smartlink

May 16, 2014

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

Re:	**Notice of Exempt Modification – Two (2) New Radio Heads Only**
Property Address:	**585 South Main Street (a/k/a New Haven Road), Naugatuck, CT 06770 (the "Property")**
Applicant:	**New Cingular Wireless PCS, LLC ("AT&T")**

Dear Ms. Bachman:

AT&T currently maintains a wireless telecommunications facility on an existing 49-foot monopole (tower) location on the Property. AT&T's facility consists of nine (6) wireless telecommunication antennas at a height of 52-feet. The tower is owned by American Tower Corporation. The Council approved AT&T's use of the tower in the following prior decisions; EM-CING-088-070612 and EM-CING-088-120503. In its 5/18/2012 decision (the "Decision"), the Council approved for AT&T to install 6 Remote Radio Heads (Ericsson RRUS-11) but AT&T only installed two (2). AT&T now intends to install two (2) more RRUS-11's for a total of four (4) RRUS-11. This Exempt Mod Application is necessary because the 5/18/2012 decision is over one year old. Please refer to Tab 1 for further specifications of the new radio heads.

Please accept this application 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 Board of Mayor and Burgesses for the Town of Naugatuck and a copy of this letter is also being sent to American Tower Corp., the owner of the property where the tower is located.

The planned modifications to AT&T's facility fall squarely within those activities explicitly provided for in R.C.S.A. §16-50j-72(b)(2).

33 Boston Post Road West, Marlborough, Massachusetts 01752
p: 508.954.7702 • adam.braillard@smartlinkllc.com
www.smartlinkllc.com

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1. The proposed modifications will not result in an increase in the height of the existing tower. AT&T's new RRUS-11's will be installed at the 52-foot level of the 49-foot monopole.
2. The proposed modifications will not involve any changes to ground-mounted equipment and, therefore, will not require and extension of the site boundary.
3. The proposed modifications will not increase the 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 (RF) emissions at the facility to a level at or above the Federal Communications Commission (FCC) safety standard. A RF emissions calculation for AT&T's modified facility was provided in the application which led to the 5/18/2012 Decision. See Tab 2 attached.
5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.
6. The tower and its foundation can support AT&T's proposed modifications. (See Structural Analysis Report included in Tab 3).

For the foregoing reasons, AT&T respectfully submits that the proposed modifications to the above referenced telecommunications facility constitutes an exempt modification under R.C.S.A. §16-50j-72(b)(2).

Sincerely,

Adam F. Braillard

cc: American Tower Inc., 10 Presidential Way, Woburn, MA 01801
Board of Mayor and Burgesses, 229 Church Street, Naugatuck, CT 06770

33 Boston Post Road West, Marlborough, Massachusetts 01752
p: 508.954.7702 • adam.braillard@smartlinkllc.com
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TAB 1

PROJECT INFORMATION

SCOPE OF WORK:	ITEMS TO BE MOUNTED ON THE EXISTING MONOPOLE: • NEW AT&T RRU'S: (1) RRU'S PER SECTOR WITH (2) SECTORS, FOR A TOTAL OF (2) RRU'S ITEMS TO BE INSTALLED IN EXISTING AT&T EQUIPMENT AREA • (6) PROPOSED AT&T DIPLEXERS TO REPLACE (12) EXISTING DIPLEXERS • (1) PROPOSED 23" RACK ITEMS TO REMAIN: • (4) GSM/UMTS ANTENNAS, (2) LTE ANTENNAS, (2) RRU'S, & (1) SURGE SUPRESSOR & (4) TMA'S TO REMAIN
SITE ADDRESS:	585 SOUTH MAIN STREET NAUGATUCK, CT 06770
LATITUDE: LONGITUDE:	41.47844 N 41° 28' 42.38" N −73.0485 W 73° 2' 54.60" W
USID:	61187
TOWER MANAGER:	SOUTHERN TOWERS, INC. & SPECTRASITE HOLDINGS (AMERICAN TOWER) 10 PRESIDENTIAL WAY WOBURN, MA 01801
TYPE OF SITE:	MONOPOLE/INDOOR EQUIPMENT
TOWER HEIGHT: RAD CENTER:	49'−0"± 52'−0"±
CURRENT USE: PROPOSED USE:	TELECOMMUNICATIONS FACILITY TELECOMMUNICATIONS FACILITY

FA NUMBER: 10035065
SITE NUMBER: CT2166
SITE NAME: NAUGATUCK SOUTH MAIN

PROJECT TEAM

CLIENT REPRESENTATIVE
COMPANY: SMARTLINK, LLC
ADDRESS: 1997 ANNAPOLIS EXCHANGE PARKWAY, SUITE 200
CITY, STATE, ZIP: ANNAPOLIS, MD 21401
CONTACT: TIM BOYCE
PHONE: (980) 333−3640
E−MAIL: tboyce@smartlinkllc.com

SITE ACQUISITION
COMPANY: SMARTLINK, LLC
ADDRESS: 33 BOSTON POST ROAD WEST, SUITE 210
CITY, STATE, ZIP: MARLBOROUGH, MA 01752
CONTACT: TODD OLIVER
PHONE: (774) 369−3618
E−MAIL: todd.oliver@smartlinkllc.com

ENGINEERING
COMPANY: HUDSON DESIGN GROUP, LLC.
ADDRESS: 1600 OSGOOD STREET BUILDING 20 NORTH, SUITE 3090
CITY, STATE, ZIP: NORTH ANDOVER, MA 01845
CONTACT: DANIEL P. HAMM, PE
PHONE: (978) 557−5553 X222
E−MAIL: daniel.hamm@hudsondesigngroupllc.com

RF ENGINEER
COMPANY: AT&T MOBILITY −NEW ENGLAND
ADDRESS: 550 COCHITUATE ROAD SUITE 550 13 AND 14
CITY, STATE, ZIP: FRAMINGHAM, MA 01701
CONTACT: CAMERON SYME
PHONE: (508) 596−7146
E−MAIL: cs6970@att.com

CONSTRUCTION MANAGER
COMPANY: SMARTLINK, LLC.
ADDRESS: 33 BOSTON POST ROAD WEST SUITE 210
CITY, STATE, ZIP: MARLBOROUGH, MA 01752
CONTACT: JERRY BRUNO
PHONE: (508) 920−7349
E−MAIL: jerry.bruno@smartlinkllc.com

DRAWING INDEX

VICINITY MAP

DIRECTIONS TO SITE FROM 550 COCHITUATE RD FRAMINGHAM, MA:

START OUT GOING SOUTHEAST ON BURR ST TOWARD COCHITUATE RD/RT−30 E. 0.01 MI. TAKE THE 1ST LEFT ONTO RT−30 E/COCHITUATE RD. 0.05 MI. TAKE THE RAMP TOWARD I−90/MASSPIKE/ SPRINGFILED/BOSTON. 0.6 MI. MERGE ONTO I−90 W/MASS PIKE/MASSACHUSETTS TURNPIKE VIA THE RAMP ON THE LEFT TOWARD WORCESTER/SPRINGFIELD (PORTIONS TOLL). 38.3 MI. MERGE ONTO I−84 W VIA EXIT 9 TOWARD US−20/HARTFORD/NEW YORK CITY (PORTIONS TOLL) (CROSSING INTO CONNECTICUT). 73.8 MI. MERGE ONTO CT−8 S VIA EXIT 19 ON THE LEFT TOWARD NAUGATUCK/BRIDGEPORT. 4.4MI. TAKE EXIT 27 FOR MAPLE STREET. 0.2 MI. MERGE ONTO SOUTH MAIN STREET. 0.8MI. THE SITE WILL BE ON THE RIGHT.

GENERAL NOTES

1. THIS DOCUMENT IS THE CREATION, DESIGN, PROPERTY AND COPYRIGHTED WORK OF AT&T. ANY DUPLICATION OR USE WITHOUT EXPRESS WRITTEN CONSENT IS STRICTLY PROHIBITED. DUPLICATION AND USE BY GOVERNMENT AGENCIES FOR THE PURPOSES OF CONDUCTING THEIR LAWFULLY AUTHORIZED REGULATORY AND ADMINISTRATIVE FUNCTIONS IS SPECIFICALLY ALLOWED.
2. THE FACILITY IS AN UNMANNED PRIVATE AND SECURED EQUIPMENT INSTALLATION. IT IS ONLY ACCESSED BY TRAINED TECHNICIANS FOR PERIODIC ROUTINE MAINTENANCE AND THEREFORE DOES NOT REQUIRE ANY WATER OR SANITARY SEWER SERVICE. THE FACILITY IS NOT GOVERNED BY REGULATIONS REQUIRING PUBLIC ACCESS PER ADA REQUIREMENTS.
3. CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE AT&T REPRESENTATIVE IN WRITING OF DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

APPROVALS

THE FOLLOWING PARTIES HEREBY APPROVE AND ACCEPT THESE DOCUMENTS & AUTHORIZE THE SUBCONTRACTOR TO PROCEED WITH CONSTRUCTION DESCRIBED HEREIN. ALL DOCUMENTS ARE SUBJECT TO REVIEW BY THE LOCAL BUILDING DEPARTMENT & MAY IMPOSE CHANGES OR MODIFICATIONS.

DISCIPLINE:	SIGNATURE:	DATE:
SMARTLINK SITE ACQUISITION:		
SMARTLINK CONSTRUCTION MANAGER:		
AT&T PROJECT MANAGER:		

72 HOURS
BEFORE YOU DIG
CALL TOLL FREE 800−922−4455

STATE OF CONNECTICUT — DANIEL P. HAMM — No. 24178 — LICENSED PROFESSIONAL ENGINEER

Daniel P. Hamm

Hudson Design Group LLC
1600 OSGOOD STREET
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SCALE: AS SHOWN | DESIGNED BY: TH | DRAWN BY: RR

AT&T

TITLE SHEET (LTE−2C)

JOB NUMBER	DRAWING NUMBER	REV
2166.01	T−1	1

GROUNDING NOTES

1. THE SUBCONTRACTOR SHALL REVIEW AND INSPECT THE EXISTING FACILITY GROUNDING SYSTEM AND LIGHTNING PROTECTION SYSTEM (AS DESIGNED AND INSTALLED) FOR STRICT COMPLIANCE WITH THE NEC (AS ADOPTED BY THE AHJ), THE SITE-SPECIFIC (UL, LPI, OR NFPA) LIGHTING PROTECTION CODE, AND GENERAL COMPLIANCE WITH TELCORDIA AND TIA GROUNDING STANDARDS. THE SUBCONTRACTOR SHALL REPORT ANY VIOLATIONS OR ADVERSE FINDINGS TO THE CONTRACTOR FOR RESOLUTION.

2. ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION, AND AC POWER GES'S) SHALL BE BONDED TOGETHER, AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS IN ACCORDANCE WITH THE NEC.

3. THE SUBCONTRACTOR SHALL PERFORM IEEE FALL-OF-POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81) FOR NEW GROUND ELECTRODE SYSTEMS. THE SUBCONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS.

4. METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO BTS EQUIPMENT.

5. EACH BTS CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, 6 AWG STRANDED COPPER OR LARGER FOR INDOOR BTS 2 AWG STRANDED COPPER FOR OUTDOOR BTS.

6. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.

7. APPROVED ANTIOXIDANT COATINGS (I.E., CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.

8. ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO THE BRIDGE AND THE TOWER GROUND BAR.

9. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.

10. MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.

11. METAL CONDUIT SHALL BE MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH 6 AWS COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.

12. ALL NEW STRUCTURES WITH A FOUNDATION AND/OR FOOTING HAVING 20 FT. OR MORE OF 1/2 IN. OR GREATER ELECTRICALLY CONDUCTIVE REINFORCING STEEL MUST HAVE IT BONDED TO THE GROUND RING USING AN EXOTHERMIC WELD CONNECTION USING #2 AWG SOLID BARE TINNED COPPER GROUND WIRE, PER NEC 250.50

GENERAL NOTES

1. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:
CONTRACTOR – SMARTLINK
SUBCONTRACTOR – GENERAL CONTRACTOR (CONSTRUCTION)
OWNER – AT&T MOBILITY

2. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CONTRACTOR.

3. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. SUBCONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.

4. DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.

5. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.

6. "KITTING LIST" SUPPLIED WITH THE BID PACKAGE IDENTIFIES ITEMS THAT WILL BE SUPPLIED BY CONTRACTOR. ITEMS NOT INCLUDED IN THE BILL OF MATERIALS AND KITTING LIST SHALL BE SUPPLIED BY THE SUBCONTRACTOR.

7. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.

8. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION SPACE FOR APPROVAL BY THE CONTRACTOR.

9. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND T1 CABLES, GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWING. SUBCONTRACTOR SHALL UTILIZE EXISTING TRAYS AND/OR SHALL ADD NEW TRAYS AS NECESSARY. SUBCONTRACTOR SHALL CONFIRM THE ACTUAL ROUTING WITH THE CONTRACTOR.

10. THE SUBCONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT SUBCONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.

11. SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.

12. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.

13. ALL CONCRETE REPAIR WORK SHALL BE DONE IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE (ACI) 301.

14. ANY NEW CONCRETE NEEDED FOR THE CONSTRUCTION SHALL BE AIR-ENTRAINED AND SHALL HAVE 4000 PSI STRENGTH AT 28 DAYS. ALL CONCRETE WORK SHALL BE DONE IN ACCORDANCE WITH ACI 318 CODE REQUIREMENTS.

15. ALL STRUCTURAL STEEL WORK SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH AISC SPECIFICATIONS. ALL STRUCTURAL STEEL SHALL BE ASTM A36 (Fy = 36 ksi) UNLESS OTHERWISE NOTED. PIPES SHALL BE ASTM A53 TYPE E (Fy = 36 ksi). ALL STEEL EXPOSED TO WEATHER SHALL BE HOT DIPPED GALVANIZED. TOUCHUP ALL SCRATCHES AND OTHER MARKS IN THE FIELD AFTER STEEL IS ERECTED USING A COMPATIBLE ZINC RICH PAINT.

16. CONSTRUCTION SHALL COMPLY WITH SPECIFICATIONS AND "GENERAL CONSTRUCTION SERVICES FOR CONSTRUCTION OF AT&T MOBILITY SITES."

17. SUBCONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS MUST BE VERIFIED. SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.

18. THE EXISTING CELL SITE IS IN FULL COMMERCIAL OPERATION. ANY CONSTRUCTION WORK BY SUBCONTRACTOR SHALL NOT DISRUPT THE EXISTING NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH CONTRACTOR. ALSO, WORK SHOULD BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.

19. SINCE THE CELL SITE IS ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE ADVISED TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.

20. APPLICABLE BUILDING CODES:
SUBCONTRACTOR'S WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ) FOR THE LOCATION. THE EDITION OF THE AHJ ADOPTED CODES AND STANDARDS IN EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN.
BUILDING CODE: 2003 IBC WITH 2005 CT SUPPLEMENT & 2009 CT AMENDMENTS
ELECTRICAL CODE: REFER TO ELECTRICAL DRAWINGS
LIGHTENING CODE: REFER TO ELECTRICAL DRAWINGS

SUBCONTRACTOR'S WORK SHALL COMPLY WITH THE LATEST EDITION OF THE FOLLOWING STANDARDS:

AMERICAN CONCRETE INSTITUTE (ACI) 318; BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE;

AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC)

MANUAL OF STEEL CONSTRUCTION, ASD, NINTH EDITION;

TELECOMMUNICATIONS INDUSTRY ASSOCIATION (TIA) 222-F, STRUCTURAL STANDARDS FOR STEEL

ANTENNA TOWER AND ANTENNA SUPPORTING STRUCTURES; REFER TO ELECTRICAL DRAWINGS FOR SPECIFIC ELECTRICAL STANDARDS.

FOR ANY CONFLICTS BETWEEN SECTIONS OF LISTED CODES AND STANDARDS REGARDING MATERIAL, METHODS OF CONSTRUCTION, OR OTHER REQUIREMENTS, THE MOST RESTRICTIVE REQUIREMENT SHALL GOVERN. WHERE THERE IS CONFLICT BETWEEN A GENERAL REQUIREMENT AND A SPECIFIC REQUIREMENT, THE SPECIFIC REQUIREMENT SHALL GOVERN.

ABBREVIATIONS

AGL	ABOVE GRADE LEVEL	G.C.	GENERAL CONTRACTOR	RF	RADIO FREQUENCY
AWG	AMERICAN WIRE GAUGE	MGB	MASTER GROUND BUS		
BCW	BARE COPPER WIRE	MIN	MINIMUM	TBD	TO BE DETERMINED
BTS	BASE TRANSCEIVER STATION	PROPOSED	NEW	TBR	TO BE REMOVED
EXISTING	EXISTING	N.T.S.	NOT TO SCALE	TBRR	TO BE REMOVED AND REPLACED
EG	EQUIPMENT GROUND	REF	REFERENCE		
EGR	EQUIPMENT GROUND RING	REQ	REQUIRED	TYP	TYPICAL

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SCALE: AS SHOWN | DESIGNED BY: TH | DRAWN BY: RR

STATE OF CONNECTICUT DANIEL P. HAMM No. 24178 LICENSED PROFESSIONAL ENGINEER

AT&T

GENERAL NOTES (LTE-2C)

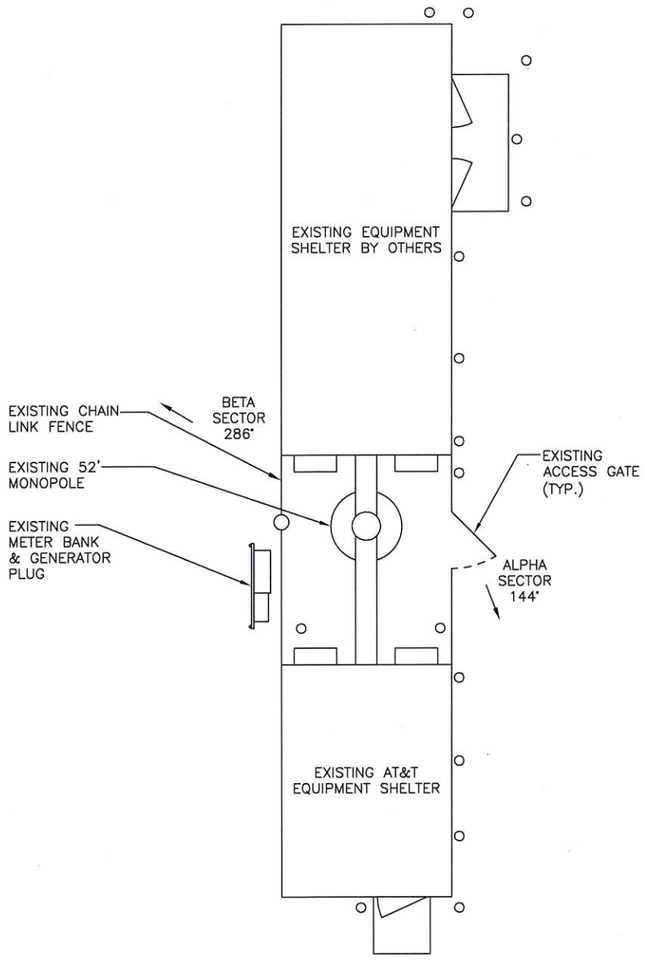
JOB NUMBER	DRAWING NUMBER	REV
2166.01	GN-1	1

NOTE:

*RF DATA BASED ON PRELIMINARY INFORMATION. REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

NOTE:

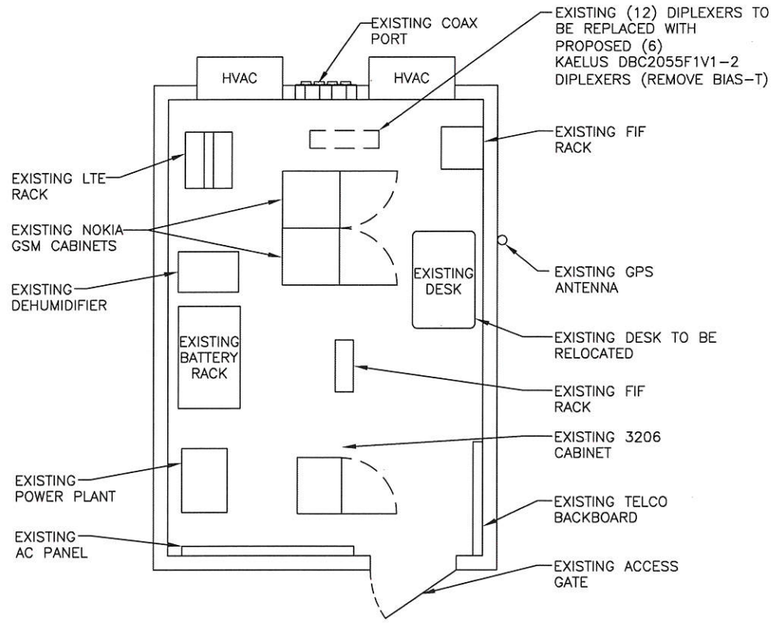
AN ANALYSIS FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT SHALL BE DETERMINED PRIOR TO CONSTRUCTION.



COMPOUND PLAN

SCALE: 3/16"= 1'-0"

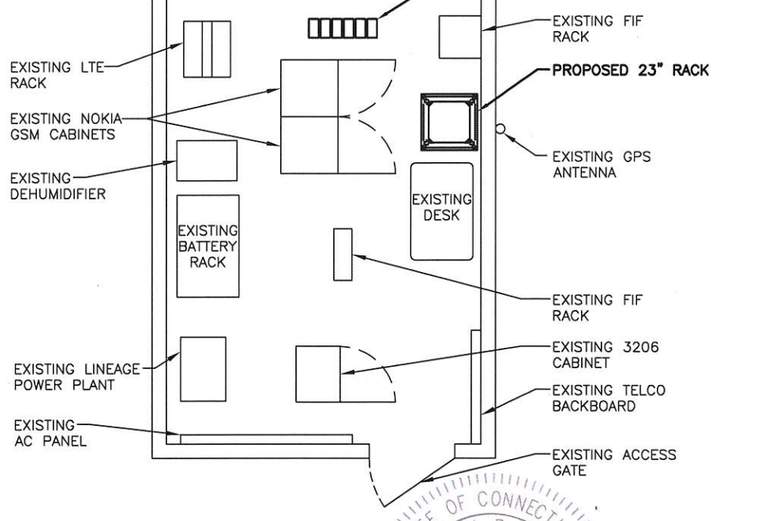
0 2'-8" 5'-4" 10'-8" 16'-0"



EXISTING EQUIPMENT PLAN

SCALE: 3/8"=1'-0"

0 1'-4" 2'-8" 5'-4" 8'-0"



PROPOSED EQUIPMENT PLAN

SCALE: 3/8"=1'-0"

0 1'-4" 2'-8" 5'-4" 8'-0"

STATE OF CONNECTICUT — DANIEL P. HAMM — No. 24178 — LICENSED PROFESSIONAL ENGINEER

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AT&T

COMPOUND & SHELTER PLANS (LTE-2C)

JOB NUMBER	DRAWING NUMBER	REV
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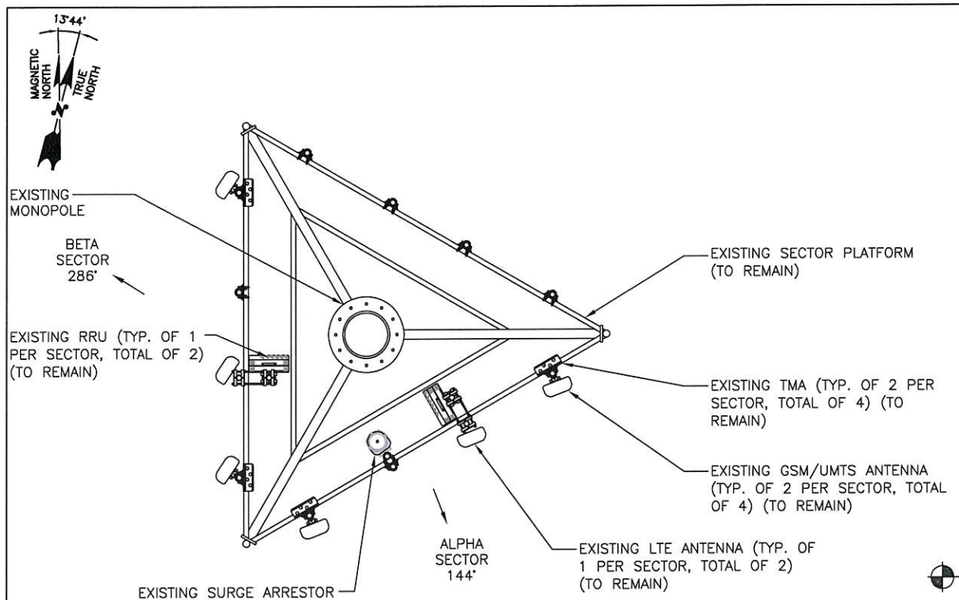
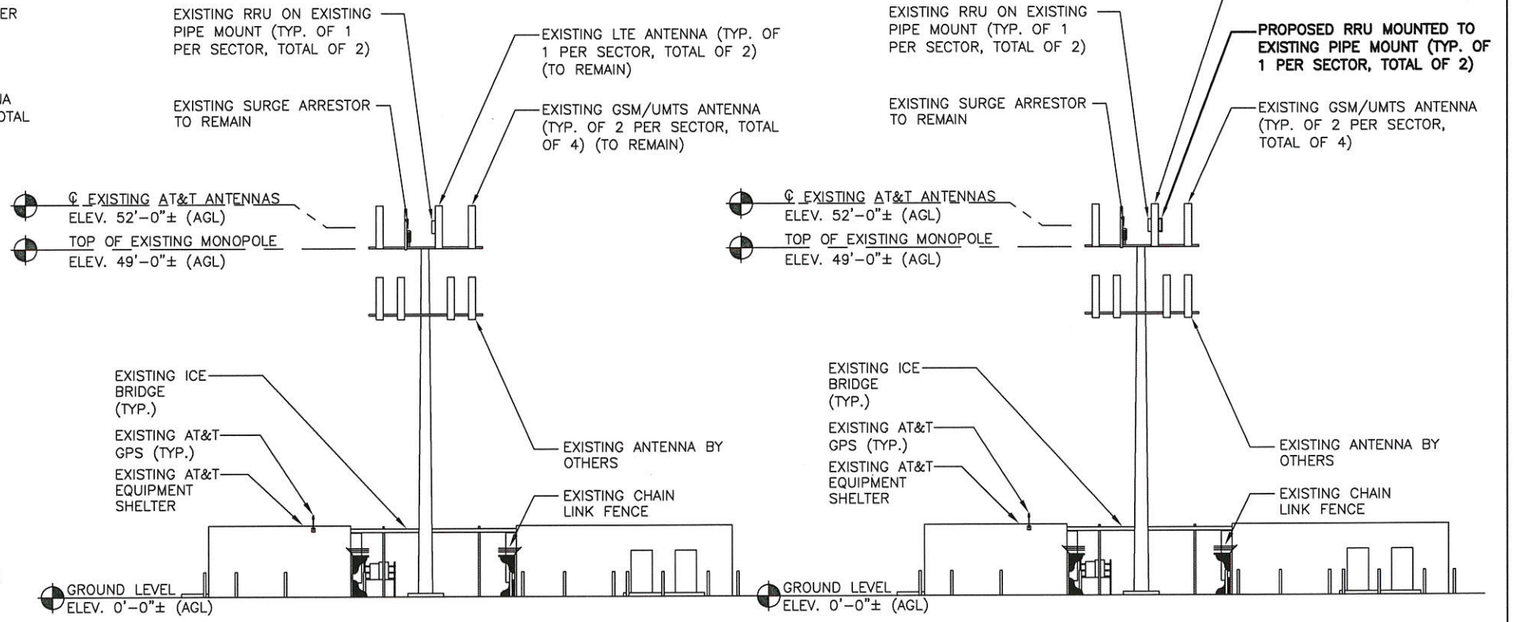
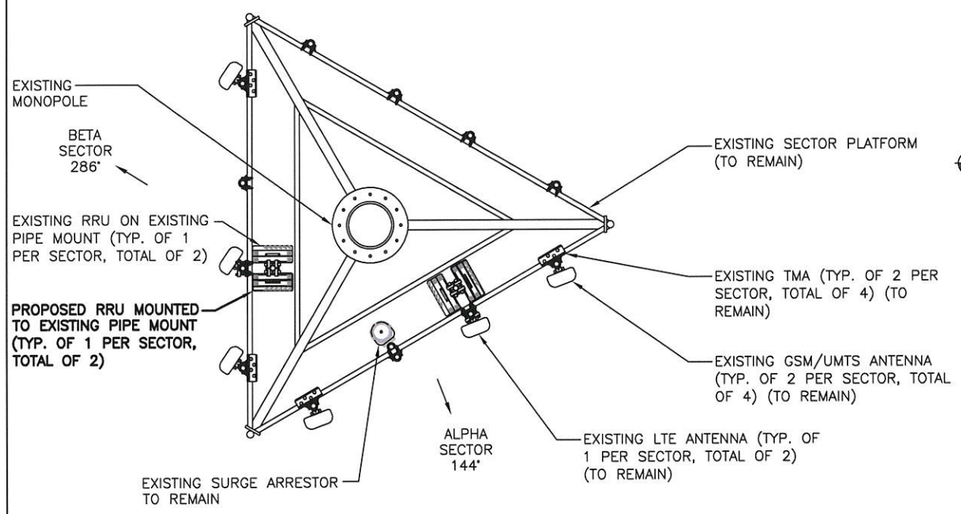


EXISTING ANTENNA LAYOUT
SCALE: N.T.S.



EXISTING WEST ELEVATION
SCALE: 3/32"=1'-0"

0 5'-4" 10'-8" 21'-4" 32'-0"



PROPOSED ANTENNA LAYOUT
SCALE: N.T.S.

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550 COCHITUATE RD.
FRAMINGHAM, MA, 01701

NO.	DATE	REVISIONS	BY	CHK	APP'D
1	04/28/14	ISSUED FOR CONSTRUCTION	AP	TH	DPH
0	04/16/14	ISSUED FOR REVIEW	AP	TH	DPH
A	03/05/14	ISSUED FOR REVIEW	RR	TH	DPH

SCALE: AS SHOWN | DESIGNED BY: TH | DRAWN BY: RR

STATE OF CONNECTICUT
DANIEL P. HAMM
No. 24178
LICENSED PROFESSIONAL ENGINEER

Daniel P. Hamm

AT&T

ANTENNA LAYOUTS & ELEVATIONS (LTE-2C)

JOB NUMBER	DRAWING NUMBER	REV
2166.01	A-2	1

NOTE:

*RF DATA BASED ON PRELIMINARY INFORMATION. REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

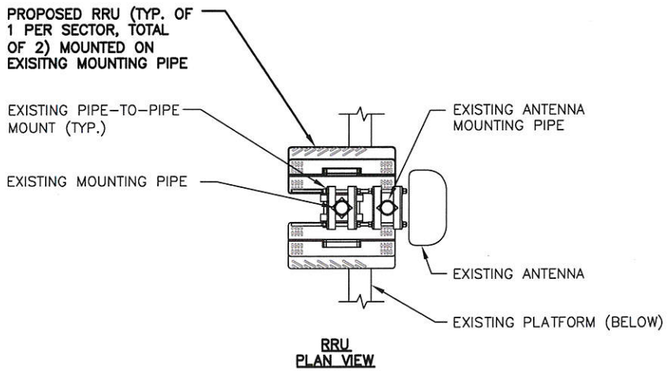
NOTE:
AN ANALYSIS FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT SHALL BE DETERMINED PRIOR TO CONSTRUCTION.

PROPOSED RRU SCHEDULE

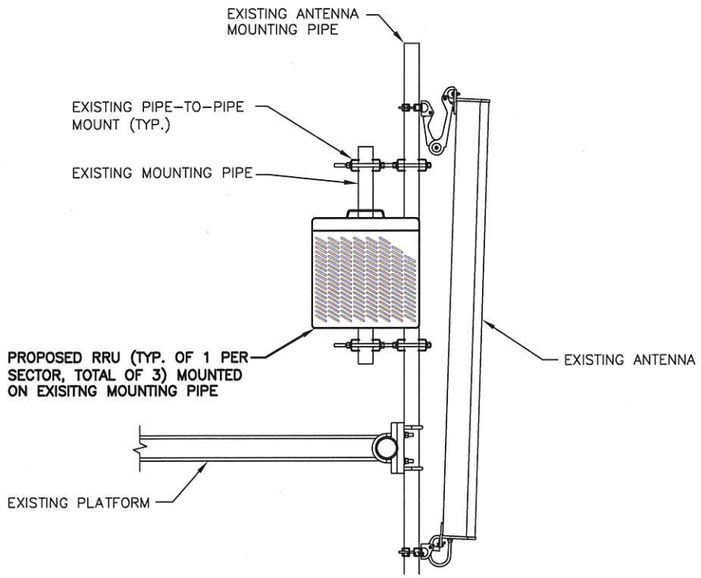
SECTOR	MAKE	MODEL#	SIZE (INCHES)
ALPHA:	ERICSSON	RRUS-11	19.7X17.0X7.2
BETA:	ERICSSON	RRUS-11	19.7X17.0X7.2

EXISTING ANTENNA SCHEDULE

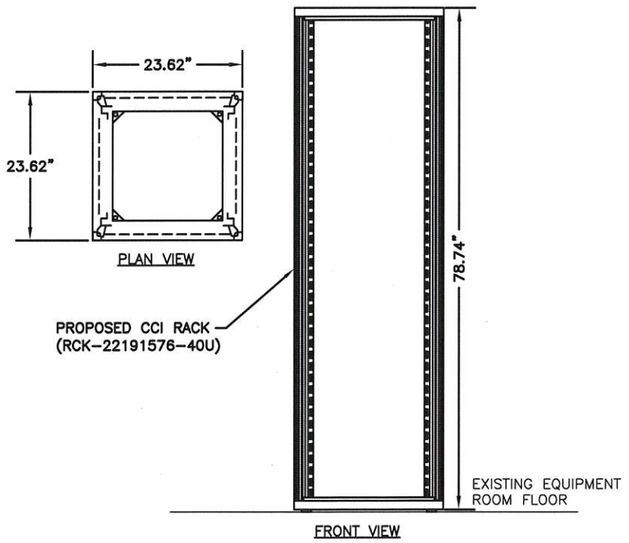
SECTOR	MAKE	MODEL#	SIZE (INCHES)
ALPHA:	POWERWAVE	7770	55X11X5
	KMW	AMX-X-CD-16-65-00T-RET	72X11.8X5.9
	KMW	AMX-X-CD-16-65-00T-RET	72X11.8X5.9
BETA:	POWERWAVE	7770	55X11X5
	KMW	AMX-X-CD-16-65-00T-RET	72X11.8X5.9
	KMW	AMX-X-CD-16-65-00T-RET	72X11.8X5.9



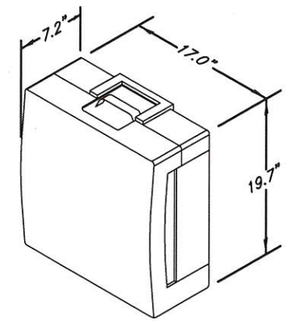
RRU
PLAN VIEW



PROPOSED RRU MOUNTING DETAIL
SCALE: N.T.S.



PROPOSED EQUIPMENT RACK DETAIL
SCALE: N.T.S.



NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS.

RRUS-11 DETAIL
SCALE: N.T.S.

Hudson Design Group LLC
1600 OSGOOD STREET
BUILDING 20 NORTH, SUITE 3090
N. ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

smartlink
1997 ANNAPOLIS EXCHANGE PKWY
SUITE 200
ANNAPOLIS, MD 21401

SITE NUMBER: CT2166
SITE NAME: NAUGATUCK SOUTH MAIN
585 SOUTH MAIN STREET
NAUGATUCK, CT 06770
NEW HAVEN COUNTY

at&t
550 COCHITUATE RD.
FRAMINGHAM, MA, 01701

NO.	DATE	REVISIONS	BY	CHK	APP'D
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SCALE: AS SHOWN | DESIGNED BY: TH | DRAWN BY: RR

STATE OF CONNECTICUT
DANIEL P. HAMM
No. 24178
LICENSED PROFESSIONAL ENGINEER

Daniel P. Hamm

AT&T

DETAILS
(LTE-2C)

JOB NUMBER	DRAWING NUMBER	REV
2166.01	A-3	1

TAB 2

Power Density Calculations

Control Number	Site	Carrier	#Channels	ERP/Ch	Ant Ht	Power Density (mW/cm2)	MHz	S	%MPE	Site Total
EM-VER-088-100105	Naugatuck - 585 South Main Street (New Haven Road)	Verizon	2	831	40	0.0373	1970	1.0000	3.73%	
EM-VER-088-100105	Naugatuck - 585 South Main Street (New Haven Road)	Verizon	9	361	40	0.0730	869	0.5793	12.60%	
EM-VER-088-100105	Naugatuck - 585 South Main Street (New Haven Road)	Verizon	1	1008	40	0.0227	757	0.5047	4.50%	
EM-CING-088-120503	Naugatuck - 585 New Haven Road (South Main Street)	AT&T UMTS	2	565	52	0.1503	880	0.5867	2.56%	
EM-CING-088-120503	Naugatuck - 585 New Haven Road (South Main Street)	AT&T UMTS	2	875	52	0.2327	1900	1.0000	2.33%	
EM-CING-088-120503	Naugatuck - 585 New Haven Road (South Main Street)	AT&T GSM	1	491	52	0.0653	880	0.5867	1.11%	
EM-CING-088-120503	Naugatuck - 585 New Haven Road (South Main Street)	AT&T GSM	4	813	52	0.4324	1900	1.0000	4.32%	
EM-CING-088-120503	Naugatuck - 585 New Haven Road (South Main Street)	AT&T LTE	1	1313	52	0.1746	734	0.4893	3.57%	34.72%

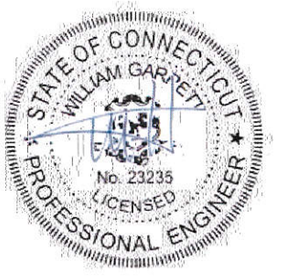
TAB 3

AMERICAN TOWER®
CORPORATION

Structural Analysis Report

Structure	:	**49 ft Monopole**
ATC Site Name	:	**Naugatuck (telephone Pole), CT**
ATC Site Number	:	**302526**
Engineering Number	:	**56884221**
Proposed Carrier	:	**AT&T Mobility**
Carrier Site Name	:	**Naugatuck South Main**
Carrier Site Number	:	**CTL02166/FA#10035065**
Site Location	:	**585 South Main St. (soc. Club)** **Naugatuck, CT 06770-4725** **41.478444,-73.048500**
County	:	**New Haven**
Date	:	**May 12, 2014**
Max Usage	:	**54%**
Result	:	**Pass**

Zach Graham



May 12 2014 3:27 PM

AMERICAN TOWER®
CORPORATION

Eng. Number 56884221
May 12, 2014

Table of Contents

Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 49 ft monopole to reflect the change in loading by .

Supporting Documents

Tower Drawings	EEI Job #11696, dated January 22, 2001
Foundation Drawing	EEI Job #11696, dated June 5, 2003
Geotechnical Report	CET Project #07729-76, dated March 28, 2003

Analysis

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

Basic Wind Speed:	100 mph (3-Second Gust)
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) w/ 3/4" radial ice concurrent
Code:	ANSI/TIA-222-G / 2003 IBC w/ 2005 CT Supplement & 2009 CT Amendment
Structure Class:	II
Exposure Category:	B
Topographic Category:	1

Conclusion

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

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

Existing and Reserved Equipment

Elevation[1] (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
49.0	52.0	5	Powerwave LGP13519	Low Profile Platform	(6) 1 5/8" Coax (2) 0.78" 8 AWG 6 (1) 0.39" Cable	AT&T Mobility
		6	CCI DTMABP7819VG12A			
		1	Raycap DC6-48-60-18-8F			
		6	Ericsson RRUS 11			
		2	Powerwave 7770.00			
		4	KMW AM-X-CD-16-65-00T-RET			
40.0	40.0	6	RFS FD9R6004/1C-3L	Low Profile Platform	(12) 1 5/8" Coax	Verizon
		3	Rymsa MGD3-800T0			
		6	Decibel DB844H80E-XY			
		3	Antel BXA-70063/4CF			

Equipment to be Removed

Elevation[1] (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
No loading considered as to be removed						

Proposed Equipment

Elevation[1] (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
49.0	-	-	-	-	(1) 3/8" Coax	AT&T Mobility

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

Install proposed coax inside the pole shaft.

Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Anchor Bolts	38%	Pass
Shaft	54%	Pass
Base Plate	48%	Pass

Foundations

Reaction Component	Original Design Reactions	Factored Design Reactions*	Analysis Reactions	% of Design
Moment (Kips-Ft)	288.5	389.5	237.8	61%
Shear (Kips)	7.0	9.5	5.7	61%

*** The design reactions are factored by 1.35 per ANSI/TIA-222-G, Sec. 15.5.1**

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

Deflection and Sway*

Antenna Elevation (ft)	Deflection (ft)	Sway (Rotation) (°)
49.0	0.293	0.56

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

AMERICAN TOWER®
CORPORATION

Standard Conditions

All engineering services are performed on the basis that the information used is current and correct. This information may consist of, but is not necessary limited, to:

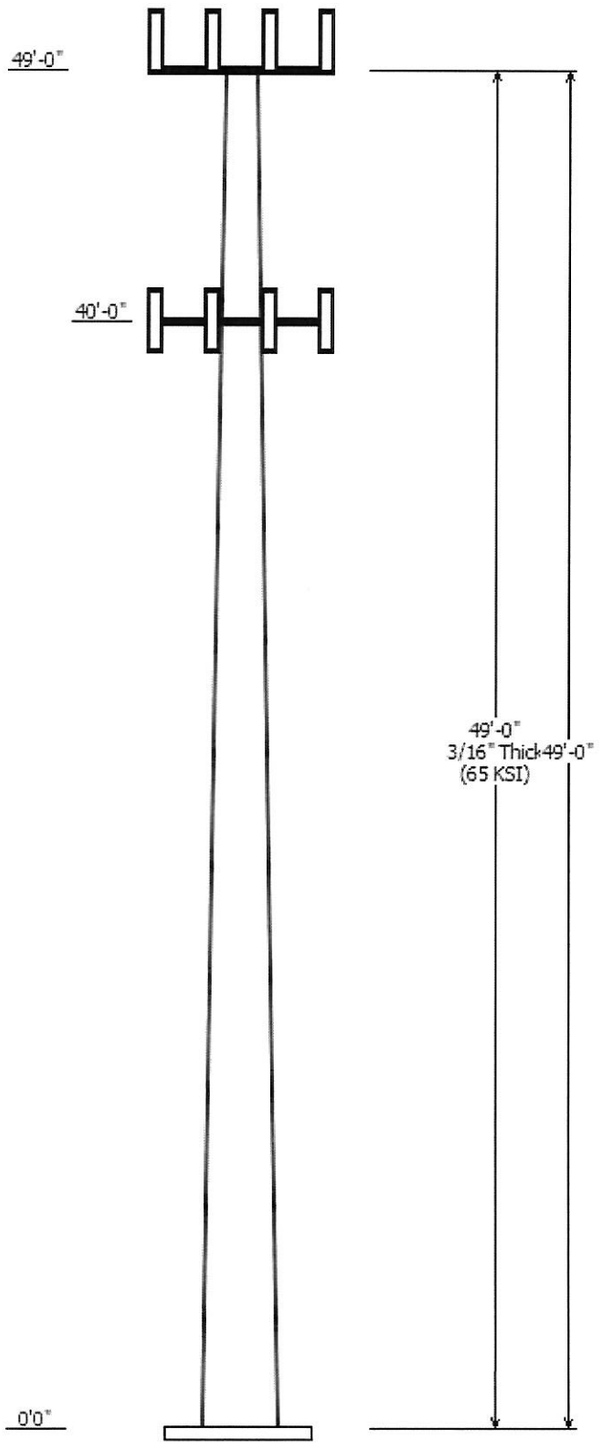
-- Information supplied by the client regarding the structure itself, antenna, mounts and feed line loading on the structure and its components, or other relevant information.

-- Information from drawings in the possession of American Tower Corporation, or generated by field inspections or measurements of the structure.

It is the responsibility of the client to ensure that the information provided to ATC Tower Services, Inc. and used in the performance of our engineering services is correct and complete. In the absence of information to the contrary, we assume that all structures were constructed in accordance with the drawings and specifications and that their capacity has not significantly changed from the "as new" condition.

Unless explicitly agreed by both the client and American Tower Corporation, all services will be performed in accordance with the current revision of ANSI/TIA -222. The design basic wind speed will be determined based on the minimum basic wind speed as prescribed in ANSI/TIA-222. Although every effort is taken to ensure that the loading considered is adequate to meet the requirements of all applicable regulatory entities, we can provide no assurance to meet any other local and state codes or requirements. If wind and ice loads or other relevant parameters are to be different from the minimum values recommended by the codes, the client shall specify the exact requirement.

All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. ATC Tower Services, Inc. is not responsible for the conclusions, opinions and recommendations made by others based on the information we supply.



Job Information

Pole :	302526	Code:	ANSI/TIA-222 Rev G
Description :	49' EEI Monopole		
Client :	AT&T Mobility	Struct Class :	II
Location :	Naugatuck, CT		
Shape :	18 Sides	Exposure :	B
Height :	49.00 (ft)	Topo :	1
Base Elev (ft):	0.00		
Taper:	0.18367 (in/ft)		

Sections Properties

Shaft Section	Length (ft)	Diameter (in) Accross Flats Top	Bottom	Thick (in)	Joint Type	Overlap Length (in)	Taper (in/ft)	Steel Grade (ksi)
1	49.000	14.00	23.00	0.188		0.000	0.183673	65

Discrete Appurtenance

Attach Elev (ft)	Force Elev (ft)	Qty	Description
49.000	52.000	2	Powerwave 7770.00
49.000	52.000	6	CCI DTMABP7819VG12A
49.000	52.000	1	Raycap DC6-48-60-18-8F
49.000	52.000	6	Ericsson RRUS 11
49.000	52.000	4	KMW AM-X-CD-16-65-00T-RET
49.000	52.000	5	Powerwave LGP13519
49.000	49.000	1	Flat Low Profile Platform
40.000	40.000	6	RFS FD9R6004/1C-3L
40.000	40.000	3	Antel BXA-70063/4CF
40.000	40.000	3	Rymsa MGD3-800T0
40.000	40.000	1	Flat Low Profile Platform
40.000	40.000	6	Decibel DB844H80E-XY

Linear Appurtenance

Elev (ft) From	To	Description	Exposed To Wind
0.000	40.000	1 5/8" Coax	No
0.000	49.000	0.39" Cable	No
0.000	49.000	0.78" 8 AWG 6	No
0.000	49.000	1 5/8" Coax	No
0.000	49.000	3/8" Coax	No

Load Cases

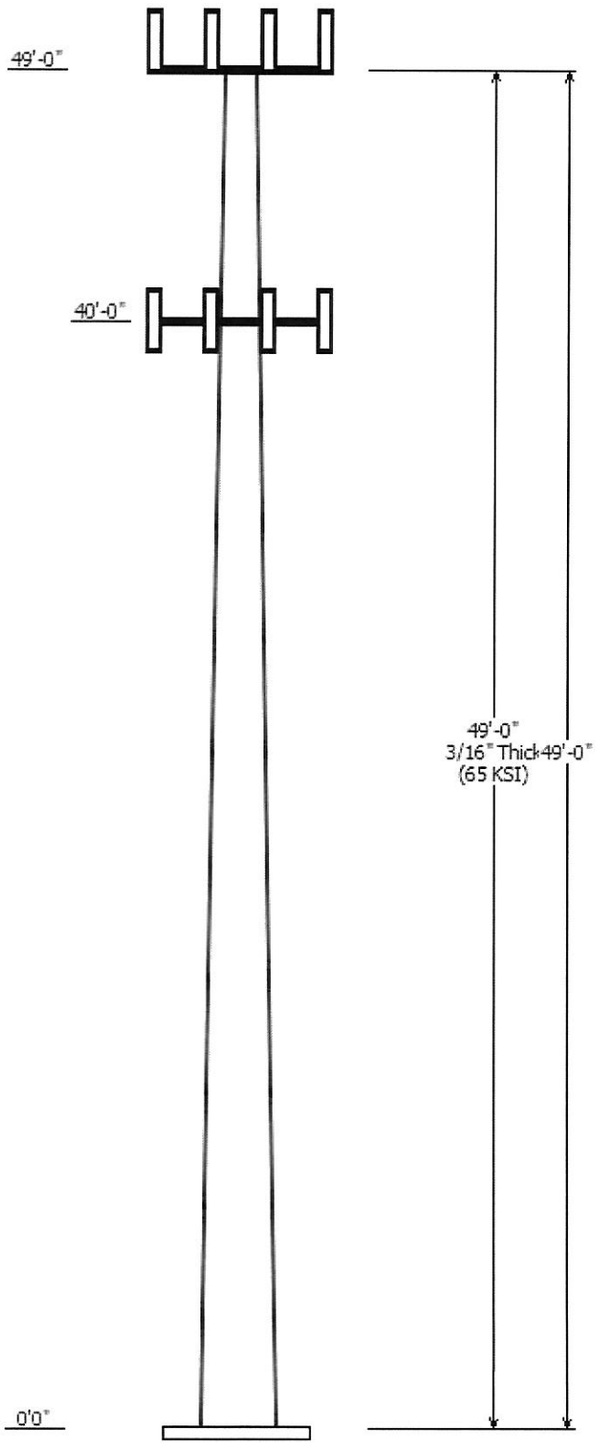
1.2D + 1.6W	100.00 mph with No Ice
0.9D + 1.6W	100.00 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	50.00 mph with 0.75 in Radial Ice
1.0D + 1.0W	60.00 mph Serviceability

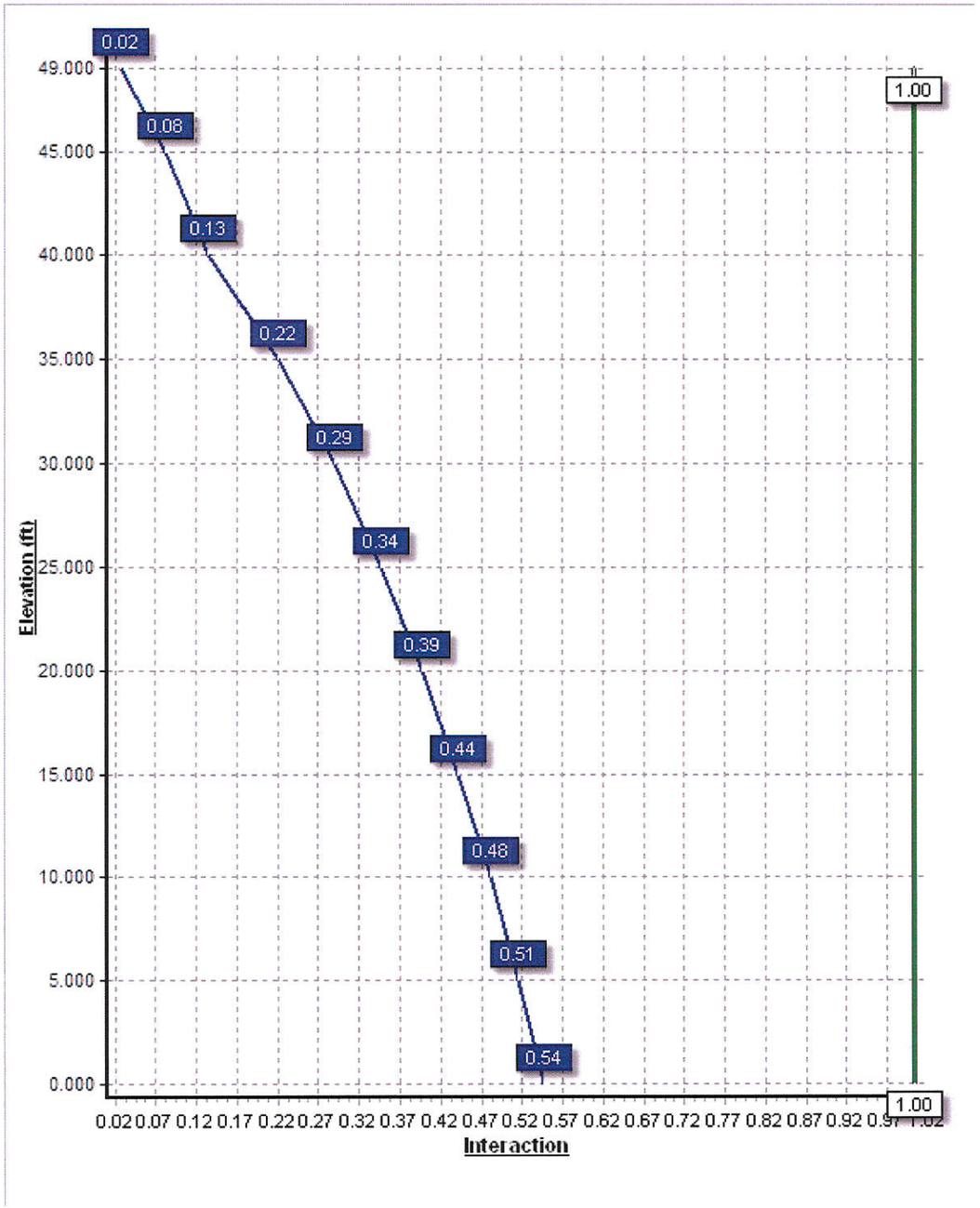
Reactions

Load Case	Moment (kip-ft)	Shear (kip)	Axial (kip)
1.2D + 1.6W	237.78	5.74	7.75
0.9D + 1.6W	236.02	5.73	5.81
1.2D + 1.0Di + 1.0Wi	57.29	1.42	13.03
1.0D + 1.0W	53.25	1.29	6.48

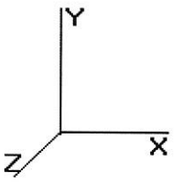
Dish Deflections

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


49'-0"
40'-0"
0'0"
49'-0"
3/16" Thick
(65 KSI)
49'-0"


0.02
0.08
0.13
0.22
0.29
0.34
0.39
0.44
0.48
0.51
0.54
1.00
1.00
49.000
45.000
40.000
35.000
30.000
25.000
20.000
15.000
10.000
5.000
0.000
Elevation (ft)
0.02 0.07 0.12 0.17 0.22 0.27 0.32 0.37 0.42 0.47 0.52 0.57 0.62 0.67 0.72 0.77 0.82 0.87 0.92
Interaction

Pole :	302526	Code: ANSI/TIA-222 Rev G	5/12/2014 11:20:48 AM
Location :	Naugatuck, CT	Struct Class : II	Page: 1
Height :	49.00 (ft)	Exposure Category : B	
Base Dia :	23.00 (in)	Topographic Category : 1	
Top Dia :	14.00 (in)	Base Elev : 0.000 (ft)	
Shape :	18 Sides		
Taper :	0.183673 (in/ft)		



Shaft Section Properties

Sect Info	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Slip Joint Len (in)	Weight (lb)	Bottom Dia (in)	Bottom Elev (ft)	Bottom Area (sqin)	Bottom Ix (in^4)	Bottom W/t Ratio	Bottom D/t Ratio	Top Dia (in)	Top Elev (ft)	Top Area (sqin)	Top Ix (in^4)	Top W/t Ratio	Top D/t Ratio	Taper (in/ft)
1-18	49.000	0.1875	65		0.00	1,817	23.00	0.00	13.58	892.6	20.22	122.67	14.00	49.00	8.22	198.1	11.76	74.67	0.183673
				Shaft Weight		1,817													

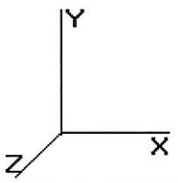
Discrete Appurtenance Properties

Attach Elev (ft)	Description	Qty	No Ice Weight (lb)	No Ice EPAa (sf)	No Ice Orientation Factor	Ice Weight (lb)	Ice EPAa (sf)	Ice Orientation Factor	Distance From Face (ft)	Vert Ecc (ft)
49.00	CCI DTMABP7819VG12A	6	19.20	0.970	0.50	48.23	1.342	0.50	0.000	3.000
49.00	Ericsson RRUS 11	6	55.00	2.520	0.67	125.08	3.091	0.67	0.000	3.000
49.00	Flat Low Profile Platform	1	1500.00	26.100	1.00	2,080.50	43.206	1.00	0.000	0.000
49.00	KMW AM-X-CD-16-65-00T-	4	48.50	8.020	0.79	213.74	9.169	0.79	0.000	3.000
49.00	Powerwave 7770.00	2	35.00	5.510	0.77	152.89	6.441	0.77	0.000	3.000
49.00	Powerwave LGP13519	5	5.30	0.340	0.50	17.95	0.527	0.50	0.000	3.000
49.00	Raycap DC6-48-60-18-8F	1	31.80	1.280	1.00	112.95	2.778	1.00	0.000	3.000
40.00	Antel BXA-70063/4CF	3	9.90	4.710	0.76	111.76	5.541	0.76	0.000	0.000
40.00	Decibel DB844H80E-XY	6	14.00	3.610	0.92	108.01	3.806	0.92	0.000	0.000
40.00	Flat Low Profile Platform	1	1500.00	26.100	1.00	2,068.84	42.862	1.00	0.000	0.000
40.00	RFS FD9R6004/1C-3L	6	3.10	0.370	0.50	13.77	0.542	0.50	0.000	0.000
40.00	Rymsa MGD3-800T0	3	19.80	3.450	0.82	95.16	4.295	0.82	0.000	0.000
	Totals	44	3959.20			7,904.01			Number of Loadings :	12

Linear Appurtenance Properties

Elev From (ft)	Elev To (ft)	Description	Exposed Width (in)	Exposed To Wind
0.00	49.00	(1) 0.39" Cable	0.00	N
0.00	49.00	(2) 0.78" 8 AWG 6	0.00	N
0.00	49.00	(6) 1 5/8" Coax	0.00	N
0.00	49.00	(1) 3/8" Coax	0.00	N
0.00	40.00	(12) 1 5/8" Coax	0.00	N

Pole :	302526		Code: ANSI/TIA-222 Rev G		5/12/2014 11:20:48 AM
Location :	Naugatuck, CT		Struct Class : II		Page: 2
Height :	49.00 (ft)		Exposure Category : B		
Base Dia :	23.00 (in)		Topographic Category : 1		
Top Dia :	14.00 (in)		Base Elev : 0.000 (ft)		
Shape :	18 Sides				
Taper :	0.183673 (in/ft)				

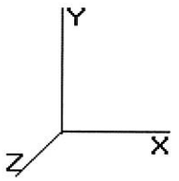


Segment Properties

(Max Len : 5 ft)

Seg Top Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	F'y (ksi)	S (in3)	Weight (lb)
0.00		0.1875	23.000	13.576	892.6	20.22	122.67	77.6	76.4	0.0
5.00		0.1875	22.082	13.029	789.1	19.36	117.77	78.6	70.4	226.3
10.00		0.1875	21.163	12.483	693.9	18.49	112.87	79.7	64.6	217.0
15.00		0.1875	20.245	11.936	606.7	17.63	107.97	80.7	59.0	207.7
20.00		0.1875	19.327	11.390	527.1	16.76	103.07	81.7	53.7	198.4
25.00		0.1875	18.408	10.843	454.8	15.90	98.18	82.6	48.7	189.1
30.00		0.1875	17.490	10.297	389.5	15.04	93.28	82.6	43.9	179.8
35.00		0.1875	16.571	9.750	330.7	14.17	88.38	82.6	39.3	170.5
40.00		0.1875	15.653	9.204	278.1	13.31	83.48	82.6	35.0	161.2
45.00		0.1875	14.735	8.657	231.5	12.45	78.59	82.6	30.9	151.9
49.00		0.1875	14.000	8.220	198.1	11.76	74.67	82.6	27.9	114.9
										1,817.1

Pole :	302526	Code: ANSI/TIA-222 Rev G	5/12/2014 11:20:48 AM
Location :	Naugatuck, CT	Struct Class : II	Page: 3
Height :	49.00 (ft)	Exposure Category : B	
Base Dia :	23.00 (in)	Topographic Category : 1	
Top Dia :	14.00 (in)	Base Elev : 0.000 (ft)	
Shape :	18 Sides		
Taper :	0.183673 (in/ft)		



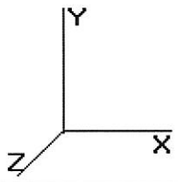
Load Case: 1.2D + 1.6W — 100.00 mph with No Ice — 17 Iterations

Gust Response Factor : 1.10
Dead Load Factor : 1.20
Wind Load Factor : 1.60
Wind Importance Factor : 1.00

Shaft Segment Forces (Factored)

Seg Top Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Ap (sf)	EPAs (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.70	17.024	18.72	162.83	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.70	17.024	18.72	156.33	0.650	0.000	5.00	9.537	6.20	185.7	0.0	271.6
10.00		1.00	0.70	17.024	18.72	149.83	0.650	0.000	5.00	9.148	5.95	178.2	0.0	260.4
15.00		1.00	0.70	17.024	18.72	143.32	0.650	0.000	5.00	8.760	5.69	170.6	0.0	249.3
20.00		1.00	0.70	17.024	18.72	136.82	0.650	0.000	5.00	8.371	5.44	163.0	0.0	238.1
25.00		1.00	0.70	17.024	18.72	130.32	0.650	0.000	5.00	7.983	5.19	155.5	0.0	227.0
30.00		1.00	0.70	17.038	18.74	123.87	0.650	0.000	5.00	7.594	4.94	148.0	0.0	215.8
35.00		1.00	0.73	17.806	19.58	119.98	0.650	0.000	5.00	7.206	4.68	146.8	0.0	204.6
40.00	Appertunance(s)	1.00	0.76	18.498	20.34	115.51	0.650	0.000	5.00	6.817	4.43	144.3	0.0	193.5
45.00		1.00	0.78	19.131	21.04	110.58	0.650	0.000	5.00	6.428	4.18	140.7	0.0	182.3
49.00	Appertunance(s)	1.00	0.80	19.602	21.56	106.35	0.650	0.000	4.00	4.863	3.16	109.1	0.0	137.8
							Totals:		49.00			1,541.8	0.0	2,180.5

Pole :	302526	Code: ANSI/TIA-222 Rev G	5/12/2014 11:20:48 AM
Location :	Naugatuck, CT	Struct Class : II	Page: 4
Height :	49.00 (ft)	Exposure Category : B	
Base Dia :	23.00 (in)	Topographic Category : 1	
Top Dia :	14.00 (in)	Base Elev : 0.000 (ft)	
Shape :	18 Sides		
Taper :	0.183673 (in/ft)		



Load Case: 1.2D + 1.6W — 100.00 mph with No Ice — 17 Iterations

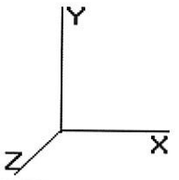
Gust Response Factor : 1.10
Dead Load Factor : 1.20
Wind Load Factor : 1.60

Wind Importance Factor : 1.00

Discrete Appurtenance Segment Forces (Factored)

Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orientation Factor	Ka	Total EPAa (sf)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)	Dead Load (lb)
40.00	Decibel DB844H80E-	6	18.498	20.348	0.92	0.80	15.94	0.000	0.000	519.01	0.00	0.00	100.80
40.00	Flat Low Profile Pla	1	18.498	20.348	1.00	1.00	26.10	0.000	0.000	849.72	0.00	0.00	1,800.00
40.00	Rymsa MGD3-800T0	3	18.498	20.348	0.82	0.80	6.79	0.000	0.000	221.05	0.00	0.00	71.28
40.00	Antel BXA-70063/4CF	3	18.498	20.348	0.76	0.80	8.59	0.000	0.000	279.69	0.00	0.00	35.64
40.00	RFS FD9R6004/1C-3L	6	18.498	20.348	0.50	0.80	0.89	0.000	0.000	28.91	0.00	0.00	22.32
49.00	Flat Low Profile Pla	1	19.602	21.563	1.00	1.00	26.10	0.000	0.000	900.45	0.00	0.00	1,800.00
49.00	Powerwave LGP13519	5	19.938	21.932	0.50	0.80	0.68	0.000	3.000	23.86	0.00	71.59	31.80
49.00	KMW AM-X-CD-16-65-	4	19.938	21.932	0.79	0.80	20.27	0.000	3.000	711.45	0.00	2,134.35	232.80
49.00	Ericsson RRUS 11	6	19.938	21.932	0.67	0.80	8.10	0.000	3.000	284.39	0.00	853.16	396.00
49.00	Raycap DC6-48-60-18-	1	19.938	21.932	1.00	0.80	1.02	0.000	3.000	35.93	0.00	107.80	38.16
49.00	CCI	6	19.938	21.932	0.50	0.80	2.33	0.000	3.000	81.69	0.00	245.07	138.24
49.00	Powerwave 7770.00	2	19.938	21.932	0.77	0.80	6.79	0.000	3.000	238.21	0.00	714.62	84.00
										4,174.36			4,751.04

Pole :	302526	Code: ANSI/TIA-222 Rev G	
Location :	Naugatuck, CT	Struct Class : II	5/12/2014 11:20:48 AM
Height :	49.00 (ft)	Exposure Category : B	Page : 5
Base Dia :	23.00 (in)	Topographic Category : 1	
Top Dia :	14.00 (in)	Base Elev : 0.000 (ft)	
Shape :	18 Sides		
Taper :	0.183673 (in/ft)		



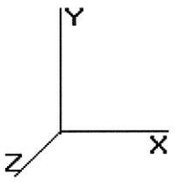
Load Case: 1.2D + 1.6W — 100.00 mph with No Ice — 17 Iterations

Gust Response Factor : 1.10
Dead Load Factor : 1.20
Wind Load Factor : 1.60
Wind Importance Factor : 1.00

Applied Segment Forces Summary

Seg Elev (ft)		Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		185.74	368.12	0.00	0.00
10.00		178.17	356.96	0.00	0.00
15.00		170.60	345.81	0.00	0.00
20.00		163.03	334.65	0.00	0.00
25.00		155.47	323.49	0.00	0.00
30.00		148.02	312.33	0.00	0.00
35.00		146.77	301.17	0.00	0.00
40.00		2,042.64	2,320.06	0.00	0.00
45.00		140.69	219.82	0.00	0.00
49.00		2,385.03	2,888.83	0.00	4,126.59
	Totals:	5,716.17	7,771.24	0.00	4,126.59

Pole :	302526	Code: ANSI/TIA-222 Rev G	5/12/2014 11:20:48 AM
Location :	Naugatuck, CT	Struct Class : II	Page: 6
Height :	49.00 (ft)	Exposure Category : B	
Base Dia :	23.00 (in)	Topographic Category : 1	
Top Dia :	14.00 (in)	Base Elev : 0.000 (ft)	
Shape :	18 Sides		
Taper :	0.183673 (in/ft)		



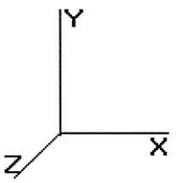
Load Case: 1.2D + 1.6W — 100.00 mph with No Ice — 17 Iterations

Gust Response Factor : 1.10
Dead Load Factor : 1.20
Wind Load Factor : 1.60
Wind Importance 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	-7.75	-5.74	0.00	-237.78	0.00	237.78	948.37	474.19	888.66	444.99	0.00	0.00	0.543
5.00	-7.35	-5.60	0.00	-209.07	0.00	209.07	922.11	461.05	828.98	415.11	0.19	-0.36	0.512
10.00	-6.96	-5.46	0.00	-181.08	0.00	181.08	894.84	447.42	770.44	385.79	0.76	-0.71	0.477
15.00	-6.59	-5.32	0.00	-153.77	0.00	153.77	866.57	433.29	713.14	357.10	1.68	-1.05	0.438
20.00	-6.23	-5.19	0.00	-127.16	0.00	127.16	837.31	418.65	657.22	329.10	2.96	-1.38	0.394
25.00	-5.88	-5.05	0.00	-101.22	0.00	101.22	805.59	402.80	601.69	301.29	4.58	-1.69	0.343
30.00	-5.55	-4.92	0.00	-75.95	0.00	75.95	764.99	382.50	542.27	271.54	6.50	-1.97	0.287
35.00	-5.24	-4.78	0.00	-51.35	0.00	51.35	724.39	362.19	485.94	243.33	8.69	-2.20	0.218
40.00	-3.00	-2.66	0.00	-27.44	0.00	27.44	683.78	341.89	432.70	216.67	11.09	-2.37	0.131
45.00	-2.78	-2.51	0.00	-14.16	0.00	14.16	643.18	321.59	382.55	191.56	13.63	-2.47	0.078
49.00	0.00	-2.38	0.00	-4.13	0.00	4.13	610.70	305.35	344.65	172.58	15.73	-2.52	0.024

Pole :	302526	Code:	ANSI/TIA-222 Rev G
Location :	Naugatuck, CT	Struct Class :	II
Height :	49.00 (ft)	Exposure Category :	B
Base Dia :	23.00 (in)	Topographic Category :	1
Top Dia :	14.00 (in)	Base Elev :	0.000 (ft)
Shape :	18 Sides		
Taper :	0.183673 (in/ft)		



Load Case: 0.9D + 1.6W — 100.00 mph with No Ice (Reduced DL) — 17 Iterations

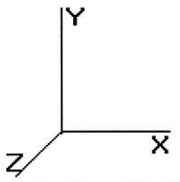
Gust Response Factor : 1.10
Dead Load Factor : 0.90
Wind Load Factor : 1.60

Wind Importance Factor : 1.00

Shaft Segment Forces (Factored)

Seg Top Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Ap (sf)	EPAs (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.70	17.024	18.72	162.83	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.70	17.024	18.72	156.33	0.650	0.000	5.00	9.537	6.20	185.7	0.0	203.7
10.00		1.00	0.70	17.024	18.72	149.83	0.650	0.000	5.00	9.148	5.95	178.2	0.0	195.3
15.00		1.00	0.70	17.024	18.72	143.32	0.650	0.000	5.00	8.760	5.69	170.6	0.0	187.0
20.00		1.00	0.70	17.024	18.72	136.82	0.650	0.000	5.00	8.371	5.44	163.0	0.0	178.6
25.00		1.00	0.70	17.024	18.72	130.32	0.650	0.000	5.00	7.983	5.19	155.5	0.0	170.2
30.00		1.00	0.70	17.038	18.74	123.87	0.650	0.000	5.00	7.594	4.94	148.0	0.0	161.9
35.00		1.00	0.73	17.806	19.58	119.98	0.650	0.000	5.00	7.206	4.68	146.8	0.0	153.5
40.00	Appertunance(s)	1.00	0.76	18.498	20.34	115.51	0.650	0.000	5.00	6.817	4.43	144.3	0.0	145.1
45.00		1.00	0.78	19.131	21.04	110.58	0.650	0.000	5.00	6.428	4.18	140.7	0.0	136.7
49.00	Appertunance(s)	1.00	0.80	19.602	21.56	106.35	0.650	0.000	4.00	4.863	3.16	109.1	0.0	103.4
							Totals:		49.00			1,541.8	0.0	1,635.4

Pole :	302526	Code: ANSI/TIA-222 Rev G	5/12/2014 11:20:48 AM
Location :	Naugatuck, CT	Struct Class : II	Page: 8
Height :	49.00 (ft)	Exposure Category : B	
Base Dia :	23.00 (in)	Topographic Category : 1	
Top Dia :	14.00 (in)	Base Elev : 0.000 (ft)	
Shape :	18 Sides		
Taper :	0.183673 (in/ft)		



Load Case: 0.9D + 1.6W — 100.00 mph with No Ice (Reduced DL) — 17 Iterations

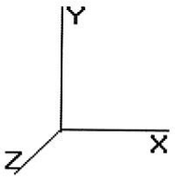
Gust Response Factor : 1.10
Dead Load Factor : 0.90
Wind Load Factor : 1.60

Wind Importance Factor : 1.00

Discrete Appurtenance Segment Forces (Factored)

Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orientation Factor	Ka	Total EPAa (sf)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)	Dead Load (lb)
40.00	Decibel DB844H80E-	6	18.498	20.348	0.92	0.80	15.94	0.000	0.000	519.01	0.00	0.00	75.60
40.00	Flat Low Profile Pla	1	18.498	20.348	1.00	1.00	26.10	0.000	0.000	849.72	0.00	0.00	1,350.00
40.00	Rymsa MGD3-800T0	3	18.498	20.348	0.82	0.80	6.79	0.000	0.000	221.05	0.00	0.00	53.46
40.00	Antel BXA-70063/4CF	3	18.498	20.348	0.76	0.80	8.59	0.000	0.000	279.69	0.00	0.00	26.73
40.00	RFS FD9R6004/1C-3L	6	18.498	20.348	0.50	0.80	0.89	0.000	0.000	28.91	0.00	0.00	16.74
49.00	Flat Low Profile Pla	1	19.602	21.563	1.00	1.00	26.10	0.000	0.000	900.45	0.00	0.00	1,350.00
49.00	Powerwave LGP13519	5	19.938	21.932	0.50	0.80	0.68	0.000	3.000	23.86	0.00	71.59	23.85
49.00	KMW AM-X-CD-16-65-	4	19.938	21.932	0.79	0.80	20.27	0.000	3.000	711.45	0.00	2,134.35	174.60
49.00	Ericsson RRUS 11	6	19.938	21.932	0.67	0.80	8.10	0.000	3.000	284.39	0.00	853.16	297.00
49.00	Raycap DC6-48-60-18-	1	19.938	21.932	1.00	0.80	1.02	0.000	3.000	35.93	0.00	107.80	28.62
49.00	CCI	6	19.938	21.932	0.50	0.80	2.33	0.000	3.000	81.69	0.00	245.07	103.68
49.00	Powerwave 7770.00	2	19.938	21.932	0.77	0.80	6.79	0.000	3.000	238.21	0.00	714.62	63.00
										4,174.36			3,563.28

Pole :	302526	Code: ANSI/TIA-222 Rev G	5/12/2014 11:20:48 AM
Location :	Naugatuck, CT	Struct Class : II	Page: 9
Height :	49.00 (ft)	Exposure Category : B	
Base Dia :	23.00 (in)	Topographic Category : 1	
Top Dia :	14.00 (in)	Base Elev : 0.000 (ft)	
Shape :	18 Sides		
Taper :	0.183673 (in/ft)		



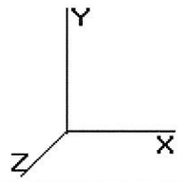
Load Case: 0.9D + 1.6W — 100.00 mph with No Ice (Reduced DL) — 17 Iterations

Gust Response Factor : 1.10
Dead Load Factor : 0.90
Wind Load Factor : 1.60
Wind Importance Factor : 1.00

Applied Segment Forces Summary

Seg Elev (ft)	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00	0.00	0.00	0.00	0.00
5.00	185.74	276.09	0.00	0.00
10.00	178.17	267.72	0.00	0.00
15.00	170.60	259.35	0.00	0.00
20.00	163.03	250.99	0.00	0.00
25.00	155.47	242.62	0.00	0.00
30.00	148.02	234.25	0.00	0.00
35.00	146.77	225.88	0.00	0.00
40.00	2,042.64	1,740.04	0.00	0.00
45.00	140.69	164.87	0.00	0.00
49.00	2,385.03	2,166.62	0.00	4,126.59
Totals:	5,716.17	5,828.43	0.00	4,126.59

Pole :	302526	Code: ANSI/TIA-222 Rev G	5/12/2014 11:20:48 AM
Location :	Naugatuck, CT	Struct Class : II	Page: 10
Height :	49.00 (ft)	Exposure Category : B	
Base Dia :	23.00 (in)	Topographic Category : 1	
Top Dia :	14.00 (in)	Base Elev : 0.000 (ft)	
Shape :	18 Sides		
Taper :	0.183673 (in/ft)		



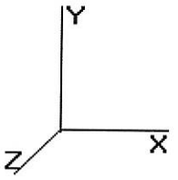
Load Case: 0.9D + 1.6W — 100.00 mph with No Ice (Reduced DL) — 17 Iterations

Gust Response Factor : 1.10
Dead Load Factor : 0.90
Wind Load Factor : 1.60
Wind Importance 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	-5.81	-5.73	0.00	-236.02	0.00	236.02	948.37	474.19	888.66	444.99	0.00	0.00	0.537
5.00	-5.50	-5.58	0.00	-207.35	0.00	207.35	922.11	461.05	828.98	415.11	0.19	-0.35	0.506
10.00	-5.20	-5.43	0.00	-179.44	0.00	179.44	894.84	447.42	770.44	385.79	0.75	-0.70	0.471
15.00	-4.91	-5.29	0.00	-152.28	0.00	152.28	866.57	433.29	713.14	357.10	1.67	-1.04	0.432
20.00	-4.64	-5.14	0.00	-125.84	0.00	125.84	837.31	418.65	657.22	329.10	2.94	-1.37	0.388
25.00	-4.38	-5.00	0.00	-100.12	0.00	100.12	805.59	402.80	601.69	301.29	4.54	-1.67	0.338
30.00	-4.12	-4.87	0.00	-75.10	0.00	75.10	764.99	382.50	542.27	271.54	6.44	-1.95	0.282
35.00	-3.89	-4.73	0.00	-50.77	0.00	50.77	724.39	362.19	485.94	243.33	8.61	-2.18	0.214
40.00	-2.22	-2.62	0.00	-27.14	0.00	27.14	683.78	341.89	432.70	216.67	10.99	-2.34	0.129
45.00	-2.06	-2.48	0.00	-14.03	0.00	14.03	643.18	321.59	382.55	191.56	13.50	-2.45	0.077
49.00	0.00	-2.38	0.00	-4.13	0.00	4.13	610.70	305.35	344.65	172.58	15.58	-2.49	0.024

Pole :	302526	Code: ANSI/TIA-222 Rev G	5/12/2014 11:20:48 AM
Location :	Naugatuck, CT	Struct Class : II	Page: 11
Height :	49.00 (ft)	Exposure Category : B	
Base Dia :	23.00 (in)	Topographic Category : 1	
Top Dia :	14.00 (in)	Base Elev : 0.000 (ft)	
Shape :	18 Sides		
Taper :	0.183673 (in/ft)		



Load Case: 1.2D + 1.0Di + 1.0Wi — 50.00 mph with 0.75 in Radial Ice — 16 Iterations

Gust Response Factor : 1.10
Dead Load Factor : 1.20
Wind Load Factor : 1.00

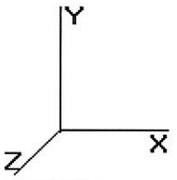
Ice Dead Load Factor : 1.00

Wind Importance Factor : 1.00
Ice Importance Factor : 1.00

Shaft Segment Forces (Factored)

Seg Top Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Ap (sf)	EPAs (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.70	4.256	4.682	0.000	1.200	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.70	4.256	4.682	0.000	1.200	1.242	5.00	10.572	12.69	59.4	181.4	453.0
10.00		1.00	0.70	4.256	4.682	0.000	1.200	1.331	5.00	10.258	12.31	57.6	187.5	447.9
15.00		1.00	0.70	4.256	4.682	0.000	1.200	1.386	5.00	9.915	11.90	55.7	187.7	437.0
20.00		1.00	0.70	4.256	4.682	0.000	1.200	1.427	5.00	9.560	11.47	53.7	185.4	423.5
25.00		1.00	0.70	4.256	4.682	0.000	1.200	1.459	5.00	9.198	11.04	51.7	181.4	408.4
30.00		1.00	0.70	4.260	4.686	0.000	1.200	1.486	5.00	8.832	10.60	49.7	176.5	392.3
35.00		1.00	0.73	4.451	4.897	0.000	1.200	1.509	5.00	8.463	10.16	49.7	170.7	375.4
40.00	Appertunance(s)	1.00	0.76	4.625	5.087	0.000	1.200	1.529	5.00	8.091	9.71	49.4	164.4	357.9
45.00		1.00	0.78	4.783	5.261	0.000	1.200	1.547	5.00	7.718	9.26	48.7	157.6	340.0
49.00	Appertunance(s)	1.00	0.80	4.901	5.391	0.000	1.200	1.560	4.00	5.903	7.08	38.2	121.5	259.4
							Totals:		49.00			513.8	1,714.2	3,894.7

Pole :	302526	Code: ANSI/TIA-222 Rev G	5/12/2014 11:20:48 AM
Location :	Naugatuck, CT	Struct Class : II	Page: 12
Height :	49.00 (ft)	Exposure Category : B	
Base Dia :	23.00 (in)	Topographic Category : 1	
Top Dia :	14.00 (in)	Base Elev : 0.000 (ft)	
Shape :	18 Sides		
Taper :	0.183673 (in/ft)		



Load Case: 1.2D + 1.0Di + 1.0Wi — 50.00 mph with 0.75 in Radial Ice — 16 Iterations

Gust Response Factor : 1.10
Dead Load Factor : 1.20
Wind Load Factor : 1.00

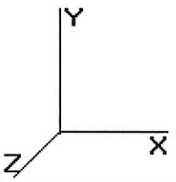
Ice Dead Load Factor : 1.00

Wind Importance Factor : 1.00
Ice Importance Factor : 1.00

Discrete Appurtenance Segment Forces (Factored)

Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orientation Factor	Ka	Total EPAa (sf)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)	Dead Load (lb)
40.00	Decibel DB844H80E-	6	4.625	5.087	0.92	0.80	16.81	0.000	0.000	85.51	0.00	0.00	664.84
40.00	Flat Low Profile Pla	1	4.625	5.087	1.00	1.00	42.86	0.000	0.000	218.04	0.00	0.00	2,168.84
40.00	Rymsa MGD3-800T0	3	4.625	5.087	0.82	0.80	8.45	0.000	0.000	43.00	0.00	0.00	297.36
40.00	Antel BXA-70063/4CF	3	4.625	5.087	0.76	0.80	10.11	0.000	0.000	51.41	0.00	0.00	341.22
40.00	RFS FD9R6004/1C-3L	6	4.625	5.087	0.50	0.80	1.30	0.000	0.000	6.62	0.00	0.00	86.34
49.00	Flat Low Profile Pla	1	4.901	5.391	1.00	1.00	43.21	0.000	0.000	232.91	0.00	0.00	2,180.50
49.00	Powerwave LGP13519	5	4.984	5.483	0.50	0.80	1.05	0.000	3.000	5.78	0.00	17.33	95.05
49.00	KMW AM-X-CD-16-65-	4	4.984	5.483	0.79	0.80	23.18	0.000	3.000	127.10	0.00	381.29	893.75
49.00	Ericsson RRUS 11	6	4.984	5.483	0.67	0.80	9.94	0.000	3.000	54.50	0.00	163.50	816.48
49.00	Raycap DC6-48-60-18-	1	4.984	5.483	1.00	0.80	2.22	0.000	3.000	12.19	0.00	36.56	119.31
49.00	CCI	6	4.984	5.483	0.50	0.80	3.22	0.000	3.000	17.67	0.00	53.00	312.39
49.00	Powerwave 7770.00	2	4.984	5.483	0.77	0.80	7.93	0.000	3.000	43.51	0.00	130.52	319.78
										898.22			8,295.85

Pole :	302526	Code: ANSI/TIA-222 Rev G	
Location :	Naugatuck, CT	Struct Class : II	
Height :	49.00 (ft)	Exposure Category : B	
Base Dia :	23.00 (in)	Topographic Category : 1	
Top Dia :	14.00 (in)	Base Elev : 0.000 (ft)	
Shape :	18 Sides		
Taper :	0.183673 (in/ft)		



Load Case: 1.2D + 1.0Di + 1.0Wi — 50.00 mph with 0.75 in Radial Ice — 16 Iterations

Gust Response Factor : 1.10
Dead Load Factor : 1.20
Wind Load Factor : 1.00

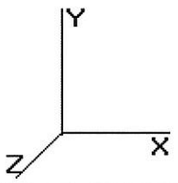
Ice Dead Load Factor : 1.00

Wind Importance Factor : 1.00
Ice Importance Factor : 1.00

Applied Segment Forces Summary

Seg Elev (ft)	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00	0.00	0.00	0.00	0.00
5.00	59.39	549.51	0.00	0.00
10.00	57.63	544.45	0.00	0.00
15.00	55.70	533.54	0.00	0.00
20.00	53.71	520.01	0.00	0.00
25.00	51.68	504.92	0.00	0.00
30.00	49.66	488.80	0.00	0.00
35.00	49.73	471.91	0.00	0.00
40.00	453.97	4,013.03	0.00	0.00
45.00	48.72	377.47	0.00	0.00
49.00	531.83	5,026.64	0.00	782.19
Totals:	1,412.01	13,030.28	0.00	782.19

Pole :	302526	Code: ANSI/TIA-222 Rev G	5/12/2014 11:20:48 AM
Location :	Naugatuck, CT	Struct Class : II	Page: 14
Height :	49.00 (ft)	Exposure Category : B	
Base Dia :	23.00 (in)	Topographic Category : 1	
Top Dia :	14.00 (in)	Base Elev : 0.000 (ft)	
Shape :	18 Sides		
Taper :	0.183673 (in/ft)		



Load Case: 1.2D + 1.0Di + 1.0Wi — 50.00 mph with 0.75 in Radial Ice — 16 Iterations

Gust Response Factor : 1.10
Dead Load Factor : 1.20
Wind Load Factor : 1.00

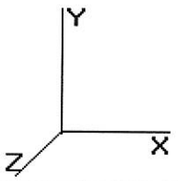
Ice Dead Load Factor : 1.00

Wind Importance Factor : 1.00
Ice Importance 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	-13.03	-1.42	0.00	-57.29	0.00	57.29	948.37	474.19	888.66	444.99	0.00	0.00	0.142
5.00	-12.48	-1.38	0.00	-50.18	0.00	50.18	922.11	461.05	828.98	415.11	0.05	-0.09	0.134
10.00	-11.93	-1.34	0.00	-43.28	0.00	43.28	894.84	447.42	770.44	385.79	0.18	-0.17	0.126
15.00	-11.40	-1.30	0.00	-36.58	0.00	36.58	866.57	433.29	713.14	357.10	0.40	-0.25	0.116
20.00	-10.87	-1.26	0.00	-30.10	0.00	30.10	837.31	418.65	657.22	329.10	0.71	-0.33	0.104
25.00	-10.37	-1.21	0.00	-23.82	0.00	23.82	805.59	402.80	601.69	301.29	1.10	-0.40	0.092
30.00	-9.88	-1.17	0.00	-17.76	0.00	17.76	764.99	382.50	542.27	271.54	1.55	-0.47	0.078
35.00	-9.41	-1.12	0.00	-11.91	0.00	11.91	724.39	362.19	485.94	243.33	2.07	-0.52	0.062
40.00	-5.40	-0.63	0.00	-6.29	0.00	6.29	683.78	341.89	432.70	216.67	2.64	-0.56	0.037
45.00	-5.02	-0.58	0.00	-3.12	0.00	3.12	643.18	321.59	382.55	191.56	3.25	-0.59	0.024
49.00	0.00	-0.53	0.00	-0.78	0.00	0.78	610.70	305.35	344.65	172.58	3.74	-0.59	0.005

Pole :	302526	Code:	ANSI/TIA-222 Rev G
Location :	Naugatuck, CT	Struct Class :	II
Height :	49.00 (ft)	Exposure Category :	B
Base Dia :	23.00 (in)	Topographic Category :	1
Top Dia :	14.00 (in)	Base Elev :	0.000 (ft)
Shape :	18 Sides		
Taper :	0.183673 (in/ft)		



Load Case: 1.0D + 1.0W — 60.00 mph Serviceability — 16 Iterations

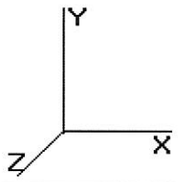
Gust Response Factor : 1.10
Dead Load Factor : 1.00
Wind Load Factor : 1.00

Wind Importance Factor : 1.00

Shaft Segment Forces (Factored)

Seg Top Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Ap (sf)	EPAs (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.70	6.129	6.742	97.700	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.70	6.129	6.742	93.799	0.650	0.000	5.00	9.537	6.20	41.8	0.0	226.3
10.00		1.00	0.70	6.129	6.742	89.898	0.650	0.000	5.00	9.148	5.95	40.1	0.0	217.0
15.00		1.00	0.70	6.129	6.742	85.997	0.650	0.000	5.00	8.760	5.69	38.4	0.0	207.7
20.00		1.00	0.70	6.129	6.742	82.096	0.650	0.000	5.00	8.371	5.44	36.7	0.0	198.4
25.00		1.00	0.70	6.129	6.742	78.195	0.650	0.000	5.00	7.983	5.19	35.0	0.0	189.1
30.00		1.00	0.70	6.134	6.747	74.325	0.650	0.000	5.00	7.594	4.94	33.3	0.0	179.8
35.00		1.00	0.73	6.410	7.051	71.990	0.650	0.000	5.00	7.206	4.68	33.0	0.0	170.5
40.00	Appertunance(s)	1.00	0.76	6.659	7.325	69.310	0.650	0.000	5.00	6.817	4.43	32.5	0.0	161.2
45.00		1.00	0.78	6.887	7.576	66.351	0.650	0.000	5.00	6.428	4.18	31.7	0.0	151.9
49.00	Appertunance(s)	1.00	0.80	7.057	7.763	63.814	0.652	0.000	4.00	4.863	3.17	24.6	0.0	114.9
							Totals:		49.00			347.0	0.0	1,817.1

Pole :	302526	Code:	ANSI/TIA-222 Rev G
Location :	Naugatuck, CT	Struct Class :	II
Height :	49.00 (ft)	Exposure Category :	B
Base Dia :	23.00 (in)	Topographic Category :	1
Top Dia :	14.00 (in)	Base Elev :	0.000 (ft)
Shape :	18 Sides		
Taper :	0.183673 (in/ft)		



Load Case: 1.0D + 1.0W — 60.00 mph Serviceability — 16 Iterations

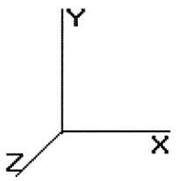
Gust Response Factor : 1.10
Dead Load Factor : 1.00
Wind Load Factor : 1.00

Wind Importance Factor : 1.00

Discrete Appurtenance Segment Forces (Factored)

Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orientation Factor	Orientation Ka	Total EPAa (sf)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)	Dead Load (lb)
40.00	Decibel DB844H80E-	6	6.659	7.325	0.92	0.80	15.94	0.000	0.000	116.78	0.00	0.00	84.00
40.00	Flat Low Profile Pla	1	6.659	7.325	1.00	1.00	26.10	0.000	0.000	191.19	0.00	0.00	1,500.00
40.00	Rymsa MGD3-800T0	3	6.659	7.325	0.82	0.80	6.79	0.000	0.000	49.74	0.00	0.00	59.40
40.00	Antel BXA-70063/4CF	3	6.659	7.325	0.76	0.80	8.59	0.000	0.000	62.93	0.00	0.00	29.70
40.00	RFS FD9R6004/1C-3L	6	6.659	7.325	0.50	0.80	0.89	0.000	0.000	6.50	0.00	0.00	18.60
49.00	Flat Low Profile Pla	1	7.057	7.763	1.00	1.00	26.10	0.000	0.000	202.60	0.00	0.00	1,500.00
49.00	Powerwave LGP13519	5	7.178	7.895	0.50	0.80	0.68	0.000	3.000	5.37	0.00	16.11	26.50
49.00	KMW AM-X-CD-16-65-	4	7.178	7.895	0.79	0.80	20.27	0.000	3.000	160.08	0.00	480.23	194.00
49.00	Ericsson RRUS 11	6	7.178	7.895	0.67	0.80	8.10	0.000	3.000	63.99	0.00	191.96	330.00
49.00	Raycap DC6-48-60-18-	1	7.178	7.895	1.00	0.80	1.02	0.000	3.000	8.08	0.00	24.25	31.80
49.00	CCI	6	7.178	7.895	0.50	0.80	2.33	0.000	3.000	18.38	0.00	55.14	115.20
49.00	Powerwave 7770.00	2	7.178	7.895	0.77	0.80	6.79	0.000	3.000	53.60	0.00	160.79	70.00
										939.23			3,959.20

Pole :	302526	Code: ANSI/TIA-222 Rev G	
Location :	Naugatuck, CT	Struct Class : II	
Height :	49.00 (ft)	Exposure Category : B	
Base Dia :	23.00 (in)	Topographic Category : 1	
Top Dia :	14.00 (in)	Base Elev : 0.000 (ft)	
Shape :	18 Sides		
Taper :	0.183673 (in/ft)		



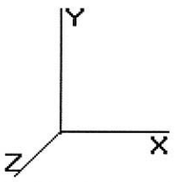
Load Case: 1.0D + 1.0W — 60.00 mph Serviceability — 16 Iterations

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

Applied Segment Forces Summary

Seg Elev (ft)	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00	0.00	0.00	0.00	0.00
5.00	41.79	306.77	0.00	0.00
10.00	40.09	297.47	0.00	0.00
15.00	38.39	288.17	0.00	0.00
20.00	36.68	278.87	0.00	0.00
25.00	34.98	269.57	0.00	0.00
30.00	33.31	260.28	0.00	0.00
35.00	33.02	250.98	0.00	0.00
40.00	459.59	1,933.38	0.00	0.00
45.00	31.66	183.19	0.00	0.00
49.00	536.71	2,407.35	0.00	928.48
Totals:	1,286.21	6,476.03	0.00	928.48

Pole :	302526	Code:	ANSI/TIA-222 Rev G
Location :	Naugatuck, CT	Struct Class :	II
Height :	49.00 (ft)	Exposure Category :	B
Base Dia :	23.00 (in)	Topographic Category :	1
Top Dia :	14.00 (in)	Base Elev :	0.000 (ft)
Shape :	18 Sides		
Taper :	0.183673 (in/ft)		



Load Case: 1.0D + 1.0W — 60.00 mph Serviceability — 16 Iterations

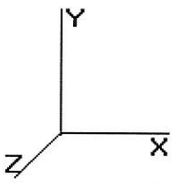
Gust Response Factor : 1.10
Dead Load Factor : 1.00
Wind Load Factor : 1.00

Wind Importance 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	-6.48	-1.29	0.00	-53.25	0.00	53.25	948.37	474.19	888.66	444.99	0.00	0.00	0.127
5.00	-6.17	-1.26	0.00	-46.80	0.00	46.80	922.11	461.05	828.98	415.11	0.04	-0.08	0.119
10.00	-5.87	-1.22	0.00	-40.51	0.00	40.51	894.84	447.42	770.44	385.79	0.17	-0.16	0.112
15.00	-5.58	-1.19	0.00	-34.39	0.00	34.39	866.57	433.29	713.14	357.10	0.38	-0.24	0.103
20.00	-5.30	-1.16	0.00	-28.43	0.00	28.43	837.31	418.65	657.22	329.10	0.66	-0.31	0.093
25.00	-5.03	-1.13	0.00	-22.62	0.00	22.62	805.59	402.80	601.69	301.29	1.02	-0.38	0.081
30.00	-4.77	-1.10	0.00	-16.97	0.00	16.97	764.99	382.50	542.27	271.54	1.45	-0.44	0.069
35.00	-4.51	-1.07	0.00	-11.47	0.00	11.47	724.39	362.19	485.94	243.33	1.94	-0.49	0.053
40.00	-2.59	-0.59	0.00	-6.13	0.00	6.13	683.78	341.89	432.70	216.67	2.48	-0.53	0.032
45.00	-2.40	-0.56	0.00	-3.17	0.00	3.17	643.18	321.59	382.55	191.56	3.05	-0.55	0.020
49.00	0.00	-0.54	0.00	-0.93	0.00	0.93	610.70	305.35	344.65	172.58	3.52	-0.56	0.005

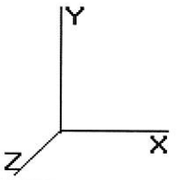
Pole :	302526	Code: ANSI/TIA-222 Rev G	
Location :	Naugatuck, CT	Struct Class : II	5/12/2014 11:20:48 AM
Height :	49.00 (ft)	Exposure Category : B	Page: 19
Base Dia :	23.00 (in)	Topographic Category : 1	
Top Dia :	14.00 (in)	Base Elev : 0.000 (ft)	
Shape :	18 Sides		
Taper :	0.183673 (in/ft)		



Analysis Summary

	Reactions						Max Usage	
Load Case	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)	Elev (ft)	Interaction Ratio
1.2D + 1.6W	5.74	0.00	7.75	0.00	0.00	237.78	0.00	0.54
0.9D + 1.6W	5.73	0.00	5.81	0.00	0.00	236.02	0.00	0.54
1.2D + 1.0Di + 1.0Wi	1.42	0.00	13.03	0.00	0.00	57.29	0.00	0.14
1.0D + 1.0W	1.29	0.00	6.48	0.00	0.00	53.25	0.00	0.13

Pole :	302526	Code: ANSI/TIA-222 Rev G	
Location :	Naugatuck, CT	Struct Class : II	
Height :	49.00 (ft)	Exposure Category : B	
Base Dia :	23.00 (in)	Topographic Category : 1	
Top Dia :	14.00 (in)	Base Elev : 0.000 (ft)	
Shape :	18 Sides		
Taper :	0.183673 (in/ft)		



Base Summary

Reactions

Original Design			Analysis			
Moment (kip-ft)	Axial (kip)	Shear (kip)	Moment (kip-ft)	Axial (kip)	Shear (kip)	Moment Design %
288.50	6.70	7.00	237.78	13.03	5.74	61.05

Base Plate

Yield (ksi)	Thick (in)	Width (in)	Style	Poly Sides	Clip Len (in)	Effective Len (in)	Mu (kip-in)	Phi Mn (kip-in)	Ratio
60.0	1.500	37.000	Round	0	0.00	18.250	266.84	554.34	0.48

Anchor Bolts

Bolt Circle	Num Bolts	Bolt Type	Bolt Dia (in)	Yield (ksi)	Ultimate (ksi)	Arrange	Cluster Dist (in)	Start Angle (deg)	Compression Force (kip)	Compression Allow (kip)	Compression Ratio	Tension Force (kip)	Tension Allow (kip)	Tension Ratio
31.00	04	2.25" 18J	2.25	75.00	100.00	Radial	0.00	45.0	95.30	260.00	0.38	88.79	260.00	0.35