



December 3, 2019

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

Re: Notice of Exempt Modification – Antenna and RRU Add
Property Address: 61 Lowell Davis Road, Thompson, CT 06277
Applicant: AT&T Mobility, LLC

Dear Ms. Bachman:

On behalf of AT&T, please accept this application as notification pursuant to R.C.S.A. §16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. §16- 50j-72(b) (2).

AT&T currently maintains a wireless telecommunications facility consisting of nine (9) wireless telecommunication antennas at an antenna center line height of 205-feet on an existing 250-foot guyed tower, owned by SBA at 8051 Congress Ave., Boca Raton, FL 33487. AT&T now intends to remove three (3) 5' Kathrein 7770 Panel Antennas, currently installed in position [4] all sectors and to remove three (3) 6' AM-X-CD-17-65-00T-RET Panel Antennas, currently installed in position [3] all sectors. AT&T now intends to add six (6) 8' CCI DMP65R-BU8DA Panel Antennas, each to be installed in position [3 + 4], all sectors. In addition, AT&T intends to remove six (6) RRUS-11, and add one (1) RRUS-4478 B14, one (1) RRUS-8843 B2/B66A and (1) RRUS-4449 B5/B12 in position [3 + 4], all sectors, for a total of nine (9) new RRUs. AT&T is also proposing to add (2) Raycap Squid, as well as one (1) fiber line and (5) DC Power Cables to their equipment configuration. All of the changes will take place on the existing antenna mount.

Attached is a summary of the planned modifications including power density calculations reflecting the change in AT&T's operations at the site. Also included is documentation of the structural sufficiency of the tower to accommodate the revised antenna configuration.

Please accept this letter pursuant to Regulation of Connecticut State Agencies §16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b) (2). In accordance with R.C.S.A., a copy of this letter is being sent to Terry Bellman– Building Official, Town of Thompson, CT at 815 Riverside Drive, P.O. Box 899, North Grosvenordale, CT 06255 and Amy St. Onge– First Selectman, Town of Thompson, CT at 815 Riverside Drive, P.O. Box 899, North Grosvenordale, CT 06255. A copy of this letter is being sent to the property owner, Numa Tool Company at ATTN TAX DEPT NE17131 Boca Raton, FL 33487-1307 and to the tower company, SBA at 8051 Congress Ave., Boca Raton, FL 33487.

The following is a list of subsequent decisions by the Connecticut Siting Council:

- **EM-CING-135-135-135-141-142-070815** - New Cingular Wireless PCS, LLC notice of intent to modify existing telecommunications facilities located at 1590 Newfield Avenue, Stamford; 168 Catoona Lane, Stamford; 70-78 Guinea Road, Stamford; 61 Lowell Davis Road, Thompson; and 497 Old Post Road, Tolland, Connecticut.
- **EM-CING-141-081208** - New Cingular Wireless PCS, LLC notice of intent to modify an existing telecommunications facility located at 61 Lowell Davis Road, Thompson, Connecticut.
- **EM-CING-141-121109A** - New Cingular Wireless PCS, LLC notice of intent to modify an existing telecommunications facility located at 61 Lowell Davis Road, Thompson, Connecticut.

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

1. The proposed modifications will not result in an increase in the height of the existing tower. AT&T's replacement antennas will be installed at the 205-foot level of the 250-foot guyed tower.



2. The proposed modifications will not involve any changes to ground-mounted equipment and, therefore, will not require an extension of the site boundary.
3. The proposed modifications will not increase the noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.
4. The operation of the modified facility will not increase radio frequency (RF) emissions at the facility to a level at or above the Federal Communications Commission (FCC) safety standard. A cumulative worst-case RF emissions calculation for AT&T's modified facility is provided in the RF Emissions Compliance Report, included in [Tab 2](#).
5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.
6. The tower and its foundation can support AT&T's proposed modifications. (See Structural Analysis Report included in [Tab 3](#)).

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

Sincerely,

Kristina Cottone

CC w/enclosures:
Terry Bellman– Building Official, Town of Thompson, CT
Amy St. Onge– First Selectman, Town of Thompson, CT
Numa Tool Company – Property Owner
SBA – Tower Company



12/11/19

Memo: No Initial Zoning Decision Found

Upon consulting with Donna HALL, Building Inspector Assistant for the Town of Thompson, it was determined that no initial zoning decision for this tower could be found. Her phone number is (860) 923-9002.

Kristina Cottone
Real Estate Specialist | Smartlink, LLC
85 Rangeway Road, Building 3, Suite 102
North Billerica, MA 01862

61 LOWELL DAVIS RD

Location 61 LOWELL DAVIS RD

Mblu 120/ 30/ 2/ /1

Acct# 003518

Owner NUMA TOOL COMPANY

Assessment \$77,100

Appraisal \$110,000

PID 3717

Building Count 1

Current Value

Appraisal			
Valuation Year	Improvements	Land	Total
2015	\$110,000	\$0	\$110,000

Assessment			
Valuation Year	Improvements	Land	Total
2015	\$77,100	\$0	\$77,100

Owner of Record

Owner NUMA TOOL COMPANY
Co-Owner TV6-W LLC - C/OSBA TV6 HOLDINGS LLC
Address ATTN TAX DEPT NE17131
8051 CONGRESS AVE
BOCA RATON, FL 33487-1307

Sale Price \$0
Certificate
Book & Page 0180/0181
Sale Date 07/30/1985
Instrument

Ownership History

Ownership History					
Owner	Sale Price	Certificate	Book & Page	Instrument	Sale Date
NUMA TOOL COMPANY	\$0		0180/0181		07/30/1985

Building Information

Building 1 : Section 1

Year Built:
Living Area: 0
Replacement Cost: \$0
Building Percent
Good:
Replacement Cost
Less Depreciation: \$0

Building Attributes	
Field	Description

Style	Outbuildings
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:	
Total Bthrms:	
Total Half Baths:	
Total Xtra Fixtrs:	
Total Rooms:	
Bath Style:	
Kitchen Style:	

Building Photo



(<http://images.vgsi.com/photos/ThompsonCTPhotos//default.jpg>)

Building Layout

 Building Layout

(<http://images.vgsi.com/photos/ThompsonCTPhotos//Sketches/3>)

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	4400
Description	IND LD DV
Zone	IND
Neighborhood	
Alt Land Appr Category	No

Land Line Valuation

Size (Acres)	0
Frontage	0
Depth	0
Assessed Value	\$0
Appraised Value	\$0

Outbuildings

Outbuildings	Legend
No Data for Outbuildings	

Code	Description	Sub Code	Sub Description	Size	Value	Bldg #
CB1	PRECAST CONC CELL			286 S.F.	\$21,800	1
TWR1	LATTICE TOWER			250 HEIGHT	\$62,500	1
CB1	PRECAST CONC CELL			100 S.F.	\$9,400	1
FN3	FENCE-6' CHAIN			1400 L.F.	\$15,900	1
SHD3	METAL			64 S.F.	\$400	1

Valuation History

Appraisal			
Valuation Year	Improvements	Land	Total
2018	\$110,000	\$0	\$110,000
2017	\$110,000	\$0	\$110,000
2016	\$110,000	\$0	\$110,000

Assessment			
Valuation Year	Improvements	Land	Total
2018	\$77,100	\$0	\$77,100
2017	\$77,100	\$0	\$77,100
2016	\$77,100	\$0	\$77,100

(c) 2019 Vision Government Solutions, Inc. All rights reserved.



Tower Engineering Solutions

Phone (972) 483-0607, Fax (972) 975-9615
1320 Greenway Drive, Suite 600, Irving, Texas 75038

Post-Mod Structural Analysis Report

Existing 250 ft Mapped Guyed Tower

Customer Name: SBA Communications Corp

Customer Site Number: CT17474-A

Customer Site Name: Thompson

Carrier Name: AT&T (App#: 122597, v2)

Carrier Site ID / Name: CTL01052 / Thompson - 61 Lowell Davis Rd

Site Location: 61 Lowell Davis Road

Thompson, Connecticut

Windham County

Latitude: 41.978944

Longitude: -71.852500

Analysis Result:

Max Structural Usage: 97.9% [Pass]

Max Foundation Usage: 87.2% [Pass]

Report Prepared By : Ram Kodali



11/5/19



Tower Engineering Solutions

Phone (972) 483-0607, Fax (972) 975-9615
1320 Greenway Drive, Suite 600, Irving, Texas 75038

Post-Mod Structural Analysis Report

Existing 250 ft Mapped Guyed Tower

Customer Name: SBA Communications Corp

Customer Site Number: CT17474-A

Customer Site Name: Thompson

Carrier Name: AT&T (App#: 122597, v2)

Carrier Site ID / Name: CTL01052 / Thompson - 61 Lowell Davis Rd

Site Location: 61 Lowell Davis Road

Thompson, Connecticut

Windham County

Latitude: 41.978944

Longitude: -71.852500

Analysis Result:

Max Structural Usage: 97.9% [Pass]

Max Foundation Usage: 87.2% [Pass]

Report Prepared By : Ram Kodali

Introduction

The purpose of this report is to summarize the analysis results on the 250 ft Mapped Guyed Tower to support the proposed antennas and transmission lines in addition to those currently installed. Any existing modification listed under Sources of Information was assumed completed and was included in this analysis.

The proposed modification by **TES** listed under Sources of Information was considered completed and was included in this analysis.

Sources of Information

Tower Drawings	GPD, Tower Mapping Job # 2012816.10, Dated 10/19/2012
Foundation Drawing	GPD, Foundation Mapping Job # 2012816.10, Dated 11/16/2012
Geotechnical Report	GPD, Job # 2012816.10, Dated 11/16/2012
Proposed Modification	TES Job # 87869

Analysis Criteria

The rigorous analysis was performed in accordance with the requirements and stipulations of the ANSI/TIA/EIA 222-G. In accordance with this standard, the structure was analyzed using **TESTowers**, a proprietary analysis software. The program considers the structure as an elastic 3-D model with second-order effects and temperature effects incorporated in the analysis. The analysis was performed using multiple wind directions.

Wind Speed Used in the Analysis:	Ultimate Design Wind Speed $V_{ult} = 130$ mph (3-Sec. Gust)/ Nominal Design Wind Speed $V_{asd} = 101$ mph (3-Sec. Gust)
Basic Wind Speed with Ice:	50 mph (3-Sec. Gust) with 3/4" radial ice concurrent
Operational Wind Speed:	60 mph + 0" Radial ice
Standard/Codes:	ANSI/TIA/EIA 222-G / 2015 IBC / 2018 Connecticut State Building Code
Exposure Category:	C
Structure Class:	II
Topographic Category:	1
Crest Height:	0 ft
Seismic Parameters:	$SS = 0.172$, $S1 = 0.063$

This structural analysis is based upon the tower being classified as a Structure Class II; however, if a different classification is required subsequent to the date hereof, the tower classification will be changed to meet such requirement and a new structural analysis will be run.

Existing Antennas, Mounts and Transmission Lines

The table below summarizes the antennas, mounts and transmission lines that were considered in the analysis as existing on the tower.

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
1	243.0	3	Antel BXA-70063-6CF - Panel	(3) Sector Frame	(13) 1 5/8"	Verizon
2		3	Antel BXA-80063-6CF - Panel			
3		3	Antel BXA 171063-12CF - Panel			
4		3	Antel WBXA-065X19R050 - Panel			
5		3	ALU AWS RRH 2x40 - RRH			
6		6	RFS FD9R6004/2C-3L - Diplexer			
7		1	RFS DB-T1-6Z-8AB-0Z - Distribution Box			
-	205.0	3	KMW AM-X-CD-17-65-00T - Panel	(3) Sector Frame	(12) 1 5/8", (2)7/8" Dc & (1)0.39" Fiber in (1) 3" Flex Conduit	AT&T
-		6	Powerwave 7770.00 - Panel			
-		6	Powerwave LGP21401 - TMA			
-		6	Powerwave LGP21901 - TMA			
-		6	Ericsson RRUS-11			
-		1	Raycap DC6-48-60-18-8F			
15	200.0	1	10' Omni	(1) Stand-Off	(1) 1 5/8"	Unknown

Proposed Carrier's Final Configuration of Antennas, Mounts and Transmission Lines

Information pertaining to the proposed carrier's final configuration of antennas and transmission lines was provided by SBA Communications Corp. The proposed antennas and lines are listed below.

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
8	205.0	6	CCI DMP65R-BU8DA - Panel	(3) Sector Frame	(12) 1 5/8", (2)7/8" Dc & (1)0.39" Fiber in (1) 3" Flex Conduit, (4)7/8" & (1)0.39" in (2) 2" Conduit	AT&T
9		3	Powerwave 7770.00 - Panel			
10		6	Powerwave LGP21401			
11		3	Ericsson RRUS 4478 B14			
12		3	Ericsson 8843 B2/B66A			
13		3	Ericsson RRUS 4449 B5/B12			
14		3	Raycap DC6-48-60-18-8F			

See the attached coax layout for the line placement considered in the analysis.

Analysis Results

The results of the structural analysis, performed for the wind and ice loading and antenna equipment as defined above, are summarized as the following:

Tower Component	Legs	Diagonals	Horizontals	Guy Wires
Max. Usage:	94.7%	92.8%	85.8%	97.9%
Pass/Fail	Pass	Pass	Pass	Pass

Foundations

Reactions (kips)	Base Reactions		Anchors	
	Axial	Shear	Uplift	Shear
Analysis Reactions	160.9	2.3	47.2	54.6

The foundation has been investigated using the supplied documents and soils report and was found to be adequate. Therefore, no modification to the foundation will be required.

Operational Condition (Rigidity)

Operational characteristics of the tower are found to be within the limits prescribed by ANSI/TIA/EIA 222-G for the installed antennas. The maximum twist/sway at the elevation of the proposed equipment is 0.0446 degrees under the operational wind speed as specified in the Analysis Criteria.

Conclusions

Based on the analysis results, the structure and its foundation will be adequate to safely support the existing and proposed equipment and meet the minimum requirements per the design ANSI/TIA/EIA 222-G standards under a basic wind speed of 101 mph no ice and 50 mph with 3/4" radial ice after the following proposed modification is successfully completed.

- Proposed modification design drawing by TES Job # 87869

Pre-Mod Installation Determination

We have also checked this tower to determine if the proposed AT&T equipment loading can be installed prior to the completion of the required modifications. We ran a reduced wind loading case as required by TIA-322 considering a construction period of no more than 6 months.

The tower and foundations passed, so the Carrier can proceed and install their proposed loading prior to the mods completion. Please be aware that this approval is being provided and is based on the method outlined in TIA-322. This approval is not a blanket approval and there is still a risk that the tower will experience a wind event that cannot be predicted by TIA-322 or our Engineers. In the event of an unforeseen wind event, Tower Engineering Solutions will not be liable nor responsible for damage to the tower or the Carriers equipment. Additionally, the tower cannot go beyond the 6 month construction period without the modifications being completed. If the modifications cannot be completed within 6 months from the completed installation of the Carrier's proposed equipment, TES must be notified immediately for further review.

Standard Conditions

1. This analysis was performed based on the information supplied to **(TES) Tower Engineering Solutions, LLC**. Verification of the information provided was not included in the Scope of Work for **TES**. The accuracy of the analysis is dependent on the accuracy of the information provided.
2. The structural analysis was performance based upon the evidence available at the time of this report. All information provided by the client is considered to be accurate.
3. The analyses will be performed based on the codes as specified by the client or based on the best knowledge of the engineering staff of **TES**. In the absence of information to the contrary, all work will be performed in accordance with the latest relevant revision of ANSI/TIA-222. If wind speed and/or ice loads are different from the minimum values recommended by the EIA/TIA-222 standard or other codes, **TES** should be notified in writing and the applicable minimum values provided by the client.
4. The configuration of the existing mounts, antennas, coax and other appurtenances were supplied by the customer for the current structural analysis. **TES** has not visited the tower site to verify the adequacy of the information provided. If there is any discrepancy found in the report regarding the existing conditions, **TES** should be notified immediately to evaluate the effect of the discrepancy on the analysis results.
5. The client will assume responsibility for rework associated with the differences in initially provided information, including tower and foundation information, existing and/or proposed equipment and transmission lines.
6. If a feasibility analysis was performed, final acceptance of changed conditions shall be based upon a rigorous structural analysis.

Structure: CT17474-A-SBA

Site Name: Thompson
Type: Guyed
Height: 250.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: Triangle
Base Width: 0.00
Top Width: 3.00

Code: EIA/TIA-222-G
Basic WS: 101.00
Basic Ice WS: 50.00
Operational WS: 60.00

11/5/2019
 Page: 1



Section Properties

Sect	Leg Members	Diagonal Members	Horizontal Members
1	PST 2-1/2" DIA PIPE	SOL 3/4" SOLID	PLT 2"X1/4
2-13	PST 2-1/2" DIA PIPE	SOL 3/4" SOLID	SOL 5/8" SOLID
14	PST 2-1/2" DIA PIPE	SOL 3/4" SOLID	SAU 2X1.5X0.1875
15	PST 2-1/2" DIA PIPE	SOL 1 1/4" SOLID	SAU 2X1.5X0.1875

Discrete Appurtenances

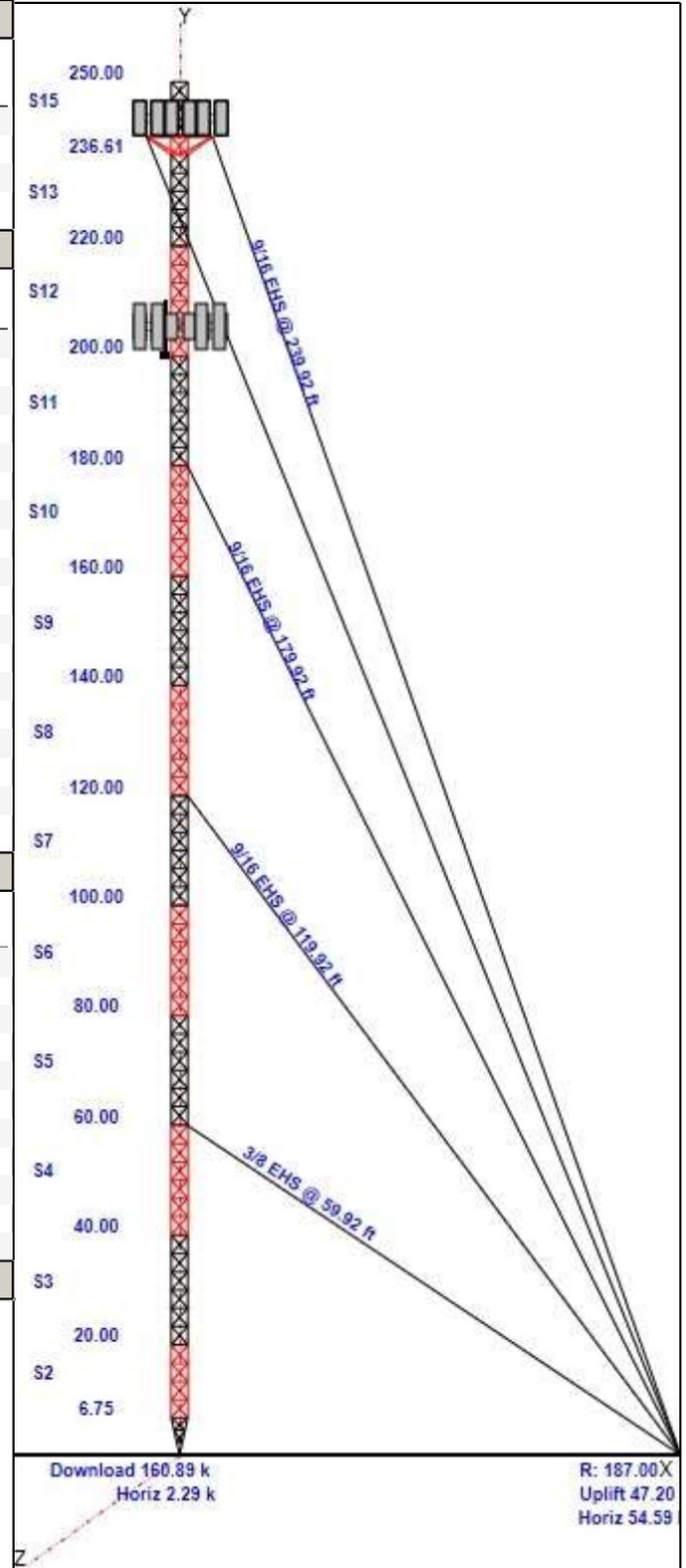
Attach Elev (ft)	Force Elev (ft)	Qty	Description
243.00	243.00	3	BXA-70063-6CF
243.00	243.00	3	BXA-80063-6CF
243.00	243.00	3	BXA 171063-12CF
243.00	243.00	3	WBXA-065X19R050
243.00	243.00	3	AWS RRH 2x40
243.00	243.00	6	FD9R6004/2C-3L
243.00	243.00	1	DB-T1-6Z-8AB-0Z
243.00	243.00	3	Sector Frame
205.00	205.00	3	Sector Frame
205.00	205.00	3	4449 B5/B12
205.00	205.00	6	CCI DMP65R-BU8DA
205.00	205.00	3	7770.00
205.00	205.00	6	LGP21401
205.00	205.00	3	RRUS 4478 B14
205.00	205.00	3	8843 B2/B66A
205.00	205.00	3	DC6-48-60-18-8F
200.00	205.00	1	10' Omni
200.00	200.00	1	Stand-Off

Linear Appurtenances

Elev From (ft)	Elev To (ft)	Qty	Description
0.00	250.00	1	Safety Cable
0.00	243.00	3	1 5/8" Coax
0.00	243.00	2	1 5/8" Coax
0.00	243.00	1	1 5/8" Coax
0.00	243.00	2	1 5/8" Coax
0.00	243.00	2	1 5/8" Coax
0.00	205.00	12	1 5/8" Coax
0.00	205.00	2	2" Conduit
0.00	205.00	1	3" Flex Conduit
0.00	200.00	1	1 5/8" Coax

Max Guy Wire

97.91% @ 179.917 ft - 9/16 EHS



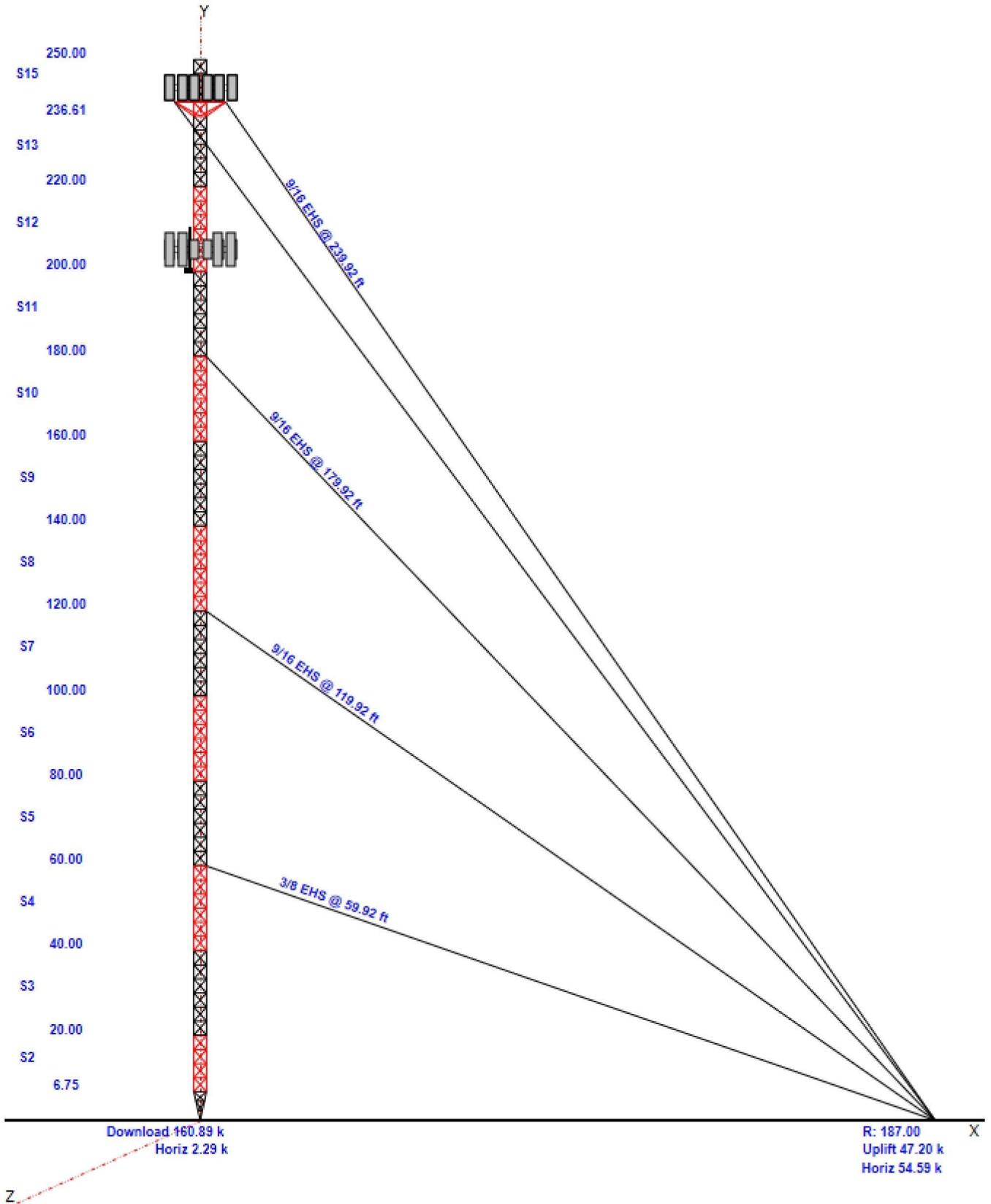
Structure: CT17474-A-SBA

Site Name: Thompson
Type: Guyed
Height: 250.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: Triangle
Base Width: 0.00
Top Width: 3.00

Code: EIA/TIA-222-G
Basic WS: 101.00
Basic Ice WS: 50.00
Operational WS: 60.00

11/5/2019
 Page: 2



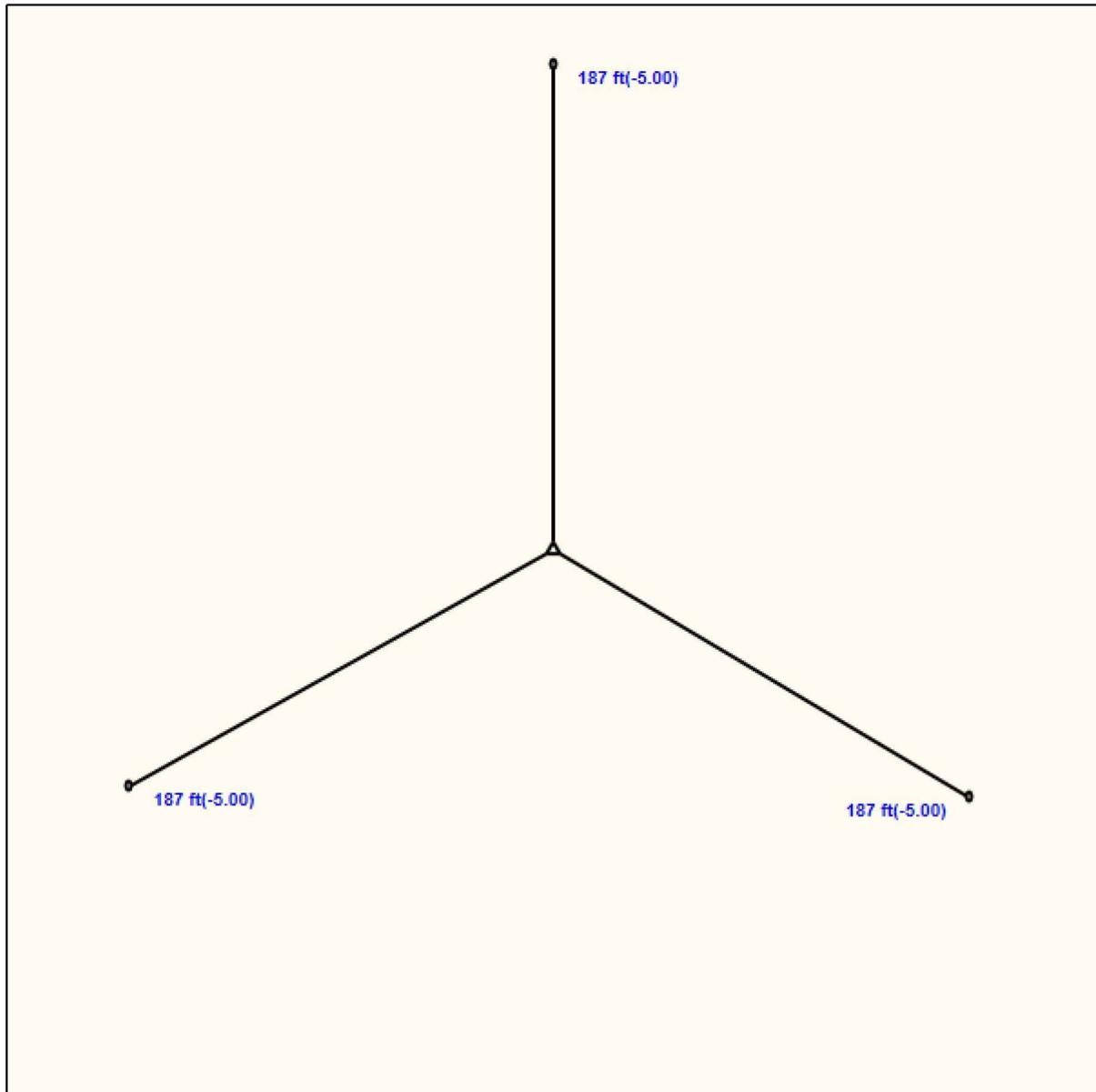
Anchor Drops with Guy Radius - Structure: CT17474-A-SBA

Site Name: Thompson
Type: Guyed
Height: 250.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: Triangle
Base Width: 0.00
Top Width: 3.00

Code: EIA/TIA-222-G
Basic WS: 101.00
Basic Ice WS: 50.00
Operational WS: 60.00

11/5/2019
Page: 3



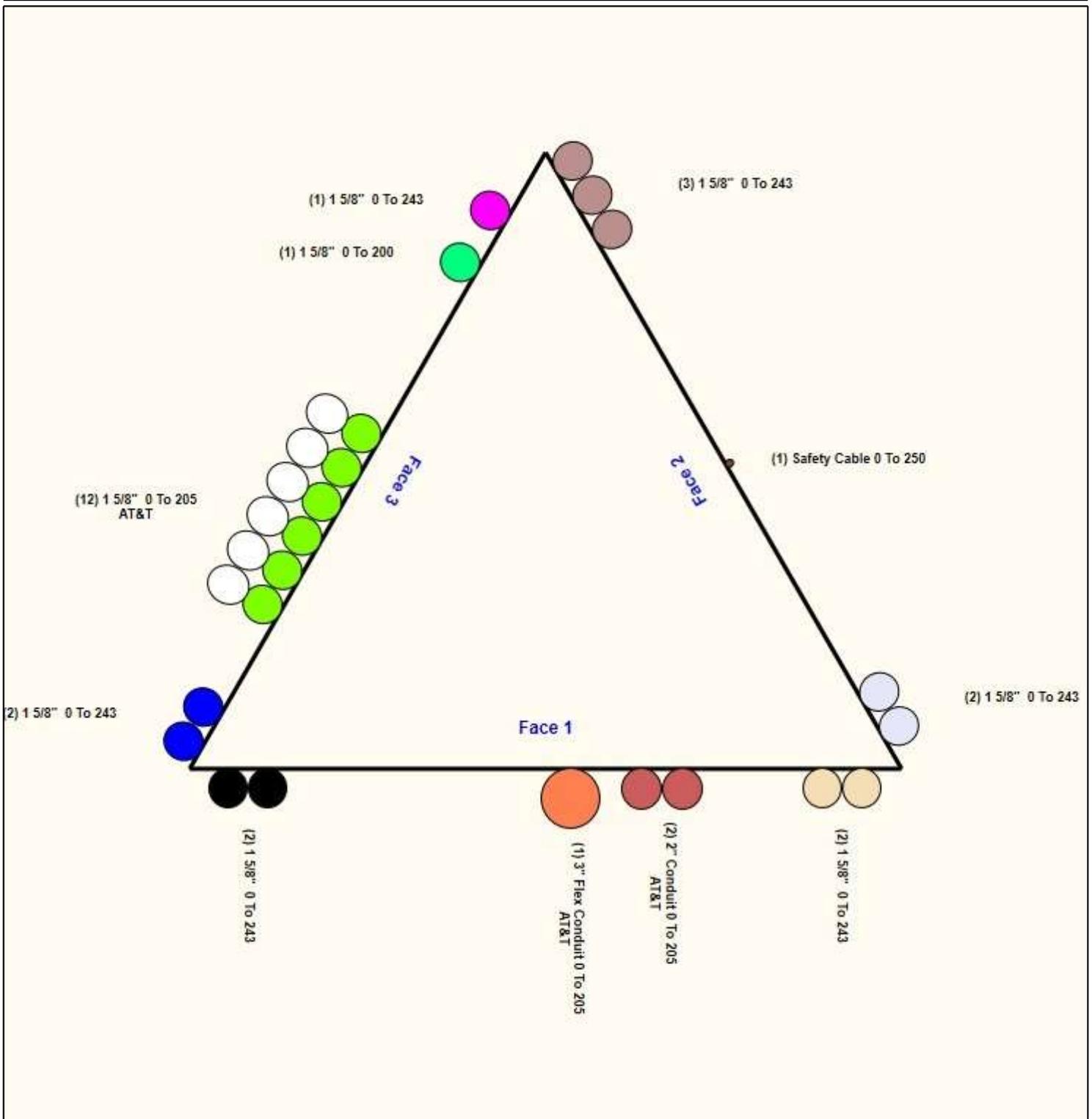
Structure: CT17474-A-SBA - Coax Line Placement

Type: Guyed
Site Name: Thompson
Height: 250.00 (ft)

11/5/2019



Page: 4



Loading Summary

Structure: CT17474-A-SBA	Code: EIA/TIA-222-G	11/5/2019
Site Name: Thompson	Exposure: C	
Height: 250.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 0.85	Topography: 1	Struct Class: II



Page: 5

Discrete Appurtenances Properties

Attach Elev (ft)	Description	Qty	No Ice		Ice		Len (in)	Width (in)	Depth (in)	Ka	Orientation Factor	Vert Ecc (ft)
			Weight (lb)	CaAa (sf)	Weight (lb)	CaAa (sf)						
243.00	BXA-70063-6CF	3	17.00	7.570	201.92	8.899	71.000	11.200	5.200	0.80	0.73	0.000
243.00	BXA-80063-6CF	3	17.00	7.570	201.92	8.899	71.000	11.200	5.200	0.80	0.73	0.000
243.00	BXA 171063-12CF	3	15.00	4.780	143.28	6.085	72.400	6.100	4.100	0.80	0.84	0.000
243.00	WBXA-065X19R050	3	13.20	4.910	135.55	6.208	72.400	6.300	3.300	0.80	0.76	0.000
243.00	AWS RRH 2x40	3	52.40	1.710	130.01	2.303	19.300	10.600	9.700	0.80	0.67	0.000
243.00	FD9R6004/2C-3L	6	3.10	0.360	11.53	0.826	5.800	6.500	1.500	0.80	0.67	0.000
243.00	DB-T1-6Z-8AB-OZ	1	18.90	4.800	171.21	5.721	24.000	24.000	10.000	1.00	1.00	0.000
243.00	Sector Frame	3	450.00	15.000	1109.87	27.538	0.000	0.000	0.000	0.75	0.75	0.000
205.00	Sector Frame	3	500.00	17.500	1221.97	31.903	0.000	0.000	0.000	0.75	0.75	0.000
205.00	4449 B5/B12	3	71.00	1.970	126.21	2.536	17.900	13.200	9.400	0.80	0.67	0.000
205.00	CCI DMP65R-BU8DA	6	95.70	17.870	487.36	19.758	96.000	20.700	7.700	0.80	0.73	0.000
205.00	7770.00	3	35.00	5.500	175.89	6.604	55.000	11.000	5.000	0.80	0.73	0.000
205.00	LGP21401	6	14.10	1.290	39.96	2.154	14.400	9.200	2.600	0.80	0.67	0.000
205.00	RRUS 4478 B14	3	59.40	1.650	102.29	2.186	15.000	13.200	7.300	0.80	0.67	0.000
205.00	8843 B2/B66A	3	72.00	1.640	120.45	2.154	14.900	13.200	10.900	0.80	0.67	0.000
205.00	DC6-48-60-18-8F	3	31.80	0.920	95.74	1.373	24.000	11.000	11.000	0.80	0.67	0.000
200.00	10' Omni	1	25.00	3.000	102.88	6.693	120.000	3.000	3.000	1.00	1.00	5.000
200.00	Stand-Off	1	40.00	2.630	122.20	8.741	0.000	0.000	0.000	1.00	1.00	0.000
Totals:		57	4,762.70		14,924.61						Number of Appurtenances :	18

Loading Summary

Structure: CT17474-A-SBA	Code: EIA/TIA-222-G	11/5/2019
Site Name: Thompson	Exposure: C	
Height: 250.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 0.85	Topography: 1	Struct Class: II



Page: 6

Linear Appurtenances Properties

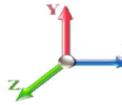
Elev. From (ft)	Elev. To (ft)	Description	Qty	Width (in)	Weight (lb/ft)	Pct In Block	Spread On Faces	Bundling Arrangement	Cluster Dia (in)	Out of Zone	Spacing (in)	Orientation Factor	Ka Override
0.00	250.00	Safety Cable	1	0.38	0.27	100.00	2	Individual NR		N	1.00	1.00	
0.00	243.00	1 5/8" Coax	3	1.98	1.04	100.00	2	Individual IR		N	1.00	1.00	
0.00	243.00	1 5/8" Coax	2	1.98	1.04	100.00	3	Individual IR		N	1.00	1.00	
0.00	243.00	1 5/8" Coax	1	1.98	1.04	100.00	3	Individual NR		N	1.00	1.00	0
0.00	243.00	1 5/8" Coax	2	1.98	1.04	100.00	2	Individual IR		N	1.00	1.00	
0.00	243.00	1 5/8" Coax	2	1.98	1.04	100.00	1	Individual IR		N	1.00	1.00	
0.00	243.00	1 5/8" Coax	2	1.98	1.04	100.00	1	Individual IR		N	1.00	1.00	
0.00	205.00	1 5/8" Coax	12	1.98	1.04	50.00	3	Block		N	0.50	1.00	
0.00	205.00	2" Conduit	2	2.00	1.61	100.00	1	Individual IR		N	1.00	1.00	
0.00	205.00	3" Flex Conduit	1	3.00	1.78	100.00	1	Individual NR		N	1.00	1.00	
0.00	200.00	1 5/8" Coax	1	1.98	1.04	100.00	3	Individual NR		N	1.00	1.00	

Section Forces

Structure: CT17474-A-SBA
Site Name: Thompson
Height: 250.00 (ft)
Base Elev: 0.000 (ft)
Gh: 0.85

Topography: 1

Code: EIA/TIA-222-G
Exposure: C
Crest Height: 0.00
Site Class: D - Stiff Soil
Struct Class: II

11/5/2019

 Page: 7



Load Case: 1.2D + 1.6W Normal Wind

1.2D + 1.6W 101 mph Wind at Normal To Face

Wind Load Factor: 1.60
Dead Load Factor: 1.20
Ice Dead Load Factor: 0.00

Wind Importance Factor: 1.00
Ice Importance Factor: 1.00

Sect Seq	Wind Height (ft)	Total Flat Area (psf) (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Ice		Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)	
											Linear Area (sqft)	Linear Area (sqft)						
1	3.4	18.87	0.880	4.04	0.00	0.42	2.03	1.00	1.00	0.00	3.52	26.72	0.00	501.2	0.0	183.34	494.45	632.74
2	13.4	18.87	0.000	9.03	0.00	0.21	2.56	1.00	1.00	0.00	5.30	52.44	0.00	1,011.3	0.0	348.59	1002.51	1,351.10
3	30.0	21.80	0.000	13.76	0.00	0.21	2.56	1.00	1.00	0.00	8.09	79.16	0.00	1,536.2	0.0	612.91	1748.67	2,361.58
4	50.0	24.28	0.500	13.61	0.00	0.22	2.54	1.00	1.00	0.00	8.51	79.16	0.00	1,547.8	0.0	713.35	1947.20	2,660.55
5	70.0	26.06	0.000	13.76	0.00	0.21	2.56	1.00	1.00	0.00	8.09	79.16	0.00	1,536.2	0.0	732.60	2090.14	2,822.74
6	90.0	27.48	0.000	13.76	0.00	0.21	2.56	1.00	1.00	0.00	8.09	79.16	0.00	1,536.2	0.0	772.41	2203.70	2,976.11
7	110.0	28.66	0.500	13.61	0.00	0.22	2.54	1.00	1.00	0.00	8.51	79.16	0.00	1,547.8	0.0	842.15	2298.80	3,140.95
8	130.0	29.69	0.000	13.76	0.00	0.21	2.56	1.00	1.00	0.00	8.09	79.16	0.00	1,536.2	0.0	834.58	2381.08	3,215.66
9	150.0	30.60	0.000	13.76	0.00	0.21	2.56	1.00	1.00	0.00	8.09	79.16	0.00	1,536.2	0.0	860.10	2453.91	3,314.01
10	170.0	31.41	0.500	13.61	0.00	0.22	2.54	1.00	1.00	0.00	8.51	79.16	0.00	1,547.8	0.0	922.98	2519.43	3,442.40
11	190.0	32.16	0.000	13.76	0.00	0.21	2.56	1.00	1.00	0.00	8.09	79.16	0.00	1,536.2	0.0	903.99	2579.12	3,483.11
12	210.0	32.84	0.000	13.76	0.00	0.21	2.56	1.00	1.00	0.00	8.09	49.13	0.00	1,196.6	0.0	923.24	1523.93	2,447.16
13	228.3	33.43	0.000	11.32	0.00	0.21	2.56	1.00	1.00	0.00	6.65	33.41	0.00	898.4	0.0	773.98	1005.28	1,779.25
14	238.3	33.73	0.000	2.15	0.00	0.20	2.61	1.00	1.00	0.00	1.25	6.82	0.00	170.8	0.0	149.86	206.96	356.81
15	245.0	33.93	1.840	7.42	0.00	0.29	2.33	1.00	1.00	0.00	6.34	6.25	0.00	749.0	0.0	682.98	191.54	874.52
													18,388.1	0.0				

Load Case: 1.2D + 1.6W 60° Wind

1.2D + 1.6W 101 mph Wind at 60° From Face

Wind Load Factor: 1.60
Dead Load Factor: 1.20
Ice Dead Load Factor: 0.00

Wind Importance Factor: 1.00
Ice Importance Factor: 1.00

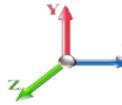
Sect Seq	Wind Height (ft)	Total Flat Area (psf) (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Ice		Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)	
											Linear Area (sqft)	Linear Area (sqft)						
1	3.4	18.87	0.880	4.04	0.00	0.42	2.03	0.80	1.00	0.00	3.35	26.72	0.00	501.2	0.0	174.18	494.45	668.63
2	13.4	18.87	0.000	9.03	0.00	0.21	2.56	0.80	1.00	0.00	5.30	52.44	0.00	1,011.3	0.0	348.59	1002.51	1,351.10
3	30.0	21.80	0.000	13.76	0.00	0.21	2.56	0.80	1.00	0.00	8.09	79.16	0.00	1,536.2	0.0	612.91	1748.67	2,361.58
4	50.0	24.28	0.500	13.61	0.00	0.22	2.54	0.80	1.00	0.00	8.41	79.16	0.00	1,547.8	0.0	704.97	1947.20	2,652.17
5	70.0	26.06	0.000	13.76	0.00	0.21	2.56	0.80	1.00	0.00	8.09	79.16	0.00	1,536.2	0.0	732.60	2090.14	2,822.74
6	90.0	27.48	0.000	13.76	0.00	0.21	2.56	0.80	1.00	0.00	8.09	79.16	0.00	1,536.2	0.0	772.41	2203.70	2,976.11
7	110.0	28.66	0.500	13.61	0.00	0.22	2.54	0.80	1.00	0.00	8.41	79.16	0.00	1,547.8	0.0	832.26	2298.80	3,131.06
8	130.0	29.69	0.000	13.76	0.00	0.21	2.56	0.80	1.00	0.00	8.09	79.16	0.00	1,536.2	0.0	834.58	2381.08	3,215.66
9	150.0	30.60	0.000	13.76	0.00	0.21	2.56	0.80	1.00	0.00	8.09	79.16	0.00	1,536.2	0.0	860.10	2453.91	3,314.01
10	170.0	31.41	0.500	13.61	0.00	0.22	2.54	0.80	1.00	0.00	8.41	79.16	0.00	1,547.8	0.0	912.14	2519.43	3,431.56
11	190.0	32.16	0.000	13.76	0.00	0.21	2.56	0.80	1.00	0.00	8.09	79.16	0.00	1,536.2	0.0	903.99	2579.12	3,483.11
12	210.0	32.84	0.000	13.76	0.00	0.21	2.56	0.80	1.00	0.00	8.09	49.13	0.00	1,196.6	0.0	923.24	1523.93	2,447.16
13	228.3	33.43	0.000	11.32	0.00	0.21	2.56	0.80	1.00	0.00	6.65	33.41	0.00	898.4	0.0	773.98	1005.28	1,779.25
14	238.3	33.73	0.000	2.15	0.00	0.20	2.61	0.80	1.00	0.00	1.25	6.82	0.00	170.8	0.0	149.86	206.96	356.81
15	245.0	33.93	1.840	7.42	0.00	0.29	2.33	0.80	1.00	0.00	5.97	6.25	0.00	749.0	0.0	643.34	191.54	834.88
													18,388.1	0.0				

Section Forces

Structure: CT17474-A-SBA
Site Name: Thompson
Height: 250.00 (ft)
Base Elev: 0.000 (ft)
Gh: 0.85

Topography: 1

Code: EIA/TIA-222-G
Exposure: C
Crest Height: 0.00
Site Class: D - Stiff Soil
Struct Class: II

11/5/2019

 Page: 8



Load Case: 1.2D + 1.6W 90° Wind

1.2D + 1.6W 101 mph Wind at 90° From Face

Wind Load Factor: 1.60
Dead Load Factor: 1.20
Ice Dead Load Factor: 0.00

Wind Importance Factor: 1.00
Ice Importance Factor: 1.00

Sect Seq	Wind Height (ft)	Total Flat Area (psf sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Ice		Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)	
											Linear Area (sqft)	Linear Area (sqft)						
1	3.4	18.87	0.880	4.04	0.00	0.42	2.03	0.85	1.00	0.00	3.39	26.72	0.00	501.2	0.0	176.47	494.45	670.92
2	13.4	18.87	0.000	9.03	0.00	0.21	2.56	0.85	1.00	0.00	5.30	52.44	0.00	1,011.3	0.0	348.59	1002.51	1,351.10
3	30.0	21.80	0.000	13.76	0.00	0.21	2.56	0.85	1.00	0.00	8.09	79.16	0.00	1,536.2	0.0	612.91	1748.67	2,361.58
4	50.0	24.28	0.500	13.61	0.00	0.22	2.54	0.85	1.00	0.00	8.44	79.16	0.00	1,547.8	0.0	707.06	1947.20	2,654.27
5	70.0	26.06	0.000	13.76	0.00	0.21	2.56	0.85	1.00	0.00	8.09	79.16	0.00	1,536.2	0.0	732.60	2090.14	2,822.74
6	90.0	27.48	0.000	13.76	0.00	0.21	2.56	0.85	1.00	0.00	8.09	79.16	0.00	1,536.2	0.0	772.41	2203.70	2,976.11
7	110.0	28.66	0.500	13.61	0.00	0.22	2.54	0.85	1.00	0.00	8.44	79.16	0.00	1,547.8	0.0	834.73	2298.80	3,133.53
8	130.0	29.69	0.000	13.76	0.00	0.21	2.56	0.85	1.00	0.00	8.09	79.16	0.00	1,536.2	0.0	834.58	2381.08	3,215.66
9	150.0	30.60	0.000	13.76	0.00	0.21	2.56	0.85	1.00	0.00	8.09	79.16	0.00	1,536.2	0.0	860.10	2453.91	3,314.01
10	170.0	31.41	0.500	13.61	0.00	0.22	2.54	0.85	1.00	0.00	8.44	79.16	0.00	1,547.8	0.0	914.85	2519.43	3,434.27
11	190.0	32.16	0.000	13.76	0.00	0.21	2.56	0.85	1.00	0.00	8.09	79.16	0.00	1,536.2	0.0	903.99	2579.12	3,483.11
12	210.0	32.84	0.000	13.76	0.00	0.21	2.56	0.85	1.00	0.00	8.09	49.13	0.00	1,196.6	0.0	923.24	1523.93	2,447.16
13	228.3	33.43	0.000	11.32	0.00	0.21	2.56	0.85	1.00	0.00	6.65	33.41	0.00	898.4	0.0	773.98	1005.28	1,779.25
14	238.3	33.73	0.000	2.15	0.00	0.20	2.61	0.85	1.00	0.00	1.25	6.82	0.00	170.8	0.0	149.86	206.96	356.81
15	245.0	33.93	1.840	7.42	0.00	0.29	2.33	0.85	1.00	0.00	6.06	6.25	0.00	749.0	0.0	653.25	191.54	844.79
													18,388.1	0.0			34,845.31	

Load Case: 0.9D + 1.6W Normal Wind

0.9D + 1.6W 101 mph Wind at Normal To Face

Wind Load Factor: 1.60
Dead Load Factor: 0.90
Ice Dead Load Factor: 0.00

Wind Importance Factor: 1.00
Ice Importance Factor: 1.00

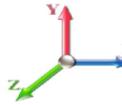
Sect Seq	Wind Height (ft)	Total Flat Area (psf sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Ice		Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)	
											Linear Area (sqft)	Linear Area (sqft)						
1	3.4	18.87	0.880	4.04	0.00	0.42	2.03	1.00	1.00	0.00	3.52	26.72	0.00	375.9	0.0	183.34	494.45	677.79
2	13.4	18.87	0.000	9.03	0.00	0.21	2.56	1.00	1.00	0.00	5.30	52.44	0.00	758.5	0.0	348.59	1002.51	1,351.10
3	30.0	21.80	0.000	13.76	0.00	0.21	2.56	1.00	1.00	0.00	8.09	79.16	0.00	1,152.2	0.0	612.91	1748.67	2,361.58
4	50.0	24.28	0.500	13.61	0.00	0.22	2.54	1.00	1.00	0.00	8.51	79.16	0.00	1,160.9	0.0	713.35	1947.20	2,660.55
5	70.0	26.06	0.000	13.76	0.00	0.21	2.56	1.00	1.00	0.00	8.09	79.16	0.00	1,152.2	0.0	732.60	2090.14	2,822.74
6	90.0	27.48	0.000	13.76	0.00	0.21	2.56	1.00	1.00	0.00	8.09	79.16	0.00	1,152.2	0.0	772.41	2203.70	2,976.11
7	110.0	28.66	0.500	13.61	0.00	0.22	2.54	1.00	1.00	0.00	8.51	79.16	0.00	1,160.9	0.0	842.15	2298.80	3,140.95
8	130.0	29.69	0.000	13.76	0.00	0.21	2.56	1.00	1.00	0.00	8.09	79.16	0.00	1,152.2	0.0	834.58	2381.08	3,215.66
9	150.0	30.60	0.000	13.76	0.00	0.21	2.56	1.00	1.00	0.00	8.09	79.16	0.00	1,152.2	0.0	860.10	2453.91	3,314.01
10	170.0	31.41	0.500	13.61	0.00	0.22	2.54	1.00	1.00	0.00	8.51	79.16	0.00	1,160.9	0.0	922.98	2519.43	3,442.40
11	190.0	32.16	0.000	13.76	0.00	0.21	2.56	1.00	1.00	0.00	8.09	79.16	0.00	1,152.2	0.0	903.99	2579.12	3,483.11
12	210.0	32.84	0.000	13.76	0.00	0.21	2.56	1.00	1.00	0.00	8.09	49.13	0.00	897.5	0.0	923.24	1523.93	2,447.16
13	228.3	33.43	0.000	11.32	0.00	0.21	2.56	1.00	1.00	0.00	6.65	33.41	0.00	673.8	0.0	773.98	1005.28	1,779.25
14	238.3	33.73	0.000	2.15	0.00	0.20	2.61	1.00	1.00	0.00	1.25	6.82	0.00	128.1	0.0	149.86	206.96	356.81
15	245.0	33.93	1.840	7.42	0.00	0.29	2.33	1.00	1.00	0.00	6.34	6.25	0.00	561.8	0.0	682.98	191.54	874.52
													13,791.1	0.0			34,903.75	

Section Forces

Structure: CT17474-A-SBA
Site Name: Thompson
Height: 250.00 (ft)
Base Elev: 0.000 (ft)
Gh: 0.85

Topography: 1

Code: EIA/TIA-222-G
Exposure: C
Crest Height: 0.00
Site Class: D - Stiff Soil
Struct Class: II

11/5/2019

 Page: 9



Load Case: 0.9D + 1.6W 60° Wind

0.9D + 1.6W 101 mph Wind at 60° From Face

Wind Load Factor: 1.60
Dead Load Factor: 0.90
Ice Dead Load Factor: 0.00

Wind Importance Factor: 1.00
Ice Importance Factor: 1.00

Sect Seq	Wind Height (ft)	Total Flat Area (psf sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Ice		Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)	
											Linear Area (sqft)	Linear Area (sqft)						
1	3.4	18.87	0.880	4.04	0.00	0.42	2.03	0.80	1.00	0.00	3.35	26.72	0.00	375.9	0.0	174.18	494.45	668.63
2	13.4	18.87	0.000	9.03	0.00	0.21	2.56	0.80	1.00	0.00	5.30	52.44	0.00	758.5	0.0	348.59	1002.51	1,351.10
3	30.0	21.80	0.000	13.76	0.00	0.21	2.56	0.80	1.00	0.00	8.09	79.16	0.00	1,152.2	0.0	612.91	1748.67	2,361.58
4	50.0	24.28	0.500	13.61	0.00	0.22	2.54	0.80	1.00	0.00	8.41	79.16	0.00	1,160.9	0.0	704.97	1947.20	2,652.17
5	70.0	26.06	0.000	13.76	0.00	0.21	2.56	0.80	1.00	0.00	8.09	79.16	0.00	1,152.2	0.0	732.60	2090.14	2,822.74
6	90.0	27.48	0.000	13.76	0.00	0.21	2.56	0.80	1.00	0.00	8.09	79.16	0.00	1,152.2	0.0	772.41	2203.70	2,976.11
7	110.0	28.66	0.500	13.61	0.00	0.22	2.54	0.80	1.00	0.00	8.41	79.16	0.00	1,160.9	0.0	832.26	2298.80	3,131.06
8	130.0	29.69	0.000	13.76	0.00	0.21	2.56	0.80	1.00	0.00	8.09	79.16	0.00	1,152.2	0.0	834.58	2381.08	3,215.66
9	150.0	30.60	0.000	13.76	0.00	0.21	2.56	0.80	1.00	0.00	8.09	79.16	0.00	1,152.2	0.0	860.10	2453.91	3,314.01
10	170.0	31.41	0.500	13.61	0.00	0.22	2.54	0.80	1.00	0.00	8.41	79.16	0.00	1,160.9	0.0	912.14	2519.43	3,431.56
11	190.0	32.16	0.000	13.76	0.00	0.21	2.56	0.80	1.00	0.00	8.09	79.16	0.00	1,152.2	0.0	903.99	2579.12	3,483.11
12	210.0	32.84	0.000	13.76	0.00	0.21	2.56	0.80	1.00	0.00	8.09	49.13	0.00	897.5	0.0	923.24	1523.93	2,447.16
13	228.3	33.43	0.000	11.32	0.00	0.21	2.56	0.80	1.00	0.00	6.65	33.41	0.00	673.8	0.0	773.98	1005.28	1,779.25
14	238.3	33.73	0.000	2.15	0.00	0.20	2.61	0.80	1.00	0.00	1.25	6.82	0.00	128.1	0.0	149.86	206.96	356.81
15	245.0	33.93	1.840	7.42	0.00	0.29	2.33	0.80	1.00	0.00	5.97	6.25	0.00	561.8	0.0	643.34	191.54	834.88
													13,791.1	0.0				

Load Case: 0.9D + 1.6W 90° Wind

0.9D + 1.6W 101 mph Wind at 90° From Face

Wind Load Factor: 1.60
Dead Load Factor: 0.90
Ice Dead Load Factor: 0.00

Wind Importance Factor: 1.00
Ice Importance Factor: 1.00

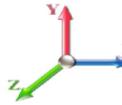
Sect Seq	Wind Height (ft)	Total Flat Area (psf sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Ice		Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)	
											Linear Area (sqft)	Linear Area (sqft)						
1	3.4	18.87	0.880	4.04	0.00	0.42	2.03	0.85	1.00	0.00	3.39	26.72	0.00	375.9	0.0	176.47	494.45	670.92
2	13.4	18.87	0.000	9.03	0.00	0.21	2.56	0.85	1.00	0.00	5.30	52.44	0.00	758.5	0.0	348.59	1002.51	1,351.10
3	30.0	21.80	0.000	13.76	0.00	0.21	2.56	0.85	1.00	0.00	8.09	79.16	0.00	1,152.2	0.0	612.91	1748.67	2,361.58
4	50.0	24.28	0.500	13.61	0.00	0.22	2.54	0.85	1.00	0.00	8.44	79.16	0.00	1,160.9	0.0	707.06	1947.20	2,654.27
5	70.0	26.06	0.000	13.76	0.00	0.21	2.56	0.85	1.00	0.00	8.09	79.16	0.00	1,152.2	0.0	732.60	2090.14	2,822.74
6	90.0	27.48	0.000	13.76	0.00	0.21	2.56	0.85	1.00	0.00	8.09	79.16	0.00	1,152.2	0.0	772.41	2203.70	2,976.11
7	110.0	28.66	0.500	13.61	0.00	0.22	2.54	0.85	1.00	0.00	8.44	79.16	0.00	1,160.9	0.0	834.73	2298.80	3,133.53
8	130.0	29.69	0.000	13.76	0.00	0.21	2.56	0.85	1.00	0.00	8.09	79.16	0.00	1,152.2	0.0	834.58	2381.08	3,215.66
9	150.0	30.60	0.000	13.76	0.00	0.21	2.56	0.85	1.00	0.00	8.09	79.16	0.00	1,152.2	0.0	860.10	2453.91	3,314.01
10	170.0	31.41	0.500	13.61	0.00	0.22	2.54	0.85	1.00	0.00	8.44	79.16	0.00	1,160.9	0.0	914.85	2519.43	3,434.27
11	190.0	32.16	0.000	13.76	0.00	0.21	2.56	0.85	1.00	0.00	8.09	79.16	0.00	1,152.2	0.0	903.99	2579.12	3,483.11
12	210.0	32.84	0.000	13.76	0.00	0.21	2.56	0.85	1.00	0.00	8.09	49.13	0.00	897.5	0.0	923.24	1523.93	2,447.16
13	228.3	33.43	0.000	11.32	0.00	0.21	2.56	0.85	1.00	0.00	6.65	33.41	0.00	673.8	0.0	773.98	1005.28	1,779.25
14	238.3	33.73	0.000	2.15	0.00	0.20	2.61	0.85	1.00	0.00	1.25	6.82	0.00	128.1	0.0	149.86	206.96	356.81
15	245.0	33.93	1.840	7.42	0.00	0.29	2.33	0.85	1.00	0.00	6.06	6.25	0.00	561.8	0.0	653.25	191.54	844.79
													13,791.1	0.0				

Section Forces

Structure: CT17474-A-SBA
Site Name: Thompson
Height: 250.00 (ft)
Base Elev: 0.000 (ft)
Gh: 0.85

Topography: 1

Code: EIA/TIA-222-G
Exposure: C
Crest Height: 0.00
Site Class: D - Stiff Soil
Struct Class: II

11/5/2019

 Page: 10



Load Case: 1.2D + 1.0Di + 1.0Wi Normal Wind

1.2D + 1.0Di + 1.0Wi 50 mph Wind at Normal From Face

Wind Load Factor: 1.00	Wind Importance Factor: 1.00
Dead Load Factor: 1.20	
Ice Dead Load Factor: 1.00	Ice Importance Factor: 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Ice		Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
												Linear Area (sqft)	Linear Area (sqft)					
1	3.4	4.62	0.880	10.44	6.39	0.86	1.88	1.00	1.00	1.19	10.71	30.53	18.81	1,572.8	1071.6	79.08	32.45	111.53
2	13.4	4.62	0.000	25.96	16.93	0.57	1.83	1.00	1.00	1.37	18.87	60.70	42.37	3,470.1	2458.8	135.73	216.76	352.49
3	30.0	5.34	0.000	42.13	28.37	0.60	1.80	1.00	1.00	1.49	31.64	92.40	69.34	5,672.9	4136.7	258.90	357.09	615.99
4	50.0	5.95	0.500	43.47	29.86	0.63	1.79	1.00	1.00	1.56	33.81	127.31	20.85	5,981.4	4433.6	306.00	380.62	686.62
5	70.0	6.39	0.000	44.64	30.88	0.64	1.79	1.00	1.00	1.62	34.45	128.56	21.56	6,148.5	4612.3	334.00	404.89	738.89
6	90.0	6.73	0.000	45.42	31.66	0.65	1.78	1.00	1.00	1.66	35.35	129.52	22.11	6,302.2	4766.0	360.72	419.18	779.90
7	110.0	7.02	0.500	45.92	32.31	0.66	1.78	1.00	1.00	1.69	36.64	130.30	22.56	6,459.4	4911.5	389.21	424.29	813.50
8	130.0	7.28	0.000	46.61	32.85	0.66	1.78	1.00	1.00	1.72	36.74	130.97	22.94	6,538.4	5002.2	404.21	440.00	844.22
9	150.0	7.50	0.000	47.08	33.32	0.67	1.78	1.00	1.00	1.75	37.31	131.55	23.27	6,634.1	5097.9	422.70	448.02	870.72
10	170.0	7.70	0.500	47.36	33.74	0.68	1.78	1.00	1.00	1.77	38.35	132.06	23.56	6,749.9	5202.1	445.82	447.99	893.81
11	190.0	7.88	0.000	47.88	34.12	0.68	1.78	1.00	1.00	1.79	38.26	132.52	23.83	6,797.1	5260.9	455.36	461.09	916.45
12	210.0	8.05	0.000	48.22	34.46	0.68	1.78	1.00	1.00	1.80	38.68	92.64	13.54	5,378.6	4182.0	470.03	311.67	781.70
13	228.3	8.19	0.000	39.49	28.17	0.67	1.78	1.00	1.00	1.82	31.39	66.91	10.08	4,100.6	3202.3	388.46	234.66	623.12
14	238.3	8.27	0.000	6.94	4.79	0.58	1.82	1.00	1.00	1.83	5.08	13.67	2.06	774.8	603.9	65.00	62.11	127.11
15	245.0	8.31	1.840	25.34	17.92	0.77	1.80	1.00	1.00	1.83	23.76	12.33	3.97	2,230.5	1481.5	301.46	35.29	336.75
														74,811.2	56423.1			9,492.81

Load Case: 1.2D + 1.0Di + 1.0Wi 60° Wind

1.2D + 1.0Di + 1.0Wi 50 mph Wind at 60° From Face

Wind Load Factor: 1.00	Wind Importance Factor: 1.00
Dead Load Factor: 1.20	
Ice Dead Load Factor: 1.00	Ice Importance Factor: 1.00

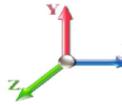
Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Ice		Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
												Linear Area (sqft)	Linear Area (sqft)					
1	3.4	4.62	0.880	10.44	6.39	0.86	1.88	0.80	1.00	1.19	10.54	30.53	18.81	1,572.8	1071.6	77.78	32.45	110.23
2	13.4	4.62	0.000	25.96	16.93	0.57	1.83	0.80	1.00	1.37	18.87	60.70	42.37	3,470.1	2458.8	135.73	216.76	352.49
3	30.0	5.34	0.000	42.13	28.37	0.60	1.80	0.80	1.00	1.49	31.64	92.40	69.34	5,672.9	4136.7	258.90	357.09	615.99
4	50.0	5.95	0.500	43.47	29.86	0.63	1.79	0.80	1.00	1.56	33.71	127.31	20.85	5,981.4	4433.6	305.10	380.62	685.72
5	70.0	6.39	0.000	44.64	30.88	0.64	1.79	0.80	1.00	1.62	34.45	128.56	21.56	6,148.5	4612.3	334.00	404.89	738.89
6	90.0	6.73	0.000	45.42	31.66	0.65	1.78	0.80	1.00	1.66	35.35	129.52	22.11	6,302.2	4766.0	360.72	419.18	779.90
7	110.0	7.02	0.500	45.92	32.31	0.66	1.78	0.80	1.00	1.69	36.54	130.30	22.56	6,459.4	4911.5	388.15	424.29	812.44
8	130.0	7.28	0.000	46.61	32.85	0.66	1.78	0.80	1.00	1.72	36.74	130.97	22.94	6,538.4	5002.2	404.21	440.00	844.22
9	150.0	7.50	0.000	47.08	33.32	0.67	1.78	0.80	1.00	1.75	37.31	131.55	23.27	6,634.1	5097.9	422.70	448.02	870.72
10	170.0	7.70	0.500	47.36	33.74	0.68	1.78	0.80	1.00	1.77	38.25	132.06	23.56	6,749.9	5202.1	444.66	447.99	892.65
11	190.0	7.88	0.000	47.88	34.12	0.68	1.78	0.80	1.00	1.79	38.26	132.52	23.83	6,797.1	5260.9	455.36	461.09	916.45
12	210.0	8.05	0.000	48.22	34.46	0.68	1.78	0.80	1.00	1.80	38.68	92.64	13.54	5,378.6	4182.0	470.03	311.67	781.70
13	228.3	8.19	0.000	39.49	28.17	0.67	1.78	0.80	1.00	1.82	31.39	66.91	10.08	4,100.6	3202.3	388.46	234.66	623.12
14	238.3	8.27	0.000	6.94	4.79	0.58	1.82	0.80	1.00	1.83	5.08	13.67	2.06	774.8	603.9	65.00	62.11	127.11
15	245.0	8.31	1.840	25.34	17.92	0.77	1.80	0.80	1.00	1.83	23.39	12.33	3.97	2,230.5	1481.5	296.79	35.29	332.08
														74,811.2	56423.1			9,483.71

Section Forces

Structure: CT17474-A-SBA
Site Name: Thompson
Height: 250.00 (ft)
Base Elev: 0.000 (ft)
Gh: 0.85

Topography: 1

Code: EIA/TIA-222-G
Exposure: C
Crest Height: 0.00
Site Class: D - Stiff Soil
Struct Class: II

11/5/2019

 Page: 11



Load Case: 1.2D + 1.0Di + 1.0Wi 90° Wind

1.2D + 1.0Di + 1.0Wi 50 mph Wind at 90° From Face

Wind Load Factor: 1.00
Dead Load Factor: 1.20
Ice Dead Load Factor: 1.00

Wind Importance Factor: 1.00
Ice Importance Factor: 1.00

Sect Seq	Wind Height (ft)	Total Flat Area (psf) (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Ice		Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)	
											Linear Area (sqft)	Linear Area (sqft)						
1	3.4	4.62	0.880	10.44	6.39	0.86	1.88	0.85	1.00	1.19	10.58	30.53	18.81	1,572.8	1071.6	78.11	32.45	110.56
2	13.4	4.62	0.000	25.96	16.93	0.57	1.83	0.85	1.00	1.37	18.87	60.70	42.37	3,470.1	2458.8	135.73	216.76	352.49
3	30.0	5.34	0.000	42.13	28.37	0.60	1.80	0.85	1.00	1.49	31.64	92.40	69.34	5,672.9	4136.7	258.90	357.09	615.99
4	50.0	5.95	0.500	43.47	29.86	0.63	1.79	0.85	1.00	1.56	33.74	127.31	20.85	5,981.4	4433.6	305.32	380.62	685.94
5	70.0	6.39	0.000	44.64	30.88	0.64	1.79	0.85	1.00	1.62	34.45	128.56	21.56	6,148.5	4612.3	334.00	404.89	738.89
6	90.0	6.73	0.000	45.42	31.66	0.65	1.78	0.85	1.00	1.66	35.35	129.52	22.11	6,302.2	4766.0	360.72	419.18	779.90
7	110.0	7.02	0.500	45.92	32.31	0.66	1.78	0.85	1.00	1.69	36.56	130.30	22.56	6,459.4	4911.5	388.42	424.29	812.70
8	130.0	7.28	0.000	46.61	32.85	0.66	1.78	0.85	1.00	1.72	36.74	130.97	22.94	6,538.4	5002.2	404.21	440.00	844.22
9	150.0	7.50	0.000	47.08	33.32	0.67	1.78	0.85	1.00	1.75	37.31	131.55	23.27	6,634.1	5097.9	422.70	448.02	870.72
10	170.0	7.70	0.500	47.36	33.74	0.68	1.78	0.85	1.00	1.77	38.28	132.06	23.56	6,749.9	5202.1	444.95	447.99	892.94
11	190.0	7.88	0.000	47.88	34.12	0.68	1.78	0.85	1.00	1.79	38.26	132.52	23.83	6,797.1	5260.9	455.36	461.09	916.45
12	210.0	8.05	0.000	48.22	34.46	0.68	1.78	0.85	1.00	1.80	38.68	132.64	13.54	5,378.6	4182.0	470.03	311.67	781.70
13	228.3	8.19	0.000	39.49	28.17	0.67	1.78	0.85	1.00	1.82	31.39	66.91	10.08	4,100.6	3202.3	388.46	234.66	623.12
14	238.3	8.27	0.000	6.94	4.79	0.58	1.82	0.85	1.00	1.83	5.08	13.67	2.06	774.8	603.9	65.00	62.11	127.11
15	245.0	8.31	1.840	25.34	17.92	0.77	1.80	0.85	1.00	1.83	23.49	12.33	3.97	2,230.5	1481.5	297.96	35.29	333.25
													74,811.2	56423.1			9,485.99	

Load Case: 1.0D + 1.0W Normal Wind

1.0D + 1.0W 60 mph Wind at Normal To Face

Wind Load Factor: 1.00
Dead Load Factor: 1.00
Ice Dead Load Factor: 0.00

Wind Importance Factor: 1.00
Ice Importance Factor: 1.00

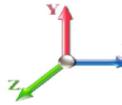
Sect Seq	Wind Height (ft)	Total Flat Area (psf) (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Ice		Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)	
											Linear Area (sqft)	Linear Area (sqft)						
1	3.4	6.66	0.880	4.04	0.00	0.42	2.03	1.00	1.00	0.00	3.52	26.72	0.00	417.7	0.0	40.44	109.06	149.50
2	13.4	6.66	0.000	9.03	0.00	0.21	2.56	1.00	1.00	0.00	5.30	52.44	0.00	842.8	0.0	76.89	221.12	298.01
3	30.0	7.69	0.000	13.76	0.00	0.21	2.56	1.00	1.00	0.00	8.09	79.16	0.00	1,280.2	0.0	135.19	385.70	520.89
4	50.0	8.57	0.500	13.61	0.00	0.22	2.54	1.00	1.00	0.00	8.51	79.16	0.00	1,289.9	0.0	157.34	429.49	586.83
5	70.0	9.20	0.000	13.76	0.00	0.21	2.56	1.00	1.00	0.00	8.09	79.16	0.00	1,280.2	0.0	161.59	461.02	622.60
6	90.0	9.70	0.000	13.76	0.00	0.21	2.56	1.00	1.00	0.00	8.09	79.16	0.00	1,280.2	0.0	170.37	486.06	656.43
7	110.0	10.12	0.500	13.61	0.00	0.22	2.54	1.00	1.00	0.00	8.51	79.16	0.00	1,289.9	0.0	185.75	507.04	692.79
8	130.0	10.48	0.000	13.76	0.00	0.21	2.56	1.00	1.00	0.00	8.09	79.16	0.00	1,280.2	0.0	184.08	525.19	709.27
9	150.0	10.80	0.000	13.76	0.00	0.21	2.56	1.00	1.00	0.00	8.09	79.16	0.00	1,280.2	0.0	189.71	541.25	730.96
10	170.0	11.09	0.500	13.61	0.00	0.22	2.54	1.00	1.00	0.00	8.51	79.16	0.00	1,289.9	0.0	203.58	555.70	759.28
11	190.0	11.35	0.000	13.76	0.00	0.21	2.56	1.00	1.00	0.00	8.09	79.16	0.00	1,280.2	0.0	199.39	568.87	768.26
12	210.0	11.59	0.000	13.76	0.00	0.21	2.56	1.00	1.00	0.00	8.09	49.13	0.00	997.2	0.0	203.64	336.13	539.76
13	228.3	11.80	0.000	11.32	0.00	0.21	2.56	1.00	1.00	0.00	6.65	33.41	0.00	748.6	0.0	170.71	221.73	392.44
14	238.3	11.90	0.000	2.15	0.00	0.20	2.61	1.00	1.00	0.00	1.25	6.82	0.00	142.3	0.0	33.05	45.65	78.70
15	245.0	11.97	1.840	7.42	0.00	0.29	2.33	1.00	1.00	0.00	6.34	6.25	0.00	624.2	0.0	150.64	42.25	192.89
													15,323.4	0.0			7,698.60	

Section Forces

Structure: CT17474-A-SBA
Site Name: Thompson
Height: 250.00 (ft)
Base Elev: 0.000 (ft)
Gh: 0.85

Topography: 1

Code: EIA/TIA-222-G
Exposure: C
Crest Height: 0.00
Site Class: D - Stiff Soil
Struct Class: II

11/5/2019

 Page: 12



Load Case: 1.0D + 1.0W 60° Wind

1.0D + 1.0W 60 mph Wind at 60° From Face

Wind Load Factor: 1.00
Dead Load Factor: 1.00
Ice Dead Load Factor: 0.00

Wind Importance Factor: 1.00
Ice Importance Factor: 1.00

Sect Seq	Wind Height (ft)	Total Flat Area (psf) (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Ice		Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)	
											Linear Area (sqft)	Linear Area (sqft)						
1	3.4	6.66	0.880	4.04	0.00	0.42	2.03	0.80	1.00	0.00	3.35	26.72	0.00	417.7	0.0	38.42	109.06	147.48
2	13.4	6.66	0.000	9.03	0.00	0.21	2.56	0.80	1.00	0.00	5.30	52.44	0.00	842.8	0.0	76.89	221.12	298.01
3	30.0	7.69	0.000	13.76	0.00	0.21	2.56	0.80	1.00	0.00	8.09	79.16	0.00	1,280.2	0.0	135.19	385.70	520.89
4	50.0	8.57	0.500	13.61	0.00	0.22	2.54	0.80	1.00	0.00	8.41	79.16	0.00	1,289.9	0.0	155.49	429.49	584.98
5	70.0	9.20	0.000	13.76	0.00	0.21	2.56	0.80	1.00	0.00	8.09	79.16	0.00	1,280.2	0.0	161.59	461.02	622.60
6	90.0	9.70	0.000	13.76	0.00	0.21	2.56	0.80	1.00	0.00	8.09	79.16	0.00	1,280.2	0.0	170.37	486.06	656.43
7	110.0	10.12	0.500	13.61	0.00	0.22	2.54	0.80	1.00	0.00	8.41	79.16	0.00	1,289.9	0.0	183.57	507.04	690.61
8	130.0	10.48	0.000	13.76	0.00	0.21	2.56	0.80	1.00	0.00	8.09	79.16	0.00	1,280.2	0.0	184.08	525.19	709.27
9	150.0	10.80	0.000	13.76	0.00	0.21	2.56	0.80	1.00	0.00	8.09	79.16	0.00	1,280.2	0.0	189.71	541.25	730.96
10	170.0	11.09	0.500	13.61	0.00	0.22	2.54	0.80	1.00	0.00	8.41	79.16	0.00	1,289.9	0.0	201.19	555.70	756.89
11	190.0	11.35	0.000	13.76	0.00	0.21	2.56	0.80	1.00	0.00	8.09	79.16	0.00	1,280.2	0.0	199.39	568.87	768.26
12	210.0	11.59	0.000	13.76	0.00	0.21	2.56	0.80	1.00	0.00	8.09	49.13	0.00	997.2	0.0	203.64	336.13	539.76
13	228.3	11.80	0.000	11.32	0.00	0.21	2.56	0.80	1.00	0.00	6.65	33.41	0.00	748.6	0.0	170.71	221.73	392.44
14	238.3	11.90	0.000	2.15	0.00	0.20	2.61	0.80	1.00	0.00	1.25	6.82	0.00	142.3	0.0	33.05	45.65	78.70
15	245.0	11.97	1.840	7.42	0.00	0.29	2.33	0.80	1.00	0.00	5.97	6.25	0.00	624.2	0.0	141.90	42.25	184.15
15,323.4														0.0	7,681.42			

Load Case: 1.0D + 1.0W 90° Wind

1.0D + 1.0W 60 mph Wind at 90° From Face

Wind Load Factor: 1.00
Dead Load Factor: 1.00
Ice Dead Load Factor: 0.00

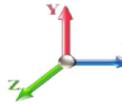
Wind Importance Factor: 1.00
Ice Importance Factor: 1.00

Sect Seq	Wind Height (ft)	Total Flat Area (psf) (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Ice		Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)	
											Linear Area (sqft)	Linear Area (sqft)						
1	3.4	6.66	0.880	4.04	0.00	0.42	2.03	0.85	1.00	0.00	3.39	26.72	0.00	417.7	0.0	38.92	109.06	147.98
2	13.4	6.66	0.000	9.03	0.00	0.21	2.56	0.85	1.00	0.00	5.30	52.44	0.00	842.8	0.0	76.89	221.12	298.01
3	30.0	7.69	0.000	13.76	0.00	0.21	2.56	0.85	1.00	0.00	8.09	79.16	0.00	1,280.2	0.0	135.19	385.70	520.89
4	50.0	8.57	0.500	13.61	0.00	0.22	2.54	0.85	1.00	0.00	8.44	79.16	0.00	1,289.9	0.0	155.95	429.49	585.44
5	70.0	9.20	0.000	13.76	0.00	0.21	2.56	0.85	1.00	0.00	8.09	79.16	0.00	1,280.2	0.0	161.59	461.02	622.60
6	90.0	9.70	0.000	13.76	0.00	0.21	2.56	0.85	1.00	0.00	8.09	79.16	0.00	1,280.2	0.0	170.37	486.06	656.43
7	110.0	10.12	0.500	13.61	0.00	0.22	2.54	0.85	1.00	0.00	8.44	79.16	0.00	1,289.9	0.0	184.11	507.04	691.15
8	130.0	10.48	0.000	13.76	0.00	0.21	2.56	0.85	1.00	0.00	8.09	79.16	0.00	1,280.2	0.0	184.08	525.19	709.27
9	150.0	10.80	0.000	13.76	0.00	0.21	2.56	0.85	1.00	0.00	8.09	79.16	0.00	1,280.2	0.0	189.71	541.25	730.96
10	170.0	11.09	0.500	13.61	0.00	0.22	2.54	0.85	1.00	0.00	8.44	79.16	0.00	1,289.9	0.0	201.78	555.70	757.49
11	190.0	11.35	0.000	13.76	0.00	0.21	2.56	0.85	1.00	0.00	8.09	79.16	0.00	1,280.2	0.0	199.39	568.87	768.26
12	210.0	11.59	0.000	13.76	0.00	0.21	2.56	0.85	1.00	0.00	8.09	49.13	0.00	997.2	0.0	203.64	336.13	539.76
13	228.3	11.80	0.000	11.32	0.00	0.21	2.56	0.85	1.00	0.00	6.65	33.41	0.00	748.6	0.0	170.71	221.73	392.44
14	238.3	11.90	0.000	2.15	0.00	0.20	2.61	0.85	1.00	0.00	1.25	6.82	0.00	142.3	0.0	33.05	45.65	78.70
15	245.0	11.97	1.840	7.42	0.00	0.29	2.33	0.85	1.00	0.00	6.06	6.25	0.00	624.2	0.0	144.08	42.25	186.33
15,323.4														0.0	7,685.71			

Force/Stress Compression Summary

Structure: CT17474-A-SBA
Site Name: Thompson
Height: 250.00 (ft)
Base Elev: 0.000 (ft)
Gh: 0.85

Code: EIA/TIA-222-G
Exposure: C
Crest Height: 0.00
Site Class: D - Stiff Soil
Struct Class: II
Topography: 1

11/5/2019

 Page: 13



LEG MEMBERS

Sect	Top Elev	Member	Force (kips)		Len (ft)	Bracing %			Fy (ksi)	Mem Cap (kips)	Leg Use %	Controls
			Load Case			X	Y	Z				
1	6.75	PST - 2-1/2" DIA PIPE	-58.41	1.2D + 1.0Di + 1.0Wi 90° Wind	2.32	100	100	100	29.43	50.00	71.97	81.2 Member X
2	20	PST - 2-1/2" DIA PIPE	-53.54	1.2D + 1.0Di + 1.0Wi 60° Wind	3.29	100	100	100	41.71	50.00	67.52	79.3 Member X
3	40	PST - 2-1/2" DIA PIPE	-55.02	1.2D + 1.0Di + 1.0Wi 60° Wind	3.31	100	100	100	41.89	50.00	67.45	81.6 Member X
4	60	PST - 2-1/2" DIA PIPE	-53.05	1.2D + 1.0Di + 1.0Wi 60° Wind	3.31	100	100	100	41.89	50.00	67.45	78.7 Member X
5	80	PST - 2-1/2" DIA PIPE	-45.82	1.2D + 1.0Di + 1.0Wi 90° Wind	3.31	100	100	100	41.89	50.00	67.45	67.9 Member X
6	100	PST - 2-1/2" DIA PIPE	-43.80	1.2D + 1.0Di + 1.0Wi 90° Wind	3.31	100	100	100	41.89	50.00	67.45	64.9 Member X
7	120	PST - 2-1/2" DIA PIPE	-59.79	1.2D + 1.6W Normal Wind	3.31	100	100	100	41.89	50.00	67.45	88.6 Member X
8	140	PST - 2-1/2" DIA PIPE	-67.69	1.2D + 1.6W Normal Wind	0.08	100	100	100	1.05	50.00	76.67	88.3 Member X
9	160	PST - 2-1/2" DIA PIPE	-33.08	1.2D + 1.6W 90° Wind	3.31	100	100	100	41.89	50.00	67.45	49.0 Member X
10	180	PST - 2-1/2" DIA PIPE	-33.40	1.2D + 1.6W 90° Wind	3.31	100	100	100	41.89	50.00	67.45	49.5 Member X
11	200	PST - 2-1/2" DIA PIPE	-55.90	1.2D + 1.6W 60° Wind	3.31	100	100	100	41.89	50.00	67.45	82.9 Member X
12	220	PST - 2-1/2" DIA PIPE	-63.86	1.2D + 1.6W 60° Wind	3.31	100	100	100	41.89	50.00	67.45	94.7 Member X
13	236.6	PST - 2-1/2" DIA PIPE	-50.39	1.2D + 1.6W 60° Wind	3.31	100	100	100	41.89	50.00	67.45	74.7 Member X
14	240	PST - 2-1/2" DIA PIPE	-7.35	1.2D + 1.6W Normal Wind	0.08	100	100	100	1.05	50.00	76.67	9.6 Member X
15	250	PST - 2-1/2" DIA PIPE	-7.32	1.2D + 1.6W Normal Wind	0.08	100	100	100	1.05	50.00	76.67	9.5 Member X

HORIZONTAL MEMBERS

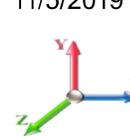
Sect	Top Elev	Member	Force (kips)		Len (ft)	Bracing %			Fy (ksi)	Mem Cap (kips)	Num Bolts	Num Holes	Shear Cap (kips)	Bear Cap (kips)	Use %	Controls
			Load Case			X	Y	Z								
1	6.75								0.00	0	0					
2	20								0.00	0	0					
3	40								0.00	0	0					
4	60								0.00	0	0					
5	80								0.00	0	0					
6	100								0.00	0	0					
7	120								0.00	0	0					
8	140								0.00	0	0					
9	160								0.00	0	0					
10	180								0.00	0	0					
11	200	SOL - 5/8" SOLID	-1.08	0.9D + 1.6W 60° Wind	3.00	100	100	100	161.54	36.00	2.66	0	0		41	Member X
12	220	SOL - 5/8" SOLID	-2.28	0.9D + 1.6W 60° Wind	3.00	100	100	100	161.54	36.00	2.66	0	0		86	Member X
13	236.	SOL - 5/8" SOLID	-0.96	0.9D + 1.6W 60° Wind	3.00	100	100	100	161.54	36.00	2.66	0	0		36	Member X
14	240								0.00	0	0					
15	250	SAU - 2X1.5X0.1875	-1.95	0.9D + 1.6W Normal Wind	3.00	100	100	100	78.26	36.00	14.55	0	0		13	Member Z

DIAGONAL MEMBERS

Sect	Top Elev	Member	Force (kips)		Len (ft)	Bracing %			Fy (ksi)	Mem Cap (kips)	Num Bolts	Num Holes	Shear Cap (kips)	Bear Cap (kips)	Use %	Controls
			Load Case			X	Y	Z								
1	6.75	SOL - 3/4" SOLID	-7.26	1.2D + 1.0Di + 1.0Wi Normal	2.72	50	50	50	78.32	36.00	10.36	0	0		70	Member X
2	20	SOL - 3/4" SOLID	-4.56	1.2D + 1.0Di + 1.0Wi 90° Wind	4.45	50	50	50	128.27	36.00	6.02	0	0		76	Member X
3	40	SOL - 3/4" SOLID	-4.49	1.2D + 1.0Di + 1.0Wi 90° Wind	4.46	50	50	50	128.56	36.00	6.00	0	0		75	Member X
4	60	SOL - 3/4" SOLID	-4.33	1.2D + 1.0Di + 1.0Wi 90° Wind	4.46	50	50	50	128.56	36.00	6.00	0	0		72	Member X
5	80	SOL - 3/4" SOLID	-3.85	1.2D + 1.0Di + 1.0Wi 90° Wind	4.46	50	50	50	128.56	36.00	6.00	0	0		64	Member X
6	100	SOL - 3/4" SOLID	-3.81	1.2D + 1.6W Normal Wind	4.46	50	50	50	128.56	36.00	6.00	0	0		64	Member X
7	120	SOL - 3/4" SOLID	-5.46	1.2D + 1.6W Normal Wind	4.46	50	50	50	128.56	36.00	6.00	0	0		91	Member X
8	140	SOL - 3/4" SOLID	-5.56	1.2D + 1.6W Normal Wind	4.46	50	50	50	128.56	36.00	6.00	0	0		93	Member X
9	160	SOL - 3/4" SOLID	-3.47	1.2D + 1.6W Normal Wind	4.46	50	50	50	128.56	36.00	6.00	0	0		58	Member X
10	180	SOL - 3/4" SOLID	-2.76	1.2D + 1.6W 90° Wind	4.46	50	50	50	128.56	36.00	6.00	0	0		46	Member X
11	200	SOL - 3/4" SOLID	-4.61	1.2D + 1.6W 60° Wind	4.46	50	50	50	128.56	36.00	6.00	0	0		77	Member X

Force/Stress Compression Summary

Structure: CT17474-A-SBA	Code: EIA/TIA-222-G	11/5/2019
Site Name: Thompson	Exposure: C	
Height: 250.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 0.85	Topography: 1	Struct Class: II



Page: 14

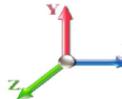
DIAGONAL MEMBERS

Sect	Top Elev	Member	Force (kips)	Load Case	Len (ft)	Bracing %			Fy (ksi)	Mem Cap (kips)	Num Bolts	Num Holes	Shear Bear		Controls
						X	Y	Z					KL/R	Cap (kips)	
12	220	SOL - 3/4" SOLID	-4.12	1.2D + 1.6W 90° Wind	4.46	50	50	50	128.56	36.00	6.00	0	0	69	Member X
13	236	SOL - 3/4" SOLID	-3.88	1.2D + 1.6W 90° Wind	4.46	50	50	50	128.56	36.00	6.00	0	0	65	Member X
14	240	SOL - 3/4" SOLID	-5.56	1.2D + 1.6W 60° Wind	4.46	50	50	50	128.57	36.00	6.00	0	0	93	Member X
15	250	SOL - 1 1/4" SOLID	-2.01	1.2D + 1.6W 90° Wind	4.44	50	50	50	76.78	36.00	29.15	0	0	7	Member X

Force/Stress Tension Summary

Structure: CT17474-A-SBA
Site Name: Thompson
Height: 250.00 (ft)
Base Elev: 0.000 (ft)
Gh: 0.85

Code: EIA/TIA-222-G
Exposure: C
Crest Height: 0.00
Site Class: D - Stiff Soil
Struct Class: II

11/5/2019

 Page: 15



LEG MEMBERS

Sect	Top Elev	Member	Force (kips)	Load Case	Fy (ksi)	Mem Cap (kips)	Leg Use %	Controls
1	6.75				0	0.00		
2	20				0	0.00		
3	40	PST - 2-1/2" DIA PIPE	1.22	0.9D + 1.6W Normal Wind	50	76.68	1.6	Member
4	60	PST - 2-1/2" DIA PIPE	0.17	0.9D + 1.6W Normal Wind	50	76.68	0.2	Member
5	80				0	0.00		
6	100				0	0.00		
7	120	PST - 2-1/2" DIA PIPE	23.54	0.9D + 1.6W 60° Wind	50	76.68	30.7	Member
8	140	PST - 2-1/2" DIA PIPE	23.59	0.9D + 1.6W 60° Wind	50	76.68	30.8	Member
9	160				0	0.00		
10	180	PST - 2-1/2" DIA PIPE	0.75	0.9D + 1.6W Normal Wind	50	76.68	1.0	Member
11	200	PST - 2-1/2" DIA PIPE	41.30	0.9D + 1.6W Normal Wind	50	76.68	53.9	Member
12	220	PST - 2-1/2" DIA PIPE	45.98	0.9D + 1.6W Normal Wind	50	76.68	60.0	Member
13	236.61	PST - 2-1/2" DIA PIPE	30.72	0.9D + 1.6W Normal Wind	50	76.68	40.1	Member
14	240	PST - 2-1/2" DIA PIPE	5.57	0.9D + 1.6W 60° Wind	50	76.68	7.3	Member
15	250	PST - 2-1/2" DIA PIPE	5.59	0.9D + 1.6W 60° Wind	50	76.68	7.3	Member

HORIZONTAL MEMBERS

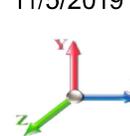
Sect	Top Elev	Member	Force (kips)	Load Case	Fy (ksi)	Mem Cap (kips)	Num Bolts	Num Holes	Shear Cap (kips)	Bear Cap (kips)	B.S. Cap (kips)	Use %	Controls
1	6.75	PLT - 2"X1/4	11.77	1.2D + 1.0Di + 1.0Wi Nc	36	16.20	0	0				72.7	Member
2	20	SOL - 5/8" SOLID	5.47	1.2D + 1.0Di + 1.0Wi Nc	36	9.94	0	0				55.1	Member
3	40	SOL - 5/8" SOLID	5.50	1.2D + 1.0Di + 1.0Wi Nc	36	9.94	0	0				55.3	Member
4	60	SOL - 5/8" SOLID	5.36	1.2D + 1.0Di + 1.0Wi Nc	36	9.94	0	0				53.9	Member
5	80	SOL - 5/8" SOLID	4.73	1.2D + 1.0Di + 1.0Wi Nc	36	9.94	0	0				47.5	Member
6	100	SOL - 5/8" SOLID	4.59	1.2D + 1.0Di + 1.0Wi Nc	36	9.94	0	0				46.2	Member
7	120	SOL - 5/8" SOLID	4.36	1.2D + 1.0Di + 1.0Wi 60	36	9.94	0	0				43.9	Member
8	140	SOL - 5/8" SOLID	4.01	1.2D + 1.6W 60° Wind	36	9.94	0	0				40.4	Member
9	160	SOL - 5/8" SOLID	3.47	1.2D + 1.0Di + 1.0Wi Nc	36	9.94	0	0				34.9	Member
10	180	SOL - 5/8" SOLID	3.52	1.2D + 1.6W Normal Wi	36	9.94	0	0				35.4	Member
11	200	SOL - 5/8" SOLID	4.10	1.2D + 1.6W Normal Wi	36	9.94	0	0				41.2	Member
12	220	SOL - 5/8" SOLID	5.25	1.2D + 1.6W Normal Wi	36	9.94	0	0				52.9	Member
13	236.61	SOL - 5/8" SOLID	3.34	1.2D + 1.6W Normal Wi	36	9.94	0	0				33.6	Member
14	240	SAU - 2X1.5X0.1875			36	0.00	0	0					
15	250	SAU - 2X1.5X0.1875	4.25	1.2D + 1.6W 60° Wind	36	20.09	0	0				21.2	Member

DIAGONAL MEMBERS

Sect	Top Elev	Member	Force (kips)	Load Case	Fy (ksi)	Mem Cap (kips)	Num Bolts	Num Holes	Shear Cap (kips)	Bear Cap (kips)	B.S. Cap (kips)	Use %	Controls
1	6.75	SOL - 3/4" SOLID	0.00		36	0.00	0	0					
2	20	SOL - 3/4" SOLID	0.00		36	0.00	0	0					
3	40	SOL - 3/4" SOLID	0.00		36	0.00	0	0					
4	60	SOL - 3/4" SOLID	0.00		36	0.00	0	0					
5	80	SOL - 3/4" SOLID	0.00		36	0.00	0	0					
6	100	SOL - 3/4" SOLID	0.00		36	0.00	0	0					
7	120	SOL - 3/4" SOLID	1.49	0.9D + 1.6W 60° Wind	36	14.31	0	0				10.4	Member
8	140	SOL - 3/4" SOLID	2.25	0.9D + 1.6W 60° Wind	36	14.31	0	0				15.7	Member
9	160	SOL - 3/4" SOLID	0.24	0.9D + 1.6W 90° Wind	36	14.31	0	0				1.7	Member
10	180	SOL - 3/4" SOLID	0.00		36	0.00	0	0					
11	200	SOL - 3/4" SOLID	3.51	0.9D + 1.6W 90° Wind	36	14.31	0	0				24.5	Member
12	220	SOL - 3/4" SOLID	1.82	0.9D + 1.6W 90° Wind	36	14.31	0	0				12.7	Member

Force/Stress Tension Summary

Structure: CT17474-A-SBA	Code: EIA/TIA-222-G	11/5/2019
Site Name: Thompson	Exposure: C	
Height: 250.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 0.85	Topography: 1	Struct Class: II



Page: 16

DIAGONAL MEMBERS

Sect	Top Elev	Member	Force (kips)	Load Case	Fy (ksi)	Mem Cap (kips)	Num Bolts	Num Holes	Shear Cap (kips)	Bear Cap (kips)	B.S. Cap (kips)	Use %	Controls
13	236.61	SOL - 3/4" SOLID	1.90	0.9D + 1.6W 90° Wind	36	14.31	0	0				13.3	Member
14	240	SOL - 3/4" SOLID	4.82	0.9D + 1.6W 90° Wind	36	14.31	0	0				33.7	Member
15	250	SOL - 1 1/4" SOLID	2.17	0.9D + 1.6W 90° Wind	36	39.76	0	0				5.4	Member

Seismic Section Forces

Structure: CT17474-A-SBA	Code: EIA/TIA-222-G	11/5/2019
Site Name: Thompson	Exposure: C	
Height: 250.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 0.85	Topography: 1	Struct Class: II



Page: 17

Load Case: 1.2D + 1.0E

Dead Load Factor	1.20	Sds 0.183	Ss 0.1720	Fa 1.6000	Ke 1.0000
Seismic Load Factor	1.00	Sd1 0.100	S1 0.0630	Fv 2.4000	Kg 0.0047
Seismic Importance Factor	1.00	SA 0.000	R 2.5000	Vs 1.6633	f1 2.5368

Sect #	Elev (ft)	Wz (lb)	a	b	c	Lateral Fsz (lb)
1	3.38	417.71	0.00	0.00	0.00	0.81
2	13.38	842.76	0.00	0.00	0.00	6.44
3	30.00	1280.1	0.00	0.00	0.00	21.95
4	50.00	1289.8	0.00	0.00	0.00	36.86
5	70.00	1280.1	0.00	0.00	0.00	51.22
6	90.00	1280.1	0.00	0.00	0.00	65.86
7	110.00	1289.8	0.00	0.00	0.00	81.10
8	130.00	1280.1	0.00	0.00	0.00	95.13
9	150.00	1280.1	0.00	0.00	0.00	109.76
10	170.00	1289.8	0.00	0.00	0.00	125.34
11	190.00	1345.1	0.00	0.00	0.00	146.09
12	210.00	3963.5	0.00	0.00	0.00	475.77
13	228.31	748.63	0.00	0.00	0.00	97.70
14	238.31	142.35	0.00	0.00	0.00	19.39
15	245.00	2355.5	0.00	0.00	0.00	329.87

Load Case: 0.9D + 1.0E

Dead Load Factor	0.90	Sds 0.183	Ss 0.1720	Fa 1.6000	Ke 1.0000
Seismic Load Factor	1.00	Sd1 0.100	S1 0.0630	Fv 2.4000	Kg 0.0047
Seismic Importance Factor	1.00	SA 0.000	R 2.5000	Vs 1.6633	f1 2.5368

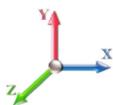
Sect #	Elev (ft)	Wz (lb)	a	b	c	Lateral Fsz (lb)
1	3.38	417.71	0.00	0.00	0.00	0.81
2	13.38	842.76	0.00	0.00	0.00	6.44
3	30.00	1280.1	0.00	0.00	0.00	21.95
4	50.00	1289.8	0.00	0.00	0.00	36.86
5	70.00	1280.1	0.00	0.00	0.00	51.22
6	90.00	1280.1	0.00	0.00	0.00	65.86
7	110.00	1289.8	0.00	0.00	0.00	81.10
8	130.00	1280.1	0.00	0.00	0.00	95.13
9	150.00	1280.1	0.00	0.00	0.00	109.76
10	170.00	1289.8	0.00	0.00	0.00	125.34
11	190.00	1345.1	0.00	0.00	0.00	146.09
12	210.00	3963.5	0.00	0.00	0.00	475.77
13	228.31	748.63	0.00	0.00	0.00	97.70
14	238.31	142.35	0.00	0.00	0.00	19.39
15	245.00	2355.5	0.00	0.00	0.00	329.87

Support Forces Summary

Structure: CT17474-A-SBA
Site Name: Thompson
Height: 250.00 (ft)
Base Elev: 0.000 (ft)
Gh: 0.85

Topography: 1

Code: EIA/TIA-222-G
Exposure: C
Crest Height: 0.00
Site Class: D - Stiff Soil
Struct Class: II

11/5/2019

 Page: 18



Load Case	Node	FX (kips)	FY (kips)	FZ (kips)	(-) = Uplift (+) = Down
1.2D + 1.6W Normal Wind	1	0.00	108.41	-1.29	
	A1	0.00	-2.43	1.39	
	A1b	38.83	-39.71	-24.24	
	A1a	-38.83	-39.71	-24.24	
1.2D + 1.6W 60° Wind	1	-1.92	88.50	-1.11	
	A1	-1.17	-8.26	7.70	
	A1b	6.08	-8.27	-4.86	
	A1a	-45.51	-45.96	-26.28	
1.2D + 1.6W 90° Wind	1	-1.63	102.39	-0.35	
	A1	-1.68	-25.27	28.38	
	A1b	1.99	-3.62	-1.78	
	A1a	-47.74	-47.20	-26.49	
0.9D + 1.6W Normal Wind	1	0.00	102.34	-1.45	
	A1	0.00	-2.45	1.40	
	A1b	38.76	-39.67	-24.19	
	A1a	-38.76	-39.67	-24.19	
0.9D + 1.6W 60° Wind	1	-1.98	82.57	-1.15	
	A1	-1.17	-8.30	7.74	
	A1b	6.11	-8.31	-4.88	
	A1a	-45.49	-45.96	-26.26	
0.9D + 1.6W 90° Wind	1	-1.74	96.34	-0.32	
	A1	-1.67	-25.25	28.32	
	A1b	2.00	-3.64	-1.79	
	A1a	-47.65	-47.16	-26.44	
1.2D + 1.0Di + 1.0Wi Normal Wind	1	0.00	160.86	-0.11	
	A1	0.00	-9.80	12.92	
	A1b	23.09	-21.28	-14.76	
	A1a	-23.09	-21.28	-14.76	
1.2D + 1.0Di + 1.0Wi 60° Wind	1	-0.19	160.46	-0.11	
	A1	-1.22	-14.06	17.81	
	A1b	14.81	-14.06	-9.96	
	A1a	-26.86	-24.51	-15.51	
1.2D + 1.0Di + 1.0Wi 90° Wind	1	-0.15	160.89	-0.04	
	A1	-1.51	-17.52	22.43	
	A1b	11.74	-10.78	-7.46	
	A1a	-27.24	-24.42	-15.04	
1.2D + 1.0E	1	0.00	57.84	0.00	
	A1	0.00	-10.79	12.28	
	A1b	10.95	-11.17	-6.32	
	A1a	-10.95	-11.17	-6.32	
0.9D + 1.0E	1	0.00	52.27	0.00	
	A1	0.00	-10.92	12.40	
	A1b	11.05	-11.30	-6.38	
	A1a	-11.05	-11.30	-6.38	

1.0D + 1.0W Normal Wind	1	0.00	49.88	-0.57
	A1	0.00	-4.30	4.50
	A1b	11.20	-11.62	-6.77
	A1a	-11.20	-11.62	-6.77

1.0D + 1.0W 60° Wind	1	-0.49	50.29	-0.28
	A1	-0.26	-7.05	7.56
	A1b	6.42	-7.05	-4.00
	A1a	-13.65	-13.96	-7.88

1.0D + 1.0W 90° Wind	1	-0.57	50.10	0.00
	A1	-0.32	-9.27	10.24
	A1b	4.52	-5.06	-2.75
	A1a	-13.26	-13.49	-7.51

Max Reactions (kips)	Base	Anchor 1
Vertical	160.89	47.20
Horizontal	2.29	54.59

Cable Forces Summary

Structure: CT17474-A-SBA	Code: EIA/TIA-222-G	11/5/2019
Site Name: Thompson	Exposure: C	
Height: 250.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 0.85	Topography: 1	Struct Class: II
		Page: 20



Load Case	Elevation (ft)	Cable	Node 1	Node 2	Allow Tension (kips)	Applied Tension (kips)	Use %
1.2D + 1.6W Normal	59.92	3/8 EHS	A1	24	9.24	0.08	1
			A1b	24a	9.24	7.32	79
			A1a	24b	9.24	7.32	79
	119.92	9/16 EHS	A1	48	21.00	0.12	1
			A1b	48a	21.00	16.84	80
			A1a	48b	21.00	16.84	80
	179.92		A1	72	21.00	0.54	3
			A1b	72a	21.00	16.68	79
			A1a	72b	21.00	16.68	79
	239.92		A1	T4	21.00	1.31	6
			A1a	T4b	21.00	12.09	58
			A1b	T4a	21.00	9.28	44
			A1b	T4	21.00	12.09	58
			A1a	T4a	21.00	9.28	44
			A1	T4b	21.00	1.31	6
1.2D + 1.6W 60° Wind	59.92	3/8 EHS	A1	24	9.24	0.93	10
			A1b	24a	9.24	0.93	10
			A1a	24b	9.24	8.28	90
	119.92	9/16 EHS	A1	48	21.00	1.93	9
			A1b	48a	21.00	1.92	9
			A1a	48b	21.00	17.91	85
	179.92		A1	72	21.00	2.28	11
			A1b	72a	21.00	2.28	11
			A1a	72b	21.00	20.23	96
	239.92		A1	T4	21.00	3.80	18
			A1a	T4b	21.00	12.59	60
			A1b	T4a	21.00	3.17	15
			A1b	T4	21.00	3.80	18
			A1a	T4a	21.00	12.54	60
			A1	T4b	21.00	3.15	15
1.2D + 1.6W 90° Wind	59.92	3/8 EHS	A1	24	9.24	4.35	47
			A1b	24a	9.24	0.21	2
			A1a	24b	9.24	8.80	95
	119.92	9/16 EHS	A1	48	21.00	10.71	51
			A1b	48a	21.00	0.51	2
			A1a	48b	21.00	19.61	93
	179.92		A1	72	21.00	9.57	46
			A1b	72a	21.00	0.88	4
			A1a	72b	21.00	20.56	98
	239.92		A1	T4	21.00	8.54	41
			A1a	T4b	21.00	11.50	55
			A1b	T4a	21.00	1.68	8
			A1b	T4	21.00	1.81	9
			A1a	T4a	21.00	13.50	64
			A1	T4b	21.00	6.11	29
0.9D + 1.6W Normal	59.92	3/8 EHS	A1	24	9.24	0.08	1
			A1b	24a	9.24	7.27	79
			A1a	24b	9.24	7.27	79
	119.92	9/16 EHS	A1	48	21.00	0.12	1
			A1b	48a	21.00	16.80	80
			A1a	48b	21.00	16.80	80
	179.92		A1	72	21.00	0.54	3
			A1b	72a	21.00	16.66	79

0.9D + 1.6W Normal	179.92	9/16 EHS	A1a	72b	21.00	16.66	79
	239.92		A1	T4	21.00	1.31	6
			A1a	T4b	21.00	12.10	58
			A1b	T4a	21.00	9.29	44
			A1b	T4	21.00	12.10	58
			A1a	T4a	21.00	9.29	44
			A1	T4b	21.00	1.31	6
0.9D + 1.6W 60° Wind	59.92	3/8 EHS	A1	24	9.24	0.93	10
			A1b	24a	9.24	0.93	10
			A1a	24b	9.24	8.24	89
	119.92	9/16 EHS	A1	48	21.00	1.94	9
			A1b	48a	21.00	1.93	9
			A1a	48b	21.00	17.91	85
	179.92		A1	72	21.00	2.29	11
			A1b	72a	21.00	2.29	11
			A1a	72b	21.00	20.22	96
	239.92		A1	T4	21.00	3.82	18
		A1a	T4b	21.00	12.60	60	
		A1b	T4a	21.00	3.18	15	
		A1b	T4	21.00	3.81	18	
		A1a	T4a	21.00	12.56	60	
	A1	T4b	21.00	3.17	15		
0.9D + 1.6W 90° Wind	59.92	3/8 EHS	A1	24	9.24	4.32	47
			A1b	24a	9.24	0.21	2
			A1a	24b	9.24	8.74	95
	119.92	9/16 EHS	A1	48	21.00	10.67	51
			A1b	48a	21.00	0.52	2
			A1a	48b	21.00	19.57	93
	179.92		A1	72	21.00	9.56	46
			A1b	72a	21.00	0.88	4
			A1a	72b	21.00	20.54	98
	239.92		A1	T4	21.00	8.55	41
		A1a	T4b	21.00	11.52	55	
		A1b	T4a	21.00	1.69	8	
		A1b	T4	21.00	1.82	9	
		A1a	T4a	21.00	13.51	64	
	A1	T4b	21.00	6.12	29		
1.2D + 1.0Di + 1.0Wi	59.92	3/8 EHS	A1	24	9.24	2.94	32
			A1b	24a	9.24	5.11	55
			A1a	24b	9.24	5.11	55
	119.92	9/16 EHS	A1	48	21.00	4.18	20
			A1b	48a	21.00	8.84	42
			A1a	48b	21.00	8.84	42
	179.92		A1	72	21.00	4.08	19
			A1b	72a	21.00	8.89	42
			A1a	72b	21.00	8.89	42
	239.92		A1	T4	21.00	4.95	24
		A1a	T4b	21.00	8.74	42	
		A1b	T4a	21.00	8.22	39	
		A1b	T4	21.00	8.74	42	
		A1a	T4a	21.00	8.22	39	
	A1	T4b	21.00	4.95	24		
1.2D + 1.0Di + 1.0Wi	59.92	3/8 EHS	A1	24	9.24	3.60	39
			A1b	24a	9.24	3.60	39
			A1a	24b	9.24	5.48	59
	119.92	9/16 EHS	A1	48	21.00	5.63	27
			A1b	48a	21.00	5.63	27
			A1a	48b	21.00	9.72	46
	179.92		A1	72	21.00	5.73	27
			A1b	72a	21.00	5.72	27
			A1a	72b	21.00	10.24	49
	239.92		A1	T4	21.00	6.59	31
		A1a	T4b	21.00	9.63	46	
		A1b	T4a	21.00	6.14	29	
		A1b	T4	21.00	6.58	31	
		A1a	T4a	21.00	9.62	46	
	A1	T4b	21.00	6.13	29		

1.2D + 1.0Di + 1.0Wi	59.92	3/8 EHS	A1	24	9.24	4.36	47
			A1b	24a	9.24	3.02	33
			A1a	24b	9.24	5.60	61
	119.92	9/16 EHS	A1	48	21.00	7.19	34
			A1b	48a	21.00	4.40	21
			A1a	48b	21.00	9.99	48
	179.92		A1	72	21.00	7.22	34
			A1b	72a	21.00	4.40	21
			A1a	72b	21.00	10.28	49
	239.92		A1	T4	21.00	7.69	37
			A1a	T4b	21.00	9.30	44
			A1b	T4a	21.00	5.22	25
			A1b	T4	21.00	5.45	26
			A1a	T4a	21.00	9.55	45
			A1	T4b	21.00	7.07	34
1.2D + 1.0E	59.92	3/8 EHS	A1	24	9.24	2.15	23
			A1b	24a	9.24	2.18	24
			A1a	24b	9.24	2.18	24
	119.92	9/16 EHS	A1	48	21.00	4.30	20
			A1b	48a	21.00	4.38	21
			A1a	48b	21.00	4.38	21
	179.92		A1	72	21.00	3.81	18
			A1b	72a	21.00	3.94	19
			A1a	72b	21.00	3.94	19
	239.92		A1	T4	21.00	3.47	17
			A1a	T4b	21.00	3.62	17
			A1b	T4a	21.00	3.61	17
			A1b	T4	21.00	3.62	17
			A1a	T4a	21.00	3.61	17
			A1	T4b	21.00	3.47	17
0.9D + 1.0E	59.92	3/8 EHS	A1	24	9.24	2.16	23
			A1b	24a	9.24	2.18	24
			A1a	24b	9.24	2.18	24
	119.92	9/16 EHS	A1	48	21.00	4.34	21
			A1b	48a	21.00	4.41	21
			A1a	48b	21.00	4.41	21
	179.92		A1	72	21.00	3.86	18
			A1b	72a	21.00	3.99	19
			A1a	72b	21.00	3.99	19
	239.92		A1	T4	21.00	3.52	17
			A1a	T4b	21.00	3.67	17
			A1b	T4a	21.00	3.66	17
			A1b	T4	21.00	3.67	17
			A1a	T4a	21.00	3.66	17
			A1	T4b	21.00	3.52	17
1.0D + 1.0W Normal	59.92	3/8 EHS	A1	24	9.24	0.66	7
			A1b	24a	9.24	2.06	22
			A1a	24b	9.24	2.06	22
	119.92	9/16 EHS	A1	48	21.00	1.44	7
			A1b	48a	21.00	4.34	21
			A1a	48b	21.00	4.34	21
	179.92		A1	72	21.00	1.01	5
			A1b	72a	21.00	4.37	21
			A1a	72b	21.00	4.37	21
	239.92		A1	T4	21.00	1.89	9
			A1a	T4b	21.00	3.97	19
			A1b	T4a	21.00	3.60	17
			A1b	T4	21.00	3.97	19
			A1a	T4a	21.00	3.60	17
			A1	T4b	21.00	1.89	9
1.0D + 1.0W 60° Wind	59.92	3/8 EHS	A1	24	9.24	1.10	12
			A1b	24a	9.24	1.10	12
			A1a	24b	9.24	2.50	27
	119.92	9/16 EHS	A1	48	21.00	2.41	11
			A1b	48a	21.00	2.40	11
			A1a	48b	21.00	5.21	25
	179.92		A1	72	21.00	2.24	11

1.0D + 1.0W 60° Wind	179.92	9/16 EHS	A1b	72a	21.00	2.24	11
	239.92		A1a	72b	21.00	5.45	26
			A1	T4	21.00	2.83	13
			A1a	T4b	21.00	4.41	21
			A1b	T4a	21.00	2.50	12
			A1b	T4	21.00	2.83	13
			A1a	T4a	21.00	4.40	21
			A1	T4b	21.00	2.49	12
1.0D + 1.0W 90° Wind	59.92	3/8 EHS	A1	24	9.24	1.56	17
	119.92	9/16 EHS	A1b	24a	9.24	0.75	8
			A1a	24b	9.24	2.41	26
	179.92	9/16 EHS	A1	48	21.00	3.34	16
			A1b	48a	21.00	1.66	8
			A1a	48b	21.00	5.06	24
			A1	72	21.00	3.27	16
	239.92	9/16 EHS	A1b	72a	21.00	1.35	6
			A1a	72b	21.00	5.25	25
			A1	T4	21.00	3.43	16
			A1a	T4b	21.00	4.17	20
			A1b	T4a	21.00	2.02	10
			A1b	T4	21.00	2.22	11
			A1a	T4a	21.00	4.36	21
			A1	T4b	21.00	3.01	14

Analysis Summary

Structure: CT17474-A-SBA	Code: EIA/TIA-222-G	11/5/2019
Site Name: Thompson	Exposure: C	
Height: 250.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 0.85	Topography: 1	Struct Class: II
		Page: 24



Max Reactions

Base:	160.89 (Vertical)	2.29 (Horizontal)
Anchor 1:	47.20 (Vertical)	54.59 (Horizontal)

Max Usages

Max Leg: 94.7% (1.2D + 1.6W 60° Wind - Sect 12)
 Max Diag: 92.8% (1.2D + 1.6W Normal Wind - Sect 8)
 Max Horiz: 85.8% (0.9D + 1.6W 60° Wind - Sect 12)
 Max Cable: 97.9% (1.2D + 1.6W 90° Wind) - Elev: 180 ft

Max Deflection, Twist and Sway

Load Case	Elevation (ft)	Deflection (ft)	Twist (deg)	Sway (deg)
0.9D + 1.0E - Normal To Face	200.00	0.0108	0.0000	0.0095
	203.39	0.0122	0.0000	0.0085
	243.36	0.0135	-0.0001	0.0040
0.9D + 1.6W 101 mph Wind at 60° From Face	200.00	1.6157	0.0686	0.1398
	203.39	1.6202	0.0670	0.0133
	243.36	1.2070	0.0330	0.8699
0.9D + 1.6W 101 mph Wind at 90° From Face	200.00	2.2418	0.1576	0.1551
	203.39	2.2350	0.1531	0.2265
	243.36	1.6803	0.0929	1.0638
0.9D + 1.6W 101 mph Wind at Normal To Face	200.00	2.4842	0.0000	0.0287
	203.39	2.4775	-0.0093	0.2270
	243.36	1.9084	0.0044	1.0837
1.0D + 1.0W 60 mph Wind at 60° From Face	200.00	0.2219	0.0097	0.0200
	203.39	0.2224	0.0094	0.0086
	243.36	0.1493	0.0036	0.1494
1.0D + 1.0W 60 mph Wind at 90° From Face	200.00	0.2233	0.0317	0.0175
	203.39	0.2228	0.0316	0.0298
	243.36	0.1341	0.0282	0.1798
1.0D + 1.0W 60 mph Wind at Normal To Face	200.00	0.2087	0.0000	0.0056
	203.39	0.2072	0.0015	0.0446
	243.36	0.1032	0.0002	0.1991
1.2D + 1.0Di + 1.0Wi 50 mph Wind at 60° From Face	200.00	0.4039	0.0227	0.0242
	203.39	0.4027	0.0222	0.0430
	243.36	0.2635	0.0115	0.2850
1.2D + 1.0Di + 1.0Wi 50 mph Wind at 90° From Face	200.00	0.4143	0.1595	0.1833
	203.39	0.4074	0.1578	0.2029
	243.36	0.2298	0.1348	0.4738
1.2D + 1.0Di + 1.0Wi 50 mph Wind at Normal From Face	200.00	0.3173	0.0000	0.2047
	203.39	0.3028	0.0028	0.2796
	243.36	0.0262	0.0012	0.5731
1.2D + 1.0E - Normal To Face	200.00	0.0108	0.0000	0.0094
	203.39	0.0122	0.0000	0.0086
	243.36	0.0135	0.0001	0.0040

1.2D + 1.6W 101 mph Wind at 60° From Face	200.00	1.6217	0.0688	0.1407
	203.39	1.6263	0.0672	0.0133
	243.36	1.2121	0.0332	0.8723

1.2D + 1.6W 101 mph Wind at 90° From Face	200.00	2.2539	0.1590	0.1560
	203.39	2.2470	0.1545	0.2276
	243.36	1.6907	0.0944	1.0669

1.2D + 1.6W 101 mph Wind at Normal To Face	200.00	2.4973	0.0000	0.0289
	203.39	2.4905	-0.0093	0.2271
	243.36	1.9205	-0.0044	1.0859



Guyed Tower Base Design

Date

11/5/2019

Customer Name:	SBA Communications Corp	EIA/TIA Standard:	EIA-222-G
Site Name:		Structure Height (Ft.):	250
Site Number:	CT17474-A-SBA	Engineer Name:	Rama K.
Engr. Number:	87869	Engineer Login ID:	

Foundation Info Obtained from:

Mapping Operation

Structure Type:

Guyed Tower

Analysis or Design?

Analysis

Base Reactions (Factored):

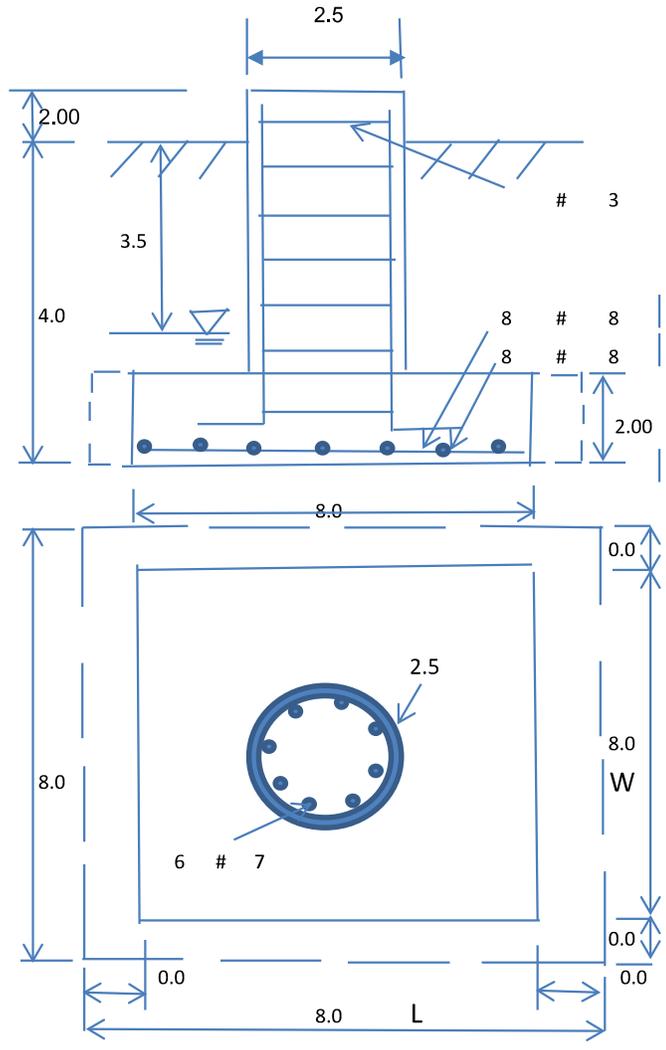
Axial Load (Kips):	160.9	Shear Force (Kips):	2.3
Uplift Force (Kips):	0.0	Moment (Kips-ft):	
Allowable overstress %:	5.0%		

Foundation Geometries:

		Mods required -Yes/No ?:	No
Diameter of Pier (ft.):	2.5	Depth of Base BG (ft.):	4.0
Pier Height A. G. (ft.):	2.00	Thickness of Pad (ft):	2.00
Length of Pad (ft.):	8	Width of Pad (ft.):	8
Final Length of pad (ft)	8.0	Final width of pad (ft):	8.0

Material Properties and Reabr Info:

Concrete Strength (psi):	3000	Steel Elastic Modulus:	29000	ksi
Vertical bar yield (ksi)	60	Tie steel yield (ksi):	36	
Vertical Rebar Size #:	7	Tie / Stirrup Size #:	3	
Qty. of Vertical Rebars:	6	Tie Spacing (in):	6.0	
Pad Rebar Yield (Ksi):	60	Pad Steel Rebar Size (#):	8	
Concrete Cover (in.):	3	Unit Weight of Concrete:	150.0	pcf
Rebar at the bottom of the concrete pad:				
Qty. of Rebar in Pad (L):	8	Qty. of Rebar in Pad (W):	8	



Soil Design Parameters:

Soil Unit Weight (pcf):	115.0	Soil Buoyant Weight:	50.0	Pcf		
Water Table B.G.S. (ft):	3.5	Unit Weight of Water:	62.4	pcf	Angle from Top of Pad:	30
Ultimate Bearing Pressure (psf):	9000	Ultimate Skin Friction:	0	Psf	Angle from Bottm of Pad:	30
					Angle from Bottm of Pad:	25

Foundation Analysis and Design:

Uplift Strength Reduction Factor:	0.75	Compression Strength Reduction Factor:	0.6
Total Dry Soil Volume (cu. Ft.):	118.18	Total Dry Soil Weight (Kips):	13.59
Total Buoyant Soil Volume (cu. Ft.):	0.00	Total Buoyant Soil Weight (Kips):	0.00
Total Effective Soil Weight (Kips):	13.59	Weight from the Concrete Block at Top (K):	0.00
Total Dry Concrete Volume (cu. Ft.):	115.63	Total Dry Concrete Weight (Kips):	17.35
Total Buoyant Concrete Volume (cu. Ft.):	32.00	Total Buoyant Concrete Weight (Kips):	2.80
Total Effective Concrete Weight (Kips):	20.15	Total Vertical Load on Base (Kips):	194.63

Check Soil Capacities:

Calculated Maxium Net Soil Pressure under the base (psf):	2960.3	<	Allowable Factored Soil Bearing (psf):	5400	0.55	OK!
Calculated Foundation Allowable Axail Capacity (Kips):	345.6	>	Design Factored Axial Load (Kips):	186	0.54	OK!

Load/
Capacity
Ratio

Check the capacities of Reinforcing Concrete:

Strength reduction factor (Flexure and axial tension):	0.90	Strength reduction factor (Shear):	0.75
Strength reduction factor (Axial compression):	0.65	Wind Load Factor on Concrete Design:	1.00

Load/
Capacity
Ratio

(1) Concrete Pier:

Vertical Steel Rebar Area (sq. in./each):	0.60	Tie / Stirrup Area (sq. in./each):	0.11		
Calculated Moment Capacity (Mn,Kips-Ft):	187.3	> Design Factored Moment (Mu, Kips-Ft)	9.2	0.05	OK!
Calculated Shear Capacity (Kips):	89.8	> Design Factored Shear (Kips):	2.3	0.03	OK!
Calculated Tension Capacity (Tn, Kips):	194.4	> Design Factored Tension (Tu Kips):	0.0	0.00	OK!
Calculated Compression Capacity (Pn, Kips):	932.5	> Design Factored Axial Load (Pu Kips):	160.9	0.17	OK!
Moment & Axial Strength Combination(Pu/Pn+Mu/Mn):	0.22	OK!			
Pier Reinforcement Ratio:	0.005				

(2).Concrete Pad:

One-Way Design Shear Capacity (L-Dir. Kips);	161.7	> One-Way Factored Shear (L-Dir Kips):	21.8	0.13	OK!
One-Way Design Shear Capacity (W-Dir. Kips):	161.7	> One-Way Factored Shear (W-Dir Kips)	21.8	0.13	OK!
Two-Way Design Shear Capacity (Kips):	534.4	> Two-Way Factored Shear (Kips):	125.5	0.23	OK!
Lower Steel Pad Reinforcement Ratio (L-Direct.):	0.0032	OK!	Lower Steel Pad Reinf. Ratio (W-Direc	0.0032	OK!
Lower Steel Pad Moment Capacity (L-Direction. Kips-ft):	561.0	> Moment at Bottom (L-Direct. K-Ft):	79.1	0.14	OK!
Lower Steel Pad Moment Capacity (W-Dir. Kips-ft):	561.0	> Moment at Bottom (W-Dir. Kips-Ft):	79.1	0.14	OK!

Rebar Info Assumption per ACI when Foundation info was obtained from an mapping operation:

Concrete Strength (Psi):	3000	Vertical bar yield (ksi)	60	Pad Rebar Yield (Ksi):	60
Vertical Rebar Size #:	7	Vertical Rebar Area (sq. in./each):	0.6	Min. Qty. of Vertical Rebars:	6
Pad Steel Rebar Size (#):	8	Vertical Rebar Area (sq. in./each):	0.79		
Min. Qty. of Rebars in L-Direction:	7	Min. Qty. of Rebars in W-Direction:	7		



Guy Anchor Analysis and Design

Date

43774

Customer Name:	SBA Communications Corp	EIA/TIA Standard:	EIA-222-G
Site Name:	0	Structure Height (Ft.):	250
Site Nmber:	CT17474-A-SBA	Engineer Name:	Rama K.
Engr. Number:	87869	Engineer Login ID:	

Foundation Info Obtained from:

Mapping Operation

Number of Anchors:

1 Set

Soil Design Parameters:

Soil Unit Weight (pcf):	110.0	Soil Buoyant Weight:	55.0	Pcf	Cohesion of Soils (psf):	
Water Table B.G.S. (ft):	3.5	Unit Weight of Water:	62.4	pcf	Internal Angle of Friction (°)	34
Ultimate lateral Pressure (psf):	1700	Ultimate Skin Friction:	300	Psf	Coefficient of Shear Friction:	0.30
Conical Failure Angle from Top:	30	Failure Angle from Bottm	20			

Material Properties:

Concrete Strength (psi):	3000	Unit Weight of Concrete:	150.0	psf	Horizontal Rebar Yield (psi):	60000
Shear Strength Reduction Factor:	0.75				Flexure Strength Reduction Factor:	0.9

A. Inner Anchors:

Radius (ft.): 187

1. Design Reactions (Factored):

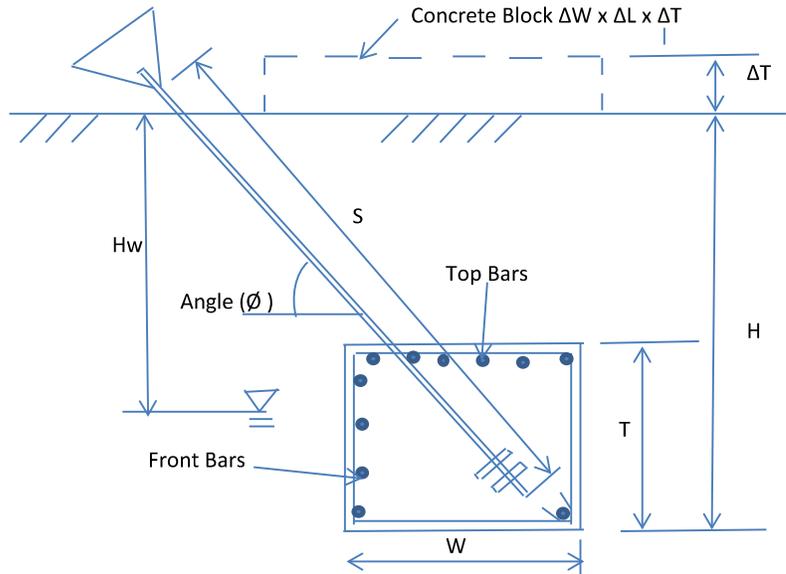
Uplift (Kips): 47.2 Shear (Kips): 54.6 Angle of force resultant (∅): 40.8

2. Foundation Geometries:

Block Base Depth B.G.S. (ft):	6.0	Block with/without toe?	No	Water Table below grade (ft):	3.50
Length of Anchor Block (L, ft.):	12.0	Width of Anchor Block:	5.0 ft.	Thickness of Anchor Block (ft.):	4.0
Concrete Block @ top of Anchor?	No				

(1). Inner Anchors:

Radius (ft.):	187
H (ft.):	6.0
Hw(ft.):	3.5
L (ft.):	12.0
W (ft.):	5.0
T (ft.):	4.0
Angle (∅):	40.8
S (ft.):	9.94
Top bars:	5 # 7
Front bars:	4 # 7
Concrete Volume (Cu. Yd.)/Each:	8.89



3. Foundation Analysis and Design:

Total Dry Soil Volume (cu. Ft.):	161.04	Total Dry Soil Weight (Kips):	35.40
Total Buoyant Soil Volume (cu. Ft.):	40.05	Total Buoyant Soil Weight (Kips):	2.20
Total Effective Soil Weight (Kips):	17.71	Weight of the Concrete Block at Top (Kips):	0.00
Total Dry Concrete Volume (cu. Ft.):	90.00	Total Dry Concrete Weight (Kip):	13.50
Total Buoyant Concrete Volume (cu. Ft.):	150.00	Total Buoyant Concrete Weight (Kips):	13.14
Total Effective Concrete Weight (Kips):	26.64	Weight Reduction Factor:	0.9
Uplift Strength Reduction Factor on Soil:	0.75	Shear Strength Reduction Factor on Soil:	0.75

4. Check Soil and Foundation Capacities:

Nominal Factored Uplift Resistance:	54.15	Kips > Design Uplift Force (Kips):	47.2	OK!
Ultimate Shear Friction Resistance at base:	1.93	Kips Ultimate Resistance Pressure:	1700.0	Psf
Factored Shear Resistance:	71.64	Kips > Design Shear Force (Kips):	54.6	OK!

5. Design Concrete Block:

Rebar Size (#):	7	Wind Load Factor on Concrete Design:	1.00	
Qty. of the Rebar at top of the block:	5	Qty. of the Rebar in the front of the block:	4	
Area of Single Rebar (sq. in.):	0.60	Factor for concrete compression zone:	0.85	
One Way Shear due to Shear Force (Kips):	27.3	One Way Shear Capacity for shear (kips):	220.8	OK!
One Way Shear due to Uplift (Kips):	23.6	One Way Shear Capacity for uplift (kips):	216.9	OK!
Moment due to Shear Load (Kips-ft):	81.9	Flexural Capacity for Shear Load (Kips-ft):	604.7	OK!
Moment due to uplift Load (Kips-ft):	70.8	Flexural Capacity for uplift Load (Kips-ft):	593.8	OK!
Ratio of Design Moment/Moment capacity:	0.14			
Max. Ratio of Shear Force/Shear capacity:	0.12	OK!		

PER THE INTERNATIONAL BUILDING CODE THIS STRUCTURE IS CLASSIFIED AS:

1. CONSTRUCTION TYPE V-B (TABLE 601 & SECTION 602.5)
2. GROUP U OCCUPANCY (SECTION 312.1 UNOCCUPIED TOWER SITE)

MODIFICATION AND DESIGN DRAWINGS FOR AN EXISTING 250' GUYED TOWER

PROPOSED CARRIER: AT&T

SITE: CT17474-A-SBA / THOMPSON

COORDINATES (LATITUDE: 41.978944°, LONGITUDE: -71.852500°)

CONSTRUCTION CLASS

THE RIGGING PLAN FOR THIS SITE WOULD BE A
MINIMUM OF A CLASS IV AND THE CONTRACTOR
SHALL MAKE FINAL DETERMINATION

PLEASE NOTE THIS SET OF DRAWINGS IS FOR INSTALLATION AND ASSEMBLY ONLY. FABRICATION DETAIL DRAWINGS ARE NOT PROVIDED AND MUST BE COMPLETED BY THE STEEL FABRICATOR SELECTED. TES CAN PROVIDE THE FABRICATION DETAIL DRAWINGS FOR AN ADDITIONAL FEE.

SHEET	SHEET TITLE	REV
T-1	TITLE SHEET	0
BOM	BILL OF MATERIALS	0
GN-1	GENERAL NOTES	0
A-1	TOWER PROFILE	0
A-2	TORQUE ARM REINFORCEMENT DETAILS	0
HC-1	STANDARD GUY HARDWARE CHART	0
TC-1	GUY TENSION CHART	0

NOTE:

1. THE MODIFICATION DRAWINGS ARE BASED ON THE
TES PROJECT NO. 87771, DATED 10/16/19.



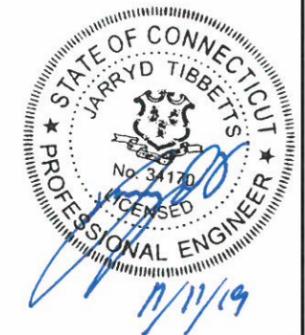
Tower Engineering Solutions
1320 GREENWAY DRIVE, SUITE 600
IRVING, TX 75038
PHONE: (972) 483-0607



5900 BROKEN SOUND PARKWAY, NW
BOCA RATON, FL 33487
(800)-487-SITE

TES JOB NO:
87869

CUSTOMER SITE NO:
CT17474-A-SBA
CUSTOMER SITE NAME:
THOMPSON
61 LOWELL DAVIS ROAD
THOMPSON, CT 06277



DRAWN BY: CAH CHECKED BY: RAM/AD

REV.	DESCRIPTION	BY	DATE
1	FIRST ISSUE	CAH	11/11/19

SHEET TITLE:

TITLE SHEET

This drawing/document is the property of Tower Engineering Solutions, LLC. Information contained herein is considered confidential in nature and is to be used only for the specific site that it was intended for. Reproduction, transmission, publication or disclosure by any method is prohibited except by express written permission from Tower Engineering Solutions, LLC. Without exception, the information on this drawing/document remains the property of Tower Engineering Solutions, LLC.

SHEET NUMBER: **T-1** REV #: **0**

BILL OF MATERIALS (PAGE 1 OF 1)

QUANTITY REQUIRED	QUANTITY PROVIDED	PART NUMBER	DESCRIPTION	LENGTH	SHEET LIST	PIECE WEIGHT	WEIGHT (lb)	NOTES	
MATERIAL & HARDWARE									
1	1	320107	9/16" EHS GUY STRAND (IN FT.) (VALMONT OR EQUIVALENT)	735 FT.	HC-1	493.2	493.2	GALVANIZED	
3	3	1032153	TURNBUCKLE 7/8" X 18" (JAW & EYE) (CROSBY OR EQUIVALENT)	-	HC-1	9.75	29.3	GALVANIZED	
6	6	GC-65267	DEAD-END SLEEVE, 9/16" (PREFORMED OR EQUIVALENT)	-	HC-1	-	-	GALVANIZED	
6	6	1037719	EXTRA HEAVY WIRE ROPE THIMBLE, FOR 1/2" or 9/16" GUY WIRES (CROSBY OR EQUIVALENT)	-	HC-1	0.51	3.1	GALVANIZED	
6	6	1018473	G-209 SCREW PIN SHACKLE, 5/8" (CROSBY OR EQUIVALENT)	-	HC-1	1.37	8.3	GALVANIZED	
6	6	BG-2116	BIG-GRIP DEAD-END 9/16" EHS (PREFORMED OR EQUIVALENT)	-	HC-1	4.8	28.8	GALVANIZED	
FOR ADDITIONAL MEMBERS AND HARDWARE, PLEASE ENTER INFO BELOW:									
6	6	SR-1	1 1/2" DIA. SOLID ROD X 10'-0" A36	---	A-2,F-1	63.20	379.2	GALVANIZED (FINAL CUT LENGTH TO BE DETERMINED IN FIELD)	
78	82	BK500-350CC	PL 1/2" X 2 1/2" X 5 1/4" A36	---	A-2,BK-PLATE	1.95	159.9	GALVANIZED	
78	82	MS02V-500-300-400	V-BOLT 1/2" X 3" I.W. X 4" I.L. A36 (OR EQUIV)	---	A-2,VBC-1	1.52	124.7	(2) HHN & LKW-EA GALVANIZED	
2	2	---	LANCO /HENRY 287 WHITE ACRYLIC ELASTOMERIC COATING AND SEALER OR EQUIV (GALLON)	---	A-1	---	---	PROVIDED BY CONTRACTOR	
3	3	119690	GUY WIRE GROUNDING CLAMP (VALMONT OR EQUIV)	---	---	---	---	---	
<p>NOTE: ALL MATERIALS REQUIRED FOR FOUNDATION MODIFICATIONS THAT ARE NOT LISTED IN THE BILL OF MATERIALS WILL BE PROVIDED BY CONTRACTOR. REFERENCE MODIFICATION SHEETS.</p> <p>NOTE: ALL MATERIALS, WHICH WEREN'T LISTED IN THIS SHEET, ARE ASSUMED TO BE PROVIDED BY THE CONTRACTOR.</p> <p>Note:: Please note this set of drawings is for installation and assembly only. Fabrication Detail Drawings are not provided and must be completed by the steel fabricator selected. TES can provide the Fabrication Detail Drawings for an additional fee</p>									
							TOTAL WEIGHT (lb) =	1,227	



Tower Engineering Solutions
 1320 GREENWAY DRIVE, SUITE 600
 IRVING, TX 75038
 PHONE: (972) 483-0607



5900 BROKEN SOUND PARKWAY, NW
 BOCA RATON, FL 33487
 (800)-487-SITE

TES JOB NO:
87869

CUSTOMER SITE NO:
CT17474-A-SBA
 CUSTOMER SITE NAME:
THOMPSON
 61 LOWELL DAVIS ROAD
 THOMPSON, CT 06277

DRAWN BY: CAH | CHECKED BY: RAM/AD

REV.	DESCRIPTION	BY	DATE
1	FIRST ISSUE	CAH	11/11/19

SHEET TITLE:

BILL OF MATERIALS

This drawing/document is the property of Tower Engineering Solutions, LLC. Information contained herein is considered confidential in nature and is to be used only for the specific site that it was intended for. Reproduction, transmission, publication or disclosure by any method is prohibited except by express written permission from Tower Engineering Solutions, LLC. Without exception, the information on this drawing/document remains the property of Tower Engineering Solutions, LLC.

SHEET NUMBER: **BOM** | REV #: **0**

Copyright 2019 Tower Engineering Solutions, LLC

GENERAL NOTES

1. ALL WORK SHALL COMPLY WITH THE ANSI/TIA-222-G, ANSI/ASSP A10.48/2018 CONNECTICUT STATE BUILDING CODE, AND ANY OTHER GOVERNING BUILDING CODES AND OSHA SAFETY REGULATIONS.
2. ALL WORK INDICATED ON THE DRAWINGS SHALL BE PERFORMED BY QUALIFIED CONTRACTORS EXPERIENCED IN TELECOMMUNICATIONS TOWER, POLE AND FOUNDATION CONSTRUCTION.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN AND FABRICATION OF ALL MISCELLANEOUS PARTS (SUCH AS SHIMS), TEMPORARY SUPPORTS, AND GUYINGS, ETC., PER ANSI/ASSP A10.48, TO COMPLETE THE ASSEMBLY AS SHOWN IN THE DRAWINGS.
4. CONTRACTOR SHALL PROCEED WITH THE INSTALLATION WORK CAREFULLY SO THE WORK WILL NOT DAMAGE ANY EXISTING CABLE, EQUIPMENT OR THE STRUCTURE.
5. THE USE OF GAS TORCH OR WELDER, ARE NOT ALLOWED ON ANY TOWER STRUCTURE WITHOUT THE CONSENT OF THE TOWER OWNER.
6. GENERALLY THE CONTRACTOR IS RESPONSIBLE TO CONDUCT AN ONSITE VISIT SURVEY OF THE JOB SITE AFTER AWARD, AND REPORT ANY ISSUES WITH THE SITE TO **TES** BEFORE PROCEEDING CONSTRUCTION.

FABRICATION

1. ALL STEEL SHALL MEET OR EXCEED THE MINIMUM STRENGTH AS SPECIFIED IN THE DRAWINGS. IF YIELD STRENGTH WAS NOT NOTED IN THE DRAWINGS, CONTRACTORS SHALL CONTACT TES FOR DIRECTION.
2. ALL FIELD CUT EDGES SHALL BE GROUND SMOOTH. ALL FIELD CUT AND DRILLED SURFACES SHALL BE REPAIRED WITH A MINIMUM OF TWO COATS OF ZINGA COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURER'S RECOMMENDATIONS.

WELDING

1. ALL WELDING SHALL BE PERFORMED BY AWS CERTIFIED WELDERS AND IN ACCORDANCE WITH THE LATEST EDITION OF THE AWS WELDING CODE D1.1. ALL ELECTRODES TO BE LOW HYDROGEN, MATCHING FILLER METAL, PER AWS D1.1, UNO. (E70XX UNLESS NOTED OTHERWISE).
2. PRIOR TO FIELD WELDING GALVANIZED MATERIAL, CONTRACTOR SHALL GRIND OFF GALVANIZING APPROX. 0.5" BEYOND THE PROPOSED FIELD WELD SURFACES.
3. ALL WELDS SHALL BE INSPECTED VISUALLY. A MINIMUM OF 25% OF WELDS SHALL BE INSPECTED WITH DYE PENETRANT OR MAGNETIC PARTICLE TO MEET THE ACCEPTANCE CRITERIA OF AWS D1.1. 100% OF WELDS SHALL BE INSPECTED IF DEFECTS ARE FOUND.
4. WELD INSPECTIONS SHALL BE PERFORMED BY AN AWS CERTIFIED WELD INSPECTOR.
5. AFTER INSPECTION, ALL FIELD WELDED SURFACES SHALL BE REPAIRED WITH A MINIMUM OF TWO COATS OF ZINGA COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURER'S RECOMMENDATIONS.

BOLTED ASSEMBLIES AND TIGHTENING OF CONNECTIONS

1. ALL HIGH STRENGTH BOLTS SHALL CONFORM TO THE PROVISIONS OF THE SPECIFICATIONS FOR STRUCTURAL JOINTS USING A325 OR A490 BOLTS AS APPROVED BY THE RCSC.
2. FLANGE BOLTS SHALL BE TIGHTENED BY THE AISC "TURN-OF-THE-NUT" METHOD. THE FOLLOWING TABLE SHOULD BE USED FOR THE "TURN-OF-THE-NUT" TIGHTENING.
3. SPLICE BOLTS AND ALL OTHER BOLTS IN BEARING TYPE CONNECTIONS SHALL BE TIGHTENED TO A SNUG-TIGHT CONDITION.
4. THE SNUG-TIGHT CONDITION IS DEFINED AS THE TIGHTNESS ATTAINED BY EITHER A FEW IMPACTS OF AN IMPACT WRENCH OR THE FULL EFFORT OF AN IRONWORKER WITH AN ORDINARY SPUD WRENCH TO BRING THE CONNECTED PLIES INTO FIRM CONTACT.
5. HB HOLLO-BOLT SHALL BE INSTALLED PER ICC ESR-3330 INSTRUCTIONS.

VERIFICATION AND INSPECTION

1. IF APPLICABLE, VERIFICATION INSPECTION TO BE PERFORMED SHALL BE IN ACCORDANCE TO IBC-2015 SECTION 1705 - FOR STEEL CONSTRUCTION & TABLE 1705.3 FOR CONCRETE CONSTRUCTION.

POST INSTALLED EPOXY INJECTED ANCHOR BOLTS:

1. CONCRETE MUST BE A MINIMUM OF 28 DAYS OLD.
2. FOLLOW MANUFACTURER'S REQUIREMENTS FOR CURE TIME VS. AMBIENT TEMPERATURE.
3. DRILL HOLE TO REQUIRED DIAMETER AND DEPTH. ALL WATER, DIRT, OIL, DEBRIS, GREASE OR DUST MUST BE REMOVED FROM EACH CORE HOLE. FOLLOW MANUFACTURER'S RECOMMENDATION FOR CORRECT TYPE OF CORE BIT. AVOID DAMAGING EXISTING REINFORCING STEEL OR OTHER EMBEDDED ITEMS. NOTIFY TES ENGINEERING IF VOIDS IN THE CONCRETE, REINFORCING STEEL OR OTHER EMBEDDED ITEMS ARE ENCOUNTERED. STOP CORING IMMEDIATELY IF THIS OCCURS.
4. A HOLE ROUGHENING DEVICE FROM EITHER HILTI OR ALLFASTENERS SHALL BE USED WITH ALL HOLES. FOLLOW ALL MANUFACTURER'S RECOMMENDED CORING AND INSTALLATION INSTRUCTIONS.
5. AFTER CORING AND ROUGHENING, FLUSH EACH HOLE WITH RUNNING WATER TO REMOVE ANY SLURRY OR DEBRIS. REMOVE ALL WATER FROM THE HOLE BY MECHANICAL PUMPING.
6. BRUSH EACH HOLE WITH AN APPROPRIATE SIZED NYLON BRUSH AND FLUSH WITH RUNNING WATER A SECOND TIME. REMOVE ALL WATER FROM THE HOLE.
7. AFTER THE SECOND WATER FLUSH BRUSH THE HOLE AGAIN WITH THE APPROPRIATE SIZED NYLON BRUSH.
8. BLOW EACH HOLE WITH COMPRESSED AIR TWO TIMES MINIMUM.
9. CONFIRM THAT EACH HOLE IS PROPERLY ROUGHED AND DRY.
10. NO EPOXY INJECTION SHALL TAKE PLACE IN RAINY CONDITIONS.
11. EPOXY SHOULD BE VISIBLE AT THE TOP OF THE CORE HOLE AFTER INSTALLATION.
12. CONTRACTOR TO SUPPLY ONE PHOTO OF EACH ROUGHED AND CLEANED HOLE IN CLOSEOUT PHOTO PACKAGE.

TABLE 8.2 NUT ROTATION FROM SNUG-TIGHT CONDITION FOR TURN-OF-NUT PRETENSIONING^{a,b}

BOLT LENGTH ^f	DISPOSITION OF OUTER FACE OF BOLTED PARTS		
	BOTH FACES NORMAL TO BOLT AXIS	ONE FACE NORMAL TO BOLT AXIS, OTHER SLOPED NOT MORE THAN 1:20 ^d	BOTH FACES SLOPED NOT MORE THAN 1:20 FROM NORMAL TO BOLT AXIS ^d
NOT MORE THAN 4d _b	1/3 TURN	1/2 TURN	2/3 TURN
MORE THAN 4d _b BUT NOT MORE THAN 8d _b	1/2 TURN	2/3 TURN	5/6 TURN
MORE THAN 8d _b BUT NOT MORE THAN 12d _b	2/3 TURN	5/6 TURN	1 TURN

^a NUT ROTATION IS RELATIVE TO BOLT REGARDLESS OF THE ELEMENT (NUT OR BOLT) BEING TURNED. FOR REQUIRED NUT ROTATIONS OF 1/2 TURN AND LESS, THE TOLERANCE IS PLUS OR MINUS 30 DEGREES; FOR REQUIRED NUT ROTATIONS OF 2/3 TURN AND MORE, THE TOLERANCE IS PLUS OR MINUS 45 DEGREES.

^b APPLICABLE ONLY TO JOINTS IN WHICH ALL MATERIAL WITHIN THE GRIP IS STEEL.

^c WHEN THE BOLT LENGTH EXCEEDS 12d_b, THE REQUIRED NUT ROTATION SHALL BE DETERMINED BY ACTUAL TESTING IN A SUITABLE TENSION CALIBRATOR THAT SIMULATES THE CONDITIONS OF SOLIDLY FITTING STEEL.

^d BEVELED WASHER NOT USED.

SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS, JUNE 30, 2004 RESEARCH COUNCIL ON STRUCTURAL CONNECTIONS

INSTALLATION TORQUE REQUIRED FOR HOLLO BOLTS AND AJAX BOLTS:

1. HB12 HOLLO BOLT: 59 FT-LBS
2. HB16 HOLLO BOLT: 140 FT-LBS
3. HB20 HOLLO BOLT: 221 FT-LBS
4. M20 AJAX BOLT: 280 FT-LBS.

FIELD HOT WORK PLAN NOTES:

FOLLOWING GUIDELINES SHALL BE COMPLIED WITH:

1. CONTRACTOR'S RESPONSIBILITY TO COMPLETE A HOT WORK PLAN IF AWARDED PER CUSTOMER SPECIFICATIONS GUIDELINES FOR WELDING, CUTTING & SPARK PRODUCING WORK.
2. HAVE A FIRE PLAN APPROVED BY THE CUSTOMER AND THEIR SAFETY MANAGEMENT DEPT.
3. CONTRACTOR MUST OBTAIN THE CONTACT INFO OF THE LOCAL FIRE DEPARTMENT AND THE 911 ADDRESS OF THE TOWER SITE BEFORE CONSTRUCTION.
4. CONTRACTOR SHALL MAKE SURE THAT CELL PHONE COVERAGE IS AVAILABLE IN THE TOWER SITE. IF CELL COVERAGE IS NOT AVAILABLE, AN IMMEDIATE AVAILABLE MEANS OF DIRECT COMMUNICATION WITH THE FIRE DEPARTMENT SHALL BE DETERMINED PRIOR TO CONSTRUCTION START.
5. ALL CONSTRUCTION SHALL BE PERFORMED UNDER WIND SPEED LESS THAN 10 MPH ON THE GROUND LEVEL. IF WIND SPEED INCREASE, CONTRACTOR MUST DETERMINE IF CONSTRUCTION SHALL BE DISCONTINUED.
6. FIRE SUPPRESSION EQUIPMENT MUST BE MADE AVAILABLE ON SITE AND READY TO USE.
7. CONTRACTOR SHALL ASSIGN A FIRE WATCHER TO PERFORM FIRE-FIGHTING DUTIES.
8. ALL WELDERS SHALL BE AWS OR STATE CERTIFIED. THEY MUST ALSO BE EXPERIENCED IN WELDING ON GALVANIZED MATERIALS.
9. IF IT IS POSSIBLE, ALL EXISTING COAX NEAR WELDING AREA SHALL BE TEMPORARILY MOVED AWAY FROM THE WELDING AREA BEFORE WELDING THE PLATES.
10. PLEASE REPORT ANY FIELD ISSUE TO TES @ 972-483-0607.



Tower Engineering Solutions

1320 GREENWAY DRIVE, SUITE 600
IRVING, TX 75038
PHONE: (972) 483-0607



5900 BROKEN SOUND PARKWAY, NW
BOCA RATON, FL 33487
(800)-487-SITE

TES JOB NO:
87869

CUSTOMER SITE NO:
CT17474-A-SBA
CUSTOMER SITE NAME:
THOMPSON
61 LOWELL DAVIS ROAD
THOMPSON, CT 06277

DRAWN BY: CAH | CHECKED BY: RAM/AD

REV.	DESCRIPTION	BY	DATE
1	FIRST ISSUE	CAH	11/11/19

SHEET TITLE:

GENERAL NOTES

This drawing/document is the property of Tower Engineering Solutions, LLC. Information contained herein is considered confidential in nature and is to be used only for the specific site that it was intended for. Reproduction, transmission, publication or disclosure by any method is prohibited except by express written permission from Tower Engineering Solutions, LLC. Without exception, the information on this drawing/document remains the property of Tower Engineering Solutions, LLC.

SHEET NUMBER:

GN-1

REV #:

0

PLUMB AND TENSION NOTES:

- RE-TENSION OF EXISTING GUY WIRES SHALL BE PERFORMED AT A TIME WHEN THE WIND VELOCITY IS LESS THAN 10 MPH AT GROUND LEVEL AND NO ICE.
- PLUMB THE TOWER WHILE RE-TENSIONING THE EXISTING GUY WIRES. THE HORIZONTAL DISTANCE BETWEEN THE VERTICAL CENTERLINE AT ANY TWO ELEVATIONS SHALL NOT EXCEED 0.25% OF THE VERTICAL DISTANCE BETWEEN THE TWO ELEVATIONS (EXAMPLE, NOT TO EXCEED 0.6 INCHES FOR 20 FEET VERTICAL DISTANCE). SEE NOTE #5.
- THE TWIST BETWEEN ANY TWO ELEVATIONS SHALL NOT EXCEED 0.5 DEGREES IN 10 FEET. THE MAXIMUM TWIST OVER THE STRUCTURE HEIGHT SHALL NOT EXCEED 5 DEGREES. SEE NOTE #5.
- THE TENSIONING OF THE GUY WIRES TO BE PERFORMED AFTER THE INSTALLATION OF ALL OTHER MODIFICATIONS OUTLINED IN THESE DRAWINGS ARE COMPLETED.
- IF THERE ARE ANY EXISTING MICROWAVE DISHES ON THE TOWER, PLEASE MAINTAIN THE EXISTING TWIST/PLUMB WHEN RE-TENSIONING GUY WIRES SO THAT THE DISH WILL NOT BE OUT OF THE OPERATION
- PROVIDE TEMPORARY GUYING TO SECURE THE TOWER WHILE REPLACING OR RELOCATING GUY WIRES.

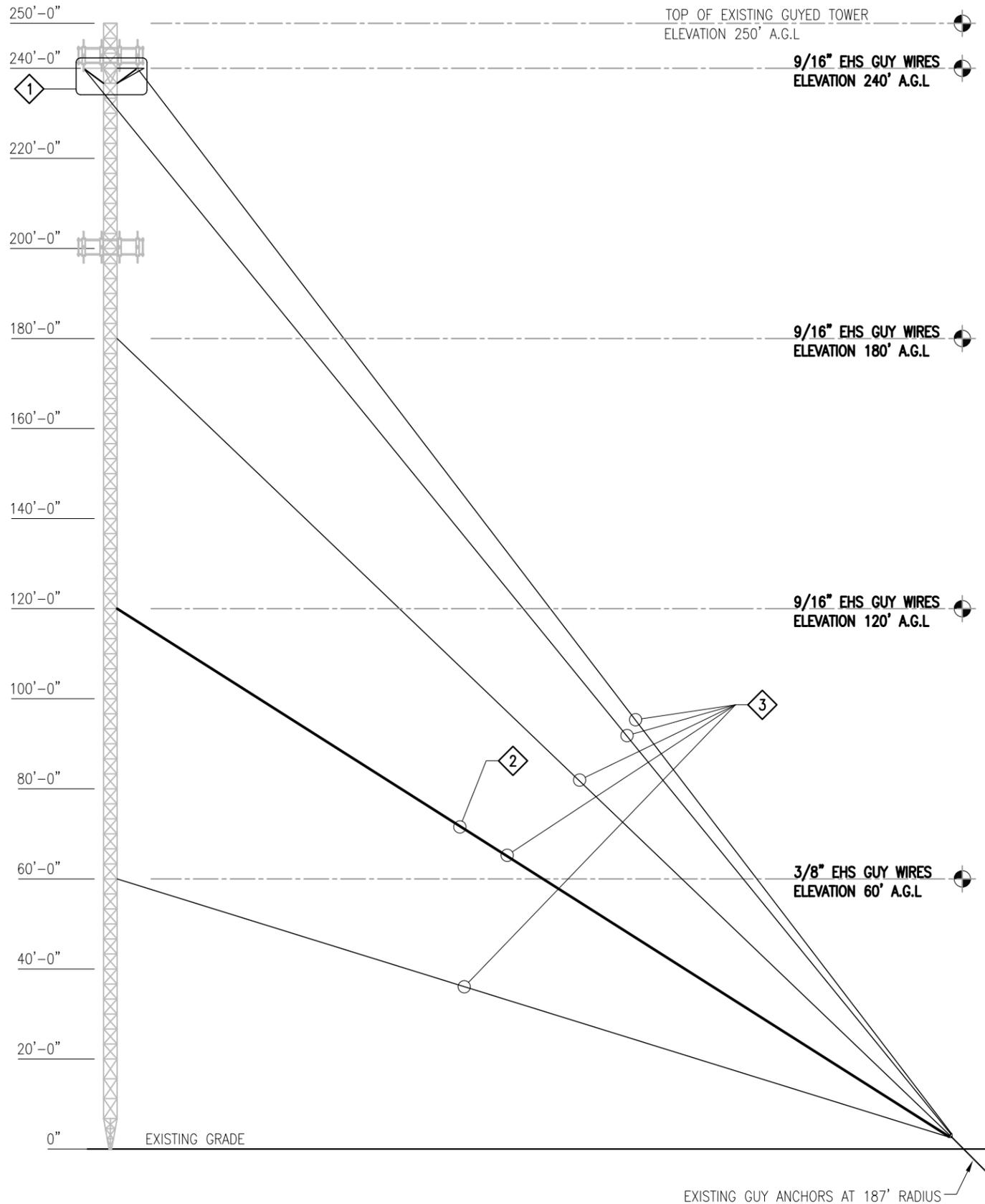
SCOPE OF WORK

- A. REINFORCE EXISTING TORQUE ARM AT 240' ELEV. SEE SHEET A-2 FOR DETAILS.
B. PAINT ALL NEW MEMBERS TO MATCH EXISTING TOWER COLOR.
- REPLACE EXISTING 1/2" EHS GUY WIRES AT 120' ELEV. WITH NEW 9/16" EHS GUY WIRES. SEE SHEET HC-1 FOR DETAILS.
- TENSION NEW GUY WIRES AT 120' ELEV. AND RETENSION EXISTING GUY WIRES AT 60' ELEV., 180' ELEV., 240' ELEV. PER SHEET TC-1.
- APPLY FOUNDATION COATING.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CLEAN-UP, REMOVAL AND DISPOSAL OF EXCESS MATERIALS USED AND REMOVED FROM THE STRUCTURE AT THE COMPLETION OF THE PROJECT.



FOUNDATION COATING NOTES:

- THE COATING MATERIALS SHALL BE LANCO WHITE ACRYLIC ELASTOMERIC COATING AND SEALER, OR HYDRO ARMOR COATING.
- THE COATING CAN BE PLACED AT LEAST (2) DAYS AFTER THE PLACEMENT OF THE CONCRETE FOR FOUNDATION REINFORCEMENT, AND MINIMUM (4) DAYS FOR NEW FOUNDATION CONSTRUCTION.
- THE CONCRETE SURFACE SHALL BE CLEAN AND DRY PRIOR TO THE APPLICATION OF THE COATING.
- THE COATING SHALL BE APPLIED TO ALL THE SURFACES OF THE CONCRETE ABOVE THE GROUND AND 6" BELOW THE GRADE SURFACE IF APPLICABLE.
- MINIMUM 30 MILS COATING IS REQUIRED.



Tower Engineering Solutions

1320 GREENWAY DRIVE, SUITE 600
IRVING, TX 75038
PHONE: (972) 483-0607



5900 BROKEN SOUND PARKWAY, NW
BOCA RATON, FL 33487
(800)-487-SITE

TES JOB NO:
87869

CUSTOMER SITE NO:
CT17474-A-SBA
CUSTOMER SITE NAME:
THOMPSON
61 LOWELL DAVIS ROAD
THOMPSON, CT 06277

DRAWN BY: CAH CHECKED BY: RAM/AD

REV.	DESCRIPTION	BY	DATE
1	FIRST ISSUE	CAH	11/11/19

SHEET TITLE:

TOWER PROFILE

This drawing/document is the property of Tower Engineering Solutions, LLC. Information contained herein is considered confidential in nature and is to be used only for the specific site that it was intended for. Reproduction, transmission, publication or disclosure by any method is prohibited except by express written permission from Tower Engineering Solutions, LLC. Without exception, the information on this drawing/document remains the property of Tower Engineering Solutions, LLC.

SHEET NUMBER: A-1 REV #: 0



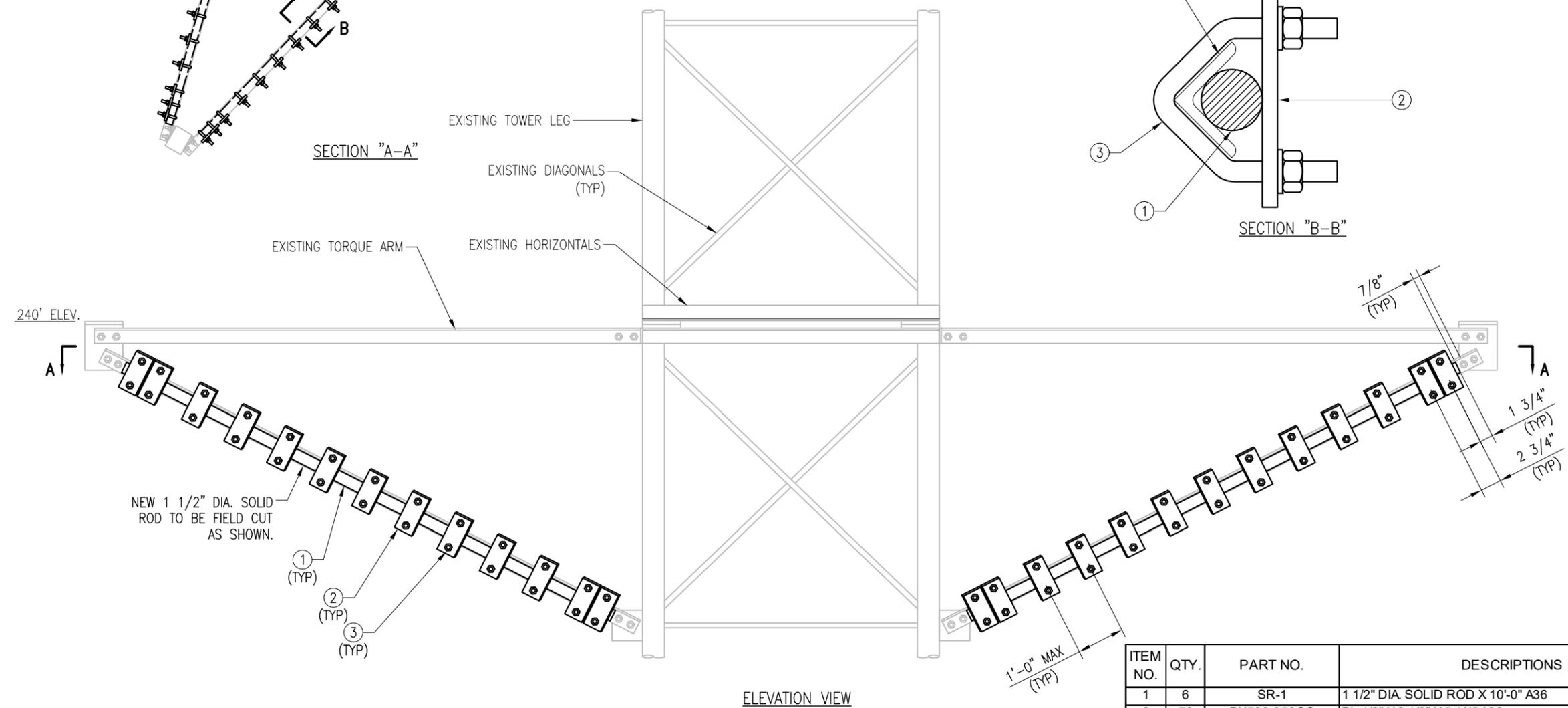
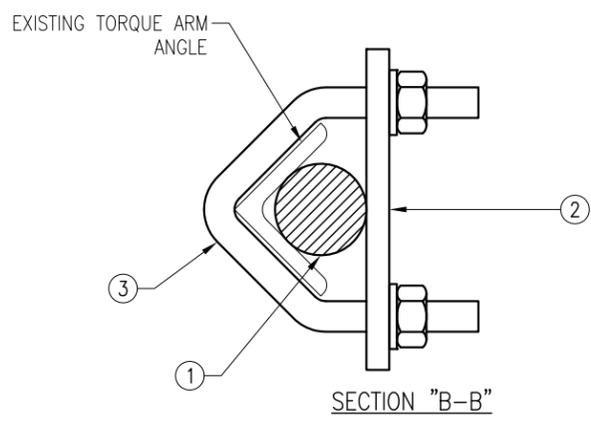
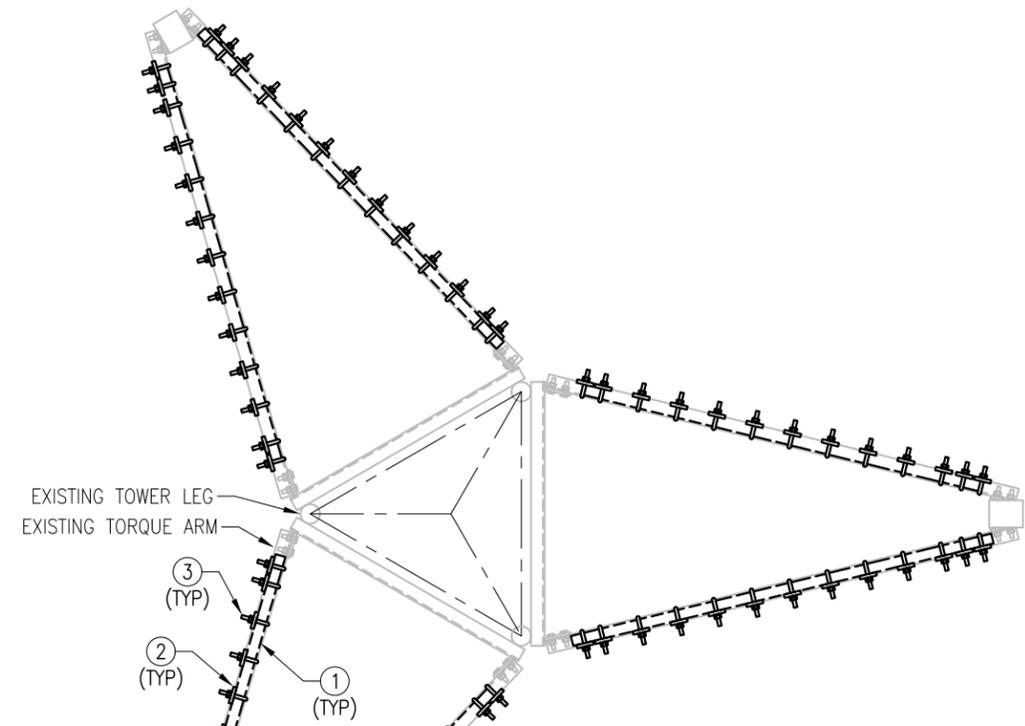
Tower Engineering Solutions
 1320 GREENWAY DRIVE, SUITE 600
 IRVING, TX 75038
 PHONE: (972) 483-0607



5900 BROKEN SOUND PARKWAY, NW
 BOCA RATON, FL 33487
 (800)-487-SITE

TES JOB NO:
 87869

CUSTOMER SITE NO:
 CT17474-A-SBA
 CUSTOMER SITE NAME:
 THOMPSON
 61 LOWELL DAVIS ROAD
 THOMPSON, CT 06277



ITEM NO.	QTY.	PART NO.	DESCRIPTIONS
1	6	SR-1	1 1/2" DIA. SOLID ROD X 10'-0" A36
2	78	BK500-350CC	PL 1/2" X 2 1/2" X 5 1/4" A36
3	78	MS02V-500-300-400	V-BOLT 1/2" X 3" I.W. X 4" I.L. A36 (OR EQUIV)

DRAWN BY: CAH | CHECKED BY: RAM/AD

REV.	DESCRIPTION	BY	DATE
1	FIRST ISSUE	CAH	11/11/19

SHEET TITLE:
TORQUE ARM REINFORCEMENT DETAILS

This drawing/document is the property of Tower Engineering Solutions, LLC. Information contained herein is considered confidential in nature and is to be used only for the specific site that it was intended for. Reproduction, transmission, publication or disclosure by any method is prohibited except by express written permission from Tower Engineering Solutions, LLC. Without exception, the information on this drawing/document remains the property of Tower Engineering Solutions, LLC.

SHEET NUMBER: **A-2** | REV #: **0**

Copyright 2019 Tower Engineering Solutions, LLC



Tower Engineering Solutions

1320 GREENWAY DRIVE, SUITE 600
IRVING, TX 75038
PHONE: (972) 483-0607



5900 BROKEN SOUND PARKWAY, NW
BOCA RATON, FL 33487
(800)-487-SITE

TES JOB NO:
87869

CUSTOMER SITE NO:
CT17474-A-SBA
CUSTOMER SITE NAME:
THOMPSON
61 LOWELL DAVIS ROAD
THOMPSON, CT 06277

GUY STRAND TENSION CHART

GUY STRAND INFORMATION							GUY STRAND TENSION CALCULATED UNDER DIFFERENT TEMPERATURES																				
GUY WIRE SIZE	GUY ELEV. (FT)	GUY ANCHOR RADIUS (FT)	GUY ANCHOR OR DROP (+/- FT)	GUY WIRE LENGTH (FT)	Guy Initial Tension (%)	Tension Due To Temp (Lbs/Deg)	0° F	5° F	10° F	15° F	20° F	25° F	30° F	35° F	40° F	45° F	50° F	55° F	60° F	65° F	70° F	75° F	80° F	85° F	90° F	95° F	100° F
							LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS
3/8 EHS	59.92	187.00	-5.00	197.95	10.00		2166.0	2108.3	2050.7	1993.4	1936.3	1879.4	1822.9	1766.7	1710.9	1655.4	1601.6	1547.0	1540.0	1439.4	1386.6	1335.4	1284.8	1234.6	1183.0	1135.6	1088.6
9/16 EHS	119.92	187.00	-5.00	224.88	10.00		4365.8	4267.0	4168.6	4070.6	3973.1	3876.1	3779.6	3683.7	3588.5	3493.9	3407.3	3313.3	3500.0	3128.1	3037.1	2952.1	2866.7	2778.9	2678.5	2598.0	2513.5
9/16 EHS	179.92	187.00	-5.00	262.99	10.00		3908.1	3837.5	3767.2	3697.2	3627.5	3558.1	3489.1	3420.5	3352.3	3284.5	3227.1	3158.9	3500.0	3024.0	2957.5	2898.5	2837.8	2772.1	2688.1	2630.5	2565.6
9/16 EHS	239.92	187.00	-5.00	308.14	10.00		3543.7	3494.1	3444.7	3395.5	3346.4	3297.6	3248.9	3200.5	3152.3	3104.4	3067.0	3018.2	3500.0	2921.2	2873.2	2832.9	2790.3	2741.9	2674.0	2633.6	2584.8

DRAWN BY: CAH | CHECKED BY: RAM/AD

REV.	DESCRIPTION	BY	DATE
1	FIRST ISSUE	CAH	11/11/19

SHEET TITLE:

GUY TENSION CHART

This drawing/document is the property of Tower Engineering Solutions, LLC. Information contained herein is considered confidential in nature and is to be used only for the specific site that it was intended for. Reproduction, transmission, publication or disclosure by any method is prohibited except by express written permission from Tower Engineering Solutions, LLC. Without exception, the information on this drawing/document remains the property of Tower Engineering Solutions, LLC.

SHEET NUMBER: TC-1 | REV #: 0

INFINIGY

FROM ZERO TO INFINIGY
the solutions are endless

1033 WATERLIET SHAKER RD, ALBANY, NY 12205

Mount Analysis Report

October 4, 2019

Site Name	Thompson-61 Lowell Davis Rd.
FA Number	10035009
Smartlink Site Name	CTL01052
PACE Number	MRCTB041627 / MRCTB041409 / MRCTB041416 MRCTB041850 / MRCTB041520
PTN Number	2051A0Q8AT / 2051A0Q8S0 / 2051A0QAJ9 2051A0Q994 / 2051A0Q7TR
Infinigy Job Number	1106-A0001-B
Client	Smartlink
Carrier	AT&T Mobility
Site Location	61 Lowell Davis Rd. Thompson, CT 6277 Windham County 41.9789 N NAD83 71.8525 W NAD83
Mount Centerline EL.	205.0 ft
Mount Type	Sector Frame
Structural Usage Ratio	97.1%
Overall Result	Pass

Upon reviewing the results of this analysis, it is our opinion that the mount meets the specified TIA and ASCE code requirements. The mounts and connections for the proposed carrier are therefore deemed adequate to support the final loading configuration as listed in this report.



Thomas Marr
Project Engineer I

AZ CA CO FL GA MD NC NH NJ NY TX WA

INFINIGY

Contents

Introduction.....	3
Supporting Documentation.....	3
Analysis Code Requirements.....	3
Conclusion.....	3
Final Configuration Loading.....	4
Mount Usages.....	4
Mount Connections.....	4
Assumptions and Limitations.....	5
Calculations.....	Appended

Introduction

Infinigy Engineering has been requested to perform a mount analysis on the existing AT&T Mobility mounts. All referenced supporting documents have been obtained from the client and are assumed to be accurate and applicable to this site. The mount was analyzed using RISA-3D Version 17.0.4 analysis software.

Supporting Documentation

RFDS	RFDS ID #3084500, dated June 17, 2019
Construction Drawings	Infinigy Engineering, PLLC. Job #499-006, dated September 10, 2019
Site Photos	Smartlink Provided, dated September 29, 2019
Mapping Report	Infinigy Engineering, PLLC. Job #499-006, dated September 30, 2019

Analysis Code Requirements

Wind Speed	120 mph (3-Second Gust)
Wind Speed w/ Ice	50 mph (3 Second Gust) w/ 1" Ice
TIA Revision	ANSI/TIA-222-H
Adopted IBC	2018 IBC / 2018 Connecticut State Building Code
Structure Class	II
Exposure Category	B
Topographic Category	1
Spectral Response	$S_s = 0.186 \text{ g}$, $S_1 = 0.056 \text{ g}$
Site Class	D - Stiff Soil
HMSL	575 ft.

Conclusion

Upon reviewing the results of this analysis, it is our opinion that the mount meets the specified TIA and ASCE code requirements. The mount and connections for the proposed carrier are therefore deemed adequate to support the existing and proposed loading as listed in this report.

If you have any questions, require additional information, or actual conditions differ from those as detailed in this report please contact me via the information below:

Thomas Marr
 Project Engineer I | **INFINIGY**
 1033 Watervliet Shaker Road, Albany NY 12203
 (O) (518) 690-0790
 Structural@infinigy.com | www.infinigy.com

Final Configuration Loading

Mount CL (ft)	Vert. O/S (ft)	Rad. HT (ft)	Horiz. O/S (ft) ⁽¹⁾	Qty	Appurtenance ⁽²⁾	Carrier
205.0	0.0	205.0	10.0	3	POWERWAVE 7770	AT&T
			0.0, 3.0	6	CCI DMP65R-BU8D	
			0.0	6	POWERWAVE LGP 21401	
			--	3	RAYCAP DC6-48-60-18-8F	
			3.0	3	ERICSSON 4478 B14	
			3.0	3	ERICSSON 8843 B2/B66A	
			0.0	3	ERICSSON 4449 B5/B12	

(1) Horizontal Offset is defined as the distance from the left most edge of the mount face horizontal when viewed facing the tower

(2) Raycap assumed to be installed directly on tower

Mount Usages

Horizontals	97.1%	Pass
Standoffs	26.4%	Pass
Mount Pipes	34.8%	Pass
Tieback	12.0%	Pass
Bracing	77.4%	Pass
Bolts	20.0%	Pass
Max Usage	97.1%	Pass

Mount Connection Usages

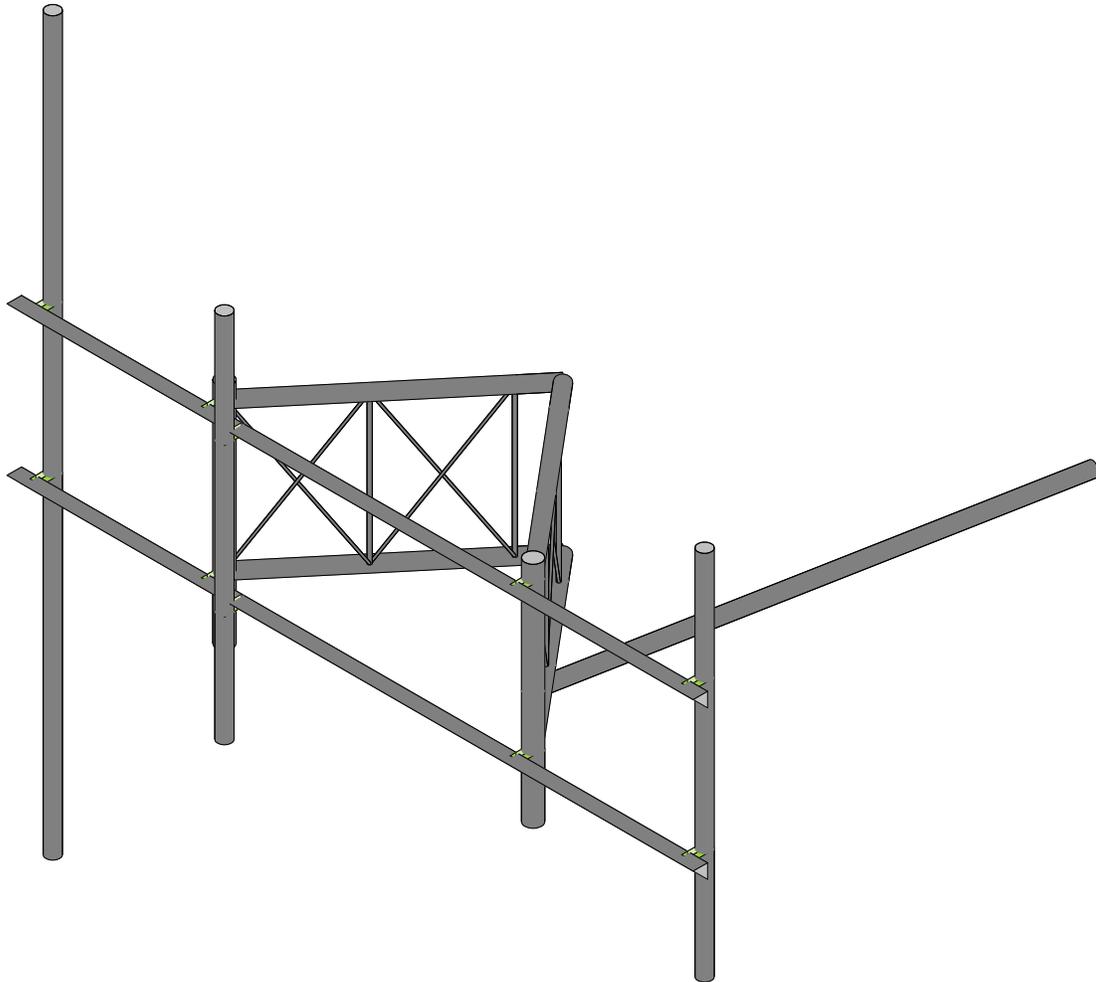
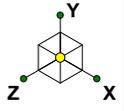
Reaction Data	Design Capacity*	Analysis Reactions	Results
Max Tension (lbs.)	30101.0	1222.86	4.1%
Max Shear (lbs.)	17892.0	3547.01	19.8%
Unity Check	-	-	4.1%
*Assumed (1) 0.750" A325 Bolts. Contractor to field verify prior to proposed installation.			

Assumptions and Limitations

Our structural calculations are completed assuming all information provided to Infinigy Engineering is accurate and applicable to this site. For the purposes of calculations, we assume an overall structure condition of “like new” and all members and connections to be free of corrosion and/or structural defects. The structure owner and/or contractor shall verify the structure’s condition prior to installation of any proposed equipment. If actual conditions differ from those described in this report Infinigy Engineering should be notified immediately to complete a revised evaluation.

Our evaluation is completed using standard TIA, AISC, ACI, and ASCE methods and procedures. Our structural results are proprietary and should not be used by others as their own. Infinigy Engineering is not responsible for decisions made by others that are or are not based on our supplied assumptions and conclusions.

This report is an evaluation of the proposed carriers mount structure only and does not reflect adequacy of the existing tower, other mounts, or coax mounting attachments. These elements are assumed to be adequate for the purposes of this analysis and are assumed to have been installed per their manufacturer requirements.



Envelope Only Solution

Infinigy Engineering, PLLC

TM

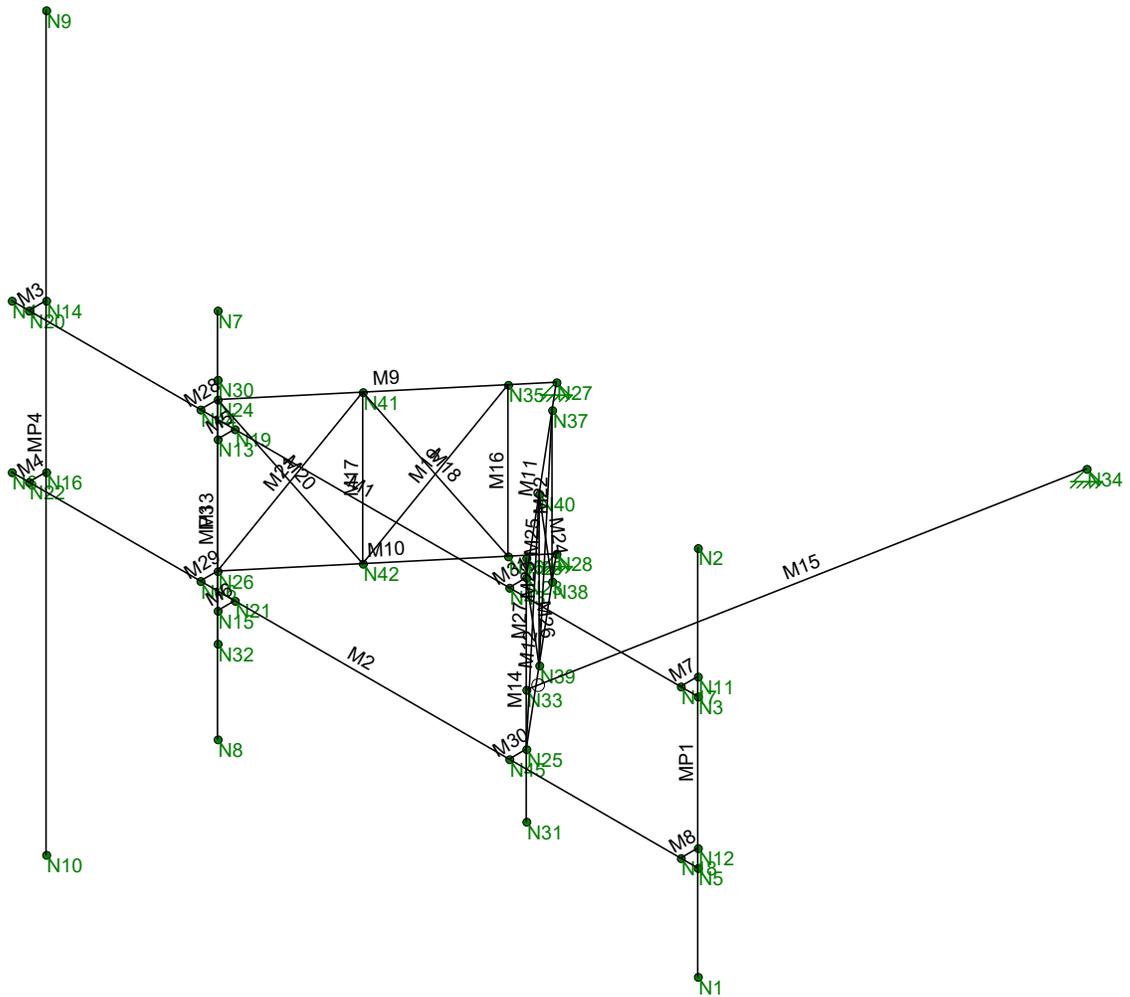
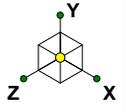
1106-A0001-B

CTL01052 (Gamma)

Existing

Oct 4, 2019 at 9:29 AM

CTL01052 (Gamma)_loaded.r3d



Envelope Only Solution

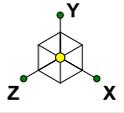
Infinigy Engineering, PLLC
 TM
 1106-A0001-B

CTL01052 (Gamma)

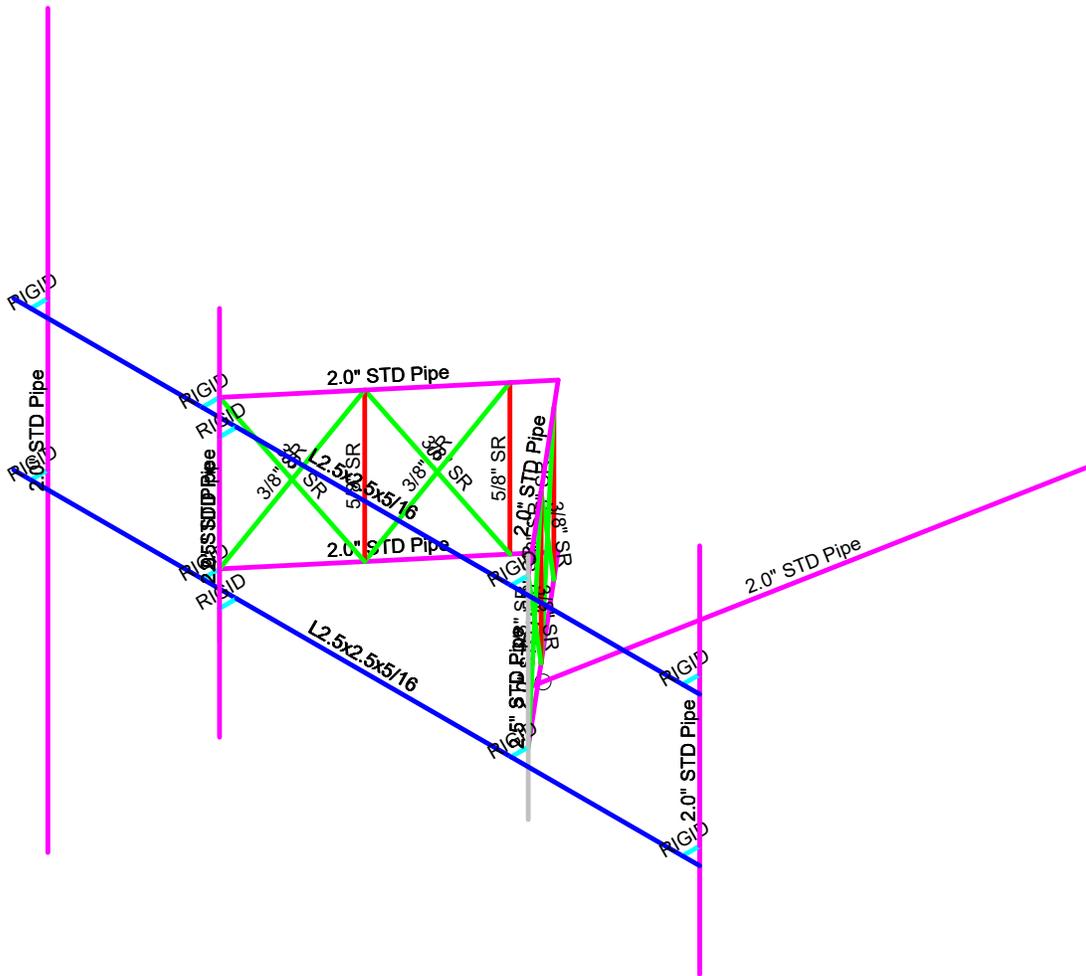
Wire Frame

Oct 3, 2019 at 12:44 PM

CTL01052 (Gamma)_loaded.r3d

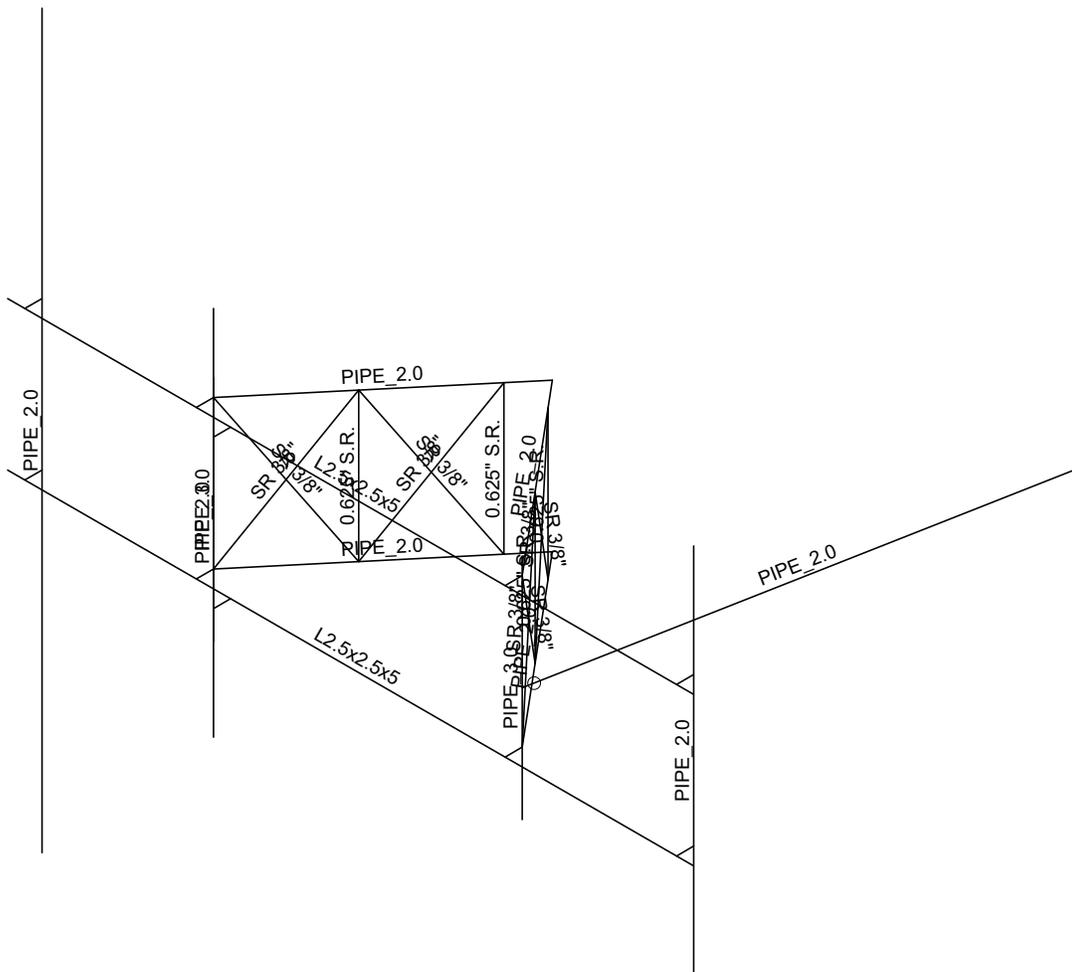
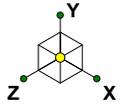


Section Sets	
■	L2.5x2.5x5/16
■	3/8" SR
■	5/8" SR
■	2.5" STD Pipe
■	2.0" STD Pipe
■	RIGID



Envelope Only Solution

Infinigy Engineering, PLLC	CTL01052 (Gamma)	Section Sets
TM		Oct 4, 2019 at 9:29 AM
1106-A0001-B		CTL01052 (Gamma)_loaded.r3d



Envelope Only Solution

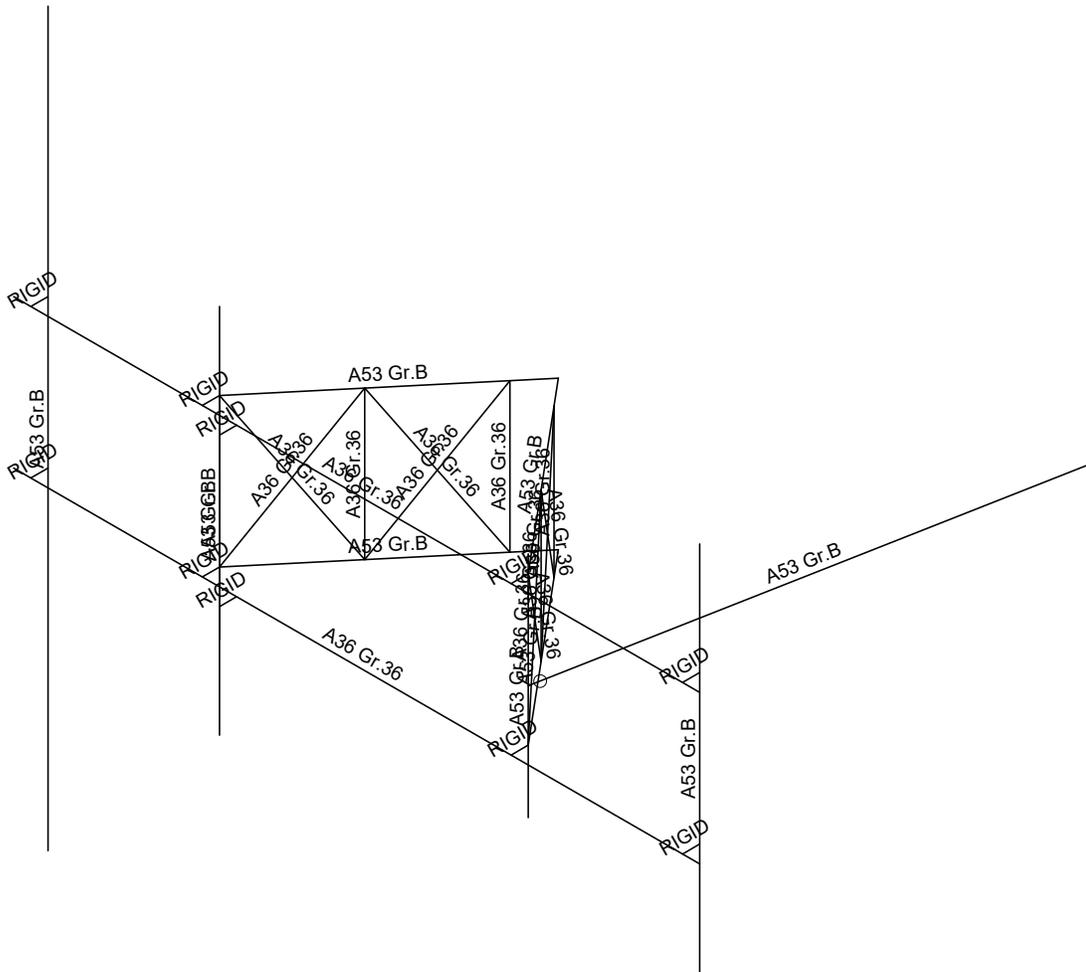
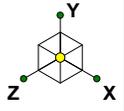
Infinigy Engineering, PLLC
 TM
 1106-A0001-B

CTL01052 (Gamma)

Member Shape

Oct 3, 2019 at 12:46 PM

CTL01052 (Gamma)_loaded.r3d



Envelope Only Solution

Infinigy Engineering, PLLC

TM

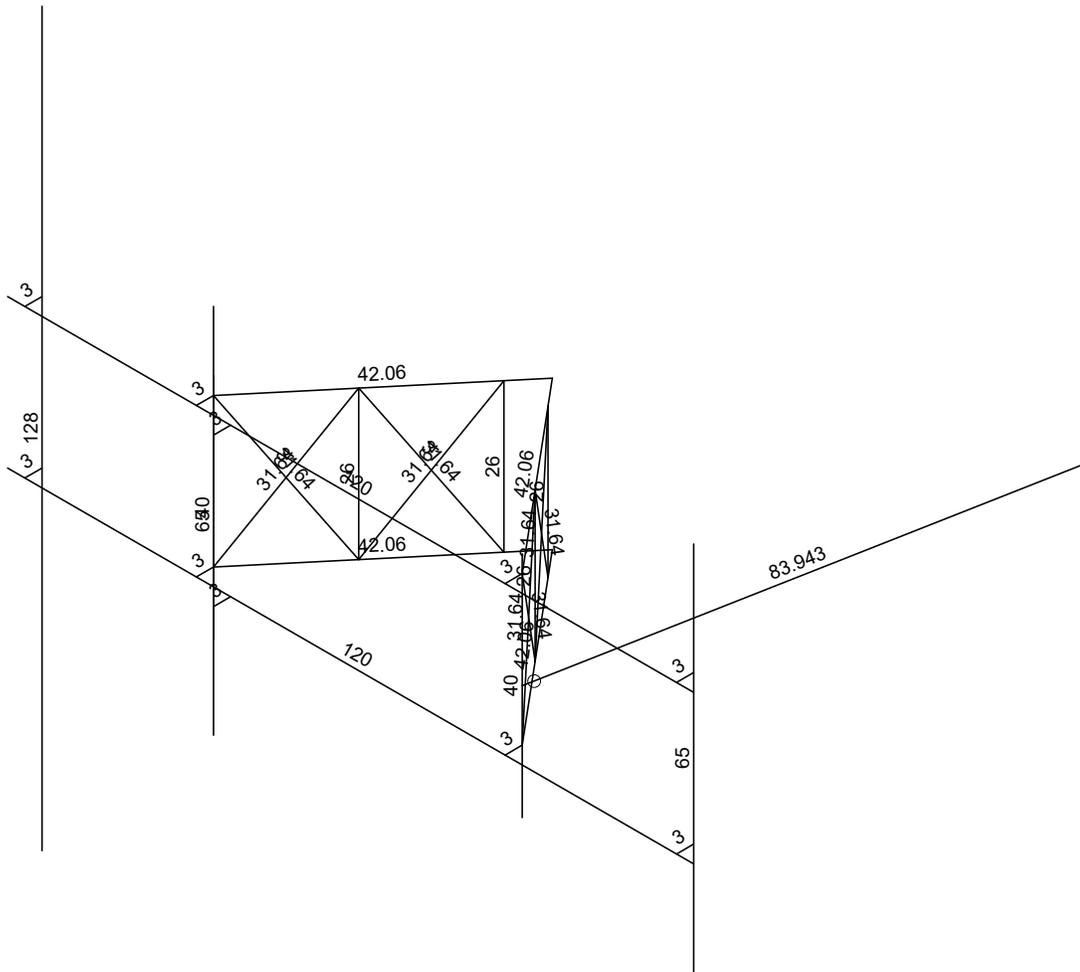
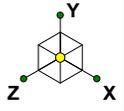
1106-A0001-B

CTL01052 (Gamma)

Material Sets

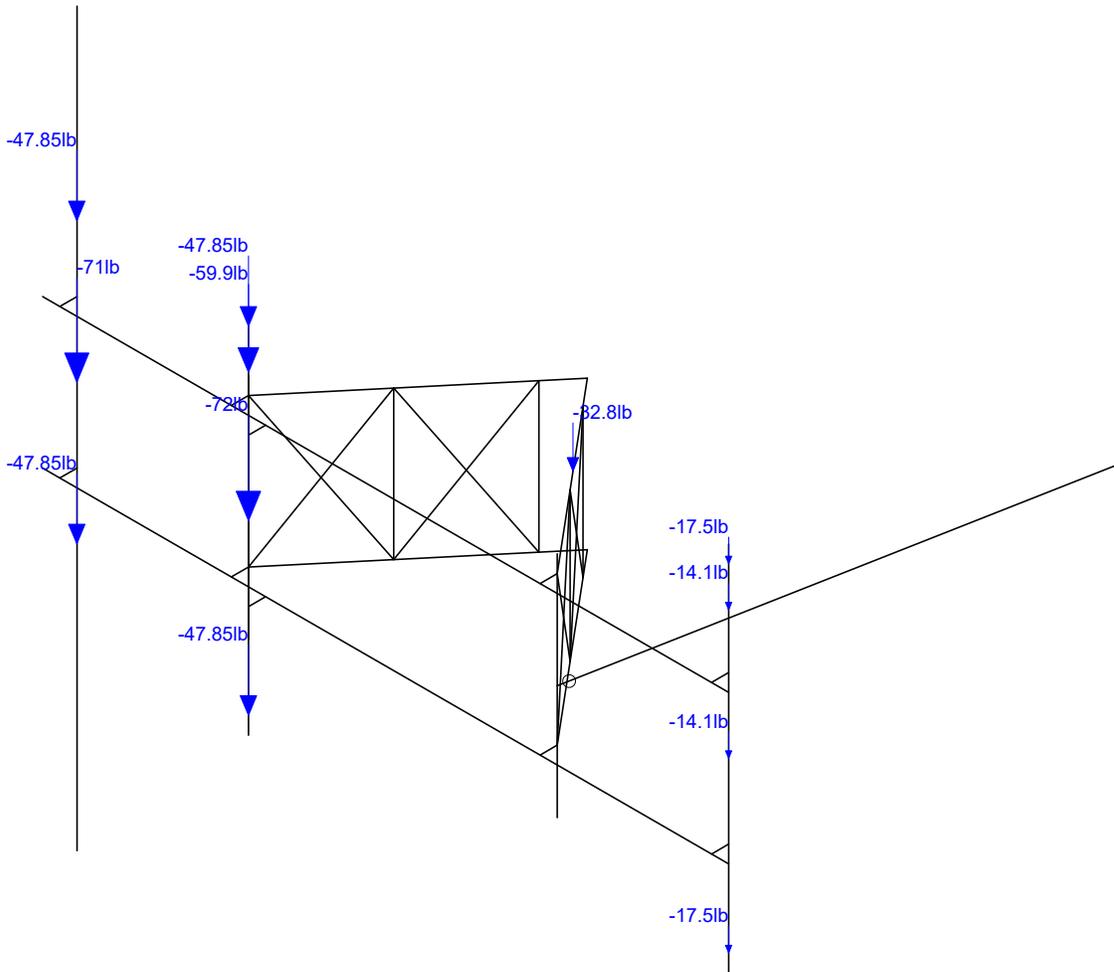
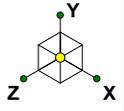
Oct 3, 2019 at 12:47 PM

CTL01052 (Gamma)_loaded.r3d



Member Length (in) Displayed
Envelope Only Solution

Infinigy Engineering, PLLC	CTL01052 (Gamma)	Member Length
TM		Oct 3, 2019 at 12:47 PM
1106-A0001-B		CTL01052 (Gamma)_loaded.r3d



Loads: BLC 1, Self Weight
Envelope Only Solution

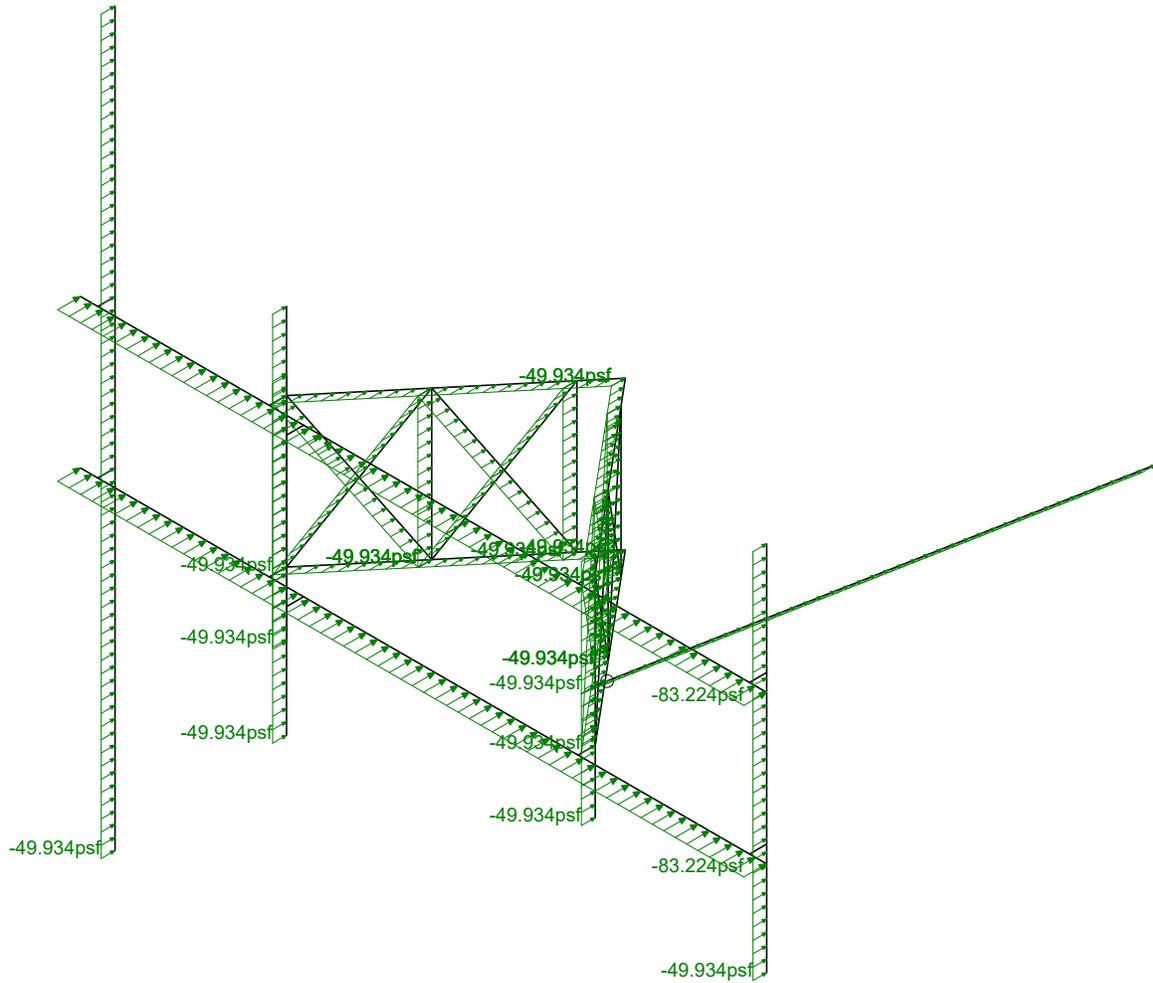
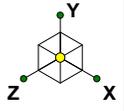
Infinigy Engineering, PLLC
TM
1106-A0001-B

CTL01052 (Gamma)

Self Weight

Oct 3, 2019 at 12:48 PM

CTL01052 (Gamma)_loaded.r3d



Loads: BLC 14, Distr. Wind Load Z
Envelope Only Solution

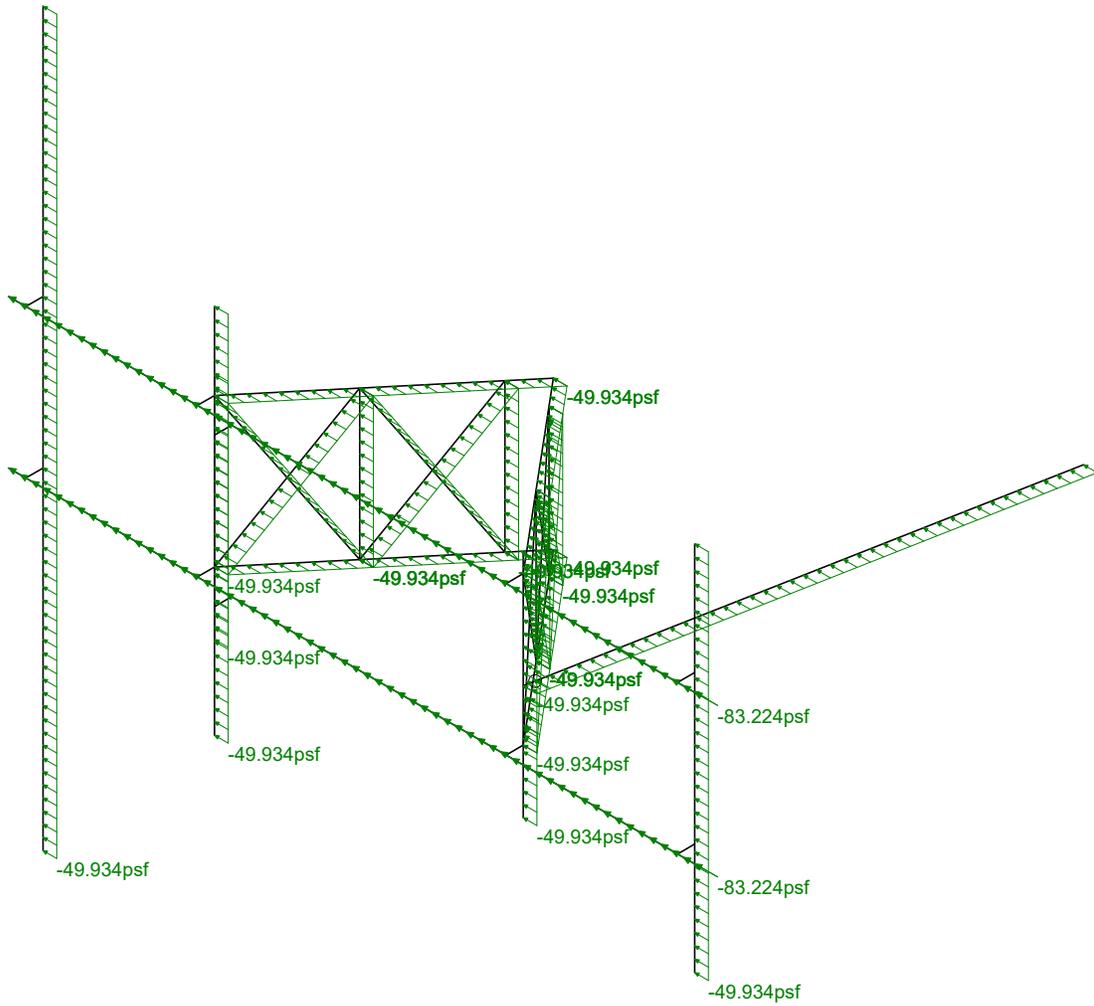
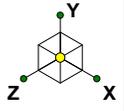
Infinigy Engineering, PLLC
TM
1106-A0001-B

CTL01052 (Gamma)

Wind Load AZI 000

Oct 3, 2019 at 12:48 PM

CTL01052 (Gamma)_loaded.r3d



Loads: BLC 15, Distr. Wind Load X
Envelope Only Solution

Infinigy Engineering, PLLC

TM

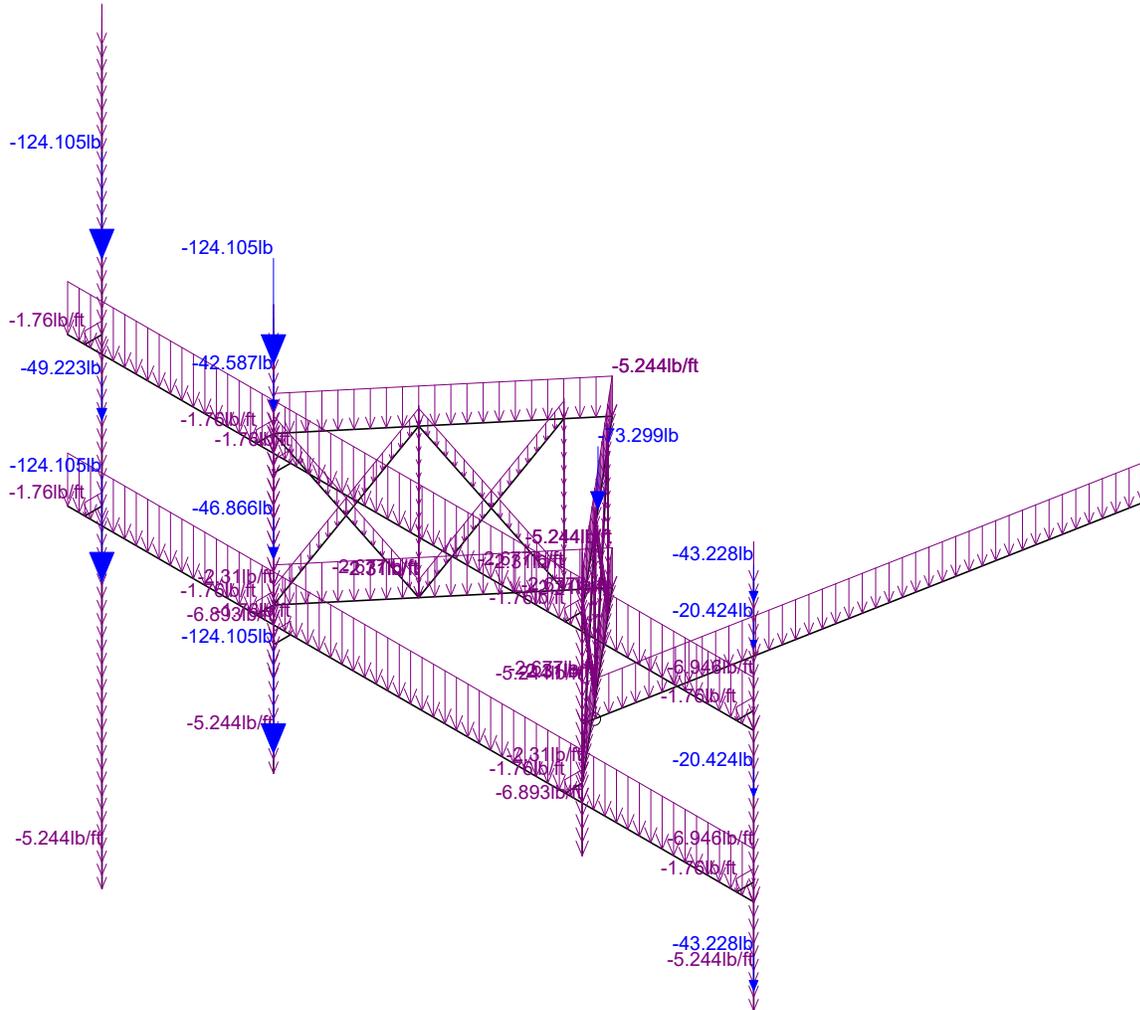
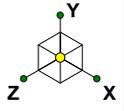
1106-A0001-B

CTL01052 (Gamma)

Wind Load AZI 090

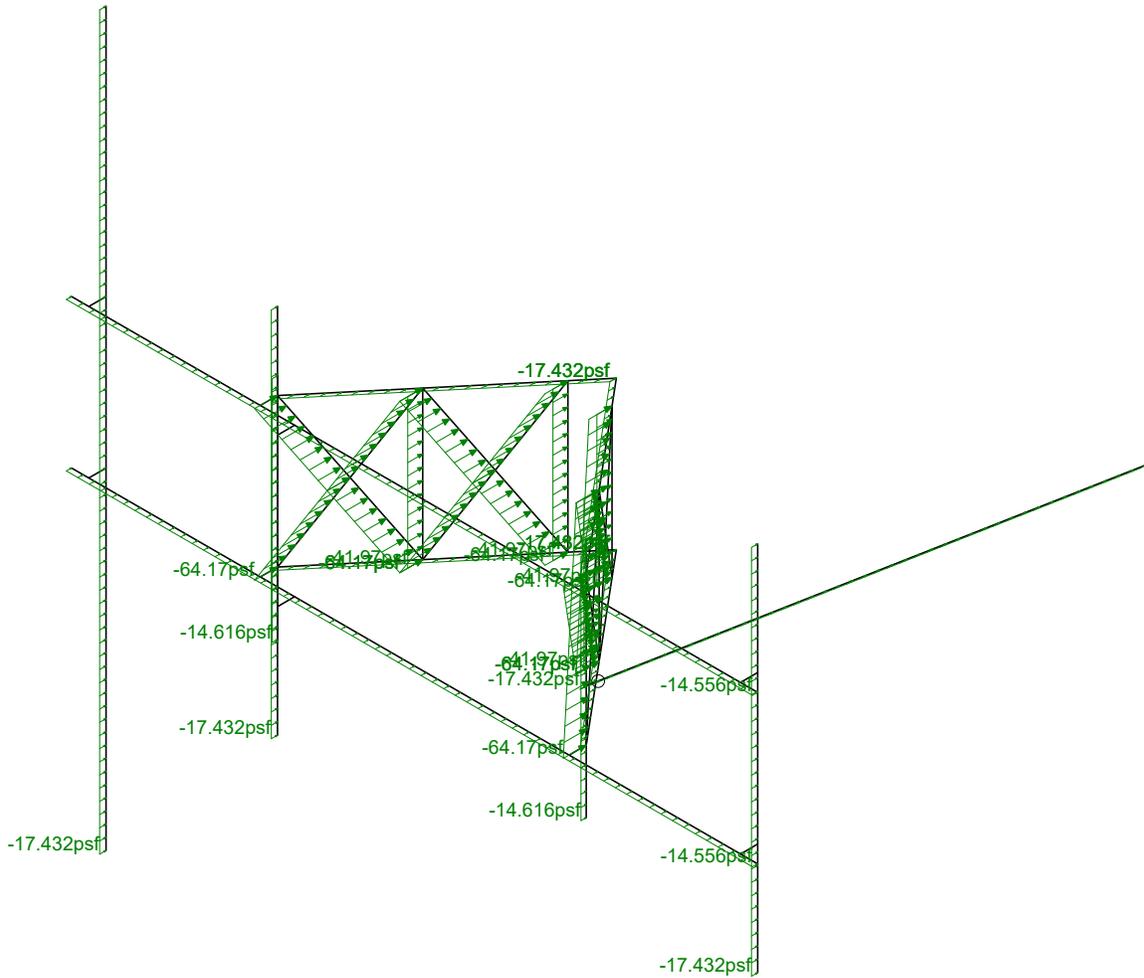
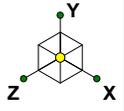
Oct 3, 2019 at 12:48 PM

CTL01052 (Gamma)_loaded.r3d



Loads: BLC 16, Ice Weight
Envelope Only Solution

Infinigy Engineering, PLLC	CTL01052 (Gamma)	Ice Weight
TM		Oct 3, 2019 at 12:49 PM
1106-A0001-B		CTL01052 (Gamma)_loaded.r3d



Loads: BLC 29, Distr. Ice Wind Load Z
Envelope Only Solution

Infinigy Engineering, PLLC

TM

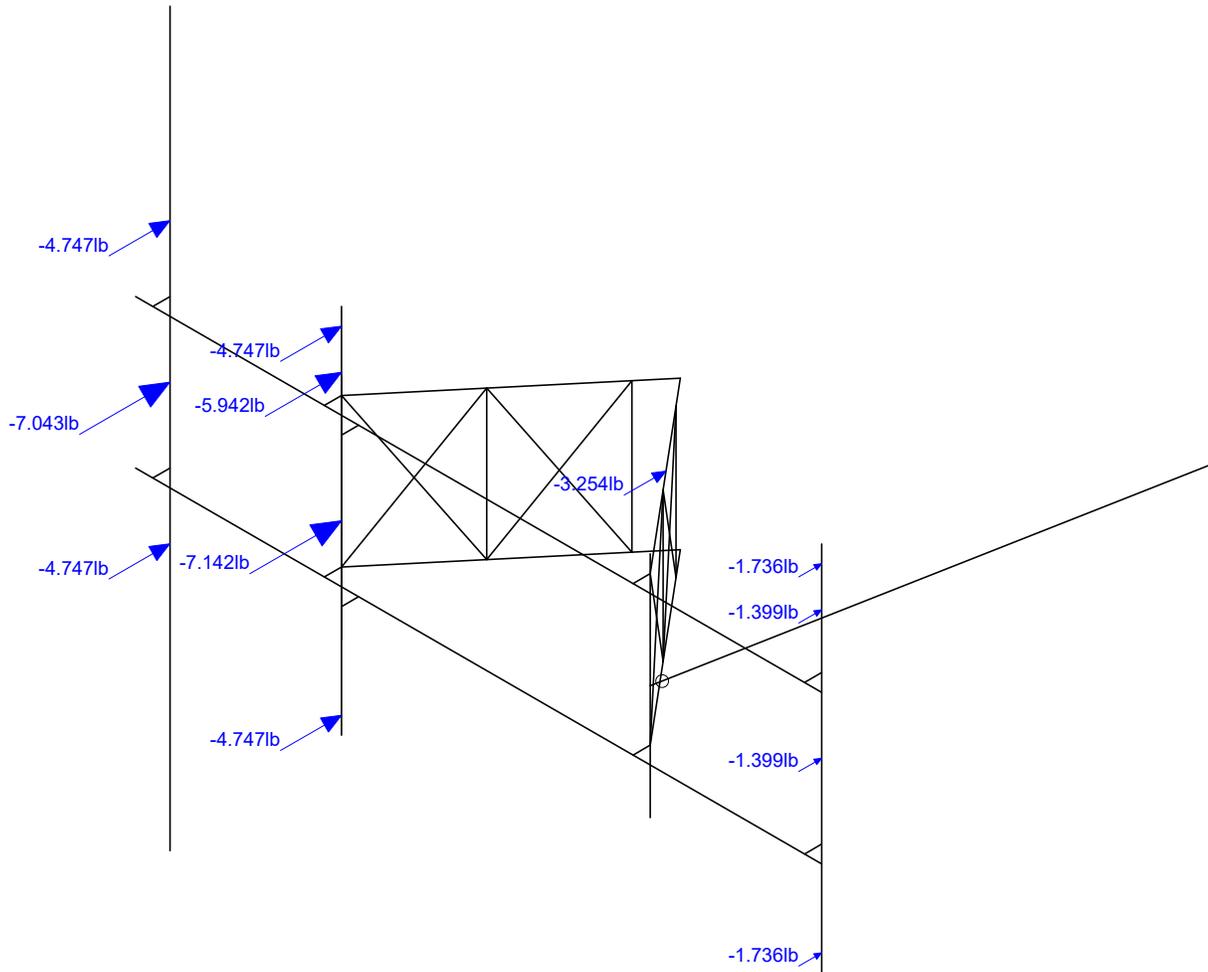
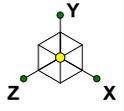
1106-A0001-B

CTL01052 (Gamma)

Wind + Ice Load AZI 000

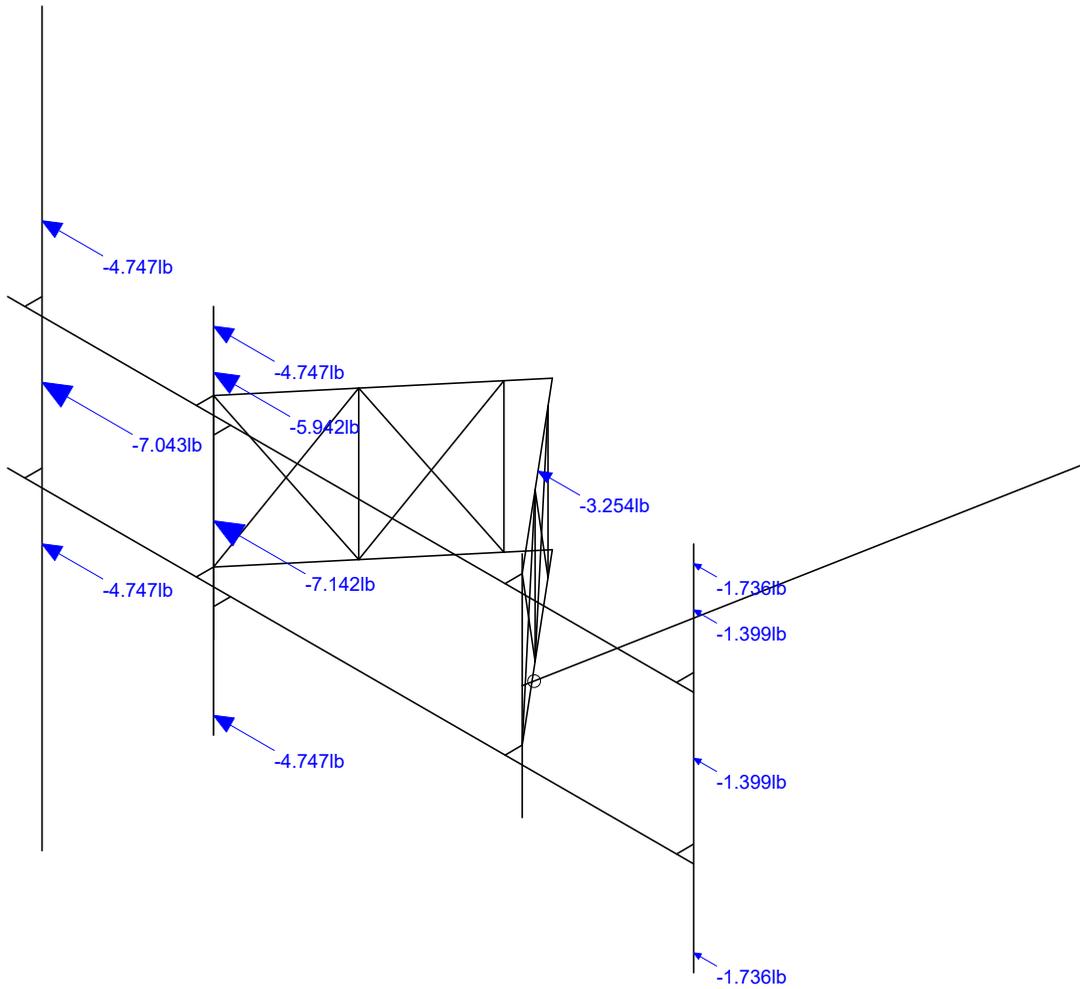
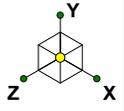
Oct 3, 2019 at 12:49 PM

CTL01052 (Gamma)_loaded.r3d



Loads: BLC 31, Seismic Load Z
Envelope Only Solution

Infinigy Engineering, PLLC	CTL01052 (Gamma)	Seismic Load AZI 000
TM		Oct 3, 2019 at 12:50 PM
1106-A0001-B		CTL01052 (Gamma)_loaded.r3d



Loads: BLC 32, Seismic Load X
Envelope Only Solution

Infinigy Engineering, PLLC

TM

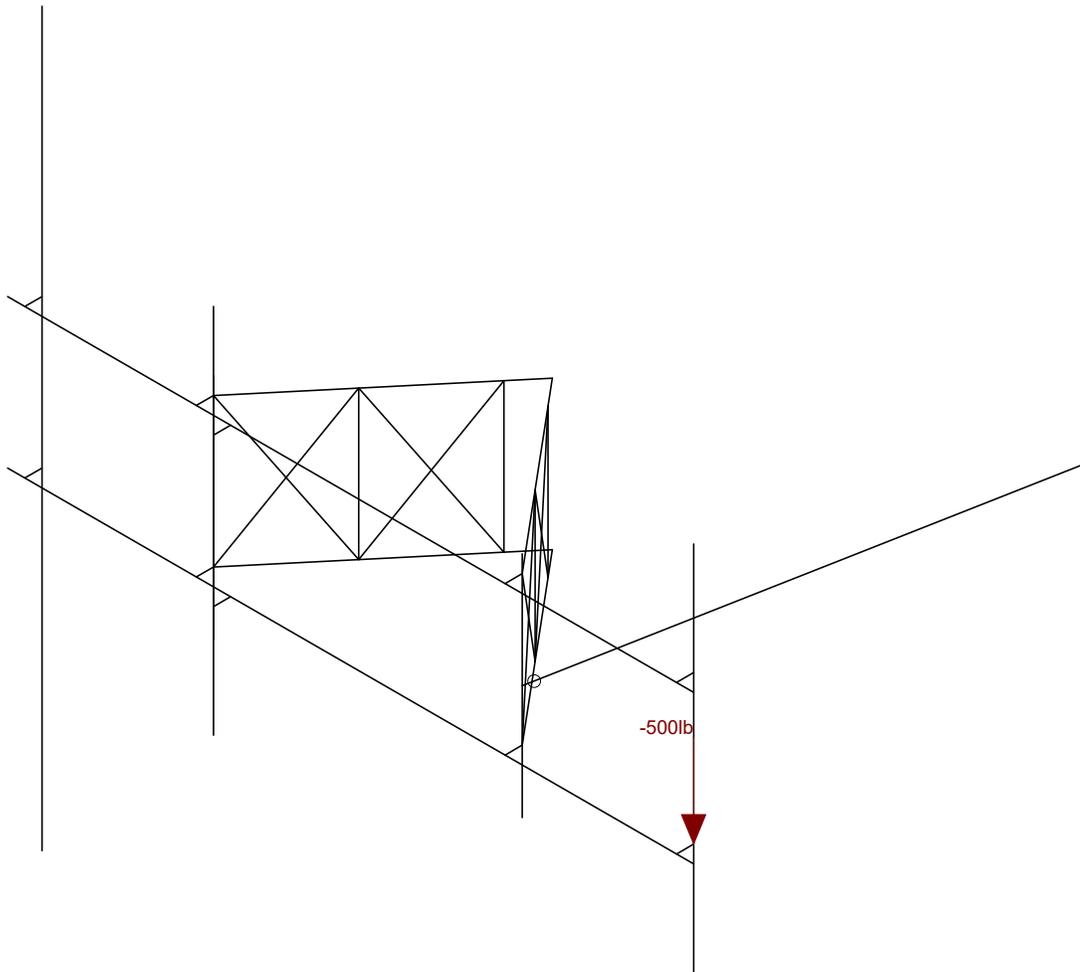
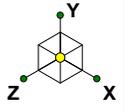
1106-A0001-B

CTL01052 (Gamma)

Seismic Load AZI 090

Oct 3, 2019 at 12:50 PM

CTL01052 (Gamma)_loaded.r3d



Loads: BLC 34, Maintenance Load 1
Envelope Only Solution

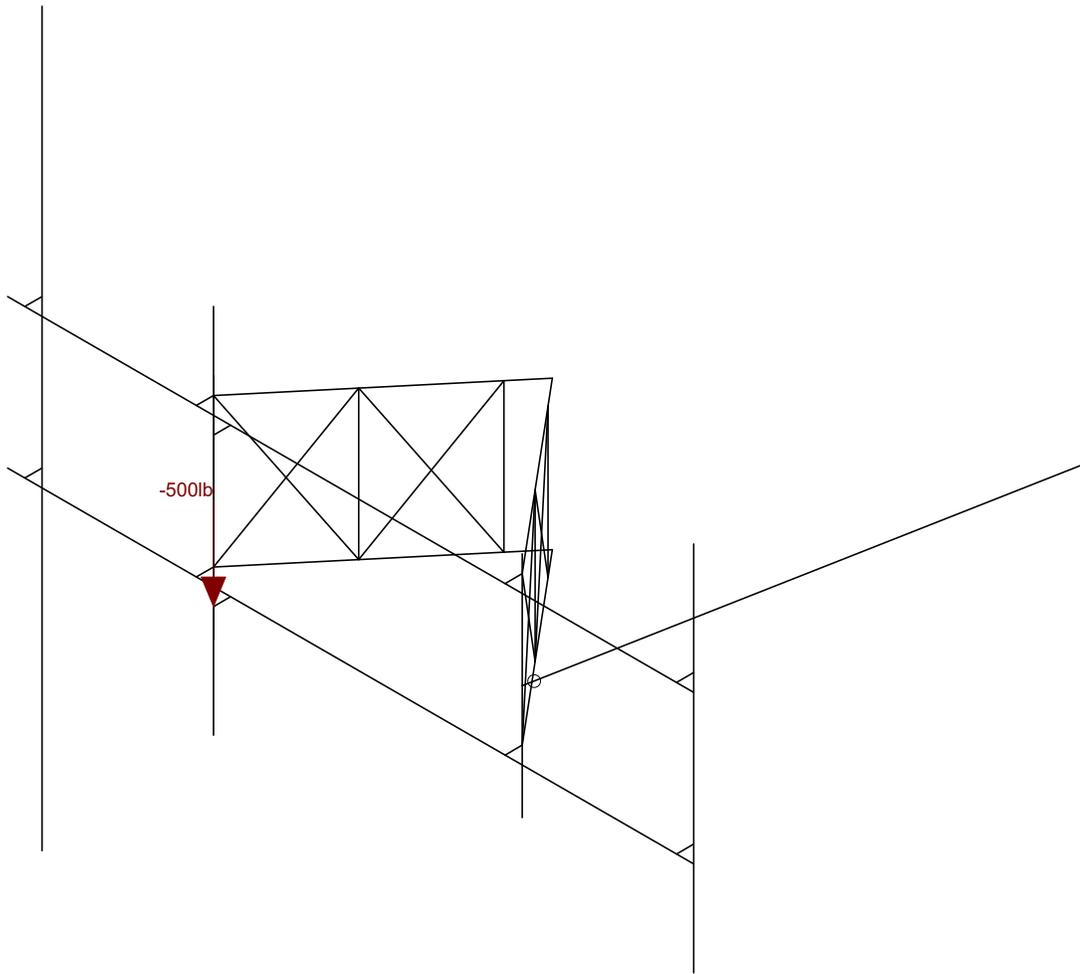
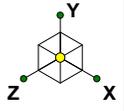
Infinigy Engineering, PLLC
TM
1106-A0001-B

CTL01052 (Gamma)

Maintenance Load 1

Oct 3, 2019 at 12:50 PM

CTL01052 (Gamma)_loaded.r3d



Loads: BLC 35, Maintenance Load 2
Envelope Only Solution

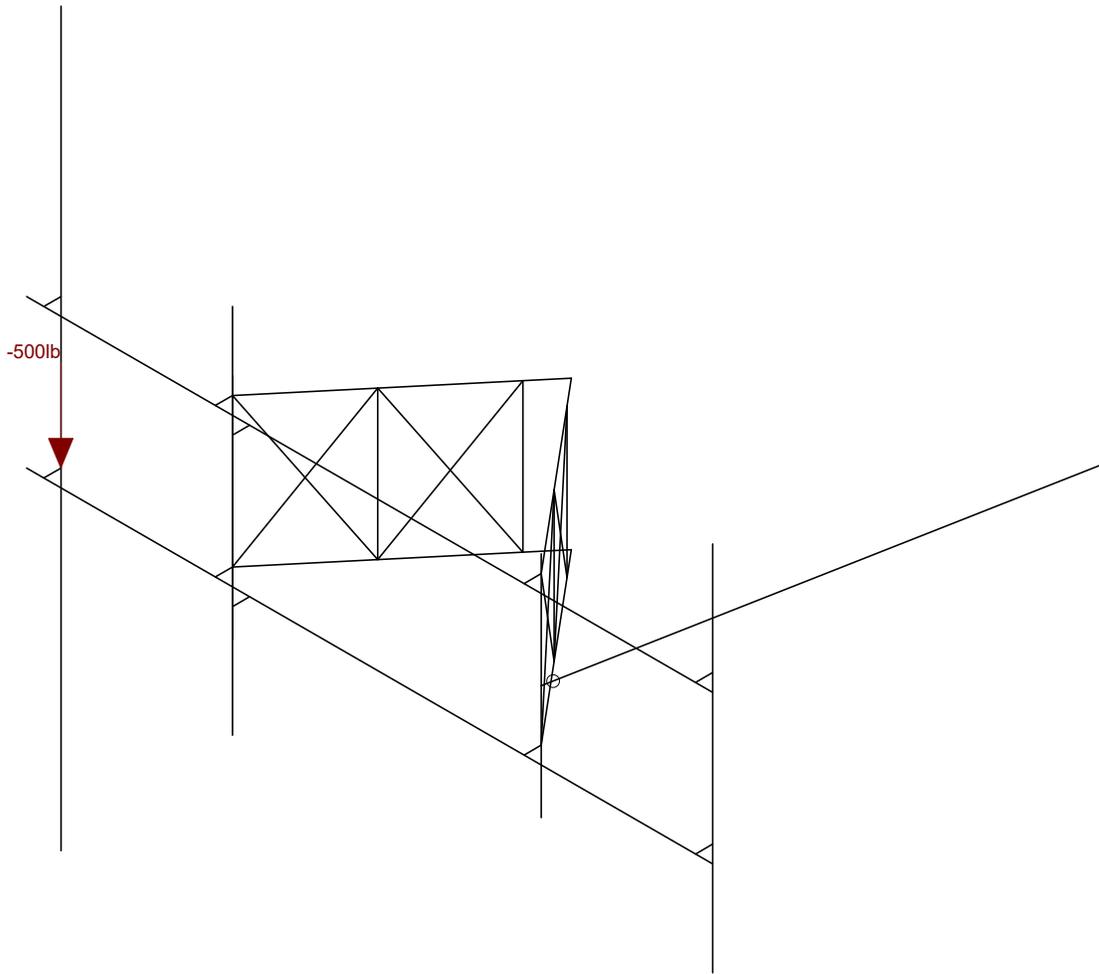
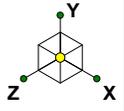
Infinigy Engineering, PLLC
TM
1106-A0001-B

CTL01052 (Gamma)

Maintenance Load 2

Oct 3, 2019 at 12:51 PM

CTL01052 (Gamma)_loaded.r3d



Loads: BLC 36, Maintenance Load 3
Envelope Only Solution

Infinigy Engineering, PLLC
TM
1106-A0001-B

CTL01052 (Gamma)

Maintenance Load 3

Oct 3, 2019 at 12:51 PM

CTL01052 (Gamma)_loaded.r3d

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(d...	Section/Shape	Type	Design List	Material	Design Rul...
1	M1	N3	N4		180	L2.5x2.5x5/16	None	None	A36 Gr.36	Typical
2	M2	N5	N6		180	L2.5x2.5x5/16	None	None	A36 Gr.36	Typical
3	M3	N20	N14			RIGID	None	None	RIGID	Typical
4	M4	N22	N16			RIGID	None	None	RIGID	Typical
5	M5	N19	N13			RIGID	None	None	RIGID	Typical
6	M6	N21	N15			RIGID	None	None	RIGID	Typical
7	M7	N17	N11			RIGID	None	None	RIGID	Typical
8	M8	N18	N12			RIGID	None	None	RIGID	Typical
9	M9	N27	N24			2.0" STD Pipe	None	None	A53 Gr.B	Typical
10	M10	N28	N26			2.0" STD Pipe	None	None	A53 Gr.B	Typical
11	M11	N27	N23			2.0" STD Pipe	None	None	A53 Gr.B	Typical
12	M12	N28	N25			2.0" STD Pipe	None	None	A53 Gr.B	Typical
13	M13	N32	N30			2.5" STD Pipe	None	None	A53 Gr.B	Typical
14	M14	N31	N29			2.5" STD Pipe	None	None	A53 Gr.B	Typical
15	M15	N33	N34			2.0" STD Pipe	None	None	A53 Gr.B	Typical
16	M16	N36	N35			5/8" SR	None	None	A36 Gr.36	Typical
17	M17	N42	N41			5/8" SR	None	None	A36 Gr.36	Typical
18	M18	N36	N41			3/8" SR	None	None	A36 Gr.36	Typical
19	M19	N42	N35			3/8" SR	None	None	A36 Gr.36	Typical
20	M20	N42	N24			3/8" SR	None	None	A36 Gr.36	Typical
21	M21	N26	N41			3/8" SR	None	None	A36 Gr.36	Typical
22	M22	N38	N37			5/8" SR	None	None	A36 Gr.36	Typical
23	M23	N39	N40			5/8" SR	None	None	A36 Gr.36	Typical
24	M24	N38	N40			3/8" SR	None	None	A36 Gr.36	Typical
25	M25	N39	N37			3/8" SR	None	None	A36 Gr.36	Typical
26	M26	N39	N23			3/8" SR	None	None	A36 Gr.36	Typical
27	M27	N25	N40			3/8" SR	None	None	A36 Gr.36	Typical
28	M28	N44	N24			RIGID	None	None	RIGID	Typical
29	M29	N46	N26			RIGID	None	None	RIGID	Typical
30	M30	N45	N25			RIGID	None	None	RIGID	Typical
31	M31	N43	N23			RIGID	None	None	RIGID	Typical
32	MP1	N1	N2			2.0" STD Pipe	None	None	A53 Gr.B	Typical
33	MP3	N8	N7			2.0" STD Pipe	None	None	A53 Gr.B	Typical
34	MP4	N10	N9			2.0" STD Pipe	None	None	A53 Gr.B	Typical

Material Takeoff

	Material	Size	Pieces	Length[in]	Weight[LB]
1	General				
2	RIGID		10	30	0
3	Total General		10	30	0
4					
5	Hot Rolled Steel				
6	A36 Gr.36	0.625" S.R.	4	104	9.054
7	A36 Gr.36	L2.5x2.5x5	2	240	99.361
8	A36 Gr.36	SR 3/8"	8	253.1	7.927
9	A53 Gr.B	PIPE 2.0	8	510.2	147.564
10	A53 Gr.B	PIPE 2.5	2	80	36.523
11	Total HR Steel		24	1187.3	300.429

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

Member	Shape	Code Ch...	Loc[in]	LC	Shear C...	Loc.....	LC	phi*Pn...	phi*Pn...	phi*M...	phi*M...	Egn
4	M25	SR 3/8"	.585	31.64	83	.010	0	29	518.49	3578.47	22.365	22.365 ... H1-1...
5	M21	SR 3/8"	.483	31.64	101	.014	31....	8	518.482	3578.47	22.365	22.365 ... H1-1...
6	M17	0.625" S.R.	.444	0	101	.023	0	102	4629.61	9946.8	96.768	96.768 ... H1-1a
7	M16	0.625" S.R.	.371	26	101	.030	0	102	4629.61	9946.8	96.768	96.768 ... H1-1a
8	M27	SR 3/8"	.353	31.64	83	.011	31....	2	518.482	3578.47	22.365	22.365 ... H1-1...
9	MP4	PIPE 2.0	.348	84	105	.074	58....	107	8645....	32130	1871....	1871.... ... H1-1b
10	M23	0.625" S.R.	.335	0	83	.024	0	101	4629.61	9946.8	96.768	96.768 ... H1-1a
11	MP1	PIPE 2.0	.289	45.365	83	.064	45....	76	22601...	32130	1871....	1871.... ... H1-1b
12	MP3	PIPE 2.0	.275	46.042	2	.068	19....	103	22601...	32130	1871....	1871.... ... H1-1b
13	M9	PIPE 2.0	.264	5.696	104	.149	0	105	27729...	32130	1871....	1871.... ... H1-1b
14	M14	PIPE 2.5	.256	20	9	.097	11....	9	46307...	50715	3596.25	3596.25 ... H1-1b
15	M10	PIPE 2.0	.247	6.134	101	.134	0	101	27729...	32130	1871....	1871.... ... H1-1b
16	M22	0.625" S.R.	.202	26	83	.030	26	104	4629.61	9946.8	96.768	96.768 ... H1-1b
17	M11	PIPE 2.0	.202	5.696	83	.129	0	83	27729...	32130	1871....	1871.... ... H1-1b
18	M12	PIPE 2.0	.188	6.134	76	.113	0	76	27729...	32130	1871....	1871.... ... H1-1b
19	M13	PIPE 2.5	.167	11.25	100	.095	36....	104	46307...	50715	3596.25	3596.25 ... H1-1b
20	M15	PIPE 2.0	.120	0	9	.004	0	11	17869...	32130	1871....	1871.... ... H1-1...
21	M24	SR 3/8"	.065	31.64	101	.009	0	110	518.49	3578.47	22.365	22.365 ... H1-1...
22	M26	SR 3/8"	.004	31.64	101	.006	31....	106	518.482	3578.47	22.365	22.365 ... H1-1...
23	M18	SR 3/8"	.000	0	110	.000	0	110	518.49	3578.47	22.365	22.365 1 H1-1a
24	M20	SR 3/8"	.000	0	110	.000	0	110	518.482	3578.47	22.365	22.365 1 H1-1a

Hot Rolled Steel Section Sets

Label	Shape	Type	Design List	Material	Design R...	A [in ²]	I _{yy} [in ⁴]	I _{zz} [in ⁴]	J [in ⁴]	
1	L2.5x2.5x5/16	L2.5x2.5x5	None	None	A36 Gr.36	Typical	1.46	.837	.837	.05
2	3/8" SR	SR 3/8"	None	None	A36 Gr.36	Typical	.11	.0009707	.0009707	.002
3	5/8" SR	0.625" S.R.	None	None	A36 Gr.36	Typical	.307	.007	.007	.015
4	2.5" STD Pipe	PIPE 2.5	None	None	A53 Gr.B	Typical	1.61	1.45	1.45	2.89
5	2.0" STD Pipe	PIPE 2.0	None	None	A53 Gr.B	Typical	1.02	.627	.627	1.25

Member Advanced Data

Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat..	Analysis ...	Inactive	Seismic...
1	M1					Yes	** NA **			None
2	M2					Yes	** NA **			None
3	M3					Yes	** NA **			None
4	M4					Yes	** NA **			None
5	M5					Yes	** NA **			None
6	M6					Yes	** NA **			None
7	M7					Yes	** NA **			None
8	M8					Yes	** NA **			None
9	M9					Yes	** NA **			None
10	M10					Yes	** NA **			None
11	M11					Yes	** NA **			None
12	M12					Yes	** NA **			None
13	M13					Yes	** NA **			None
14	M14					Yes	** NA **			None
15	M15	BenPIN				Yes	** NA **			None
16	M16					Yes	** NA **			None
17	M17					Yes	** NA **			None
18	M18				Tension ...	Yes	** NA **			None
19	M19				Tension ...	Yes	** NA **			None
20	M20				Tension ...	Yes	** NA **			None
21	M21				Tension ...	Yes	** NA **			None
22	M22					Yes	** NA **			None

Member Advanced Data (Continued)

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic...
23	M23						Yes	** NA **			None
24	M24					Tension ...	Yes	** NA **			None
25	M25					Tension ...	Yes	** NA **			None
26	M26					Tension ...	Yes	** NA **			None
27	M27					Tension ...	Yes	** NA **			None
28	M28						Yes	** NA **			None
29	M29						Yes	** NA **			None
30	M30						Yes	** NA **			None
31	M31						Yes	** NA **			None
32	MP1						Yes	** NA **			None
33	MP3						Yes	** NA **			None
34	MP4						Yes	** NA **			None

Hot Rolled Steel Design Parameters

	Label	Shape	Length[...]	Lbyy[in]	Lbzz[in]	Lcomp top[...]	Lcomp bot[...]	L-torque[...]	Kyy	Kzz	Cb	Functi...
1	M1	L2.5x2.5x5/16	120									Lateral
2	M2	L2.5x2.5x5/16	120									Lateral
3	M9	2.0" STD Pipe	42.06									Lateral
4	M10	2.0" STD Pipe	42.06									Lateral
5	M11	2.0" STD Pipe	42.06									Lateral
6	M12	2.0" STD Pipe	42.06									Lateral
7	M13	2.5" STD Pipe	40									Lateral
8	M14	2.5" STD Pipe	40									Lateral
9	M15	2.0" STD Pipe	83.943									Lateral
10	M16	5/8" SR	26						.7	.7		Lateral
11	M17	5/8" SR	26						.7	.7		Lateral
12	M18	3/8" SR	31.64						.65	.65		Lateral
13	M19	3/8" SR	31.64						.65	.65		Lateral
14	M20	3/8" SR	31.64						.65	.65		Lateral
15	M21	3/8" SR	31.64						.65	.65		Lateral
16	M22	5/8" SR	26						.7	.7		Lateral
17	M23	5/8" SR	26						.7	.7		Lateral
18	M24	3/8" SR	31.64						.65	.65		Lateral
19	M25	3/8" SR	31.64						.65	.65		Lateral
20	M26	3/8" SR	31.64						.65	.65		Lateral
21	M27	3/8" SR	31.64						.65	.65		Lateral
22	MP1	2.0" STD Pipe	65									Lateral
23	MP3	2.0" STD Pipe	65									Lateral
24	MP4	2.0" STD Pipe	128									Lateral

Joint Loads and Enforced Displacements (BLC 34 : Maintenance Load 1)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^...
1	N12	L	Y	-500

Joint Loads and Enforced Displacements (BLC 35 : Maintenance Load 2)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^...
1	N15	L	Y	-500

Joint Loads and Enforced Displacements (BLC 36 : Maintenance Load 3)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^...
1	N16	L	Y	-500

Member Point Loads (BLC 1 : Self Weight)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP1	Y	-17.5	3
2	MP1	Y	-17.5	62
3	MP3	Y	-47.85	3
4	MP3	Y	-47.85	62
5	MP4	Y	-47.85	46.5
6	MP4	Y	-47.85	95.5
7	MP1	Y	-14.1	55
8	MP1	Y	-14.1	32.5
9	M11	Y	-32.8	20
10	MP3	Y	-59.9	55
11	MP3	Y	-72	32.5
12	MP4	Y	-71	71

Member Point Loads (BLC 2 : Wind Load AZI 0)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP1	X	0	3
2	MP1	Z	-103.15	3
3	MP1	X	0	62
4	MP1	Z	-103.15	62
5	MP3	X	0	3
6	MP3	Z	-334.64	3
7	MP3	X	0	62
8	MP3	Z	-334.64	62
9	MP4	X	0	46.5
10	MP4	Z	-334.64	46.5
11	MP4	X	0	95.5
12	MP4	Z	-334.64	95.5
13	MP1	X	0	55
14	MP1	Z	-41.35	55
15	MP1	X	0	32.5
16	MP1	Z	-41.35	32.5
17	M11	X	0	20
18	M11	Z	-108.64	20
19	MP3	X	0	55
20	MP3	Z	-69	55
21	MP3	X	0	32.5
22	MP3	Z	-61.38	32.5
23	MP4	X	0	71
24	MP4	Z	-73.68	71

Member Point Loads (BLC 3 : Wind Load AZI 30)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP1	X	-45.53	3
2	MP1	Z	-78.87	3
3	MP1	X	-45.53	62
4	MP1	Z	-78.87	62
5	MP3	X	-144.5	3
6	MP3	Z	-250.29	3
7	MP3	X	-144.5	62
8	MP3	Z	-250.29	62
9	MP4	X	-144.5	46.5
10	MP4	Z	-250.29	46.5
11	MP4	X	-144.5	95.5
12	MP4	Z	-250.29	95.5
13	MP1	X	-17.13	55

Member Point Loads (BLC 3 : Wind Load AZI 30) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
14	MP1	Z	-29.67	55
15	MP1	X	-17.13	32.5
16	MP1	Z	-29.67	32.5
17	M11	X	-54.32	20
18	M11	Z	-94.08	20
19	MP3	X	-30.83	55
20	MP3	Z	-53.4	55
21	MP3	X	-29.35	32.5
22	MP3	Z	-50.84	32.5
23	MP4	X	-34.22	71
24	MP4	Z	-59.28	71

Member Point Loads (BLC 4 : Wind Load AZI 60)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP1	X	-57.95	3
2	MP1	Z	-33.46	3
3	MP1	X	-57.95	62
4	MP1	Z	-33.46	62
5	MP3	X	-171.24	3
6	MP3	Z	-98.86	3
7	MP3	X	-171.24	62
8	MP3	Z	-98.86	62
9	MP4	X	-171.24	46.5
10	MP4	Z	-98.86	46.5
11	MP4	X	-171.24	95.5
12	MP4	Z	-98.86	95.5
13	MP1	X	-17.4	55
14	MP1	Z	-10.04	55
15	MP1	X	-17.4	32.5
16	MP1	Z	-10.04	32.5
17	M11	X	-94.08	20
18	M11	Z	-54.32	20
19	MP3	X	-40.69	55
20	MP3	Z	-23.49	55
21	MP3	X	-46.21	32.5
22	MP3	Z	-26.68	32.5
23	MP4	X	-50.21	71
24	MP4	Z	-28.99	71

Member Point Loads (BLC 5 : Wind Load AZI 90)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP1	X	-54.83	3
2	MP1	Z	0	3
3	MP1	X	-54.83	62
4	MP1	Z	0	62
5	MP3	X	-152.09	3
6	MP3	Z	0	3
7	MP3	X	-152.09	62
8	MP3	Z	0	62
9	MP4	X	-152.09	46.5
10	MP4	Z	0	46.5
11	MP4	X	-152.09	95.5
12	MP4	Z	0	95.5
13	MP1	X	-13	55
14	MP1	Z	0	55
15	MP1	X	-13	32.5

Member Point Loads (BLC 5 : Wind Load AZI 90) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
16	MP1	Z	0	32.5
17	M11	X	-108.64	20
18	M11	Z	0	20
19	MP3	X	-39.65	55
20	MP3	Z	0	55
21	MP3	X	-50.69	32.5
22	MP3	Z	0	32.5
23	MP4	X	-52.74	71
24	MP4	Z	0	71

Member Point Loads (BLC 6 : Wind Load AZI 120)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP1	X	-57.95	3
2	MP1	Z	33.46	3
3	MP1	X	-57.95	62
4	MP1	Z	33.46	62
5	MP3	X	-171.24	3
6	MP3	Z	98.86	3
7	MP3	X	-171.24	62
8	MP3	Z	98.86	62
9	MP4	X	-171.24	46.5
10	MP4	Z	98.86	46.5
11	MP4	X	-171.24	95.5
12	MP4	Z	98.86	95.5
13	MP1	X	-17.4	55
14	MP1	Z	10.04	55
15	MP1	X	-17.4	32.5
16	MP1	Z	10.04	32.5
17	M11	X	-94.08	20
18	M11	Z	54.32	20
19	MP3	X	-40.69	55
20	MP3	Z	23.49	55
21	MP3	X	-46.21	32.5
22	MP3	Z	26.68	32.5
23	MP4	X	-50.21	71
24	MP4	Z	28.99	71

Member Point Loads (BLC 7 : Wind Load AZI 150)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP1	X	-45.53	3
2	MP1	Z	78.87	3
3	MP1	X	-45.53	62
4	MP1	Z	78.87	62
5	MP3	X	-144.5	3
6	MP3	Z	250.29	3
7	MP3	X	-144.5	62
8	MP3	Z	250.29	62
9	MP4	X	-144.5	46.5
10	MP4	Z	250.29	46.5
11	MP4	X	-144.5	95.5
12	MP4	Z	250.29	95.5
13	MP1	X	-17.13	55
14	MP1	Z	29.67	55
15	MP1	X	-17.13	32.5
16	MP1	Z	29.67	32.5
17	M11	X	-54.32	20

Member Point Loads (BLC 7 : Wind Load AZI 150) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
18	M11	Z	94.08	20
19	MP3	X	-30.83	55
20	MP3	Z	53.4	55
21	MP3	X	-29.35	32.5
22	MP3	Z	50.84	32.5
23	MP4	X	-34.22	71
24	MP4	Z	59.28	71

Member Point Loads (BLC 8 : Wind Load AZI 180)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP1	X	0	3
2	MP1	Z	103.15	3
3	MP1	X	0	62
4	MP1	Z	103.15	62
5	MP3	X	0	3
6	MP3	Z	334.64	3
7	MP3	X	0	62
8	MP3	Z	334.64	62
9	MP4	X	0	46.5
10	MP4	Z	334.64	46.5
11	MP4	X	0	95.5
12	MP4	Z	334.64	95.5
13	MP1	X	0	55
14	MP1	Z	41.35	55
15	MP1	X	0	32.5
16	MP1	Z	41.35	32.5
17	M11	X	0	20
18	M11	Z	108.64	20
19	MP3	X	0	55
20	MP3	Z	69	55
21	MP3	X	0	32.5
22	MP3	Z	61.38	32.5
23	MP4	X	0	71
24	MP4	Z	73.68	71

Member Point Loads (BLC 9 : Wind Load AZI 210)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP1	X	45.53	3
2	MP1	Z	78.87	3
3	MP1	X	45.53	62
4	MP1	Z	78.87	62
5	MP3	X	144.5	3
6	MP3	Z	250.29	3
7	MP3	X	144.5	62
8	MP3	Z	250.29	62
9	MP4	X	144.5	46.5
10	MP4	Z	250.29	46.5
11	MP4	X	144.5	95.5
12	MP4	Z	250.29	95.5
13	MP1	X	17.13	55
14	MP1	Z	29.67	55
15	MP1	X	17.13	32.5
16	MP1	Z	29.67	32.5
17	M11	X	54.32	20
18	M11	Z	94.08	20
19	MP3	X	30.83	55

Member Point Loads (BLC 9 : Wind Load AZI 210) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
20	MP3	Z	53.4	55
21	MP3	X	29.35	32.5
22	MP3	Z	50.84	32.5
23	MP4	X	34.22	71
24	MP4	Z	59.28	71

Member Point Loads (BLC 10 : Wind Load AZI 240)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP1	X	57.95	3
2	MP1	Z	33.46	3
3	MP1	X	57.95	62
4	MP1	Z	33.46	62
5	MP3	X	171.24	3
6	MP3	Z	98.86	3
7	MP3	X	171.24	62
8	MP3	Z	98.86	62
9	MP4	X	171.24	46.5
10	MP4	Z	98.86	46.5
11	MP4	X	171.24	95.5
12	MP4	Z	98.86	95.5
13	MP1	X	17.4	55
14	MP1	Z	10.04	55
15	MP1	X	17.4	32.5
16	MP1	Z	10.04	32.5
17	M11	X	94.08	20
18	M11	Z	54.32	20
19	MP3	X	40.69	55
20	MP3	Z	23.49	55
21	MP3	X	46.21	32.5
22	MP3	Z	26.68	32.5
23	MP4	X	50.21	71
24	MP4	Z	28.99	71

Member Point Loads (BLC 11 : Wind Load AZI 270)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP1	X	54.83	3
2	MP1	Z	0	3
3	MP1	X	54.83	62
4	MP1	Z	0	62
5	MP3	X	152.09	3
6	MP3	Z	0	3
7	MP3	X	152.09	62
8	MP3	Z	0	62
9	MP4	X	152.09	46.5
10	MP4	Z	0	46.5
11	MP4	X	152.09	95.5
12	MP4	Z	0	95.5
13	MP1	X	13	55
14	MP1	Z	0	55
15	MP1	X	13	32.5
16	MP1	Z	0	32.5
17	M11	X	108.64	20
18	M11	Z	0	20
19	MP3	X	39.65	55
20	MP3	Z	0	55
21	MP3	X	50.69	32.5

Member Point Loads (BLC 11 : Wind Load AZI 270) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
22	MP3	Z	0	32.5
23	MP4	X	52.74	71
24	MP4	Z	0	71

Member Point Loads (BLC 12 : Wind Load AZI 300)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	57.95	3
2	MP1	Z	-33.46	3
3	MP1	X	57.95	62
4	MP1	Z	-33.46	62
5	MP3	X	171.24	3
6	MP3	Z	-98.86	3
7	MP3	X	171.24	62
8	MP3	Z	-98.86	62
9	MP4	X	171.24	46.5
10	MP4	Z	-98.86	46.5
11	MP4	X	171.24	95.5
12	MP4	Z	-98.86	95.5
13	MP1	X	17.4	55
14	MP1	Z	-10.04	55
15	MP1	X	17.4	32.5
16	MP1	Z	-10.04	32.5
17	M11	X	94.08	20
18	M11	Z	-54.32	20
19	MP3	X	40.69	55
20	MP3	Z	-23.49	55
21	MP3	X	46.21	32.5
22	MP3	Z	-26.68	32.5
23	MP4	X	50.21	71
24	MP4	Z	-28.99	71

Member Point Loads (BLC 13 : Wind Load AZI 330)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	45.53	3
2	MP1	Z	-78.87	3
3	MP1	X	45.53	62
4	MP1	Z	-78.87	62
5	MP3	X	144.5	3
6	MP3	Z	-250.29	3
7	MP3	X	144.5	62
8	MP3	Z	-250.29	62
9	MP4	X	144.5	46.5
10	MP4	Z	-250.29	46.5
11	MP4	X	144.5	95.5
12	MP4	Z	-250.29	95.5
13	MP1	X	17.13	55
14	MP1	Z	-29.67	55
15	MP1	X	17.13	32.5
16	MP1	Z	-29.67	32.5
17	M11	X	54.32	20
18	M11	Z	-94.08	20
19	MP3	X	30.83	55
20	MP3	Z	-53.4	55
21	MP3	X	29.35	32.5
22	MP3	Z	-50.84	32.5
23	MP4	X	34.22	71

Member Point Loads (BLC 13 : Wind Load AZI 330) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
24	MP4	Z	-59.28	71

Member Point Loads (BLC 16 : Ice Weight)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP1	Y	-43.228	3
2	MP1	Y	-43.228	62
3	MP3	Y	-124.105	3
4	MP3	Y	-124.105	62
5	MP4	Y	-124.105	46.5
6	MP4	Y	-124.105	95.5
7	MP1	Y	-20.424	55
8	MP1	Y	-20.424	32.5
9	M11	Y	-73.299	20
10	MP3	Y	-42.587	55
11	MP3	Y	-46.866	32.5
12	MP4	Y	-49.223	71

Member Point Loads (BLC 17 : Ice Wind Load AZI 0)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP1	X	0	3
2	MP1	Z	-10.5	3
3	MP1	X	0	62
4	MP1	Z	-10.5	62
5	MP3	X	0	3
6	MP3	Z	-27.67	3
7	MP3	X	0	62
8	MP3	Z	-27.67	62
9	MP4	X	0	46.5
10	MP4	Z	-27.67	46.5
11	MP4	X	0	95.5
12	MP4	Z	-27.67	95.5
13	MP1	X	0	55
14	MP1	Z	-5.33	55
15	MP1	X	0	32.5
16	MP1	Z	-5.33	32.5
17	M11	X	0	20
18	M11	Z	-11.5	20
19	MP3	X	0	55
20	MP3	Z	-7.03	55
21	MP3	X	0	32.5
22	MP3	Z	-6.39	32.5
23	MP4	X	0	71
24	MP4	Z	-7.49	71

Member Point Loads (BLC 18 : Ice Wind Load AZI 30)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP1	X	-4.91	3
2	MP1	Z	-8.51	3
3	MP1	X	-4.91	62
4	MP1	Z	-8.51	62
5	MP3	X	-12.59	3
6	MP3	Z	-21.8	3
7	MP3	X	-12.59	62
8	MP3	Z	-21.8	62
9	MP4	X	-12.59	46.5

Member Point Loads (BLC 18 : Ice Wind Load AZI 30) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
10	MP4	Z	-21.8	46.5
11	MP4	X	-12.59	95.5
12	MP4	Z	-21.8	95.5
13	MP1	X	-2.34	55
14	MP1	Z	-4.05	55
15	MP1	X	-2.34	32.5
16	MP1	Z	-4.05	32.5
17	M11	X	-5.75	20
18	M11	Z	-9.96	20
19	MP3	X	-3.33	55
20	MP3	Z	-5.77	55
21	MP3	X	-3.13	32.5
22	MP3	Z	-5.42	32.5
23	MP4	X	-3.62	71
24	MP4	Z	-6.28	71

Member Point Loads (BLC 19 : Ice Wind Load AZI 60)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP1	X	-7.36	3
2	MP1	Z	-4.25	3
3	MP1	X	-7.36	62
4	MP1	Z	-4.25	62
5	MP3	X	-17.5	3
6	MP3	Z	-10.1	3
7	MP3	X	-17.5	62
8	MP3	Z	-10.1	62
9	MP4	X	-17.5	46.5
10	MP4	Z	-10.1	46.5
11	MP4	X	-17.5	95.5
12	MP4	Z	-10.1	95.5
13	MP1	X	-2.93	55
14	MP1	Z	-1.69	55
15	MP1	X	-2.93	32.5
16	MP1	Z	-1.69	32.5
17	M11	X	-9.96	20
18	M11	Z	-5.75	20
19	MP3	X	-5.15	55
20	MP3	Z	-2.97	55
21	MP3	X	-5.21	32.5
22	MP3	Z	-3.01	32.5
23	MP4	X	-5.85	71
24	MP4	Z	-3.38	71

Member Point Loads (BLC 20 : Ice Wind Load AZI 90)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP1	X	-7.83	3
2	MP1	Z	0	3
3	MP1	X	-7.83	62
4	MP1	Z	0	62
5	MP3	X	-17.71	3
6	MP3	Z	0	3
7	MP3	X	-17.71	62
8	MP3	Z	0	62
9	MP4	X	-17.71	46.5
10	MP4	Z	0	46.5
11	MP4	X	-17.71	95.5

Member Point Loads (BLC 20 : Ice Wind Load AZI 90) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
12	MP4	Z	0	95.5
13	MP1	X	-2.73	55
14	MP1	Z	0	55
15	MP1	X	-2.73	32.5
16	MP1	Z	0	32.5
17	M11	X	-11.5	20
18	M11	Z	0	20
19	MP3	X	-5.58	55
20	MP3	Z	0	55
21	MP3	X	-5.89	32.5
22	MP3	Z	0	32.5
23	MP4	X	-6.5	71
24	MP4	Z	0	71

Member Point Loads (BLC 21 : Ice Wind Load AZI 120)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP1	X	-7.36	3
2	MP1	Z	4.25	3
3	MP1	X	-7.36	62
4	MP1	Z	4.25	62
5	MP3	X	-17.5	3
6	MP3	Z	10.1	3
7	MP3	X	-17.5	62
8	MP3	Z	10.1	62
9	MP4	X	-17.5	46.5
10	MP4	Z	10.1	46.5
11	MP4	X	-17.5	95.5
12	MP4	Z	10.1	95.5
13	MP1	X	-2.93	55
14	MP1	Z	1.69	55
15	MP1	X	-2.93	32.5
16	MP1	Z	1.69	32.5
17	M11	X	-9.96	20
18	M11	Z	5.75	20
19	MP3	X	-5.15	55
20	MP3	Z	2.97	55
21	MP3	X	-5.21	32.5
22	MP3	Z	3.01	32.5
23	MP4	X	-5.85	71
24	MP4	Z	3.38	71

Member Point Loads (BLC 22 : Ice Wind Load AZI 150)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP1	X	-4.91	3
2	MP1	Z	8.51	3
3	MP1	X	-4.91	62
4	MP1	Z	8.51	62
5	MP3	X	-12.59	3
6	MP3	Z	21.8	3
7	MP3	X	-12.59	62
8	MP3	Z	21.8	62
9	MP4	X	-12.59	46.5
10	MP4	Z	21.8	46.5
11	MP4	X	-12.59	95.5
12	MP4	Z	21.8	95.5
13	MP1	X	-2.34	55

Member Point Loads (BLC 22 : Ice Wind Load AZI 150) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
14	MP1	Z	4.05	55
15	MP1	X	-2.34	32.5
16	MP1	Z	4.05	32.5
17	M11	X	-5.75	20
18	M11	Z	9.96	20
19	MP3	X	-3.33	55
20	MP3	Z	5.77	55
21	MP3	X	-3.13	32.5
22	MP3	Z	5.42	32.5
23	MP4	X	-3.62	71
24	MP4	Z	6.28	71

Member Point Loads (BLC 23 : Ice Wind Load AZI 180)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP1	X	0	3
2	MP1	Z	10.5	3
3	MP1	X	0	62
4	MP1	Z	10.5	62
5	MP3	X	0	3
6	MP3	Z	27.67	3
7	MP3	X	0	62
8	MP3	Z	27.67	62
9	MP4	X	0	46.5
10	MP4	Z	27.67	46.5
11	MP4	X	0	95.5
12	MP4	Z	27.67	95.5
13	MP1	X	0	55
14	MP1	Z	5.33	55
15	MP1	X	0	32.5
16	MP1	Z	5.33	32.5
17	M11	X	0	20
18	M11	Z	11.5	20
19	MP3	X	0	55
20	MP3	Z	7.03	55
21	MP3	X	0	32.5
22	MP3	Z	6.39	32.5
23	MP4	X	0	71
24	MP4	Z	7.49	71

Member Point Loads (BLC 24 : Ice Wind Load AZI 210)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP1	X	4.91	3
2	MP1	Z	8.51	3
3	MP1	X	4.91	62
4	MP1	Z	8.51	62
5	MP3	X	12.59	3
6	MP3	Z	21.8	3
7	MP3	X	12.59	62
8	MP3	Z	21.8	62
9	MP4	X	12.59	46.5
10	MP4	Z	21.8	46.5
11	MP4	X	12.59	95.5
12	MP4	Z	21.8	95.5
13	MP1	X	2.34	55
14	MP1	Z	4.05	55
15	MP1	X	2.34	32.5

Member Point Loads (BLC 24 : Ice Wind Load AZI 210) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
16	MP1	Z	4.05	32.5
17	M11	X	5.75	20
18	M11	Z	9.96	20
19	MP3	X	3.33	55
20	MP3	Z	5.77	55
21	MP3	X	3.13	32.5
22	MP3	Z	5.42	32.5
23	MP4	X	3.62	71
24	MP4	Z	6.28	71

Member Point Loads (BLC 25 : Ice Wind Load AZI 240)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP1	X	7.36	3
2	MP1	Z	4.25	3
3	MP1	X	7.36	62
4	MP1	Z	4.25	62
5	MP3	X	17.5	3
6	MP3	Z	10.1	3
7	MP3	X	17.5	62
8	MP3	Z	10.1	62
9	MP4	X	17.5	46.5
10	MP4	Z	10.1	46.5
11	MP4	X	17.5	95.5
12	MP4	Z	10.1	95.5
13	MP1	X	2.93	55
14	MP1	Z	1.69	55
15	MP1	X	2.93	32.5
16	MP1	Z	1.69	32.5
17	M11	X	9.96	20
18	M11	Z	5.75	20
19	MP3	X	5.15	55
20	MP3	Z	2.97	55
21	MP3	X	5.21	32.5
22	MP3	Z	3.01	32.5
23	MP4	X	5.85	71
24	MP4	Z	3.38	71

Member Point Loads (BLC 26 : Ice Wind Load AZI 270)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP1	X	7.83	3
2	MP1	Z	0	3
3	MP1	X	7.83	62
4	MP1	Z	0	62
5	MP3	X	17.71	3
6	MP3	Z	0	3
7	MP3	X	17.71	62
8	MP3	Z	0	62
9	MP4	X	17.71	46.5
10	MP4	Z	0	46.5
11	MP4	X	17.71	95.5
12	MP4	Z	0	95.5
13	MP1	X	2.73	55
14	MP1	Z	0	55
15	MP1	X	2.73	32.5
16	MP1	Z	0	32.5
17	M11	X	11.5	20

Member Point Loads (BLC 26 : Ice Wind Load AZI 270) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
18	M11	Z	0	20
19	MP3	X	5.58	55
20	MP3	Z	0	55
21	MP3	X	5.89	32.5
22	MP3	Z	0	32.5
23	MP4	X	6.5	71
24	MP4	Z	0	71

Member Point Loads (BLC 27 : Ice Wind Load AZI 300)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP1	X	7.36	3
2	MP1	Z	-4.25	3
3	MP1	X	7.36	62
4	MP1	Z	-4.25	62
5	MP3	X	17.5	3
6	MP3	Z	-10.1	3
7	MP3	X	17.5	62
8	MP3	Z	-10.1	62
9	MP4	X	17.5	46.5
10	MP4	Z	-10.1	46.5
11	MP4	X	17.5	95.5
12	MP4	Z	-10.1	95.5
13	MP1	X	2.93	55
14	MP1	Z	-1.69	55
15	MP1	X	2.93	32.5
16	MP1	Z	-1.69	32.5
17	M11	X	9.96	20
18	M11	Z	-5.75	20
19	MP3	X	5.15	55
20	MP3	Z	-2.97	55
21	MP3	X	5.21	32.5
22	MP3	Z	-3.01	32.5
23	MP4	X	5.85	71
24	MP4	Z	-3.38	71

Member Point Loads (BLC 28 : Ice Wind Load AZI 330)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP1	X	4.91	3
2	MP1	Z	-8.51	3
3	MP1	X	4.91	62
4	MP1	Z	-8.51	62
5	MP3	X	12.59	3
6	MP3	Z	-21.8	3
7	MP3	X	12.59	62
8	MP3	Z	-21.8	62
9	MP4	X	12.59	46.5
10	MP4	Z	-21.8	46.5
11	MP4	X	12.59	95.5
12	MP4	Z	-21.8	95.5
13	MP1	X	2.34	55
14	MP1	Z	-4.05	55
15	MP1	X	2.34	32.5
16	MP1	Z	-4.05	32.5
17	M11	X	5.75	20
18	M11	Z	-9.96	20
19	MP3	X	3.33	55

Member Point Loads (BLC 28 : Ice Wind Load AZI 330) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
20	MP3	Z	-5.77	55
21	MP3	X	3.13	32.5
22	MP3	Z	-5.42	32.5
23	MP4	X	3.62	71
24	MP4	Z	-6.28	71

Member Point Loads (BLC 31 : Seismic Load Z)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP1	Z	-1.736	3
2	MP1	Z	-1.736	62
3	MP3	Z	-4.747	3
4	MP3	Z	-4.747	62
5	MP4	Z	-4.747	46.5
6	MP4	Z	-4.747	95.5
7	MP1	Z	-1.399	55
8	MP1	Z	-1.399	32.5
9	M11	Z	-3.254	20
10	MP3	Z	-5.942	55
11	MP3	Z	-7.142	32.5
12	MP4	Z	-7.043	71

Member Point Loads (BLC 32 : Seismic Load X)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP1	X	-1.736	3
2	MP1	X	-1.736	62
3	MP3	X	-4.747	3
4	MP3	X	-4.747	62
5	MP4	X	-4.747	46.5
6	MP4	X	-4.747	95.5
7	MP1	X	-1.399	55
8	MP1	X	-1.399	32.5
9	M11	X	-3.254	20
10	MP3	X	-5.942	55
11	MP3	X	-7.142	32.5
12	MP4	X	-7.043	71

Member Distributed Loads (BLC 14 : Distr. Wind Load Z)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,...	Start Location[in, %]	End Location[in, %]
1	M1	SZ	-83.224	-83.224	0	%100
2	M2	SZ	-83.224	-83.224	0	%100
3	M3	SZ	0	0	0	%100
4	M4	SZ	0	0	0	%100
5	M5	SZ	0	0	0	%100
6	M6	SZ	0	0	0	%100
7	M7	SZ	0	0	0	%100
8	M8	SZ	0	0	0	%100
9	M9	SZ	-49.934	-49.934	0	%100
10	M10	SZ	-49.934	-49.934	0	%100
11	M11	SZ	-49.934	-49.934	0	%100
12	M12	SZ	-49.934	-49.934	0	%100
13	M13	SZ	-49.934	-49.934	0	%100
14	M14	SZ	-49.934	-49.934	0	%100
15	M15	SZ	-49.934	-49.934	0	%100
16	M16	SZ	-49.934	-49.934	0	%100

Member Distributed Loads (BLC 14 : Distr. Wind Load Z) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,...]	End Magnitude[lb/ft,...]	Start Location[in,%]	End Location[in,%]
17	M17	SZ	-49.934	-49.934	0	%100
18	M18	SZ	-49.934	-49.934	0	%100
19	M19	SZ	-49.934	-49.934	0	%100
20	M20	SZ	-49.934	-49.934	0	%100
21	M21	SZ	-49.934	-49.934	0	%100
22	M22	SZ	-49.934	-49.934	0	%100
23	M23	SZ	-49.934	-49.934	0	%100
24	M24	SZ	-49.934	-49.934	0	%100
25	M25	SZ	-49.934	-49.934	0	%100
26	M26	SZ	-49.934	-49.934	0	%100
27	M27	SZ	-49.934	-49.934	0	%100
28	M28	SZ	0	0	0	%100
29	M29	SZ	0	0	0	%100
30	M30	SZ	0	0	0	%100
31	M31	SZ	0	0	0	%100
32	MP1	SZ	-49.934	-49.934	0	%100
33	MP3	SZ	-49.934	-49.934	0	%100
34	MP4	SZ	-49.934	-49.934	0	%100

Member Distributed Loads (BLC 15 : Distr. Wind Load X)

	Member Label	Direction	Start Magnitude[lb/ft,...]	End Magnitude[lb/ft,...]	Start Location[in,%]	End Location[in,%]
1	M1	SX	-83.224	-83.224	0	%100
2	M2	SX	-83.224	-83.224	0	%100
3	M3	SX	0	0	0	%100
4	M4	SX	0	0	0	%100
5	M5	SX	0	0	0	%100
6	M6	SX	0	0	0	%100
7	M7	SX	0	0	0	%100
8	M8	SX	0	0	0	%100
9	M9	SX	-49.934	-49.934	0	%100
10	M10	SX	-49.934	-49.934	0	%100
11	M11	SX	-49.934	-49.934	0	%100
12	M12	SX	-49.934	-49.934	0	%100
13	M13	SX	-49.934	-49.934	0	%100
14	M14	SX	-49.934	-49.934	0	%100
15	M15	SX	-49.934	-49.934	0	%100
16	M16	SX	-49.934	-49.934	0	%100
17	M17	SX	-49.934	-49.934	0	%100
18	M18	SX	-49.934	-49.934	0	%100
19	M19	SX	-49.934	-49.934	0	%100
20	M20	SX	-49.934	-49.934	0	%100
21	M21	SX	-49.934	-49.934	0	%100
22	M22	SX	-49.934	-49.934	0	%100
23	M23	SX	-49.934	-49.934	0	%100
24	M24	SX	-49.934	-49.934	0	%100
25	M25	SX	-49.934	-49.934	0	%100
26	M26	SX	-49.934	-49.934	0	%100
27	M27	SX	-49.934	-49.934	0	%100
28	M28	SX	0	0	0	%100
29	M29	SX	0	0	0	%100
30	M30	SX	0	0	0	%100
31	M31	SX	0	0	0	%100
32	MP1	SX	-49.934	-49.934	0	%100
33	MP3	SX	-49.934	-49.934	0	%100
34	MP4	SX	-49.934	-49.934	0	%100

Member Distributed Loads (BLC 16 : Ice Weight)

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[in, %]	End Location[in, %]
1	M1	Y	-6.946	-6.946	0	%100
2	M2	Y	-6.946	-6.946	0	%100
3	M3	Y	-1.76	-1.76	0	%100
4	M4	Y	-1.76	-1.76	0	%100
5	M5	Y	-1.76	-1.76	0	%100
6	M6	Y	-1.76	-1.76	0	%100
7	M7	Y	-1.76	-1.76	0	%100
8	M8	Y	-1.76	-1.76	0	%100
9	M9	Y	-5.244	-5.244	0	%100
10	M10	Y	-5.244	-5.244	0	%100
11	M11	Y	-5.244	-5.244	0	%100
12	M12	Y	-5.244	-5.244	0	%100
13	M13	Y	-5.977	-5.977	0	%100
14	M14	Y	-5.977	-5.977	0	%100
15	M15	Y	-5.244	-5.244	0	%100
16	M16	Y	-2.677	-2.677	0	%100
17	M17	Y	-2.677	-2.677	0	%100
18	M18	Y	-2.31	-2.31	0	%100
19	M19	Y	-2.31	-2.31	0	%100
20	M20	Y	-2.31	-2.31	0	%100
21	M21	Y	-2.31	-2.31	0	%100
22	M22	Y	-2.677	-2.677	0	%100
23	M23	Y	-2.677	-2.677	0	%100
24	M24	Y	-2.31	-2.31	0	%100
25	M25	Y	-2.31	-2.31	0	%100
26	M26	Y	-2.31	-2.31	0	%100
27	M27	Y	-2.31	-2.31	0	%100
28	M28	Y	-1.76	-1.76	0	%100
29	M29	Y	-1.76	-1.76	0	%100
30	M30	Y	-1.76	-1.76	0	%100
31	M31	Y	-1.76	-1.76	0	%100
32	MP1	Y	-5.244	-5.244	0	%100
33	MP3	Y	-5.244	-5.244	0	%100
34	MP4	Y	-5.244	-5.244	0	%100

Member Distributed Loads (BLC 29 : Distr. Ice Wind Load Z)

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[in, %]	End Location[in, %]
1	M1	SZ	-14.556	-14.556	0	%100
2	M2	SZ	-14.556	-14.556	0	%100
3	M3	SZ	0	0	0	%100
4	M4	SZ	0	0	0	%100
5	M5	SZ	0	0	0	%100
6	M6	SZ	0	0	0	%100
7	M7	SZ	0	0	0	%100
8	M8	SZ	0	0	0	%100
9	M9	SZ	-17.432	-17.432	0	%100
10	M10	SZ	-17.432	-17.432	0	%100
11	M11	SZ	-17.432	-17.432	0	%100
12	M12	SZ	-17.432	-17.432	0	%100
13	M13	SZ	-15.908	-15.908	0	%100
14	M14	SZ	-15.908	-15.908	0	%100
15	M15	SZ	-17.432	-17.432	0	%100
16	M16	SZ	-41.97	-41.97	0	%100
17	M17	SZ	-41.97	-41.97	0	%100
18	M18	SZ	-64.17	-64.17	0	%100
19	M19	SZ	-64.17	-64.17	0	%100

Member Distributed Loads (BLC 29 : Distr. Ice Wind Load Z) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft....]	End Magnitude[lb/ft....]	Start Location[in, %]	End Location[in, %]
20	M20	SZ	-64.17	-64.17	0	%100
21	M21	SZ	-64.17	-64.17	0	%100
22	M22	SZ	-41.97	-41.97	0	%100
23	M23	SZ	-41.97	-41.97	0	%100
24	M24	SZ	-64.17	-64.17	0	%100
25	M25	SZ	-64.17	-64.17	0	%100
26	M26	SZ	-64.17	-64.17	0	%100
27	M27	SZ	-64.17	-64.17	0	%100
28	M28	SZ	0	0	0	%100
29	M29	SZ	0	0	0	%100
30	M30	SZ	0	0	0	%100
31	M31	SZ	0	0	0	%100
32	MP1	SZ	-17.432	-17.432	0	%100
33	MP3	SZ	-17.432	-17.432	0	%100
34	MP4	SZ	-17.432	-17.432	0	%100

Member Distributed Loads (BLC 30 : Distr. Ice Wind Load X)

	Member Label	Direction	Start Magnitude[lb/ft....]	End Magnitude[lb/ft....]	Start Location[in, %]	End Location[in, %]
1	M1	SX	-14.556	-14.556	0	%100
2	M2	SX	-14.556	-14.556	0	%100
3	M3	SX	0	0	0	%100
4	M4	SX	0	0	0	%100
5	M5	SX	0	0	0	%100
6	M6	SX	0	0	0	%100
7	M7	SX	0	0	0	%100
8	M8	SX	0	0	0	%100
9	M9	SX	-17.432	-17.432	0	%100
10	M10	SX	-17.432	-17.432	0	%100
11	M11	SX	-17.432	-17.432	0	%100
12	M12	SX	-17.432	-17.432	0	%100
13	M13	SX	-15.908	-15.908	0	%100
14	M14	SX	-15.908	-15.908	0	%100
15	M15	SX	-17.432	-17.432	0	%100
16	M16	SX	-41.97	-41.97	0	%100
17	M17	SX	-41.97	-41.97	0	%100
18	M18	SX	-64.17	-64.17	0	%100
19	M19	SX	-64.17	-64.17	0	%100
20	M20	SX	-64.17	-64.17	0	%100
21	M21	SX	-64.17	-64.17	0	%100
22	M22	SX	-41.97	-41.97	0	%100
23	M23	SX	-41.97	-41.97	0	%100
24	M24	SX	-64.17	-64.17	0	%100
25	M25	SX	-64.17	-64.17	0	%100
26	M26	SX	-64.17	-64.17	0	%100
27	M27	SX	-64.17	-64.17	0	%100
28	M28	SX	0	0	0	%100
29	M29	SX	0	0	0	%100
30	M30	SX	0	0	0	%100
31	M31	SX	0	0	0	%100
32	MP1	SX	-17.432	-17.432	0	%100
33	MP3	SX	-17.432	-17.432	0	%100
34	MP4	SX	-17.432	-17.432	0	%100

Member Area Loads

Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[psf]
No Data to Print ...						

Date:	10/4/2019
Client	Smartlink
Carrier	AT&T
Engineer:	TM
Site:	CTL01052
Job #:	1106-A0001-B
	205.0' RAD

Code:	LRFD
Bolt Diameter	0.750
Bolt Grade:	A325
Threads Excluded?:	N
Axial (lbs):	1222.86
Shear (lbs):	3547.01

Bolt Info:	
Yield Strength (F_{yb})	92.0 kips
Ultimate Strength (F_{ub})	120.0 kips
Threads/in (n)	10
Gross Area (A_{gb})	0.442 in ²
Net Area (A_{nb})	0.334 in ²

Bolt Capacity (3/4" A325 Bolt), Total of (1) per Connection				
	Ult Load / Bolt	Factored Load ($\phi=0.75$)	# of Bolts	Factor Joint Capacity
Axial (lb)	40135.2	30101.4	1	30101
Shear(lb)	23856.5	17892.4	1	17892

Interaction Check	
$T / \phi T_n$	4.1%
$V / \phi V_n$	19.8%
≤ 1.0	4.1%
	OK



Non-Ionizing Radiation Report

Compiled For: Smartlink on behalf of AT&T

Site Name: Thompson - 61 Lowell Davis Road

Site FA: 10035009

Site ID: CTL01052

61 Lowell Davis Road, Thompson, CT 06277

Latitude: 41.9789361 Longitude: -71.8525

Structure Type: Guyed Tower

Report Date: October 6, 2019

Status: AT&T will be compliant with FCC rules on RF Exposure with the signage recommendation in section 4 of this report.

Table of Contents

1. Executive Summary:	3
2. Site Summary:.....	4
3. Site Compliance.....	4
4. Site Compliance Recommendations.....	5
5. Antenna Inventory Table	6
6. RF Guidelines	8
Attachment 1: AT&T Exposure Analysis	9
Attachment 2: Verizon Wireless Exposure Analysis	11
7. Appendix A: FCC Guidelines	13
FCC Policies.....	13
Occupational / Controlled	13
General Population / Uncontrolled	13
8. Appendix B: Preparer Certification	16

1. Executive Summary:

Smartlink on behalf of AT&T has contracted Infinigy Solutions, LLC to determine whether the site Thompson - 61 Lowell Davis Road located at 61 Lowell Davis Road in Thompson, CT Will Be Compliant with all Federal Communications Commission (FCC) rules and regulations for radio frequency (RF) exposure as indicated in **47CFR§1.1310**.

The report incorporates a theoretical RF field analysis in accordance with the FCC Rules and Regulations for all individuals classified as “Occupational or Controlled” and “General Public or Uncontrolled” (see Appendix A and B).

This document and the conclusions herein are based on information provided by Smartlink on behalf of AT&T.

As a result of the analysis, **AT&T Will Be Compliant with FCC rules with the installation of signage recommended in section 4.**

Engineering assumptions were made regarding the collation operator(s). The assumptions were made based upon typical deployment configurations and practices of the operator(s).

AT&T – Sole Carriers, All Bands Cumulative Exposure %		
Uncontrolled / General Population	Exposure values at the site (mW/cm ²)	0.0090
	% Exposure	0.99%
Controlled / Occupational	Exposure values at the site (mW/cm ²)	0.0070
	% Exposure	0.21%

2. Site Summary:

Site Information	
Site Name: Thompson - 61 Lowell Davis Road	
Site Address: 61 Lowell Davis Road, Thompson, CT 06371	
Site Type: Monopole	
Compliance Status	Will Be Compliant
Mitigation Required	No
Signage Required	Yes
Barriers Required	No
Access Locked	No
Area Controlled or Uncontrolled	Uncontrolled

3. Site Compliance

This report also incorporates overview of the site information:

- Antenna Inventory Table
- Calculation Tables showing exposure for each carrier transmit frequency
- Total exposure for all carriers existing and proposed at ground level considering the centerline of all antennas and horizontal distance from the tower.
- Maximum Effective Radiated Power Assumed as Worst Case for Calculations used in this study
- Calculations based on flat ground around base of the structure

4. Site Compliance Recommendations

Infinigy recommends the following upon the installation of antennas at the site:

Base of tower

Caution 2 sign.

Note: The above signage recommendation is moot if there is an existing caution 2 sign at the base of the tower.

5. Antenna Inventory Table

Ant ID	Sector	Operator	Antenna manufacturer	Antenna Model	Operating Frequency	Rad Ctr (Ft)	Total ERP Power (Watts)
1	Alpha	AT&T	Powerwave	7770	850	205	1000
2a	Alpha	AT&T	CCI	DMP65R-BU8D	700	205	2951
2b	Alpha	AT&T	CCI	DMP65R-BU8D	1900	205	3664
3a	Alpha	AT&T	CCI	DMP65R-BU8D	700	205	1475
3b	Alpha	AT&T	CCI	DMP65R-BU8D	850	205	1360
3c	Alpha	AT&T	CCI	DMP65R-BU8D	2100	205	3837
3d	Alpha	AT&T	CCI	DMP65R-BU8D	850	205	1000
4	Beta	AT&T	Powerwave	7770	850	205	1000
5a	Beta	AT&T	CCI	DMP65R-BU8D	700	205	2951
5b	Beta	AT&T	CCI	DMP65R-BU8D	1900	205	3664
6a	Beta	AT&T	CCI	DMP65R-BU8D	700	205	1475
6b	Beta	AT&T	CCI	DMP65R-BU8D	850	205	1360
6c	Beta	AT&T	CCI	DMP65R-BU8D	2100	205	3837
6d	Beta	AT&T	CCI	DMP65R-BU8D	850	205	1000
7	Gamma	AT&T	Powerwave	7770	850	205	1000
8a	Gamma	AT&T	CCI	DMP65R-BU8D	700	205	1475
8b	Gamma	AT&T	CCI	DMP65R-BU8D	850	205	1360
9a	Gamma	AT&T	CCI	DMP65R-BU8D	2100	205	3837
9b	Gamma	AT&T	CCI	DMP65R-BU8D	850	205	1000
8c	Gamma	AT&T	CCI	DMP65R-BU8D	700	205	2951
9d	Gamma	AT&T	CCI	DMP65R-BU8D	1900	205	3664
10	Alpha	Verizon Wireless	Commscope	NNH-65C-R2B	700	230	1357
11	Alpha	Verizon Wireless	Commscope	NNH-65C-R2B	2100	230	1645
12	Alpha	Verizon Wireless	Commscope	NNH-65C-R2B	1900	230	1508
13	Alpha	Verizon Wireless	Commscope	NNH-65C-R2B	850	230	1340

Ant ID	Sector	Operator	Antenna manufacturer	Antenna Model	Operating Frequency	Rad Ctr (Ft)	Total ERP Power (Watts)
14	Beta	Verizon Wireless	Commscope	NNH-65C-R2B	700	230	1357
15	Beta	Verizon Wireless	Commscope	NNH-65C-R2B	2100	230	1645
16	Beta	Verizon Wireless	Commscope	NNH-65C-R2B	1900	230	1508
17	Beta	Verizon Wireless	Commscope	NNH-65C-R2B	850	230	1340
18	Gamma	Verizon Wireless	Commscope	NNH-65C-R2B	700	230	1357
19	Gamma	Verizon Wireless	Commscope	NNH-65C-R2B	2100	230	1645

6. RF Guidelines

To ensure safety of company workers, the following points need to be taken into consideration and implemented at wireless sites in accordance with the Carriers policies:

- a) **Worksite:** Any employee at the site should avoid working directly in front of the antenna or in areas predicted to exceed general population exposure limits by 100%. Workers should insist that the transmitters be switched off during the work period.
- b) **RF Safety Training and Awareness:** All employees working in areas exceeding the general population limits should have a basic awareness of RF safety measures. Videos, classroom lectures and online courses are all appropriate training methods on these topics.
- c) **Site Access:** Restricting access to transmitting antenna locations is one of the most important elements of RF safety. This can be done with:
 - Locked doors/gates/ladder access
 - Alarmed doors
 - Restrictive barriers
- d) **Three-foot Buffer:** There is an inverse relationship between the strength of the field and the distance from the antenna. The RF field diminishes with distance from the antenna. Workers should maintain a three-foot distance from the antennas.
- e) **Antennas:** Workers should always assume that the antenna is transmitting and should never stop right in front of the antenna. If someone must pass by an antenna, he/she should move quickly, thus reducing RF exposure.

Attachment 1: AT&T Exposure Analysis

AT&T 700 MHz LTE		
Uncontrolled / General Population	FCC's exposure limits (mW/cm ²)	0.5
	Exposure values at the site (mW/cm ²)	0.0014
	% Exposure	0.28%
Controlled / Occupational	FCC's Exposure limits(mW/cm ²)	2.3
	Exposure values at the site (mW/cm ²)	0.0014
	% Exposure	0.06%

AT&T 850 MHz LTE		
Uncontrolled / General Population	FCC's exposure limits (mW/cm ²)	0.6
	Exposure values at the site (mW/cm ²)	0.0005
	% Exposure	0.09%
Controlled / Occupational	FCC's Exposure limits(mW/cm ²)	2.8
	Exposure values at the site (mW/cm ²)	0.0005
	% Exposure	0.02%

AT&T 850 MHz UMTS		
Uncontrolled / General Population	FCC's exposure limits (mW/cm ²)	0.6
	Exposure values at the site (mW/cm ²)	0.0003
	% Exposure	0.04%
Controlled / Occupational	FCC's Exposure limits(mW/cm ²)	2.8
	Exposure values at the site (mW/cm ²)	0.0003
	% Exposure	0.01%

AT&T 850 MHz 5G		
Uncontrolled / General Population	FCC's exposure limits (mW/cm ²)	0.6
	Exposure values at the site (mW/cm ²)	0.0004
	% Exposure	0.07%
Controlled / Occupational	FCC's Exposure limits(mW/cm ²)	2.8
	Exposure values at the site (mW/cm ²)	0.0004
	% Exposure	0.01%

AT&T 1900 MHz LTE		
Uncontrolled / General Population	FCC's exposure limits (mW/cm ²)	1.0
	Exposure values at the site (mW/cm ²)	0.0010
	% Exposure	0.10%
Controlled / Occupational	FCC's Exposure limits(mW/cm ²)	5.0
	Exposure values at the site (mW/cm ²)	0.0010
	% Exposure	0.02%

AT&T 2100 MHz LTE		
Uncontrolled / General Population	FCC's exposure limits (mW/cm ²)	1.0
	Exposure values at the site (mW/cm ²)	0.0015
	% Exposure	0.15%
Controlled / Occupational	FCC's Exposure limits(mW/cm ²)	5.0
	Exposure values at the site (mW/cm ²)	0.0015
	% Exposure	0.03%

Attachment 2: Verizon Wireless Exposure Analysis

Verizon Wireless 700 MHz LTE		
Uncontrolled / General Population	FCC's exposure limits (mW/cm ²)	0.5
	Exposure values at the site (mW/cm ²)	0.0004
	% Exposure	0.09%
Controlled / Occupational	FCC's Exposure limits(mW/cm ²)	2.3
	Exposure values at the site (mW/cm ²)	0.0004
	% Exposure	0.02%

Verizon Wireless 850 MHz LTE		
Uncontrolled / General Population	FCC's exposure limits (mW/cm ²)	0.6
	Exposure values at the site (mW/cm ²)	0.0004
	% Exposure	0.07%
Controlled / Occupational	FCC's Exposure limits(mW/cm ²)	2.8
	Exposure values at the site (mW/cm ²)	0.0004
	% Exposure	0.02%

Verizon Wireless 1900 MHz LTE		
Uncontrolled / General Population	FCC's exposure limits (mW/cm ²)	1.0
	Exposure values at the site (mW/cm ²)	0.0005
	% Exposure	0.05%
Controlled / Occupational	FCC's Exposure limits(mW/cm ²)	5.0
	Exposure values at the site (mW/cm ²)	0.0005
	% Exposure	0.01%

Verizon Wireless 2100 MHz LTE		
Uncontrolled / General Population	FCC's exposure limits (mW/cm ²)	1.0
	Exposure values at the site (mW/cm ²)	0.0005
	% Exposure	0.05%
Controlled / Occupational	FCC's Exposure limits(mW/cm ²)	5.0
	Exposure values at the site (mW/cm ²)	0.0005
	% Exposure	0.01%

7. Appendix A: FCC Guidelines

FCC Policies

The Federal Communications Commission (FCC) in 1996 implemented regulations and policies for analysis of RF propagation to evaluate RF emissions. All the analysis and results of this report are compared with FCC's (Federal Communications Commission) rules to determine whether a site is compliant for Occupational/Controlled or General Public/Uncontrolled exposure. All the analysis of RF propagation is done in terms of a percentage. The limits primarily indicate the power density and are generally expressed in terms of milliwatts per centimeter square, mW/cm².

FCC guidelines incorporate two separate tiers of exposure limits that are dependent on the scenario/ situation in which that exposure takes place or the status of the individuals who are subjected to that exposure. The decision as to which tier is applied to a scenario is based on the following definitions:

Occupational / Controlled

These limits apply in situations when someone is exposed to RF energy through his/her occupation, is fully aware of the harmful effects of the RF exposure and has an ability to exercise control over this exposure. Occupational / controlled exposure limits also apply when exposure is of a transient nature as a result of incidental passage through a location where exposure levels may be above general population/uncontrolled limits (see below), as long as the exposed person has been made fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means. limits for Occupational/Controlled exposure can be found on Table 1(A).

General Population / Uncontrolled

These limits apply to situations in which the general public may be exposed or in which persons who are exposed because of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure to RF. Therefore, members of the general public would always be considered under this category, for example, in the case of a telecommunications tower that exposes people in a nearby residential area. Exposure limits for General Population/Uncontrolled can be found on Table 1(B).

Table 1. LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

(A) Limits for Occupational/Controlled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm ²)	Averaging Time E ² , H ² or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	(900/f)*	6
30-300	61.4	0.163	1.0	6
300-1500	--	--	f/300	6
1500-100,000	--	--	5	6

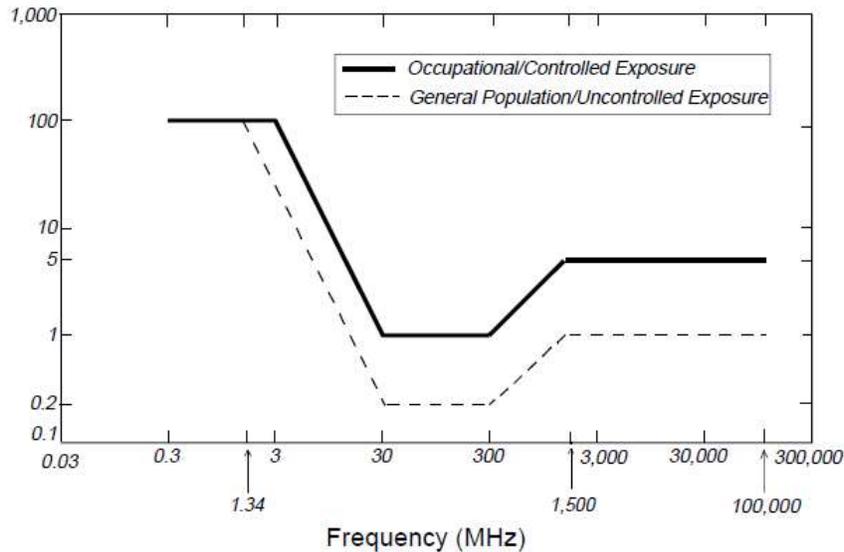
(B) Limits for General Population/Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm ²)	Averaging Time E ² , H ² or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f)*	30
30-300	27.5	0.073	0.2	30
300-1500	--	--	f/1500	30
1500-100,000	--	--	1.0	30

f = frequency in MHz

*Plane-wave equivalent power density

Figure 1. FCC Limits for Maximum Permissible Exposure (MPE)
Plane-wave Equivalent Power Density



OSHA Statement:

The objective of the OSHA Act is to ensure the safety and health of the working men and women by enforcing certain standards. The act also assists and encourages the states in their efforts to ensure safe and healthy working conditions through means of research, information, education and training in the field of occupational safety and health and for other purposes.

According to OSHA Act section 5, important duties to be considered are:

(a) Each employer

- 1) Shall furnish to each of his employees' employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious harm to his employees
- 2) Shall comply with occupational safety and health standards promulgated under this act.

(b) Each employee shall comply with occupational safety and health standards and all rules, regulations, and orders issued pursuant to this Act which are applicable to his own actions and conduct.

8. Appendix B: Preparer Certification

I, Tim Harris, preparer of this report, certify that I am fully trained and aware of the rules and regulations of both the Federal Communications Commission and the Occupational Safety and Health Administration regarding Human Exposure to Radio Frequency Radiation. In addition, I have been trained in 1) RF safety and 2) RF modeling using RoofView modeling software.

I certify that the information contained in this report is true and correct to the best of my knowledge.

Timothy A. Harris

10/6/2019

Signature

Date



Kristina Cottone

From: TrackingUpdates@fedex.com
Sent: Tuesday, December 10, 2019 5:45 PM
To: Kristina Cottone
Subject: FedEx Shipment 777146937371 Delivered

Your package has been delivered

Tracking # 777146937371

Ship date: Thu, 12/5/2019	Delivery date: Tue, 12/10/2019 5:42 pm
Kristina Cottone Smartlink LLC NORTH BILLERICA, MA 01862 US	ATTN:Tax Dept NE17131 NUMA TOOL COMPANY 8051 CONGRESS AVE BOCA RATON, FL 33487131099 US
 Delivered	

Shipment Facts

Our records indicate that the following package has been delivered.

Tracking number:	777146937371
Status:	Delivered: 12/10/2019 5:42 PM Signed for By: JMETZ
Reference:	CTL01052 - Thompson
Signed for by:	JMETZ
Delivery location:	Boca Raton, FL
Service type:	FedEx Ground
Packaging type:	Package
Number of pieces:	1
Weight:	1.00 lb.
Standard transit:	12/10/2019

 Please do not respond to this message. This email was sent from an unattended mailbox. This report was generated at approximately 4:45 PM CST on 12/10/2019.

All weights are estimated.

To track the latest status of your shipment, click on the tracking number above.

Kristina Cottone

From: TrackingUpdates@fedex.com
Sent: Tuesday, December 10, 2019 5:45 PM
To: Kristina Cottone
Subject: FedEx Shipment 777146956973 Delivered

Your package has been delivered

Tracking # [777146956973](#)

Ship date:
Thu, 12/5/2019

Kristina Cottone
Smartlink LLC
NORTH BILLERICA, MA 01862
US



Delivered

Delivery date:
Tue, 12/10/2019 5:42 pm

Carla Shorter
SBA COMMUNICATIONS
CORP.
8051 CONGRESS AVE
BOCA RATON, FL
33487131099
US

Shipment Facts

Our records indicate that the following package has been delivered.

Tracking number: [777146956973](#)

Status: Delivered: 12/10/2019 5:42 PM
Signed for By: JMETZ

Reference: CTL01052 - Thompson

Signed for by: JMETZ

Delivery location: Boca Raton, FL

Service type: FedEx Ground

Packaging type: Package

Number of pieces: 1

Weight: 1.00 lb.

Standard transit: 12/10/2019

 Please do not respond to this message. This email was sent from an unattended mailbox. This report was generated at approximately 4:45 PM CST on 12/10/2019.

All weights are estimated.



December 10, 2019

Dear Kristina Cottone:

The following is in response to your request for proof of delivery on your item with the tracking number:
9510 8100 1967 9340 2713 02.

Item Details

Status: Delivered
Status Date / Time: December 9, 2019, 9:26 am
Location: NORTH GROSVENORDALE, CT 06255
Postal Product: Priority Mail®
Extra Services: Insured
Signature Confirmation™
Actual Recipient Name: S DALPE

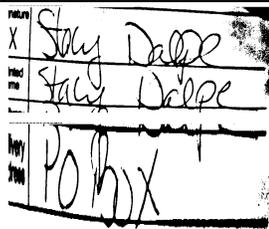
Note: Actual Recipient Name may vary if the intended recipient is not available at the time of delivery.

Shipment Details

Weight: 1lb, 8.0oz

Recipient Signature

Signature of Recipient:



Address of Recipient:

Note: Scanned image may reflect a different destination address due to Intended Recipient's delivery instructions on file.

Thank you for selecting the United States Postal Service® for your mailing needs. If you require additional assistance, please contact your local Post Office™ or a Postal representative at 1-800-222-1811.

Sincerely,
United States Postal Service®
475 L'Enfant Plaza SW
Washington, D.C. 20260-0004



December 10, 2019

Dear Kristina Cottone:

The following is in response to your request for proof of delivery on your item with the tracking number:
9510 8100 1967 9340 2712 96.

Item Details

Status: Delivered
Status Date / Time: December 9, 2019, 9:26 am
Location: NORTH GROSVENORDALE, CT 06255
Postal Product: Priority Mail®
Extra Services: Insured
Signature Confirmation™
Actual Recipient Name: S DALPE

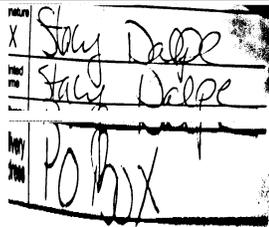
Note: Actual Recipient Name may vary if the intended recipient is not available at the time of delivery.

Shipment Details

Weight: 1lb, 8.0oz

Recipient Signature

Signature of Recipient:



Address of Recipient:

Note: Scanned image may reflect a different destination address due to Intended Recipient's delivery instructions on file.

Thank you for selecting the United States Postal Service® for your mailing needs. If you require additional assistance, please contact your local Post Office™ or a Postal representative at 1-800-222-1811.

Sincerely,
United States Postal Service®
475 L'Enfant Plaza SW
Washington, D.C. 20260-0004

SHEET INDEX

NO.	DESCRIPTION
T1	TITLE SHEET
C1	GENERAL NOTES
C2	OVERALL SITE PLAN
C2A	ENLARGED SITE PLAN
C3	ELEVATION VIEW
C4	ANTENNA ORIENTATION PLAN
C5	EQUIPMENT DETAILS
C6	PLUMBING DIAGRAM
C7	GROUNDING DETAILS
T-1	TITLE SHEET
BOM	BILL OF MATERIALS
GN-1	GENERAL NOTES
A-1	TOWER PROFILE
A-2	TORQUE ARM REINFORCEMENT DETAILS
HC-1	STANDARD GUY HARDWARE CHART
TC-1	GUY TENSION CHART

DRIVING DIRECTIONS

FROM 550 COCHITUATE RD.:

GET ON I-90 WEST/MASSACHUSETTS TURNPIKE. HEAD NORTHEAST TOWARD LEGGATT MCCALL CONN. TURN LEFT ONTO LEGGATT MCCALL CONN. CONTINUE ONTO BURR STREET. TURN LEFT ONTO COCHITUATE ROAD. USE THE RIGHT LANE TO TAKE THE RAMP TO I-90 EAST/MASSPIKE WEST/SPRINGFIELD/BOSTON. KEEP LEFT AT THE FORK, FOLLOW SIGNS FOR I-90 WEST/MASSACHUSETTS TURNPIKE/WORCESTER/SPRINGFIELD AND MERGE ONTO I-90 WEST/MASSACHUSETTS TURNPIKE. FOLLOW I-90 WEST/MASSACHUSETTS TURNPIKE AND I-395 SOUTH TO THOMPSON. TAKE EXIT 53 FROM I-395 SOUTH. MERGE ONTO I-90 WEST/MASSACHUSETTS TURNPIKE. TAKE EXIT 10 TOWARD MA-12 NORTH/AUBURN/WORCESTER. KEEP RIGHT AT THE FORK, FOLLOW SIGNS FOR I-395 SOUTH/US-20 EAST/NORWICH CT AND MERGE ONTO I-395 SOUTH. TAKE EXIT 53 TOWARD EAST THOMPSON/WILSONVILLE. DRIVE TO CT-193 SOUTH. TURN LEFT ONTO WILSONVILLE ROAD. TURN RIGHT ONTO CT-193 SOUTH.

LOCATION MAP



PROJECT
LTE 2C/3C/4C/5C/RETROFIT
SITE NAME
THOMPSON - 61 LOWELL DAVIS ROAD
CELL SITE ID
CTL01052
FA SITE NUMBER
10035009
PAGE ID
MRCTB041627/MRCTB041409/MRCTB041416
MRCTB041850/MRCTB041520
SITE ADDRESS
61 LOWELL DAVIS ROAD
THOMPSON, CT 06277
STRUCTURE TYPE
GUYED

PROJECT TEAM

PROJECT MANAGER

1033 Watervliet Shaker Rd
 Albany, NY 12205
 Office # (518) 690-0790
 Fax # (518) 690-0793
ENGINEER

SCOPE OF WORK (PER LTE RFDS, DATED 10/28/2019 V5.00):

- HANDICAP ACCESS REQUIREMENTS ARE NOT REQUIRED.
 - FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION.
 - FACILITY HAS NO PLUMBING OR REFRIGERANTS.
 - THIS FACILITY SHALL MEET OR EXCEED ALL FAA AND FCC REGULATORY REQUIREMENTS.
 - ALL NEW MATERIAL SHALL BE FURNISHED AND INSTALLED BY CONTRACTOR UNLESS NOTED OTHERWISE. EQUIPMENT, ANTENNAS/RRU AND CABLES FURNISHED BY OWNER AND INSTALLED BY CONTRACTOR.
- TOWER**
- REMOVE (6) PANEL ANTENNAS
 - INSTALL (6) PANEL ANTENNAS
 - REMOVE (3) RRUS-11 B12
 - INSTALL (3) B14 4478
 - INSTALL (3) 4449 B5/B12
 - INSTALL (3) 8843 B2/B66A
 - INSTALL (2) DC6 SQUID WITH (1) FIBER AND (4) DC CABLES
 - INSTALL TOWER MODIFICATION DESIGN (BY OTHERS)
- GROUND**
- SWAP BB WITH (2) 6630
 - ADD XMU
 - ADD IDLe CABLE

PROJECT SUMMARY

SITE NAME:	THOMPSON - 61 LOWELL DAVIS ROAD	
CELL SITE ID:	CTL01052	
FA SITE #:	10035009	
SITE ADDRESS:	61 LOWELL DAVIS ROAD THOMPSON, CT 06277	
COUNTY:	WINDHAM	
SITE COORDINATES:		
LATITUDE:	41.9789361° N	(NAD 83)
LONGITUDE:	71.8525000° W	(NAD 83)
RAD CENTER	±205'	(AGL)
LANDLORD:	SBA COMMUNICATIONS	
APPLICANT:	AT&T MOBILITY 550 COCHITUATE RD. FRAMINGHAM, MA 01701	
CLIENT REPRESENTATIVE:	SMARTLINK, LLC 85 RANGEWAY RD., BUILDING 3, SUITE 102 NORTH BILLERICA, MA 01862	
CONTACT:	SHARON KEEFE 978.930.3918	
ENGINEER:	INFINIGY 1033 WATERVLIET SHAKER ROAD ALBANY, NY 12205	
CONTACT:	ALEX WELLER (518) 690-0790	
BUILDING CODE:	2018 CT STATE BUILDING CODE 2015 INTERNATIONAL BUILDING CODE ANSI/TIA-222 G 2015 INTERNATIONAL PLUMBING CODE 2015 INTERNATIONAL MECHANICAL CODE 2015 INTERNATIONAL ENERGY CONSERVATION CODE 2017 NFPA 70	
ELECTRICAL CODE:	NATIONAL ELECTRICAL CODE (LATEST EDITION)	

Know what's below. Call before you dig.



No.	Submittal / Revision	App'd	Date
3	REVISED FOR PERMIT	BMM	11/21/19
2	ISSUED FOR PERMIT	ASW	10/30/19
1	ISSUED FOR PERMIT	ASW	10/10/19
0	ISSUED FOR REVIEW	BMM	09/10/19

Drawn: BMM Date: 09/10/19
 Designed: ASW Date: 09/10/19
 Checked: AD Date: 09/10/19

Project Number: 499-006

Project Title:
THOMPSON - 61 LOWELL DAVIS ROAD
CTL01052
FA# 10035009
 61 LOWELL DAVIS ROAD
 THOMPSON, CT 06277

Prepared For:

Drawing Scale:
 AS NOTED
CD
 Date:
 11/21/19

Drawing Title:
TITLE PAGE
 Drawing Number:
T1

GENERAL NOTES

PART 1 – GENERAL REQUIREMENTS

- 1.1 THE WORK SHALL COMPLY WITH APPLICABLE NATIONAL CODES AND STANDARDS, LATEST EDITION, AND PORTIONS THEREOF, INCLUDED BUT NOT LIMITED TO THE FOLLOWING:
 - A. GR-63-CORE NEBS REQUIREMENTS: PHYSICAL PROTECTION
 - B. GR-78-CORE GENERIC REQUIREMENTS FOR THE PHYSICAL DESIGN AND MANUFACTURE OF TELECOMMUNICATIONS EQUIPMENT.
 - C. NATIONAL FIRE PROTECTION ASSOCIATION CODES AND STANDARDS (NFPA) INCLUDING NFPA 70 (NATIONAL ELECTRICAL CODE – "NEC").
 - D. AND NFPA 101 (LIFE SAFETY CODE).
 - E. AMERICAN SOCIETY FOR TESTING OF MATERIALS (ASTM).
 - F. INSTITUTE OF ELECTRONIC AND ELECTRICAL ENGINEERS (IEEE).
- 1.2 DEFINITIONS:
 - A. WORK: THE SUM OF TASKS AND RESPONSIBILITIES IDENTIFIED IN THE CONTRACT DOCUMENTS.
 - B. COMPANY: AT&T CORPORATION
 - C. ENGINEER: SYNONYMOUS WITH ARCHITECT & ENGINEER AND "A&E". THE DESIGN PROFESSIONAL HAVING PROFESSIONAL RESPONSIBILITY FOR DESIGN OF THE PROJECT.
 - D. CONTRACTOR: CONSTRUCTION CONTRACTOR; CONSTRUCTION VENDOR; INDIVIDUAL OR ENTITY WHO AFTER EXECUTION OF A CONTRACT IS BOUND TO ACCOMPLISH THE WORK.
 - E. THIRD PARTY VENDOR OR AGENCY: A VENDOR OR AGENCY ENGAGED SEPARATELY BY THE COMPANY, A&E, OR CONTRACTOR TO PROVIDE MATERIALS OR TO ACCOMPLISH SPECIFIC TASKS RELATED TO BUT NOT INCLUDED IN THE WORK.
- 1.3 POINT OF CONTACT: COMMUNICATION BETWEEN THE COMPANY AND THE CONTRACTOR SHALL FLOW THROUGH THE SINGLE COMPANY SITE DEVELOPMENT SPECIALIST OR OTHER PROJECT COORDINATOR APPOINTED TO MANAGE THE PROJECT FOR THE COMPANY.
- 1.4 ON-SITE SUPERVISION: THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL EMPLOY A COMPETENT SUPERINTENDENT WHO SHALL BE IN ATTENDANCE AT THE SITE AT ALL TIMES DURING PERFORMANCE OF THE WORK.
- 1.5 DRAWINGS, SPECIFICATIONS AND DETAILS REQUIRED AT JOBSITE: THE CONSTRUCTION CONTRACTOR SHALL MAINTAIN A FULL SET OF THE CONSTRUCTION DRAWINGS, STANDARD CONSTRUCTION DETAILS FOR WIRELESS SITES, AND THE STANDARD CONSTRUCTION SPECIFICATIONS FOR WIRELESS SITES AT THE JOBSITE FROM MOBILIZATION THROUGH CONSTRUCTION COMPLETION.
 - A. THE JOBSITE DRAWINGS, SPECIFICATIONS AND DETAILS SHALL BE CLEARLY MARKED DAILY IN PENCIL WITH ANY CHANGES IN CONSTRUCTION OVER WHAT IS DEPICTED IN THE DOCUMENTS. AT CONSTRUCTION COMPLETION, THIS JOBSITE MARKUP SET SHALL BE DELIVERED TO THE COMPANY OR COMPANY'S DESIGNATED REPRESENTATIVE TO BE FORWARDED TO THE COMPANY'S A&E VENDOR FOR PRODUCTION OF "AS-BUILT" DRAWINGS.
- 1.6 USE OF JOB SITE: THE CONTRACTOR SHALL CONFINE ALL CONSTRUCTION AND RELATED OPERATIONS INCLUDING STAGING AND STORAGE OF MATERIALS AND EQUIPMENT, PARKING, TEMPORARY FACILITIES, AND WASTE STORAGE TO THE LEASE PARCEL UNLESS OTHERWISE PERMITTED BY THE CONTRACT DOCUMENTS.
- 1.7 NOTICE TO PROCEED:
 - A. NO WORK SHALL COMMENCE PRIOR TO COMPANY'S WRITTEN NOTICE TO PROCEED.
 - B. UPON RECEIVING NOTICE TO PROCEED, CONTRACTOR SHALL FULLY PERFORM ALL WORK NECESSARY TO PROVIDE AT&T WITH AN OPERATIONAL WIRELESS FACILITY.

PART 2 – EXECUTION

- 2.1 TEMPORARY UTILITIES AND FACILITIES: THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TEMPORARY UTILITIES AND FACILITIES NECESSARY EXCEPT AS OTHERWISE INDICATED IN THE CONSTRUCTION DOCUMENTS. TEMPORARY UTILITIES AND FACILITIES INCLUDE, POTABLE WATER, HEAT, HVAC, ELECTRICITY, SANITARY FACILITIES, WASTE DISPOSAL FACILITIES, AND TELEPHONE/COMMUNICATION SERVICES. PROVIDE TEMPORARY UTILITIES AND FACILITIES IN ACCORDANCE WITH OSHA AND THE AUTHORITY HAVING JURISDICTION. CONTRACTOR MAY UTILIZE THE COMPANY ELECTRICAL SERVICE IN THE COMPLETION OF THE WORK WHEN IT BECOMES AVAILABLE. USE OF THE LESSORS OR SITE OWNER'S UTILITIES OR FACILITIES IS EXPRESSLY FORBIDDEN EXCEPT AS OTHERWISE ALLOWED IN THE CONTRACT DOCUMENTS.
- 2.2 ACCESS TO WORK: THE CONTRACTOR SHALL PROVIDE ACCESS TO THE JOB SITE FOR AUTHORIZED COMPANY PERSONNEL AND AUTHORIZED REPRESENTATIVES OF THE ARCHITECT/ENGINEER DURING ALL PHASES OF THE WORK.
- 2.3 TESTING: REQUIREMENTS FOR TESTING BY THIS CONTRACTOR SHALL BE AS INDICATED HERewith, ON THE CONSTRUCTION DRAWINGS, AND IN THE INDIVIDUAL SECTIONS OF THESE SPECIFICATIONS. SHOULD COMPANY CHOOSE TO ENGAGE ANY THIRD-PARTY TO CONDUCT ADDITIONAL TESTING, THE CONTRACTOR SHALL COOPERATE WITH AND PROVIDE A WORK AREA FOR COMPANY'S TEST AGENCY.

- 2.4 COMPANY FURNISHED MATERIAL AND EQUIPMENT: ALL HANDLING, STORAGE AND INSTALLATION OF COMPANY FURNISHED MATERIAL AND EQUIPMENT SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS AND WITH THE MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS.
 - A. CONTRACTOR SHALL PROCURE ALL OTHER REQUIRED WORK RELATED MATERIALS NOT PROVIDED BY AT&T TO SUCCESSFULLY CONSTRUCT A WIRELESS FACILITY.
- 2.5 DIMENSIONS: VERIFY DIMENSIONS INDICATED ON DRAWINGS WITH FIELD DIMENSIONS BEFORE FABRICATION OR ORDERING OF MATERIALS. DO NOT SCALE DRAWINGS.
- 2.6 EXISTING CONDITIONS: NOTIFY THE COMPANY REPRESENTATIVE OF EXISTING CONDITIONS DIFFERING FROM THOSE INDICATED ON THE DRAWINGS. DO NOT REMOVE OR ALTER STRUCTURAL COMPONENTS WITHOUT PRIOR WRITTEN APPROVAL FROM THE ARCHITECT AND ENGINEER.

PART 3 – RECEIPT OF MATERIAL & EQUIPMENT

- 3.1 RECEIPT OF MATERIAL AND EQUIPMENT: CONTRACTOR IS RESPONSIBLE FOR AT&T PROVIDED MATERIAL AND EQUIPMENT AND UPON RECEIPT SHALL:
 - A. ACCEPT DELIVERIES AS SHIPPED AND TAKE RECEIPT.
 - B. VERIFY COMPLETENESS AND CONDITION OF ALL DELIVERIES.
 - C. TAKE RESPONSIBILITY FOR EQUIPMENT AND PROVIDE INSURANCE PROTECTION AS REQUIRED IN AGREEMENT.
 - D. RECORD ANY DEFECTS OR DAMAGES AND WITHIN TWENTY-FOUR HOURS AFTER RECEIPT, REPORT TO AT&T OR ITS DESIGNATED PROJECT REPRESENTATIVE OF SUCH.
 - E. PROVIDE SECURE AND NECESSARY WEATHER PROTECTED WAREHOUSING.
 - F. COORDINATE SAFE AND SECURE TRANSPORTATION OF MATERIAL AND EQUIPMENT, DELIVERING AND OFF-LOADING FROM CONTRACTOR'S WAREHOUSE TO SITE.

PART 4 – GENERAL REQUIREMENTS FOR CONSTRUCTION

- 4.1 CONTRACTOR SHALL KEEP THE SITE FREE FROM ACCUMULATING WASTE MATERIAL, DEBRIS, AND TRASH. AT THE COMPLETION OF THE WORK, CONTRACTOR SHALL REMOVE FROM THE SITE ALL REMAINING RUBBISH, IMPLEMENTS, TEMPORARY FACILITIES, AND SURPLUS MATERIALS.
- 4.2 EQUIPMENT ROOMS SHALL AT ALL TIMES BE MAINTAINED "BROOM CLEAN" AND CLEAR OF DEBRIS.
- 4.3 CONTRACTOR SHALL TAKE ALL REASONABLE PRECAUTIONS TO DISCOVER AND LOCATE ANY HAZARDOUS CONDITION.
 - A. IN THE EVENT CONTRACTOR ENCOUNTERS ANY HAZARDOUS CONDITION WHICH HAS NOT BEEN ABATED OR OTHERWISE MITIGATED, CONTRACTOR AND ALL OTHER PERSONS SHALL IMMEDIATELY STOP WORK IN THE AFFECTED AREA AND NOTIFY COMPANY IN WRITING. THE WORK IN THE AFFECTED AREA SHALL NOT BE RESUMED EXCEPT BY WRITTEN NOTIFICATION BY COMPANY.
 - B. CONTRACTOR AGREES TO USE CARE WHILE ON THE SITE AND SHALL NOT TAKE ANY ACTION THAT WILL OR MAY RESULT IN OR CAUSE THE HAZARDOUS CONDITION TO BE FURTHER RELEASED IN THE ENVIRONMENT, OR TO FURTHER EXPOSE INDIVIDUALS TO THE HAZARD.
- 4.4 CONTRACTOR'S ACTIVITIES SHALL BE RESTRICTED TO THE PROJECT LIMITS. SHOULD AREAS OUTSIDE THE PROJECT LIMITS BE AFFECTED BY CONTRACTOR'S ACTIVITIES, CONTRACTOR SHALL IMMEDIATELY RETURN THEM TO ORIGINAL CONDITION.
- 4.5 CONDUCT TESTING AS REQUIRED HEREIN.

PART 5 – TESTS AND INSPECTIONS

- 5.1 TESTS AND INSPECTIONS:
 - A. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION TESTS, INSPECTIONS AND PROJECT DOCUMENTATION.
 - B. CONTRACTOR SHALL COORDINATE TEST AND INSPECTION SCHEDULES WITH COMPANY'S REPRESENTATIVE WHO MUST BE ON SITE TO WITNESS SUCH TESTS AND INSPECTIONS.
 - C. WHEN THE USE OF A THIRD PARTY INDEPENDENT TESTING AGENCY IS REQUIRED, THE AGENCY THAT IS SELECTED MUST PERFORM SUCH WORK ON A REGULAR BASIS IN THE STATE WHERE THE PROJECT IS LOCATED AND HAVE A THOROUGH UNDERSTANDING OF LOCAL AVAILABLE MATERIALS, INCLUDING THE SOIL, ROCK, AND GROUNDWATER CONDITIONS.
 - D. THE THIRD PARTY TESTING AGENCY IS TO BE FAMILIAR WITH THE APPLICABLE REQUIREMENTS FOR THE TESTS TO BE DONE, EQUIPMENT TO BE USED, AND ASSOCIATED HEALTH AND SAFETY ISSUES.
 - E. SITE RESISTANCE TO EARTH TESTING PER EXHIBIT: CELL SITE GROUNDING SYSTEM DESIGN.

- F. ANTENNA AND COAX SWEEP TESTS PER EXHIBIT: ANTENNA TRANSMISSION LINE ACCEPTANCE STANDARDS.
- G. ALL OTHER TESTS REQUIRED BY COMPANY OR JURISDICTION.

PART 6 – TRENCHING AND BACKFILLING

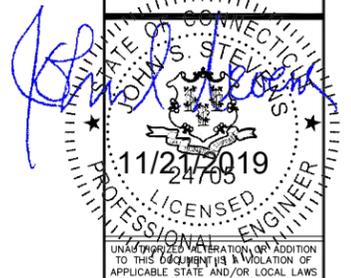
- 6.1 TRENCHING AND BACKFILLING: THE CONTRACTOR SHALL PERFORM ALL EXCAVATION OF EVERY DESCRIPTION AND OF WHATEVER SUBSTANCES ENCOUNTERED, TO THE DEPTHS INDICATED ON THE CONSTRUCTION DRAWINGS OR AS OTHERWISE SPECIFIED.
 - A. PROTECTION OF EXISTING UTILITIES: THE CONTRACTOR SHALL CHECK WITH THE LOCAL UTILITIES AND THE RESPECTIVE UTILITY LOCATOR COMPANIES PRIOR TO STARTING EXCAVATION OPERATIONS IN EACH RESPECTIVE AREA TO ASCERTAIN THE LOCATIONS OF KNOWN UTILITY LINES. THE LOCATIONS, NUMBER AND TYPES OF EXISTING UTILITY LINES DETAILED ON THE CONSTRUCTION DRAWINGS ARE APPROXIMATE AND DO NOT REPRESENT EXACT INFORMATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ALL LINES DAMAGED DURING EXCAVATION AND ALL ASSOCIATED OPERATIONS. ALL UTILITY LINES UNCOVERED DURING THE EXCAVATION OPERATIONS, SHALL BE PROTECTED FROM DAMAGE DURING EXCAVATION AND ASSOCIATED OPERATIONS. ALL REPAIRS SHALL BE APPROVED BY THE UTILITY COMPANY.
 - B. HAND DIGGING: UNLESS APPROVED IN WRITING OTHERWISE, ALL DIGGING WITHIN AN EXISTING CELL SITE COMPOUND IS TO BE DONE BY HAND.
 - C. DURING EXCAVATION, MATERIAL SUITABLE FOR BACKFILLING SHALL BE STOCKPILED IN AN ORDERLY MANNER A SUFFICIENT DISTANCE FROM THE BANKS OF THE TRENCH TO AVOID OVERLOADING AND TO PREVENT SLIDES OR CAVE-INS. ALL EXCAVATED MATERIALS NOT REQUIRED OR SUITABLE FOR BACKFILL SHALL BE REMOVED AND DISPOSED OF AT THE CONTRACTOR'S EXPENSE.
 - D. GRADING SHALL BE DONE AS MAY BE NECESSARY TO PREVENT SURFACE WATER FROM FLOWING INTO TRENCHES OR OTHER EXCAVATIONS, AND ANY WATER ACCUMULATING THEREIN SHALL BE REMOVED BY PUMPING OR BY OTHER APPROVED METHOD.
 - E. SHEETING AND SHORING SHALL BE DONE AS NECESSARY FOR THE PROTECTION OF THE WORK AND FOR THE SAFETY OF PERSONNEL. UNLESS OTHERWISE INDICATED, EXCAVATION SHALL BE BY OPEN CUT, EXCEPT THAT SHORT SECTIONS OF A TRENCH MAY BE TUNNELED IF, THE CONDUIT CAN BE SAFELY AND PROPERLY INSTALLED AND BACKFILL CAN BE PROPERLY TAMPED IN SUCH TUNNEL SECTIONS. EARTH EXCAVATION SHALL COMPRISE ALL MATERIALS AND SHALL INCLUDE CLAY, SILT, SAND, MUCK, GRAVEL, HARDPAN, LOOSE SHALE, AND LOOSE STONE.
 - F. TRENCHES SHALL BE OF NECESSARY WIDTH FOR THE PROPER LAYING OF THE CONDUIT OR CABLE, AND THE BANKS SHALL BE AS NEARLY VERTICAL AS PRACTICABLE. THE BOTTOM OF THE TRENCHES SHALL BE ACCURATELY GRADED TO PROVIDE UNIFORM BEARING AND SUPPORT FOR EACH SECTION OF THE CONDUIT OR CABLE ON UNDISTURBED SOIL AT EVERY POINT ALONG ITS ENTIRE LENGTH. EXCEPT WHERE ROCK IS ENCOUNTERED, CARE SHALL BE TAKEN NOT TO EXCAVATE BELOW THE DEPTHS INDICATED. WHERE ROCK EXCAVATIONS ARE NECESSARY, THE ROCK SHALL BE EXCAVATED TO A MINIMUM OVER DEPTH OF 6 INCHES BELOW THE TRENCH DEPTHS INDICATED ON THE CONSTRUCTION DRAWINGS OR SPECIFIED. OVER DEPTHS IN THE ROCK EXCAVATION AND UNAUTHORIZED OVER DEPTHS SHALL BE THOROUGHLY BACK FILLED AND TAMPED TO THE APPROPRIATE GRADE. WHENEVER WET OR OTHERWISE UNSTABLE SOIL THAT IS INCAPABLE OF PROPERLY SUPPORTING THE CONDUIT OR CABLE IS ENCOUNTERED IN THE BOTTOM OF THE TRENCH, SUCH SOLID SHALL BE REMOVED TO A MINIMUM OVER DEPTH OF 6 INCHES AND THE TRENCH BACKFILLED TO THE PROPER GRADE WITH EARTH OF OTHER SUITABLE MATERIAL, AS HEREINAFTER SPECIFIED.
 - G. BACKFILLING OF TRENCHES. TRENCHES SHALL NOT BE BACKFILLED UNTIL ALL SPECIFIED TESTS HAVE BEEN PERFORMED AND ACCEPTED. WHERE COMPACTED BACKFILL IS NOT INDICATED THE TRENCHES SHALL BE CAREFULLY BACKFILLED WITH SELECT MATERIAL SUCH AS EXCAVATED SOILS THAT ARE FREE OF ROOTS, SOD, RUBBISH OR STONES, DEPOSITED IN 6 INCH LAYERS AND THOROUGHLY AND CAREFULLY RAMMED UNTIL THE CONDUIT OR CABLE HAS A COVER OF NOT LESS THAN 1 FOOT. THE REMAINDER OF THE BACKFILL MATERIAL SHALL BE GRANULAR IN NATURE AND SHALL NOT CONTAIN ROOTS, SOD, RUBBING, OR STONES OF 2-1/2 INCH MAXIMUM DIMENSION. BACKFILL SHALL BE CAREFULLY PLACED IN THE TRENCH AND IN 1 FOOT LAYERS AND EACH LAYER TAMPED. SETTLING THE BACKFILL WITH WATER WILL BE PERMITTED. THE SURFACE SHALL BE GRADED TO A REASONABLE UNIFORMITY AND THE MOUNDING OVER THE TRENCHES LEFT IN A UNIFORM AND NEAT CONDITION.

SYMBOL	DESCRIPTION
	CIRCUIT BREAKER
	NON-FUSIBLE DISCONNECT SWITCH
	FUSIBLE DISCONNECT SWITCH
	SURFACE MOUNTED PANEL BOARD
	TRANSFORMER
	KILOWATT HOUR METER
	JUNCTION BOX
	PULL BOX TO NEC/TELCO STANDARDS
-----	UNDERGROUND UTILITIES
	EXOTHERMIC WELD CONNECTION
	MECHANICAL CONNECTION
	GROUND ROD
	GROUND ROD WITH INSPECTION SLEEVE
	GROUND BAR
	120AC DUPLEX RECEPTACLE
	GROUND CONDUCTOR
	DC POWER AND FIBER OPTIC TRUNK CABLES
	DC POWER CABLES
	REPRESENTS DETAIL NUMBER
	REF. DRAWING NUMBER

ABBREVIATIONS

CIGBE	COAX ISOLATED GROUND BAR EXTERNAL
MIGB	MASTER ISOLATED GROUND BAR
SST	SELF SUPPORTING TOWER
GPS	GLOBAL POSITIONING SYSTEM
TYP.	TYPICAL
DWG	DRAWING
BCW	BARE COPPER WIRE
BFG	BELOW FINISH GRADE
PVC	POLYVINYL CHLORIDE
CAB	CABINET
C	CONDUIT
SS	STAINLESS STEEL
G	GROUND
AWG	AMERICAN WIRE GAUGE
RGS	RIGID GALVANIZED STEEL
AHJ	AUTHORITY HAVING JURISDICTION
TTLNA	TOWER TOP LOW NOISE AMPLIFIER
UNO	UNLESS NOTED OTHERWISE
EMT	ELECTRICAL METALLIC TUBING
AGL	ABOVE GROUND LEVEL

INFINIGY
INFINIGY ENGINEERING, PLLC
1033 Waterlily Shaker Rd
Albany, NY 12205
Office # (518) 690-0790
Fax # (518) 690-0793



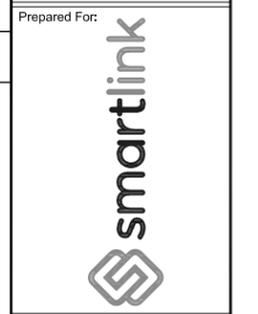
No.	Submittal / Revision	App'd	Date
3	REVISED FOR PERMIT	BMM	11/21/19
2	ISSUED FOR PERMIT	ASW	10/30/19
1	ISSUED FOR PERMIT	ASW	10/10/19
0	ISSUED FOR REVIEW	BMM	09/10/19

Drawn: BMM Date: 09/10/19
Designed: ASW Date: 09/10/19
Checked: AB Date: 09/10/19

Project Number: 499-006

Project Title:
**THOMPSON - 61
LOWELL DAVIS ROAD**

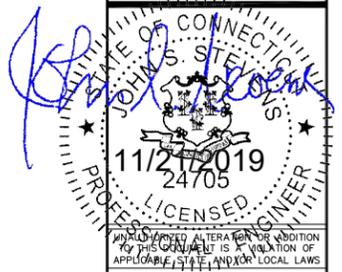
CTL01052
FA# 10035009
61 LOWELL DAVIS ROAD
THOMPSON, CT 06277



Drawing Scale:	CD
AS NOTED	
Date:	11/21/19

Drawing Title:
**GENERAL
NOTES**

Drawing Number:
C1



NO UNAUTHORIZED ALTERATIONS OR ADDITIONS TO THIS DRAWING IS A VIOLATION OF APPLICABLE STATE AND/OR LOCAL LAWS.

No.	Submittal / Revision	App'd	Date
3	REVISED FOR PERMIT	BMM	11/21/19
2	ISSUED FOR PERMIT	ASW	10/30/19
1	ISSUED FOR PERMIT	ASW	10/10/19
0	ISSUED FOR REVIEW	BMM	09/10/19

Drawn: BMM Date: 09/10/19
 Designed: ASW Date: 09/10/19
 Checked: ASW Date: 09/10/19

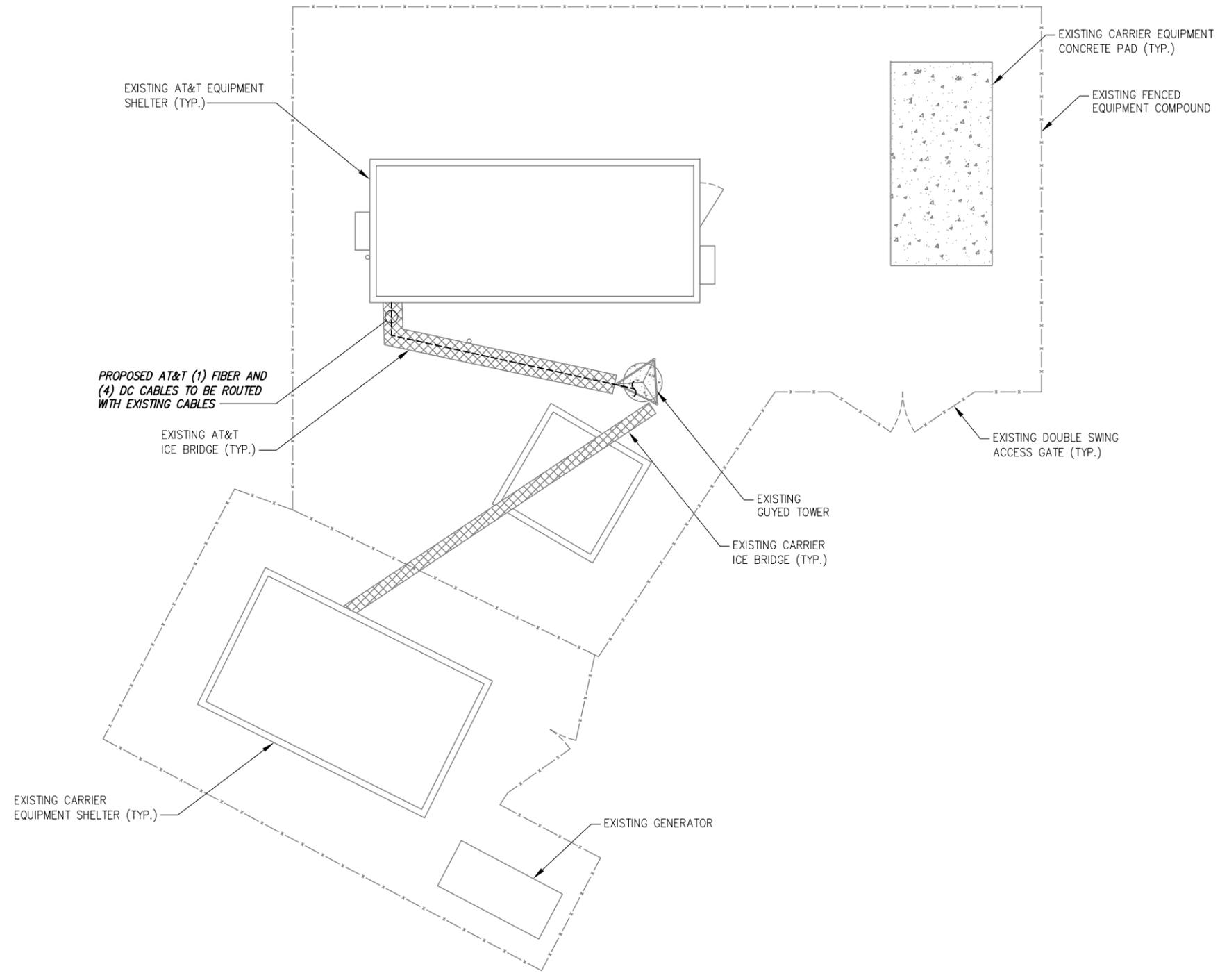
Project Number: 499-006
 Project Title:
**THOMPSON - 61
 LOWELL DAVIS ROAD**
CTL01052
FA# 10035009
 61 LOWELL DAVIS ROAD
 THOMPSON, CT 06277



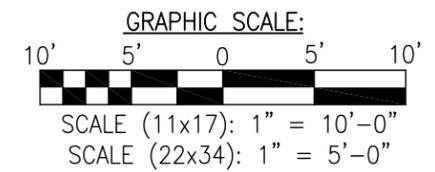
Drawing Scale: AS NOTED
 Date: 11/21/19
CD

Drawing Title
**OVERALL
 SITE PLAN**

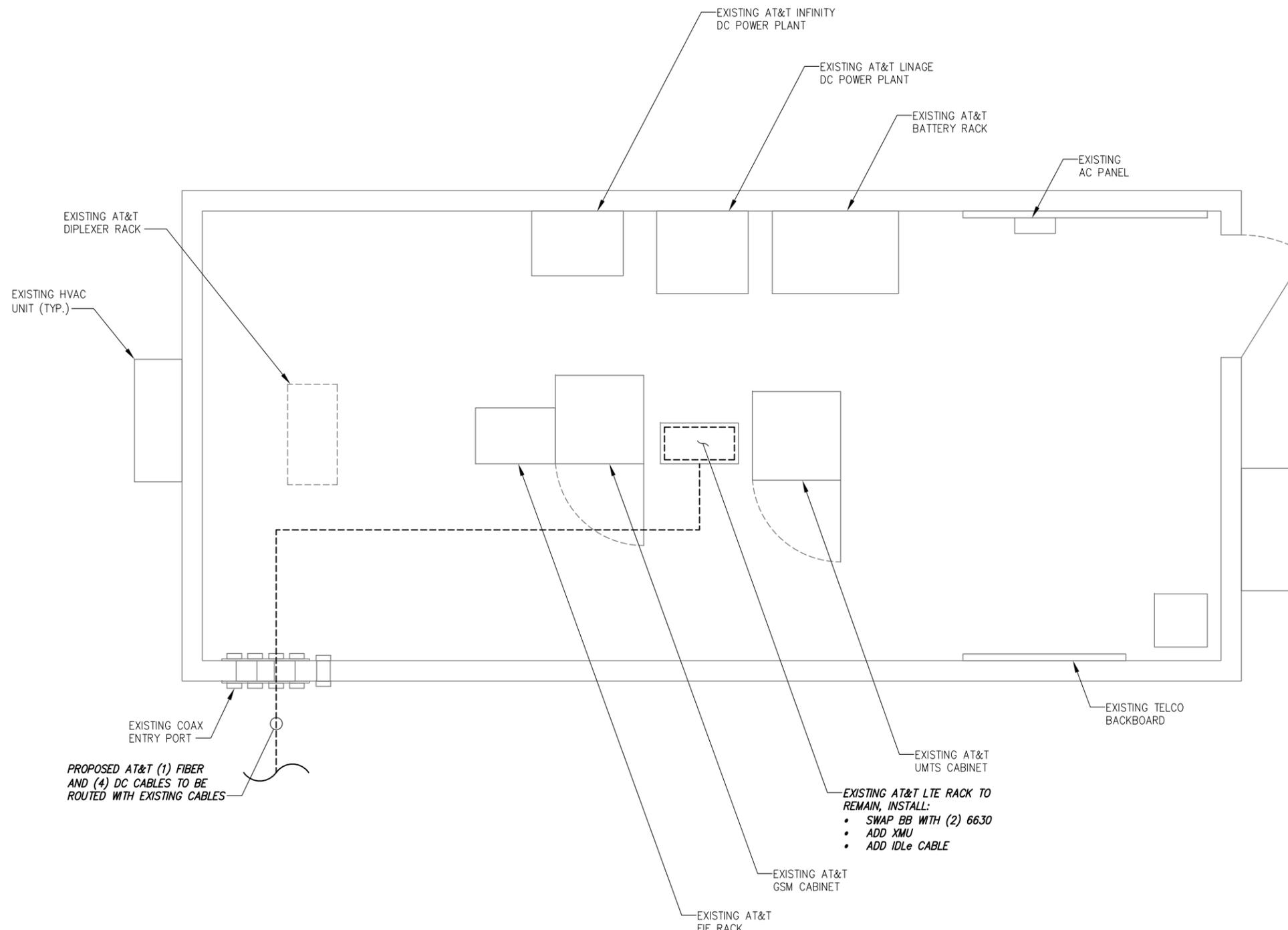
Drawing Number
C2



1 SITE PLAN
 SCALE: AS NOTED



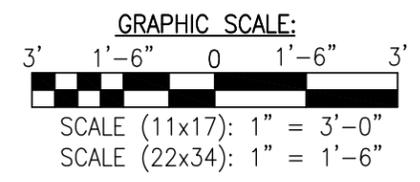
BASEMAPPING PREPARED FROM A SITE WALK PERFORMED BY INFINIGY ENGINEERING AND PROVIDED INFORMATION, AND DOES NOT REPRESENT AN ACTUAL FIELD SURVEY.



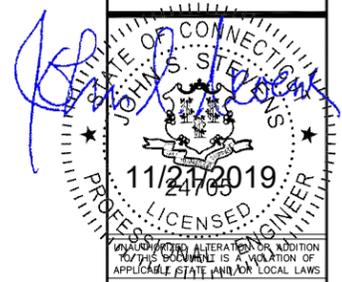
PROPOSED AT&T (1) FIBER AND (4) DC CABLES TO BE ROUTED WITH EXISTING CABLES

BASEMAPPING PREPARED FROM A SITE WALK PERFORMED BY INFINIGY ENGINEERING AND PROVIDED INFORMATION, AND DOES NOT REPRESENT AN ACTUAL FIELD SURVEY.

2 ENLARGED EQUIPMENT PLAN
SCALE: AS NOTED



INFINIGY
INFINIGY ENGINEERING, PLLC
1033 Watervliet Shaker Rd
Albany, NY 12205
Office # (518) 690-0790
Fax # (518) 690-0793



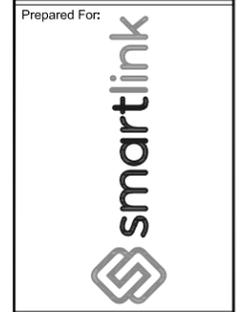
NO OTHER ALTERATION OR ADDITION TO THIS DRAWING IS A VIOLATION OF APPLICABLE STATE AND/OR LOCAL LAWS

No.	Submittal / Revision	App'd	Date
3	REVISED FOR PERMIT	BMM	11/21/19
2	ISSUED FOR PERMIT	ASW	10/30/19
1	ISSUED FOR PERMIT	ASW	10/10/19
0	ISSUED FOR REVIEW	BMM	09/10/19

Drawn: BMM Date: 09/10/19
Designed: ASW Date: 09/10/19
Checked: AD Date: 09/10/19

Project Number: 499-006

Project Title:
**THOMPSON - 61
LOWELL DAVIS ROAD**
CTL01052
FA# 10035009
61 LOWELL DAVIS ROAD
THOMPSON, CT 06277



Drawing Scale: AS NOTED
Date: 11/21/19

CD

Drawing Title:
**ENLARGED
SITE PLAN**

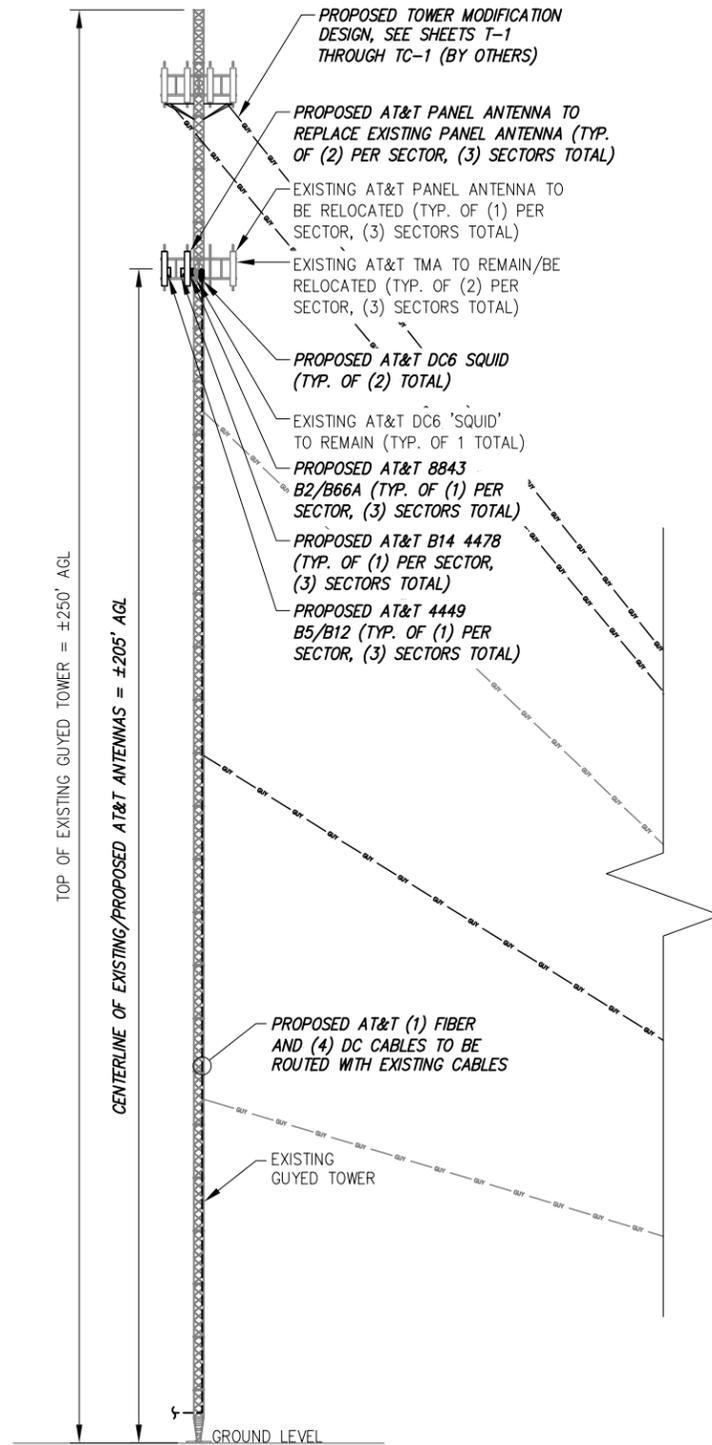
Drawing Number:
C2A

NOTE:

- FOR ADDITIONAL STRUCTURAL INFORMATION PERTAINING TO THE TOWER, SEE "POST MOD STRUCTURAL ANALYSIS REPORT" COMPLETED BY TOWER ENGINEERING SOLUTIONS, DATED 11/05/19. SEE TOWER MODIFICATION DESIGN, SEE SHEETS T-1 THROUGH TC-1.
- FOR ADDITIONAL STRUCTURAL INFORMATION PERTAINING TO THE ANTENNA MOUNTS, SEE "MOUNT ANALYSIS REPORT" COMPLETED BY INFNIGY, DATED 10/4/19.

NOTE:

- 3' MINIMUM SEPARATION BETWEEN ALL LTE ANTENNAS
- 6' MINIMUM SEPARATION BETWEEN 700 BC/700 DE ANTENNAS



1 ELEVATION VIEW
--- NOT TO SCALE

FINAL ANTENNA CONFIGURATION & CABLE SCHEDULE BASED ON LTE RFDS DATED 10/28/2019 V5.00

SECTOR	ANTENNA POSITION	ANTENNA STATUS & TECHNOLOGY	ANTENNA MANF/MODEL	TMA/DIPLEXER	RRUS	AZIMUTH	ANTENNA Q. HEIGHT	CABLE FEEDER		RAYCAP UNIT
								TYPE	LENGTH	
ALPHA	A-1	(P) LTE 700/850/AWS /5G 850	CCI DMP65R-BUBDA	--	(1) (P) 4449 B5/B12	45°	±205'	SEE A-2 FOR CABLE INFORMATION	--	(1) (E) DC6 'SQUID' (2) (P) DC6 'SQUID'
	A-2	(P) LTE 700/1900	CCI DMP65R-BUBDA	--	(1) (P) B14 4478 (1) (P) 8843 B2/B66A	45°	±205'	(1) (E) FIBER CABLE (2) (E) DC CABLES	--	
	A-3	--	--	--	--	--	--	(2) (E) 1-5/8" COAX CABLES	--	
	A-4	(E) UMTS 850	POWERWAVE 7770	(2) (E) LGP21401	--	158°	±205'	(2) (E) 1-5/8" COAX CABLES	±243'	
BETA	B-1	(P) LTE 700/850/AWS /5G 850	CCI DMP65R-BUBDA	--	(1) (P) 4449 B5/B12	155°	±205'	SEE A-3 FOR CABLE INFORMATION	--	(1) (E) DC6 'SQUID' (2) (P) DC6 'SQUID'
	B-2	(P) LTE 700/1900	CCI DMP65R-BUBDA	--	(1) (P) B14 4478 (1) (P) 8843 B2/B66A	155°	±205'	(1) (P) FIBER CABLE (4) (P) DC CABLES	--	
	B-3	--	--	--	--	--	--	(2) (E) 1-5/8" COAX CABLES	--	
	B-4	(E) UMTS 850	POWERWAVE 7770	(2) (E) LGP21401	--	267°	±205'	(2) (E) 1-5/8" COAX CABLES	±243'	
GAMMA	G-1	(E) UMTS 850	POWERWAVE 7770	(2) (E) LGP21401	--	57°	±205'	(2) (E) 1-5/8" COAX CABLES	±243'	(1) (E) DC6 'SQUID' (2) (P) DC6 'SQUID'
	G-2	--	--	--	--	--	--	(2) (E) 1-5/8" COAX CABLES	--	
	G-3	(P) LTE 700/1900	CCI DMP65R-BUBDA	--	(1) (P) B14 4478 (1) (P) 8843 B2/B66A	285°	±205'	SEE A-3 FOR CABLE INFORMATION	--	
	G-4	(P) LTE 700/850/AWS /5G 850	CCI DMP65R-BUBDA	--	(1) (P) 4449 B5/B12	285°	±205'	SEE A-3 FOR CABLE INFORMATION	--	

2 AT&T ANTENNA SCHEDULE
--- NOT TO SCALE

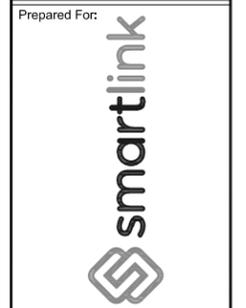
INFNIGY
INFNIGY ENGINEERING, PLLC
1033 Waterlily Shaker Rd
Albany, NY 12205
Office # (518) 690-0790
Fax # (518) 690-0793



THIS DOCUMENT IS A VIOLATION OF APPLICABLE STATE AND/OR LOCAL LAWS

3	REVISED FOR PERMIT	BMM	11/21/19
2	ISSUED FOR PERMIT	ASW	10/30/19
1	ISSUED FOR PERMIT	ASW	10/10/19
0	ISSUED FOR REVIEW	BMM	09/10/19
No.	Submittal / Revision	App'd	Date
Drawn:	BMM	Date:	09/10/19
Designed:	ASW	Date:	09/10/19
Checked:	ASW	Date:	09/10/19
Project Number:			
499-006			

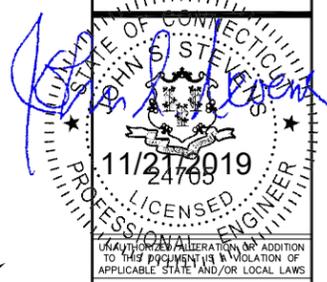
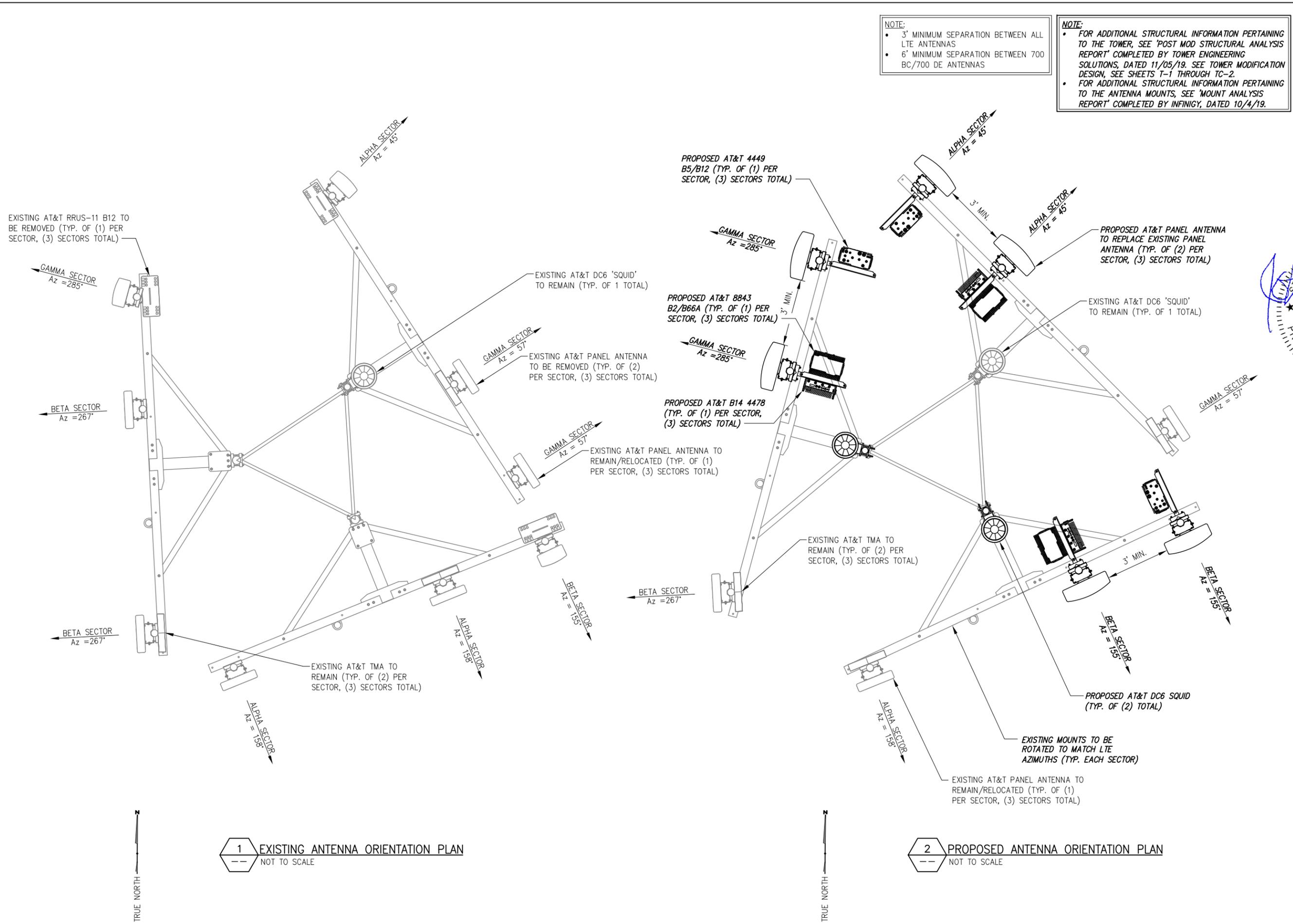
Project Title:
THOMPSON - 61
LOWELL DAVIS ROAD
CTL01052
FA# 10035009
61 LOWELL DAVIS ROAD
THOMPSON, CT 06277



Drawing Scale:
AS NOTED
Date:
11/21/19

Drawing Title:
ELEVATION VIEW

Drawing Number:
C3



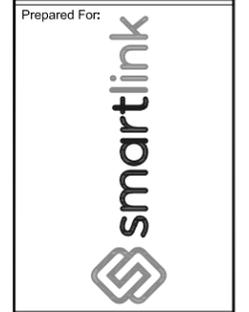
UNLAWFUL ALTERATION OR ADDITION TO THIS DOCUMENT IS A VIOLATION OF APPLICABLE STATE AND/OR LOCAL LAWS

No.	Submital / Revision	App'd	Date
3	REVISED FOR PERMIT	BMM	11/21/19
2	ISSUED FOR PERMIT	ASW	10/30/19
1	ISSUED FOR PERMIT	ASW	10/10/19
0	ISSUED FOR REVIEW	BMM	09/10/19

Drawn: BMM Date: 09/10/19
 Designed: ASW Date: 09/10/19
 Checked: AD Date: 09/10/19

Project Number: 499-006

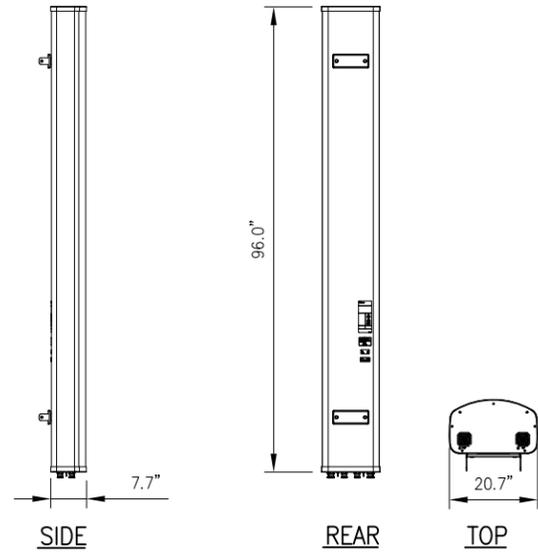
Project Title:
THOMPSON - 61 LOWELL DAVIS ROAD
CTL01052
FA# 10035009
 61 LOWELL DAVIS ROAD
 THOMPSON, CT 06277



Drawing Scale: AS NOTED
CD
 Date: 11/21/19

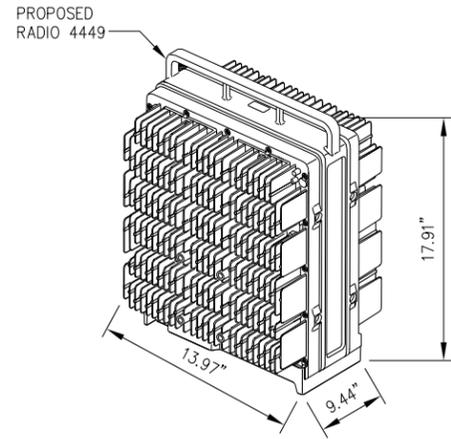
Drawing Title:
ANTENNA ORIENTATION PLAN

Drawing Number:
C4



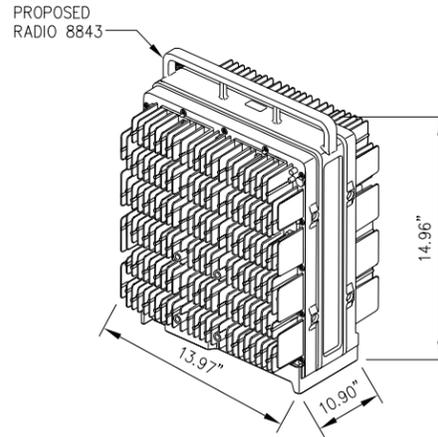
CCI MODEL NO.:	DMP65R-BU8DA
RADOME MATERIAL:	FIBERGLASS
RADOME COLOR:	LIGHT GRAY
DIMENSIONS, HxWxD:	96.0"x20.7"x7.7"
WEIGHT, W/ PRE-MOUNTED BRACKETS:	95.7 LBS
CONNECTOR:	7-16 DIN FEMALE

1 ANTENNA DETAIL
NOT TO SCALE



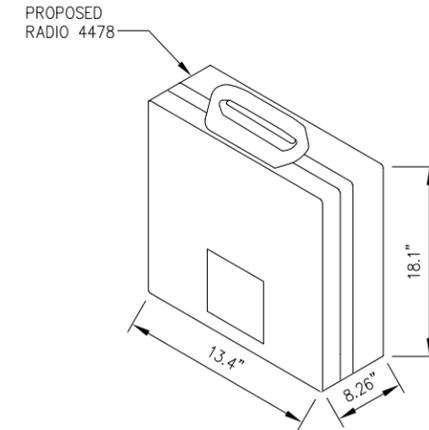
RADIO 4449 SPECIFICATIONS
• HxWxD, (INCHES) : 17.91"x13.97"x9.44"
• WEIGHT (LBS) : 70.54
• COLOR : GRAY

2 ERICSSON RADIO 4449 DETAIL
NOT TO SCALE



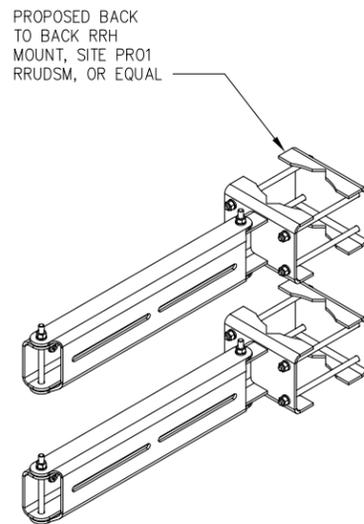
RADIO 8843 SPECIFICATIONS
• HxWxD, (INCHES) : 14.96"x13.97"x10.90"
• WEIGHT (LBS) : 71.87
• COLOR : GRAY

3 ERICSSON RADIO 8843 DETAIL
NOT TO SCALE

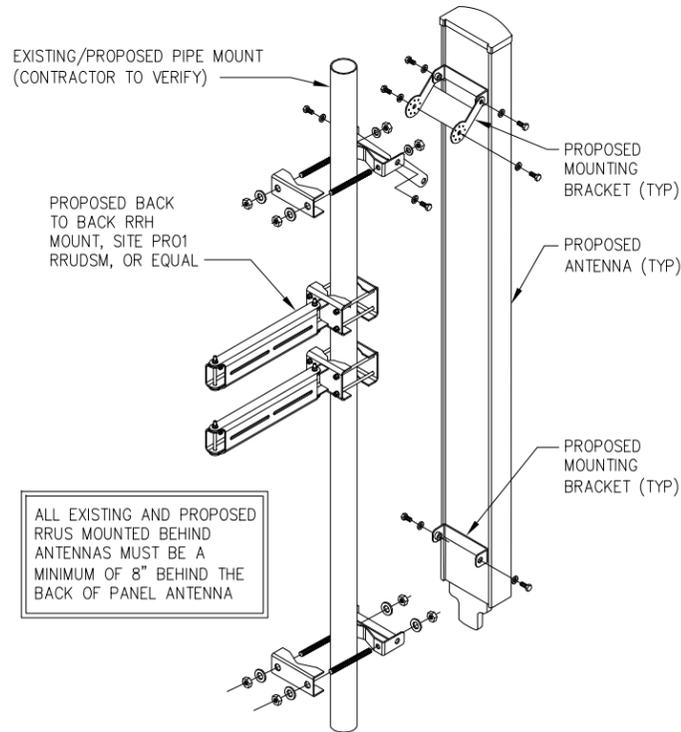


RADIO 4478-B14 SPECIFICATIONS
• HxWxD, (INCHES) : 18.1"x13.4"x8.26"
• WEIGHT (LBS) : 59.5
• COLOR : GRAY
• MOUNTING BRACKET: SXK1250244/1

4 ERICSSON RADIO 4478-B14 DETAIL
NOT TO SCALE

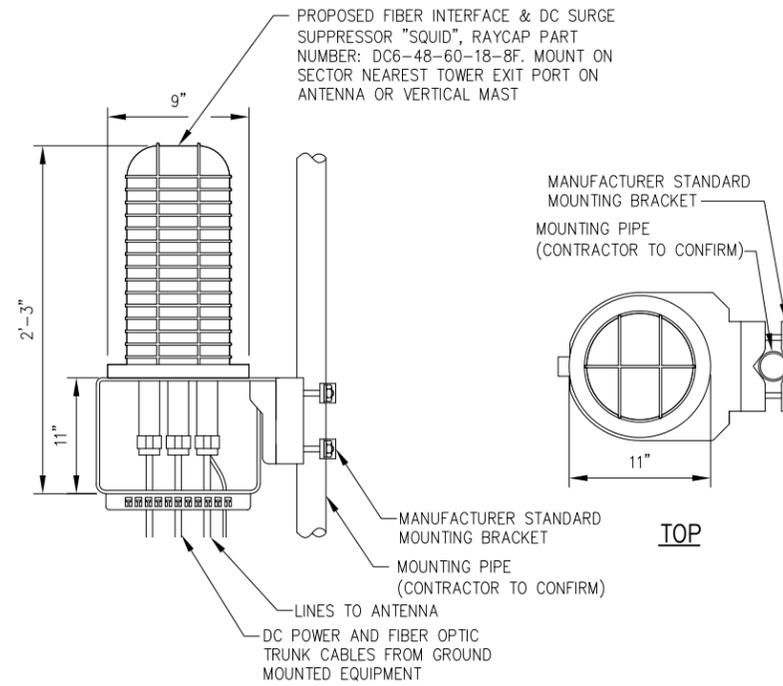


5 BACK TO BACK PIPE MOUNT DETAIL
NOT TO SCALE



ALL EXISTING AND PROPOSED RRUS MOUNTED BEHIND ANTENNAS MUST BE A MINIMUM OF 8" BEHIND THE BACK OF PANEL ANTENNA

6 ANTENNA MOUNTING DETAIL
NOT TO SCALE



7 SQUID DETAIL
NOT TO SCALE

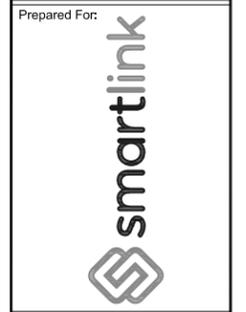
INFINIGY
INFINIGY ENGINEERING, PLLC
1033 Watervliet Shaker Rd
Albany, NY 12205
Office # (518) 690-0790
Fax # (518) 690-0793



THIS SEAL IS VALIDATION OF THE QUALITY OF THE WORK AND IS SUBJECT TO THE APPLICABLE STATE AND/OR LOCAL LAWS.

3	REVISED FOR PERMIT	BMM	11/21/19
2	ISSUED FOR PERMIT	ASW	10/30/19
1	ISSUED FOR PERMIT	ASW	10/10/19
0	ISSUED FOR REVIEW	BMM	09/10/19
No.	Submittal / Revision	App'd	Date
Drawn:	BMM	Date:	09/10/19
Designed:	ASW	Date:	09/10/19
Checked:	AD	Date:	09/10/19
Project Number: 499-006			

Project Title:
**THOMPSON - 61
LOWELL DAVIS ROAD**
CTL01052
FA# 10035009
61 LOWELL DAVIS ROAD
THOMPSON, CT 06277



Drawing Scale:
AS NOTED
Date:
11/21/19

CD

Drawing Title
**EQUIPMENT
DETAILS**

Drawing Number
C5



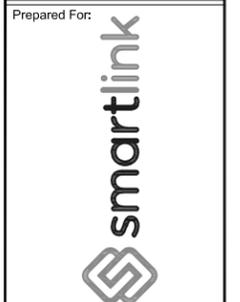
ANY REVISION OR ALTERATION IN ADDITION TO THIS DOCUMENT IS A VIOLATION OF APPLICABLE STATE AND/OR LOCAL LAWS

No.	Submittal / Revision	App'd	Date
3	REVISED FOR PERMIT	BMM	11/21/19
2	ISSUED FOR PERMIT	ASW	10/30/19
1	ISSUED FOR PERMIT	ASW	10/10/19
0	ISSUED FOR REVIEW	BMM	09/10/19

Drawn: BMM Date: 09/10/19
Designed: ASW Date: 09/10/19
Checked: AD Date: 09/10/19

Project Number: 499-006

Project Title:
**THOMPSON - 61
LOWELL DAVIS ROAD**
CTL01052
FA# 10035009
61 LOWELL DAVIS ROAD
THOMPSON, CT 06277

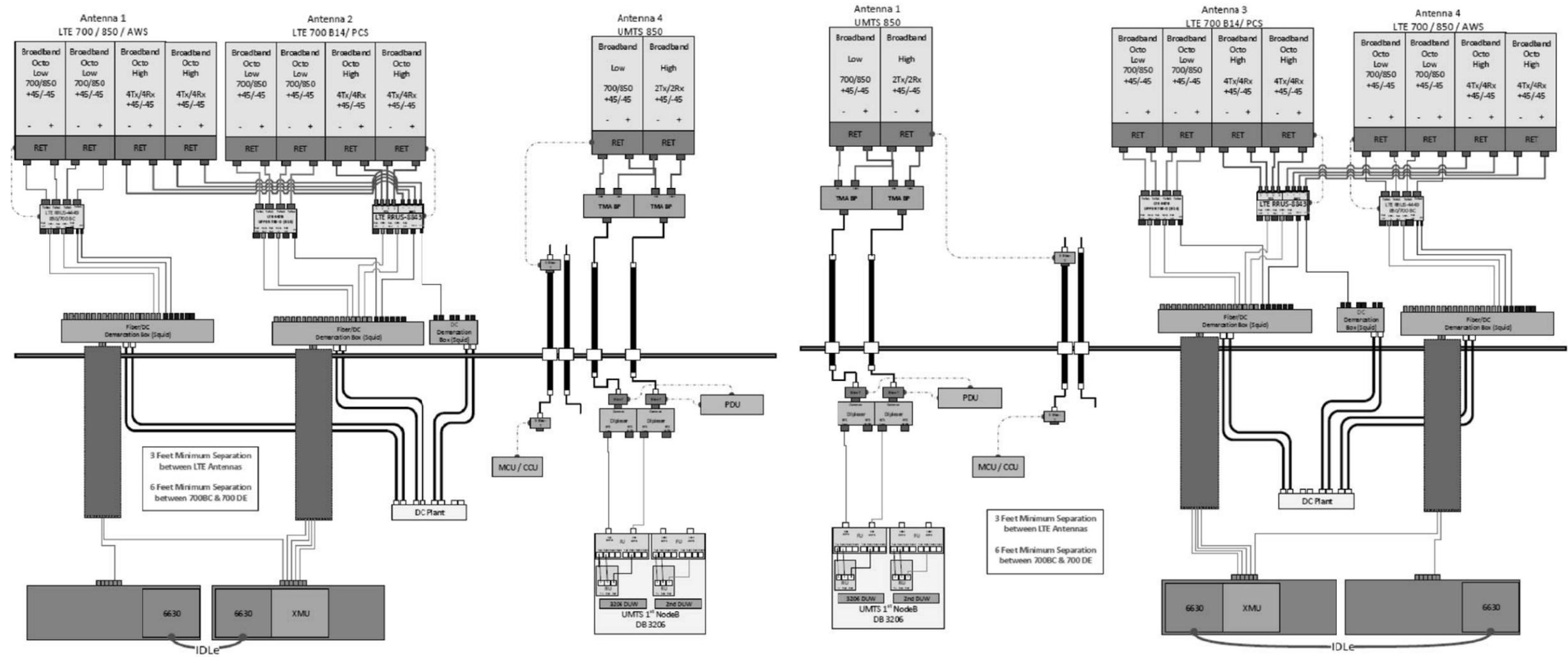


Drawing Scale: AS NOTED
Date: 11/21/19

CD

Drawing Title:
**PLUMBING
DIAGRAM**

Drawing Number:
C6

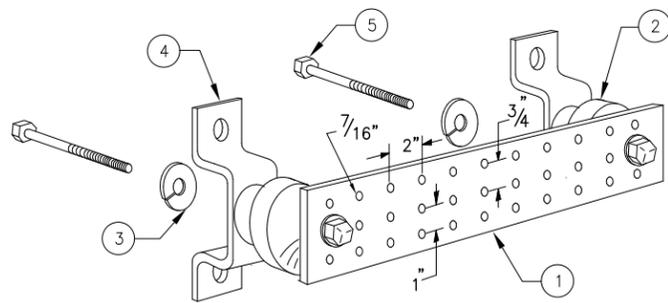


ALPHA/BETA

GAMMA

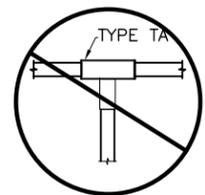
1 PLUMBING DIAGRAM (FINAL CONFIGURATION)
NOT TO SCALE

*BASED ON LTE RFDS,
DATED 10/28/2019 V5.00

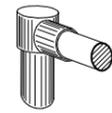


LEGEND

- 1 - SOLID TINNED COPPER GROUND BAR, 1/4"x 4"x 20" MIN., NEWTON INSTRUMENT CO. HOLE CENTERS TO MATCH NEMA DOUBLE LUG CONFIGURATION
- 2 - INSULATORS, NEWTON INSTRUMENT CAT. NO. 3061-4
- 3 - 5/8" LOCKWASHERS, NEWTON INSTRUMENT CO. CAT. NO. 3015-8
- 4 - WALL MOUNTING BRACKET, NEWTON INSTRUMENT CO. CAT NO. A-6056
- 5 - 5/8-11 X 1" H.H.C.S. BOLTS, NEWTON INSTRUMENT CO. CAT NO. 3012-1
- 6 - GROUND BAR SHALL BE SIZED TO ACCOMMODATE ALL GROUNDING CONNECTIONS REQUIRED PLUS PROVIDE 50% SPARE CAPACITY
- 7 - GROUND BARS SHALL NEITHER BE FIELD FABRICATED NOR NEW HOLES DRILLED
- 8 - GROUND LUGS SHALL MATCH THE HOLE SPACING ON THE BAR
- 9 - HARDWARE DIAMETER SHALL BE MINIMUM 3/8"



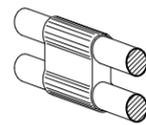
NOT PERMITTED



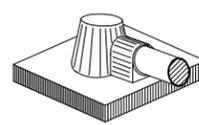
TYPE GR



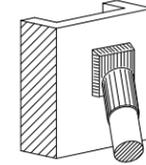
TYPE SV



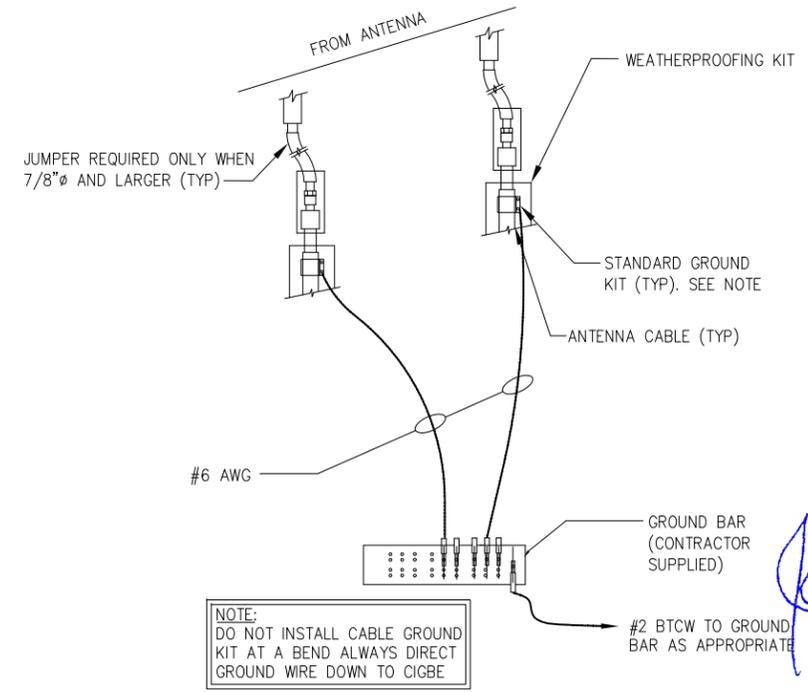
TYPE PH



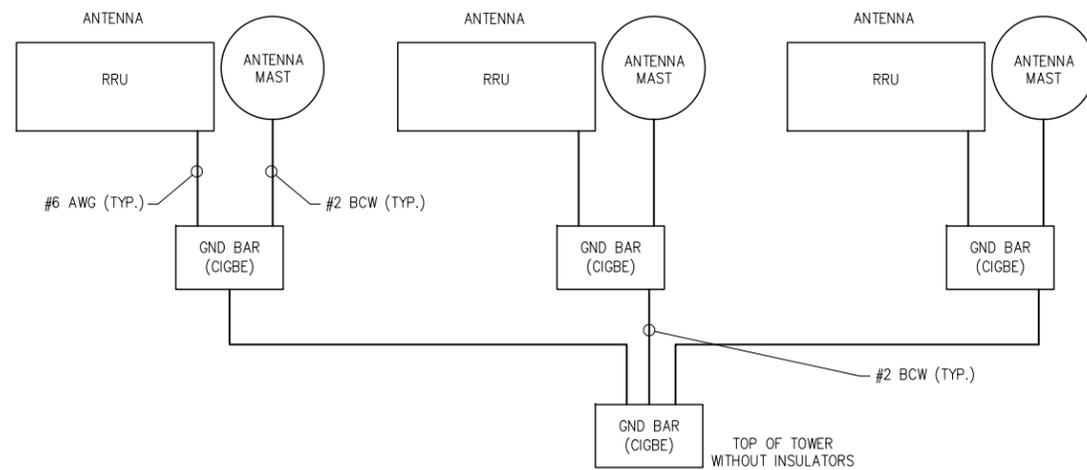
TYPE KA



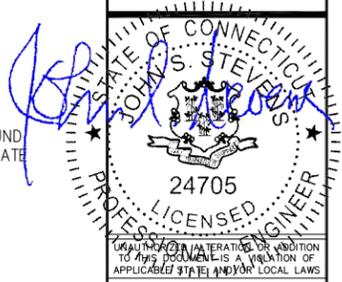
TYPE VS



NOTE:
DO NOT INSTALL CABLE GROUND KIT AT A BEND ALWAYS DIRECT GROUND WIRE DOWN TO CIGBE



INFINIGY
 INFINIGY ENGINEERING, PLLC
 1033 Waterlily Shaker Rd
 Albany, NY 12205
 Office # (518) 690-0790
 Fax # (518) 690-0793

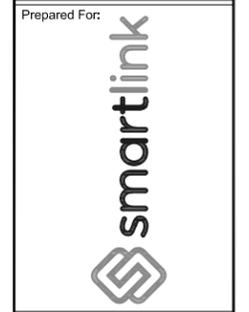


No.	Submittal / Revision	App'd	Date
3	REVISED FOR PERMIT	BMM	11/21/19
2	ISSUED FOR PERMIT	ASW	10/30/19
1	ISSUED FOR PERMIT	ASW	10/10/19
0	ISSUED FOR REVIEW	BMM	09/10/19

Drawn: BMM Date: 09/10/19
 Designed: ASW Date: 09/10/19
 Checked: AD Date: 09/10/19

Project Number: 499-006

Project Title:
 THOMPSON - 61
 LOWELL DAVIS ROAD
 CT01052
 FA# 10035009
 61 LOWELL DAVIS ROAD
 THOMPSON, CT 06277



Drawing Scale:
 AS NOTED
 Date:
 11/21/19

Drawing Title:
**GROUNDING
 DETAILS**

Drawing Number:
C7

PER THE INTERNATIONAL BUILDING CODE THIS STRUCTURE IS CLASSIFIED AS:

1. CONSTRUCTION TYPE V-B (TABLE 601 & SECTION 602.5)
2. GROUP U OCCUPANCY (SECTION 312.1 UNOCCUPIED TOWER SITE)

MODIFICATION AND DESIGN DRAWINGS FOR AN EXISTING 250' GUYED TOWER

PROPOSED CARRIER: AT&T

SITE: CT17474-A-SBA / THOMPSON

COORDINATES (LATITUDE: 41.978944°, LONGITUDE: -71.852500°)

CONSTRUCTION CLASS

THE RIGGING PLAN FOR THIS SITE WOULD BE A
MINIMUM OF A CLASS IV AND THE CONTRACTOR
SHALL MAKE FINAL DETERMINATION

PLEASE NOTE THIS SET OF DRAWINGS IS FOR INSTALLATION AND ASSEMBLY ONLY. FABRICATION DETAIL DRAWINGS ARE NOT PROVIDED AND MUST BE COMPLETED BY THE STEEL FABRICATOR SELECTED. TES CAN PROVIDE THE FABRICATION DETAIL DRAWINGS FOR AN ADDITIONAL FEE.

SHEET	SHEET TITLE	REV
T-1	TITLE SHEET	0
BOM	BILL OF MATERIALS	0
GN-1	GENERAL NOTES	0
A-1	TOWER PROFILE	0
A-2	TORQUE ARM REINFORCEMENT DETAILS	0
HC-1	STANDARD GUY HARDWARE CHART	0
TC-1	GUY TENSION CHART	0

NOTE:

1. THE MODIFICATION DRAWINGS ARE BASED ON THE
TES PROJECT NO. 87771, DATED 10/16/19.



Tower Engineering Solutions
1320 GREENWAY DRIVE, SUITE 600
IRVING, TX 75038
PHONE: (972) 483-0607

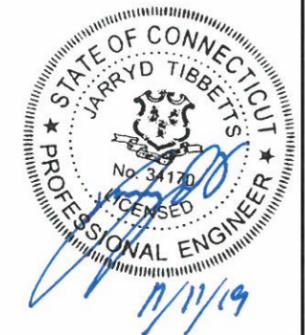


5900 BROKEN SOUND PARKWAY, NW
BOCA RATON, FL 33487
(800)-487-SITE

TES JOB NO:
87869

CUSTOMER SITE NO:
CT17474-A-SBA
CUSTOMER SITE NAME:
THOMPSON

61 LOWELL DAVIS ROAD
THOMPSON, CT 06277



DRAWN BY: CAH CHECKED BY: RAM/AD

REV.	DESCRIPTION	BY	DATE
1	FIRST ISSUE	CAH	11/11/19

SHEET TITLE:

TITLE SHEET

This drawing/document is the property of Tower Engineering Solutions, LLC. Information contained herein is considered confidential in nature and is to be used only for the specific site that it was intended for. Reproduction, transmission, publication or disclosure by any method is prohibited except by express written permission from Tower Engineering Solutions, LLC. Without exception, the information on this drawing/document remains the property of Tower Engineering Solutions, LLC.

SHEET NUMBER: T-1 REV #: 0

BILL OF MATERIALS (PAGE 1 OF 1)

QUANTITY REQUIRED	QUANTITY PROVIDED	PART NUMBER	DESCRIPTION	LENGTH	SHEET LIST	PIECE WEIGHT	WEIGHT (lb)	NOTES	
MATERIAL & HARDWARE									
1	1	320107	9/16" EHS GUY STRAND (IN FT.) (VALMONT OR EQUIVALENT)	735 FT.	HC-1	493.2	493.2	GALVANIZED	
3	3	1032153	TURNBUCKLE 7/8" X 18" (JAW & EYE) (CROSBY OR EQUIVALENT)	-	HC-1	9.75	29.3	GALVANIZED	
6	6	GC-65267	DEAD-END SLEEVE, 9/16" (PREFORMED OR EQUIVALENT)	-	HC-1	-	-	GALVANIZED	
6	6	1037719	EXTRA HEAVY WIRE ROPE THIMBLE, FOR 1/2" or 9/16" GUY WIRES (CROSBY OR EQUIVALENT)	-	HC-1	0.51	3.1	GALVANIZED	
6	6	1018473	G-209 SCREW PIN SHACKLE, 5/8" (CROSBY OR EQUIVALENT)	-	HC-1	1.37	8.3	GALVANIZED	
6	6	BG-2116	BIG-GRIP DEAD-END 9/16" EHS (PREFORMED OR EQUIVALENT)	-	HC-1	4.8	28.8	GALVANIZED	
FOR ADDITIONAL MEMBERS AND HARDWARE, PLEASE ENTER INFO BELOW:									
6	6	SR-1	1 1/2" DIA. SOLID ROD X 10'-0" A36	---	A-2,F-1	63.20	379.2	GALVANIZED (FINAL CUT LENGTH TO BE DETERMINED IN FIELD)	
78	82	BK500-350CC	PL 1/2" X 2 1/2" X 5 1/4" A36	---	A-2,BK-PLATE	1.95	159.9	GALVANIZED	
78	82	MS02V-500-300-400	V-BOLT 1/2" X 3" I.W. X 4" I.L. A36 (OR EQUIV)	---	A-2,VBC-1	1.52	124.7	(2) HHN & LKW-EA GALVANIZED	
2	2	---	LANCO /HENRY 287 WHITE ACRYLIC ELASTOMERIC COATING AND SEALER OR EQUIV (GALLON)	---	A-1	---	---	PROVIDED BY CONTRACTOR	
3	3	119690	GUY WIRE GROUNDING CLAMP (VALMONT OR EQUIV)	---	---	---	---	---	
<p>NOTE: ALL MATERIALS REQUIRED FOR FOUNDATION MODIFICATIONS THAT ARE NOT LISTED IN THE BILL OF MATERIALS WILL BE PROVIDED BY CONTRACTOR. REFERENCE MODIFICATION SHEETS.</p> <p>NOTE: ALL MATERIALS, WHICH WEREN'T LISTED IN THIS SHEET, ARE ASSUMED TO BE PROVIDED BY THE CONTRACTOR.</p> <p>Note:: Please note this set of drawings is for installation and assembly only. Fabrication Detail Drawings are not provided and must be completed by the steel fabricator selected. TES can provide the Fabrication Detail Drawings for an additional fee</p>									
							TOTAL WEIGHT (lb) =	1,227	



Tower Engineering Solutions
 1320 GREENWAY DRIVE, SUITE 600
 IRVING, TX 75038
 PHONE: (972) 483-0607



5900 BROKEN SOUND PARKWAY, NW
 BOCA RATON, FL 33487
 (800)-487-SITE

TES JOB NO:
87869

CUSTOMER SITE NO:
CT17474-A-SBA

CUSTOMER SITE NAME:
THOMPSON

61 LOWELL DAVIS ROAD
 THOMPSON, CT 06277

DRAWN BY: CAH | CHECKED BY: RAM/AD

REV.	DESCRIPTION	BY	DATE
1	FIRST ISSUE	CAH	11/11/19

SHEET TITLE:

BILL OF MATERIALS

This drawing/document is the property of Tower Engineering Solutions, LLC. Information contained herein is considered confidential in nature and is to be used only for the specific site that it was intended for. Reproduction, transmission, publication or disclosure by any method is prohibited except by express written permission from Tower Engineering Solutions, LLC. Without exception, the information on this drawing/document remains the property of Tower Engineering Solutions, LLC.

SHEET NUMBER: **BOM** | REV #: **0**

Copyright 2019 Tower Engineering Solutions, LLC

GENERAL NOTES

1. ALL WORK SHALL COMPLY WITH THE ANSI/TIA-222-G, ANSI/ASSP A10.48/2018 CONNECTICUT STATE BUILDING CODE, AND ANY OTHER GOVERNING BUILDING CODES AND OSHA SAFETY REGULATIONS.
2. ALL WORK INDICATED ON THE DRAWINGS SHALL BE PERFORMED BY QUALIFIED CONTRACTORS EXPERIENCED IN TELECOMMUNICATIONS TOWER, POLE AND FOUNDATION CONSTRUCTION.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN AND FABRICATION OF ALL MISCELLANEOUS PARTS (SUCH AS SHIMS), TEMPORARY SUPPORTS, AND GUYINGS, ETC., PER ANSI/ASSP A10.48, TO COMPLETE THE ASSEMBLY AS SHOWN IN THE DRAWINGS.
4. CONTRACTOR SHALL PROCEED WITH THE INSTALLATION WORK CAREFULLY SO THE WORK WILL NOT DAMAGE ANY EXISTING CABLE, EQUIPMENT OR THE STRUCTURE.
5. THE USE OF GAS TORCH OR WELDER, ARE NOT ALLOWED ON ANY TOWER STRUCTURE WITHOUT THE CONSENT OF THE TOWER OWNER.
6. GENERALLY THE CONTRACTOR IS RESPONSIBLE TO CONDUCT AN ONSITE VISIT SURVEY OF THE JOB SITE AFTER AWARD, AND REPORT ANY ISSUES WITH THE SITE TO **TES** BEFORE PROCEEDING CONSTRUCTION.

FABRICATION

1. ALL STEEL SHALL MEET OR EXCEED THE MINIMUM STRENGTH AS SPECIFIED IN THE DRAWINGS. IF YIELD STRENGTH WAS NOT NOTED IN THE DRAWINGS, CONTRACTORS SHALL CONTACT TES FOR DIRECTION.
2. ALL FIELD CUT EDGES SHALL BE GROUND SMOOTH. ALL FIELD CUT AND DRILLED SURFACES SHALL BE REPAIRED WITH A MINIMUM OF TWO COATS OF ZINGA COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURER'S RECOMMENDATIONS.

WELDING

1. ALL WELDING SHALL BE PERFORMED BY AWS CERTIFIED WELDERS AND IN ACCORDANCE WITH THE LATEST EDITION OF THE AWS WELDING CODE D1.1. ALL ELECTRODES TO BE LOW HYDROGEN, MATCHING FILLER METAL, PER AWS D1.1, UNO. (E70XX UNLESS NOTED OTHERWISE).
2. PRIOR TO FIELD WELDING GALVANIZED MATERIAL, CONTRACTOR SHALL GRIND OFF GALVANIZING APPROX. 0.5" BEYOND THE PROPOSED FIELD WELD SURFACES.
3. ALL WELDS SHALL BE INSPECTED VISUALLY. A MINIMUM OF 25% OF WELDS SHALL BE INSPECTED WITH DYE PENETRANT OR MAGNETIC PARTICLE TO MEET THE ACCEPTANCE CRITERIA OF AWS D1.1. 100% OF WELDS SHALL BE INSPECTED IF DEFECTS ARE FOUND.
4. WELD INSPECTIONS SHALL BE PERFORMED BY AN AWS CERTIFIED WELD INSPECTOR.
5. AFTER INSPECTION, ALL FIELD WELDED SURFACES SHALL BE REPAIRED WITH A MINIMUM OF TWO COATS OF ZINGA COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURER'S RECOMMENDATIONS.

BOLTED ASSEMBLIES AND TIGHTENING OF CONNECTIONS

1. ALL HIGH STRENGTH BOLTS SHALL CONFORM TO THE PROVISIONS OF THE SPECIFICATIONS FOR STRUCTURAL JOINTS USING A325 OR A490 BOLTS AS APPROVED BY THE RCSC.
2. FLANGE BOLTS SHALL BE TIGHTENED BY THE AISC "TURN-OF-THE-NUT" METHOD. THE FOLLOWING TABLE SHOULD BE USED FOR THE "TURN-OF-THE-NUT" TIGHTENING.
3. SPLICE BOLTS AND ALL OTHER BOLTS IN BEARING TYPE CONNECTIONS SHALL BE TIGHTENED TO A SNUG-TIGHT CONDITION.
4. THE SNUG-TIGHT CONDITION IS DEFINED AS THE TIGHTNESS ATTAINED BY EITHER A FEW IMPACTS OF AN IMPACT WRENCH OR THE FULL EFFORT OF AN IRONWORKER WITH AN ORDINARY SPUD WRENCH TO BRING THE CONNECTED PLIES INTO FIRM CONTACT.
5. HB HOLLO-BOLT SHALL BE INSTALLED PER ICC ESR-3330 INSTRUCTIONS.

VERIFICATION AND INSPECTION

1. IF APPLICABLE, VERIFICATION INSPECTION TO BE PERFORMED SHALL BE IN ACCORDANCE TO IBC-2015 SECTION 1705 - FOR STEEL CONSTRUCTION & TABLE 1705.3 FOR CONCRETE CONSTRUCTION.

POST INSTALLED EPOXY INJECTED ANCHOR BOLTS:

1. CONCRETE MUST BE A MINIMUM OF 28 DAYS OLD.
2. FOLLOW MANUFACTURER'S REQUIREMENTS FOR CURE TIME VS. AMBIENT TEMPERATURE.
3. DRILL HOLE TO REQUIRED DIAMETER AND DEPTH. ALL WATER, DIRT, OIL, DEBRIS, GREASE OR DUST MUST BE REMOVED FROM EACH CORE HOLE. FOLLOW MANUFACTURER'S RECOMMENDATION FOR CORRECT TYPE OF CORE BIT. AVOID DAMAGING EXISTING REINFORCING STEEL OR OTHER EMBEDDED ITEMS. NOTIFY TES ENGINEERING IF VOIDS IN THE CONCRETE, REINFORCING STEEL OR OTHER EMBEDDED ITEMS ARE ENCOUNTERED. STOP CORING IMMEDIATELY IF THIS OCCURS.
4. A HOLE ROUGHENING DEVICE FROM EITHER HILTI OR ALLFASTENERS SHALL BE USED WITH ALL HOLES. FOLLOW ALL MANUFACTURER'S RECOMMENDED CORING AND INSTALLATION INSTRUCTIONS.
5. AFTER CORING AND ROUGHENING, FLUSH EACH HOLE WITH RUNNING WATER TO REMOVE ANY SLURRY OR DEBRIS. REMOVE ALL WATER FROM THE HOLE BY MECHANICAL PUMPING.
6. BRUSH EACH HOLE WITH AN APPROPRIATE SIZED NYLON BRUSH AND FLUSH WITH RUNNING WATER A SECOND TIME. REMOVE ALL WATER FROM THE HOLE.
7. AFTER THE SECOND WATER FLUSH BRUSH THE HOLE AGAIN WITH THE APPROPRIATE SIZED NYLON BRUSH.
8. BLOW EACH HOLE WITH COMPRESSED AIR TWO TIMES MINIMUM.
9. CONFIRM THAT EACH HOLE IS PROPERLY ROUGHED AND DRY.
10. NO EPOXY INJECTION SHALL TAKE PLACE IN RAINY CONDITIONS.
11. EPOXY SHOULD BE VISIBLE AT THE TOP OF THE CORE HOLE AFTER INSTALLATION.
12. CONTRACTOR TO SUPPLY ONE PHOTO OF EACH ROUGHED AND CLEANED HOLE IN CLOSEOUT PHOTO PACKAGE.

TABLE 8.2 NUT ROTATION FROM SNUG-TIGHT CONDITION FOR TURN-OF-NUT PRETENSIONING^{a,b}

BOLT LENGTH ^f	DISPOSITION OF OUTER FACE OF BOLTED PARTS		
	BOTH FACES NORMAL TO BOLT AXIS	ONE FACE NORMAL TO BOLT AXIS, OTHER SLOPED NOT MORE THAN 1:20 ^d	BOTH FACES SLOPED NOT MORE THAN 1:20 FROM NORMAL TO BOLT AXIS ^d
NOT MORE THAN 4d _b	1/3 TURN	1/2 TURN	2/3 TURN
MORE THAN 4d _b BUT NOT MORE THAN 8d _b	1/2 TURN	2/3 TURN	5/6 TURN
MORE THAN 8d _b BUT NOT MORE THAN 12d _b	2/3 TURN	5/6 TURN	1 TURN

^a NUT ROTATION IS RELATIVE TO BOLT REGARDLESS OF THE ELEMENT (NUT OR BOLT) BEING TURNED. FOR REQUIRED NUT ROTATIONS OF 1/2 TURN AND LESS, THE TOLERANCE IS PLUS OR MINUS 30 DEGREES; FOR REQUIRED NUT ROTATIONS OF 2/3 TURN AND MORE, THE TOLERANCE IS PLUS OR MINUS 45 DEGREES.

^b APPLICABLE ONLY TO JOINTS IN WHICH ALL MATERIAL WITHIN THE GRIP IS STEEL.

^c WHEN THE BOLT LENGTH EXCEEDS 12d_b, THE REQUIRED NUT ROTATION SHALL BE DETERMINED BY ACTUAL TESTING IN A SUITABLE TENSION CALIBRATOR THAT SIMULATES THE CONDITIONS OF SOLIDLY FITTING STEEL.

^d BEVELED WASHER NOT USED.

SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS, JUNE 30, 2004 RESEARCH COUNCIL ON STRUCTURAL CONNECTIONS

INSTALLATION TORQUE REQUIRED FOR HOLLO BOLTS AND AJAX BOLTS:

1. HB12 HOLLO BOLT: 59 FT-LBS
2. HB16 HOLLO BOLT: 140 FT-LBS
3. HB20 HOLLO BOLT: 221 FT-LBS
4. M20 AJAX BOLT: 280 FT-LBS.

FIELD HOT WORK PLAN NOTES:

FOLLOWING GUIDELINES SHALL BE COMPLIED WITH:

1. CONTRACTOR'S RESPONSIBILITY TO COMPLETE A HOT WORK PLAN IF AWARDED PER CUSTOMER SPECIFICATIONS GUIDELINES FOR WELDING, CUTTING & SPARK PRODUCING WORK.
2. HAVE A FIRE PLAN APPROVED BY THE CUSTOMER AND THEIR SAFETY MANAGEMENT DEPT.
3. CONTRACTOR MUST OBTAIN THE CONTACT INFO OF THE LOCAL FIRE DEPARTMENT AND THE 911 ADDRESS OF THE TOWER SITE BEFORE CONSTRUCTION.
4. CONTRACTOR SHALL MAKE SURE THAT CELL PHONE COVERAGE IS AVAILABLE IN THE TOWER SITE. IF CELL COVERAGE IS NOT AVAILABLE, AN IMMEDIATE AVAILABLE MEANS OF DIRECT COMMUNICATION WITH THE FIRE DEPARTMENT SHALL BE DETERMINED PRIOR TO CONSTRUCTION START.
5. ALL CONSTRUCTION SHALL BE PERFORMED UNDER WIND SPEED LESS THAN 10 MPH ON THE GROUND LEVEL. IF WIND SPEED INCREASE, CONTRACTOR MUST DETERMINE IF CONSTRUCTION SHALL BE DISCONTINUED.
6. FIRE SUPPRESSION EQUIPMENT MUST BE MADE AVAILABLE ON SITE AND READY TO USE.
7. CONTRACTOR SHALL ASSIGN A FIRE WATCHER TO PERFORM FIRE-FIGHTING DUTIES.
8. ALL WELDERS SHALL BE AWS OR STATE CERTIFIED. THEY MUST ALSO BE EXPERIENCED IN WELDING ON GALVANIZED MATERIALS.
9. IF IT IS POSSIBLE, ALL EXISTING COAX NEAR WELDING AREA SHALL BE TEMPORARILY MOVED AWAY FROM THE WELDING AREA BEFORE WELDING THE PLATES.
10. PLEASE REPORT ANY FIELD ISSUE TO TES @ 972-483-0607.



Tower Engineering Solutions

1320 GREENWAY DRIVE, SUITE 600
IRVING, TX 75038
PHONE: (972) 483-0607



5900 BROKEN SOUND PARKWAY, NW
BOCA RATON, FL 33487
(800)-487-SITE

TES JOB NO:
87869

CUSTOMER SITE NO:
CT17474-A-SBA

CUSTOMER SITE NAME:
THOMPSON

61 LOWELL DAVIS ROAD
THOMPSON, CT 06277

DRAWN BY: CAH | CHECKED BY: RAM/AD

REV.	DESCRIPTION	BY	DATE
1	FIRST ISSUE	CAH	11/11/19

SHEET TITLE:

GENERAL NOTES

This drawing/document is the property of Tower Engineering Solutions, LLC. Information contained herein is considered confidential in nature and is to be used only for the specific site that it was intended for. Reproduction, transmission, publication or disclosure by any method is prohibited except by express written permission from Tower Engineering Solutions, LLC. Without exception, the information on this drawing/document remains the property of Tower Engineering Solutions, LLC.

SHEET NUMBER: **GN-1** | REV #: **0**

PLUMB AND TENSION NOTES:

- RE-TENSION OF EXISTING GUY WIRES SHALL BE PERFORMED AT A TIME WHEN THE WIND VELOCITY IS LESS THAN 10 MPH AT GROUND LEVEL AND NO ICE.
- PLUMB THE TOWER WHILE RE-TENSIONING THE EXISTING GUY WIRES. THE HORIZONTAL DISTANCE BETWEEN THE VERTICAL CENTERLINE AT ANY TWO ELEVATIONS SHALL NOT EXCEED 0.25% OF THE VERTICAL DISTANCE BETWEEN THE TWO ELEVATIONS (EXAMPLE, NOT TO EXCEED 0.6 INCHES FOR 20 FEET VERTICAL DISTANCE). SEE NOTE #5.
- THE TWIST BETWEEN ANY TWO ELEVATIONS SHALL NOT EXCEED 0.5 DEGREES IN 10 FEET. THE MAXIMUM TWIST OVER THE STRUCTURE HEIGHT SHALL NOT EXCEED 5 DEGREES. SEE NOTE #5.
- THE TENSIONING OF THE GUY WIRES TO BE PERFORMED AFTER THE INSTALLATION OF ALL OTHER MODIFICATIONS OUTLINED IN THESE DRAWINGS ARE COMPLETED.
- IF THERE ARE ANY EXISTING MICROWAVE DISHES ON THE TOWER, PLEASE MAINTAIN THE EXISTING TWIST/PLUMB WHEN RE-TENSIONING GUY WIRES SO THAT THE DISH WILL NOT BE OUT OF THE OPERATION
- PROVIDE TEMPORARY GUYING TO SECURE THE TOWER WHILE REPLACING OR RELOCATING GUY WIRES.

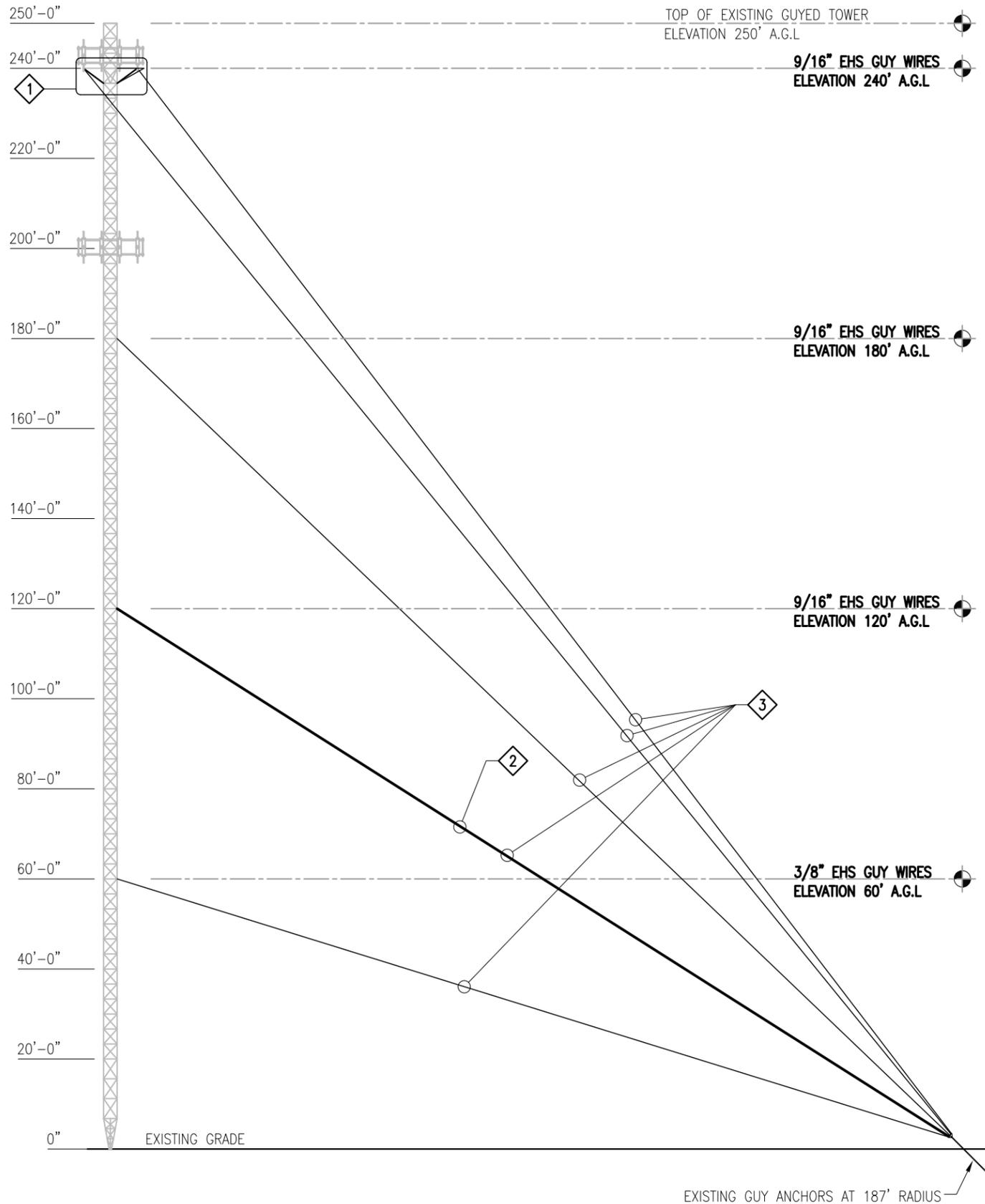
SCOPE OF WORK

- A. REINFORCE EXISTING TORQUE ARM AT 240' ELEV. SEE SHEET A-2 FOR DETAILS.
B. PAINT ALL NEW MEMBERS TO MATCH EXISTING TOWER COLOR.
- REPLACE EXISTING 1/2" EHS GUY WIRES AT 120' ELEV. WITH NEW 9/16" EHS GUY WIRES. SEE SHEET HC-1 FOR DETAILS.
- TENSION NEW GUY WIRES AT 120' ELEV. AND RETENSION EXISTING GUY WIRES AT 60' ELEV., 180' ELEV., 240' ELEV. PER SHEET TC-1.
- APPLY FOUNDATION COATING.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CLEAN-UP, REMOVAL AND DISPOSAL OF EXCESS MATERIALS USED AND REMOVED FROM THE STRUCTURE AT THE COMPLETION OF THE PROJECT.



FOUNDATION COATING NOTES:

- THE COATING MATERIALS SHALL BE LANCO WHITE ACRYLIC ELASTOMERIC COATING AND SEALER, OR HYDRO ARMOR COATING.
- THE COATING CAN BE PLACED AT LEAST (2) DAYS AFTER THE PLACEMENT OF THE CONCRETE FOR FOUNDATION REINFORCEMENT, AND MINIMUM (4) DAYS FOR NEW FOUNDATION CONSTRUCTION.
- THE CONCRETE SURFACE SHALL BE CLEAN AND DRY PRIOR TO THE APPLICATION OF THE COATING.
- THE COATING SHALL BE APPLIED TO ALL THE SURFACES OF THE CONCRETE ABOVE THE GROUND AND 6" BELOW THE GRADE SURFACE IF APPLICABLE.
- MINIMUM 30 MILS COATING IS REQUIRED.



Tower Engineering Solutions

1320 GREENWAY DRIVE, SUITE 600
IRVING, TX 75038
PHONE: (972) 483-0607



5900 BROKEN SOUND PARKWAY, NW
BOCA RATON, FL 33487
(800)-487-SITE

TES JOB NO:
87869

CUSTOMER SITE NO:
CT17474-A-SBA
CUSTOMER SITE NAME:
THOMPSON
61 LOWELL DAVIS ROAD
THOMPSON, CT 06277

DRAWN BY: CAH CHECKED BY: RAM/AD

REV.	DESCRIPTION	BY	DATE
1	FIRST ISSUE	CAH	11/11/19

SHEET TITLE:

TOWER PROFILE

This drawing/document is the property of Tower Engineering Solutions, LLC. Information contained herein is considered confidential in nature and is to be used only for the specific site that it was intended for. Reproduction, transmission, publication or disclosure by any method is prohibited except by express written permission from Tower Engineering Solutions, LLC. Without exception, the information on this drawing/document remains the property of Tower Engineering Solutions, LLC.

SHEET NUMBER: REV #:

A-1 0



Tower Engineering Solutions

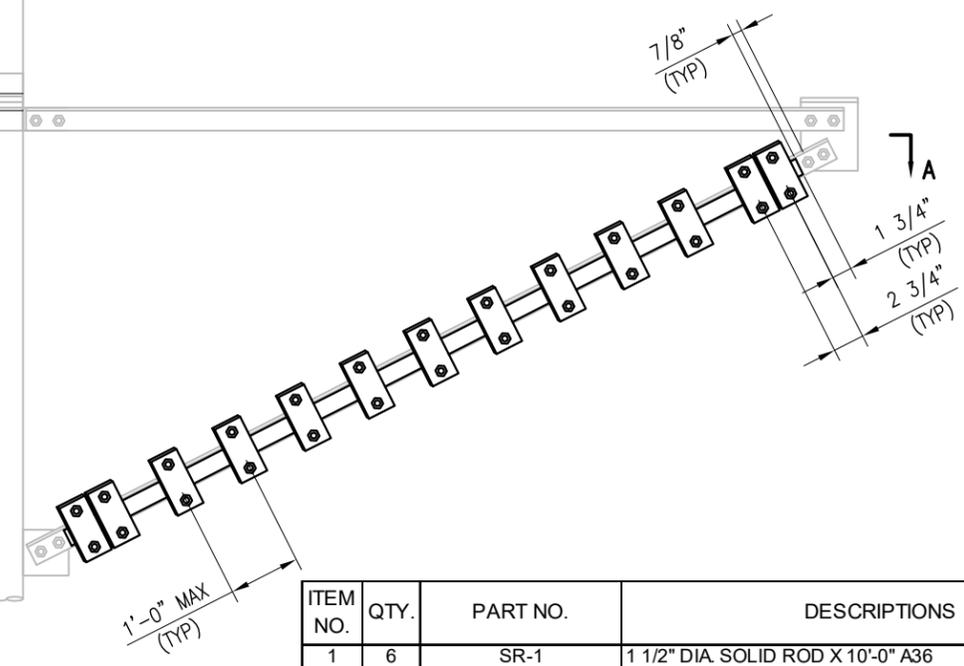
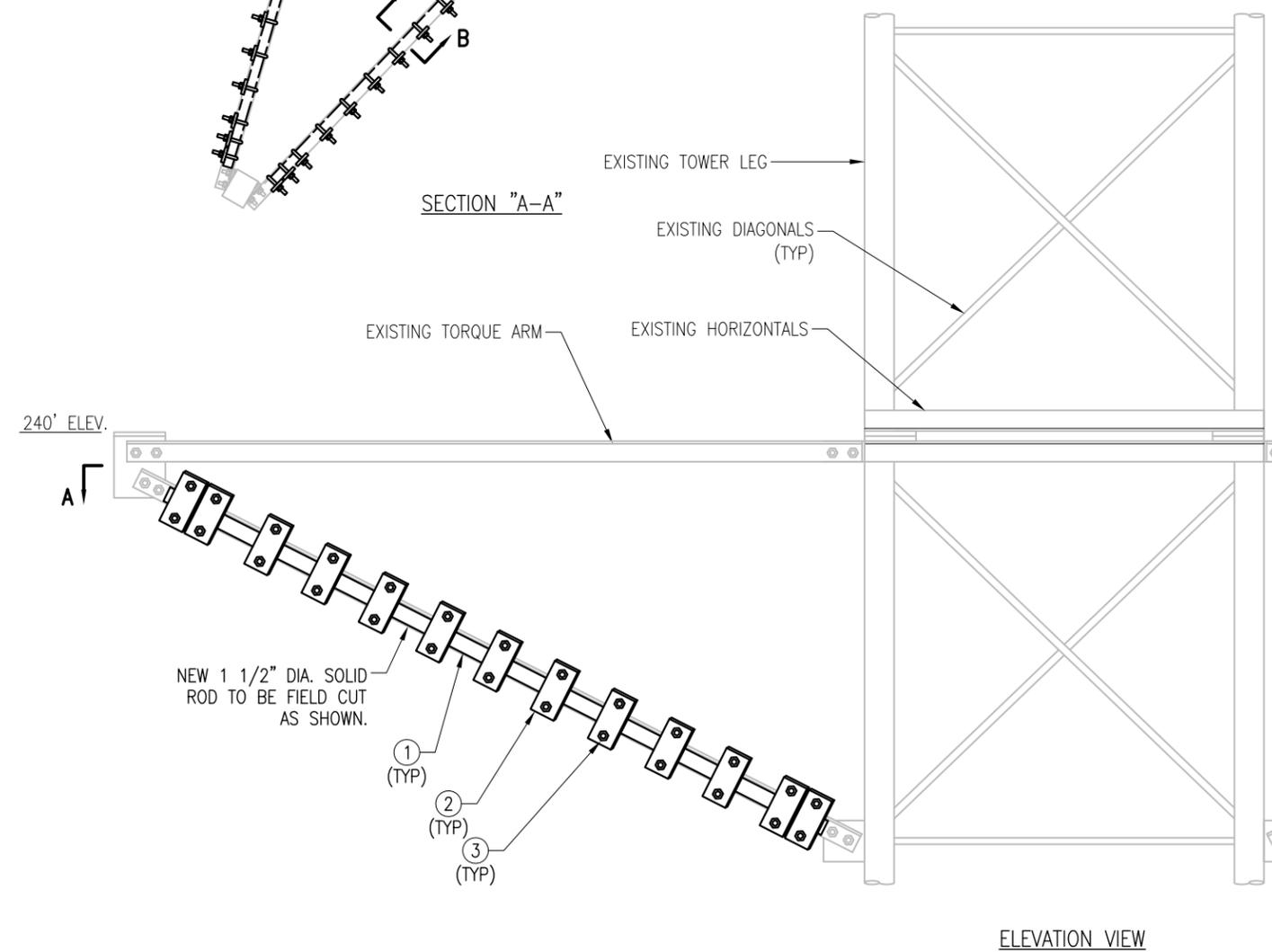
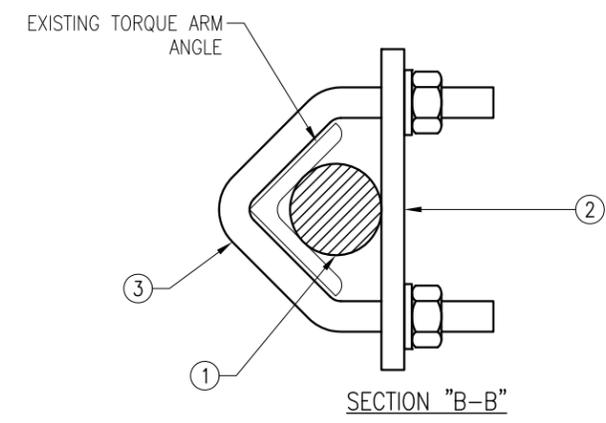
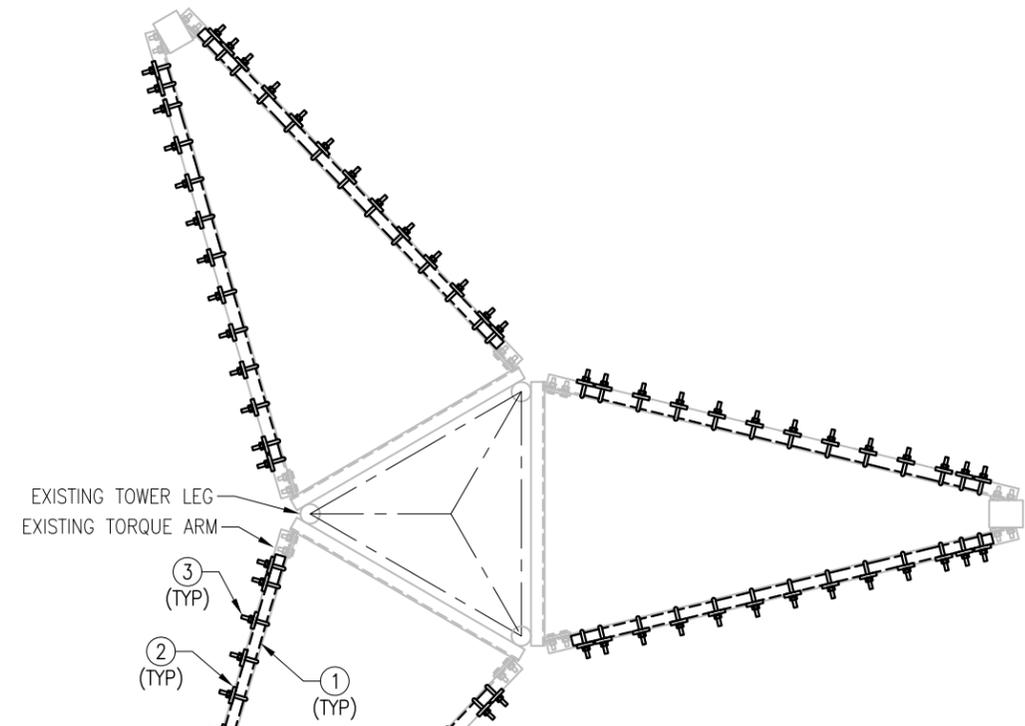
1320 GREENWAY DRIVE, SUITE 600
IRVING, TX 75038
PHONE: (972) 483-0607



5900 BROKEN SOUND PARKWAY, NW
BOCA RATON, FL 33487
(800)-487-SITE

TES JOB NO:
87869

CUSTOMER SITE NO:
CT17474-A-SBA
CUSTOMER SITE NAME:
THOMPSON
61 LOWELL DAVIS ROAD
THOMPSON, CT 06277



ITEM NO.	QTY.	PART NO.	DESCRIPTIONS
1	6	SR-1	1 1/2" DIA. SOLID ROD X 10'-0" A36
2	78	BK500-350CC	PL 1/2" X 2 1/2" X 5 1/4" A36
3	78	MS02V-500-300-400	V-BOLT 1/2" X 3" I.W. X 4" I.L. A36 (OR EQUIV)

DRAWN BY: CAH	CHECKED BY: RAM/AD		
REV.	DESCRIPTION	BY	DATE
1	FIRST ISSUE	CAH	11/11/19

SHEET TITLE:
TORQUE ARM REINFORCEMENT DETAILS

This drawing/document is the property of Tower Engineering Solutions, LLC. Information contained herein is considered confidential in nature and is to be used only for the specific site that it was intended for. Reproduction, transmission, publication or disclosure by any method is prohibited except by express written permission from Tower Engineering Solutions, LLC. Without exception, the information on this drawing/document remains the property of Tower Engineering Solutions, LLC.

SHEET NUMBER: **A-2** REV #: **0**



Tower Engineering Solutions

1320 GREENWAY DRIVE, SUITE 600
IRVING, TX 75038
PHONE: (972) 483-0607



5900 BROKEN SOUND PARKWAY, NW
BOCA RATON, FL 33487
(800)-487-SITE

TES JOB NO:
87869

CUSTOMER SITE NO:
CT17474-A-SBA
CUSTOMER SITE NAME:
THOMPSON
61 LOWELL DAVIS ROAD
THOMPSON, CT 06277

GUY STRAND TENSION CHART

GUY STRAND INFORMATION							GUY STRAND TENSION CALCULATED UNDER DIFFERENT TEMPERATURES																				
GUY WIRE SIZE	GUY ELEV. (FT)	GUY ANCHOR RADIUS (FT)	GUY ANCHOR OR DROP (+/- FT)	GUY WIRE LENGTH (FT)	Guy Initial Tension (%)	Tension Due To Temp (Lbs/Deg)	0° F	5° F	10° F	15° F	20° F	25° F	30° F	35° F	40° F	45° F	50° F	55° F	60° F	65° F	70° F	75° F	80° F	85° F	90° F	95° F	100° F
							LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS
3/8 EHS	59.92	187.00	-5.00	197.95	10.00		2166.0	2108.3	2050.7	1993.4	1936.3	1879.4	1822.9	1766.7	1710.9	1655.4	1601.6	1547.0	1540.0	1439.4	1386.6	1335.4	1284.8	1234.6	1183.0	1135.6	1088.6
9/16 EHS	119.92	187.00	-5.00	224.88	10.00		4365.8	4267.0	4168.6	4070.6	3973.1	3876.1	3779.6	3683.7	3588.5	3493.9	3407.3	3313.3	3500.0	3128.1	3037.1	2952.1	2866.7	2778.9	2678.5	2598.0	2513.5
9/16 EHS	179.92	187.00	-5.00	262.99	10.00		3908.1	3837.5	3767.2	3697.2	3627.5	3558.1	3489.1	3420.5	3352.3	3284.5	3227.1	3158.9	3500.0	3024.0	2957.5	2898.5	2837.8	2772.1	2688.1	2630.5	2565.6
9/16 EHS	239.92	187.00	-5.00	308.14	10.00		3543.7	3494.1	3444.7	3395.5	3346.4	3297.6	3248.9	3200.5	3152.3	3104.4	3067.0	3018.2	3500.0	2921.2	2873.2	2832.9	2790.3	2741.9	2674.0	2633.6	2584.8

DRAWN BY: CAH | CHECKED BY: RAM/AD

REV.	DESCRIPTION	BY	DATE
1	FIRST ISSUE	CAH	11/11/19

SHEET TITLE:

GUY TENSION CHART

This drawing/document is the property of Tower Engineering Solutions, LLC. Information contained herein is considered confidential in nature and is to be used only for the specific site that it was intended for. Reproduction, transmission, publication or disclosure by any method is prohibited except by express written permission from Tower Engineering Solutions, LLC. Without exception, the information on this drawing/document remains the property of Tower Engineering Solutions, LLC.

SHEET NUMBER: TC-1 | REV #: 0