Robinson+Cole

KENNETH C. BALDWIN

280 Trumbull Street
Hartford, CT 06103-3597
Main (860) 275-8200
Fax (860) 275-8299
kbaldwin@rc.com
Direct (860) 275-8345

Also admitted in Massachusetts
and New York

December 22, 2022

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

Re: **EM-VER-115-220926 – Cellco Partnership d/b/a Verizon Wireless – 54 Waterbury Road, Prospect, Connecticut**

Dear Attorney Bachman:

Pursuant to Condition No. 1 of the Siting Council's November 14, 2022 approval of the above referenced Exempt Modification, enclosed is a revised Structural Analysis referencing the recently revised Connecticut State Building Code effective October 1, 2022. Also enclosed is an updated set of plans also with updated references to the new code requirements.

Please contact me if you have any questions regarding this proposal.

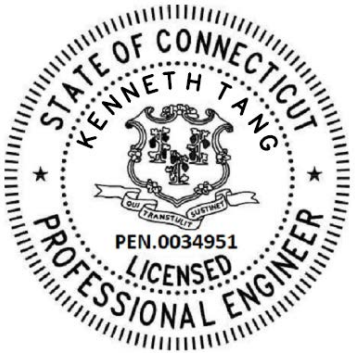
Sincerely,

Kenneth C. Baldwin

Attachments

Reinforcement Design of a 160 ft Guyed Tower

Verizon Site Number (PSLC): 468765
Site Name: Prospect North CT
County: New Haven
Location: Waterbury Rd, Prospect, CT



Checked By:

Patrick Botimer
Structural Design Engineer V

Centek Engineering

63-2 North Branford Rd,

Branford, CT 06405

December 2022

9 North Main Street, 2nd Floor, Cortland, NY 13045
(607)591-5381 Fax: (866)870-0840 www.ArmorTower.com

December 8, 2022

Doug Drost
Centek Engineering
63-2 North Branford Rd
Branford, CT 06405

RE: Verizon Wireless – 468765 – Prospect North CT
54 Waterbury Rd, Prospect, CT

Doug:

We have completed the revised modification design of the subject tower. The tower was analyzed according to the code wind and ice parameters outlined in the *Code Requirements Table* following this letter.

The subject tower is a 160' guyed tower consisting of all-welded sections with pipe legs and pipe bracing. The tower has been previously reinforced. Tower face dimension is 30" the full height above an 80" tapered base. The tower mast is laterally supported by three levels of guying attached to one set of three guy anchors. Foundation capacities were based on a foundation investigation completed by our office and site-observed soil characteristics.

The loading used in the analysis consisted of the existing antennas/lines as well as the following for Verizon Wireless at 135' on existing antenna frames:

- (6) Commscope NHH-65B-R2B antennas [2 per sector]
- (2) Swedcom SWCP 2X5514 antennas [1 ea. for Alpha & Gamma]
- (1) Andrew LNX-8514DS-VTM antenna [Beta]
- (3) Samsung MT6407-77A antennas [1 per sector]
- (3 ea) Samsung RF4439d-25A and RF4440d-13A units [1 ea. per sector]
- (1) RVZDC-6627-PF-48 OVP-12
- (18) 1-5/8" coax cables and (1) 12x24 hybriflex cables

The proposed feed line is located as shown on drawing E-7.

The scope of reinforcement, as shown in drawing 22012, includes the following:

- Change guy cable tension in guy levels 2 and 3

With the reinforcements properly install, the tower and foundation will have adequate capacity to support the proposed loading with a maximum stress rating of 99.1%. We recommend a post-construction inspection be completed by a structural engineer to document that tower-mounted equipment has been placed in compliance with the requirements of this analysis. For a detailed listing of the tower's post-reinforcement performance, please see pages 11 and 13 of the calculations.

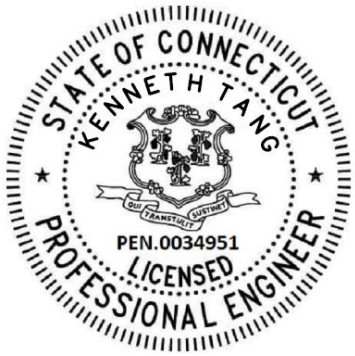
We appreciate the opportunity to provide our professional services to Centek Engineering and Verizon Wireless, and if you have any questions concerning this analysis, please contact us.

Sincerely,

ARMOR TOWER, INC.

Patrick Propert

Patrick Propert
Structural Design Engineer III

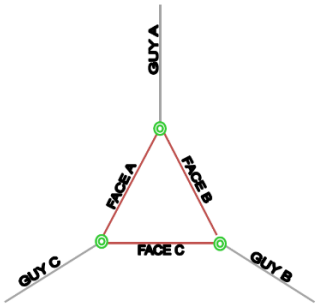


9 North Main Street, 2nd Floor, Cortland, NY 13045
(607)591-5381 Fax: (866)870-0840 www.ArmorTower.com

CODE REQUIREMENTS

Governing code:	2022 CT State Building Code
Code basis/adoption:	2021 International Building Code
Referenced standard:	ANSI/TIA 222-H
Basic wind speed: (3-sec. gust):	V_{asd} 125 mph with no ice **Per CT SBC** 50 mph with 1" concurrent ice
County of site location:	**New Haven**
ASCE 7 Special wind region:	No
Structure/Risk Category:	II
Exposure Category:	C
Topographic Category: (Method 1)	1 - no topographic escalation
Crest Height/Tower Base AMSL Elevation:	0 ft / 869 ft

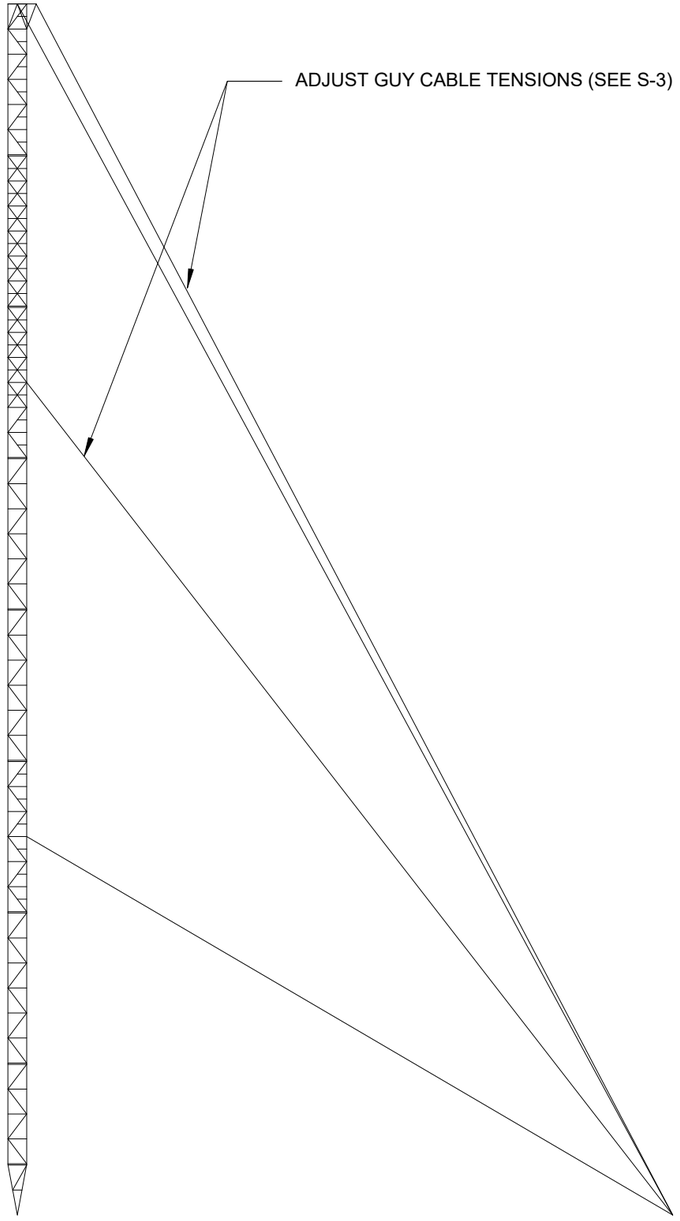
PRIMARY ASSUMPTIONS CONSIDERED IN THIS PROJECT



1. Leg A is assumed to be oriented North.
2. Allowable steel stresses are defined by AISC-LRFD-99/360-16 and all welds conform to AWS D1.1 specification.
3. If reserved antennas/feed lines by other carriers or the tower owner are to be considered in this analysis, it is the responsibility of Centek Engineering and its affiliates to provide this information.
4. Any deviation from the analyzed antenna loading will require a re-analysis of the tower for verification of structural integrity. This analysis has considered the proposed feed lines to be located as shown on drawing E-7.
5. This analysis assumes all tower members are galvanized adequately to prevent corrosion of the steel and that all tower members are in “like new” condition with no physical deterioration. This analysis also assumes the tower has been maintained properly per TIA 222-H Annex J recommended inspection and maintenance procedures for tower owners and is in a plumb condition. Armor Tower has not completed a condition assessment of the tower.
6. No accounting for residual stresses due to incorrect tower erection can be made. This analysis assumes all bolts are appropriately tightened providing necessary connection continuity and that the installation of the tower was performed by a qualified tower erector.
7. Foundation capacities are based on a foundation investigation completed by this office in March 2022 and site-observed soil characteristics. If more accurate data for soil properties is required, Armor Tower can assist the client in obtaining the appropriate boring logs and subsurface investigation.
8. No conclusions, expressed or implied, shall indicate that Armor Tower has made an evaluation of the original design, materials, fabrication, or potential installation or erection deficiencies. Any information contrary to that assumed for the purpose of preparing this analysis could alter the findings and conclusions stated herein.
9. Tower member sizes and geometry are based on a tower reinforcement design completed by Bay State Design in January 2011 and a structural analysis completed be Trylon in October 2016. Existing antenna loading is based in part on the Trylon structural analysis, as well as emails with Centek Engineering. It is our assumption that this data is complete and accurately reflects the

existing conditions of the tower and equipment. Armor Tower has not been commissioned to field-validate this data. Armor Tower reserves the right to add to or modify this report as more information becomes available. Proposed equipment was outlined in an RF design (Rev. 1) dated August 2021.

10. The investigation of the load carrying capacities of the antenna supporting frames/mounts is outside the scope of this analysis. Antenna mount certification can be completed under a separate contract.



CONTRACTOR NOTES:

1. THE CONTRACTOR COMPLETING THIS WORK SHALL HAVE PRIOR EXPERIENCE WITH THIS LEVEL OF CONSTRUCTION COMPLEXITY.
2. CONTRACTOR SHALL BUDGET A SITE VISIT TO CHECK CRITICAL DIMENSIONS PRIOR TO MATERIAL ORDERING AND FABRICATION. VIF=VERIFY IN FIELD.
3. CONTRACTOR SHALL VERIFY THAT NO OBSTRUCTIONS (IE: STEP BOLTS, HAND HOLES, CABLE PORTS, SAFETY CLIMB CABLE ATTACHMENT) WILL HINDER THE PLACEMENT AND LOCATION OF REINFORCING ELEMENTS. ALL OBSTRUCTIONS AND DISCREPANCIES SHALL BE REPORTED TO ARMOR TOWER PRIOR TO CONSTRUCTION.
4. COMMENCEMENT OF STRUCTURAL STEEL WORK WITHOUT NOTIFYING ENGINEER (ARMOR TOWER) OF ANY DISCREPANCIES WILL BE CONSIDERED ACCEPTANCE OF PRECEDING WORK.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR CONSTRUCTION MEANS & METHODS AS WELL AS PROTECTING EXISTING LINES AND FACILITIES FROM WELDING AND CONSTRUCTION DAMAGE.
6. STABILITY OF THE TOWER DURING CONSTRUCTION IS THE RESPONSIBILITY OF THE CONTRACTOR. TEMPORARY GUYING SHALL BE USED TO MAINTAIN MAST STABILITY DURING RE-GUYING. ARMOR TOWER CAN ASSIST THE CONTRACTOR WITH CLASS IV RIGGING PLANS AS NEEDED.
7. REINFORCEMENT SEQUENCE SHALL COMMENCE FROM GROUND LEVEL UP.

GUY CABLE NOTES:

1. PREFORMED LINE PRODUCTS BIG GRIP DEAD ENDS (PREFORMS) MAY NOT BE UNWOUND AND REUSED. NEW PREFORMS MUST BE USED.
2. TABULATED CABLE LENGTHS ARE MINIMUM LENGTHS FOR ONE CABLE. WE RECOMMEND THE CONTRACTOR ORDER EXTRA.
3. AFTER REPLACEMENT OF GUY WIRES AND/OR COMPONENTS, THE ENTIRE TOWER SHALL PLUMBED AND THE GUYS RE-TENSIONED TO THE VALUES INDICATED IN THE TABLE.
4. NOTE THAT THE TENSION IN GUY LEVELS 2 AND 3 ARE TO BE MODIFIED FROM TYPICAL 10% TENSION. STAINLESS STEEL TAG(S) SHALL BE STAMPED AS NOTED:
   "GUY LEVEL: X"
   "TENSION: xxxx# (x%)"
   THE TAGS SHALL BE ATTACHED TO THE TURNBUCKLES WITH STAINLESS STEEL OR GALVANIZED WIRE TO PREVENT ADJUSTMENT
   TO TYPICAL VALUES AFTER A FUTURE ROUTINE TENSION CHECK.

FABRICATION AND ASSEMBLY NOTES:

1. ANY INCORRECTLY FABRICATED, DAMAGED, OR OTHERWISE MISFITTING OR NONCONFORMING MATERIALS OR CONDITIONS REQUIRING REMEDIAL OR CORRECTIVE ACTION SHALL REQUIRE ENGINEER'S REVIEW.
2. NO UNAUTHORIZED COPES (NOT SHOWN IN DRAWINGS) ARE PERMITTED. CONTACT ARMOR TOWER FOR GUIDANCE.
3. NO TOWER MEMBERS OR ASSEMBLY BOLTS SHALL BE LEFT OFF THE TOWER OVER NIGHT.
4. ALL REINFORCEMENTS SHALL BE IN PLACE PRIOR TO ANTENNA INSTALLATION.
5. ALL HOLLOW PARTS SHALL HAVE GALVANIZING DRAIN HOLES PROVIDED.
6. BRACING REPLACEMENT SHALL NOT BE DONE WHEN ANTICIPATED AMBIENT WIND SPEEDS EXCEED 15 MPH.
7. ANY REQUIRED BRACE REPLACEMENT SHALL BE DONE ONE-AT-A-TIME.

POST-MODIFICATION INSPECTION:

1. FINAL INSPECTION OF THESE MODIFICATIONS SHALL BE COMPLETED BY AN ENGINEER.
2. REQUIRED DOCUMENTATION FROM CONTRACTOR:
   *MATERIAL ORDERS AND MILL CERTIFICATIONS
   *CONCRETE BATCH TICKETS
   *CERTIFIED WELDING INSPECTIONS
   *PHOTOGRAPHIC DOCUMENTATION OF WORK AND COMPLIANCE.

MATERIAL NOTES:

1. ALL PARTS SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION TO ASTM A123 SPECIFICATIONS.
2. ALL STEEL SHALL BE PAINTED TO MATCH EXISTING COLOR BANDING AFTER INSTALLATION.

PREPARED FOR:

Centek Engineering, Inc.
63 North Branford Rd,
Branford, CT 06405

ARMOR TOWER ENGINEERING
9 NORTH MAIN ST, FLOOR 2
CORTLAND, NY 13045
PHONE: 607-591-5381
FAX: 866-870-0840

NO.	DATE	DESCRIPTION	DWG / CHK
2	07DEC22	UPDATED CODE	PEP / KT
1	19MAY22	INTIAL RELEASE	PEP / KT

SITE INFO

VZW PROSPECT NORTH
WATERBURY RD
PROSPECT, CT

SHEET SCALE / UNITS

NTS — ALL DIMENSIONS IN INCHES UNLESS NOTED OTHERWISE

SHEET TITLE

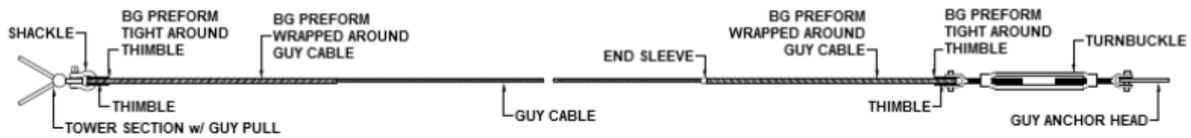
REINFORCEMENT

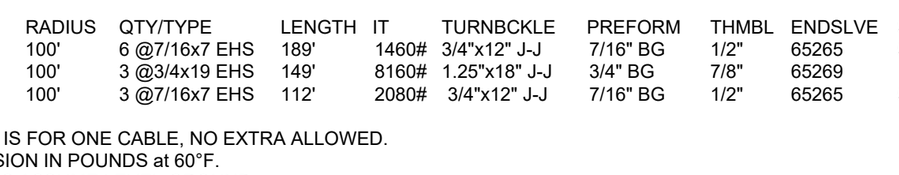
SHEET #	FILENAME
S-1	22012

GUY WIRE
CABLE

LEVEL	HEIGHT	RADIUS	QTY/TYPE	LENGTH	IT	TURNBCKLE	PREFORM	THMBL	ENDSLVE	SHCKLE
(E)3	160'	100'	6 @7/16x7 EHS	189'	1460#	3/4"x12" J-J	7/16" BG	1/2"	65265	5/8"
(E)2	110'	100'	3 @3/4x19 EHS	149'	8160#	1.25"x18" J-J	3/4" BG	7/8"	65269	1"
(E)1	50'	100'	3 @7/16x7 EHS	112'	2080#	3/4"x12" J-J	7/16" BG	1/2"	65265	5/8"

1. LENGTH GIVEN IS FOR ONE CABLE, NO EXTRA ALLOWED.
2. IT=INITIAL TENSION IN POUNDS at 60°F.
3. CABLE LENGTHS ASSUME LEVEL GROUND.
4. TEMPORARY GUYING SHALL BE USED.
5. (FOR REGUYING) BIG GRIP DEAD-ENDS (PREFORMS) AND END SLEEVES MAY NOT BE RE-USED. TURNBUCKLES, SHACKLES AND THIMBLES MAY BE RE-USED FOR THE SAME CABLE SIZE IF NOT CORRODED.
6. NOTE THAT THE TENSION IN GUY LEVELS 2 AND 3 ARE TO BE MODIFIED FROM TYPICAL 10% TENSION. STAINLESS STEEL TAG(S) SHALL BE STAMPED WITH THE SPECIFIED TENSION:
"TENSION: 8160# (14%)" AND "TENSION: 1460# (07%)". THE TAGS SHALL BE ATTACHED TO THE TURNBUCKLES SETS WITH STAINLESS STEEL OR GALVANIZED WIRE. THIS IS TO PREVENT ADJUSTMENT TO TYPICAL VALUES AFTER A FUTURE ROUTINE TENSION CHECK.
7. PROPOSED=(P), EXISTING=(E).

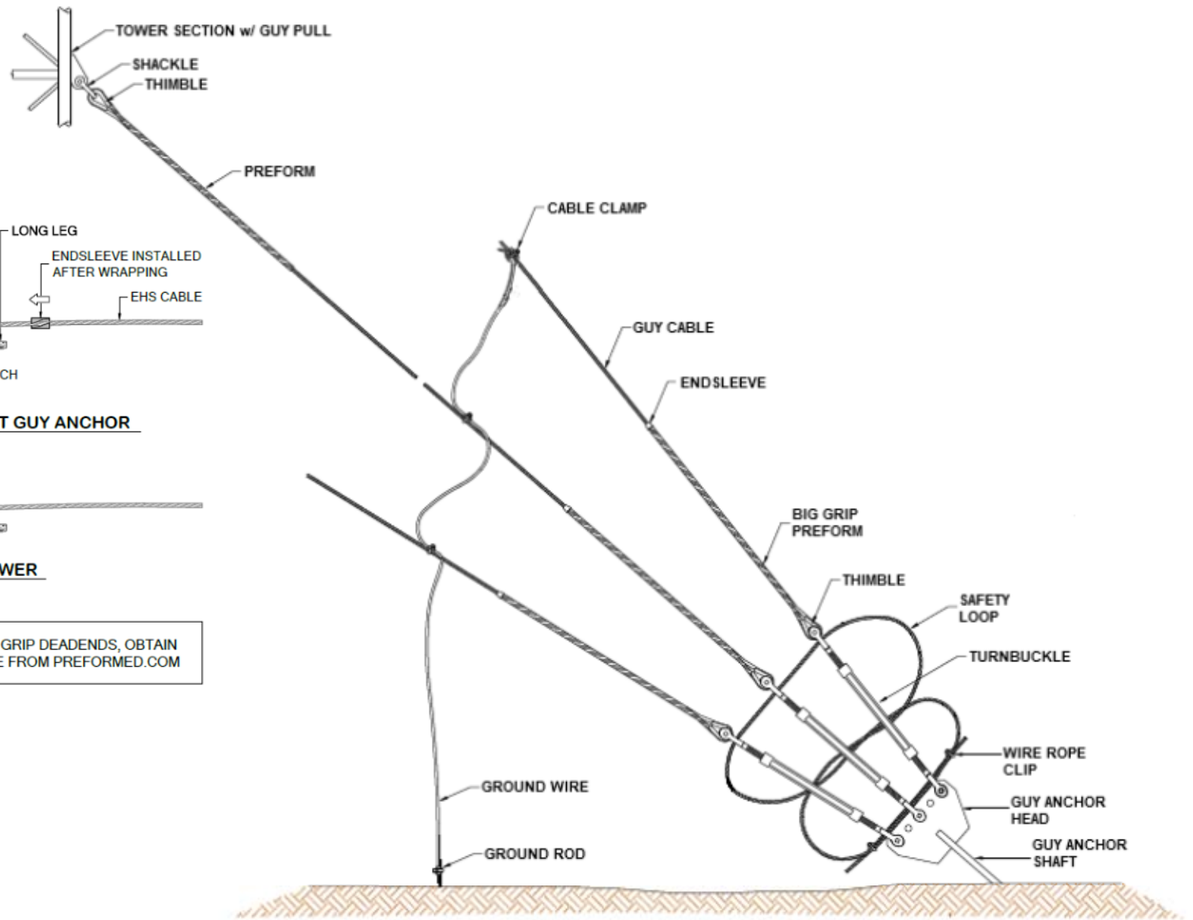




TYPICAL TURNBUCLE-THIMBLE-PREFORM-ENDSLEEVE-CABLE SETUP AT GUY ANCHOR

TYPICAL SHACKLE-THIMBLE-PREFORM-CABLE SETUP AT TOWER

NOTE: FOR INSTALLATION OF BIG GRIP DEADENDS, OBTAIN THE LATEST APPLICATION PROCEDURE FROM PREFORMED.COM



PREPARED FOR:

Centek Engineering, Inc.
63 North Branford Rd,
Branford, CT 06405

ARMOR TOWER ENGINEERING
9 NORTH MAIN ST, FLOOR 2
CORTLAND, NY 13045
PHONE: 607-591-5381
FAX: 866-870-0840

NO.	DATE	DESCRIPTION	DWG / CHK
2	07DEC22	UPDATED CODE	PEP / KT
1	19MAY22	INTIAL RELEASE	PEP / KT

SITE INFO

VZW PROSPECT NORTH
WATERBURY RD
PROSPECT, CT

SHEET SCALE / UNITS

NTS — ALL DIMENSIONS IN INCHES UNLESS NOTED OTHERWISE

SHEET TITLE

GUY TENSIONS

SHEET # S-2

FILENAME 22012

MI CHECKLIST

Required	Report Item	Description
		PRE-CONSTRUCTION
X	MI Check list drawing	This checklist shall be included in the MI report.
NA	EOR Approved Shop Drawings	Once the pre-modification mapping is complete and prior to fabrication, the contractor shall provide detailed assembly drawings and/or shop drawings. These are to include, but are not limited to, a visual layout of the new reinforcement, existing reinforcement configuration, portholes, mounts, step pegs, safety climbs and other miscellaneous items which may affect successful installation of modifications. These drawings shall be submitted to the EOR for approval. Approved assembly/shop drawings shall be included in the MI report.
NA	Fabrication Inspection	A letter from the fabricator stating that the work was performed in accordance with industry standards and the contract documents. It shall be included in the MI report.
NA	Fabricator Certified Weld Inspection	A CWI shall inspect all welding performed on structural members during fabrication. A written report shall be included in the MI report.
NA	Material Test Reports (MTR)	Material test reports shall be provided for material used in construction and shall be included in the MI report.
NA	Fabricator NDE Inspection Report	Critial shop welds that require testing are noted on these contract drawings. A certified NDT Inspector shall perform a Non-Destructive examination and the report included in the MI report.
NA	NDE of Monopole Base Plate	A NDE of the pole to base plate connection is required and a written report shall be included in the MI report
X	Packing Slips / Batch Tickets	The Material shipping lists shall be included in the MI report
	Additional Testing and Inspections:	
NA		
		CONSTRUCTION
NA	Foundation Inspections	A visual observation of the excavation, epoxy holes, and placed rebar shall be performed before placing the concrete. A sealed written report shall be included in the MI report.
NA	Concrete comp. strength, slump tests	The concrete mix design, slump tests, and compressive strength tests shall be part of the foundation report.
NA	Earthwork	Foundation sub-grades shall be inspected and approved by an approved foundation inspector and results included in the foundation report.
NA	Micropile/Rock anchors	Micropiles/rock anchors shall be inspected by the foundation inspection vendor and shall be included in the foundation inspection report. Additional testing and/or inspection requirements are noted in these contract documents.
NA	Post-Installed anchor rod verification	Post-installed anchor rod verification shall be performed and a report shall be included in the MI report.
NA	Base Plate grout verification	The general contractor shall provide documentation to the MI inspector that certifies that the grout was removed and/or installed in accordance with contractor documents for inclusion in the MI report.
NA	Field Certified Weld Inspection	An AWS certified weld inspector shall inspect and test field welds, in accordance with AWS D1.1/D1.1M: "Structural welding code – steel". A report shall be provided. NDE of field welds shall be performed as required per contract documents. The NDE report shall be included in the CWI report.
NA	On-Site cold galvanizing verification	The general contractor shall provide written and photographic documentation to the MI inspector verifying that any on-site cold galvanizing was applied per manufacturer specifications and applicable standards. The cold galvanizing compound is to be approved by the tower owner.
X	Twist & Plumb, Cable tensions	The general contractor shall provide a report in accordance with applicable standards documenting mast twist and plumb and guy cable tensions.
X	GC As-built documents	The general contractor shall submit a legible copy of the original design drawings either stating "Installed as designed" or noting any changes that were required and approved by the engineer of record. EOR/RFI forms approving all changes shall be submitted when the EOR is specifying additional inspections. Description and applicable standards shall be noted.
	Additional Testing and Inspections:	
NA		
		POST-CONSTRUCTION
NA	Construction compliance letter	A letter from the general contractor stating that the workmanship was performed in accordance with industry standards and these contract drawings, including listing additional parties to the modification process.

MODIFICATION INSPECTION NOTES:
GENERAL:
THE MI IS AN ON-SITE VISUAL AND HANDS-ON INSPECTION OF THE MODIFICATIONS INCLUDING A REVIEW OF CONSTRUCTION REPORTS AND ADDITIONAL PERTINENT DOCUMENTATION PROVIDED BY THE GENERAL CONTRACTOR (GC), AS WELL AS ANY INSPECTION DOCUMENTS PROVIDED BY 3RD PARTY INSPECTORS. THE MI IS TO ENSURE THE INSTALLATION WAS CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, NAMELY THE MODIFICATION DRAWINGS AS DESIGNED BY THE ENGINEER OF RECORD (EOR).

NO DOCUMENT, CODE OR POLICY CAN ANTICIPATE EVERY SITUATION THAT MAY ARISE. ACCORDINGLY, THIS CHECKLIST IS INTENDED TO SERVE AS A SOURCE OF GUIDING PRINCIPLES IN ESTABLISHING GUIDELINES FOR MODIFICATION INSPECTION.

THE MI IS TO CONFIRM INSTALLATION CONFIGURATION AND WORKMANSHIP ONLY AND IS NOT A REVIEW OF THE MODIFICATION DESIGN ITSELF. THE MI INSPECTOR DOES NOT TAKE OWNERSHIP OF THE MODIFICATION DESIGN, OWNERSHIP OF THE STRUCTURAL MODIFICATION DESIGN EFFECTIVENESS AND INTEGRITY RESIDES WITH THE EOR AT ALL TIMES. THE MI INSPECTOR SHALL INSPECT AND NOTE CONFORMANCE/NONCONFORMANCE AND PROVIDE THE TOWER OWNER POINT OF CONTACT FOR EVALUATION.

TO ENSURE THAT THE REQUIREMENTS OF THE MI ARE MET, IT IS VITAL THAT THE GENERAL CONTRACTOR (GC) AND THE MI INSPECTOR BEGIN COMMUNICATING AND COORDINATING AS SOON AS A PURCHASE ORDER (PO) IS RECEIVED. IT IS EXPECTED THAT EACH PARTY WILL BE PROACTIVE IN REACHING OUT TO THE OTHER PARTY. IF CONTACT INFORMATION IS NOT KNOWN, THE GC AND/OR INSPECTOR SHALL CONTACT THE OWNER POINT OF CONTACT.

SERVICE LEVEL COMMITMENT:
THE FOLLOWING RECOMMENDATIONS AND SUGGESTIONS ARE OFFERED TO ENHANCE THE
EFFICIENCY AND EFFECTIVENESS OF DELIVERING AN MI REPORT:

1. THE GC SHALL PROVIDE A MINIMUM OF 5 BUSINESS DAYS NOTICE, PREFERABLY 10, TO THE MI INSPECTOR AS TO WHEN THE SITE WILL BE READY FOR THE MI TO BE CONDUCTED.
2. THE GC AND MI INSPECTOR COORDINATE CLOSELY THROUGHOUT THE ENTIRE PROJECT.
3. WHEN POSSIBLE, IT IS PREFERRED TO HAVE THE GC AND MI INSPECTOR ON-SITE SIMULTANEOUSLY FOR ANY GUY WIRE TENSIONING OR RE-TENSIONING PERATIONS.
4. WHEN POSSIBLE, IT IS PREFERRED TO HAVE THE GC AND MI INSPECTOR ON-SITE DURING MI TO HAVE ANY MINOR DEFICIENCIES CORRECTED DURING THE INITIAL MI. THEREFORE, THE GC MAY CHOOSE TO COORDINATE THE MI CAREFULLY TO ENSURE ALL CONSTRUCTION FACILITIES ARE AT THEIR DISPOSAL WHEN THE MI INSPECTOR IS ON SITE.

REQUIRED PHOTOS:
BETWEEN THE GC AND THE MI INSPECTOR THE FOLLOWING PHOTOGRAPHS, AT A MINIMUM, ARE TO BE TAKEN AND INCLUDED IN THE MI REPORT:
* PRE-CONSTRUCTION GENERAL SITE CONDITION
* PHOTOGRAPHS DURING THE REINFORCEMENT MODIFICATION CONSTRUCTION/ ERECTION AND INSPECTION
** RAW MATERIALS
** PHOTOS OF ALL CRITICAL DETAILS
** FOUNDATION MODIFICATIONS
** WELD PREPARATION
** BOLT INSTALLATION
** FINAL INSTALLED CONDITION
** SURFACE COATING REPAIR

* POST CONSTRUCTION PHOTOGRAPHS
** FINAL INFIELD CONDITION
PHOTOS OF ELEVATED MODIFICATIONS TAKEN ONLY FROM THE GROUND SHALL NOT BE CONSIDERED ADEQUATE OR SUFFICIENT.

PREPARED FOR:

Centek Engineering, Inc.
63 North Branford Rd,
Branford, CT 06405

ARMOR TOWER ENGINEERING
9 NORTH MAIN ST, FLOOR 2
CORTLAND, NY 13045
PHONE: 607-591-5381
FAX: 866-870-0840

NO.	DATE	DESCRIPTION	DWG / CHK
2	07DEC22	UPDATED CODE	PEP / KT
1	19MAY22	INTIAL RELEASE	PEP / KT

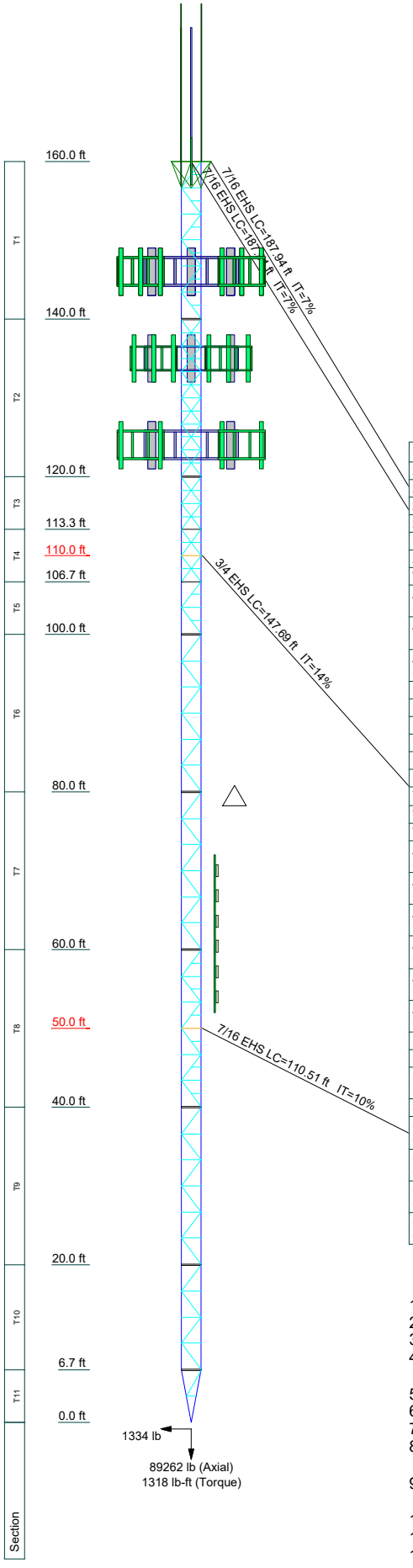
SITE INFO

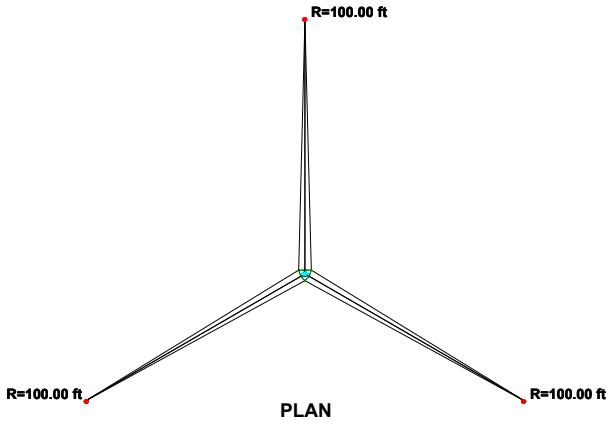
VZW PROSPECT NORTH
WATERBURY RD
PROSPECT, CT

SHEET SCALE / UNITS
NTS
ALL DIMENSIONS IN INCHES UNLESS NOTED OTHERWISE

SHEET TITLE
MI CHECK LIST

SHEET # S-4
FILENAME 22012





DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION
2.5"ODx15' Omni	160
2.5"ODx20' Omni	160
2.0"ODx15' Omni	160
2.0"ODx15' Omni	160
DB404	160
2" Sch40 x 8ft (Long antenna pipe)	160
Valmont 13' Standoff Frame (set of 3)	146
APXVSPP18-C-A20 w. Mtg Pipe (Sprint)	146
APXVSPP18-C-A20 w. Mtg Pipe (Sprint)	146
APXVSPP18-C-A20 w. Mtg Pipe (Sprint)	146
LLPX310R-V1 w. MtgPipe (Sprint)	146
LLPX310R-V1 w. MtgPipe (Sprint)	146
LLPX310R-V1 w. MtgPipe (Sprint)	146
Nokia FWHR 2.5 RRH (Sprint)	146
Nokia FWHR 2.5 RRH (Sprint)	146
Nokia FWHR 2.5 RRH (Sprint)	146
TD-RRH-8x20-2500 (Sprint)	146
TD-RRH-8x20-2500 (Sprint)	146
TD-RRH-8x20-2500 (Sprint)	146
ALU 800MHz 2x50W RRH w. Filter (Sprint)	146
ALU 800MHz 2x50W RRH w. Filter (Sprint)	146
ALU 800MHz 2x50W RRH w. Filter (Sprint)	146
ALU RRH 4x45 65 (1900 MHz) (Sprint)	146
ALU RRH 4x45 65 (1900 MHz) (Sprint)	146
ALU RRH 4x45 65 (1900 MHz) (Sprint)	146
Distro Box (Sprint)	146
12' booms (set of 3) (E-VZW)	135
Samsung MT6407-77A (P-VZW-Alpha)	135
Samsung MT6407-77A (P-VZW-Beta)	135
Samsung MT6407-77A (P-VZW-Gamma)	135
(2) NHH-65B-R2B w. Mtg Pipe (P-VZW-Alpha)	135
(2) NHH-65B-R2B w. Mtg Pipe (P-VZW-Beta)	135
(2) NHH-65B-R2B w. Mtg Pipe (P-VZW-Gamma)	135

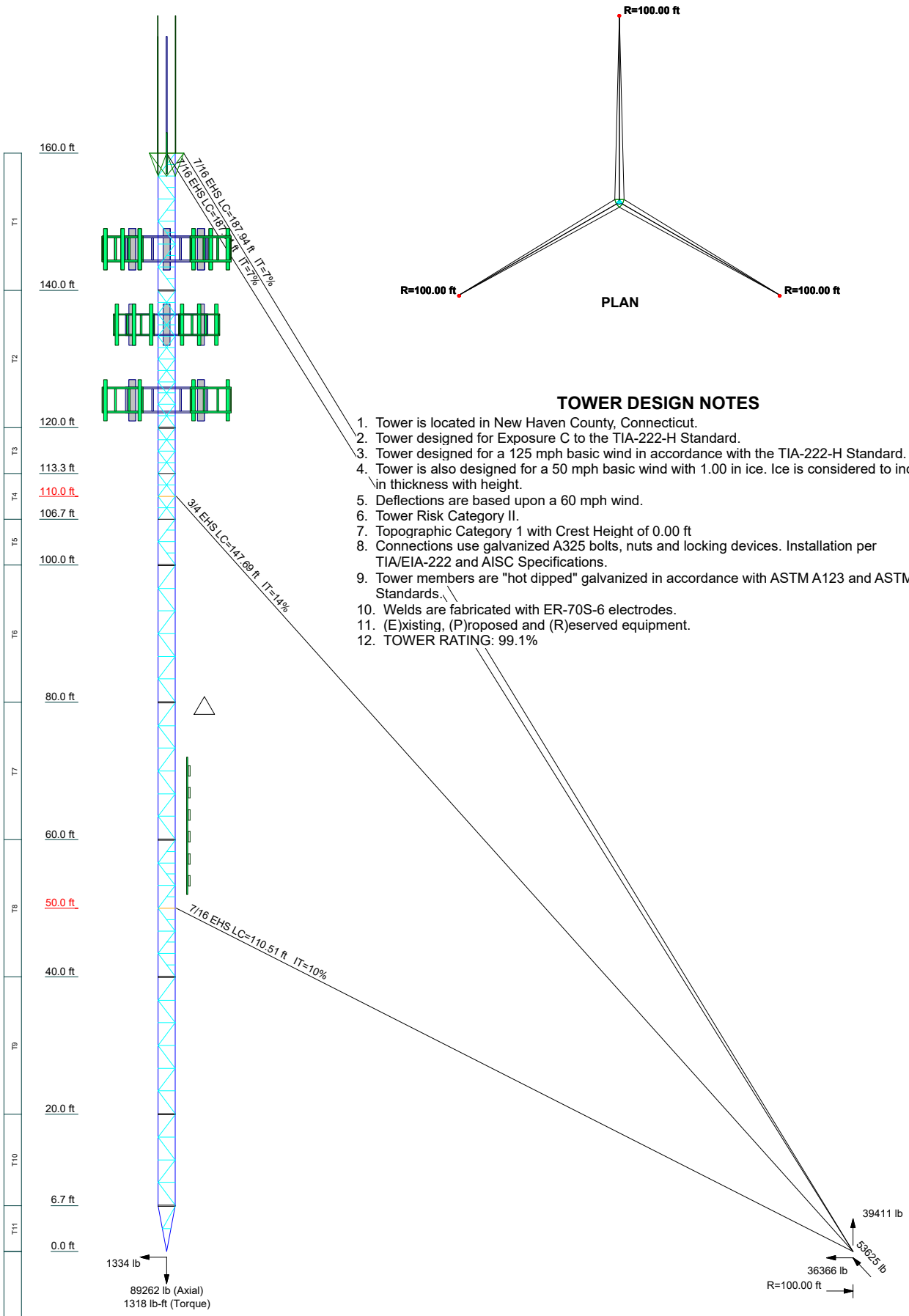
TYPE	ELEVATION
(2) SWCP 2x5514 w. MtgPipe (E-VZW-Alpha)	135
(2) SWCP 2x5514 w. MtgPipe (E-VZW-Beta)	135
LNX-8514DS-VTM w. Mtg. Pipe (E-VZW-Gamma)	135
ORAN RF4439d-25A RRU (P-VZW-Alpha)	135
ORAN RF4439d-25A RRU (P-VZW-Beta)	135
ORAN RF4439d-25A RRU (P-VZW-Gamma)	135
ORAN RF4440d-13A RRU (P-VZW-Alpha)	135
ORAN RF4440d-13A RRU (P-VZW-Beta)	135
ORAN RF4440d-13A RRU (P-VZW-Gamma)	135
RVZDC-6627-PF-48 (12Circuit OVP) (P-VZW)	135
Ericsson RRUS-32 B2 (1900) (AT&T)	124
Ericsson RRUS-32 B2 (1900) (AT&T)	124
10' Pirod Frame (set of 3) (AT&T)	124
(2) KMW AM-X-CD-16-65-00T w. Mtg Pipe (AT&T)	124
KMW AM-X-CD-16-65-00T w. Mtg Pipe (AT&T)	124
KMW AM-X-CD-16-65-00T w. Mtg Pipe (AT&T)	124
(2) SBNH-1D6565C w. Mtg Pipe (AT&T)	124
HPA-65R-BUU-H8 w. MtgPipe (AT&T)	124
HPA-65R-BUU-H8 w. MtgPipe (AT&T)	124
HPA-65R-BUU-H8 w. MtgPipe (AT&T)	124
TMA Dual Band 850/1900 (AT&T)	124
TMA Dual Band 850/1900 (AT&T)	124
TMA Dual Band 850/1900 (AT&T)	124
RRUS-11 (AT&T)	124
RRUS-11 (AT&T)	124
RRUS-11 (AT&T)	124
Ericsson RRUS-32 B2 (1900) (AT&T)	124
RxxDC-4750-PF-48 Surge Protector (AT&T)	120
DB224	72 - 52
VZW-2022	0

TOWER DESIGN NOTES

1. Tower is located in New Haven County, Connecticut.
2. Tower designed for Exposure C to the TIA-222-H Standard.
3. Tower designed for a 125 mph basic wind in accordance with the TIA-222-H Standard.
4. Tower is also designed for a 50 mph basic wind with 1.00 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Risk Category II.
7. Topographic Category 1 with Crest Height of 0.00 ft
8. Connections use galvanized A325 bolts, nuts and locking devices. Installation per TIA/EIA-222 and AISC Specifications.
9. Tower members are "hot dipped" galvanized in accordance with ASTM A123 and ASTM A153 Standards.
10. Welds are fabricated with ER-70S-6 electrodes.
11. (E)xisting, (P)roposed and (R)eserved equipment.
12. TOWER RATING: 99.1%

ARMOR TOWER
Armor Tower, Inc.
9 North Main St.
Cortland, NY 13045
Phone: (607) 591-5381
FAX: (866) 870-0840

Job: ***160' Guyed Tower Reinforcement***			
Project: ***Verizon Wireless: Prospect North, CT***			
Client: Centek Engineering	Drawn by: PEP	App'd:	
Code: TIA-222-H	Date: 12/07/22	Scale: NTS	
Path:		Dwg No. E-1	



TOWER DESIGN NOTES

1. Tower is located in New Haven County, Connecticut.
2. Tower designed for Exposure C to the TIA-222-H Standard.
3. Tower designed for a 125 mph basic wind in accordance with the TIA-222-H Standard.
4. Tower is also designed for a 50 mph basic wind with 1.00 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Risk Category II.
7. Topographic Category 1 with Crest Height of 0.00 ft
8. Connections use galvanized A325 bolts, nuts and locking devices. Installation per TIA/EIA-222 and AISC Specifications.
9. Tower members are "hot dipped" galvanized in accordance with ASTM A123 and ASTM A153 Standards.
10. Welds are fabricated with ER-70S-6 electrodes.
11. (E)xisting, (P)roposed and (R)eserved equipment.
12. TOWER RATING: 99.1%

ALL REACTIONS ARE FACTORED

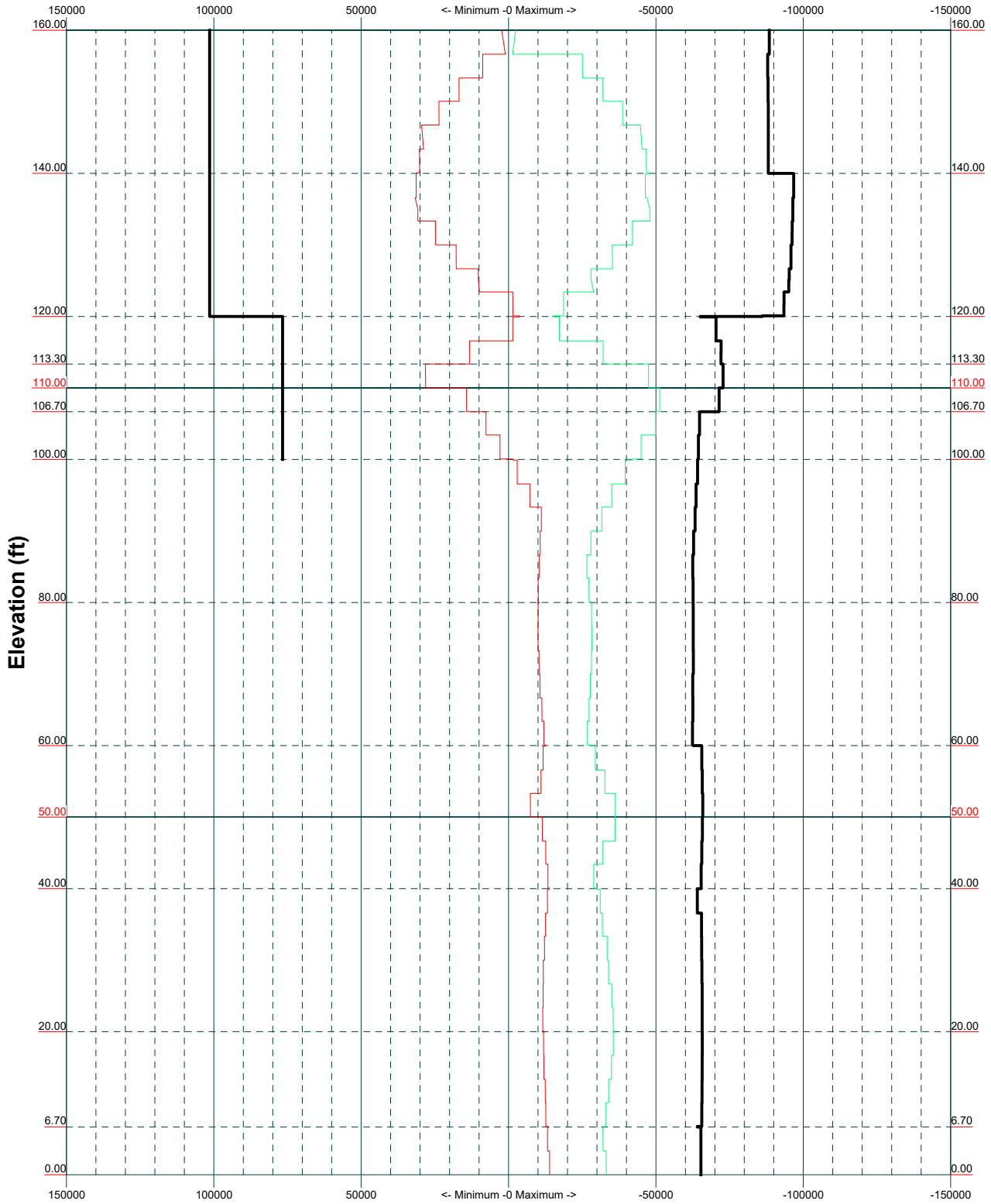
ARMOR TOWER

Armor Tower, Inc.
9 North Main St.
Cortland, NY 13045
Phone: (607) 591-5381
FAX: (866) 870-0840

Job: ***160' Guyed Tower Reinforcement***			
Project: ***Verizon Wireless: Prospect North, CT***			
Client: Centek Engineering	Drawn by: PEP	App'd:	
Code: TIA-222-H	Date: 12/08/22	Scale: NTS	
Path:		Dwg No. E-1	

TIA-222-H - 125 mph/50 mph 1.0000 in Ice Exposure C

Leg Capacity ——— **Leg Compression (lb)**



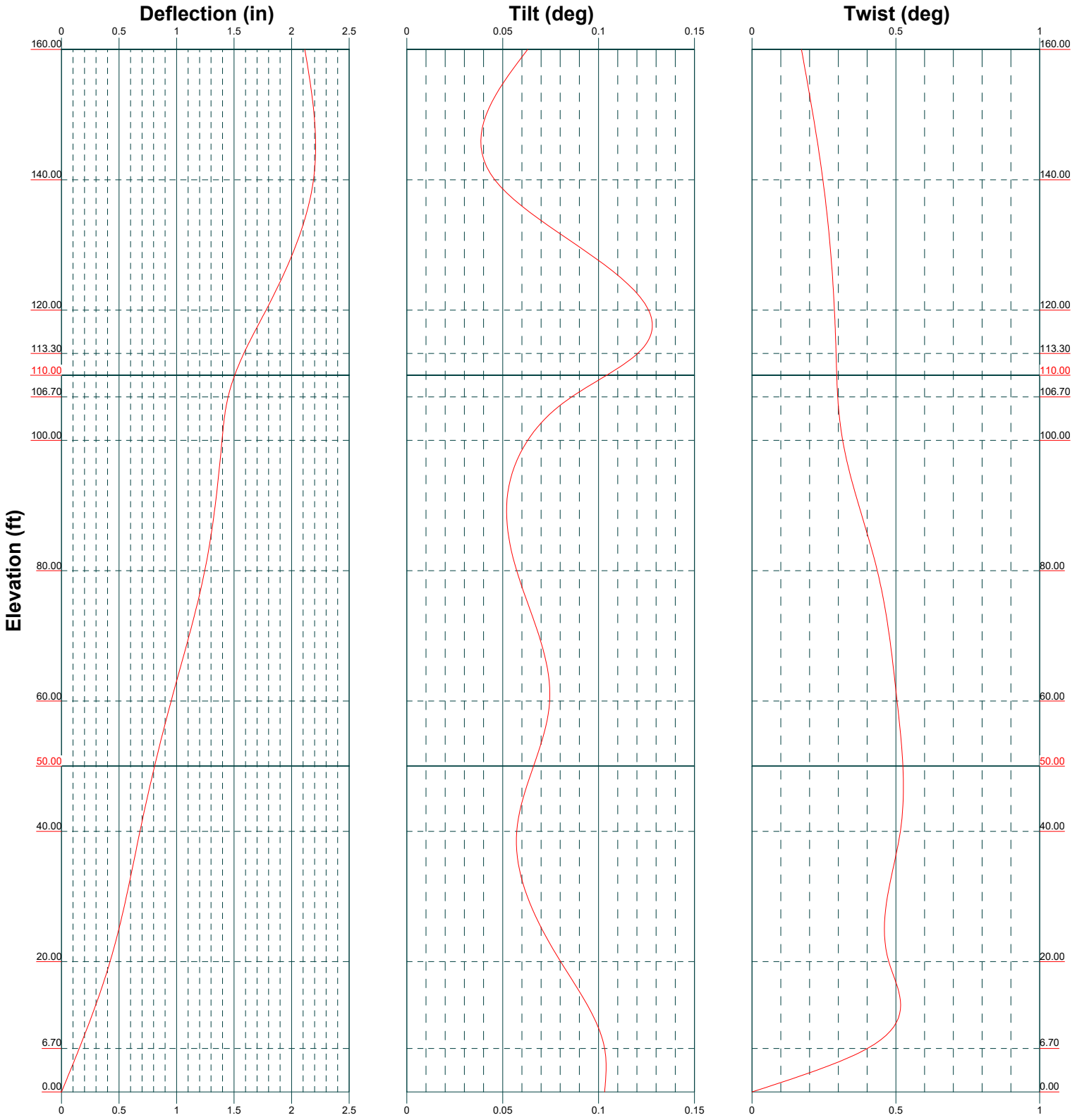
ARMOR TOWER

Armor Tower, Inc.
9 North Main St.
Cortland, NY 13045
Phone: (607) 591-5381
FAX: (866) 870-0840

Job: ***160' Guyed Tower Reinforcement***			
Project: ***Verizon Wireless: Prospect North, CT***			
Client: Centek Engineering	Drawn by: PEP	App'd:	
Code: TIA-222-H	Date: 12/07/22	Scale: NTS	
Path:		Dwg No. E-3	

TIA-222-H - Service - 60 mph

Maximum Values



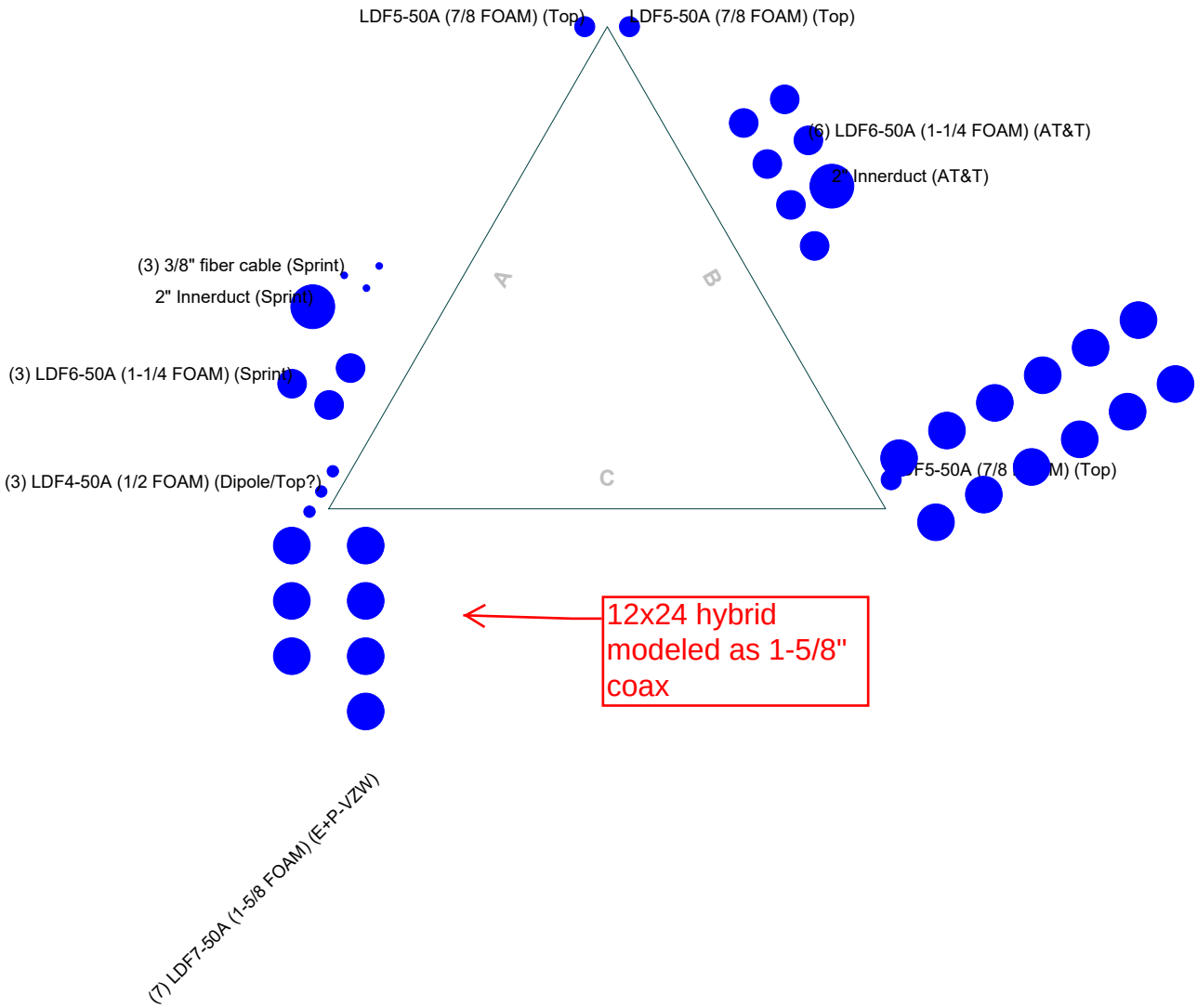
ARMOR TOWER

Armor Tower, Inc.
9 North Main St.
Cortland, NY 13045
Phone: (607) 591-5381
FAX: (866) 870-0840

Job: ***160' Guyed Tower Reinforcement***			
Project: ***Verizon Wireless: Prospect North, CT***			
Client: Centek Engineering	Drawn by: PEP	App'd:	
Code: TIA-222-H	Date: 12/07/22	Scale: NTS	
Path:		Dwg No. E-5	

Feed Line Plan

Round Flat App In Face App Out Face



ARMOR TOWER

Armor Tower, Inc.
9 North Main St.
Cortland, NY 13045
Phone: (607) 591-5381
FAX: (866) 870-0840

Job:	***160' Guyed Tower Reinforcement***		
Project:	***Verizon Wireless: Prospect North, CT***		
Client: Centek Engineering	Drawn by: PEP	App'd:	
Code: TIA-222-H	Date: 12/07/22	Scale: NTS	
Path:		Dwg No. E-7	

ARMOR TOWER ENGINEERING

Armor Tower, Inc.
9 North Main St.
Cortland, NY 13045
Phone: (607) 591-5381
FAX: (866) 870-0840

Job 160' Guyed Tower Reinforcement		**Page** 1 of 13
Project Verizon Wireless: Prospect North, CT		**Date** 08:25:35 12/07/22
Client Centek Engineering		**Designed by** PEP

Load Combinations

Comb. No.	*Description*
1	Dead Only
2	1.2 Dead+1.0 Wind 0 deg - No Ice+1.0 Guy
3	1.2 Dead+1.0 Wind 30 deg - No Ice+1.0 Guy
4	1.2 Dead+1.0 Wind 60 deg - No Ice+1.0 Guy
5	1.2 Dead+1.0 Wind 90 deg - No Ice+1.0 Guy
6	1.2 Dead+1.0 Wind 120 deg - No Ice+1.0 Guy
7	1.2 Dead+1.0 Wind 150 deg - No Ice+1.0 Guy
8	1.2 Dead+1.0 Wind 180 deg - No Ice+1.0 Guy
9	1.2 Dead+1.0 Wind 210 deg - No Ice+1.0 Guy
10	1.2 Dead+1.0 Wind 240 deg - No Ice+1.0 Guy
11	1.2 Dead+1.0 Wind 270 deg - No Ice+1.0 Guy
12	1.2 Dead+1.0 Wind 300 deg - No Ice+1.0 Guy
13	1.2 Dead+1.0 Wind 330 deg - No Ice+1.0 Guy
14	1.2 Dead+1.0 Ice+1.0 Temp+Guy
15	1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp+1.0 Guy
16	1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp+1.0 Guy
17	1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp+1.0 Guy
18	1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp+1.0 Guy
19	1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp+1.0 Guy
20	1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp+1.0 Guy
21	1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp+1.0 Guy
22	1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp+1.0 Guy
23	1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp+1.0 Guy
24	1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp+1.0 Guy
25	1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp+1.0 Guy
26	1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp+1.0 Guy
27	Dead+Wind 0 deg - Service+Guy
28	Dead+Wind 30 deg - Service+Guy
29	Dead+Wind 60 deg - Service+Guy
30	Dead+Wind 90 deg - Service+Guy
31	Dead+Wind 120 deg - Service+Guy
32	Dead+Wind 150 deg - Service+Guy
33	Dead+Wind 180 deg - Service+Guy
34	Dead+Wind 210 deg - Service+Guy
35	Dead+Wind 240 deg - Service+Guy
36	Dead+Wind 270 deg - Service+Guy
37	Dead+Wind 300 deg - Service+Guy
38	Dead+Wind 330 deg - Service+Guy

Maximum Tower Deflections - Service Wind

Section No.	*Elevation* *ft*	*Horz. Deflection* *in*	*Gov. Load Comb.*	*Tilt* °	*Twist* °
T1	160 - 140	2.115	37	0.0649	0.1721
T2	140 - 120	2.190	37	0.0439	0.2490
T3	120 - 113.3	1.778	37	0.1288	0.2889
T4	113.3 - 106.7	1.584	37	0.1179	0.2943
T5	106.7 - 100	1.448	37	0.0843	0.2973
T6	100 - 80	1.395	31	0.0631	0.3177
T7	80 - 60	1.245	31	0.0563	0.4339
T8	60 - 40	0.953	31	0.0759	0.5030
T9	40 - 20	0.682	31	0.0545	0.5137
T10	20 - 6.7	0.422	31	0.0823	0.4730
T11	6.7 - 0	0.154	31	0.1030	0.4020

Armor Tower, Inc.
9 North Main St.
Cortland, NY 13045
Phone: (607) 591-5381
FAX: (866) 870-0840

Critical Deflections and Radius of Curvature - Service Wind

Elevation	*Appurtenance*	*Gov. Load Comb.*	*Deflection*	*Tilt*	*Twist*	*Radius of Curvature*
ft			*in*	°	°	*ft*
160.00	Guy	37	2.115	0.0649	0.1721	27680
146.00	Valmont 13' Standoff Frame (set of 3)	37	2.208	0.0286	0.2265	9886
135.00	12' booms (set of 3)	37	2.132	0.0669	0.2635	8304
124.00	10' Pirod Frame (set of 3)	37	1.892	0.1202	0.2840	14758
120.00	RxxDC-4750-PF-48 Surge Protector	37	1.778	0.1288	0.2889	30601
110.00	Guy	37	1.507	0.1016	0.2946	7395
72.00	DB224	31	1.139	0.0656	0.4659	42745
67.00	DB224	31	1.063	0.0725	0.4826	140220
62.00	DB224	31	0.984	0.0759	0.4975	78930
57.00	DB224	31	0.908	0.0741	0.5110	57920
52.00	DB224	31	0.837	0.0681	0.5214	62436
50.00	Guy	31	0.809	0.0652	0.5240	64697
0.00	VZW-2022	0	0.000	0.1030	0.0000	70913

Maximum Tower Deflections - Design Wind

Section No.	*Elevation*	*Horz. Deflection*	*Gov. Load Comb.*	*Tilt*	*Twist*
	ft	*in*		°	°
T1	160 - 140	21.644	6	0.4088	0.9393
T2	140 - 120	20.086	6	0.7158	1.1429
T3	120 - 113.3	16.478	6	1.0570	1.2415
T4	113.3 - 106.7	15.058	6	0.9811	1.2037
T5	106.7 - 100	13.925	6	0.8038	1.1845
T6	100 - 80	13.088	6	0.6795	1.2213
T7	80 - 60	10.902	6	0.5708	1.7421
T8	60 - 40	8.336	6	0.6341	1.9968
T9	40 - 20	5.874	6	0.5564	1.9835
T10	20 - 6.7	3.345	6	0.7056	1.8042
T11	6.7 - 0	1.183	6	0.8093	1.5294

Critical Deflections and Radius of Curvature - Design Wind

Elevation	*Appurtenance*	*Gov. Load Comb.*	*Deflection*	*Tilt*	*Twist*	*Radius of Curvature*
ft			*in*	°	°	*ft*
160.00	Guy	6	21.644	0.4088	0.9393	6627
146.00	Valmont 13' Standoff Frame (set of 3)	6	20.726	0.6021	1.0834	2367
135.00	12' booms (set of 3)	6	19.370	0.8299	1.1894	2044
124.00	10' Pirod Frame (set of 3)	6	17.326	1.0369	1.2477	4210
120.00	RxxDC-4750-PF-48 Surge Protector	6	16.478	1.0570	1.2415	13727
110.00	Guy	6	14.448	0.8949	1.1929	1535
72.00	DB224	6	9.908	0.5962	1.8679	13788
67.00	DB224	6	9.254	0.6184	1.9290	27872
62.00	DB224	6	8.596	0.6323	1.9793	12446
57.00	DB224	6	7.950	0.6321	2.0203	10729
52.00	DB224	6	7.323	0.6179	2.0466	12235
50.00	Guy	6	7.076	0.6095	2.0505	13005
0.00	VZW-2022	0	0.000	0.1030	0.0000	15099

ARMOR TOWER ENGINEERING

Armor Tower, Inc.
9 North Main St.
Cortland, NY 13045
Phone: (607) 591-5381
FAX: (866) 870-0840

Job	Page
160' Guyed Tower Reinforcement	3 of 13
Project	**Date**
Verizon Wireless: Prospect North, CT	08:25:35 12/07/22
Client	**Designed by**
Centek Engineering	PEP

Bolt Design Data

Section No.	Elevation ft	Component Type	Bolt Grade	Maximum Load per Bolt lb	Allowable Load per Bolt lb	Ratio Load / Allowable	Allowable Ratio	Criteria
T1	160	Leg	A325N	7797.23	30101.40	0.259 ✔	1	Bolt Tension
T2	140	Leg	A325N	1240.01	30101.40	0.041 ✔	1	Bolt Tension
T5	106.7	Leg	A325N	3513.71	30101.40	0.117 ✔	1	Bolt Tension
T6	100	Leg	A325N	2340.45	30101.40	0.078 ✔	1	Bolt Tension
T7	80	Leg	A325N	2386.34	30101.40	0.079 ✔	1	Bolt Tension
T8	60	Leg	A325N	2504.21	30101.40	0.083 ✔	1	Bolt Tension
T9	40	Leg	A325N	3004.46	30101.40	0.100 ✔	1	Bolt Tension
T10	20	Leg	A325N	2696.90	30101.40	0.090 ✔	1	Bolt Tension
T11	6.7	Leg	A325N	2765.41	30101.40	0.092 ✔	1	Bolt Tension

Guy Design Data

Section No.	Elevation ft	Initial Tension lb	Breaking Load lb	Actual T_u lb	Allowable ϕT_n lb	Required S.F.	Actual S.F.
T1	160.00 (A) (429)	1456.00	20800.02	8628.08	12480.00	1.000	1.446 ✔
	160.00 (A) (430)	1456.00	20800.02	8595.95	12480.00	1.000	1.452 ✔
	160.00 (B) (423)	1456.00	20800.02	8814.95	12480.00	1.000	1.416 ✔
	160.00 (B) (424)	1456.00	20800.02	8632.30	12480.00	1.000	1.446 ✔
	160.00 (C) (417)	1456.00	20800.02	8594.10	12480.00	1.000	1.452 ✔
	160.00 (C) (418)	1456.00	20800.02	8804.39	12480.00	1.000	1.417 ✔
T4	110.00 (A) (437)	8162.00	58299.91	28795.00	34980.00	1.000	1.215 ✔
	110.00 (B) (436)	8162.00	58299.91	28750.90	34980.00	1.000	1.217 ✔
	110.00 (C) (435)	8162.00	58299.91	28610.70	34980.00	1.000	1.223 ✔
T8	50.00 (A) (440)	2080.00	20800.02	8830.84	12480.00	1.000	1.413 ✔
	50.00 (B) (439)	2080.00	20800.02	8829.32	12480.00	1.000	1.413 ✔
	50.00 (C) (438)	2080.00	20800.02	8655.48	12480.00	1.000	1.442 ✔

Armor Tower, Inc.
9 North Main St.
Cortland, NY 13045
Phone: (607) 591-5381
FAX: (866) 870-0840

Compression Checks

Leg Design Data (Compression)

Section No.	Elevation	L	L_u	Kl/r	A	Mast Stability Index	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft	ft	ft		in^2		lb	lb	
T1	160 - 140	20.00	3.32	43.1 K=1.00	2.2535	1.00	-48013.40	88142.40	0.545 [1] ✔
T2	140 - 120	20.00	1.65	21.5 K=1.00	2.2535	0.98	-47943.20	96455.40	0.497 [1] ✔
T3	120 - 113.3	6.70	1.65	21.0 K=1.00	1.7040	0.97	-32103.10	72103.50	0.445 [1] ✔
T4	113.3 - 106.7	6.60	1.65	20.9 K=1.00	1.7040	0.96	-51287.60	71460.80	0.718 [1] ✔
T5	106.7 - 100	6.70	3.31	41.9 K=1.00	1.7040	0.96	-50037.60	64794.10	0.772 [1] ✔
T6	100 - 80	20.00	3.31	41.9 K=1.00	1.7040	0.95	-42164.80	64242.60	0.656 [1] ✔
T7	80 - 60	20.00	3.31	41.9 K=1.00	1.7040	0.93	-28636.10	62597.80	0.457 [1] ✔
T8	60 - 40	20.00	3.31	41.9 K=1.00	1.7040	0.98	-36226.00	65908.40	0.550 [1] ✔
T9	40 - 20	20.00	3.31	41.9 K=1.00	1.7040	0.97	-36053.50	65656.40	0.549 [1] ✔
T10	20 - 6.7	13.30	3.28	41.6 K=1.00	1.7040	0.97	-36054.60	65713.20	0.549 [1] ✔
T11	6.7 - 0	6.85	3.38	42.9 K=1.00	1.7040	0.97	-33184.90	65249.60	0.509 [1] ✔

Diagonal Design Data (Compression)

Section No.	Elevation	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft	ft	ft		in^2	lb	lb	
T1	160 - 140	4.16	3.76	94.6 K=0.70	0.3326	-6569.45	6628.48	0.991 [1] ✔
T2	140 - 120	4.14	1.87	67.4 K=1.00	0.3326	-6954.69	8305.34	0.837 [1] ✔
T3	120 - 113.3	4.15	1.87	67.4 K=1.00	0.3326	-7635.22	8303.28	0.920 [1] ✔
T4	113.3 - 106.7	4.14	1.87	67.3 K=1.00	0.3326	-7930.38	8309.47	0.954 [1] ✔
T5	106.7 - 100	4.15	3.75	94.4 K=0.70	0.3326	-6531.88	6641.43	0.984 [1] ✔
T6	100 - 80	4.14	3.75	94.3 K=0.70	0.3326	-5928.97	6644.67	0.892 [1] ✔
T7	80 - 60	4.14	3.75	94.3 K=0.70	0.3326	-2926.36	6644.67	0.440 [1] ✔
T8	60 - 40	4.14	3.75	94.3 K=0.70	0.3326	-4317.81	6644.67	0.650 [1] ✔
T9	40 - 20	4.14	3.75	94.3 K=0.70	0.3326	-3138.66	6644.67	0.472 [1]

Armor Tower, Inc.
9 North Main St.
Cortland, NY 13045
Phone: (607) 591-5381
FAX: (866) 870-0840

Section No.	Elevation ft	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T10	20 - 6.7	4.13	3.73	93.9 K=0.70	0.3326	-3699.34	6670.52	0.555 [1]
T11	6.7 - 0	3.81	3.32	83.7 K=0.70	0.3326	-2368.27	7321.88	0.323 [1]

Horizontal Design Data (Compression)

Section No.	Elevation ft	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T1	160 - 140	2.50	2.26	81.3 K=1.00	0.3326	-1725.05	7471.23	0.231 [1]
T2	140 - 120	2.50	2.26	81.3 K=1.00	0.3326	-1249.72	7471.23	0.167 [1]
T3	120 - 113.3	2.50	2.26	81.3 K=1.00	0.3326	-556.04	7471.23	0.074 [1]
T5	106.7 - 100	2.50	2.26	81.3 K=1.00	0.3326	-866.68	7471.23	0.116 [1]
T6	100 - 80	2.50	2.26	81.3 K=1.00	0.3326	-730.32	7471.23	0.098 [1]
T7	80 - 60	2.50	2.26	81.3 K=1.00	0.3326	-495.99	7471.23	0.066 [1]
T8	60 - 40	2.50	2.26	81.3 K=1.00	0.3326	-627.45	7471.23	0.084 [1]
T9	40 - 20	2.50	2.26	81.3 K=1.00	0.3326	-624.47	7471.23	0.084 [1]
T10	20 - 6.7	2.50	2.26	81.3 K=1.00	0.3326	-624.48	7471.23	0.084 [1]
T11	6.7 - 0	1.23	0.99	35.8 K=1.00	0.3326	-584.58	9813.52	0.060 [1]

Secondary Horizontal Design Data (Compression)

Section No.	Elevation ft	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T1	160 - 140	1.25	1.13	72.3 K=1.00	0.4418	-0.01	13558.40	0.000 [1]
T2	140 - 120	2.50	2.26	144.7 K=1.00	0.4418	-918.47	4768.87	0.193 [1]
T3	120 - 113.3	2.50	2.26	144.7 K=1.00	0.4418	-556.04	4768.87	0.117 [1]
T4	113.3 - 106.7	2.50	2.26	144.7 K=1.00	0.4418	-888.33	4768.87	0.186 [1]
T5	106.7 - 100	1.25	1.13	72.3 K=1.00	0.4418	-0.02	13558.40	0.000 [1]
T8	60 - 40	1.25	1.13	40.7 K=1.00	0.3326	-0.01	9628.10	0.000 [1]

Armor Tower, Inc.
9 North Main St.
Cortland, NY 13045
Phone: (607) 591-5381
FAX: (866) 870-0840

Section No.	Elevation	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft	ft	ft		in^2	lb	lb	

Top Girt Design Data (Compression)

Section No.	Elevation	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft	ft	ft		in^2	lb	lb	
T2	140 - 120	2.50	2.26	81.3 K=1.00	0.3326	-831.63	7471.23	0.111 [1] ✔
T3	120 - 113.3	2.50	2.26	81.3 K=1.00	0.3326	-556.04	7471.23	0.074 [1] ✔
T4	113.3 - 106.7	2.50	2.26	81.3 K=1.00	0.3326	-888.33	7471.23	0.119 [1] ✔
T5	106.7 - 100	2.50	2.26	81.3 K=1.00	0.3326	-990.67	7471.23	0.133 [1] ✔
T6	100 - 80	2.50	2.26	81.3 K=1.00	0.3326	-730.32	7471.23	0.098 [1] ✔
T7	80 - 60	2.50	2.26	81.3 K=1.00	0.3326	-495.99	7471.23	0.066 [1] ✔
T8	60 - 40	2.50	2.26	81.3 K=1.00	0.3326	-627.45	7471.23	0.084 [1] ✔
T9	40 - 20	2.50	2.26	81.3 K=1.00	0.3326	-624.47	7471.23	0.084 [1] ✔
T10	20 - 6.7	2.50	2.26	81.3 K=1.00	0.3326	-624.48	7471.23	0.084 [1] ✔
T11	6.7 - 0	2.47	2.23	80.2 K=1.00	0.3326	-584.58	7540.59	0.078 [1] ✔

Bottom Girt Design Data (Compression)

Section No.	Elevation	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft	ft	ft		in^2	lb	lb	
T1	160 - 140	2.50	2.26	81.3 K=1.00	0.3326	-831.62	7471.23	0.111 [1] ✔
T2	140 - 120	2.50	2.26	81.3 K=1.00	0.3326	-831.63	7471.23	0.111 [1] ✔
T5	106.7 - 100	2.50	2.26	81.3 K=1.00	0.3326	-866.68	7471.23	0.116 [1] ✔
T6	100 - 80	2.50	2.26	81.3 K=1.00	0.3326	-730.32	7471.23	0.098 [1] ✔
T7	80 - 60	2.50	2.26	81.3 K=1.00	0.3326	-495.99	7471.23	0.066 [1] ✔
T8	60 - 40	2.50	2.26	81.3 K=1.00	0.3326	-627.45	7471.23	0.084 [1] ✔
T9	40 - 20	2.50	2.26	81.3 K=1.00	0.3326	-624.47	7471.23	0.084 [1] ✔
T10	20 - 6.7	2.50	2.26	81.3 K=1.00	0.3326	-624.48	7471.23	0.084 [1] ✔

Armor Tower, Inc.
9 North Main St.
Cortland, NY 13045
Phone: (607) 591-5381
FAX: (866) 870-0840

Top Guy Pull-Off Design Data (Compression)

Section No.	Elevation ft	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T1	160 - 140	2.50	2.26	86.8 K=1.00	1.2272	-2049.80	31833.00	0.064 [1] ✔

Torque-Arm Bottom Design Data

Section No.	Elevation ft	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T1	160 - 140 (421)	4.16	3.96	80.9 K=1.00	2.1100	-12400.80	60334.80	0.206 [1] ✔
T1	160 - 140 (422)	4.16	3.96	80.9 K=1.00	2.1100	-12443.20	60334.80	0.206 [1] ✔
T1	160 - 140 (427)	4.16	3.96	80.9 K=1.00	2.1100	-12811.00	60334.80	0.212 [1] ✔
T1	160 - 140 (428)	4.16	3.96	80.9 K=1.00	2.1100	-12788.30	60334.80	0.212 [1] ✔
T1	160 - 140 (433)	4.16	3.96	80.9 K=1.00	2.1100	-12528.30	60334.80	0.208 [1] ✔
T1	160 - 140 (434)	4.16	3.96	80.9 K=1.00	2.1100	-12481.00	60334.80	0.207 [1] ✔

Tension Checks

Leg Design Data (Tension)

Section No.	Elevation ft	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T1	160 - 140	20.00	3.32	43.1	2.2535	31188.90	101409.00	0.308 [1] ✔
T2	140 - 120	20.00	1.65	21.5	2.2535	31703.50	101409.00	0.313 [1] ✔
T3	120 - 113.3	6.70	1.65	21.0	1.7040	13210.20	76682.30	0.172 [1] ✔
T4	113.3 - 106.7	6.60	1.65	20.9	1.7040	28186.40	76682.30	0.368 [1] ✔
T5	106.7 - 100	6.70	3.31	41.9	1.7040	7658.52	76682.30	0.100 [1] ✔

Armor Tower, Inc.
9 North Main St.
Cortland, NY 13045
Phone: (607) 591-5381
FAX: (866) 870-0840

Diagonal Design Data (Tension)

Section No.	Elevation	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft	ft	ft		in^2	lb	lb	
T1	160 - 140	4.16	3.76	135.1	0.3326	6095.95	10478.00	0.582 [1] ✔
T2	140 - 120	4.14	1.87	67.4	0.3326	5334.23	10478.00	0.509 [1] ✔
T3	120 - 113.3	4.15	1.87	67.4	0.3326	5823.56	10478.00	0.556 [1] ✔
T4	113.3 - 106.7	4.14	1.87	67.3	0.3326	6336.42	10478.00	0.605 [1] ✔
T5	106.7 - 100	4.15	3.75	134.8	0.3326	5344.33	10478.00	0.510 [1] ✔
T6	100 - 80	4.14	3.75	134.8	0.3326	4397.73	10478.00	0.420 [1] ✔
T7	80 - 60	4.14	3.75	134.8	0.3326	1540.51	10478.00	0.147 [1] ✔
T8	60 - 40	4.14	3.75	134.8	0.3326	2579.76	10478.00	0.246 [1] ✔
T9	40 - 20	4.14	3.75	134.8	0.3326	1403.28	10478.00	0.134 [1] ✔
T10	20 - 6.7	4.13	3.73	134.2	0.3326	2365.46	10478.00	0.226 [1] ✔

Horizontal Design Data (Tension)

Section No.	Elevation	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft	ft	ft		in^2	lb	lb	
T1	160 - 140	2.50	2.26	81.3	0.3326	1754.84	10478.00	0.167 [1] ✔
T2	140 - 120	2.50	2.26	81.3	0.3326	2469.10	10478.00	0.236 [1] ✔
T3	120 - 113.3	2.50	2.26	81.3	0.3326	1471.36	10478.00	0.140 [1] ✔
T5	106.7 - 100	2.50	2.26	81.3	0.3326	866.68	10478.00	0.083 [1] ✔
T6	100 - 80	2.50	2.26	81.3	0.3326	788.91	10478.00	0.075 [1] ✔
T7	80 - 60	2.50	2.26	81.3	0.3326	709.15	10478.00	0.068 [1] ✔
T8	60 - 40	2.50	2.26	81.3	0.3326	679.93	10478.00	0.065 [1] ✔
T9	40 - 20	2.50	2.26	81.3	0.3326	762.48	10478.00	0.073 [1] ✔
T10	20 - 6.7	2.50	2.26	81.3	0.3326	931.32	10478.00	0.089 [1] ✔
T11	6.7 - 0	1.23	0.99	35.8	0.3326	783.56	10478.00	0.075 [1] ✔

Armor Tower, Inc.
9 North Main St.
Cortland, NY 13045
Phone: (607) 591-5381
FAX: (866) 870-0840

Secondary Horizontal Design Data (Tension)

Section No.	Elevation ft	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T1	160 - 140	1.25	1.13	72.3	0.4418	0.01	19880.40	0.000 [1] ✔
T2	140 - 120	2.50	2.26	144.7	0.4418	1058.74	19880.40	0.053 [1] ✔
T3	120 - 113.3	2.50	2.26	144.7	0.4418	556.04	19880.40	0.028 [1] ✔
T4	113.3 - 106.7	2.50	2.26	144.7	0.4418	888.33	19880.40	0.045 [1] ✔
T5	106.7 - 100	1.25	1.13	72.3	0.4418	0.01	19880.40	0.000 [1] ✔
T8	60 - 40	1.25	1.13	40.7	0.3326	0.01	10478.00	0.000 [1] ✔

Top Girt Design Data (Tension)

Section No.	Elevation ft	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T2	140 - 120	2.50	2.26	81.3	0.3326	831.63	10478.00	0.079 [1] ✔
T3	120 - 113.3	2.50	2.26	81.3	0.3326	626.00	10478.00	0.060 [1] ✔
T4	113.3 - 106.7	2.50	2.26	81.3	0.3326	2410.55	10478.00	0.230 [1] ✔
T5	106.7 - 100	2.50	2.26	81.3	0.3326	3257.16	10478.00	0.311 [1] ✔
T6	100 - 80	2.50	2.26	81.3	0.3326	730.32	10478.00	0.070 [1] ✔
T7	80 - 60	2.50	2.26	81.3	0.3326	495.99	10478.00	0.047 [1] ✔
T8	60 - 40	2.50	2.26	81.3	0.3326	627.45	10478.00	0.060 [1] ✔
T9	40 - 20	2.50	2.26	81.3	0.3326	624.47	10478.00	0.060 [1] ✔
T10	20 - 6.7	2.50	2.26	81.3	0.3326	624.48	10478.00	0.060 [1] ✔
T11	6.7 - 0	2.47	2.23	80.2	0.3326	2372.67	10478.00	0.226 [1] ✔

Bottom Girt Design Data (Tension)

Section No.	Elevation	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft	ft	ft		in^2	lb	lb	
T1	160 - 140	2.50	2.26	81.3	0.3326	831.62	10478.00	0.079 [1] ✔
T2	140 - 120	2.50	2.26	81.3	0.3326	831.63	10478.00	0.079 [1] ✔
T5	106.7 - 100	2.50	2.26	81.3	0.3326	866.68	10478.00	0.083 [1] ✔
T6	100 - 80	2.50	2.26	81.3	0.3326	730.32	10478.00	0.070 [1] ✔
T7	80 - 60	2.50	2.26	81.3	0.3326	495.99	10478.00	0.047 [1] ✔
T8	60 - 40	2.50	2.26	81.3	0.3326	627.45	10478.00	0.060 [1] ✔
T9	40 - 20	2.50	2.26	81.3	0.3326	624.47	10478.00	0.060 [1] ✔
T10	20 - 6.7	2.50	2.26	81.3	0.3326	2462.20	10478.00	0.235 [1] ✔

Top Guy Pull-Off Design Data (Tension)

Section No.	Elevation	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft	ft	ft		in^2	lb	lb	
T1	160 - 140	2.50	2.26	86.8	1.2272	2048.50	55223.30	0.037 [1] ✔
T4	113.3 - 106.7	2.50	2.26	86.8	1.2272	9134.50	55223.30	0.165 [1] ✔
T8	60 - 40	2.50	2.26	86.8	1.2272	4877.13	55223.30	0.088 [1] ✔

Torque-Arm Top Design Data

Section No.	Elevation	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft	ft	ft		in^2	lb	lb	
T1	160 - 140 (419)	2.50	2.38	31.3	2.1100	6714.85	68364.00	0.098 [1] ✔
T1	160 - 140 (420)	2.50	2.38	31.3	2.1100	6560.32	68364.00	0.096 [1] ✔
T1	160 - 140 (425)	2.50	2.38	31.3	2.1100	6706.91	68364.00	0.098 [1] ✔
T1	160 - 140 (426)	2.50	2.38	31.3	2.1100	6599.46	68364.00	0.097 [1] ✔
T1	160 - 140 (431)	2.50	2.38	31.3	2.1100	6731.97	68364.00	0.098 [1] ✔
T1	160 - 140 (432)	2.50	2.38	31.3	2.1100	6596.73	68364.00	0.096 [1] ✔

Section No.	Elevation	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft	ft	ft		in^2	lb	lb	

Torque-Arm Bottom Design Data

Section No.	Elevation	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft	ft	ft		in^2	lb	lb	
T1	160 - 140 (421)	4.16	3.96	52.0	2.1100	2536.40	68364.00	0.037 [1] ✔
T1	160 - 140 (422)	4.16	3.96	52.0	2.1100	2494.10	68364.00	0.036 [1] ✔
T1	160 - 140 (427)	4.16	3.96	52.0	2.1100	2660.23	68364.00	0.039 [1] ✔
T1	160 - 140 (428)	4.16	3.96	52.0	2.1100	2693.30	68364.00	0.039 [1] ✔
T1	160 - 140 (433)	4.16	3.96	52.0	2.1100	2544.06	68364.00	0.037 [1] ✔
T1	160 - 140 (434)	4.16	3.96	52.0	2.1100	2587.87	68364.00	0.038 [1] ✔

Section Capacity Table

Section No.	Elevation ft	Component Type	Critical Element	P lb	ϕP_{allow} lb	% Capacity	Pass Fail
T1	160 - 140	Leg	2	-48013.40	88142.40	54.5	Pass
T2	140 - 120	Leg	50	-47943.20	96455.40	49.7	Pass
T3	120 - 113.3	Leg	127	-32103.10	72103.50	44.5	Pass
T4	113.3 - 106.7	Leg	156	-51287.60	71460.80	71.8	Pass
T5	106.7 - 100	Leg	181	-50037.60	64794.10	77.2	Pass
T6	100 - 80	Leg	201	-42164.80	64242.60	65.6	Pass
T7	80 - 60	Leg	243	-28636.10	62597.80	45.7	Pass
T8	60 - 40	Leg	285	-36226.00	65908.40	55.0	Pass
T9	40 - 20	Leg	334	-36053.50	65656.40	54.9	Pass
T10	20 - 6.7	Leg	376	-36054.60	65713.20	54.9	Pass
T11	6.7 - 0	Leg	407	-33184.90	65249.60	50.9	Pass
T1	160 - 140	Diagonal	31	-6569.45	6628.48	99.1	Pass
T2	140 - 120	Diagonal	62	-6954.69	8305.34	83.7	Pass
T3	120 - 113.3	Diagonal	137	-7635.22	8303.28	92.0	Pass
T4	113.3 - 106.7	Diagonal	176	-7930.38	8309.47	95.4	Pass
T5	106.7 - 100	Diagonal	198	-6531.88	6641.43	98.4	Pass
T6	100 - 80	Diagonal	241	-5928.97	6644.67	89.2	Pass
T7	80 - 60	Diagonal	252	-2926.36	6644.67	44.0	Pass
T8	60 - 40	Diagonal	309	-4317.81	6644.67	65.0	Pass
T9	40 - 20	Diagonal	373	-3138.66	6644.67	47.2	Pass
T10	20 - 6.7	Diagonal	385	-3699.34	6670.52	55.5	Pass
T11	6.7 - 0	Diagonal	415	-2368.27	7321.88	32.3	Pass
T1	160 - 140	Horizontal	44	-1725.05	7471.23	23.1	Pass
T2	140 - 120	Horizontal	114	2469.10	10478.00	23.6	Pass
T3	120 - 113.3	Horizontal	141	1471.36	10478.00	14.0	Pass
T5	106.7 - 100	Horizontal	196	-866.68	7471.23	11.6	Pass
T6	100 - 80	Horizontal	221	-730.32	7471.23	9.8	Pass
T7	80 - 60	Horizontal	256	709.15	10478.00	6.8	Pass
T8	60 - 40	Horizontal	307	-627.45	7471.23	8.4	Pass
T9	40 - 20	Horizontal	351	-624.47	7471.23	8.4	Pass

ARMOR TOWER ENGINEERING

Armor Tower, Inc.
9 North Main St.
Cortland, NY 13045
Phone: (607) 591-5381
FAX: (866) 870-0840

Job	Page
160' Guyed Tower Reinforcement	12 of 13
Project	**Date**
Verizon Wireless: Prospect North, CT	08:25:35 12/07/22
Client	**Designed by**
Centek Engineering	PEP

Section No.	Elevation ft	Component Type	Critical Element	P lb	ϕP_{allow} lb	% Capacity	Pass Fail
T10	20 - 6.7	Horizontal	387	931.32	10478.00	8.9	Pass
T11	6.7 - 0	Horizontal	412	783.56	10478.00	7.5	Pass
T1	160 - 140	Secondary Horizontal	13	-0.01	13558.40	0.0	Pass
T2	140 - 120	Secondary Horizontal	115	-918.47	4768.87	19.3	Pass
T3	120 - 113.3	Secondary Horizontal	144	-556.04	4768.87	11.7	Pass
T4	113.3 - 106.7	Secondary Horizontal	179	-888.33	4768.87	18.6	Pass
T5	106.7 - 100	Secondary Horizontal	193	-0.02	13558.40	0.0	Pass
T8	60 - 40	Secondary Horizontal	297	-0.01	9628.10	0.1	Pass
T2	140 - 120	Top Girt	52	-831.63	7471.23	11.1	Pass
T3	120 - 113.3	Top Girt	132	-556.04	7471.23	7.4	Pass
T4	113.3 - 106.7	Top Girt	159	2410.55	10478.00	23.0	Pass
T5	106.7 - 100	Top Girt	185	3257.16	10478.00	31.1	Pass
T6	100 - 80	Top Girt	206	-730.32	7471.23	9.8	Pass
T7	80 - 60	Top Girt	248	-495.99	7471.23	6.6	Pass
T8	60 - 40	Top Girt	290	-627.45	7471.23	8.4	Pass
T9	40 - 20	Top Girt	336	-624.47	7471.23	8.4	Pass
T10	20 - 6.7	Top Girt	378	-624.48	7471.23	8.4	Pass
T11	6.7 - 0	Top Girt	410	2372.67	10478.00	22.6	Pass
T1	160 - 140	Bottom Girt	7	-831.62	7471.23	11.1	Pass
T2	140 - 120	Bottom Girt	55	-831.63	7471.23	11.1	Pass
T5	106.7 - 100	Bottom Girt	189	-866.68	7471.23	11.6	Pass
T6	100 - 80	Bottom Girt	209	-730.32	7471.23	9.8	Pass
T7	80 - 60	Bottom Girt	251	-495.99	7471.23	6.6	Pass
T8	60 - 40	Bottom Girt	293	-627.45	7471.23	8.4	Pass
T9	40 - 20	Bottom Girt	339	-624.47	7471.23	8.4	Pass
T10	20 - 6.7	Bottom Girt	381	2462.20	10478.00	23.5	Pass
T1	160 - 140	Guy A@160	429	8628.08	12480.00	69.1	Pass
T4	113.3 - 106.7	Guy A@110	437	28795.00	34980.00	82.3	Pass
T8	60 - 40	Guy A@50	440	8830.84	12480.00	70.8	Pass
T1	160 - 140	Guy B@160	423	8814.95	12480.00	70.6	Pass
T4	113.3 - 106.7	Guy B@110	436	28750.90	34980.00	82.2	Pass
T8	60 - 40	Guy B@50	439	8829.32	12480.00	70.7	Pass
T1	160 - 140	Guy C@160	418	8804.39	12480.00	70.5	Pass
T4	113.3 - 106.7	Guy C@110	435	28610.70	34980.00	81.8	Pass
T8	60 - 40	Guy C@50	438	8655.48	12480.00	69.4	Pass
T1	160 - 140	Top Guy Pull-Off@160	4	-2049.80	31833.00	6.4	Pass
T4	113.3 - 106.7	Top Guy Pull-Off@110	168	9134.50	55223.30	16.5	Pass
T8	60 - 40	Top Guy Pull-Off@50	312	4877.13	55223.30	8.8	Pass
T1	160 - 140	Torque Arm Top@160	431	6731.97	68364.00	9.8	Pass
T1	160 - 140	Torque Arm Bottom@160	427	-12811.00	60334.80	21.2	Pass

Summary		
Leg (T5)	77.2	Pass
Diagonal (T1)	99.1	Pass
Horizontal (T2)	23.6	Pass
Secondary Horizontal (T2)	19.3	Pass
Top Girt (T5)	31.1	Pass
Bottom Girt (T10)	23.5	Pass
Guy A (T4)	82.3	Pass
Guy B (T4)	82.2	Pass
Guy C (T4)	81.8	Pass

Armor Tower, Inc.
9 North Main St.
Cortland, NY 13045
Phone: (607) 591-5381
FAX: (866) 870-0840

Section No.	*Elevation ft*	*Component Type*	*Critical Element*	*P lb*	*$øP_{allow}$ lb*	*% Capacity*	*Pass Fail*
					Top Guy Pull-Off (T4)	16.5	Pass
					Torque Arm Top (T1)	9.8	Pass
					Torque Arm Bottom (T1)	21.2	Pass
					Bolt Checks	25.9	Pass
					RATING =	**99.1**	**Pass**

Existing GUY ANCHOR ANALYSIS

Customer: Centek/Verizon
Project: Prospect, CT
12/7/22 1:14 PM

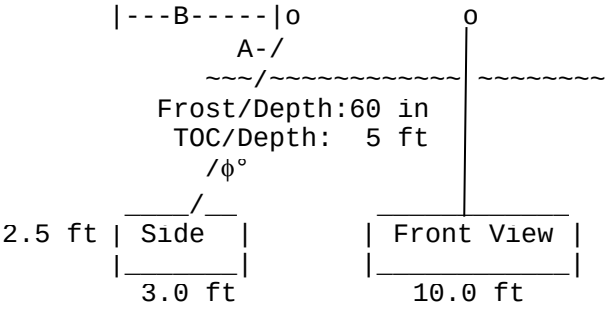
FACTORED REACTIONS:
Vertical: 39.4 kips
Horizontal: 36.4 kips
Resultant: 53.6 kips
Hor. Angle ϕ: 47.3 °
Submerged? No
Depth to Water: 3 ft

Soil Unit Wt 110 lb/ft³
Soil Gs: 2.65
Sub.Soil Wt: 68.5 lb/ft³

Conc. Wt: 150 lb/ft³
Rebar Fy: 60000 psi
Conc. f`c: 3000 psi

CONCRETE WEIGHT:
Block Volume 2.8 cu yds
Block Wt 11.3 kips
3-block Volume: 8.3 cu yds

SOIL FRUSTUM WEIGHT:
Frustum: 30 °
Block: 16.5 kips
Edges: 20.6 kips
Corners: 6.1 kips
Total Wt: 43.3 kips
Excavatn: 225 cuft



HORIZONTAL CAPACITY:
Based on Normal Soils
Load @ 6.25 ft
Stress: 5000 psf
Load: 125.0 kip

Check anchor shaft embedment? OK

	Vertical	Horizontal	
Design Loads:	39.4	36.4	kips
TIA 9.4.1- ϕRn:	40.9	93.8	kips
% Loaded:	96%	39%	OK

GUY ANCHOR SHAFT:
Hole QTY 5 holes
Bar Qty: (1) 1-7/16" Rod
Fy/Fu: 50/72 ksi
Shaft Ag: 1.62 in²
Capacity 64.9 kips TIA 4.6.3
% Loaded 82.6% OK

ANCHOR ROD LENGTH:
Minimum: 10.8 ft
Maximum: 12.9 ft
Recommend: 11.0 ft
Actual: 14 ft

BLOCK REINFORCEMENT:
ACI 9.3.2.1 ϕ: 0.9 Cage Bar: #6 Cover: 3 in

	Top Face	Front Face		
Factored Loads:	39.4	36.4	kips	
Factored Moment:	591.0	546.0	kip-inch	
ACI 10.5.3 As:	0.543	0.410	in²	OK
ACI 10.5.4 As:	1.750	1.782	in²	OK
Bar Qty:	(4)	(3)		
Actual As:	1.767	1.325	in²	

ANCHOR DIMENSIONS:
Length: 10'- 0"
Width: 3'- 0"
Height: 2'- 6"
Depth: 5'- 0"
OADepth: 7'- 6"
Dim. A: 5'- 3"
Dim. B: 8'- 3"
ø: 47°

REBAR DIMENSIONS:
RBL: 110"
RBH: 24"
RBW: 30"
Bent OAL: 54"
QTY Long: 8 Bars ea
QTY Bent: 13 Bars ea
Rebar Wt. 230 lb ea

MASTER CHECK: OK

Codes: ACI 318, TIA 222-H

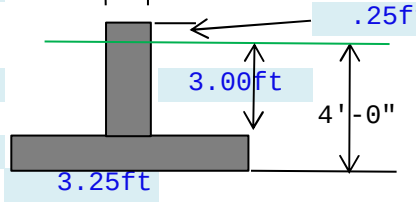
SQUARE FOOTING AND PIER ANALYSIS

Customer: Centek/Verizon
Project: Prospect, CT
12/8/22 8:25 AM

Factored Axial Load:	89.3	kips
Base Shear:	1.3	kips

DIMENSIONS:

Round Pier
2.50ft



Frost Depth:
3.25ft

1.00ft

3.25ft

Pier Area: 707 inch²

CONCRETE PROPERTIES:

f'c:	3000	psi
Fy:	60000	psi

SOIL PROPERTIES:

Dry Unit Wt:	100	pcf
Saturated Unit Wt:	120	pcf
Depth to Watertable:	6	ft

BEARING CALCULATIONS

Specified Allowable Bearing Capacity: 8.000 ksf

Concrete Wt:	3.79 kip	Qu:	16.00 ksf		
Soil Wt:	1.70 kip	TIA 9.4.1	9.60 ksf	$\phi_{s=}$	0.6
Total Overburder	5.49 kip				

Total Bearing Stress: 9 ksf %Loaded: 94.6%

CHECK PAD SHEAR ACI 9.3.2.3 ϕ: 0.75

Two Way Action: ßc=1 (L=W)			Beam Action Load Area:	-1.083	ft²
Vu:	37805 lbs		Vu:	-9835	lbs
fVc:	191456 lbs		fVc:	30867	lbs
	19.75%	<= OK =>		-31.86%	

MASTER CHECK: OK

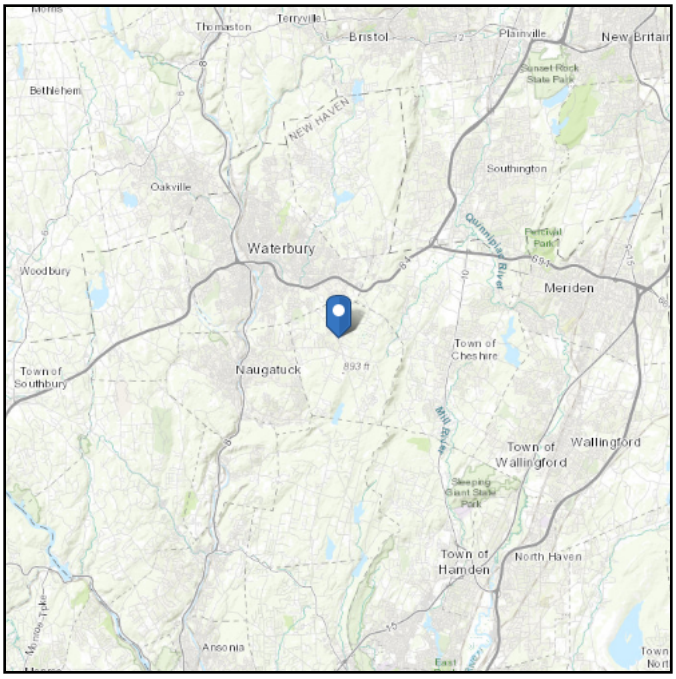
Codes: ACI 318, TIA 222-H

ASCE 7 Hazards Report

Address:
No Address at This Location

Standard: ASCE/SEI 7-10
Risk Category: II
Soil Class: D - Stiff Soil

Elevation: 869.75 ft (NAVD 88)
Latitude: 41.510928
Longitude: -72.982327



Wind

Results:

Wind Speed:	122 Vmph	← 125/97 per CT SBC
10-year MRI	76 Vmph	
25-year MRI	86 Vmph	
50-year MRI	92 Vmph	
100-year MRI	99 Vmph	

Data Source: ASCE/SEI 7-10, Fig. 26.5-1A and Figs. CC-1–CC-4, and Section 26.5.2, incorporating errata of March 12, 2014

Date Accessed: Fri Dec 03 2021

Value provided is 3-second gust wind speeds at 33 ft above ground for Exposure C Category, based on linear interpolation between contours. Wind speeds are interpolated in accordance with the 7-10 Standard. Wind speeds correspond to approximately a 7% probability of exceedance in 50 years (annual exceedance probability = 0.00143, MRI = 700 years).

Site is in a hurricane-prone region as defined in ASCE/SEI 7-10 Section 26.2. Glazed openings need not be protected against wind-borne debris.

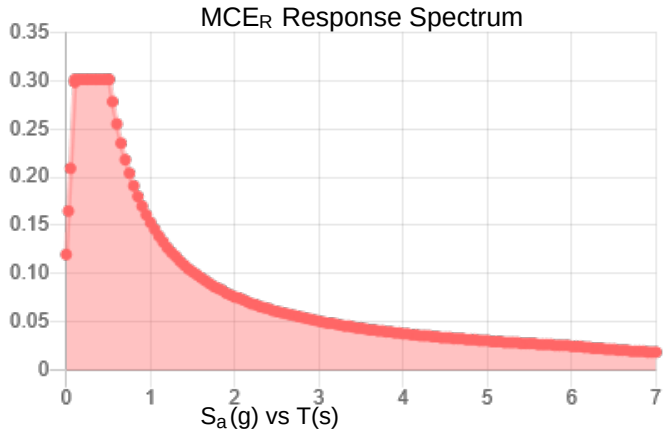
Seismic

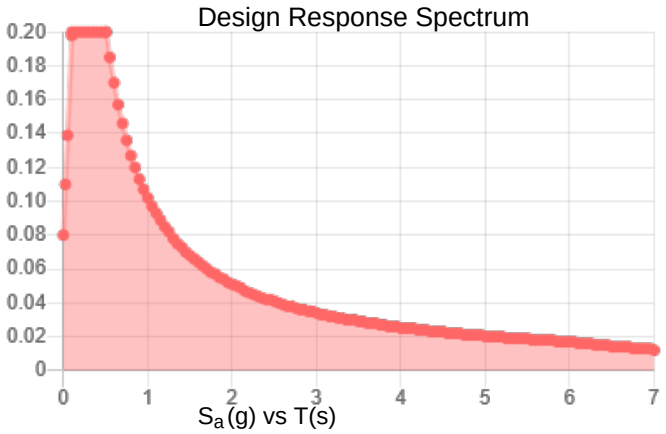
Site Soil Class: D - Stiff Soil

Results:

S_S :	0.188	S_{DS} :	0.2
S_1 :	0.064	S_{D1} :	0.102
F_a :	1.6	T_L :	6
F_v :	2.4	PGA :	0.097
S_{MS} :	0.301	PGA_M :	0.156
S_{M1} :	0.153	F_{PGA} :	1.6
		I_e :	1

Seismic Design Category B





Data Accessed: Tue Nov 30 2021

Date Source: USGS Seismic Design Maps based on ASCE/SEI 7-10, incorporating Supplement 1 and errata of March 31, 2013, and ASCE/SEI 7-10 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-10 Ch. 21 are available from USGS.

Ice

Results:

Ice Thickness:	0.75 in.
Concurrent Temperature:	15 F
Gust Speed:	50 mph
Data Source:	Standard ASCE/SEI 7-10, Figs. 10-2 through 10-8
Date Accessed:	Tue Nov 30 2021

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

Values provided are equivalent radial ice thicknesses due to freezing rain with concurrent 3-second gust speeds, for a 50-year mean recurrence interval, and temperatures concurrent with ice thicknesses due to freezing rain. Thicknesses for ice accretions caused by other sources shall be obtained from local meteorological studies. Ice thicknesses in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

verizon

PROSPECT NORTH CT
54 WATERBURY RD
PROSPECT, CT 06712

GENERAL NOTES AND SPECIFICATIONS

1. ALL WORK SHALL BE IN ACCORDANCE WITH THE 2021 INTERNATIONAL BUILDING CODE AS MODIFIED BY THE 2022 CONNECTICUT SUPPLEMENT, INCLUDING THE TIA/EIA-222 REVISION "H" STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWERS AND SUPPORTING STRUCTURES, 2022 CONNECTICUT FIRE SAFETY CODE, NATIONAL ELECTRICAL CODE, AND LOCAL CODES.
2. SHOULD ANY FIELD CONDITIONS PRECLUDE COMPLIANCE WITH THE DRAWINGS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER AND SHALL NOT PROCEED WITH ANY AFFECTED WORK.
3. CONTRACTOR SHALL REVIEW ALL DRAWINGS AND SPECIFICATIONS IN THE CONTRACT DOCUMENT SET. CONTRACTOR SHALL COORDINATE ALL WORK SHOWN IN THE SET OF DRAWINGS. THE CONTRACTOR SHALL PROVIDE A COMPLETE SET OF DRAWINGS TO ALL SUBCONTRACTORS AND ALL RELATED PARTIES. THE SUBCONTRACTORS SHALL EXAMINE ALL THE DRAWINGS AND SPECIFICATIONS FOR THE INFORMATION THAT AFFECTS THEIR WORK.
4. CONTRACTOR SHALL PROVIDE A COMPLETE BUILD-OUT WITH ALL FINISHES, STRUCTURAL, MECHANICAL, AND ELECTRICAL COMPONENTS AND PROVIDE ALL ITEMS AS SHOWN OR INDICATED ON THE DRAWINGS OR IN THE WRITTEN SPECIFICATIONS.
5. CONTRACTOR SHALL FURNISH ALL MATERIAL, LABOR AND EQUIPMENT TO COMPLETE THE WORK AND FURNISH A COMPLETED JOB ALL IN ACCORDANCE WITH LOCAL AND STATE GOVERNING AUTHORITIES AND OTHER AUTHORITIES HAVING LAWFUL JURISDICTION OVER THE WORK.
6. CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS AND ALL INSPECTIONS REQUIRED AND SHALL ALSO PAY FEES REQUIRED FOR THE GENERAL CONSTRUCTION, AND ALL TRADES AS APPLICABLE PERMITS SHALL BE PAID FOR BY THE RESPECTIVE SUBCONTRACTORS.
7. CONTRACTOR SHALL MAINTAIN A CURRENT SET OF DRAWINGS AND SPECIFICATIONS ON SITE AT ALL TIMES AND INSURE DISTRIBUTION OF NEW DRAWINGS TO SUBCONTRACTORS AND OTHER RELEVANT PARTIES AS SOON AS THEY ARE MADE AVAILABLE. ALL OLD DRAWINGS SHALL BE MARKED VOID AND REMOVED FROM THE CONTRACT AREA. THE CONTRACTOR SHALL FURNISH AN 'AS-BUILT' SET OF DRAWINGS TO OWNER UPON COMPLETION OF PROJECT.
8. LOCATION OF EQUIPMENT, AND WORK SUPPLIED BY OTHERS THAT IS DIAGRAMMATICALLY INDICATED ON THE DRAWINGS SHALL BE DETERMINED BY THE CONTRACTOR. THE CONTRACTOR SHALL DETERMINE LOCATIONS AND DIMENSIONS SUBJECT TO STRUCTURAL CONDITIONS AND WORK OF THE SUBCONTRACTORS.
9. THE CONTRACTOR IS SOLELY RESPONSIBLE TO DETERMINE CONSTRUCTION PROCEDURE AND SEQUENCE, AND TO ENSURE THE SAFETY OF THE EXISTING STRUCTURES AND ITS COMPONENT PARTS DURING CONSTRUCTION. THIS INCLUDES THE ADDITION OF WHATEVER SHORING, BRACING, UNDERPINNING, ETC. THAT MAY BE NECESSARY. MAINTAIN EXISTING BUILDING'S/PROPERTY'S OPERATIONS, COORDINATE WORK WITH BUILDING/PROPERTY OWNER.
10. DRAWINGS INDICATE THE MINIMUM STANDARDS, BUT IF ANY WORK SHOULD BE INDICATED TO BE SUBSTANDARD TO ANY ORDINANCES, LAWS, CODES, RULES, OR REGULATIONS BEARING ON THE WORK, THE CONTRACTOR SHALL INCLUDE IN HIS WORK AND SHALL EXECUTE THE WORK CORRECTLY IN ACCORDANCE WITH SUCH ORDINANCES, LAWS, CODES, RULES OR REGULATIONS WITH NO INCREASE IN COSTS.
11. ALL UTILITY WORK SHALL BE IN ACCORDANCE WITH LOCAL UTILITY COMPANY REQUIREMENTS AND SPECIFICATIONS.
12. ALL EQUIPMENT AND PRODUCTS PURCHASED ARE TO BE REVIEWED BY CONTRACTOR AND ALL APPLICABLE SUBCONTRACTORS FOR ANY CONDITION PER MFR.'S RECOMMENDATIONS. CONTRACTOR TO SUPPLY THESE ITEMS AT NO COST TO OWNER OR CONSTRUCTION MANAGER.
13. ANY AND ALL ERRORS, DISCREPANCIES, AND 'MISSED" ITEMS ARE TO BE BROUGHT TO THE ATTENTION OF THE VERIZON WIRELESS CONSTRUCTION MANAGER DURING THE BIDDING PROCESS BY THE CONTRACTOR. ALL THESE ITEMS ARE TO BE INCLUDED IN THE BID. NO 'EXTRA' WILL BE ALLOWED FOR MISSED ITEMS.
14. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ON-SITE SAFETY FROM THE TIME THE JOB IS AWARDED UNTIL ALL WORK IS COMPLETE AND ACCEPTED BY THE OWNER.
15. CONTRACTOR TO REVIEW ALL SHOP DRAWINGS AND SUBMIT COPY TO ENGINEER FOR APPROVAL. DRAWINGS MUST BEAR THE CHECKER'S INITIALS BEFORE SUBMITTING TO THE CONSTRUCTION MANAGER FOR REVIEW.
16. THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS, ELEVATIONS, ANGLES, AND EXISTING CONDITIONS AT THE SITE, PRIOR TO FABRICATION AND/OR INSTALLATION OF ANY WORK IN THE CONTRACT AREA.
17. COORDINATION, LAYOUT, FURNISHING AND INSTALLATION OF CONDUIT AND ALL APPURTENANCES REQUIRED FOR PROPER INSTALLATION OF ELECTRICAL AND TELECOMMUNICATION SERVICE SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
18. ALL EQUIPMENT AND PRODUCTS PURCHASED ARE TO BE REVIEWED BY CONTRACTOR AND ALL APPLICABLE SUB- CONTRACTORS FOR ANY CONDITION PER THE MANUFACTURER'S RECOMMENDATIONS. CONTRACTOR TO SUPPLY THESE ITEMS AT NO COST TO OWNER OR CONSTRUCTION MANAGER.
19. ALL DAMAGE CAUSED TO ANY EXISTING STRUCTURE SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR WILL BE HELD LIABLE FOR ALL REPAIRS REQUIRED FOR EXISTING STRUCTURES IF DAMAGED DURING CONSTRUCTION ACTIVITIES.
20. THE CONTRACTOR SHALL CONTACT "CALL BEFORE YOU DIG" AT LEAST 48 HOURS PRIOR TO ANY EXCAVATIONS AT 1-800-922-4455. ALL UTILITIES SHALL BE IDENTIFIED AND CLEARLY MARKED PRIOR TO ANY EXCAVATION WORK. CONTRACTOR SHALL MAINTAIN AND PROTECT MARKED UTILITIES THROUGHOUT PROJECT COMPLETION.
21. ALL CONSTRUCTION SHALL BE IN COMPLIANCE WITH THE GOVERNING BUILDING CODE.
22. BEFORE BEGINNING THE WORK, THE CONTRACTOR IS RESPONSIBLE FOR MAKING SUCH INVESTIGATIONS CONCERNING PHYSICAL CONDITIONS (SURFACE AND SUBSURFACE) AT OR CONTIGUOUS TO THE SITE WHICH MAY AFFECT PERFORMANCE AND COST OF THE WORK.
23. ALL DIMENSIONS, ELEVATIONS, AND OTHER REFERENCES TO EXISTING STRUCTURES, SURFACE, AND SUBSURFACE CONDITIONS ARE APPROXIMATE. NO GUARANTEE IS MADE FOR THE ACCURACY OR COMPLETENESS OF THE INFORMATION SHOWN. THE CONTRACTOR SHALL VERIFY AND COORDINATE ALL DIMENSIONS, ELEVATIONS, ANGLES WITH EXISTING CONDITIONS AND WITH ARCHITECTURAL AND SITE DRAWINGS BEFORE PROCEEDING WITH ANY WORK.
24. AS THE WORK PROGRESSES, THE CONTRACTOR SHALL NOTIFY THE OWNER OF ANY CONDITIONS WHICH ARE IN CONFLICT OR OTHERWISE NOT CONSISTENT WITH THE CONSTRUCTION DOCUMENTS AND SHALL NOT PROCEED WITH SUCH WORK UNTIL THE CONFLICT IS SATISFACTORILY RESOLVED.

SITE DIRECTIONS

FROM: 20 ALEXANDER DRIVE 2ND FLOOR
WALLINGFORD, CONNECTICUT

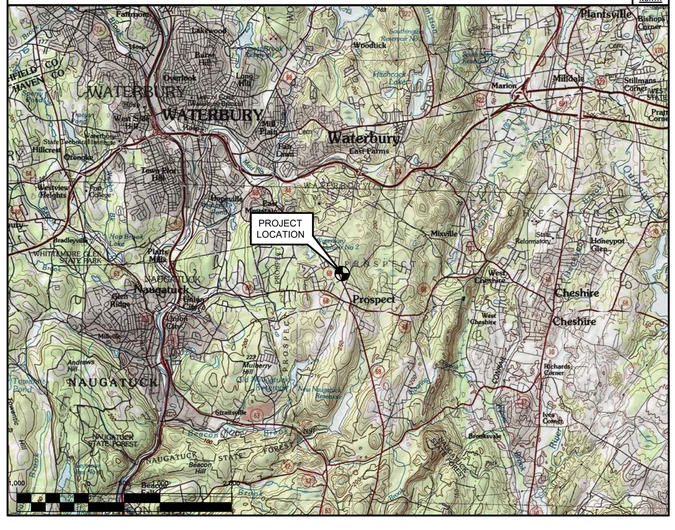
TO: 54 WATERBURY RD
PROSPECT, CT 06712

1.	START OUT GOING NORTH ON ALEXANDER DR TOWARD BARNES INDUSTRIAL RD.	0.18 MI
2.	TURN RIGHT ONTO BARNES INDUSTRIAL RD.	0.11 MI
3.	TAKE THE 1ST LEFT ONTO CT-68.	4.35 MI
4.	TURN LEFT ONTO S MERIDEN RD/CT-70/CT-68. CONTINUE TO FOLLOW CT-70/CT-68.	1.24 MI
5.	TURN RIGHT ONTO S MAIN ST/CT-10/CT-70/CT-68.	0.15 MI
6.	TURN LEFT ONTO MAIN ST/CT-70/CT-68.	0.29 MI
7.	TURN LEFT ONTO W MAIN ST/CT-70/CT-68.	1.40 MI
8.	TURN LEFT ONTO PROSPECT RD/CT-68. CONTINUE TO FOLLOW CT-68.	3.40 MI
9.	TURN RIGHT ONTO WATERBURY RD/CT-69.	0.62 MI
10.	54 WATERBURY RD, PROSPECT, CT 06712-1219, 54 WATERBURY RD IS ON THE RIGHT.	

VICINITY MAP

SCALE: 1" = 1000'

NORTH



DESIGN BASIS:

GOVERNING CODE: 2021 INTERNATIONAL BUILDING (IBC) AS MODIFIED BY THE 2022 CT STATE BUILDING CODE AND AMENDMENTS.

1. DESIGN CRITERIA:
   - RISK CATEGORY: II (BASED ON TABLE 1604.5 OF THE 2021 IBC)
   - NOMINAL DESIGN SPEED (TOWER): 97 MPH (Vasd) (EXPOSURE B/IMPORTANCE FACTOR 1.0 BASED ON ASCE 7-16) PER 2021 INTERNATIONAL BUILDING CODE (IBC) AS MODIFIED BY THE 2022 CONNECTICUT STATE BUILDING CODE.
   - SEISMIC LOAD (DOES NOT CONTROL): PER ASCE 7-16 MINIMUM DESIGN LOADS FOR BUILDING AND OTHER STRUCTURES.

PROJECT SUMMARY

1. THE PROPOSED UPGRADE SCOPE OF WORK AT THE EXISTING UNMANNED TELECOMMUNICATIONS FACILITY GENERALLY INCLUDES THE FOLLOWING:

A. TOWER FOUNDATION REQUIRED MODIFICATION ALONG WITH GUY WIRE TENSION ADJUSTMENTS. THIS DESIGN IS BY OTHERS AND IS REFERENCED ON SHEET C-1 OF THESE CONSTRUCTION DRAWINGS.

B. AT THE EXISTING GUYED LATTICE TOWER MOUNTED ANTENNA SECTORS:
   - REMOVE (3) EXISTING ANDREW - HBXX-6517DS-A2M ANTENNAS.
   - REMOVE (3) EXISTING ANTEL - BXA-70063-6CF ANTENNAS.
   - REMOVE (3) EXISTING AMPHENOL - BXA-171063-12CF-EDIN-2 ANTENNAS.
   - REMOVE (1) EXISTING 1-1/4" HYBRIFLEX CABLE.
   - REMOVE (3) EXISTING NOKIA RADIOS.
   - REMOVE (1) EXISTING RAYCAP OVP BOX.
   - RETAIN (1) EXISTING ANDREW - LNX-8514DS-VTM ANTENNAS.
   - RETAIN (2) EXISTING SWEDCOM - SWCP2X5514 ANTENNAS.
   - RETAIN (6) EXISTING 1-5/8" COAXIAL CABLES.
   - RETAIN (12) EXISTING 1-5/8" SPARE COAXIAL CABLES.
   - INSTALL (6) COMMSCOPE - NHH-65B-R2B ANTENNAS.
   - INSTALL (3) SAMSUNG - MT6407-77A ALL-IN-ONE ANTENNA/ RRUs.
   - INSTALL (3) SAMSUNG - RF4439d-25A RRUs.
   - INSTALL (3) SAMSUNG - RF4440d-13A RRUs.
   - INSTALL (3) COMMSCOPE - BASMNT-SBS-1-2 ANTENNA MOUNTS.
   - INSTALL (1) 12x24 HYBRIFLEX LI CABLE.
   - INSTALL (1) OVP-12 BOX.

B. AT THE EXISTING EQUIPMENT SHELTER:
   - REMOVE (3) EXISTING NOKIA RADIOS.

PROJECT INFORMATION

SITE NAME:	PROSPECT NORTH CT
SITE ADDRESS:	54 WATERBURY RD PROSPECT, CT 06712
LESSEE/TENANT:	CELLCO PARTNERSHIP d.b.a. VERIZON WIRELESS 20 ALEXANDER DRIVE 2ND FLOOR WALLINGFORD, CT 06492
CONTACT PERSON:	WALTER CHARCZNSKI (CONSTRUCTION MANAGER) VERIZON WIRELESS (860) 306-1806
ENGINEER:	CENTEK ENGINEERING, INC. 63-2 NORTH BRANFORD RD. BRANFORD, CT. 06405 (203) 488-0580
PROJECT COORDINATES:	LATITUDE: 41° 30' 39.3408"N LONGITUDE: 72° 58' 56.3772"W (COORDINATES REFERENCED FROM VERIZON WIRELESS RFDS DATED 08/18/2021)

SHEET INDEX

SHT. NO.	DESCRIPTION	REV.
T-1	TITLE SHEET	2
B-1	RF BILL OF MATERIALS - ALPHA/BETA SECTORS	2
B-2	RF BILL OF MATERIALS - GAMMA SECTOR	2
C-1	SITE PLAN AND ELEVATION	2
C-2	ANTENNA SECTOR CONFIGURATION DETAILS	2
C-3	RF DETAILS	2
E-1	ELECTRICAL DETAILS AND SPECIFICATIONS	2

REV.	DATE	DRAWN BY	CHK'D BY	DESCRIPTION
2	12/19/22	TJR	DMD	CONSTRUCTION DRAWINGS - REVISED BUILDING CODES
1	12/09/22	TJR	DMD	CONSTRUCTION DRAWINGS - REVISED PER UPDATED STRUCTURAL ANALYSIS
B	06/08/22	DMD	ANC	CONSTRUCTION DRAWINGS - ISSUED FOR CONSTRUCTION
A	05/31/22	JLD	DMD	CONSTRUCTION DRAWINGS - ISSUED FOR CLIENT REVIEW

PROFESSIONAL ENGINEER SEAL

verizon

CENTEK engineering
Centered on Solutions℠
(203) 488-0580
(203) 488-8587 Fax
63-2 North Branford Road
Branford, CT 06405
www.CentekEng.com

Cellco Partnership d/b/a Verizon Wireless

PROSPECT NORTH CT

54 WATERBURY RD
PROSPECT, CT 06712

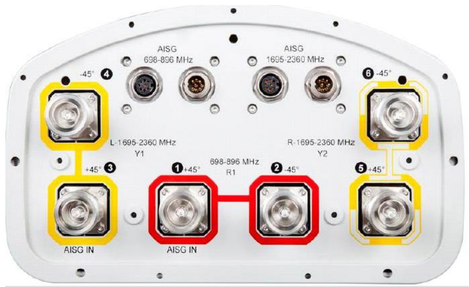
DATE: 03/31/22
SCALE: AS NOTED
JOB NO. 21007.55

TITLE SHEET

T-1

Sheet No. 1 of 7

ALPHA/
BETA



DC SIGNAL CAPABLE PORT

AISG CABLE

RET DC SIGNAL PASS FOR RET (PORT THAT WILL CONTROL RET)

PLUMBING DIAGRAM NOTES:

1. PORTS 1 & 2 ARE FOR LOW BAND (698–896 MHz).
2. PORTS 3, 4, 5 & 6 ARE FOR HIGH BAND (1695–2360 MHz).
3. SMART BIAS TEE (SBT) IS THROUGH ANTENNA PORTS 1 & 3 (1 FOR LOW BAND AND 3 FOR HIGH BAND).
4. AISG CABLE IS ONLY NEEDED WHEN DRAWN IN THE DIAGRAMS ABOVE. IF IT IS NOT DRAWN THEN SBT IS ENOUGH TO CONTROL ALL RET MOTORS.
5. NOT ALL SBT PORTS ARE NEEDED TO CONTROL RET. ONLY GREEN PORT CONNECTION TO GREEN PORT WILL CONTROL RET.

RET DC SIGNAL PASS FOR RET (PORT THAT WILL CONTROL RET)

PLUMBING DIAGRAM COMMENTS:

A. DIAGRAMS SHOW ANTENNA PORT CONFIGURATIONS AS VIEWED FROM BELOW ANTENNAS.

B. ANTENNA POSITIONS ARE INDICATED AS VIEWED FROM IN FRONT OF ANTENNAS.

C. CAP AND WEATHERPROOF UNUSED ANTENNA PORTS.

D. ALL PLUMBING DIAGRAM COLORS ARE IRRELEVANT EXCEPT FOR AISG AND HYBRIFLEX CABLE. (FOR THE COAX COLORS, FOLLOW COAX COLORS GUIDE ABOVE)

NOTES:

1. INFORMATION SHOWN HEREIN IS FOR USE BY VERIZON WIRELESS EQUIPMENT OPERATIONS.
2. THIS B.O.M. DRAWING IS BASED ON FACILITY UPGRADE DESIGN DRAWINGS PREPARED BY CENTEK ENGINEERING (REV.2 DATED: 12/19/22), & VERIZON WIRELESS RF ANTENNA EQUIPMENT RECOMMENDATION (DATED 08/18/2021).

BILL OF MATERIALS

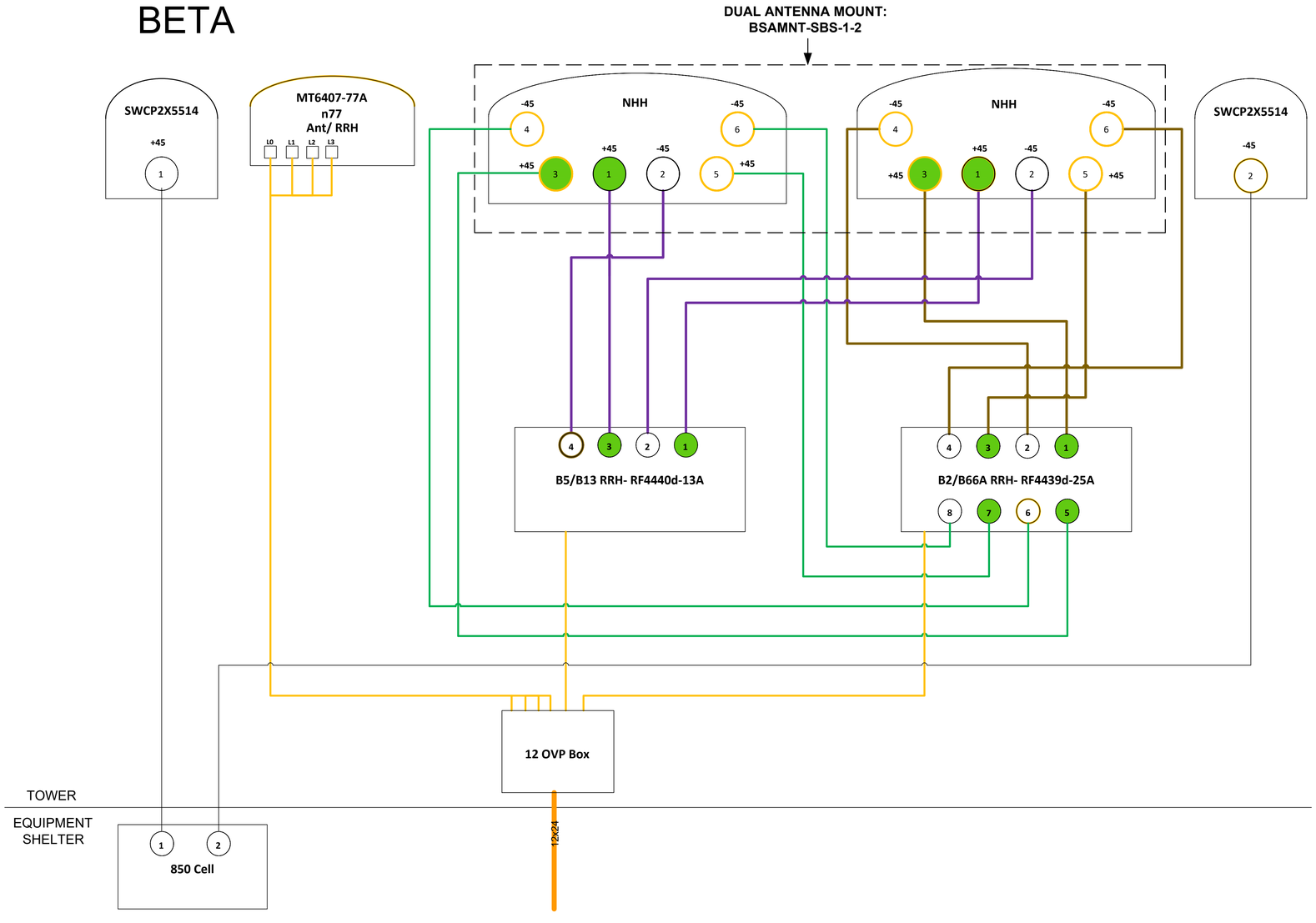
TECHNOLOGY	QUANTITY	ANTENNA
LTE 700 LTE 850 5G LTE PCS 1900 LTE AWS 2100	6	COMMSCOPE ANTENNA MODEL: NHH-65B-R2B
5G	3	SAMSUNG ANTENNA MODEL: MT6407-77A

CABLES	QUANTITY	LENGTH EA	COMMENTS
HYBRID CABLE	1	±220 FT EA	12X24 HYBRIFLEX LI CABLE

RADIOS	QUANTITY	COMMENTS
LTE 700 LTE 850	3	SAMSUNG MODEL: RF4440d-13A
LTE PCS 1900 LTE AWS 2100	3	SAMSUNG MODEL: RF4439d-25A
5G	3	INTEGRATED INTO MT6407-77A ANTENNA

OVP BOXES	QUANTITY	COMMENTS
OVP	1	OVP-12

ANTENNA MOUNT	QUANTITY	COMMENTS
SIDE-BY-SIDE MOUNTING KIT	3	COMMSCOPE MODEL: BASMNT-SBS-1-2



REV.	DATE	DRAWN BY	CHK'D BY	DESCRIPTION
2	12/19/22	TJR	DMD	CONSTRUCTION DRAWINGS – REVISED BUILDING CODES
1	12/09/22	TJR	DMD	CONSTRUCTION DRAWINGS – REVISED PER UPDATED STRUCTURAL ANALYSIS
A	06/08/22	DMD	ANC	CONSTRUCTION DRAWINGS – ISSUED FOR CONSTRUCTION
	05/31/22	JLD	DMD	CONSTRUCTION DRAWINGS – ISSUED FOR CLIENT REVIEW

PROFESSIONAL ENGINEER SEAL

verizon

CENTEK engineering
Centered on Solutions℠
(203) 488-0580
(203) 488-8587 Fax
63-2 North Branford Road
Branford, CT 06405
www.CentekEng.com

Cellco Partnership d/b/a Verizon Wireless

PROSPECT NORTH CT

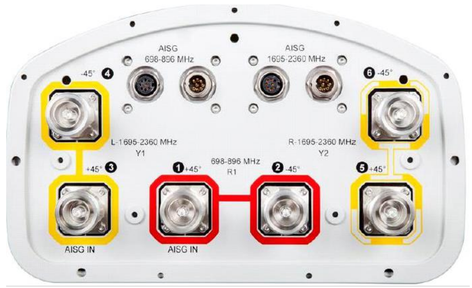
54 WATERBURY RD
PROSPECT, CT 06712

DATE: 03/31/22
SCALE: AS NOTED
JOB NO. 21007.55

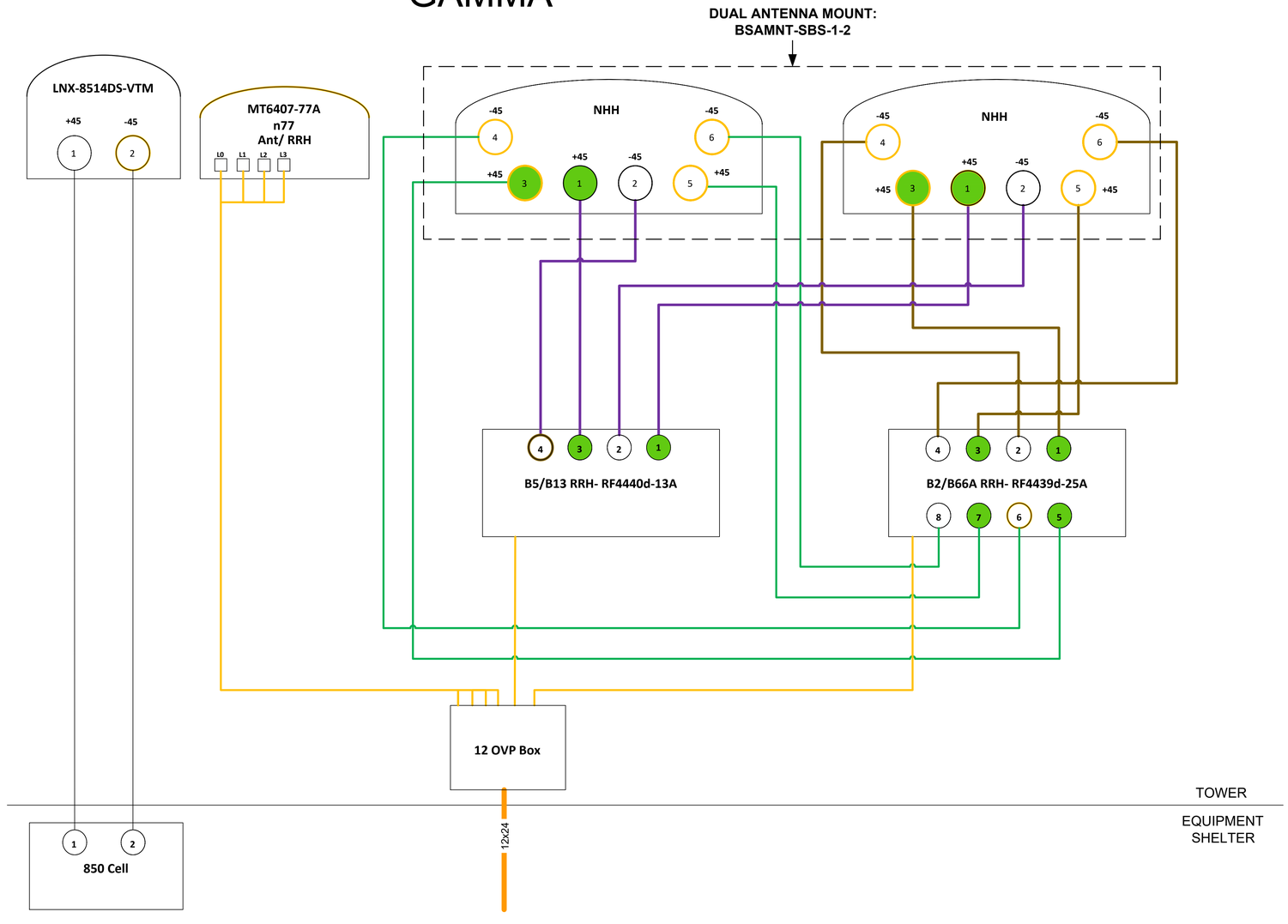
RF BILL OF MATERIALS

B-1

Sheet No. 2 of 7



GAMMA



PLUMBING DIAGRAM NOTES:

1. PORTS 1 & 2 ARE FOR LOW BAND (698–896 MHz).
2. PORTS 3, 4, 5 & 6 ARE FOR HIGH BAND (1695–2360 MHz).
3. SMART BIAS TEE (SBT) IS THROUGH ANTENNA PORTS 1 & 3 (1 FOR LOW BAND AND 3 FOR HIGH BAND).
4. AISG CABLE IS ONLY NEEDED WHEN DRAWN IN THE DIAGRAMS ABOVE. IF IT IS NOT DRAWN THEN SBT IS ENOUGH TO CONTROL ALL RET MOTORS.
5. NOT ALL SBT PORTS ARE NEEDED TO CONTROL RET. ONLY GREEN PORT CONNECTION TO GREEN PORT WILL CONTROL RET.

RET DC SIGNAL PASS FOR RET
(PORT THAT WILL CONTROL RET)

PLUMBING DIAGRAM COMMENTS:

A. DIAGRAMS SHOW ANTENNA PORT CONFIGURATIONS AS VIEWED FROM BELOW ANTENNAS.

B. ANTENNA POSITIONS ARE INDICATED AS VIEWED FROM IN FRONT OF ANTENNAS.

C. CAP AND WEATHERPROOF UNUSED ANTENNA PORTS.

D. ALL PLUMBING DIAGRAM COLORS ARE IRRELEVANT EXCEPT FOR AISG AND HYBRIFLEX CABLE. (FOR THE COAX COLORS, FOLLOW COAX COLORS GUIDE ABOVE)

DC SIGNAL CAPABLE PORT

AISG CABLE

RET DC SIGNAL PASS FOR RET (PORT THAT WILL CONTROL RET)

REV.	DATE	DRAWN BY	CHK'D BY	DESCRIPTION
2	12/19/22	TJR	DMD	CONSTRUCTION DRAWINGS – REVISED BUILDING CODES
1	12/09/22	TJR	DMD	CONSTRUCTION DRAWINGS – REVISED PER UPDATED STRUCTURAL ANALYSIS
0	06/08/22	DMD	ANC	CONSTRUCTION DRAWINGS – ISSUED FOR CONSTRUCTION
A	05/31/22	JLD	DMD	CONSTRUCTION DRAWINGS – ISSUED FOR CLIENT REVIEW

PROFESSIONAL ENGINEER SEAL

verizon

CENTEK engineering
Centered on Solutions℠
(203) 488-0580
(203) 488-8587 Fax
63-2 North Branford Road
Branford, CT 06405
www.CentekEng.com

Cellco Partnership d/b/a Verizon Wireless

PROSPECT NORTH CT

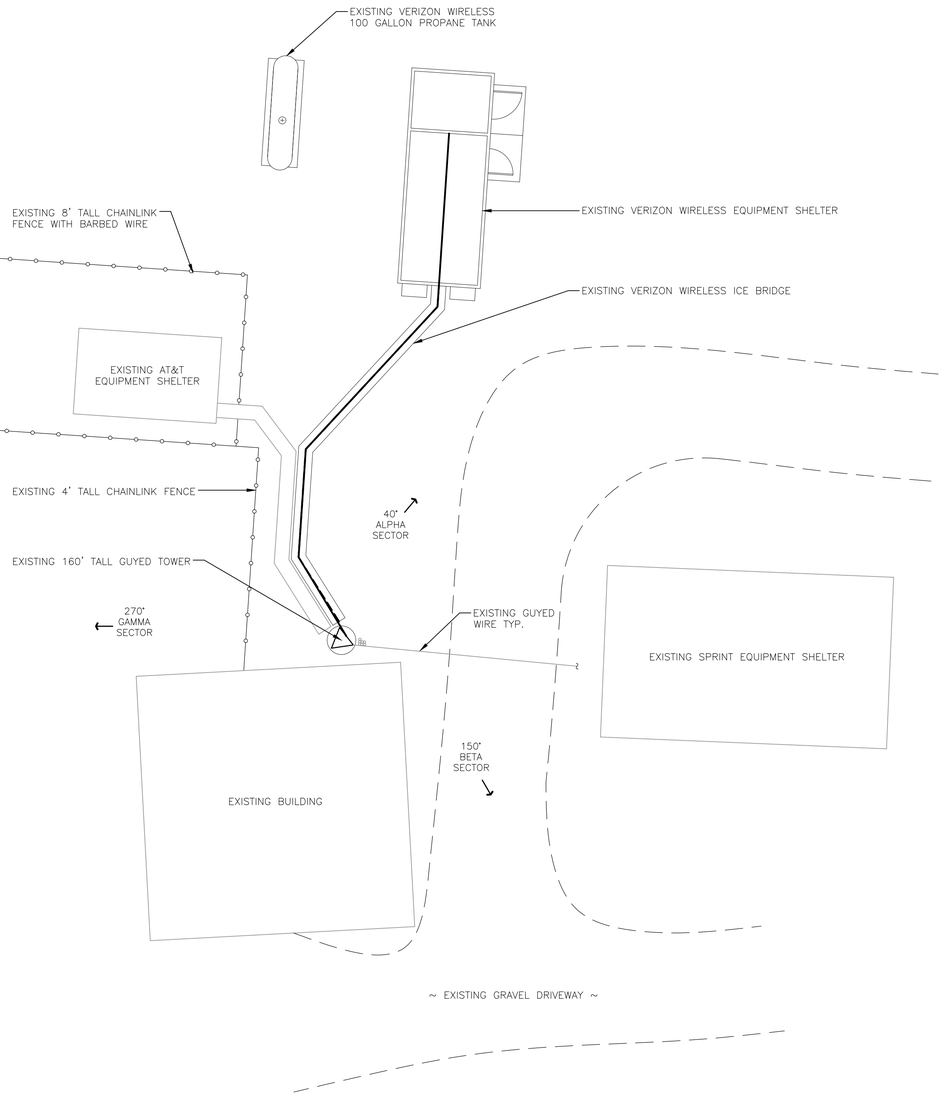
54 WATERBURY RD
PROSPECT, CT 06712

DATE:	03/31/22
SCALE:	AS NOTED
JOB NO.	21007.55

RF BILL OF MATERIALS

B-2

Sheet No. 3 of 7



1 C–1 **SITE PLAN – PROPOSED**
SCALE: 13/128" = 1'

APPROXIMATE NORTH

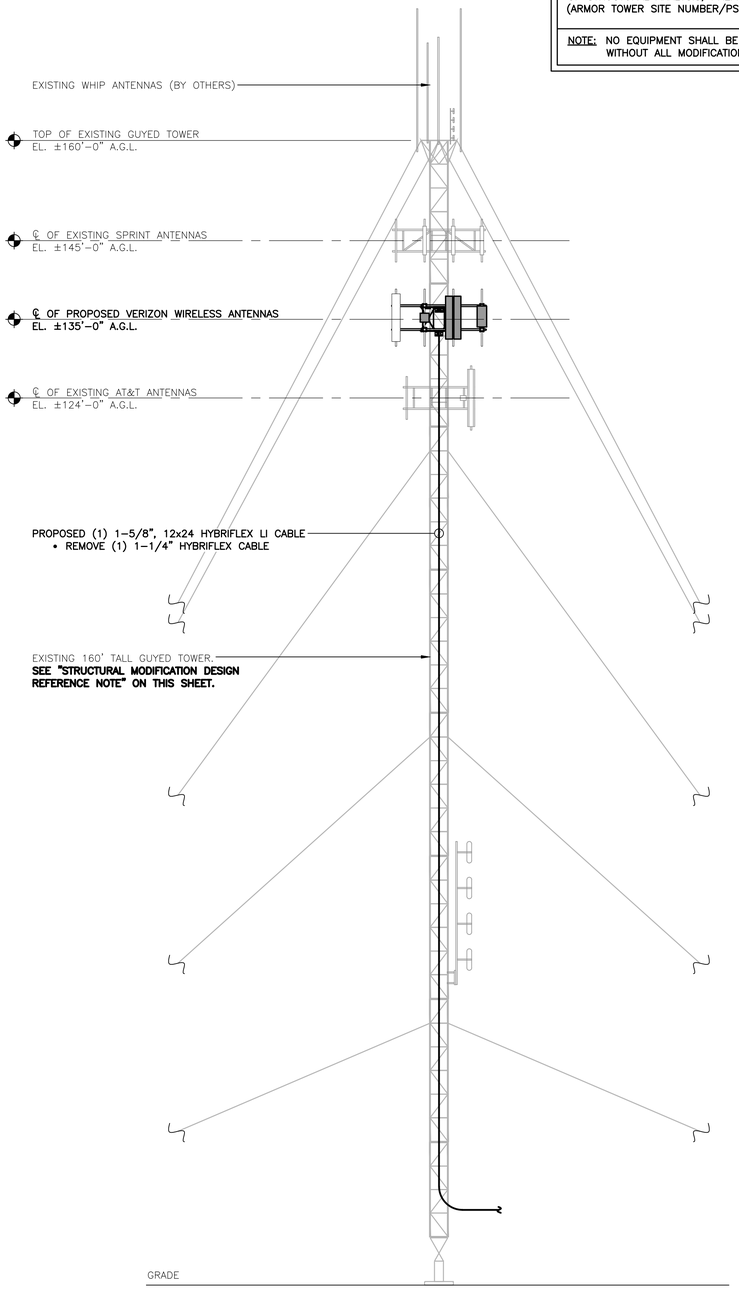
STRUCTURAL MODIFICATION DESIGN REFERENCE NOTE:

TOWER ANALYSIS

MODIFICATION OF THE EXISTING TOWER FOUNDATION AND GUY WIRE TENSION ADJUSTMENTS ARE REQUIRED.

REFER TO "REINFORCEMENT DESIGN OF A 160 FT GUYED TOWER" INCLUSIVE OF STRUCTURAL ANALYSIS, PREPARED BY ARMOR TOWER ENGINEERING (ARMOR TOWER SITE NUMBER/PSLC: 468765), DATED DEC. 19, 2022.

NOTE: NO EQUIPMENT SHALL BE INSTALLED ON THE SUBJECT TOWER WITHOUT ALL MODIFICATIONS INSTALLED/IMPLEMENTED.



2 C–1 **TOWER ELEVATION – PROPOSED**
SCALE: 13/128" = 1'

REV.	DATE	DRAWN BY	CHK'D BY	DESCRIPTION
2	12/19/22	TJR	DMD	CONSTRUCTION DRAWINGS – REVISED BUILDING CODES
1	12/09/22	TJR	DMD	CONSTRUCTION DRAWINGS – REVISED PER UPDATED STRUCTURAL ANALYSIS
0	06/08/22	DMD	ANC	CONSTRUCTION DRAWINGS – ISSUED FOR CONSTRUCTION
A	05/31/22	JLD	DMD	CONSTRUCTION DRAWINGS – ISSUED FOR CLIENT REVIEW

PROFESSIONAL ENGINEER SEAL

verizon

CENTEK engineering
Centered on Solutions℠
(203) 488-0580
(203) 488-8587 Fax
63-2 North Branford Road
Branford, CT 06405
www.CentekEng.com

Cellco Partnership d/b/a Verizon Wireless

PROSPECT NORTH CT

54 WATERBURY RD
PROSPECT, CT 06712

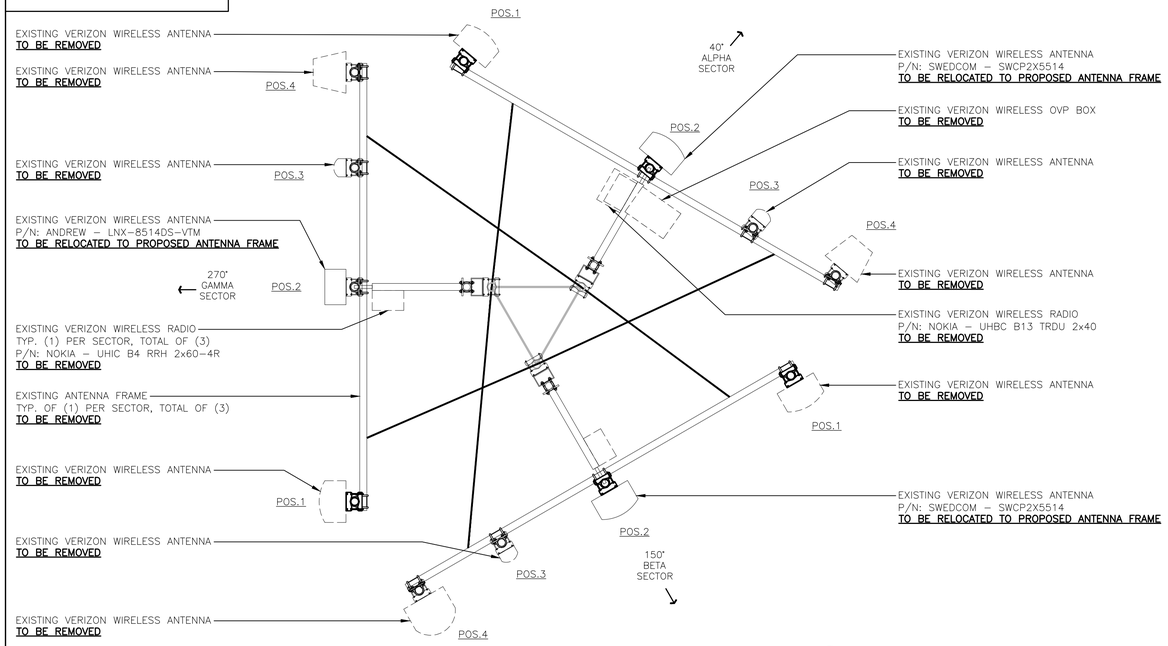
DATE: 03/31/22
SCALE: AS NOTED
JOB NO. 21007.55

SITE PLAN AND ELEVATION

C-1

Sheet No. 4 of 7

EXISTING ANTENNA CONFIGURATIONS



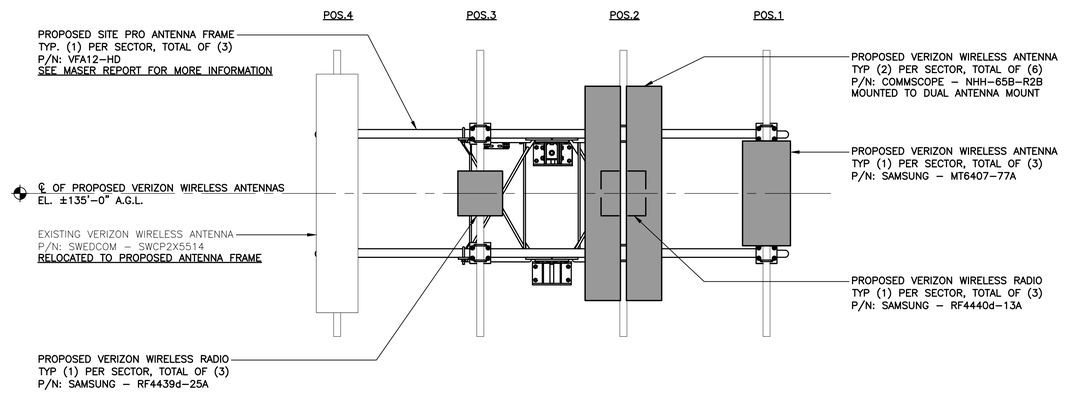
1 C-2 **EXISTING SECTOR CONFIGURATION PLAN**
SCALE: 1/2" = 1'

APPROXIMATE NORTH

LEGEND		
– – – –	VERIZON WIRELESS VZS01 REQUIRED ANTENNA CLEARANCE LIMITS (PER DETAILS ON SHEET C-3)	
ANTENNA CLEARANCE STATUS	ALPHA SECTOR:	COMPLIANT
	BETA SECTOR:	COMPLIANT
	GAMMA SECTOR:	COMPLIANT
– – – – – – –	VERIZON WIRELESS RRU REQUIRED ANTENNA CLEARANCE LIMITS (PER DETAILS ON SHEET C-3)	
RRU CLEARANCE STATUS	ALPHA SECTOR:	COMPLIANT
	BETA SECTOR:	COMPLIANT
	GAMMA SECTOR:	COMPLIANT

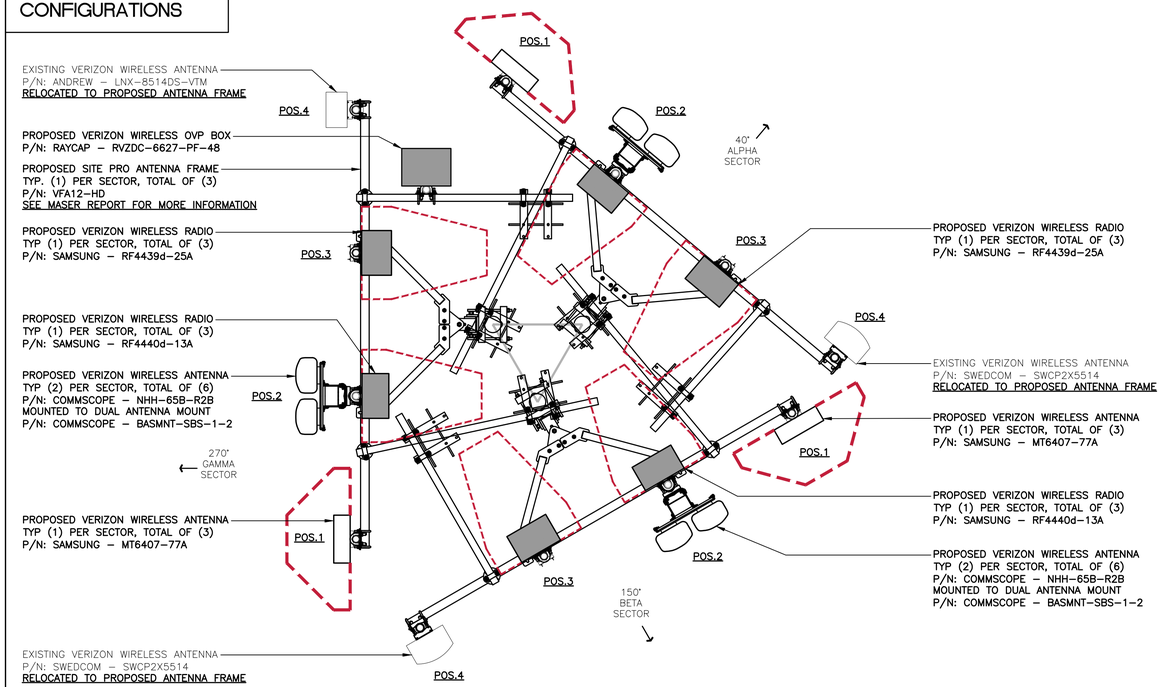
ANTENNA MOUNT ANALYSIS REFERENCE NOTE:

REFER TO PASSING VERIZON WIRELESS MOUNT ANALYSIS REPORT PREPARED BY MASER CONSULTING CONNECTICUT DATED 11/15/21 FOR ADDITIONAL INFORMATION.



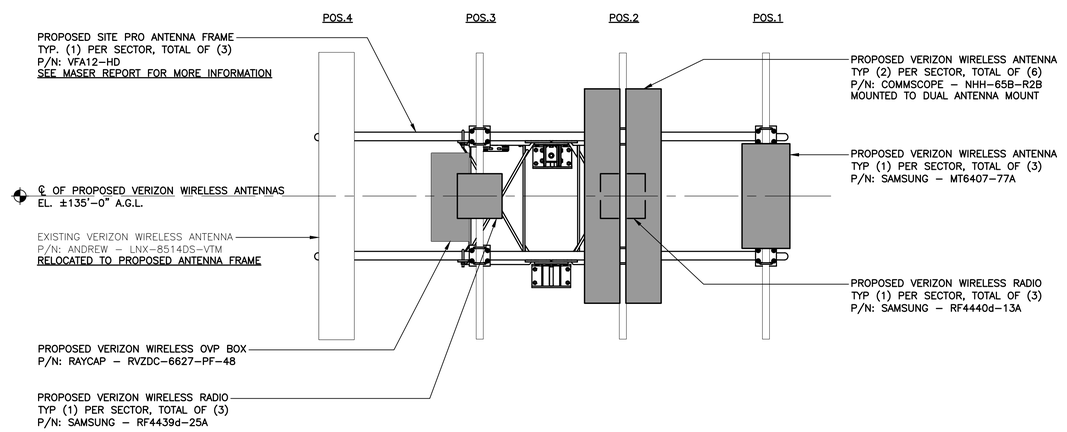
2 C-2 **PROPOSED ALPHA/BETA SECTORS CONFIGURATION ELEVATION**
SCALE: 1/2" = 1'

PROPOSED ANTENNA CONFIGURATIONS



1A C-2 **PROPOSED SECTOR CONFIGURATION PLAN**
SCALE: 1/2" = 1'

APPROXIMATE NORTH



3 C-2 **PROPOSED GAMMA SECTOR CONFIGURATION ELEVATION**
SCALE: 1/2" = 1'

REV.	DATE	DRAWN BY	CHK'D BY	DESCRIPTION
2	12/19/22	TJR	DMD	CONSTRUCTION DRAWINGS – REVISED BUILDING CODES
1	12/09/22	TJR	DMD	CONSTRUCTION DRAWINGS – REVISED PER UPDATED STRUCTURAL ANALYSIS
0	06/08/22	DMD	ANC	CONSTRUCTION DRAWINGS – ISSUED FOR CONSTRUCTION
A	05/31/22	JLD	DMD	CONSTRUCTION DRAWINGS – ISSUED FOR CLIENT REVIEW

PROFESSIONAL ENGINEER SEAL

verizon

CENTEK engineering
Centered on Solutions℠
(203) 488-0580
(203) 488-8587 Fax
63-2 North Branford Road
Branford, CT 06405
www.CentekEng.com

Cellco Partnership d/b/a Verizon Wireless

PROSPECT NORTH CT

54 WATERBURY RD
PROSPECT, CT 06712

DATE:	03/31/22
SCALE:	AS NOTED
JOB NO.	21007.55

ANTENNA SECTOR CONFIGURATION DETAILS

C-2

Sheet No. 5 of 7

ELEVATION - ISOMETRIC

NHH-65C-R2B (BOTTOM VIEW)

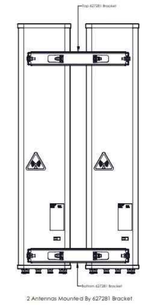
6-PORT SECTOR ANTENNA		
EQUIPMENT	DIMENSIONS	WEIGHT (WITH MOUNTING KIT)
MAKE: COMMSCOPE MODEL: NHH-65B-R2B	72.0"L x 11.9"W x 7.0"D	43.7 LBS.

1 C-3 **ANTENNA DETAIL**
NOT TO SCALE

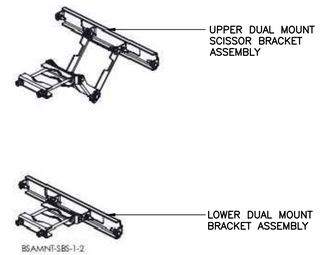
ANTENNA FRONT

SECTOR ANTENNA		
EQUIPMENT	DIMENSIONS	WEIGHT
MAKE: SAMSUNG MODEL: MT6407-77A	35.1"h x 16.1"W x 5.5"D (NOT TO EXCEED)	87 LBS. (NOT TO EXCEED)
CLEARANCES AND SERVICE AREA		
TOP: 31.5"	HORIZONTAL DISTANCE: 31.5" (ANT. TO ANT.)	
FRONT, SIDES & BOTTOM: 15.7"	VERTICAL DISTANCE: 63.0" (ANT. TO ANT.)	
NOTES: 1. THIS ANTENNA HAS ITS OWN BUILT-IN RRH.		

2 C-3 **SECTOR ANTENNA DETAIL**
NOT TO SCALE



ELEVATION



ISOMETRIC

SIDE-BY-SIDE ANTENNA MOUNTING KIT			
MOUNT	DESCRIPTION	SUPPORTED ANTENNAS	GAP BETWEEN ANTENNAS
MAKE: COMMSCOPE MODEL: BASMNT-SBS-1-2	(2) BRACKET KIT FOR MOUNTING (2) ANTENNAS SIDE-BY-SIDE	SBNHH 65" AND 85" NHH 65" AND 85"	3-3/8"
NOTES: 1. MOUNT ACCOMMODATES MAST DIAMETERS FROM 2.375" TO 4.5" (O.D.). 2. CONTRACTOR TO CONFIRM MOUNT MAKE/MODEL AND QUANTITY WITH VERIZON WIRELESS CONSTRUCTION MANAGER PRIOR TO ORDERING.			

3 C-3 **PROPOSED SIDE-BY-SIDE ANTENNA MOUNT**
NOT TO SCALE

OVP BOX		
EQUIPMENT	DIMENSIONS	WEIGHT
MAKE: RAYCAP MODEL: DB-C1-12C-24AB-0Z	29.5"H x 16.5"W x 12.6"D	32 LBS.
NOTES: 1. CONTRACTOR TO CONFIRM OVP BOX MAKE/MODEL AND QUANTITY WITH VERIZON WIRELESS CONSTRUCTION MANAGER PRIOR TO ORDERING.		

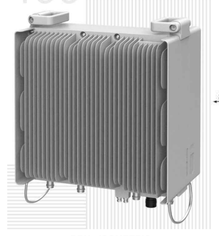
4 C-3 **PROPOSED OVER-VOLTAGE PROTECTION BOX**
NOT TO SCALE

RRH - ISOMETRIC

RRH CLEARANCES

DUAL BAND RRU (REMOTE RADIO UNIT)			
EQUIPMENT	BANDS	DIMENSIONS	WEIGHT
MAKE: SAMSUNG MODEL: RF4439d-25A	B25: PCS (1900 MHz) B66: AWS (2100 MHz)	15.0"H x 15.0"W x 10.0"D	74.7 LBS.
NOTES: 1. CONTRACTOR TO COORDINATE FINAL EQUIPMENT MODEL SELECTION WITH VERIZON WIRELESS CONSTRUCTION MANAGER PRIOR TO ORDERING.			

5 C-3 **DUAL-BAND AWS/PCS MACRO RADIO UNIT DETAIL**
NOT TO SCALE



RRH - ISOMETRIC

RRH CLEARANCES

DUAL BAND RRU (REMOTE RADIO UNIT)			
EQUIPMENT	BANDS	DIMENSIONS	WEIGHT
MAKE: SAMSUNG MODEL: RF4440d-13A	B5: 850 MHz B13: 700 MHz	15.0"H x 15.0"W x 9.0"D	70.3 LBS.
NOTES: 1. CONTRACTOR TO COORDINATE FINAL EQUIPMENT MODEL SELECTION WITH VERIZON WIRELESS CONSTRUCTION MANAGER PRIOR TO ORDERING.			

6 C-3 **DUAL-BAND 700/850 MHZ MACRO RADIO UNIT DETAIL**
NOT TO SCALE

REV.	DATE	DRAWN BY	CHK'D BY	DESCRIPTION
A	03/31/22	JLD	DMD	CONSTRUCTION DRAWINGS – ISSUED FOR CLIENT REVIEW
1	06/08/22	DMD	ANC	CONSTRUCTION DRAWINGS – ISSUED FOR CONSTRUCTION
2	12/09/22	TJR	DMD	CONSTRUCTION DRAWINGS – REVISED PER UPDATED STRUCTURAL ANALYSIS
3	12/19/22	TJR	DMD	CONSTRUCTION DRAWINGS – REVISED BUILDING CODES

PROFESSIONAL ENGINEER SEAL

verizon

CENTEK engineering
Centered on Solutions℠
(203) 488-0580
(203) 488-8587 Fax
63-2 North Branford Road
Branford, CT 06405
www.CentekEng.com

Cellco Partnership d/b/a Verizon Wireless

PROSPECT NORTH CT

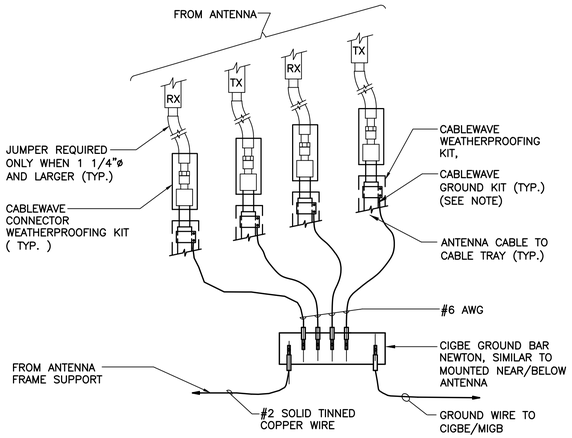
54 WATERBURY RD
PROSPECT, CT 06712

DATE: 03/31/22
SCALE: AS NOTED
JOB NO. 21007.55

RF DETAILS

C-3

Sheet No. 6 of 7

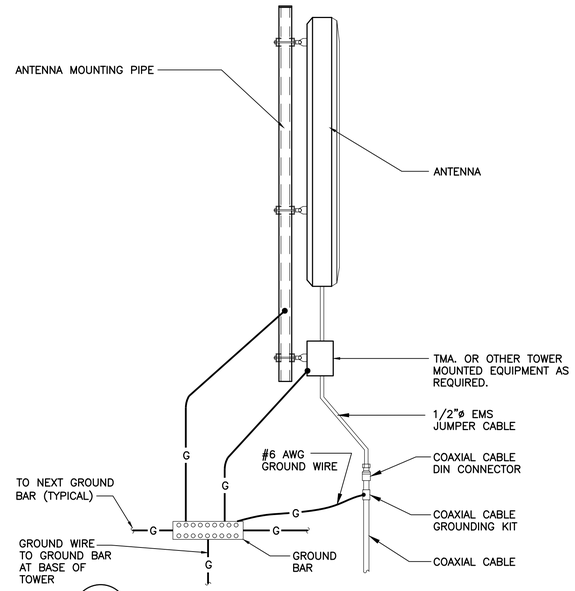


NOTES:

1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO CIGBE

1 E-1 CONNECTION OF GROUND WIRES TO GROUND BAR

NOT TO SCALE

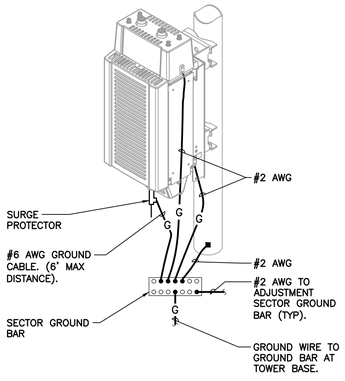


4 E-1 TYPICAL ANTENNA GROUNDING DETAIL

NOT TO SCALE

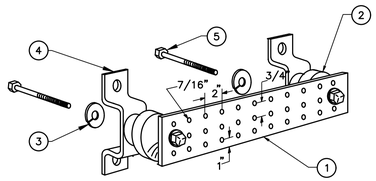
EACH RRH CABINET SHALL BE GROUNDED IN THE FOLLOWING MANNER:

1. AT TOP OF THE CABINET
2. AT RIGHT SIDE OF THE CABINET.



2 E-1 RRH POLE MOUNT GROUNDING

NOT TO SCALE

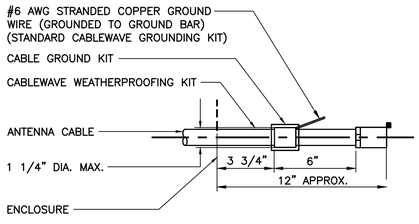


NOTES

1. TINNED COPPER GROUND BAR, 1/4" x 4" x 20", NEWTON INSTRUMENT CO. HOLE CENTERS TO MATCH NEMA DOUBLE LUG CONFIGURATION.
2. INSULATORS, NEWTON INSTRUMENT CAT. NO. 3061-4.
3. 5/8" LOCK WASHERS, NEWTON INSTRUMENT CO. CAT. NO. 3015-8.
4. WALL MOUNTING BRACKET, NEWTON INSTRUMENT CO. CAT NO. A-6056.
5. 5/8-11 x 1" STAINLESS STEEL TRUSS SPANNER MACHINE SCREWS.

5 E-1 GROUND BAR DETAIL

NOT TO SCALE



NOTES:

1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.

3 E-1 ANTENNA CABLE GROUNDING DETAIL

NOT TO SCALE

ELECTRICAL SPECIFICATIONS

SECTION 16010

1.01. SCOPE OF WORK

A. WORK SHALL INCLUDE ALL LABOR, EQUIPMENT AND SERVICES REQUIRED TO COMPLETE (MAKE READY FOR OPERATION) ALL THE ELECTRICAL WORK INCLUDING, BUT NOT LIMITED TO, THE FOLLOWING:

1. CELLULAR GROUNDING SYSTEMS CONSISTING OF ANTENNA GROUNDING, GROUND BARS, ETC.

1.02. GENERAL REQUIREMENTS

A. THE ENTIRE ELECTRICAL INSTALLATION SHALL BE MADE IN STRICT ACCORDANCE WITH ALL LOCAL, STATE AND NATIONAL CODES AND REGULATIONS WHICH MAY APPLY AND NOTHING IN THE DRAWINGS OR SPECIFICATIONS SHALL BE INTERPRETED AS AN INFRINGEMENT OF SUCH CODES OR REGULATIONS.

B. THE ELECTRICAL CONTRACTOR IS TO BE RESPONSIBLE FOR THE COMPLETE INSTALLATION AND COORDINATION OF THE ENTIRE ELECTRICAL SERVICE. ALL ACTIVITIES TO BE COORDINATED THROUGH OWNERS REPRESENTATIVE, DESIGN ENGINEER AND OTHER AUTHORITIES HAVING JURISDICTION OF TRADES.

C. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND PAY ALL FEES THAT MAY BE REQUIRED FOR THE ELECTRICAL WORK AND FOR SCHEDULING OF ALL INSPECTIONS THAT MAY BE REQUIRED BY THE LOCAL AUTHORITY.

D. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION WITH THE BUILDING OWNER FOR NEW AND/OR DEMOLITION WORK INVOLVED.

E. NO MATERIAL OTHER THAN THAT CONTAINED IN THE "LATEST LIST OF ELECTRICAL FITTINGS" APPROVED BY THE UNDERWRITERS' LABORATORIES, SHALL BE USED IN ANY PART OF THE WORK. ALL MATERIAL FOR WHICH LABEL SERVICE HAS BEEN ESTABLISHED SHALL BEAR THE U.L. LABEL.

F. THE CONTRACTOR SHALL GUARANTEE ALL NEW WORK FOR A PERIOD OF ONE YEAR FROM THE ACCEPTANCE DATE BY THE OWNER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING WARRANTIES FROM ALL EQUIPMENT MANUFACTURERS FOR SUBMISSION TO THE OWNER.

G. DRAWINGS INDICATE GENERAL ARRANGEMENT OF WORK INCLUDED IN CONTRACT. CONTRACTOR SHALL, WITHOUT EXTRA CHARGE, MAKE MODIFICATIONS TO THE LAYOUT OF THE WORK TO PREVENT CONFLICT WITH WORK OF OTHER TRADES AND FOR THE PROPER INSTALLATION OF WORK. CHECK ALL DRAWINGS AND VISIT JOB SITE TO VERIFY SPACE AND TYPE OF EXISTING CONDITIONS IN WHICH WORK WILL BE DONE, PRIOR TO SUBMITTAL OF BID.

H. THE ELECTRICAL CONTRACTOR SHALL SUPPLY THREE (3) COMPLETE SETS OF APPROVED DRAWINGS, ENGINEERING DATA SHEETS, MAINTENANCE AND OPERATING INSTRUCTION MANUALS FOR ALL SYSTEMS AND THEIR RESPECTIVE EQUIPMENT. THESE MANUALS SHALL BE INSERTED IN VINYL COVERED 3-RING BINDERS AND TURNED OVER TO OWNER'S REPRESENTATIVE ONE (1) WEEK PRIOR TO FINAL PUNCH LIST.

I. ALL WORK SHALL BE INSTALLED IN A NEAT AND WORKMAN LIKE MANNER AND WILL BE SUBJECT TO THE APPROVAL OF THE OWNER'S REPRESENTATIVE.

J. ALL EQUIPMENT AND MATERIALS TO BE INSTALLED SHALL BE NEW, UNLESS OTHERWISE NOTED.

K. BEFORE FINAL PAYMENT, THE CONTRACTOR SHALL PROVIDE A COMPLETE SET OF PRINTS (AS-BUILTS), LEGIBLY MARKED IN RED PENCIL TO SHOW ALL CHANGES FROM THE ORIGINAL PLANS.

L. ENTIRE ELECTRICAL INSTALLATION SHALL BE IN ACCORDANCE WITH OWNER'S SPECIFICATIONS, AND REQUIREMENTS OF ALL LOCAL AUTHORITIES HAVING JURISDICTION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE WITH APPROPRIATE INDIVIDUALS TO OBTAIN ALL SUCH SPECIFICATIONS AND REQUIREMENTS. NOTHING CONTAINED IN, OR OMITTED FROM, THESE DOCUMENTS SHALL RELIEVE CONTRACTOR FROM THIS OBLIGATION.

SECTION 16450

1.01. GROUNDING

A. ALL NON-CURRENT CARRYING PARTS OF THE ELECTRICAL AND TELEPHONE CONDUIT SYSTEMS SHALL BE MECHANICALLY AND ELECTRICALLY CONNECTED TO PROVIDE AN INDEPENDENT RETURN PATH TO THE EQUIPMENT GROUNDING SOURCES.

B. GROUNDING SYSTEM WILL BE IN ACCORDANCE WITH THE LATEST ACCEPTABLE EDITION OF THE NATIONAL ELECTRICAL CODE AND REQUIREMENTS PER LOCAL INSPECTOR HAVING JURISDICTION.

C. EQUIPMENT GROUNDING CONDUCTOR:

1. EACH EQUIPMENT GROUND CONDUCTOR SHALL BE SIZED IN ACCORDANCE WITH THE N.E.C. ARTICLE 250-122.

2. THE MINIMUM SIZE OF EQUIPMENT GROUND CONDUCTOR SHALL BE #12 AWG COPPER.

D. CELLULAR GROUNDING SYSTEM:

PROVIDE THE CELLULAR GROUNDING SYSTEM AS SPECIFIED ON DRAWINGS, INCLUDING, BUT NOT LIMITED TO:

1. GROUND BARS
2. ANTENNA GROUND CONNECTIONS AND PLATES.

E. ALL EQUIPMENT SHALL BE BONDED TO GROUND AS REQUIRED BY N.E.C., MFG. SPECIFICATIONS, AND OWNER'S SPECIFICATIONS.

REV.	DATE	DRAWN BY	CHK'D BY	DESCRIPTION
2	12/19/22	TJR	DMD	CONSTRUCTION DRAWINGS - REVISED BUILDING CODES
1	12/09/22	TJR	DMD	CONSTRUCTION DRAWINGS - REVISED PER UPDATED STRUCTURAL ANALYSIS
0	06/08/22	DMD	ANC	CONSTRUCTION DRAWINGS - ISSUED FOR CONSTRUCTION
A	05/31/22	JLD	DMD	CONSTRUCTION DRAWINGS - ISSUED FOR CLIENT REVIEW

PROFESSIONAL ENGINEER SEAL

verizon

CENTEK engineering
Centered on Solutions℠
(203) 488-0580
(203) 488-8587 Fax
63-2 North Branford Road
Branford, CT 06405
www.CentekEng.com

Cellco Partnership d/b/a Verizon Wireless

PROSPECT NORTH CT

54 WATERBURY RD
PROSPECT, CT 06712

DATE:	03/31/22
SCALE:	AS NOTED
JOB NO.	21007.55

ELECTRICAL DETAILS AND SPECIFICATIONS

E-1

Sheet No. 7 of 7