STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL
Ten Franklin Square, New Britain, CT 06051
Phone: (860) 827-2935 Fax: (860) 827-2950
E-Mail: siting.council@ct.gov
www.ct.gov/csc

VIA ELECTRONIC MAIL

February 4, 2020

Alex Murshteyn
Real Estate Consultant – Site Acquisition
Centerline Communications, LLC
750 West Center Street, Floor 3/ Suite 301
West Bridgewater, MA 02379

RE: **TS-VER-131-191226** – Cellco Partnership d/b/a Verizon Wireless request for an order to approve tower sharing at an existing telecommunications facility located at 80 Shuttle Meadow Road, Southington, Connecticut.

Dear Mr. Murshteyn:

The Connecticut Siting Council (Council) received the tower share request for the above-referenced facility on December 26, 2019. On January 3, 2020, the Council issued a letter (enclosed) stating that the tower share request was incomplete because there was no mount analysis (MA) provided with the request and the proposed RRUs referenced were inconsistent. The Council recommended that Centerline Communications provide a MA for the proposed equipment that is stamped and signed by a professional engineer duly licensed in the State of Connecticut and, if applicable, an updated Structural Analysis Report (SA) accounting for any required antenna mount modifications, and provide clarification on the model of RRUs proposed.

On February 3, 2020, the Council received an electronic mail with a revised construction drawing (CD) dated February 3, 2020 and a MA dated January 31, 2020. Council staff reviewed the response to the incomplete request and identified a deficiency. The MA and CD provided reference the use of a platform antenna mount (Site Pro 1 RMQP-496) with handrail kit. This is inconsistent with the SA dated December 9, 2019 and with a stress capacity of 100%, which proposes the use of a sector frame antenna mount.

Therefore, the tower share request remains incomplete at this time. The Council recommends that Centerline Communications provide an updated passing (≤ 100%) SA that is consistent with the MA and CD referenced above, on or before February 20, 2020. If additional time is needed to gather the requested information, please submit a written request for an extension of time prior to February 20, 2020. **Please provide an electronic version and one hard copy of the requested information for the incomplete exempt modification to be rendered complete and processed. Please include the Council's exempt modification identification number referenced above with the submittal**

This notice of incompletion shall have the effect of tolling the Federal Communications Commission (FCC) 60-day timeframe in accordance with Paragraph 217 of the FCC Wireless Infrastructure Report and Order issued on October 21, 2014 (FCC 14-153).

Thank you for your attention to this matter. Should you have any questions, please feel free to contact me at 860-827-2951.

Sincerely,

Melanie Bachman
Executive Director

MAB/IN/emr

Enclosure: Incomplete Letter dated January 3, 2020.

c: The Honorable Victoria Triano, Chairwoman, Town of Southington
Mark J. Sciota, Town Manager, Town of Southington
Robert Phillips, Director of Planning and Community Development, Town of Southington

Nwankwo, Ifeanyi

From: Alex Murshteyn <amurshteyn@clinellc.com>
Sent: Monday, February 3, 2020 5:33 PM
To: Robidoux, Evan; CSC-DL Siting Council
Cc: Blake Paynter; Peter Fales
Subject: RE: Council Incomplete Letter for TS-VER-131-191226 (80 Shuttle Meadow Road, Southington)
Attachments: ts-ver-131-191226_incompleteltr_ShuttleMeadowRd.pdf; STAMPED PDF. VERIZON WIRELESS @ 302475 Sttn - Southington, CT, CT (12978549_C8_07) Passing Mount Analysis (87%).pdf; STAMPED PDF. VERIZON WIRELESS, 468851@ ATC 302475 STTN SOUTHINGTON , CT (12978549). AE(CD). REV3.pdf

Ladies & Gentlemen,
We did receive all A&E documents today, after my email below. Please find the mount analysis dated January 31, 2019 and also an updated construction drawings, dated today, updated for mount details. Note further that the manufacturer of the remote radio heads units (RRUs) referenced in the original submission's cover letter were mistakenly identified as Ericsson; Samsung radio heads mentioned in all other technical parts of the filing were indeed the correct RRUs.

One hardcopy of the updated A&E materials aforementioned will being sent out tonight as well, as requested. Please confirm that this renders the filing complete and advise of approval or any further questions that you may have.

Thank you,

Alex Murshteyn
508-821-0159

From: Alex Murshteyn
Sent: Monday, February 3, 2020 1:21 PM
To: Robidoux, Evan <Evan.Robidoux@ct.gov>
Cc: CSC-DL Siting Council <Siting.Council@ct.gov>
Subject: RE: Council Incomplete Letter for TS-VER-131-191226 (80 Shuttle Meadow Road, Southington)

All,
Pursuant to the correspondence sent below and attached herein, Verizon Wireless would like to request an extension to the deadline for submission of additional information necessary to complete this filing. While we have been working diligently to provide a mount analysis, as recommended, it is still with A&E. We do expect it to be completed shortly and will be able to provide with any additional clarification that the final approved document requires as soon as possible.

Thanks,

Alex Murshteyn
508-821-0159

From: Robidoux, Evan <Evan.Robidoux@ct.gov>
Sent: Monday, January 6, 2020 3:26 PM
To: Alex Murshteyn <amurshteyn@clinellc.com>
Cc: CSC-DL Siting Council <Siting.Council@ct.gov>
Subject: Council Incomplete Letter for TS-VER-131-191226 (80 Shuttle Meadow Road, Southington)

Please see the attached correspondence.

Evan Robidoux
Clerk Typist
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051

Phone: (860) 827-2935 Fax: (860) 827-2950

E-Mail: siting.council@ct.gov

www.ct.gov/csc

VIA ELECTRONIC MAIL

January 3, 2020

Alex Murshteyn
Real Estate Consultant – Site Acquisition
Centerline Communications, LLC
750 West Center Street, Floor 3/ Suite 301
West Bridgewater, MA 02379

RE: **TS-VER-131-191226** – Cellco Partnership d/b/a Verizon Wireless request for an order to approve tower sharing at an existing telecommunications facility located at 80 Shuttle Meadow Road, Southington, Connecticut.

Dear Mr. Murshteyn:

The Connecticut Siting Council (Council) received the tower share request for the above-referenced facility on December 26, 2019.

According to Section 16-50j-90 of the Regulations of Connecticut State Agencies, "no tower share application shall be approved until a complete application containing all information deemed relevant by the Council has been filed. Relevant information shall at a minimum include that listed in Section 16-50j-89 of the Regulations of Connecticut State Agencies..."

Staff has reviewed this tower share request for completeness and has identified a deficiency in the request. No mount analysis is included with the tower share request; therefore, it is unclear whether additional reinforcements would be required for the antenna mount, which would alter the proposed loading on the structure and require an updated structural analysis report.

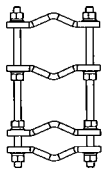
Also, the cover letter provided with the request and dated December 20, 2019 proposes the installation of six Ericsson Remote Radio Units (RRUs). This is inconsistent with technical documents provided with the request which reference six Samsung RRUs.

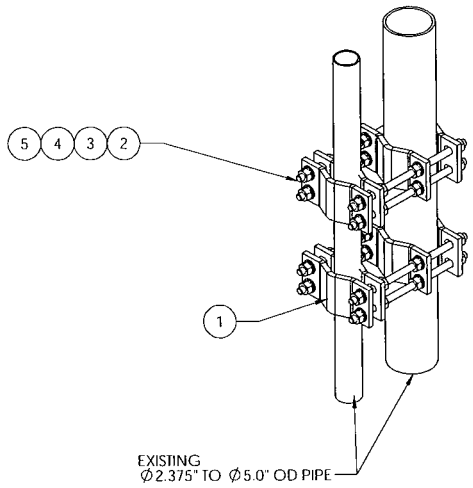
Therefore, the tower share request is incomplete at this time. The Council recommends that Centerline Communications provide a mount analysis for the proposed equipment that is stamped and signed by a professional engineer duly licensed in the State of Connecticut and, if applicable, an updated Structural Analysis Report accounting for any required antenna mount modifications, and provide clarification on the model of RRUs proposed, on or before February 3, 2020. If additional time is needed to gather the requested information, please submit a written request for an extension of time prior to February 3, 2020. **Please provide an electronic version and one hard copy of the requested information for the incomplete exempt modification to be rendered complete and processed. Please include the Council's exempt modification identification number referenced above with the submittal.**

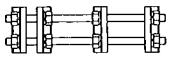
This notice of incompletion shall have the effect of tolling the Federal Communications Commission (FCC) 60-day timeframe in accordance with Paragraph 217 of the FCC Wireless Infrastructure Report and Order issued on October 21, 2014 (FCC 14-153).

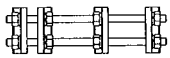
ITEM	PART NO.	DESCRIPTION	QTY.	WEIGHT
1	DC-P10D	Dual Half Clamp, 2-3/8" to 5"	8	4.42 LBS
2	MT-382-14	5/8" X 14" GALV THREADED ROD	8	1.21 LBS
3	GWF05A	5/8" GALV FLAT WASHER (A325)	32	0.03 LBS
4	GWL-05	5/8" GALV LOCK WASHER	32	0.03 LBS
5	GN05A	5/8" GALV HEX NUT (A194 2H)	32	0.12 LBS

REVISIONS				
REV.	ZONE	DESCRIPTION	BY	DATE
A		INITIAL RELEASE	MSM	06/15/12









NOTES:
1. ALL METRIC DIMENSIONS ARE IN BRACKETS.

ALL DIMENSIONS ARE IN INCHES U.O.S.
TOLERANCES UNLESS OTHERWISE SPECIFIED:
X = ± .12 ANGLES ±2°
XX = ± .06 FRACTIONS ±1/32
XXX = ± .03
REMOVE BURRS AND BREAK EDGES .005
DO NOT SCALE THIS PRINT

DRAWN BY: MSM	SHEET: 1 of 1	PART NUMBER: BC-35-14D
DESIGNED BY: TP	SCALE: NTS	DESCRIPTION: Pipe To Pipe Dual Clamp, 2-3/8" to 5"
DATE: 06/15/12	MATERIAL: A36	DRAWING TYPE: ASSEMBLY DRAWING
REVISION: A	FINISH: GALV A123	
	WEIGHT: 50.42 LBS	COMMSCOPE® Hickory, NC 28602 U.S.A.

Thank you for your attention to this matter. Should you have any questions, please feel free to contact me at 860-827-2951.

Sincerely,

Melanie Bachman
Executive Director

MAB/IN/emr

c: The Honorable Victoria Triano, Chairwoman, Town of Southington
Mark J. Sciota, Town Manager, Town of Southington
Robert Phillips, Director of Planning and Community Development, Town of Southington

AMERICAN TOWER®
CORPORATION

Antenna Mount Analysis Report

ATC Site Name	:	**Sttn - Southington, CT**
ATC Site Number	:	**302475**
Engineering Number	:	**12978549_C8_07**
Mount Elevation	:	**143 ft**
Carrier	:	**Verizon Wireless**
Carrier Site Name	:	**Southington**
Carrier Site Number	:	**2548199**
Site Location	:	**80 Shuttle Meadow Road** **Southington, CT 06489-1313** **41.63858, -72.8**
County	:	**Hartford**
Date	:	**January 31, 2020**
Max Usage	:	**87%**
Result	:	**Pass**

Prepared By:
Geneva Liljestrand
Structural Engineer I

Geneva Liljestrand

Reviewed By:

COA: PEC.0001553

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Table of Contents

Introduction

The purpose of this report is to summarize results of the antenna mount analysis performed for Verizon Wireless at 143 ft on a new Site Pro 1 RMQP-496 low profile platform and Site Pro 1 HRK12 handrail kit.

Supporting Documents

Spec. Sheet	Spec Sheet for Site Pro 1 RMQP-496 and HRK12
RFDS	RFDS dated August 6, 2019

Analysis

This antenna mount was analyzed using American Tower Corporation's Mount Analysis Program and RISA-3D v17

Basic Wind Speed:	97 mph (3-Second Gust, Vasd) / 125 mph (3-Second Gust, Vult)
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) w/ 1" radial ice concurrent
Codes:	ANSI/TIA-222-G / 2015 IBC / 2018 Connecticut State Building Code
Structure Class:	II
Exposure Category:	B
Topographic Category:	1
Crest Height:	0 ft
Spectral Response:	Ss = 0.18, S_1 = 0.06
Site Class:	D - Stiff Soil
Live Loads:	Lm = 500 lbs, Lv = 250 lbs

Conclusion

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

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

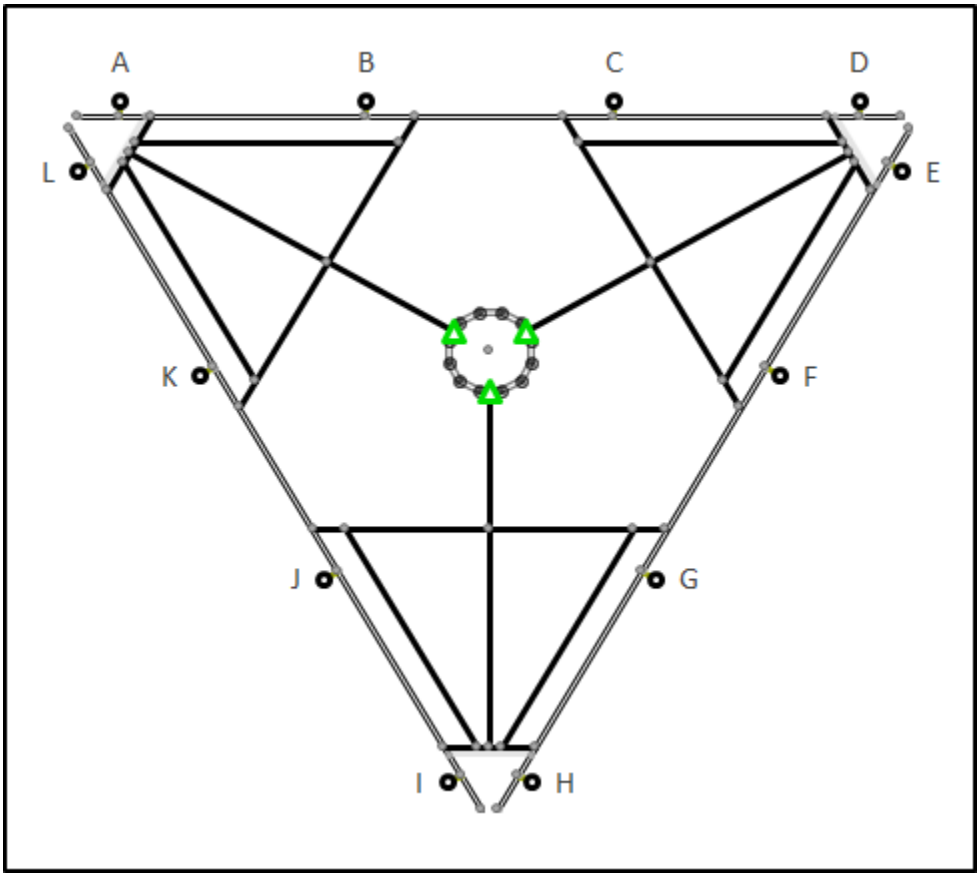
Application Loading

Mount Centerline (ft)	Antenna Centerline (ft)	Qty	Antenna Model
143.0	143.0	3	Samsung B2/B66A RRH-BR049
		3	Samsung B5/B13 RRH-BR04C
		1	Raycap RVZDC-6627-PF-48
		12	Commscope NNHH-65B-R4

Structure Usages

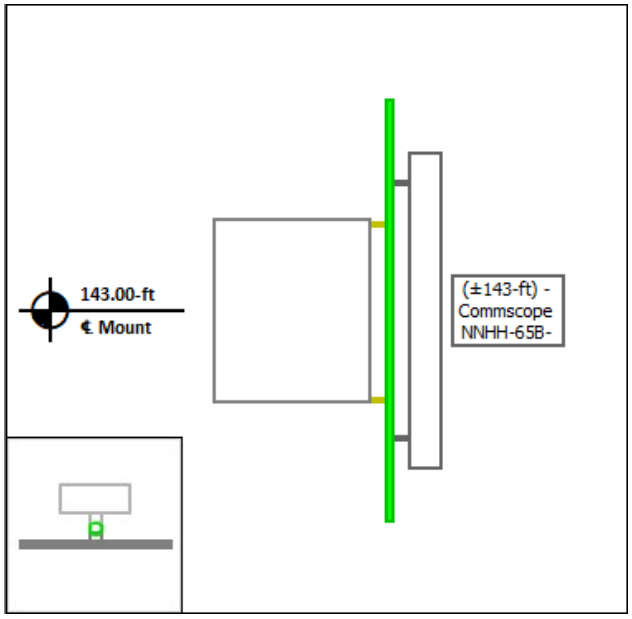
Structural Component	Controlling Usage	Pass/Fail
Horizontals	87%	Pass
Mount Pipes	73%	Pass
Handrails	72%	Pass

Mount Layout

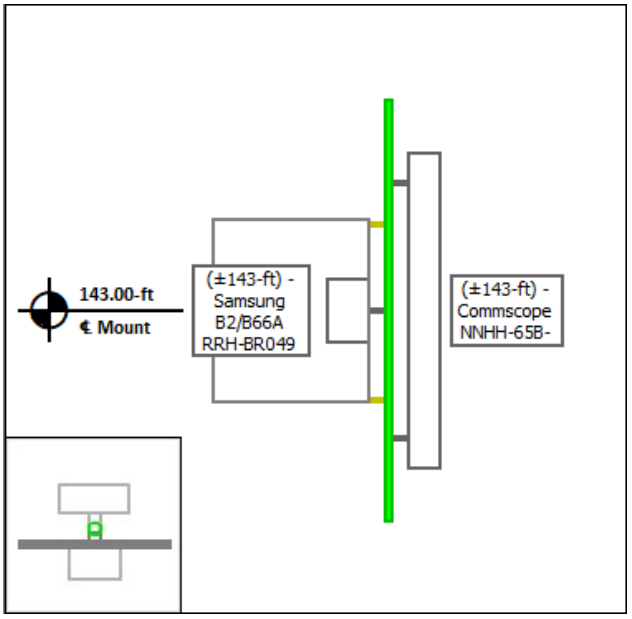


Equipment Layout

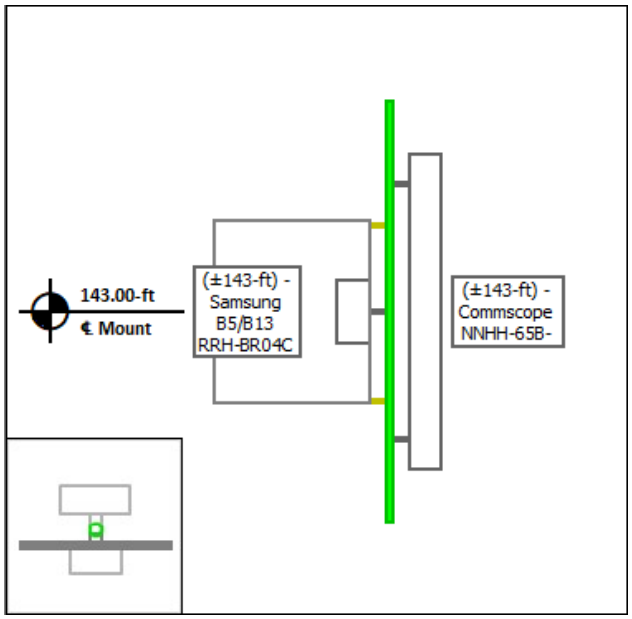
Mount Pipe A



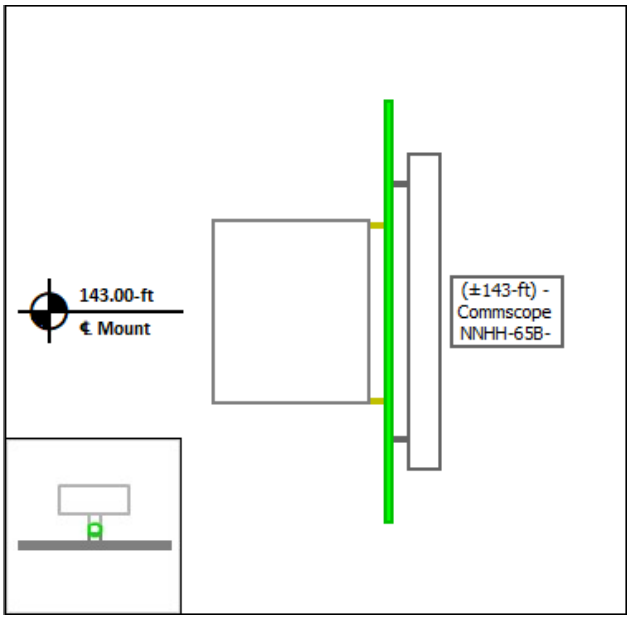
Mount Pipe B



Mount Pipe C

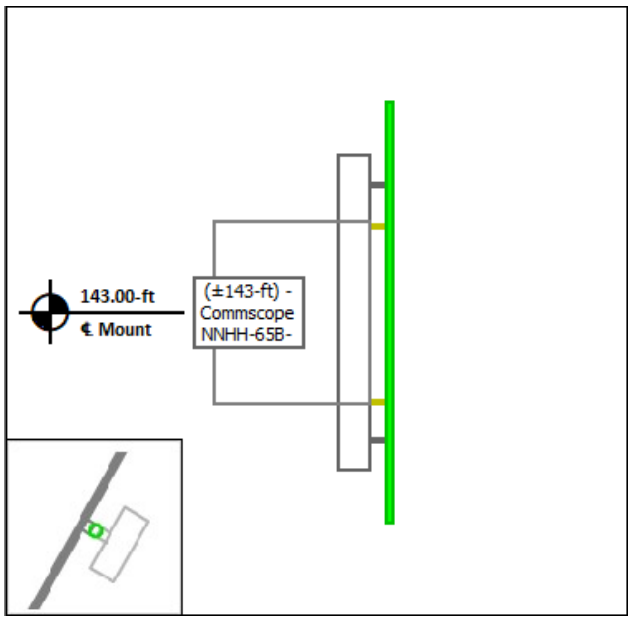


Mount Pipe D

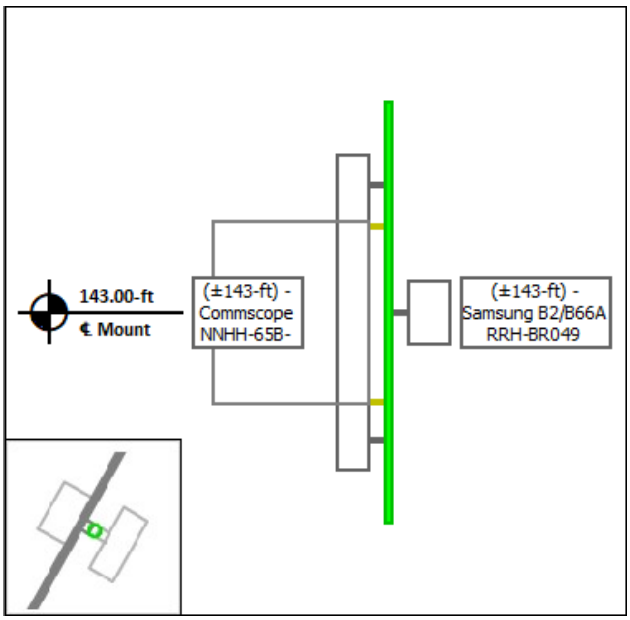


Equipment Layout Cont'd.

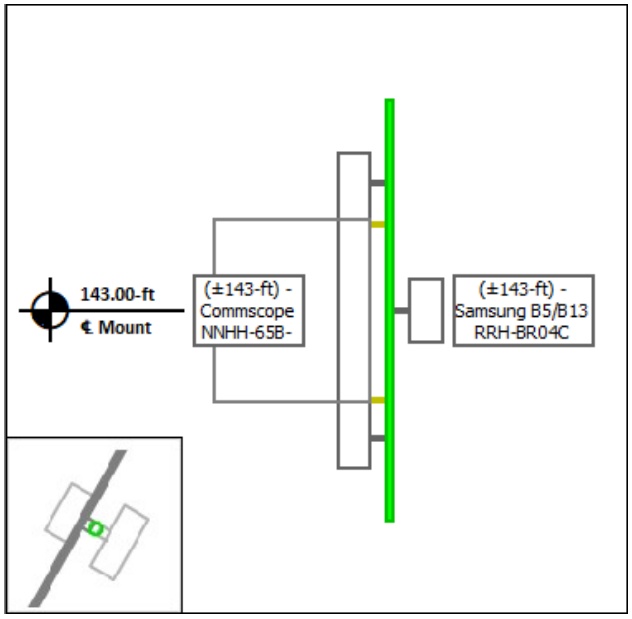
Mount Pipe E



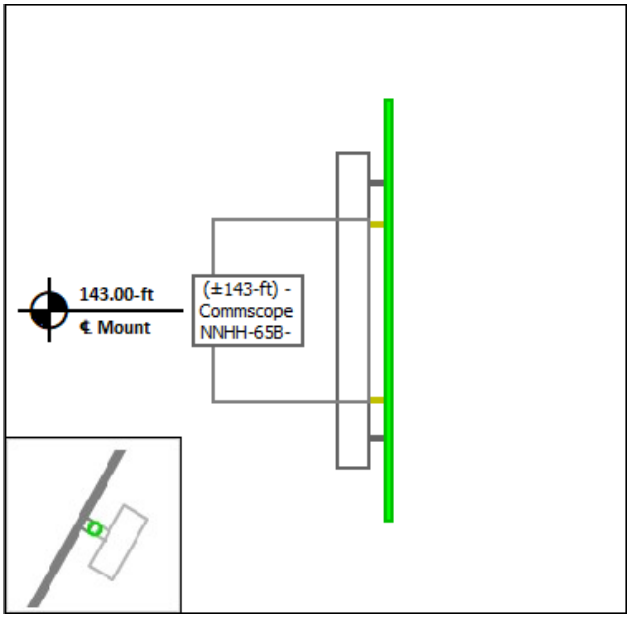
Mount Pipe F



Mount Pipe G

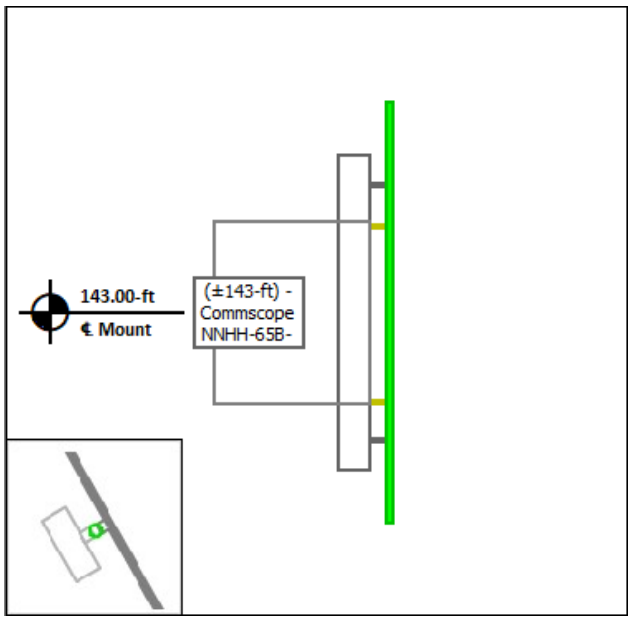


Mount Pipe H

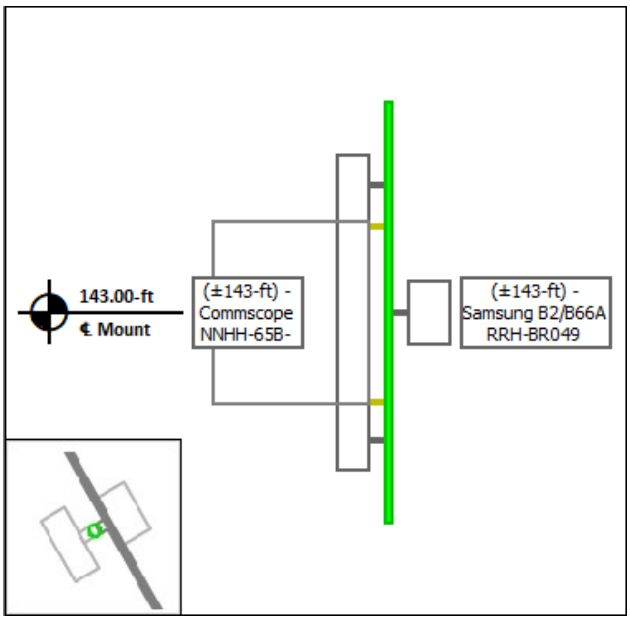


Equipment Layout Cont'd.

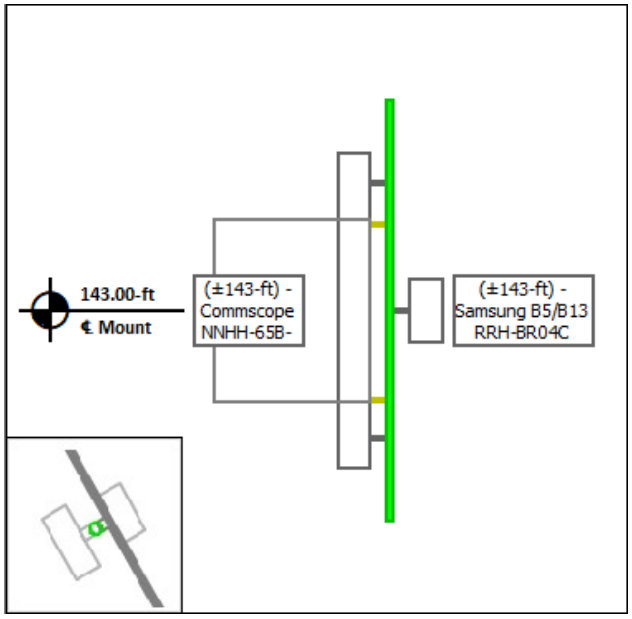
Mount Pipe I



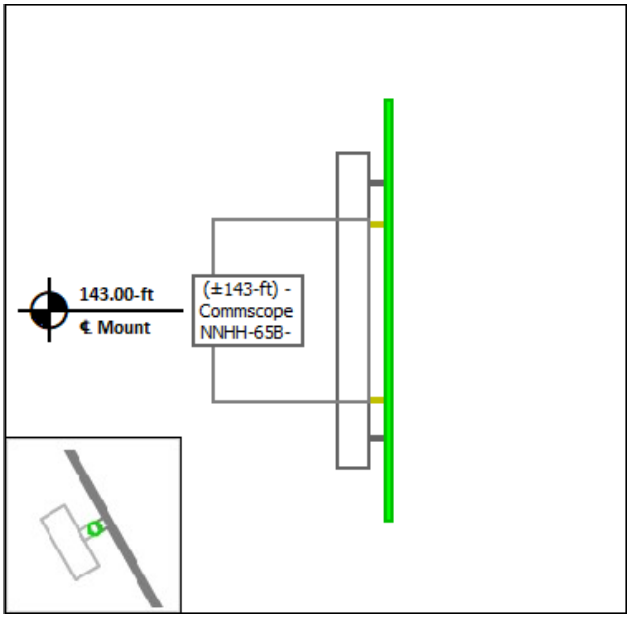
Mount Pipe J



Mount Pipe K



Mount Pipe L



Standard Conditions

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

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

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

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

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

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

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

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Site Number:	*302475*
Project Number:	*12978549_C8_07*
Carrier:	*Verizon Wireless*
Mount Elevation:	*143 ft*
Date:	1/31/2020

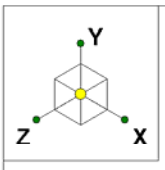
Mount Analysis Force Calculations

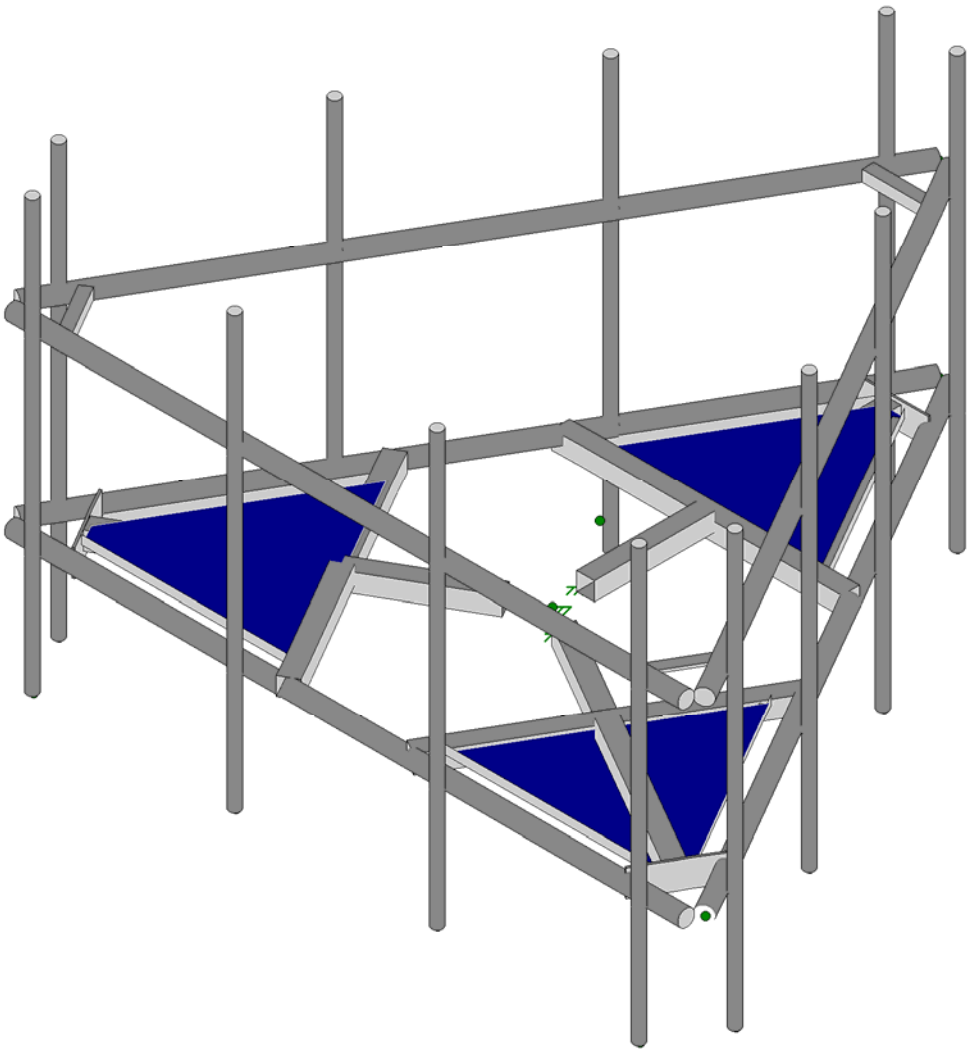
Wind & Ice Load Calculations			
Shielding Factor	K_z	1.09	
Topographic Factor	K_{zt}	1.00	
Rooftop Wind Speed-up Factor	K_s	1.00	
Shielding Factor	K_a	0.90	
Ground Elevation Factor	K_e	1.00	
Wind Direction Probability Factor	K_d	0.95	
Basic Wind Speed	V	97	mph
Velocity Pressure	q_z	25.0	psf
Height Escalation Factor	K_{iz}	1.16	
Thickness of Radial Glaze Ice	T_{iz}	2.32	in

Seismic Load Calculations			
Short Period DSRAP	S_{DS}	0.192	
1 Second DSRAP	S_{D1}	0.096	
Importance Factor	I	1.0	
Response Modification Coefficient	R	2.0	
Seismic Response Coefficient	C_S	0.096	
Amplification Factor	A	1.0	
Total Weight	W	2814.3	lbs
Total Shear Force	V_S	270.2	lbs
Horizontal Seismic Load	Eh	270.2	lbs
Vertical Seismic Load	Ev	108.1	lbs

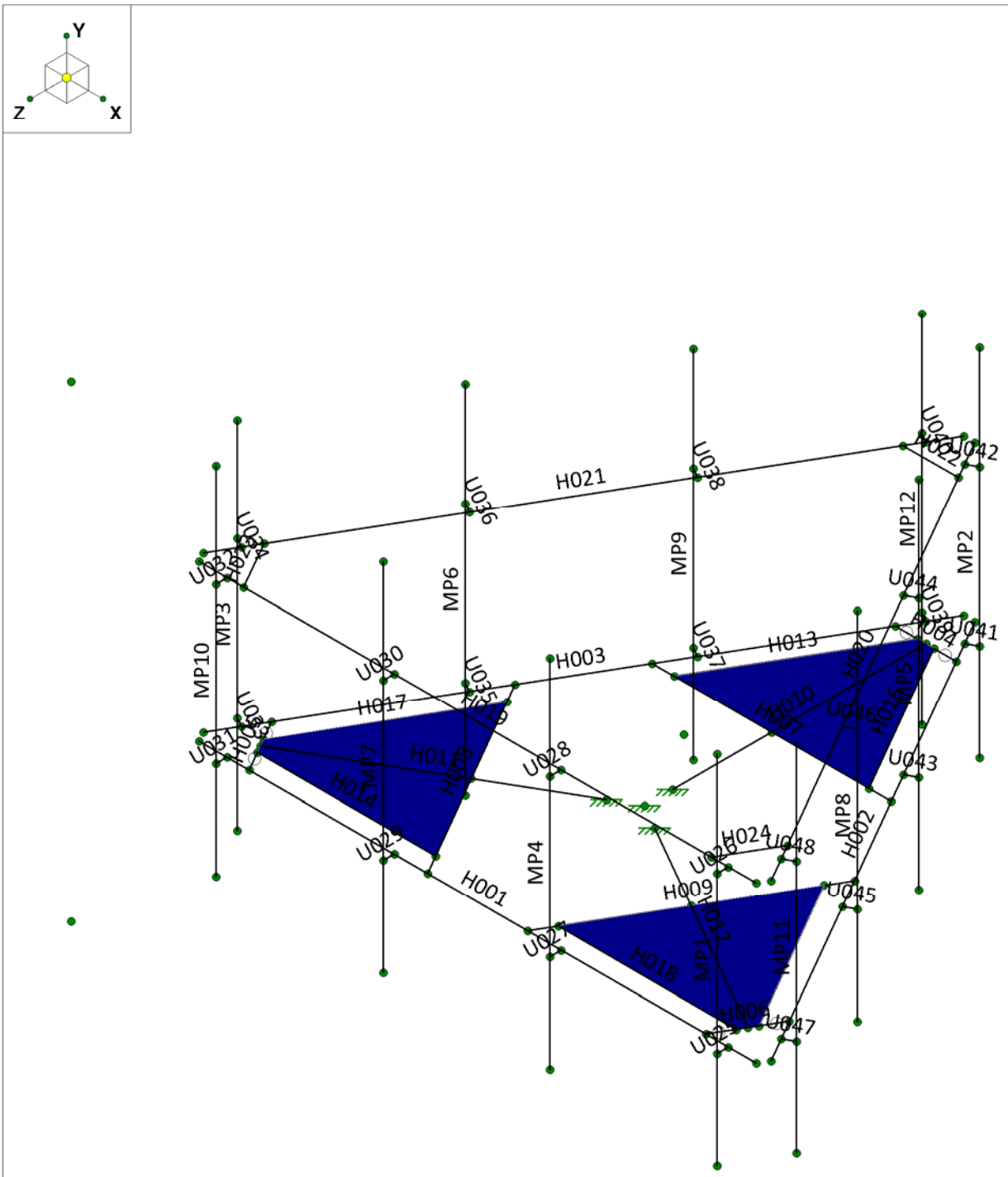
Antenna Calculations

Equipment	Height	Width	Depth	Weight	EPA_N	EPA_T	EPA_{Ni}	EPA_{Ti}
Model #	in	in	in	lbs	sqft	sqft	sqft	sqft
Samsung B2/B66A RRH-BR049	15.0	15.0	10.0	84.4	1.88	1.25	3.21	2.39
Samsung B5/B13 RRH-BR04C	15.0	15.0	8.1	70.3	1.88	1.01	3.21	2.08
Raycap RVZDC-6627-PF-48	28.9	15.7	10.3	32.0	N/A	N/A		
Commscope NNHH-65B-R4	72.0	19.6	7.8	83.8	12.27	2.54	16.15	4.31

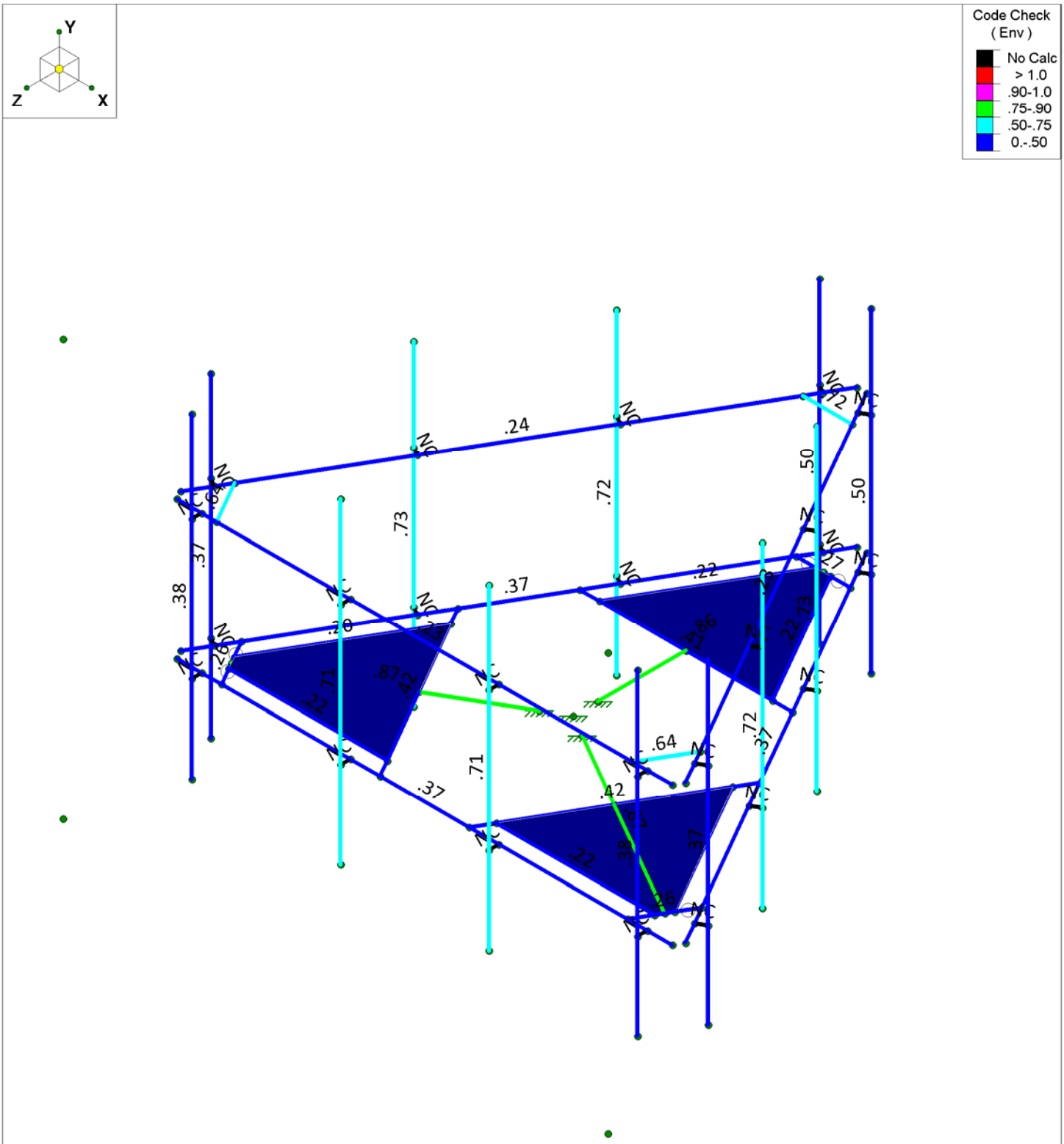




American Tower Corp.		SK - 1
Geneva.Liljestrand	302475, Sttn - Southington	Jan 31, 2020 at 12:25 PM
12978549_C8_07	3D Rendering	R3D. VERIZON WIRELESS @ 302...

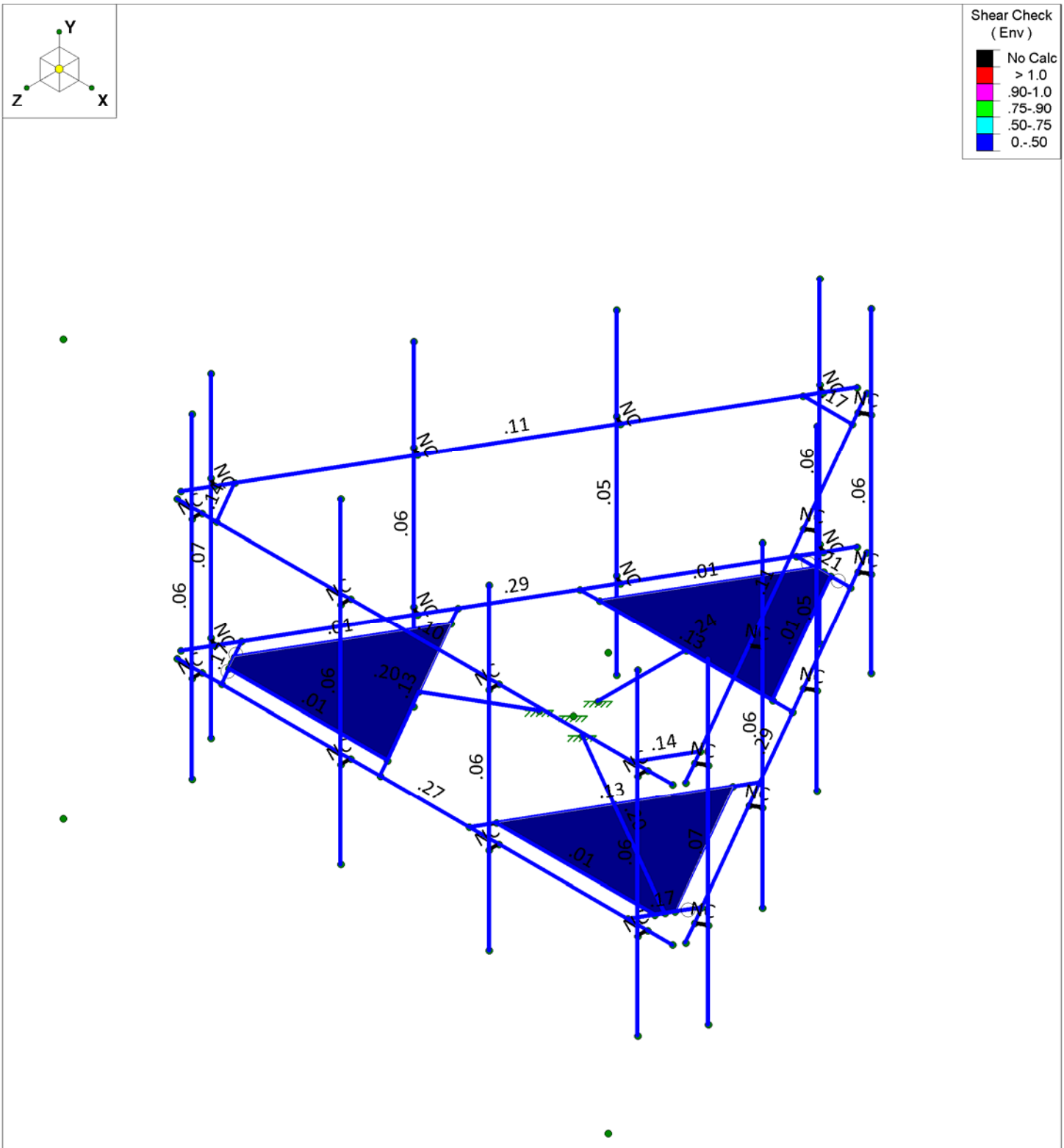


American Tower Corp.		SK - 2
Geneva.Liljestrand	302475, Sttn - Southington	Jan 31, 2020 at 12:31 PM
12978549_C8_07	Member Labels	R3D. VERIZON WIRELESS @ 302...



Member Code Checks Displayed (Enveloped)
Results for LC 1, 1.4D

American Tower Corp.		SK - 3
Geneva.Liljestrand	302475, Sttn - Southington	Jan 31, 2020 at 12:31 PM
12978549_C8_07	Unity Bending Checks	R3D. VERIZON WIRELESS @ 302...



Member Shear Checks Displayed (Enveloped)
Results for LC 1, 1.4D

American Tower Corp.		SK - 4
Geneva.Liljestrand	302475, Sttn - Southington	Jan 31, 2020 at 12:31 PM
12978549_C8_07	Shear Checks	R3D. VERIZON WIRELESS @ 302...

Hot Rolled Steel Properties

	Label	E [psi]	G [psi]	Nu	Therm (/1E5 F)	Density[lb/ft^3]	Yield[psi]	Ry	Fu[psi]	Rt
1	A36	2.9e+7	1.115e+7	.3	.65	490	36000	1.5	58000	1.2
2	A572-50	2.9e+7	1.115e+7	.3	.65	490	50000	1.1	65000	1.1
3	A500 Gr. B [RN...	2.9e+7	1.115e+7	.3	.65	527	42000	1.4	58000	1.3
4	A500 Gr. B [SQ...	2.9e+7	1.115e+7	.3	.65	527	46000	1.4	58000	1.3
5	A1085	2.9e+7	1.115e+7	.3	.65	490	50000	1.1	65000	1.1
6	A53 Gr. B	2.9e+7	1.115e+7	.3	.65	490	35000	1.6	60000	1.2
7	A992	2.9e+7	1.115e+7	.3	.65	490	50000	1.1	65000	1.1
8	SAE J429 Gr. 2	2.9e+7	1.115e+7	.3	.65	490	57000	1.1	74000	1.1

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
1	H001	N005	N008			PIPE_3.0	Beam	None	A53 Gr. B	Typical
2	H002	N006	N009			PIPE_3.0	Beam	None	A53 Gr. B	Typical
3	H003	N007	N010			PIPE_3.0	Beam	None	A53 Gr. B	Typical
4	H004	N011	N014			PL6x0.5	Beam	None	A36	Typical
5	H005	N012	N015			PL6x0.5	Beam	None	A36	Typical
6	H006	N013	N016			PL6x0.5	Beam	None	A36	Typical
7	H007	N017	N020			HSS4x4x3	Beam	None	A500 Gr. B...	Typical
8	H008	N018	N021			HSS4x4x3	Beam	None	A500 Gr. B...	Typical
9	H009	N019	N022			HSS4x4x3	Beam	None	A500 Gr. B...	Typical
10	H010	N023	N002			HSS4x4x3	Beam	None	A500 Gr. B...	Typical
11	H011	N024	N003			HSS4x4x3	Beam	None	A500 Gr. B...	Typical
12	H012	N025	N004			HSS4x4x3	Beam	None	A500 Gr. B...	Typical
13	H013	N032	N029			L2x2x3	Beam	None	A36	Typical
14	H014	N033	N030			L2x2x3	Beam	None	A36	Typical
15	H015	N034	N031			L2x2x3	Beam	None	A36	Typical
16	H016	N035	N038			L2x2x3	Beam	None	A36	Typical
17	H017	N036	N039			L2x2x3	Beam	None	A36	Typical
18	H018	N037	N040			L2x2x3	Beam	None	A36	Typical
19	H019	N041	N044			PIPE_3.0	Beam	None	A53 Gr. B	Typical
20	H020	N042	N045			PIPE_3.0	Beam	None	A53 Gr. B	Typical
21	H021	N043	N046			PIPE_3.0	Beam	None	A53 Gr. B	Typical
22	H022	N049	N051		180	L2.5x2.5x4	Beam	None	A36	Typical

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
23	H023	N047	N052		180	L2.5x2.5x4	Beam	None	A36	Typical
24	H024	N048	N050		180	L2.5x2.5x4	Beam	None	A36	Typical
25	U025	N053	N065			(2) 1/2 U-Bolts	Beam	None	SAE J429 ...	Typical
26	U026	N066	N067			(2) 1/2 U-Bolts	Beam	None	SAE J429 ...	Typical
27	U027	N056	N068			(2) 1/2 U-Bolts	Beam	None	SAE J429 ...	Typical
28	U028	N069	N070			(2) 1/2 U-Bolts	Beam	None	SAE J429 ...	Typical
29	U029	N059	N071			(2) 1/2 U-Bolts	Beam	None	SAE J429 ...	Typical
30	U030	N072	N073			(2) 1/2 U-Bolts	Beam	None	SAE J429 ...	Typical
31	U031	N062	N074			(2) 1/2 U-Bolts	Beam	None	SAE J429 ...	Typical
32	U032	N075	N076			(2) 1/2 U-Bolts	Beam	None	SAE J429 ...	Typical
33	U033	N055	N077			(2) 1/2 U-Bolts	Beam	None	SAE J429 ...	Typical
34	U034	N078	N079			(2) 1/2 U-Bolts	Beam	None	SAE J429 ...	Typical
35	U035	N058	N080			(2) 1/2 U-Bolts	Beam	None	SAE J429 ...	Typical
36	U036	N081	N082			(2) 1/2 U-Bolts	Beam	None	SAE J429 ...	Typical
37	U037	N061	N083			(2) 1/2 U-Bolts	Beam	None	SAE J429 ...	Typical
38	U038	N084	N085			(2) 1/2 U-Bolts	Beam	None	SAE J429 ...	Typical
39	U039	N064	N086			(2) 1/2 U-Bolts	Beam	None	SAE J429 ...	Typical
40	U040	N087	N088			(2) 1/2 U-Bolts	Beam	None	SAE J429 ...	Typical
41	U041	N054	N089			(2) 1/2 U-Bolts	Beam	None	SAE J429 ...	Typical
42	U042	N090	N091			(2) 1/2 U-Bolts	Beam	None	SAE J429 ...	Typical
43	U043	N057	N092			(2) 1/2 U-Bolts	Beam	None	SAE J429 ...	Typical
44	U044	N093	N094			(2) 1/2 U-Bolts	Beam	None	SAE J429 ...	Typical
45	U045	N060	N095			(2) 1/2 U-Bolts	Beam	None	SAE J429 ...	Typical
46	U046	N096	N097			(2) 1/2 U-Bolts	Beam	None	SAE J429 ...	Typical
47	U047	N063	N098			(2) 1/2 U-Bolts	Beam	None	SAE J429 ...	Typical
48	U048	N099	N100			(2) 1/2 U-Bolts	Beam	None	SAE J429 ...	Typical
49	MP1	MP1t	MP1b			PIPE_2.0	Column	None	A53 Gr. B	Typical
50	MP2	MP2t	MP2b			PIPE_2.0	Column	None	A53 Gr. B	Typical
51	MP3	MP3t	MP3b			PIPE_2.0	Column	None	A53 Gr. B	Typical
52	MP4	MP4t	MP4b			PIPE_2.0	Column	None	A53 Gr. B	Typical
53	MP5	MP5t	MP5b			PIPE_2.0	Column	None	A53 Gr. B	Typical
54	MP6	MP6t	MP6b			PIPE_2.0	Column	None	A53 Gr. B	Typical
55	MP7	MP7t	MP7b			PIPE_2.0	Column	None	A53 Gr. B	Typical
56	MP8	MP8t	MP8b			PIPE_2.0	Column	None	A53 Gr. B	Typical
57	MP9	MP9t	MP9b			PIPE_2.0	Column	None	A53 Gr. B	Typical
58	MP10	MP10t	MP10b			PIPE_2.0	Column	None	A53 Gr. B	Typical
59	MP11	MP11t	MP11b			PIPE_2.0	Column	None	A53 Gr. B	Typical
60	MP12	MP12t	MP12b			PIPE_2.0	Column	None	A53 Gr. B	Typical

Basic Load Cases

	BLC Description	Category	X Gravi...	Y Gravity	Z Gravity	Joint	Point	Distributed	Area(Me...	Surface(Pl...
1	Dead	DL		-1			30			
2	Ice	IL					30	36		3
3	Wind -Z	WLZ					30		1	
4	Wind -X	WLX					30		1	
5	Wind -Z (Ice)	WL-Z					30	36	1	
6	Wind -X (Ice)	WL-X					30	36	1	
7	Wind -Z (Working)	WLZP1					30		1	
8	Wind -X (Working)	WLXP1					30		1	
9	Ev -Y (Seismic)	ELY						36		
10	Eh -Z (Seismic)	ELZ						36		
11	Eh -X (Seismic)	ELX						36		
12	Lm (1)	LL				1				
13	Lm (2)	LL				1				
14	Lm (3)	LL				1				
15	Lm (4)	LL				1				
16	Lm (5)	LL				1				
17	Lm (6)	LL				1				
18	Lm (7)	LL				1				
19	Lm (8)	LL				1				
20	Lm (9)	LL				1				
21	Lm (10)	LL				1				
22	Lm (11)	LL				1				
23	Lm (12)	LL				1				
24	BLC 3 Transient Area L...	None						51		
25	BLC 4 Transient Area L...	None						53		
26	BLC 5 Transient Area L...	None						51		
27	BLC 6 Transient Area L...	None						53		
28	BLC 7 Transient Area L...	None						51		
29	BLC 8 Transient Area L...	None						53		

Load Combinations

	Description	S...	P...	SRSS	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...
1	1.4D	Yes	Y		DL	1.4																		
2	1.2D + 1.6Wo [0°]	Yes	Y		DL	1.2	W...	.001	W...	1.6														
3	1.2D + 1.6Wo [30°]	Yes	Y		DL	1.2	W...	.8	W...	1.3...														
4	1.2D + 1.6Wo [60°]	Yes	Y		DL	1.2	W...	1.3...	W...	.8														
5	1.2D + 1.6Wo [90°]	Yes	Y		DL	1.2	W...	1.6	W...	.001														

Load Combinations (Continued)

	Description	S...	P...	SRSS	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...
6	1.2D + 1.6Wo [120°]	Yes	Y		DL	1.2	W...	1.3...	W...	-.8														
7	1.2D + 1.6Wo [150°]	Yes	Y		DL	1.2	W...	.8	W...	-1....														
8	1.2D + 1.6Wo [180°]	Yes	Y		DL	1.2	W...	.001	W...	-1.6														
9	1.2D + 1.6Wo [210°]	Yes	Y		DL	1.2	W...	-.8	W...	-1....														
10	1.2D + 1.6Wo [240°]	Yes	Y		DL	1.2	W...	-1....	W...	-.8														
11	1.2D + 1.6Wo [270°]	Yes	Y		DL	1.2	W...	-1.6	W...	.001														
12	1.2D + 1.6Wo [300°]	Yes	Y		DL	1.2	W...	-1....	W...	.8														
13	1.2D + 1.6Wo [330°]	Yes	Y		DL	1.2	W...	-.8	W...	1.3...														
14	0.9D + 1.6Wo [0°]	Yes	Y		DL	.9	W...	.001	W...	1.6														
15	0.9D + 1.6Wo [30°]	Yes	Y		DL	.9	W...	.8	W...	1.3...														
16	0.9D + 1.6Wo [60°]	Yes	Y		DL	.9	W...	1.3...	W...	.8														
17	0.9D + 1.6Wo [90°]	Yes	Y		DL	.9	W...	1.6	W...	.001														
18	0.9D + 1.6Wo [120°]	Yes	Y		DL	.9	W...	1.3...	W...	-.8														
19	0.9D + 1.6Wo [150°]	Yes	Y		DL	.9	W...	.8	W...	-1....														
20	0.9D + 1.6Wo [180°]	Yes	Y		DL	.9	W...	.001	W...	-1.6														
21	0.9D + 1.6Wo [210°]	Yes	Y		DL	.9	W...	-.8	W...	-1....														
22	0.9D + 1.6Wo [240°]	Yes	Y		DL	.9	W...	-1....	W...	-.8														
23	0.9D + 1.6Wo [270°]	Yes	Y		DL	.9	W...	-1.6	W...	.001														
24	0.9D + 1.6Wo [300°]	Yes	Y		DL	.9	W...	-1....	W...	.8														
25	0.9D + 1.6Wo [330°]	Yes	Y		DL	.9	W...	-.8	W...	1.3...														
26	1.2D + 1.0Di + 1.0Wi [0°] + 1.0Ti	Yes	Y		DL	1.2	IL	1	W...	.001	W...	1												
27	1.2D + 1.0Di + 1.0Wi [30°] + 1.0Ti	Yes	Y		DL	1.2	IL	1	W...	.5	W...	.866												
28	1.2D + 1.0Di + 1.0Wi [60°] + 1.0Ti	Yes	Y		DL	1.2	IL	1	W...	.866	W...	.5												
29	1.2D + 1.0Di + 1.0Wi [90°] + 1.0Ti	Yes	Y		DL	1.2	IL	1	W...	1	W...	.001												
30	1.2D + 1.0Di + 1.0Wi [120°] + 1.0...	Yes	Y		DL	1.2	IL	1	W...	.866	W...	-.5												
31	1.2D + 1.0Di + 1.0Wi [150°] + 1.0...	Yes	Y		DL	1.2	IL	1	W...	.5	W...	-.8...												
32	1.2D + 1.0Di + 1.0Wi [180°] + 1.0...	Yes	Y		DL	1.2	IL	1	W...	.001	W...	-1												
33	1.2D + 1.0Di + 1.0Wi [210°] + 1.0...	Yes	Y		DL	1.2	IL	1	W...	-.5	W...	-.8...												
34	1.2D + 1.0Di + 1.0Wi [240°] + 1.0...	Yes	Y		DL	1.2	IL	1	W...	-.8...	W...	-.5												
35	1.2D + 1.0Di + 1.0Wi [270°] + 1.0...	Yes	Y		DL	1.2	IL	1	W...	-1	W...	.001												
36	1.2D + 1.0Di + 1.0Wi [300°] + 1.0...	Yes	Y		DL	1.2	IL	1	W...	-.8...	W...	.5												
37	1.2D + 1.0Di + 1.0Wi [330°] + 1.0...	Yes	Y		DL	1.2	IL	1	W...	-.5	W...	.866												
38	1.2D + 1.0Ev + 1.0Eh [0°]	Yes	Y		DL	1.2	ELY	1	ELZ	1	ELX	.001												
39	1.2D + 1.0Ev + 1.0Eh [30°]	Yes	Y		DL	1.2	ELY	1	ELZ	.866	ELX	.5												
40	1.2D + 1.0Ev + 1.0Eh [60°]	Yes	Y		DL	1.2	ELY	1	ELZ	.5	ELX	.866												
41	1.2D + 1.0Ev + 1.0Eh [90°]	Yes	Y		DL	1.2	ELY	1	ELZ	.001	ELX	1												
42	1.2D + 1.0Ev + 1.0Eh [120°]	Yes	Y		DL	1.2	ELY	1	ELZ	-.5	ELX	.866												
43	1.2D + 1.0Ev + 1.0Eh [150°]	Yes	Y		DL	1.2	ELY	1	ELZ	-.8...	ELX	.5												
44	1.2D + 1.0Ev + 1.0Eh [180°]	Yes	Y		DL	1.2	ELY	1	ELZ	-1	ELX	.001												

Load Combinations (Continued)

	Description	S...	P...	SRSS	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...
45	1.2D + 1.0Ev + 1.0Eh [210°]	Yes	Y		DL	1.2	ELY	1	ELZ	-.8...	ELX	-.5												
46	1.2D + 1.0Ev + 1.0Eh [240°]	Yes	Y		DL	1.2	ELY	1	ELZ	-.5	ELX	-.8...												
47	1.2D + 1.0Ev + 1.0Eh [270°]	Yes	Y		DL	1.2	ELY	1	ELZ	.001	ELX	-1												
48	1.2D + 1.0Ev + 1.0Eh [300°]	Yes	Y		DL	1.2	ELY	1	ELZ	.5	ELX	-.8...												
49	1.2D + 1.0Ev + 1.0Eh [330°]	Yes	Y		DL	1.2	ELY	1	ELZ	.866	ELX	-.5												
50	0.9D + 1.0Ev + 1.0Eh [0°]	Yes	Y		DL	.9	ELY	1	ELZ	1	ELX	.001												
51	0.9D + 1.0Ev + 1.0Eh [30°]	Yes	Y		DL	.9	ELY	1	ELZ	.866	ELX	.5												
52	0.9D + 1.0Ev + 1.0Eh [60°]	Yes	Y		DL	.9	ELY	1	ELZ	.5	ELX	.866												
53	0.9D + 1.0Ev + 1.0Eh [90°]	Yes	Y		DL	.9	ELY	1	ELZ	.001	ELX	1												
54	0.9D + 1.0Ev + 1.0Eh [120°]	Yes	Y		DL	.9	ELY	1	ELZ	-.5	ELX	.866												
55	0.9D + 1.0Ev + 1.0Eh [150°]	Yes	Y		DL	.9	ELY	1	ELZ	-.8...	ELX	.5												
56	0.9D + 1.0Ev + 1.0Eh [180°]	Yes	Y		DL	.9	ELY	1	ELZ	-1	ELX	.001												
57	0.9D + 1.0Ev + 1.0Eh [210°]	Yes	Y		DL	.9	ELY	1	ELZ	-.8...	ELX	-.5												
58	0.9D + 1.0Ev + 1.0Eh [240°]	Yes	Y		DL	.9	ELY	1	ELZ	-.5	ELX	-.8...												
59	0.9D + 1.0Ev + 1.0Eh [270°]	Yes	Y		DL	.9	ELY	1	ELZ	.001	ELX	-1												
60	0.9D + 1.0Ev + 1.0Eh [300°]	Yes	Y		DL	.9	ELY	1	ELZ	.5	ELX	-.8...												
61	0.9D + 1.0Ev + 1.0Eh [330°]	Yes	Y		DL	.9	ELY	1	ELZ	.866	ELX	-.5												
62	1.2D + 1.5Lm(1) + 1.0Wm [0°]	Yes	Y		DL	1.2	12	1.5	W...	.001	W...	1												
63	1.2D + 1.5Lm(1) + 1.0Wm [30°]	Yes	Y		DL	1.2	12	1.5	W...	.5	W...	.866												
64	1.2D + 1.5Lm(1) + 1.0Wm [60°]	Yes	Y		DL	1.2	12	1.5	W...	.866	W...	.5												
65	1.2D + 1.5Lm(1) + 1.0Wm [90°]	Yes	Y		DL	1.2	12	1.5	W...	1	W...	.001												
66	1.2D + 1.5Lm(1) + 1.0Wm [120°]	Yes	Y		DL	1.2	12	1.5	W...	.866	W...	-.5												
67	1.2D + 1.5Lm(1) + 1.0Wm [150°]	Yes	Y		DL	1.2	12	1.5	W...	.5	W...	-.8...												
68	1.2D + 1.5Lm(1) + 1.0Wm [180°]	Yes	Y		DL	1.2	12	1.5	W...	.001	W...	-.5												
69	1.2D + 1.5Lm(1) + 1.0Wm [210°]	Yes	Y		DL	1.2	12	1.5	W...	-.5	W...	-.8...												
70	1.2D + 1.5Lm(1) + 1.0Wm [240°]	Yes	Y		DL	1.2	12	1.5	W...	-.8...	W...	-.5												
71	1.2D + 1.5Lm(1) + 1.0Wm [270°]	Yes	Y		DL	1.2	12	1.5	W...	-1	W...	.001												
72	1.2D + 1.5Lm(1) + 1.0Wm [300°]	Yes	Y		DL	1.2	12	1.5	W...	-.8...	W...	.5												
73	1.2D + 1.5Lm(1) + 1.0Wm [330°]	Yes	Y		DL	1.2	12	1.5	W...	-.5	W...	.866												
74	1.2D + 1.5Lm(2) + 1.0Wm [0°]	Yes	Y		DL	1.2	13	1.5	W...	.001	W...	1												
75	1.2D + 1.5Lm(2) + 1.0Wm [30°]	Yes	Y		DL	1.2	13	1.5	W...	.5	W...	.866												
76	1.2D + 1.5Lm(2) + 1.0Wm [60°]	Yes	Y		DL	1.2	13	1.5	W...	.866	W...	.5												
77	1.2D + 1.5Lm(2) + 1.0Wm [90°]	Yes	Y		DL	1.2	13	1.5	W...	1	W...	.001												
78	1.2D + 1.5Lm(2) + 1.0Wm [120°]	Yes	Y		DL	1.2	13	1.5	W...	.866	W...	-.5												
79	1.2D + 1.5Lm(2) + 1.0Wm [150°]	Yes	Y		DL	1.2	13	1.5	W...	.5	W...	-.8...												
80	1.2D + 1.5Lm(2) + 1.0Wm [180°]	Yes	Y		DL	1.2	13	1.5	W...	.001	W...	-.5												
81	1.2D + 1.5Lm(2) + 1.0Wm [210°]	Yes	Y		DL	1.2	13	1.5	W...	-.5	W...	-.8...												
82	1.2D + 1.5Lm(2) + 1.0Wm [240°]	Yes	Y		DL	1.2	13	1.5	W...	-.8...	W...	-.5												
83	1.2D + 1.5Lm(2) + 1.0Wm [270°]	Yes	Y		DL	1.2	13	1.5	W...	-1	W...	.001												

Load Combinations (Continued)

	Description	S...	P...	SRSS	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...
84	1.2D + 1.5Lm(2) + 1.0Wm [300°]	Yes	Y		DL	1.2	13	1.5	W...	-.8...	W...	.5												
85	1.2D + 1.5Lm(2) + 1.0Wm [330°]	Yes	Y		DL	1.2	13	1.5	W...	-.5	W...	.866												
86	1.2D + 1.5Lm(3) + 1.0Wm [0°]	Yes	Y		DL	1.2	14	1.5	W...	.001	W...	1												
87	1.2D + 1.5Lm(3) + 1.0Wm [30°]	Yes	Y		DL	1.2	14	1.5	W...	.5	W...	.866												
88	1.2D + 1.5Lm(3) + 1.0Wm [60°]	Yes	Y		DL	1.2	14	1.5	W...	.866	W...	.5												
89	1.2D + 1.5Lm(3) + 1.0Wm [90°]	Yes	Y		DL	1.2	14	1.5	W...	1	W...	.001												
90	1.2D + 1.5Lm(3) + 1.0Wm [120°]	Yes	Y		DL	1.2	14	1.5	W...	.866	W...	-.5												
91	1.2D + 1.5Lm(3) + 1.0Wm [150°]	Yes	Y		DL	1.2	14	1.5	W...	.5	W...	-.8...												
92	1.2D + 1.5Lm(3) + 1.0Wm [180°]	Yes	Y		DL	1.2	14	1.5	W...	.001	W...	-.5												
93	1.2D + 1.5Lm(3) + 1.0Wm [210°]	Yes	Y		DL	1.2	14	1.5	W...	-.5	W...	-.8...												
94	1.2D + 1.5Lm(3) + 1.0Wm [240°]	Yes	Y		DL	1.2	14	1.5	W...	-.8...	W...	-.5												
95	1.2D + 1.5Lm(3) + 1.0Wm [270°]	Yes	Y		DL	1.2	14	1.5	W...	-1	W...	.001												
96	1.2D + 1.5Lm(3) + 1.0Wm [300°]	Yes	Y		DL	1.2	14	1.5	W...	-.8...	W...	.5												
97	1.2D + 1.5Lm(3) + 1.0Wm [330°]	Yes	Y		DL	1.2	14	1.5	W...	-.5	W...	.866												
98	1.2D + 1.5Lm(4) + 1.0Wm [0°]	Yes	Y		DL	1.2	15	1.5	W...	.001	W...	1												
99	1.2D + 1.5Lm(4) + 1.0Wm [30°]	Yes	Y		DL	1.2	15	1.5	W...	.5	W...	.866												
100	1.2D + 1.5Lm(4) + 1.0Wm [60°]	Yes	Y		DL	1.2	15	1.5	W...	.866	W...	.5												
101	1.2D + 1.5Lm(4) + 1.0Wm [90°]	Yes	Y		DL	1.2	15	1.5	W...	1	W...	.001												
102	1.2D + 1.5Lm(4) + 1.0Wm [120°]	Yes	Y		DL	1.2	15	1.5	W...	.866	W...	-.5												
103	1.2D + 1.5Lm(4) + 1.0Wm [150°]	Yes	Y		DL	1.2	15	1.5	W...	.5	W...	-.8...												
104	1.2D + 1.5Lm(4) + 1.0Wm [180°]	Yes	Y		DL	1.2	15	1.5	W...	.001	W...	-.5												
105	1.2D + 1.5Lm(4) + 1.0Wm [210°]	Yes	Y		DL	1.2	15	1.5	W...	-.5	W...	-.8...												
106	1.2D + 1.5Lm(4) + 1.0Wm [240°]	Yes	Y		DL	1.2	15	1.5	W...	-.8...	W...	-.5												
107	1.2D + 1.5Lm(4) + 1.0Wm [270°]	Yes	Y		DL	1.2	15	1.5	W...	-1	W...	.001												
108	1.2D + 1.5Lm(4) + 1.0Wm [300°]	Yes	Y		DL	1.2	15	1.5	W...	-.8...	W...	.5												
109	1.2D + 1.5Lm(4) + 1.0Wm [330°]	Yes	Y		DL	1.2	15	1.5	W...	-.5	W...	.866												
110	1.2D + 1.5Lm(5) + 1.0Wm [0°]	Yes	Y		DL	1.2	16	1.5	W...	.001	W...	1												
111	1.2D + 1.5Lm(5) + 1.0Wm [30°]	Yes	Y		DL	1.2	16	1.5	W...	.5	W...	.866												
112	1.2D + 1.5Lm(5) + 1.0Wm [60°]	Yes	Y		DL	1.2	16	1.5	W...	.866	W...	.5												
113	1.2D + 1.5Lm(5) + 1.0Wm [90°]	Yes	Y		DL	1.2	16	1.5	W...	1	W...	.001												
114	1.2D + 1.5Lm(5) + 1.0Wm [120°]	Yes	Y		DL	1.2	16	1.5	W...	.866	W...	-.5												
115	1.2D + 1.5Lm(5) + 1.0Wm [150°]	Yes	Y		DL	1.2	16	1.5	W...	.5	W...	-.8...												
116	1.2D + 1.5Lm(5) + 1.0Wm [180°]	Yes	Y		DL	1.2	16	1.5	W...	.001	W...	-.5												
117	1.2D + 1.5Lm(5) + 1.0Wm [210°]	Yes	Y		DL	1.2	16	1.5	W...	-.5	W...	-.8...												
118	1.2D + 1.5Lm(5) + 1.0Wm [240°]	Yes	Y		DL	1.2	16	1.5	W...	-.8...	W...	-.5												
119	1.2D + 1.5Lm(5) + 1.0Wm [270°]	Yes	Y		DL	1.2	16	1.5	W...	-1	W...	.001												
120	1.2D + 1.5Lm(5) + 1.0Wm [300°]	Yes	Y		DL	1.2	16	1.5	W...	-.8...	W...	.5												
121	1.2D + 1.5Lm(5) + 1.0Wm [330°]	Yes	Y		DL	1.2	16	1.5	W...	-.5	W...	.866												
122	1.2D + 1.5Lm(6) + 1.0Wm [0°]	Yes	Y		DL	1.2	17	1.5	W...	.001	W...	1												

Load Combinations (Continued)

	Description	S...	P...	SRSS	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...
123	1.2D + 1.5Lm(6) + 1.0Wm [30°]	Yes	Y		DL	1.2	17	1.5	W...	.5	W...	.866												
124	1.2D + 1.5Lm(6) + 1.0Wm [60°]	Yes	Y		DL	1.2	17	1.5	W...	.866	W...	.5												
125	1.2D + 1.5Lm(6) + 1.0Wm [90°]	Yes	Y		DL	1.2	17	1.5	W...	1	W...	.001												
126	1.2D + 1.5Lm(6) + 1.0Wm [120°]	Yes	Y		DL	1.2	17	1.5	W...	.866	W...	-.5												
127	1.2D + 1.5Lm(6) + 1.0Wm [150°]	Yes	Y		DL	1.2	17	1.5	W...	.5	W...	-.8...												
128	1.2D + 1.5Lm(6) + 1.0Wm [180°]	Yes	Y		DL	1.2	17	1.5	W...	.001	W...	-.5												
129	1.2D + 1.5Lm(6) + 1.0Wm [210°]	Yes	Y		DL	1.2	17	1.5	W...	-.5	W...	-.8...												
130	1.2D + 1.5Lm(6) + 1.0Wm [240°]	Yes	Y		DL	1.2	17	1.5	W...	-.8...	W...	-.5												
131	1.2D + 1.5Lm(6) + 1.0Wm [270°]	Yes	Y		DL	1.2	17	1.5	W...	-1	W...	.001												
132	1.2D + 1.5Lm(6) + 1.0Wm [300°]	Yes	Y		DL	1.2	17	1.5	W...	-.8...	W...	.5												
133	1.2D + 1.5Lm(6) + 1.0Wm [330°]	Yes	Y		DL	1.2	17	1.5	W...	-.5	W...	.866												
134	1.2D + 1.5Lm(7) + 1.0Wm [0°]	Yes	Y		DL	1.2	18	1.5	W...	.001	W...	1												
135	1.2D + 1.5Lm(7) + 1.0Wm [30°]	Yes	Y		DL	1.2	18	1.5	W...	.5	W...	.866												
136	1.2D + 1.5Lm(7) + 1.0Wm [60°]	Yes	Y		DL	1.2	18	1.5	W...	.866	W...	.5												
137	1.2D + 1.5Lm(7) + 1.0Wm [90°]	Yes	Y		DL	1.2	18	1.5	W...	1	W...	.001												
138	1.2D + 1.5Lm(7) + 1.0Wm [120°]	Yes	Y		DL	1.2	18	1.5	W...	.866	W...	-.5												
139	1.2D + 1.5Lm(7) + 1.0Wm [150°]	Yes	Y		DL	1.2	18	1.5	W...	.5	W...	-.8...												
140	1.2D + 1.5Lm(7) + 1.0Wm [180°]	Yes	Y		DL	1.2	18	1.5	W...	.001	W...	-.5												
141	1.2D + 1.5Lm(7) + 1.0Wm [210°]	Yes	Y		DL	1.2	18	1.5	W...	-.5	W...	-.8...												
142	1.2D + 1.5Lm(7) + 1.0Wm [240°]	Yes	Y		DL	1.2	18	1.5	W...	-.8...	W...	-.5												
143	1.2D + 1.5Lm(7) + 1.0Wm [270°]	Yes	Y		DL	1.2	18	1.5	W...	-1	W...	.001												
144	1.2D + 1.5Lm(7) + 1.0Wm [300°]	Yes	Y		DL	1.2	18	1.5	W...	-.8...	W...	.5												
145	1.2D + 1.5Lm(7) + 1.0Wm [330°]	Yes	Y		DL	1.2	18	1.5	W...	-.5	W...	.866												
146	1.2D + 1.5Lm(8) + 1.0Wm [0°]	Yes	Y		DL	1.2	19	1.5	W...	.001	W...	1												
147	1.2D + 1.5Lm(8) + 1.0Wm [30°]	Yes	Y		DL	1.2	19	1.5	W...	.5	W...	.866												
148	1.2D + 1.5Lm(8) + 1.0Wm [60°]	Yes	Y		DL	1.2	19	1.5	W...	.866	W...	.5												
149	1.2D + 1.5Lm(8) + 1.0Wm [90°]	Yes	Y		DL	1.2	19	1.5	W...	1	W...	.001												
150	1.2D + 1.5Lm(8) + 1.0Wm [120°]	Yes	Y		DL	1.2	19	1.5	W...	.866	W...	-.5												
151	1.2D + 1.5Lm(8) + 1.0Wm [150°]	Yes	Y		DL	1.2	19	1.5	W...	.5	W...	-.8...												
152	1.2D + 1.5Lm(8) + 1.0Wm [180°]	Yes	Y		DL	1.2	19	1.5	W...	.001	W...	-.5												
153	1.2D + 1.5Lm(8) + 1.0Wm [210°]	Yes	Y		DL	1.2	19	1.5	W...	-.5	W...	-.8...												
154	1.2D + 1.5Lm(8) + 1.0Wm [240°]	Yes	Y		DL	1.2	19	1.5	W...	-.8...	W...	-.5												
155	1.2D + 1.5Lm(8) + 1.0Wm [270°]	Yes	Y		DL	1.2	19	1.5	W...	-1	W...	.001												
156	1.2D + 1.5Lm(8) + 1.0Wm [300°]	Yes	Y		DL	1.2	19	1.5	W...	-.8...	W...	.5												
157	1.2D + 1.5Lm(8) + 1.0Wm [330°]	Yes	Y		DL	1.2	19	1.5	W...	-.5	W...	.866												
158	1.2D + 1.5Lm(9) + 1.0Wm [0°]	Yes	Y		DL	1.2	20	1.5	W...	.001	W...	1												
159	1.2D + 1.5Lm(9) + 1.0Wm [30°]	Yes	Y		DL	1.2	20	1.5	W...	.5	W...	.866												
160	1.2D + 1.5Lm(9) + 1.0Wm [60°]	Yes	Y		DL	1.2	20	1.5	W...	.866	W...	.5												
161	1.2D + 1.5Lm(9) + 1.0Wm [90°]	Yes	Y		DL	1.2	20	1.5	W...	1	W...	.001												

Load Combinations (Continued)

	Description	S...	P...	SRSS	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...
162	1.2D + 1.5Lm(9) + 1.0Wm [120°]	Yes	Y		DL	1.2	20	1.5	W...	.866	W...	-.5												
163	1.2D + 1.5Lm(9) + 1.0Wm [150°]	Yes	Y		DL	1.2	20	1.5	W...	.5	W...	-.8...												
164	1.2D + 1.5Lm(9) + 1.0Wm [180°]	Yes	Y		DL	1.2	20	1.5	W...	.001	W...	-.5												
165	1.2D + 1.5Lm(9) + 1.0Wm [210°]	Yes	Y		DL	1.2	20	1.5	W...	-.5	W...	-.8...												
166	1.2D + 1.5Lm(9) + 1.0Wm [240°]	Yes	Y		DL	1.2	20	1.5	W...	-.8...	W...	-.5												
167	1.2D + 1.5Lm(9) + 1.0Wm [270°]	Yes	Y		DL	1.2	20	1.5	W...	-1	W...	.001												
168	1.2D + 1.5Lm(9) + 1.0Wm [300°]	Yes	Y		DL	1.2	20	1.5	W...	-.8...	W...	.5												
169	1.2D + 1.5Lm(9) + 1.0Wm [330°]	Yes	Y		DL	1.2	20	1.5	W...	-.5	W...	.866												
170	1.2D + 1.5Lm(10) + 1.0Wm [0°]	Yes	Y		DL	1.2	21	1.5	W...	.001	W...	1												
171	1.2D + 1.5Lm(10) + 1.0Wm [30°]	Yes	Y		DL	1.2	21	1.5	W...	.5	W...	.866												
172	1.2D + 1.5Lm(10) + 1.0Wm [60°]	Yes	Y		DL	1.2	21	1.5	W...	.866	W...	.5												
173	1.2D + 1.5Lm(10) + 1.0Wm [90°]	Yes	Y		DL	1.2	21	1.5	W...	1	W...	.001												
174	1.2D + 1.5Lm(10) + 1.0Wm [120°]	Yes	Y		DL	1.2	21	1.5	W...	.866	W...	-.5												
175	1.2D + 1.5Lm(10) + 1.0Wm [150°]	Yes	Y		DL	1.2	21	1.5	W...	.5	W...	-.8...												
176	1.2D + 1.5Lm(10) + 1.0Wm [180°]	Yes	Y		DL	1.2	21	1.5	W...	.001	W...	-.5												
177	1.2D + 1.5Lm(10) + 1.0Wm [210°]	Yes	Y		DL	1.2	21	1.5	W...	-.5	W...	-.8...												
178	1.2D + 1.5Lm(10) + 1.0Wm [240°]	Yes	Y		DL	1.2	21	1.5	W...	-.8...	W...	-.5												
179	1.2D + 1.5Lm(10) + 1.0Wm [270°]	Yes	Y		DL	1.2	21	1.5	W...	-1	W...	.001												
180	1.2D + 1.5Lm(10) + 1.0Wm [300°]	Yes	Y		DL	1.2	21	1.5	W...	-.8...	W...	.5												
181	1.2D + 1.5Lm(10) + 1.0Wm [330°]	Yes	Y		DL	1.2	21	1.5	W...	-.5	W...	.866												
182	1.2D + 1.5Lm(11) + 1.0Wm [0°]	Yes	Y		DL	1.2	22	1.5	W...	.001	W...	1												
183	1.2D + 1.5Lm(11) + 1.0Wm [30°]	Yes	Y		DL	1.2	22	1.5	W...	.5	W...	.866												
184	1.2D + 1.5Lm(11) + 1.0Wm [60°]	Yes	Y		DL	1.2	22	1.5	W...	.866	W...	.5												
185	1.2D + 1.5Lm(11) + 1.0Wm [90°]	Yes	Y		DL	1.2	22	1.5	W...	1	W...	.001												
186	1.2D + 1.5Lm(11) + 1.0Wm [120°]	Yes	Y		DL	1.2	22	1.5	W...	.866	W...	-.5												
187	1.2D + 1.5Lm(11) + 1.0Wm [150°]	Yes	Y		DL	1.2	22	1.5	W...	.5	W...	-.8...												
188	1.2D + 1.5Lm(11) + 1.0Wm [180°]	Yes	Y		DL	1.2	22	1.5	W...	.001	W...	-.5												
189	1.2D + 1.5Lm(11) + 1.0Wm [210°]	Yes	Y		DL	1.2	22	1.5	W...	-.5	W...	-.8...												
190	1.2D + 1.5Lm(11) + 1.0Wm [240°]	Yes	Y		DL	1.2	22	1.5	W...	-.8...	W...	-.5												
191	1.2D + 1.5Lm(11) + 1.0Wm [270°]	Yes	Y		DL	1.2	22	1.5	W...	-1	W...	.001												
192	1.2D + 1.5Lm(11) + 1.0Wm [300°]	Yes	Y		DL	1.2	22	1.5	W...	-.8...	W...	.5												
193	1.2D + 1.5Lm(11) + 1.0Wm [330°]	Yes	Y		DL	1.2	22	1.5	W...	-.5	W...	.866												
194	1.2D + 1.5Lm(12) + 1.0Wm [0°]	Yes	Y		DL	1.2	23	1.5	W...	.001	W...	1												
195	1.2D + 1.5Lm(12) + 1.0Wm [30°]	Yes	Y		DL	1.2	23	1.5	W...	.5	W...	.866												
196	1.2D + 1.5Lm(12) + 1.0Wm [60°]	Yes	Y		DL	1.2	23	1.5	W...	.866	W...	.5												
197	1.2D + 1.5Lm(12) + 1.0Wm [90°]	Yes	Y		DL	1.2	23	1.5	W...	1	W...	.001												
198	1.2D + 1.5Lm(12) + 1.0Wm [120°]	Yes	Y		DL	1.2	23	1.5	W...	.866	W...	-.5												
199	1.2D + 1.5Lm(12) + 1.0Wm [150°]	Yes	Y		DL	1.2	23	1.5	W...	.5	W...	-.8...												
200	1.2D + 1.5Lm(12) + 1.0Wm [180°]	Yes	Y		DL	1.2	23	1.5	W...	.001	W...	-.5												

Load Combinations (Continued)

	Description	S...	P...	SRSS	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...
201	1.2D + 1.5Lm(12) + 1.0Wm [210°]	Yes	Y		DL	1.2	23	1.5	W...	-.5	W...	-.8...												
202	1.2D + 1.5Lm(12) + 1.0Wm [240°]	Yes	Y		DL	1.2	23	1.5	W...	-.8...	W...	-.5												
203	1.2D + 1.5Lm(12) + 1.0Wm [270°]	Yes	Y		DL	1.2	23	1.5	W...	-1	W...	.001												
204	1.2D + 1.5Lm(12) + 1.0Wm [300°]	Yes	Y		DL	1.2	23	1.5	W...	-.8...	W...	.5												
205	1.2D + 1.5Lm(12) + 1.0Wm [330°]	Yes	Y		DL	1.2	23	1.5	W...	-.5	W...	.866												

Envelope Joint Reactions

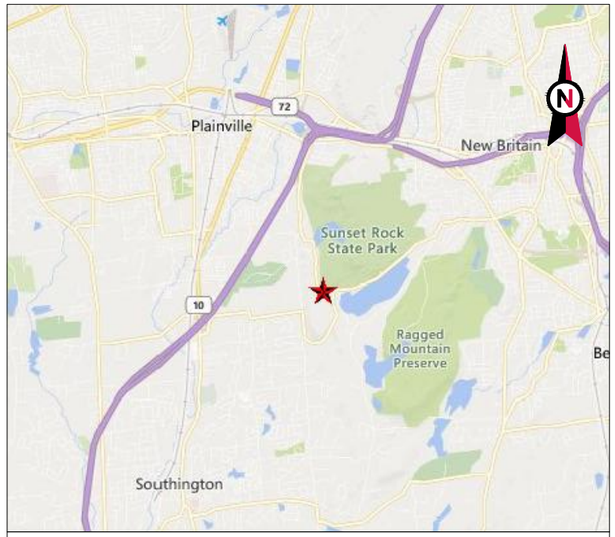
	Joint		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [lb-ft]	LC	MY [lb-ft]	LC	MZ [lb-ft]	LC
1	N001	max	0	205	0	205	0	205	0	205	0	205	0	205
2		min	0	1	0	1	0	1	0	1	0	1	0	1
3	N002	max	2248.268	17	4721.882	26	2783.923	14	10568.917	26	3377.677	23	1697.177	11
4		min	-2248.211	23	-636.825	20	-2841.151	8	-2482.459	20	-3377.637	17	-1693.466	5
5	N003	max	2219.054	18	4781.798	30	2197.286	12	1662.957	25	1518.559	13	2536.596	24
6		min	-2271.694	12	-781.009	24	-2171.207	18	-5424.06	31	-1512.064	19	-9315.726	30
7	N004	max	2270.782	4	4781.818	34	2197.586	4	1661.043	15	1510.637	21	9312.76	34
8		min	-2218.217	22	-781.498	16	-2171.366	22	-5429.211	33	-1517.271	15	-2539.101	16
9	Totals:	max	6515.742	17	12697.669	37	5854.975	14						
10		min	-6515.742	11	2555.305	14	-5854.975	8						

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

	Mem...	Shape	Code C...	Loc[in]	LC	Shear C...	Loc[i...	Dir	LC	phi*Pnc ...	phi*Pnt ...	phi*Mn y-y [...	phi*Mn z-z [...	Cb	Eqn
1	H012	HSS4x4...	.871	68.261	34	.195	68.2...	y	12	93770.555	106812	12661.5	12661.5	3.0...	H1-1b
2	H011	HSS4x4...	.871	68.261	30	.195	68.2...	y	4	93770.555	106812	12661.5	12661.5	3.0...	H1-1b
3	H010	HSS4x4...	.857	68.261	37	.236	68.2...	z	11	93770.555	106812	12661.5	12661.5	3.1...	H1-1b
4	MP5	PIPE_2.0	.731	69	30	.053	69		31	3485.189	32130	1871.625	1871.625	2.9...	H1-1a
5	MP6	PIPE_2.0	.729	69	34	.063	69		11	3485.189	32130	1871.625	1871.625	3.2...	H1-1a
6	MP9	PIPE_2.0	.724	69	34	.053	69		33	3485.189	32130	1871.625	1871.625	2.9...	H1-1a
7	MP8	PIPE_2.0	.723	69	30	.063	69		5	3485.189	32130	1871.625	1871.625	3.2...	H1-1a
8	H022	L2.5x2....	.717	14.942	6	.172	0	y	5	37740.587	38556	1113.554	2537.388	1.9...	H2-1
9	MP4	PIPE_2.0	.712	69	26	.059	69		6	3485.189	32130	1871.625	1871.625	4.3...	H1-1a
10	MP7	PIPE_2.0	.705	69	26	.059	69		10	3485.189	32130	1871.625	1871.625	4.3...	H1-1a
11	H024	L2.5x2....	.639	14.942	2	.140	0	y	13	37740.587	38556	1113.554	2537.388	1.8...	H2-1
12	H023	L2.5x2....	.638	0	2	.140	0	y	9	37740.587	38556	1113.554	2537.388	1.8...	H2-1
13	MP12	PIPE_2.0	.498	69	5	.063	69		5	3485.189	32130	1871.625	1871.625	2.9...	H1-1a
14	MP2	PIPE_2.0	.498	69	11	.063	69		11	3485.189	32130	1871.625	1871.625	2.9...	H1-1a
15	H008	HSS4x4...	.417	32.221	29	.133	5.37	y	28	101700....	106812	12661.5	12661.5	1.3...	H1-1b

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

	Mem...	Shape	Code C...	Loc[in]	LC	Shear C...	Loc[i...	Dir	LC	phi*Pnc ...	phi*Pnt ...	phi*Mn y-y [...	phi*Mn z-z [...	Cb	Eqn
16	H009	HSS4x4...	.417	32.221	35	.132	59.0...	y	36	101700....	106812	12661.5	12661.5	1.3...	H1-1b
17	H007	HSS4x4...	.413	32.221	37	.135	5.37	y	36	101700....	106812	12661.5	12661.5	1.3...	H1-1b
18	MP10	PIPE_2.0	.382	69	9	.059	69		9	3485.189	32130	1871.625	1871.625	4.4...	H1-1a
19	MP1	PIPE_2.0	.382	69	7	.059	69		7	3485.189	32130	1871.625	1871.625	4.4...	H1-1a
20	H002	PIPE_3.0	.374	87.5	34	.290	60.9...		6	28250.554	65205	5748.75	5748.75	1.8...	H1-1b
21	H003	PIPE_3.0	.372	62.5	30	.290	89.0...		10	28250.554	65205	5748.75	5748.75	1.8...	H1-1b
22	MP11	PIPE_2.0	.372	69	13	.069	69		5	3485.189	32130	1871.625	1871.625	1.9...	H1-1a
23	MP3	PIPE_2.0	.372	69	3	.069	69		11	3485.189	32130	1871.625	1871.625	1.9...	H1-1a
24	H001	PIPE_3.0	.372	87.5	30	.267	60.9...		26	28250.554	65205	5748.75	5748.75	1.8...	H1-1b
25	H004	PL6x0.5	.271	8.221	13	.205	8.221	y	5	49088.142	97200	1012.5	12150	1.4...	H1-1b
26	H005	PL6x0.5	.264	8.221	5	.174	8.221	y	3	49088.142	97200	1012.5	12150	1.4...	H1-1b
27	H006	PL6x0.5	.264	8.221	11	.174	8.221	y	13	49088.142	97200	1012.5	12150	1.4...	H1-1b
28	H021	PIPE_3.0	.235	98.438	28	.110	139....		10	28250.554	65205	5748.75	5748.75	1.43	H1-1b
29	H020	PIPE_3.0	.235	98.438	36	.110	10.9...		6	28250.554	65205	5748.75	5748.75	1.4...	H1-1b
30	H019	PIPE_3.0	.233	98.438	32	.098	51.5...		26	28250.554	65205	5748.75	5748.75	1.4...	H1-1b
31	H013	L2x2x3	.224	48	15	.015	0	y	35	16672.646	23392.8	557.717	1198.168	1.9...	H2-1
32	H016	L2x2x3	.224	0	25	.015	48	y	29	16672.646	23392.8	557.717	1198.829	1.91	H2-1
33	H014	L2x2x3	.216	48	19	.014	0	y	27	16672.646	23392.8	557.717	1186.049	1.79	H2-1
34	H018	L2x2x3	.216	0	21	.014	48	y	37	16672.646	23392.8	557.717	1186.622	1.7...	H2-1
35	H015	L2x2x3	.201	48	23	.014	0	y	31	16672.646	23392.8	557.717	1140.722	1.4...	H2-1
36	H017	L2x2x3	.201	0	17	.014	48	y	33	16672.646	23392.8	557.717	1141.375	1.4...	H2-1



VICINITY MAP

AMERICAN TOWER®

ATC SITE NAME: STTN SOUTHINGTON
ATC SITE NUMBER: 302475
VERIZON SITE ID: SOUTHINGTON 3 CT - A
SITE ADDRESS: 80 SHUTTLE MEADOW RD SOUTHINGTON, CT 06489

VERIZON WIRELESS COLLOCATION PLAN

LOCATION MAP

BIRD WATCH SITE:
PLEASE CONTACT BIRD.WATCH@AMERICANTOWER.COM OR AMERICAN TOWER NOC AT 877-518-6937 FOR ASSISTANCE

COMPLIANCE CODE

ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNMENT AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES.

1. INTERNATIONAL BUILDING CODE (IBC)
2. NATIONAL ELECTRIC CODE (NEC)
3. LOCAL BUILDING CODE
4. CITY/COUNTY ORDINANCES

UTILITY COMPANIES

POWER COMPANY: EVERSOURCE
PHONE: (877) 659-6326

TELEPHONE COMPANY: FRONTIER COMMUNICATIONS
PHONE: (800) 376-6843

811
Know what's **below.**
Call before you dig.

PROJECT SUMMARY

SITE ADDRESS:

80 SHUTTLE MEADOW RD
SOUTHINGTON, CT 06489
COUNTY: HARTFORD

GEOGRAPHIC COORDINATES:

LATITUDE: 41.63858333

LONGITUDE: -72.8411

GROUND ELEVATION: 489' AMSL

PROJECT TEAM

TOWER OWNER:

AMERICAN TOWER
10 PRESIDENTIAL WAY
WOBURN, MA 01801

APPLICANT:

VERIZON WIRELESS
99 EAST RIVER DR, 9TH FLOOR
EAST HARTFORD, CT 06108

ENGINEER:

ATC TOWER SERVICES, LLC
3500 REGENCY PKWY STE 100
CARY, NC 27518

PROPERTY OWNER:

JOHN N ROGERS
336 LONG BOTTOM ROAD
SOUTHINGTON, CT 06489

PROJECT DESCRIPTION

THE PROPOSED PROJECT INCLUDES PLACING EQUIPMENT CABINETS ON A PROPOSED CONCRETE PAD INSIDE A 12' X 30' GROUND SPACE WITHIN THE EXISTING COMPOUND, AND PLACING NEW ANTENNAS ON A PROPOSED PLATFORM MOUNTED TO THE EXISTING TOWER.

PROJECT NOTES

1. THE FACILITY IS UNMANNED.
2. A TECHNICIAN WILL VISIT THE SITE APPROXIMATELY ONCE A MONTH FOR ROUTINE INSPECTION AND MAINTENANCE.
3. THE PROJECT WILL NOT RESULT IN ANY SIGNIFICANT LAND DISTURBANCE OR EFFECT OF STORM WATER DRAINAGE.
4. NO SANITARY SEWER, POTABLE WATER OR TRASH DISPOSAL IS REQUIRED.
5. HANDICAP ACCESS IS NOT REQUIRED.

PROJECT LOCATION DIRECTIONS

FROM HARTFORD, CT:

I-84 W TOWARD WATERBURY11.9 MI4.SLIGHT RIGHT AT CT-72 W (SIGNS FOR BRISTOL/CT-72 W/PLAINVILLE)0.6 MI5.TAKE EXIT 2 TOWARD CT-372/NEW BRITAIN AVE/PLAINVILLE0.3 MI6.TURN RIGHT AT CT-372/NEW BRITAIN AVE0.5 MI7.TURN RIGHT AT CROOKED ST0.4 MI8.TURN RIGHT AT WHITE OAK AVE0.1 MI9.TURN LEFT AT LEDGE RD1.3 MI10.CONTINUE ON SHUTTLE MEADOW RD

SHEET INDEX

SHEET NO:	DESCRIPTION:	REV:	DATE:	BY:
G-001	TITLE SHEET	3	02/03/20	EB
G-002	GENERAL NOTES	0	08/27/19	EB
V-101	OVERALL SITE PLAN	0	08/27/19	EB
C-101	DETAILED SITE PLAN & TOWER ELEVATION	3	02/03/20	EB
C-501	ANTENNA INFORMATION & SCHEDULE	3	02/03/20	EB
C-502	CONSTRUCTION DETAILS	0	08/27/19	EB
C-503	CONSTRUCTION DETAILS	0	08/27/19	EB
C-504	CONSTRUCTION DETAILS	0	08/27/19	EB
C-505	CONSTRUCTION DETAILS	0	08/27/19	EB
E-101	GROUNDING PLAN AND SCHEMATIC	0	08/27/19	EB
E-102	ONE-LINE & PANEL SCHEDULE	0	08/27/19	EB
E-501	GROUNDING DETAILS	0	08/27/19	EB
E-502	GROUNDING DETAILS	0	08/27/19	EB
R-601	SUPPLEMENTAL			
R-602	SUPPLEMENTAL			
R-603	SUPPLEMENTAL			

AMERICAN TOWER®
A.T. ENGINEERING SERVICE, PLLC
3500 REGENCY PARKWAY
SUITE 100
CARY, NC 27518
PHONE: (919) 468-0112
COA: PEC.0001553

REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	EB	08/27/19
2	REV CABLE LOADING	EB	12/13/19
3	MOUNT ANALYSIS	EB	02/03/20

ATC SITE NUMBER:
302475

ATC SITE NAME:
STTN SOUTHINGTON

SITE ADDRESS:
80 SHUTTLE MEADOW RD
SOUTHINGTON, CT 06489

SEAL:

verizon

DRAWN BY:	EB
APPROVED BY:	PPB
DATE DRAWN:	08/27/19
ATC JOB NO:	12978549
VERIZON ID:	SOUTHINGTON 3 CT - A
VERIZON #:	468851

TITLE SHEET

SHEET NUMBER:	REVISION:
G-001	3

GENERAL CONSTRUCTION NOTES:

1. ALL WORK SHALL CONFORM TO ALL CURRENT APPLICABLE FEDERAL, STATE, AND LOCAL CODES, INCLUDING ANSI/EIA/TIA-222, AND COMPLY WITH ATC MASTER SPECIFICATIONS.
2. CONTRACTOR SHALL CONTACT LOCAL 811 FOR IDENTIFICATION OF UNDERGROUND UTILITIES PRIOR TO START OF CONSTRUCTION.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL REQUIRED INSPECTIONS.
4. ALL DIMENSIONS TO, OF, AND ON EXISTING BUILDINGS, DRAINAGE STRUCTURES, AND SITE IMPROVEMENTS SHALL BE VERIFIED IN FIELD BY CONTRACTOR WITH ALL DISCREPANCIES REPORTED TO THE ENGINEER.
5. DO NOT CHANGE SIZE OR SPACING OF STRUCTURAL ELEMENTS.
6. DETAILS SHOWN ARE TYPICAL; SIMILAR DETAILS APPLY TO SIMILAR CONDITIONS UNLESS OTHERWISE NOTED.
7. THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY WHICH SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
8. CONTRACTOR SHALL BRACE STRUCTURES UNTIL ALL STRUCTURAL ELEMENTS NEEDED FOR STABILITY ARE INSTALLED. THESE ELEMENTS ARE AS FOLLOWS: LATERAL BRACING, ANCHOR BOLTS, ETC.
9. CONTRACTOR SHALL DETERMINE EXACT LOCATION OF EXISTING UTILITIES, GROUNDS DRAINS, DRAIN PIPES, VENTS, ETC. BEFORE COMMENCING WORK.
10. INCORRECTLY FABRICATED, DAMAGED, OR OTHERWISE MISFITTING OR NONCONFORMING MATERIALS OR CONDITIONS SHALL BE REPORTED TO THE VERIZON REP PRIOR TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH REMEDIAL ACTION SHALL REQUIRE WRITTEN APPROVAL BY THE VERIZON REP PRIOR TO PROCEEDING.
11. EACH CONTRACTOR SHALL COOPERATE WITH THE VERIZON REP, AND COORDINATE HIS WORK WITH THE WORK OF OTHERS.
12. CONTRACTOR SHALL REPAIR ANY DAMAGE CAUSED BY CONSTRUCTION OF THIS PROJECT TO MATCH EXISTING PRE-CONSTRUCTION CONDITIONS TO THE SATISFACTION OF THE VERIZON CONSTRUCTION MANAGER.
13. ALL CABLE/CONDUIT ENTRY/EXIT PORTS SHALL BE WEATHERPROOFED DURING INSTALLATION USING A SILICONE SEALANT.
14. WHERE EXISTING CONDITIONS DO NOT MATCH THOSE SHOWN IN THIS PLAN SET, CONTRACTOR SHALL NOTIFY THE VERIZON REP IMMEDIATELY.
15. CONTRACTOR SHALL ENSURE ALL SUBCONTRACTORS ARE PROVIDED WITH A COMPLETE AND CURRENT SET OF DRAWINGS AND SPECIFICATIONS FOR THIS PROJECT.
16. CONTRACTOR SHALL REMOVE ALL RUBBISH AND DEBRIS FROM THE SITE AT THE END OF EACH DAY.
17. CONTRACTOR SHALL COORDINATE WORK SCHEDULE WITH LANDLORD AND TAKE PRECAUTIONS TO MINIMIZE IMPACT AND DISRUPTION OF OTHER OCCUPANTS OF THE FACILITY.
18. CONTRACTOR SHALL FURNISH VERIZON WITH A PDF MARKED UP AS-BUILT SET OF DRAWINGS UPON COMPLETION OF WORK.
19. PRIOR TO SUBMISSION OF BID, CONTRACTOR SHALL COORDINATE WITH VERIZON REP TO DETERMINE WHAT, IF ANY, ITEMS WILL BE PROVIDED. ALL ITEMS NOT PROVIDED SHALL BE PROVIDED AND INSTALLED BY THE CONTRACTOR. CONTRACTOR WILL INSTALL ALL ITEMS PROVIDED.
20. PRIOR TO SUBMISSION OF BID, CONTRACTOR SHALL COORDINATE WITH VERIZON REP TO DETERMINE IF ANY PERMITS WILL BE OBTAINED BY CONTRACTOR. ALL REQUIRED PERMITS NOT OBTAINED BY VERIZON MUST BE OBTAINED, AND PAID FOR, BY THE CONTRACTOR.
21. CONTRACTOR SHALL INSTALL ALL SITE SIGNAGE IN ACCORDANCE WITH VERIZON SPECIFICATIONS AND REQUIREMENTS.
22. CONTRACTOR SHALL SUBMIT ALL SHOP DRAWINGS TO VERIZON FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.
23. ALL EQUIPMENT SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS AND LOCATED ACCORDING TO VERIZON SPECIFICATIONS, AND AS SHOWN IN THESE PLANS.
24. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
25. CONTRACTOR SHALL NOTIFY VERIZON REP A MINIMUM OF 48 HOURS IN ADVANCE OF POURING CONCRETE OR BACKFILLING ANY UNDERGROUND UTILITIES, FOUNDATIONS OR SEALING ANY WALL, FLOOR OR ROOF PENETRATIONS FOR ENGINEERING REVIEW AND APPROVAL.
26. CONTRACTOR SHALL BE RESPONSIBLE FOR SITE SAFETY INCLUDING COMPLIANCE WITH ALL APPLICABLE OSHA STANDARDS AND RECOMMENDATIONS AND SHALL PROVIDE ALL NECESSARY SAFETY DEVICES INCLUDING PPE AND PPM AND CONSTRUCTION DEVICES SUCH AS WELDING AND FIRE PREVENTION, TEMPORARY SHORING, SCAFFOLDING, TRENCH BOXES/SLOPING, BARRIERS, ETC.
27. THE CONTRACTOR SHALL PROTECT AT HIS OWN EXPENSE, ALL EXISTING FACILITIES AND SUCH OF HIS NEW WORK LIABLE TO INJURY DURING THE CONSTRUCTION PERIOD. ANY DAMAGE CAUSED BY NEGLECT ON THE PART OF THIS CONTRACTOR OR HIS REPRESENTATIVES, OR BY THE ELEMENTS DUE TO NEGLECT ON THE PART OF THIS CONTRACTOR OR HIS REPRESENTATIVES, EITHER TO THE EXISTING WORK, OR TO HIS WORK OR THE WORK OF ANY OTHER CONTRACTOR, SHALL BE REPAIRED AT HIS EXPENSE TO THE OWNER'S SATISFACTION.
28. ALL WORK SHALL BE INSTALLED IN A FIRST CLASS, NEAT AND WORKMANLIKE MANNER BY MECHANICS SKILLED IN THE TRADE INVOLVED. THE QUALITY OF WORKMANSHIP SHALL BE SUBJECT TO THE APPROVAL OF THE VERIZON REP. ANY WORK FOUND BY THE VERIZON REP TO BE OF INFERIOR QUALITY AND/OR WORKMANSHIP SHALL BE REPLACED AND/OR REWORKED AT CONTRACTOR EXPENSE UNTIL APPROVAL IS OBTAINED.
29. IN ORDER TO ESTABLISH STANDARDS OF QUALITY AND PERFORMANCE, ALL TYPES OF MATERIALS LISTED HEREINAFTER BY MANUFACTURER'S NAMES AND/OR MANUFACTURER'S CATALOG NUMBER SHALL BE PROVIDED BY THESE MANUFACTURERS AS SPECIFIED.

CONCRETE AND REINFORCING STEEL NOTES:

1. DESIGN AND CONSTRUCTION OF ALL CONCRETE ELEMENTS SHALL CONFORM TO THE LATEST EDITIONS OF ALL APPLICABLE CODES INCLUDING: ACI 301 "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS", ACI 117 "SPECIFICATIONS FOR TOLERANCES FOR CONCRETE CONSTRUCTION AND MATERIALS", AND ACI 318 "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE."
2. MIX DESIGN SHALL BE APPROVED BY VERIZON REP PRIOR TO PLACING CONCRETE.
3. CONCRETE SHALL BE NORMAL WEIGHT, 6 % AIR ENTRAINED (+/- 1.5%) WITH A SLUMP RANGE OF 3-6" AND HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 4000 PSI UNLESS OTHERWISE NOTED.
4. THE FOLLOWING MATERIALS SHALL BE USED:

PORTLAND CEMENT:	ASTM C150, TYPE 2
REINFORCEMENT:	ASTM A185, PLAIN STEEL WELDED WIRE FABRIC
REINFORCEMENT BARS:	ASTM A615, GRADE 60, DEFORMED
NORMAL WEIGHT AGGREGATE:	ASTM C33
WATER:	ASTM C 94/C 94M
ADMIXTURES:	
-WATER-REDUCING AGENT:	ASTM C 494/C 494M, TYPE A
-AIR-ENTERING AGENT:	ASTM C 260/C 260M
-SUPERPLASTICIZER:	ASTM C494, TYPE F OR TYPE G
-RETARDING:	ASTM C 494/C 494M, TYPE B

5. MINIMUM CONCRETE COVER FOR REINFORCING STEEL SHALL BE NO LESS THAN 3".
6. A 3/4" CHAMFER SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE IN ACCORDANCE WITH ACI 301 SECTION 4.2.4, UNLESS NOTED OTHERWISE.
7. INSTALLATION OF CONCRETE EXPANSION/WEDGE ANCHOR SHALL BE PER MANUFACTURER'S WRITTEN RECOMMENDED PROCEDURE. THE ANCHOR BOLT, DOWEL, OR ROD SHALL CONFORM TO MANUFACTURER'S RECOMMENDATION FOR EMBEDMENT DEPTH OR AS SHOWN ON THE DRAWINGS. NO REBAR SHALL BE CUT WITHOUT PRIOR VERIZON REP APPROVAL WHEN DRILLING HOLES IN CONCRETE.
8. ADMIXTURES SHALL CONFORM TO THE APPROPRIATE ASTM STANDARD AS REFERENCED IN "METHOD 1" OF ACI 301.
9. DO NOT WELD OR TACK WELD REINFORCING STEEL.
10. ALL DOWELS, ANCHOR BOLTS, EMBEDDED STEEL, ELECTRICAL CONDUITS, PIPE SLEEVES, GROUNDS AND ALL OTHER EMBEDDED ITEMS AND FORMED DETAILS SHALL BE IN PLACE BEFORE START OF CONCRETE PLACEMENT.
11. REINFORCEMENT SHALL BE COLD BENT WHENEVER BENDING IS REQUIRED.
12. DO NOT PLACE CONCRETE IN WATER, ICE, OR ON FROZEN GROUND.
13. DO NOT ALLOW REINFORCEMENT, CONCRETE OR SUBBASE TO FREEZE DURING CONCRETE CURING AND SETTING PERIOD, OR FOR A MINIMUM OF 3 DAYS AFTER PLACEMENT.
14. FOR COLD-WEATHER(ACI 306) AND HOT-WEATHER(ACI 301M) CONCRETE PLACEMENT, CONFORM TO APPLICABLE ACI CODES AND RECOMMENDATIONS. IN EITHER CASE, MATERIALS CONTAINING CHLORIDE, CALCIUM, SALTS, ETC. SHALL NOT BE USED. PROTECT FRESH CONCRETE FROM WEATHER FOR 7 DAYS, MINIMUM.
15. ALL CONCRETE SHALL HAVE A "SMOOTH FORM FINISH."
16. UNLESS OTHERWISE NOTED:
    A. ALL REINFORCING STEEL SHALL BE DEFORMED BARS CONFORMING TO ASTM A615/A 615M/A-996, GRADE 60.
    B. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185.
17. SPLICING OF REINFORCEMENT IS PERMITTED ONLY AT LOCATIONS SHOWN IN THE CONTRACT DRAWINGS OR AS ACCEPTED BY THE ENGINEER. UNLESS OTHERWISE SHOWN OR NOTED REINFORCING STEEL SHALL BE SPLICED TO DEVELOP ITS FULL TENSILE CAPACITY (CLASS A) IN ACCORDANCE WITH ACI 318.
18. REINFORCING BAR DEVELOPMENT LENGTHS, AS COMPUTED IN ACCORDANCE WITH ACI 318, FORM THE BASIS FOR BAR EMBEDMENT LENGTHS AND BAR SPLICED LENGTHS SHOWN IN THE DRAWINGS. APPLY APPROPRIATE MODIFICATION FACTORS FOR TOP STEEL, BAR SPACING, COVER AND THE LIKE.
19. DETAILING OF REINFORCING STEEL SHALL CONFORM TO "ACI MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES" (ACI 315).
20. ALL SLAB CONSTRUCTION SHALL BE CAST MONOLITHICALLY WITHOUT HORIZONTAL CONSTRUCTION JOINTS, UNLESS SHOWN IN THE CONTRACT DRAWINGS.
21. LOCATION OF ALL CONSTRUCTION JOINTS ARE SUBJECT TO THE REQUIREMENTS OF THE CONTRACT DOCUMENTS, CONFORMANCE WITH ACI 318, AND ACCEPTANCE OF THE ENGINEER. DRAWINGS SHOWING LOCATION OF DETAILS OF THE PROPOSED CONSTRUCTION JOINTS SHALL BE SUBMITTED WITH REINFORCING STEEL PLACEMENT DRAWINGS.
22. SPLICES OF WWF, AT ALL SPLICED EDGES, SHALL BE SUCH THAT THE OVERLAP MEASURED BETWEEN OUTERMOST CROSS WIRES OF EACH FABRIC SHEET IS NOT LESS THAN THE SPACING OF THE CROSS WIRE PLUS 2 INCHES, NOR LESS THAN 6".
23. BAR SUPPORTS SHALL BE ALL-GALVINIZED METAL WITH PLASTIC TIPS.
24. ALL REINFORCEMENT SHALL BE SECURELY TIED IN PLACE TO PREVENT DISPLACEMENT BY CONSTRUCTION TRAFFIC OR CONCRETE. TIE WIRE SHALL BE OF SUFFICIENT STRENGTH FOR INTENDED PURPOSE, BUT NOT LESS THAN NO. 18 GAUGE.
25. SLAB ON GROUND:
    A. COMPACT STRUCTURAL FILL TO 95% DENSITY AND THEN PLACE 6" GRAVEL BENEATH SLAB.
    B. PROVIDE VAPOR BARRIER BENEATH SLAB ON GROUND.

STRUCTURAL STEEL NOTES:

1. STRUCTURAL STEEL SHALL CONFORM TO THE LATEST EDITION OF THE AISC “SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS.”
2. STRUCTURAL STEEL ROLLED SHAPES, PLATES AND BARS SHALL CONFORM TO THE FOLLOWING ASTM DESIGNATIONS:
    A. ASTM A-572, GRADE 50 - ALL W SHAPES, UNLESS NOTED OR A992 OTHERWISE
    B. ASTM A-36 - ALL OTHER ROLLED SHAPES, PLATES AND BARS UNLESS NOTED OTHERWISE.
    C. ASTM A-500, GRADE B - HSS SECTION (SQUARE, RECTANGULAR, AND ROUND)
    D. ASTM A-325, TYPE SC OR N - ALL BOLTS FOR CONNECTING STRUCTURAL MEMBERS
    E. ASTM F-1554 07 - ALL ANCHOR BOLTS, UNLESS NOTED OTHERWISE
3. ALL EXPOSED STRUCTURAL STEEL MEMBERS SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION PER ASTM A123. EXPOSED STEEL HARDWARE AND ANCHOR BOLTS SHALL BE GALVANIZED PER ASTM A153 OR B695.
4. ALL FIELD CUT SURFACES, FIELD DRILLED HOLES AND GROUND SURFACES WHERE EXISTING PAINT OR GALVANIZATION REMOVAL WAS REQUIRED SHALL BE REPAIRED WITH (2) BRUSHED COATS OF ZRC GALVILITE COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURER’S RECOMMENDATIONS.
5. DO NOT DRILL HOLES THROUGH STRUCTURAL STEEL MEMBERS EXCEPT AS SHOWN AND DETAILED ON STRUCTURAL DRAWINGS.
6. CONNECTIONS:
    A. ALL WELDING TO BE PERFORMED BY AWS CERTIFIED WELDERS AND CONDUCTED IN ACCORDANCE WITH THE LATEST EDITION OF THE AWS WELDING CODE D1.1.
    B. ALL WELDS SHALL BE INSPECTED VISUALLY. 25% OF WELDS SHALL BE INSPECTED WITH DYE PENETRANT OR MAGNETIC PARTICLE TO MEET THE ACCEPTANCE CRITERIA OF AWS D1.1. REPAIR ALL WELDS AS NECESSARY.
    C. INSPECTION SHALL BE PERFORMED BY AN AWS CERTIFIED WELD INSPECTOR.
    D. IT IS THE CONTRACTORS RESPONSIBILITY TO PROVIDE BURNING/WELDING PERMITS AS REQUIRED BY LOCAL GOVERNING AUTHORITY AND IF REQUIRED SHALL HAVE FIRE DEPARTMENT DETAIL FOR ANY WELDING ACTIVITY.
    E. ALL ELECTRODES TO BE LOW HYDROGEN, MATCHING FILLER METAL, PER AWS D1.1, UNLESS NOTED OTHERWISE.
    F. MINIMUM WELD SIZE TO BE 0.1875 INCH FILLET WELDS, UNLESS NOTED OTHERWISE.
    G. PRIOR TO FIELD WELDING GALVANIZING MATERIAL, CONTRACTOR SHALL GRIND OFF GALVANIZING ½" BEYOND ALL FIELD WELD SURFACES. AFTER WELD AND WELD INSPECTION IS COMPLETE, REPAIR ALL GROUND AND WELDED SURFACES WITH ZRC GALVILITE COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURERS RECOMMENDATIONS.

AMERICAN TOWER®
A.T. ENGINEERING SERVICE, PLLC
3500 REGENCY PARKWAY
SUITE 100
CARY, NC 27518
PHONE: (919) 468-0112
COA: PEC.0001553

REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	EB	08/27/19

ATC SITE NUMBER:
302475

ATC SITE NAME:
STTN SOUTHINGTON

SITE ADDRESS:
80 SHUTTLE MEADOW RD
SOUTHINGTON, CT 06489

SEAL:

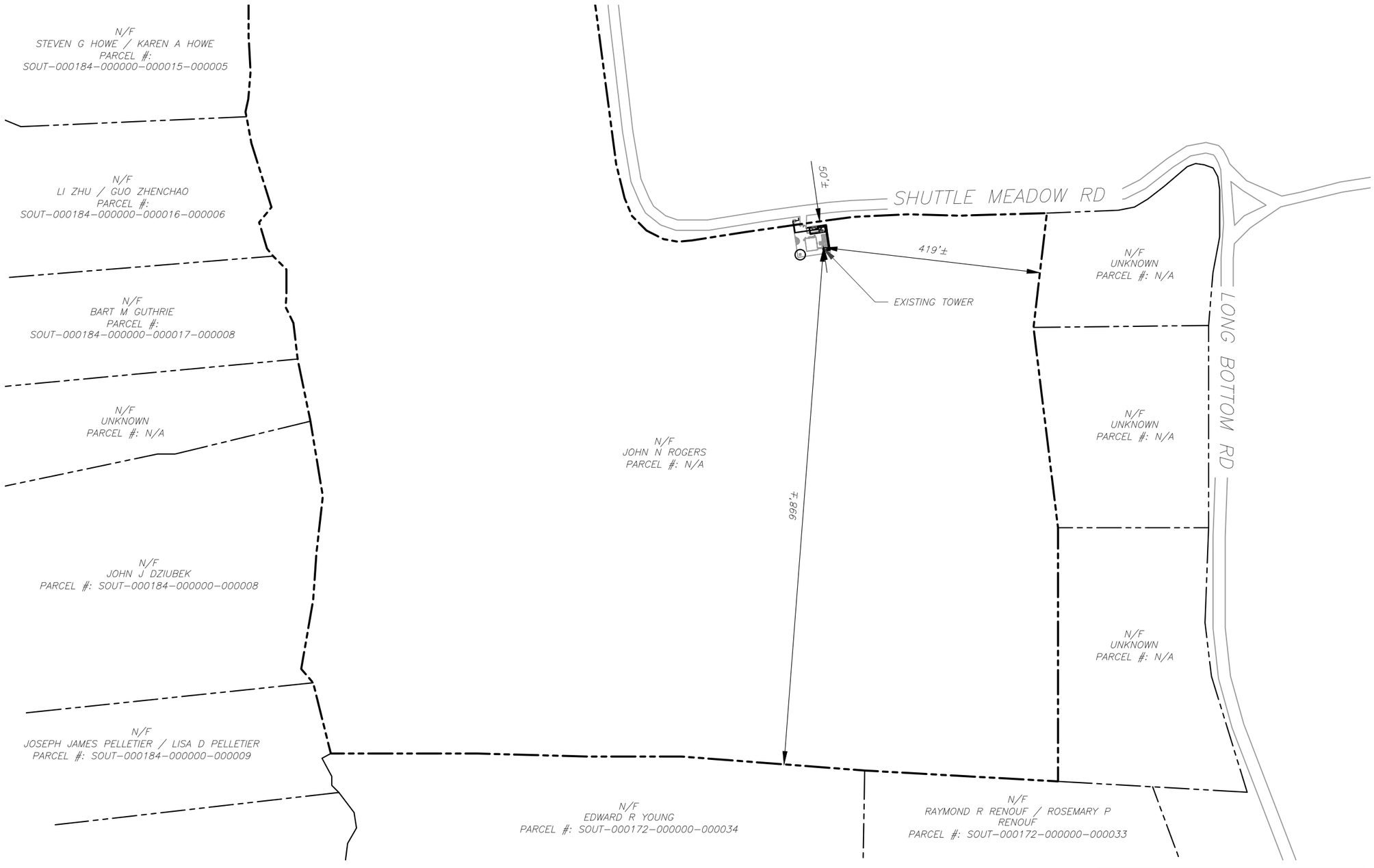
verizon

DRAWN BY:	EB
APPROVED BY:	PPB
DATE DRAWN:	08/27/19
ATC JOB NO:	12978549
VERIZON ID:	SOUTHINGTON 3 CT - A
VERIZON #:	468851

GENERAL NOTES

SHEET NUMBER:	REVISION:
G-002	0

NOTES:
1. BOUNDARY LINES OBTAINED FROM JURISDICTION ONLINE GIS.
2. ZONING INFORMATION OBTAINED FROM JURISDICTION ZONING ORDINANCE.



LEGEND	
EXISTING PROPERTY LINE	
EXISTING PROPERTY LINE ADJACENT	
EXISTING EASEMENT	

1 OVERALL SITE PLAN

0 100' 200'

SCALE: 1"=100' (11X17)
1"=50' (22X34)

PARCEL SETBACK INFORMATION		
	EXISTING:	PROPOSED:
MAX HEIGHT:	150' ±	150'± *
MIN FRONT YARD SETBACK:	50' ±	50'± *
MIN SIDE YARD SETBACK:	419' ±	419'± *
MIN REAR YARD SETBACK:	998' ±	998'± *
NO CHANGE TO EXISTING		

AMERICAN TOWER®
A.T. ENGINEERING SERVICE, PLLC
3500 REGENCY PARKWAY
SUITE 100
CARY, NC 27518
PHONE: (919) 468-0112
COA: PEC.0001553

REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	EB	08/27/19

ATC SITE NUMBER:
302475

ATC SITE NAME:
STTN SOUTHINGTON

SITE ADDRESS:
80 SHUTTLE MEADOW RD
SOUTHINGTON, CT 06489

SEAL:

verizon

DRAWN BY:	EB
APPROVED BY:	PPB
DATE DRAWN:	08/27/19
ATC JOB NO:	12978549
VERIZON ID:	SOUTHINGTON 3 CT - A
VERIZON #:	468851

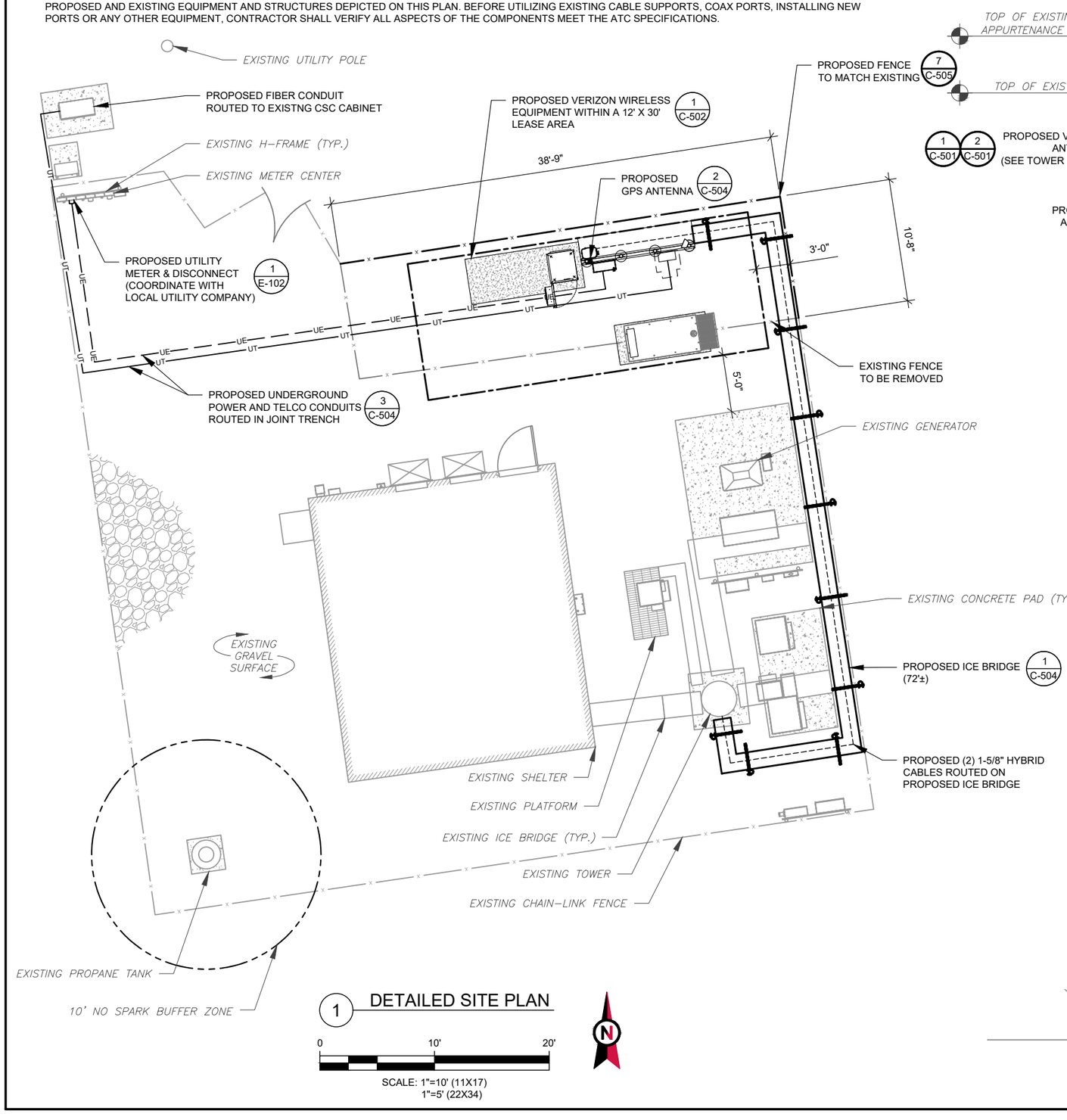
OVERALL SITE PLAN

SHEET NUMBER:	REVISION:
V-101	0

SITE PLAN NOTES:

1. THIS SITE PLAN REPRESENTS THE BEST PRESENT KNOWLEDGE AVAILABLE TO THE ENGINEER AT THE TIME OF THIS DESIGN. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO CONSTRUCTION AND VERIFY ALL EXISTING CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT.

2. ICE BRIDGE, CABLE LADDER, COAX PORT, AND COAX CABLE ARE SHOWN FOR REFERENCE ONLY. CONTRACTOR SHALL CONFIRM THE EXACT LOCATION OF ALL PROPOSED AND EXISTING EQUIPMENT AND STRUCTURES DEPICTED ON THIS PLAN. BEFORE UTILIZING EXISTING CABLE SUPPORTS, COAX PORTS, INSTALLING NEW PORTS OR ANY OTHER EQUIPMENT, CONTRACTOR SHALL VERIFY ALL ASPECTS OF THE COMPONENTS MEET THE ATC SPECIFICATIONS.

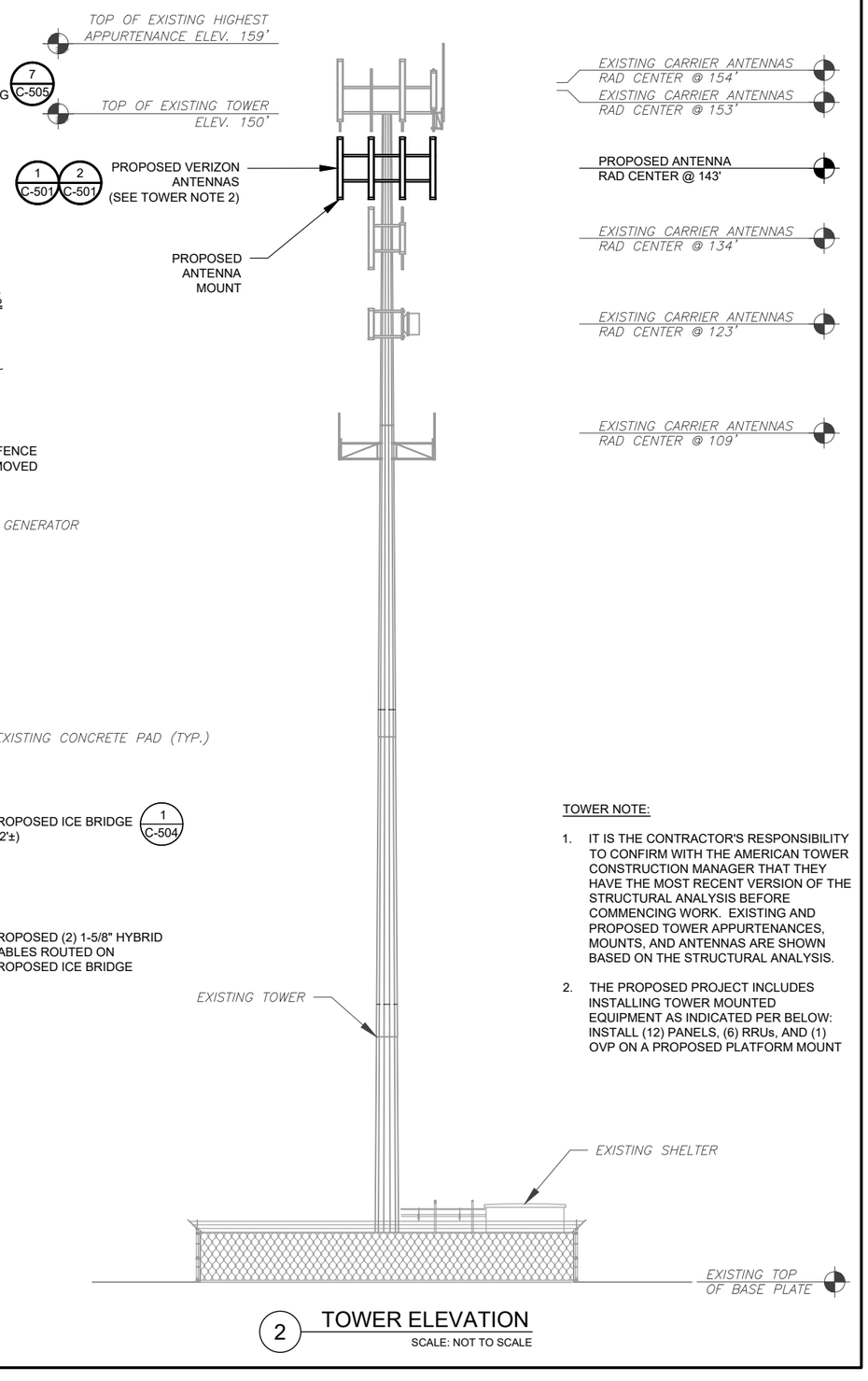


1 DETAILED SITE PLAN

0 10' 20'

SCALE: 1"=10' (11X17)
1"=5' (22X34)

PER MOUNT ANALYSIS COMPLETED BY ATC, DATED 01/31/20, THE EXISTING MOUNT CAN ADEQUATELY SUPPORT THE PROPOSED LOADING



TOWER NOTE:

1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONFIRM WITH THE AMERICAN TOWER CONSTRUCTION MANAGER THAT THEY HAVE THE MOST RECENT VERSION OF THE STRUCTURAL ANALYSIS BEFORE COMMENCING WORK. EXISTING AND PROPOSED TOWER APPURTENANCES, MOUNTS, AND ANTENNAS ARE SHOWN BASED ON THE STRUCTURAL ANALYSIS.

2. THE PROPOSED PROJECT INCLUDES INSTALLING TOWER MOUNTED EQUIPMENT AS INDICATED PER BELOW: INSTALL (12) PANELS, (6) RRUs, AND (1) OVP ON A PROPOSED PLATFORM MOUNT

2 TOWER ELEVATION

SCALE: NOT TO SCALE

AMERICAN TOWER®
A.T. ENGINEERING SERVICE, PLLC
3500 REGENCY PARKWAY
SUITE 100
CARY, NC 27518
PHONE: (919) 468-0112
COA: PEC.0001553

REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	EB	08/27/19
2	REV CABLE LOADING	EB	12/13/19
3	MOUNT ANALYSIS	EB	02/03/20

ATC SITE NUMBER:
302475

ATC SITE NAME:
STTN SOUTHINGTON

SITE ADDRESS:
80 SHUTTLE MEADOW RD
SOUTHINGTON, CT 06489

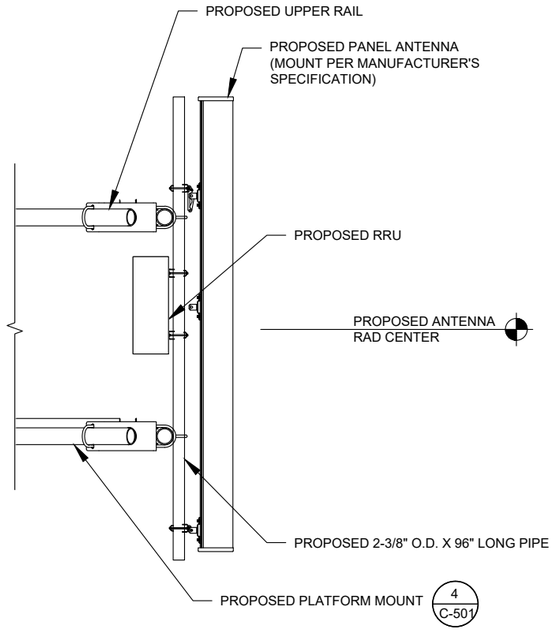
SEAL:

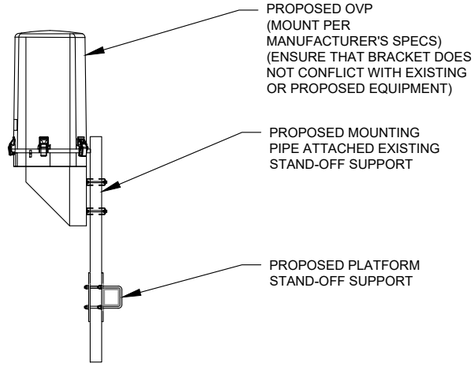
verizon

DRAWN BY:	EB
APPROVED BY:	PPB
DATE DRAWN:	08/27/19
ATC JOB NO:	12978549
VERIZON ID:	SOUTHINGTON 3 CT - A
VERIZON #:	468851

DETAILED SITE PLAN & TOWER ELEVATION

SHEET NUMBER:	REVISION:
C-101	3

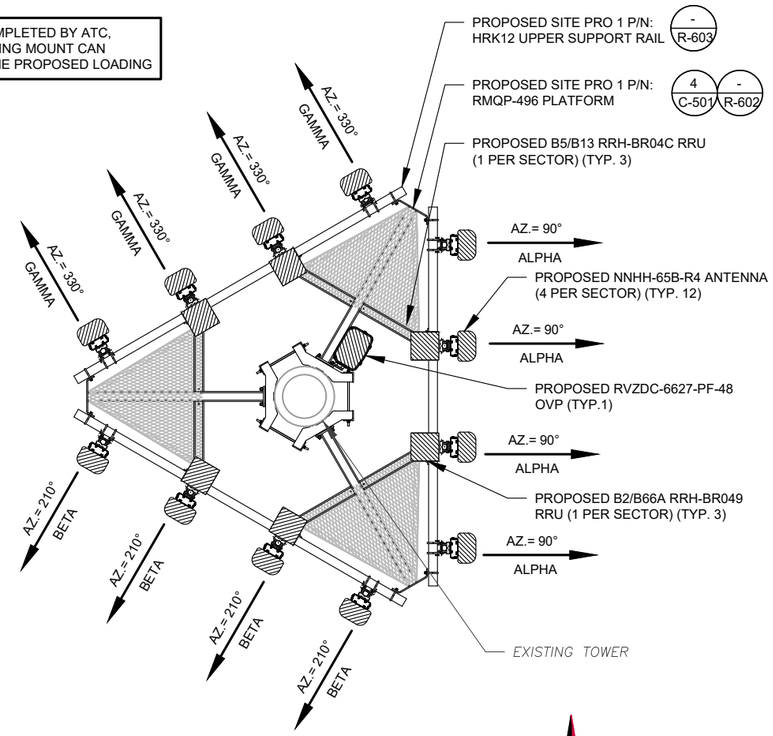




1 PROPOSED ANTENNA AND OVP MOUNTING DETAILS (ELEVATION)

SCALE: NOT TO SCALE

PER MOUNT ANALYSIS COMPLETED BY ATC, DATED 01/31/20, THE EXISTING MOUNT CAN ADEQUATELY SUPPORT THE PROPOSED LOADING



2 PROPOSED ANTENNA PLAN

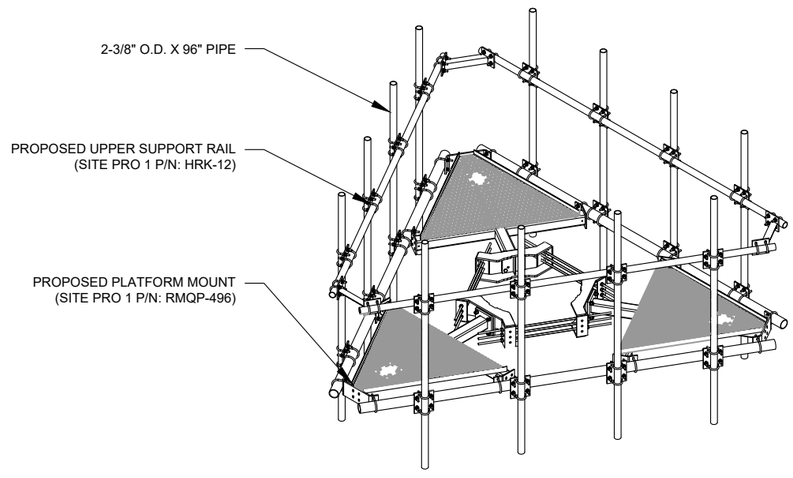
NOTES:

1. ALL PROPOSED EQUIPMENT INCLUDING ANTENNAS, COAX, ETC. SHALL BE MOUNTED IN ACCORDANCE WITH THE TOWER STRUCTURAL ANALYSIS ON FILE WITH THE ATC CM.
2. SPACING OF PROPOSED EQUIPMENT SHALL BE CONFIRMED FOR TOWER CONFLICTS AND PROPOSED MOUNTS SHALL NOT IMPEDE TOWER CLIMBING PEGS.

FINAL ANTENNA/ COAX SCHEDULE							
SECTOR	ANT.	PANEL MODEL #	RAD CENTER	AZIMUTH (TN)	MECH. D-TILT	ELEC. D-TILT	ADDITIONAL TOWER MOUNTED EQUIPMENT	ANTENNA HYBRID DESCRIPTION
ALPHA	A1	NNHH-65B-R4	143'-0"	90°	0°	2°	-	(2) 1-5/8" HYBRID CABLE (255'±)
ALPHA	A2	NNHH-65B-R4	143'-0"	90°	0°	2°	B2/B66A RRH-BR049	
ALPHA	A3	NNHH-65B-R4	143'-0"	90°	0°	2°	B5/B13 RRH-BR04C	
ALPHA	A4	NNHH-65B-R4	143'-0"	90°	0°	2°	-	
BETA	B1	NNHH-65B-R4	143'-0"	210°	0°	2°	-	
BETA	B2	NNHH-65B-R4	143'-0"	210°	0°	2°	B2/B66A RRH-BR049	
BETA	B3	NNHH-65B-R4	143'-0"	210°	0°	2°	B5/B13 RRH-BR04C	
BETA	B4	NNHH-65B-R4	143'-0"	210°	0°	2°	-	
GAMMA	C1	NNHH-65B-R4	143'-0"	330°	0°	2°	-	
GAMMA	C2	NNHH-65B-R4	143'-0"	330°	0°	2°	B2/B66A RRH-BR049	
GAMMA	C3	NNHH-65B-R4	143'-0"	330°	0°	2°	B5/B13 RRH-BR04C	
GAMMA	C4	NNHH-65B-R4	143'-0"	330°	0°	2°	-	

1. BASED ON APPROVED ATC APPLICATION 12978549, DATED 08/02/2019. CONFIRM WITH VERIZON REP FOR APPLICABLE UPDATES/REVISIONS AND MOST RECENT RFDS.
2. PROPOSED (1) RVZDC-6627-PF-48 OVP

3 ANTENNA SCHEDULE



4 ISOMETRIC MOUNT DETAIL

SCALE: NOT TO SCALE

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A.T. ENGINEERING SERVICE, PLLC
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SUITE 100
CARY, NC 27518
PHONE: (919) 468-0112
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REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	EB	08/27/19
2	REV CABLE LOADING	EB	12/13/19
3	MOUNT ANALYSIS	EB	02/03/20

ATC SITE NUMBER:
302475

ATC SITE NAME:
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SITE ADDRESS:
80 SHUTTLE MEADOW RD
SOUTHINGTON, CT 06489

SEAL:

verizon

DRAWN BY:	EB
APPROVED BY:	PPB
DATE DRAWN:	08/27/19
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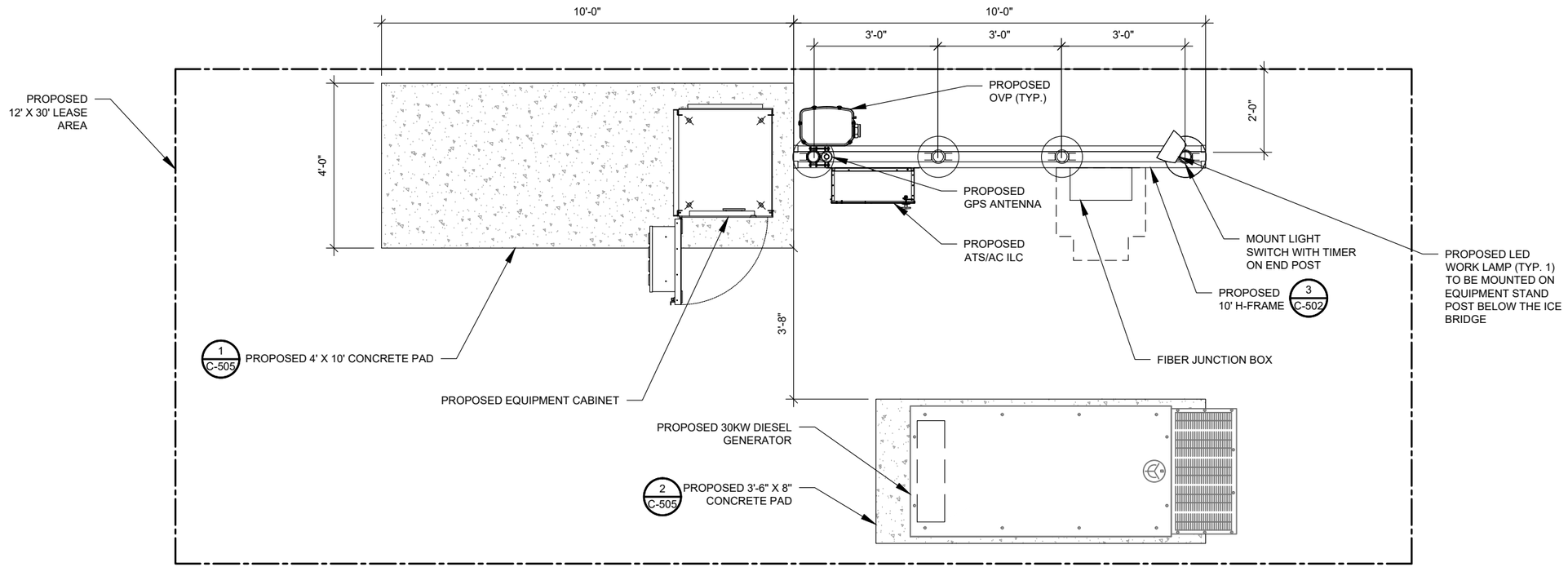
VERIZON ID:	SOUTHINGTON 3 CT - A
VERIZON #:	468851

ANTENNA INFORMATION & SCHEDULE

SHEET NUMBER:	REVISION:
C-501	3



1 DETAILED EQUIPMENT LAYOUT

SCALE: NOT TO SCALE

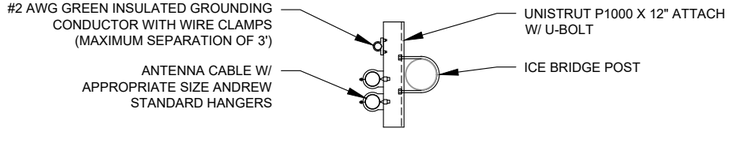
VERIZON WIRELESS PROVIDED EQUIPMENT

- CHARLES INDUSTRIES CUBE-SS4B231PX2 EQUIPMENT WITH BATTERY CHARGER
- RAYCAP OVP-12 (RCMDC-6627-PF-48)

CONTRACTOR PROVIDED EQUIPMENT

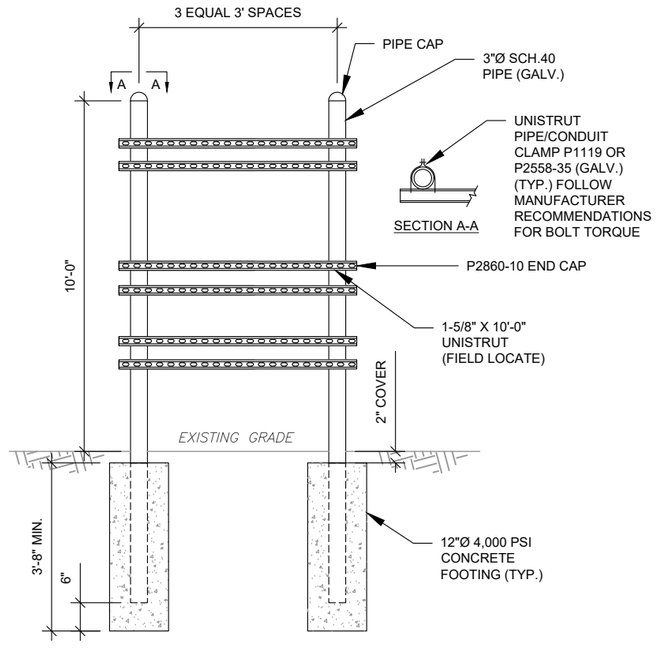
* THIS IS NOT A COMPREHENSIVE LIST. IT SHOULD BE ASSUMED BY THE CONTRACTOR THAT ALL OTHER ITEMS DETAILED IN THIS SET OF DRAWINGS SHALL BE PROVIDED BY THE CONTRACTOR.

- 18"X18" FIBER JUNCTION BOX, NEMA 3R CABINET ENCLOSURE WITH WOODEN BACKBOARD, PADLOCK LATCH, AND COMBINATION LOCK (USE FOR DARK FIBER)
- 26.2" WIDE X 78" TALL X 12.3" DEEP ASCO D300L SERIES POWER TRANSFER LOAD CENTER MODEL AA300G-1PH-N-3R INTEGRATED LOAD CENTER "ILC" WITH COMBINATION PAD LOCK.
- 22" WIDE X 26" TALL X 20" DEEP CHARLES INDUSTRIES CUBE-RL1003C-1 WITH HEAT EXCHANGER (120V) WITH TRIPP-LITE UPS PART #SM1200RMXL2UTAA INSIDE (ONLY REQUIRED WHEN VZT PROVIDES LIT FIBER. UTILITY COORDINATOR MUST VERIFY IF NEEDED)
- COORDINATE ADDITIONAL ENTRY GATE LOCK(S) WITH CONSTRUCTION MANAGER



2 WAVEGUIDE UNISTRUT

SCALE: NOT TO SCALE



3 TYPICAL H-FRAME AND ICE BRIDGE POST DETAIL

SCALE: NOT TO SCALE

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A.T. ENGINEERING SERVICE, PLLC
3500 REGENCY PARKWAY
SUITE 100
CARY, NC 27518
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COA: PEC.0001553

REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	EB	08/27/19

ATC SITE NUMBER:

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ATC SITE NAME:

STTN SOUTHINGTON

SITE ADDRESS:
80 SHUTTLE MEADOW RD
SOUTHINGTON, CT 06489

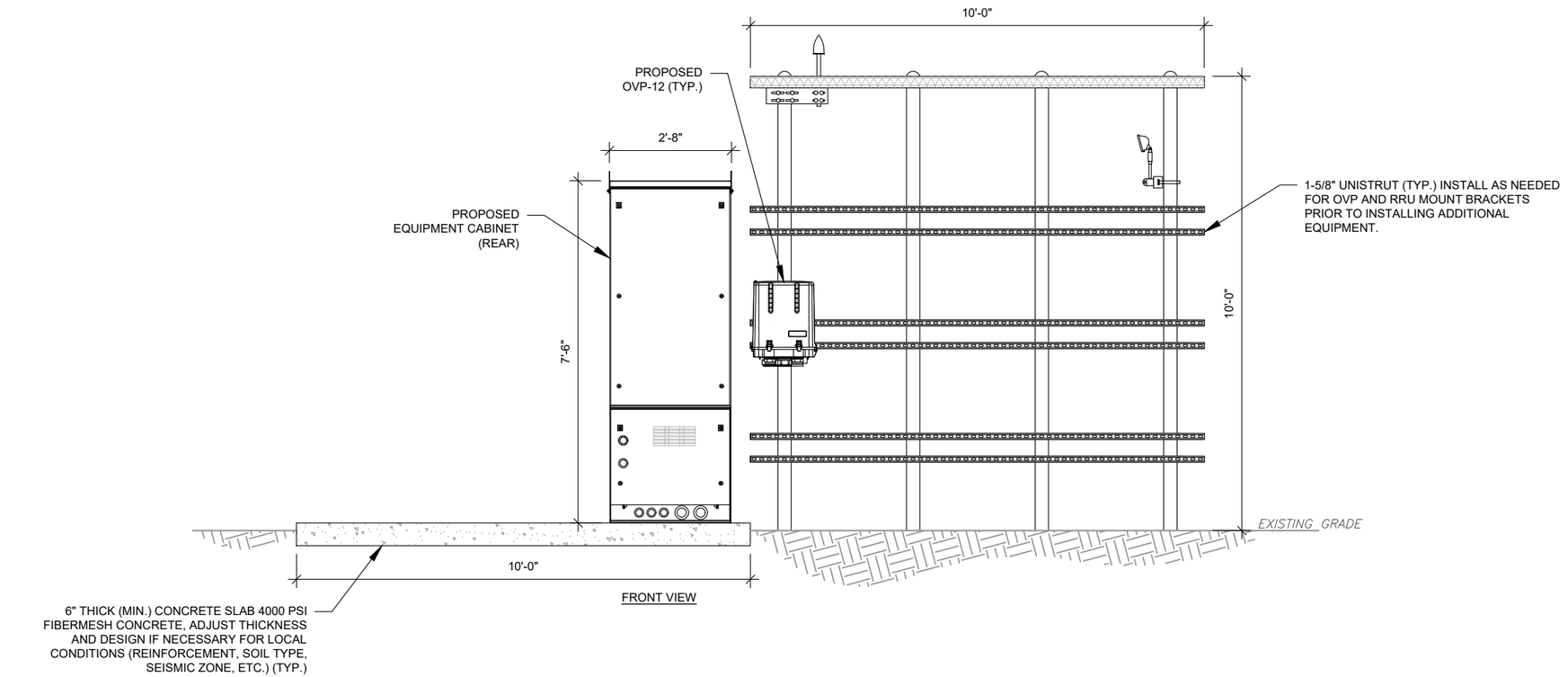
SEAL:

verizon

DRAWN BY:	EB
APPROVED BY:	PPB
DATE DRAWN:	08/27/19
ATC JOB NO:	12978549
VERIZON ID:	SOUTHINGTON 3 CT - A
VERIZON #:	468851

CONSTRUCTION DETAILS

SHEET NUMBER:	REVISION:
C-502	0



NOTE:
1. INTERCONNECTING CONDUITS SHALL BE INSTALLED AT OR ABOVE GRADE.
2. BOTTOM OF OVP'S SHALL NOT EXCEED 36" ABOVE FINISHED GRADE.

1 DETAILED H-FRAME LAYOUT

SCALE: NOT TO SCALE

AMERICAN TOWER®
A.T. ENGINEERING SERVICE, PLLC
3500 REGENCY PARKWAY
SUITE 100
CARY, NC 27518
PHONE: (919) 468-0112
COA: PEC.0001553

REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	EB	08/27/19

ATC SITE NUMBER:
302475

ATC SITE NAME:
STTN SOUTHINGTON

SITE ADDRESS:
80 SHUTTLE MEADOW RD
SOUTHINGTON, CT 06489

SEAL:

verizon

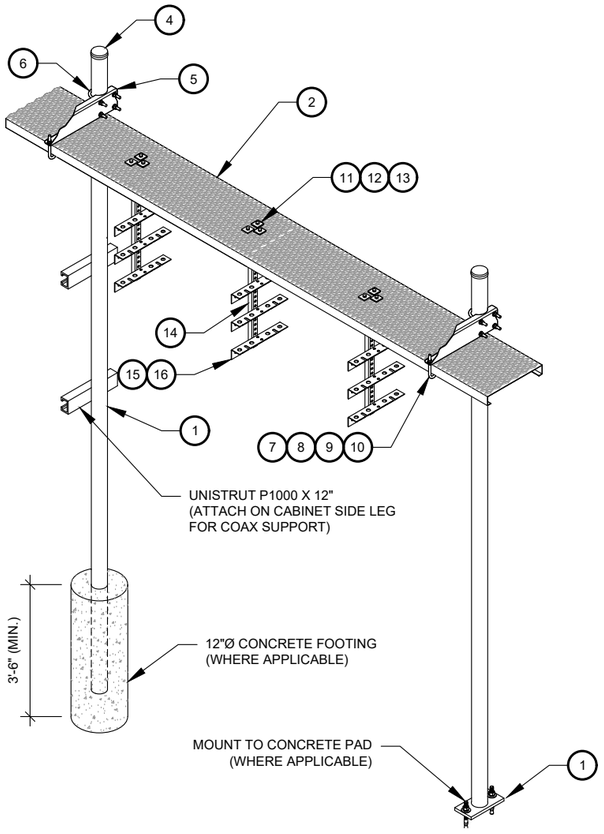
DRAWN BY:	EB
APPROVED BY:	PPB
DATE DRAWN:	08/27/19
ATC JOB NO:	12978549
VERIZON ID:	SOUTHINGTON 3 CT - A
VERIZON #:	468851

CONSTRUCTION DETAILS

SHEET NUMBER:	REVISION:
C-503	0

CONSTRUCTION NOTE:

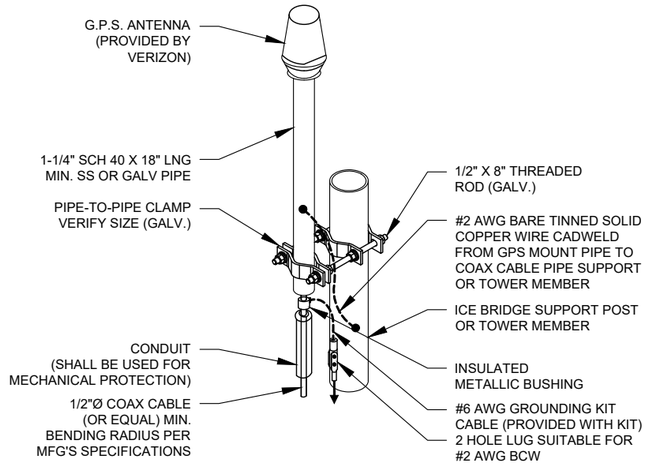
1. INSTALL ICE BRIDGE TO ALLOW 7 FEET CLEARANCE ABOVE GRADE TO LOWEST APPURTENANCE.



WB-K210-B WAVEGUIDE BRIDGE KIT - BILL OF MATERIALS (INCLUDED WITH KIT UNLESS NOTED OTHERWISE)					
ITEM	PART NUMBER	DESCRIPTION	ITEM	PART NUMBER	DESCRIPTION
1	MF126.01 MF-130	10'-4" COLUMN & BASE SHOE* 13'-4" PIPE COLUMN	9	GWL-04	1/2" GALV LOCK WASHER
2	WB-CY210	SAFETY GRATING 24" X 10'	10	GN-04	1/2" GALV HEX NUT
3	WBK110BHK	HARDWARE KIT (ITEMS 4-16)	11	GB-03205	3/8" X 2" GALV BOLT KIT
4	PC-034	PIPE CAP 3-1/2"	12	MT-387	SQUARE WASHER, 1-1/2" X 1-1/2" W/ 7/16" HOLE
5	WBLB243.08	24" WAVEGUIDE BRIDGE SUPPORT BRACKET	13	GWF-03	3/8" GALV FLAT WASHER
6	GUB-4356	1/2" X 3-5/8" X 6" GALV U-BOLT	14	WBT243.01	VERTICAL TRAPEZE SECTION
7	WB-JB-6	1/2" J-BOLT	15	GB-03105	3/8" X 1" GALV BOLT KIT
8	GWF-04	1/2" GALV FLAT WASHER	16	WBT243.02	HORIZONTAL TRAPEZE SECTION
CONTRACTOR SHALL USE PARTS MANUFACTURED BY COMMSCOPE OR APPROVED EQUIVALENT. *BASE SHOE NOT INCLUDED IN WB-K210-B KIT, ORDER COLUMN SEPARATELY OR KIT WB-K210-S.					

1 WAVEGUIDE BRIDGE KIT

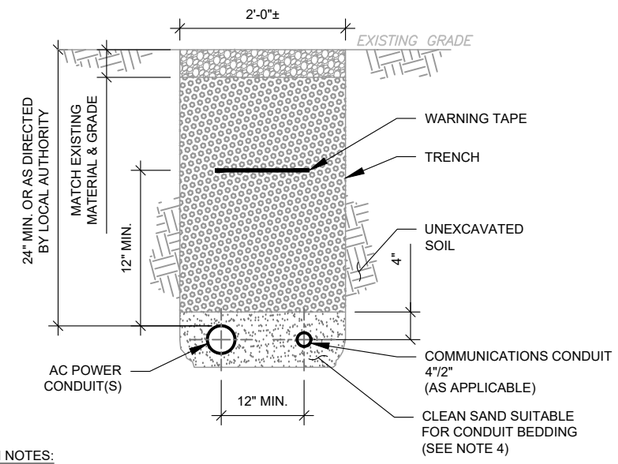
SCALE: NOT TO SCALE



NOTE:
1. GPS SHALL BE PLACED WITH CLEAR SIGHT LINE TO THE SOUTHERN SKY.
2. CONTRACTOR TO SUPPLY COAX FOR GPS UNIT.

2 GPS ANTENNA ATTACHMENT DETAIL

SCALE: NOT TO SCALE



TRENCH NOTES:

1. IF FREE OF ORGANIC OR OTHER DELETERIOUS MATERIAL, EXCAVATED MATERIAL MAY BE USED FOR BACKFILL. IF NOT, PROVIDE CLEAN, COMPACTIBLE MATERIAL.
2. COMPACT IN 8" LIFTS. REMOVE ANY LARGE ROCKS PRIOR TO BACKFILLING. CONTRACTOR TO VERIFY LOCATION OF EXISTING U/G UTILITIES PRIOR TO DIGGING.
3. IF CURRENT AS-BUILT DRAWINGS ARE NOT AVAILABLE CONTRACTOR SHALL HAND DIG U/G TRENCHING.
4. USE COMMUNICATIONS ONLY TRENCH FOR COMMUNICATIONS CONDUIT UNLESS TRAVELING UNDER PATH OF VEHICLE TRAVEL, THEN CONDUIT MUST BE 24" MIN. BELOW GRADE.
5. CONFIRM SPACING AND DEPTH WITH NEC OR LOCAL CODE REQUIREMENTS

3 POWER/TELCO CONDUIT TRENCH DETAILS

SCALE: N.T.S.

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REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	EB	08/27/19

ATC SITE NUMBER:
302475

ATC SITE NAME:
STTN SOUTHINGTON

SITE ADDRESS:
80 SHUTTLE MEADOW RD
SOUTHINGTON, CT 06489

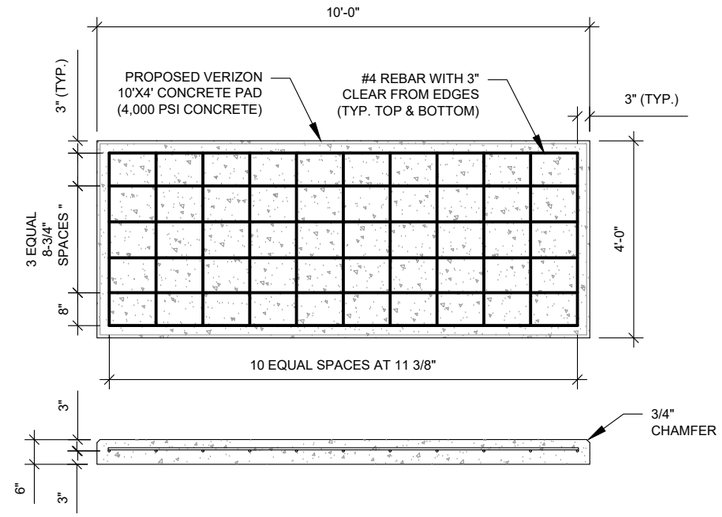
SEAL:

verizon

DRAWN BY:	EB
APPROVED BY:	PPB
DATE DRAWN:	08/27/19
ATC JOB NO:	12978549
VERIZON ID:	SOUTHINGTON 3 CT - A
VERIZON #:	468851

CONSTRUCTION DETAILS

SHEET NUMBER:	REVISION:
C-504	0

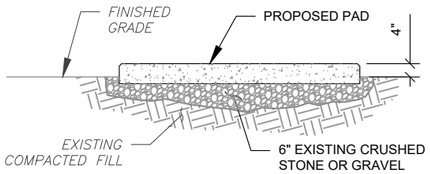


PAD NOTES:

1. PADS SHALL BE PRE-CAST MATCHING THIS DESIGN WHERE ALLOWED BY LOCAL JURISDICTION.
2. REFER TO CONCRETE & REINFORCED STEEL NOTES ON SHEET G-002 & ATC SPEC 033000 FOR CAST-IN-PLACE PADS.

1 CONCRETE EQUIPMENT PAD DESIGN

SCALE: N.T.S.

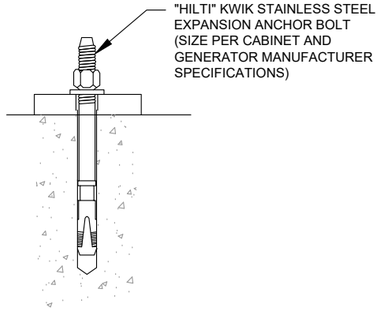


PAD NOTES:

1. SUBGRADE AND FILL SHALL CONSIST OF CLEAN SOIL. DELETRIOUS MATERIAL AND ORGANICS SHALL BE REMOVED.
2. MECHANICALLY COMPACT FOOTPRINT OF PAD PLUS 2' PERIMETER.
3. USE GALVANIZED HILTI EXPANSION ANCHORS OR, APPROVED EQUAL, FOR EQUIPMENT ANCHORAGE.
4. FOR SIZE AND LOCATION OF ANCHORS AND OTHER REQUIREMENT, SEE EQUIPMENT VENDOR DRAWINGS.

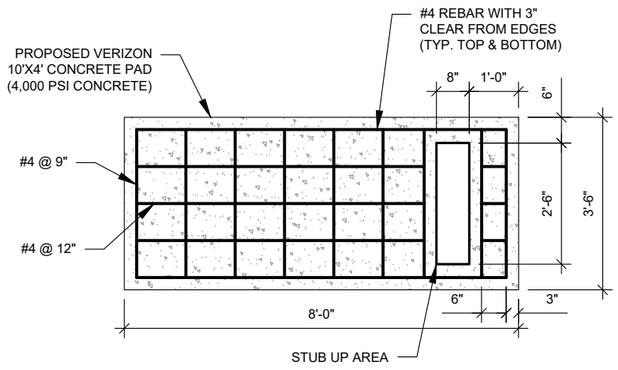
4 GRAVEL PREPARATION

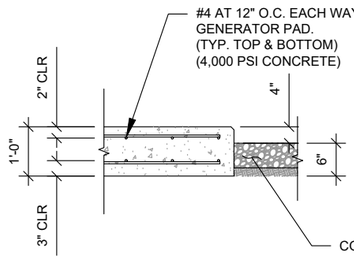
SCALE: NOT TO SCALE



5 EXPANSION ANCHOR DETAIL

SCALE: N.T.S.

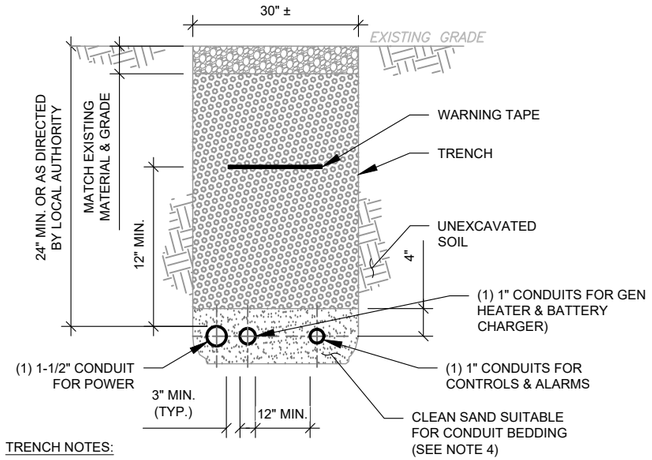




NOTE:
THIS DESIGN ASSUMES A 2000 PSF SOIL BEARING PRESSURE

2 CONCRETE GENERATOR PAD DESIGN

SCALE: N.T.S.

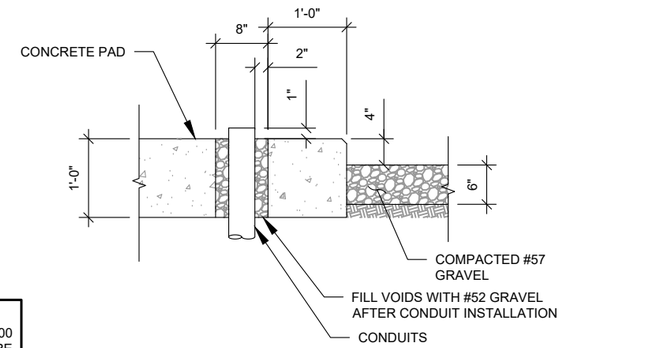


TRENCH NOTES:

1. IF FREE OF ORGANIC OR OTHER DELETERIOUS MATERIAL, EXCAVATED MATERIAL MAY BE USED FOR BACKFILL. IF NOT, PROVIDE CLEAN, COMPACTIBLE MATERIAL.
2. COMPACT IN 8" LIFTS. REMOVE ANY LARGE ROCKS PRIOR TO BACKFILLING. CONTRACTOR TO VERIFY LOCATION OF EXISTING U/G UTILITIES PRIOR TO DIGGING.
3. IF CURRENT AS-BUILT DRAWINGS ARE NOT AVAILABLE CONTRACTOR SHALL HAND DIG U/G TRENCHING.
4. USE COMMUNICATIONS ONLY TRENCH FOR COMMUNICATIONS CONDUIT UNLESS TRAVELING UNDER PATH OF VEHICLE TRAVEL, THEN CONDUIT MUST BE 24" MIN. BELOW GRADE.
5. CONFIRM SPACING AND DEPTH WITH NEC OR LOCAL CODE REQUIREMENTS

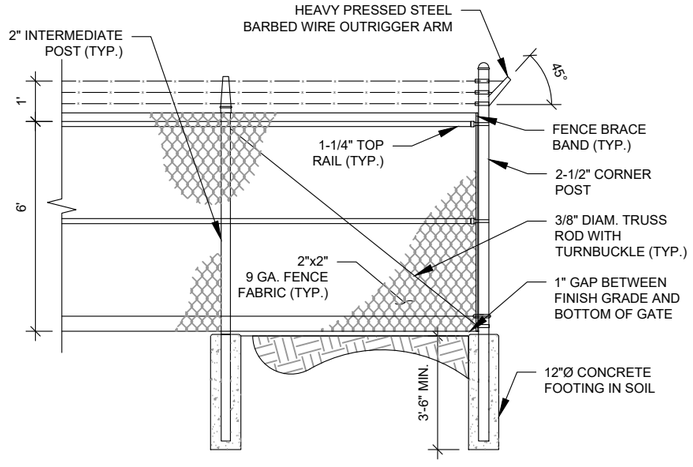
6 GENERATOR CONDUIT TRENCH DETAILS

SCALE: N.T.S.



3 GENERATOR CONDUIT STUB UP DETAIL

SCALE: N.T.S.



FENCE NOTES:

1. ATTACH EACH GATE WITH 1-1/2 PAIR OF NON-LIFT-OFF TYPE, MALLEABLE IRON OR FORGING, PIN-TYPE HINGES. ASSEMBLIES SHALL ALLOW FOR 180° OF GATE TRAVEL. TACK WELD GATE HINGE TO POST FOR SECURITY.
2. POSTS NOT TO EXCEED A MAXIMUM SEPARATION OF 10 FEET.

AMERICAN TOWER MASTER SPECIFICATION:

1. DIVISION 32 EXTERIOR IMPROVEMENTS SECTION 0323113 FOR CHAIN LINK FENCE AND GATES

7 FENCE DETAIL

SCALE: N.T.S.

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VERIZON #:	468851

CONSTRUCTION DETAILS

SHEET NUMBER:	REVISION:
C-505	0

CONDUIT KEYED NOTES:

FIBER CONDUITS

1. (1) 2" SCH. 40 PVC CONDUIT WITH MULE TAPE FROM TELCO BOX TO THE EQUIPMENT CABINET.
2. (1) 1-1/2" LFMC FOR FIBER & ALARM FROM EQUIPMENT CABINET TO OVP

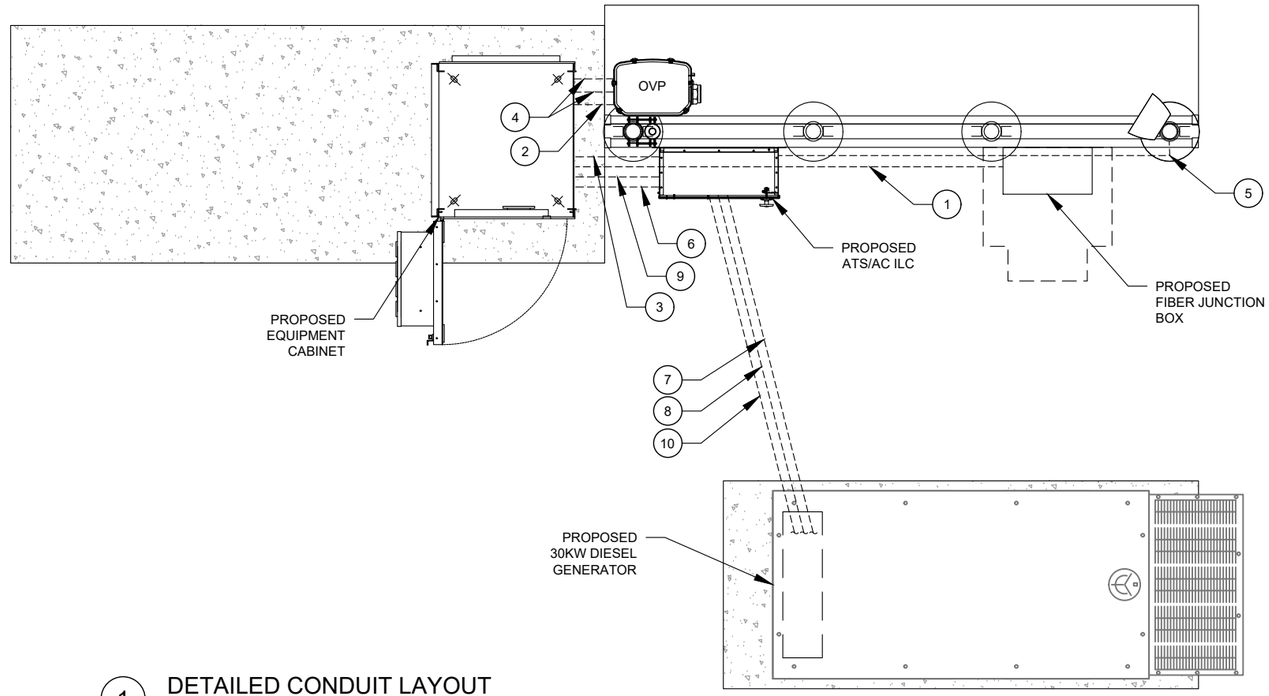
AC POWER CONDUITS

3. (1) 1-1/2" CONDUIT WITH (8) #10 & (1) #10 G FROM THE ILC TO THE EQUIPMENT CABINET FOR (4) 30 AMP 2-POLE CIRCUITS.
4. (1) 1-1/2" LFMC WITH (12) #6 (6 PAIRS) & (1) # 6 G FROM EQUIPMENT CABINET TO OVP.
5. (1) 1" CONDUIT WITH (2) #12 & (1) #12 G FROM ILC TO GFI RECEPTACLE/LIGHT.
6. (1) 1-1/2" CONDUIT WITH PULLSTRING FOR FUTURE RECTIFIER CIRCUITS FROM EQUIPMENT CABINET TO ILC.
7. (1) 1-1/2" CONDUIT WITH (3) #1/0 & (1) #6 G FROM THE ILC TO THE GENERATOR.
8. (1) 1" CONDUIT WITH (4) #12 & (1) #12 G FROM ILC TO GENERATOR. (GEN HEATER & BATTERY CHARGER)

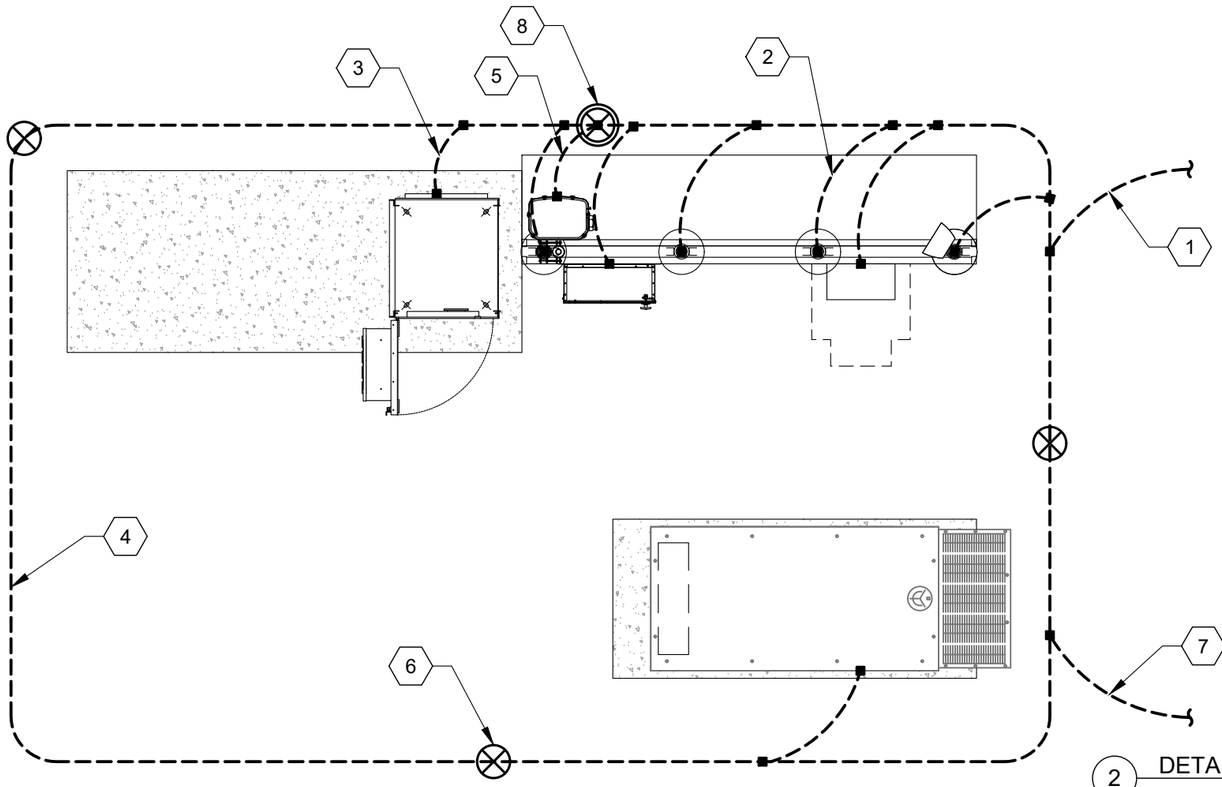
ALARM/MISCELLANEOUS CONDUITS

9. (1) 1" CONDUIT FROM ILC TO EQUIPMENT CABINET FOR ILC ALARMS.
10. (1) 1" CONDUIT FROM ILC TO GENERATOR FOR GEN CONTROLS & ALARMS.

NOTE:
BELOW GRADE CONDUIT SHALL BE SCHEDULE 80 PVC. ABOVE GRADE CONDUIT SHALL BE GALVANIZED RIGID CONDUIT. BELOW GRADE PVC CONDUIT SHALL TRANSITION TO GRC PRIOR TO RISING ABOVE GRADE. ALL BENDS SHALL HAVE MINIMUM 24" RADIUS. ALL FITTINGS SHALL BE SUITABLE FOR USE WITH THREADED RIGID CONDUIT. VERIFY CONDUIT TYPE WITH LOCAL CONSTRUCTION MANAGER AND ADJUST AS NECESSARY. ALL CONDUIT SHALL MEET NEC, STATE, AND LOCAL CODE REQUIREMENTS AS REQUIRED.



1 DETAILED CONDUIT LAYOUT
SCALE: NOT TO SCALE



GROUNDING KEYED NOTES:

1. BOND TO TOWER GROUND RING
2. #2 AWG BOND FROM VERTICAL H-FRAME AND ICE BRIDGE POST TO EXTERNAL GROUND RING (TYP. EVERY POST).
3. EQUIPMENT BOND TO GROUND RING (TYP.).
4. #2 GROUND RING
5. GROUNDING ELECTRODE CONDUCTOR PER NEC
6. GROUNDING ELECTRODE (TYP.)
7. BOND TO COMPOUND GROUND RING
8. GROUNDING ELECTRODE WITH TEST WELL

2 DETAILED GROUNDING LAYOUT
SCALE: NOT TO SCALE

AMERICAN TOWER®
A.T. ENGINEERING SERVICE, PLLC
3500 REGENCY PARKWAY
SUITE 100
CARY, NC 27518
PHONE: (919) 468-0112
COA: PEC.0001553

REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	EB	08/27/19

ATC SITE NUMBER:
302475

ATC SITE NAME:
STTN SOUTHINGTON

SITE ADDRESS:
80 SHUTTLE MEADOW RD
SOUTHINGTON, CT 06489

SEAL:

verizon

DRAWN BY:	EB
APPROVED BY:	PPB
DATE DRAWN:	08/27/19
ATC JOB NO:	12978549
VERIZON ID:	SOUTHINGTON 3 CT - A
VERIZON #:	468851

GROUNDING PLAN AND SCHEMATIC

SHEET NUMBER:	REVISION:
E-101	0

PANEL DESIGNATION: ***VZW***

TYPE: LIGHTING & APPLIANCE
MOUNTING: SURFACE
ENCLOSURE: NEMA 3R

SYSTEM: 120/240V, 3W, 30 CKT
MAIN BREAKER (MB): MLO
MAIN BUS RATING: 200A
MIN. A.I.C. RATING: 65K

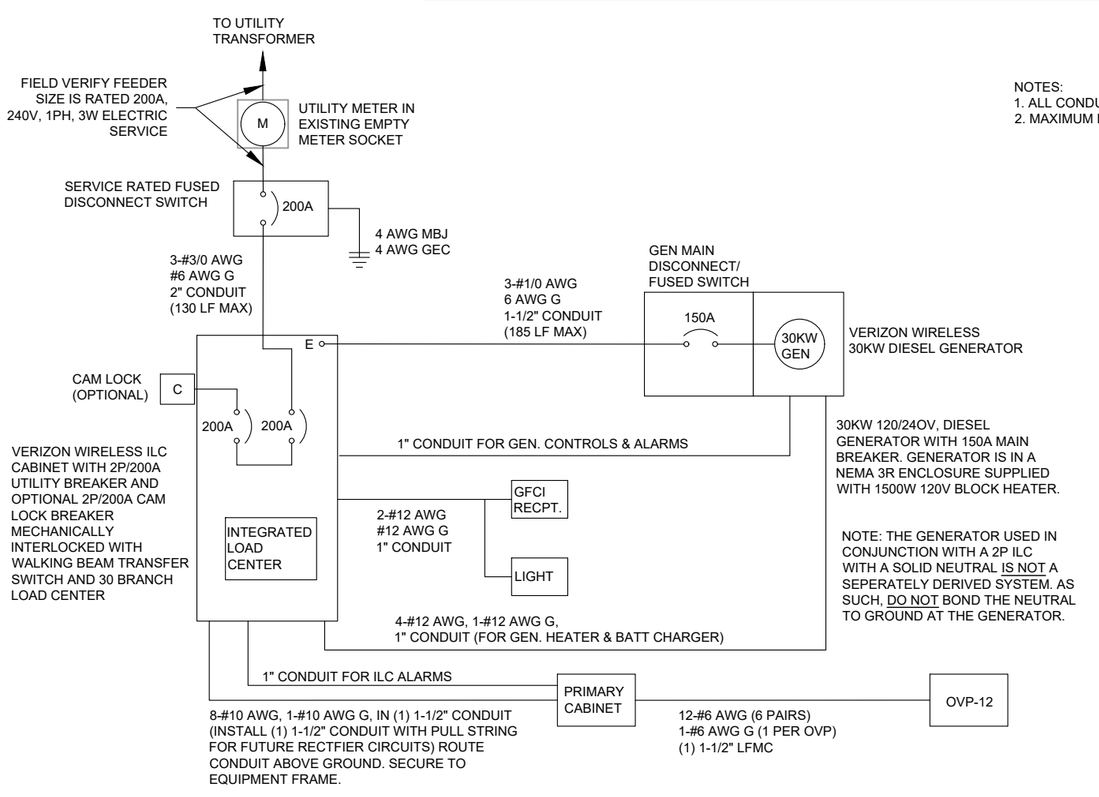
LOCATION: VZW LEASE AREA
PANEL NOTES: ASCO D300L SERIES

CONNECTED LOAD (kVA)		BRIEF DESCRIPTION	FEEDER OR BRANCH CIRCUIT BREAKER		POLE NO.	CIRC NOTES		CIRC NOTES	POLE NO.	FEEDER OR BRANCH CIRCUIT BREAKER		BRIEF DESCRIPTION	CONNECTED LOAD (kVA)	
A	B		AMPS	POLES						POLES	AMPS		A	B
2.88		RECTIFIER	30	2	1				2			SPACE	0.00	
	2.88				3				4			SPACE		0.00
2.88		RECTIFIER	30	2	5				6			SPACE	0.00	
	2.88				7				8			SPACE		0.00
2.88		RECTIFIER	30	2	9				10			SPACE	0.00	
	2.88				11				12			SPACE		0.00
2.88		RECTIFIER	30	2	13				14			SPACE	0.00	
	2.88				15				16			SPACE		0.00
0.68		GFI RECEPT / LIGHT	20	1	17				18			SPACE	0.00	
	1.92	GEN BLOCK HEATER	20	1	19				20			SPACE		0.00
1.92		BATTERY CHARGER	20	1	21				22			SPACE	0.00	
	0.00	SPACE			23				24			SPACE		0.00
0.00		SPACE			25				26			SPACE	0.00	
	0.00	SPACE			27				28			SPACE		0.00
0.00		SPACE			29				30			SPACE	0.00	
14.1	13.4					**A**	**B**	**TOTAL**					0.0	0.0
						14.1	13.4	27.6	CONNECTED LOAD (kVA)					
						14.1	13.4	27.6	DEMAND LOAD (kVA)					

DERATING FACTOR (80%)
DEMANDLOAD SIZING: 147 AMPS

PANEL SCHEDULE

NOTES:
1. ALL CONDUCTORS ARE TYPE THWN (75°C) COPPER.
2. MAXIMUM LENGTH OF RUN FOR RECTIFIER CIRCUITS IS 50 FT.



ELECTRICAL SINGLE LINE DIAGRAM

NOTES:
1. ALL EQUIPMENT SHALL BE NEMA 3R RATED.
2. ALL EQUIPMENT SHALL BE GROUNDED IN ACCORDANCE WITH TIA-222-G AND VERIZON WIRELESS STANDARDS.
3. CONDUCTOR SIZES AND DISTANCES HAVE BEEN SIZED FOR 3% MAX VOLTAGE DROP. (TOTAL SYSTEM VOLTAGE DROP ON BOTH FEEDERS AND BRANCH CIRCUITS TO THE FARTHEST DEMAND SHALL NOT EXCEED 5%)
4. WIRE SIZING AND MAXIMUM DISTANCE FROM GENERATOR TO ILC ASSUMES POWER FACTOR OF 0.9.
5. BELOW GRADE PVC CONDUIT SHALL TRANSITION TO RMC PRIOR TO RISING ABOVE GRADE, ALL BENDS SHALL HAVE A MINIMUM 24" RADIUS. ALL FITTINGS SHALL BE SUITABLE FOR USE WITH THREADED RIGID CONDUIT. VERIFY CONDUIT TYPE WITH LOCAL CONSTRUCTION MANAGER AND ADJUST IF NECESSARY. ALL CONDUIT SHALL MEET NEC, STATE, AND LOCAL CODE REQUIREMENTS AS REQUIRED.

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PHONE: (919) 468-0112
COA: PEC.0001553

REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	EB	08/27/19

ATC SITE NUMBER:
302475

ATC SITE NAME:
STTN SOUTHINGTON

SITE ADDRESS:
80 SHUTTLE MEADOW RD
SOUTHINGTON, CT 06489

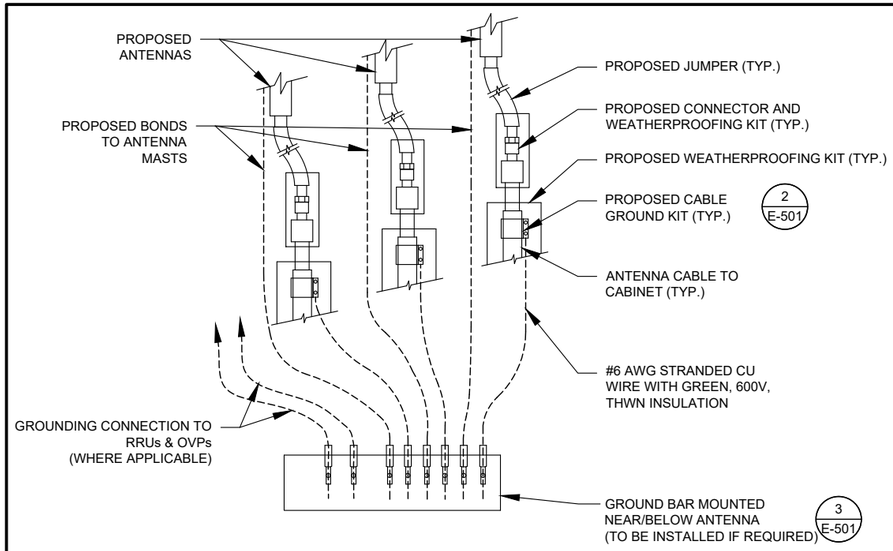
SEAL:

verizon

DRAWN BY:	EB
APPROVED BY:	PPB
DATE DRAWN:	08/27/19
ATC JOB NO:	12978549
VERIZON ID:	SOUTHINGTON 3 CT - A
VERIZON #:	468851

ONE-LINE & PANEL SCHEDULE

SHEET NUMBER: E-102
REVISION: 0

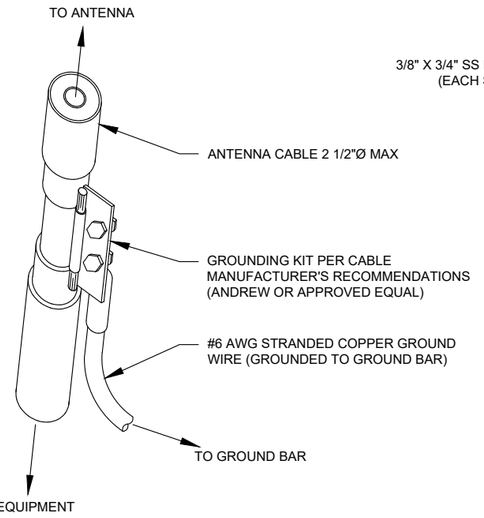


NOTES:

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

1 TYPICAL ANTENNA GROUNDING DIAGRAM

SCALE: NOT TO SCALE

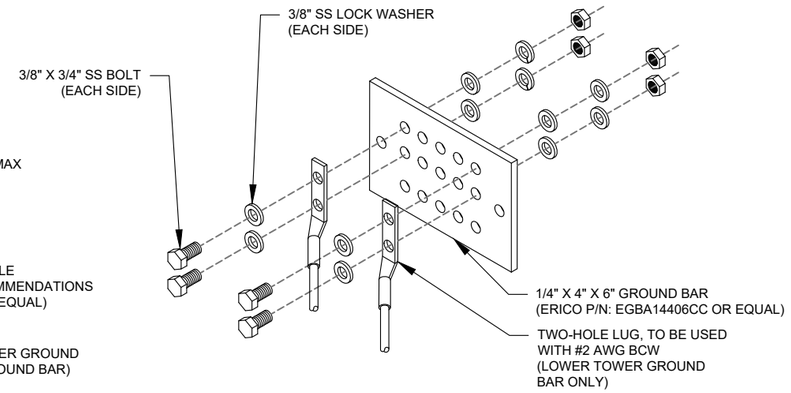


GROUND KIT NOTES:

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

2 CABLE GROUND KIT CONNECTION DETAIL

SCALE: NOT TO SCALE

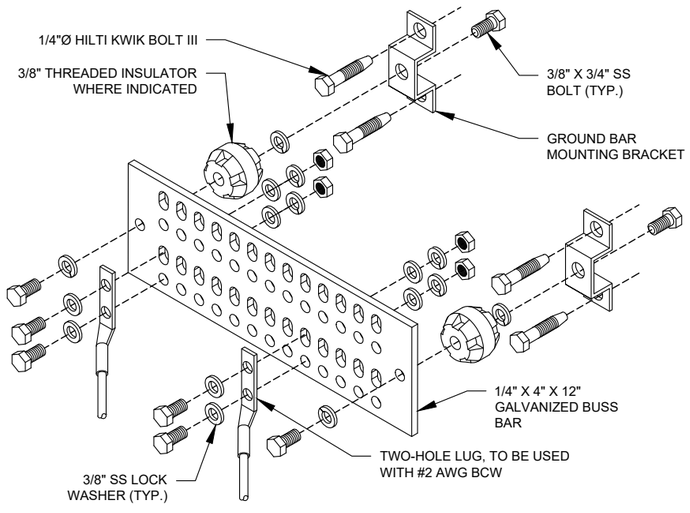


GROUND BAR NOTES:

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

3 TOWER GROUND BAR DETAIL

SCALE: NOT TO SCALE



GROUND BAR NOTES

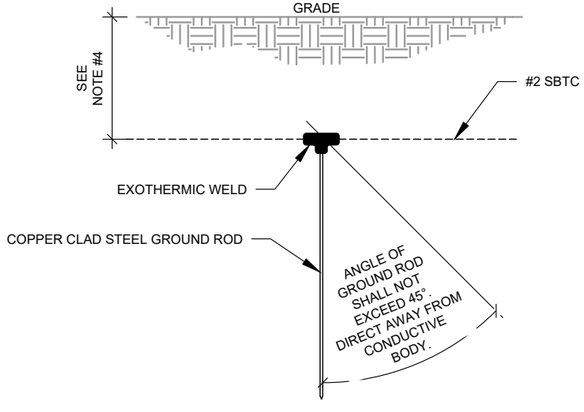
1. GROUND KITS COME WITH ALL HARDWARE, NUTS, BOLTS, WASHERS, ETC. EXCEPT THE STRUCTURAL MOUNTING MEMBER(S).
2. GROUND BAR SHALL BE BOLTED TO STRUCTURAL MEMBER OR ANCHORED TO CONCRETE SLAB W/ HILTI KWIK BOLT III.

4 MAIN GROUND BAR DETAIL

SCALE: NOT TO SCALE

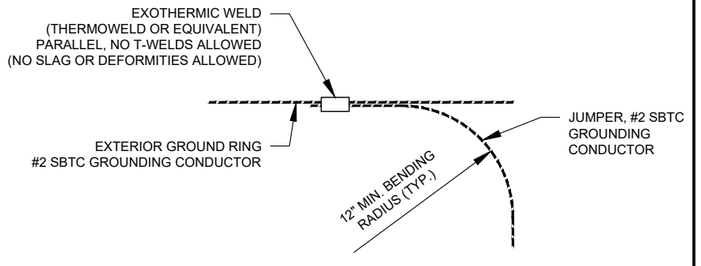
NOTES:

1. SEPARATION DIMENSION TO BE VERIFIED WITH LOCAL UTILITY COMPANY REQUIREMENTS.
2. COORDINATE UTILITY, LOCATE BEFORE DIGGING.
3. CONDUIT TRENCHING DEPTHS AT 36" OR 6" BELOW FROST LINE, WHICHEVER IS GREATER.
4. ALL RING AND RADIAL DEPTHS AT 30" OR 6" BELOW FROST LINE, WHICHEVER IS GREATER.



5 GROUND ROD DETAIL

SCALE: NOT TO SCALE



6 TIE CONNECTION DETAIL

SCALE: NOT TO SCALE

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A.T. ENGINEERING SERVICE, PLLC
3500 REGENCY PARKWAY
SUITE 100
CARY, NC 27518
PHONE: (919) 468-0112
COA: PEC.0001553

REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	EB	08/27/19

ATC SITE NUMBER:
302475

ATC SITE NAME:
STTN SOUTHINGTON

SITE ADDRESS:
80 SHUTTLE MEADOW RD
SOUTHINGTON, CT 06489

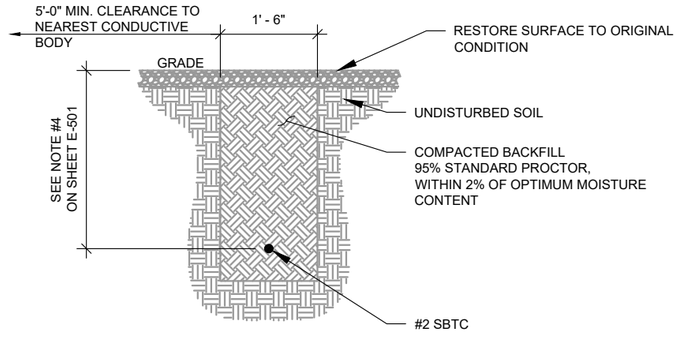
SEAL:

verizon

DRAWN BY:	EB
APPROVED BY:	PPB
DATE DRAWN:	08/27/19
ATC JOB NO:	12978549
VERIZON ID:	SOUTHINGTON 3 CT - A
VERIZON #:	468851

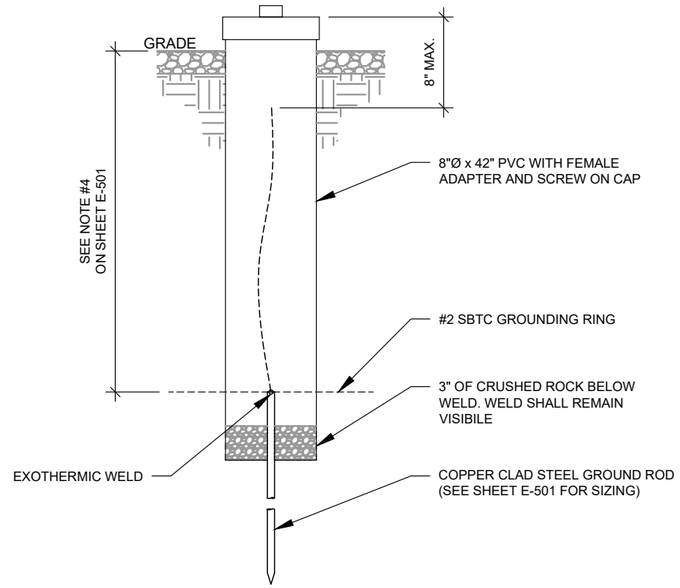
GROUNDING DETAILS

SHEET NUMBER:	REVISION:
E-501	0



1 GROUND CONNECTION TRENCH DETAIL (STD.)

SCALE: NOT TO SCALE



2 TEST WELL DETAIL

SCALE: NOT TO SCALE

AMERICAN TOWER®
A.T. ENGINEERING SERVICE, PLLC
3500 REGENCY PARKWAY
SUITE 100
CARY, NC 27518
PHONE: (919) 468-0112
COA: PEC.0001553

REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	EB	08/27/19

ATC SITE NUMBER:

302475

ATC SITE NAME:

STTN SOUTHINGTON

SITE ADDRESS:
80 SHUTTLE MEADOW RD
SOUTHINGTON, CT 06489

SEAL:

verizon

DRAWN BY:	EB
APPROVED BY:	PPB
DATE DRAWN:	08/27/19
ATC JOB NO:	12978549
VERIZON ID:	SOUTHINGTON 3 CT - A
VERIZON #:	468851

GROUNDING DETAILS

SHEET NUMBER:	REVISION:
E-502	0

AMERICAN TOWER®
CORPORATION

Antenna Mount Analysis Report

ATC Site Name	:	**Sttn - Southington, CT**
ATC Site Number	:	**302475**
Engineering Number	:	**12978549_C8_07**
Mount Elevation	:	**143 ft**
Carrier	:	**Verizon Wireless**
Carrier Site Name	:	**Southington**
Carrier Site Number	:	**2548199**
Site Location	:	**80 Shuttle Meadow Road** **Southington, CT 06489-1313** **41.63858, -72.8**
County	:	**Hartford**
Date	:	**January 31, 2020**
Max Usage	:	**87%**
Result	:	**Pass**

Prepared By:
Geneva Liljestrand
Structural Engineer I

Reviewed By:

STATE OF CONNECTICUT · ESHA KAUSHAL MODI · 32593 · LICENSED PROFESSIONAL ENGINEER

Authorized by "EOR"
31 Jan 2020 04:59:51 cosign

COA: PEC.0001553

Introduction

The purpose of this report is to summarize results of the antenna mount analysis performed for Verizon Wireless at 143 ft on a new Site Pro 1 RMQP-496 low profile platform and Site Pro 1 HRK12 handrail kit.

Supporting Documents

Spec. Sheet	Spec Sheet for Site Pro 1 RMQP-496 and HRK12
RFDS	RFDS dated August 6, 2019

Analysis

This antenna mount was analyzed using American Tower Corporation's Mount Analysis Program and RISA-3D v17

Basic Wind Speed:	97 mph (3-Second Gust, Vasd) / 125 mph (3-Second Gust, Vult)
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) w/ 1" radial ice concurrent
Codes:	ANSI/TIA-222-G / 2015 IBC / 2018 Connecticut State Building Code
Structure Class:	II
Exposure Category:	B
Topographic Category:	1
Crest Height:	0 ft
Spectral Response:	Ss = 0.18, S_1 = 0.06
Site Class:	D - Stiff Soil
Live Loads:	Lm = 500 lbs, Lv = 250 lbs

Conclusion

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

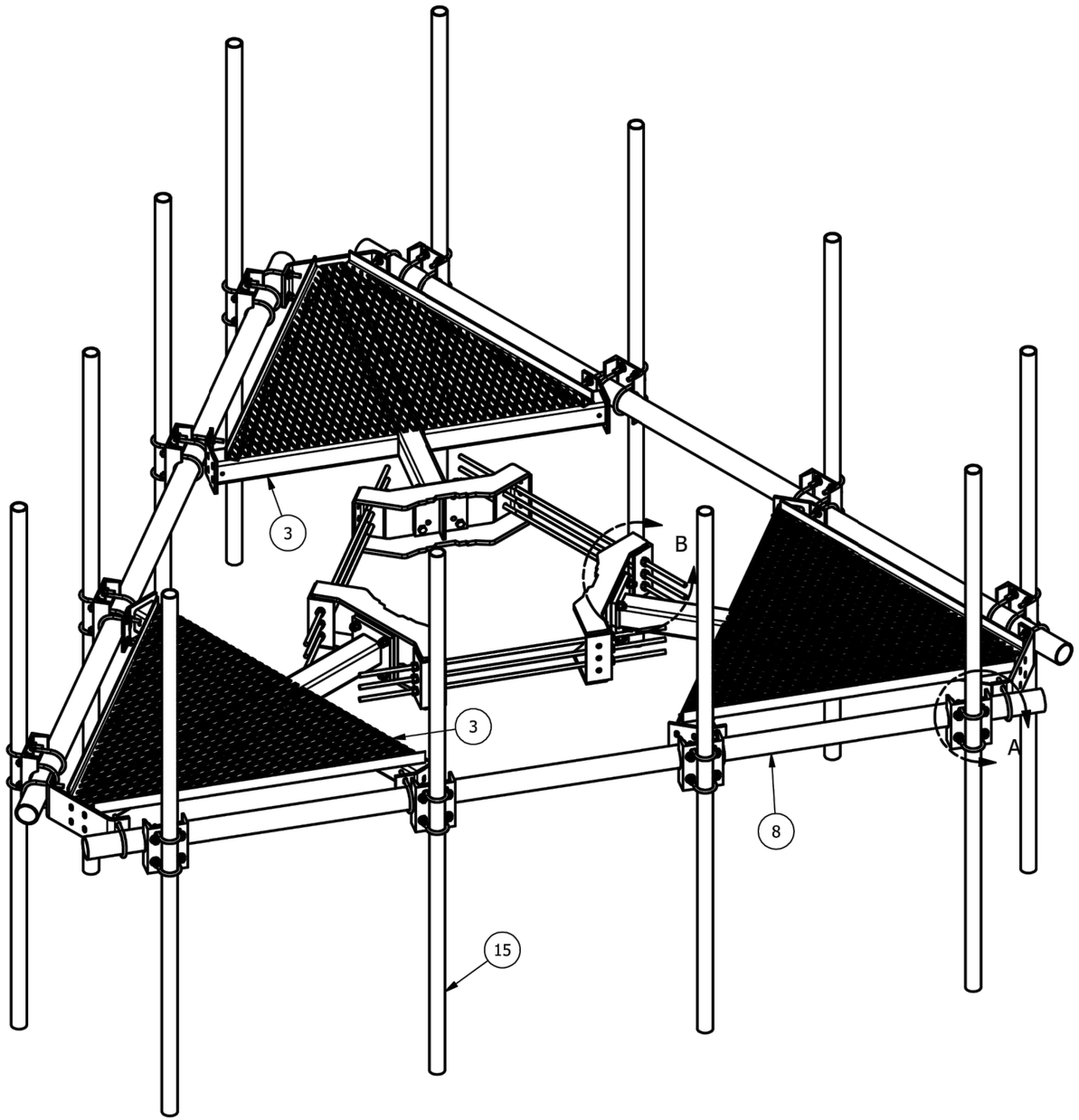
If you have any questions or require additional information, please contact American Tower via email at Engineering@americantower.com. Please include the American Tower site name, site number, and engineering number in the subject line for any questions.

A.T. Engineering Service, PLLC - 3500 Regency Parkway, Suite 100 - Cary, NC 27518 - 919.468.0112 Office - 919.466.5414 Fax - www.americantower.com

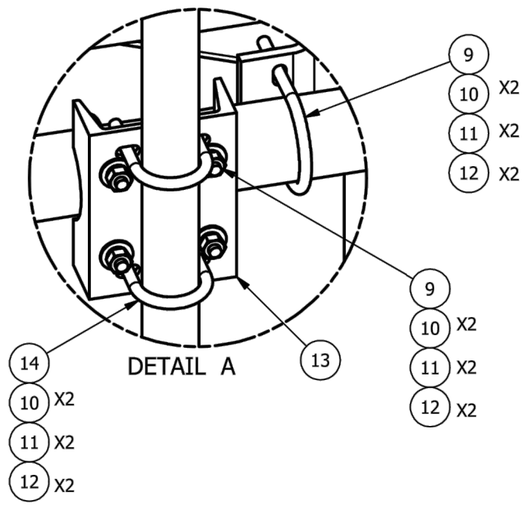
NOTE: THE INFORMATION ON THIS SHEET WAS PROVIDED BY OTHERS WITHOUT EDIT.

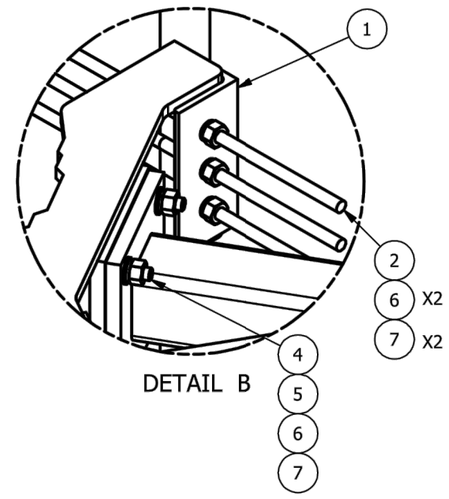
SUPPLEMENTAL

SHEET NUMBER:	REVISION:
R-601	3



PARTS LIST						
ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.
1	3	X-LWRM	RING MOUNT WELDMENT		68.81	206.42
2	9	G58R-48	5/8" x 48" THREADED ROD (HDG.)		0.40	3.59
2	9	G58R-24	5/8" x 24" THREADED ROD (HDG.)		0.40	3.59
3	3	X-SV196	LOW PROFILE PLATFORM CORNER		212.10	636.31
4	12	A58234	5/8" x 2-3/4" HDG A325 HEX BOLT	2.75	0.36	4.27
5	12	A58FW	5/8" HDG A325 FLATWASHER		0.03	0.41
6	30	G58LW	5/8" HDG LOCKWASHER		0.03	0.78
7	30	A58NUT	5/8" HDG A325 HEX NUT		0.13	3.90
8	3	P3150	3-1/2" X 150" SCH 40 GALVANIZED PIPE	150.000 in	94.80	284.40
9	36	X-UB1306	1/2" X 3-5/8" X 6" X 3" U-BOLT (HDG.)		0.26	9.25
10	120	G12FW	1/2" HDG USS FLATWASHER		0.03	4.09
11	120	G12LW	1/2" HDG LOCKWASHER		0.01	1.67
12	120	G12NUT	1/2" HDG HEAVY 2H HEX NUT		0.07	8.60
13	12	X-SP219	SMALL SUPPORT CROSS PLATE	8.250 in	8.61	103.33
14	24	X-UB1212	1/2" X 2-1/2" X 4-1/2" X 2" U-BOLT (HDG.)		0.26	6.17
15	12	B	ANTENNA MOUNTING PIPE	C	D	E





2-3/8" O.D. VERTICAL MOUNTING PIPES					
ASSEMBLY NO. "A"	PART NO. "B"	LENGTH, "C"	UNIT WEIGHT, "D"	NET WEIGHT, "E"	TOTAL WEIGHT
RMQP-463	P263	63"	20.18	242.16	1591.11
RMQP-472	P272	72"	23.07	276.84	1625.79
RMQP-484	P284	84"	26.91	322.92	1671.87
RMQP-496	P296	96"	30.76	369.12	1718.07
RMQP-4126	P2126	126"	40.75	489.00	1837.95

REVISION HISTORY				
REV	DESCRIPTION OF REVISIONS	CPD	BY	DATE
A	ADDED 10' 6" ANTENNA MOUNTING PIPES		CEK	7/9/2015

TOLERANCE NOTE

TOLERANCES ON DIMENSIONS, UNLESS OTHERWISE NOTED ARE:
SAWED, SHEARED AND GAS CUT EDGES (± 0.030")
DRILLED AND GAS CUT HOLES (± 0.030") - NO CONING OF HOLES
LASER CUT EDGES AND HOLES (± 0.010") - NO CONING OF HOLES
BENDS ARE ± 1/2 DEGREE - ALL OTHER MACHINING (± 0.030")
ALL OTHER ASSEMBLY (± 0.060")

DESCRIPTION
LOW PROFILE CO-LOCATION PLATFORM
FOR 12 ANTENNAS WITH 12' 6" FACE WIDTH
FOR 12" - 38" DIAMETER POLES

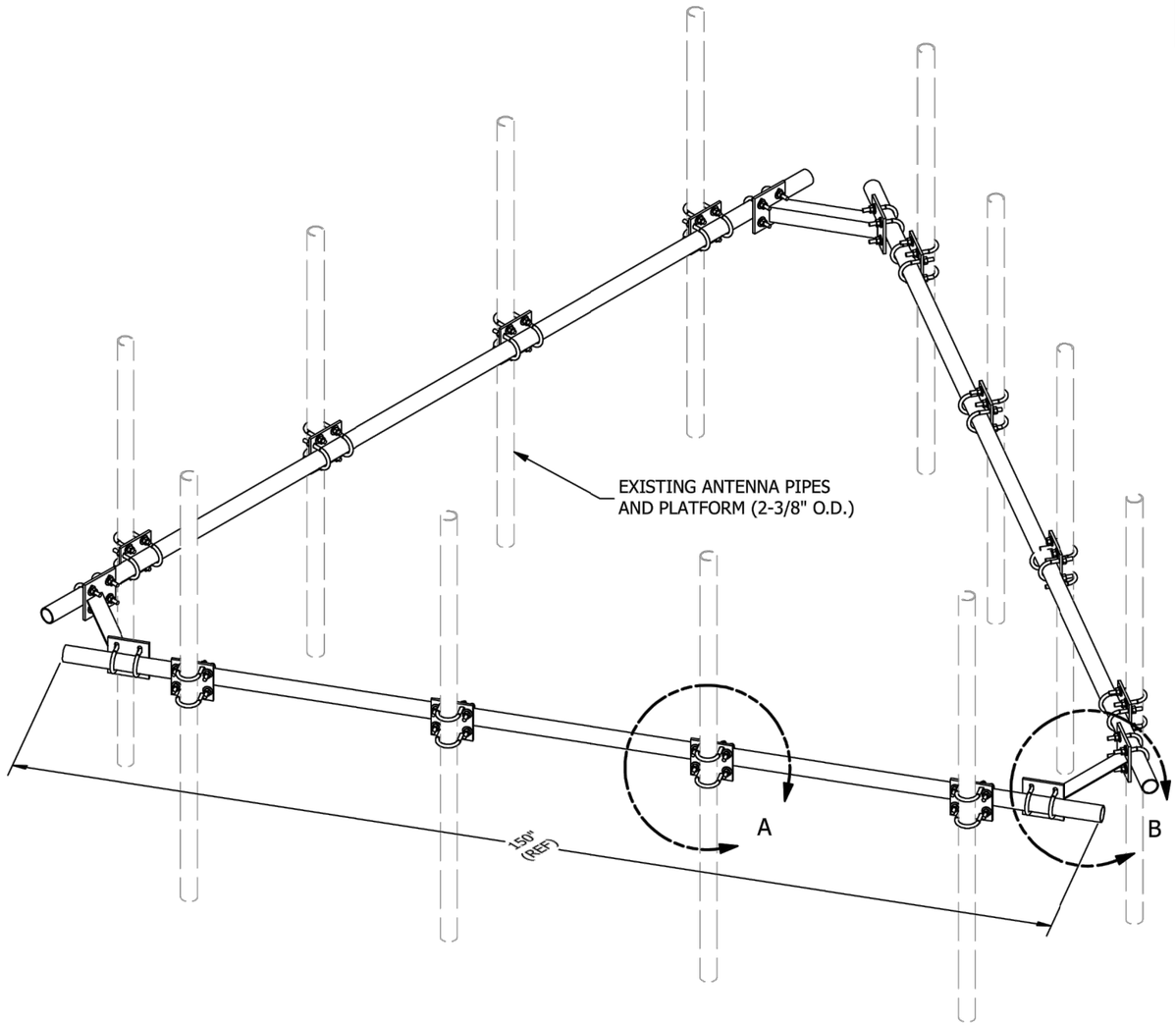
SITE PRO 1
A valmont COMPANY

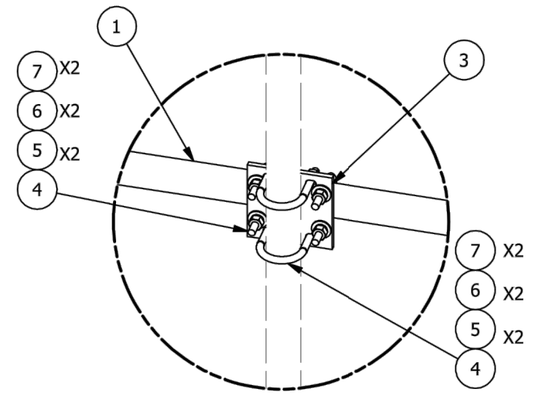
Engineering Support Team:
1-888-753-7446

Locations:
New York, NY
Atlanta, GA
Los Angeles, CA
Plymouth, IN
Salem, OR
Dallas, TX

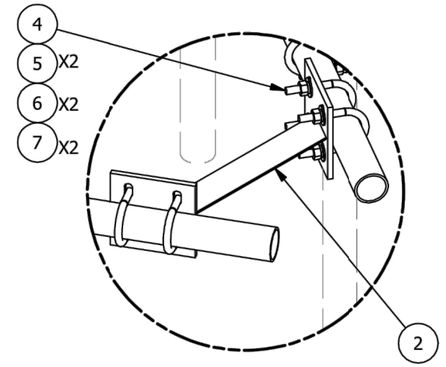
DRAWN BY	CPD NO.	DRAWING USAGE	PART NO.	PAGE
CEK 1/20/2012	semb	CUSTOMER	SEE ASSEMBLY NO. "A"	1 OF 2
ENG. APPROVAL	CHECKED BY		DWG. NO.	
	BMC 7/9/2015		RMQP-4XX	

PARTS LIST						
ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.
1	3	P2150	2-3/8" O.D. X 150" SCH 40 GALVANIZED PIPE	150 in	45.77	137.31
2	3	X-AHCP	ANGLE HANDRAIL CORNER PLATE		12.92	38.76
3	12	SCX1	CROSSOVER PLATE 2-3/8" X 2-3/8"	6 in	3.71	44.50
4	60	X-UB1212	1/2" X 2-1/2" X 4-1/2" X 2" U-BOLT (HDG.)		0.63	37.51
5	120	G12FW	1/2" HDG USS FLATWASHER	3/32 in	0.03	4.09
6	120	G12LW	1/2" HDG LOCKWASHER	1/8 in	0.01	1.67
7	120	G12NUT	1/2" HDG HEAVY 2H HEX NUT		0.07	8.60
					TOTAL WT. #	272.43





DETAIL A



DETAIL B

REV	DESCRIPTION OF REVISIONS	CPD	BY	DATE
A	REPLACED HCP WITH X-AHCP		CEK	7/10/2014

REVISION HISTORY

TOLERANCE NOTES

TOLERANCES ON DIMENSIONS, UNLESS OTHERWISE NOTED ARE:
SAWED, SHEARED AND GAS CUT EDGES *(± 0.030")*
DRILLED AND GAS CUT HOLES *(± 0.030")* - NO CONING OF HOLES
LASER CUT EDGES AND HOLES *(± 0.010")* - NO CONING OF HOLES
BENDS ARE ± 1/2 DEGREE
ALL OTHER MACHINING *(± 0.030")*
ALL OTHER ASSEMBLY *(± 0.060")*

DESCRIPTION: HANDRAIL KIT FOR 12'-6" FACE

CPD NO.:

DRAWN BY: KC8 5/30/2012

ENG. APPROVAL:

CLASS: 81 SUB: 01

DRAWING USAGE: CUSTOMER

CHECKED BY: BMC 7/13/2014

SITE PRO 1
A valmont COMPANY
Engineering Support Team: 1-888-753-7446
Locations: New York, NY; Atlanta, GA; Los Angeles, CA; Plymouth, IN; Salem, OR; Dallas, TX

PART NO.: HRK12

DWG. NO.: HRK12