



June 30, 2022

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

Re: Exempt Modification Application – AT&T Site 13753549  
AT&T Mobility Telecommunications Facility @ 922 Northrop Road, Wallingford, CT 06492  
AKA 1000 Northrop Road

Dear Ms. Bachman,

New Cingular Wireless, PCS, LLC (dba AT&T) currently maintains antennas on a wireless telecommunications facility on an existing American Tower Corporation (ATC) telecommunications tower at the above referenced address. AT&T desires to modify its existing equipment as described in the attached Construction Drawings:

- Remove nine (9) antennas, six (6) RRHs, one (1) squid, twelve (12) TTAs, twelve (12) coax cables, two (2) conduits, four (4) control cables and two (2) fiber trunks.
- Install nine (9) antennas, three (3) RRHs, one (1) squid, six (6) coax cables, four (4) conduits, five (5) control cables and two (2) fiber cables.

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: American Tower Corporation as Tower Operator/Owner; OMEGA WALLINGFORD LLC as Property Owner; the Honorable William W. Dickinson, Jr., the Mayor of Wallingford, and Kevin Pagini, Wallingford Town Planner. The applicant's proposal falls squarely within those activities explicitly provided for in R.C.S.A. §16-50j-89. 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 (FCC) safety standard. Please see the RF emissions calculation for AT&T's modified facility enclosed herewith.
5. The proposed modifications will NOT cause an ineligible change or 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 enclosed herewith.

For the foregoing reasons, AT&T respectfully requests that the Council approve this Exempt Modification request for this tower located at 922 Northrop Road, Wallingford, CT 06492. If you have any questions, please feel free to contact me.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Jack Andrews', is written over a faint, circular blue stamp or watermark.

Jack Andrews  
Zoning Manager, Centerline Communications  
443-677-0144

Enclosures: Exhibit 1 – Letter of Authorization from tower owner  
Exhibit 2 – Property Card and GIS  
Exhibit 3 – Construction Drawings  
Exhibit 4 – Structural Analysis Report  
Exhibit 5 – Antenna Mount Analysis Report  
Exhibit 6 – EME Study Report  
Exhibit 7 – Four (4) Notice Confirmations

Cc: American Tower Corporation - Tower Operator/Owner  
OMEGA WALLINGFORD LLC - Property Owner  
William W. Dickinson, Jr. - Mayor of the Town of Wallingford  
Kevin Pagini – Wallingford Town Planner



**AMERICAN TOWER®**  
CORPORATION  
**LETTER OF AUTHORIZATION**

**CENTERLINE COMMUNICATIONS LLC/ AT&T MOBILITY**

I, Margaret Robinson, Vice President, US Tower Legal Division on behalf of American Tower\*, owner/operator of the tower facility located at the address identified below (the "Tower Facilities"), do hereby authorize AT&T MOBILITY, CENTERLINE COMMUNICATIONS LLC, its successors and assigns, to act as American Tower's non-exclusive agent for the purpose of filing and securing any zoning, land-use, building permit and/or electrical permit application(s) and approvals of the applicable jurisdiction for and to conduct the construction of the installation of antennas and related telecommunications equipment on the Tower Facility located at the above address. This installation shall not affect adjoining lands and will occur only within the area leased by American Tower.

American Tower understands that the application may be denied, modified or approved with conditions. The above authorization is limited to the acceptance by American Tower of conditions related to American Tower's installation. Any such conditions of approval or modifications will not be effective unless approved in writing by American Tower.

The above authorization does not permit AT&T MOBILITY, CENTERLINE COMMUNICATIONS LLC to modify or alter any existing permit(s) and/or zoning or land-use conditions or impose any additional conditions unrelated to American Tower's installation of telecommunications equipment without the prior written approval of American Tower.

\*American Tower includes all affiliates and subsidiaries of American Tower Corporation.


ATC Asset #	Site Name	Project Number	Site Address
283420	STONEBROOK RD CT	13682835	23 Stonybrook Road, Stratford, Connecticut
243036	WEST HAVEN & RT 162 CT	13682841	668 Jones Hill Road, West Haven, Connecticut
302479	Rkhl - Rocky Hill	13683394	699 West Street, Rocky Hill, Connecticut
302537	Middletown CT 3	13747862	47 Inwood Road, Rocky Hill, Connecticut
302535	Milford CT 2	13748383	185 Research Drive, Milford, Connecticut
302473	E H F R - Prestige Park	13748397	310 Prestige Park Road, East Hartford, Connecticut
302505	Wshn - West Haven	13748405	204 Burwell Street, West Haven, Connecticut
302489	Enfd - Enfield	13753208	77 Town Farm Road, Enfield, Connecticut
302524	Beacon Falls	13753210	664 Rimmon Hill Road, Seymour, Connecticut
310968	WSPT-WESTPORT REBUILD CT	13753216	180A Bayberry Lane, Westport, Connecticut
302526	Naugatuck (telephone Pole)	13753218	585 South Main St. (soc. Club), Naugatuck, Connecticut
310972	WATERFORD REBUILD CT	13753547	15 Miner Lane, Waterford, Connecticut
302538	Parsonage Hill Aka Wallin	13753549	922 Northrop Road, Wallingford, Connecticut
370624	Mankes Silo	13754283	1338 Highland Ave, Cheshire, Connecticut



**AMERICAN TOWER®**  
CORPORATION

88017	SHELTON-TRUMBULL	13755484	14 OXFORD DRIVE/BOOTH HILL RD, Shelton, Connecticut
414240	Byram Park CT	13755490	48 RITCH AVENUE WEST, Greenwich, Connecticut
283423	NAUGATUCK CT	13755758	880 Andrew Mountain Road, Naugatuck, Connecticut
302480	Woodbridge CT 1	13756843	77 Pease Road, Woodbridge, Connecticut
411183	WATERFORD CT	13756866	53 Dayton Rd. Waterford, Connecticut
302540	Madison CT 6	13757740	8 Old 79, Madison, Connecticut
411259	CT Collinsville CAC 802816 CT	13757764	650 Albany Turnpike, Collinsville, Connecticut
411256	CANTON CT	13757774	14 CANTON SPRINGS ROAD, Canton, Connecticut
302493	Nrwc - Norwich	13757776	225 Rogers Road, Norwich, Connecticut
302476	Wtbr - Waterbury	13757794	352 Garden Circle, Waterbury, Connecticut
302475	Sttn - Southington	13757796	80 Shuttle Meadow Road, Southington, Connecticut
302494	Hddm - Haddam	13757798	139 Morris Hubbard Rd, Higganum, Connecticut
283419	PINE ORCHARD BRANFORD CT	13757800	123 Pine Orchard Road, Brrandford, Connecticut
302482	North Havent CT 1	13757802	15 Dewight Street, North Haven, Connecticut
302485	Mdfd - Middlefield	13757806	134 Kikapoo Road, Middlefield, Connecticut
302500	Brst - Bristol	13757810	790 Willis Street, Bristol, Connecticut
302467	Bilkays Express	13757812	90 North Plains Industrial Rd. Wallingford, Connecticut
302536	Cherry Hill-branford	13759895	4 Beaver Road, Brandford, Connecticut
302482	North Havent CT 1	14050356	15 Dewight Street, North Haven, Connecticut
311305	GLFD-GUILFORD REBUILD CT	14050358	10 Tanner Marsh Road, Guilford, Connecticut
411261	CROMWELLSW CT	14089799	99 Christian Hill Road, Cromwell, Connecticut
302481	Hrfr - South	14090117	289 Mountain Street, Hartford, Connecticut

Signature: \_\_\_\_\_

  
Margaret Robinson, Vice President  
US Tower Legal Division

**See attached Notary Block**





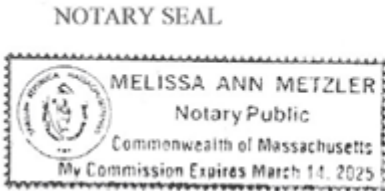
**LETTER OF AUTHORIZATION  
CENTERLINE COMMUNICATIONS LLC/ AT&T MOBILITY**

**NOTARY BLOCK**

COMMONWEALTH OF MASSACHUSETTS  
County of Middlesex

This instrument was acknowledged before me by Margaret Robinson, Vice President, UST Legal of American Tower (Tower Facility owner), personally known to me (or proved to me on the basis of satisfactory evidence) to be the person whose name is subscribed to the within instrument and acknowledged to me that he/she executed the same.

WITNESS my hand and official seal, this 30<sup>th</sup> day of June, 2022.



Notary Public   
My Commission Expires: March 14, 2025



1000 NORTHROP RD X Q

Show search results for 1000 NORTH...

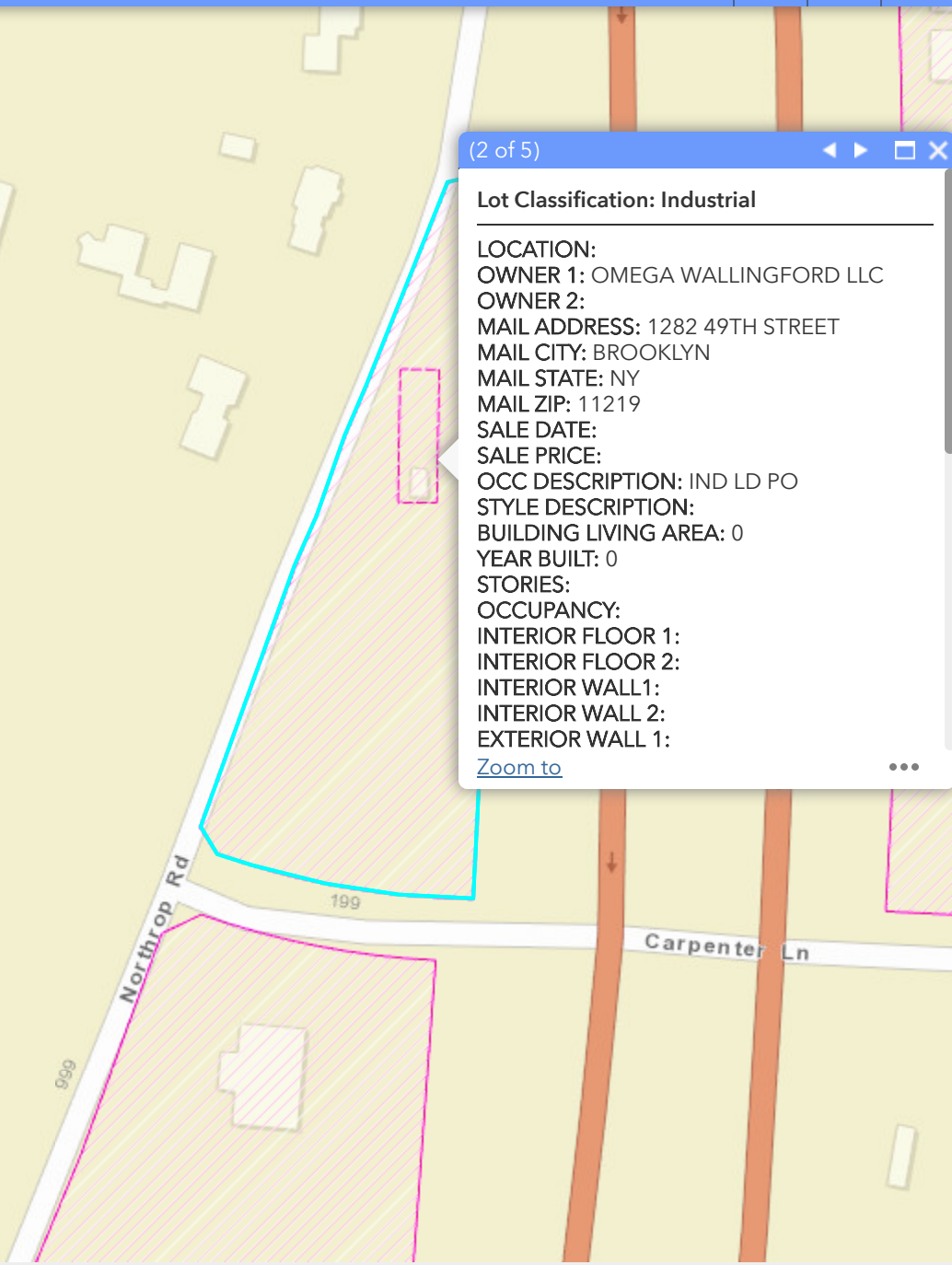
(2 of 5) ◀ ▶ □ ×

**Lot Classification: Industrial**

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LOCATION:  
 OWNER 1: OMEGA WALLINGFORD LLC  
 OWNER 2:  
 MAIL ADDRESS: 1282 49TH STREET  
 MAIL CITY: BROOKLYN  
 MAIL STATE: NY  
 MAIL ZIP: 11219  
 SALE DATE:  
 SALE PRICE:  
 OCC DESCRIPTION: IND LD PO  
 STYLE DESCRIPTION:  
 BUILDING LIVING AREA: 0  
 YEAR BUILT: 0  
 STORIES:  
 OCCUPANCY:  
 INTERIOR FLOOR 1:  
 INTERIOR FLOOR 2:  
 INTERIOR WALL 1:  
 INTERIOR WALL 2:  
 EXTERIOR WALL 1:

[Zoom to](#) ...



200ft  
-72.770 41.489 Degrees





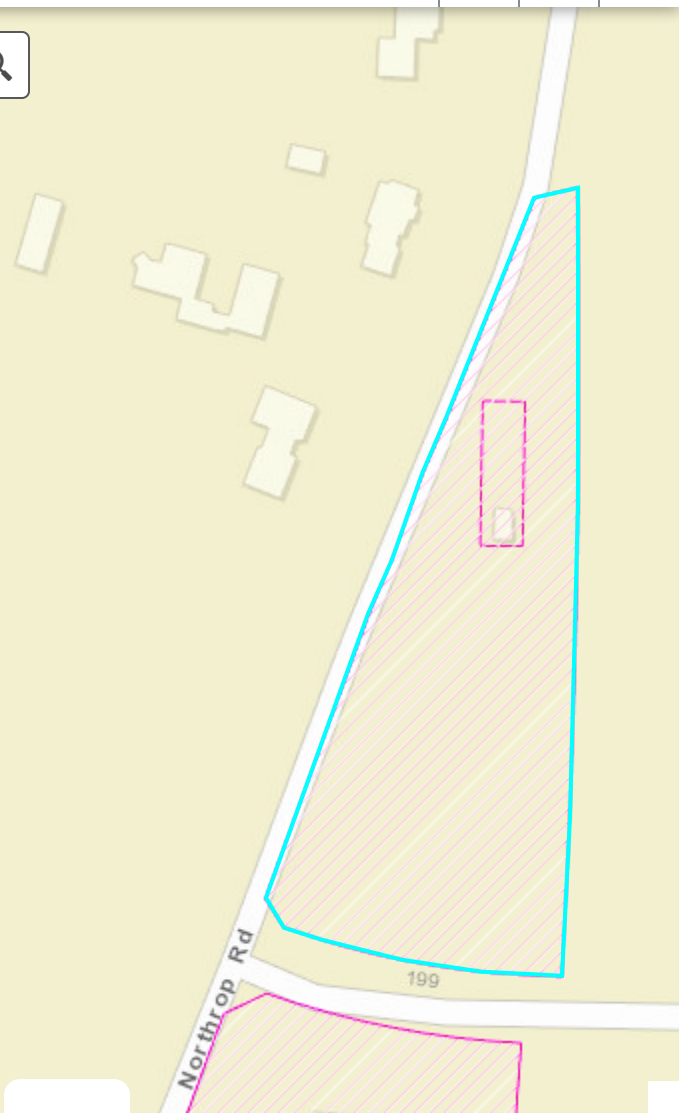
1000 NORTHROP RD X Q

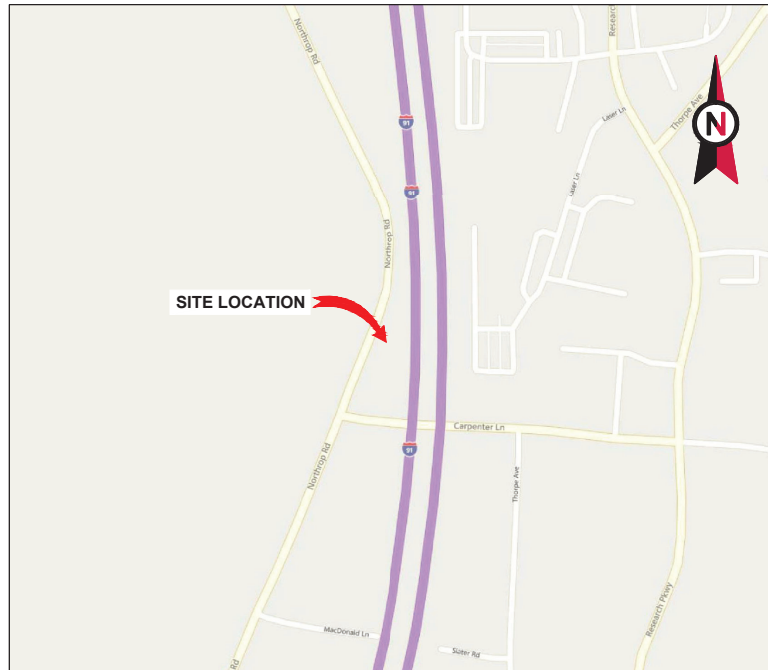
Show search results for 1000 NORTH...



200ft

-72.769 41.490 Degrees





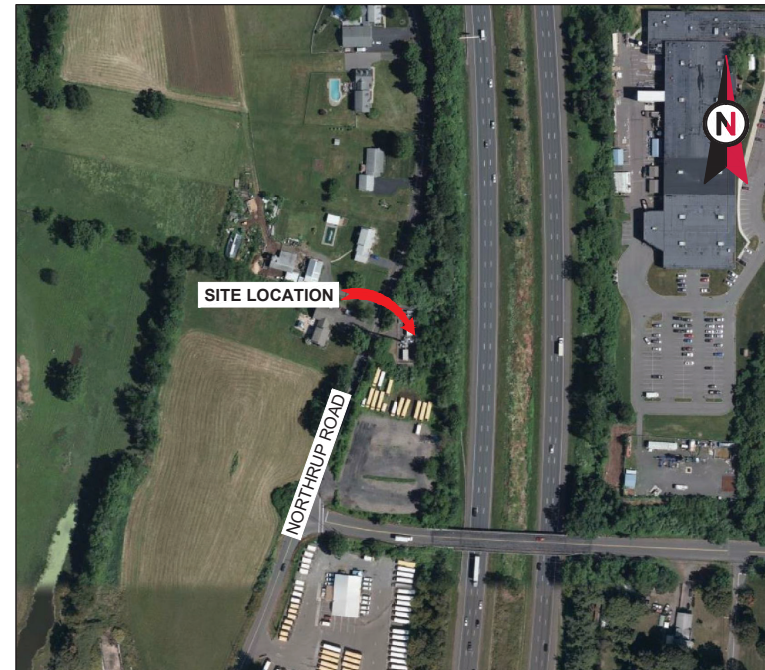
VICINITY MAP



**AMERICAN TOWER®**

ATC SITE NAME: PARSONAGE HILL AKA WALLIN  
 ATC SITE NUMBER: 302538  
 AT&T PACE NUMBERS: MRCTB055922, MRCTB054726,  
 MRCTB053447, MRCTB055324,  
 MRCTB055917, MRCTB053441,  
 MRCTB054828

AT&T SITE ID: CTL02221  
 AT&T FA CODE: 10035227  
 AT&T SITE NAME: WALLINGFORD-NORTHROP RD  
 SITE ADDRESS: 922 NORTHROP ROAD  
 WALLINGFORD, CT 06492  
 AT&T CBAND 4GHz  
 AMENDMENT PLAN



LOCATION MAP



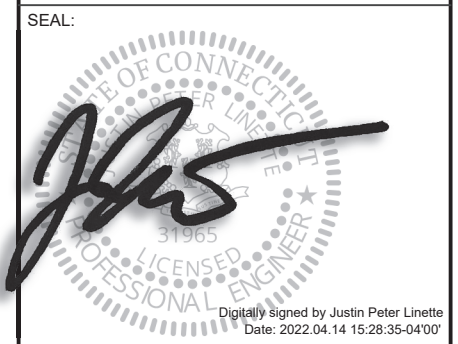
**Colliers** Engineering & Design

www.colliersengineering.com  
 Doing Business as **MASER**  
 MADISON  
 135 New Road  
 Madison, CT 06443  
 Phone: 860.395.0055  
 COLLIERS ENGINEERING & DESIGN CT, P.C.  
 DOING BUSINESS AS MASER CONSULTING

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REV.	DESCRIPTION	BY	DATE
A	PRELIM	JLK	03/24/22
B	PRELIM	JLK	04/05/22
C	PRELIM	JLK	04/12/22
D	FOR CONSTRUCTION	MLH	04/14/22

ATC SITE NUMBER:  
302538  
  
 ATC SITE NAME:  
PARSONAGE HILL AKA WALLIN  
  
 AT&T SITE NAME:  
WALLINGFORD-NORTHROP RD  
  
 SITE ADDRESS:  
922 NORTHROP ROAD  
WALLINGFORD, CT 06492



DATE DRAWN:	03/24/22
ATC JOB NO:	13753549_G5
CUSTOMER ID:	CTL02221
CUSTOMER #:	10035227

TITLE SHEET

SHEET NUMBER:  
**G-001**  
 REVISION:  
**0**

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. CT STATE BUILDING CODE, INCORPORATING THE 2018 INTERNATIONAL BUILDING CODE 2. 2017 NATIONAL ELECTRIC CODE (NEC) 3. LOCAL BUILDING CODE 4. CITY/COUNTY ORDINANCES	<u>SITE ADDRESS:</u> 922 NORTHROP ROAD WALLINGFORD, CT 06492 COUNTY: NEW HAVEN  <u>GEOGRAPHIC COORDINATES:</u> LATITUDE: 41.48937115 LONGITUDE: -72.76828251 GROUND ELEVATION: 383' AMSL	THE PROPOSED PROJECT INCLUDES MODIFYING GROUND BASED AND TOWER MOUNTED EQUIPMENT AS INDICATED PER BELOW: <b>TOWER WORK:</b> REMOVE (9) ANTENNA(S), (6) RRH(S), (1) SQUID(S), (12) TTA(S), (12) COAX CABLE(S), (2) CONDUIT(S), (4) CONTROL CABLE(S) AND (2) FIBER TRUNK(S)  INSTALL (9) ANTENNA(S), (3) RRH(S), (1) SQUID(S), (6) COAX CABLE(S), (4) CONDUIT(S), (5) CONTROL CABLE(S) AND (2) FIBER CABLE(S)  EXISTING (3) ANTENNA(S), (12) RRH(S), (2) SQUID(S), (2) CONTROL CABLE(S) AND (1) FIBER TRUNK(S) TO REMAIN	SHEET NO:	DESCRIPTION:	REV:	DATE:	BY:	
	<u>PROJECT TEAM</u>  <u>TOWER OWNER:</u> AMERICAN TOWER 10 PRESIDENTIAL WAY WOBURN, MA 01801  <u>ENGINEER:</u> COLLIERS ENGINEERING & DESIGN CT, P.C. 135 NEW ROAD MADISON, CT 06443  PROJECT #: 22904229A  <u>PROPERTY OWNER:</u> ANTHONY AUTORINO 922 NORTHROP ROAD WALLINGFORD, CT 06492	<u>PROJECT NOTES</u> 1. THE FACILITY IS UNMANNED. 2. A TECHNICIAN WILL VISIT THE SITE APPROXIMATELY ONCE A MONTH FOR ROUTINE INSPECTION AND MAINTENANCE. 3. THE PROJECT WILL NOT RESULT IN ANY SIGNIFICANT LAND DISTURBANCE OR EFFECT OF STORM WATER DRAINAGE. 4. NO SANITARY SEWER, POTABLE WATER OR TRASH DISPOSAL IS REQUIRED. 5. HANDICAP ACCESS IS NOT REQUIRED. 6. THE PROJECT DEPICTED IN THESE PLANS QUALIFIES AS AN ELIGIBLE FACILITIES REQUEST ENTITLED TO EXPEDITED REVIEW UNDER 47 U.S.C. § 1455(A) AS A MODIFICATION OF AN EXISTING WIRELESS TOWER THAT INVOLVES THE COLLOCATION, REMOVAL, AND/OR REPLACEMENT OF TRANSMISSION EQUIPMENT THAT IS NOT A SUBSTANTIAL CHANGE UNDER CFR § 1.61000 (B)(7).	G-001 TITLE SHEET G-002 GENERAL NOTES C-101 DETAILED SITE PLAN C-201 TOWER ELEVATION C-401 ANTENNA INSTALLATION C-402 RF SCHEDULE C-501 CONSTRUCTION DETAILS E-501 GROUNDING DETAILS R-601 SUPPLEMENTAL R-602 SUPPLEMENTAL R-603 SUPPLEMENTAL R-604 SUPPLEMENTAL					
		<u>PROJECT LOCATION DIRECTIONS</u>  FROM HARTFORD I-91 SOUTH TO EXIT 15, RIGHT AT OFF RAMP AND THEN RIGHT AGAIN ONTO NORTHROP ROAD - FOLLOW TO SITE						



Know what's below.  
Call before you dig.



**GENERAL CONSTRUCTION NOTES:**

1. OWNER FURNISHED MATERIALS, AT&T "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 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 REP PRIOR TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH REMEDIAL ACTION SHALL REQUIRE WRITTEN APPROVAL BY THE AT&T REP PRIOR TO PROCEEDING.
13. EACH CONTRACTOR SHALL COOPERATE WITH THE AT&T 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 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 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 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 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 REP TO

- DETERMINE IF ANY PERMITS WILL BE OBTAINED BY CONTRACTOR. ALL REQUIRED PERMITS NOT OBTAINED BY AT&T MUST BE OBTAINED, AND PAID FOR, BY THE CONTRACTOR.
23. CONTRACTOR SHALL INSTALL ALL SITE SIGNAGE IN ACCORDANCE WITH AT&T SPECIFICATIONS AND REQUIREMENTS.
  24. CONTRACTOR SHALL SUBMIT ALL SHOP DRAWINGS TO AT&T FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.
  25. ALL EQUIPMENT SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS AND LOCATED ACCORDING TO AT&T 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 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 NEGLIGENCE ON THE PART OF THIS CONTRACTOR OR HIS REPRESENTATIVES, OR BY THE ELEMENTS DUE TO NEGLIGENCE ON THE PART OF THIS CONTRACTOR 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 REP. ANY WORK FOUND BY THE AT&T 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 FURNISHED EQUIPMENT SHALL BE PICKED-UP AT THE AT&T 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 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 OR THEIR ARCHITECT/ENGINEER.

**SPECIAL CONSTRUCTION**

**ANTENNA INSTALLATION NOTES:**

1. WORK INCLUDED:
  - A. ANTENNA AND COAXIAL CABLES ARE FURNISHED BY AT&T UNDER A SEPARATE CONTRACT. THE CONTRACTOR SHALL ASSIST ANTENNA INSTALLATION CONTRACTOR IN TERMS OF COORDINATION AND SITE ACCESS. ERECTION SUBCONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF PERSONNEL.
  - B. INSTALL ANTENNAS AS INDICATED ON DRAWINGS AND AT&T SPECIFICATIONS.
  - C. INSTALL GALVANIZED STEEL ANTENNA MOUNTS AS INDICATED ON DRAWINGS.
  - D. INSTALL FURNISHED GALVANIZED STEEL OR ALUMINUM WAVEGUIDE.
  - E. CONTRACTOR SHALL PROVIDE FOUR (4) SETS OF SWEEP TESTS USING ANRITZU-PACKARD 8713B RF SCALAR NETWORK ANALYZER. SUBMIT FREQUENCY DOMAIN REFLECTOMETER(FDR) TESTS RESULTS TO THE PROJECT MANAGER. SWEEP TESTS SHALL BE AS PER ATTACHED RFS "MINIMUM FIELD TESTING RECOMMENDED FOR ANTENNA AND HELIAX COAXIAL CABLE SYSTEMS" DATED 10/5/93. TESTING SHALL BE PERFORMED BY AN INDEPENDENT TESTING SERVICE AND BE BOUND AND SUBMITTED WITHIN ONE WEEK OF WORK COMPLETION.
  - F. INSTALL COAXIAL CABLES AND TERMINATING BETWEEN ANTENNAS AND EQUIPMENT PER MANUFACTURER'S RECOMMENDATIONS. WEATHERPROOF ALL CONNECTIONS BETWEEN THE ANTENNA AND EQUIPMENT PER MANUFACTURER'S REQUIREMENTS. TERMINATE ALL COAXIAL CABLE THREE (3) FEET IN EXCESS OF ENTRY PORT LOCATION UNLESS OTHERWISE STATED.
  - G. ANTENNA AND COAXIAL CABLE GROUNDING:
    2. ALL EXTERIOR #6 GREEN GROUND WIRE "DAISY CHAIN" CONNECTIONS ARE TO BE WEATHER SEALED WITH RFS CONNECTORS/SPLICE WEATHERPROOFING KIT #221213 OR EQUAL.
    3. ALL COAXIAL CABLE GROUNDING KITS ARE TO BE INSTALLED ON STRAIGHT RUNS OF COAXIAL CABLE (NOT WITHIN BENDS)

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



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REV.	DESCRIPTION	BY	DATE
A	PRELIM	JLK	03/24/22
B	PRELIM	JLK	04/05/22
C	PRELIM	JLK	04/12/22
D	FOR CONSTRUCTION	MLH	04/14/22
E			

ATC SITE NUMBER:  
**302538**

ATC SITE NAME:  
**PARSONAGE HILL AKA WALLIN**

AT&T SITE NAME:  
**WALLINGFORD-NORTHROP RD**

SITE ADDRESS:  
922 NORTHROP ROAD  
WALLINGFORD, CT 06492

SEAL:

Digitally signed by Justin Peter Linette  
Date: 2022.04.14 15:28:41-04'00'



DATE DRAWN:	03/24/22
ATC JOB NO:	13753549_G5
CUSTOMER ID:	CTL02221
CUSTOMER #:	10035227

**GENERAL NOTES**

SHEET NUMBER: <b>G-002</b>	REVISION: <b>0</b>
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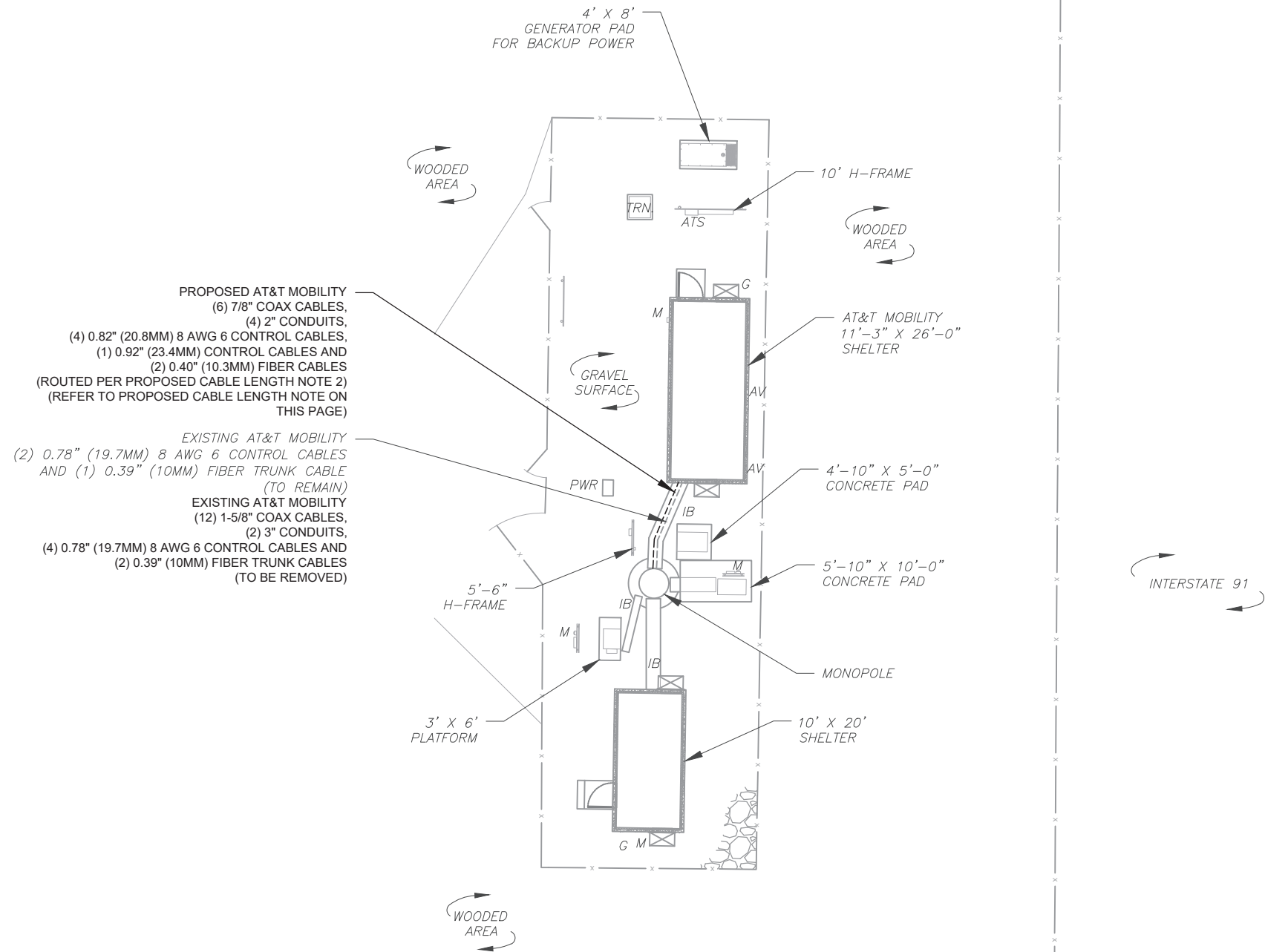
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**SITE PLAN NOTES:**

1. THIS SITE PLAN REPRESENTS THE BEST PRESENT KNOWLEDGE AVAILABLE TO THE ENGINEER AT THE TIME OF THIS DESIGN. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO CONSTRUCTION AND VERIFY ALL EXISTING CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT.
2. ICE BRIDGE, CABLE LADDER, COAX PORT, AND COAX CABLE ARE SHOWN FOR REFERENCE ONLY. CONTRACTOR SHALL CONFIRM THE EXACT LOCATION OF ALL PROPOSED AND EXISTING EQUIPMENT AND STRUCTURES DEPICTED ON THIS PLAN. BEFORE UTILIZING EXISTING CABLE SUPPORTS, COAX PORTS, INSTALLING NEW PORTS OR ANY OTHER EQUIPMENT, CONTRACTOR SHALL VERIFY ALL ASPECTS OF THE COMPONENTS MEET THE ATC SPECIFICATIONS.
3. THIS PROJECT INCLUDES NO INSTALL OR MODIFICATION AT GRADE.

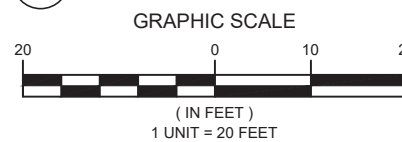
LEGEND	
⊗	GROUNDING TEST WELL
ATS	AUTOMATIC TRANSFER SWITCH
B	BOLLARD
CSC	CELL SITE CABINET
D	DISCONNECT
E	ELECTRICAL
F	FIBER
GEN	GENERATOR
G	GENERATOR RECEPTACLE
HH, V	HAND HOLE, VAULT
IB	ICE BRIDGE
K	KENTROX BOX
LC	LIGHTING CONTROL
M	METER
PB	PULL BOX
PP	POWER POLE
T	TELCO
TRN	TRANSFORMER
— x —	CHAINLINK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



**PROPOSED CABLE LENGTH:**

1. ESTIMATED LENGTH OF PROPOSED CABLE IS **165'**. 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**



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C	PRELIM	JLK	04/12/22
D	FOR CONSTRUCTION	MLH	04/14/22

ATC SITE NUMBER:  
**302538**

ATC SITE NAME:  
**PARSONAGE HILL AKA WALLIN**

AT&T SITE NAME:  
**WALLINGFORD-NORTHROP RD**

SITE ADDRESS:  
922 NORTHROP ROAD  
WALLINGFORD, CT 06492

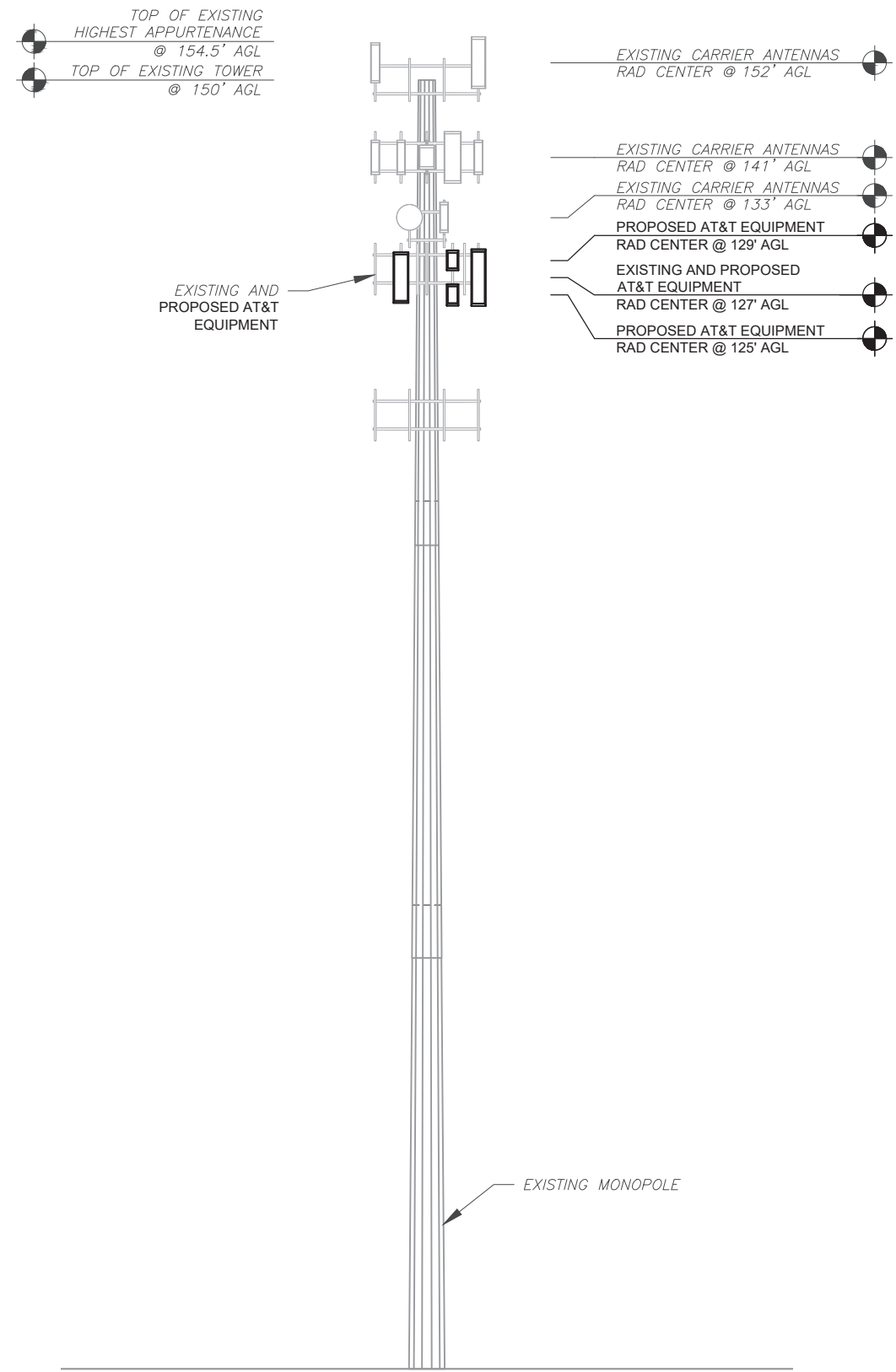
SEAL:



DATE DRAWN:	03/24/22
ATC JOB NO:	13753549_G5
CUSTOMER ID:	CTL02221
CUSTOMER #:	10035227

**DETAILED SITE PLAN**

SHEET NUMBER: <b>C-101</b>	REVISION: <b>0</b>
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PER MOUNT ANALYSIS COMPLETED BY POWER OF DESIGN, DATED 02/18/22, THE EXISTING MOUNT MUST BE MODIFIED TO ADEQUATELY SUPPORT THE PROPOSED LOADING. THE MOUNT MODIFICATION PROPOSED IN THE MOUNT ANALYSIS, INCLUDED AT THE END OF THIS PLAN SET, MUST BE INSTALLED PRIOR TO THE INSTALLATION OF THE PROPOSED ANTENNAS AND OTHER EQUIPMENT.

1 TOWER ELEVATION  
SCALE: N.T.S.

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



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D	FOR CONSTRUCTION	MLH	04/14/22

ATC SITE NUMBER:  
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SEAL:



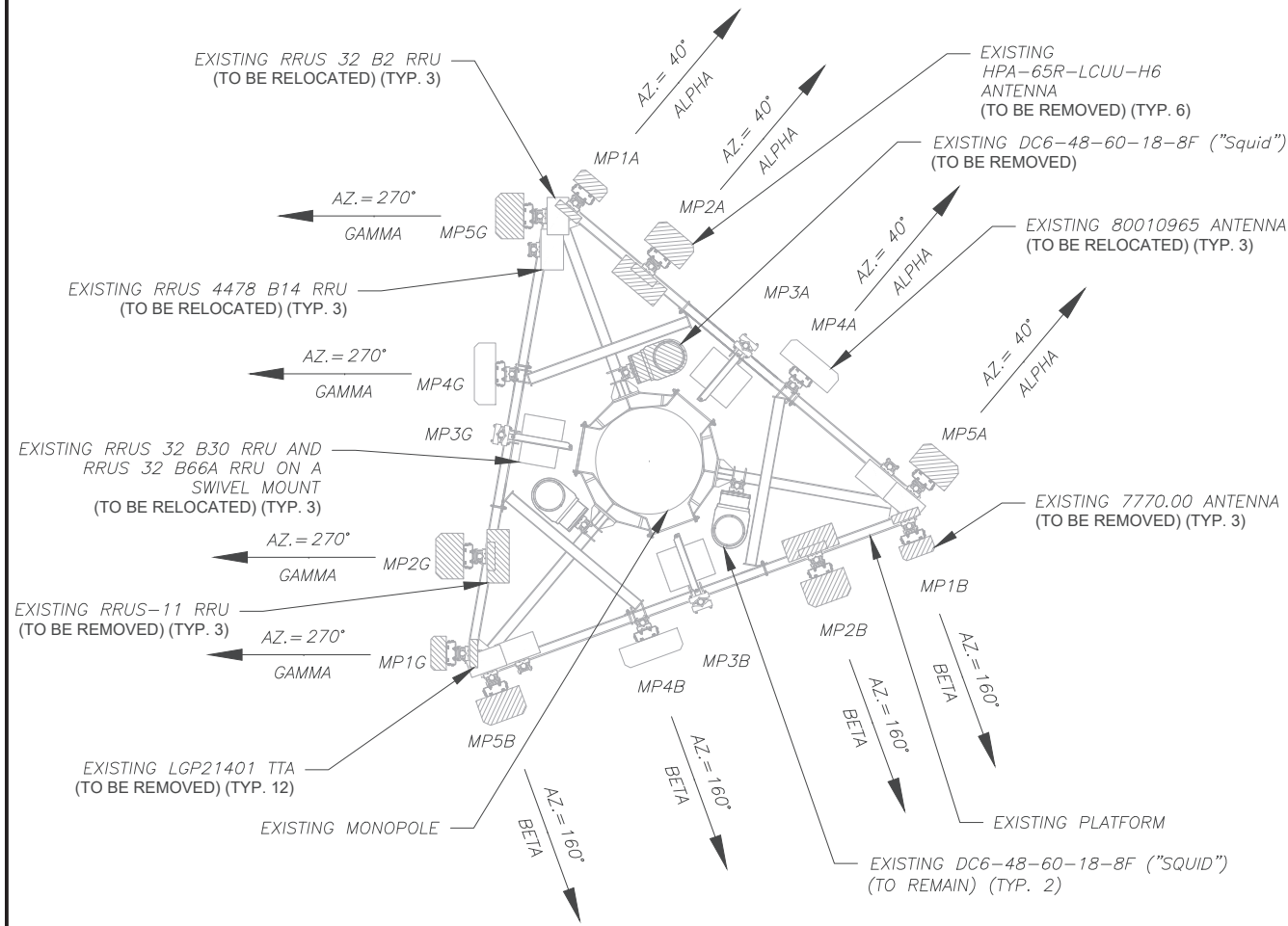
DATE DRAWN:	03/24/22
ATC JOB NO:	13753549_G5
CUSTOMER ID:	CTL02221
CUSTOMER #:	10035227

**TOWER ELEVATION**

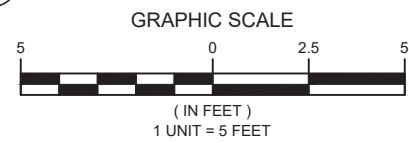
SHEET NUMBER: <b>C-201</b>	REVISION: <b>0</b>
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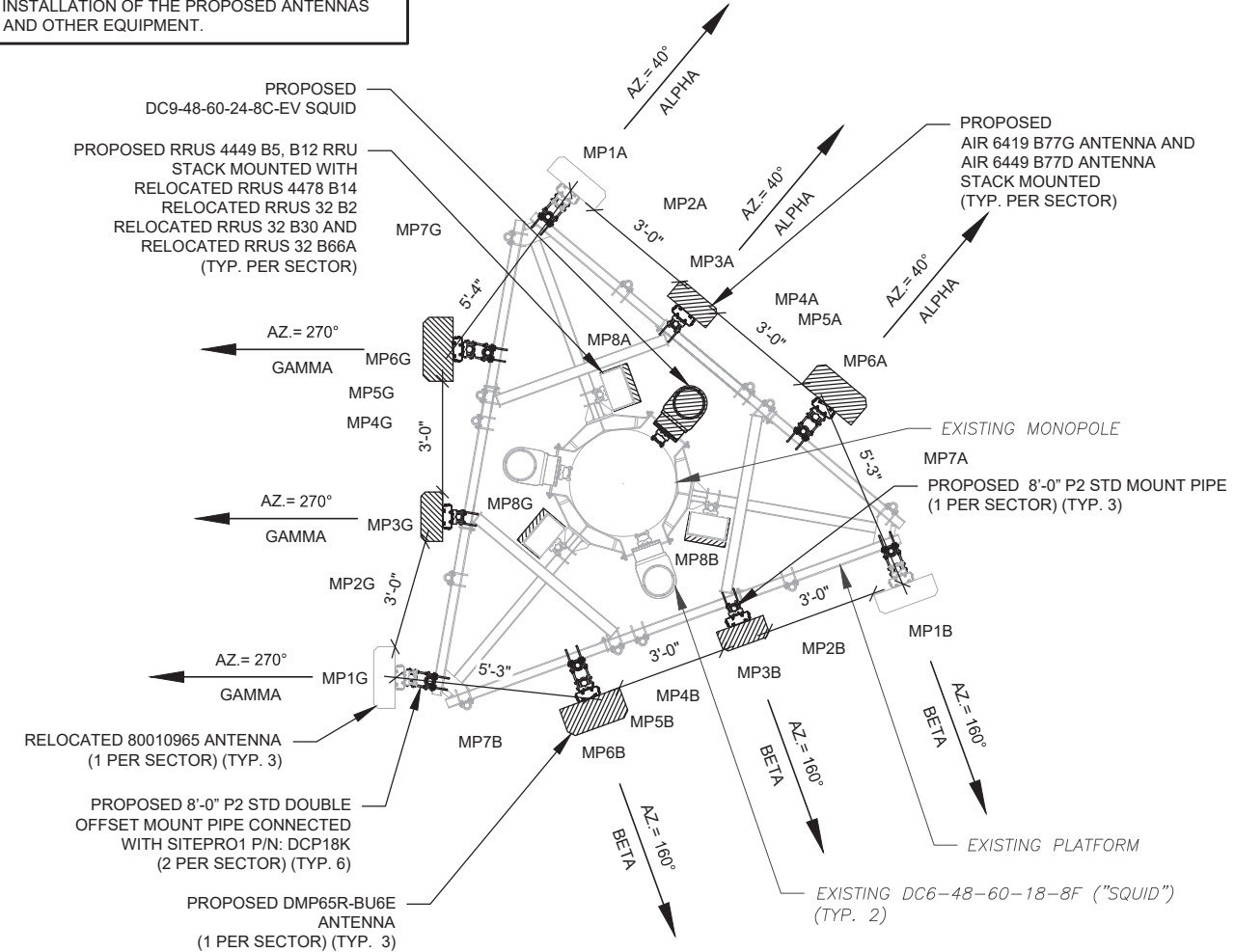
EXISTING CONFIGURATIONS ARE BASED ON RFDS.  
CONTRACTOR TO VERIFY EXISTING CONDITIONS.



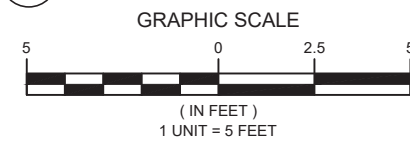
1 CURRENT ANTENNA PLAN  
SCALE: 1"=5'



PER MOUNT ANALYSIS COMPLETED BY POWER OF DESIGN, DATED 02/18/22, THE EXISTING MOUNT MUST BE MODIFIED TO ADEQUATELY SUPPORT THE PROPOSED LOADING. THE MOUNT MODIFICATION PROPOSED IN THE MOUNT ANALYSIS, INCLUDED AT THE END OF THIS PLAN SET, MUST BE INSTALLED PRIOR TO THE INSTALLATION OF THE PROPOSED ANTENNAS AND OTHER EQUIPMENT.



2 FINAL ANTENNA PLAN  
SCALE: 1"=5'



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



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D	FOR CONSTRUCTION	MLH	04/14/22

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**PARSONAGE HILL AKA WALLIN**

AT&T SITE NAME:  
**WALLINGFORD-NORTHROP RD**

SITE ADDRESS:  
922 NORTHROP ROAD  
WALLINGFORD, CT 06492

SEAL:

Digitally signed by Justin Peter Linette  
Date: 2022.04.14 15:28:42-04'00'



DATE DRAWN:	03/24/22
ATC JOB NO:	13753549_G5
CUSTOMER ID:	CTL02221
CUSTOMER #:	10035227

ANTENNA INSTALLATION

SHEET NUMBER:	REVISION:
<b>C-401</b>	<b>0</b>

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Date: 2022.04.14 15:28:42-04'00'



DATE DRAWN:	03/24/22
ATC JOB NO:	13753549_G5
CUSTOMER ID:	CTL02221
CUSTOMER #:	10035227

**RF SCHEDULE**

SHEET NUMBER:  
**C-402**

REVISION:  
**0**

EXISTING ANTENNA SCHEDULE									NOTES	FINAL ANTENNA SCHEDULE										
LOCATION			ANTENNA SUMMARY				NON ANTENNA SUMMARY			LOCATION			ANTENNA SUMMARY				NON ANTENNA SUMMARY			
SECTOR	RAD	AZ	POS	ANTENNA	BAND	STATUS	ADDITIONAL TOWER MOUNTED EQUIPMENT	STATUS	SECTOR	RAD	AZ	POS	ANTENNA	BAND	STATUS	ADDITIONAL TOWER MOUNTED EQUIPMENT	STATUS			
ALPHA	127'	40°	MP1A	7770.00	UMTS 850	RMV	LGP21401	RMV	1. CONFIRM WITH AT&T REP FOR APPLICABLE UPDATES/REVISIONS AND MOST RECENT RFDS FOR NSN CONFIGURATION (CONFIG). GC TO CAP ALL UNUSED PORTS. 2. CONFIRM SPACING OF PROPOSED EQUIP DOES NOT CAUSE TOWER CONFLICTS NOR IMPEDE TOWER CLIMBING PEGS. 3. 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. 4. CONTRACTOR TO ENSURE PROPER SEPARATION IN ACCORDANCE WITH AT&T'S FIRSTNET REQUIREMENTS (SEE SHEET R-602)	127'	40°	MP1A	80010965	LTE 700/WCS	REL	-	-	RRUS 4449 B5, B12 RRUS 32 B30 RRUS 32 B66A RRUS 4478 B14 RRUS 32 B2	ADD	REL
			MP2A	HPA-65R-LCUU-H6	LTE 1900	RMV	LGP21401 RRUS-11	RMV RMV				MP2A	-	-	-	-				
			MP3A	-	-	-	RRUS 32 B30 RRUS 32 B66A	REL REL				MP3A	AIR 6419 B77G AIR 6449 B77D	5G CBAND	ADD ADD	-	-			
			MP4A	80010965	LTE 700/AWS	REL	-	-				MP4A	-	-	-	-	-			
			MP5A	HPA-65R-LCUU-H6	LTE 700/WCS	RMV	RRUS 4478 B14 RRUS 32 B2	REL REL				MP5A	-	-	-	-	-			
BETA	127'	160°	MP1B	7770.00	UMTS 850	RMV	LGP21401	RMV	1. CONFIRM WITH AT&T REP FOR APPLICABLE UPDATES/REVISIONS AND MOST RECENT RFDS FOR NSN CONFIGURATION (CONFIG). GC TO CAP ALL UNUSED PORTS. 2. CONFIRM SPACING OF PROPOSED EQUIP DOES NOT CAUSE TOWER CONFLICTS NOR IMPEDE TOWER CLIMBING PEGS. 3. 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. 4. CONTRACTOR TO ENSURE PROPER SEPARATION IN ACCORDANCE WITH AT&T'S FIRSTNET REQUIREMENTS (SEE SHEET R-602)	127'	160°	MP1B	80010965	LTE 700/WCS	REL	-	-	RRUS 4449 B5, B12 RRUS 32 B30 RRUS 32 B66A RRUS 4478 B14 RRUS 32 B2	ADD	REL
			MP2B	HPA-65R-LCUU-H6	LTE 1900	RMV	LGP21401 RRUS-11	RMV RMV				MP2B	-	-	-	-				
			MP3B	-	-	-	RRUS 32 B30 RRUS 32 B66A	REL REL				MP3B	AIR 6419 B77G AIR 6449 B77D	5G CBAND	ADD ADD	-	-			
			MP4B	80010965	LTE 700/AWS	REL	-	-				MP4B	-	-	-	-	-			
			MP5B	HPA-65R-LCUU-H6	LTE 700/WCS	RMV	RRUS 4478 B14 RRUS 32 B2	REL REL				MP5B	-	-	-	-	-			
GAMMA	127'	270°	MP1G	7770.00	UMTS 850	RMV	LGP21401	RMV	1. CONFIRM WITH AT&T REP FOR APPLICABLE UPDATES/REVISIONS AND MOST RECENT RFDS FOR NSN CONFIGURATION (CONFIG). GC TO CAP ALL UNUSED PORTS. 2. CONFIRM SPACING OF PROPOSED EQUIP DOES NOT CAUSE TOWER CONFLICTS NOR IMPEDE TOWER CLIMBING PEGS. 3. 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. 4. CONTRACTOR TO ENSURE PROPER SEPARATION IN ACCORDANCE WITH AT&T'S FIRSTNET REQUIREMENTS (SEE SHEET R-602)	127'	270°	MP1G	80010965	LTE 700/WCS	REL	-	-	RRUS 4449 B5, B12 RRUS 32 B30 RRUS 32 B66A RRUS 4478 B14 RRUS 32 B2	ADD	REL
			MP2G	HPA-65R-LCUU-H6	LTE 1900	RMV	LGP21401 RRUS-11	RMV RMV				MP2G	-	-	-	-				
			MP3G	-	-	-	RRUS 32 B30 RRUS 32 B66A	REL REL				MP3G	AIR 6419 B77G AIR 6449 B77D	5G CBAND	ADD ADD	-	-			
			MP4G	80010965	LTE 700/AWS	REL	-	-				MP4G	-	-	-	-	-			
			MP5G	HPA-65R-LCUU-H6	LTE 700/WCS	RMV	RRUS 4478 B14 RRUS 32 B2	REL REL				MP5G	-	-	-	-	-			

EXISTING FIBER DISTRIBUTION/SQUID		EXISTING CABLING SUMMARY			
MODEL NUMBER	STATUS	COAX	DC	FIBER	STATUS
(2) DC6-48-60-18-8F ("Squid")	RMN	-	(2) 0.78" (19.7MM) 8 AWG 6	(1) 0.39" (10MM)	RMN
(1) DC6-48-60-18-8F ("Squid")	RMV	(12) 1-5/8"	(4) 0.78" (19.7MM) 8 AWG 6	(2) 0.39" (10MM)	RMV

**STATUS ABBREVIATIONS**  
 RMV: TO BE REMOVED  
 RMN: TO REMAIN  
 REL: TO BE RELOCATED  
 ADD: TO BE ADDED

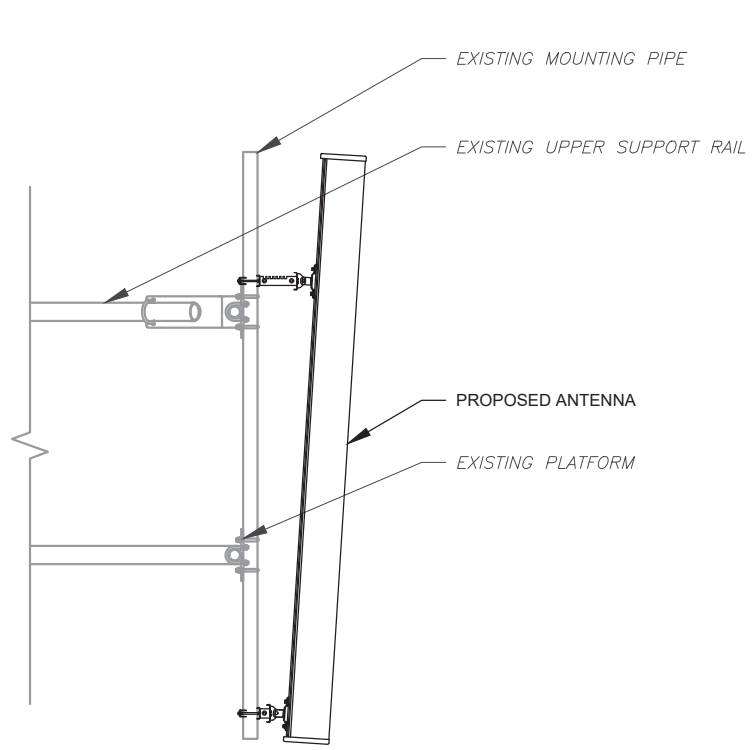
**CABLE LENGTHS FOR JUMPERS**  
 JUNCTION BOX TO RRU: 15'  
 RRU TO ANTENNA: 10'

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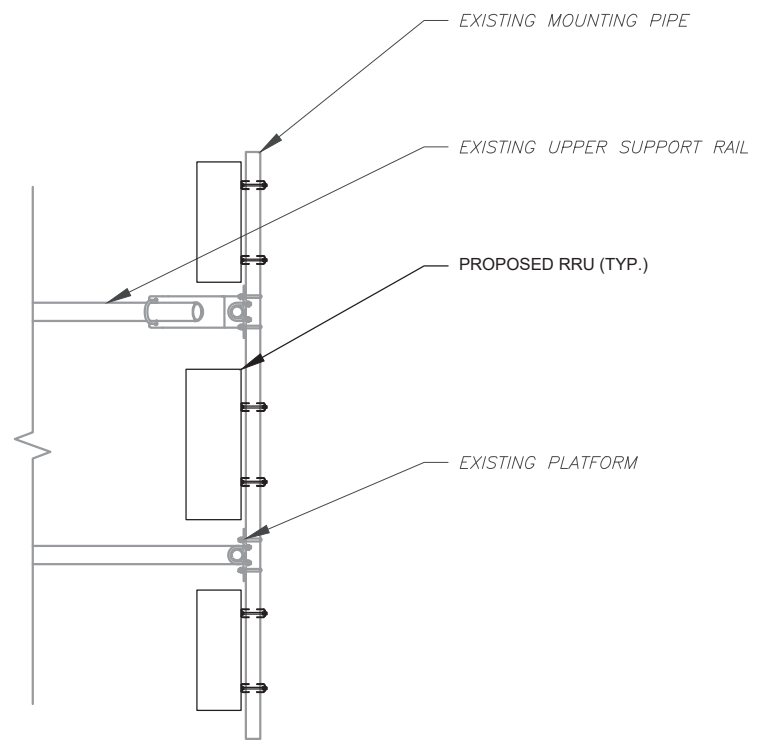
FINAL FIBER DISTRIBUTION/SQUID		FINAL CABLING SUMMARY			
MODEL NUMBER	STATUS	COAX	DC	FIBER	STATUS
(2) DC6-48-60-18-8F ("Squid")	RMN	-	(2) 0.78" (19.7MM) 8 AWG 6	(1) 0.39" (10MM)	RMN
(1) DC9-48-60-24-8C-EV	ADD	(6) 7/8"	(4) 0.82" (20.8MM) 8 AWG 6 (1) 0.92" (23.4MM)	(2) 0.40" (10.3MM)	ADD

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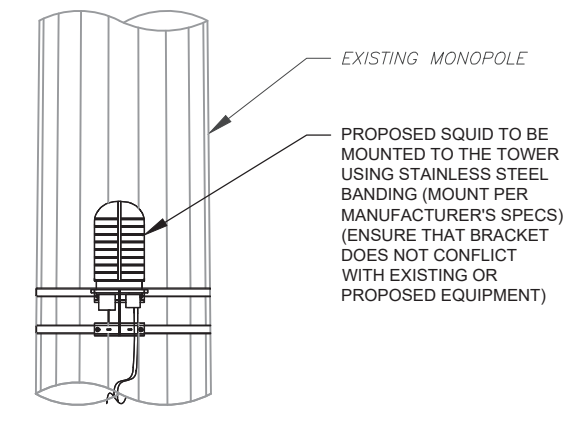




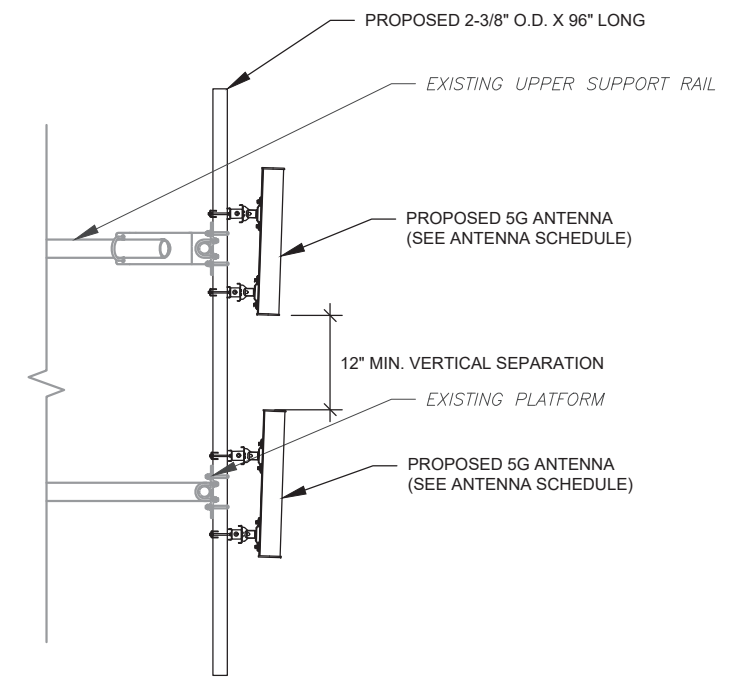
1 ANTENNA DETAIL  
SCALE: N.T.S.



2 PROPOSED RRU MOUNTING DETAIL - TYPICAL  
SCALE: N.T.S.



3 PROPOSED SQUID MOUNTING  
SCALE: N.T.S.



4 PROPOSED 5G ANTENNA MOUNTING DETAIL - TYPICAL  
SCALE: N.T.S.



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SEAL:



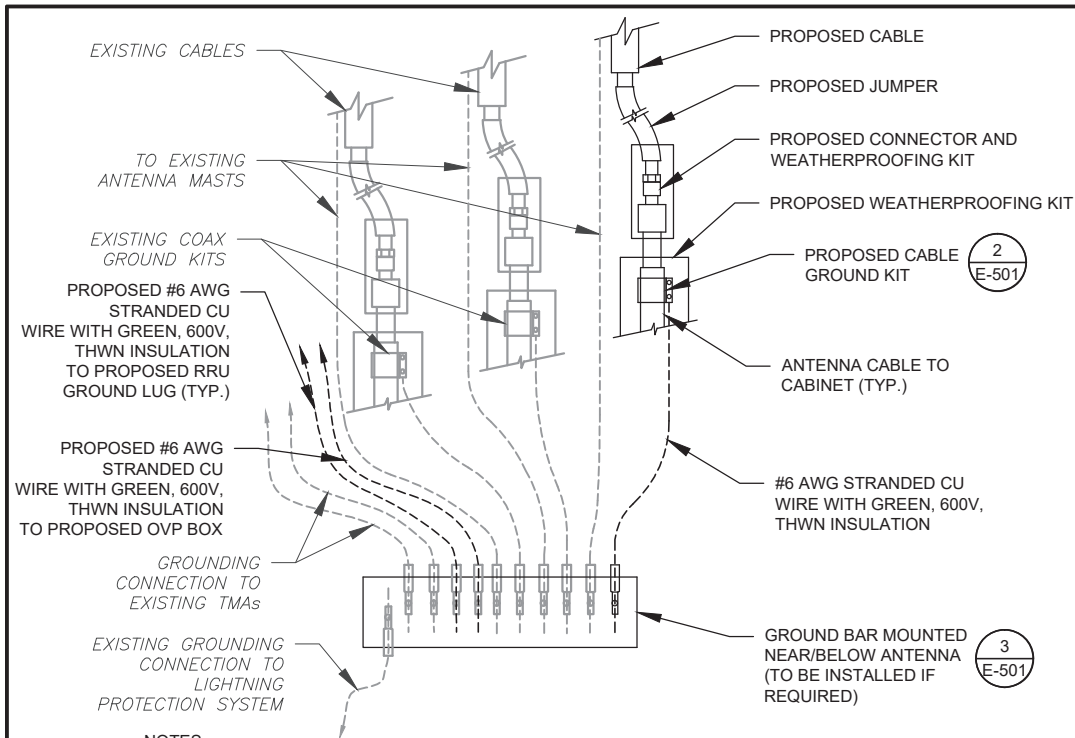
DATE DRAWN:	03/24/22
ATC JOB NO:	13753549_G5
CUSTOMER ID:	CTL02221
CUSTOMER #:	10035227

**CONSTRUCTION  
DETAILS**

SHEET NUMBER:	REVISION:
<b>C-501</b>	<b>0</b>

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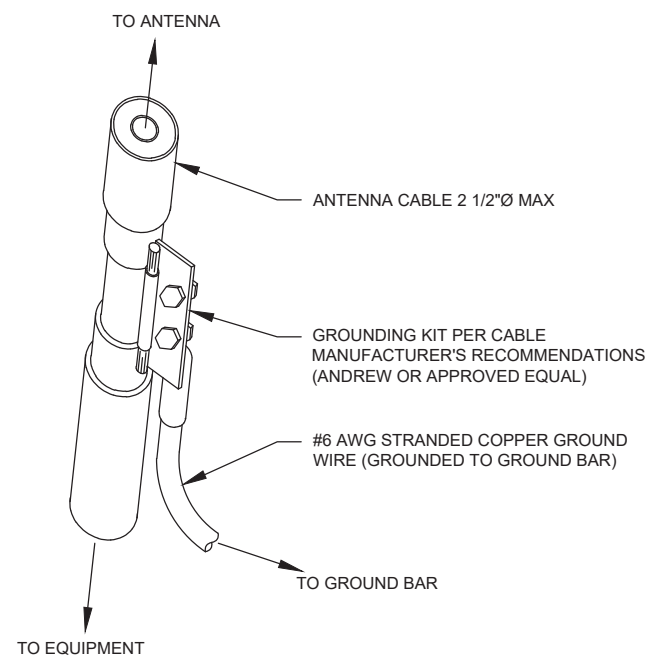




**NOTES:**

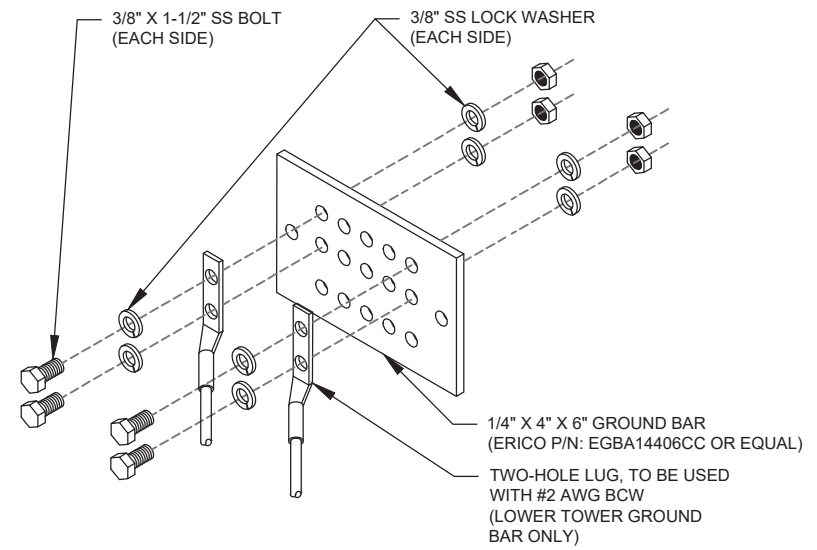
1. THIS DETAIL IS INTENDED TO SHOW THE GENERAL GROUNDING REQUIREMENTS. SLIGHT ADJUSTMENTS MAY BE REQUIRED BASED ON EXISTING SITE CONDITIONS. THE CONTRACTOR SHALL MAKE FIELD ADJUSTMENTS AS NEEDED AND INFORM THE CONSTRUCTION MANAGER OF ANY CONFLICTS.
2. SITE GROUNDING SHALL COMPLY WITH AT&T GROUNDING STANDARDS,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

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



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

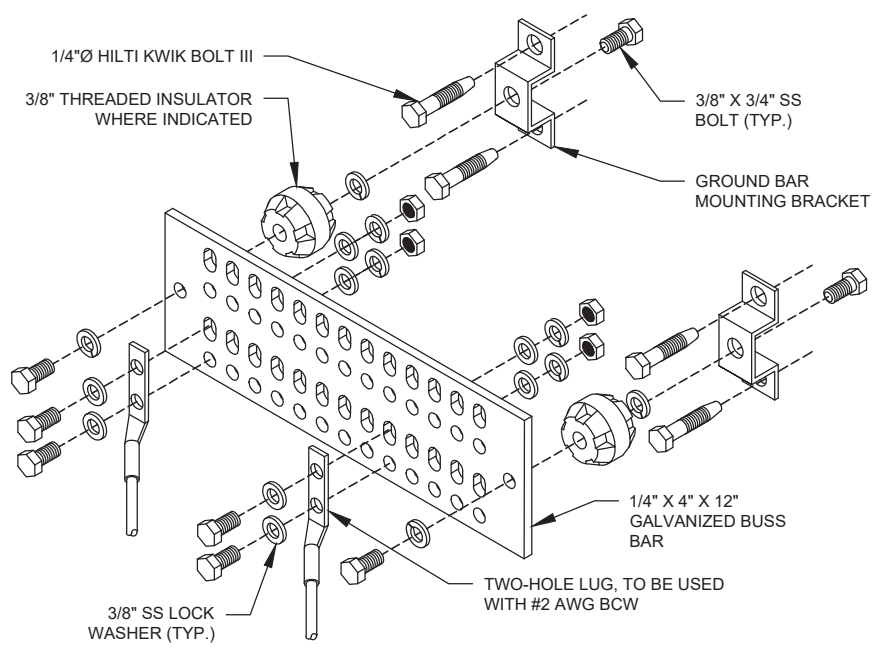
**2** CABLE GROUND KIT CONNECTION DETAIL  
SCALE: N.T.S.



**GROUND BAR NOTES:**

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

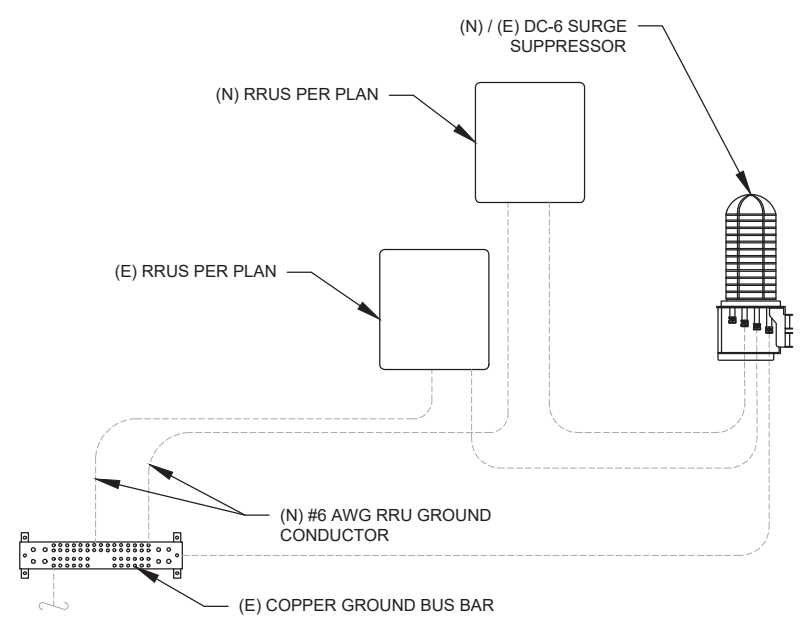
**3** TOWER GROUND BAR DETAIL  
SCALE: N.T.S.



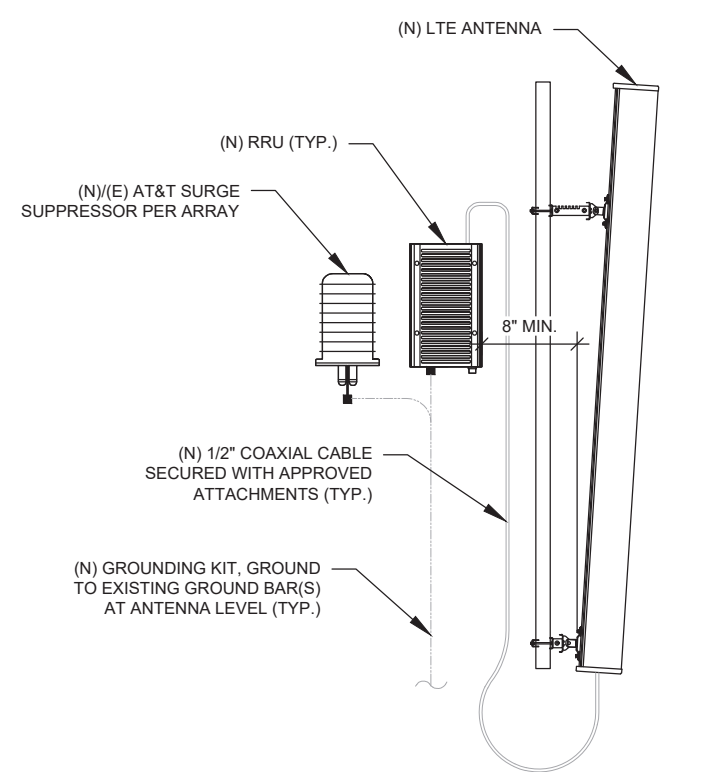
**GROUND BAR NOTES**

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

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



**5** RRU GROUNDING  
SCALE: N.T.S.



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



**Colliers Engineering & Design**

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MADISON  
135 New Road  
Madison, CT 06443  
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REV.	DESCRIPTION	BY	DATE
A	PRELIM	JLK	03/24/22
B	PRELIM	JLK	04/05/22
C	PRELIM	JLK	04/12/22
D	FOR CONSTRUCTION	MLH	04/14/22

ATC SITE NUMBER:  
**302538**

ATC SITE NAME:  
**PARSONAGE HILL AKA WALLIN**

AT&T SITE NAME:  
**WALLINGFORD-NORTHROP RD**

SITE ADDRESS:  
922 NORTHROP ROAD  
WALLINGFORD, CT 06492

SEAL:

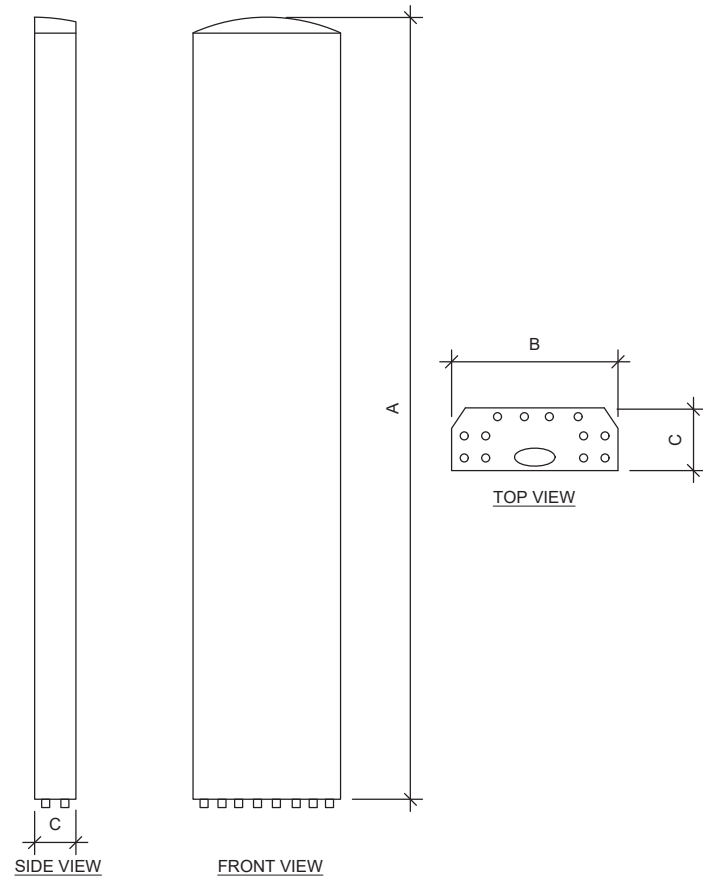


DATE DRAWN:	03/24/22
ATC JOB NO:	13753549_G5
CUSTOMER ID:	CTL02221
CUSTOMER #:	10035227

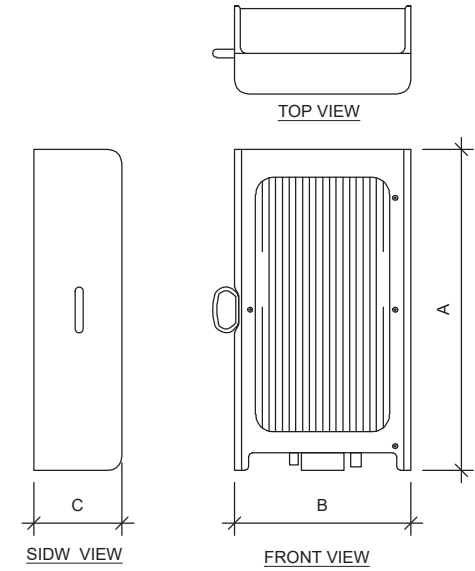
**GROUNDING DETAILS**

SHEET NUMBER:	REVISION:
<b>E-501</b>	<b>0</b>

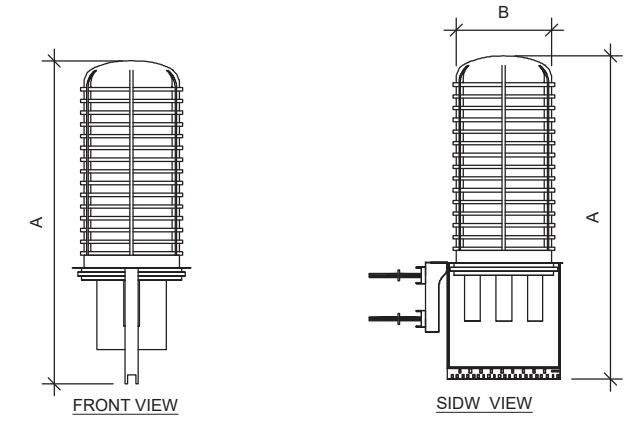
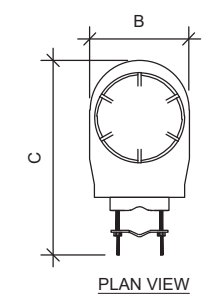
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ANTENNA SPECIFICATIONS				
ANTENNA MODEL	A	B	C	WEIGHT (LBS)
AIR 6419 B77G	28.3"	16.1"	7.9"	66.1
AIR 6449 B77D	30.4"	15.9"	8.1"	81.6
DMP65R-BU6E	71.2"	20.7"	9.7"	103.8



RRU SPECIFICATIONS				
RRU MODEL	A	B	C	WEIGHT (LBS)
4449 B5, B12	17.9"	13.2"	9.4"	71.0



RAYCAP SPECIFICATIONS				
RAYCAP MODEL	A	B	C	WEIGHT (LBS)
DC9-48-60-24-8C-EV	31.4"	18.3"	10.2"	16.0

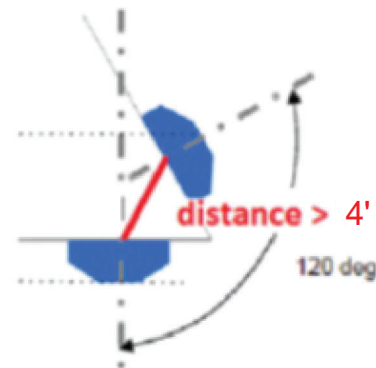
**1** EQUIPMENT SPECIFICATIONS  
SCALE: N.T.S.

SUPPLEMENTAL

SHEET NUMBER: **R-601**  
REVISION: -

# RF REQUIREMENTS FOR 700 B14 FIRSTNET, 700 B12, 700D B29 ANTENNA SEPARATION

- ❑ Horizontal separation (side to side of antenna):  $\geq 3'$
- ❑ Vertical separation (between the tips of the antennas):  $> 3'$
- ❑ Inter-sector separation:  $> 4'$  between the center of the antenna backplanes.



- ❑ Please note additional horizontal separation may be required if B14 antennas azimuth are different from others or antennas are severely angled with respect to the mount.
- ❑ Typical 3' horizontal separation can tolerate skew angle up to  $6^\circ$ .



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

SUPPLEMENTAL

SHEET NUMBER:  
R-602

REVISION:  
-



This report was prepared for American Tower Corporation by



Eng. Number 13753549\_C8\_01  
February 18, 2022  
Page 2

### Antenna Mount Analysis Report

ATC Site Name : Parsonage Hill Aka Wallin  
 ATC Site Number : 302538  
 Engineering Number : 13753549\_C8\_01  
 Mount Elevation : 128.0 ft  
 Carrier : AT&T MOBILITY  
 Carrier Site Name : MRCTB055922  
 Carrier Site Number : CTL02221  
 Site Location : 922 Northrop Road  
 Wallingford, CT 06492  
 41.48937115, -72.76828251  
 County : New Haven  
 Date : February 18, 2022  
 Max Usage : 79%  
 Result : Contingent Pass

Prepared By: Logan Traphagen  
 Jason Cheronis  
 Vice President of Structural Engineering

Digitally signed by Jason Cheronis  
 Date: 2022.02.18 16:39:13 -05'00'

POD GROUP - 1033 E. Turkeyfoot Lake Road, Suite 206 - Akron, OH 44312 - 330-961-7432 - www.podgrp.com

#### Antenna Loading

Mount Centerline (ft)	Antenna Centerline (ft)	Qty	Antenna Model	
128.0	129.0	3	Ericsson AIR 6419 B77G**	
		3	CCI DMP65R-BU6E	
		3	Kathrein Scala 80010965	
	127.0	127.0	1	Raycap DC6-48-60-18-8F ("Squid")*
			1	Raycap DC9-48-60-24-8C-EV*
			1	Raycap DC6-48-60-18-8F ("Squid")*
			3	Ericsson RRUS 4449 B5, B12
			3	Ericsson RRUS 32 B66A
			3	Ericsson RRUS 32 B30
			3	Ericsson RRUS 32 B2
			3	Ericsson RRUS 4478 B14 (15")
			3	Ericsson AIR 6449 B77D**
			3	Ericsson AIR 6449 B77D**
	125.0	3	Ericsson AIR 6449 B77D**	

\*Equipment assumed to be mounted directly to tower.  
 \*\*Proposed Equipment is to be installed on the same mount pipe with more than 12" of vertical

#### Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Face	28%	Pass
Plate	19%	Pass
Corner	12%	Pass
Standoff	35%	Pass
Threaded Rods	40%	Pass
Mount Pipes	41%	Pass
Support Rails	79%	Pass
Kicker	53%	Pass
Flange Plate	28%	Pass
Flange Plate Bolts	3%	Pass
Bolts	18%	Pass

#### Conclusion

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

- Install 8'-0" P2 STD mount pipes (5 per sector, total of 15) connected at 4", 4'-10" and 9'-4" from right outside edge when looking at the mount from the front and mounted with a 127'-6" centerline. First and third mount pipes are double offset mount pipes connected with SitePro1 connections (P/N: DCP18K) (Non-CONMAT) (2 per sector, total of 6) spaced with a 4.5' separation evenly spaced. Connections for mount pipe angle connections are to use 1/2" diameter U-Bolts and Commscope connections (P/N: XP-2020) (CONMAT #: ANT.16506) (2 per sector, total of 6).

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SUPPLEMENTAL

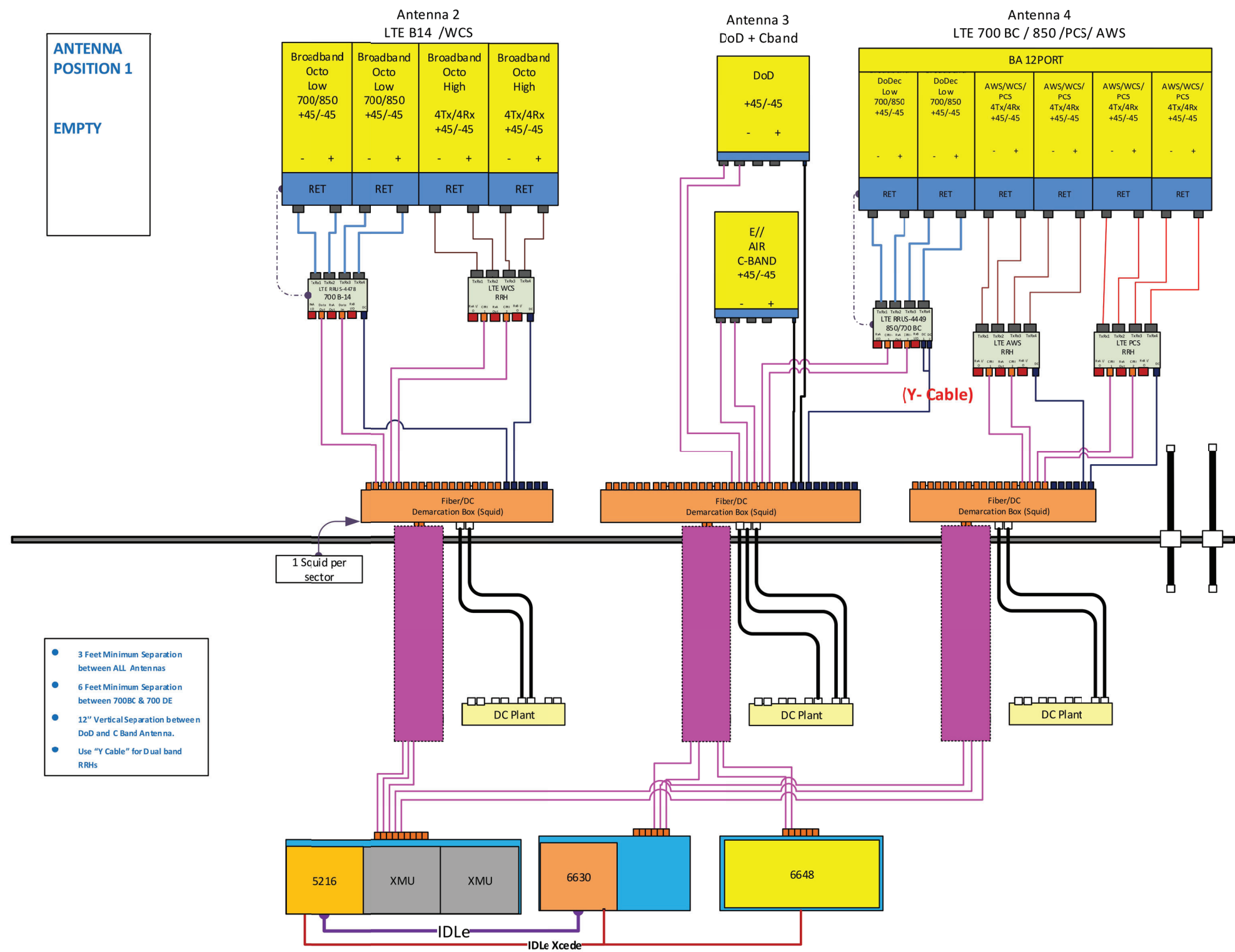
SHEET NUMBER: R-603  
 REVISION: -

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



Diagram - Sector A  
 Diagram File Name - Cband\_3Ant\_2Coax\_BA8PORTB14WCS\_DoD\_CB\_DMP12\_AWS\_PCS\_2DCFIB\_1DC9\_1X5216\_2XMU\_1x6630IDLe\_6648.vsd  
 Atoll Site Name - CTL02221  
 Location Name - WALLINGFORD-NORTHROP RD  
 Market - CONNECTICUT  
 Market Cluster - NEW ENGLAND  
 Comments: Important Note: For detailed radio to antenna wiring refer to the latest 4T4R Antenna/ radio Port connections Field Notice (RF-HW-2016-265)

ANTENNA POSITION 1  
 EMPTY



- 3 Feet Minimum Separation between ALL Antennas
- 6 Feet Minimum Separation between 700BC & 700 DE
- 12" Vertical Separation between DoD and C Band Antenna.
- Use "Y Cable" for Dual band RRHs

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 CM TO ENSURE THIS IS THE MOST RECENT VERSION OF THE RFDS.

SUPPLEMENTAL	
SHEET NUMBER: <b>R-604</b>	REVISION: -





# Radio Frequency Exposure Analysis Report

June 20, 2022

American Tower on behalf of AT&T  
Centerline Communications Project Number: 950035-004

AT&T Site Name: Parsonage Hill Aka Wallin  
Site Number: CTL02221  
FA#: 10035227  
USID: 61205

Site Address: 100 NORTHROP ROAD, WALLINGFORD, CT 06492

## Site Compliance Summary

---

AT&T Compliance Status:	Compliant
Cumulative Calculated Power Density (Ground Level):	19.62799 $\mu\text{W}/\text{cm}^2$
Cumulative General Population % MPE (Ground Level):	1.9628699999999999%



June 20, 2022

Centerline  
Attn: Jennifer Iliades, Project Manager  
750 W Center St, Suite 301  
West Bridgewater, MA 02379

RF Exposure Analysis for Site: **Parsonage Hill Aka Wallin**

Centerline Communications, LLC (“Centerline”) was contracted to analyze the proposed AT&T facility at **100 NORTHROP ROAD, WALLINGFORD, CT 06492** for the purpose of determining whether the predictive exposure from the proposed facility is within specified federal limits.

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

All results were compared to the FCC radio frequency exposure rules as detailed in 47 CFR § 1.1307(b) to determine compliance with the MPE limits for General Population/Uncontrolled environments as defined below.

General population/uncontrolled exposure limits apply to situations in which the general population may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Therefore, members of the general population would always be considered under this category when exposure is not employment related, for example, in the case of a telecommunications tower that exposes persons in a nearby residential area.

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



## **Calculation Methodology**

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

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



## **Data & Results**

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

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

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



**Maximum Calculated Cumulative Power Density (Location: approximately 400' southeast of site)**

Antenna ID	Make / Model	Frequency Band (MHz)	Antenna Gain (dBd)	Antenna Centerline (ft)	Channel Count	TX Power/Channel (watts)	ERP (watts)	Calculated Power Density ( $\mu\text{W}/\text{cm}^2$ )	General Population MPE Limit ( $\mu\text{W}/\text{cm}^2$ )	General Population % MPE
AT&T A 1	KATHREIN 80010965	700	12.05	127.00	4.00	30.00	1923.89	0.00000	466.67	0.000000
AT&T A 1	KATHREIN 80010965	2300	15.75	127.00	4.00	18.00	2706.03	0.00000	1000.00	0.000000
AT&T A 2	Ericsson SON_AIR6419	3450	23.45	128.75	1.00	108.40	23989.95	0.00000	1000.00	0.000000
AT&T A 3	Ericsson SON_AIR6449	3700	23.45	125.25	1.00	108.40	23989.95	0.00000	1000.00	0.000000
AT&T A 4	CCI DMP65R-BU6E	700	11.75	127.00	4.00	30.00	1795.48	0.00000	466.67	0.000000
AT&T A 4	CCI DMP65R-BU6E	850	11.95	127.00	4.00	30.00	1880.10	0.00000	566.67	0.000000
AT&T A 4	CCI DMP65R-BU6E	1900	15.55	127.00	4.00	30.00	4307.06	0.00000	1000.00	0.000000
AT&T A 4	CCI DMP65R-BU6E	2100	15.95	127.00	4.00	30.00	4722.60	0.00000	1000.00	0.000000
AT&T B 5	KATHREIN 80010965	700	12.05	127.00	4.00	30.00	1923.89	0.00004	466.67	0.000009
AT&T B 5	KATHREIN 80010965	2300	15.75	127.00	4.00	18.00	2706.03	0.00001	1000.00	0.000001
AT&T B 6	Ericsson SON_AIR6419	3450	23.45	128.75	1.00	108.40	23989.95	0.00059	1000.00	0.000059
AT&T B 7	Ericsson SON_AIR6449	3700	23.45	125.25	1.00	108.40	23989.95	0.00059	1000.00	0.000059
AT&T B 8	CCI DMP65R-BU6E	700	11.75	127.00	4.00	30.00	1795.48	0.00005	466.67	0.000010
AT&T B 8	CCI DMP65R-BU6E	850	11.95	127.00	4.00	30.00	1880.10	0.00005	566.67	0.000009
AT&T B 8	CCI DMP65R-BU6E	1900	15.55	127.00	4.00	30.00	4307.06	0.00003	1000.00	0.000003
AT&T B 8	CCI DMP65R-BU6E	2100	15.95	127.00	4.00	30.00	4722.60	0.00003	1000.00	0.000003
AT&T C 9	KATHREIN 80010965	700	12.05	127.00	4.00	30.00	1923.89	0.00006	466.67	0.000012
AT&T C 9	KATHREIN 80010965	2300	15.75	127.00	4.00	18.00	2706.03	0.00004	1000.00	0.000004
AT&T C 10	Ericsson SON_AIR6419	3700	23.45	128.75	1.00	108.40	23989.95	0.00082	1000.00	0.000082
AT&T C 11	Ericsson SON_AIR6449	3450	23.45	125.25	1.00	108.40	23989.95	0.00092	1000.00	0.000092
AT&T C 12	CCI DMP65R-BU6E	700	11.75	127.00	4.00	30.00	1795.48	0.00006	466.67	0.000013
AT&T C 12	CCI DMP65R-BU6E	850	11.95	127.00	4.00	30.00	1880.10	0.00004	566.67	0.000008
AT&T C 12	CCI DMP65R-BU6E	1900	15.55	127.00	4.00	30.00	4307.06	0.00006	1000.00	0.000006
AT&T C 12	CCI DMP65R-BU6E	2100	15.95	127.00	4.00	30.00	4722.60	0.00005	1000.00	0.000005
Sprint A 13	GENERIC PANEL 6FT	850	12.62	152.00	2.00	40.00	1462.48	0.00000	566.67	0.000000
Sprint A 13	GENERIC PANEL 6FT	1900	15.84	152.00	2.00	60.00	4604.49	0.00000	1000.00	0.000000
Sprint A 14	GENERIC PANEL 6FT	2500	14.49	152.00	1.00	35.00	984.17	0.00000	1000.00	0.000000
Sprint B 15	GENERIC PANEL 6FT	850	12.62	152.00	2.00	40.00	1462.48	0.00001	566.67	0.000002
Sprint B 15	GENERIC PANEL 6FT	1900	15.84	152.00	2.00	60.00	4604.49	0.00001	1000.00	0.000001
Sprint B 16	GENERIC PANEL 6FT	2500	14.49	152.00	1.00	35.00	984.17	0.00001	1000.00	0.000001
Sprint C 17	GENERIC PANEL 6FT	850	12.62	152.00	2.00	40.00	1462.48	0.00002	566.67	0.000003
Sprint C 17	GENERIC PANEL 6FT	1900	15.84	152.00	2.00	60.00	4604.49	0.00002	1000.00	0.000002
Sprint C 18	GENERIC PANEL 6FT	2500	14.49	152.00	1.00	35.00	984.17	0.00000	1000.00	0.000000
T-Mobile A 19	GENERIC PANEL 6FT	600	0.00	141.00	4.00	30.00	120.00	0.00000	400.00	0.000000
T-Mobile A 20	GENERIC PANEL 6FT	700	12.33	141.00	4.00	40.00	2736.02	0.00000	466.67	0.000000





Antenna ID	Make / Model	Frequency Band (MHz)	Antenna Gain (dBd)	Antenna Centerline (ft)	Channel Count	TX Power/Channel (watts)	ERP (watts)	Calculated Power Density ( $\mu\text{W}/\text{cm}^2$ )	General Population MPE Limit ( $\mu\text{W}/\text{cm}^2$ )	General Population % MPE
T-Mobile A 21	GENERIC PANEL 6FT	1900	15.84	141.00	4.00	40.00	6139.32	0.00000	1000.00	0.000000
T-Mobile A 22	GENERIC PANEL 6FT	2100	16.39	141.00	4.00	40.00	6968.19	0.00000	1000.00	0.000000
T-Mobile A 23	GENERIC C-BAND PANEL	2500	17.30	141.00	1.00	60.00	3222.19	0.00000	1000.00	0.000000
T-Mobile A 23	GENERIC C-BAND PANEL	2500	22.35	141.00	1.00	90.00	15461.18	0.00001	1000.00	0.000001
T-Mobile A 23	GENERIC C-BAND PANEL	2500	22.35	141.00	1.00	90.00	15461.18	0.00001	1000.00	0.000001
T-Mobile B 24	GENERIC PANEL 6FT	600	0.00	141.00	4.00	30.00	120.00	0.00003	400.00	0.000007
T-Mobile B 25	GENERIC PANEL 6FT	700	12.33	141.00	4.00	40.00	2736.02	0.00004	466.67	0.000008
T-Mobile B 26	GENERIC PANEL 6FT	1900	15.84	141.00	4.00	40.00	6139.32	0.00002	1000.00	0.000002
T-Mobile B 27	GENERIC PANEL 6FT	2100	16.39	141.00	4.00	40.00	6968.19	0.00002	1000.00	0.000002
T-Mobile B 28	GENERIC C-BAND PANEL	2500	17.30	141.00	1.00	60.00	3222.19	0.00007	1000.00	0.000007
T-Mobile B 28	GENERIC C-BAND PANEL	2500	22.35	141.00	1.00	90.00	15461.18	0.00299	1000.00	0.000299
T-Mobile B 28	GENERIC C-BAND PANEL	2500	22.35	141.00	1.00	90.00	15461.18	0.00299	1000.00	0.000299
T-Mobile C 29	GENERIC PANEL 6FT	600	0.00	141.00	4.00	30.00	120.00	0.00004	400.00	0.000009
T-Mobile C 30	GENERIC PANEL 6FT	700	12.33	141.00	4.00	40.00	2736.02	0.00005	466.67	0.000011
T-Mobile C 31	GENERIC PANEL 6FT	1900	15.84	141.00	4.00	40.00	6139.32	0.00003	1000.00	0.000003
T-Mobile C 32	GENERIC PANEL 6FT	2100	16.39	141.00	4.00	40.00	6968.19	0.00004	1000.00	0.000004
T-Mobile C 33	GENERIC C-BAND PANEL	2500	17.30	141.00	1.00	60.00	3222.19	0.00014	1000.00	0.000014
T-Mobile C 33	GENERIC C-BAND PANEL	2500	22.35	141.00	1.00	90.00	15461.18	0.00404	1000.00	0.000404
T-Mobile C 33	GENERIC C-BAND PANEL	2500	22.35	141.00	1.00	90.00	15461.18	0.00404	1000.00	0.000404
Unknown A 34	GENERIC PANEL 6FT	700	12.33	133.00	4.00	40.00	2736.02	0.00000	466.67	0.000000
Unknown A 34	GENERIC PANEL 6FT	850	12.62	133.00	4.00	40.00	2924.96	0.00000	566.67	0.000000
Unknown A 34	GENERIC PANEL 6FT	1900	15.84	133.00	4.00	40.00	6139.32	0.00000	1000.00	0.000000
Unknown B 35	GENERIC PANEL 6FT	700	12.33	133.00	4.00	40.00	2736.02	0.00004	466.67	0.000009
Unknown B 35	GENERIC PANEL 6FT	850	12.62	133.00	4.00	40.00	2924.96	0.00004	566.67	0.000006
Unknown B 35	GENERIC PANEL 6FT	1900	15.84	133.00	4.00	40.00	6139.32	0.00002	1000.00	0.000002
Unknown C 36	GENERIC PANEL 6FT	700	12.33	133.00	4.00	40.00	2736.02	0.00006	466.67	0.000012
Unknown C 36	GENERIC PANEL 6FT	850	12.62	133.00	4.00	40.00	2924.96	0.00004	566.67	0.000008
Unknown C 36	GENERIC PANEL 6FT	1900	15.84	133.00	4.00	40.00	6139.32	0.00004	1000.00	0.000004
Unknown D 37	GENERIC MICROWAVE 2FT	18000	36.95	133.00	1.00	0.10	495.45	0.00000	1000.00	0.000000
Unknown E 38	GENERIC MICROWAVE 2FT	18000	36.95	133.00	1.00	0.10	495.45	0.00000	1000.00	0.000000
Unknown F 39	GENERIC MICROWAVE 2FT	18000	36.95	133.00	1.00	0.10	495.45	0.00000	1000.00	0.000000
							<b>Cumulative Power Density:</b>	<b>19.62799 <math>\mu\text{W}/\text{cm}^2</math></b>	<b>Cumulative % MPE:</b>	<b>1.96287%</b>



## Summary

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

Matt Schulzinger  
RF EME Technical Writer  
Centerline Communications, LLC

*Matt Schulzinger*



**AMERICAN TOWER®**  
CORPORATION

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## Structural Analysis Report

**Structure** : 150 ft Monopole  
**ATC Site Name** : Parsonage Hill Aka Wallin, CT  
**ATC Site Number** : 302538  
**Engineering Number** : 13753549\_C3\_03  
**Proposed Carrier** : AT&T MOBILITY  
**Carrier Site Name** : MRCTB055922  
**Carrier Site Number** : CTL02221  
**Site Location** : 922 Northrop Road  
Wallingford, CT 06492-1910  
41.4894, -72.7683  
**County** : New Haven  
**Date** : February 15, 2022  
**Max Usage** : 96%  
**Result** : Pass

Prepared By:

Ryan Ciamillo  
Structural Engineer

Reviewed By:



**COA : PEC.0001553**



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## Introduction

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

## Supporting Documents

<b>Tower Drawings</b>	Valmont Drawing #DC1776A, dated June 29, 1994
<b>Foundation Drawing</b>	SAC Engineering, Valmont Order #11715-94, dated July 21, 1994
<b>Geotechnical Report</b>	AET Project #91294, dated July 8, 1994

## 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.

<b>Basic Wind Speed:</b>	119 mph (3-second gust)
<b>Basic Wind Speed w/ Ice:</b>	50 mph (3-second gust) w/ 1.00" radial ice concurrent
<b>Code:</b>	ANSI/TIA-222-H / 2015 IBC / 2018 Connecticut State Building Code
<b>Exposure Category:</b>	C
<b>Risk Category:</b>	II
<b>Topographic Factor Procedure:</b>	Method 1
<b>Topographic Category:</b>	1
<b>Crest Height (H):</b>	0 ft
<b>Crest Length (L):</b>	0 ft
<b>Spectral Response:</b>	$S_s = 0.21, S_i = 0.06$
<b>Site Class:</b>	D - Stiff Soil - Default

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

## Conclusion

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

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



**Existing and Reserved Equipment**

Elev. <sup>1</sup> (ft)	Qty	Equipment	Mount Type	Lines	Carrier
152.3	3	Alcatel-Lucent RRH2x50-08	Triangular Platform with Handrails	(4) 1 1/4" Hybriflex Cable (2) 1/2" Coax (2) 2" conduit	CLEARWIRE CORPORATION
	3	Alcatel-Lucent TD-RRH8x20-25 w/ Solar Shield			
	3	Alcatel-Lucent 1900 MHz 4X45 RRH			
152.0	3	RFS APXVTM14-ALU-I20			
151.5	3	Commscope NNVV-65B-R4			
150.0	2	DragonWave Horizon Compact			
141.0	3	RFS APXVAARR24_43-U-NA20	T-Arms w/ Reinforcement	(5) 1 1/4" Hybriflex Cable (6) 1 5/8" Coax	T-MOBILE
	3	Ericsson AIR 21, 1.3M, B2A B4P (91.5 lbs)			
	3	Ericsson Air6449 B41			
	3	Ericsson RRUS 4415 B25			
	3	Ericsson Radio 4449 B71 B85A			
	3	Ericsson KRY 112 144/1			
134.5	3	Argus LLPX310R	Triangular Platform with Handrails	(2) 1/2" Coax	CLEARWIRE CORPORATION
134.3	2	DragonWave A-ANT-11G-2-C			
134.0	2	DragonWave Horizon Compact			
132.5	3	NextNet BTS-2500			
132.1	3	Ericsson RRUS 32 B30	Triangular Platform with Handrails SitePro PRK-SFS and SitePro HRK-14-HD	-	AT&T MOBILITY
129.2	3	Ericsson RRUS 4478 B14 (15")			
127.0	3	Ericsson RRUS 32 B2			
	3	Kathrein Scala 80010965			
	3	Ericsson RRUS 32 B66A			
111.0	-	-	Empty Triangular Platform with Handrails	-	OTHER

**Equipment to be Removed**

Elev. <sup>1</sup> (ft)	Qty	Equipment	Mount Type	Lines	Carrier
124.0	3	Ericsson RRUS-11 (50 lbs.)	-	(3) 0.39" (10mm) Fiber Trunk (6) 0.78" (19.7mm) 8 AWG 6 (12) 1 5/8" Coax (2) 3" conduit	AT&T MOBILITY
	6	CCI OPA-65R-LCUU-H6			
	1	Raycap DC6-48-60-18-8C			
	2	Raycap DC6-48-60-18-8F ("Squid")			
	3	Powerwave Allgon 7770.00			
	6	Powerwave Allgon LGP21401			

**Proposed Equipment**

Elev. <sup>1</sup> (ft)	Qty	Equipment	Mount Type	Lines	Carrier
129.0	3	Ericsson AIR 6419 B77G	Triangular Platform with Handrails SitePro PRK-SFS and SitePro HRK-14-HD	(1) 0.39" (10mm) Fiber Trunk	AT&T MOBILITY
127.0	2	Raycap DC6-48-60-18-8F ("Squid")		(2) 0.40" (10.3mm) Fiber	
	3	Ericsson RRUS 4449 B5, B12		(2) 0.78" (19.7mm) 8 AWG 6	
	1	Raycap DC9-48-60-24-8C-EV		(4) 0.82" (20.8mm) 8 AWG 6	
	3	CCI DMP65R-BU6E		(1) 0.92" (23.4mm) Cable	
125.0	3	Ericsson Air 6449 B77D		(4) 2" conduit (6) 7/8" Coax	

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

Install proposed lines inside the pole shaft.

### Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Anchor Bolts	70%	Pass
Shaft	84%	Pass
Base Plate	25%	Pass

### Foundations

Reaction Component	Analysis Reactions	% of Usage
Moment (Kips-Ft)	3853.9	14%
Axial (Kips)	54.6	50%
Shear (Kips)	35.0	96%

The structure base reactions resulting from this analysis were found to be acceptable through analysis based on geotechnical and foundation information, therefore no modification or reinforcement of the foundation will be required.

### Deflection and Sway\*

Antenna Elevation (ft)	Antenna	Carrier	Deflection (ft)	Sway (Rotation) (°)
134.3	DragonWave A-ANT-11G-2-C	CLEARWIRE CORPORATION	1.918	1.520
129.0	Ericsson AIR 6419 B77G	AT&T MOBILITY	1.778	1.500
127.0	Raycap DC6-48-60-18-8F ("Squid")		1.727	1.490
	Ericsson RRUS 4449 B5, B12			
	Raycap DC9-48-60-24-8C-EV			
	CCI DMP65R-BU6E			
125.0	Ericsson Air 6449 B77D		1.675	1.470

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

## **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.

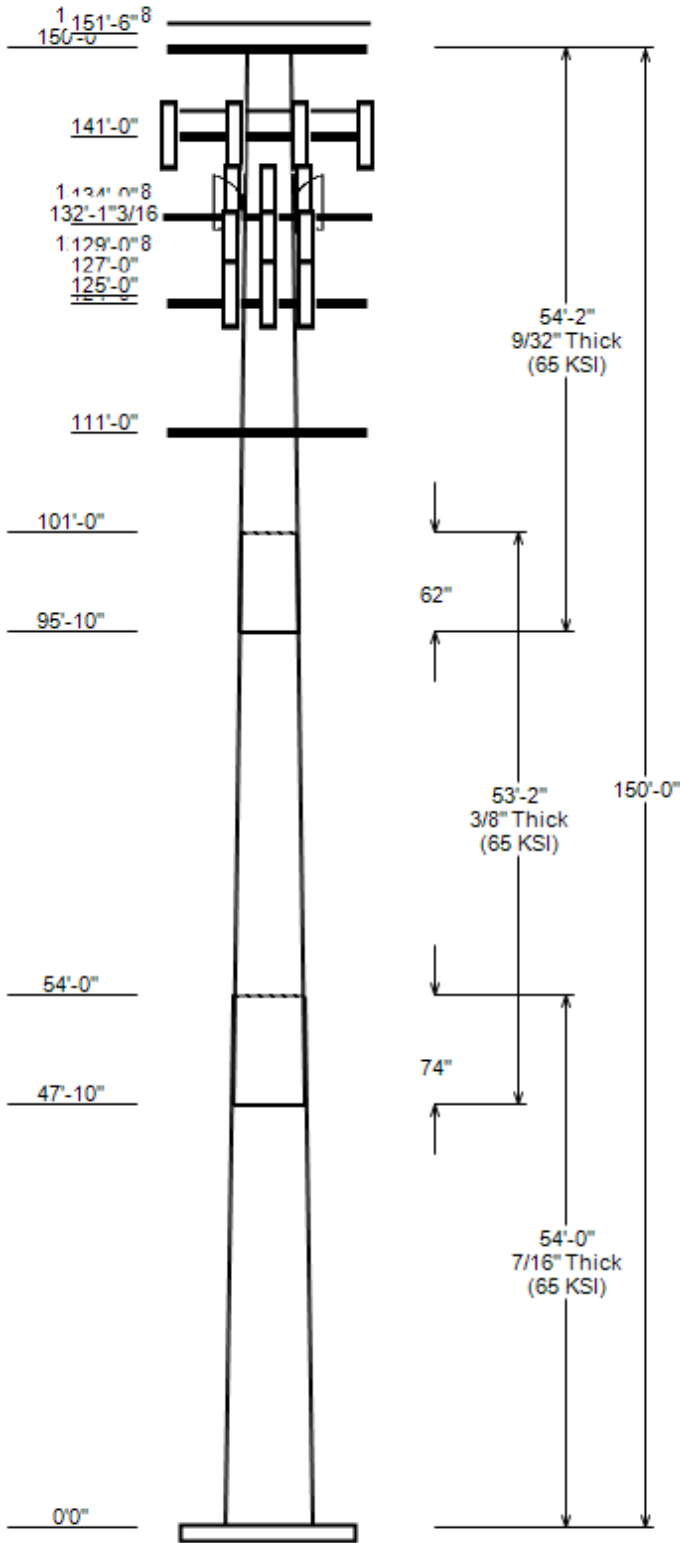
Unless explicitly agreed by both the client and A.T. Engineering Service, PLLC, all services will be performed in accordance with the current revision of ANSI/TIA-222.

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

Asset : 302538, Parsonage Hill Aka Wallin  
 Client : AT&T MOBILITY  
 Code : ANSI/TIA-222-H

Height : 150 ft  
 Base Width : 49.6  
 Shape : 12 Sides



SITE PARAMETERS

Nominal Wind: 115.99 mph wind with no ic **Topo Category:** 1  
 Ice Wind: 48.73 mph wind with 0.850" **Topo Method:** Method 1  
 Base Elev (ft): 0.00 **Taper :** 0.18200(ln/ft) **Topo Feature:**  
**Structure Class:** II **Exposure :** C **S<sub>s</sub> :** 0.207 **S<sub>1</sub> :** 0.055

SECTION PROPERTIES

Shaft Section	Length (ft)	Diameter (in)		Thick Joint (in)	Overlap Length (in)	Steel Grade (ksi)
		Across Flats Top	Across Flats Bottom			
1	54.000	39.77	49.60	0.438	0.000	12 Sides 65
2	53.167	31.97	41.64	0.375	74.000	12 Sides 65
3	54.167	23.61	33.47	0.281	62.000	12 Sides 65

DISCRETE APPURTENANCE

Attach Elev (ft)	Force Elev (ft)	Qty	Description
152.3	152.3	3	Alcatel-Lucent RRH2x50-08
152.3	152.3	3	Alcatel-Lucent 1900 MHz 4X45 R
152.3	152.3	3	Alcatel-Lucent TD-RRH8x20-25 w
152.0	152.0	3	RFS APXVTM14-ALU-I20
151.5	151.5	3	Commscope NNVV-65B-R4
150.0	150.0	2	DragonWave Horizon Compact
150.0	150.0	1	Site Pro 1 RMQP-496-HK
141.0	140.0	3	Ericsson KRY 112 144/1
141.0	141.0	3	Ericsson Radio 4449 B71 B85A
141.0	141.0	3	Ericsson RRUS 4415 B25
141.0	141.0	3	Ericsson Air6449 B41
141.0	141.0	3	Ericsson AIR 21, 1.3M, B2A B4P
141.0	141.0	3	Ericsson AIR32 B66Aa/B2a
141.0	141.0	3	RFS APXVAARR24_43-U-NA20
141.0	141.0	1	Generic Flat Platform with Han
134.5	134.5	3	Argus LLPX310R
134.3	134.3	2	DragonWave A-ANT-11G-2-C
134.0	134.0	2	DragonWave Horizon Compact
133.0	133.0	3	Generic Round Side Arm
132.5	132.5	3	NextNet BTS-2500
132.1	135.1	3	Ericsson RRUS 32 B30
129.2	132.2	3	Ericsson RRUS 4478 B14 (15")
129.0	129.0	3	Ericsson AIR 6419 B77G
127.0	127.0	2	Raycap DC6-48-60-18-8F ("Squid
127.0	127.0	3	Ericsson RRUS 4449 B5, B12
127.0	130.0	3	Ericsson RRUS 32 B66A
127.0	127.0	3	Ericsson RRUS 32 B2
127.0	127.0	1	Raycap DC9-48-60-24-8C-EV
127.0	127.0	3	CCI DMP65R-BU6E
127.0	130.0	3	Kathrein Scala 80010965
125.0	125.0	3	Ericsson Air 6449 B77D
124.0	124.0	1	Flat Platform w/Handrails Site
111.0	111.0	1	Empty Flat Platform w/ Handrai

LINEAR APPURTENANCE

Elev From (ft)	Elev To (ft)	Description	Exp To Wind
0.0	152.0	1 1/4" Hybriflex Cable	No
0.0	150.0	2" conduit	No
0.0	150.0	1/2" Coax	No
0.0	141.0	1 5/8" Coax	No
0.0	141.0	1 1/4" Hybriflex Cable	Yes
0.0	141.0	1 1/4" Hybriflex Cable	No



**JOB INFORMATION**

Asset : 302538, Parsonage Hill Aka Wallin  
 Client : AT&T MOBILITY  
 Code : ANSI/TIA-222-H

Height : 150 ft  
 Base Width : 49.6  
 Shape : 12 Sides

**LINEAR APPURTENANCE**

Elev From (ft)	Elev To (ft)	Description	Exp To Wind
0.0	134.0	1/2" Coax	No
0.0	127.0	7/8" Coax	No
0.0	127.0	2" conduit	No
0.0	127.0	0.92" (23.4mm) Cable	No
0.0	127.0	0.82" (20.8mm) 8 AWG 6	No
0.0	127.0	0.78" (19.7mm) 8 AWG 6	No
0.0	127.0	0.40" (10.3mm) Fiber	No
0.0	127.0	0.39" (10mm) Fiber Trunk	No

**LOAD CASES**

1.2D + 1.0W Normal	115.99 mph wind with no ice
0.9D + 1.0W Normal	115.99 mph wind with no ice
1.2D + 1.0Di + 1.0Wi Nor	48.73 mph wind with 0.850" radial
1.2D + 1.0Ev + 1.0Eh Nor	Seismic
0.9D - 1.0Ev + 1.0Eh Nor	Seismic (Reduced DL)
1.0D + 1.0W Service Norm	60 mph Wind with No Ice

**REACTIONS**

Load Case	Moment (kip-ft)	Shear (Kip)	Axial (Kip)
1.2D + 1.0W Normal	3853.91	35.02	54.57
0.9D + 1.0W Normal	3789.72	34.99	40.91
1.2D + 1.0Di + 1.0Wi Normal	887.33	7.94	68.21
1.2D + 1.0Ev + 1.0Eh Normal	179.80	1.37	54.94
0.9D - 1.0Ev + 1.0Eh Normal	175.86	1.37	37.79
1.0D + 1.0W Service Normal	914.04	8.38	45.54

**DISH DEFLECTIONS**

Load Case	Attach Elev (ft)	Deflection (in)	Rotation (deg)
1.0D + 1.0W Service Normal	134.30	23.017	1.520

ASSET: 302538, Parsonage Hill Aka Wallin  
CUSTOMER: AT&T MOBILITY

CODE: ANSI/TIA-222-H  
ENG NO: 13753549\_C3\_03

### ANALYSIS PARAMETERS

<b>Location:</b>	New Haven County,CT	<b>Height:</b>	150 ft
<b>Type and Shape:</b>	Taper, 12 Sides	<b>Base Diameter:</b>	49.60 in
<b>Manufacturer:</b>	Valmont	<b>Top Diameter:</b>	23.61 in
<b>K<sub>d</sub> (non-service):</b>	0.95	<b>Taper:</b>	0.1820 in/ft
<b>K<sub>e</sub>:</b>	0.99	<b>Rotation:</b>	0.000°

### ICE & WIND PARAMETERS

<b>Exposure Category:</b>	C	<b>Design Wind Speed w/o Ice:</b>	116 mph
<b>Risk Category:</b>	II	<b>Design Wind Speed w/Ice:</b>	49 mph
<b>Topo Factor Procedure:</b>	Method 1	<b>Operational Wind Speed:</b>	60 mph
<b>Topographic Category:</b>	1	<b>Design Ice Thickness:</b>	0.85 in
<b>Crest Height:</b>	0 ft	<b>HMSL:</b>	383.00 ft

### SEISMIC PARAMETERS

<b>Analysis Method:</b>	Equivalent Lateral Force Method		
<b>Site Class:</b>	D - Stiff Soil	<b>Period Based on Rayleigh Method (sec):</b>	2.86
<b>T<sub>L</sub> (sec):</b>	6	<b>P:</b>	1
<b>S<sub>s</sub>:</b>	0.207	<b>S<sub>1</sub>:</b>	0.055
<b>F<sub>a</sub>:</b>	1.600	<b>F<sub>v</sub>:</b>	2.400
<b>S<sub>ds</sub>:</b>	0.221	<b>S<sub>dt</sub>:</b>	0.088
		<b>C<sub>s</sub>:</b>	0.030
		<b>C<sub>s</sub> Max:</b>	0.030
		<b>C<sub>s</sub> Min:</b>	0.030

### LOAD CASES

1.2D + 1.0W Normal	115.99 mph wind with no ice
0.9D + 1.0W Normal	115.99 mph wind with no ice
1.2D + 1.0Di + 1.0Wi Normal	48.73 mph wind with 0.850" radial ice
1.2D + 1.0Ev + 1.0Eh Normal	Seismic
0.9D - 1.0Ev + 1.0Eh Normal	Seismic (Reduced DL)
1.0D + 1.0W Service Normal	60 mph Wind with No Ice

**SHAFT SECTION PROPERTIES**

Sect Info	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Slip Joint len (in)	Weight (lb)	Bottom						Top						
							Dia (in)	Elev (ft)	Area (in <sup>2</sup> )	Ix (in <sup>4</sup> )	W/t Ratio	D/t Ratio	Dia (in)	Elev (in)	Area (in <sup>2</sup> )	Ix (in <sup>4</sup> )	W/t Ratio	D/t Ratio	Taper (in/ft)
1-12	54.00	0.4375	65		0.00	11,454	49.60	0.000	69.26	21,365.9	27.70	113.37	39.77	54.00	55.41	10,943.1	21.68	90.91	0.1820
2-12	53.17	0.3750	65	Slip	74.00	7,958	41.64	47.833	49.83	10,833.2	27.08	111.05	31.97	101.00	38.15	4,860.1	20.16	85.25	0.1820
3-12	54.17	0.2813	65	Slip	62.00	4,717	33.47	95.833	30.06	4,226.9	29.20	118.99	23.61	150.00	21.13	1,468.3	19.81	83.94	0.1820
Shaft Weight						24,129													

**DISCRETE APPURTENANCE PROPERTIES**

Attach Elev (ft)	Description	Qty	Ka	Vert Ecc (ft)	No Ice			Ice		
					Weight (lb)	EPAA (sf)	Orientation Factor	Weight (lb)	EPAA (sf)	Orientation Factor
152.30	Alcatel-Lucent 1900 MHz 4X45 R	3	0.75	0.000	60.00	2.322	0.67	105.68	2.935	0.67
152.30	Alcatel-Lucent RRH2x50-08	3	0.75	0.000	52.90	1.701	0.50	86.49	2.190	0.50
152.30	Alcatel-Lucent TD-RRH8x20-25 w	3	0.75	0.000	70.00	4.046	0.61	123.57	4.799	0.61
152.00	RFS APXVTM14-ALU-I20	3	0.75	0.000	56.20	6.342	0.66	134.26	7.577	0.66
151.50	Commscope NNVV-65B-R4	3	0.75	0.000	77.40	12.271	0.64	219.84	13.860	0.64
150.00	DragonWave Horizon Compact	2	0.75	0.000	10.60	0.720	0.50	23.35	1.042	0.50
150.00	Site Pro 1 RMQP-496-HK	1	1.00	0.000	2448.70	27.200	1.00	3348.04	41.057	1.00
141.00	Ericsson KRY 112 144/1	3	0.75	-1.000	11.00	0.351	0.50	17.07	0.580	0.50
141.00	Ericsson Radio 4449 B71 B85A	3	0.75	0.000	75.00	1.650	0.50	108.93	2.129	0.50
141.00	Ericsson RRUS 4415 B25	3	0.75	0.000	46.00	1.842	0.50	73.66	2.348	0.50
141.00	Ericsson Air6449 B41	3	0.75	0.000	104.00	5.682	0.63	180.88	6.577	0.63
141.00	Ericsson AIR 21, 1.3M, B2A B4P	3	0.75	0.000	91.50	6.037	0.70	173.63	7.247	0.70
141.00	Ericsson AIR32 B66Aa/B2a	3	0.75	0.000	132.20	6.510	0.71	222.24	7.746	0.71
141.00	Generic Flat Platform with Han	1	1.00	0.000	2500.00	42.400	1.00	3502.16	54.231	1.00
141.00	RFS APXVAARR24_43-U-NA20	3	0.75	0.000	127.90	20.243	0.63	349.37	22.335	0.63
134.50	Argus LLPX310R	3	0.80	0.000	28.60	4.292	0.63	79.21	5.221	0.63
134.30	DragonWave A-ANT-11G-2-C	2	1.00	0.000	27.00	4.688	1.00	81.72	5.403	1.00
134.00	DragonWave Horizon Compact	2	0.80	0.000	10.60	0.721	0.50	23.22	1.040	0.50
133.00	Generic Round Side Arm	3	1.00	0.000	187.50	5.200	0.67	238.79	6.724	0.67
132.50	NextNet BTS-2500	3	0.80	0.000	35.00	1.817	0.50	61.01	2.331	0.50
132.10	Ericsson RRUS 32 B30	3	0.75	3.000	60.00	2.743	0.67	101.21	3.398	0.67
129.20	Ericsson RRUS 4478 B14 (15")	3	0.75	3.000	59.40	1.650	0.50	87.20	2.124	0.50
129.00	Ericsson AIR 6419 B77G	3	0.75	0.000	66.10	3.797	0.65	120.33	4.533	0.65
127.00	Raycap DC6-48-60-18-8F ("Squid	2	0.75	0.000	31.80	1.470	1.00	66.23	1.860	1.00
127.00	Ericsson RRUS 4449 B5, B12	3	0.75	0.000	71.00	1.969	0.50	106.96	2.489	0.50
127.00	Ericsson RRUS 32 B66A	3	0.75	3.000	50.70	2.720	0.67	91.60	3.369	0.67
127.00	Ericsson RRUS 32 B2	3	0.75	0.000	53.00	2.743	0.67	94.04	3.396	0.67
127.00	CCI DMP65R-BU6E	3	0.75	0.000	103.80	12.709	0.65	259.23	14.265	0.65
127.00	Kathrein Scala 80010965	3	0.75	3.000	97.60	13.814	0.62	246.37	15.516	0.62
127.00	Raycap DC9-48-60-24-8C-EV	1	0.75	0.000	16.00	4.788	1.00	88.04	5.609	1.00
125.00	Ericsson Air 6449 B77D	3	0.75	0.000	81.60	4.028	0.65	138.92	4.794	0.65
124.00	Flat Platform w/Handrails Site	1	1.00	0.000	3000.00	49.620	1.00	4185.73	63.271	1.00
111.00	Empty Flat Platform w/ Handrai	1	1.00	0.000	2000.00	42.400	1.00	2782.70	53.950	1.00
Totals	Num Loadings: 33				85			15,519.90		24,557.18

**LINEAR APPURTENANCE PROPERTIES**

Load Case Azimuth (deg) : \_

Elev From (ft)	Elev To (ft)	Qty	Description	Coax Dia (in)	Coax Wt (lb/ft)	Flat	Max Coax/ Row	Dist Between Rows (in)	Dist Between Cols (in)	Azimuth (deg)	Dist From Face (in)	Exposed To Wind	Carrier
0.00	152.00	4	1 1/4" Hybriflex Cabl	1.54	1	N	0	0	0	0	0	N	CLEARWIRE COR
0.00	150.00	2	1/2" Coax	0.63	0.15	N	0	0	0	0	0	N	CLEARWIRE COR
0.00	150.00	2	2" conduit	2.38	3.65	N	0	0	0	0	0	N	CLEARWIRE COR
0.00	141.00	6	1 5/8" Coax	1.98	0.82	N	0	0	0	0	0	N	T-MOBILE
0.00	141.00	3	1 1/4" Hybriflex Cabl	1.54	1	N	0	0	0	0	0	N	T-MOBILE
0.00	141.00	2	1 1/4" Hybriflex Cabl	1.54	1	N	2	0	0	90	0	Y	T-MOBILE
0.00	134.00	2	1/2" Coax	0.63	0.15	N	0	0	0	0	0	N	CLEARWIRE COR
0.00	127.00	6	7/8" Coax	1.09	0.33	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	127.00	4	2" conduit	2.38	3.65	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	127.00	4	0.82" (20.8mm) 8 AWG	0.82	0.62	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	127.00	2	0.78" (19.7mm) 8 AWG	0.78	0.59	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	127.00	2	0.40" (10.3mm) Fiber	0.4	0.09	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	127.00	1	0.39" (10mm) Fiber Tr	0.39	0.06	N	0	0	0	0	0	N	AT&T MOBILITY

ASSET: 302538, Parsonage Hill Aka Wallin  
CUSTOMER: AT&T MOBILITY

CODE: ANSI/TIA-222-H  
ENG NO: 13753549\_C3\_03

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Elev From (ft)	Elev To (ft)	Qty	Description	Coax Dia (in)	Coax Wt (lb/ft)	Flat	Max Coax/ Row	Dist Between Rows(in)	Dist Between Cols(in)	Azimuth (deg)	Dist From Face (in)	Exposed To Wind	Carrier
0.00	127.00	1	0.92" (23.4mm) Cable	0.92	0.89	N	0	0	0	0	0	N	AT&T MOBILITY

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SEGMENT PROPERTIES

(Max Len: 5.ft)

Seg Top Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in <sup>2</sup> )	Ix (in <sup>4</sup> )	W/t Ratio	D/t Ratio	F'y (ksi)	S (in <sup>3</sup> )	Z (in <sup>3</sup> )	Weight (lb)
0.00		0.4375	49.600	69.258	21,365.90	27.70	113.37	74.5	832.2	0.0	0.0
5.00		0.4375	48.690	67.976	20,201.30	27.14	111.29	75.1	801.5	0.0	1,167.4
10.00		0.4375	47.780	66.694	19,079.80	26.58	109.21	75.7	771.4	0.0	1,145.6
15.00		0.4375	46.870	65.412	18,000.60	26.03	107.13	76.3	741.9	0.0	1,123.8
20.00		0.4375	45.960	64.130	16,962.80	25.47	105.05	76.9	713.0	0.0	1,102.0
25.00		0.4375	45.050	62.848	15,965.80	24.91	102.97	77.5	684.6	0.0	1,080.2
30.00		0.4375	44.140	61.566	15,008.50	24.35	100.89	78.2	656.9	0.0	1,058.4
35.00		0.4375	43.230	60.284	14,090.40	23.80	98.81	78.8	629.7	0.0	1,036.6
40.00		0.4375	42.320	59.002	13,210.50	23.24	96.73	79.4	603.0	0.0	1,014.8
45.00		0.4375	41.410	57.720	12,367.90	22.68	94.65	80	577.0	0.0	992.9
47.83	Bot - Section 2	0.4375	40.894	56.994	11,906.80	22.37	93.47	80.3	562.5	0.0	553.0
50.00		0.4375	40.500	56.438	11,562.00	22.12	92.57	80.6	551.5	0.0	783.8
54.00	Top - Section 1	0.3750	40.522	48.478	9,973.20	26.27	108.06	76.1	475.5	0.0	1,427.0
55.00		0.3750	40.340	48.258	9,838.10	26.14	107.57	76.2	471.1	0.0	164.6
60.00		0.3750	39.430	47.159	9,181.30	25.49	105.15	76.9	449.8	0.0	811.7
65.00		0.3750	38.520	46.060	8,554.30	24.84	102.72	77.6	429.0	0.0	793.0
70.00		0.3750	37.610	44.961	7,956.60	24.19	100.29	78.3	408.7	0.0	774.3
75.00		0.3750	36.700	43.862	7,387.40	23.54	97.87	79	388.9	0.0	755.6
80.00		0.3750	35.790	42.764	6,846.00	22.89	95.44	79.7	369.5	0.0	736.9
85.00		0.3750	34.880	41.665	6,331.70	22.24	93.01	80.5	350.7	0.0	718.2
90.00		0.3750	33.970	40.566	5,843.80	21.59	90.59	81.2	332.3	0.0	699.5
95.00		0.3750	33.060	39.467	5,381.70	20.94	88.16	81.9	314.5	0.0	680.8
95.83	Bot - Section 3	0.3750	32.908	39.284	5,307.10	20.83	87.76	81.9	311.5	0.0	111.7
100.00		0.3750	32.150	38.368	4,944.60	20.29	85.73	81.9	297.1	0.0	971.8
101.00	Top - Section 2	0.2813	32.531	29.211	3,877.70	28.31	115.64	73.8	230.3	0.0	229.9
105.00		0.2813	31.803	28.552	3,621.00	27.61	113.06	74.6	220.0	0.0	393.1
110.00		0.2813	30.893	27.727	3,316.30	26.75	109.82	75.5	207.4	0.0	478.8
111.00		0.2813	30.711	27.562	3,257.50	26.57	109.17	75.7	204.9	0.0	94.1
115.00		0.2813	29.983	26.903	3,029.30	25.88	106.59	76.5	195.2	0.0	370.7
120.00		0.2813	29.073	26.079	2,759.30	25.01	103.35	77.4	183.4	0.0	450.7
124.00		0.2813	28.345	25.419	2,555.20	24.32	100.76	78.2	174.2	0.0	350.5
125.00		0.2813	28.163	25.254	2,505.80	24.15	100.12	78.4	171.9	0.0	86.2
127.00		0.2813	27.799	24.925	2,409.00	23.80	98.82	78.8	167.4	0.0	170.7
129.00		0.2813	27.435	24.595	2,314.60	23.45	97.53	79.1	163.0	0.0	168.5
129.20		0.2813	27.398	24.562	2,305.30	23.42	97.40	79.2	162.5	0.0	16.7
130.00		0.2813	27.253	24.430	2,268.40	23.28	96.88	79.3	160.8	0.0	66.7
132.10		0.2813	26.870	24.084	2,173.30	22.92	95.52	79.7	156.3	0.0	173.3
132.50		0.2813	26.798	24.018	2,155.50	22.85	95.26	79.8	155.4	0.0	32.7
133.00		0.2813	26.707	23.936	2,133.40	22.76	94.94	79.9	154.3	0.0	40.8
134.00		0.2813	26.525	23.771	2,089.60	22.59	94.29	80.1	152.2	0.0	81.2
134.30		0.2813	26.470	23.721	2,076.60	22.53	94.10	80.1	151.6	0.0	24.2
134.50		0.2813	26.434	23.688	2,068.00	22.50	93.97	80.2	151.1	0.0	16.1
135.00		0.2813	26.343	23.606	2,046.40	22.41	93.65	80.3	150.1	0.0	40.2
140.00		0.2813	25.433	22.782	1,839.50	21.55	90.41	81.2	139.7	0.0	394.6
141.00		0.2813	25.251	22.617	1,799.80	21.37	89.76	81.4	137.7	0.0	77.2
145.00		0.2813	24.523	21.957	1,646.90	20.68	87.18	81.9	129.7	0.0	303.4
150.00		0.2813	23.613	21.133	1,468.30	19.81	83.94	81.9	120.1	0.0	366.6

Totals: 24,130.5



Load Case: 1.2D + 1.0W Normal	115.99 mph wind with no ice	27 Iterations
Gust Response Factor:	1.10	
Dead load Factor:	1.20	
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	-54.57	-35.02	0.00	-3,853.9	0.00	3,853.91	4,644.08	1,215.47	5,637.09	4,650.12	0	0	0.841
5.00	-52.76	-34.65	0.00	-3,678.8	0.00	3,678.79	4,595.30	1,192.97	5,430.39	4,515.36	0.13	-0.25	0.827
10.00	-50.98	-34.27	0.00	-3,505.6	0.00	3,505.55	4,545.12	1,170.48	5,227.56	4,381.07	0.53	-0.5	0.812
15.00	-49.23	-33.89	0.00	-3,334.2	0.00	3,334.18	4,493.54	1,147.98	5,028.59	4,247.34	1.2	-0.76	0.797
20.00	-47.51	-33.48	0.00	-3,164.7	0.00	3,164.74	4,440.56	1,125.48	4,833.48	4,114.23	2.13	-1.02	0.781
25.00	-45.82	-33.03	0.00	-2,997.4	0.00	2,997.36	4,386.18	1,102.98	4,642.23	3,981.83	3.33	-1.27	0.764
30.00	-44.16	-32.57	0.00	-2,832.2	0.00	2,832.20	4,330.39	1,080.48	4,454.84	3,850.22	4.8	-1.53	0.747
35.00	-42.53	-32.08	0.00	-2,669.4	0.00	2,669.36	4,273.20	1,057.98	4,271.31	3,719.48	6.55	-1.79	0.729
40.00	-40.93	-31.58	0.00	-2,509.0	0.00	2,508.97	4,214.61	1,035.48	4,091.64	3,589.68	8.57	-2.06	0.710
45.00	-39.39	-31.16	0.00	-2,351.1	0.00	2,351.09	4,154.61	1,012.99	3,915.83	3,460.90	10.86	-2.32	0.690
47.83	-38.52	-30.89	0.00	-2,262.8	0.00	2,262.81	4,119.99	1,000.24	3,817.92	3,388.41	12.28	-2.47	0.678
50.00	-37.40	-30.54	0.00	-2,195.9	0.00	2,195.89	4,093.21	990.49	3,743.89	3,333.22	13.43	-2.58	0.669
54.00	-35.43	-30.21	0.00	-2,073.7	0.00	2,073.71	3,318.40	850.78	3,222.25	2,712.21	15.68	-2.79	0.777
55.00	-35.11	-29.91	0.00	-2,043.5	0.00	2,043.50	3,309.52	846.92	3,193.11	2,692.57	16.27	-2.85	0.771
60.00	-33.77	-29.36	0.00	-1,894.0	0.00	1,893.96	3,264.26	827.64	3,049.40	2,594.71	19.41	-3.13	0.742
65.00	-32.45	-28.80	0.00	-1,747.2	0.00	1,747.16	3,217.60	808.35	2,908.99	2,497.46	22.84	-3.41	0.711
70.00	-31.17	-28.24	0.00	-1,603.1	0.00	1,603.14	3,169.54	789.07	2,771.90	2,400.90	26.56	-3.69	0.679
75.00	-29.92	-27.67	0.00	-1,461.9	0.00	1,461.93	3,120.07	769.79	2,638.11	2,305.09	30.57	-3.97	0.645
80.00	-28.70	-27.09	0.00	-1,323.6	0.00	1,323.59	3,069.20	750.50	2,507.64	2,210.12	34.87	-4.23	0.610
85.00	-27.51	-26.51	0.00	-1,188.1	0.00	1,188.12	3,016.93	731.22	2,380.47	2,116.08	39.44	-4.5	0.572
90.00	-26.35	-25.93	0.00	-1,055.6	0.00	1,055.55	2,963.26	711.93	2,256.61	2,023.03	44.28	-4.75	0.532
95.00	-25.25	-25.55	0.00	-925.9	0.00	925.90	2,909.12	692.65	2,136.06	1,931.68	49.37	-4.99	0.489
95.83	-25.05	-25.28	0.00	-904.6	0.00	904.61	2,895.62	689.43	2,116.29	1,913.69	50.25	-5.03	0.483
100.00	-23.65	-24.89	0.00	-799.3	0.00	799.28	2,828.13	673.36	2,018.82	1,825.02	54.72	-5.22	0.448
101.00	-23.30	-24.61	0.00	-774.4	0.00	774.38	1,941.28	512.65	1,559.60	1,275.31	55.81	-5.26	0.622
105.00	-22.59	-24.10	0.00	-675.9	0.00	675.94	1,916.90	501.08	1,490.00	1,230.62	60.29	-5.43	0.563
110.00	-21.73	-23.72	0.00	-555.4	0.00	555.44	1,885.15	486.61	1,405.24	1,174.99	66.11	-5.68	0.487
111.00	-19.36	-21.28	0.00	-531.7	0.00	531.72	1,878.63	483.72	1,388.59	1,163.90	67.3	-5.72	0.469
115.00	-18.70	-20.77	0.00	-446.6	0.00	446.58	1,852.00	472.15	1,322.96	1,119.70	72.16	-5.89	0.411
120.00	-17.90	-20.23	0.00	-342.7	0.00	342.74	1,817.44	457.68	1,243.16	1,064.83	78.42	-6.08	0.334
124.00	-13.96	-17.21	0.00	-261.8	0.00	261.80	1,788.79	446.11	1,181.11	1,021.28	83.56	-6.2	0.266
125.00	-13.55	-16.73	0.00	-244.6	0.00	244.60	1,781.49	443.22	1,165.84	1,010.45	84.86	-6.23	0.251
127.00	-12.09	-13.79	0.00	-207.8	0.00	207.81	1,766.71	437.43	1,135.61	988.86	87.48	-6.28	0.218
129.00	-11.64	-13.36	0.00	-180.2	0.00	180.23	1,751.71	431.64	1,105.78	967.36	90.12	-6.33	0.194
129.20	-11.41	-13.20	0.00	-177.3	0.00	177.29	1,750.20	431.07	1,102.81	965.22	90.38	-6.33	0.191
130.00	-11.32	-13.04	0.00	-166.7	0.00	166.73	1,744.13	428.75	1,091.01	956.65	91.44	-6.35	0.182
132.10	-10.88	-12.66	0.00	-138.8	0.00	138.76	1,728.02	422.67	1,060.32	934.25	94.24	-6.39	0.156
132.50	-10.72	-12.49	0.00	-133.7	0.00	133.69	1,724.93	421.52	1,054.52	929.99	94.78	-6.4	0.151
133.00	-10.05	-11.84	0.00	-127.4	0.00	127.45	1,721.04	420.07	1,047.30	924.68	95.45	-6.41	0.144
134.00	-9.91	-11.73	0.00	-115.6	0.00	115.61	1,713.23	417.18	1,032.93	914.08	96.79	-6.42	0.133
134.30	-9.86	-11.25	0.00	-112.1	0.00	112.09	1,710.88	416.31	1,028.63	910.90	97.19	-6.43	0.130
134.50	-9.77	-10.89	0.00	-109.8	0.00	109.84	1,709.31	415.73	1,025.78	908.79	97.46	-6.43	0.127
135.00	-9.74	-10.61	0.00	-104.4	0.00	104.39	1,705.37	414.28	1,018.65	903.50	98.13	-6.44	0.122
140.00	-9.17	-10.25	0.00	-51.3	0.00	51.33	1,665.21	399.82	948.78	851.09	104.89	-6.49	0.066
141.00	-4.56	-4.45	0.00	-41.1	0.00	41.08	1,657.01	396.93	935.11	840.70	106.25	-6.5	0.052
145.00	-4.19	-3.97	0.00	-23.3	0.00	23.29	1,618.48	385.35	881.39	796.95	111.69	-6.52	0.032
150.00	0.00	-3.46	0.00	-3.5	0.00	3.46	1,557.73	370.89	816.49	737.91	118.51	-6.53	0.005

Load Case: 0.9D + 1.0W Normal	115.99 mph wind with no ice	27 Iterations
Gust Response Factor: 1.10		
Dead load Factor: 0.90		
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	-40.91	-34.99	0.00	-3,789.7	0.00	3,789.72	4,644.08	1,215.47	5,637.09	4,650.12	0	0	0.825
5.00	-39.52	-34.56	0.00	-3,614.8	0.00	3,614.76	4,595.30	1,192.97	5,430.39	4,515.36	0.13	-0.25	0.810
10.00	-38.15	-34.13	0.00	-3,442.0	0.00	3,441.98	4,545.12	1,170.48	5,227.56	4,381.07	0.52	-0.49	0.795
15.00	-36.80	-33.69	0.00	-3,271.4	0.00	3,271.35	4,493.54	1,147.98	5,028.59	4,247.34	1.18	-0.75	0.779
20.00	-35.48	-33.22	0.00	-3,102.9	0.00	3,102.93	4,440.56	1,125.48	4,833.48	4,114.23	2.09	-1	0.763
25.00	-34.18	-32.73	0.00	-2,936.8	0.00	2,936.82	4,386.18	1,102.98	4,642.23	3,981.83	3.27	-1.25	0.746
30.00	-32.91	-32.22	0.00	-2,773.2	0.00	2,773.16	4,330.39	1,080.48	4,454.84	3,850.22	4.72	-1.5	0.729
35.00	-31.66	-31.69	0.00	-2,612.1	0.00	2,612.06	4,273.20	1,057.98	4,271.31	3,719.48	6.43	-1.76	0.711
40.00	-30.43	-31.15	0.00	-2,453.6	0.00	2,453.60	4,214.61	1,035.48	4,091.64	3,589.68	8.41	-2.02	0.692
45.00	-29.26	-30.71	0.00	-2,297.8	0.00	2,297.84	4,154.61	1,012.99	3,915.83	3,460.90	10.66	-2.27	0.672
47.83	-28.59	-30.42	0.00	-2,210.8	0.00	2,210.84	4,119.99	1,000.24	3,817.92	3,388.41	12.05	-2.42	0.660
50.00	-27.74	-30.06	0.00	-2,144.9	0.00	2,144.92	4,093.21	990.49	3,743.89	3,333.22	13.17	-2.53	0.651
54.00	-26.25	-29.73	0.00	-2,024.7	0.00	2,024.67	3,318.40	850.78	3,222.25	2,712.21	15.38	-2.74	0.756
55.00	-26.00	-29.40	0.00	-1,994.9	0.00	1,994.94	3,309.52	846.92	3,193.11	2,692.57	15.96	-2.79	0.750
60.00	-24.97	-28.83	0.00	-1,847.9	0.00	1,847.93	3,264.26	827.64	3,049.40	2,594.71	19.03	-3.07	0.721
65.00	-23.96	-28.24	0.00	-1,703.8	0.00	1,703.80	3,217.60	808.35	2,908.99	2,497.46	22.39	-3.34	0.691
70.00	-22.98	-27.66	0.00	-1,562.6	0.00	1,562.59	3,169.54	789.07	2,771.90	2,400.90	26.03	-3.61	0.659
75.00	-22.03	-27.07	0.00	-1,424.3	0.00	1,424.31	3,120.07	769.79	2,638.11	2,305.09	29.96	-3.88	0.626
80.00	-21.10	-26.47	0.00	-1,289.0	0.00	1,288.97	3,069.20	750.50	2,507.64	2,210.12	34.16	-4.14	0.591
85.00	-20.19	-25.88	0.00	-1,156.6	0.00	1,156.60	3,016.93	731.22	2,380.47	2,116.08	38.63	-4.4	0.555
90.00	-19.31	-25.29	0.00	-1,027.2	0.00	1,027.20	2,963.26	711.93	2,256.61	2,023.03	43.36	-4.64	0.516
95.00	-18.48	-24.91	0.00	-900.8	0.00	900.76	2,909.12	692.65	2,136.06	1,931.68	48.34	-4.88	0.474
95.83	-18.32	-24.64	0.00	-880.0	0.00	880.00	2,895.62	689.43	2,116.29	1,913.69	49.2	-4.91	0.467
100.00	-17.27	-24.27	0.00	-777.4	0.00	777.35	2,828.13	673.36	2,018.82	1,825.02	53.56	-5.1	0.433
101.00	-17.01	-23.98	0.00	-753.1	0.00	753.08	1,941.28	512.65	1,559.60	1,275.31	54.64	-5.14	0.601
105.00	-16.47	-23.46	0.00	-657.2	0.00	657.16	1,916.90	501.08	1,490.00	1,230.62	59.01	-5.31	0.545
110.00	-15.82	-23.09	0.00	-539.8	0.00	539.85	1,885.15	486.61	1,405.24	1,174.99	64.69	-5.54	0.470
111.00	-14.09	-20.71	0.00	-516.8	0.00	516.76	1,878.63	483.72	1,388.59	1,163.90	65.86	-5.59	0.453
115.00	-13.59	-20.19	0.00	-433.9	0.00	433.93	1,852.00	472.15	1,322.96	1,119.70	70.61	-5.76	0.397
120.00	-12.99	-19.67	0.00	-333.0	0.00	332.96	1,817.44	457.68	1,243.16	1,064.83	76.72	-5.94	0.322
124.00	-10.09	-16.76	0.00	-254.3	0.00	254.29	1,788.79	446.11	1,181.11	1,021.28	81.74	-6.06	0.256
125.00	-9.79	-16.29	0.00	-237.5	0.00	237.54	1,781.49	443.22	1,165.84	1,010.45	83.01	-6.08	0.242
127.00	-8.76	-13.39	0.00	-201.6	0.00	201.63	1,766.71	437.43	1,135.61	988.86	85.57	-6.13	0.210
129.00	-8.43	-12.98	0.00	-174.8	0.00	174.84	1,751.71	431.64	1,105.78	967.36	88.14	-6.18	0.186
129.20	-8.27	-12.82	0.00	-172.0	0.00	171.98	1,750.20	431.07	1,102.81	965.22	88.4	-6.18	0.184
130.00	-8.20	-12.66	0.00	-161.7	0.00	161.72	1,744.13	428.75	1,091.01	956.65	89.44	-6.2	0.175
132.10	-7.87	-12.30	0.00	-134.5	0.00	134.53	1,728.02	422.67	1,060.32	934.25	92.17	-6.24	0.149
132.50	-7.76	-12.14	0.00	-129.6	0.00	129.61	1,724.93	421.52	1,054.52	929.99	92.69	-6.25	0.145
133.00	-7.27	-11.51	0.00	-123.6	0.00	123.55	1,721.04	420.07	1,047.30	924.68	93.34	-6.25	0.139
134.00	-7.17	-11.40	0.00	-112.0	0.00	112.04	1,713.23	417.18	1,032.93	914.08	94.65	-6.27	0.128
134.30	-7.14	-10.92	0.00	-108.6	0.00	108.62	1,710.88	416.31	1,028.63	910.90	95.05	-6.27	0.124
134.50	-7.08	-10.57	0.00	-106.4	0.00	106.44	1,709.31	415.73	1,025.78	908.79	95.31	-6.28	0.122
135.00	-7.06	-10.29	0.00	-101.2	0.00	101.15	1,705.37	414.28	1,018.65	903.50	95.96	-6.28	0.117
140.00	-6.64	-9.94	0.00	-49.7	0.00	49.72	1,665.21	399.82	948.78	851.09	102.56	-6.34	0.063
141.00	-3.32	-4.30	0.00	-39.8	0.00	39.78	1,657.01	396.93	935.11	840.70	103.89	-6.34	0.049
145.00	-3.05	-3.83	0.00	-22.6	0.00	22.60	1,618.48	385.35	881.39	796.95	109.2	-6.36	0.030
150.00	0.00	-3.46	0.00	-3.5	0.00	3.46	1,557.73	370.89	816.49	737.91	115.86	-6.37	0.005

Load Case: 1.2D + 1.0Di + 1.0Wi Normal	48.73 mph wind with 0.850" radial ice			26 Iterations
Gust Response Factor: 1.10	Ice Dead Load 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	-68.21	-7.94	0.00	-887.3	0.00	887.33	4,644.08	1,215.47	5,637.09	4,650.12	0	0	0.206
5.00	-66.32	-7.86	0.00	-847.6	0.00	847.65	4,595.30	1,192.97	5,430.39	4,515.36	0.03	-0.06	0.202
10.00	-64.44	-7.79	0.00	-808.3	0.00	808.33	4,545.12	1,170.48	5,227.56	4,381.07	0.12	-0.12	0.199
15.00	-62.57	-7.72	0.00	-769.4	0.00	769.38	4,493.54	1,147.98	5,028.59	4,247.34	0.28	-0.17	0.195
20.00	-60.73	-7.63	0.00	-730.8	0.00	730.80	4,440.56	1,125.48	4,833.48	4,114.23	0.49	-0.23	0.191
25.00	-58.91	-7.54	0.00	-692.6	0.00	692.64	4,386.18	1,102.98	4,642.23	3,981.83	0.77	-0.29	0.187
30.00	-57.11	-7.45	0.00	-654.9	0.00	654.92	4,330.39	1,080.48	4,454.84	3,850.22	1.11	-0.35	0.183
35.00	-55.35	-7.35	0.00	-617.7	0.00	617.69	4,273.20	1,057.98	4,271.31	3,719.48	1.51	-0.41	0.179
40.00	-53.61	-7.24	0.00	-581.0	0.00	580.96	4,214.61	1,035.48	4,091.64	3,589.68	1.98	-0.47	0.175
45.00	-51.90	-7.15	0.00	-544.8	0.00	544.75	4,154.61	1,012.99	3,915.83	3,460.90	2.51	-0.54	0.170
47.83	-50.94	-7.09	0.00	-524.5	0.00	524.49	4,119.99	1,000.24	3,817.92	3,388.41	2.83	-0.57	0.167
50.00	-49.77	-7.02	0.00	-509.1	0.00	509.12	4,093.21	990.49	3,743.89	3,333.22	3.1	-0.6	0.165
54.00	-47.65	-6.95	0.00	-481.0	0.00	481.03	3,318.40	850.78	3,222.25	2,712.21	3.62	-0.65	0.192
55.00	-47.34	-6.89	0.00	-474.1	0.00	474.08	3,309.52	846.92	3,193.11	2,692.57	3.76	-0.66	0.190
60.00	-45.85	-6.77	0.00	-439.6	0.00	439.65	3,264.26	827.64	3,049.40	2,594.71	4.48	-0.72	0.184
65.00	-44.39	-6.65	0.00	-405.8	0.00	405.81	3,217.60	808.35	2,908.99	2,497.46	5.28	-0.79	0.176
70.00	-42.95	-6.53	0.00	-372.6	0.00	372.56	3,169.54	789.07	2,771.90	2,400.90	6.14	-0.85	0.169
75.00	-41.54	-6.40	0.00	-339.9	0.00	339.93	3,120.07	769.79	2,638.11	2,305.09	7.07	-0.92	0.161
80.00	-40.16	-6.28	0.00	-307.9	0.00	307.92	3,069.20	750.50	2,507.64	2,210.12	8.06	-0.98	0.152
85.00	-38.80	-6.15	0.00	-276.5	0.00	276.54	3,016.93	731.22	2,380.47	2,116.08	9.12	-1.04	0.144
90.00	-37.47	-6.02	0.00	-245.8	0.00	245.81	2,963.26	711.93	2,256.61	2,023.03	10.24	-1.1	0.134
95.00	-36.17	-5.93	0.00	-215.7	0.00	215.73	2,909.12	692.65	2,136.06	1,931.68	11.43	-1.16	0.124
95.83	-35.95	-5.87	0.00	-210.8	0.00	210.79	2,895.62	689.43	2,116.29	1,913.69	11.63	-1.17	0.123
100.00	-34.38	-5.78	0.00	-186.3	0.00	186.34	2,828.13	673.36	2,018.82	1,825.02	12.67	-1.21	0.114
101.00	-34.01	-5.72	0.00	-180.6	0.00	180.56	1,941.28	512.65	1,559.60	1,275.31	12.92	-1.22	0.159
105.00	-33.15	-5.60	0.00	-157.7	0.00	157.70	1,916.90	501.08	1,490.00	1,230.62	13.96	-1.26	0.146
110.00	-32.11	-5.51	0.00	-129.7	0.00	129.70	1,885.15	486.61	1,405.24	1,174.99	15.31	-1.32	0.128
111.00	-28.93	-4.95	0.00	-124.2	0.00	124.19	1,878.63	483.72	1,388.59	1,163.90	15.59	-1.33	0.122
115.00	-28.11	-4.83	0.00	-104.4	0.00	104.40	1,852.00	472.15	1,322.96	1,119.70	16.72	-1.37	0.109
120.00	-27.10	-4.70	0.00	-80.3	0.00	80.27	1,817.44	457.68	1,243.16	1,064.83	18.17	-1.41	0.090
124.00	-21.85	-3.99	0.00	-61.5	0.00	61.46	1,788.79	446.11	1,181.11	1,021.28	19.37	-1.44	0.072
125.00	-21.24	-3.88	0.00	-57.5	0.00	57.48	1,781.49	443.22	1,165.84	1,010.45	19.67	-1.45	0.069
127.00	-18.37	-3.23	0.00	-49.0	0.00	49.05	1,766.71	437.43	1,135.61	988.86	20.28	-1.46	0.060
129.00	-17.68	-3.14	0.00	-42.6	0.00	42.58	1,751.71	431.64	1,105.78	967.36	20.89	-1.47	0.054
129.20	-17.37	-3.10	0.00	-41.9	0.00	41.90	1,750.20	431.07	1,102.81	965.22	20.95	-1.47	0.053
130.00	-17.24	-3.06	0.00	-39.4	0.00	39.42	1,744.13	428.75	1,091.01	956.65	21.2	-1.47	0.051
132.10	-16.59	-2.97	0.00	-32.9	0.00	32.87	1,728.02	422.67	1,060.32	934.25	21.85	-1.48	0.045
132.50	-16.34	-2.93	0.00	-31.7	0.00	31.68	1,724.93	421.52	1,054.52	929.99	21.98	-1.49	0.044
133.00	-15.47	-2.77	0.00	-30.2	0.00	30.22	1,721.04	420.07	1,047.30	924.68	22.13	-1.49	0.042
134.00	-15.27	-2.74	0.00	-27.4	0.00	27.45	1,713.23	417.18	1,032.93	914.08	22.44	-1.49	0.039
134.30	-15.08	-2.64	0.00	-26.6	0.00	26.62	1,710.88	416.31	1,028.63	910.90	22.54	-1.49	0.038
134.50	-14.83	-2.56	0.00	-26.1	0.00	26.09	1,709.31	415.73	1,025.78	908.79	22.6	-1.49	0.037
135.00	-14.75	-2.49	0.00	-24.8	0.00	24.81	1,705.37	414.28	1,018.65	903.50	22.76	-1.5	0.036
140.00	-13.97	-2.40	0.00	-12.3	0.00	12.34	1,665.21	399.82	948.78	851.09	24.33	-1.51	0.023
141.00	-6.78	-1.09	0.00	-9.9	0.00	9.94	1,657.01	396.93	935.11	840.70	24.65	-1.51	0.016
145.00	-6.23	-0.97	0.00	-5.6	0.00	5.58	1,618.48	385.35	881.39	796.95	25.91	-1.51	0.011
150.00	0.00	-0.81	0.00	-0.7	0.00	0.72	1,557.73	370.89	816.49	737.91	27.5	-1.52	0.001

Load Case: 1.0D + 1.0W Service Normal	60 mph Wind with No Ice	25 Iterations
Gust Response Factor: 1.10		
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	-45.54	-8.38	0.00	-914.0	0.00	914.04	4,644.08	1,215.47	5,637.09	4,650.12	0	0	0.206
5.00	-44.15	-8.28	0.00	-872.2	0.00	872.15	4,595.30	1,192.97	5,430.39	4,515.36	0.03	-0.06	0.203
10.00	-42.78	-8.18	0.00	-830.8	0.00	830.75	4,545.12	1,170.48	5,227.56	4,381.07	0.13	-0.12	0.199
15.00	-41.43	-8.08	0.00	-789.8	0.00	789.84	4,493.54	1,147.98	5,028.59	4,247.34	0.28	-0.18	0.195
20.00	-40.10	-7.97	0.00	-749.4	0.00	749.44	4,440.56	1,125.48	4,833.48	4,114.23	0.5	-0.24	0.191
25.00	-38.80	-7.86	0.00	-709.6	0.00	709.56	4,386.18	1,102.98	4,642.23	3,981.83	0.79	-0.3	0.187
30.00	-37.52	-7.74	0.00	-670.3	0.00	670.26	4,330.39	1,080.48	4,454.84	3,850.22	1.14	-0.36	0.183
35.00	-36.26	-7.62	0.00	-631.5	0.00	631.54	4,273.20	1,057.98	4,271.31	3,719.48	1.55	-0.42	0.178
40.00	-35.02	-7.50	0.00	-593.4	0.00	593.43	4,214.61	1,035.48	4,091.64	3,589.68	2.03	-0.49	0.174
45.00	-33.81	-7.39	0.00	-556.0	0.00	555.95	4,154.61	1,012.99	3,915.83	3,460.90	2.57	-0.55	0.169
47.83	-33.13	-7.33	0.00	-535.0	0.00	535.00	4,119.99	1,000.24	3,817.92	3,388.41	2.91	-0.58	0.166
50.00	-32.25	-7.24	0.00	-519.1	0.00	519.13	4,093.21	990.49	3,743.89	3,333.22	3.18	-0.61	0.164
54.00	-30.64	-7.16	0.00	-490.2	0.00	490.16	3,318.40	850.78	3,222.25	2,712.21	3.72	-0.66	0.190
55.00	-30.43	-7.09	0.00	-483.0	0.00	483.00	3,309.52	846.92	3,193.11	2,692.57	3.86	-0.67	0.189
60.00	-29.40	-6.95	0.00	-447.6	0.00	447.56	3,264.26	827.64	3,049.40	2,594.71	4.6	-0.74	0.182
65.00	-28.38	-6.82	0.00	-412.8	0.00	412.79	3,217.60	808.35	2,908.99	2,497.46	5.41	-0.81	0.174
70.00	-27.39	-6.68	0.00	-378.7	0.00	378.71	3,169.54	789.07	2,771.90	2,400.90	6.29	-0.87	0.166
75.00	-26.41	-6.54	0.00	-345.3	0.00	345.30	3,120.07	769.79	2,638.11	2,305.09	7.24	-0.94	0.158
80.00	-25.46	-6.40	0.00	-312.6	0.00	312.59	3,069.20	750.50	2,507.64	2,210.12	8.26	-1	0.150
85.00	-24.52	-6.26	0.00	-280.6	0.00	280.57	3,016.93	731.22	2,380.47	2,116.08	9.34	-1.06	0.141
90.00	-23.60	-6.12	0.00	-249.2	0.00	249.25	2,963.26	711.93	2,256.61	2,023.03	10.49	-1.12	0.131
95.00	-22.70	-6.03	0.00	-218.6	0.00	218.63	2,909.12	692.65	2,136.06	1,931.68	11.69	-1.18	0.121
95.83	-22.55	-5.97	0.00	-213.6	0.00	213.60	2,895.62	689.43	2,116.29	1,913.69	11.9	-1.19	0.119
100.00	-21.40	-5.88	0.00	-188.7	0.00	188.73	2,828.13	673.36	2,018.82	1,825.02	12.96	-1.23	0.111
101.00	-21.12	-5.81	0.00	-182.8	0.00	182.84	1,941.28	512.65	1,559.60	1,275.31	13.22	-1.24	0.154
105.00	-20.56	-5.69	0.00	-159.6	0.00	159.59	1,916.90	501.08	1,490.00	1,230.62	14.28	-1.28	0.141
110.00	-19.86	-5.60	0.00	-131.1	0.00	131.14	1,885.15	486.61	1,405.24	1,174.99	15.65	-1.34	0.122
111.00	-17.73	-5.03	0.00	-125.5	0.00	125.53	1,878.63	483.72	1,388.59	1,163.90	15.94	-1.35	0.117
115.00	-17.19	-4.90	0.00	-105.4	0.00	105.43	1,852.00	472.15	1,322.96	1,119.70	17.09	-1.39	0.104
120.00	-16.52	-4.78	0.00	-80.9	0.00	80.91	1,817.44	457.68	1,243.16	1,064.83	18.57	-1.44	0.085
124.00	-13.02	-4.07	0.00	-61.8	0.00	61.80	1,788.79	446.11	1,181.11	1,021.28	19.79	-1.47	0.068
125.00	-12.64	-3.96	0.00	-57.7	0.00	57.73	1,781.49	443.22	1,165.84	1,010.45	20.1	-1.47	0.064
127.00	-11.20	-3.26	0.00	-49.0	0.00	49.03	1,766.71	437.43	1,135.61	988.86	20.72	-1.49	0.056
129.00	-10.79	-3.15	0.00	-42.5	0.00	42.52	1,751.71	431.64	1,105.78	967.36	21.34	-1.5	0.050
129.20	-10.59	-3.12	0.00	-41.8	0.00	41.82	1,750.20	431.07	1,102.81	965.22	21.4	-1.5	0.049
130.00	-10.51	-3.08	0.00	-39.3	0.00	39.33	1,744.13	428.75	1,091.01	956.65	21.66	-1.5	0.047
132.10	-10.11	-2.99	0.00	-32.7	0.00	32.72	1,728.02	422.67	1,060.32	934.25	22.32	-1.51	0.041
132.50	-9.96	-2.95	0.00	-31.5	0.00	31.53	1,724.93	421.52	1,054.52	929.99	22.45	-1.51	0.040
133.00	-9.35	-2.80	0.00	-30.0	0.00	30.05	1,721.04	420.07	1,047.30	924.68	22.6	-1.51	0.038
134.00	-9.23	-2.77	0.00	-27.3	0.00	27.26	1,713.23	417.18	1,032.93	914.08	22.92	-1.52	0.035
134.30	-9.15	-2.66	0.00	-26.4	0.00	26.42	1,710.88	416.31	1,028.63	910.90	23.02	-1.52	0.034
134.50	-9.04	-2.57	0.00	-25.9	0.00	25.89	1,709.31	415.73	1,025.78	908.79	23.08	-1.52	0.034
135.00	-8.99	-2.50	0.00	-24.6	0.00	24.61	1,705.37	414.28	1,018.65	903.50	23.24	-1.52	0.033
140.00	-8.49	-2.42	0.00	-12.1	0.00	12.10	1,665.21	399.82	948.78	851.09	24.84	-1.53	0.019
141.00	-4.17	-1.05	0.00	-9.7	0.00	9.68	1,657.01	396.93	935.11	840.70	25.16	-1.54	0.014
145.00	-3.82	-0.93	0.00	-5.5	0.00	5.49	1,618.48	385.35	881.39	796.95	26.45	-1.54	0.009
150.00	0.00	-0.83	0.00	-0.8	0.00	0.83	1,557.73	370.89	816.49	737.91	28.07	-1.54	0.001

**EQUIVALENT LATERAL FORCES METHOD ANALYSIS**

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

Spectral Response Acceleration for Short Period ( $S_S$ ):	0.207
Spectral Response Acceleration at 1.0 Second Period ( $S_1$ ):	0.055
Long-Period Transition Period ( $T_L$ – Seconds):	6
Importance Factor ( $I_a$ ):	1.000
Site Coefficient $F_a$ :	1.600
Site Coefficient $F_v$ :	2.400
Response Modification Coefficient (R):	1.500
Design Spectral Response Acceleration at Short Period ( $S_{ds}$ ):	0.221
Design Spectral Response Acceleration at 1.0 Second Period ( $S_{d1}$ ):	0.088
Seismic Response Coefficient ( $C_s$ ):	0.030
Upper Limit $C_s$ :	0.030
Lower Limit $C_s$ :	0.030
Period based on Rayleigh Method (sec):	2.860
Redundancy Factor ( $\rho$ ):	1.000
Seismic Force Distribution Exponent ( $k$ ):	2.000
Total Unfactored Dead Load:	45.540 k
Seismic Base Shear (E):	1.370 k

**1.2D + 1.0Ev + 1.0Eh Normal Seismic**

Segment	Height Above Base (ft)	Weight (lb)	$W_z$ (lb-ft)	$C_{vx}$	Horizontal Force (lb)	Vertical Force (lb)
46	147.5	425	9,237	0.021	29	528
45	143	350	7,152	0.016	22	435
44	140.5	99	1,950	0.004	6	123
43	137.5	502	9,495	0.021	29	625
42	134.75	51	926	0.002	3	63
41	134.4	20	369	0.001	1	25
40	134.15	31	552	0.001	2	38
39	133.5	103	1,835	0.004	6	128
38	132.75	52	911	0.002	3	64
37	132.3	41	726	0.002	2	52
36	131.05	219	3,764	0.008	12	273
35	129.6	84	1,413	0.003	4	105
34	129.1	21	352	0.001	1	26
33	128	212	3,476	0.008	11	264
32	126	257	4,082	0.009	13	320
31	124.5	129	2,006	0.004	6	161
30	122	523	7,788	0.018	24	651
29	117.5	667	9,204	0.021	28	829
28	113	543	6,939	0.016	21	676
27	110.5	137	1,676	0.004	5	171
26	107.5	695	8,028	0.018	25	864
25	103	566	6,003	0.014	19	704
24	100.5	273	2,758	0.006	9	340
23	97.9167	1,152	11,043	0.025	34	1,433
22	95.4167	148	1,344	0.003	4	184
21	92.5	897	7,673	0.017	24	1,116
20	87.5	915	7,009	0.016	22	1,139
19	82.5	934	6,358	0.014	20	1,162
18	77.5	953	5,723	0.013	18	1,186
17	72.5	972	5,107	0.012	16	1,209
16	67.5	990	4,512	0.010	14	1,232
15	62.5	1,009	3,941	0.009	12	1,255
14	57.5	1,028	3,398	0.008	10	1,279
13	54.5	208	617	0.001	2	259

Segment	Height Above Base (ft)	Weight (lb)	W <sub>z</sub> (lb-ft)	C <sub>vx</sub>	Horizontal Force (lb)	Vertical Force (lb)
12	52	1,600	4,326	0.010	13	1,990
11	48.9167	877	2,099	0.005	6	1,092
10	46.4167	675	1,455	0.003	4	840
9	42.5	1,209	2,184	0.005	7	1,504
8	37.5	1,231	1,731	0.004	5	1,531
7	32.5	1,253	1,323	0.003	4	1,558
6	27.5	1,274	964	0.002	3	1,585
5	22.5	1,296	656	0.002	2	1,613
4	17.5	1,318	404	0.001	1	1,640
3	12.5	1,340	209	0.000	1	1,667
2	7.5	1,362	77	0.000	0	1,694
1	2.5	1,383	9	0.000	0	1,721
Alcatel-Lucent RRH2x50-08	150	159	3,571	0.008	11	197
Alcatel-Lucent 1900 MHz 4X45 RRH	150	180	4,050	0.009	12	224
Alcatel-Lucent TD-RRH8x20-25 w/ Solar Shield	150	210	4,725	0.011	15	261
RFS APXVTM14-ALU-I20	150	169	3,794	0.009	12	210
Commscope NNVV-65B-R4	150	232	5,224	0.012	16	289
DragonWave Horizon Compact	150	21	477	0.001	1	26
DragonWave Horizon Compact	134	21	381	0.001	1	26
Site Pro 1 RMQP-496-HK	150	2,449	55,096	0.124	170	3,047
Ericsson KRY 112 144/1	141	33	656	0.002	2	41
Ericsson Radio 4449 B71 B85A	141	225	4,473	0.010	14	280
Ericsson RRUS 4415 B25	141	138	2,744	0.006	8	172
Ericsson Air6449 B41	141	312	6,203	0.014	19	388
Ericsson AIR 21, 1.3M, B2A B4P (91.5 lbs)	141	274	5,457	0.012	17	342
Ericsson AIR32 B66Aa/B2a	141	397	7,885	0.018	24	493
RFS APXVAARR24_43-U-NA20	141	384	7,628	0.017	24	477
Generic Flat Platform with Handrails	141	2,500	49,702	0.112	153	3,110
Argus LLPX310R	134.5	86	1,552	0.004	5	107
DragonWave A-ANT-11G-2-C	134.3	54	974	0.002	3	67
Generic Round Side Arm	133	562	9,950	0.022	31	700
NextNet BTS-2500	132.5	105	1,843	0.004	6	131
Ericsson RRUS 32 B30	132.1	180	3,141	0.007	10	224
Ericsson RRUS 4478 B14 (15")	129.2	178	2,975	0.007	9	222
Ericsson AIR 6419 B77G	129	198	3,300	0.008	10	247
Raycap DC6-48-60-18-8F ("Squid")	127	64	1,026	0.002	3	79
Ericsson RRUS 4449 B5, B12	127	213	3,435	0.008	11	265
Ericsson RRUS 32 B66A	127	152	2,453	0.006	8	189
Ericsson RRUS 32 B2	127	159	2,565	0.006	8	198
Raycap DC9-48-60-24-8C-EV	127	16	258	0.001	1	20
CCI DMP65R-BU6E	127	311	5,023	0.011	16	387
Kathrein Scala 80010965	127	293	4,723	0.011	15	364
Ericsson Air 6449 B77D	125	245	3,825	0.009	12	305
Flat Platform w/Handrails SitePro PRK-SFS and SitePro HRK-14-HD	124	3,000	46,128	0.104	142	3,732
Empty Flat Platform w/ Handrails	111	2,000	24,642	0.056	76	2,488
		45,544	442,682	1.000	1,366	56,663

**0.9D - 1.0Ev + 1.0Eh Normal Seismic (Reduced DL)**

Segment	Height Above Base (ft)	Weight (lb)	W <sub>z</sub> (lb-ft)	C <sub>vx</sub>	Horizontal Force (lb)	Vertical Force (lb)
46	147.5	425	9,237	0.021	29	363
45	143	350	7,152	0.016	22	299
44	140.5	99	1,950	0.004	6	85
43	137.5	502	9,495	0.021	29	430
42	134.75	51	926	0.002	3	44
41	134.4	20	369	0.001	1	17
40	134.15	31	552	0.001	2	26
39	133.5	103	1,835	0.004	6	88
38	132.75	52	911	0.002	3	44
37	132.3	41	726	0.002	2	35
36	131.05	219	3,764	0.008	12	188



Segment	Height Above Base (ft)	Weight (lb)	W <sub>z</sub> (lb-ft)	C <sub>vx</sub>	Horizontal Force (lb)	Vertical Force (lb)
35	129.6	84	1,413	0.003	4	72
34	129.1	21	352	0.001	1	18
33	128	212	3,476	0.008	11	182
32	126	257	4,082	0.009	13	220
31	124.5	129	2,006	0.004	6	111
30	122	523	7,788	0.018	24	448
29	117.5	667	9,204	0.021	28	571
28	113	543	6,939	0.016	21	465
27	110.5	137	1,676	0.004	5	117
26	107.5	695	8,028	0.018	25	595
25	103	566	6,003	0.014	19	484
24	100.5	273	2,758	0.006	9	234
23	97.9167	1,152	11,043	0.025	34	986
22	95.4167	148	1,344	0.003	4	126
21	92.5	897	7,673	0.017	24	768
20	87.5	915	7,009	0.016	22	784
19	82.5	934	6,358	0.014	20	800
18	77.5	953	5,723	0.013	18	816
17	72.5	972	5,107	0.012	16	832
16	67.5	990	4,512	0.010	14	848
15	62.5	1,009	3,941	0.009	12	864
14	57.5	1,028	3,398	0.008	10	880
13	54.5	208	617	0.001	2	178
12	52	1,600	4,326	0.010	13	1,369
11	48.9167	877	2,099	0.005	6	751
10	46.4167	675	1,455	0.003	4	578
9	42.5	1,209	2,184	0.005	7	1,035
8	37.5	1,231	1,731	0.004	5	1,053
7	32.5	1,253	1,323	0.003	4	1,072
6	27.5	1,274	964	0.002	3	1,091
5	22.5	1,296	656	0.002	2	1,109
4	17.5	1,318	404	0.001	1	1,128
3	12.5	1,340	209	0.000	1	1,147
2	7.5	1,362	77	0.000	0	1,165
1	2.5	1,383	9	0.000	0	1,184
Alcatel-Lucent RRH2x50-08	150	159	3,571	0.008	11	136
Alcatel-Lucent 1900 MHz 4X45 RRH	150	180	4,050	0.009	12	154
Alcatel-Lucent TD-RRH8x20-25 w/ Solar Shield	150	210	4,725	0.011	15	180
RFS APXVTM14-ALU-I20	150	169	3,794	0.009	12	144
Commscope NNVV-65B-R4	150	232	5,224	0.012	16	199
DragonWave Horizon Compact	150	21	477	0.001	1	18
DragonWave Horizon Compact	134	21	381	0.001	1	18
Site Pro 1 RMQP-496-HK	150	2,449	55,096	0.124	170	2,096
Ericsson KRY 112 144/1	141	33	656	0.002	2	28
Ericsson Radio 4449 B71 B85A	141	225	4,473	0.010	14	193
Ericsson RRUS 4415 B25	141	138	2,744	0.006	8	118
Ericsson Air6449 B41	141	312	6,203	0.014	19	267
Ericsson AIR 21, 1.3M, B2A B4P (91.5 lbs)	141	274	5,457	0.012	17	235
Ericsson AIR32 B66Aa/B2a	141	397	7,885	0.018	24	339
RFS APXVAARR24_43-U-NA20	141	384	7,628	0.017	24	328
Generic Flat Platform with Handrails	141	2,500	49,702	0.112	153	2,140
Argus LLPX310R	134.5	86	1,552	0.004	5	73
DragonWave A-ANT-11G-2-C	134.3	54	974	0.002	3	46
Generic Round Side Arm	133	562	9,950	0.022	31	481
NextNet BTS-2500	132.5	105	1,843	0.004	6	90
Ericsson RRUS 32 B30	132.1	180	3,141	0.007	10	154
Ericsson RRUS 4478 B14 (15")	129.2	178	2,975	0.007	9	153
Ericsson AIR 6419 B77G	129	198	3,300	0.008	10	170
Raycap DC6-48-60-18-8F ("Squid")	127	64	1,026	0.002	3	54
Ericsson RRUS 4449 B5, B12	127	213	3,435	0.008	11	182
Ericsson RRUS 32 B66A	127	152	2,453	0.006	8	130
Ericsson RRUS 32 B2	127	159	2,565	0.006	8	136
Raycap DC9-48-60-24-8C-EV	127	16	258	0.001	1	14
CCI DMP65R-BU6E	127	311	5,023	0.011	16	267
Kathrein Scala 80010965	127	293	4,723	0.011	15	251
Ericsson Air 6449 B77D	125	245	3,825	0.009	12	210
Flat Platform w/Handrails SitePro PRK-SFS and SitePro HRK-14-HD	124	3,000	46,128	0.104	142	2,568
Empty Flat Platform w/ Handrails	111	2,000	24,642	0.056	76	1,712

Segment	Height Above Base (ft)	Weight (lb)	W <sub>z</sub> (lb-ft)	C <sub>vx</sub>	Horizontal Force (lb)	Vertical Force (lb)
		45,544	442,682	1.000	1,366	38,978

**1.2D + 1.0Ev + 1.0Eh Normal Seismic**

**CALCULATED FORCES**

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (fr-kips)	Mu Mx (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (kips)	Phi Mn (kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-54.94	-1.37	0.00	-179.80	0.00	179.80	4,644.08	1,215.47	5,637	4,650.12	0.00	0.00	0.05
5.00	-53.25	-1.38	0.00	-172.95	0.00	172.95	4,595.30	1,192.97	5,430	4,515.36	0.01	-0.01	0.05
10.00	-51.58	-1.39	0.00	-166.04	0.00	166.04	4,545.12	1,170.48	5,228	4,381.07	0.02	-0.02	0.05
15.00	-49.94	-1.40	0.00	-159.08	0.00	159.08	4,493.54	1,147.98	5,029	4,247.34	0.06	-0.04	0.05
20.00	-48.33	-1.41	0.00	-152.08	0.00	152.08	4,440.56	1,125.48	4,833	4,114.23	0.10	-0.05	0.05
25.00	-46.74	-1.41	0.00	-145.05	0.00	145.05	4,386.18	1,102.98	4,642	3,981.83	0.16	-0.06	0.05
30.00	-45.18	-1.42	0.00	-137.98	0.00	137.98	4,330.39	1,080.48	4,455	3,850.22	0.23	-0.07	0.05
35.00	-43.65	-1.42	0.00	-130.90	0.00	130.90	4,273.20	1,057.98	4,271	3,719.48	0.31	-0.09	0.05
40.00	-42.15	-1.42	0.00	-123.80	0.00	123.80	4,214.61	1,035.48	4,092	3,589.68	0.41	-0.10	0.04
45.00	-41.31	-1.42	0.00	-116.70	0.00	116.70	4,154.61	1,012.99	3,916	3,460.90	0.52	-0.11	0.04
47.83	-40.22	-1.42	0.00	-112.68	0.00	112.68	4,119.99	1,000.24	3,818	3,388.41	0.59	-0.12	0.04
50.00	-38.22	-1.40	0.00	-109.61	0.00	109.61	4,093.21	990.49	3,744	3,333.22	0.64	-0.12	0.04
54.00	-37.97	-1.41	0.00	-103.99	0.00	103.99	3,318.40	850.78	3,222	2,712.21	0.75	-0.14	0.05
55.00	-36.69	-1.40	0.00	-102.58	0.00	102.58	3,309.52	846.92	3,193	2,692.57	0.78	-0.14	0.05
60.00	-35.43	-1.39	0.00	-95.59	0.00	95.59	3,264.26	827.64	3,049	2,594.71	0.93	-0.15	0.05
65.00	-34.20	-1.38	0.00	-88.63	0.00	88.63	3,217.60	808.35	2,909	2,497.46	1.10	-0.17	0.05
70.00	-32.99	-1.37	0.00	-81.71	0.00	81.71	3,169.54	789.07	2,772	2,400.90	1.28	-0.18	0.04
75.00	-31.80	-1.36	0.00	-74.85	0.00	74.85	3,120.07	769.79	2,638	2,305.09	1.48	-0.19	0.04
80.00	-30.64	-1.34	0.00	-68.06	0.00	68.06	3,069.20	750.50	2,508	2,210.12	1.69	-0.21	0.04
85.00	-29.50	-1.32	0.00	-61.35	0.00	61.35	3,016.93	731.22	2,380	2,116.08	1.92	-0.22	0.04
90.00	-28.39	-1.30	0.00	-54.74	0.00	54.74	2,963.26	711.93	2,257	2,023.03	2.16	-0.24	0.04
95.00	-28.20	-1.30	0.00	-48.24	0.00	48.24	2,909.12	692.65	2,136	1,931.68	2.41	-0.25	0.04
95.83	-26.77	-1.26	0.00	-47.16	0.00	47.16	2,895.62	689.43	2,116	1,913.69	2.45	-0.25	0.03
100.00	-26.43	-1.25	0.00	-41.90	0.00	41.90	2,828.13	673.36	2,019	1,825.02	2.67	-0.26	0.03
101.00	-25.73	-1.24	0.00	-40.64	0.00	40.64	1,941.28	512.65	1,560	1,275.31	2.73	-0.26	0.05
105.00	-24.86	-1.21	0.00	-35.70	0.00	35.70	1,916.90	501.08	1,490	1,230.62	2.95	-0.27	0.04
110.00	-24.69	-1.21	0.00	-29.64	0.00	29.64	1,885.15	486.61	1,405	1,174.99	3.24	-0.28	0.04
111.00	-21.53	-1.10	0.00	-28.43	0.00	28.43	1,878.63	483.72	1,389	1,163.90	3.30	-0.29	0.04
115.00	-20.70	-1.07	0.00	-24.04	0.00	24.04	1,852.00	472.15	1,323	1,119.70	3.55	-0.30	0.03
120.00	-20.05	-1.04	0.00	-18.70	0.00	18.70	1,817.44	457.68	1,243	1,064.83	3.86	-0.31	0.03
124.00	-16.15	-0.88	0.00	-14.52	0.00	14.52	1,788.79	446.11	1,181	1,021.28	4.12	-0.31	0.02
125.00	-15.53	-0.85	0.00	-13.64	0.00	13.64	1,781.49	443.22	1,166	1,010.45	4.19	-0.31	0.02
127.00	-13.76	-0.77	0.00	-11.95	0.00	11.95	1,766.71	437.43	1,136	988.86	4.32	-0.32	0.02
129.00	-13.49	-0.76	0.00	-10.41	0.00	10.41	1,751.71	431.64	1,106	967.36	4.45	-0.32	0.02
129.20	-13.16	-0.74	0.00	-10.26	0.00	10.26	1,750.20	431.07	1,103	965.22	4.47	-0.32	0.02
130.00	-12.89	-0.73	0.00	-9.66	0.00	9.66	1,744.13	428.75	1,091	956.65	4.52	-0.32	0.02
132.10	-12.62	-0.72	0.00	-8.13	0.00	8.13	1,728.02	422.67	1,060	934.25	4.66	-0.32	0.02
132.50	-12.42	-0.71	0.00	-7.85	0.00	7.85	1,724.93	421.52	1,055	929.99	4.69	-0.32	0.02
133.00	-11.59	-0.67	0.00	-7.50	0.00	7.50	1,721.04	420.07	1,047	924.68	4.72	-0.32	0.02
134.00	-11.53	-0.66	0.00	-6.83	0.00	6.83	1,713.23	417.18	1,033	914.08	4.79	-0.32	0.01
134.30	-11.44	-0.66	0.00	-6.63	0.00	6.63	1,710.88	416.31	1,029	910.90	4.81	-0.33	0.01
134.50	-11.27	-0.65	0.00	-6.50	0.00	6.50	1,709.31	415.73	1,026	908.79	4.82	-0.33	0.01
135.00	-10.64	-0.62	0.00	-6.18	0.00	6.18	1,705.37	414.28	1,019	903.50	4.86	-0.33	0.01
140.00	-10.52	-0.61	0.00	-3.09	0.00	3.09	1,665.21	399.82	949	851.09	5.20	-0.33	0.01
141.00	-4.78	-0.29	0.00	-2.48	0.00	2.48	1,657.01	396.93	935	840.70	5.27	-0.33	0.01
145.00	-4.25	-0.26	0.00	-1.31	0.00	1.31	1,618.48	385.35	881	796.95	5.55	-0.33	0.00
150.00	0.00	-0.24	0.00	0.00	0.00	0.00	1,557.73	370.89	816	737.91	5.89	-0.33	0.00

**0.9D - 1.0Ev + 1.0Eh Normal Seismic (Reduced DL)**

**CALCULATED FORCES**

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (fr-kips)	Mu Mx (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (kips)	Phi Mn (kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-37.79	-1.37	0.00	-175.86	0.00	175.86	4,644.08	1,215.47	5,637	4,650.12	0.00	0.00	0.05

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (fr-kips)	Mu Mx (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (kips)	Phi Mn (kips)	Total Deflect (in)	Rotation (deg)	Ratio
5.00	-36.63	-1.38	0.00	-169.01	0.00	169.01	4,595.30	1,192.97	5,430	4,515.36	0.01	-0.01	0.05
10.00	-35.48	-1.38	0.00	-162.13	0.00	162.13	4,545.12	1,170.48	5,228	4,381.07	0.02	-0.02	0.05
15.00	-34.35	-1.39	0.00	-155.22	0.00	155.22	4,493.54	1,147.98	5,029	4,247.34	0.05	-0.03	0.04
20.00	-33.24	-1.39	0.00	-148.28	0.00	148.28	4,440.56	1,125.48	4,833	4,114.23	0.10	-0.05	0.04
25.00	-32.15	-1.40	0.00	-141.32	0.00	141.32	4,386.18	1,102.98	4,642	3,981.83	0.15	-0.06	0.04
30.00	-31.08	-1.40	0.00	-134.34	0.00	134.34	4,330.39	1,080.48	4,455	3,850.22	0.22	-0.07	0.04
35.00	-30.03	-1.40	0.00	-127.36	0.00	127.36	4,273.20	1,057.98	4,271	3,719.48	0.30	-0.08	0.04
40.00	-28.99	-1.39	0.00	-120.38	0.00	120.38	4,214.61	1,035.48	4,092	3,589.68	0.40	-0.10	0.04
45.00	-28.41	-1.39	0.00	-113.41	0.00	113.41	4,154.61	1,012.99	3,916	3,460.90	0.51	-0.11	0.04
47.83	-27.66	-1.39	0.00	-109.46	0.00	109.46	4,119.99	1,000.24	3,818	3,388.41	0.57	-0.12	0.04
50.00	-26.29	-1.38	0.00	-106.45	0.00	106.45	4,093.21	990.49	3,744	3,333.22	0.63	-0.12	0.04
54.00	-26.12	-1.38	0.00	-100.95	0.00	100.95	3,318.40	850.78	3,222	2,712.21	0.73	-0.13	0.05
55.00	-25.24	-1.37	0.00	-99.57	0.00	99.57	3,309.52	846.92	3,193	2,692.57	0.76	-0.13	0.05
60.00	-24.37	-1.36	0.00	-92.73	0.00	92.73	3,264.26	827.64	3,049	2,594.71	0.91	-0.15	0.04
65.00	-23.52	-1.35	0.00	-85.93	0.00	85.93	3,217.60	808.35	2,909	2,497.46	1.07	-0.16	0.04
70.00	-22.69	-1.34	0.00	-79.19	0.00	79.19	3,169.54	789.07	2,772	2,400.90	1.25	-0.18	0.04
75.00	-21.88	-1.32	0.00	-72.51	0.00	72.51	3,120.07	769.79	2,638	2,305.09	1.44	-0.19	0.04
80.00	-21.08	-1.30	0.00	-65.90	0.00	65.90	3,069.20	750.50	2,508	2,210.12	1.65	-0.20	0.04
85.00	-20.29	-1.28	0.00	-59.38	0.00	59.38	3,016.93	731.22	2,380	2,116.08	1.87	-0.22	0.04
90.00	-19.53	-1.26	0.00	-52.96	0.00	52.96	2,963.26	711.93	2,257	2,023.03	2.10	-0.23	0.03
95.00	-19.40	-1.26	0.00	-46.66	0.00	46.66	2,909.12	692.65	2,136	1,931.68	2.35	-0.24	0.03
95.83	-18.41	-1.22	0.00	-45.61	0.00	45.61	2,895.62	689.43	2,116	1,913.69	2.39	-0.24	0.03
100.00	-18.18	-1.21	0.00	-40.52	0.00	40.52	2,828.13	673.36	2,019	1,825.02	2.60	-0.25	0.03
101.00	-17.70	-1.20	0.00	-39.30	0.00	39.30	1,941.28	512.65	1,560	1,275.31	2.66	-0.25	0.04
105.00	-17.10	-1.17	0.00	-34.52	0.00	34.52	1,916.90	501.08	1,490	1,230.62	2.87	-0.26	0.04
110.00	-16.98	-1.17	0.00	-28.66	0.00	28.66	1,885.15	486.61	1,405	1,174.99	3.16	-0.28	0.03
111.00	-14.81	-1.06	0.00	-27.49	0.00	27.49	1,878.63	483.72	1,389	1,163.90	3.21	-0.28	0.03
115.00	-14.24	-1.03	0.00	-23.24	0.00	23.24	1,852.00	472.15	1,323	1,119.70	3.45	-0.29	0.03
120.00	-13.79	-1.01	0.00	-18.08	0.00	18.08	1,817.44	457.68	1,243	1,064.83	3.76	-0.30	0.03
124.00	-11.11	-0.85	0.00	-14.04	0.00	14.04	1,788.79	446.11	1,181	1,021.28	4.01	-0.30	0.02
125.00	-10.68	-0.82	0.00	-13.20	0.00	13.20	1,781.49	443.22	1,166	1,010.45	4.07	-0.30	0.02
127.00	-9.47	-0.74	0.00	-11.56	0.00	11.56	1,766.71	437.43	1,136	988.86	4.20	-0.31	0.02
129.00	-9.28	-0.73	0.00	-10.07	0.00	10.07	1,751.71	431.64	1,106	967.36	4.33	-0.31	0.02
129.20	-9.05	-0.72	0.00	-9.92	0.00	9.92	1,750.20	431.07	1,103	965.22	4.34	-0.31	0.02
130.00	-8.87	-0.70	0.00	-9.35	0.00	9.35	1,744.13	428.75	1,091	956.65	4.40	-0.31	0.02
132.10	-8.68	-0.69	0.00	-7.87	0.00	7.87	1,728.02	422.67	1,060	934.25	4.53	-0.31	0.01
132.50	-8.54	-0.68	0.00	-7.59	0.00	7.59	1,724.93	421.52	1,055	929.99	4.56	-0.31	0.01
133.00	-7.97	-0.64	0.00	-7.25	0.00	7.25	1,721.04	420.07	1,047	924.68	4.59	-0.31	0.01
134.00	-7.93	-0.64	0.00	-6.61	0.00	6.61	1,713.23	417.18	1,033	914.08	4.66	-0.32	0.01
134.30	-7.87	-0.64	0.00	-6.42	0.00	6.42	1,710.88	416.31	1,029	910.90	4.68	-0.32	0.01
134.50	-7.75	-0.63	0.00	-6.29	0.00	6.29	1,709.31	415.73	1,026	908.79	4.69	-0.32	0.01
135.00	-7.32	-0.60	0.00	-5.98	0.00	5.98	1,705.37	414.28	1,019	903.50	4.72	-0.32	0.01
140.00	-7.23	-0.59	0.00	-3.00	0.00	3.00	1,665.21	399.82	949	851.09	5.06	-0.32	0.01
141.00	-3.29	-0.28	0.00	-2.41	0.00	2.41	1,657.01	396.93	935	840.70	5.12	-0.32	0.01
145.00	-2.93	-0.25	0.00	-1.27	0.00	1.27	1,618.48	385.35	881	796.95	5.39	-0.32	0.00
150.00	0.00	-0.24	0.00	0.00	0.00	0.00	1,557.73	370.89	816	737.91	5.73	-0.32	0.00

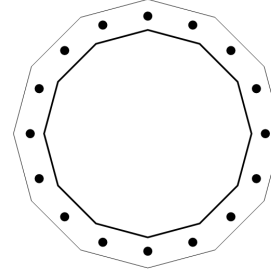
ANALYSIS SUMMARY

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 + 1.0W Normal	35.02	0.00	54.57	0.00	0.00	3853.91	0.00	0.84
0.9D + 1.0W Normal	34.99	0.00	40.91	0.00	0.00	3789.72	0.00	0.82
1.2D + 1.0Di + 1.0Wi Normal	7.94	0.00	68.21	0.00	0.00	887.33	0.00	0.21
1.2D + 1.0Ev + 1.0Eh Normal	1.42	0.00	54.94	0.00	0.00	179.80	0.00	0.05
0.9D - 1.0Ev + 1.0Eh Normal	1.40	0.00	37.79	0.00	0.00	175.86	0.00	0.05
1.0D + 1.0W Service Normal	8.38	0.00	45.54	0.00	0.00	914.04	0.00	0.21

**BASE PLATE ANALYSIS @ 0 FT**

**PLATE PARAMETERS (ID# 9857)**

Diameter:	63.85	in
Shape:	12	
Thickness:	2.75	in
Grade:	A633 Gr. E	
Yield Strength:	60	ksi
Tensile Strength:	80	ksi
Rod Detail Type:	c	
Clear Distance	-	in
Base Weld Size:	0.125	in
Orientation Offset:	-	°
Analysis Type:	Plastic	
Neutral Axis:	236	°



**ANCHOR ROD PARAMETERS**

Class	Arrangement	Quantity	Diameter (in)	Circle (in)	Grade	Fy (ksi)	Fu (ksi)	Spacing (in)	Offset (°)
Original [ID# 3285]	Radial	16	2.25	57.85	A615-75	75	100	-	-

**ANCHOR ROD GEOMETRY AND APPLIED LOADS --- ORIGINAL (16) 2.25"Ø [ID 3285]**

Position	Radians	X (in)	Y (in)	Moment Arm (in)	Inertia (in <sup>4</sup> )	Axial Load (k)	Shear Load (k)
1	0.393	26.72	11.07	15.240	755.176	170.20	2.85
2	0.785	20.45	20.45	5.269	90.993	170.20	3.35
3	1.178	11.07	26.72	-5.505	99.262	-156.55	3.35
4	1.571	0.00	28.92	-15.441	775.139	-156.55	2.83
5	1.963	-11.07	26.72	-23.026	1722.704	-156.55	1.88
6	2.356	-20.45	20.45	-27.105	2386.887	-156.55	0.65
7	2.749	-26.72	11.07	-27.058	2378.617	-156.55	0.68
8	3.142	-28.92	0.00	-22.892	1702.740	-156.55	1.91
9	3.534	-26.72	-11.07	-15.240	755.175	-156.55	2.85
10	3.927	-20.45	-20.45	-5.269	90.993	-156.55	3.35
11	4.320	-11.07	-26.72	5.505	99.262	170.20	3.35
12	4.712	0.00	-28.92	15.441	775.139	170.20	2.83
13	5.105	11.07	-26.72	23.026	1722.704	170.20	1.88
14	5.498	20.45	-20.45	27.105	2386.887	170.20	0.65
15	5.890	26.72	-11.07	27.058	2378.618	170.20	0.68
16	6.283	28.92	0.00	22.892	1702.741	170.20	1.91

**REACTION DISTRIBUTION**

Component	ID	Moment Mu (k-ft)	Axial Load Pu (k)	Shear Vu (k)	Moment Factor
Pole	49.5998"Ø x 0.4375" (12 Sides)	3853.9	54.57	35.02	1.000
Bolt Group	Original (16) 2.25"Ø	3853.9	-	35.02	1.000
<b>TOTALS</b>		<b>3853.91</b>	<b>54.57</b>	<b>35.02</b>	

ASSET: 302538, Parsonage Hill Aka Wallin  
 CUSTOMER: AT&T MOBILITY

CODE: ANSI/TIA-222-H  
 ENG NO: 13753549

**COMPONENT PROPERTIES**

Component	ID	Gross Area (in <sup>2</sup> )	Net Area (in <sup>2</sup> )	Individual Inertia (in <sup>4</sup> )	Moment of Inertia (in <sup>4</sup> )	Threads/in
Pole	49.5998"ø x 0.4375" (12 Sides)	66.8017	-	-	20186.18	-
Bolt Group	Original (16) 2.25"ø	3.9761	3.2477	0.8393	19823.04	4.5

**EXTERNAL BASE PLATE BEND LINE ANALYSIS @ 0 FT**

**POLE PROPERTIES**

Flat-to-Flat Diameter: 49.72 in  
 Point-to-Point Diameter: 51.48 in  
 Flat Width: 13.324 in  
 Flat Radians: 0.524 rad

**PLATE PROPERTIES**

Neutral Axis: 236 °  
 Bend Line Lower Limit: 5.273 rad  
 Bend Line Upper Limit: 6.115 rad

Bend Line	Chord Length (in)	Additional Length (in)	Section Modulus (in <sup>3</sup> )	Applied Moment Mu (k-in)	Moment Capacity φMn (k-in)	Ratio
Flat	35.746	0.00	67.582	925.9	3649.5	0.254
Corner	33.170	0.00	62.712	560.0	3386.5	0.165
Circumferential	37.896	0.00	71.647	781.5	3868.9	0.202

**PLASTIC ANCHOR ROD ANALYSIS**

Class	Group Quantity	Rod Diameter (in)	Applied Axial Load Pu (k)	Applied Shear Load Vu (k)	Compressive Capacity φPn (k)	Ratio
Original	16	2.25	170.3	3.4	243.6	0.699





## Pier Foundation Analysis

Analysis Parameters	
TIA Standard	TIA-222-H
Analysis Type	Rigid
Tower Type	Monopole
Pier Type	Drilled Pier

Base Reactions		
Moment	3853.9	k-ft
Shear	35.0	k
Axial	54.6	k
Uplift	-	k

Analysis Options	
<input type="checkbox"/>	Pier Foundation Mapped
<input type="checkbox"/>	Check Servicability Limit State
<input type="checkbox"/>	Check Anchor Rod Development
<input type="checkbox"/>	Additional Rebar Circles
<input type="checkbox"/>	Collar Modification
<input type="checkbox"/>	Use ACI 318-05 Load Factors [9.2.1(b)]

Pier Geometry		
Diameter	6.5	ft
Embedment	21.0	ft
Height Above Grade	1.0	ft
Concrete Strength	3000	psi

Original Vertical Rebar (Group 1)		
Quantity	38	-
Rebar Size	#11	-
Grade	A615-60	-
Orientation Offset		°
Top Cover	3.0	in
Bottom Cover	3.5	in

Horizontal Ties		
# of Tie Spacings / Sizes	2	-
Cover	3.0	in

Horizontal Tie #1		
Size	#4	-
Grade	A615-60	-
Spacing	3.0	in
End Depth	1.0	ft

Horizontal Tie #2		
Size	#4	-
Grade	A615-60	-
Spacing	28.0	in
End Depth	22.0	ft

Soil Data		
Water Table	99.0	ft
Ratio T/C Skin Friction	0.98	-
Pullout Angle	30	deg

Soil Properties Table					
Depth at Bottom (ft)	Density (pcf)	Cohesion (psf)	Friction Angle (deg)	Ultimate Skin Friction (psf)	Ultimate Net Bearing Pressure (psf)
2	105	0	0	0	0
6	124	0	35	0	0
7.5	140	11,419	0	5,139	0
22	140	14,805	0	6,662	47,376

## Results

Soil		
Component	Usage	Pass/Fail
Overturning Moment	14%	Pass
Axial	3%	Pass
Uplift	-	-

Structure		
Component	Usage	Pass/Fail
Flexure & Axial	50%	Pass
Shear	96%	Pass



June 30, 2022

The Honorable William W. Dickinson, Jr.  
45 South Main Street, Rm. 310  
Wallingford, CT 06492

Re: Exempt Modification Application – AT&T Site 13753549  
AT&T Mobility Telecommunications Facility @ 922 Northrop Road, Wallingford, CT 06492  
AKA 1000 Northrop Road

Dear Mayor Dickinson:

New Cingular Wireless, PCS, LLC (dba AT&T) currently maintains antennas on a wireless telecommunications facility on an existing American Tower Corporation (ATC) telecommunications tower at the above referenced address. AT&T desires to modify its existing equipment as described in the attached Construction Drawings:

- Remove nine (9) antennas, six (6) RRHs, one (1) squid, twelve (12) TTAs, twelve (12) coax cables, two (2) conduits, four (4) control cables and two (2) fiber trunks.
- Install nine (9) antennas, three (3) RRHs, one (1) squid, six (6) coax cables, four (4) conduits, five (5) control cables and two (2) fiber cables.

This letter is intended to serve as the required notice to the chief elected official of the municipality. As required by Regulations of Connecticut State Agencies (“RCSA”) 16-50j-73 the Connecticut Siting Council (“CSC”) has been notified of this proposal and will review this application. Please accept this letter as notification pursuant to RSCA 16-50j-73.

The enclosed letter and attachments to the CSC fully describe AT&T’s proposal for the site. However, if you have any questions or require any additional information concerning our plans or the CSC procedures, please contact me at 443-677-0144 or contact Melanie Bachmann, Executive Director of the CSC at 860-972-2935.

Respectfully Submitted,

A handwritten signature in blue ink, appearing to read 'Jack Andrews', is written over the typed name.

Jack Andrews  
Zoning Manager, Centerline Communications  
10130 Donleigh Drive  
Columbia, MD 21046  
443-677-0144

Enclosures



June 30, 2022

Jacqueline Hall  
Project Manager, Site Development  
American Tower Corporation  
10 Presidential Way  
Woburn, MA 01801

Re: Exempt Modification Application – AT&T Site 13753549  
AT&T Mobility Telecommunications Facility @ 922 Northrop Road, Wallingford, CT 06492  
AKA 1000 Northrop Road

Dear Ms. Hall:

New Cingular Wireless, PCS, LLC (dba AT&T) currently maintains antennas on a wireless telecommunications facility on an existing American Tower Corporation (ATC) telecommunications tower at the above referenced address. AT&T desires to modify its existing equipment as described in the attached Construction Drawings:

- Remove nine (9) antennas, six (6) RRHs, one (1) squid, twelve (12) TTAs, twelve (12) coax cables, two (2) conduits, four (4) control cables and two (2) fiber trunks.
- Install nine (9) antennas, three (3) RRHs, one (1) squid, six (6) coax cables, four (4) conduits, five (5) control cables and two (2) fiber cables.

This letter is intended to serve as the required notice to the tower owner. As required by Regulations of Connecticut State Agencies (“RCSA”) 16-50j-73 the Connecticut Siting Council (“CSC”) has been notified of this proposal and will review this application. Please accept this letter as notification pursuant to RSCA 16-50j-73.

The enclosed letter and attachments to the CSC fully describe AT&T’s proposal for the site. However, if you have any questions or require any additional information concerning our plans or the CSC procedures, please contact me at 443-677-0144 or contact Melanie Bachmann, Executive Director of the CSC at 860-972-2935.

Respectfully Submitted,

A handwritten signature in blue ink, appearing to read 'Jack Andrews', is written over the typed name and title.

Jack Andrews  
Zoning Manager, Centerline Communications  
10130 Donleigh Drive  
Columbia, MD 21046  
443-677-0144

Enclosures



June 30, 2022

OMEGA WALLINGFORD LLC  
1282 49<sup>th</sup> Street  
Brooklyn, NY 11219

Re: Exempt Modification Application – AT&T Site 13753549  
AT&T Mobility Telecommunications Facility @ 922 Northrop Road, Wallingford, CT 06492  
AKA 1000 Northrop Road

Dear Property Owner:

New Cingular Wireless, PCS, LLC (dba AT&T) currently maintains antennas on a wireless telecommunications facility on an existing American Tower Corporation (ATC) telecommunications tower at the above referenced address. AT&T desires to modify its existing equipment as described in the attached Construction Drawings:

- Remove nine (9) antennas, six (6) RRHs, one (1) squid, twelve (12) TTAs, twelve (12) coax cables, two (2) conduits, four (4) control cables and two (2) fiber trunks.
- Install nine (9) antennas, three (3) RRHs, one (1) squid, six (6) coax cables, four (4) conduits, five (5) control cables and two (2) fiber cables.

This letter is intended to serve as the required notice to the property owner. As required by Regulations of Connecticut State Agencies (“RCSA”) 16-50j-73 the Connecticut Siting Council (“CSC”) has been notified of this proposal and will review this application. Please accept this letter as notification pursuant to RSCA 16-50j-73.

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Jack Andrews  
Zoning Manager, Centerline Communications  
10130 Donleigh Drive  
Columbia, MD 21046  
443-677-0144

Enclosures





June 30, 2022

Kevin Pagini, Town Planner  
45 South Main Street  
Room #G-40  
Wallingford, CT 06492

Re: Exempt Modification Application – AT&T Site 13753549  
AT&T Mobility Telecommunications Facility @ 922 Northrop Road, Wallingford, CT 06492  
AKA 1000 Northrop Road

Dear Mr. Pagini:

New Cingular Wireless, PCS, LLC (dba AT&T) currently maintains antennas on a wireless telecommunications facility on an existing American Tower Corporation (ATC) telecommunications tower at the above referenced address. AT&T desires to modify its existing equipment as described in the attached Construction Drawings:

- Remove nine (9) antennas, six (6) RRHs, one (1) squid, twelve (12) TTAs, twelve (12) coax cables, two (2) conduits, four (4) control cables and two (2) fiber trunks.
- Install nine (9) antennas, three (3) RRHs, one (1) squid, six (6) coax cables, four (4) conduits, five (5) control cables and two (2) fiber cables.

This letter is intended to serve as the required notice to the municipal planning agency. As required by Regulations of Connecticut State Agencies (“RCSA”) 16-50j-73 the Connecticut Siting Council (“CSC”) has been notified of this proposal and will review this application. Please accept this letter as notification pursuant to RSCA 16-50j-73.

The enclosed letter and attachments to the CSC fully describe AT&T’s proposal for the site. However, if you have any questions or require any additional information concerning our plans or the CSC procedures, please contact me at 443-677-0144 or contact Melanie Bachmann, Executive Director of the CSC at 860-972-2935.

Respectfully Submitted,

A handwritten signature in blue ink, appearing to read 'Jack Andrews', is written over a circular blue stamp or watermark.

Jack Andrews  
Zoning Manager, Centerline Communications  
443-677-0144

Enclosures

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