

**Cellco Partnership d/b/a
Verizon Wireless**

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December 20, 2019

Members of the Connecticut Siting Council
Connecticut Siting Council
10 Franklin Square
New Britain, Connecticut 06051

**Re: Request for Tower Share
Cellco Partnership d/b/a Verizon Wireless (“Verizon”) Request for Approval of the
Shared Use of an Existing Tower at 80 Shuttle Meadow Road, Southington, CT
Verizon site: Southington 3 CT (ATC: 302475)**

Dear Members of the Council:

Verizon proposes to share an existing telecommunications tower located at 80 Shuttle Meadow Road in Southington, CT (the facility). The subject parcel is identified by the Town of Southington as Map 184, Lot 19. The property is owned by Southern New England Telephone Company c/o American Tower Corp. The tower is owned by American Tower Corp. The property is roughly 0.17± acres and accommodates an existing telecommunication shelter, two concrete pads and one platform with telecommunications carriers’ cabinets, propane tank, generator, as well as the monopole tower within the fenced compound, along with three utility platforms on piers or concrete pads. The facility is and will continue to be owned and operated by American Tower.

Pursuant to Connecticut General Statutes Section 16-50aa (the Statute), Verizon requests a finding from the Connecticut Siting Council that the shared use of this facility is technically, legally, environmentally and economically feasible, will meet safety concerns, will avoid the unnecessary proliferation of towers and is in the public interest. It further requests an order approving the shared use of this facility.

The purpose of this request is to use an existing tower to develop Verizon’s wireless network to provide high speed wireless data and wireless service within the State of Connecticut and in this part of Southington: avoiding the need for an additional tower in Southington, CT.

Verizon is licensed by the Federal Communications Commission (“FCC”) to provide multiple technologies, including PCS, as well as long-term evolution (“LTE”) services and AWS (700/850/1900/2100 MHz) in Hartford County. Verizon is building and enhancing its network to

take advantage of its licensed spectrum, and improve its broadband high speed wireless voice and data services.

Existing Facility & Proposed Modification

The existing facility is and will continue to be a 150' monopole tower located at 80 Shuttle Meadow Road in Southington. Site coordinates (NAD83) are N41° 38' 19.00" and W72° 50' 28.00" (or 41.6386, -72.8411). Currently there are three other major commercial wireless carriers located on this tower, as well as two other sets of minor antenna users, whereby T-Mobile now intends to use the vacant space near the tower top, between AT&T and T-Mobile/Metro. The site plan of the facility is included in the proposed Modifications Drawings and Construction Drawings, prepared by A.T. Engineering Service, PLLC dated November 6, 2019 and December 13, 2019, respectively, and enclosed herewith.

Verizon intends to install twelve (12) NNHH-65B-R4 Commscope panel antennas and six (6) Ericsson RRUs and one (1) OVP on an antenna platform mount with sector frames, as shown in the Construction Drawing, to be attached to the monopole tower at the 143' mount level. Verizon will also install two (2) 1-5/8" hybrid fiber cable on the tower. In order to enable this installation, the tower will be reinforced per the Modifications Drawings. Down below, inside the existing fenced compound and slightly beyond it, it will remove and replace fencing in order to push it out 10'-8" and accommodate the 12' x 30' lease area with two (2) concrete pads and one (1) H-frame.

Verizon intends to enter into a new agreement, at this tower height, in order to license the portion of space within the existing and proposed compound for the new 10'-0" x 4'-0" concrete pad with one (1) new cabinet, H-frame with (1) over-voltage protector (OVP), one (1) automatic transfer switch (ATS), one (1) junction box, one (1) GPS antenna and one (1) work lamp on concrete piers. The second pad will be 3'-6" x 8'-0" and will contain one (1) 30 KW diesel generator. A new ice bridge will also be installed in order to connect the equipment with the tower, along with power and telco conduits on the other side of the H-frame. Note that due to the nature of the terrain and limited space made available in front of the existing shelter this is the best configuration available.

Consistent with the requirements of the Statute, it is feasible for Verizon to collocate at this facility. Verizon is proposing to collocate on the existing monopole tower that will continue to remain in the ownership of American Tower Corp. Included with this application is a Post-Modification Structural Analysis Report from A.T. Engineering Service PLLC dated December 9, 2019 that shows that the existing tower can support Verizon's proposed equipment once modified.

The Proposal is Legally Feasible.

The Council has authority, pursuant to statute, to issue an order approving of the shared use of this tower. By issuing an order approving Verizon's shared use of this tower, Verizon will be able to proceed with obtaining a building permit for the proposed installation. American Tower Corp has executed a Letter of Authorization that approved Verizon's Request for Tower Share filing on August 20, 2019, which approval is included with this application. Verizon's proposal is legally feasible.

Verizon is a telecommunication provider licensed by the FCC to provide service in the State of Connecticut, including but not limited to Hartford County. Verizon will enter into an agreement with the owner of this facility, American Tower Corp, for the location of this proposed equipment on the existing tower so that it may provide telecommunications services to the surrounding community. Consequently, the proposal is legally feasible.

The Proposal is Environmentally Feasible.

Pursuant to the Statute, the proposal will be environmentally feasible for the following reasons:

- The overall impact on the Town of Southington will be decreased with the sharing of a single tower versus the proliferation of multiple towers.
- There will be no material increase in the visibility of the tower with the addition of the antennas and associated equipment on the tower.
- There will be no increased impact on air quality because no air pollutants will be generated during normal operation of the facility.
- There will only be a brief, slight increase in noise pollution while the site is under construction.
- During construction, the proposed project will generate a small amount of traffic as construction takes place. Upon completion, traffic will be limited to an average of one trip per month for maintenance and inspections.
- There will be no adverse impact to the health and safety of the surrounding community or workers at the facility due to the addition of Verizon's new antennas to the tower. Verizon has performed an analysis of the radio frequency field emanating from the transmitting antennas on the tower to ensure compliance with the National Council on Radiation Protection and measurements (NCRP) standard for maximum permissible exposure (MPE) adopted by the FCC. The analysis indicates that Verizon and other antennas on the tower will cumulatively emit 30.25% of the NCRP standard for maximum permissible exposure. The report indicates that maximum level of exposure will be well below the FCC's mandated radio frequency exposure limits. The report is enclosed herewith.
- Verizon expects to enhance safety in this portion of Southington by improving wireless telecommunications for local residents and travelers. Verizon is currently developing its network to provide its customers with quality and reliable coverage to comply with their FCC license, the site is a necessary part of Verizon's network development.
- Specifically, this proposal is designed to provide reliable wireless coverage for this section of Southington, CT.

Conclusions:

For the reasons stated above, the attachment of Verizon's antennas and associated equipment to the tower would meet all the requirements set forth in the Statute. The proposal is legally, technically, economically and environmentally feasible and meets all public safety concerns. Therefore, Verizon respectfully requests that the Council approve this request for the shared use of this tower located at 80 Shuttle Meadow Road, Southington, CT.

Respectfully yours,



Alex Murshteyn
Real Estate Consultant – Site Acquisition
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750 West Center Street, Floor 3 / Suite 301
West Bridgewater, MA 02379
Mobile: (508) 821-0159
AMurshteyn@centerlinecommunications.com

Enclosures (9)

cc: Mark J. Sciota, Southington Town Manager - chief elected official
Robert A. Phillips, MS, MPA, AICP, Director of Planning and Community Development - P&Z official
American Tower Corp - tower & property owner
Verizon Wireless (e-mail)

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ALEX MURSHTEYN 5088210159 CENTERLINE COMMUNICATIONS, LLC 750 WEST CENTER STREET WEST BRIDGEWATER MA 023791518	1 LBS	1 OF 1
DWT: 14,11,1		
SHIP TO: MARK J. SCIOTA, TOWN MANAGER TOWN OF SOUTHINGTON 75 MAIN STREET SOUTHINGTON CT 06489-2504		
	CT 067 9-06 	
UPS GROUND TRACKING #: 1Z 9Y4 503 03 3277 4243		
		
BILLING: P/P		
Reference # 1: 302475 aka Southington 3 CT Reference # 2: CSC TS - CEO	CS 21.5-48. WNTINV50 20.0A 10/2019	 ™

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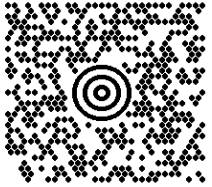

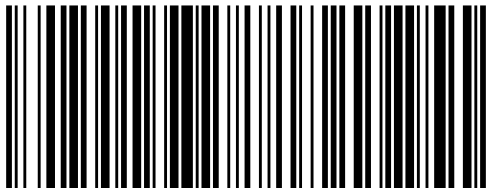

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DWT: 14,11,1		
SHIP TO: ROBERT A. PHILLIPS, MS, MPA, AICP DIR. OF PLANNING & COMMUNITY DEVELO TOWN OF SOUTHINGTON 196 NORTH MAIN STREET MUNICIPAL CENTER SOUTHINGTON CT 06489-2514		
	CT 067 9-06 	
UPS GROUND TRACKING #: 1Z 9Y4 503 03 3930 5853		
		
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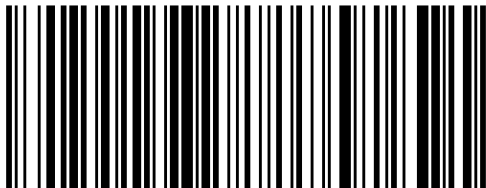
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DWT: 14,11,1		
SHIP TO: BLAKE PAYNTER AMERICAN TOWER CORP C/O SOUTHERN NEW ENGLAND TELEPHONE 10 PRESIDENTIAL WAY WOBURN MA 01801-1053		
	MA 018 9-04 	
UPS GROUND TRACKING #: 1Z 9Y4 503 03 3693 0469		
		
BILLING: P/P		
Reference # 1: 302475 aka Southington 3 CT Reference # 2: CSC TS - TO & PO		CS 21.5-48. WNTINV50 20.0A 10/2019



AMERICAN TOWER®
CORPORATION

LETTER OF AUTHORIZATION

ATC SITE # / NAME: 302475/Sttn - Southington
SITE ADDRESS: 80 Shuttle Meadow Road, Southington, CT 06489-1313
LICENSEE: Verizon Wireless d/b/a Bell Atlantic Mobile Systems of Allentown, Inc.

I, Margaret Robinson, Senior Counsel for American Tower*, owner of the tower facility located at the address identified above (the "Tower Facility"), do hereby authorize Verizon Wireless d/b/a Bell Atlantic Mobile Systems of Allentown, Inc., its successors and assigns, and/or its agent, (collectively, the "Licensee") to act as American Tower's non-exclusive agent for the sole purpose of filing and consummating any land-use or building permit application(s) as may be required by the applicable permitting authorities for Licensee's telecommunications' installation.

We understand that this application may be denied, modified or approved with conditions. The above authorization is limited to the acceptance by Licensee only of conditions related to Licensee's installation and any such conditions of approval or modifications will be Licensee's sole responsibility.

Signature:

Print Name: Margaret Robinson
Senior Counsel
American Tower*

NOTARY BLOCK

Commonwealth of MASSACHUSETTS
County of Middlesex

This instrument was acknowledged before me by Margaret Robinson, Senior Counsel for American Tower*, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same.

WITNESS my hand and official seal, this 20th day of August, 2019.

NOTARY SEAL



GERARD T. HEFFRON
Notary Public
Commonwealth of Massachusetts
My Commission Expires
August 9, 2024

Notary Public
My Commission Expires:

8/9/24

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



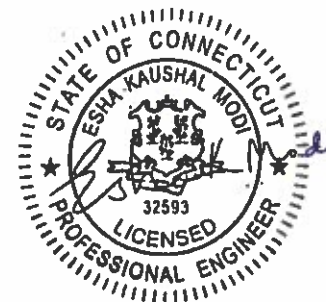
AMERICAN TOWER®
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Post-Modification Structural Analysis Report

Structure : 150 ft Monopole
ATC Site Name : Sttn - Southington, CT
ATC Asset Number : 302475
Engineering Number : 12978549_C4_06
Proposed Carrier : Verizon Wireless
Carrier Site Name : Southington
Carrier Site Number : 2548199
Site Location : 80 Shuttle Meadow Road
Southington, CT 06489-1313
41.638600,-72.841100
County : Hartford
Date : December 9, 2019
Max Usage : 100%
Result : Pass

Prepared By:
Matthew Reeves, CWI
Structural Engineer III

Reviewed By:



Authorized by "EOR"
09 Dec 2019 05:09:20

COA: PEC.0001553



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Calculations Attached



Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 150 ft monopole to reflect the change in loading by Verizon Wireless.

Supporting Documents

Tower Drawings	SpectraSite Mapping Site #CT-0011, dated May 29, 2002 AT&T Technologies Project #AT-8935, dated April 13, 1984
Foundation Drawing	Girard & Co. Engineers Project #38922, dated May 18, 1983
Geotechnical Report	GeoTechnologies Project #1-02-0934-EA, dated July 12, 2002
Modifications	ATC Job #40480332, dated May 25, 2007 ATC Job #42608538, dated April 22, 2009 ATC Job #OAA740798_C6_05, dated January 22, 2019 ATC Job #12978549_C6_05, dated November 6, 2019 (Pending)

Analysis

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

Basic Wind Speed:	97 mph (3-Second Gust, V_{asd}) / 125 mph (3-Second Gust, V_{ult})
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) w/ 1" radial ice concurrent
Code:	ANSI/TIA-222-G / 2015 IBC / 2018 Connecticut State Building Code
Structure Class:	II
Exposure Category:	B
Topographic Category:	1
Crest Height:	0 ft
Spectral Response:	$S_s = 0.18, S_1 = 0.06$
Site Class:	D - Stiff Soil

Conclusion

Based on the analysis results, the structure meets the requirements per the applicable codes listed above. The tower and foundation can support the equipment as described in this report. If the pending modifications cited in the Supporting Documents table are not completed, the results of this analysis are no longer valid, and Verizon Wireless should contact American Tower’s Site Manager for further direction on how to proceed.

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



Existing and Reserved Equipment

Elev. ¹ (ft)	Qty	Antenna	Mount Type	Lines	Carrier
154.0	1	Generic 10' Omni	Sabre 12" HD V-Boom Sector Frames	(3) 1 5/8" Coax	OTHER
153.0	6	CCI TPX-070821		(2) 0.39" (10mm) Fiber Trunk (6) 0.78" (19.7mm) 8 AWG 6 (1) 3" conduit (13) 7/8" Coax	AT&T MOBILITY
	1	Kathrein Scala 80010966			
	2	Kathrein Scala 80010965			
	1	Andrew SBNH-1D6565C (60.8 lbs)			
	3	Quintel QS66512-3 (112 lbs.)			
	2	KMW AM-X-CD-16-65-00T-RET			
	3	Powerwave Allgon 7770.00			
	3	Ericsson RRUS-32 (77 lbs)			
	3	Ericsson RRUS 32 B2			
	3	Ericsson RRUS-11 (50 lbs.)			
	3	Ericsson RRUS 4478 B5			
	3	Ericsson RRUS 4478 B14			
	3	Ericsson RRUS 4426 B66			
	1	Raycap DC6-48-60-18-8F ("Squid")			
	3	CCI DTMAPB7819VG12A (w/ Bracket)			
	6	Kaelus DBCT108F1V92-1			
2	Raycap DC6-48-60-18-8F (23.5" Height)				
130.0	3	RFS APXV18-206517S-C	Site-Pro UWS6-NP	(12) 1 5/8" Coax	METRO PCS INC
123.0	3	Andrew LNX-6515DS-VTM	Leg/Flush	(2) 2" Carflex Non-Metallic Conduit (4) 1 1/4" Hybriflex Cable (1) 1/2" Coax (2) 2" conduit	CLEARWIRE CORPORATION
	3	Kathrein Scala Smart Bias Tee			
	1	Generic 12" x 12" Junction Box			
	6	Alcatel-Lucent RRH2x50-08			
	1	Generic 12" x 12" Junction Box			
	1	DragonWave Horizon Compact			
	3	Nokia FZHN Flexi RRH 8TR 2600 9*20W			
	3	Alcatel-Lucent 1900 MHz 4X45 RRH			
120.0	3	RFS APXVTM14-ALU-I20	Low Profile Platform	(2) 2" Carflex Non-Metallic Conduit (4) 1 1/4" Hybriflex Cable (1) 1/2" Coax (2) 2" conduit	CLEARWIRE CORPORATION
	3	Commscope NNVV-65B-R4			
	3	DragonWave A-ANT-11G-2.5-C			
	1	DragonWave A-ANT-11G-2.5-C			
109.0	4	dB Systems 5100A-D	Stand-Off	(6) 7/8" Coax	M/A COM PRIVATE RADIO SYSTEMS INC
	1	dB Systems 5100A			
104.0	1	VertexRSI 101V VPD	Stand-Off	-	

Equipment to be Removed

Elev. ¹ (ft)	Qty	Antenna	Mount Type	Lines	Carrier
No loading was considered as removed as part of this analysis.					



Proposed Equipment

Elev. ¹ (ft)	Qty	Antenna	Mount Type	Lines	Carrier
143.0	3	Samsung B2/B66A RRH-BR049	Sector Frames	(2) 1 5/8" Hybriflex	VERIZON WIRELESS
	3	Samsung B5/B13 RRH-BR04C			
	1	Raycap RVZDC-6627-PF-48			
	12	Commscope NNHH-65B-R4			

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

Install proposed lines inside the pole shaft.

Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Anchor Bolts	79%	Pass
Shaft	100%	Pass
Base Plate	60%	Pass
Reinforcement	97%	Pass

Foundations

Reaction Component	Analysis Reactions	% of Usage
Moment (Kips-Ft)	3,532.7	96%
Axial (Kips)	61.4	64%
Shear (Kips)	32.6	53%

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

Deflection and Sway*

Antenna Elevation (ft)	Antenna	Carrier	Deflection (ft)	Sway (Rotation) (°)
143.0	Samsung B2/B66A RRH-BR049	VERIZON WIRELESS	2.244	1.896
	Samsung B5/B13 RRH-BR04C			
	Raycap RVZDC-6627-PF-48			
	Commscope NNHH-65B-R4			
120.0	DragonWave A-ANT-11G-2.5-C	CLEARWIRE CORPORATION	1.580	1.432

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



Standard Conditions

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

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

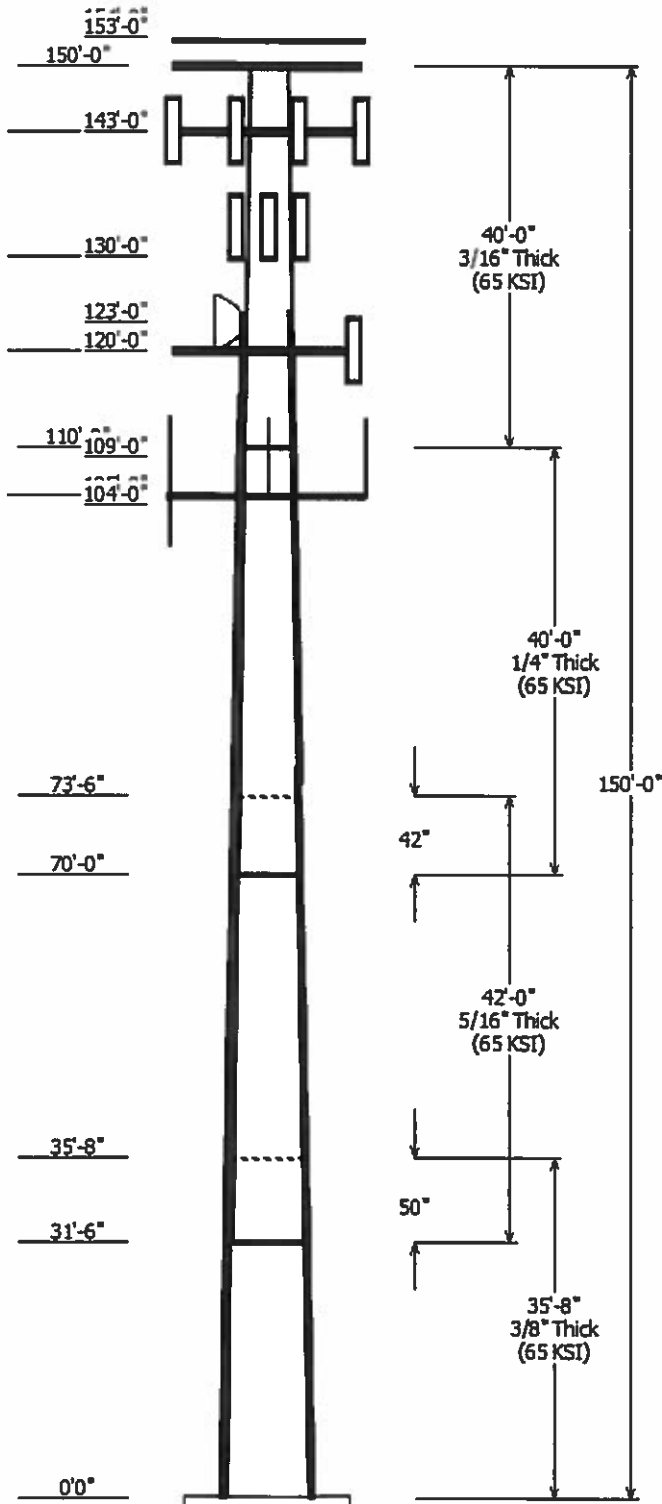
It is the responsibility of the client to ensure that the information provided to A.T. Engineering Service, PLLC and used in the performance of our engineering services is correct and complete.

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

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

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

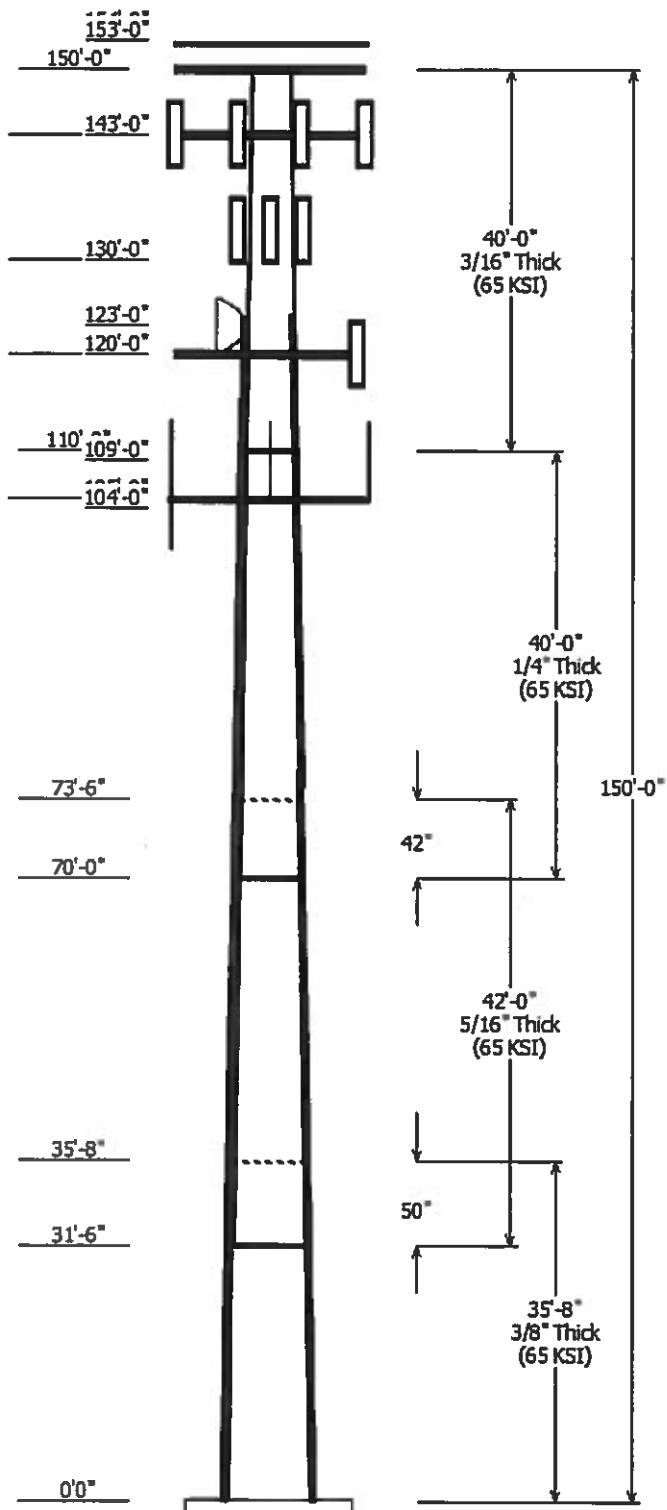
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Job Information	
Client : VERIZON WIRELESS	Code: ANSI/TIA-222-G
Pole : 302475	
Location : Sttn - Southington, CT	Strut Class : II
Description : 150' ITT Meyer Type "B" monopole	Exposure : B
Shape : 12 Sides	Topo : 1
Height : 150.00 (ft)	
Base Elev (ft): 0.00	
Taper: 0.160831in/ft)	

Sections Properties								
Shaft Section	Length (ft)	Diameter (In)		Thick Joint (in)	Overlap Length (in)	Steel Grade	Shape	ksi
		Across Top	Flats Bottom					
1	35.667	31.26	37.00	0.375	0.000	12 Sides	65	
2	42.000	25.80	32.55	0.313	50.000	Slip Joint	12 Sides	65
3	40.000	20.43	26.86	0.250	42.000	Slip Joint	12 Sides	65
4	40.000	14.00	20.43	0.188	0.000	Butt Joint	12 Sides	65

Discrete Appurtenance				
Attach Elev (ft)	Force Elev (ft)	Qty	Description	
154.000	154.000	1	Generic 10' Omni	
153.000	153.000	1	Kathrein Scala 80010966	
153.000	153.000	2	Kathrein Scala 80010965	
153.000	153.000	1	Andrew SBNH-1D6565C (60.8	
153.000	153.000	3	Quintel QS66512-3 (112 lbs.)	
153.000	153.000	2	KMW AM-X-CD-16-65-00T-RET	
153.000	153.000	3	Powerwave Allgon 7770.00	
153.000	153.000	3	Ericsson RRUS-32 (77 lbs)	
153.000	153.000	3	Ericsson RRUS 32 B2	
153.000	153.000	3	Ericsson RRUS-11 (50 lbs.)	
153.000	153.000	3	Ericsson RRUS 4478 B5	
153.000	153.000	3	Ericsson RRUS 4478 B14	
153.000	153.000	3	Ericsson RRUS 4426 B66	
153.000	153.000	1	Raycap DC6-48-60-18-8F	
153.000	153.000	3	CCI DTMABP7819VG12A (w/	
153.000	153.000	2	Raycap DC6-48-60-18-8F (23.5"	
153.000	153.000	6	Kaelus DBCT108F1V92-1	
153.000	153.000	6	CCI TPX-070821	
150.000	150.000	3	Round Sector Frame	
143.000	143.000	12	Commscope NNHH-65B-R4	
143.000	143.000	1	Raycap RVZDC-6627-PF-48	
143.000	143.000	3	Samsung B5/B13 RRH-BR04C	
143.000	143.000	3	Samsung B2/B66A RRH-BR049	
143.000	143.000	1	Generic Round Low Profile	
130.000	134.000	3	Andrew LNX-6515DS-VTM	
130.000	134.000	3	RFS APXV18-206517S-C	
130.000	134.000	3	Kathrein Scala Smart Bias Tee	
130.000	130.000	1	Site-Pro UWS6-NP Collar	
123.000	123.000	1	Generic 12" x 12" Junction Box	
120.000	120.000	3	Commscope NNVV-65B-R4	
120.000	123.000	1	DragonWave A-ANT-11G-2.5-C	
120.000	120.000	3	RFS APXVTM14-ALU-I20	
120.000	120.000	3	Alcatel-Lucent 1900 MHz 4X45	
120.000	120.000	3	Nokia FZHN Flexi RRH 8TR 2600	
120.000	120.000	6	Alcatel-Lucent RRR2x50-08	
120.000	120.000	1	Generic 12" x 12" Junction Box	
120.000	123.000	1	DragonWave Horizon Compact	
120.000	120.000	1	Generic Round Low Profile	
109.000	109.000	4	dB Systems 5100A-D	
109.000	109.000	1	dB Systems 5100A	
105.000	105.000	3	Round Side Arm	
104.000	104.000	1	VertexRSI 101V VPD	

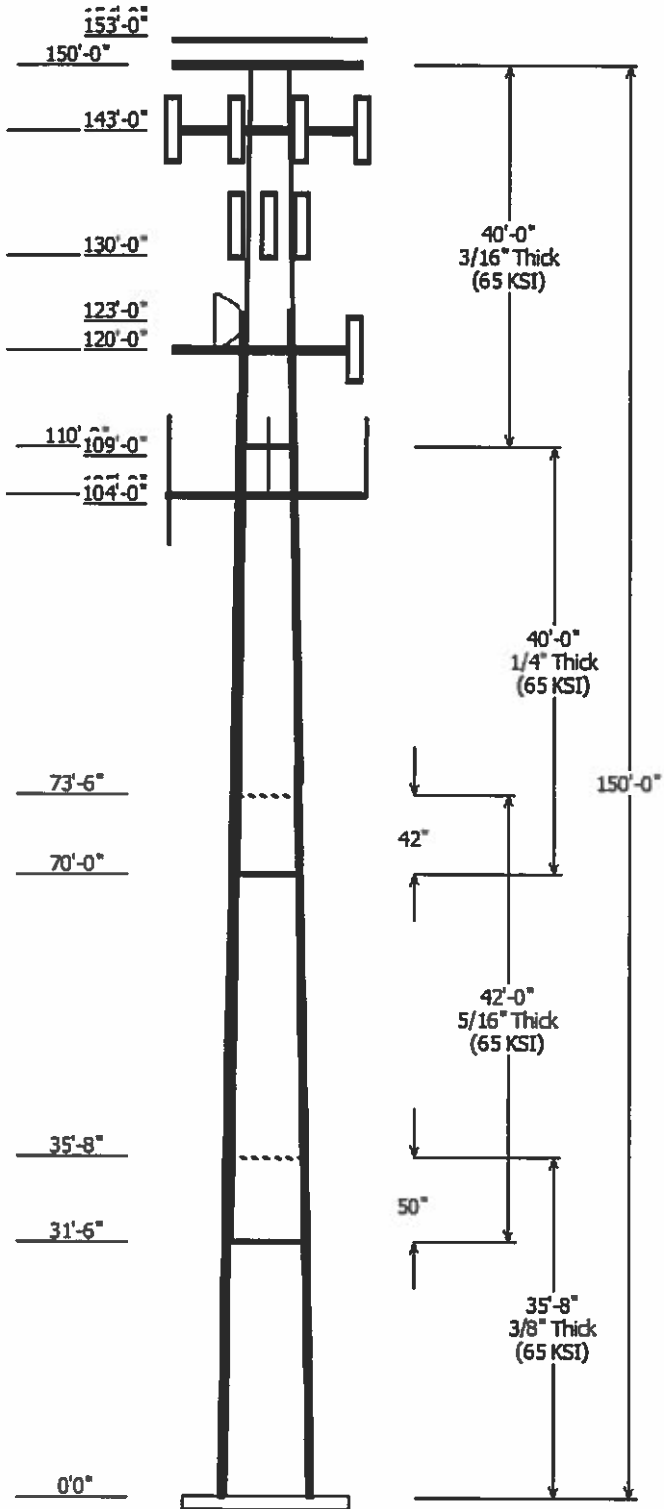


Linear Appurtenance			
Elev (ft)		Description	Exposed To Wind
From	To		
110.0	129.0	#20	Yes
110.0	129.0	#20	Yes
110.0	129.0	#20	Yes
110.0	129.0	#20	Yes
110.0	129.0	#20	Yes
110.0	129.0	#20	Yes
110.0	129.0	#20	Yes
110.0	129.0	#20	Yes
110.0	129.0	#20	Yes
69.000	119.0	#20 Dywidag Bars	Yes
69.000	119.0	#20 Dywidag Bars	Yes
69.000	119.0	#20 Dywidag Bars	Yes
69.000	119.0	#20 Dywidag Bars	Yes
69.000	119.0	#20 Dywidag Bars	Yes
69.000	119.0	#20 Dywidag Bars	Yes
69.000	119.0	#20 Dywidag Bars	Yes
69.000	119.0	#20 Dywidag Bars	Yes
0.000	120.0	1 1/4" Hybriflex	Yes
0.000	120.0	1/2" Coax	Yes
0.000	120.0	2" conduit	Yes
0.000	123.0	2" Carflex Non-	No
0.000	82.500	#20 Dywidag Bars	Yes
0.000	82.500	#20 Dywidag Bars	Yes
0.000	82.500	#20 Dywidag Bars	Yes
0.000	82.500	#20 Dywidag Bars	Yes
0.000	109.0	7/8" Coax	Yes
0.000	130.0	1 5/8" Coax	Yes
0.000	143.0	1 5/8" Hybriflex	No
0.000	153.0	0.39" (10mm)	No
0.000	153.0	0.78" (19.7mm) 8	No
0.000	153.0	3" conduit	No
0.000	153.0	7/8" Coax	No
0.000	153.0	7/8" Coax	No
0.000	154.0	1 5/8" Coax	No

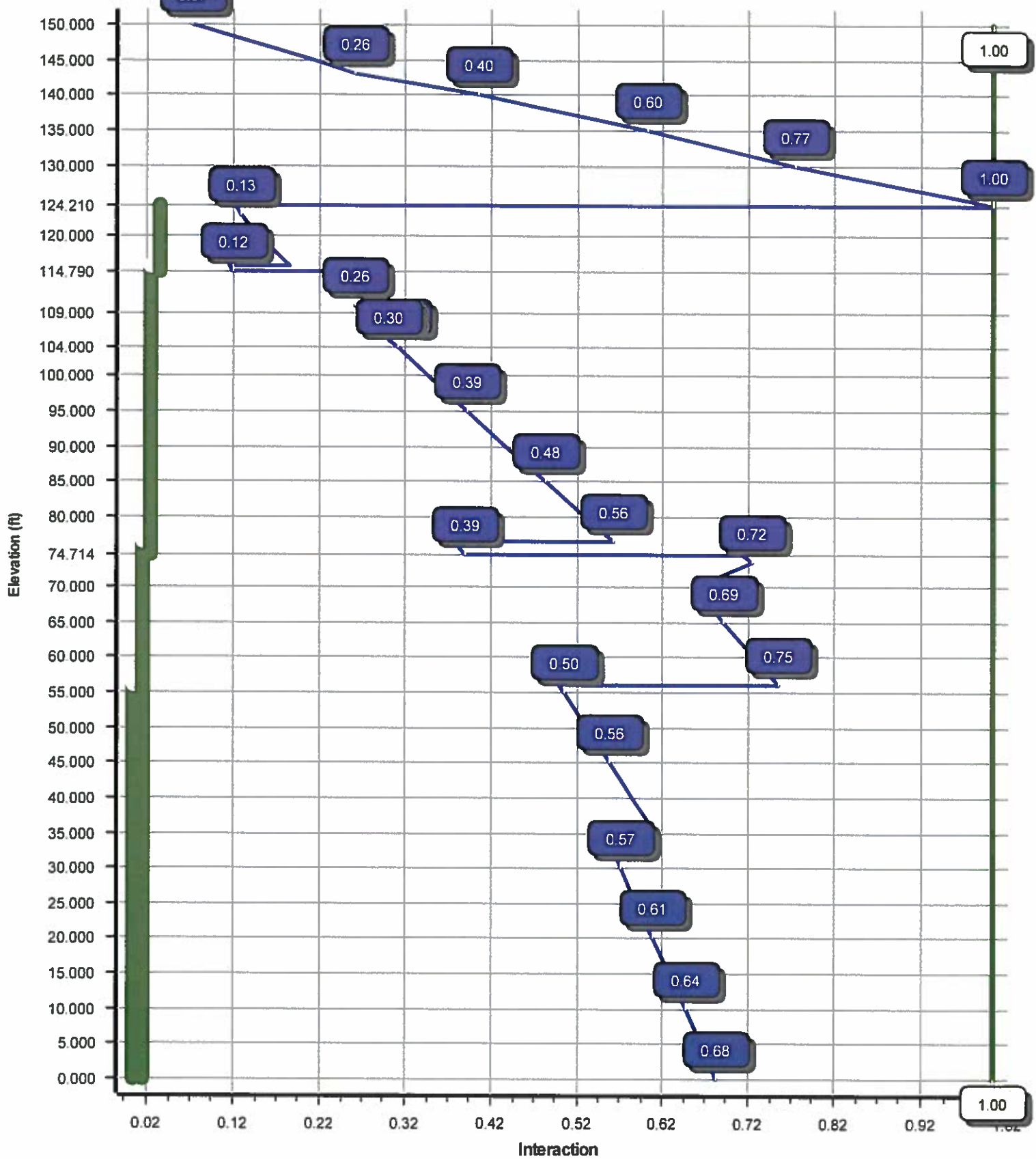
Load Cases	
1.2D + 1.6W	97 mph with No Ice
0.9D + 1.6W	97 mph with No Ice (Reduced DL)
1.2D + 1.0DI + 1.0WI	50 mph with 1.00 in Radial Ice
(1.2 + 0.2Sds) * DL + E	Seismic Equivalent Lateral Forces Method
(1.2 + 0.2Sds) * DL + E	Seismic Equivalent Modal Analysis Method
(0.9 - 0.2Sds) * DL + E	Seismic (Reduced DL) Equivalent Lateral
(0.9 - 0.2Sds) * DL + E	Seismic (Reduced DL) Equivalent Modal
1.0D + 1.0W	Serviceability 60 mph

Reactions			
Load Case	Moment (kip-ft)	Shear (kip)	Axial (kip)
1.2D + 1.6W	3532.65	32.62	50.54
0.9D + 1.6W	3475.27	32.59	37.89
1.2D + 1.0DI + 1.0WI	1545.51	15.19	106.91
(1.2 + 0.2Sds) * DL + E ELFM	161.99	1.27	50.21
(1.2 + 0.2Sds) * DL + E EMAM	247.40	2.02	50.21
(0.9 - 0.2Sds) * DL + E ELFM	158.68	1.27	34.94
(0.9 - 0.2Sds) * DL + E EMAM	241.82	2.01	34.94
1.0D + 1.0W	749.50	6.97	42.18

Dish Deflections			
Load Case	Attach Elev (ft)	Deflection (In)	Rotation (deg)
1.0D + 1.0W	120.00	18.965	1.432



Load Case : 1.2D + 1.6W
Max Ratio 99.93% at 124.2 ft



Site Number: 302475

Code: ANSI/TIA-222-G

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Site Name: Sttn - Southington, CT

Engineering Number: 12978549_C4_06

12/9/2019 11:38:08 AM

Customer: VERIZON WIRELESS

Analysis Parameters

Location :	Hartford County, CT	Height (ft) :	150
Code :	ANSI/TIA-222-G	Base Diameter (in) :	37.00
Shape :	12 Sides	Top Diameter (in) :	14.00
Pole Type :	Taper	Taper (in/ft) :	0.161
Pole Manufacturer :	ITT Meyer	Rotation (deg) :	0.00

Ice & Wind Parameters

Structure Class:	II	Design Wind Speed Without Ice:	97 mph
Exposure Category:	B	Design Wind Speed With Ice:	50 mph
Topographic Category:	1	Operational Wind Speed:	60 mph
Crest Height:	0 ft	Design Ice Thickness:	1.00 in

Seismic Parameters

Analysis Method: Equivalent Modal Analysis & Equivalent Lateral Force Methods

Site Class: D - Stiff Soil

Period Based on Rayleigh Method (sec): 2.78

T_L (sec):	6	p :	1	C_s :	0.030
S_s :	0.180	S_1 :	0.060	C_s Max:	0.030
F_a :	1.600	F_v :	2.400	C_s Min:	0.030
S_{ds} :	0.192	S_{d1} :	0.096		

Load Cases

1.2D + 1.6W	97 mph with No Ice
0.9D + 1.6W	97 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	50 mph with 1.00 in Radial Ice
(1.2 + 0.2Sds) * DL + E ELFM	Seismic Equivalent Lateral Forces Method
(1.2 + 0.2Sds) * DL + E EMAM	Seismic Equivalent Modal Analysis Method
(0.9 - 0.2Sds) * DL + E ELFM	Seismic (Reduced DL) Equivalent Lateral Forces Method
(0.9 - 0.2Sds) * DL + E EMAM	Seismic (Reduced DL) Equivalent Modal Analysis Method
1.0D + 1.0W	Serviceability 60 mph

Site Number: 302475

Code: ANSI/TIA-222-G

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Site Name: Sttn - Southington, CT

Engineering Number: 12978549_C4_06

12/9/2019 11:38:08 AM

Customer: VERIZON WIRELESS

Shaft Section Properties

Sect Info	Length (ft)	Thick (in)	Fy (ksi)	Slip		Weight (lb)	Bottom						Top						
				Joint Type	Joint Len (in)		Dia (in)	Elev (ft)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	Dia (in)	Elev (ft)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	Taper (in/ft)
1-12	35.667	0.3750	65		0.00	4,947	37.00	0.00	44.22	7571.9	23.76	98.67	31.26	35.67	37.30	4542.2	19.66	83.37	0.160833
2-12	42.000	0.3125	65	Slip	50.00	4,152	32.55	31.50	32.45	4306.6	25.24	104.19	25.80	73.50	25.65	2127.5	19.45	82.57	0.160833
3-12	40.000	0.2500	65	Slip	42.00	2,564	26.86	70.00	21.43	1937.5	26.12	107.47	20.43	110.00	16.25	844.8	19.22	81.73	0.160833
4-12	40.000	0.1875	65	Butt	0.00	1,399	20.43	110.00	12.22	639.5	26.52	108.98	14.00	150.00	8.34	203.1	17.33	74.67	0.160833
Shaft Weight						13,062													

Discrete Appurtenance Properties

Attach Elev (ft)	Description	Qty	Ka	Vert Ecc (ft)	Weight (lb)	No Ice EPAa (sf)	Orientation Factor	Weight (lb)	Ice EPAa (sf)	Orientation Factor
154.00	Generic 10' Omni	1	1.00	0.000	25.00	3.000	1.00	126.24	7.800	1.00
153.00	CCI TPX-070821	6	0.80	0.000	7.50	0.469	0.50	23.68	1.108	0.50
153.00	Kaelus DBCT108F1V92-1	6	0.80	0.000	13.90	0.633	0.50	47.47	1.361	0.50
153.00	Raycap DC6-48-60-18-8F (23.5"	2	0.80	0.000	20.00	1.260	0.67	90.23	2.138	0.67
153.00	CCI DTMABP7819VG12A (w/	3	0.80	0.000	19.20	1.370	0.50	64.62	2.411	0.50
153.00	Raycap DC6-48-60-18-8F	1	0.80	0.000	31.80	1.470	0.67	114.09	2.402	0.67
153.00	Ericsson RRUS 4426 B66	3	0.80	0.000	48.40	1.650	0.50	107.95	2.783	0.50
153.00	Ericsson RRUS 4478 B14	3	0.80	0.000	59.90	1.842	0.50	133.65	3.038	0.50
153.00	Ericsson RRUS 4478 B5	3	0.80	0.000	59.90	1.842	0.50	133.65	3.038	0.50
153.00	Ericsson RRUS-11 (50 lbs.)	3	0.80	0.000	50.00	2.566	0.50	140.92	3.963	0.50
153.00	Ericsson RRUS 32 B2	3	0.80	0.000	53.00	2.743	0.50	151.10	4.303	0.50
153.00	Ericsson RRUS-32 (77 lbs)	3	0.80	0.000	77.00	3.314	0.50	206.72	5.026	0.50
153.00	Powerwave Allgon 7770.00	3	0.80	0.000	35.00	5.508	0.65	228.70	6.949	0.65
153.00	KMW AM-X-CD-16-65-00T-RET	2	0.80	0.000	48.50	8.024	0.67	264.51	11.745	0.67
153.00	Quintel QS66512-3 (112 lbs.)	3	0.80	0.000	112.00	8.133	0.74	377.80	11.851	0.74
153.00	Andrew SBNH-1D6565C (60.8 lbs)	1	0.80	0.000	60.80	11.440	0.70	366.84	15.756	0.70
153.00	Kathrein Scala 80010965	2	0.80	0.000	97.60	13.814	0.62	453.20	17.883	0.62
153.00	Kathrein Scala 80010966	1	0.80	0.000	114.60	17.363	0.63	542.90	22.284	0.63
150.00	Round Sector Frame	3	0.75	0.000	300.00	14.400	0.67	790.63	36.478	0.67
143.00	Samsung B2/B66A RRH-BR049	3	0.75	0.000	84.40	1.875	0.50	169.14	3.074	0.50
143.00	Samsung B5/B13 RRH-BR04C	3	0.75	0.000	70.30	1.875	0.50	146.28	3.074	0.50
143.00	Raycap RVZDC-6627-PF-48	1	0.75	0.000	32.00	3.781	1.00	177.66	5.537	1.00
143.00	Commscope NNHH-65B-R4	12	0.75	0.000	83.80	12.271	0.64	417.56	15.996	0.64
143.00	Generic Round Low Profile	1	1.00	0.000	1,875.00	21.700	1.00	2,950.74	47.202	1.00
130.00	Kathrein Scala Smart Bias Tee	3	0.80	4.000	3.30	0.080	0.50	7.62	0.353	0.50
130.00	Site-Pro UWS6-NP Collar	1	1.00	0.000	96.00	1.500	1.00	177.76	3.272	1.00
130.00	RFS APXV18-206517S-C	3	0.80	4.000	26.40	5.160	0.68	148.20	8.269	0.68
130.00	Andrew LNX-6515DS-VTM	3	0.80	4.000	51.30	11.430	0.70	352.63	15.690	0.70
123.00	Generic 12" x 12" Junction Box	1	1.00	0.000	10.00	1.200	1.00	64.49	2.149	1.00
120.00	DragonWave Horizon Compact	1	0.80	3.000	10.60	0.721	0.50	39.92	1.463	0.50
120.00	Generic 12" x 12" Junction Box	1	0.80	0.000	10.00	1.200	0.50	64.32	2.146	0.50
120.00	Alcatel-Lucent RRH2x50-08	6	0.80	0.000	52.90	1.701	0.50	130.18	2.826	0.50
120.00	Nokia FZHN Flexi RRH 8TR 2600	3	0.80	0.000	44.10	2.020	0.50	107.93	3.239	0.50
120.00	Alcatel-Lucent 1900 MHz 4X45	3	0.80	0.000	60.00	2.322	0.50	165.10	3.731	0.50
120.00	RFS APXVTM14-ALU-I20	3	0.80	0.000	56.20	6.342	0.50	235.78	9.183	0.50
120.00	DragonWave A-ANT-11G-2.5-C	1	0.80	3.000	47.60	8.670	1.00	278.66	10.923	1.00
120.00	Commscope NNVV-65B-R4	3	0.80	0.000	77.40	12.271	0.64	405.09	15.928	0.64
120.00	Generic Round Low Profile	1	1.00	0.000	1,875.00	21.700	1.00	2,931.16	46.738	1.00
109.00	dB Systems 5100A	1	1.00	0.000	21.00	2.048	1.00	89.90	3.793	1.00
109.00	dB Systems 5100A-D	4	1.00	0.000	38.00	3.093	1.00	164.32	4.905	1.00
105.00	Round Side Arm	3	1.00	0.000	300.00	10.400	0.67	488.53	17.402	0.67
104.00	VertexRSI 101V VPD	1	1.00	0.000	4.00	2.407	1.00	103.57	10.786	1.00
Totals	Num Loadings:42	114			10,912.40			30,206.14		

Site Number: 302475

Code: ANSI/TIA-222-G

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Site Name: Sttn - Southington, CT

Engineering Number: 12978549_C4_06

12/9/2019 11:38:08 AM

Customer: VERIZON WIRELESS

Linear Appurtenance Properties Load Case Azimuth (deg) :

Elev From (ft)	Elev To (ft)	Qty	Description	Coax Dia (in)	Coax Wt (lb/ft)	Max Coax / Flat	Dist Between Rows (in)	Dist Between Cols (in)	Azimuth (deg)	Dist From Face (in)	Exposed To Wind Carrier
0.00	154.00	3	1 5/8" Coax	1.98	0.82	N	0	0.00	0	0.00	N OTHER
0.00	153.00	2	0.39" (10mm) Fiber	0.39	0.06	N	0	0.00	0	0.00	N AT&T MOBILITY
0.00	153.00	6	0.78" (19.7mm) 8 AWG	0.78	0.59	N	0	0.00	0	0.00	N AT&T MOBILITY
0.00	153.00	1	3" conduit	3.50	7.58	N	0	0.00	0	0.00	N AT&T MOBILITY
0.00	153.00	12	7/8" Coax	1.09	0.33	N	0	0.00	0	0.00	N AT&T MOBILITY
0.00	153.00	1	7/8" Coax	1.09	0.33	N	0	0.00	0	0.00	N AT&T MOBILITY
0.00	143.00	2	1 5/8" Hybriflex	1.98	1.30	N	0	0.00	0	0.00	N VERIZON WIRELESS
0.00	130.00	12	1 5/8" Coax	1.98	0.82	N	6	0.00	150	0.00	Y METRO PCS INC
110.00	129.00	1	#20	2.50	0.00	N	1	0.00	15	8.28	Y
110.00	129.00	1	#20	2.50	0.00	N	1	0.00	105	8.28	Y
110.00	129.00	1	#20	2.50	0.00	N	1	0.00	195	8.28	Y
110.00	129.00	1	#20	2.50	0.00	N	1	0.00	285	8.28	Y
110.00	129.00	1	#20	2.48	0.00	Y	1	0.00	15	2.90	Y
110.00	129.00	1	#20	2.48	0.00	Y	1	0.00	105	2.90	Y
110.00	129.00	1	#20	2.48	0.00	Y	1	0.00	195	2.90	Y
110.00	129.00	1	#20	2.48	0.00	Y	1	0.00	285	2.90	Y
0.00	123.00	2	2" Carflex Non-	2.36	0.68	N	0	0.00	0	0.00	N CLEARWIRE
0.00	120.00	4	1 1/4" Hybriflex Cable	1.54	1.00	N	4	0.00	320	0.50	Y CLEARWIRE
0.00	120.00	1	1/2" Coax	0.63	0.15	N	1	0.00	315	0.25	Y CLEARWIRE
0.00	120.00	2	2" conduit	2.38	3.65	N	2	0.00	342	0.50	Y CLEARWIRE
69.00	119.00	1	#20 Dywidag Bars	2.50	0.00	N	1	0.00	30	5.15	Y
69.00	119.00	1	#20 Dywidag Bars	2.50	0.00	N	1	0.00	120	5.15	Y
69.00	119.00	1	#20 Dywidag Bars	2.50	0.00	N	1	0.00	210	5.15	Y
69.00	119.00	1	#20 Dywidag Bars	2.50	0.00	N	1	0.00	300	5.15	Y
69.00	119.00	1	#20 Dywidag Bars	1.55	0.00	Y	1	0.00	30	0.78	Y
69.00	119.00	1	#20 Dywidag Bars	1.55	0.00	Y	1	0.00	120	0.78	Y
69.00	119.00	1	#20 Dywidag Bars	1.55	0.00	Y	1	0.00	210	0.78	Y
69.00	119.00	1	#20 Dywidag Bars	1.55	0.00	Y	1	0.00	300	0.78	Y
0.00	109.00	6	7/8" Coax	1.09	0.33	N	6	0.00	60	0.50	Y M/A COM PRIVATE
0.00	82.50	1	#20 Dywidag Bars	4.00	0.00	N	1	0.00	0	0.00	Y
0.00	82.50	1	#20 Dywidag Bars	4.00	0.00	N	1	0.00	90	0.00	Y
0.00	82.50	1	#20 Dywidag Bars	4.00	0.00	N	1	0.00	180	0.00	Y
0.00	82.50	1	#20 Dywidag Bars	4.00	0.00	N	1	0.00	270	0.00	Y

Additional Steel

Elev From (ft)	Elev To (ft)	Qty	Description	Fy (ksi)	Offset (in)	— Intermediate Connections —		Connectors	Continuation?	
			Description			Spacing (in)	Len (in)			
0.00	56.02	4	SOL #20 All Thread	80	2.19	6" Angle Bracket	30.0	3.31	5/8" A36 U-Bolt	No
0.00	76.50	4	SOL #20 All Thread	80	2.19	6" Angle Bracket	30.0	3.31	5/8" A36 U-Bolt	No
74.71	115.5	4	SOL #20 All Thread	80	5.15	6" T Bracket	32.0	3.31	5/8" A36 U-Bolt	No
114.7	124.2	4	SOL #20 All Thread	80	8.28	6" T Bracket	32.0	3.31	5/8" A36 U-Bolt	No

Site Number: 302475

Code: ANSI/TIA-222-G

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Site Name: Sttn - Southington, CT

Engineering Number: 12978549_C4_06

12/9/2019 11:38:09 AM

Customer: VERIZON WIRELESS

Load Case: 1.2D + 1.6W

97 mph with No Ice

26 Iterations

Gust Response Factor :1.10

Wind Importance Factor 1.00

Dead Load Factor :1.20

Wind Load Factor :1.60

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-50.54	-32.62	0.00	-3,532.65	0.00	3,532.65	3,136.53	1,568.27	4,731.25	2,336.59	0.00	0.00	0.681
5.00	-48.41	-32.22	0.00	-3,369.53	0.00	3,369.53	3,092.06	1,546.03	4,560.72	2,252.37	0.16	-0.29	0.662
10.00	-46.31	-31.81	0.00	-3,208.43	0.00	3,208.43	3,046.49	1,523.25	4,391.58	2,168.84	0.61	-0.58	0.644
15.00	-44.24	-31.39	0.00	-3,049.37	0.00	3,049.37	2,999.83	1,499.91	4,223.96	2,086.05	1.37	-0.87	0.625
20.00	-42.19	-30.97	0.00	-2,892.40	0.00	2,892.40	2,952.07	1,476.04	4,057.95	2,004.07	2.43	-1.15	0.605
25.00	-40.16	-30.53	0.00	-2,737.57	0.00	2,737.57	2,901.93	1,450.96	3,891.94	1,922.08	3.80	-1.44	0.586
30.00	-38.21	-30.18	0.00	-2,584.91	0.00	2,584.91	2,830.35	1,415.18	3,701.25	1,827.91	5.46	-1.73	0.570
31.50	-37.58	-29.99	0.00	-2,539.63	0.00	2,539.63	2,808.88	1,404.44	3,644.98	1,800.12	6.02	-1.82	0.565
35.00	-35.78	-29.72	0.00	-2,434.67	0.00	2,434.67	2,758.78	1,379.39	3,515.36	1,736.10	7.43	-2.02	0.542
35.67	-35.39	-29.53	0.00	-2,414.86	0.00	2,414.86	2,225.24	1,112.62	2,894.88	1,429.67	7.72	-2.06	0.605
40.00	-33.79	-29.07	0.00	-2,286.88	0.00	2,286.88	2,194.35	1,097.17	2,791.07	1,378.40	9.70	-2.30	0.582
45.00	-31.98	-28.54	0.00	-2,141.53	0.00	2,141.53	2,157.69	1,078.84	2,672.25	1,319.72	12.27	-2.59	0.556
50.00	-30.19	-27.98	0.00	-1,998.85	0.00	1,998.85	2,119.93	1,059.96	2,554.56	1,261.60	15.13	-2.88	0.529
55.00	-28.47	-27.54	0.00	-1,858.97	0.00	1,858.97	2,081.07	1,040.54	2,438.12	1,204.10	18.29	-3.16	0.502
56.02	-28.08	-27.31	0.00	-1,830.88	0.00	1,830.88	2,073.01	1,036.51	2,414.53	1,192.44	18.97	-3.21	0.497
56.02	-28.08	-27.31	0.00	-1,830.88	0.00	1,830.88	2,073.01	1,036.51	2,414.53	1,192.44	18.97	-3.21	0.752
60.00	-26.97	-26.85	0.00	-1,722.17	0.00	1,722.17	2,041.12	1,020.56	2,323.03	1,147.26	21.75	-3.44	0.723
65.00	-25.59	-26.32	0.00	-1,587.92	0.00	1,587.92	1,992.10	996.05	2,200.59	1,086.79	25.57	-3.85	0.689
70.00	-24.27	-25.79	0.00	-1,456.30	0.00	1,456.30	1,932.46	966.23	2,070.05	1,022.32	29.81	-4.25	0.656
73.50	-23.07	-25.41	0.00	-1,366.05	0.00	1,366.05	1,451.36	725.68	1,558.37	769.62	33.03	-4.53	0.722
74.71	-22.79	-25.30	0.00	-1,335.21	0.00	1,335.21	1,444.76	722.38	1,539.55	760.33	34.20	-4.63	0.710
75.00	-22.69	-25.21	0.00	-1,327.97	0.00	1,327.97	1,443.19	721.60	1,535.11	758.14	34.47	-4.65	0.386
76.50	-22.32	-24.92	0.00	-1,290.16	0.00	1,290.16	1,434.93	717.46	1,511.92	746.68	35.95	-4.72	0.375
76.50	-22.32	-24.92	0.00	-1,290.16	0.00	1,290.16	1,434.93	717.46	1,511.92	746.68	35.95	-4.72	0.560
80.00	-21.51	-24.40	0.00	-1,202.93	0.00	1,202.93	1,415.26	707.63	1,458.06	720.08	39.47	-4.88	0.528
85.00	-20.37	-23.74	0.00	-1,080.93	0.00	1,080.93	1,386.24	693.12	1,381.78	682.41	44.74	-5.19	0.482
90.00	-19.25	-23.14	0.00	-962.22	0.00	962.22	1,356.12	678.06	1,306.38	645.17	50.33	-5.49	0.436
95.00	-18.16	-22.52	0.00	-846.54	0.00	846.54	1,324.90	662.45	1,231.99	608.43	56.23	-5.77	0.390
100.00	-17.09	-21.93	0.00	-733.94	0.00	733.94	1,293.04	646.52	1,159.10	572.44	62.40	-6.03	0.344
104.00	-16.28	-21.44	0.00	-646.22	0.00	646.22	1,254.87	627.43	1,091.30	538.95	67.53	-6.22	0.310
105.00	-15.08	-20.24	0.00	-624.78	0.00	624.78	1,245.33	622.66	1,074.67	530.74	68.84	-6.27	0.301
109.00	-14.14	-19.23	0.00	-543.82	0.00	543.82	1,207.15	603.58	1,009.42	498.51	74.16	-6.45	0.268
110.00	-13.93	-18.96	0.00	-524.59	0.00	524.59	1,197.61	598.80	993.42	490.61	75.51	-6.49	0.260
110.00	-13.93	-18.96	0.00	-524.59	0.00	524.59	833.77	416.88	695.90	343.68	75.51	-6.49	0.299
114.79	-13.10	-18.35	0.00	-433.80	0.00	433.80	814.75	407.37	653.92	322.94	82.11	-6.67	0.250
115.00	-13.05	-18.30	0.00	-429.94	0.00	429.94	813.89	406.95	652.08	322.04	82.40	-6.68	0.116
115.52	-12.96	-18.06	0.00	-420.41	0.00	420.41	811.76	405.88	647.55	319.80	83.13	-6.69	0.113
115.52	-12.96	-18.06	0.00	-420.41	0.00	420.41	811.76	405.88	647.55	319.80	83.13	-6.69	0.182
120.00	-8.99	-14.23	0.00	-338.61	0.00	338.61	792.92	396.46	608.75	300.64	89.43	-6.76	0.145
123.00	-8.53	-13.77	0.00	-295.92	0.00	295.92	779.81	389.91	583.04	287.94	93.69	-6.83	0.127
124.21	-8.35	-13.59	0.00	-279.26	0.00	279.26	774.41	387.21	572.73	282.85	95.42	-6.85	0.119
124.21	-8.35	-13.59	0.00	-279.26	0.00	279.26	774.41	387.21	572.73	282.85	95.42	-6.85	0.999

Site Number: 302475

Code: ANSI/TIA-222-G

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Site Name: Sttn - Southington, CT

Engineering Number:12978549_C4_06

12/9/2019 11:38:17 AM

Customer: VERIZON WIRELESS

Load Case: 1.2D + 1.6W

97 mph with No Ice

26 Iterations

Gust Response Factor :1.10

Wind Importance Factor :1.00

Dead Load Factor :1.20

Wind Load Factor :1.60

125.00	-8.23	-13.37	0.00	-268.52	0.00	268.52	770.85	385.43	566.02	279.54	96.56	-6.87	0.972
130.00	-7.54	-11.43	0.00	-196.89	0.00	196.89	747.69	373.84	524.00	258.78	104.16	-7.63	0.772
135.00	-7.15	-11.15	0.00	-139.76	0.00	139.76	722.05	361.03	481.88	237.98	112.48	-8.26	0.598
140.00	-6.80	-10.90	0.00	-84.02	0.00	84.02	686.26	343.13	435.03	214.85	121.37	-8.75	0.402
143.00	-3.30	-5.79	0.00	-51.31	0.00	51.31	664.79	332.40	408.08	201.53	126.92	-8.95	0.260
145.00	-3.20	-5.58	0.00	-39.74	0.00	39.74	650.48	325.24	390.59	192.90	130.68	-9.05	0.211
150.00	0.00	-5.00	0.00	-11.82	0.00	11.82	614.69	307.34	348.53	172.13	140.21	-9.20	0.069

Site Number: 302475

Code: ANSI/TIA-222-G

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Site Name: Sttn - Southington, CT

Engineering Number: 12978549_C4_06

12/9/2019 11:38:17 AM

Customer: VERIZON WIRELESS

Load Case: 0.9D + 1.6W

97 mph with No Ice (Reduced DL)

26 Iterations

Gust Response Factor : 1.10

Wind Importance Factor : 1.00

Dead Load Factor : 0.90

Wind Load Factor : 1.60

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-37.89	-32.59	0.00	-3,475.27	0.00	3,475.27	3,136.53	1,568.27	4,731.25	2,336.59	0.00	0.00	0.668
5.00	-36.25	-32.13	0.00	-3,312.32	0.00	3,312.32	3,092.06	1,546.03	4,560.72	2,252.37	0.15	-0.28	0.649
10.00	-34.64	-31.66	0.00	-3,151.70	0.00	3,151.70	3,046.49	1,523.25	4,391.58	2,168.84	0.60	-0.57	0.631
15.00	-33.05	-31.19	0.00	-2,993.42	0.00	2,993.42	2,999.83	1,499.91	4,223.96	2,086.05	1.35	-0.85	0.611
20.00	-31.48	-30.71	0.00	-2,837.49	0.00	2,837.49	2,952.07	1,476.04	4,057.95	2,004.07	2.39	-1.13	0.592
25.00	-29.93	-30.23	0.00	-2,683.94	0.00	2,683.94	2,901.93	1,450.96	3,891.94	1,922.08	3.73	-1.42	0.572
30.00	-28.45	-29.87	0.00	-2,532.77	0.00	2,532.77	2,830.35	1,415.18	3,701.25	1,827.91	5.37	-1.70	0.557
31.50	-27.97	-29.65	0.00	-2,487.97	0.00	2,487.97	2,808.88	1,404.44	3,644.98	1,800.12	5.92	-1.78	0.552
35.00	-26.60	-29.37	0.00	-2,384.21	0.00	2,384.21	2,758.78	1,379.39	3,515.36	1,736.10	7.30	-1.98	0.529
35.67	-26.29	-29.17	0.00	-2,364.63	0.00	2,364.63	2,225.24	1,112.62	2,894.88	1,429.67	7.58	-2.02	0.591
40.00	-25.07	-28.68	0.00	-2,238.23	0.00	2,238.23	2,194.35	1,097.17	2,791.07	1,378.40	9.52	-2.26	0.568
45.00	-23.69	-28.12	0.00	-2,094.86	0.00	2,094.86	2,157.69	1,078.84	2,672.25	1,319.72	12.04	-2.54	0.542
50.00	-22.32	-27.54	0.00	-1,954.28	0.00	1,954.28	2,119.93	1,059.96	2,554.56	1,261.60	14.85	-2.82	0.516
55.00	-21.02	-27.10	0.00	-1,816.59	0.00	1,816.59	2,081.07	1,040.54	2,438.12	1,204.10	17.95	-3.09	0.490
56.02	-20.72	-26.86	0.00	-1,788.95	0.00	1,788.95	2,073.01	1,036.51	2,414.53	1,192.44	18.62	-3.15	0.484
56.02	-20.72	-26.86	0.00	-1,788.95	0.00	1,788.95	2,073.01	1,036.51	2,414.53	1,192.44	18.62	-3.15	0.733
60.00	-19.86	-26.37	0.00	-1,682.05	0.00	1,682.05	2,041.12	1,020.56	2,323.03	1,147.26	21.34	-3.37	0.705
65.00	-18.80	-25.81	0.00	-1,550.19	0.00	1,550.19	1,992.10	996.05	2,200.59	1,086.79	25.08	-3.77	0.671
70.00	-17.79	-25.26	0.00	-1,421.13	0.00	1,421.13	1,932.46	966.23	2,070.05	1,022.32	29.24	-4.16	0.638
73.50	-16.88	-24.88	0.00	-1,332.74	0.00	1,332.74	1,451.36	725.68	1,558.37	769.62	32.39	-4.44	0.702
74.71	-16.66	-24.77	0.00	-1,302.55	0.00	1,302.55	1,444.76	722.38	1,539.55	760.33	33.53	-4.53	0.690
75.00	-16.59	-24.67	0.00	-1,295.45	0.00	1,295.45	1,443.19	721.60	1,535.11	758.14	33.80	-4.56	0.375
76.50	-16.30	-24.38	0.00	-1,258.44	0.00	1,258.44	1,434.93	717.46	1,511.92	746.68	35.25	-4.62	0.364
76.50	-16.30	-24.38	0.00	-1,258.44	0.00	1,258.44	1,434.93	717.46	1,511.92	746.68	35.25	-4.62	0.544
80.00	-15.68	-23.85	0.00	-1,173.10	0.00	1,173.10	1,415.26	707.63	1,458.06	720.08	38.69	-4.77	0.513
85.00	-14.81	-23.19	0.00	-1,053.83	0.00	1,053.83	1,386.24	693.12	1,381.78	682.41	43.85	-5.08	0.468
90.00	-13.96	-22.58	0.00	-937.89	0.00	937.89	1,356.12	678.06	1,306.38	645.17	49.32	-5.37	0.423
95.00	-13.14	-21.97	0.00	-824.99	0.00	824.99	1,324.90	662.45	1,231.99	608.43	55.09	-5.64	0.379
100.00	-12.34	-21.39	0.00	-715.16	0.00	715.16	1,293.04	646.52	1,159.10	572.44	61.13	-5.90	0.333
104.00	-11.73	-20.91	0.00	-629.62	0.00	629.62	1,254.87	627.43	1,091.30	538.95	66.15	-6.09	0.300
105.00	-10.85	-19.74	0.00	-608.72	0.00	608.72	1,245.33	622.66	1,074.67	530.74	67.43	-6.13	0.292
109.00	-10.16	-18.75	0.00	-529.77	0.00	529.77	1,207.15	603.58	1,009.42	498.51	72.63	-6.30	0.259
110.00	-10.00	-18.47	0.00	-511.02	0.00	511.02	1,197.61	598.80	993.42	490.61	73.96	-6.34	0.252
110.00	-10.00	-18.47	0.00	-511.02	0.00	511.02	833.77	416.88	695.90	343.68	73.96	-6.34	0.290
114.79	-9.39	-17.89	0.00	-422.55	0.00	422.55	814.75	407.37	653.92	322.94	80.40	-6.52	0.242
115.00	-9.35	-17.84	0.00	-418.80	0.00	418.80	813.89	406.95	652.08	322.04	80.69	-6.53	0.112
115.52	-9.28	-17.59	0.00	-409.50	0.00	409.50	811.76	405.88	647.55	319.80	81.40	-6.54	0.110
115.52	-9.28	-17.59	0.00	-409.50	0.00	409.50	811.76	405.88	647.55	319.80	81.40	-6.54	0.176
120.00	-6.39	-13.90	0.00	-329.78	0.00	329.78	792.92	396.46	608.75	300.64	87.56	-6.61	0.140
123.00	-6.06	-13.45	0.00	-288.08	0.00	288.08	779.81	389.91	583.04	287.94	91.73	-6.67	0.122
124.21	-5.93	-13.28	0.00	-271.80	0.00	271.80	774.41	387.21	572.73	282.85	93.42	-6.70	0.115
124.21	-5.93	-13.28	0.00	-271.80	0.00	271.80	774.41	387.21	572.73	282.85	93.42	-6.70	0.970

Site Number: 302475

Code: ANSI/TIA-222-G

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Site Name: Sstn - Southington, CT

Engineering Number: 12978549_C4_06

12/9/2019 11:38:25 AM

Customer: VERIZON WIRELESS

Load Case: 0.9D + 1.6W

97 mph with No Ice (Reduced DL)

26 Iterations

Gust Response Factor : 1.10

Wind Importance Factor : 1.00

Dead Load Factor : 0.90

Wind Load Factor : 1.60

125.00	-5.82	-13.04	0.00	-261.31	0.00	261.31	770.85	385.43	566.02	279.54	94.53	-6.71	0.943
130.00	-5.33	-11.10	0.00	-191.32	0.00	191.32	747.69	373.84	524.00	258.78	101.96	-7.46	0.747
135.00	-5.03	-10.81	0.00	-135.85	0.00	135.85	722.05	361.03	481.88	237.98	110.09	-8.07	0.579
140.00	-4.77	-10.56	0.00	-81.81	0.00	81.81	686.26	343.13	435.03	214.85	118.78	-8.54	0.389
143.00	-2.29	-5.62	0.00	-50.12	0.00	50.12	664.79	332.40	408.08	201.53	124.19	-8.74	0.252
145.00	-2.22	-5.41	0.00	-38.89	0.00	38.89	650.48	325.24	390.59	192.90	127.86	-8.84	0.205
150.00	0.00	-5.00	0.00	-11.82	0.00	11.82	614.69	307.34	348.53	172.13	137.18	-8.99	0.069

Site Number: 302475

Code: ANSI/TIA-222-G

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Site Name: Sttn - Southington, CT

Engineering Number: 12978549_C4_06

12/9/2019 11:38:25 AM

Customer: VERIZON WIRELESS

Load Case: 1.2D + 1.0Di + 1.0Wi

50 mph with 1.00 in Radial Ice

27 Iterations

Gust Response Factor : 1.10

Ice Dead Load Factor : 1.00

Wind Importance Factor : 1.00

Dead Load Factor : 1.20

Ice Importance Factor : 1.00

Wind Load Factor : 1.00

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-106.91	-15.19	0.00	-1,545.51	0.00	1,545.51	3,136.53	1,568.27	4,731.25	2,336.59	0.00	0.00	0.312
5.00	-104.19	-14.97	0.00	-1,469.57	0.00	1,469.57	3,092.06	1,546.03	4,560.72	2,252.37	0.07	-0.13	0.303
10.00	-101.41	-14.74	0.00	-1,394.73	0.00	1,394.73	3,046.49	1,523.25	4,391.58	2,168.84	0.27	-0.25	0.294
15.00	-98.61	-14.50	0.00	-1,321.05	0.00	1,321.05	2,999.83	1,499.91	4,223.96	2,086.05	0.60	-0.38	0.284
20.00	-95.82	-14.25	0.00	-1,248.57	0.00	1,248.57	2,952.07	1,476.04	4,057.95	2,004.07	1.06	-0.50	0.274
25.00	-93.04	-13.99	0.00	-1,177.33	0.00	1,177.33	2,901.93	1,450.96	3,891.94	1,922.08	1.65	-0.63	0.265
30.00	-90.28	-13.69	0.00	-1,107.36	0.00	1,107.36	2,830.35	1,415.18	3,701.25	1,827.91	2.38	-0.75	0.257
31.50	-89.44	-13.63	0.00	-1,086.82	0.00	1,086.82	2,808.88	1,404.44	3,644.98	1,800.12	2.62	-0.79	0.254
35.00	-87.05	-13.40	0.00	-1,039.11	0.00	1,039.11	2,758.78	1,379.39	3,515.36	1,736.10	3.23	-0.87	0.244
35.67	-86.59	-13.39	0.00	-1,030.17	0.00	1,030.17	2,225.24	1,112.62	2,894.88	1,429.67	3.35	-0.89	0.272
40.00	-84.31	-13.13	0.00	-972.14	0.00	972.14	2,194.35	1,097.17	2,791.07	1,378.40	4.21	-0.99	0.261
45.00	-81.69	-12.80	0.00	-906.51	0.00	906.51	2,157.69	1,078.84	2,672.25	1,319.72	5.31	-1.12	0.249
50.00	-79.09	-12.54	0.00	-842.52	0.00	842.52	2,119.93	1,059.96	2,554.56	1,261.60	6.55	-1.24	0.236
55.00	-76.52	-12.23	0.00	-779.85	0.00	779.85	2,081.07	1,040.54	2,438.12	1,204.10	7.91	-1.35	0.224
56.02	-75.99	-12.19	0.00	-767.37	0.00	767.37	2,073.01	1,036.51	2,414.53	1,192.44	8.20	-1.38	0.221
56.02	-75.99	-12.19	0.00	-767.37	0.00	767.37	2,073.01	1,036.51	2,414.53	1,192.44	8.20	-1.38	0.333
60.00	-74.27	-12.00	0.00	-718.86	0.00	718.86	2,041.12	1,020.56	2,323.03	1,147.26	9.39	-1.47	0.320
65.00	-72.12	-11.77	0.00	-658.84	0.00	658.84	1,992.10	996.05	2,200.59	1,086.79	11.02	-1.64	0.303
70.00	-69.94	-11.49	0.00	-599.99	0.00	599.99	1,932.46	966.23	2,070.05	1,022.32	12.83	-1.81	0.288
73.50	-67.94	-11.22	0.00	-559.78	0.00	559.78	1,451.36	725.68	1,558.37	769.62	14.20	-1.93	0.316
74.71	-67.38	-11.13	0.00	-546.17	0.00	546.17	1,444.76	722.38	1,539.55	760.33	14.70	-1.97	0.311
75.00	-67.22	-11.11	0.00	-542.98	0.00	542.98	1,443.19	721.60	1,535.11	758.14	14.82	-1.98	0.172
76.50	-66.50	-10.98	0.00	-526.32	0.00	526.32	1,434.93	717.46	1,511.92	746.68	15.44	-2.00	0.166
76.50	-66.50	-10.98	0.00	-526.32	0.00	526.32	1,434.93	717.46	1,511.92	746.68	15.44	-2.00	0.249
80.00	-64.89	-10.70	0.00	-487.88	0.00	487.88	1,415.26	707.63	1,458.06	720.08	16.93	-2.07	0.234
85.00	-62.68	-10.31	0.00	-434.40	0.00	434.40	1,386.24	693.12	1,381.78	682.41	19.17	-2.19	0.213
90.00	-60.55	-9.92	0.00	-382.87	0.00	382.87	1,356.12	678.06	1,306.38	645.17	21.53	-2.31	0.192
95.00	-58.44	-9.51	0.00	-333.27	0.00	333.27	1,324.90	662.45	1,231.99	608.43	24.01	-2.42	0.172
100.00	-56.36	-9.09	0.00	-285.72	0.00	285.72	1,293.04	646.52	1,159.10	572.44	26.60	-2.53	0.152
104.00	-54.60	-8.66	0.00	-249.38	0.00	249.38	1,254.87	627.43	1,091.30	538.95	28.75	-2.60	0.137
105.00	-51.66	-8.21	0.00	-240.72	0.00	240.72	1,245.33	622.66	1,074.67	530.74	29.30	-2.62	0.133
109.00	-49.08	-7.65	0.00	-207.87	0.00	207.87	1,207.15	603.58	1,009.42	498.51	31.52	-2.69	0.119
110.00	-48.68	-7.55	0.00	-200.22	0.00	200.22	1,197.61	598.80	993.42	490.61	32.09	-2.70	0.115
110.00	-48.68	-7.55	0.00	-200.22	0.00	200.22	833.77	416.88	695.90	343.68	32.09	-2.70	0.134
114.79	-46.57	-7.03	0.00	-164.05	0.00	164.05	814.75	407.37	653.92	322.94	34.83	-2.77	0.113
115.00	-46.46	-7.01	0.00	-162.57	0.00	162.57	813.89	406.95	652.08	322.04	34.96	-2.77	0.055
115.52	-46.22	-6.92	0.00	-158.92	0.00	158.92	811.76	405.88	647.55	319.80	35.26	-2.78	0.054
115.52	-46.22	-6.92	0.00	-158.92	0.00	158.92	811.76	405.88	647.55	319.80	35.26	-2.78	0.087
120.00	-33.97	-5.16	0.00	-127.73	0.00	127.73	792.92	396.46	608.75	300.64	37.88	-2.80	0.068
123.00	-32.91	-4.99	0.00	-112.26	0.00	112.26	779.81	389.91	583.04	287.94	39.65	-2.83	0.061
124.21	-32.52	-4.93	0.00	-106.22	0.00	106.22	774.41	387.21	572.73	282.85	40.37	-2.84	0.059
124.21	-32.52	-4.93	0.00	-106.22	0.00	106.22	774.41	387.21	572.73	282.85	40.37	-2.84	0.418

Site Number: 302475

Code: ANSI/TIA-222-G

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Site Name: Sitr - Southington, CT

Engineering Number: 12978549_C4_06

12/9/2019 11:38:33 AM

Customer: VERIZON WIRELESS

Load Case: 1.2D + 1.0Di + 1.0Wi

50 mph with 1.00 in Radial Ice

27 Iterations

Gust Response Factor : 1.10

Ice Dead Load Factor : 1.00

Wind Importance Factor : 1.00

Dead Load Factor : 1.20

Ice Importance Factor : 1.00

Wind Load Factor : 1.00

125.00	-32.31	-4.94	0.00	-102.33	0.00	102.33	770.85	385.43	566.02	279.54	40.84	-2.85	0.408
130.00	-29.07	-4.40	0.00	-76.48	0.00	76.48	747.69	373.84	524.00	258.78	43.98	-3.14	0.335
135.00	-28.45	-4.40	0.00	-54.48	0.00	54.48	722.05	361.03	481.88	237.98	47.40	-3.38	0.268
140.00	-27.86	-4.36	0.00	-32.50	0.00	32.50	686.26	343.13	435.03	214.85	51.05	-3.57	0.192
143.00	-14.48	-2.39	0.00	-19.42	0.00	19.42	664.79	332.40	408.08	201.53	53.32	-3.65	0.118
145.00	-14.26	-2.34	0.00	-14.64	0.00	14.64	650.48	325.24	390.59	192.90	54.86	-3.69	0.098
150.00	0.00	-1.41	0.00	-2.95	0.00	2.95	614.69	307.34	348.53	172.13	58.75	-3.74	0.017

Site Number: 302475

Code: ANSI/TIA-222-G

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Site Name: Sttn - Southington, CT

Engineering Number: 12978549_C4_06

12/9/2019 11:38:33 AM

Customer: VERIZON WIRELESS

Load Case: 1.0D + 1.0W

Serviceability 60 mph

24 Iterations

Gust Response Factor : 1.10

Wind Importance Factor : 1.00

Dead Load Factor : 1.00

Wind Load Factor : 1.00

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-42.18	-6.97	0.00	-749.50	0.00	749.50	3,136.53	1,568.27	4,731.25	2,336.59	0.00	0.00	0.150
5.00	-40.54	-6.88	0.00	-714.63	0.00	714.63	3,092.06	1,546.03	4,560.72	2,252.37	0.03	-0.06	0.146
10.00	-38.91	-6.78	0.00	-680.23	0.00	680.23	3,046.49	1,523.25	4,391.58	2,168.84	0.13	-0.12	0.141
15.00	-37.30	-6.69	0.00	-646.31	0.00	646.31	2,999.83	1,499.91	4,223.96	2,086.05	0.29	-0.18	0.137
20.00	-35.70	-6.59	0.00	-612.88	0.00	612.88	2,952.07	1,476.04	4,057.95	2,004.07	0.52	-0.24	0.133
25.00	-34.12	-6.49	0.00	-579.93	0.00	579.93	2,901.93	1,450.96	3,891.94	1,922.08	0.81	-0.31	0.128
30.00	-32.56	-6.41	0.00	-547.48	0.00	547.48	2,830.35	1,415.18	3,701.25	1,827.91	1.16	-0.37	0.125
31.50	-32.10	-6.37	0.00	-537.85	0.00	537.85	2,808.88	1,404.44	3,644.98	1,800.12	1.28	-0.39	0.124
35.00	-30.64	-6.31	0.00	-515.56	0.00	515.56	2,758.78	1,379.39	3,515.36	1,736.10	1.58	-0.43	0.119
35.67	-30.36	-6.27	0.00	-511.35	0.00	511.35	2,225.24	1,112.62	2,894.88	1,429.67	1.64	-0.44	0.133
40.00	-29.11	-6.17	0.00	-484.18	0.00	484.18	2,194.35	1,097.17	2,791.07	1,378.40	2.06	-0.49	0.128
45.00	-27.69	-6.05	0.00	-453.34	0.00	453.34	2,157.69	1,078.84	2,672.25	1,319.72	2.60	-0.55	0.122
50.00	-26.29	-5.93	0.00	-423.09	0.00	423.09	2,119.93	1,059.96	2,554.56	1,261.60	3.21	-0.61	0.116
55.00	-24.89	-5.84	0.00	-393.44	0.00	393.44	2,081.07	1,040.54	2,438.12	1,204.10	3.88	-0.67	0.110
56.02	-24.61	-5.79	0.00	-387.49	0.00	387.49	2,073.01	1,036.51	2,414.53	1,192.44	4.02	-0.68	0.109
56.02	-24.61	-5.79	0.00	-387.49	0.00	387.49	2,073.01	1,036.51	2,414.53	1,192.44	4.02	-0.68	0.164
60.00	-23.78	-5.69	0.00	-364.45	0.00	364.45	2,041.12	1,020.56	2,323.03	1,147.26	4.61	-0.73	0.158
65.00	-22.75	-5.57	0.00	-336.02	0.00	336.02	1,992.10	996.05	2,200.59	1,086.79	5.42	-0.81	0.151
70.00	-21.73	-5.46	0.00	-308.17	0.00	308.17	1,932.46	966.23	2,070.05	1,022.32	6.32	-0.90	0.144
73.50	-20.77	-5.38	0.00	-289.07	0.00	289.07	1,451.36	725.68	1,558.37	769.62	7.00	-0.96	0.158
74.71	-20.55	-5.35	0.00	-282.55	0.00	282.55	1,444.76	722.38	1,539.55	760.33	7.25	-0.98	0.156
75.00	-20.48	-5.33	0.00	-281.02	0.00	281.02	1,443.19	721.60	1,535.11	758.14	7.31	-0.99	0.085
76.50	-20.18	-5.27	0.00	-273.02	0.00	273.02	1,434.93	717.46	1,511.92	746.68	7.62	-1.00	0.083
76.50	-20.18	-5.27	0.00	-273.02	0.00	273.02	1,434.93	717.46	1,511.92	746.68	7.62	-1.00	0.124
80.00	-19.55	-5.16	0.00	-254.57	0.00	254.57	1,415.26	707.63	1,458.06	720.08	8.37	-1.03	0.117
85.00	-18.65	-5.02	0.00	-228.77	0.00	228.77	1,386.24	693.12	1,381.78	682.41	9.48	-1.10	0.107
90.00	-17.76	-4.89	0.00	-203.67	0.00	203.67	1,356.12	678.06	1,306.38	645.17	10.67	-1.16	0.097
95.00	-16.88	-4.76	0.00	-179.21	0.00	179.21	1,324.90	662.45	1,231.99	608.43	11.92	-1.22	0.087
100.00	-16.02	-4.64	0.00	-155.40	0.00	155.40	1,293.04	646.52	1,159.10	572.44	13.23	-1.28	0.077
104.00	-15.33	-4.53	0.00	-136.85	0.00	136.85	1,254.87	627.43	1,091.30	538.95	14.32	-1.32	0.070
105.00	-14.26	-4.28	0.00	-132.32	0.00	132.32	1,245.33	622.66	1,074.67	530.74	14.60	-1.33	0.068
109.00	-13.42	-4.07	0.00	-115.19	0.00	115.19	1,207.15	603.58	1,009.42	498.51	15.72	-1.37	0.060
110.00	-13.25	-4.01	0.00	-111.12	0.00	111.12	1,197.61	598.80	993.42	490.61	16.01	-1.37	0.059
110.00	-13.25	-4.01	0.00	-111.12	0.00	111.12	833.77	416.88	695.90	343.68	16.01	-1.37	0.068
114.79	-12.53	-3.88	0.00	-91.91	0.00	91.91	814.75	407.37	653.92	322.94	17.41	-1.41	0.057
115.00	-12.49	-3.87	0.00	-91.10	0.00	91.10	813.89	406.95	652.08	322.04	17.47	-1.41	0.027
115.52	-12.40	-3.82	0.00	-89.08	0.00	89.08	811.76	405.88	647.55	319.80	17.63	-1.42	0.026
115.52	-12.40	-3.82	0.00	-89.08	0.00	89.08	811.76	405.88	647.55	319.80	17.63	-1.42	0.043
120.00	-8.77	-3.02	0.00	-71.77	0.00	71.77	792.92	396.46	608.75	300.64	18.97	-1.43	0.034
123.00	-8.35	-2.92	0.00	-62.72	0.00	62.72	779.81	389.91	583.04	287.94	19.87	-1.45	0.030
124.21	-8.19	-2.88	0.00	-59.19	0.00	59.19	774.41	387.21	572.73	282.85	20.24	-1.45	0.028
124.21	-8.19	-2.88	0.00	-59.19	0.00	59.19	774.41	387.21	572.73	282.85	20.24	-1.45	0.220

Site Number: 302475

Code: ANSI/TIA-222-G

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Site Name: Sttn - Southington, CT

Engineering Number: 12978549_C4_06

12/9/2019 11:38:41 AM

Customer: VERIZON WIRELESS

Load Case: 1.0D + 1.0W

Serviceability 60 mph

24 Iterations

Gust Response Factor : 1.10

Wind Importance Factor : 1.00

Dead Load Factor : 1.00

Wind Load Factor : 1.00

125.00	-8.14	-2.83	0.00	-56.91	0.00	56.91	770.85	385.43	566.02	279.54	20.48	-1.45	0.214
130.00	-7.47	-2.42	0.00	-41.72	0.00	41.72	747.69	373.84	524.00	258.78	22.09	-1.62	0.171
135.00	-7.20	-2.36	0.00	-29.63	0.00	29.63	722.05	361.03	481.88	237.98	23.86	-1.75	0.135
140.00	-6.93	-2.31	0.00	-17.83	0.00	17.83	686.26	343.13	435.03	214.85	25.75	-1.85	0.093
143.00	-3.43	-1.23	0.00	-10.90	0.00	10.90	664.79	332.40	408.08	201.53	26.93	-1.90	0.059
145.00	-3.33	-1.18	0.00	-8.45	0.00	8.45	650.48	325.24	390.59	192.90	27.73	-1.92	0.049
150.00	0.00	-1.07	0.00	-2.53	0.00	2.53	614.69	307.34	348.53	172.13	29.76	-1.95	0.015

Site Number: 302475

Code: ANSI/TIA-222-G

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Site Name: Sttn - Southington, CT

Engineering Number: 12978549_C4_06

12/9/2019 11:38:41 AM

Customer: VERIZON WIRELESS

Load Case: (1.2 + 0.2Sds) * DL + E ELMF

Seismic Equivalent Lateral Forces Method

23 Iterations

Gust Response Factor : 1.10

Sds : 0.00

Ss : 0.00

Dead Load Factor : 1.20

Seismic Load Factor : 1.00

Sd1 : 0.00

S1 : 0.00

Wind Load Factor : 0.00

Structure Frequency : 0.0000

SA : 0.00

Seismic Importance Factor : 1.00

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

Seismic Equivalent Lateral Forces Method

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-50.21	-1.27	0.00	-161.99	0.00	161.99	3,136.53	1,568.27	4,731.25	2,336.59	0.00	0.00	0.039
5.00	-48.21	-1.28	0.00	-155.64	0.00	155.64	3,092.06	1,546.03	4,560.72	2,252.37	0.01	-0.01	0.038
10.00	-46.22	-1.29	0.00	-149.23	0.00	149.23	3,046.49	1,523.25	4,391.58	2,168.84	0.03	-0.03	0.037
15.00	-44.25	-1.30	0.00	-142.78	0.00	142.78	2,999.83	1,499.91	4,223.96	2,086.05	0.06	-0.04	0.036
20.00	-42.30	-1.30	0.00	-136.29	0.00	136.29	2,952.07	1,476.04	4,057.95	2,004.07	0.11	-0.05	0.035
25.00	-40.38	-1.31	0.00	-129.78	0.00	129.78	2,901.93	1,450.96	3,891.94	1,922.08	0.18	-0.07	0.034
30.00	-39.80	-1.31	0.00	-123.24	0.00	123.24	2,830.35	1,415.18	3,701.25	1,827.91	0.25	-0.08	0.034
31.50	-38.00	-1.31	0.00	-121.28	0.00	121.28	2,808.88	1,404.44	3,644.98	1,800.12	0.28	-0.09	0.033
35.00	-37.65	-1.31	0.00	-116.71	0.00	116.71	2,758.78	1,379.39	3,515.36	1,736.10	0.35	-0.09	0.032
35.67	-36.12	-1.30	0.00	-115.83	0.00	115.83	2,225.24	1,112.62	2,894.88	1,429.67	0.36	-0.10	0.036
40.00	-34.37	-1.30	0.00	-110.18	0.00	110.18	2,194.35	1,097.17	2,791.07	1,378.40	0.45	-0.11	0.035
45.00	-32.63	-1.29	0.00	-103.69	0.00	103.69	2,157.69	1,078.84	2,672.25	1,319.72	0.57	-0.12	0.033
50.00	-30.91	-1.28	0.00	-97.23	0.00	97.23	2,119.93	1,059.96	2,554.56	1,261.60	0.71	-0.14	0.032
55.00	-30.56	-1.28	0.00	-90.83	0.00	90.83	2,081.07	1,040.54	2,438.12	1,204.10	0.86	-0.15	0.030
56.02	-29.54	-1.27	0.00	-89.52	0.00	89.52	2,073.01	1,036.51	2,414.53	1,192.44	0.89	-0.15	0.030
56.02	-29.54	-1.27	0.00	-89.52	0.00	89.52	2,073.01	1,036.51	2,414.53	1,192.44	0.89	-0.15	0.045
60.00	-28.26	-1.26	0.00	-84.46	0.00	84.46	2,041.12	1,020.56	2,323.03	1,147.26	1.02	-0.16	0.043
65.00	-27.01	-1.25	0.00	-78.16	0.00	78.16	1,992.10	996.05	2,200.59	1,086.79	1.21	-0.18	0.041
70.00	-25.83	-1.24	0.00	-71.91	0.00	71.91	1,932.46	966.23	2,070.05	1,022.32	1.41	-0.20	0.040
73.50	-25.55	-1.23	0.00	-67.58	0.00	67.58	1,451.36	725.68	1,558.37	769.62	1.56	-0.22	0.044
74.71	-25.46	-1.23	0.00	-66.09	0.00	66.09	1,444.76	722.38	1,539.55	760.33	1.62	-0.22	0.044
75.00	-25.10	-1.23	0.00	-65.73	0.00	65.73	1,443.19	721.60	1,535.11	758.14	1.63	-0.22	0.025
76.50	-24.32	-1.21	0.00	-63.89	0.00	63.89	1,434.93	717.46	1,511.92	746.68	1.70	-0.23	0.024
76.50	-24.32	-1.21	0.00	-63.89	0.00	63.89	1,434.93	717.46	1,511.92	746.68	1.70	-0.23	0.036
80.00	-23.21	-1.19	0.00	-59.65	0.00	59.65	1,415.26	707.63	1,458.06	720.08	1.87	-0.23	0.034
85.00	-22.11	-1.17	0.00	-53.70	0.00	53.70	1,386.24	693.12	1,381.78	682.41	2.13	-0.25	0.031
90.00	-21.02	-1.14	0.00	-47.87	0.00	47.87	1,356.12	678.06	1,306.38	645.17	2.40	-0.27	0.029
95.00	-19.95	-1.11	0.00	-42.18	0.00	42.18	1,324.90	662.45	1,231.99	608.43	2.68	-0.28	0.026
100.00	-19.11	-1.08	0.00	-36.64	0.00	36.64	1,293.04	646.52	1,159.10	572.44	2.98	-0.29	0.024
104.00	-18.89	-1.08	0.00	-32.31	0.00	32.31	1,254.87	627.43	1,091.30	538.95	3.23	-0.30	0.022
105.00	-16.94	-1.00	0.00	-31.23	0.00	31.23	1,245.33	622.66	1,074.67	530.74	3.29	-0.30	0.021
109.00	-16.52	-0.99	0.00	-27.23	0.00	27.23	1,207.15	603.58	1,009.42	498.51	3.55	-0.31	0.019
110.00	-15.63	-0.95	0.00	-26.24	0.00	26.24	1,197.61	598.80	993.42	490.61	3.62	-0.31	0.019
110.00	-15.63	-0.95	0.00	-26.24	0.00	26.24	833.77	416.88	695.90	343.68	3.62	-0.31	0.022
114.79	-15.57	-0.95	0.00	-21.69	0.00	21.69	814.75	407.37	653.92	322.94	3.94	-0.32	0.019
115.00	-15.46	-0.94	0.00	-21.49	0.00	21.49	813.89	406.95	652.08	322.04	3.95	-0.32	0.010
115.52	-14.63	-0.91	0.00	-21.00	0.00	21.00	811.76	405.88	647.55	319.80	3.99	-0.32	0.010
115.52	-14.63	-0.91	0.00	-21.00	0.00	21.00	811.76	405.88	647.55	319.80	3.99	-0.32	0.015
120.00	-10.44	-0.70	0.00	-16.95	0.00	16.95	792.92	396.46	608.75	300.64	4.30	-0.33	0.012
123.00	-10.23	-0.69	0.00	-14.84	0.00	14.84	779.81	389.91	583.04	287.94	4.50	-0.33	0.011
124.21	-10.16	-0.69	0.00	-14.01	0.00	14.01	774.41	387.21	572.73	282.85	4.59	-0.33	0.010

Site Number: 302475

Code: ANSI/TIA-222-G

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Site Name: SItN - Southington, CT

Engineering Number: 12978549_C4_06

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Customer: VERIZON WIRELESS

Load Case: (1.2 + 0.2Sds) * DL + E ELM

Seismic Equivalent Lateral Forces Method

23 Iterations

Gust Response Factor : 1.10

Sds : 0.00

Ss : 0.00

Dead Load Factor : 1.20

Seismic Load Factor : 1.00

Sd1 : 0.00

S1 : 0.00

Wind Load Factor : 0.00

Structure Frequency : 0.0000

SA : 0.00

Seismic Importance Factor : 1.00

124.21	-10.16	-0.69	0.00	-14.01	0.00	14.01	774.41	387.21	572.73	282.85	4.59	-0.33	0.063
125.00	-9.75	-0.67	0.00	-13.46	0.00	13.46	770.85	385.43	566.02	279.54	4.64	-0.33	0.061
130.00	-8.99	-0.63	0.00	-10.12	0.00	10.12	747.69	373.84	524.00	258.78	5.01	-0.37	0.051
135.00	-8.67	-0.61	0.00	-6.96	0.00	6.96	722.05	361.03	481.88	237.98	5.42	-0.40	0.041
140.00	-8.47	-0.60	0.00	-3.88	0.00	3.88	686.26	343.13	435.03	214.85	5.86	-0.43	0.030
143.00	-4.17	-0.31	0.00	-2.07	0.00	2.07	664.79	332.40	408.08	201.53	6.13	-0.44	0.017
145.00	-3.88	-0.29	0.00	-1.45	0.00	1.45	650.48	325.24	390.59	192.90	6.32	-0.44	0.013
150.00	0.00	-0.26	0.00	0.00	0.00	0.00	614.69	307.34	348.53	172.13	6.78	-0.44	0.000

Site Number: 302475

Code: ANSI/TIA-222-G

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Site Name: Sttn - Southington, CT

Engineering Number: 12978549_C4_06

12/9/2019 11:38:42 AM

Customer: VERIZON WIRELESS

Load Case: (0.9 - 0.2Sds) * DL + E ELFM	Seismic (Reduced DL) Equivalent Lateral Forces Method	23 Iterations
Gust Response Factor : 1.10	Sds : 0.00	Ss : 0.00
Dead Load Factor : 0.90	Seismic Load Factor : 1.00	S1 : 0.00
Wind Load Factor : 0.00	Structure Frequency : 0.0000	SA : 0.00
		Seismic Imporance Factor : 1.00

Load Case (0.9 - 0.2Sds) * DL + E ELFM Seismic (Reduced DL) Equivalent Lateral Forces Method

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-34.94	-1.27	0.00	-158.68	0.00	158.68	3,136.53	1,568.27	4,731.25	2,336.59	0.00	0.00	0.036
5.00	-33.54	-1.28	0.00	-152.34	0.00	152.34	3,092.06	1,546.03	4,560.72	2,252.37	0.01	-0.01	0.035
10.00	-32.16	-1.28	0.00	-145.96	0.00	145.96	3,046.49	1,523.25	4,391.58	2,168.84	0.03	-0.03	0.034
15.00	-30.79	-1.29	0.00	-139.55	0.00	139.55	2,999.83	1,499.91	4,223.96	2,086.05	0.06	-0.04	0.033
20.00	-29.43	-1.29	0.00	-133.12	0.00	133.12	2,952.07	1,476.04	4,057.95	2,004.07	0.11	-0.05	0.033
25.00	-28.09	-1.29	0.00	-126.67	0.00	126.67	2,901.93	1,450.96	3,891.94	1,922.08	0.17	-0.07	0.032
30.00	-27.69	-1.29	0.00	-120.22	0.00	120.22	2,830.35	1,415.18	3,701.25	1,827.91	0.25	-0.08	0.031
31.50	-26.43	-1.29	0.00	-118.29	0.00	118.29	2,808.88	1,404.44	3,644.98	1,800.12	0.27	-0.08	0.031
35.00	-26.20	-1.29	0.00	-113.78	0.00	113.78	2,758.78	1,379.39	3,515.36	1,736.10	0.34	-0.09	0.030
35.67	-25.13	-1.28	0.00	-112.92	0.00	112.92	2,225.24	1,112.62	2,894.88	1,429.67	0.35	-0.09	0.033
40.00	-23.91	-1.28	0.00	-107.36	0.00	107.36	2,194.35	1,097.17	2,791.07	1,378.40	0.44	-0.11	0.032
45.00	-22.70	-1.27	0.00	-100.98	0.00	100.98	2,157.69	1,078.84	2,672.25	1,319.72	0.56	-0.12	0.030
50.00	-21.50	-1.26	0.00	-94.64	0.00	94.64	2,119.93	1,059.96	2,554.56	1,261.60	0.69	-0.13	0.029
55.00	-21.26	-1.26	0.00	-88.36	0.00	88.36	2,081.07	1,040.54	2,438.12	1,204.10	0.84	-0.15	0.028
56.02	-20.55	-1.25	0.00	-87.08	0.00	87.08	2,073.01	1,036.51	2,414.53	1,192.44	0.87	-0.15	0.028
56.02	-20.55	-1.25	0.00	-87.08	0.00	87.08	2,073.01	1,036.51	2,414.53	1,192.44	0.87	-0.15	0.041
60.00	-19.66	-1.23	0.00	-82.12	0.00	82.12	2,041.12	1,020.56	2,323.03	1,147.26	1.00	-0.16	0.040
65.00	-18.79	-1.22	0.00	-75.95	0.00	75.95	1,992.10	996.05	2,200.59	1,086.79	1.18	-0.18	0.038
70.00	-17.97	-1.20	0.00	-69.85	0.00	69.85	1,932.46	966.23	2,070.05	1,022.32	1.38	-0.20	0.036
73.50	-17.78	-1.20	0.00	-65.63	0.00	65.63	1,451.36	725.68	1,558.37	769.62	1.53	-0.21	0.041
74.71	-17.72	-1.20	0.00	-64.17	0.00	64.17	1,444.76	722.38	1,539.55	760.33	1.58	-0.22	0.040
75.00	-17.46	-1.20	0.00	-63.83	0.00	63.83	1,443.19	721.60	1,535.11	758.14	1.59	-0.22	0.022
76.50	-16.92	-1.18	0.00	-62.04	0.00	62.04	1,434.93	717.46	1,511.92	746.68	1.66	-0.22	0.022
76.50	-16.92	-1.18	0.00	-62.04	0.00	62.04	1,434.93	717.46	1,511.92	746.68	1.66	-0.22	0.033
80.00	-16.14	-1.16	0.00	-57.90	0.00	57.90	1,415.26	707.63	1,458.06	720.08	1.83	-0.23	0.031
85.00	-15.38	-1.13	0.00	-52.11	0.00	52.11	1,386.24	693.12	1,381.78	682.41	2.08	-0.24	0.028
90.00	-14.63	-1.11	0.00	-46.44	0.00	46.44	1,356.12	678.06	1,306.38	645.17	2.34	-0.26	0.026
95.00	-13.88	-1.08	0.00	-40.91	0.00	40.91	1,324.90	662.45	1,231.99	608.43	2.62	-0.27	0.024
100.00	-13.29	-1.05	0.00	-35.53	0.00	35.53	1,293.04	646.52	1,159.10	572.44	2.91	-0.28	0.021
104.00	-13.14	-1.04	0.00	-31.33	0.00	31.33	1,254.87	627.43	1,091.30	538.95	3.15	-0.29	0.020
105.00	-11.79	-0.97	0.00	-30.29	0.00	30.29	1,245.33	622.66	1,074.67	530.74	3.21	-0.30	0.019
109.00	-11.49	-0.96	0.00	-26.40	0.00	26.40	1,207.15	603.58	1,009.42	498.51	3.46	-0.30	0.017
110.00	-10.87	-0.92	0.00	-25.44	0.00	25.44	1,197.61	598.80	993.42	490.61	3.53	-0.31	0.016
110.00	-10.87	-0.92	0.00	-25.44	0.00	25.44	833.77	416.88	695.90	343.68	3.53	-0.31	0.019
114.79	-10.83	-0.92	0.00	-21.03	0.00	21.03	814.75	407.37	653.92	322.94	3.84	-0.32	0.017
115.00	-10.75	-0.91	0.00	-20.83	0.00	20.83	813.89	406.95	652.08	322.04	3.85	-0.32	0.008
115.52	-10.18	-0.88	0.00	-20.36	0.00	20.36	811.76	405.88	647.55	319.80	3.89	-0.32	0.008
115.52	-10.18	-0.88	0.00	-20.36	0.00	20.36	811.76	405.88	647.55	319.80	3.89	-0.32	0.013
120.00	-7.26	-0.68	0.00	-16.42	0.00	16.42	792.92	396.46	608.75	300.64	4.19	-0.32	0.010
123.00	-7.12	-0.67	0.00	-14.38	0.00	14.38	779.81	389.91	583.04	287.94	4.39	-0.32	0.009
124.21	-7.07	-0.67	0.00	-13.56	0.00	13.56	774.41	387.21	572.73	282.85	4.47	-0.32	0.009

Site Number: 302475

Code: ANSI/TIA-222-G

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Site Name: Sttn - Southington, CT

Engineering Number: 12978549_C4_06

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Customer: VERIZON WIRELESS

Load Case: (0.9 - 0.2Sds) * DL + E ELM	Seismic (Reduced DL) Equivalent Lateral Forces Method										23 Iterations	
Gust Response Factor : 1.10						Sds : 0.00						Ss : 0.00
Dead Load Factor : 0.90	Seismic Load Factor : 1.00					Sd1 : 0.00						S1 : 0.00
Wind Load Factor : 0.00	Structure Frequency : 0.0000					SA : 0.00	Seismic Importance Factor : 1.00					

124.21	-7.07	-0.67	0.00	-13.56	0.00	13.56	774.41	387.21	572.73	282.85	4.47	-0.32	0.057
125.00	-6.78	-0.65	0.00	-13.03	0.00	13.03	770.85	385.43	566.02	279.54	4.53	-0.32	0.055
130.00	-6.26	-0.61	0.00	-9.78	0.00	9.78	747.69	373.84	524.00	258.78	4.89	-0.36	0.046
135.00	-6.03	-0.59	0.00	-6.73	0.00	6.73	722.05	361.03	481.88	237.98	5.28	-0.39	0.037
140.00	-5.89	-0.58	0.00	-3.75	0.00	3.75	686.26	343.13	435.03	214.85	5.71	-0.42	0.026
143.00	-2.90	-0.30	0.00	-2.00	0.00	2.00	664.79	332.40	408.08	201.53	5.97	-0.42	0.014
145.00	-2.70	-0.28	0.00	-1.40	0.00	1.40	650.48	325.24	390.59	192.90	6.15	-0.43	0.011
150.00	0.00	-0.26	0.00	0.00	0.00	0.00	614.69	307.34	348.53	172.13	6.60	-0.43	0.000

Site Number: 302475

Code: ANSI/TIA-222-G

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Site Name: Sttn - Southington, CT

Engineering Number: 12978549_C4_06

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Customer: VERIZON WIRELESS

Load Case: (1.2 + 0.2Sds) * DL + E EMAM

Seismic Equivalent Modal Analysis Method

24 Iterations

Gust Response Factor : 1.10

Sds : 0.00

Ss : 0.00

Dead Load Factor : 1.20

Seismic Load Factor : 1.00

Sd1 : 0.00

S1 : 0.00

Wind Load Factor : 0.00

Structure Frequency : 0.0000

SA : 0.00

Seismic Importance Factor : 1.00

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

Seismic Equivalent Modal Analysis Method

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-50.21	-2.02	0.00	-247.40	0.00	247.40	3,136.53	1,568.27	4,731.25	2,336.59	0.00	0.00	0.056
5.00	-48.21	-2.00	0.00	-237.31	0.00	237.31	3,092.06	1,546.03	4,560.72	2,252.37	0.01	-0.02	0.054
10.00	-46.22	-1.97	0.00	-227.32	0.00	227.32	3,046.49	1,523.25	4,391.58	2,168.84	0.04	-0.04	0.053
15.00	-44.25	-1.93	0.00	-217.50	0.00	217.50	2,999.83	1,499.91	4,223.96	2,086.05	0.10	-0.06	0.052
20.00	-42.30	-1.89	0.00	-207.86	0.00	207.86	2,952.07	1,476.04	4,057.95	2,004.07	0.17	-0.08	0.050
25.00	-40.37	-1.85	0.00	-198.42	0.00	198.42	2,901.93	1,450.96	3,891.94	1,922.08	0.27	-0.10	0.049
30.00	-39.80	-1.84	0.00	-189.19	0.00	189.19	2,830.35	1,415.18	3,701.25	1,827.91	0.39	-0.12	0.048
31.50	-37.99	-1.79	0.00	-186.43	0.00	186.43	2,808.88	1,404.44	3,644.98	1,800.12	0.43	-0.13	0.048
35.00	-37.65	-1.78	0.00	-180.18	0.00	180.18	2,758.78	1,379.39	3,515.36	1,736.10	0.53	-0.14	0.046
35.67	-36.12	-1.74	0.00	-178.99	0.00	178.99	2,225.24	1,112.62	2,894.88	1,429.67	0.55	-0.15	0.052
40.00	-34.36	-1.69	0.00	-171.45	0.00	171.45	2,194.35	1,097.17	2,791.07	1,378.40	0.69	-0.17	0.050
45.00	-32.63	-1.65	0.00	-162.97	0.00	162.97	2,157.69	1,078.84	2,672.25	1,319.72	0.88	-0.19	0.048
50.00	-30.91	-1.60	0.00	-154.73	0.00	154.73	2,119.93	1,059.96	2,554.56	1,261.60	1.08	-0.21	0.047
55.00	-30.56	-1.60	0.00	-146.71	0.00	146.71	2,081.07	1,040.54	2,438.12	1,204.10	1.32	-0.23	0.045
56.02	-29.53	-1.57	0.00	-145.08	0.00	145.08	2,073.01	1,036.51	2,414.53	1,192.44	1.37	-0.24	0.045
56.02	-29.53	-1.57	0.00	-145.08	0.00	145.08	2,073.01	1,036.51	2,414.53	1,192.44	1.37	-0.24	0.067
60.00	-28.26	-1.55	0.00	-138.82	0.00	138.82	2,041.12	1,020.56	2,323.03	1,147.26	1.57	-0.25	0.066
65.00	-27.01	-1.53	0.00	-131.08	0.00	131.08	1,992.10	996.05	2,200.59	1,086.79	1.85	-0.29	0.064
70.00	-25.82	-1.53	0.00	-123.41	0.00	123.41	1,932.46	966.23	2,070.05	1,022.32	2.17	-0.32	0.063
73.50	-25.55	-1.53	0.00	-118.06	0.00	118.06	1,451.36	725.68	1,558.37	769.62	2.42	-0.35	0.071
74.71	-25.46	-1.53	0.00	-116.20	0.00	116.20	1,444.76	722.38	1,539.55	760.33	2.51	-0.35	0.070
75.00	-25.10	-1.53	0.00	-115.76	0.00	115.76	1,443.19	721.60	1,535.11	758.14	2.53	-0.36	0.039
76.50	-24.31	-1.53	0.00	-113.47	0.00	113.47	1,434.93	717.46	1,511.92	746.68	2.64	-0.36	0.038
76.50	-24.31	-1.53	0.00	-113.47	0.00	113.47	1,434.93	717.46	1,511.92	746.68	2.64	-0.36	0.057
80.00	-23.20	-1.55	0.00	-108.10	0.00	108.10	1,415.26	707.63	1,458.06	720.08	2.91	-0.38	0.055
85.00	-22.10	-1.57	0.00	-100.37	0.00	100.37	1,386.24	693.12	1,381.78	682.41	3.32	-0.40	0.052
90.00	-21.02	-1.61	0.00	-92.50	0.00	92.50	1,356.12	678.06	1,306.38	645.17	3.76	-0.43	0.049
95.00	-19.95	-1.64	0.00	-84.46	0.00	84.46	1,324.90	662.45	1,231.99	608.43	4.23	-0.46	0.045
100.00	-19.10	-1.67	0.00	-76.26	0.00	76.26	1,293.04	646.52	1,159.10	572.44	4.72	-0.49	0.042
104.00	-18.88	-1.67	0.00	-69.60	0.00	69.60	1,254.87	627.43	1,091.30	538.95	5.14	-0.51	0.040
105.00	-16.93	-1.71	0.00	-67.93	0.00	67.93	1,245.33	622.66	1,074.67	530.74	5.24	-0.51	0.038
109.00	-16.51	-1.72	0.00	-61.09	0.00	61.09	1,207.15	603.58	1,009.42	498.51	5.68	-0.53	0.036
110.00	-15.62	-1.72	0.00	-59.38	0.00	59.38	1,197.61	598.80	993.42	490.61	5.79	-0.54	0.035
110.00	-15.62	-1.72	0.00	-59.38	0.00	59.38	833.77	416.88	695.90	343.68	5.79	-0.54	0.040
114.79	-15.56	-1.73	0.00	-51.12	0.00	51.12	814.75	407.37	653.92	322.94	6.34	-0.56	0.036
115.00	-15.45	-1.73	0.00	-50.76	0.00	50.76	813.89	406.95	652.08	322.04	6.37	-0.56	0.017
115.52	-14.62	-1.72	0.00	-49.86	0.00	49.86	811.76	405.88	647.55	319.80	6.43	-0.56	0.017
115.52	-14.62	-1.72	0.00	-49.86	0.00	49.86	811.76	405.88	647.55	319.80	6.43	-0.56	0.027
120.00	-10.43	-1.63	0.00	-42.17	0.00	42.17	792.92	396.46	608.75	300.64	6.96	-0.57	0.022
123.00	-10.22	-1.63	0.00	-37.27	0.00	37.27	779.81	389.91	583.04	287.94	7.32	-0.58	0.020
124.21	-10.15	-1.62	0.00	-35.31	0.00	35.31	774.41	387.21	572.73	282.85	7.46	-0.58	0.019

Site Number: 302475

Code: ANSI/TIA-222-G

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Site Name: Sttn - Southington, CT

Engineering Number: 12978549_C4_06

12/9/2019 11:38:42 AM

Customer: VERIZON WIRELESS

Load Case: (1.2 + 0.2Sds) * DL + E EMAM	Seismic Equivalent Modal Analysis Method	24 Iterations
Gust Response Factor : 1.10	Sds : 0.00	Ss : 0.00
Dead Load Factor : 1.20	Seismic Load Factor : 1.00	Sd1 : 0.00
Wind Load Factor : 0.00	Structure Frequency : 0.0000	SA : 0.00
	Seismic Importance Factor : 1.00	

124.21	-10.15	-1.62	0.00	-35.31	0.00	35.31	774.41	387.21	572.73	282.85	7.46	-0.58	0.138
125.00	-9.74	-1.61	0.00	-34.02	0.00	34.02	770.85	385.43	566.02	279.54	7.56	-0.58	0.134
130.00	-8.98	-1.57	0.00	-25.97	0.00	25.97	747.69	373.84	524.00	258.78	8.22	-0.68	0.112
135.00	-8.65	-1.55	0.00	-18.11	0.00	18.11	722.05	361.03	481.88	237.98	8.98	-0.76	0.088
140.00	-8.46	-1.52	0.00	-10.39	0.00	10.39	686.26	343.13	435.03	214.85	9.81	-0.82	0.061
143.00	-4.16	-0.87	0.00	-5.82	0.00	5.82	664.79	332.40	408.08	201.53	10.34	-0.85	0.035
145.00	-3.87	-0.82	0.00	-4.08	0.00	4.08	650.48	325.24	390.59	192.90	10.70	-0.86	0.027
150.00	0.00	-0.76	0.00	0.00	0.00	0.00	614.69	307.34	348.53	172.13	11.60	-0.87	0.000

Site Number: 302475

Code: ANSI/TIA-222-G

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Site Name: Sttn - Southington, CT

Engineering Number: 12978549_C4_06

12/9/2019 11:38:42 AM

Customer: VERIZON WIRELESS

Load Case: (0.9 - 0.2Sds) * DL + E EMAM	Seismic (Reduced DL) Equivalent Modal Analysis Method	23 Iterations
Gust Response Factor : 1.10	Sds : 0.00	Ss : 0.00
Dead Load Factor : 0.90	Seismic Load Factor : 1.00	Sd1 : 0.00
Wind Load Factor : 0.00	Structure Frequency : 0.0000	SA : 0.00
		Seismic Importance Factor : 1.00

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

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-34.94	-2.01	0.00	-241.82	0.00	241.82	3,136.53	1,568.27	4,731.25	2,336.59	0.00	0.00	0.052
5.00	-33.54	-1.99	0.00	-231.75	0.00	231.75	3,092.06	1,546.03	4,560.72	2,252.37	0.01	-0.02	0.051
10.00	-32.15	-1.95	0.00	-221.81	0.00	221.81	3,046.49	1,523.25	4,391.58	2,168.84	0.04	-0.04	0.049
15.00	-30.78	-1.91	0.00	-212.06	0.00	212.06	2,999.83	1,499.91	4,223.96	2,086.05	0.09	-0.06	0.048
20.00	-29.43	-1.86	0.00	-202.51	0.00	202.51	2,952.07	1,476.04	4,057.95	2,004.07	0.17	-0.08	0.047
25.00	-28.09	-1.82	0.00	-193.19	0.00	193.19	2,901.93	1,450.96	3,891.94	1,922.08	0.26	-0.10	0.046
30.00	-27.69	-1.81	0.00	-184.09	0.00	184.09	2,830.35	1,415.18	3,701.25	1,827.91	0.38	-0.12	0.045
31.50	-26.43	-1.76	0.00	-181.38	0.00	181.38	2,808.88	1,404.44	3,644.98	1,800.12	0.42	-0.13	0.044
35.00	-26.19	-1.75	0.00	-175.23	0.00	175.23	2,758.78	1,379.39	3,515.36	1,736.10	0.52	-0.14	0.043
35.67	-25.13	-1.71	0.00	-174.06	0.00	174.06	2,225.24	1,112.62	2,894.88	1,429.67	0.54	-0.14	0.048
40.00	-23.91	-1.66	0.00	-166.66	0.00	166.66	2,194.35	1,097.17	2,791.07	1,378.40	0.67	-0.16	0.047
45.00	-22.70	-1.61	0.00	-158.36	0.00	158.36	2,157.69	1,078.84	2,672.25	1,319.72	0.85	-0.18	0.045
50.00	-21.50	-1.56	0.00	-150.31	0.00	150.31	2,119.93	1,059.96	2,554.56	1,261.60	1.06	-0.20	0.044
55.00	-21.26	-1.56	0.00	-142.48	0.00	142.48	2,081.07	1,040.54	2,438.12	1,204.10	1.28	-0.23	0.042
56.02	-20.55	-1.53	0.00	-140.90	0.00	140.90	2,073.01	1,036.51	2,414.53	1,192.44	1.33	-0.23	0.042
56.02	-20.55	-1.53	0.00	-140.90	0.00	140.90	2,073.01	1,036.51	2,414.53	1,192.44	1.33	-0.23	0.063
60.00	-19.66	-1.50	0.00	-134.81	0.00	134.81	2,041.12	1,020.56	2,323.03	1,147.26	1.53	-0.25	0.062
65.00	-18.79	-1.49	0.00	-127.29	0.00	127.29	1,992.10	996.05	2,200.59	1,086.79	1.81	-0.28	0.060
70.00	-17.96	-1.48	0.00	-119.85	0.00	119.85	1,932.46	966.23	2,070.05	1,022.32	2.12	-0.31	0.059
73.50	-17.77	-1.48	0.00	-114.68	0.00	114.68	1,451.36	725.68	1,558.37	769.62	2.35	-0.34	0.066
74.71	-17.71	-1.48	0.00	-112.88	0.00	112.88	1,444.76	722.38	1,539.55	760.33	2.44	-0.34	0.066
75.00	-17.46	-1.48	0.00	-112.46	0.00	112.46	1,443.19	721.60	1,535.11	758.14	2.46	-0.35	0.036
76.50	-16.91	-1.48	0.00	-110.24	0.00	110.24	1,434.93	717.46	1,511.92	746.68	2.57	-0.35	0.036
76.50	-16.91	-1.48	0.00	-110.24	0.00	110.24	1,434.93	717.46	1,511.92	746.68	2.57	-0.35	0.053
80.00	-16.14	-1.50	0.00	-105.05	0.00	105.05	1,415.26	707.63	1,458.06	720.08	2.83	-0.37	0.051
85.00	-15.37	-1.52	0.00	-97.58	0.00	97.58	1,386.24	693.12	1,381.78	682.41	3.23	-0.39	0.048
90.00	-14.62	-1.55	0.00	-89.97	0.00	89.97	1,356.12	678.06	1,306.38	645.17	3.66	-0.42	0.045
95.00	-13.87	-1.59	0.00	-82.21	0.00	82.21	1,324.90	662.45	1,231.99	608.43	4.11	-0.45	0.042
100.00	-13.28	-1.61	0.00	-74.28	0.00	74.28	1,293.04	646.52	1,159.10	572.44	4.60	-0.47	0.039
104.00	-13.13	-1.62	0.00	-67.83	0.00	67.83	1,254.87	627.43	1,091.30	538.95	5.00	-0.49	0.037
105.00	-11.78	-1.66	0.00	-66.21	0.00	66.21	1,245.33	622.66	1,074.67	530.74	5.10	-0.50	0.036
109.00	-11.48	-1.67	0.00	-59.58	0.00	59.58	1,207.15	603.58	1,009.42	498.51	5.53	-0.52	0.033
110.00	-10.86	-1.67	0.00	-57.91	0.00	57.91	1,197.61	598.80	993.42	490.61	5.64	-0.52	0.032
110.00	-10.86	-1.67	0.00	-57.91	0.00	57.91	833.77	416.88	695.90	343.68	5.64	-0.52	0.037
114.79	-10.82	-1.68	0.00	-49.89	0.00	49.89	814.75	407.37	653.92	322.94	6.17	-0.54	0.033
115.00	-10.74	-1.68	0.00	-49.54	0.00	49.54	813.89	406.95	652.08	322.04	6.20	-0.54	0.016
115.52	-10.17	-1.67	0.00	-48.67	0.00	48.67	811.76	405.88	647.55	319.80	6.26	-0.54	0.015
115.52	-10.17	-1.67	0.00	-48.67	0.00	48.67	811.76	405.88	647.55	319.80	6.26	-0.54	0.025
120.00	-7.25	-1.60	0.00	-41.19	0.00	41.19	792.92	396.46	608.75	300.64	6.77	-0.55	0.020
123.00	-7.10	-1.59	0.00	-36.40	0.00	36.40	779.81	389.91	583.04	287.94	7.12	-0.56	0.018
124.21	-7.06	-1.59	0.00	-34.47	0.00	34.47	774.41	387.21	572.73	282.85	7.26	-0.56	0.017

Site Number: 302475

Code: ANSI/TIA-222-G

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Site Name: Sttn - Southington, CT

Engineering Number: 12978549_C4_06

12/9/2019 11:38:42 AM

Customer: VERIZON WIRELESS

Load Case: (0.9 - 0.2Sds) * DL + E EMAM				Seismic (Reduced DL) Equivalent Modal Analysis Method							23 Iterations		
Gust Response Factor : 1.10				Sds : 0.00							Ss : 0.00		
Dead Load Factor : 0.90				Seismic Load Factor : 1.00			Sd1 : 0.00				S1 : 0.00		
Wind Load Factor : 0.00				Structure Frequency : 0.0000			SA : 0.00		Seismic Importance Factor : 1.00				
124.21	-7.06	-1.59	0.00	-34.47	0.00	34.47	774.41	387.21	572.73	282.85	7.26	-0.56	0.131
125.00	-6.77	-1.58	0.00	-33.21	0.00	33.21	770.85	385.43	566.02	279.54	7.36	-0.57	0.128
130.00	-6.24	-1.53	0.00	-25.33	0.00	25.33	747.69	373.84	524.00	258.78	8.00	-0.66	0.106
135.00	-6.01	-1.51	0.00	-17.66	0.00	17.66	722.05	361.03	481.88	237.98	8.74	-0.74	0.083
140.00	-5.88	-1.48	0.00	-10.13	0.00	10.13	686.26	343.13	435.03	214.85	9.55	-0.80	0.056
143.00	-2.89	-0.85	0.00	-5.68	0.00	5.68	664.79	332.40	408.08	201.53	10.06	-0.83	0.033
145.00	-2.69	-0.80	0.00	-3.98	0.00	3.98	650.48	325.24	390.59	192.90	10.41	-0.84	0.025
150.00	0.00	-0.76	0.00	0.00	0.00	0.00	614.69	307.34	348.53	172.13	11.30	-0.85	0.000

Site Number: 302475

Code: ANSI/TIA-222-G

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Site Name: Sttn - Southington, CT

Engineering Number: 12978549_C4_06

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Customer: VERIZON WIRELESS

Analysis Summary

Load Case	Reactions						Max Usage	
	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)	Elev (ft)	Interaction Ratio
1.2D + 1.6W	32.62	0.00	50.54	0.00	0.00	3532.65	124.21	1.00
0.9D + 1.6W	32.59	0.00	37.89	0.00	0.00	3475.27	124.21	0.97
1.2D + 1.0Di + 1.0Wi	15.19	0.00	106.91	0.00	0.00	1545.51	124.21	0.42
(1.2 + 0.2Sds) * DL + E ELFM	1.27	0.00	50.21	0.00	0.00	161.99	124.21	0.06
(1.2 + 0.2Sds) * DL + E EMAM	2.02	0.00	50.21	0.00	0.00	247.40	124.21	0.14
(0.9 - 0.2Sds) * DL + E ELFM	1.27	0.00	34.94	0.00	0.00	158.68	124.21	0.06
(0.9 - 0.2Sds) * DL + E EMAM	2.01	0.00	34.94	0.00	0.00	241.82	124.21	0.13
1.0D + 1.0W	6.97	0.00	42.18	0.00	0.00	749.50	124.21	0.22

Site Number: 302475

Code: ANSI/TIA-222-G

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Site Name: Sttn - Southington, CT

Engineering Number: 12978549_C4_06

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Customer: VERIZON WIRELESS

Additional Steel Summary

			Intermediate Connectors				Max Member		
Elev From (ft)	Elev To (ft)	Member	VQ/I (lb/in)	Shear Applied (kips)	Shear phiVn (kips)	Ratio	Pu (kip)	phiPn (kip)	Ratio
0.00	56.02	(4) SOL-#20 All Thread Bar	261.4	7.8	16.8	0.467	270.9	330.5	0.820
0.00	76.50	(4) SOL-#20 All Thread Bar	459.7	13.8	16.8	0.820	321.3	330.5	0.972
74.71	115.52	(4) SOL-#20 All Thread Bar	467.4	15.0	16.8	0.890	275.2	327.4	0.840
114.79	124.21	(4) SOL-#20 All Thread Bar	405.0	13.0	16.8	0.771	115.2	327.4	0.352

			Upper Termination Connectors				Lower Termination Connectors					
Elev From (ft)	Elev To (ft)	Member	MQ/I (kips)	phiVn (kips)	Num Reqd	Num Actual	Ratio	MQ/I (kips)	phiVn (kips)	Num Reqd	Num Actual	Ratio
0.00	56.02	(4) SOL-#20 All Thread Bar	210.1	12.0	18	20	0.875	0.0	12.0	0	0	0.000
0.00	76.50	(4) SOL-#20 All Thread Bar	155.4	12.0	13	14	0.925	0.0	12.0	0	0	0.000
74.71	115.52	(4) SOL-#20 All Thread Bar	58.9	12.0	5	8	0.614	187.1	12.0	16	16	0.974
114.79	124.21	(4) SOL-#20 All Thread Bar	79.4	12.0	7	12	0.552	72.2	12.0	7	12	0.501

Flange Plate Analysis

Flange Plate	Plate Type	Flange	@ 110 ft
	Pole Diameter	20.43	in
	Pole Thickness	0.1875	in
	Plate Diameter	28	in
	Plate Thickness	1	in
	Plate Fy	36	ksi
	Weld Length	0.125	in
	f _s Resistance	347.07	k-in
	Applied	27.67	k-in

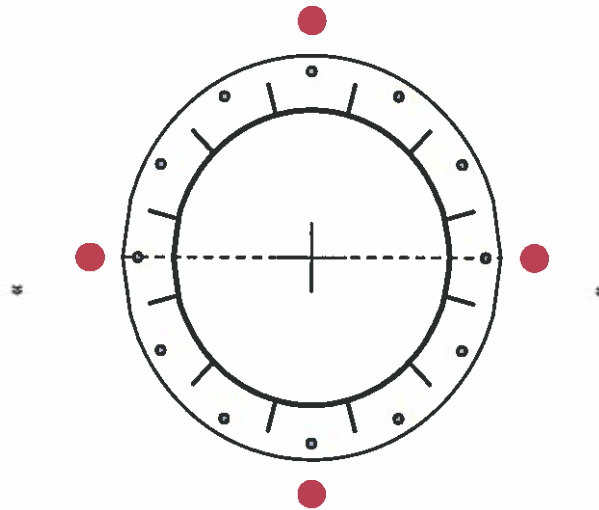
Code Rev. **G**

Date **12/9/2019**
 Engineer **Lucas Tait**
 Site # **302475**
 Carrier **Verizon**

Moment **524.6 k-ft**
 Axial **13.9 k**

Stiffeners	#	12	Show
	Thickness	0.75	in
	Length	3	in
	Height	6	in
	Chamfer	0.75	in
	Offset Angle	0	°
	Fy	50	ksi

Bolts	#	12	
	Bolt Circle (R)adial / (S)quare	25.75	in
		R	
	Diameter	1	in
	Hole Diameter	1.125	in
	Type	A325	
	Fy	92	ksi
	Fu	120	ksi
f _s Resistance	54.52	k	
Applied	14.03	k	



Reinforcement	#	4	
	DYW. Circle	32.9	in
	Offset Angle	0	°
	Type	#20	
	Diameter	2.5	in
	Fu	100	ksi
f _s Resistance	392.70	k	
Applied	155.21	k	

Plate Stress Ratio:
8% Pass

Bolt Stress Ratio:
26% Pass

Extra Bolts	#	
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Reinforcement Stress Ratio:
40% Pass

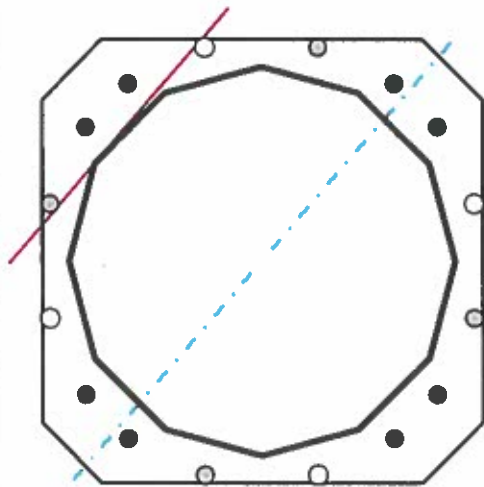
Base Plate & Anchor Rod Analysis

Pole Dimensions		
Number of Sides	12	-
Diameter	37	in
Thickness	0.375	in
Orientation Offset		°

Base Reactions		
Moment, Mu	3532.7	k-ft
Axial, Pu	50.5	k
Shear, Vu	32.6	k
Neutral Axis	49	°

Report Capacities		
Component	Capacity	Result
Base Plate	60%	Pass
Anchor Rods	79%	Pass
Dwyidag	82%	Pass

Base Plate		
Shape	Square	-
Width	44	in
Thickness	2 1/2	in
Grade	A572-60	
Yield Strength, Fy	60	ksi
Tensile Strength, Fu	75	ksi
Clip	6	in
Orientation Offset		°
Anchor Rod Detail	c	$\eta=0.55$
Clear Distance	N/A	in
Applied Moment, Mu	1258.8	k
Bending Stress, ϕMn	2107.3	k



Dwyidag Reinforcement		
Quantity	4	-
Bar Size	#20	in
Diameter, ϕ	2.5	in
Bracket Type	Angle	-
Circle	43.88	in
Orientation Offset	15	°
Applied Force, Pu	323.4	k
Dwyidag Bar, ϕPn	392.7	k

Original Anchor Rods		
Arrangement	Cluster	-
Quantity	8	-
Diameter, ϕ	2 1/4	in
Bolt Circle	44	in
Grade	A615-75	
Yield Strength, Fy	75	ksi
Tensile Strength, Fu	100	ksi
Spacing	6.0	in
Orientation Offset		°
Applied Force, Pu	203.7	k
Anchor Rods, ϕPn	259.8	k

Additional Anchor Rods		
Quantity	4	-
Diameter, ϕ	2.25	in
Bolt Circle	43.88	in
Grade	A615-75	
Yield Strength, Fy	75	ksi
Tensile Strength, Fu	100	ksi
Bypass Base?	Yes	
Orientation Offset	-15	°
Applied Force, Pu	161.2	k
Additional Rod, ϕPn	259.8	k

Calculations for Monopole Base Plate & Anchor Rod Analysis

Reaction Distribution

Reaction	Shear Vu k	Moment Mu k-ft	Factor
Base Forces	32.6	1479.0	0.42
Anchor Rod Forces	32.6	1479.0	0.42
Additional Bolt (Grp1) Forces		647.0	0.18
Additional Bolt (Grp2) Forces			
Dywidag Forces		1406.6	0.40
Stiffener Forces			

Geometric Properties

Section	Gross Area in ²	Net Area in ²	Individual Inertia in ⁴	Threads per Inch #	Moment of Inertia in ⁴
Pole	42.6566	3.5547	0.1675		7154.41
Bolt	3.9761	3.2477	0.8393	4.5	6294.24
Bolt1	3.9761	3.2477	0.8393	4.5	3130.00
Bolt2					
Dywidag	4.9087	4.9087	1.9175		4733.45
Stiffener					

Base Plate		
Shape	Square	-
Width, W	44	in
Thickness, t	2.5	in
Yield Strength, Fy	60	ksi
Tensile Strength, Fu	75	ksi
Base Plate Chord	23.812	in
Detail Type	c	-
Detail Factor	0.55	-
Clear Distance	N/A	-

Anchor Rods		
Anchor Rod Quantity, N	8	-
Rod Diameter, d	2.25	in
Bolt Circle, BC	44	in
Yield Strength, Fy	75	ksi
Tensile Strength, Fu	100	ksi
Applied Axial, Pu	203.7	k
Applied Shear, Vu	0.5	k
Compressive Capacity, φPn	259.8	k
Tensile Capacity, φRnt	0.784	OK
Interaction Capacity	0.787	OK

External Base Plate		
Chord Length AA	24.975	in
Additional AA	0.000	in
Section Modulus, Z	39.024	in ³
Applied Moment, Mu	1258.8	k-ft
Bending Capacity, φMn	2107.3	k-ft
Capacity, Mu/φMn	0.597	OK
Chord Length AB	23.661	in
Additional AB	0.000	in
Section Modulus, Z	36.971	in ³
Applied Moment, Mu	993.7	k-ft
Bending Capacity, φMn	1996.4	k-ft
Capacity, Mu/φMn	0.498	OK
Bend Line Length	0.000	in
Additional Bend Line	0.000	in
Section Modulus, Z	0.000	in ³
Applied Moment, Mu	0.0	k-ft
Bending Capacity, φMn	0.0	k-ft
Capacity, Mu/φMn		

Additional Bolt Group 1		
Bolt Quantity, N	4	-
Bolt Diameter, d	2.25	in
Bolt Circle, BC	43.88	in
Yield Strength, Fy	75	ksi
Tensile Strength, Fu	100	ksi
Applied Axial, Pu	161.2	k
Applied Shear, Vu	2.6	k
Compressive Capacity, φPn	259.8	k
Compressive Capacity, φPn	0.620	OK
Interaction Capacity	0.662	OK

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

Dywidag Reinforcement		
Dywidag Quantity, N	4	-
Dywidag Diameter, d	2.5	in
Bolt Circle, BC	43.88	in
Yield Strength, Fy	80	ksi
Tensile Strength, Fu	100	ksi
Applied Axial, Pu	323.4	k
Compressive Capacity, φPn	392.7	k
Capacity, Pu/φPn	0.824	OK

Site Name: Sstn- Southington, CT
 Site Number: 302475
 Tower Type: MP
 Design Loads (Factored) - Analysis per TIA-222-G Standards

Monolithic Mat & Pier Foundation Analysis

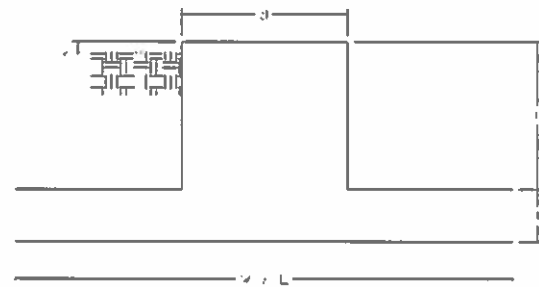
Foundation Analysis Parameters		
Design / Analysis / Mapping:	Analysis	-
Compression/Leg:	50.5	k
Uplift/Leg:	0.0	k
Total Shear:	32.6	k
Moment:	3,532.7	k-ft
Tower + Appurtenance Weight:	50.5	k
Depth to Base of Foundation (l + t - h):	8	ft
Diameter of Pier (d):	4.9	ft
Length of Pier (l):	5.5	ft
Height of Pier above Ground (h):	0.5	ft
Width of Pad (W):	18	ft
Length of Pad (L):	18	ft
Thickness of Pad (t):	3	ft
Tower Leg Center to Center:	0	ft
Number of Tower Legs:	1	-
Tower Center from Mat Center:	0	ft
Depth Below Ground Surface to Water Table:	9	ft
Unit Weight of Concrete:	150	pcf
Unit Weight of Soil Above Water Table:	136	pcf
Unit Weight of Soil Below Water Table:	62.4	pcf
Unit Weight of Soil Below Water Table:	73.6	pcf
Friction Angle of Uplift:	20	°
Coefficient of Shear Friction:	0.40	-
Ultimate Compressive Bearing Pressure:	12,000	psf
Ultimate Passive Pressure on Pad Face:	4,200	psf
$f_{\text{Soil and Concrete Weight}}$:	0.9	-
f_{Soil} :	0.75	-

Foundation Steel Parameters		
Concrete Strength (f'_c):	3,000	psi
Pad Tension Steel Depth:	32.0	in
Dead Load Factor:	0.9	-
f_{Shear} :	0.75	-
$f_{\text{Flexure / Tension}}$:	0.9	-
$f_{\text{Compression}}$:	0.65	-
b:	0.85	-
Bottom Pad Rebar Size #:	10	-
# of Bottom Pad Rebar:	35	-
Pad Bottom Steel Area:	44.45	in ²
Pad Steel F_y :	60,000	psi
Top Pad Rebar Size #:	5	-
# of Top Pad Rebar:	35	-
Pad Top Steel Area:	10.85	in ²
Pier Rebar Size #:	11	-
Pier Steel Area (Single Bar):	1.56	in ²
# of Pier Rebar:	52	-
Pier Steel F_y :	60,000	psi
Pier Cage Diameter:	50.8	in
Rebar Strain Limit:	0.008	-
Steel Elastic Modulus:	29,000	ksi
Tie Rebar Size #:	4	-
Tie Steel Area (Single Bar):	0.20	in ²
Tie Spacing:	12	in
Tie Steel F_y :	60,000	psi

Overturning Moment Usage		
Design OTM:	3809.9	k-ft
OTM Resistance:	3958.0	k-ft
Design OTM / OTM Resistance:	96%	Pass

Soil Bearing Pressure Usage		
Net Bearing Pressure:	5796	psf
Factored Nominal Bearing Pressure:	9000	psf
Factored Nominal (Net) Bearing Pressure:	64%	Pass
Load Direction Controlling Design Bearing Pressure:	Diagonal to Pad Edge	

Sliding Factor of Safety		
Ultimate Friction Resistance:	164.4	k
Ultimate Passive Pressure Resistance:	204.1	k
Total Factored Sliding Resistance:	276.4	k
Sliding Design / Sliding Resistance:	12%	Pass



Pad Strength Capacity

Factored One Way Shear (V_u):	299.6	k	
One Way Shear Capacity (V_c):	567.9	k	ACI11.3.1.1
V_u / V_c :	53%		Pass
Load Direction Controlling Shear Capacity:	Parallel to Pad Edge		
Lower Steel Pad Factored Moment (M_u):	1582.6	k-ft	
Lower Steel Pad Moment Capacity (fM_n):	5989.2	k-ft	ACI10.3
M_u / fM_n :	26%		Pass
Load Direction Controlling Flexural Capacity:	Parallel to Pad Edge		
Upper Steel Pad Factored Moment (M_u):	698.1	k-ft	
Upper Steel Pad Moment Capacity (fM_n):	1537.9	k-ft	
M_u / fM_n :	45%		Pass
Lower Pad Flexural Reinforcement Ratio:	0.0064		OK - Minimum Reinforcement Ratio Met - ACI10.5.1
Upper Pad Flexural Reinforcement Ratio:	0.0016		OK - Minimum Reinforcement Ratio Met - ACI10.5.1
Pad Shrinkage Reinforcement Ratio:	0.0080		OK - Shrinkage Reinforcement Ratio Met - ACI7.12.2.1
Lower Pad Reinforcement Spacing:	6	in	Pad Reinforcing Spacing OK - ACI7.12.2.2 & 10.5.4
Upper Pad Reinforcement Spacing:	6	in	Pad Reinforcing Spacing OK - ACI7.12.2.2 & 10.5.4
Factored Punching Shear (V_u):	0.0	k	
Nominal Punching Shear Capacity (ξV_n):	1499.9	k	ACI11.12.2.1
$V_u / \xi V_n$:	0%		Pass

Pier Strength Capacity

Factored Moment in Pier (M_u):	3712.1	k-ft	
Pier Moment Capacity (fM_n):	9067.2	k-ft	
M_u / fM_n :	41%		Pass
Factored Shear in Pier (V_u):	32.6	k	
Pier Shear Capacity (V_n):	295.7	k	
V_u / V_n :	11%		Pass
Pier Shear Reinforcement Ratio:	0.0007		OK - No Ties Necessary for Shear - ACI11.5.6.1
Factored Tension in Pier (T_u):	0.0	k	
Pier Tension Capacity (fT_n):	4380.5	k	
T_u / fT_n :	0%		Pass
Factored Compression in Pier (P_u):	50.5	k	
Pier Compression Capacity (fP_n):	3493.1	k	ACI10.3.6.2
P_u / fP_n :	1%		Pass
Pier Compression Reinforcement Ratio:	0.030		OK - Reinforcement Ratio Met - ACI10.9.1 & 10.8.4
Minimum Depth to Develop Vertical Rebar:	31	in	ACI12.2.3
Minimum Hook Development Length:	22	in	ACI12.5
Minimum Mat Thickness / Edge Distance from Pier:	25.0	in	
Minimum Foundation Depth:	4.93	ft	
$M_u / f_c M_n + T_u / f_y T_n$:	41%		Pass

General Power Density

Site Name: Southington 3, CT
Cumulative Power Density

Operator	Operating Frequency	Number of Trans.	ERP Per Trans.	Total ERP	Distance to Target	Calculated Power Density	Maximum Permissible Exposure*	Fraction of MPE
	(MHz)		(watts)	(watts)	(feet)	(mW/cm ²)	(mW/cm ²)	(%)
VZW PCS	1970	1	4960	4960	143	0.0872	1.0	8.72%
VZW Cellular LTE	869	1	1480	1480	143	0.0260	0.5793333333	4.49%
VZW AWS	2145	1	4680	4680	143	0.0823	1.0	8.23%
VZW 700	746	1	2490	2490	143	0.0438	0.4973333333	8.80%

Total Percentage of Maximum Permissible Exposure 30.25%

*Guidelines adopted by the FCC on August 1, 1996, 47 CFR Section 1.13101 based on NCRP Report 86, 1986 and generally on ANSI/IEEE C95.

MHz = Megahertz

mW/cm² = milliwatts per square centimeter

ERP = Effective Radiated Power

Absolute worst case maximum values used, including the following assumptions:

1. closest accessible point is distance from antenna to base of pole;
2. continuous transmission from all available channels at full power for indefinite time period; and,
3. all RF energy is assumed to be directed solely to the base of the pole.

PLANNING AND ZONING COMMISSION

SOUTHINGTON, CONNECTICUT 06489



WALTER J. DILLON, CHAIRMAN
DOLORES LONGO, VICE-CHAIRMAN
DOUGLAS G. TOPSHE, SECRETARY
ROBERT F. HUBER
JAMES C. HURLEY
ROBERT G. TRIANO
CARL VERDERAME, JR.

KENNETH J. FARONI
TOWN PLANNER
ROBERT E. KUCHTA
ASST. TOWN PLANNER

October 7, 1983

Mr. Ernest V. Lindbladd
c/o S.N.E.T. Co.
195 Church Street
New Haven, Conn. 06506

RE: Domestic Public Cellular Radio Telecommunications Service

Dear Mr. Lindbladd:

Pursuant to our conversation earlier this week the Town Engineer and I reviewed the site plan submitted to my office prepared by Girard & Co., Engineers of 40 Wethersfield Avenue, Hartford. The site plan proposes to fill a portion of the area in question to locate a maintenance building and tower.

The proposed concept to create a drainage swale to manage surface runoff around the proposed fill is proper from an engineering and planning standpoint.

Should the Siting Council require local approval we will handle the specifics during the site plan application.

Very truly yours,

Kenneth J. Faroni
Town Planner

KJF/jg

SCANNED

Zoning

4a



FOUNDED 1754
INCORPORATED A TOWN 1850
INCORPORATED A CITY 1870

CITY OF NEW BRITAIN

OFFICE OF CORPORATION COUNSEL
CITY HALL • 27 WEST MAIN STREET
NEW BRITAIN, CONNECTICUT 06051

PHONE
(203) 224-2491

July 8, 1983

Mr. Peter W. van Wilgen
Manager, Real Estate
Southern New England Telephone
195 Church Street
New Haven, Connecticut 06506

Re: Waiver, Shuttle Meadow Road, Southington

Dear Mr. van Wilgen:

In response to your request to Mr. McManus, enclosed is the Waiver for the Rogers property leased by SNETCO. The Waiver has been duly executed by our Mayor and the Chairman of the Board of Water Commissioners.

If I can be of any further assistance, please do not hesitate to contact me.

Very truly yours,

Office of Corporation Counsel

Anita D. Cobb
Assistant Corporation Counsel

ADC/mf

enc.

cc: John McManus

Waiver

4a

W A I V E R

THIS AGREEMENT, made as of the 7th day of July, 1983, by and between the CITY OF NEW BRITAIN, a Connecticut corporation having its office at City Hall, 27 West Main Street, New Britain, Connecticut (hereinafter "City"), and SOUTHERN NEW ENGLAND TELEPHONE COMPANY, a corporation specially chartered by the General Assembly of the State of Connecticut with its principal office at 227 Church Street, New Haven, Connecticut (hereinafter "SNETCO").

WITNESSETH:

WHEREAS, FRANK E. ROGERS is the owner of a certain piece or parcel of land located in the Town of Southington, County of Hartford, State of Connecticut, as more particularly described in Exhibit "A" attached hereto and made a part hereof (hereinafter "Premises"), and is also the owner of lands adjoining the Premises; and

WHEREAS, the Premises and some or all of said adjoining land is or may be subject to certain use restrictions, as more particularly set forth in a certain Warranty Deed from Elijah Rogers to the City of New Britain, dated May 2, 1910, recorded in Volume 54, Page 215 of the Southington Land Records (hereinafter called "Restrictions"); and

WHEREAS, the Premises have been optioned for lease by Frank E. Rogers to Dow & Condon, Realtors, Inc., by their Lease dated November 1, 1981, recorded in Volume 331, Page 318 of the Southington Land Records, which Lease has been assigned by Dow &

SCANNED

Condon, Realtors, Inc. to SNETCO by Assignment dated October 27, 1982, recorded in Volume 331, Page 320 of the Southington Land Records.

WHEREAS, in the event that SNETCO exercises its Option to Lease the Premises, as aforesaid, the Premises shall be used for the Use as hereinafter described; and

WHEREAS, the Use of the Premises may be in violation or contravention of Restrictions; and

WHEREAS, the parties hereto wish to reflect their understanding with respect to the Use and the Restrictions;

NOW, THEREFORE, the parties hereto, for One Dollar (\$1.00) and other good and valuable consideration, hereby agree as follows:

1. The above recitals are true and correct to the best knowledge and belief of the parties hereto.

2. In the event of an exercise of the aforementioned Option to Lease the Premises by SNETCO, SNETCO shall use the Premises (herinafter "Use") as follows:

Maintenance of facilities for telephone, radio transmitting and other communications equipment, including necessary buildings, structures and other improvements incident thereto, with no subsurface septic disposal and no storage of chemicals or radioactive equipment.

3. The City hereby waives its rights to enforce the Restrictions with respect to the Premises, or any part thereof, or to any additional land as may, from time to time, be added to the Premises and dedicated to the same Use, so long as the

Premises and such additional land are used in conformance with the Use.

4. SNETCO does not hereby waive or otherwise abridge its right in the future to contest the validity or applicability of the Restriction.

5. This Waiver shall be for so long as SNETCO continues to use the Premises, or such additional land, whether by the Lease, replacement, extension, modification or replacement of the Lease, or acquisition of the Premises or such additional land abutting the Premises.

6. Upon written request from SNETCO, the City shall confirm and ratify this Waiver with respect to the Premises or such additional land abutting the Premises.

7. This Waiver shall be binding up and inure to the parties hereto and their respective successors and assigns.

Witnesseth:

CITY OF NEW BRITAIN


Thomas Delvingh
James V. Longale
Thomas Delvingh
Madeline Fucci

By: William J. McManara
William J. McManara,
Its Mayor, Duly Authorized

By: Louis O. Gagliardi
Louis O. Gagliardi, Chairman of
its Board of Water Commissioners,
Duly Authorized

STATE OF CONNECTICUT)
COUNTY OF HARTFORD) ss. New Britain July 7th, 1983.

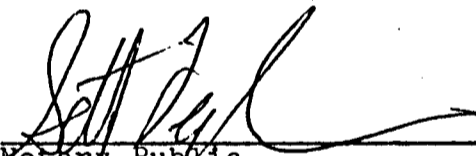
Personally appeared, WILLIAM J. McNAMARA, Mayor of the CITY OF NEW BRITAIN, duly authorized, who executed the foregoing Waiver as his free act and deed and the free act and deed of said municipal corporation, before me.



Notary Public
Commissioner of Superior Court

STATE OF CONNECTICUT)
COUNTY OF HARTFORD) ss. New Britain July 7th, 1983.

Personally appeared, LOUIS O. GAGLIARDI, Chairman of the Board of Water Commissioners of the CITY OF NEW BRITAIN, duly authorized, who executed the foregoing Waiver as his free act and deed and the free act and deed of said municipal corporation, before me.



Notary Public
Commissioner of Superior Court

AN APPLICATION SUBMITTED BY THE SOUTHERN : CONNECTICUT SITING
NEW ENGLAND TELEPHONE COMPANY FOR A
CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY :
AND PUBLIC NEED FOR THE CONSTRUCTION, : COUNCIL
MAINTENANCE, AND OPERATION OF FACILITIES
TO PROVIDE CELLULAR SERVICE IN THE HARTFORD :
AND MIDDLESEX COUNTIES. : May 15, 1984

D E C I S I O N A N D O R D E R

Pursuant to the foregoing opinion, the Council hereby directs that a certificate of environmental compatibility and public need as required by section 16-50k of the General Statutes of Connecticut, revisions of 1958, revised to 1983, as amended, be issued to Southern New England Telephone for the construction, operation, and maintenance of a telecommunications tower and associated equipment to provide cellular service at each of the following sites:

Shuttle Meadow Road, Southington, Connecticut;
Mountain Street, Hartford, Connecticut;
Prestige Park Road, East Hartford, Connecticut;
Beckley Road, Berlin, Connecticut;
Slicer tract, Niederwerfer Road, South Windsor, Connecticut; and
Kikapoo Road, Middlefield, Connecticut.

The facilities shall be constructed, operated, and maintained as specified in the Council's record on this matter, and subject to the following conditions.

1. The towers shall be no taller than necessary to provide the proposed service and in no event shall exceed
 - a) 150 feet at the Southington site,
 - b) 100 feet at the Hartford site,
 - c) 150 feet at the East Hartford site,
 - d) 150 feet at the Berlin site,
 - e) 75 feet at the South Windsor site, and
 - f) 75 feet at the Middlefield site.
2. A fence not lower than eight feet shall surround each tower and its associated equipment.

3. The applicant or its successor shall notify the Council if and when directional antennas or any other equipment is added to any of these facilities.
4. The applicant or its successor shall permit in accordance with representations made by it during the proceeding public or private entities to share space on the facilities, for due consideration received, or shall provide any requesting entity with specific legal, technical, environmental, or economic reasons precluding such tower sharing.
5. Unless necessary to comply with condition number seven, below, no lights shall be installed on any of these towers.
6. The facility construction shall be conducted in accordance with all applicable federal, state, and municipal laws and regulations.
7. The applicant shall submit a development and management plan (D&M) for the South Windsor, Southington, and Berlin sites pursuant to sections 16-50j-85 through 16-50j-87 of the regulations of state agencies, except that irrelevant items in section 16-50j-86 need only be identified as such. The D&M plans shall include appropriate evergreen screening of the sites. The applicant shall comply with the reporting requirements of section 16-50j-87 for all sites. The applicant shall consult with Mrs. Claire Aubin and the Town of South Windsor in the preparation of the South Windsor site D&M.
8. Construction activities shall take place during daylight working hours.
9. This decision and order shall be void and the towers and associated equipment approved herein shall be dismantled and removed,

or reapplication for any new use shall be made to the Connecticut Siting Council before any such new use is made, if the towers do not provide or permanently cease to provide cellular service following completion of construction.

10. This decision and order shall be void if all construction authorized is not completed within three years of the issuance of this decision.

Pursuant to section 16-50p(c) of the General Statutes, we hereby direct that a copy of the opinion and decision and order be served on each person listed below. A notice of the issuance shall be published in the Hartford Courant, Journal Inquirer, and the Middletown Press.

The parties to this proceeding are

Southern New England
Telephone Company
Room 314
227 Church Street
New Haven, Connecticut 06506

(Applicant)

ATTN: Mr. Peter J. Tyrrell, Esquire

(its attorney)

Town of South Windsor
1540 Sullivan Avenue
South Windsor, Connecticut 06074

represented by:

Mr. Richard M. Rittenband
Town Attorney
1734 Ellington Road
South Windsor, Connecticut 06074

Frank Niederwerfer
260 Niederwerfer Road
South Windsor, Connecticut 06074

(service waived)

Claire Aubin
407 Niederwerfer Road
South Windsor, Connecticut 06074

(service waived)

Betty S. Kleiner
Chairman
Hartford Audubon Society, Inc.
5 Flintlock Ridge
Simsbury, Connecticut 06070

(service waived)

Roger Thorpe
2916 Ellington Road
South Windsor, Connecticut 06074

Intervenors in this proceeding are

Dwight A. Johnson
Murtha, Cullina, Richter
and Pinney
101 Pearl Street
P.O. Box 3197
Hartford, Connecticut 06103-0197

representing:

Metromedia TeleCommunications
Nutmeg Telecommunications, Inc.
CSI of New Haven
CSI of Stamford
Cellular Communications, Inc.
LIN Cellular Corp.
Cellular Mobile Services
Maxcell TeleCommunications, Inc.
Mobile Cellular Telephone, Inc.
Cellular Dynamics
Connecticut Corridor Cellular
Chase/Post Cellular

C E R T I F I C A T I O N

The undersigned members of the Connecticut Siting Council hereby certify that they have heard this case or read the record thereof, and that we voted as follows:

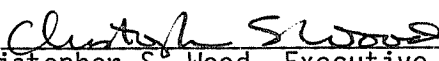
Dated at New Britain, Connecticut, this 15th day of May, 1984.

<u>Council Members</u>	<u>Vote Cast</u>
<u>Gloria Dibble Pond</u> Gloria Dibble Pond Chairperson	Yes
<u>P. G. Boucher</u> Commissioner John Downey Designee: Commissioner Peter G. Boucher	Yes
<u>Stanley Pac</u> Commissioner Stanley Pac Designee: Christopher Cooper	Yes
<u>Owen L. Clark</u> Owen L. Clark	Yes
<u>Fred J. Doocy</u>	Yes Abstain <i>AD</i>
<u>Mortimer A. Gelston</u> Mortimer A. Gelston	Yes
<u>James G. Horsfall</u>	Absent
<u>Janet Sitty</u> Janet Sitty	Yes
<u>Colin C. Tait</u>	Absent

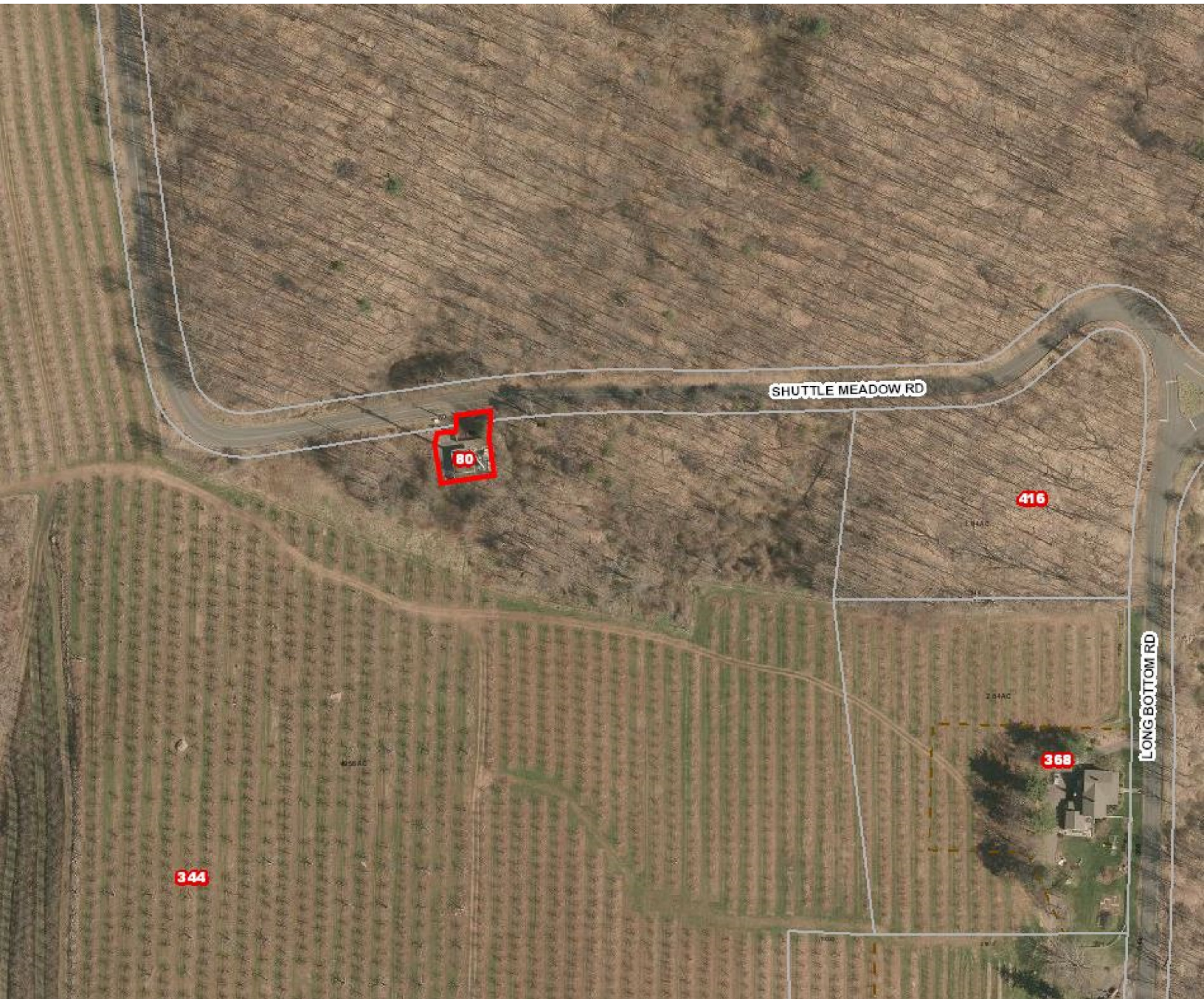
STATE OF CONNECTICUT)
 :
COUNTY OF HARTFORD) ss. New Britain, May 15, 1984

I hereby certify that the foregoing is a true and correct copy of the decision and order issued by the Connecticut Siting Council, State of Connecticut.

ATTEST:



Christopher S. Wood, Executive Director
Connecticut Siting Council



SHUTTLE MEADOW RD

80

416

344

368

LONG BOTTOM RD

80 SHUTTLE MEADOW RD

Location 80 SHUTTLE MEADOW RD

Mblu 184/ / 019/ /

Acct# 11918

Owner SOUTHERN NEW ENGLAND
TELEPHONE CO

Assessment \$172,490

Appraisal \$246,420

PID 16574

Building Count 1

Current Value

Appraisal			
Valuation Year	Improvements	Land	Total
2016	\$18,560	\$227,860	\$246,420

Assessment			
Valuation Year	Improvements	Land	Total
2016	\$12,990	\$159,500	\$172,490

Owner of Record

Owner SOUTHERN NEW ENGLAND TELEPHONE CO
Co-Owner SITE# 302475 - STTN SOUTHINGTON CT
Address C/O AMERICAN TOWER LAND MNGMT
10 PRESIDENTIAL WAY
WOBURN, MA 01801

Sale Price \$0
Certificate
Book & Page 0331/0320
Sale Date 02/14/1983
Instrument 25

Ownership History

Ownership History					
Owner	Sale Price	Certificate	Book & Page	Instrument	Sale Date
SOUTHERN NEW ENGLAND TELEPHONE CO	\$0		0331/0320	25	02/14/1983

Building Information

Building 1 : Section 1

Year Built:

Living Area: 0

Building Percent

Good:

Building Attributes	
Field	Description
Style	Vacant Ind

Model	
Grade:	
Stories	
Occupancy	
Exterior Wall 1	
Exterior Wall 2	
Roof Structure	
Roof Cover	
Interior Wall 1	
Interior Wall 2	
Interior Flr 1	
Interior Flr 2	
Heat Fuel	
Heat Type:	
AC Type:	
Total Bedrooms:	
Full Bthrms:	
Half Baths:	
Extra Fixtures	
Total Rooms:	
Bath Style:	
Kitchen Style:	
Total Kitchens	
Fireplaces	
Whirlpool Tubs	
Usrflid 104	
Fin Bsmt Area	
Fin Bsmt Quality	
Usrflid 107	
Bsmt Garages	
.	
Usrflid 108	
Bsmt Type	
Attic Type	
Cath Ceiling	
Usrflid 300	
Usrflid 301	

Building Photo



184 019 05/24/2015

(<http://images.vgsi.com/photos2/SouthingtonCTPhotos//\00\04\0>)

Building Layout

(<http://images.vgsi.com/photos2/SouthingtonCTPhotos//Sketches>)

Building Sub-Areas (sq ft)	Legend
No Data for Building Sub-Areas	

Extra Features

Extra Features	Legend

No Data for Extra Features

Land

Land Use

Use Code 433V
Description Radio, Television Trans Ld
Zone R-80
Alt Land Appr Category No

Land Line Valuation

Size (Acres) 0.17
Depth

Outbuildings

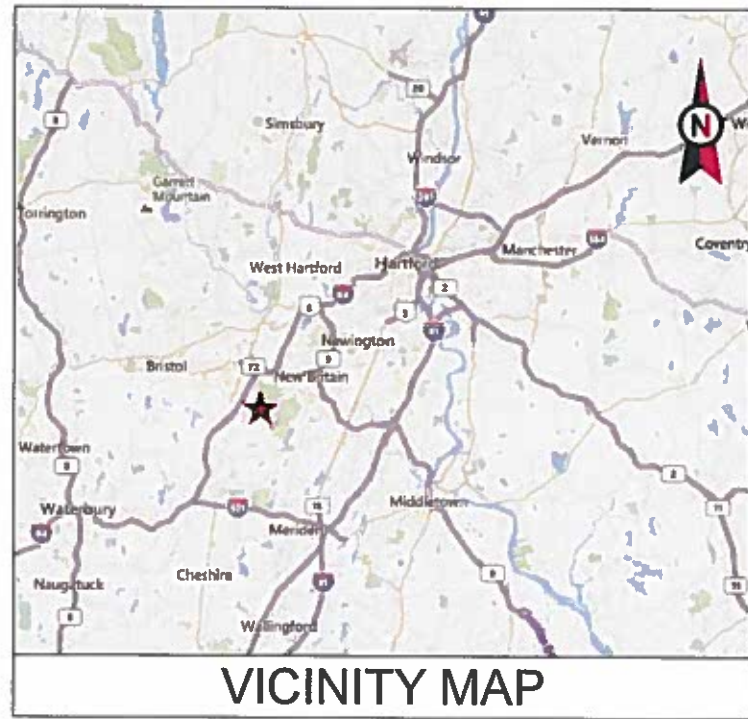
Outbuildings					<u>Legend</u>
Code	Description	Sub Code	Sub Description	Size	Bldg #
FN1	Fence - Chain			2600.00 L.F.	1

Valuation History

Appraisal				
Valuation Year	Improvements	Land	Total	
2018	\$18,560	\$227,860	\$246,420	
2017	\$18,560	\$227,860	\$246,420	
2016	\$18,560	\$227,860	\$246,420	
2015	\$18,560	\$227,860	\$246,420	
2014	\$18,410	\$244,780	\$263,190	

Assessment				
Valuation Year	Improvements	Land	Total	
2018	\$12,990	\$159,500	\$172,490	
2017	\$12,990	\$159,500	\$172,490	
2016	\$12,990	\$159,500	\$172,490	
2015	\$12,990	\$159,500	\$172,490	
2014	\$12,890	\$171,350	\$184,240	

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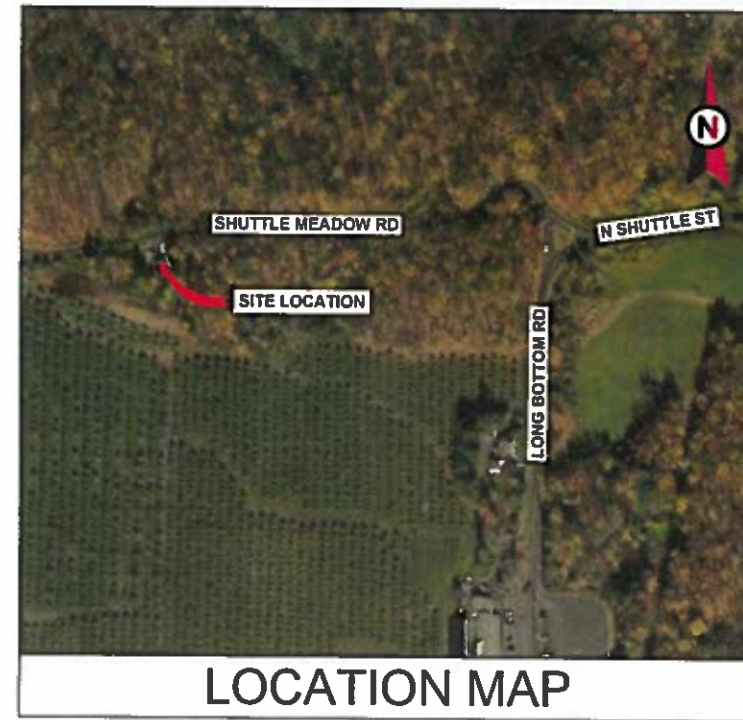


VICINITY MAP



AMERICAN TOWER®

SITE NAME: STTN - SOUTHINGTON
 SITE NUMBER: 302475
 ATC PROJECT NUMBER: 12978549_C6_05
 SITE ADDRESS: 80 SHUTTLE MEADOW ROAD
 SOUTHINGTON, CT 06489



LOCATION MAP

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

150.0 FT MONOPOLE MODIFICATIONS

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

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REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	NYG	11/06/19

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Authorized by "EOR"
 Nov 14 2019 8:56 AM cosign

DRAWN BY:	NYG
APPROVED BY:	NOY
DATE DRAWN:	11/06/19
ATC JOB NO:	12978549_C6_05

COVER

SHEET NUMBER:	REVISION:
COVER	0

PROJECT TEAM	PROJECT DESCRIPTION	SHEET	SHEET TITLE	REV.
<p>TOWER OWNER AMERICAN TOWER 10 PRESIDENTIAL WAY WOBURN, MA 01801</p> <p>ENGINEERED BY ATC TOWER SERVICES 3500 REGENCY PARKWAY, SUITE 100 CARY, NC 27518</p> <p>CARRIER INFORMATION CARRIER: VERIZON WIRELESS CARRIER SITE NAME: SOUTHINGTON 3 CT CARRIER SITE NUMBER: 2548199</p>	<p>THE MODIFICATIONS PRESENTED ON THESE DRAWINGS ARE BASED ON THE RECOMMENDATIONS OUTLINED IN THE STRUCTURAL ANALYSIS COMPLETED UNDER ENGINEERING PROJECT NUMBER 12978549_C3_03 DATED 09/05/19. SATISFACTORY COMPLETION OF THE WORK INDICATED ON THESE DRAWINGS WILL RESULT IN THE STRUCTURE MEETING THE REQUIREMENTS OF THE SPECIFICATIONS UNDER WHICH THE STRUCTURAL WAS COMPLETED.</p> <p>COMPLIANCE CODE</p> <p>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.</p> <p>1. ANSI/TIA/EIA: STRUCTURAL STANDARDS (222-G EDITION) 2. INTERNATIONAL BUILDING CODE (2015 IBC) 3. CONNECTICUT STATE BUILDING CODE (2018)</p>	B-1	BILL OF MATERIALS	0
		IGN	IBC GENERAL NOTES	0
		SIC	SPECIAL INSPECTION CHECKLIST	0
		C-101	SITE PLAN	0
		A-1	MODIFICATION PROFILE	0
		A-2	FOUNDATION DETAILS	0
		A-3	REINFORCEMENT INSTALLATION DETAILS	0
		A-4	REINFORCEMENT INSTALLATION DETAILS (CONT'D)	0
		A-5	REINFORCEMENT INSTALLATION DETAILS (CONT'D)	0
		#20SB	#20 STEP BOLT BRACKET INSTALLATION DETAILS	0
<p>PROJECT LOCATION</p> <p>GEOGRAPHIC COORDINATES LATITUDE: 41.63858333 LONGITUDE: -72.84110000</p>				



BILL OF MATERIALS

QUANTITY REQUIRED	QUANTITY PROVIDED	PART NUMBER	DESCRIPTION	LENGTH	SHEET LIST	PART WEIGHT	WEIGHT (lb)	NOTES
DYWIDAG REINFORCEMENT MATERIAL & HARDWARE - SECT. 1 & 2								
8	8	DYD-20-ATR-30	#20 ALL THREAD ROD 30'	30'-0"	A-3	501.0	4008	GALVANIZED
4	4	DYD-20-ATR-PF	#20 ALL THREAD ROD (PER FT)	10'-0"	A-3	167.0	668	GALVANIZED
8	8	DYD-20-COUP-00	#20 COUPLING HDG	----	----	----	---	GALVANIZED
16	16	DYD-20-HN-00	#20 HEX NUT HDG	----	----	----	---	GALVANIZED
88	88	BR-20C	L 6" X 3 1/2" X 3/8"	1'-0"	A-3	12.3	1082	CONCENTRIC
4	4	TB-20C-8	L 6" X 3 1/2" X 3/8"	2'-5 1/2"	A-3	30.2	121	CONCENTRIC
4	4	TB-20C-12	L 6" X 3 1/2" X 3/8"	3'-6 3/4"	A-3	43.8	175	CONCENTRIC
298	313	UB-580-3125	U-BOLT ASSEMBLIES FOR #20 ROD	----	----	----	---	GALVANIZED
224	235	NG-0625-0875-A490	NEXGEN2 BLIND BOLT ASSEMB., M20 W/ SPRING SLEEVE, A490	----	----	----	---	ALLFASTENERS - 2NG2060
24	25	NG-0938-1438-A490	NEXGEN2 BLIND BOLT ASSEMB., M20 W/ SPRING SLEEVE, A490	----	----	----	---	ALLFASTENERS - 2NG2036
42	47	#20SB	STEP BOLT WELDMENT	0'-7 1/4"	#20SB	2.5	118	
DYWIDAG REINFORCEMENT MATERIAL & HARDWARE - SECT. 4								
4	4	DYD-20-ATR-PF	#20 ALL THREAD ROD (PER FT)	20'-0"	A-4	334.0	1336	GALVANIZED
20	20	W821-20	W8X21	1'-3"	A-4	27.6	552	#20 T-BRACKET
8	8	W821-12U-S	TERMINATION WELDMENT	3'-7 3/8"	A-4	90.2	722	#20 T-BRACKET
152	160	UB-580-3125	U-BOLT ASSEMBLIES FOR #20 ROD	----	----	----	---	GALVANIZED
96	101	NG-0625-0875-A490	NEXGEN2 BLIND BOLT ASSEMB., M20 W/ SPRING SLEEVE, A490	----	----	----	---	ALLFASTENERS - 2NG2060
16	21	#20SB	STEP BOLT WELDMENT	0'-7 1/4"	#20SB	2.5	53	
						TOTAL WEIGHT (lb)	8,835	

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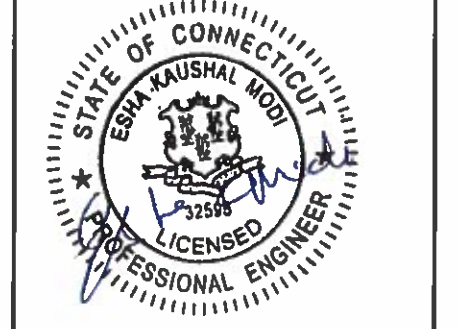
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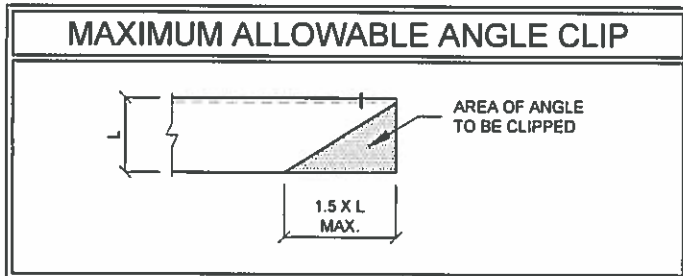
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GENERAL

- ALL WORK TO BE COMPLETED PER APPLICABLE LOCAL, STATE, FEDERAL CODES AND ORDINANCES AND COMPLY WITH ATC CONSTRUCTION SPECIFICATIONS FOR WIRELESS TOWER SITES. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING AND ABIDING BY ALL REQUIRED PERMITS.
- ALL WORK INDICATED ON THESE DRAWINGS SHALL BE PERFORMED BY QUALIFIED CONTRACTORS EXPERIENCED IN TOWER AND FOUNDATION CONSTRUCTION.
- THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF RECORD IMMEDIATELY OF ANY INSTALLATION INTERFERENCES. ALL NEW WORK SHALL ACCOMMODATE EXISTING CONDITIONS. DETAILS NOT SPECIFICALLY SHOWN ON THE DRAWINGS SHALL FOLLOW SIMILAR DETAILS FOR THIS JOB.
- ANY SUBSTITUTIONS SHALL CONFORM TO THE REQUIREMENTS OF THESE NOTES AND SPECIFICATIONS, AND SHOULD BE SIMILAR TO THOSE SHOWN. ALL SUBSTITUTIONS SHALL BE SUBMITTED TO THE ENGINEER OF RECORD FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.
- ANY MANUFACTURED DESIGN ELEMENTS SHALL CONFORM TO THE REQUIREMENTS OF THESE NOTES AND SPECIFICATIONS AND SHOULD BE SIMILAR TO THOSE SHOWN. THESE DESIGN ELEMENTS MUST BE STAMPED BY AN ENGINEER PROFESSIONALLY REGISTERED IN THE STATE OF THE PROJECT, AND SUBMITTED TO THE ENGINEER OF RECORD FOR APPROVAL PRIOR TO FABRICATION.
- ALL WORK SHALL BE DONE IN ACCORDANCE WITH LOCAL CODES AND OSHA SAFETY REGULATIONS.
- THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN AND EXECUTION OF ALL MISCELLANEOUS SHORING, BRACING, TEMPORARY SUPPORTS, ETC. NECESSARY, PER ANSII/TIA-322 AND ANSII/ASSE A10.48, TO PROVIDE A COMPLETE AND STABLE STRUCTURE AS SHOWN ON THESE DRAWINGS.
- CONTRACTOR'S PROPOSED INSTALLATION SHALL NOT INTERFERE, NOR DENY ACCESS TO, ANY EXISTING OPERATIONAL AND SAFETY EQUIPMENT.

STRUCTURAL STEEL

- ALL DETAILING, FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO THE AISC SPECIFICATIONS, LATEST EDITION.
- 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.
- ALL U-BOLTS SHALL BE ASTM A36 OR EQUIVALENT, WITH LOCKING DEVICE, UNLESS NOTED OTHERWISE.
- FIELD CUT EDGES, EXCEPT DRILLED HOLES, SHALL BE GROUND SMOOTH.
- ALL FIELD CUT SURFACES, FIELD DRILLED HOLES & GROUND SURFACES WHERE EXISTING PAINT OR GALVANIZATION REMOVAL WAS REQUIRED SHALL BE REPAIRED WITH (2) BRUSHED COATS OF ZRC GALVALITE COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURERS RECOMMENDATIONS.
- ALL STRUCTURAL STEEL EMBEDDED IN THE CONCRETE SHALL BE APPLIED WITH (2) BRUSHED COATS OF POLYGUARD CA-14 MASTIC OR EQUIVALENT. REFER TO THE MANUFACTURER SPECIFICATIONS FOR SURFACE PREPARATION AND APPLICATION. APPLICATION OF POLYGUARD 400 WRAP IS NOT ESSENTIAL.
- CONTRACTOR SHALL PERFORM WORK ON ONLY ONE (1) TOWER FACE AND REPLACE/REINFORCE ONE (1) BOLT/MEMBER AT A TIME.
- ALL FIELD DRILLED HOLES TO BE USED FOR FIELD BOLTING INSTALLATION SHALL BE STANDARD HOLES, AS DEFINED BY AISC, UNLESS NOTED OTHERWISE.



PAINT

- AS REQUIRED, CLEAN AND PAINT PROPOSED STEEL ACCORDING TO FAA ADVISORY CIRCULAR AC 70/7460-1L.

WELDING

- ALL WELDING TO BE PERFORMED BY AWS CERTIFIED WELDERS AND CONDUCTED IN ACCORDANCE WITH THE LATEST EDITION OF THE AWS WELDING CODE D1.1.
- ALL WELDS SHALL BE INSPECTED VISUALLY. IF DIRECTED BY ENGINEER OF RECORD, 25% OF WELDS SHALL BE INSPECTED WITH DYE PENETRANT OR MAGNETIC PARTICLE (100% IF REJECTABLE DEFECTS ARE FOUND) TO MEET THE ACCEPTANCE CRITERIA OF AWS D1.1. REPAIR ALL WELDS AS NECESSARY.
- INSPECTION SHALL BE PERFORMED BY AN AWS CERTIFIED WELD INSPECTOR
- ALL ELECTRODES TO BE LOW HYDROGEN, MATCHING FILLER AND/OR BASE METAL, PER AWS D1.1, UNLESS NOTED OTHERWISE.
- IN CASES WHERE BASE METAL GRADE IS UNKNOWN, ALL WELDING ON LATTICE TOWERS SHALL BE DONE WITH E70XX ELECTRODES; ALL WELDING ON POLE STRUCTURES SHALL BE DONE WITH E80XX ELECTRODES, UNLESS NOTED OTHERWISE.
- PRIOR TO FIELD WELDING GALVANIZED MATERIAL, CONTRACTOR SHALL GRIND OFF GALVANIZING 1/2" BEYOND ALL FIELD WELD SURFACES. AFTER WELD AND WELD INSPECTION IS COMPLETE, REPAIR ALL GROUND AND WELDED SURFACES WITH ZRC GALVALITE COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURERS RECOMMENDATIONS.

BOLT TIGHTENING PROCEDURE

- STRUCTURAL CONNECTIONS TO BE ASSEMBLED AND INSPECTED IN ACCORDANCE WITH RCSC SPECIFICATIONS.
- FLANGE BOLTS SHALL BE INSTALLED AND TIGHTENED USING DIRECT TENSION INDICATING (DTI) SQUIRTER WASHERS. DTI SQUIRTER WASHERS ARE TO BE INSTALLED AND ORIENTED / TIGHTENED PER MANUFACTURER SPECIFICATIONS TO ACHIEVE DESIRED LEVEL OF BOLT PRE-TENSION.
- IN LIEU OF USING DTI SQUIRTER WASHERS, FLANGE BOLTS MAY BE TIGHTENED USING AISC / RCSC "TURN-OF-THE-NUT" METHOD, PENDING APPROVAL BY THE ENGINEER OF RECORD (EOR). TIGHTEN FLANGE BOLTS USING THE CHART BELOW:

BOLT LENGTHS UP TO AND INCLUDING FOUR DIAMETERS

1/2"	BOLTS UP TO AND INCLUDING 2.0 INCH LENGTH	+1/3 TURN BEYOND SNUG TIGHT
5/8"	BOLTS UP TO AND INCLUDING 2.5 INCH LENGTH	+1/3 TURN BEYOND SNUG TIGHT
3/4"	BOLTS UP TO AND INCLUDING 3.0 INCH LENGTH	+1/3 TURN BEYOND SNUG TIGHT
7/8"	BOLTS UP TO AND INCLUDING 3.5 INCH LENGTH	+1/3 TURN BEYOND SNUG TIGHT
1"	BOLTS UP TO AND INCLUDING 4.0 INCH LENGTH	+1/3 TURN BEYOND SNUG TIGHT
1-1/8"	BOLTS UP TO AND INCLUDING 4.5 INCH LENGTH	+1/3 TURN BEYOND SNUG TIGHT
1-1/4"	BOLTS UP TO AND INCLUDING 5.0 INCH LENGTH	+1/3 TURN BEYOND SNUG TIGHT
1-3/8"	BOLTS UP TO AND INCLUDING 5.5 INCH LENGTH	+1/3 TURN BEYOND SNUG TIGHT
1-1/2"	BOLTS UP TO AND INCLUDING 6.0 INCH LENGTH	+1/3 TURN BEYOND SNUG TIGHT

BOLT LENGTHS OVER FOUR DIAMETERS BUT NOT EXCEEDING EIGHT DIAMETERS

1/2"	BOLTS 2.25 TO 4.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT
5/8"	BOLTS 2.75 TO 5.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT
3/4"	BOLTS 3.25 TO 6.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT
7/8"	BOLTS 3.75 TO 7.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT
1"	BOLTS 4.25 TO 8.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT
1-1/8"	BOLTS 4.75 TO 9.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT
1-1/4"	BOLTS 5.25 TO 10.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT
1-3/8"	BOLTS 5.75 TO 11.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT
1-1/2"	BOLTS 6.25 TO 12.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT

- SPLICE BOLTS SUBJECT TO DIRECT TENSION SHALL BE INSTALLED AND TIGHTENED AS PER SECTION 8.2.1 OF THE AISC "SPECIFICATION FOR STRUCTURAL JOINTS USING A325 OR A490 BOLTS", LOCATED IN THE AISC MANUAL OF STEEL CONSTRUCTION. THE INSTALLATION PROCEDURE IS PARAPHRASED AS FOLLOWS:

FASTENERS SHALL BE INSTALLED IN PROPERLY ALIGNED HOLES AND TIGHTENED BY ONE OF THE METHODS DESCRIBED IN SUBSECTION 8.2.1 THROUGH 8.2.4.

8.2.1 TURN-OF-NUT PRETENSIONING

BOLTS SHALL BE INSTALLED IN ALL HOLES OF THE CONNECTION AND BROUGHT TO A SNUG TIGHT CONDITION AS DEFINED IN SECTION 8.1, UNTIL ALL THE BOLTS ARE SIMULTANEOUSLY SNUG TIGHT AND THE CONNECTION IS FULLY COMPACTED. FOLLOWING THIS INITIAL OPERATION ALL BOLTS IN THE CONNECTION SHALL BE TIGHTENED FURTHER BY THE APPLICABLE AMOUNT OF ROTATION SPECIFIED ABOVE. DURING THE TIGHTENING OPERATION THERE SHALL BE NO ROTATION OF THE PART NOT TURNED BY THE WRENCH. TIGHTENING SHALL PROGRESS SYSTEMATICALLY.

- ALL OTHER BOLTED CONNECTIONS SHALL BE BROUGHT TO A SNUG TIGHT CONDITION AS DEFINED IN SECTION 8.1 OF THE SPECIFICATION.

ALL BOLT HOLES SHALL BE ALIGNED TO PERMIT INSERTION OF THE BOLTS WITHOUT UNDUE DAMAGE TO THE THREADS. BOLTS SHALL BE PLACED IN ALL HOLES WITH WASHERS POSITIONED AS REQUIRED AND NUTS THREADED TO COMPLETE THE ASSEMBLY. COMPACTING THE JOINT TO THE SNUG-TIGHT CONDITION SHALL PROGRESS SYSTEMATICALLY FROM THE MOST RIGID PART OF THE JOINT. THE SNUG-TIGHTENED CONDITION IS THE TIGHTNESS THAT IS ATTAINED WITH A FEW IMPACTS OF AN IMPACT WRENCH OR THE FULL EFFORT OF AN IRONWORKER USING AN ORDINARY SPUD WRENCH TO BRING THE CONNECTED PLIES INTO FIRM CONTACT.

APPLICABLE CODES AND STANDARDS

- ANSI/TIA: STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWERS AND ANTENNA SUPPORTING STRUCTURES, 222-G EDITION.
- 2015 INTERNATIONAL BUILDING CODE.
- 2018 CONNECTICUT STATE BUILDING CODE.
- ACI 318: AMERICAN CONCRETE INSTITUTE, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE. REFERENCE LATEST APPROPRIATE EDITION TO MATCH LOCAL AND/OR INTERNATIONAL BUILDING CODE(S) LISTED ABOVE.
- CRSI: CONCRETE REINFORCING STEEL INSTITUTE, MANUAL OF STANDARD PRACTICE, LATEST EDITION.
- AISC: AMERICAN INSTITUTE OF STEEL CONSTRUCTION, MANUAL OF STEEL CONSTRUCTION, LATEST EDITION.
- AWS: AMERICAN WELDING SOCIETY D1.1, STRUCTURAL WELDING CODE, LATEST EDITION.

SPECIAL INSPECTION

- A QUALIFIED INDEPENDENT TESTING LABORATORY, EMPLOYED BY THE OWNER, SHALL PERFORM INSPECTION AND TESTING IN ACCORDANCE WITH IBC 2015, SECTION 1704 AS REQUIRED BY PROJECT SPECIFICATIONS FOR THE FOLLOWING CONSTRUCTION WORK:
 - STRUCTURAL WELDING (CONTINUOUS INSPECTION OF FIELD WELD ONLY)
 - HIGH STRENGTH BOLTS (PERIODIC INSPECTION OF A325 EXTENSION FLANGE BOLTS TO BE TIGHTENED PER "TURN-OF-THE-NUT" METHOD)
- THE INSPECTION AGENCY SHALL SUBMIT INSPECTION AND TEST REPORTS TO THE BUILDING DEPARTMENT, THE ENGINEER OF RECORD, AND THE OWNER IN ACCORDANCE WITH IBC 2015, SECTION 1704, UNLESS THE FABRICATOR IS APPROVED BY THE BUILDING OFFICIAL TO PERFORM SUCH WORK WITHOUT THE SPECIAL INSPECTIONS.

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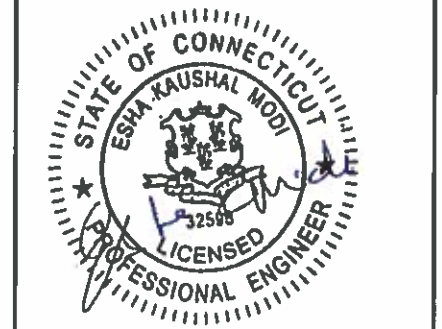
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IBC GENERAL NOTES	
SHEET NUMBER: IGN	REVISION: 0

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MODIFICATION INSPECTION NOTES

THE SPECIAL INSPECTION (SI) PROCEDURE IS INTENDED TO CONFIRM THAT CONSTRUCTION AND INSTALLATION MEETS ENGINEERING DESIGN, ATC PROCEDURES AND ATC STANDARD SPECIFICATIONS FOR WIRELESS TOWER SITES.

TO ENSURE THAT THE REQUIREMENTS OF THE SI ARE MET, IT IS VITAL THAT THE GENERAL CONTRACTOR AND THE INSPECTOR BEGIN COMMUNICATING AND COORDINATING AS SOON AS A PO IS RECEIVED FROM AMERICAN TOWER CORPORATION (ATC). IT IS EXPECTED THAT EACH PARTY WILL PROACTIVELY REACH OUT TO THE OTHER PARTY. IF CONTACT INFORMATION IS NOT KNOWN, CONTACT YOUR AMERICAN TOWER POINT OF CONTACT.

SPECIAL INSPECTOR

THE SPECIAL INSPECTOR IS REQUIRED TO CONTACT THE GENERAL CONTRACTOR AS SOON AS RECEIVING A PO FROM ATC. UPON RECEIVING A PO FROM ATC THE SPECIAL INSPECTOR AT A MINIMUM MUST:

- REVIEW THE REQUIREMENTS OF THE SI CHECKLIST.
- WORK WITH THE GENERAL CONTRACTOR TO DEVELOP A SCHEDULE TO CONDUCT ON-SITE INSPECTIONS, INCLUDING FOUNDATION INSPECTIONS.
- ANY CONCERNS WITH THE SCOPE OF WORK OR PROJECT COMMITMENT MUST BE RELAYED TO THE ATC POINT OF CONTACT IMMEDIATELY.

THE SPECIAL INSPECTOR IS RESPONSIBLE FOR COLLECTING ALL GENERAL CONTRACTOR INSPECTION AND TEST REPORTS, REVIEWING THESE DOCUMENTS FOR ADHERENCE TO CONTRACT DOCUMENTS, CONDUCTING THE IN-FIELD INSPECTIONS, AND SUBMITTING THE SI REPORT TO AMERICAN TOWER CORPORATION

GENERAL CONTRACTOR

THE GENERAL CONTRACTOR IS REQUIRED TO CONTACT THE SI INSPECTOR AS SOON AS RECEIVING A PO FOR THE MODIFICATION INSTALLATION OR TURNKEY PROJECT TO, AT A MINIMUM:

- REVIEW THE REQUIREMENTS OF THE SI CHECKLIST.
- WORK WITH THE SI TO DEVELOP A SCHEDULE TO CONDUCT ON-SITE INSPECTIONS, INCLUDING FOUNDATION INSPECTIONS.
- BETTER UNDERSTAND ALL INSPECTION AND TESTING REQUIREMENTS.

THE GENERAL CONTRACTOR SHALL PERFORM AND RECORD THE TEST AND INSPECTION RESULTS IN ACCORDANCE WITH THE REQUIREMENTS OF THE SI CHECKLIST.

SPECIAL INSPECTION CHECKLIST

INSPECTION DOCUMENT	DESCRIPTION	INSPECTION TESTING REQUIRED	RESPONSIBILITY	SI REVIEW REQUIRED			INSPECTION FREQUENCY	
				PRE CX	DURING CX	POST CX	PERIODIC	CONTINUOUS
SPECIAL INSPECTION FIELD WORK & REPORT	DOCUMENTATION AND SITE VISIT CONDUCTED BY AN ATC APPROVED SPECIAL INSPECTOR AS REQUIRED BY ATC AND OTHER AUTHORITIES HAVING JURISDICTION. INSPECTION PARAMETERS TO FOLLOW ATC'S STANDARD SPECIFICATION FOR WIRELESS TOWER SITES.	✓	SI			✓		
ENGINEERING ASSEMBLY DRAWINGS	GC SHALL SUBMIT DRAWINGS TO SI FOR INCLUSION IN SI REPORT	✓	GC	✓				
FABRICATED MATERIAL VERIFICATION & INSPECTION	MTR AND OR MILL CERTIFICATIONS FOR SUPPLIED MATERIALS GC SHALL SUPPLY SI WITH REPORTS TO BE INCLUDED IN SI REPORT WHEN REQUIRED BY ATC	✓	SI	✓				
CERTIFIED WELD INSPECTION	INSPECTION AND REPORT OF STRUCTURAL WELDING PERFORMED DURING PROJECT COMPLETED BY A CWI AND INCLUDED WITHIN SI REPORT		GC / TA					
FOUNDATION INSPECTION & VERIFICATION	VISUAL OBSERVATION AND APPROVAL OF FOUNDATION EXCAVATION, REBAR PLACEMENT, CASING/SHORING/FORMING PLACEMENT, AND ANCHOR TEMPLATE AND ANCHOR PLACEMENT - TO BE SI APPROVED PRIOR TO CONCRETE POUR AND DOCUMENTED IN THE SI REPORT		SI					
ANCHOR, ROCK ANCHOR OR HELICAL PULL-OUT TEST	PULL TESTING OF INSTALLED ANCHORS TO BE COMPLETED AND DOCUMENTED IN SI REPORT		GC / TA					
CONCRETE INSPECTION & VERIFICATION	CONCRETE MIX DESIGN, SLUMP TEST, COMPRESSIVE TESTING, AND SAMPLE GATHERING TECHNIQUES ARE TO BE PROVIDED FOR INCLUSION IN THE SI REPORT. SI SHALL VERIFY CONCRETE PLACEMENT AS REQUIRED BY THE DESIGN DOCUMENTS (INSPECTION FREQUENCY IS MARKED CONTINUOUS)		GC / TA					
DYWDAG PLACEMENT/ANCHOR BOLT EMBEDMENT - EPOXY/GROUT INSTALL	ANCHOR/BAR EMBEDMENT, HOLE SIZE, EPOXY/GROUT TYPE, INSTALLATION TEMPERATURE AND INSTALLATION SHALL BE VERIFIED BY THE SI AND INCLUDED IN THE SI REPORT	✓	GC / SI		✓			✓
BASE PLATE GROUT INSPECTION & VERIFICATION	BASE PLATE GROUTING TYPE AND PLACEMENT SHALL BE CONFIRMED BY THE SI AND INCLUDED IN THE SI REPORT		GC / SI					
EARTHWORK INSPECTION & VERIFICATION	EXCAVATION, FILL, SLOPE, GRADE AND OTHER EARTHWORK REQUIREMENTS PER PLANS SHALL BE VERIFIED BY THE SI AND INCLUDED IN THE SI REPORT		GC / TA					
COMPACTION VERIFICATION	CONTRACTOR SHALL PROVIDE AN INDEPENDENT THIRD PARTY CERTIFIED INSPECTION WHICH PROVIDES TEST RESULTS FOR COMPACTION TEST OF SOILS IN PLACE TO ASTM STANDARDS.		GC / TA					
GROUND TESTING & VERIFICATION	GC SHALL PROVIDE DOCUMENTATION SHOWING THAT THE GROUNDING SYSTEM SHALL HAVE A MEASURED RESISTANCE TO THE GROUND OF NOT MORE THAN THE RECOMMENDED 10 OHMS PER THE ATC CONSTRUCTION SPECIFICATION UNDER SECTION 2.15 THIS DOCUMENTATION MUST BE AN INDEPENDENT CERTIFICATION.		GC					
STEEL CONSTRUCTION INSPECTION & VERIFICATION	VISUAL OBSERVATION AND APPROVAL OF STEEL CONSTRUCTION TO BE PERFORMED BY THE SI. INSPECTION TO INCLUDE VERIFICATION OF NEW CONSTRUCTION OR MODIFICATION OF EXISTING CONSTRUCTION PER ENGINEERED PLANS. DETAILED VERIFICATION SHALL BE INCLUDED IN SI REPORT.	✓	SI			✓	✓	
ON-SITE COLD GALVANIZING VERIFICATION	SI SHALL VERIFY WITH GC ALL COLD GALVANIZATION TYPE AND APPLICATION AND INCLUDE SUMMARY IN SI REPORT	✓	GC			✓	✓	
GUY WIRE TENSIONING & TOWER ALIGNMENT REPORT	GC SHALL PROVIDE SI EVIDENCE OF PROPER GUY TENSIONING AND TOWER PLUMB PER PLANS. SI SHALL VERIFY AND INCLUDE PLUMB AND TENSION REPORTING IN SI REPORT.		GC					
GC AS-BUILT DRAWINGS WITH CONSTRUCTION RED-LINES	GC SHALL SUBMIT "AS-BUILT" DRAWINGS INDICATING ANY APPROVED CHANGES TO ENGINEERED PLANS TO SI FOR APPROVAL/REVIEW AND INCLUSION IN SI REPORT	✓	GC			✓		
SI AS-BUILT DRAWINGS WITH INSPECTION RED-LINES (AS REQUIRED)	SI SHALL SUBMIT "AS-BUILT" DRAWINGS INDICATING ANY APPROVED CHANGES TO ENGINEERED PLANS WITHIN SI REPORT	✓	SI			✓		
TIA INSPECTION	SI SHALL COMPLETE TIA INSPECTION AND PROVIDE SEPARATE TIA INSPECTION DOCUMENTATION TO ATC CM		SI					
PHOTOGRAPHS	PHOTOGRAPHIC EVIDENCE OF SPECIAL INSPECTION, ON SITE REMEDIATION, AND ITEMS FAILING INSPECTION & REQUIRING FOLLOW UP TO BE INCLUDED WITHIN THE SI REPORT. COMPLETE PHOTO LOG IS TO BE SUBMITTED WITHIN SI REPORT.	✓	GC / SI			✓		

NOTE: SPECIAL INSPECTIONS ARE INTENDED TO BE A COLLABORATIVE EFFORT BETWEEN GC AND SI. WHENEVER POSSIBLE GC IS TO PROVIDE SI WITH PHOTOGRAPHIC OR OTHER ACCEPTABLE EVIDENCE OF PROPER INSTALLATION IF PERIODIC INSPECTION FREQUENCY IS ACCEPTABLE. THE GC AND SI SHALL WORK TO COMPILE EVIDENCE OF PROPER CONSTRUCTION AND LIMIT THE NUMBER OF SI SITE VISITS REQUIRED.

TABLE KEY:
 SI - ATC APPROVED SPECIAL INSPECTOR
 GC - GENERAL CONTRACTOR
 TA - 3RD PARTY TESTING AGENCY
 CX - CONSTRUCTION
 CM - CONSTRUCTION MANAGER
 ATC - AMERICAN TOWER CORPORATION

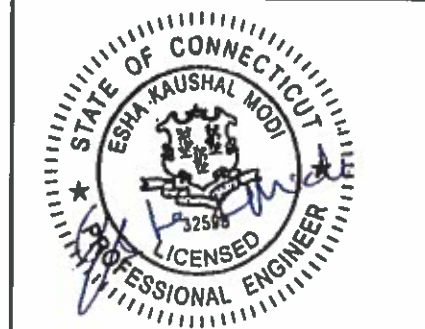


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REV	DESCRIPTION	BY	DATE
0	FIRST ISSUE	NYG	11/06/19

ATC SITE NUMBER:
302475
 ATC SITE NAME
STTN - SOUTHTON
CONNECTICUT
 SITE ADDRESS
 80 SHUTTLE MEADOW ROAD
 SOUTHTON, CT 06489



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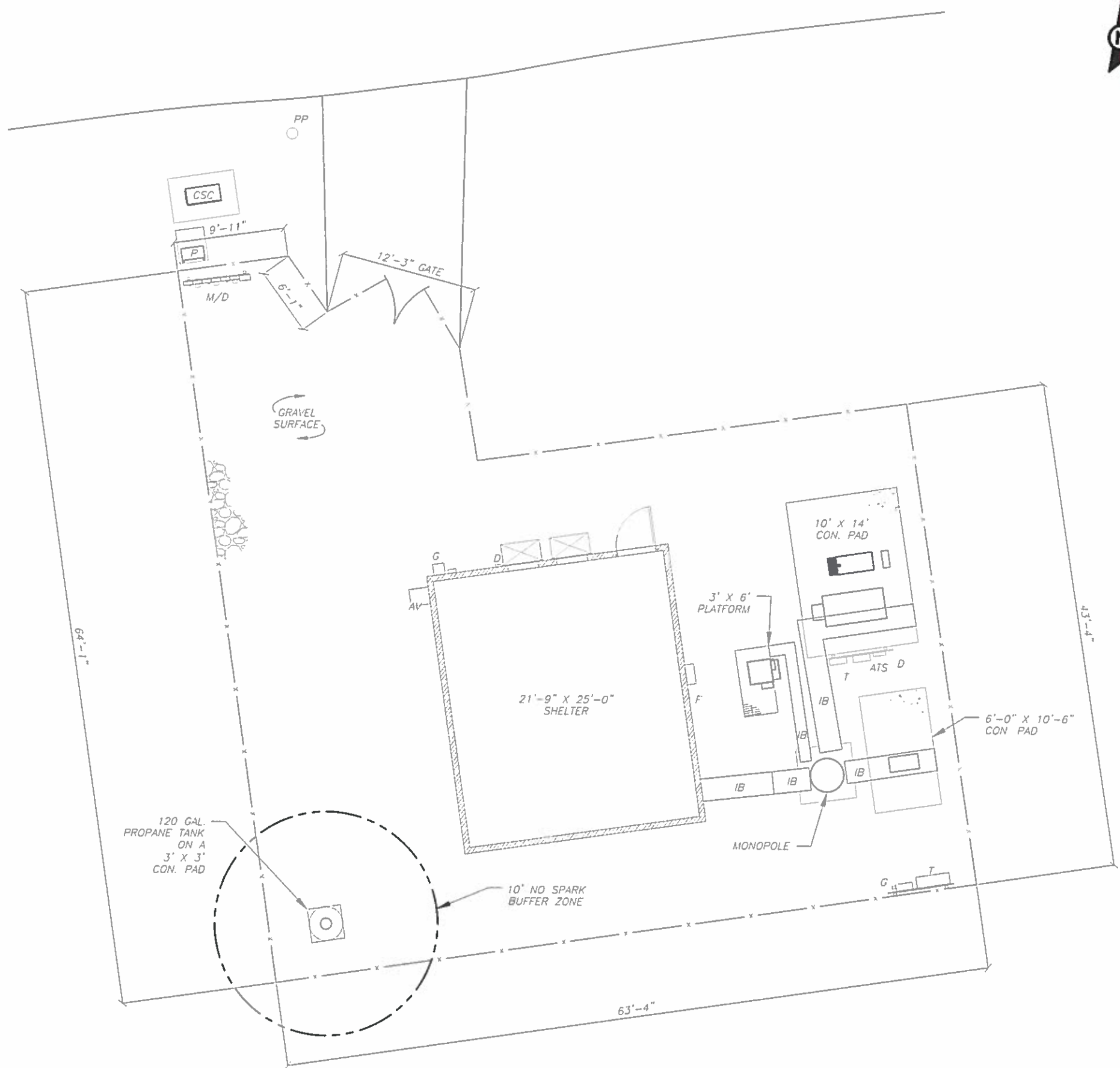
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ATC JOB NO:	12978549_C6_05

SPECIAL INSPECTION CHECKLIST	
SHEET NUMBER:	REVISION:
SIC	0

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LEGEND

○	GROUNDING TEST WELL
AV, AV	AIR VENT
ATS	AUTOMATIC TRANSFER SWITCH
B	BOLLARD
C	CABINET
CS	COAX SHROUD
CSC	CELL SITE CABINET
D	DISCONNECT
E	ELECTRICAL
F	FIBER
GEN	GENERATOR
G	GENERATOR RECEPTACLE
HH, V	HAND HOLE, VAULT
HFC	HYDROGEN FUEL CELL
HSM	HYDROGEN STORAGE MATERIAL
IB	ICE BRIDGE
K	KENTROX BOX
LC	LIGHTING CONTROL
LPG	LIQUID PROPANE GAS
M	METER
OHV	OVERHEAD WIRE
P	POWER
PB	PULL BOX
PP	POWER POLE
T	TELCO
TRN	TRANSFORMER
---	PROPERTY LINE
- - -	ADJACENT PROPERTY LINE
- · - · -	LEASE AREA
- · - · - · -	EASEMENT
- ○ - ○ -	WOOD FENCE
- ○ - ○ - ○ -	WIRE FENCE
- ○ - ○ - ○ - ○ -	METAL FENCE
- ○ - ○ - ○ - ○ - ○ -	GUARD RAIL
- x - x - x - x -	CHAINLINK FENCE
- · - · - · - · -	ROAD (DIRT)
- · - · - · - · - · -	ROAD (STONE)
- · - · - · - · - · - · -	ROAD (PAVED)



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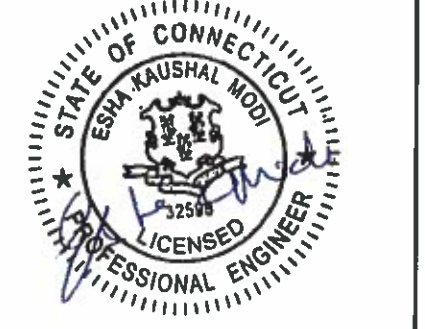
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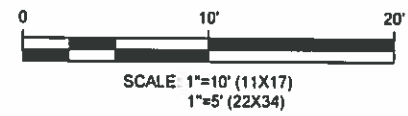
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SITE PLAN	
SHEET NUMBER:	REVISION:
C-101	0



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VERIZON WIRELESS
EL: 143.0' (PROPOSED)

EL: 150.0'
[TOP OF STRUCTURE]

SECTION 4

EL: 109.3'

SECTION 3

EL: 73.5'

SECTION 2

EL: 35.7'

SECTION 1

EL: 0.0'
[BOTTOM OF STRUCTURE]

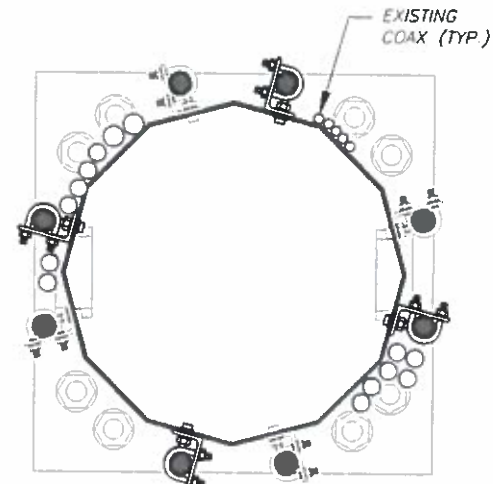


TOWER ELEVATION VIEW

MOUNTS MAY REQUIRE SUPPORT AND RE-MOUNTING DURING INSTALLATION. SEE PHOTO & NOTE BELOW.

INSTALL (4) DYWIDAG #20 ALL THREAD RODS FROM EL: 109.0' TO 129.0'. SEE SHEETS A-4 & A-5 FOR INSTALLATION DETAILS.

INSTALL (4) DYWIDAG #20 ALL THREAD RODS FROM EL: -7.5' TO 62.5'. SEE SHEETS A-2, A-3, & A-5 FOR INSTALLATION DETAILS.



COAX DISTRIBUTION
EXTERIOR ONLY



MODIFICATION INTERFERENCE
EL: 103'-0"±, 120'-0"±, & 130'-0"±

NOTES:

1. PROPOSED VERIZON WIRELESS COAX TO BE INSTALLED INSIDE MONOPOLE.
2. BASE FLANGE WELD AND STIFFENER PLATE WELDS (WHEN PRESENT) ARE TO BE INSPECTED VISUALLY AND BY NDT METHODS BY A CERTIFIED WELD INSPECTOR WITH NDT LEVEL II CERTIFICATION. RESULTS ARE TO BE SENT TO PMI@AMERICANTOWER.COM.
3. CONTACT AMERICAN TOWER FIELD OPERATIONS WHEN EXISTING EQUIPMENT INTERFERES WITH INSTALLATION OF MODIFICATIONS. ONCE APPROVED, EXISTING EQUIPMENT MAY BE TEMPORARILY MOVED DURING INSTALLATION & REINSTALLED TO THE ORIGINAL HEIGHT & LOCATION BY CONTRACTOR POST COMPLETION OF MODIFICATIONS.

IMPORTANT NOTE

THE MODIFICATIONS LISTED IN THIS PACKAGE SHALL NOT BE INSTALLED UNLESS PRIOR MODIFICATION PACKAGE NUMBER OAA740798_C8_05, DATED JANUARY 22, 2019 HAS BEEN COMPLETED.



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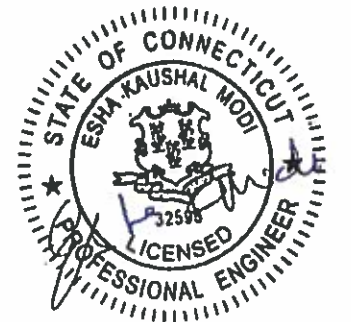
ATC SITE NAME:

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MODIFICATION PROFILE

SHEET NUMBER:

A-1

REVISION:

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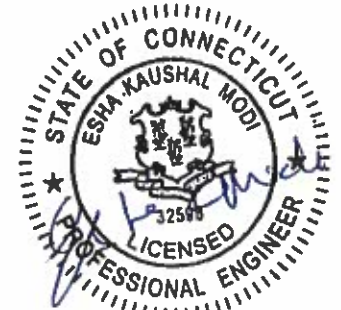
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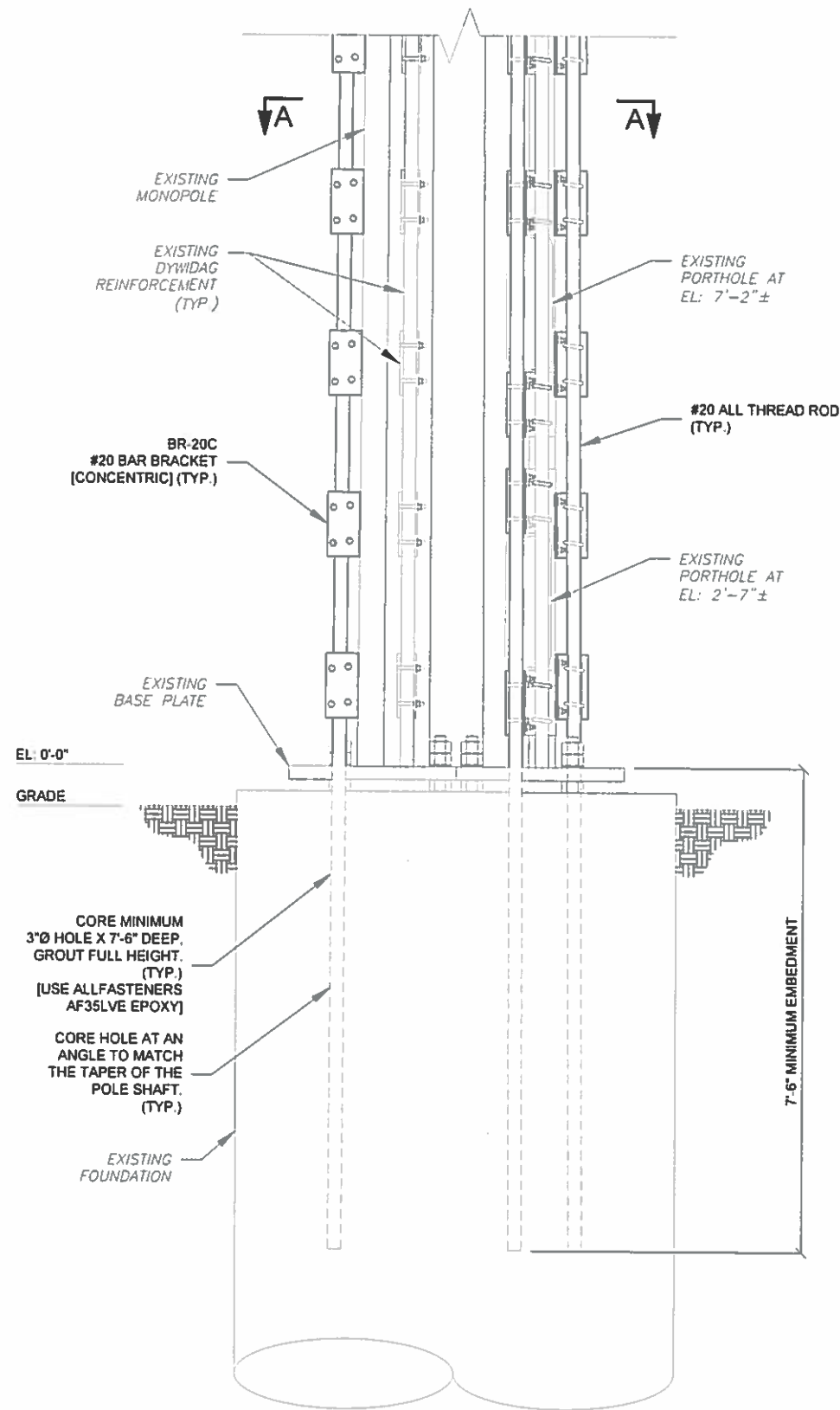
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FOUNDATION DETAILS

SHEET NUMBER	REVISION
A-2	0

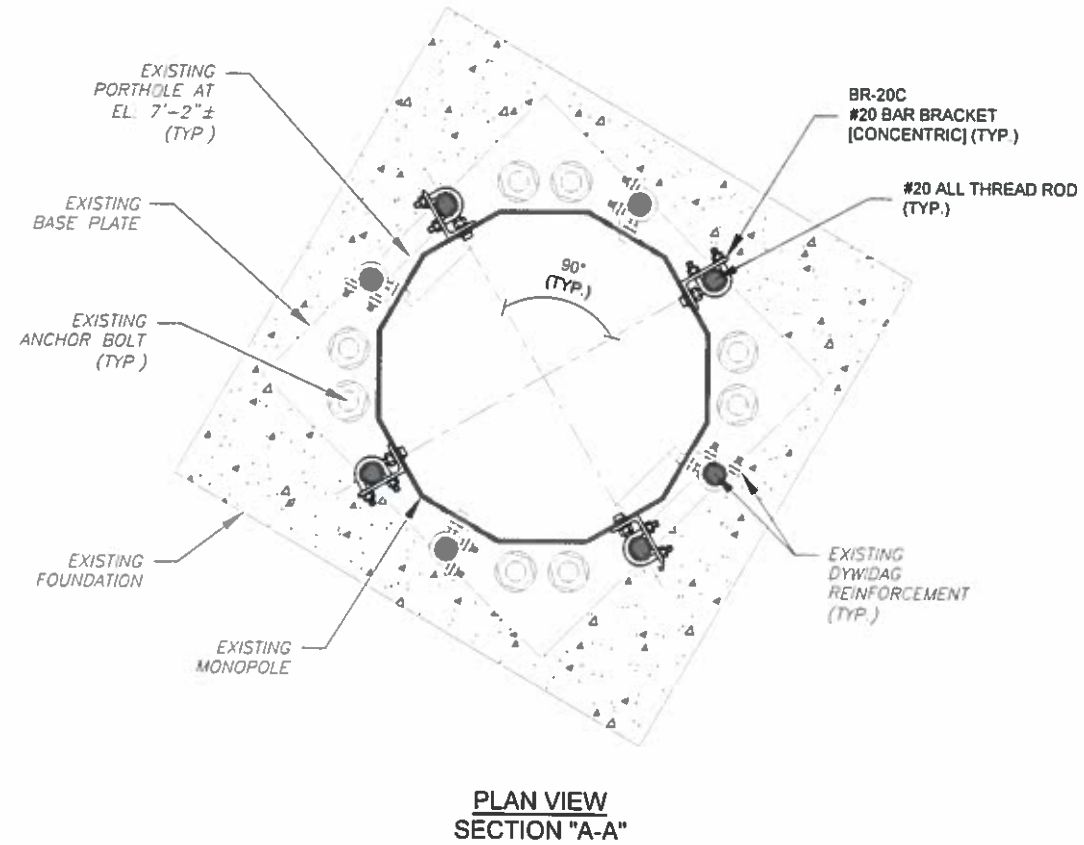
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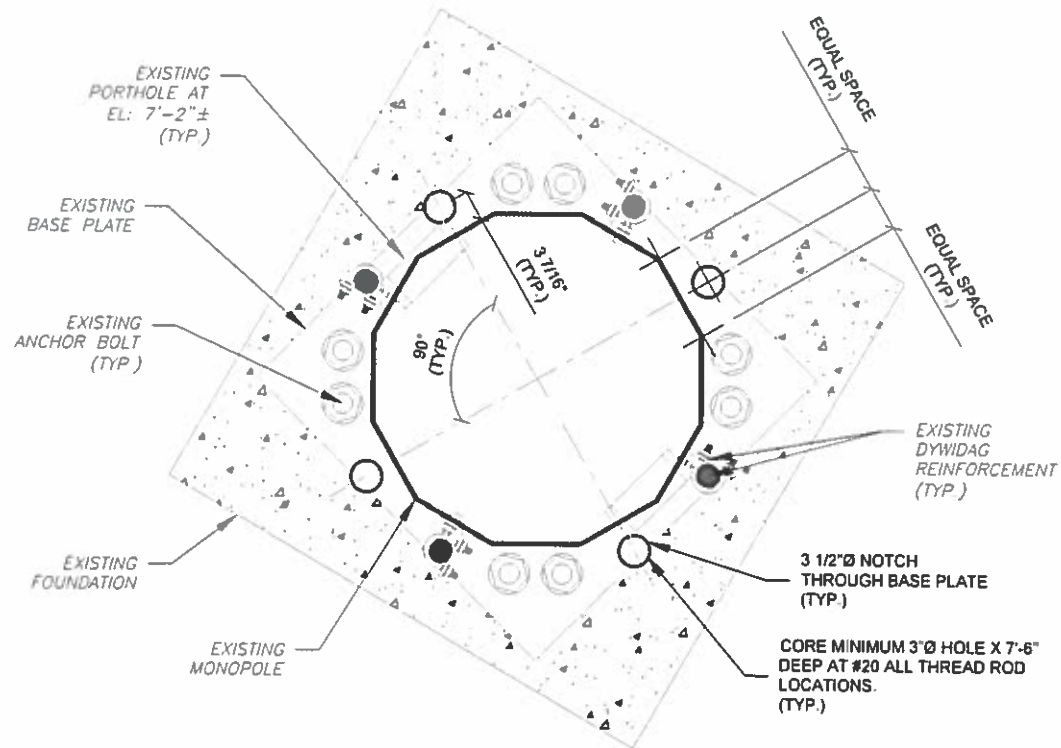
**ELEVATION VIEW
 FOUNDATION DETAIL**

NOTES:

- UNLESS SPECIFIED OTHERWISE, CONTRACTOR IS TO REMOVE ALL GROUT BELOW BASE PLATE AND VERIFY / TIGHTEN ALL LEVELING NUTS.
- CONTRACTOR TO CONTACT ENGINEER OF RECORD IF EXISTING REBAR IS ENCOUNTERED DURING CORING.



**PLAN VIEW
 SECTION "A-A"**



**PLAN VIEW
 HOLE DRILL DETAIL**



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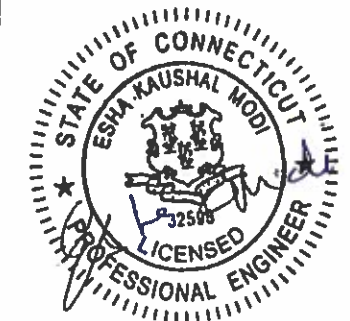
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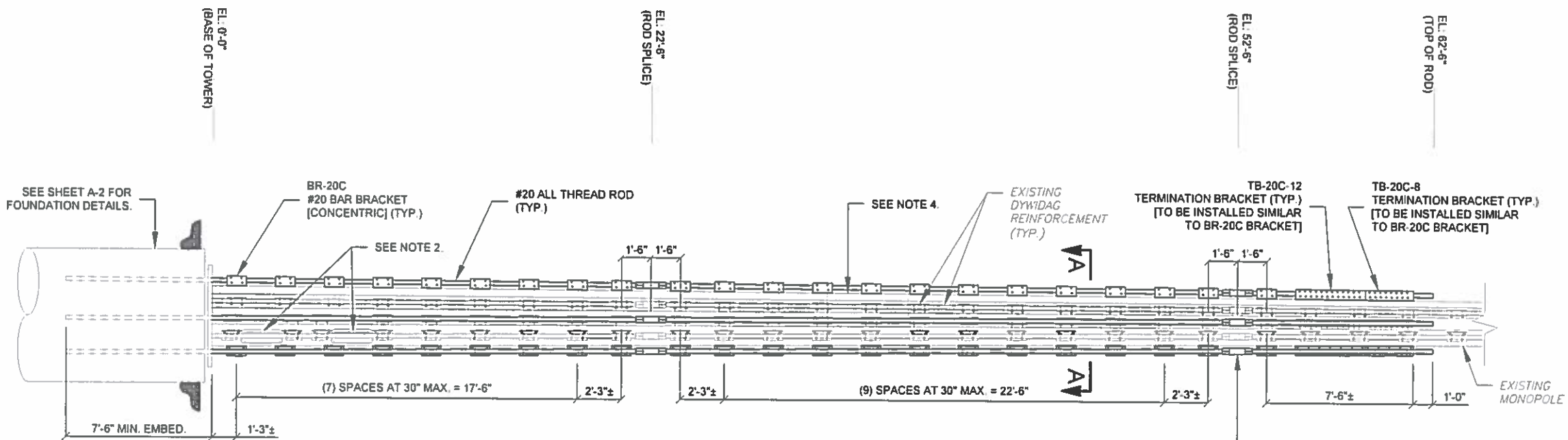


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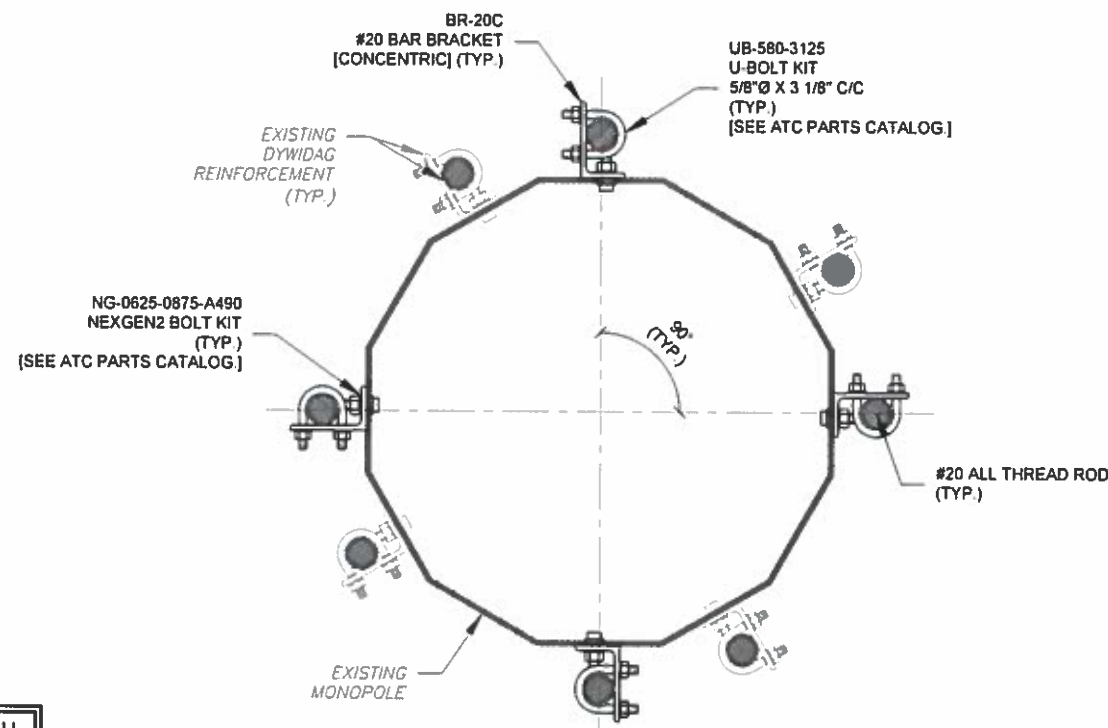
REINFORCEMENT
 INSTALLATION DETAILS

SHEET NUMBER:	REVISION:
A-3	0



ELEVATION VIEW
#20 BAR BRACKET SPACING DETAIL

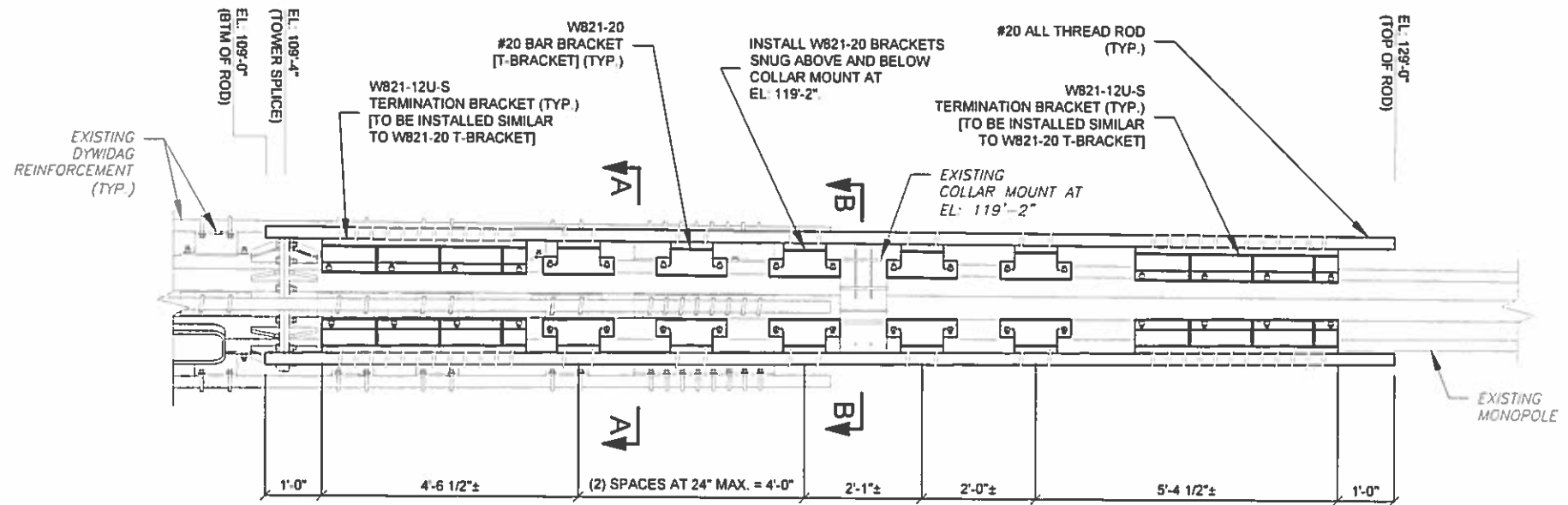
DYD-20-COUP-00
 #20 COUPLING HDG
 W/ (2) DYD-20-HN-00
 #20 HEX NUT HDG
 (TYP.)
 [SEE ATC PARTS CATALOG.]



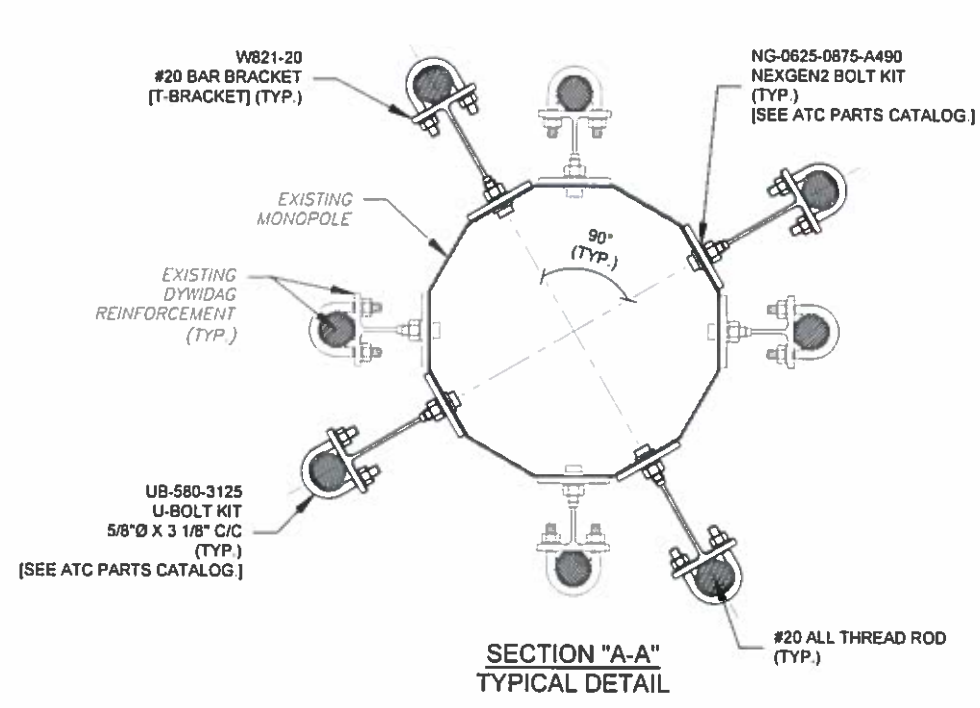
SECTION "A-A"
TYPICAL DETAIL

- NOTES:**
- REPLACE ANY EXISTING STEP BOLTS THAT INTERFERE WITH THE NEW #20 ALL THREAD ROD REINFORCEMENTS. THE NEW STEP BOLTS SHALL BE ATTACHED TO THE #20 ALL THREAD RODS IN THE SAME APPROXIMATE LOCATION. SEE SHEET #20SB FOR INSTALLATION DETAILS.
 - PLACE A BRACKET (BR-20C) DIRECTLY ABOVE AND BELOW ANY EXISTING PORTHOLE AS REQUIRED.
 - SEE SHEET A-5 FOR #20 ALL THREAD ROD BRACKET INSTALLATION DETAILS.
 - NG-0938-1438-A490 NEXGEN2 BOLT KITS ARE SUPPLIED AS REQUIRED FOR BAR BRACKET CONNECTIONS THAT FALL WITHIN SLIP JOINT LOCATIONS.

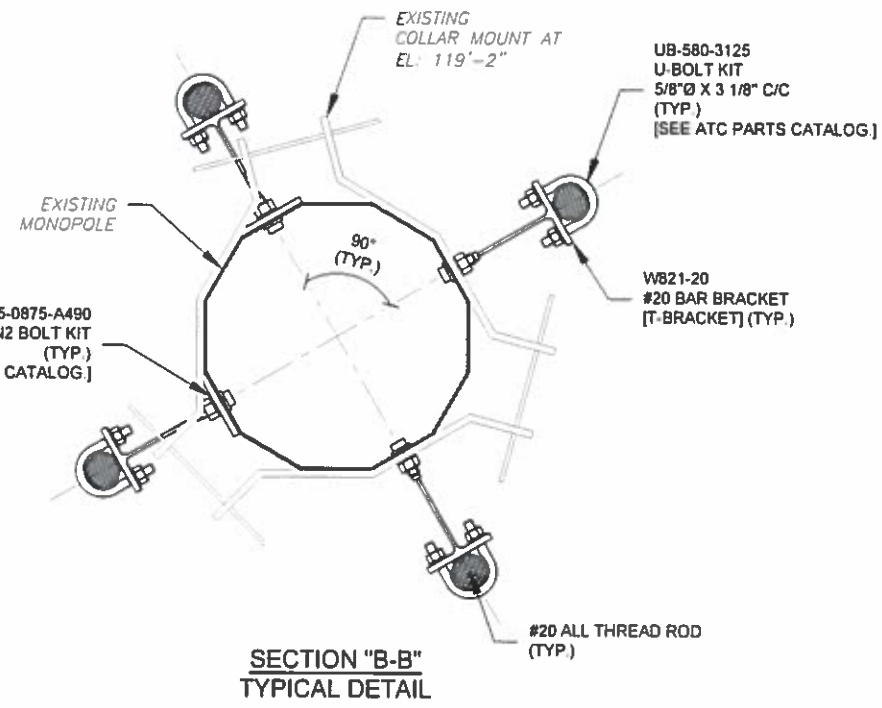
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ELEVATION VIEW
#20 BAR BRACKET SPACING DETAIL



SECTION "A-A"
TYPICAL DETAIL



SECTION "B-B"
TYPICAL DETAIL

- NOTES:**
1. REPLACE ANY EXISTING STEP BOLTS THAT INTERFERE WITH THE NEW #20 ALL THREAD ROD REINFORCEMENTS. THE NEW STEP BOLTS SHALL BE ATTACHED TO THE #20 ALL THREAD RODS IN THE SAME APPROXIMATE LOCATION. SEE SHEET #20SB FOR INSTALLATION DETAILS.
 2. PLACE A BRACKET (W519-20) DIRECTLY ABOVE AND BELOW ANY EXISTING PORTHOLE AS REQUIRED.
 3. SEE SHEET A-5 FOR #20 ALL THREAD ROD BRACKET INSTALLATION DETAILS.
 4. NG-0938-1438-A490 NEXGEN2 BOLT KITS ARE SUPPLIED AS REQUIRED FOR BAR BRACKET CONNECTIONS THAT FALL WITHIN SLIP JOINT LOCATIONS.



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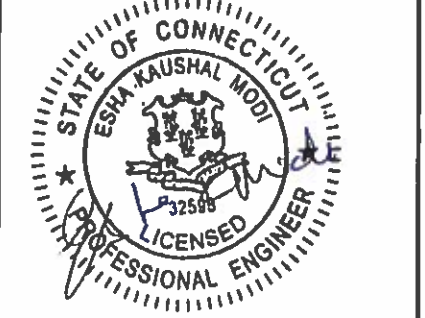
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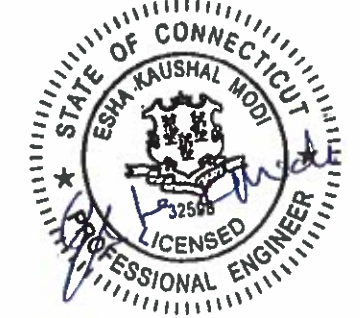
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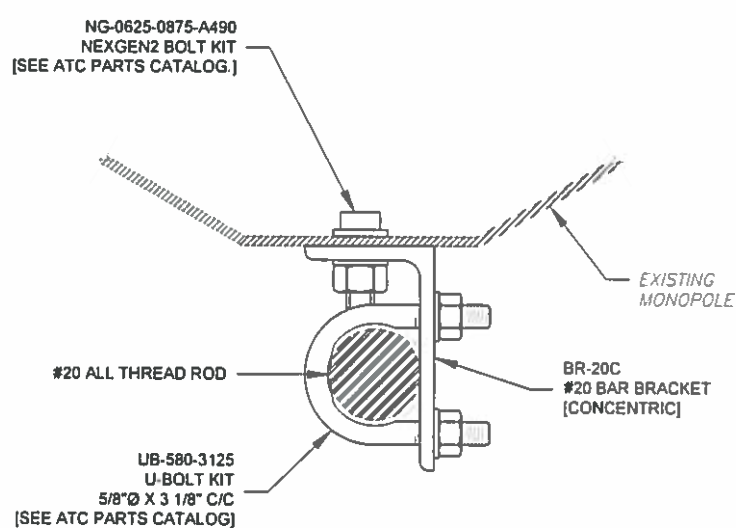


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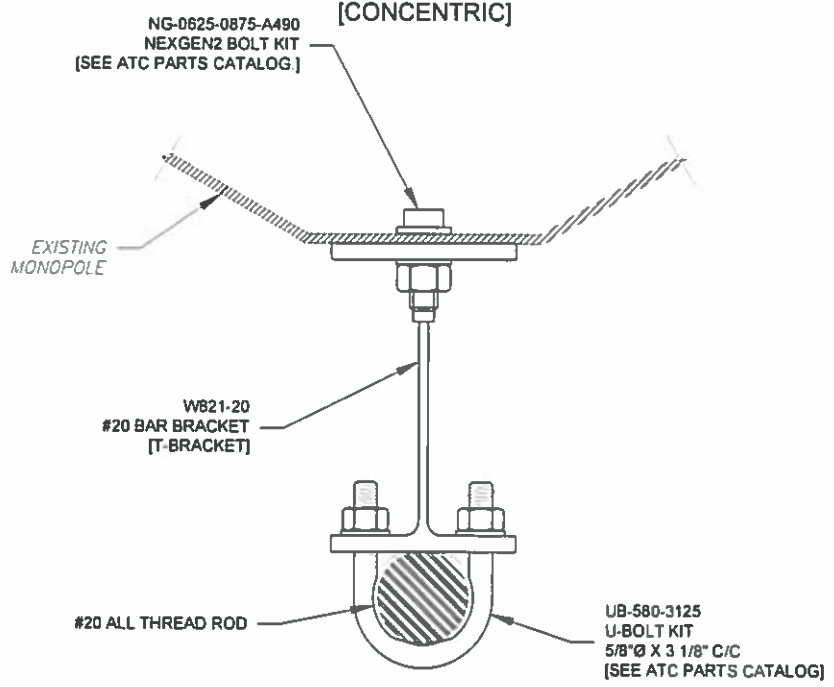
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REINFORCEMENT INSTALLATION DETAILS (CONT'D)	
SHEET NUMBER:	REVISION:
A-5	0

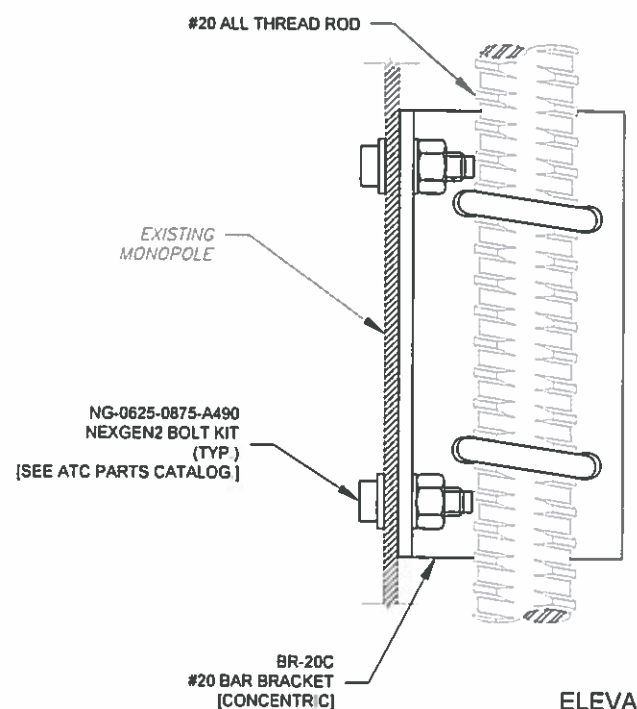
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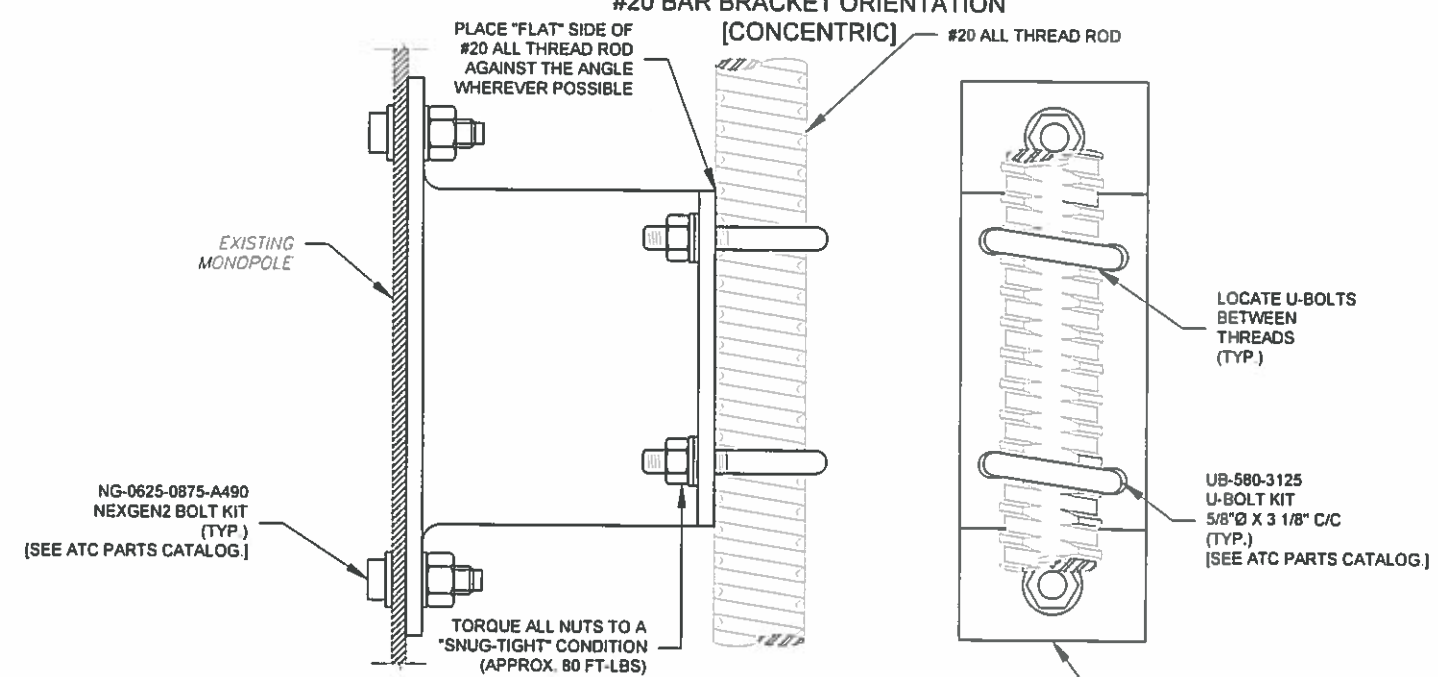
PLAN VIEW
#20 BAR BRACKET ORIENTATION
[CONCENTRIC]



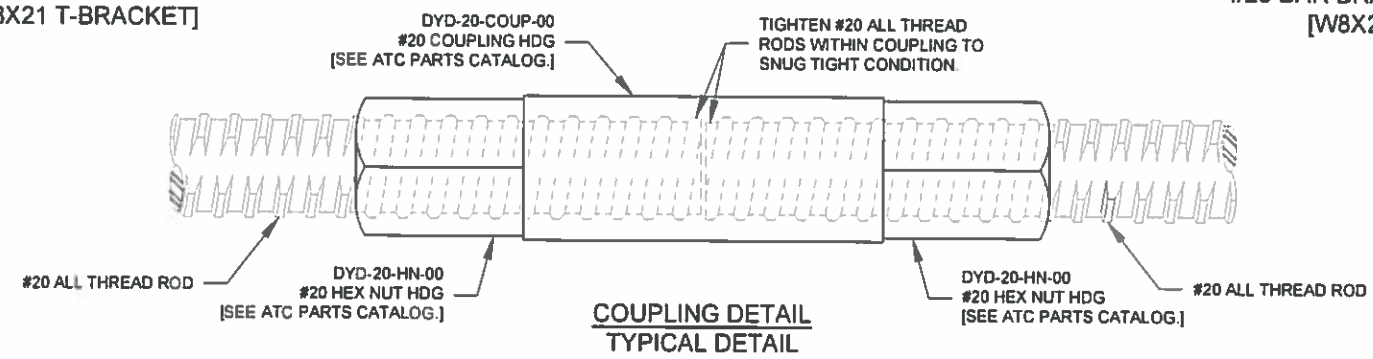
PLAN VIEW
#20 BAR BRACKET ORIENTATION
[W8X21 T-BRACKET]



ELEVATION VIEW
#20 BAR BRACKET ORIENTATION
[CONCENTRIC]



ELEVATION VIEW
#20 BAR BRACKET ORIENTATION
[W8X21 T-BRACKET]



COUPLING DETAIL
TYPICAL DETAIL

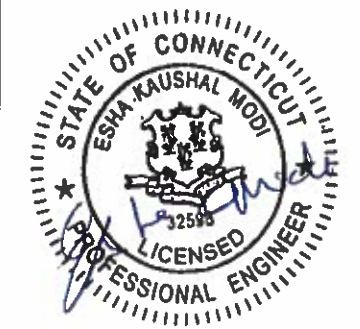


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A.T. ENGINEERING SERVICE, PLLC
 3500 REGENCY PARKWAY
 SUITE 100
 CARY, NC 27518
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REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	NYG	11/06/19

ATC SITE NUMBER:
302475
 ATC SITE NAME:
STTN - SOUTHTON
CONNECTICUT
 SITE ADDRESS:
 80 SHUTTLE MEADOW ROAD
 SOUTHTON, CT 06489

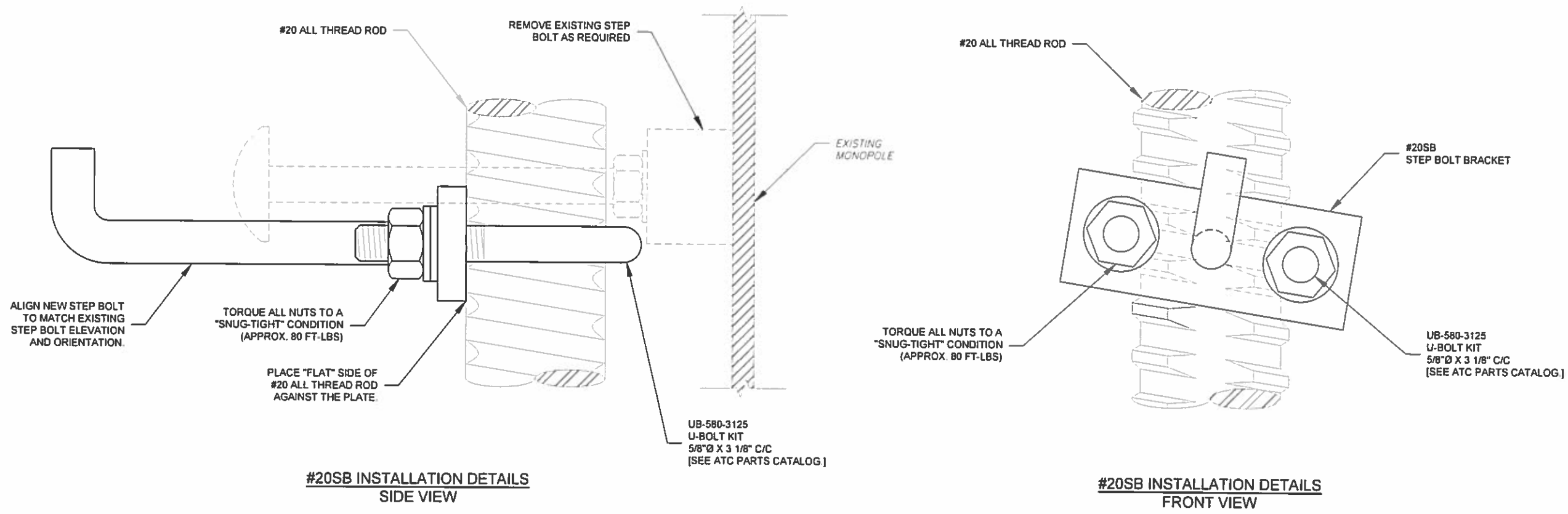


Authorized by "EOR"
 Nov 14 2019 8:57 AM

DRAWN BY:	NYG
APPROVED BY:	NOY
DATE DRAWN:	11/06/19
ATC JOB NO:	12978549_C6_05

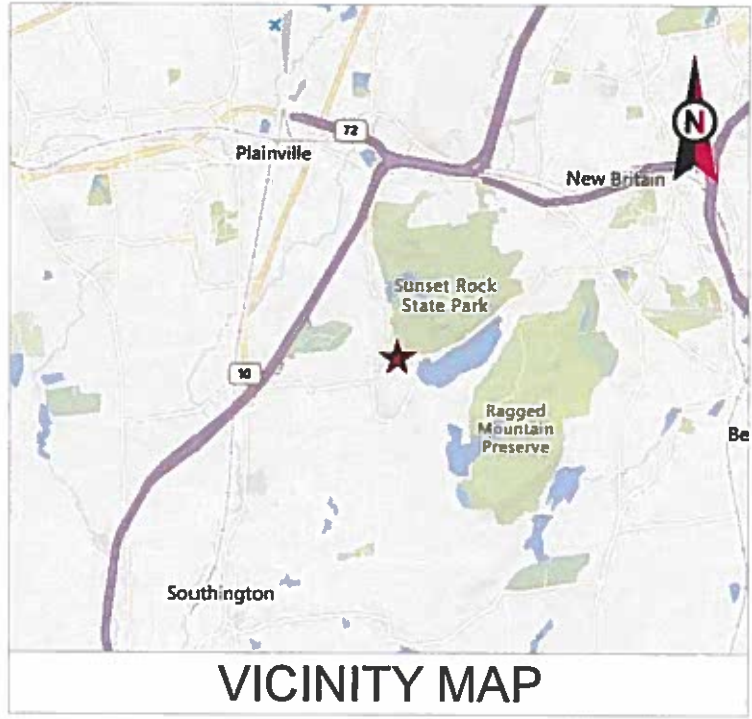
**#20 STEP BOLT BRACKET
 INSTALLATION DETAILS**

SHEET NUMBER:	REVISION:
#20SB	0



NOTE:
 STEP PEG SPACING IS NOT TO EXCEED 15" MAX. STAGGERED OR 30" MAX. ON ANY SINGLE SIDE OF THE DYWIDAG BAR.

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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



LOCATION MAP

**VERIZON WIRELESS
 COLLOCATION PLAN**

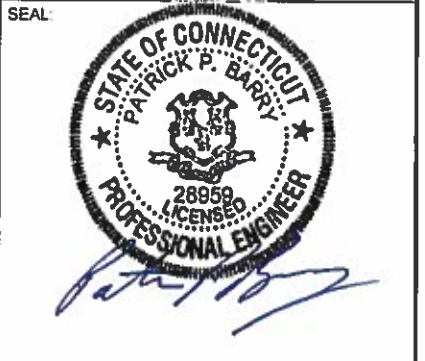
BIRD WATCH SITE:
 PLEASE CONTACT BIRD WATCH@AMERICANTOWER.COM OR
 AMERICAN TOWER NOC AT 877-518-6937 FOR ASSISTANCE

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A.T. ENGINEERING SERVICE, PLLC
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REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	EB	08/27/19
2	REV CABLE LOADING	EB	12/13/19

ATC SITE NUMBER:
302475
 ATC SITE NAME:
STTN SOUTHINGTON
 SITE ADDRESS:
 80 SHUTTLE MEADOW RD
 SOUTHINGTON, CT 06489



Authorized by "EOR"
 Design by **verizon** design

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	2

COMPLIANCE CODE	PROJECT SUMMARY	PROJECT DESCRIPTION	SHEET INDEX					
ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNMENT AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES. 1. INTERNATIONAL BUILDING CODE (IBC) 2. NATIONAL ELECTRIC CODE (NEC) 3. LOCAL BUILDING CODE 4. CITY/COUNTY ORDINANCES	<u>SITE ADDRESS:</u> 80 SHUTTLE MEADOW RD SOUTHINGTON, CT 06489 COUNTY: HARTFORD <u>GEOGRAPHIC COORDINATES:</u> LATITUDE: 41.63858333 LONGITUDE: -72.8411 GROUND ELEVATION: 489' AMSL	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.	SHEET NO:	DESCRIPTION:	REV:	DATE:	BY:	
	PROJECT TEAM <u>TOWER OWNER:</u> AMERICAN TOWER 10 PRESIDENTIAL WAY WOBURN, MA 01801 <u>ENGINEER:</u> ATC TOWER SERVICES, LLC 3500 REGENCY PKWY STE 100 CARY, NC 27518 <u>PROPERTY OWNER:</u> JOHN N ROGERS 336 LONG BOTTOM ROAD SOUTHINGTON, CT 06489	<u>APPLICANT:</u> VERIZON WIRELESS 99 EAST RIVER DR, 9TH FLOOR EAST HARTFORD, CT 06108	PROJECT LOCATION DIRECTIONS FROM HARTFORD, CT: I-84 W TOWARD WATERBURY 11.9 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/PLAINVILLE 0.3 MI6 TURN RIGHT AT CT-372/NEW BRITAIN AVE 0.5 MI7 TURN RIGHT AT CROOKED STO. 4 MI8 TURN RIGHT AT WHITE OAK AVE 0.1 MI9 TURN LEFT AT LEDGE RD 1.3 MI10 CONTINUE ON SHUTTLE MEADOW RD	G-001	TITLE SHEET	2	12/13/19	EB
	UTILITY COMPANIES POWER COMPANY: EVERSOURCE PHONE: (877) 659-6326 TELEPHONE COMPANY: FRONTIER COMMUNICATIONS PHONE: (800) 376-6843			V-101	OVERALL SITE PLAN	0	08/27/19	EB
			C-101	DETAILED SITE PLAN & TOWER ELEVATION	2	12/13/19	EB	
			C-501	ANTENNA INFORMATION & SCHEDULE	2	12/13/19	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	

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GENERAL CONSTRUCTION NOTES:

- ALL WORK SHALL CONFORM TO ALL CURRENT APPLICABLE FEDERAL, STATE, AND LOCAL CODES, INCLUDING ANSII/EIATIA-222, AND COMPLY WITH ATC MASTER SPECIFICATIONS.
- CONTRACTOR SHALL CONTACT LOCAL 811 FOR IDENTIFICATION OF UNDERGROUND UTILITIES PRIOR TO START OF CONSTRUCTION.
- CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL REQUIRED INSPECTIONS.
- 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.
- DO NOT CHANGE SIZE OR SPACING OF STRUCTURAL ELEMENTS.
- DETAILS SHOWN ARE TYPICAL; SIMILAR DETAILS APPLY TO SIMILAR CONDITIONS UNLESS OTHERWISE NOTED.
- THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY WHICH SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
- CONTRACTOR SHALL BRACE STRUCTURES UNTIL ALL STRUCTURAL ELEMENTS NEEDED FOR STABILITY ARE INSTALLED. THESE ELEMENTS ARE AS FOLLOWS: LATERAL BRACING, ANCHOR BOLTS, ETC.
- CONTRACTOR SHALL DETERMINE EXACT LOCATION OF EXISTING UTILITIES, GROUNDS DRAINS, DRAIN PIPES, VENTS, ETC. BEFORE COMMENCING WORK.
- 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.
- EACH CONTRACTOR SHALL COOPERATE WITH THE VERIZON REP, AND COORDINATE HIS WORK WITH THE WORK OF OTHERS.
- 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.
- ALL CABLE/CONDUIT ENTRY/EXIT PORTS SHALL BE WEATHERPROOFED DURING INSTALLATION USING A SILICONE SEALANT.
- WHERE EXISTING CONDITIONS DO NOT MATCH THOSE SHOWN IN THIS PLAN SET, CONTRACTOR SHALL NOTIFY THE VERIZON REP IMMEDIATELY.
- CONTRACTOR SHALL ENSURE ALL SUBCONTRACTORS ARE PROVIDED WITH A COMPLETE AND CURRENT SET OF DRAWINGS AND SPECIFICATIONS FOR THIS PROJECT.
- CONTRACTOR SHALL REMOVE ALL RUBBISH AND DEBRIS FROM THE SITE AT THE END OF EACH DAY.
- CONTRACTOR SHALL COORDINATE WORK SCHEDULE WITH LANDLORD AND TAKE PRECAUTIONS TO MINIMIZE IMPACT AND DISRUPTION OF OTHER OCCUPANTS OF THE FACILITY.
- CONTRACTOR SHALL FURNISH VERIZON WITH A PDF MARKED UP AS-BUILT SET OF DRAWINGS UPON COMPLETION OF WORK.
- 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.
- 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.
- CONTRACTOR SHALL INSTALL ALL SITE SIGNAGE IN ACCORDANCE WITH VERIZON SPECIFICATIONS AND REQUIREMENTS.
- CONTRACTOR SHALL SUBMIT ALL SHOP DRAWINGS TO VERIZON FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.
- ALL EQUIPMENT SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS AND LOCATED ACCORDING TO VERIZON SPECIFICATIONS, AND AS SHOWN IN THESE PLANS.
- 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.
- 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.
- 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.
- THE CONTRACTOR SHALL PROTECT AT HIS OWN EXPENSE, ALL EXISTING FACILITIES AND SUCH OF HIS NEW WORK LIABLE TO INJURY DURING THE CONSTRUCTION PERIOD. ANY DAMAGE CAUSED BY NEGLIGENCE ON THE PART OF THIS CONTRACTOR OR HIS REPRESENTATIVES, OR BY

THE ELEMENTS DUE TO NEGLIGENCE ON THE PART OF THIS CONTRACTOR OR 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.

- 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.
- 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:

- 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."
- MIX DESIGN SHALL BE APPROVED BY VERIZON REP PRIOR TO PLACING CONCRETE.
- 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.
- 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
- MINIMUM CONCRETE COVER FOR REINFORCING STEEL SHALL BE NO LESS THAN 3".
- 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.
- 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.
- ADMIXTURES SHALL CONFORM TO THE APPROPRIATE ASTM STANDARD AS REFERENCED IN "METHOD 1" OF ACI 301.
- DO NOT WELD OR TACK WELD REINFORCING STEEL.
- 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.
- REINFORCEMENT SHALL BE COLD BENT WHENEVER BENDING IS REQUIRED.
- DO NOT PLACE CONCRETE IN WATER, ICE, OR ON FROZEN GROUND.
- DO NOT ALLOW REINFORCEMENT, CONCRETE OR SUBBASE TO FREEZE DURING CONCRETE CURING AND SETTING PERIOD, OR FOR A MINIMUM OF 3 DAYS AFTER PLACEMENT.
- FOR COLD-WEATHER(ACI 308) 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.
- ALL CONCRETE SHALL HAVE A "SMOOTH FORM FINISH."
- 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.
- 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.
- 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.

- DETAILING OF REINFORCING STEEL SHALL CONFORM TO "ACI MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES" (ACI 315).
- ALL SLAB CONSTRUCTION SHALL BE CAST MONOLITHICALLY WITHOUT HORIZONTAL CONSTRUCTION JOINTS, UNLESS SHOWN IN THE CONTRACT DRAWINGS.
- 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.
- SPLICED WELDED WIRE FABRIC (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".
- BAR SUPPORTS SHALL BE ALL-GALVANIZED METAL WITH PLASTIC TIPS.
- 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.
- 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:

- STRUCTURAL STEEL SHALL CONFORM TO THE LATEST EDITION OF THE AISC "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS."
- 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
- 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.
- 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 GALVALITE COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURER'S RECOMMENDATIONS.
- DO NOT DRILL HOLES THROUGH STRUCTURAL STEEL MEMBERS EXCEPT AS SHOWN AND DETAILED ON STRUCTURAL DRAWINGS.
- 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 1/2" BEYOND ALL FIELD WELD SURFACES. AFTER WELD AND WELD INSPECTION IS COMPLETE, REPAIR ALL GROUND AND WELDED SURFACES WITH ZRC GALVALITE COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURERS RECOMMENDATIONS.



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

ATC SITE NUMBER:
302475
 ATC SITE NAME:
STTN SOUTHTON
 SITE ADDRESS:
 80 SHUTTLE MEADOW RD
 SOUTHTON, CT 06489

SEAL



Authorized by "EOR"
 Dec 19 2019


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

GENERAL NOTES	
SHEET NUMBER	REVISION
G-002	0

NOTES:

- BOUNDARY LINES OBTAINED FROM JURISDICTION ONLINE GIS.
- ZONING INFORMATION OBTAINED FROM JURISDICTION ZONING ORDINANCE.

N/F
STEVEN G HOWE / KAREN A HOWE
PARCEL #:
SOUT-000184-000000-000015-000005

N/F
LI ZHU / GUO ZHENCHAO
PARCEL #:
SOUT-000184-000000-000016-000006

N/F
BART M GUTHRIE
PARCEL #:
SOUT-000184-000000-000017-000008

N/F
UNKNOWN
PARCEL #: N/A

N/F
JOHN J DZIUBEK
PARCEL #: SOUT-000184-000000-000008

N/F
JOSEPH JAMES PELLETIER / LISA D PELLETIER
PARCEL #: SOUT-000184-000000-000009

N/F
EDWARD R YOUNG
PARCEL #: SOUT-000172-000000-000034

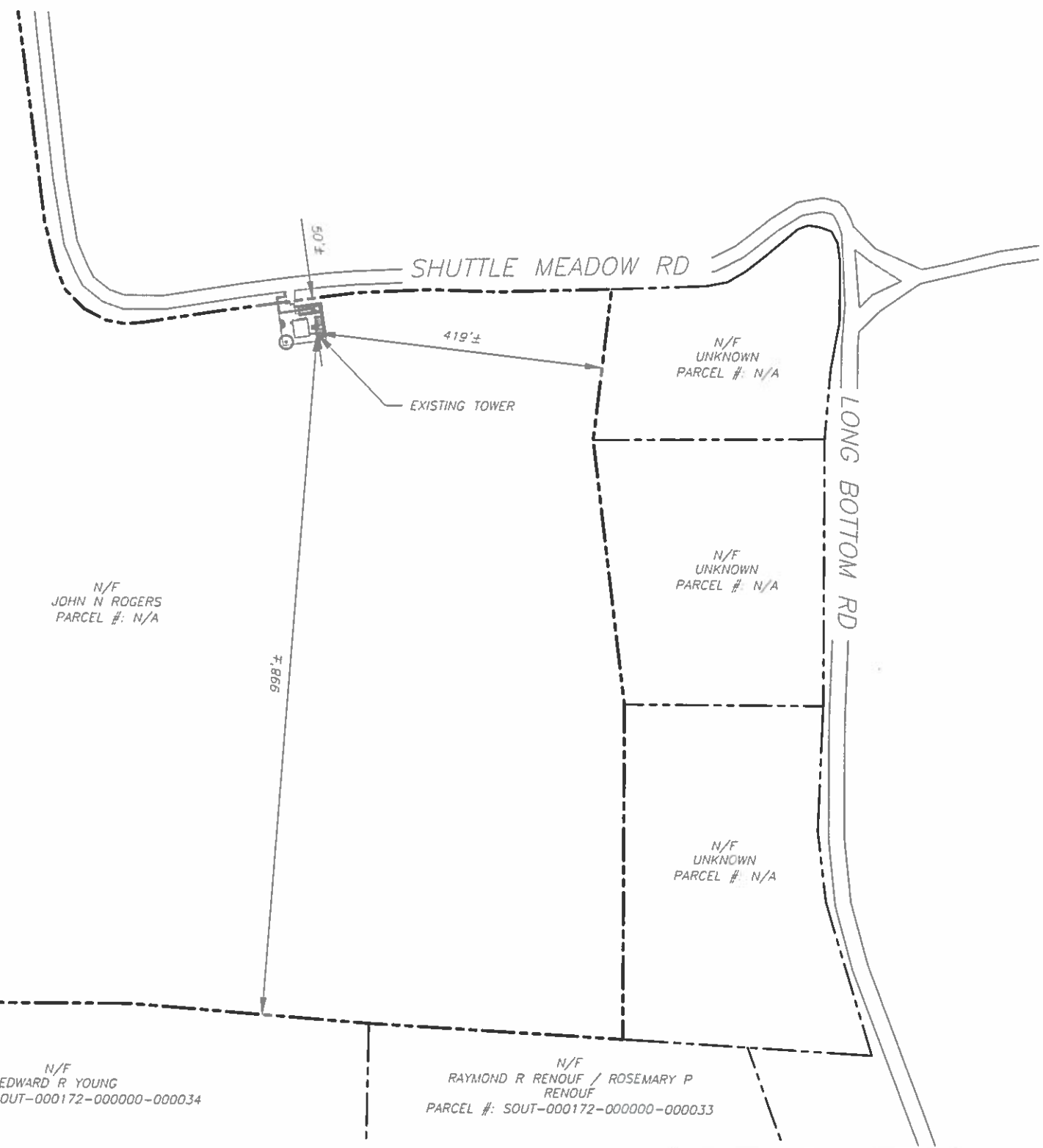
N/F
RAYMOND R RENOUF / ROSEMARY P RENOUF
PARCEL #: SOUT-000172-000000-000033

N/F
JOHN N ROGERS
PARCEL #: N/A

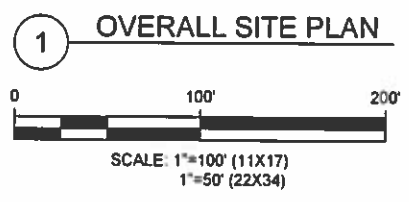
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PARCEL #: N/A

N/F
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PARCEL #: N/A

N/F
UNKNOWN
PARCEL #: N/A



LEGEND	
EXISTING PROPERTY LINE	---
EXISTING PROPERTY LINE ADJACENT	- - - -
EXISTING EASEMENT	----



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

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CARY, NC 27518
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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:

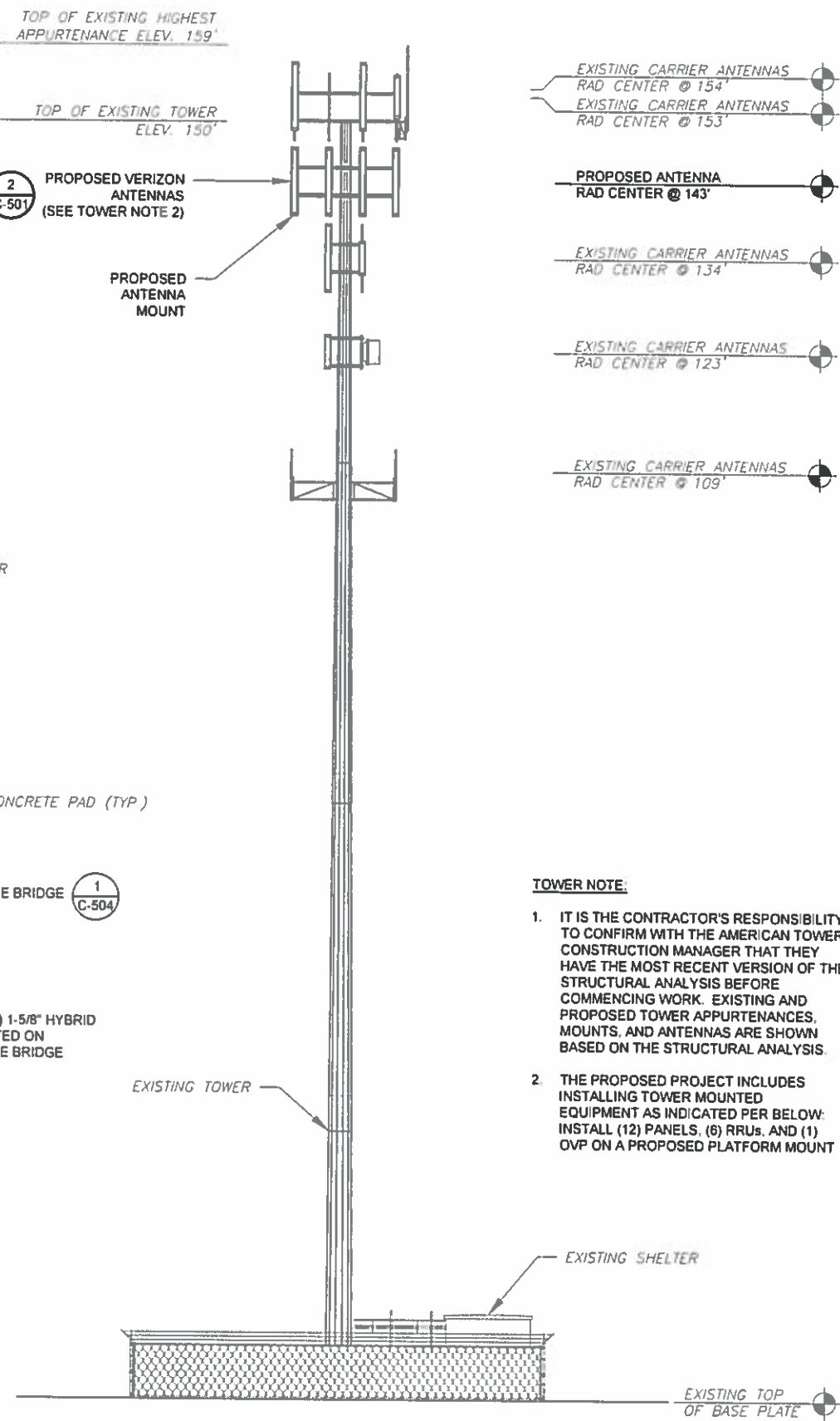
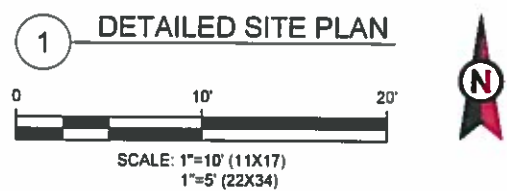
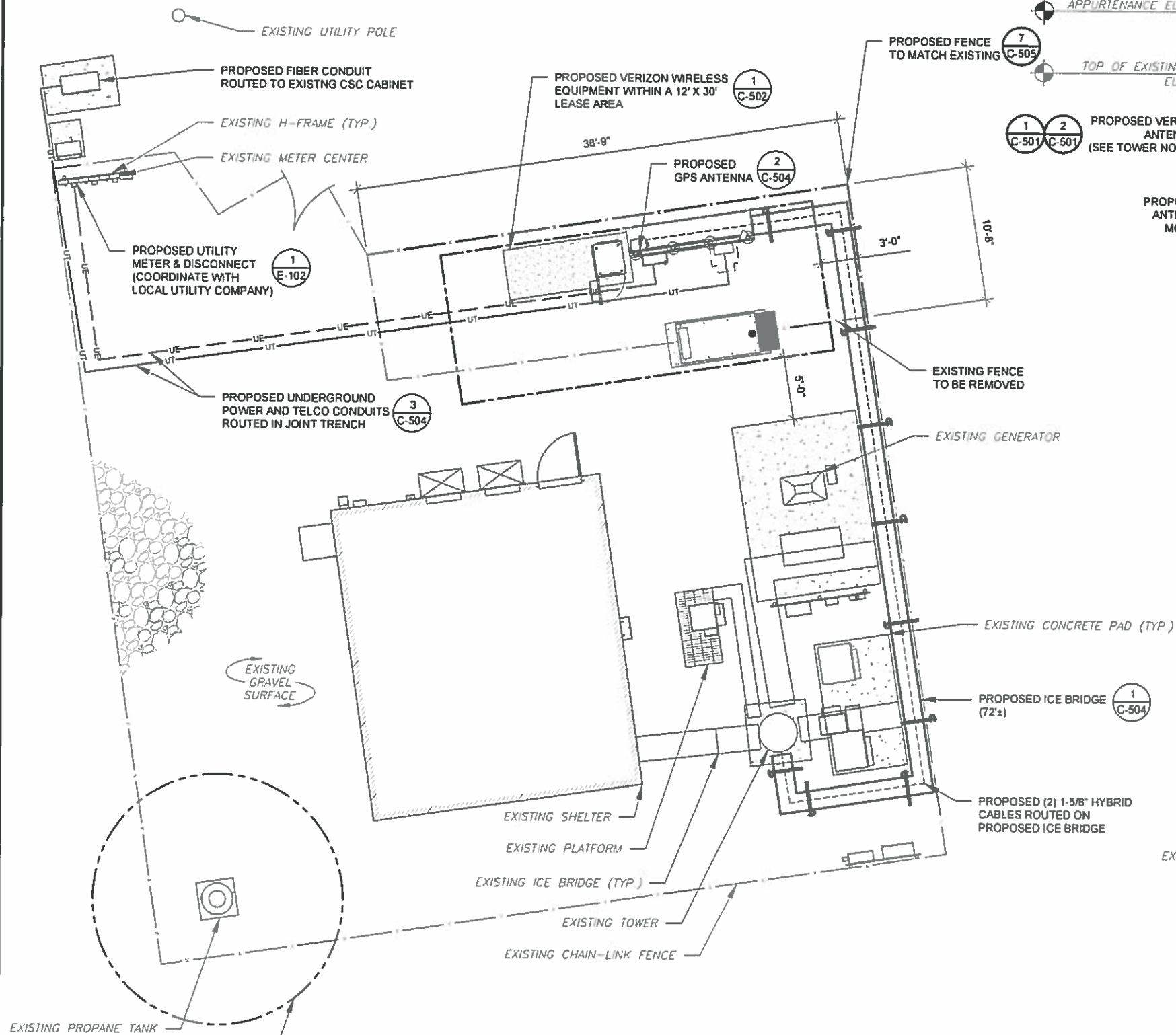
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DRAWN BY:	EB
APPROVED BY:	PPB
DATE DRAWN:	08/27/19
ATC JOB NO:	12978549
VERIZON ID:	SOUTHINGTON 3 CT - A
VERIZON #:	468851

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.



2 TOWER ELEVATION
 SCALE: NOT TO SCALE

- 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) RRU's, AND (1) OVP ON A PROPOSED PLATFORM MOUNT

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0	FOR CONSTRUCTION	EB	08/27/19
2	REV. CABLE LOADING	EB	12/13/19

ATC SITE NUMBER:
302475

ATC SITE NAME:
STTN SOUTHINGTON

SITE ADDRESS:
 80 SHUTTLE MEADOW RD
 SOUTHINGTON, CT 06489

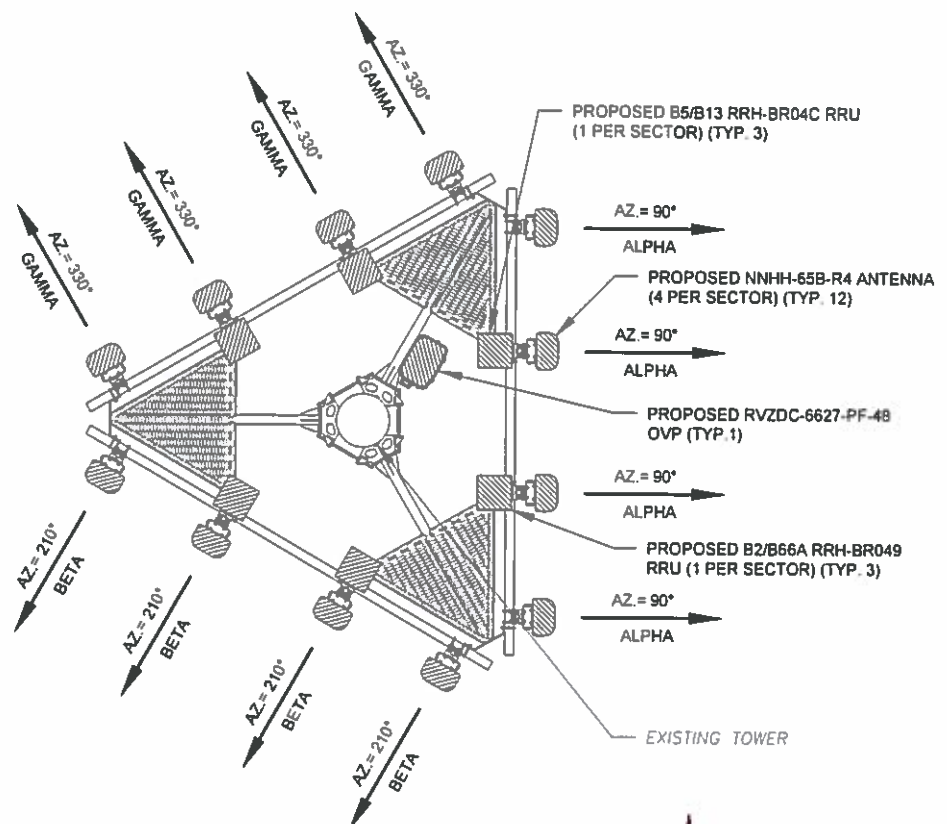
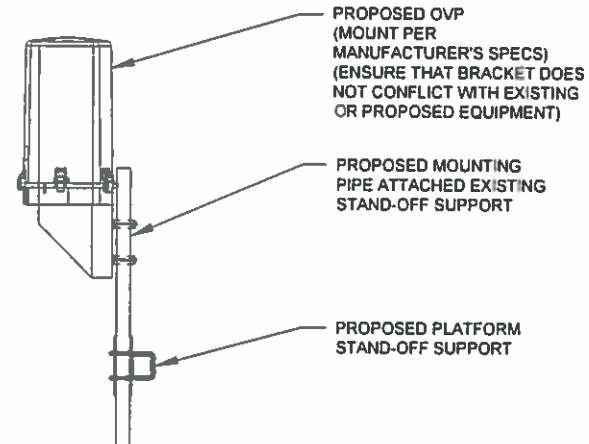
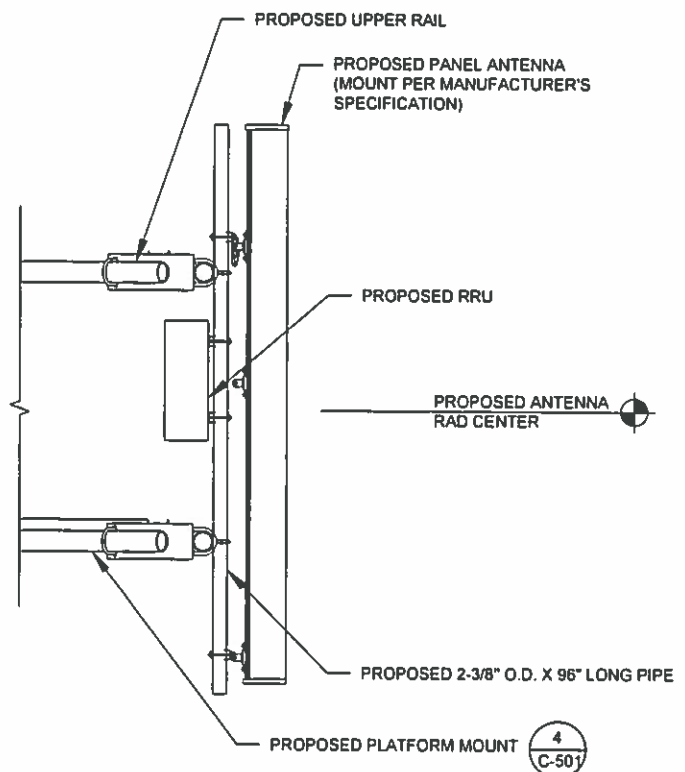
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DRAWN BY:	EB
APPROVED BY:	PPB
DATE DRAWN:	08/27/19
ATC JOB NO:	12978549
VERIZON ID:	SOUTHINGTON 3 CT - A
VERIZON #:	468851

DETAILED SITE PLAN & TOWER ELEVATION	
SHEET NUMBER:	REVISION:
C-101	2

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1 PROPOSED ANTENNA AND OVP MOUNTING DETAILS (ELEVATION)
SCALE: NOT TO SCALE

2 PROPOSED ANTENNA PLAN

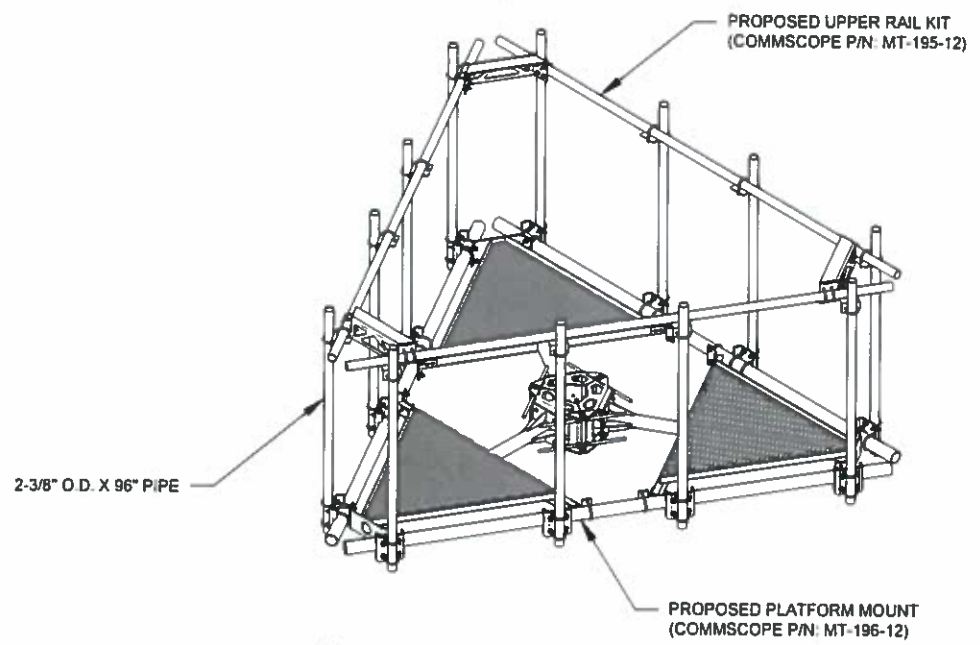
NOTES:

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 PLATFORM DETAIL
SCALE: N.T.S.

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2	REV. CABLE LOADING	EB	12/13/19

ATC SITE NUMBER:
302475
ATC SITE NAME:
STTN SOUTHTON
SITE ADDRESS:
80 SHUTTLE MEADOW RD
SOUTHTON, CT 06489

SEAL:

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Dec 12 2019
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DRAWN BY:	EB
APPROVED BY:	PPB
DATE DRAWN:	08/27/19
ATC JOB NO:	12978549
VERIZON ID:	SOUTHTON 3 CT - A
VERIZON #:	468851

ANTENNA INFORMATION & SCHEDULE

SHEET NUMBER:	REVISION:
C-501	2



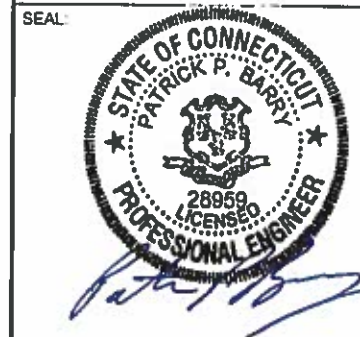
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SITE ADDRESS:
 80 SHUTTLE MEADOW RD
 SOUTHTON, CT 06489

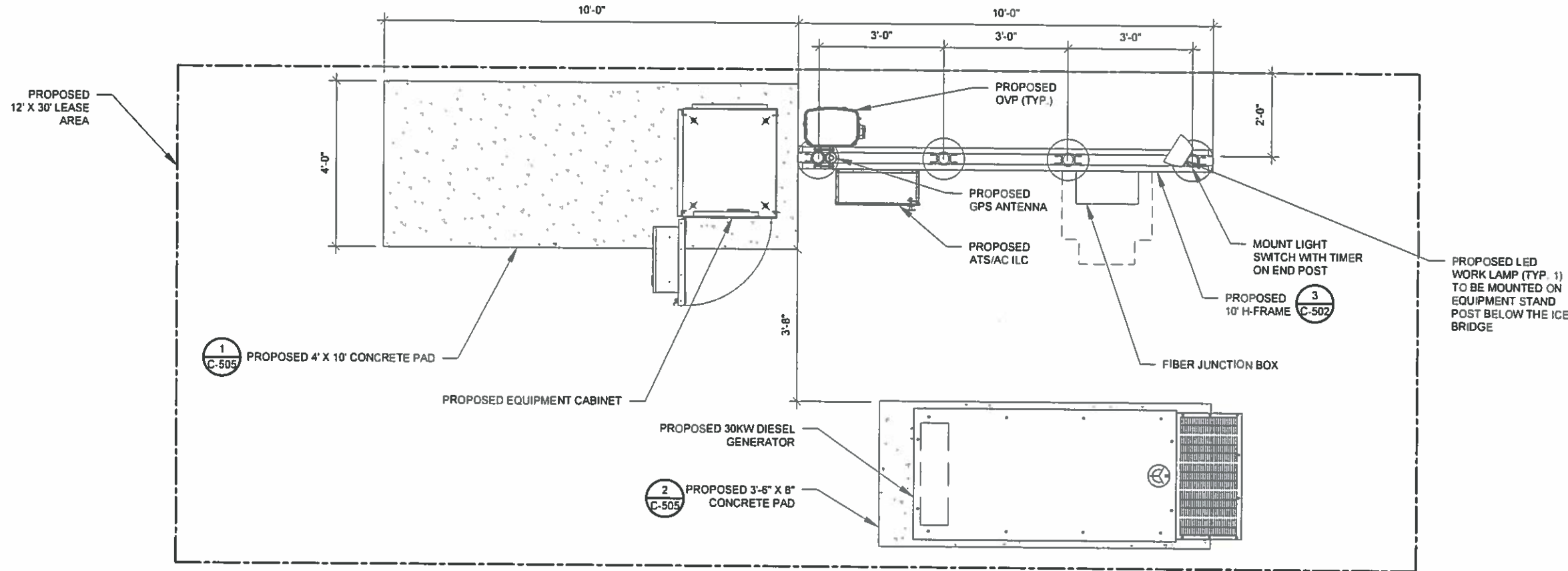


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DRAWN BY:	EB
APPROVED BY:	PPB
DATE DRAWN:	08/27/19
ATC JOB NO:	12978549
VERIZON ID:	SOUTHTON 3 CT - A
VERIZON #:	468851

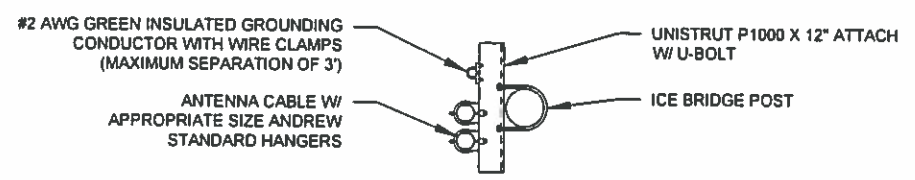
**CONSTRUCTION
 DETAILS**

SHEET NUMBER:	REVISION:
C-502	0

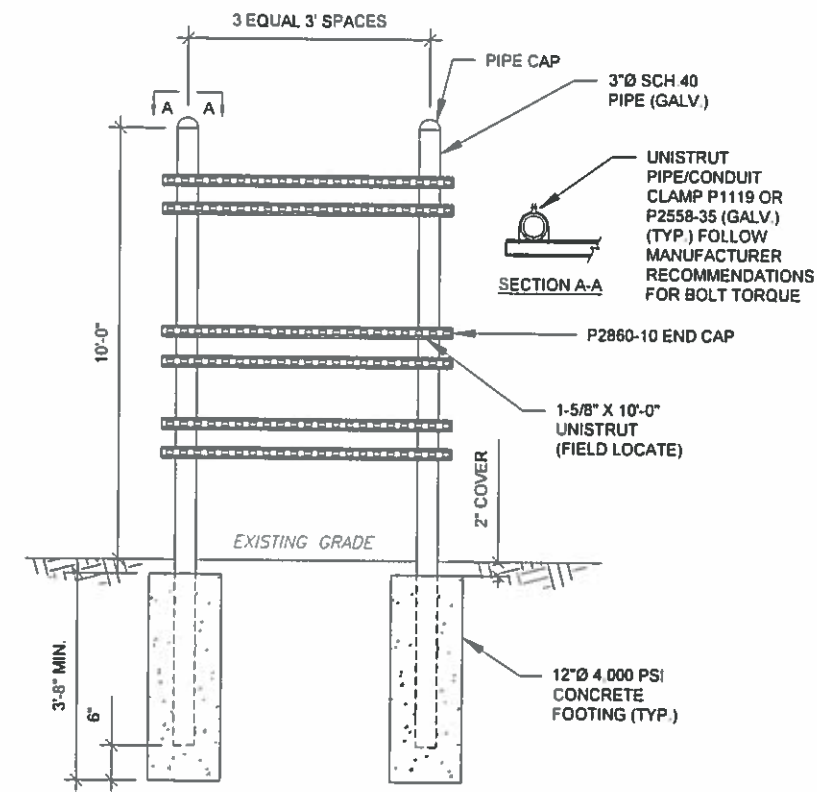


1 DETAILED EQUIPMENT LAYOUT
 SCALE: NOT TO SCALE

- 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 #SM1200RML2UTAA INSIDE (ONLY REQUIRED WHEN VZT PROVIDES LIT FIBER. UTILITY COORDINATOR MUST VERIFY IF NEEDED)
 - COORDINATE ADDITIONAL ENTRY GATE LOCK(S) WITH CONSTRUCTION MANAGER

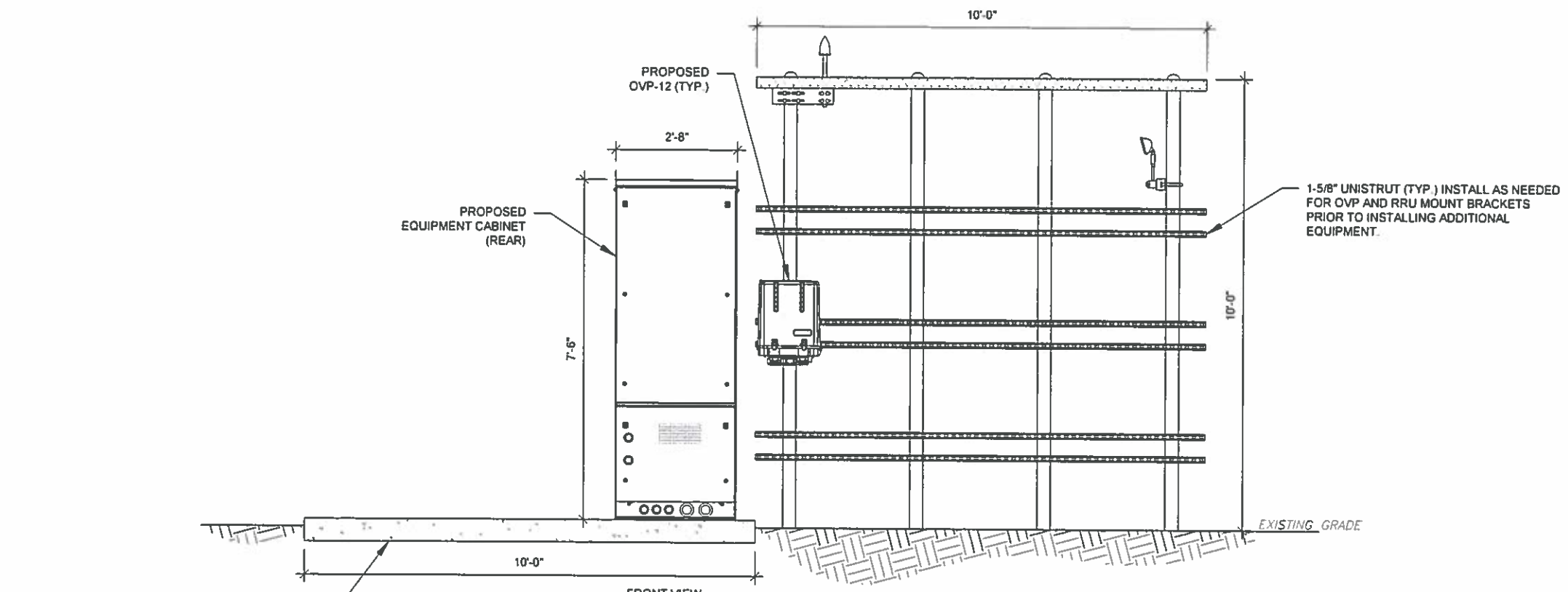


2 WAVEGUIDE UNISTRUT
 SCALE: NOT TO SCALE

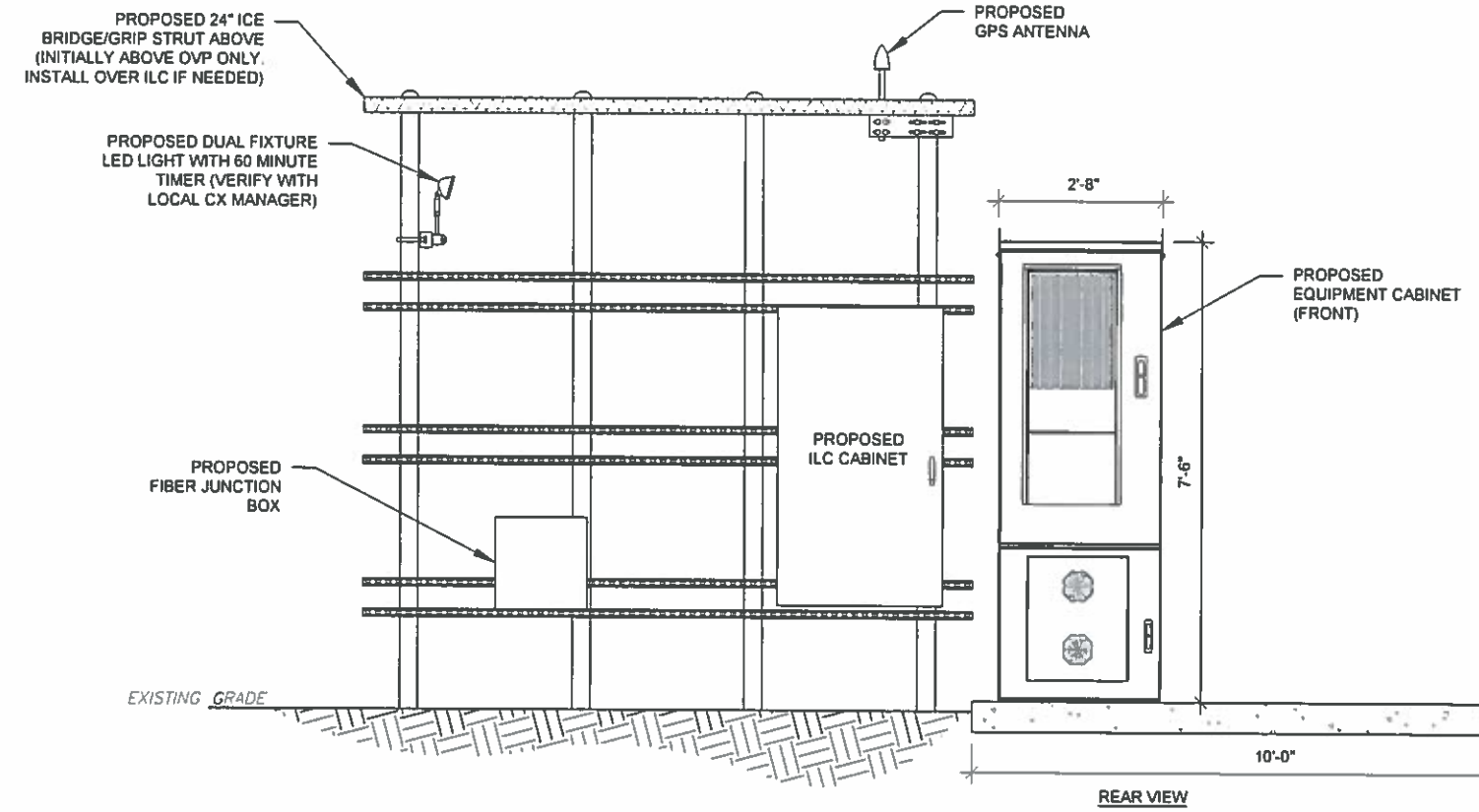


3 TYPICAL H-FRAME AND ICE BRIDGE POST DETAIL
 SCALE: NOT TO SCALE

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6" THICK (MIN.) CONCRETE SLAB 4000 PSI FIBERMESH CONCRETE. ADJUST THICKNESS AND DESIGN IF NECESSARY FOR LOCAL CONDITIONS (REINFORCEMENT, SOIL TYPE, SEISMIC ZONE, ETC.) (TYP.)



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



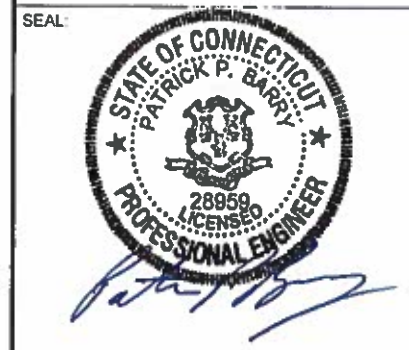
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0	FOR CONSTRUCTION	EB	08/27/19

ATC SITE NUMBER:
302475
 ATC SITE NAME:
STTN SOUTHTON

SITE ADDRESS:
 80 SHUTTLE MEADOW RD
 SOUTHTON, CT 06489



Authorized by "EOR"
 Dec 12, 2019
verizon design

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

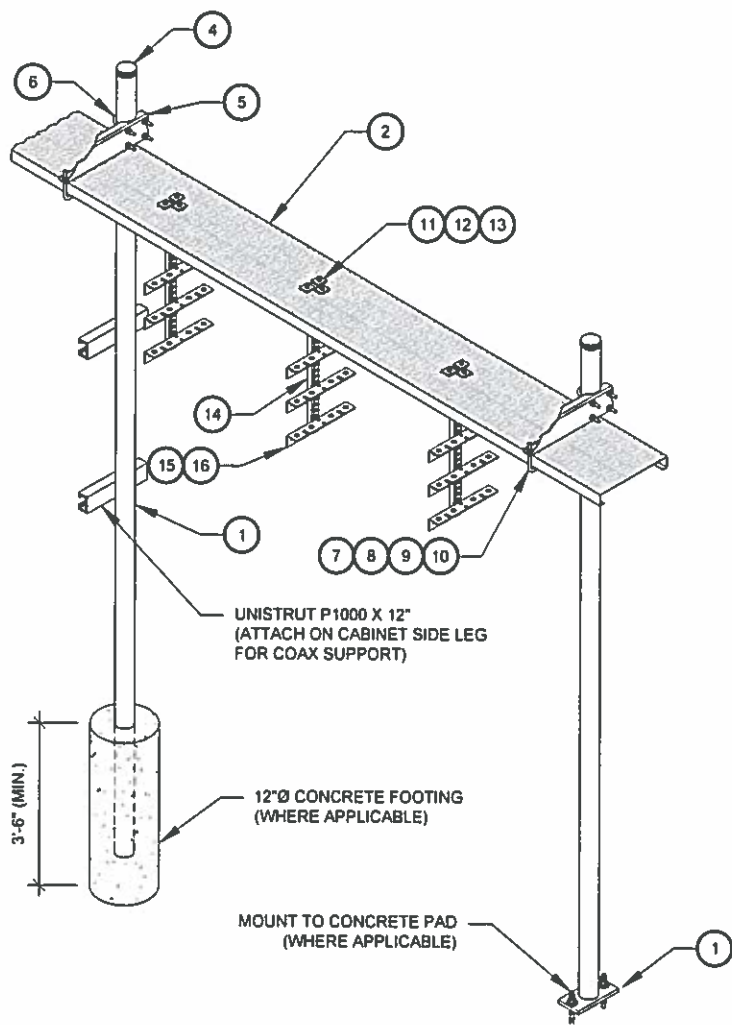
**CONSTRUCTION
 DETAILS**

SHEET NUMBER:	REVISION:
C-503	0

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CONSTRUCTION NOTE:

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

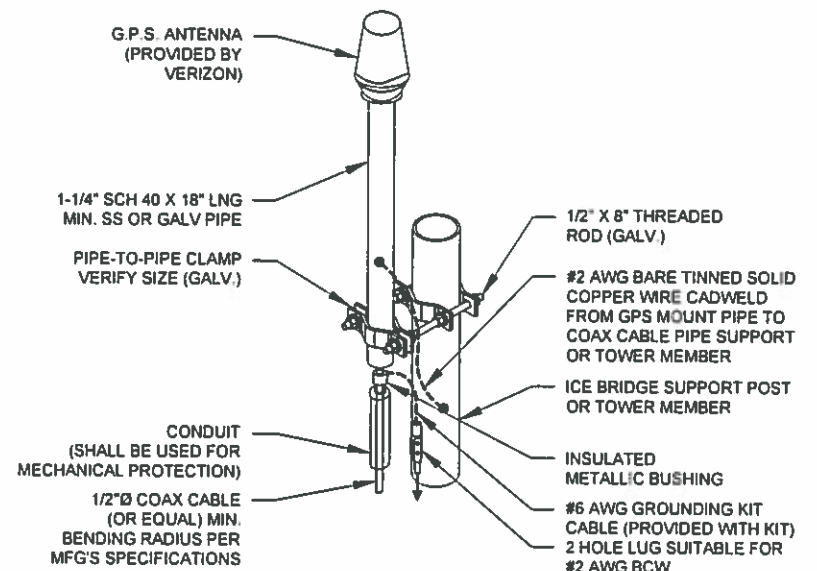


WB-K210-B WAVEGUIDE BRIDGE KIT - BILL OF MATERIALS (INCLUDED WITH KIT UNLESS NOTED OTHERWISE)

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	GWFF-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	GWFF-04	1/2" GALV FLAT WASHER	16	WBT243.02	HORIZONTAL TRAPEZE SECTION

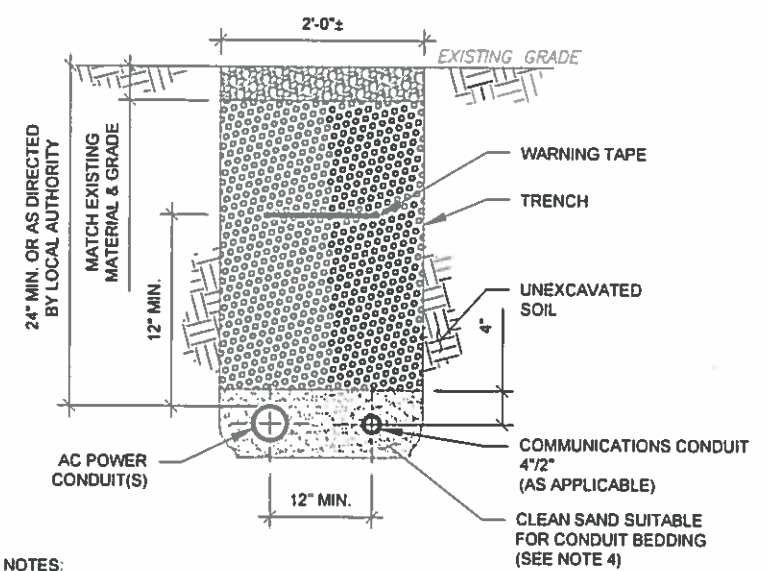
CONTRACTOR SHALL USE PARTS MANUFACTURED BY COMMSCOPE OR APPROVED EQUIVALENT.
*BASE SHOE NOT INCLUDED IN WB-K210-B KIT, ORDER COLUMN SEPARATELY OR KIT WB-K210-S.

1 WAVEGUIDE BRIDGE KIT
SCALE: NOT TO SCALE



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

2 GPS ANTENNA ATTACHMENT DETAIL
SCALE: NOT TO SCALE



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

3 POWER/TELCO CONDUIT TRENCH DETAILS
SCALE: N.T.S.

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302475

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SITE ADDRESS:
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SOUTHTON, CT 06489

SEAL:

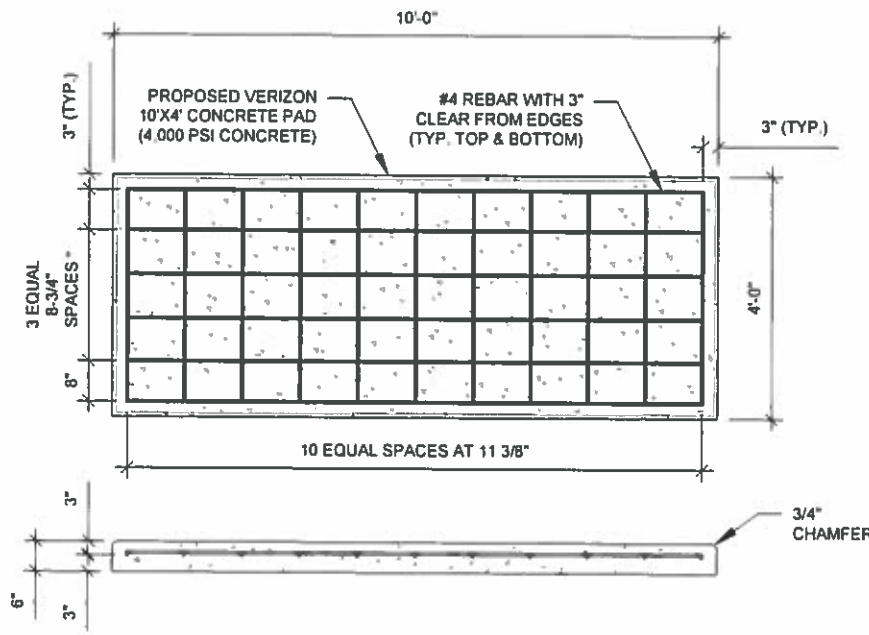
Authorized by "EOR"
Design

Drawn by: EB
Approved by: PPB
Date Drawn: 08/27/19
ATC Job No: 12978549
Verizon ID: SOUTHTON 3 CT - A
Verizon #: 468851

**CONSTRUCTION
DETAILS**

SHEET NUMBER:
C-504

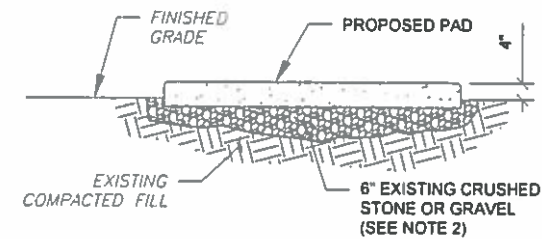
REVISION:
0



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.

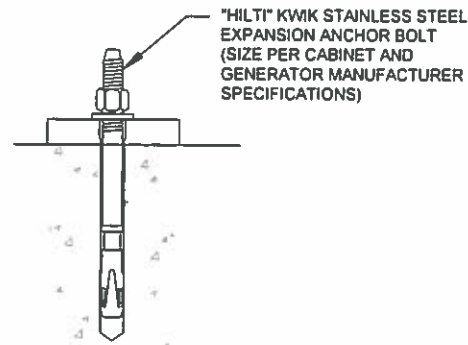
1 CONCRETE EQUIPMENT PAD DESIGN
SCALE: N.T.S.



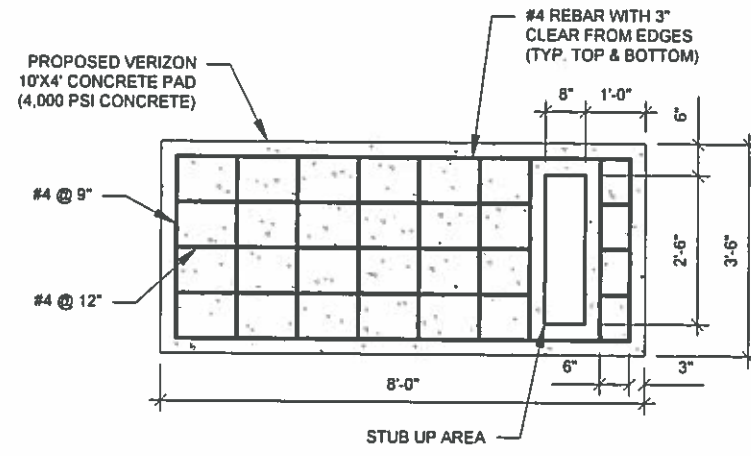
PAD NOTES:

1. SUBGRADE AND FILL SHALL CONSIST OF CLEAN SOIL. DELETERIOUS 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

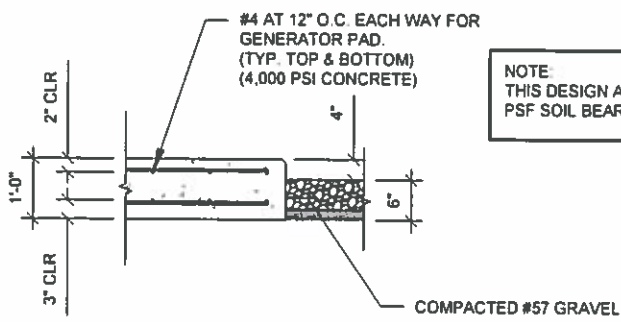
4 GRAVEL PREPARATION
SCALE: NOT TO SCALE



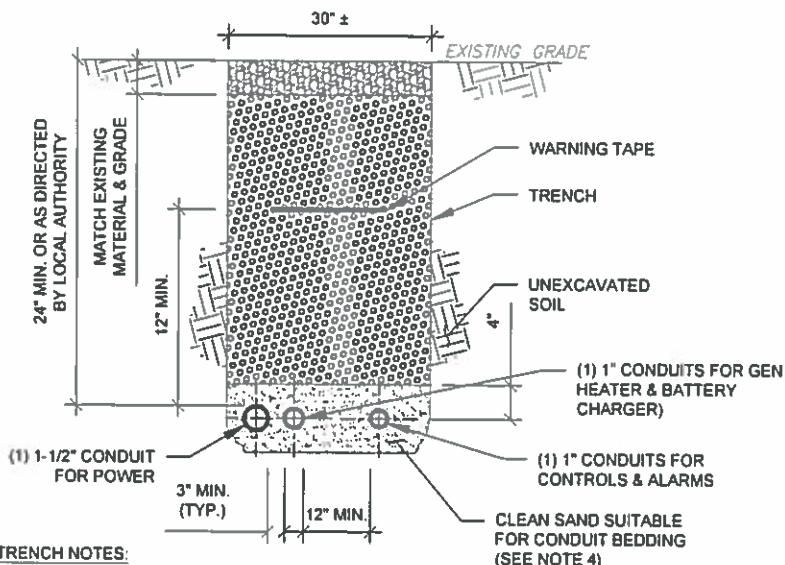
5 EXPANSION ANCHOR DETAIL
SCALE: N.T.S.



NOTE
THIS DESIGN ASSUMES A 2000
PSF SOIL BEARING PRESSURE



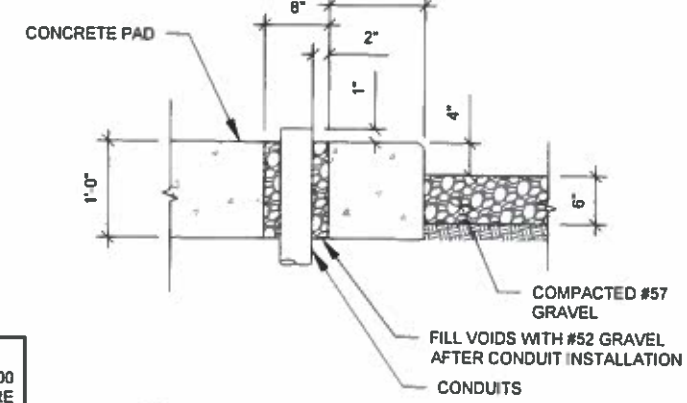
2 CONCRETE GENERATOR PAD DESIGN
SCALE: N.T.S.



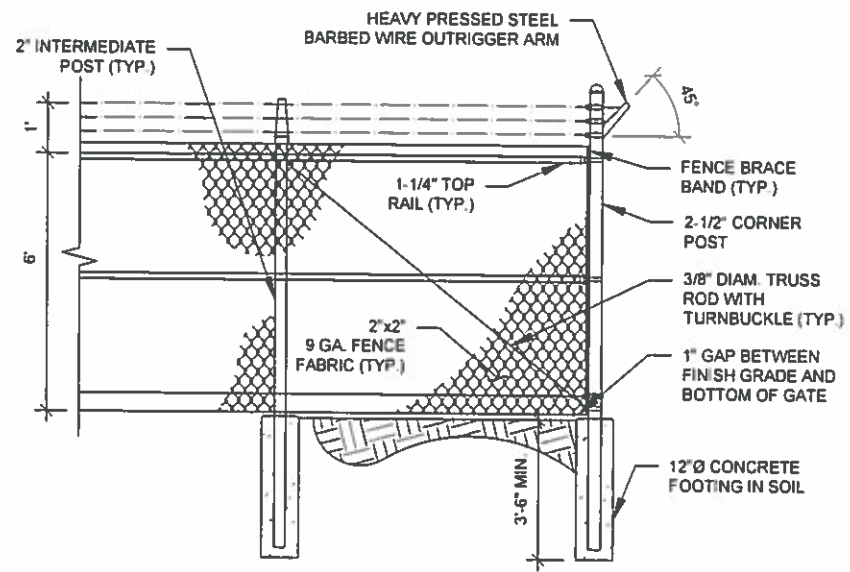
TRENCH NOTES:

1. IF FREE OF ORGANIC OR OTHER DELETERIOUS MATERIAL, EXCAVATED MATERIAL MAY BE USED FOR BACKFILL. IF NOT, PROVIDE CLEAN, COMPACTIBLE MATERIAL. COMPACT IN 8" LIFTS. REMOVE ANY LARGE ROCKS PRIOR TO BACKFILLING. CONTRACTOR TO VERIFY LOCATION OF EXISTING U/G UTILITIES PRIOR TO DIGGING.
2. IF CURRENT AS-BUILT DRAWINGS ARE NOT AVAILABLE CONTRACTOR SHALL HAND DIG U/G TRENCHING
3. USE COMMUNICATIONS ONLY TRENCH FOR COMMUNICATIONS CONDUIT UNLESS TRAVELING UNDER PATH OF VEHICLE TRAVEL, THEN CONDUIT MUST BE 24" MIN. BELOW GRADE.
4. 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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REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	EB	08/27/19

ATC SITE NUMBER:

302475

ATC SITE NAME:

STTN SOUTHTON

SITE ADDRESS:

80 SHUTTLE MEADOW RD
SOUTHTON, CT 06489

SEAL:



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verizon design

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

**CONSTRUCTION
DETAILS**

SHEET NUMBER:

C-505

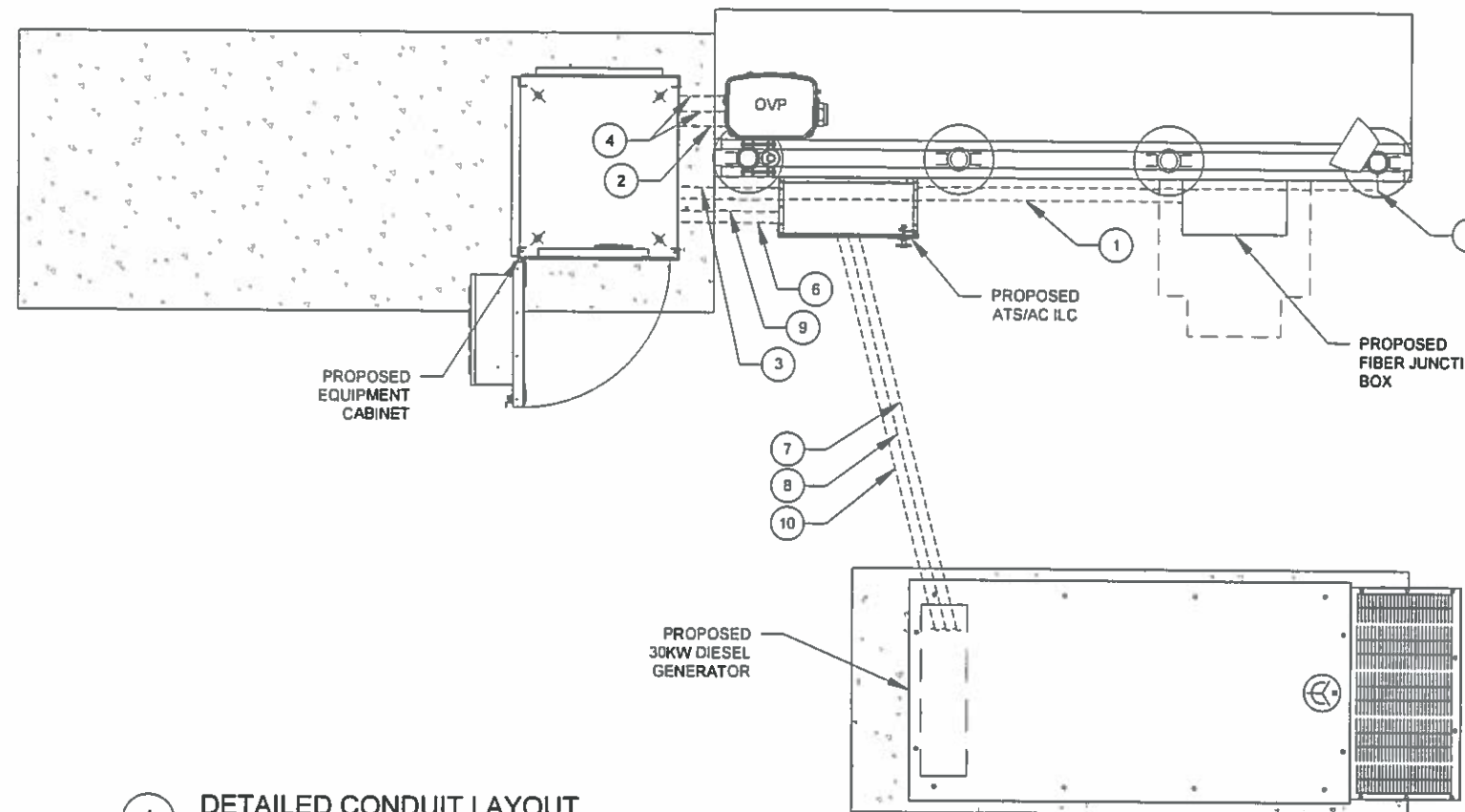
REVISION:

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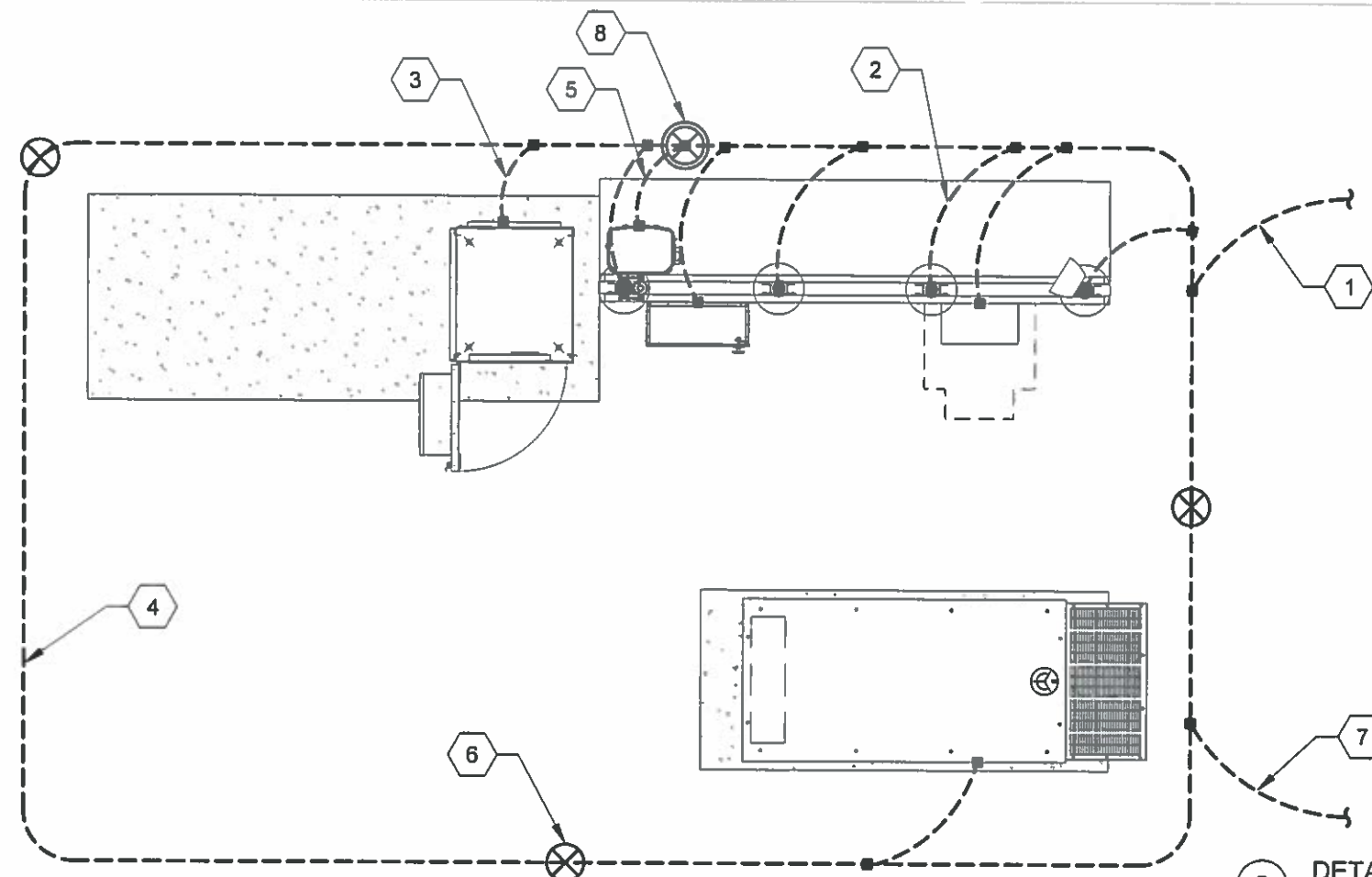
CONDUIT KEYED NOTES:

- ① **FIBER CONDUITS**
(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
- ③ **AC POWER CONDUITS**
(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)
- ⑨ **ALARM/MISCELLANEOUS CONDUITS**
(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



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0	FOR CONSTRUCTION	EB	08/27/19

ATC SITE NUMBER:
302475
ATC SITE NAME:
STTN SOUTHTON

SITE ADDRESS
80 SHUTTLE MEADOW RD
SOUTHTON, CT 06489

SEAL



Authorized by "EOR"
Dec 12 2019
verizon design

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

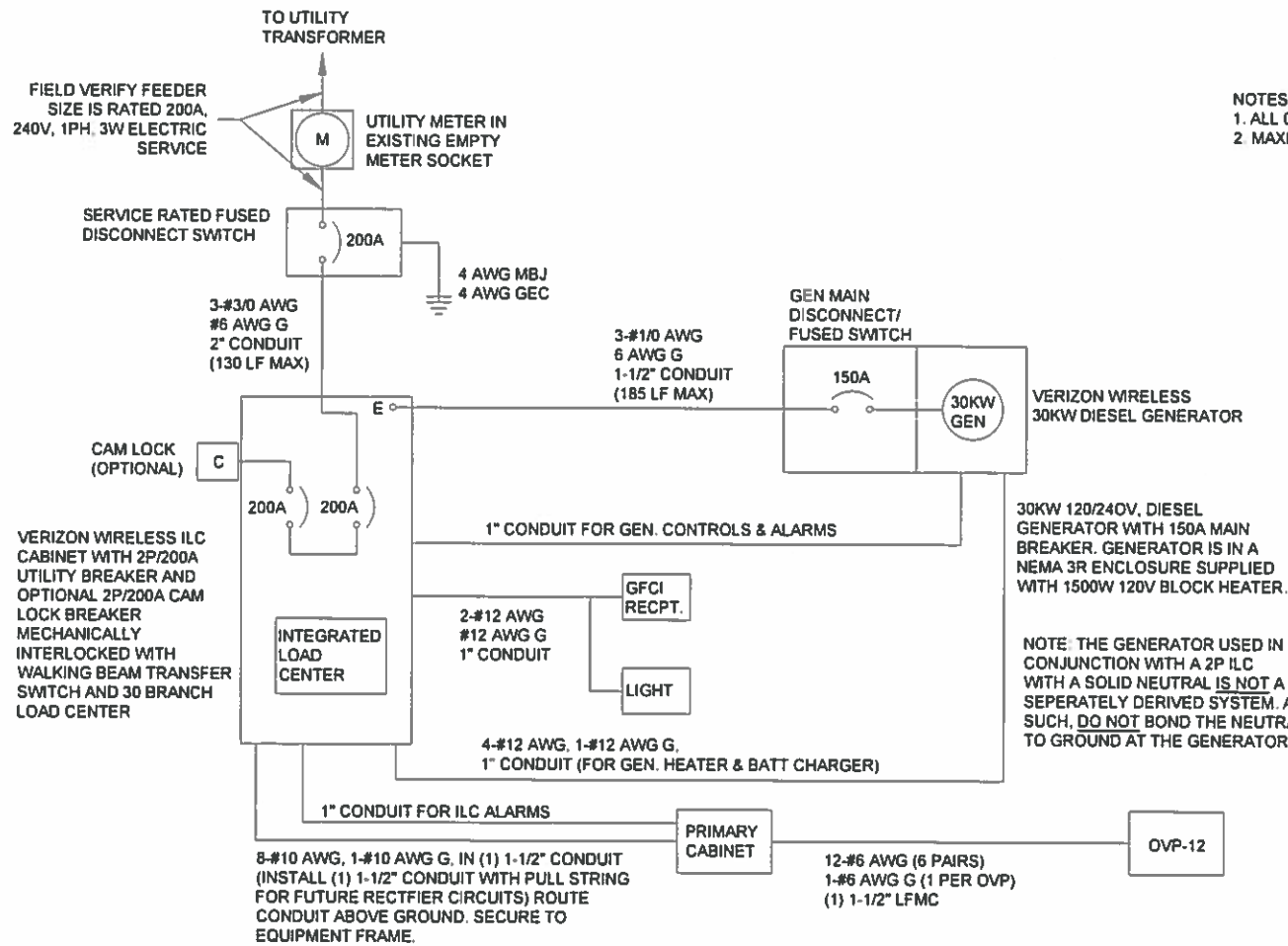
GROUNDING PLAN AND SCHEMATIC

SHEET NUMBER:	REVISION:
E-101	0

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PANEL DESIGNATION: VZW		TYPE: LIGHTING & APPLIANCE	SYSTEM: 120/240V, 3W, 30 CKT	LOCATION: VZW LEASE AREA
		MOUNTING: SURFACE	MAIN BREAKER (MB): MLO	
		ENCLOSURE: NEMA 3R	MAIN BUS RATING: 200A	PANEL NOTES: ASCO D300L SERIES
			MIN. A.I.C. RATING: 65K	

CONNECTED LOAD (kVA)		BRIEF DESCRIPTION	FEEDER OR BRANCH CIRCUIT				FEEDER OR BRANCH CIRCUIT				CONNECTED LOAD (kVA)	
A	B		BREAKER		POLE NO.	POLE NO.	BREAKER		A	B		
			AMPS	POLES	NO.	NO.	POLES	AMPS				
2.88	2.88	RECTIFIER	30	2	1	2			SPACE	0.00	0.00	
2.88	2.88	RECTIFIER	30	2	3	4			SPACE	0.00	0.00	
2.88	2.88	RECTIFIER	30	2	5	6			SPACE	0.00	0.00	
2.88	2.88	RECTIFIER	30	2	7	8			SPACE	0.00	0.00	
2.88	2.88	RECTIFIER	30	2	9	10			SPACE	0.00	0.00	
2.88	2.88	RECTIFIER	30	2	11	12			SPACE	0.00	0.00	
2.88	2.88	RECTIFIER	30	2	13	14			SPACE	0.00	0.00	
2.88	2.88	RECTIFIER	30	2	15	16			SPACE	0.00	0.00	
0.68	1.92	GFI RECEPT / LIGHT	20	1	17	18			SPACE	0.00	0.00	
1.92		GEN BLOCK HEATER	20	1	19	20			SPACE	0.00	0.00	
1.92		BATTERY CHARGER	20	1	21	22			SPACE	0.00	0.00	
0.00	0.00	SPACE			23	24			SPACE	0.00	0.00	
0.00	0.00	SPACE			25	26			SPACE	0.00	0.00	
0.00	0.00	SPACE			27	28			SPACE	0.00	0.00	
0.00	0.00	SPACE			29	30			SPACE	0.00	0.00	
14.1	13.4									0.0	0.0	
					A	B	TOTAL					
					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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ATC SITE NUMBER:
302475

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

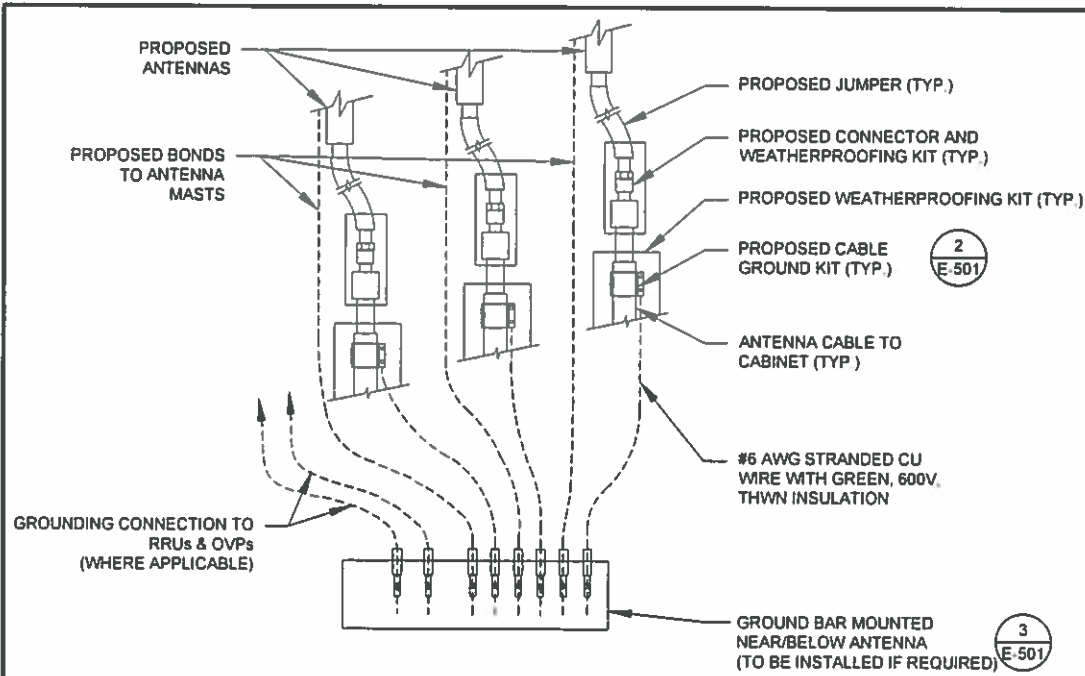
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APPROVED BY:	PPB
DATE DRAWN:	08/27/19
ATC JOB NO:	12978549
VERIZON ID:	SOUTHTON 3 CT - A
VERIZON #:	468851

ONE-LINE & PANEL SCHEDULE	
SHEET NUMBER	REVISION
E-102	0

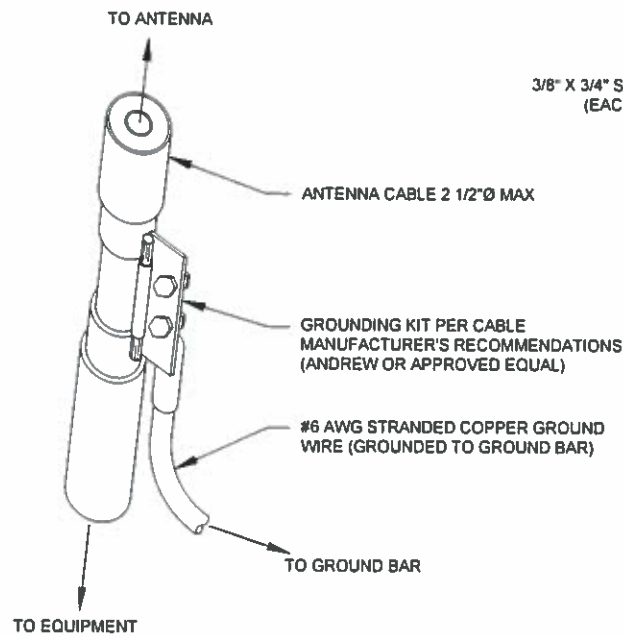
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NOTES:

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

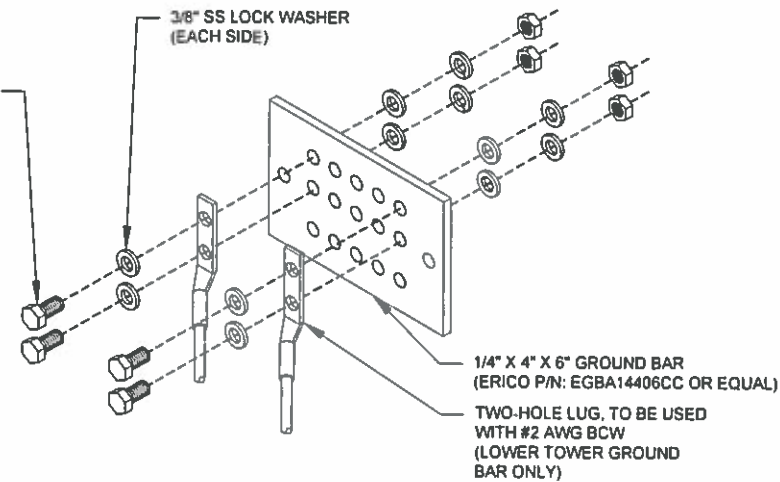
1 TYPICAL ANTENNA GROUNDING DIAGRAM
SCALE: NOT TO SCALE



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.

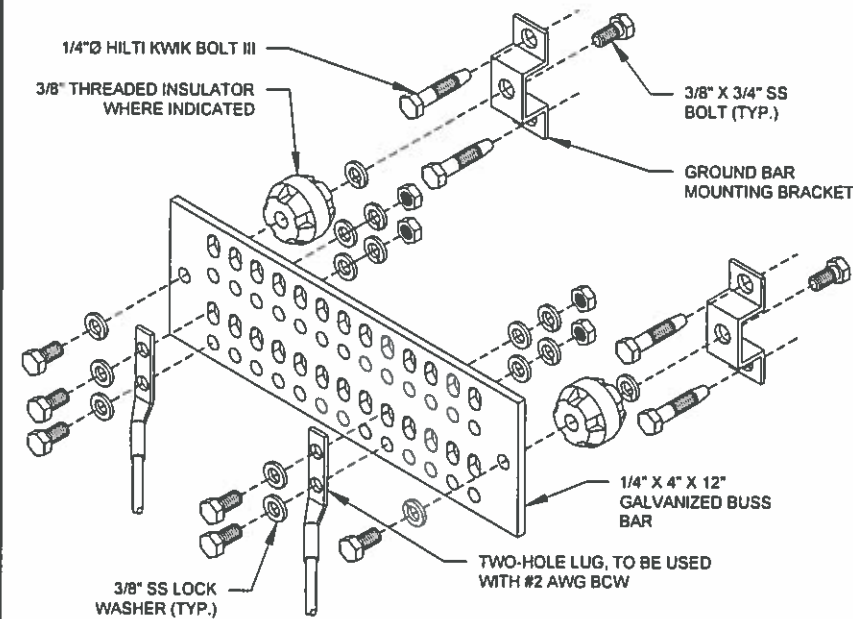
2 CABLE GROUND KIT CONNECTION DETAIL
SCALE: NOT TO SCALE



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



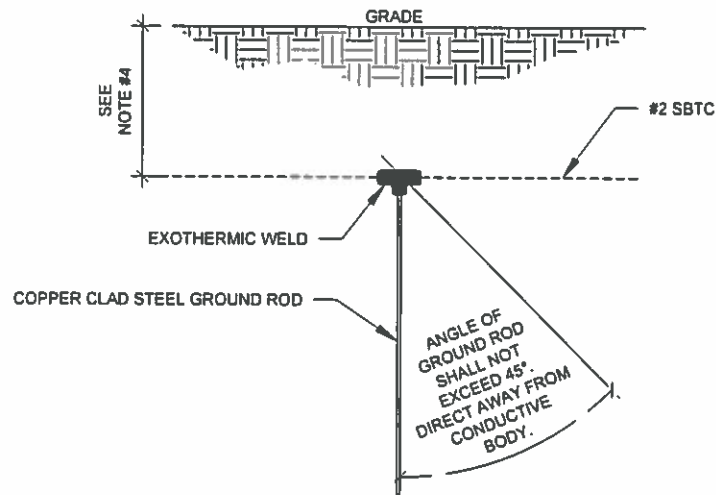
GROUND BAR NOTES:

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.

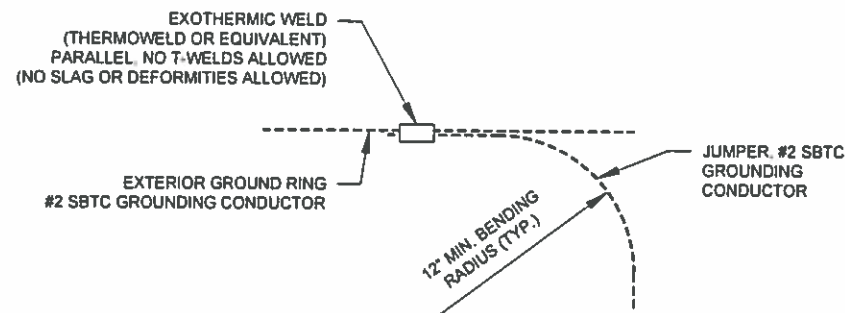
4 MAIN GROUND BAR DETAIL
SCALE: NOT TO SCALE

NOTES:

1. SEPARATION DIMENSION TO BE VERIFIED WITH LOCAL UTILITY COMPANY REQUIREMENTS.
2. COORDINATE UTILITY, LOCATE BEFORE DIGGING.
3. CONDUIT TRENCHING DEPTHS AT 36\"/>



5 GROUND ROD DETAIL
SCALE: NOT TO SCALE



6 TIE CONNECTION DETAIL
SCALE: NOT TO SCALE

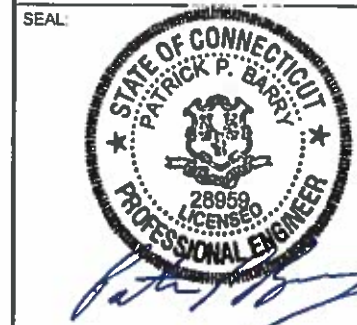
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ATC SITE NAME:
STTN SOUTHINGTON

SITE ADDRESS:
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GROUNDING DETAILS

SHEET NUMBER:	REVISION:
E-501	0



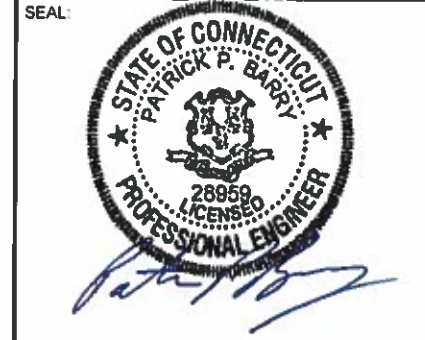
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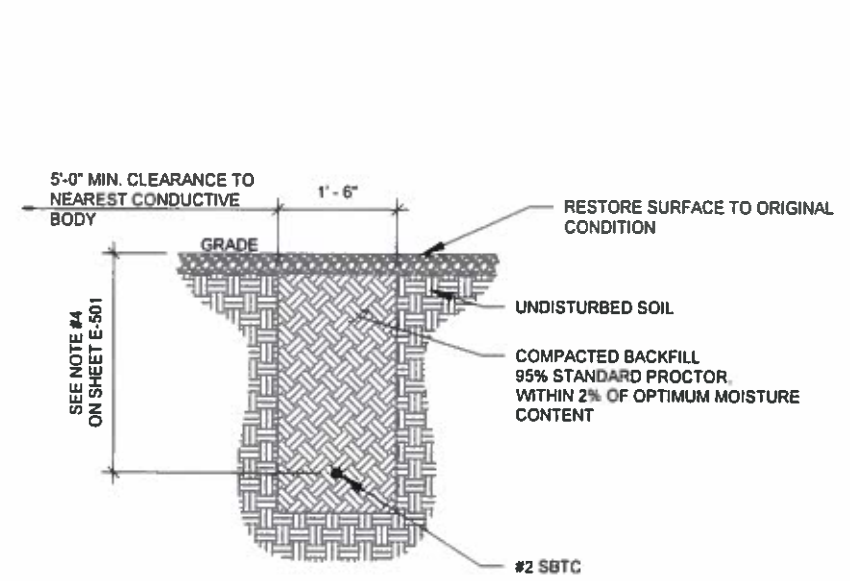


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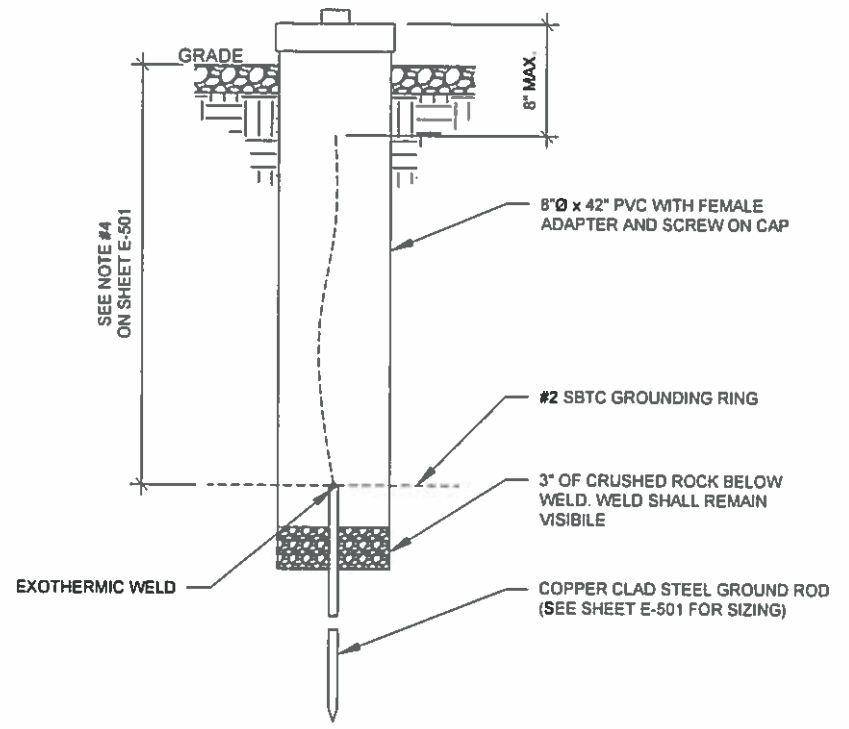
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VERIZON #:	468851

GROUNDING DETAILS

SHEET NUMBER:	REVISION:
E-502	0



1 **GROUND CONNECTION TRENCH DETAIL (STD.)**
 SCALE: NOT TO SCALE



2 **TEST WELL DETAIL**
 SCALE: NOT TO SCALE