47.2	914.2	0.0	0.0
95.00		54.2	1,064.4					0.0	43.3	54.2	1,107.8	0.0	0.0
98.50	Top - Section 2	46.8	1,623.1					0.0	67.4	46.8	1,690.5	0.0	0.0
100.00		60.0	407.7					0.0	28.9	60.0	436.6	0.0	0.0
105.00		91.2	1,323.6					0.0	96.3	91.2	1,419.9	0.0	0.0
110.00		89.5	1,279.3					0.0	96.3	89.5	1,375.6	0.0	0.0
115.00		87.6	1,234.6					0.0	96.3	87.6	1,330.9	0.0	0.0
120.00		85.6	1,189.7					0.0	96.3	85.6	1,286.0	0.0	0.0
125.00		83.5	1,144.5					0.0	96.3	83.5	1,240.8	0.0	0.0
130.00		81.3	1,099.0					0.0	96.3	81.3	1,195.3	0.0	0.0
135.00		79.0	1,053.4					0.0	96.3	79.0	1,149.7	0.0	0.0
140.00		52.3	1,007.5					0.0	96.3	52.3	1,103.8	0.0	0.0
141.75	Bot - Section 4	38.0	344.0					0.0	33.7	38.0	377.7	0.0	0.0
145.00		30.3	839.7					0.0	62.6	30.3	902.3	0.0	0.0
145.75	Top - Section 3	36.9	190.8					0.0	14.4	36.9	205.2	0.0	0.0
150.00		66.9	611.2					0.0	81.9	66.9	693.1	0.0	0.0
155.00		69.9	685.0					0.0	96.3	69.9	781.3	0.0	0.0
160.00		67.2	649.5					0.0	96.3	67.2	745.8	0.0	0.0
165.00		39.3	613.9					0.0	96.3	39.3	710.2	0.0	0.0
166.00	Appurtenance(s)	31.5	120.1	838.9	0.0	377.0	9,903.4	0.0	19.3	870.4	10,042.7	0.0	0.0
170.00		25.1	461.2					0.0	0.0	25.1	461.2	0.0	0.0
Totals:										3,881.41	67,905.0	0.00	0.00

Site Number: 280501

Code: ANSI/TIA-222-G

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Site Name: ROXBURY CT, CT

Engineering Number:13222822_C3_04

6/19/2020 10:22:59 AM

Customer: AT&T MOBILITY

Load Case: 1.2D + 1.0Di + 1.0Wi

40 mph with 1.00 in Radial Ice

22 Iterations

Gust Response Factor :1.10

Ice Dead Load Factor 1.00

Wind Importance Factor 1.00

Dead Load Factor :1.20

Ice Importance Factor :1.00

Wind Load Factor :1.00

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-67.90	-3.84	0.00	-400.51	0.00	400.51	4,672.78	2,336.39	12,423.5	6,221.00	0.00	0.00	0.079
5.00	-65.62	-3.75	0.00	-381.32	0.00	381.32	4,624.81	2,312.41	12,032.9	6,025.42	0.01	-0.01	0.077
10.00	-63.32	-3.67	0.00	-362.56	0.00	362.56	4,574.61	2,287.30	11,642.1	5,829.72	0.03	-0.03	0.076
15.00	-61.02	-3.58	0.00	-344.23	0.00	344.23	4,522.17	2,261.08	11,251.4	5,634.10	0.07	-0.04	0.075
20.00	-58.75	-3.50	0.00	-326.32	0.00	326.32	4,467.49	2,233.75	10,861.3	5,438.74	0.12	-0.06	0.073
25.00	-56.51	-3.42	0.00	-308.82	0.00	308.82	4,410.58	2,205.29	10,472.1	5,243.85	0.18	-0.07	0.072
30.00	-54.31	-3.33	0.00	-291.74	0.00	291.74	4,351.44	2,175.72	10,084.2	5,049.60	0.27	-0.09	0.070
35.00	-52.14	-3.25	0.00	-275.07	0.00	275.07	4,290.06	2,145.03	9,697.96	4,856.19	0.36	-0.10	0.069
40.00	-50.02	-3.16	0.00	-258.82	0.00	258.82	4,226.45	2,113.22	9,313.77	4,663.81	0.48	-0.12	0.067
45.00	-47.93	-3.11	0.00	-243.00	0.00	243.00	4,160.60	2,080.30	8,932.02	4,472.65	0.61	-0.13	0.066
45.50	-47.73	-3.07	0.00	-241.44	0.00	241.44	4,153.89	2,076.94	8,894.00	4,453.61	0.62	-0.13	0.066
50.00	-44.74	-3.00	0.00	-227.62	0.00	227.62	4,092.51	2,046.26	8,553.10	4,282.90	0.75	-0.15	0.064
52.75	-42.94	-2.95	0.00	-219.37	0.00	219.37	4,092.24	2,046.12	8,551.61	4,282.16	0.84	-0.16	0.062
55.00	-42.03	-2.89	0.00	-212.73	0.00	212.73	4,060.87	2,030.44	8,382.12	4,197.29	0.92	-0.16	0.061
60.00	-40.06	-2.79	0.00	-198.29	0.00	198.29	3,989.54	1,994.77	8,007.97	4,009.94	1.09	-0.18	0.059
65.00	-38.12	-2.70	0.00	-184.33	0.00	184.33	3,915.97	1,957.98	7,637.58	3,824.47	1.29	-0.19	0.058
70.00	-36.23	-2.60	0.00	-170.84	0.00	170.84	3,840.17	1,920.08	7,271.33	3,641.07	1.50	-0.21	0.056
75.00	-34.39	-2.51	0.00	-157.83	0.00	157.83	3,762.13	1,881.06	6,909.59	3,459.93	1.73	-0.23	0.055
80.00	-32.60	-2.41	0.00	-145.29	0.00	145.29	3,681.85	1,840.93	6,552.75	3,281.25	1.97	-0.24	0.053
85.00	-30.86	-2.32	0.00	-133.23	0.00	133.23	3,599.35	1,799.67	6,201.20	3,105.21	2.24	-0.26	0.051
90.00	-29.16	-2.24	0.00	-121.64	0.00	121.64	3,514.60	1,757.30	5,855.31	2,932.01	2.52	-0.27	0.050
92.75	-28.25	-2.20	0.00	-115.47	0.00	115.47	3,467.04	1,733.52	5,667.62	2,838.02	2.68	-0.28	0.049
95.00	-27.14	-2.14	0.00	-110.53	0.00	110.53	3,427.62	1,713.81	5,515.46	2,761.83	2.81	-0.29	0.048
98.50	-25.45	-2.09	0.00	-103.03	0.00	103.03	2,691.87	1,345.93	4,307.85	2,157.13	3.03	-0.30	0.057
100.00	-25.01	-2.03	0.00	-99.90	0.00	99.90	2,672.80	1,336.40	4,231.73	2,119.01	3.13	-0.31	0.057
105.00	-23.59	-1.94	0.00	-89.74	0.00	89.74	2,607.79	1,303.90	3,980.49	1,993.20	3.46	-0.33	0.054
110.00	-22.22	-1.85	0.00	-80.04	0.00	80.04	2,540.55	1,270.27	3,733.36	1,869.45	3.81	-0.35	0.052
115.00	-20.88	-1.76	0.00	-70.79	0.00	70.79	2,471.07	1,235.53	3,490.72	1,747.95	4.18	-0.36	0.049
120.00	-19.60	-1.67	0.00	-61.98	0.00	61.98	2,399.36	1,199.68	3,252.95	1,628.89	4.57	-0.38	0.046
125.00	-18.36	-1.59	0.00	-53.61	0.00	53.61	2,325.41	1,162.70	3,020.44	1,512.47	4.98	-0.40	0.043
130.00	-17.16	-1.50	0.00	-45.68	0.00	45.68	2,232.77	1,116.39	2,773.14	1,388.63	5.41	-0.42	0.041
135.00	-16.01	-1.42	0.00	-38.16	0.00	38.16	2,131.57	1,065.78	2,526.21	1,264.98	5.86	-0.44	0.038
140.00	-14.91	-1.36	0.00	-31.06	0.00	31.06	2,030.36	1,015.18	2,290.79	1,147.10	6.32	-0.45	0.034
141.75	-14.53	-1.32	0.00	-28.68	0.00	28.68	1,994.94	997.47	2,211.11	1,107.20	6.49	-0.46	0.033
145.00	-13.63	-1.29	0.00	-24.38	0.00	24.38	1,929.15	964.58	2,066.89	1,034.98	6.81	-0.47	0.031
145.75	-13.42	-1.25	0.00	-23.41	0.00	23.41	1,049.04	524.52	1,142.04	571.87	6.88	-0.47	0.054
150.00	-12.73	-1.18	0.00	-18.10	0.00	18.10	1,020.28	510.14	1,061.41	531.49	7.30	-0.48	0.047
155.00	-11.95	-1.11	0.00	-12.20	0.00	12.20	984.38	492.19	968.07	484.76	7.82	-0.50	0.037
160.00	-11.21	-1.04	0.00	-6.66	0.00	6.66	946.25	473.12	876.75	439.03	8.35	-0.51	0.027
165.00	-10.50	-0.99	0.00	-1.48	0.00	1.48	905.88	452.94	787.82	394.50	8.89	-0.52	0.015
166.00	-0.46	-0.03	0.00	-0.12	0.00	0.12	897.53	448.77	770.36	385.75	9.00	-0.52	0.001
170.00	0.00	-0.03	0.00	0.00	0.00	0.00	863.27	431.63	701.67	351.36	9.43	-0.52	0.000

Site Number: 280501

Code: ANSI/TIA-222-G

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Site Name: ROXBURY CT, CT

Engineering Number:13222822_C3_04

6/19/2020 10:22:59 AM

Customer: AT&T MOBILITY

Load Case: 1.0D + 1.0W

Serviceability 60 mph

22 Iterations

Gust Response Factor :1.10

Wind Importance Factor 1.00

Dead Load Factor :1.00

Wind Load Factor :1.00

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces		Discrete Forces			Linear Forces		Sum of Forces				
		Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		53.3	0.0					0.0	0.0	53.3	0.0	0.0	0.0
5.00		105.5	1,293.7					0.0	80.2	105.5	1,373.9	0.0	0.0
10.00		103.2	1,265.9					0.0	80.2	103.2	1,346.1	0.0	0.0
15.00		100.9	1,238.1					0.0	80.2	100.9	1,318.3	0.0	0.0
20.00		98.6	1,210.2					0.0	80.2	98.6	1,290.5	0.0	0.0
25.00		96.3	1,182.4					0.0	80.2	96.3	1,262.7	0.0	0.0
30.00		95.2	1,154.6					0.0	80.2	95.2	1,234.9	0.0	0.0
35.00		95.9	1,126.8					0.0	80.2	95.9	1,207.1	0.0	0.0
40.00		97.2	1,099.0					0.0	80.2	97.2	1,179.2	0.0	0.0
45.00		53.8	1,071.2					0.0	80.2	53.8	1,151.4	0.0	0.0
45.50	Bot - Section 2	49.8	105.6					0.0	8.0	49.8	113.6	0.0	0.0
50.00		72.3	1,889.2					0.0	72.2	72.3	1,961.5	0.0	0.0
52.75	Top - Section 1	49.9	1,132.4					0.0	44.1	49.9	1,176.5	0.0	0.0
55.00		72.4	460.4					0.0	36.1	72.4	496.5	0.0	0.0
60.00		99.6	1,002.9					0.0	80.2	99.6	1,083.2	0.0	0.0
65.00		99.0	975.1					0.0	80.2	99.0	1,055.4	0.0	0.0
70.00		98.3	947.3					0.0	80.2	98.3	1,027.6	0.0	0.0
75.00		97.2	919.5					0.0	80.2	97.2	999.7	0.0	0.0
80.00		96.0	891.7					0.0	80.2	96.0	971.9	0.0	0.0
85.00		94.7	863.9					0.0	80.2	94.7	944.1	0.0	0.0
90.00		72.4	836.1					0.0	80.2	72.4	916.3	0.0	0.0
92.75	Bot - Section 3	46.5	448.0					0.0	44.1	46.5	492.1	0.0	0.0
95.00		53.2	665.7					0.0	36.1	53.2	701.8	0.0	0.0
98.50	Top - Section 2	46.0	1,015.0					0.0	56.2	46.0	1,071.2	0.0	0.0
100.00		58.7	196.2					0.0	24.1	58.7	220.2	0.0	0.0
105.00		89.0	638.8					0.0	80.2	89.0	719.0	0.0	0.0
110.00		86.9	615.6					0.0	80.2	86.9	695.9	0.0	0.0
115.00		84.6	592.4					0.0	80.2	84.6	672.7	0.0	0.0
120.00		82.3	569.3					0.0	80.2	82.3	649.5	0.0	0.0
125.00		79.8	546.1					0.0	80.2	79.8	626.3	0.0	0.0
130.00		77.3	522.9					0.0	80.2	77.3	603.2	0.0	0.0
135.00		74.6	499.7					0.0	80.2	74.6	580.0	0.0	0.0
140.00		49.1	476.5					0.0	80.2	49.1	556.8	0.0	0.0
141.75	Bot - Section 4	35.5	161.3					0.0	28.1	35.5	189.4	0.0	0.0
145.00		28.3	470.6					0.0	52.2	28.3	522.7	0.0	0.0
145.75	Top - Section 3	34.3	106.4					0.0	12.0	34.3	118.4	0.0	0.0
150.00		61.8	222.8					0.0	68.2	61.8	291.0	0.0	0.0
155.00		64.0	249.3					0.0	80.2	64.0	329.5	0.0	0.0
160.00		60.9	235.4					0.0	80.2	60.9	315.6	0.0	0.0
165.00		35.4	221.5					0.0	80.2	35.4	301.7	0.0	0.0
166.00	Appurtenance(s)	28.1	42.6	1,111.4	0.0	530.7	3,517.8	0.0	16.1	1,139.5	3,576.5	0.0	0.0
170.00		22.3	164.9					0.0	0.0	22.3	164.9	0.0	0.0
Totals:										4,111.47	35,509.0	0.00	0.00

Site Number: 280501

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Site Name: ROXBURY CT, CT

Engineering Number:13222822_C3_04

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Customer: AT&T MOBILITY

Load Case: 1.0D + 1.0W

Serviceability 60 mph

22 Iterations

Gust Response Factor :1.10

Wind Importance Factor 1.00

Dead Load Factor :1.00

Wind Load Factor :1.00

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-35.51	-4.06	0.00	-427.72	0.00	427.72	4,672.78	2,336.39	12,423.5	6,221.00	0.00	0.00	0.076
5.00	-34.13	-3.97	0.00	-407.41	0.00	407.41	4,624.81	2,312.41	12,032.9	6,025.42	0.01	-0.01	0.075
10.00	-32.79	-3.87	0.00	-387.58	0.00	387.58	4,574.61	2,287.30	11,642.1	5,829.72	0.03	-0.03	0.074
15.00	-31.47	-3.78	0.00	-368.23	0.00	368.23	4,522.17	2,261.08	11,251.4	5,634.10	0.07	-0.04	0.072
20.00	-30.18	-3.69	0.00	-349.35	0.00	349.35	4,467.49	2,233.75	10,861.3	5,438.74	0.13	-0.06	0.071
25.00	-28.91	-3.60	0.00	-330.92	0.00	330.92	4,410.58	2,205.29	10,472.1	5,243.85	0.20	-0.08	0.070
30.00	-27.68	-3.51	0.00	-312.94	0.00	312.94	4,351.44	2,175.72	10,084.2	5,049.60	0.28	-0.09	0.068
35.00	-26.47	-3.42	0.00	-295.41	0.00	295.41	4,290.06	2,145.03	9,697.96	4,856.19	0.39	-0.11	0.067
40.00	-25.29	-3.32	0.00	-278.34	0.00	278.34	4,226.45	2,113.22	9,313.77	4,663.81	0.51	-0.12	0.066
45.00	-24.14	-3.27	0.00	-261.72	0.00	261.72	4,160.60	2,080.30	8,932.02	4,472.65	0.65	-0.14	0.064
45.50	-24.02	-3.22	0.00	-260.09	0.00	260.09	4,153.89	2,076.94	8,894.00	4,453.61	0.66	-0.14	0.064
50.00	-22.06	-3.15	0.00	-245.58	0.00	245.58	4,092.51	2,046.26	8,553.10	4,282.90	0.81	-0.16	0.063
52.75	-20.88	-3.10	0.00	-236.91	0.00	236.91	4,092.24	2,046.12	8,551.61	4,282.16	0.90	-0.17	0.060
55.00	-20.39	-3.03	0.00	-229.93	0.00	229.93	4,060.87	2,030.44	8,382.12	4,197.29	0.98	-0.18	0.060
60.00	-19.30	-2.93	0.00	-214.77	0.00	214.77	3,989.54	1,994.77	8,007.97	4,009.94	1.17	-0.19	0.058
65.00	-18.25	-2.84	0.00	-200.10	0.00	200.10	3,915.97	1,957.98	7,637.58	3,824.47	1.38	-0.21	0.057
70.00	-17.22	-2.74	0.00	-185.92	0.00	185.92	3,840.17	1,920.08	7,271.33	3,641.07	1.61	-0.23	0.056
75.00	-16.22	-2.64	0.00	-172.21	0.00	172.21	3,762.13	1,881.06	6,909.59	3,459.93	1.86	-0.24	0.054
80.00	-15.25	-2.55	0.00	-159.00	0.00	159.00	3,681.85	1,840.93	6,552.75	3,281.25	2.12	-0.26	0.053
85.00	-14.30	-2.45	0.00	-146.25	0.00	146.25	3,599.35	1,799.67	6,201.20	3,105.21	2.40	-0.28	0.051
90.00	-13.39	-2.38	0.00	-133.99	0.00	133.99	3,514.60	1,757.30	5,855.31	2,932.01	2.70	-0.30	0.050
92.75	-12.89	-2.33	0.00	-127.44	0.00	127.44	3,467.04	1,733.52	5,667.62	2,838.02	2.88	-0.31	0.049
95.00	-12.19	-2.28	0.00	-122.19	0.00	122.19	3,427.62	1,713.81	5,515.46	2,761.83	3.02	-0.31	0.048
98.50	-11.12	-2.23	0.00	-114.22	0.00	114.22	2,691.87	1,345.93	4,307.85	2,157.13	3.26	-0.33	0.057
100.00	-10.90	-2.17	0.00	-110.88	0.00	110.88	2,672.80	1,336.40	4,231.73	2,119.01	3.36	-0.33	0.056
105.00	-10.18	-2.08	0.00	-100.03	0.00	100.03	2,607.79	1,303.90	3,980.49	1,993.20	3.72	-0.35	0.054
110.00	-9.49	-1.99	0.00	-89.62	0.00	89.62	2,540.55	1,270.27	3,733.36	1,869.45	4.10	-0.38	0.052
115.00	-8.81	-1.91	0.00	-79.66	0.00	79.66	2,471.07	1,235.53	3,490.72	1,747.95	4.51	-0.40	0.049
120.00	-8.16	-1.82	0.00	-70.12	0.00	70.12	2,399.36	1,199.68	3,252.95	1,628.89	4.93	-0.42	0.046
125.00	-7.54	-1.74	0.00	-61.00	0.00	61.00	2,325.41	1,162.70	3,020.44	1,512.47	5.38	-0.44	0.044
130.00	-6.93	-1.66	0.00	-52.30	0.00	52.30	2,232.77	1,116.39	2,773.14	1,388.63	5.85	-0.46	0.041
135.00	-6.35	-1.58	0.00	-43.99	0.00	43.99	2,131.57	1,065.78	2,526.21	1,264.98	6.34	-0.48	0.038
140.00	-5.80	-1.53	0.00	-36.06	0.00	36.06	2,030.36	1,015.18	2,290.79	1,147.10	6.85	-0.50	0.034
141.75	-5.61	-1.50	0.00	-33.38	0.00	33.38	1,994.94	997.47	2,211.11	1,107.20	7.04	-0.50	0.033
145.00	-5.08	-1.46	0.00	-28.52	0.00	28.52	1,929.15	964.58	2,066.89	1,034.98	7.38	-0.51	0.030
145.75	-4.97	-1.43	0.00	-27.42	0.00	27.42	1,049.04	524.52	1,142.04	571.87	7.46	-0.52	0.053
150.00	-4.68	-1.37	0.00	-21.35	0.00	21.35	1,020.28	510.14	1,061.41	531.49	7.93	-0.53	0.045
155.00	-4.35	-1.30	0.00	-14.52	0.00	14.52	984.38	492.19	968.07	484.76	8.50	-0.55	0.034
160.00	-4.03	-1.24	0.00	-8.01	0.00	8.01	946.25	473.12	876.75	439.03	9.08	-0.57	0.023
165.00	-3.73	-1.20	0.00	-1.83	0.00	1.83	905.88	452.94	787.82	394.50	9.68	-0.57	0.009
166.00	-0.16	-0.02	0.00	-0.10	0.00	0.10	897.53	448.77	770.36	385.75	9.80	-0.58	0.000
170.00	0.00	-0.02	0.00	0.00	0.00	0.00	863.27	431.63	701.67	351.36	10.29	-0.58	0.000

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Site Name: ROXBURY CT, CT

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Customer: AT&T MOBILITY

Equivalent Lateral Forces Method Analysis

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

Spectral Response Acceleration for Short Period (S_s):	0.20
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.05
Long-Period Transition Period (T_L):	6
Importance Factor (I_E):	1.00
Site Coefficient F_a :	1.60
Site Coefficient F_v :	2.40
Response Modification Coefficient (R):	1.50
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.21
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.09
Seismic Response Coefficient (C_s):	0.03
Upper Limit C_s	0.03
Lower Limit C_s	0.03
Period based on Rayleigh Method (sec):	1.85
Redundancy Factor (p):	1.30
Seismic Force Distribution Exponent (k):	1.68
Total Unfactored Dead Load:	35.51 k
Seismic Base Shear (E):	1.43 k

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

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
41	168.00	165	887	0.014	20	205
40	165.50	59	308	0.005	7	73
39	162.50	302	1,535	0.024	35	375
38	157.50	316	1,524	0.024	34	392
37	152.50	330	1,507	0.024	34	409
36	147.88	291	1,264	0.020	28	362
35	145.38	118	500	0.008	11	147
34	143.38	523	2,156	0.034	48	649
33	140.88	189	758	0.012	17	235
32	137.50	557	2,141	0.034	48	692
31	132.50	580	2,096	0.033	47	720
30	127.50	603	2,043	0.032	46	749
29	122.50	626	1,984	0.031	45	778
28	117.50	650	1,919	0.030	43	807
27	112.50	673	1,847	0.029	42	836
26	107.50	696	1,771	0.028	40	864
25	102.50	719	1,689	0.026	38	893
24	99.25	220	490	0.008	11	274
23	96.75	1,071	2,285	0.036	51	1,331
22	93.88	702	1,423	0.022	32	872
21	91.38	492	954	0.015	21	611
20	87.50	916	1,651	0.026	37	1,138
19	82.50	944	1,542	0.024	35	1,173

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18	77.50	972	1,429	0.022	32	1,207
17	72.50	1,000	1,314	0.021	30	1,242
16	67.50	1,028	1,198	0.019	27	1,276
15	62.50	1,055	1,082	0.017	24	1,311
14	57.50	1,083	966	0.015	22	1,346
13	53.88	497	397	0.006	9	617
12	51.38	1,176	868	0.014	20	1,461
11	47.75	1,961	1,280	0.020	29	2,437
10	45.25	114	68	0.001	2	141
9	42.50	1,151	618	0.010	14	1,430
8	37.50	1,179	513	0.008	12	1,465
7	32.50	1,207	413	0.006	9	1,499
6	27.50	1,235	320	0.005	7	1,534
5	22.50	1,263	233	0.004	5	1,569
4	17.50	1,290	157	0.002	4	1,603
3	12.50	1,318	91	0.001	2	1,638
2	7.50	1,346	39	0.001	1	1,672
1	2.50	1,374	6	0.000	0	1,707
Raycap DC6-48-60-18-	166.00	95	503	0.008	11	119
Ericsson RRUS 8843 B	166.00	216	1,139	0.018	26	268
Ericsson RRUS 4478 B	166.00	180	947	0.015	21	223
Ericsson RRUS 4449 B	166.00	213	1,123	0.018	25	265
Ericsson RRUS A2 B2	166.00	66	348	0.005	8	82
Ericsson RRUS 11 B5	166.00	152	802	0.013	18	189
CCI HPA-65R-BUU-H8	166.00	204	1,076	0.017	24	253
CCI DMP65R-BU8D	166.00	287	1,514	0.024	34	357
CCI OPA65R-BU8D	166.00	229	1,210	0.019	27	285
Generic Round Low Pr	166.00	1,875	9,885	0.155	222	2,329
		35,509	63,813	1.000	1,435	44,111

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

Seismic (Reduced DL) Equivalent Lateral Forces Method

Segment	Height Above Base (ft)	Weight (lb)	W _z (lb-ft)	C _{vx}	Horizontal Force (lb)	Vertical Force (lb)
41	168.00	165	887	0.014	20	141
40	165.50	59	308	0.005	7	50
39	162.50	302	1,535	0.024	35	259
38	157.50	316	1,524	0.024	34	271
37	152.50	330	1,507	0.024	34	283
36	147.88	291	1,264	0.020	28	250
35	145.38	118	500	0.008	11	102
34	143.38	523	2,156	0.034	48	448
33	140.88	189	758	0.012	17	162
32	137.50	557	2,141	0.034	48	478
31	132.50	580	2,096	0.033	47	497
30	127.50	603	2,043	0.032	46	517
29	122.50	626	1,984	0.031	45	537
28	117.50	650	1,919	0.030	43	557
27	112.50	673	1,847	0.029	42	577
26	107.50	696	1,771	0.028	40	597
25	102.50	719	1,689	0.026	38	617
24	99.25	220	490	0.008	11	189
23	96.75	1,071	2,285	0.036	51	919
22	93.88	702	1,423	0.022	32	602
21	91.38	492	954	0.015	21	422
20	87.50	916	1,651	0.026	37	786
19	82.50	944	1,542	0.024	35	810
18	77.50	972	1,429	0.022	32	834
17	72.50	1,000	1,314	0.021	30	858
16	67.50	1,028	1,198	0.019	27	881

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Customer: AT&T MOBILITY

15	62.50	1,055	1,082	0.017	24	905
14	57.50	1,083	966	0.015	22	929
13	53.88	497	397	0.006	9	426
12	51.38	1,176	868	0.014	20	1,009
11	47.75	1,961	1,280	0.020	29	1,682
10	45.25	114	68	0.001	2	97
9	42.50	1,151	618	0.010	14	988
8	37.50	1,179	513	0.008	12	1,012
7	32.50	1,207	413	0.006	9	1,035
6	27.50	1,235	320	0.005	7	1,059
5	22.50	1,263	233	0.004	5	1,083
4	17.50	1,290	157	0.002	4	1,107
3	12.50	1,318	91	0.001	2	1,131
2	7.50	1,346	39	0.001	1	1,155
1	2.50	1,374	6	0.000	0	1,179
Raycap DC6-48-60-18-	166.00	95	503	0.008	11	82
Ericsson RRUS 8843 B	166.00	216	1,139	0.018	26	185
Ericsson RRUS 4478 B	166.00	180	947	0.015	21	154
Ericsson RRUS 4449 B	166.00	213	1,123	0.018	25	183
Ericsson RRUS A2 B2	166.00	66	348	0.005	8	57
Ericsson RRUS 11 B5	166.00	152	802	0.013	18	130
CCI HPA-65R-BUU-H8	166.00	204	1,076	0.017	24	175
CCI DMP65R-BU8D	166.00	287	1,514	0.024	34	246
CCI OPA65R-BU8D	166.00	229	1,210	0.019	27	197
Generic Round Low Pr	166.00	1,875	9,885	0.155	222	1,608
		35,509	63,813	1.000	1,435	30,458

Site Number: 280501

Code: ANSI/TIA-222-G

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Site Name: ROXBURY CT, CT

Engineering Number:13222822_C3_04

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Customer: AT&T MOBILITY

Load Case (1.2 + 0.2Sds) * DL + E ELFM

Seismic Equivalent Lateral Forces Method

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-42.40	-1.44	0.00	-180.32	0.00	180.32	4,672.78	2,336.39	12,423.5	6,221.00	0.00	0.00	0.038
5.00	-40.73	-1.44	0.00	-173.14	0.00	173.14	4,624.81	2,312.41	12,032.9	6,025.42	0.00	-0.01	0.038
10.00	-39.09	-1.44	0.00	-165.94	0.00	165.94	4,574.61	2,287.30	11,642.1	5,829.72	0.01	-0.01	0.037
15.00	-37.49	-1.44	0.00	-158.73	0.00	158.73	4,522.17	2,261.08	11,251.4	5,634.10	0.03	-0.02	0.036
20.00	-35.92	-1.44	0.00	-151.52	0.00	151.52	4,467.49	2,233.75	10,861.3	5,438.74	0.05	-0.03	0.036
25.00	-34.39	-1.44	0.00	-144.32	0.00	144.32	4,410.58	2,205.29	10,472.1	5,243.85	0.08	-0.03	0.035
30.00	-32.89	-1.43	0.00	-137.14	0.00	137.14	4,351.44	2,175.72	10,084.2	5,049.60	0.12	-0.04	0.035
35.00	-31.42	-1.42	0.00	-129.99	0.00	129.99	4,290.06	2,145.03	9,697.96	4,856.19	0.17	-0.05	0.034
40.00	-29.99	-1.41	0.00	-122.88	0.00	122.88	4,226.45	2,113.22	9,313.77	4,663.81	0.22	-0.05	0.033
45.00	-29.85	-1.41	0.00	-115.83	0.00	115.83	4,160.60	2,080.30	8,932.02	4,472.65	0.28	-0.06	0.033
45.50	-27.41	-1.38	0.00	-115.12	0.00	115.12	4,153.89	2,076.94	8,894.00	4,453.61	0.29	-0.06	0.032
50.00	-25.95	-1.36	0.00	-108.91	0.00	108.91	4,092.51	2,046.26	8,553.10	4,282.90	0.35	-0.07	0.032
52.75	-25.34	-1.35	0.00	-105.16	0.00	105.16	4,092.24	2,046.12	8,551.61	4,282.16	0.39	-0.07	0.031
55.00	-23.99	-1.33	0.00	-102.12	0.00	102.12	4,060.87	2,030.44	8,382.12	4,197.29	0.42	-0.08	0.030
60.00	-22.68	-1.31	0.00	-95.45	0.00	95.45	3,989.54	1,994.77	8,007.97	4,009.94	0.51	-0.08	0.029
65.00	-21.40	-1.28	0.00	-88.90	0.00	88.90	3,915.97	1,957.98	7,637.58	3,824.47	0.60	-0.09	0.029
70.00	-20.16	-1.26	0.00	-82.48	0.00	82.48	3,840.17	1,920.08	7,271.33	3,641.07	0.70	-0.10	0.028
75.00	-18.95	-1.22	0.00	-76.20	0.00	76.20	3,762.13	1,881.06	6,909.59	3,459.93	0.81	-0.11	0.027
80.00	-17.78	-1.19	0.00	-70.09	0.00	70.09	3,681.85	1,840.93	6,552.75	3,281.25	0.92	-0.11	0.026
85.00	-16.64	-1.15	0.00	-64.14	0.00	64.14	3,599.35	1,799.67	6,201.20	3,105.21	1.05	-0.12	0.025
90.00	-16.03	-1.13	0.00	-58.39	0.00	58.39	3,514.60	1,757.30	5,855.31	2,932.01	1.18	-0.13	0.024
92.75	-15.16	-1.10	0.00	-55.28	0.00	55.28	3,467.04	1,733.52	5,667.62	2,838.02	1.25	-0.13	0.024
95.00	-13.83	-1.04	0.00	-52.81	0.00	52.81	3,427.62	1,713.81	5,515.46	2,761.83	1.32	-0.14	0.023
98.50	-13.55	-1.03	0.00	-49.15	0.00	49.15	2,691.87	1,345.93	4,307.85	2,157.13	1.42	-0.14	0.028
100.00	-12.66	-0.99	0.00	-47.60	0.00	47.60	2,672.80	1,336.40	4,231.73	2,119.01	1.47	-0.15	0.027
105.00	-11.80	-0.95	0.00	-42.63	0.00	42.63	2,607.79	1,303.90	3,980.49	1,993.20	1.62	-0.15	0.026
110.00	-10.96	-0.91	0.00	-37.86	0.00	37.86	2,540.55	1,270.27	3,733.36	1,869.45	1.79	-0.16	0.025
115.00	-10.15	-0.87	0.00	-33.30	0.00	33.30	2,471.07	1,235.53	3,490.72	1,747.95	1.97	-0.17	0.023
120.00	-9.38	-0.82	0.00	-28.96	0.00	28.96	2,399.36	1,199.68	3,252.95	1,628.89	2.15	-0.18	0.022
125.00	-8.63	-0.78	0.00	-24.84	0.00	24.84	2,325.41	1,162.70	3,020.44	1,512.47	2.35	-0.19	0.020
130.00	-7.91	-0.73	0.00	-20.97	0.00	20.97	2,232.77	1,116.39	2,773.14	1,388.63	2.55	-0.20	0.019
135.00	-7.21	-0.68	0.00	-17.33	0.00	17.33	2,131.57	1,065.78	2,526.21	1,264.98	2.76	-0.21	0.017
140.00	-6.98	-0.66	0.00	-13.94	0.00	13.94	2,030.36	1,015.18	2,290.79	1,147.10	2.98	-0.21	0.016
141.75	-6.33	-0.61	0.00	-12.79	0.00	12.79	1,994.94	997.47	2,211.11	1,107.20	3.06	-0.22	0.015
145.00	-6.18	-0.60	0.00	-10.80	0.00	10.80	1,929.15	964.58	2,066.89	1,034.98	3.21	-0.22	0.014
145.75	-5.82	-0.57	0.00	-10.36	0.00	10.36	1,049.04	524.52	1,142.04	571.87	3.24	-0.22	0.024
150.00	-5.41	-0.53	0.00	-7.94	0.00	7.94	1,020.28	510.14	1,061.41	531.49	3.44	-0.23	0.020
155.00	-5.02	-0.50	0.00	-5.27	0.00	5.27	984.38	492.19	968.07	484.76	3.68	-0.23	0.016
160.00	-4.65	-0.46	0.00	-2.77	0.00	2.77	946.25	473.12	876.75	439.03	3.93	-0.24	0.011
165.00	-4.57	-0.46	0.00	-0.46	0.00	0.46	905.88	452.94	787.82	394.50	4.18	-0.24	0.006
166.00	0.00	0.00	0.00	0.00	0.00	0.00	897.53	448.77	770.36	385.75	4.23	-0.24	0.000
170.00	0.00	0.00	0.00	0.00	0.00	0.00	863.27	431.63	701.67	351.36	4.44	-0.24	0.000

Site Number: 280501

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Site Name: ROXBURY CT, CT

Engineering Number:13222822_C3_04

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Customer: AT&T MOBILITY

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

Seismic (Reduced DL) Equivalent Lateral Forces Method

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-29.28	-1.44	0.00	-178.91	0.00	178.91	4,672.78	2,336.39	12,423.5	6,221.00	0.00	0.00	0.035
5.00	-28.12	-1.44	0.00	-171.73	0.00	171.73	4,624.81	2,312.41	12,032.9	6,025.42	0.00	-0.01	0.035
10.00	-26.99	-1.44	0.00	-164.54	0.00	164.54	4,574.61	2,287.30	11,642.1	5,829.72	0.01	-0.01	0.034
15.00	-25.89	-1.44	0.00	-157.35	0.00	157.35	4,522.17	2,261.08	11,251.4	5,634.10	0.03	-0.02	0.034
20.00	-24.80	-1.43	0.00	-150.16	0.00	150.16	4,467.49	2,233.75	10,861.3	5,438.74	0.05	-0.03	0.033
25.00	-23.74	-1.43	0.00	-142.99	0.00	142.99	4,410.58	2,205.29	10,472.1	5,243.85	0.08	-0.03	0.033
30.00	-22.71	-1.42	0.00	-135.84	0.00	135.84	4,351.44	2,175.72	10,084.2	5,049.60	0.12	-0.04	0.032
35.00	-21.70	-1.41	0.00	-128.73	0.00	128.73	4,290.06	2,145.03	9,697.96	4,856.19	0.17	-0.05	0.032
40.00	-20.71	-1.40	0.00	-121.67	0.00	121.67	4,226.45	2,113.22	9,313.77	4,663.81	0.22	-0.05	0.031
45.00	-20.61	-1.40	0.00	-114.66	0.00	114.66	4,160.60	2,080.30	8,932.02	4,472.65	0.28	-0.06	0.031
45.50	-18.93	-1.37	0.00	-113.96	0.00	113.96	4,153.89	2,076.94	8,894.00	4,453.61	0.28	-0.06	0.030
50.00	-17.92	-1.35	0.00	-107.79	0.00	107.79	4,092.51	2,046.26	8,553.10	4,282.90	0.34	-0.07	0.030
52.75	-17.49	-1.34	0.00	-104.07	0.00	104.07	4,092.24	2,046.12	8,551.61	4,282.16	0.39	-0.07	0.029
55.00	-16.56	-1.32	0.00	-101.05	0.00	101.05	4,060.87	2,030.44	8,382.12	4,197.29	0.42	-0.08	0.028
60.00	-15.66	-1.30	0.00	-94.43	0.00	94.43	3,989.54	1,994.77	8,007.97	4,009.94	0.50	-0.08	0.027
65.00	-14.78	-1.27	0.00	-87.94	0.00	87.94	3,915.97	1,957.98	7,637.58	3,824.47	0.59	-0.09	0.027
70.00	-13.92	-1.24	0.00	-81.57	0.00	81.57	3,840.17	1,920.08	7,271.33	3,641.07	0.69	-0.10	0.026
75.00	-13.09	-1.21	0.00	-75.36	0.00	75.36	3,762.13	1,881.06	6,909.59	3,459.93	0.80	-0.11	0.025
80.00	-12.28	-1.18	0.00	-69.30	0.00	69.30	3,681.85	1,840.93	6,552.75	3,281.25	0.91	-0.11	0.024
85.00	-11.49	-1.14	0.00	-63.41	0.00	63.41	3,599.35	1,799.67	6,201.20	3,105.21	1.04	-0.12	0.024
90.00	-11.07	-1.12	0.00	-57.71	0.00	57.71	3,514.60	1,757.30	5,855.31	2,932.01	1.17	-0.13	0.023
92.75	-10.47	-1.09	0.00	-54.63	0.00	54.63	3,467.04	1,733.52	5,667.62	2,838.02	1.24	-0.13	0.022
95.00	-9.55	-1.03	0.00	-52.19	0.00	52.19	3,427.62	1,713.81	5,515.46	2,761.83	1.31	-0.14	0.022
98.50	-9.36	-1.02	0.00	-48.57	0.00	48.57	2,691.87	1,345.93	4,307.85	2,157.13	1.41	-0.14	0.026
100.00	-8.74	-0.98	0.00	-47.04	0.00	47.04	2,672.80	1,336.40	4,231.73	2,119.01	1.45	-0.14	0.025
105.00	-8.14	-0.94	0.00	-42.12	0.00	42.12	2,607.79	1,303.90	3,980.49	1,993.20	1.61	-0.15	0.024
110.00	-7.57	-0.90	0.00	-37.40	0.00	37.40	2,540.55	1,270.27	3,733.36	1,869.45	1.77	-0.16	0.023
115.00	-7.01	-0.86	0.00	-32.89	0.00	32.89	2,471.07	1,235.53	3,490.72	1,747.95	1.95	-0.17	0.022
120.00	-6.47	-0.81	0.00	-28.60	0.00	28.60	2,399.36	1,199.68	3,252.95	1,628.89	2.13	-0.18	0.020
125.00	-5.96	-0.77	0.00	-24.53	0.00	24.53	2,325.41	1,162.70	3,020.44	1,512.47	2.32	-0.19	0.019
130.00	-5.46	-0.72	0.00	-20.70	0.00	20.70	2,232.77	1,116.39	2,773.14	1,388.63	2.53	-0.20	0.017
135.00	-4.98	-0.67	0.00	-17.11	0.00	17.11	2,131.57	1,065.78	2,526.21	1,264.98	2.73	-0.20	0.016
140.00	-4.82	-0.65	0.00	-13.76	0.00	13.76	2,030.36	1,015.18	2,290.79	1,147.10	2.95	-0.21	0.014
141.75	-4.37	-0.60	0.00	-12.62	0.00	12.62	1,994.94	997.47	2,211.11	1,107.20	3.03	-0.21	0.014
145.00	-4.27	-0.59	0.00	-10.66	0.00	10.66	1,929.15	964.58	2,066.89	1,034.98	3.18	-0.22	0.013
145.75	-4.02	-0.56	0.00	-10.22	0.00	10.22	1,049.04	524.52	1,142.04	571.87	3.21	-0.22	0.022
150.00	-3.74	-0.53	0.00	-7.83	0.00	7.83	1,020.28	510.14	1,061.41	531.49	3.41	-0.22	0.018
155.00	-3.47	-0.49	0.00	-5.20	0.00	5.20	984.38	492.19	968.07	484.76	3.65	-0.23	0.014
160.00	-3.21	-0.46	0.00	-2.74	0.00	2.74	946.25	473.12	876.75	439.03	3.89	-0.24	0.010
165.00	-3.16	-0.45	0.00	-0.45	0.00	0.45	905.88	452.94	787.82	394.50	4.14	-0.24	0.005
166.00	0.00	0.00	0.00	0.00	0.00	0.00	897.53	448.77	770.36	385.75	4.19	-0.24	0.000
170.00	0.00	0.00	0.00	0.00	0.00	0.00	863.27	431.63	701.67	351.36	4.39	-0.24	0.000

Site Number: 280501

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Site Name: ROXBURY CT, CT

Engineering Number:13222822_C3_04

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Customer: AT&T MOBILITY

Equivalent Modal Analysis Method

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

Spectral Response Acceleration for Short Period (S_s):	0.20
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.05
Importance Factor (I_E):	1.00
Site Coefficient F_a :	1.60
Site Coefficient F_v :	2.40
Response Modification Coefficient (R):	1.50
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.21
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.09
Period Based on Rayleigh Method (sec):	1.85
Redundancy Factor (p):	1.30

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

Segment	Height Above Base (ft)	Weight (lb)	a	b	c	Saz	Horizontal Force (lb)	Vertical Force (lb)
41	168.00	165	1.846	1.755	1.058	0.370	53	205
40	165.50	59	1.791	1.499	0.962	0.333	17	73
39	162.50	302	1.727	1.227	0.857	0.291	76	375
38	157.50	316	1.622	0.849	0.701	0.226	62	392
37	152.50	330	1.521	0.554	0.568	0.169	48	409
36	147.88	291	1.430	0.343	0.463	0.122	31	362
35	145.38	118	1.382	0.251	0.414	0.099	10	147
34	143.38	523	1.344	0.187	0.377	0.082	37	649
33	140.88	189	1.298	0.118	0.334	0.062	10	235
32	137.50	557	1.236	0.042	0.283	0.037	18	692
31	132.50	580	1.148	-0.039	0.218	0.007	4	720
30	127.50	603	1.063	-0.088	0.165	-0.017	-9	749
29	122.50	626	0.981	-0.114	0.122	-0.034	-18	778
28	117.50	650	0.903	-0.122	0.088	-0.044	-25	807
27	112.50	673	0.828	-0.116	0.062	-0.048	-28	836
26	107.50	696	0.756	-0.102	0.042	-0.046	-28	864
25	102.50	719	0.687	-0.083	0.027	-0.038	-24	893
24	99.25	220	0.644	-0.069	0.020	-0.030	-6	274
23	96.75	1,071	0.612	-0.057	0.016	-0.023	-21	1,331
22	93.88	702	0.576	-0.044	0.012	-0.014	-8	872
21	91.38	492	0.546	-0.033	0.010	-0.006	-2	611
20	87.50	916	0.501	-0.016	0.007	0.007	6	1,138
19	82.50	944	0.445	0.003	0.006	0.023	18	1,173
18	77.50	972	0.393	0.020	0.007	0.035	30	1,207
17	72.50	1,000	0.344	0.034	0.009	0.045	39	1,242
16	67.50	1,028	0.298	0.046	0.012	0.051	46	1,276
15	62.50	1,055	0.255	0.054	0.017	0.055	50	1,311
14	57.50	1,083	0.216	0.061	0.021	0.057	53	1,346
13	53.88	497	0.190	0.064	0.025	0.057	25	617
12	51.38	1,176	0.173	0.066	0.027	0.057	58	1,461
11	47.75	1,961	0.149	0.068	0.030	0.057	96	2,437
10	45.25	114	0.134	0.069	0.032	0.056	6	141
9	42.50	1,151	0.118	0.070	0.035	0.055	55	1,430
8	37.50	1,179	0.092	0.071	0.038	0.054	55	1,465

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Site Name: ROXBURY CT, CT

Engineering Number:13222822_C3_04

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7	32.50	1,207	0.069	0.072	0.041	0.053	55	1,499
6	27.50	1,235	0.049	0.071	0.042	0.052	55	1,534
5	22.50	1,263	0.033	0.069	0.041	0.050	54	1,569
4	17.50	1,290	0.020	0.064	0.038	0.047	52	1,603
3	12.50	1,318	0.010	0.055	0.032	0.041	47	1,638
2	7.50	1,346	0.004	0.040	0.022	0.032	37	1,672
1	2.50	1,374	0.000	0.016	0.009	0.014	17	1,707
Raycap DC6-48-60-18-	166.00	95	1.802	1.548	0.981	0.340	28	119
Ericsson RRUS 8843 B	166.00	216	1.802	1.548	0.981	0.340	64	268
Ericsson RRUS 4478 B	166.00	180	1.802	1.548	0.981	0.340	53	223
Ericsson RRUS 4449 B	166.00	213	1.802	1.548	0.981	0.340	63	265
Ericsson RRUS A2 B2	166.00	66	1.802	1.548	0.981	0.340	19	82
Ericsson RRUS 11 B5	166.00	152	1.802	1.548	0.981	0.340	45	189
CCI HPA-65R-BUU-H8	166.00	204	1.802	1.548	0.981	0.340	60	253
CCI DMP65R-BU8D	166.00	287	1.802	1.548	0.981	0.340	85	357
CCI OPA65R-BU8D	166.00	229	1.802	1.548	0.981	0.340	68	285
Generic Round Low Pr	166.00	1,875	1.802	1.548	0.981	0.340	553	2,329
		35,509	45.457	22.435	17.099	5.803	2,091	44,111

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

Seismic (Reduced DL) Equivalent Modal Analysis Method

Segment	Height Above Base (ft)	Weight (lb)	a	b	c	Saz	Horizontal Force (lb)	Vertical Force (lb)
41	168.00	165	1.846	1.755	1.058	0.370	53	141
40	165.50	59	1.791	1.499	0.962	0.333	17	50
39	162.50	302	1.727	1.227	0.857	0.291	76	259
38	157.50	316	1.622	0.849	0.701	0.226	62	271
37	152.50	330	1.521	0.554	0.568	0.169	48	283
36	147.88	291	1.430	0.343	0.463	0.122	31	250
35	145.38	118	1.382	0.251	0.414	0.099	10	102
34	143.38	523	1.344	0.187	0.377	0.082	37	448
33	140.88	189	1.298	0.118	0.334	0.062	10	162
32	137.50	557	1.236	0.042	0.283	0.037	18	478
31	132.50	580	1.148	-0.039	0.218	0.007	4	497
30	127.50	603	1.063	-0.088	0.165	-0.017	-9	517
29	122.50	626	0.981	-0.114	0.122	-0.034	-18	537
28	117.50	650	0.903	-0.122	0.088	-0.044	-25	557
27	112.50	673	0.828	-0.116	0.062	-0.048	-28	577
26	107.50	696	0.756	-0.102	0.042	-0.046	-28	597
25	102.50	719	0.687	-0.083	0.027	-0.038	-24	617
24	99.25	220	0.644	-0.069	0.020	-0.030	-6	189
23	96.75	1,071	0.612	-0.057	0.016	-0.023	-21	919
22	93.88	702	0.576	-0.044	0.012	-0.014	-8	602
21	91.38	492	0.546	-0.033	0.010	-0.006	-2	422
20	87.50	916	0.501	-0.016	0.007	0.007	6	786
19	82.50	944	0.445	0.003	0.006	0.023	18	810
18	77.50	972	0.393	0.020	0.007	0.035	30	834
17	72.50	1,000	0.344	0.034	0.009	0.045	39	858
16	67.50	1,028	0.298	0.046	0.012	0.051	46	881
15	62.50	1,055	0.255	0.054	0.017	0.055	50	905
14	57.50	1,083	0.216	0.061	0.021	0.057	53	929
13	53.88	497	0.190	0.064	0.025	0.057	25	426
12	51.38	1,176	0.173	0.066	0.027	0.057	58	1,009
11	47.75	1,961	0.149	0.068	0.030	0.057	96	1,682
10	45.25	114	0.134	0.069	0.032	0.056	6	97
9	42.50	1,151	0.118	0.070	0.035	0.055	55	988
8	37.50	1,179	0.092	0.071	0.038	0.054	55	1,012
7	32.50	1,207	0.069	0.072	0.041	0.053	55	1,035
6	27.50	1,235	0.049	0.071	0.042	0.052	55	1,059

Site Number: 280501

Code: ANSI/TIA-222-G

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Site Name: ROXBURY CT, CT

Engineering Number:13222822_C3_04

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Customer: AT&T MOBILITY

5	22.50	1,263	0.033	0.069	0.041	0.050	54	1,083
4	17.50	1,290	0.020	0.064	0.038	0.047	52	1,107
3	12.50	1,318	0.010	0.055	0.032	0.041	47	1,131
2	7.50	1,346	0.004	0.040	0.022	0.032	37	1,155
1	2.50	1,374	0.000	0.016	0.009	0.014	17	1,179
Raycap DC6-48-60-18-	166.00	95	1.802	1.548	0.981	0.340	28	82
Ericsson RRUS 8843 B	166.00	216	1.802	1.548	0.981	0.340	64	185
Ericsson RRUS 4478 B	166.00	180	1.802	1.548	0.981	0.340	53	154
Ericsson RRUS 4449 B	166.00	213	1.802	1.548	0.981	0.340	63	183
Ericsson RRUS A2 B2	166.00	66	1.802	1.548	0.981	0.340	19	57
Ericsson RRUS 11 B5	166.00	152	1.802	1.548	0.981	0.340	45	130
CCI HPA-65R-BUU-H8	166.00	204	1.802	1.548	0.981	0.340	60	175
CCI DMP65R-BU8D	166.00	287	1.802	1.548	0.981	0.340	85	246
CCI OPA65R-BU8D	166.00	229	1.802	1.548	0.981	0.340	68	197
Generic Round Low Pr	166.00	1,875	1.802	1.548	0.981	0.340	553	1,608
		35,509	45.457	22.435	17.099	5.803	2,091	30,458

Site Number: 280501

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Site Name: ROXBURY CT, CT

Engineering Number:13222822_C3_04

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Customer: AT&T MOBILITY

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

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-42.40	-2.08	0.00	-251.54	0.00	251.54	4,672.78	2,336.39	12,423.53	6,221.00	0.00	0.00	0.050
5.00	-40.73	-2.05	0.00	-241.15	0.00	241.15	4,624.81	2,312.41	12,032.95	6,025.42	0.00	-0.01	0.049
10.00	-39.09	-2.00	0.00	-230.92	0.00	230.92	4,574.61	2,287.30	11,642.14	5,829.72	0.02	-0.02	0.048
15.00	-37.49	-1.96	0.00	-220.90	0.00	220.90	4,522.17	2,261.08	11,251.48	5,634.10	0.04	-0.03	0.047
20.00	-35.92	-1.91	0.00	-211.11	0.00	211.11	4,467.49	2,233.75	10,861.35	5,438.74	0.07	-0.04	0.047
25.00	-34.39	-1.86	0.00	-201.57	0.00	201.57	4,410.58	2,205.29	10,472.13	5,243.85	0.12	-0.05	0.046
30.00	-32.89	-1.81	0.00	-192.28	0.00	192.28	4,351.44	2,175.72	10,084.21	5,049.60	0.17	-0.05	0.046
35.00	-31.42	-1.76	0.00	-183.25	0.00	183.25	4,290.06	2,145.03	9,697.96	4,856.19	0.23	-0.06	0.045
40.00	-29.99	-1.70	0.00	-174.47	0.00	174.47	4,226.45	2,113.22	9,313.77	4,663.81	0.31	-0.08	0.045
45.00	-29.85	-1.70	0.00	-165.96	0.00	165.96	4,160.60	2,080.30	8,932.02	4,472.65	0.39	-0.09	0.044
45.50	-27.41	-1.60	0.00	-165.11	0.00	165.11	4,153.89	2,076.94	8,894.00	4,453.61	0.40	-0.09	0.044
50.00	-25.95	-1.55	0.00	-157.89	0.00	157.89	4,092.51	2,046.26	8,553.10	4,282.90	0.49	-0.10	0.043
52.75	-25.34	-1.52	0.00	-153.64	0.00	153.64	4,092.24	2,046.12	8,551.61	4,282.16	0.54	-0.10	0.042
55.00	-23.99	-1.47	0.00	-150.21	0.00	150.21	4,060.87	2,030.44	8,382.12	4,197.29	0.59	-0.11	0.042
60.00	-22.68	-1.42	0.00	-142.85	0.00	142.85	3,989.54	1,994.77	8,007.97	4,009.94	0.71	-0.12	0.041
65.00	-21.40	-1.38	0.00	-135.74	0.00	135.74	3,915.97	1,957.98	7,637.58	3,824.47	0.84	-0.13	0.041
70.00	-20.16	-1.34	0.00	-128.85	0.00	128.85	3,840.17	1,920.08	7,271.33	3,641.07	0.98	-0.14	0.041
75.00	-18.95	-1.31	0.00	-122.15	0.00	122.15	3,762.13	1,881.06	6,909.59	3,459.93	1.14	-0.15	0.040
80.00	-17.78	-1.29	0.00	-115.59	0.00	115.59	3,681.85	1,840.93	6,552.75	3,281.25	1.31	-0.17	0.040
85.00	-16.64	-1.29	0.00	-109.13	0.00	109.13	3,599.35	1,799.67	6,201.20	3,105.21	1.49	-0.18	0.040
90.00	-16.03	-1.29	0.00	-102.68	0.00	102.68	3,514.60	1,757.30	5,855.31	2,932.01	1.68	-0.19	0.040
92.75	-15.16	-1.30	0.00	-99.13	0.00	99.13	3,467.04	1,733.52	5,667.62	2,838.02	1.80	-0.20	0.039
95.00	-13.83	-1.32	0.00	-96.21	0.00	96.21	3,427.62	1,713.81	5,515.46	2,761.83	1.89	-0.21	0.039
98.50	-13.55	-1.32	0.00	-91.60	0.00	91.60	2,691.87	1,345.93	4,307.85	2,157.13	2.05	-0.22	0.047
100.00	-12.66	-1.35	0.00	-89.61	0.00	89.61	2,672.80	1,336.40	4,231.73	2,119.01	2.12	-0.22	0.047
105.00	-11.79	-1.37	0.00	-82.88	0.00	82.88	2,607.79	1,303.90	3,980.49	1,993.20	2.36	-0.24	0.046
110.00	-10.96	-1.40	0.00	-76.01	0.00	76.01	2,540.55	1,270.27	3,733.36	1,869.45	2.62	-0.26	0.045
115.00	-10.15	-1.43	0.00	-68.99	0.00	68.99	2,471.07	1,235.53	3,490.72	1,747.95	2.90	-0.27	0.044
120.00	-9.37	-1.44	0.00	-61.86	0.00	61.86	2,399.36	1,199.68	3,252.95	1,628.89	3.20	-0.29	0.042
125.00	-8.62	-1.45	0.00	-54.64	0.00	54.64	2,325.41	1,162.70	3,020.44	1,512.47	3.51	-0.31	0.040
130.00	-7.90	-1.45	0.00	-47.38	0.00	47.38	2,232.77	1,116.39	2,773.14	1,388.63	3.85	-0.33	0.038
135.00	-7.21	-1.43	0.00	-40.15	0.00	40.15	2,131.57	1,065.78	2,526.21	1,264.98	4.20	-0.35	0.035
140.00	-6.97	-1.42	0.00	-33.01	0.00	33.01	2,030.36	1,015.18	2,290.79	1,147.10	4.58	-0.36	0.032
141.75	-6.32	-1.38	0.00	-30.53	0.00	30.53	1,994.94	997.47	2,211.11	1,107.20	4.71	-0.37	0.031
145.00	-6.18	-1.37	0.00	-26.06	0.00	26.06	1,929.15	964.58	2,066.89	1,034.98	4.97	-0.38	0.028
145.75	-5.81	-1.33	0.00	-25.03	0.00	25.03	1,049.04	524.52	1,142.04	571.87	5.03	-0.38	0.049
150.00	-5.41	-1.28	0.00	-19.37	0.00	19.37	1,020.28	510.14	1,061.41	531.49	5.38	-0.40	0.042
155.00	-5.01	-1.22	0.00	-12.94	0.00	12.94	984.38	492.19	968.07	484.76	5.80	-0.41	0.032
160.00	-4.64	-1.14	0.00	-6.84	0.00	6.84	946.25	473.12	876.75	439.03	6.24	-0.43	0.020
165.00	-4.57	-1.13	0.00	-1.13	0.00	1.13	905.88	452.94	787.82	394.50	6.70	-0.43	0.008
166.00	0.00	0.00	0.00	0.00	0.00	0.00	897.53	448.77	770.36	385.75	6.79	-0.44	0.000
170.00	0.00	0.00	0.00	0.00	0.00	0.00	863.27	431.63	701.67	351.36	7.15	-0.44	0.000

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

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-29.28	-2.08	0.00	-249.38	0.00	249.38	4,672.78	2,336.39	12,423.53	6,221.00	0.00	0.00	0.046
5.00	-28.12	-2.04	0.00	-238.99	0.00	238.99	4,624.81	2,312.41	12,032.95	6,025.42	0.00	-0.01	0.046
10.00	-26.99	-2.00	0.00	-228.78	0.00	228.78	4,574.61	2,287.30	11,642.14	5,829.72	0.02	-0.02	0.045
15.00	-25.89	-1.95	0.00	-218.78	0.00	218.78	4,522.17	2,261.08	11,251.48	5,634.10	0.04	-0.03	0.045
20.00	-24.80	-1.90	0.00	-209.02	0.00	209.02	4,467.49	2,233.75	10,861.35	5,438.74	0.07	-0.04	0.044
25.00	-23.74	-1.85	0.00	-199.52	0.00	199.52	4,410.58	2,205.29	10,472.13	5,243.85	0.12	-0.04	0.043
30.00	-22.71	-1.80	0.00	-190.28	0.00	190.28	4,351.44	2,175.72	10,084.21	5,049.60	0.17	-0.05	0.043
35.00	-21.70	-1.74	0.00	-181.30	0.00	181.30	4,290.06	2,145.03	9,697.96	4,856.19	0.23	-0.06	0.042
40.00	-20.71	-1.69	0.00	-172.59	0.00	172.59	4,226.45	2,113.22	9,313.77	4,663.81	0.30	-0.07	0.042
45.00	-20.61	-1.69	0.00	-164.14	0.00	164.14	4,160.60	2,080.30	8,932.02	4,472.65	0.39	-0.08	0.042
45.50	-18.93	-1.59	0.00	-163.30	0.00	163.30	4,153.89	2,076.94	8,894.00	4,453.61	0.40	-0.09	0.041
50.00	-17.92	-1.53	0.00	-156.14	0.00	156.14	4,092.51	2,046.26	8,553.10	4,282.90	0.48	-0.10	0.041
52.75	-17.49	-1.51	0.00	-151.93	0.00	151.93	4,092.24	2,046.12	8,551.61	4,282.16	0.54	-0.10	0.040
55.00	-16.56	-1.46	0.00	-148.53	0.00	148.53	4,060.87	2,030.44	8,382.12	4,197.29	0.59	-0.11	0.039
60.00	-15.66	-1.41	0.00	-141.25	0.00	141.25	3,989.54	1,994.77	8,007.97	4,009.94	0.70	-0.12	0.039
65.00	-14.78	-1.36	0.00	-134.22	0.00	134.22	3,915.97	1,957.98	7,637.58	3,824.47	0.83	-0.13	0.039
70.00	-13.92	-1.32	0.00	-127.41	0.00	127.41	3,840.17	1,920.08	7,271.33	3,641.07	0.97	-0.14	0.039
75.00	-13.09	-1.29	0.00	-120.79	0.00	120.79	3,762.13	1,881.06	6,909.59	3,459.93	1.13	-0.15	0.038
80.00	-12.27	-1.28	0.00	-114.32	0.00	114.32	3,681.85	1,840.93	6,552.75	3,281.25	1.29	-0.16	0.038
85.00	-11.49	-1.27	0.00	-107.93	0.00	107.93	3,599.35	1,799.67	6,201.20	3,105.21	1.47	-0.18	0.038
90.00	-11.07	-1.27	0.00	-101.58	0.00	101.58	3,514.60	1,757.30	5,855.31	2,932.01	1.67	-0.19	0.038
92.75	-10.46	-1.28	0.00	-98.07	0.00	98.07	3,467.04	1,733.52	5,667.62	2,838.02	1.78	-0.20	0.038
95.00	-9.55	-1.30	0.00	-95.19	0.00	95.19	3,427.62	1,713.81	5,515.46	2,761.83	1.87	-0.21	0.037
98.50	-9.36	-1.31	0.00	-90.63	0.00	90.63	2,691.87	1,345.93	4,307.85	2,157.13	2.03	-0.22	0.045
100.00	-8.74	-1.33	0.00	-88.67	0.00	88.67	2,672.80	1,336.40	4,231.73	2,119.01	2.10	-0.22	0.045
105.00	-8.14	-1.36	0.00	-82.02	0.00	82.02	2,607.79	1,303.90	3,980.49	1,993.20	2.34	-0.24	0.044
110.00	-7.56	-1.39	0.00	-75.23	0.00	75.23	2,540.55	1,270.27	3,733.36	1,869.45	2.59	-0.25	0.043
115.00	-7.01	-1.41	0.00	-68.30	0.00	68.30	2,471.07	1,235.53	3,490.72	1,747.95	2.87	-0.27	0.042
120.00	-6.47	-1.43	0.00	-61.24	0.00	61.24	2,399.36	1,199.68	3,252.95	1,628.89	3.16	-0.29	0.040
125.00	-5.95	-1.44	0.00	-54.10	0.00	54.10	2,325.41	1,162.70	3,020.44	1,512.47	3.48	-0.31	0.038
130.00	-5.45	-1.43	0.00	-46.92	0.00	46.92	2,232.77	1,116.39	2,773.14	1,388.63	3.81	-0.33	0.036
135.00	-4.97	-1.41	0.00	-39.76	0.00	39.76	2,131.57	1,065.78	2,526.21	1,264.98	4.16	-0.34	0.034
140.00	-4.81	-1.40	0.00	-32.69	0.00	32.69	2,030.36	1,015.18	2,290.79	1,147.10	4.53	-0.36	0.031
141.75	-4.36	-1.36	0.00	-30.24	0.00	30.24	1,994.94	997.47	2,211.11	1,107.20	4.66	-0.37	0.030
145.00	-4.26	-1.35	0.00	-25.81	0.00	25.81	1,929.15	964.58	2,066.89	1,034.98	4.92	-0.38	0.027
145.75	-4.01	-1.32	0.00	-24.79	0.00	24.79	1,049.04	524.52	1,142.04	571.87	4.98	-0.38	0.047
150.00	-3.73	-1.27	0.00	-19.18	0.00	19.18	1,020.28	510.14	1,061.41	531.49	5.32	-0.39	0.040
155.00	-3.46	-1.21	0.00	-12.82	0.00	12.82	984.38	492.19	968.07	484.76	5.74	-0.41	0.030
160.00	-3.20	-1.13	0.00	-6.77	0.00	6.77	946.25	473.12	876.75	439.03	6.18	-0.42	0.019
165.00	-3.15	-1.11	0.00	-1.11	0.00	1.11	905.88	452.94	787.82	394.50	6.63	-0.43	0.006
166.00	0.00	0.00	0.00	0.00	0.00	0.00	897.53	448.77	770.36	385.75	6.72	-0.43	0.000
170.00	0.00	0.00	0.00	0.00	0.00	0.00	863.27	431.63	701.67	351.36	7.08	-0.43	0.000

Site Number: 280501

Code: ANSI/TIA-222-G

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Site Name: ROXBURY CT, CT

Engineering Number:13222822_C3_04

6/19/2020 10:23:01 AM

Customer: AT&T MOBILITY

Analysis Summary

Load Case	Reactions						Max Usage	
	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)	Elev (ft)	Interaction Ratio
1.2D + 1.6W	17.46	0.00	42.60	0.00	0.00	1845.36	0.00	0.31
0.9D + 1.6W	17.45	0.00	31.95	0.00	0.00	1833.58	0.00	0.30
1.2D + 1.0Di + 1.0Wi	3.84	0.00	67.90	0.00	0.00	400.51	0.00	0.08
(1.2 + 0.2Sds) * DL + E ELFM	1.44	0.00	42.40	0.00	0.00	180.32	0.00	0.04
(1.2 + 0.2Sds) * DL + E EMAM	2.08	0.00	42.40	0.00	0.00	251.54	0.00	0.05
(0.9 - 0.2Sds) * DL + E ELFM	1.44	0.00	29.28	0.00	0.00	178.91	0.00	0.04
(0.9 - 0.2Sds) * DL + E EMAM	2.08	0.00	29.28	0.00	0.00	249.38	145.75	0.05
1.0D + 1.0W	4.06	0.00	35.51	0.00	0.00	427.72	0.00	0.08



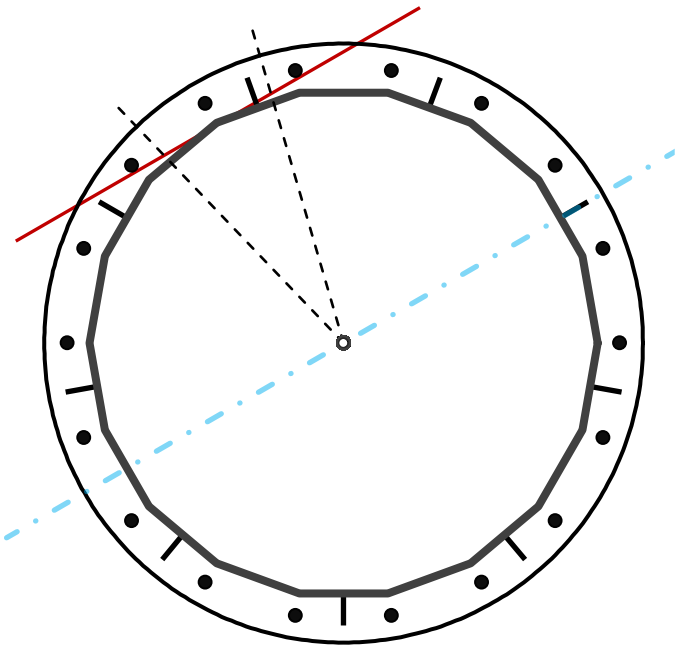
Base Plate & Anchor Rod Analysis

Pole Dimensions		
Number of Sides	18	-
Diameter	64.9473	in
Thickness	3/8	in
Orientation Offset	0	°

Base Reactions		
Moment, Mu	1845.4	k-ft
Axial, Pu	42.6	k
Shear, Vu	17.5	k
Neutral Axis	30	°

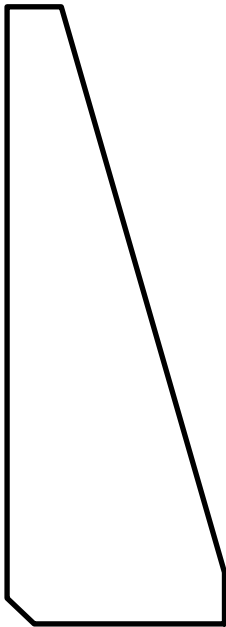
Report Capacities		
Component	Capacity	Result
Base Plate	4%	Pass
Anchor Rods	28%	Pass
Dwyidag	-	-

Base Plate		
Shape	Round	-
Diameter, ϕ	78	in
Thickness	3	in
Grade	A572-50	
Yield Strength, Fy	50	ksi
Tensile Strength, Fu	65	ksi
Clip	N/A	in
Orientation Offset	0	°
Anchor Rod Detail	d	$\eta=0.5$
Clear Distance	3	in
Applied Moment, Mu	177.4	k
Bending Stress, ϕMn	4564.0	k



Original Anchor Rods		
Arrangement	Radial	-
Quantity	18	-
Diameter, ϕ	2 1/4	in
Bolt Circle	72	in
Grade	A615-75	
Yield Strength, Fy	75	ksi
Tensile Strength, Fu	100	ksi
Spacing	12.6	in
Orientation Offset	0	°
Applied Force, Pu	73.0	k
Anchor Rods, ϕPn	259.8	k

Stiffeners		
Arrangement	Radial	-
Quantity	9	-
Height	12	in
Width	4	in
Effective Width	4.000	in
Thickness	1	in
Effective Thickness	0.390	in
Notch	0.5	in
Flat Edge	1	in
Grade	A36	-
Yield Strength, Fy	36	ksi
Tensile Strength, Fu	58	ksi
Horizontal Weld	Fillet	
Horizontal Fillet Size	3/16	in
Bevel Depth	3/16	in
Vertical Weld	Fillet	
Vertical Fillet Size	3/16	in
Weld Strength	70	ksi
Electrode Coefficient	1	-
Orientation Offset	10	°
Vertical Weld, ϕRn	100.4	k
Horz. Weld, ϕRn	20.9	k
Ten. Capacity, ϕTn	113.4	k
Comp. Capacity, ϕPn	193.3	k



Calculations for Monopole Base Plate & Anchor Rod Analysis

Reaction Distribution

Reaction	Shear Vu	Moment Mu	Factor
-	k	k-ft	-
Base Forces	17.5	1845.4	1.00
Anchor Rod Forces	17.5	1845.4	1.00
Additional Bolt (Grp1) Forces	0.0	0.0	0.00
Additional Bolt (Grp2) Forces	0.0	0.0	0.00
Dywidag Forces	0.0	0.0	0.00
Stiffener Forces	2.5	263.8	0.14

Geometric Properties

Section	Gross Area	Net Area	Individual Inertia	Threads per Inch	Moment of Inertia
-	in ²	in ²	in ⁴	#	in ⁴
Pole	75.6868	4.2048	0.1977		39451.36
Bolt	3.9761	3.2477	0.8393	4.5	35438.28
Bolt1	0.0000	0.0000	0.0000	0	0.00
Bolt2	0.0000	0.0000	0.0000	0	0.00
Dywidag	0.0000	0.0000	0.0000		0.00
Stiffener	1.3650	1.2285	8.3200		6579.40

Base Plate		
Shape	Round	-
Diameter, D	78	in
Thickness, t	3	in
Yield Strength, Fy	50	ksi
Tensile Strength, Fu	65	ksi
Base Plate Chord	43.195	in
Detail Type	d	-
Detail Factor	0.50	-
Clear Distance	3	-

External Base Plate		
Chord Length AA	36.049	in
Additional AA	9.027	in
Section Modulus, Z	101.423	in ³
Applied Moment, Mu	177.4	k-ft
Bending Capacity, ϕ Mn	4564.0	k-ft
Capacity, Mu/ ϕ Mn	0.039	OK
Chord Length AB	34.167	in
Additional AB	8.046	in
Section Modulus, Z	94.980	in ³
Applied Moment, Mu	124.9	k-ft
Bending Capacity, ϕ Mn	4274.1	k-ft
Capacity, Mu/ ϕ Mn	0.029	OK

Bend Line Length	20.799	in
Additional Bend Line	38.642	in
Section Modulus, Z	133.743	in ³
Applied Moment, Mu	161.6	k-ft
Bending Capacity, ϕ Mn	6018.4	k-ft
Capacity, Mu/ ϕ Mn	0.027	OK

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

Anchor Rods		
Anchor Rod Quantity, N	18	-
Rod Diameter, d	2.25	in
Bolt Circle, BC	72	in
Yield Strength, Fy	75	ksi
Tensile Strength, Fu	100	ksi
Applied Axial, Pu	73.0	k
Applied Shear, Vu	0.3	k
Compressive Capacity, ϕ Pn	259.8	k
Tensile Capacity, ϕ Rnt	0.281	OK
Interaction Capacity	0.283	OK

Base Plate Stiffeners		
Applied Axial Force, Pu	20.7	k
Applied Horizontal Force, Vu	0.14	k

Vertical Weld		
Vert.-to-Stiffener a= e_x/l	0.111	-
Spacing Ratio, k	0.083	-
Weld Coefficient, C	3.720	-
Compressive Capacity, ϕ Pn	100.4	k
Vert.-to-Plate a= e_x/l	0.333	-
Spacing Ratio, k	0.083	-
Weld Coefficient, C	2.940	-
Shear Capacity, ϕ Vn	79.4	k
$P_u/\phi_P P_n + V_u/\phi_V V_n$	0.208	OK

Horizontal Weld		
Horz.-to-Stiffener a= e_x/l	0.167	-
Spacing Ratio, k	0.250	-
Weld Coefficient, C	2.240	-
Effective Fillet	0.188	in
Compressive Capacity, ϕ Pn	20.2	k
Horz.-to-Pole a= e_x/l	0.500	-
Spacing Ratio, k	0.250	-
Weld Coefficient, C	2.320	-
Shear Capacity, ϕ Vn	20.9	k
$P_u/\phi_P P_n + V_u/\phi_V V_n$	1.035	OK

Plate Tension		
Gross Cross Section	1.365	in ²
Net Cross Section	1.229	in ²
Tensile Capacity, ϕ Tn	113.4	k
Capacity, Tu/ ϕ Tn	0.091	OK

Plate Compression		
Radius of Gyration	0.113	in ³
kl/r	63.95	-
4.71 $\sqrt{E/F_y}$	133.68	-
Buckling Stress(F _e)	70.0	-
Crit. Buckling Stress(F _{cr})	61.4	ksi
Compressive Capacity, ϕ Pn	193.3	k
Capacity, Pu/ ϕ Pn	0.054	OK