



July 23, 2021

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: Birth Mountain Road, Glastonbury, CT 06033 (80 Birth Mountain Rd)
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 128-feet on an existing 128-foot Self Support Tower, owned by New Cingular Wireless PCS LLC at 1010 Pine Street 9E-L-01-, St. Louis, MO 63101-2070, ATTN; Property Tax DEPT. AT&T now intends to remove three (3) 8' OPA-65R-LCUU-H8 CCI Panel Antennas and (3) 4' 7770 Kathrein Panel Antennas, each currently installed in position [3+4]. AT&T then intends to add Two (2) 8' CCI OPA65R-BU8DA Panel Antennas, and One (1) 6' CCI OPA65R-BU6DA Panel Antenna, in position [3] all sectors, and install two (2) 8' DMP65R-BU8DA CCI Panel Antennas and one (1) 6' DMP65R-BU6DA CCI Panel Antennas, in position [4]. In addition, AT&T intends to remove six (6) Remote Radio Units, add one (1) RRUS-4478 B14, one (1) RRUS-8843 B2/B66A and (1) RRUS-4449 B5/B12 in positions [3+4], all sectors, for a total of nine (9) new RRUs. AT&T is also proposing to add (1) Raycap Squid with one (1) fiber line and (2) DC Power Cables to their equipment configuration. All of the changes will take place on the existing antenna mount. This modification/proposal includes B2, B5, and B12 hardware that is both 4G(LTE) and 5GNR capable through remote software configuration and either or both services may be turned on or off at various times

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 Peter R. Carey– Town Building Official, Town of Glastonbury, CT at 2155 Main Street, Glastonbury, CT 06033 and Richard J. Johnson– Town Mayor, Town of Glastonbury, CT at 2155 Main Street, Glastonbury, CT 06033. A copy of this letter is being sent to the property and tower owner New Cingular Wireless PCS LLC at 1010 Pine Street 9E-L-01-, St. Louis, MO 63101-2070, ATTN; Property Tax DEPT.

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

- **EM-CING-054-090311** - New Cingular Wireless PCS, LLC notice of intent to modify an existing telecommunications facility located at Birch Mountain Road, Glastonbury, Connecticut.
- **EM-AT&T-054-140625** – AT&T notice of intent to modify an existing telecommunications facility located at Birch Mountain Road, Glastonbury, Connecticut.
- **EM-AT&T-054-190628** - AT&T Mobility notice of intent to modify an existing telecommunications facility located at Birch Mountain Road, Glastonbury, 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 128-foot level of the 128'-foot Self Support 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:

Peter R. Carey– Town Building Official, Town of Glastonbury, CT
Richard J. Johnson– Town Mayor, Town of Glastonbury, CT
New Cingular Wireless PCS LLC – Property and Tower Owner



07/23/2021

Memo: No Initial Zoning Decision Found

Upon consulting with the Building Inspector for the Town of Glastonbury, it was determined that no initial zoning decision for this tower could be found. The building department phone number is (860) 652-7521

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

Owner of Record

GIS ID: 04200001A
Owner: NEW CINGULAR WIRELESS PCS LLC
Co-Owner: ATTN PROPERTY TAX DEPT
Address: 1010 PINE ST 9E-L-01
City, State ZIP: ST LOUIS, MO 63101-2070

Account Number: 04200001A

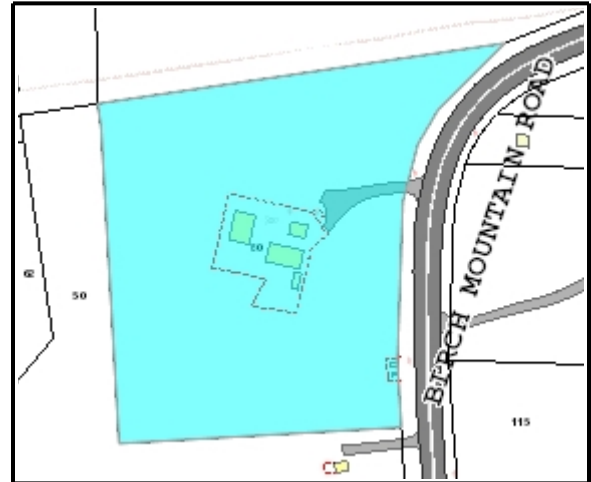
Property Address: 80 BIRCH MOUNTAIN RD

Parcel Information

Map/Street/Lot N6 / 0420 / W0001A **Property ID:** 11899
Developer Lot ID: **Water:** Well
Parcel Acreage: 2.45 **Sewer:** Septic
Zoning Code: RR **Census:** 5202.01

Valuation Summary

Item	Appraised Value	Assessed Value
Buildings	43600	30500
Land	466300	326400
Appurtenances	0	0
Total	509900	356900



Property highlighted in blue

Owner of Record

NEW CINGULAR WIRELESS PCS LLC
 AT&T CAPITAL SERVICES INC
 SOUTHERN NEW ENGLAND TELEPHONE CO

Deed / Page Sale Date Sale Price

3267/0088 2015-06-22 0
 3217/0084 2014-10-28 0
 0104/0512 1960-02-18 0



**Building
 Picture
 Not
 Applicable**



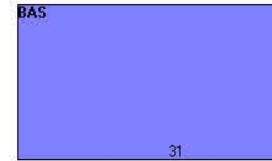
Building Picture Not Applicable

Building Information

Building ID 11899

Year Constructed : 1988
Building Type : Ind/Comm
Style : Support Shed
Occupany : Public Utility
Stories : 1
Building Zone : RR
Roof Type : Flat
Roof Material : Tar + Gravel
Est. Gross S.F. : 496
Est. Living S.F. : 496

Number of Rooms :
Number of Bedrooms :
Number of Bathrooms :
Number of Half-Baths :
Exterior Wall : Concr/Cinder
Interior Wall : Minimum
Interior Floor : Cement
Interior Floor #2 : No entry
Air Conditioning Type : None
Heat Type : Forced Air
Fuel Type : Gas





Subarea Type	Est. Gross S.F.	Est. Living S.F.	Outbuilding Type	Est. Gross S.F.	Comments
First Floor	496	496	FENCE	460.00	
First Floor	221	221			
First Floor	580	580			
First Floor	96	96			



**Smartlink on behalf of
AT&T Mobility, LLC
Site FA – 10034994
Site ID – CTV1038
USID – 59349
Site Name – GLASTONBURY
(MRCTB049066-MRCTB049061-
MRCTB049064-MRCTB049075)**

**Birch Mountain Road
Glastonbury, CT 06033**

Latitude: N41-42-35.27
Longitude: W72-28-27.80
Structure Type: Self-Support

Report generated date: June 2,
2021 Report by: Nick Kutzke
Customer Contact: Kristina Cottone

**AT&T Mobility, LLC will be compliant when the
remediation recommended in Section 5.2 or
other appropriate remediation is implemented.**

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1 General Site Summary

1.1 Report Summary

AT&T Mobility, LLC	Summary
Max Cumulative Simulated RFE Level on the Ground	<1% General Public Limit
Compliant per FCC Rules and Regulations?	Will Be Compliant
Compliant per AT&T Mobility, LLC's Policy?	No

The following documents were provided by the client and were utilized to create this report:

RFDS: 10034994_PM201_210210_CTL01038

CD's: 10034994_AE201_210416_CTL01038_REV3


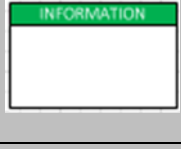







RF Powers Used: Max RRH Powers

1.2 Fall Arrest Anchor Point Summary


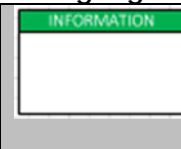







Fall Arrest Anchor & Parapet Info	Parapet Available (Y/N)	Parapet Height (inches)	Fall Arrest Anchor Available (Y/N)
Roof Safety Info	N	N/A	N

1.3 Signage Summary

a. Pre-Site Visit AT&T Signage (Existing Signage)

AT&T Signage Locations									
	Information 1	Information 2	Notice	Notice 2	Caution	Caution 2	Warning	Warning 2	Barriers
Tower Base									
Alpha									
Beta									
Gamma									

b. Proposed AT&T Signage

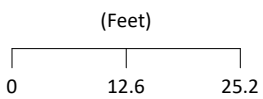
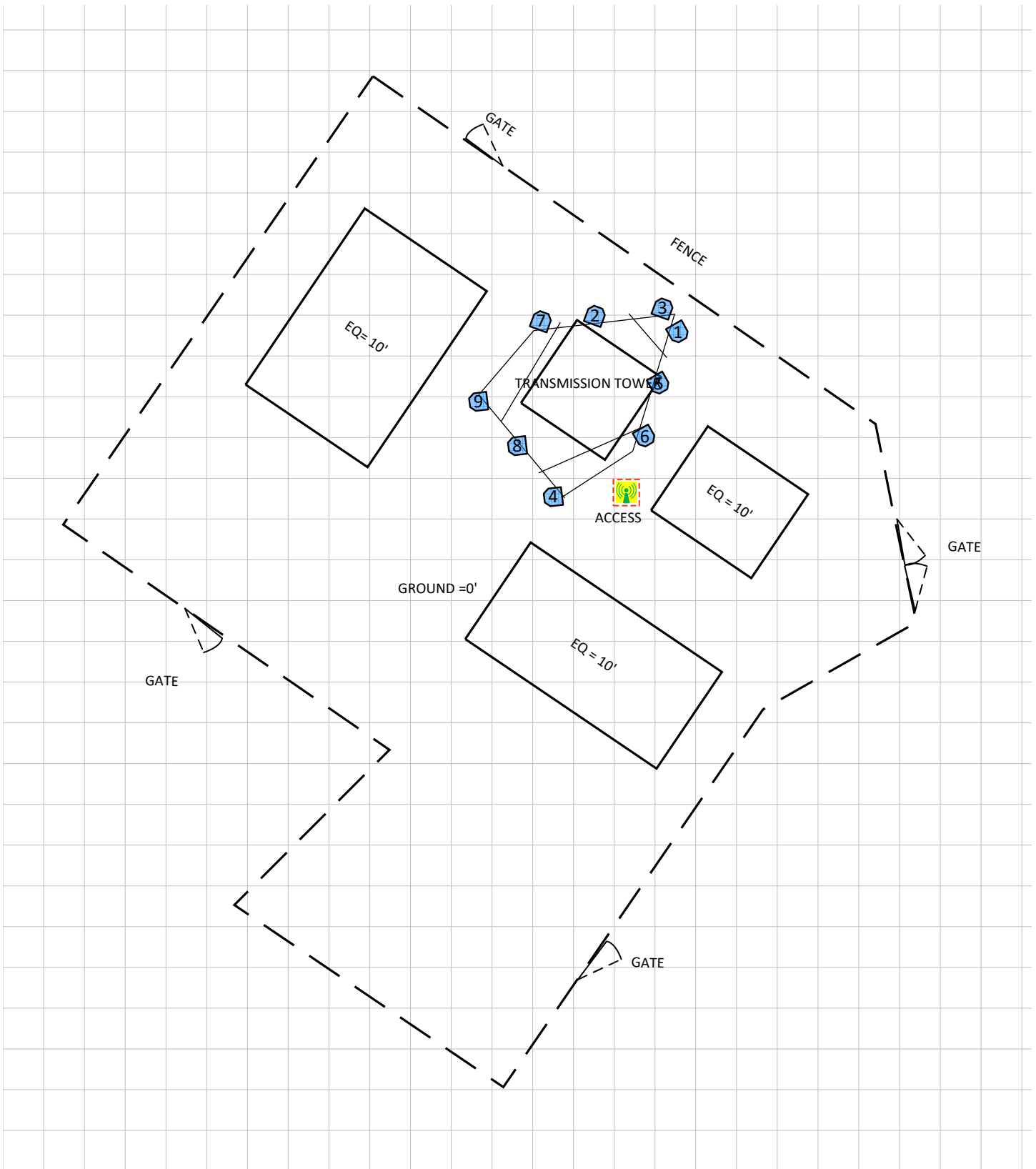
AT&T Signage Locations									
	Information 1	Information 2	Notice	Notice 2	Caution	Caution 2B	Warning	Warning 2	Barriers
Tower Base						1			
Alpha									
Beta									
Gamma									

2 Scale Maps of Site

The following diagrams are included:

- Site Scale Map
- RF Exposure Diagram
- RF Exposure Diagram – Elevation View

Site Scale Map For: GLASTONBURY



Carrier Identification	
AT&T MOBILITY LLC	VERIZON WIRELESS
T-MOBILE	SPRINT
UNKNOWN CARRIER	

Sign Legend	
Notice	Notice 2
Caution	Caution 2B
Warning	Warning 2
Info	Info 2
RF Emissions Diagram	Locked Ladder

Existing Barrier	Proposed Barrier/Sign	Remove Sign
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3 Antenna Inventory

The following antenna inventory was obtained by the customer and was utilized to create the site model diagrams:

Ant ID	Operator	Antenna Make & Model	Type	TX Freq (MHz)	Technology	Az (Deg)	Hor BW (Deg)	Ant Len (ft)	Power	Power Type	Power Unit	Misc Loss	TX Count	Total ERP (Watts)	Ant Gain (dBd)	Z	MDT	EDT
1	AT&T MOBILITY LLC	Powerwave 7770	Panel	850	UMTS	150	82.0	4.6	40	TPO	Watt	0	1	566.3	11.51	125.7'	2°	4°
2	AT&T MOBILITY LLC (Proposed)	Cci OPA65R-BU8D	Panel	763	LTE	20	65.9	8	40	TPO	Watt	0	4	3229.4	13.05	124'	0°	5°
2	AT&T MOBILITY LLC (Proposed)	Cci OPA65R-BU8D	Panel	1900	LTE	20	66.8	8	40	TPO	Watt	0	4	4457.8	14.45	124'	0°	5°
3	AT&T MOBILITY LLC (Proposed)	Cci DMP65R-BU8D	Panel	737	LTE	20	70.6	8	40	TPO	Watt	0	4	2692.3	12.26	124'	0°	2°
3	AT&T MOBILITY LLC (Proposed)	Cci DMP65R-BU8D	Panel	850	LTE	20	71.4	8	40	TPO	Watt	0	2	1442.4	12.56	124'	0°	2°
3	AT&T MOBILITY LLC (Proposed)	Cci DMP65R-BU8D	Panel	2100	LTE/AWS1	20	67.1	8	40	TPO	Watt	0	4	5249.5	15.16	124'	0°	2°
3	AT&T MOBILITY LLC (Proposed)	Cci DMP65R-BU8D	Panel	850	5G	20	71.4	8	40	TPO	Watt	0	2	1442.4	12.56	124'	0°	2°
4	AT&T MOBILITY LLC	Powerwave 7770	Panel	850	UMTS	263	82.0	4.6	40	TPO	Watt	0	1	566.3	11.51	125.7'	7°	4°
5	AT&T MOBILITY LLC (Proposed)	CCI Antennas OPA65R-BU6D	Panel	763	LTE	150	61.1	5.9	40	TPO	Watt	0	4	2455.4	11.86	125'	0°	7°
5	AT&T MOBILITY LLC (Proposed)	CCI Antennas OPA65R-BU6D	Panel	1900	LTE	150	66.3	5.9	40	TPO	Watt	0	4	4468.1	14.46	125'	0°	7°
6	AT&T MOBILITY LLC (Proposed)	Cci DMP65R-BU6D	Panel	737	LTE	150	65.7	5.9	40	TPO	Watt	0	4	2399.5	11.76	125'	0°	3°
6	AT&T MOBILITY LLC (Proposed)	Cci DMP65R-BU6D	Panel	850	LTE	150	70.9	5.9	40	TPO	Watt	0	2	1119.7	11.46	125'	0°	3°
6	AT&T MOBILITY LLC (Proposed)	Cci DMP65R-BU6D	Panel	2100	LTE/AWS1	150	68.0	5.9	40	TPO	Watt	0	4	4787.6	14.76	125'	0°	3°
6	AT&T MOBILITY LLC (Proposed)	Cci DMP65R-BU6D	Panel	850	5G	150	70.9	5.9	40	TPO	Watt	0	2	1119.7	11.46	125'	0°	3°
7	AT&T MOBILITY LLC	Powerwave 7770	Panel	850	UMTS	20	82.0	4.6	40	TPO	Watt	0	1	566.3	11.51	125.7'	2°	4°
8	AT&T MOBILITY LLC (Proposed)	Cci OPA65R-BU8D	Panel	763	LTE	263	65.9	8	40	TPO	Watt	0	4	3229.4	13.05	124'	2°	6°
8	AT&T MOBILITY LLC (Proposed)	Cci OPA65R-BU8D	Panel	1900	LTE	263	66.8	8	40	TPO	Watt	0	4	4457.8	14.45	124'	2°	6°
9	AT&T MOBILITY LLC (Proposed)	Cci DMP65R-BU8D	Panel	737	LTE	263	70.6	8	40	TPO	Watt	0	4	2692.3	12.26	124'	2°	9°
9	AT&T MOBILITY LLC (Proposed)	Cci DMP65R-BU8D	Panel	850	LTE	263	71.4	8	40	TPO	Watt	0	2	1442.4	12.56	124'	2°	9°
9	AT&T MOBILITY LLC (Proposed)	Cci DMP65R-BU8D	Panel	2100	LTE/AWS1	263	67.1	8	40	TPO	Watt	0	4	5249.5	15.16	124'	2°	9°

Ant ID	Operator	Antenna Make & Model	Type	TX Freq (MHz)	Technology	Az (Deg)	Hor BW (Deg)	Ant Len (ft)	Power	Power Type	Power Unit	Misc Loss	TX Count	Total ERP (Watts)	Ant Gain (dBd)	Z	MDT	EDT
9	AT&T MOBILITY LLC (Proposed)	Cci DMP65R-BU8D	Panel	850	5G	263	71.4	8	40	TPO	Watt	0	2	1442.4	12.56	124'	2°	9°

Note: The Z reference indicates the bottom of the antenna height above ground level (AGL). Effective Radiated Power (ERP) is provided by the operator or based on Sitesafe experience. The values used in the modeling may be greater than are currently deployed. Proposed equipment is tagged as (Proposed) under Operator or Antenna Make & Model.

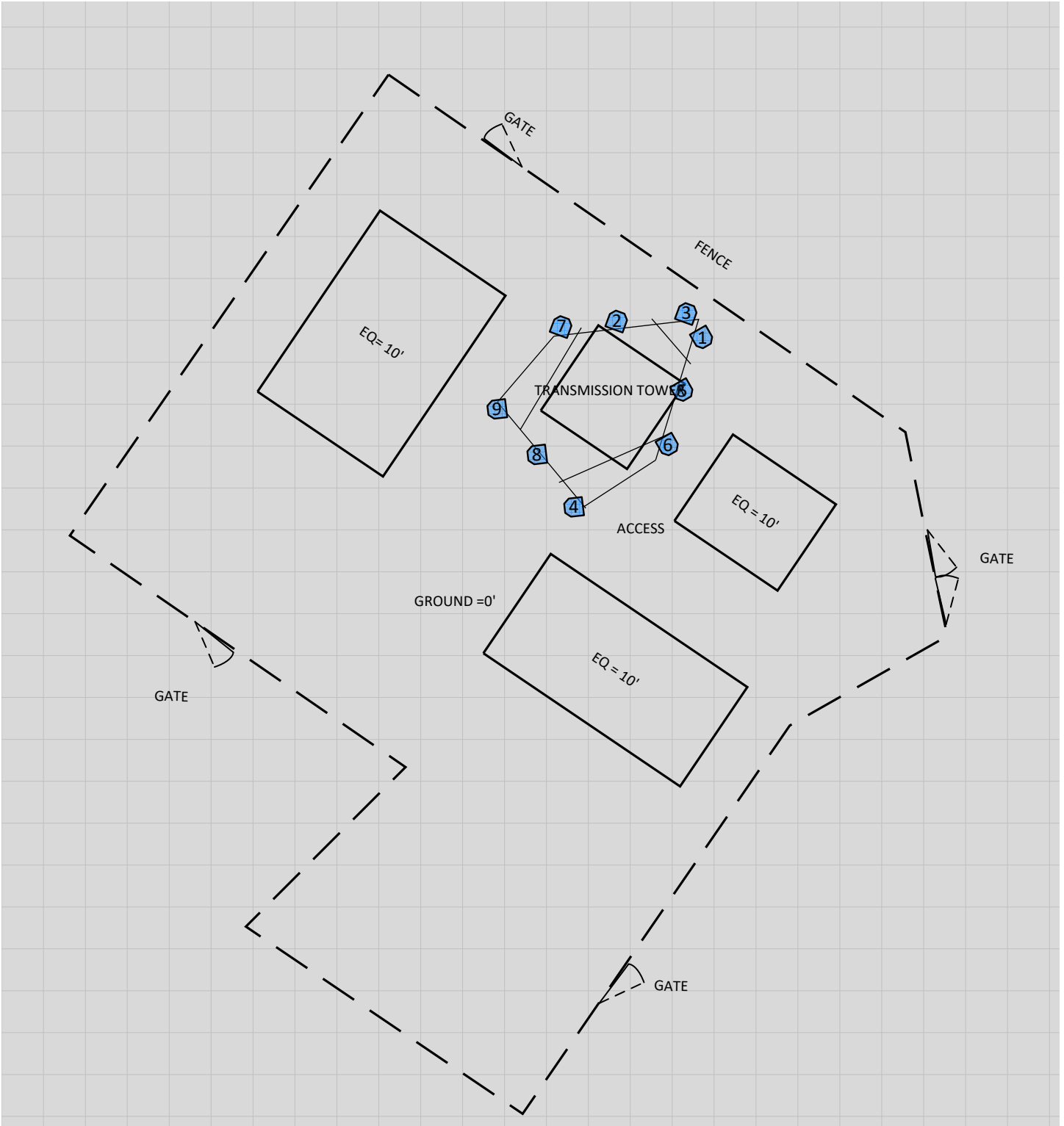
4 Emission Predictions

In the RF Exposure Simulations below, all heights are reflected with respect to ground level. Each different height area, rooftop, or platform level is labeled with its height relative to the main site level. Emissions are calculated appropriately based on the relative height and location of that area to all antennas. The total analyzed elevations in the below RF Exposure Simulations are listed below.

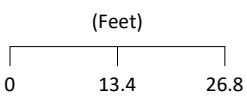
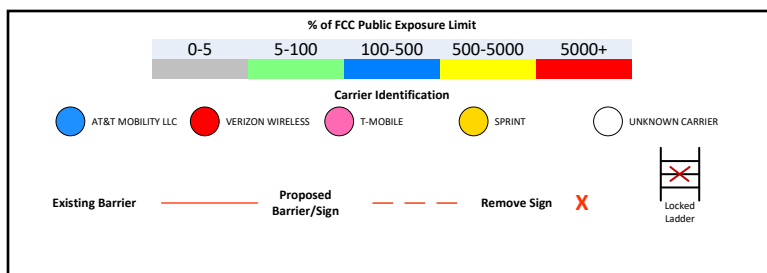
- GROUND = 0'
- EQ = 10'

The Antenna Inventory heights are referenced to the same level.

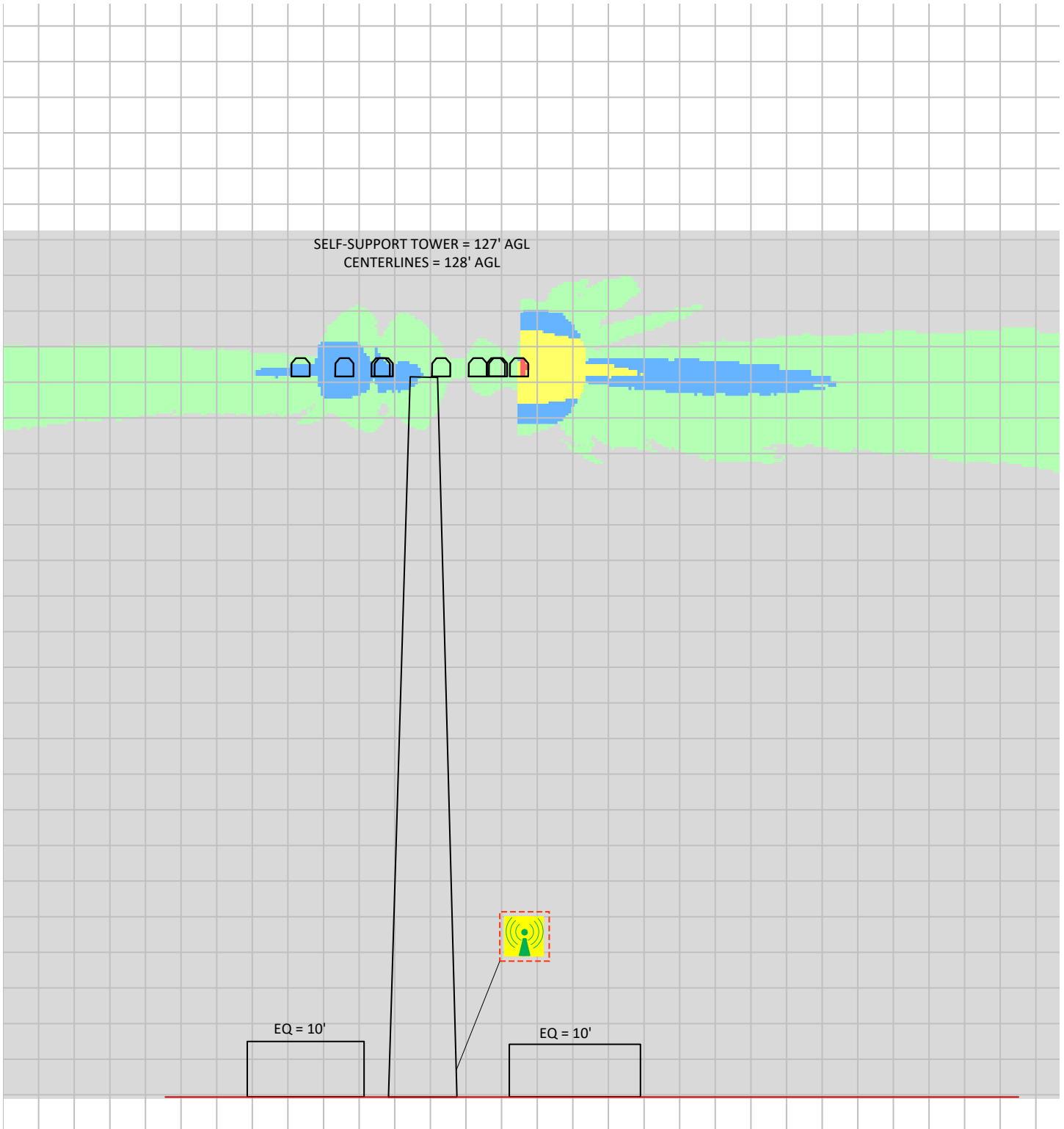
RF Exposure Simulation For: GLASTONBURY



% of FCC Public Exposure Limit
Spatially Averaged

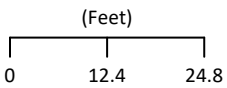


RF Exposure Simulation For: GLASTONBURY Elevation View



% of FCC Public Exposure Limit
Single Level (0)

% of FCC Public Exposure Limit				
0-5	5-100	100-500	500-5000	5000+
Carrier Identification				
AT&T MOBILITY LLC	VERIZON WIRELESS	T-MOBILE	SPRINT	UNKNOWN CARRIER
Sign Legend				
Notice	Notice 2	Caution	Caution 2B	Warning
		Warning 2	Info	Info 2
		RFED	Locked Ladder	
Existing Barrier		Proposed Barrier/Sign		Remove Sign



5 Site Compliance

5.1 Site Compliance Statement

Upon evaluation of the cumulative RF emission levels from all operators at this site, RF hazard signage and antenna locations, Sitesafe has determined that:

AT&T Mobility, LLC will be compliant when the remediation recommended in Section 5.2 or other appropriate remediation is implemented.

The compliance determination is based on General Public RFE levels derived from theoretical modeling, RF signage placement, proposed antenna inventory and the level of restricted access to the antennas at the site. Any deviation from the proposed AT&T Mobility, LLC deployment plan could result in the site being rendered non-compliant upon further evaluation.

Modeling is used for determining compliance and the percentage of MPE contribution.

5.2 Actions for Site Compliance

Based on FCC regulations, common industry practice, and our understanding of AT&T Mobility, LLC's RF Safety Policy requirements, this section provides a statement of recommendations for site compliance. Recommendations have been proposed based on our understanding of existing access restrictions, signage, and an analysis of predicted RFE levels.

AT&T Mobility, LLC will be made compliant if the following changes are implemented:

Base of Tower

- (1) Caution 2B sign(s) required.

Notes:

- Any existing signage that conflicts with the proposed signage in this report should be removed per AT&T Signage Posting Rules.
- Areas where the predicted RF emission level is above 5000% General Public MPE
- Data concerning all other carriers on site was unavailable and therefore not included in this report.
- Signage may already be in place. Sitesafe does not have record of any existing signage because there were no previous visits or data supplied regarding them. All remediation is based on a worst-case scenario.

6 Reviewer Certification

The reviewer whose signature appears below hereby certifies and affirms:

That I am an employee of Site Safe, LLC, in Vienna, Virginia, at which place the staff and I provide RF compliance services to clients in the wireless communications industry; and

That I am thoroughly familiar with the Rules and Regulations of the Federal Communications Commission (FCC) as well as the regulations of the Occupational Safety and Health Administration (OSHA), both in general and specifically as they apply to the FCC Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields; and

That I have thoroughly reviewed this Site Compliance Report and believe it to be true and accurate to the best of my knowledge as assembled by and attested to by Nick Kutzke.

June 2, 2021

Appendix A – Statement of Limiting Conditions

Sitesafe has provided computer generated model(s) in this Site Compliance Report to show approximate dimensions of the site, and the model is included to assist the reader of the compliance report to visualize the site area, and to provide supporting documentation for Sitesafe's recommendations.

Sitesafe may note in the Site Compliance Report any adverse physical conditions, such as needed repairs, that Sitesafe became aware of during the normal research involved in creating this report. Sitesafe will not be responsible for any such conditions that do exist or for any engineering or testing that might be required to discover whether such conditions exist. Because Sitesafe is not an expert in the field of mechanical engineering or building maintenance, the Site Compliance Report must not be considered a structural or physical engineering report.

Sitesafe obtained information used in this Site Compliance Report from sources that Sitesafe considers reliable and believes them to be true and correct. Sitesafe does not assume any responsibility for the accuracy of such items that were furnished by other parties. When conflicts in information occur between data collected by Sitesafe provided by a second party and data collected by Sitesafe, the data will be used.

Appendix B – Regulatory Background Information

FCC Rules and Regulations

In 1996, the Federal Communications Commission (FCC) adopted regulations for the evaluating of the effects of RF emissions in 47 CFR § 1.1307 and 1.1310. The guideline from the FCC Office of Engineering and Technology is Bulletin 65 (“OET Bulletin 65”), *Evaluating Compliance with FCC Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields*, Edition 97-01, published August 1997. Since 1996 the FCC periodically reviews these rules and regulations as per their congressional mandate.

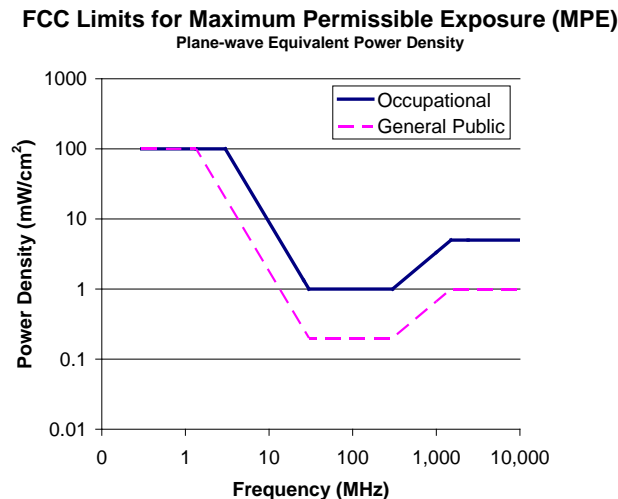
FCC regulations define two separate tiers of exposure limits: Occupational or “Controlled environment” and General Public or “Uncontrolled environment”. The General Public limits are generally five times more conservative or restrictive than the Occupational limit. These limits apply to *accessible* areas where workers or the general public may be exposed to Radio Frequency (RF) electromagnetic fields.

Occupational or Controlled limits apply in situations in which persons are exposed as a consequence of their employment and where those persons exposed have been made fully aware of the potential for exposure and can exercise control over their exposure.

An area is considered a Controlled environment when access is limited to these aware personnel. Typical criteria are restricted access (i.e. locked or alarmed doors, barriers, etc.) to the areas where antennas are located coupled with proper RF warning signage. A site with Controlled environments is evaluated with Occupational limits.

All other areas are considered Uncontrolled environments. If a site has no access controls or no RF warning signage it is evaluated with General Public limits.

The theoretical modeling of the RF electromagnetic fields has been performed in accordance with OET Bulletin 65. The Maximum Permissible Exposure (MPE) limits utilized in this analysis are outlined in the following diagram:



Limits for Occupational/Controlled Exposure (MPE)

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 ²)*	6
30-300	61.4	0.163	1.0	6
300-1500	--	--	f/300	6
1500-100,000	--	--	5	6

Limits for General Population/Uncontrolled Exposure (MPE)

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 ²)*	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

OSHA Statement

The General Duty clause of the OSHA Act (Section 5) outlines the occupational safety and health responsibilities of the employer and employee. The General Duty clause in Section 5 states:

- (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 physical 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.

OSHA has defined Radiofrequency and Microwave Radiation safety standards for workers who may enter hazardous RF areas. Regulation Standards 29 CFR § 1910.147 identify a generic Lockout/Tagout procedure aimed to control the unexpected energization or startup of machines when maintenance or service is being performed.

Appendix C – Safety Plan and Procedures

The following items are general safety recommendations that should be administered on a site by site basis as needed by the carrier.

General Maintenance Work: Any maintenance personnel required to work immediately in front of antennas and / or in areas indicated as above 100% of the Occupational MPE limits should coordinate with the wireless operators to disable transmitters during their work activities.

Training and Qualification Verification: All personnel accessing areas indicated as exceeding the General Population MPE limits should have a basic understanding of EME awareness and RF Safety procedures when working around transmitting antennas. Awareness training increases a worker's understanding to potential RF exposure scenarios. Awareness can be achieved in a number of ways (e.g. videos, formal classroom lecture or internet-based courses).

Physical Access Control: Access restrictions to transmitting antennas locations is the primary element in a site safety plan. Examples of access restrictions are as follows:

- Locked door or gate
- Alarmed door
- Locked ladder access
- Restrictive Barrier at antenna (e.g. Chain link with posted RF Sign)

RF Signage: Everyone should obey all posted signs at all times. RF signs play an important role in properly warning a worker prior to entering into a potential RF Exposure area.

Assume all antennas are active: Due to the nature of telecommunications transmissions, an antenna transmits intermittently. Always assume an antenna is transmitting. Never stop in front of an antenna. If you have to pass by an antenna, move through as quickly and safely as possible thereby reducing any exposure to a minimum.

Maintain a 3 foot clearance from all antennas: There is a direct correlation between the strength of an EME field and the distance from the transmitting antenna. The further away from an antenna, the lower the corresponding EME field is.

Site RF Emissions Diagram: Section 4 of this report contains an RF Diagram that outlines various theoretical Maximum Permissible Exposure (MPE) areas at the site. The modeling is a worst-case scenario assuming a duty cycle of 100% for each transmitting antenna at full power. This analysis is based on one of two access control criteria: General Public criteria means the access to the site is uncontrolled and anyone can gain access. Occupational criteria means the access is restricted and only properly trained individuals can gain access to the antenna locations.

Appendix D – RF Emissions

The RF Emissions Simulation(s) in this report display theoretical spatially averaged percentage of the Maximum Permissible Exposure for all systems at the site unless otherwise noted. These diagrams use modeling as prescribed in OET Bulletin 65 and assumptions detailed in Appendix E.

The key at the bottom of each RF Emissions Simulation indicates percentages displayed referenced to FCC General Public Maximum Permissible Exposure (MPE) limits. Color coding on the diagram is as follows:

- Areas indicated as Gray are predicted to be below 5% of the MPE limits. Gray represents areas more than 20 times below the most conservative exposure limit. **Gray areas are accessible to anyone.**
- Green represents areas are predicted to be between 5% and 100% of the MPE limits. **Green areas are accessible to anyone.**
- Blue represents areas predicted to exceed the General Public MPE limits but are less than Occupational limits. **Blue areas should be accessible only to RF trained workers.**
- Yellow represents areas predicted to exceed Occupational MPE limits. **Yellow areas should be accessible only to RF trained workers able to assess current exposure levels.**
- Red represents areas predicted to have exposure more than 10 times the Occupational MPE limits. **Red indicates that the RF levels must be reduced prior to access.** An RF Safety Plan is required which outlines how to reduce the RF energy in these areas prior to access.

If trained occupational personnel require access to areas that are delineated as above 100% of the limit, Sitesafe recommends that they utilize the proper personal protection equipment (RF monitors), coordinate with the carriers to reduce or shutdown power, or make real-time power density measurements with the appropriate power density meter to determine real-time MPE levels. This will allow the personnel to ensure that their work area is within exposure limits.

Appendix E – Assumptions and Definitions

General Model Assumptions

In this site compliance report, it is assumed that all antennas are operating at **full power at all times**. Software modeling was performed for all transmitting antennas located on the site. Sitesafe has further assumed a 100% duty cycle and maximum radiated power.

The modeling is based on recommendations from the FCC's OET-65 bulletin with the following variances per AT&T guidance. Reflection has not been considered in the modeling, i.e. the reflection factor is 1.0. The near / far field boundary has been set to 1.5 times the aperture height of the antenna and modeling beyond that point is the lesser of the near field cylindrical model and the far field model taking into account the gain of the antenna.

The site has been modeled with these assumptions to show the maximum RF energy density. Areas modeled with exposure greater than 100% of the General Public MPE level may not actually occur but are shown as a prediction that could be realized. Sitesafe believes these areas to be safe for entry by occupationally trained personnel utilizing appropriate personal protective equipment (in most cases, a personal monitor).

Appendix F – Definitions

5% Rule – The rules adopted by the FCC specify that, in general, at multiple transmitter sites actions necessary to bring the area into compliance with the guidelines are the shared responsibility of all licensees whose transmitters produce field strengths or power density levels at the area in question in excess of 5% of the exposure limits. In other words, any wireless operator that contributes 5% or greater of the MPE limit in an area that is identified to be greater than 100% of the MPE limit is responsible for taking corrective actions to bring the site into compliance.

Compliance – The determination of whether a site complies with FCC standards with regards to Human Exposure to Radio Frequency Electromagnetic Fields from transmitting antennas.

Decibel (dB) – A unit for measuring power or strength of a signal.

Duty Cycle – The percent of pulse duration to the pulse period of a periodic pulse train. Also, may be a measure of the temporal transmission characteristic of an intermittently transmitting RF source such as a paging antenna by dividing average transmission duration by the average period for transmission. A duty cycle of 100% corresponds to continuous operation.

Effective (or Equivalent) Isotropic Radiated Power (EIRP) – The product of the power supplied to the antenna and the antenna gain in a given direction relative to an isotropic antenna.

Effective Radiated Power (ERP) – The product of the power supplied to the antenna and the antenna gain in a given direction relative to a half-wave dipole antenna.

Gain (of an antenna) – The ratio of the maximum power in a given direction to the maximum power in the same direction from an isotropic radiator. Gain is a measure of the relative efficiency of a directional antenna as compared to an omnidirectional antenna.

General Population/Uncontrolled Environment – Defined by the FCC as an area where RF exposure may occur to persons who are **unaware** of the potential for exposure and who have no control over their exposure. General Population is also referenced as General Public.

Generic Antenna – For the purposes of this report, the use of “Generic” as an antenna model means the antenna information was not provided and could not be obtained while on site. In the event of unknown information, Sitesafe will use its industry specific knowledge of antenna models to select a worst-case scenario antenna to model the site.

Isotropic Antenna – An antenna that is completely non-directional. In other words, an antenna that radiates energy equally in all directions.

Maximum Measurement – This measurement represents the single largest measurement recorded when performing a spatial average measurement.

Maximum Permissible Exposure (MPE) – The rms and peak electric and magnetic field strength, their squares, or the plane-wave equivalent power densities associated with these fields to which a person may be exposed without harmful effect and with acceptable safety factor.

Occupational/Controlled Environment – Defined by the FCC as an area where RF exposure may occur to persons who are **aware** of the potential for exposure as a condition of employment or specific activity and can exercise control over their exposure.

OET Bulletin 65 – Technical guideline developed by the FCC’s Office of Engineering and Technology to determine the impact of RF exposure on humans. The guideline was published in August 1997.

OSHA (Occupational Safety and Health Administration) – Under the Occupational Safety and Health Act of 1970, employers are responsible for providing a safe and healthy workplace for their employees. OSHA’s role is to promote the safety and health of America’s working men and women by setting and enforcing standards; providing training, outreach and education; establishing partnerships; and encouraging continual process improvement in workplace safety and health. For more information, visit www.osha.gov.

Radio Frequency Exposure or Electromagnetic Fields – Electromagnetic waves that are propagated from antennas through space.

Spatial Average Measurement – A technique used to average a minimum of ten (10) measurements taken in a ten (10) second interval from zero (0) to six (6) feet. This measurement is intended to model the average energy a 6-foot tall human body will absorb while present in an electromagnetic field of energy.

Transmitter Power Output (TPO) – The radio frequency output power of a transmitter’s final radio frequency stage as measured at the output terminal while connected to a load.

Appendix G – References

The following references can be followed for further information about RF Health and Safety.

Site Safe, LLC

<http://www.sitesafe.com>

FCC Radio Frequency Safety

<http://www.fcc.gov/encyclopedia/radio-frequency-safety>

National Council on Radiation Protection and Measurements (NCRP)

<http://www.ncrponline.org>

Institute of Electrical and Electronics Engineers, Inc., (IEEE)

<http://www.ieee.org>

American National Standards Institute (ANSI)

<http://www.ansi.org>

Environmental Protection Agency (EPA)

<http://www.epa.gov/radtown/wireless-tech.html>

National Institutes of Health (NIH)

<http://www.niehs.nih.gov/health/topics/agents/emf/>

Occupational Safety and Health Agency (OSHA)

<http://www.osha.gov/SLTC/radiofrequencyradiation/>

International Commission on Non-Ionizing Radiation Protection (ICNIRP)

<http://www.icnirp.org>

World Health Organization (WHO)

<http://www.who.int/peh-emf/en/>

National Cancer Institute

<http://www.cancer.gov/cancertopics/factsheet/Risk/cellphones>

American Cancer Society (ACS)

http://www.cancer.org/docroot/PED/content/PED_1_3X_Cellular_Phone_Towers.asp?sitearea=PED

European Commission Scientific Committee on Emerging and Newly Identified Health Risks

http://ec.europa.eu/health/ph_risk/committees/04_scenihr/docs/scenihr_o_022.pdf

Fairfax County, Virginia Public School Survey

<http://www.fcps.edu/fts/safety-security/RFEESurvey/>

UK Health Protection Agency Advisory Group on Non-Ionizing Radiation

http://www.hpa.org.uk/webw/HPAweb&HPAwebStandard/HPAweb_C/1317133826368

Norwegian Institute of Public Health

<http://www.fhi.no/dokumenter/545eea7147.pdf>



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GPD# 2021723.01.SNET009.05
June 28, 2021

COMPREHENSIVE STRUCTURAL ANALYSIS REPORT

AT&T DESIGNATION: **USID #:** **SNET009 AND 59349**
 Site FA #: **10137476**
 Site Name: **GLASTONBURY**

ANALYSIS CRITERIA: **Codes:** **TIA-222-H & 2018 IBC**
 119 mph (3-second gust) w/ 0" ice
 50 mph (3-second gust) w/ 1.5" ice

SITE DATA: **50 Birch Mountain Road, Glastonbury, CT 06033, Hartford County**
 Latitude 41° 42' 35.40" N, Longitude 72° 28' 27.80" W
 Market: NEW ENGLAND
 125.0' Wireline Self Support Tower

To whom it may concern,

GPD is pleased to submit this Comprehensive Structural Analysis Report to determine the structural integrity of the aforementioned tower. The purpose of the analysis is to determine the suitability of the tower with the existing and proposed loading configuration detailed in the analysis report.

Analysis Results

Tower Stress Level with Proposed Equipment:	52.0%	Pass
Foundation Ratio with Proposed Equipment:	65.1%	Pass

We at GPD appreciate the opportunity of providing our continuing professional services to you and AT&T. If you have any questions or need further assistance on this or any other projects please do not hesitate to call.

Respectfully submitted,

Christopher J. Scheks, P.E.
Connecticut #: 0030026



6/28/2021

SUMMARY & RESULTS

The purpose of this analysis was to verify whether the existing structure is capable of carrying the proposed loading configuration as specified by AT&T Mobility and commissioned by AT&T.

This analysis has been performed in accordance with the 2018 International Building Code based upon a 3-second gust wind speed of 119 mph. Applicable Standard references and design criteria are listed in Appendices A & B.

The proposed feedlines shall be installed as shown in Appendices A & B for the analysis results to be valid.

TOWER SUMMARY AND RESULTS

Member	Capacity	Results
Legs	35.0%	Pass
Diagonals	29.9%	Pass
Horizontals	52.0%	Pass
Redundant Members	29.6%	Pass
Internal Bracing	30.0%	Pass
Member Bolts	29.2%	Pass
Anchor Rods	36.6%	Pass
Foundation	65.1%	Pass

RECOMMENDATIONS

The tower and its foundation(s) have sufficient capacity to carry the proposed loading configuration. No modifications are required at this time.

ANALYSIS METHOD

tnxTower (Version 8.0.9.0) and RISA 3D (Version 17.0.2), commercially available software programs, were used to create a three-dimensional model of the tower and calculate primary member stresses for various load cases. Selected output from the analysis is included the report appendices. The following table details the information provided to complete this structural analysis. This analysis is solely based on this information.

DOCUMENTS PROVIDED

Document	Remarks	Source
Site Lease Application	Application #: CTL01038, dated 4/27/2021	AT&T
RF Data Sheet	Not Provided	N/A
Tower Design	Not Provided	N/A
Tower Mapping Report	GPD Project #: 2012857.09, dated 8/13/2012	AT&T
Tower Mapping Report	Hightower Solutions Site #: 59349, dated 2/18/2014	AT&T
Foundation Design	Not Provided	N/A
Foundation Investigation Report	GPD Project #: 2021723.SNET009.04, dated 6/1/2021	GPD
Geotechnical Report	GPD Project #: 2021723.SNET009.04, dated 6/1/2021	GPD
Previous Tower Analysis	GPD Project #: 2015723.01.SNET009.02, dated 2/6/2015	GPD

ASSUMPTIONS

This structural analysis is based on the theoretical capacity of the members and is not a condition assessment of the tower. This analysis is from information supplied, and therefore, its results are based on and are as accurate as that supplied data. GPD has made no independent determination, nor is it required to, of its accuracy. The following assumptions were made for this structural analysis.

1. The tower member sizes and shapes are considered accurate as supplied. The material grade is as per data supplied and/or as assumed and as stated in the materials section.
2. The appurtenance configuration is as supplied, determined from available photos, and/or as modeled in the analysis. It is assumed to be complete and accurate. All antennas, mounts, coax and waveguides are assumed to be properly installed and supported as per manufacturer requirements.
3. All mounts, if applicable, are considered adequate to support the loading. No actual analysis of the mount(s) is performed. This analysis is limited to analyzing the tower only.
4. The soil parameters are as per data supplied or as assumed and stated in the calculations.
5. Foundations are properly designed and constructed to resist the original design loads indicated in the documents provided.
6. The tower and structures have been properly maintained in accordance with TIA Standards and/or with manufacturer's specifications.
7. All welds and connections are assumed to develop at least the member capacity unless determined otherwise and explicitly stated in this report.
8. All prior structural modifications, if applicable, are assumed to be as per data supplied/available and to have been properly installed.
9. Loading interpreted from photos is accurate to $\pm 5'$ AGL, antenna size accurate to ± 3.3 sf, and coax equal to the number of existing antennas without reserve.
10. All existing and proposed loading has been taken from the available site photos as well as documents supplied to GPD at the time of generating this report. All such documents are listed in the Documents Provided Table and are assumed to be accurate. GPD is not responsible for loading scenarios outside those conveyed in the supplied documentation.

If any of these assumptions are not valid or have been made in error, this analysis may be affected, and GPD should be allowed to review any new information to determine its effect on the structural integrity of the tower.

DISCLAIMER OF WARRANTIES

GPD has not performed a recent site visit to the tower to verify the member sizes or antenna/coax loading. If the existing conditions are not as represented on the tower elevation contained in this report, we should be contacted immediately to evaluate the significance of the discrepancy. This is not a condition assessment of the tower or foundation. This report does not replace a full tower inspection. The tower and foundations are assumed to have been properly fabricated, erected, maintained, in good condition, twist free, and plumb.

The engineering services rendered by GPD in connection with this Comprehensive Structural Analysis are limited to a computer analysis of the tower structure and theoretical capacity of its main structural members. No allowance was made for any damaged, bent, missing, loose, or rusted members (above and below ground). No allowance was made for loose bolts or cracked welds.

This analysis is limited to the designated maximum wind and seismic conditions per the governing tower standards and code. Wind forces resulting in tower vibrations near the structure's resonant frequencies were not considered in this analysis and are outside the scope of this analysis. Lateral loading from any dynamic response was not evaluated under a time-domain based fatigue analysis.

GPD does not analyze the fabrication of the structure (including welding). It is not possible to have all the very detailed information needed to perform a thorough analysis of every structural sub-component and connection of an existing tower. GPD provides a limited scope of service in that we cannot verify the adequacy of every weld, plate connection detail, etc. The purpose of this report is to assess the capability of adding appurtenances usually accompanied by transmission lines to the structure.

It is the owner's responsibility to determine the amount of ice accumulation in excess of the code specified amount, if any, that should be considered in the structural analysis.

The attached sketches are a schematic representation of the analyzed tower. If any material is fabricated from these sketches, the contractor shall be responsible for field verifying the existing conditions, proper fit, and clearance in the field. Any mentions of structural modifications are reasonable estimates and should not be used as a precise construction document. Precise modification drawings are obtainable from GPD, but are beyond the scope of this report.

Miscellaneous items such as antenna mounts, etc., have not been designed or detailed as a part of our work. We recommend that material of adequate size and strength be purchased from a reputable tower manufacturer.

Towers are designed to carry gravity, wind, and ice loads. All members, legs, diagonals, struts, and redundant members provide structural stability to the tower with little redundancy. Absence or removal of a member can trigger catastrophic failure unless a substitute is provided before any removal. Legs carry axial loads and derive their strength from shorter unbraced lengths by the presence of redundant members and their connection to the diagonals with bolts or welds. If the bolts or welds are removed without providing any substitute to the frame, the leg is subjected to a higher unbraced length that immediately reduces its load carrying capacity. If a diagonal is also removed in addition to the connection, the unbraced length of the leg is greatly increased, jeopardizing its load carrying capacity. Failure of one leg can result in a tower collapse because there is no redundancy. Redundant members and diagonals are critical to the stability of the tower.

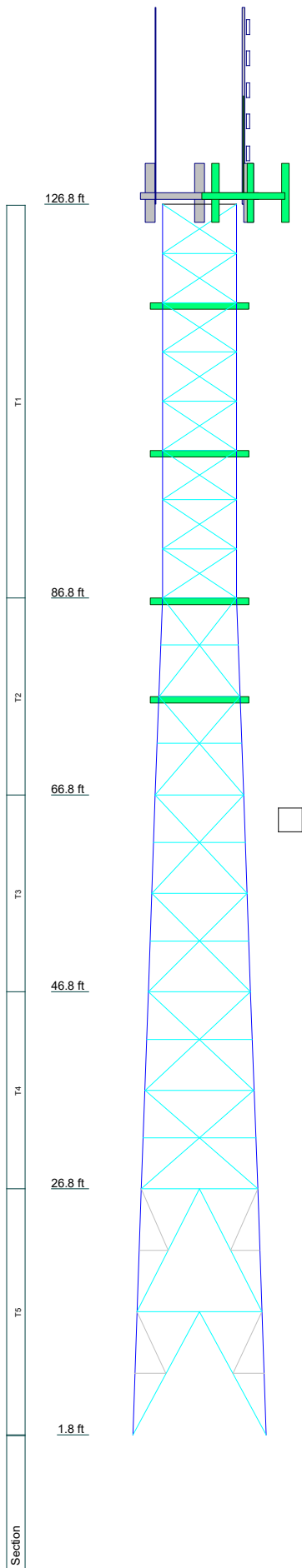
GPD makes no warranties, expressed and/or implied, in connection with this report and disclaims any liability arising from material, fabrication, and erection of this tower. GPD will not be responsible whatsoever for, or on account of, consequential or incidental damages sustained by any person, firm, or organization as a result of any data or conclusions contained in this report. The maximum liability of GPD pursuant to this report will be limited to the total fee received for preparation of this report.

APPENDIX A

Tower Analysis Summary Form

APPENDIX B

Tower Analysis Output File



MATERIAL STRENGTH

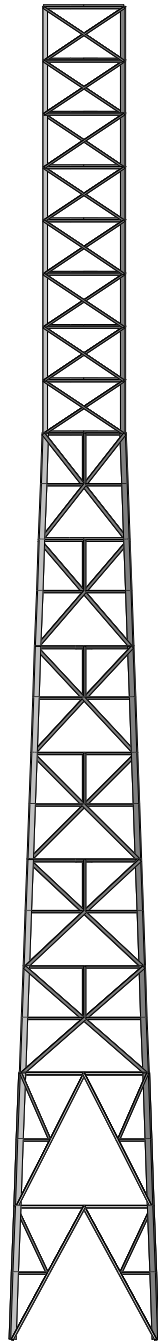
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A36	36 ksi	58 ksi			

TOWER DESIGN NOTES

1. Tower is located in Hartford County, Connecticut.
2. Tower designed for Exposure B to the TIA-222-H Standard.
3. Tower designed for a 119 mph basic wind in accordance with the TIA-222-H Standard.
4. Tower is also designed for a 50 mph basic wind with 1.50 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Risk Category II.
7. Topographic Category 1 with Crest Height of 0.00 ft

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Job: USID #: SNET009, GLASTONBURY		
Project: 2021723.01.SNET009.05		
Client: AT&T Towers	Drawn by: bdarkow	App'd:
Code: TIA-222-H	Date: 06/28/21	Scale: NTS
Path:		Dwg No. E-1



GPD Group

bdarkow

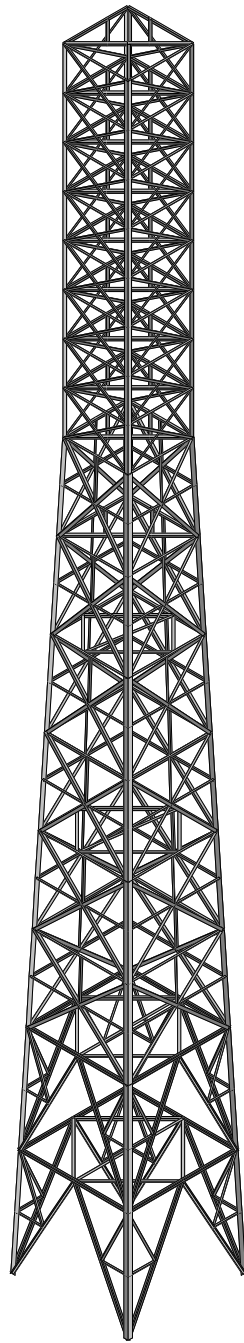
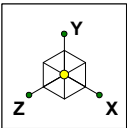
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USID #: SNET009, GLASTONBURY

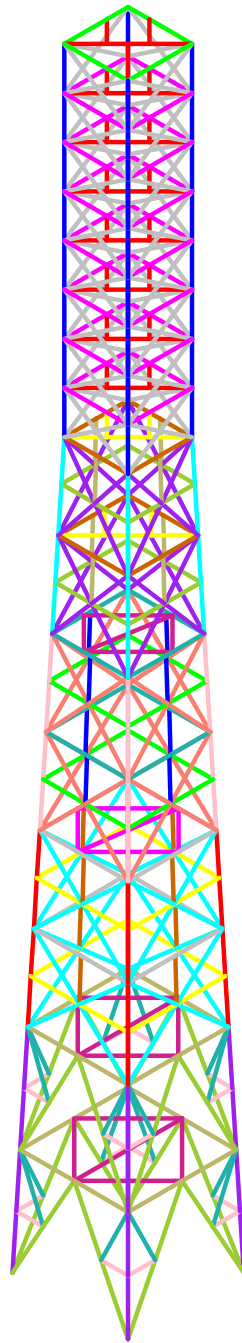
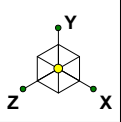
SK - 1

June 28, 2021 at 8:02 AM

SNET009.05.rt3



GPD Group	USID #: SNET009, GLASTONBURY	SK - 2
bdarkow		June 28, 2021 at 8:01 AM
2021723.01.SNET009.05		SNET009.05.rt3



Section Sets

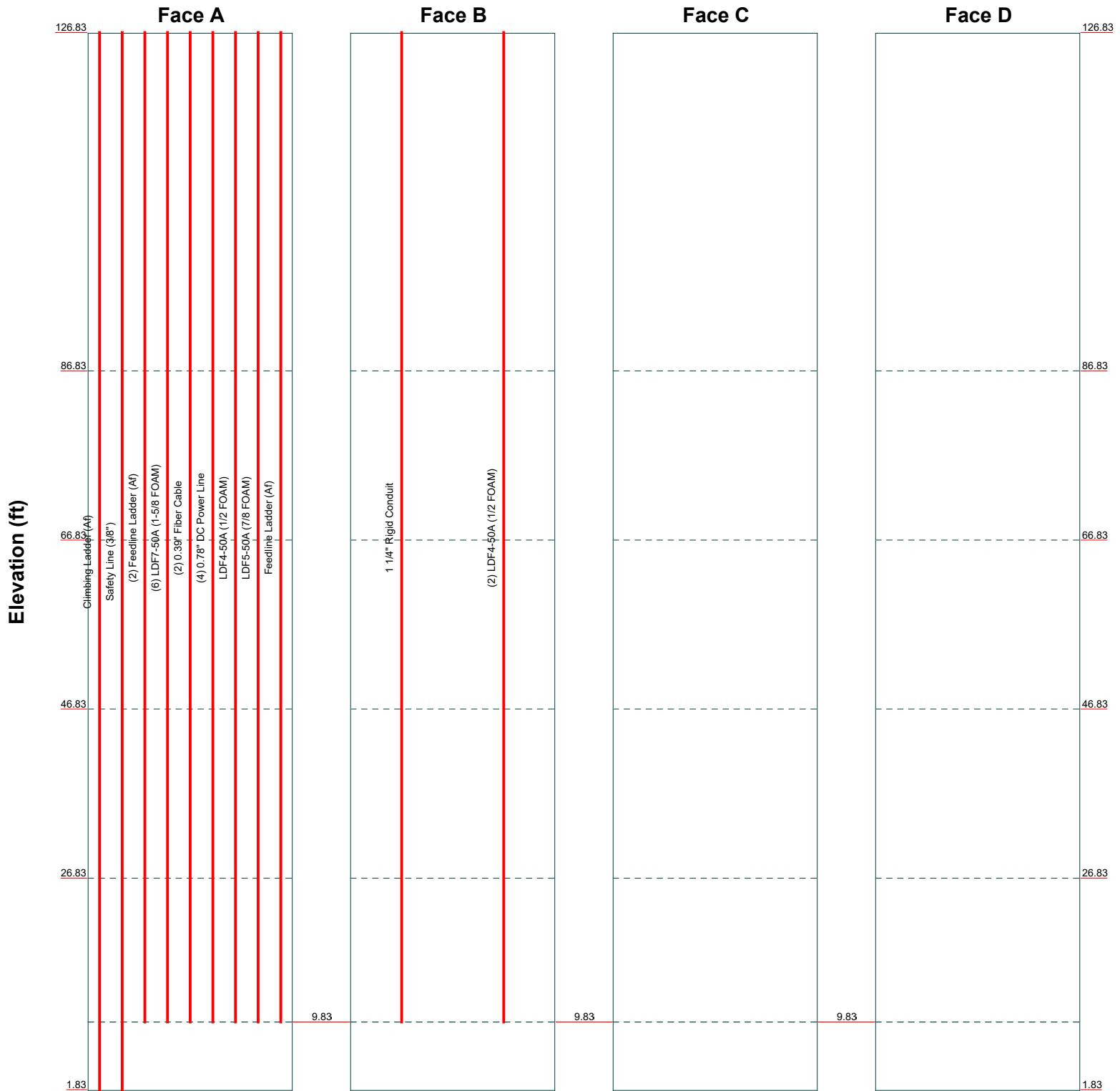
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Red	TWR_INNER_SUPP_T1
Grey	TWR_DIAG_T1
Magenta	TWR_HORZ_T1
Cyan	TWR_LEG_T2
Brown	TWR_HORZ_T2
Yellow	TWR_INNER_SUPP_T2
Purple	TWR_DIAG_T2
Light Green	TWR_RED_VERT_T2
Olive	TWR_HSTEP_T2
Pink	TWR_LEG_T3
Teal	TWR_HORZ_T3
Light Blue	TWR_INNER_SUPP_T3
Light Red	TWR_DIAG_T3
Dark Blue	TWR_RED_VERT_T3
Red	TWR_HSTEP_T3
Grey	TWR_LEG_T4
Magenta	TWR_HORZ_T4
Light Blue	TWR_INNER_SUPP_T4
Cyan	TWR_DIAG_T4
Yellow	TWR_RED_VERT_T4
Brown	TWR_HSTEP_T4
Purple	TWR_LEG_T5
Light Green	TWR_HORZ_T5
Olive	TWR_DIAG_T5
Light Red	TWR_RED_HORZ_T5
Teal	TWR_RED_DIAG_T5
Pink	TWR_INNER_SUPP_T5


GPD Group	USID #: SNET009, GLASTONBURY	SK - 3
bdarkow		June 28, 2021 at 8:03 AM
2021723.01.SNET009.05		SNET009.05.rt3

Feed Line Distribution Chart

1'9-31/32" - 126'9-31/32"

— Round
 — Flat
 — App In Face
 — App Out Face
 — Truss Leg



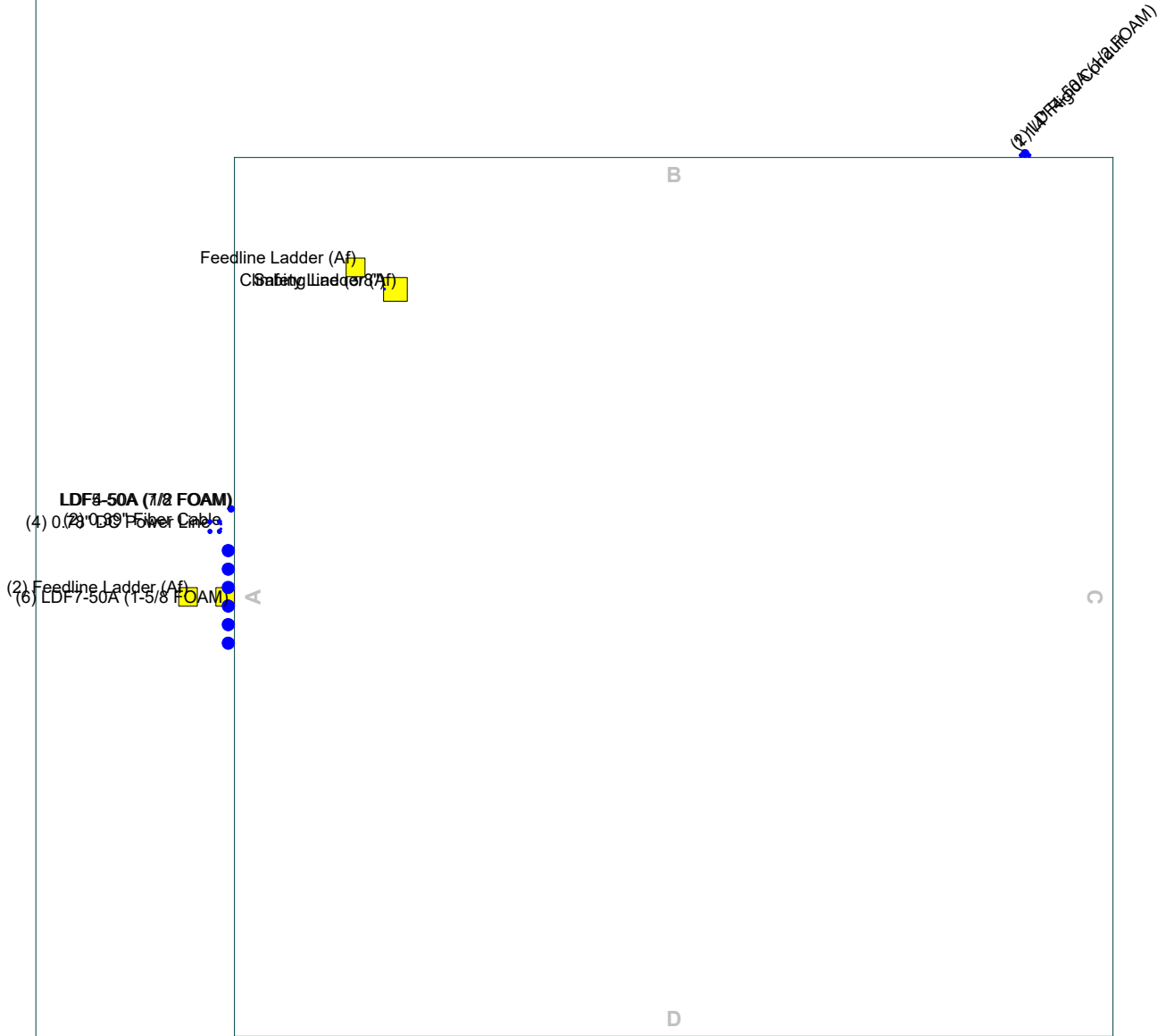

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Project: 2021723.01.SNET009.05		
Client: AT&T Towers	Drawn by: bdarkow	App'd:
Code: TIA-222-H	Date: 06/28/21	Scale: NTS
Path:		Dwg No. E-7

Feed Line Plan 26'9-31/32"

— Round
 — Flat
 — App In Face
 — App Out Face

Section @ 26'9-31/32"



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Code: TIA-222-H	Date: 06/28/21	Scale: NTS
Path:		Dwg No. E-7

tnxTower GPD 520 South Main Street Suite 2531 Akron, Ohio 44311 Phone: (330) 572-2100 FAX: (330) 572-2101	Job	USID #: SNET009, GLASTONBURY	Page	1 of 5
	Project	2021723.01.SNET009.05	Date	07:51:59 06/28/21
	Client	AT&T Towers	Designed by	bdarkow

Tower Input Data

The main tower is a 4x free standing tower with an overall height of 126.83 ft above the ground line.

The base of the tower is set at an elevation of 1.83 ft above the ground line.

The face width of the tower is 7.50 ft at the top and 13.58 ft at the base.

This tower is designed using the TIA-222-H standard.

The following design criteria apply:

Tower is located in Hartford County, Connecticut.

Tower base elevation above sea level: 867.83 ft.

Basic wind speed of 119 mph.

Risk Category II.

Exposure Category B.

Simplified Topographic Factor Procedure for wind speed-up calculations is used.

Topographic Category: 1.

Crest Height: 0.00 ft.

Nominal ice thickness of 1.5000 in.

Ice thickness is considered to increase with height.

Ice density of 56 pcf.

A wind speed of 50 mph is used in combination with ice.

Temperature drop of 50 °F.

Deflections calculated using a wind speed of 60 mph.

A non-linear (P-delta) analysis was used.

Pressures are calculated at each section.

Stress ratio used in tower member design is 1.

Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Face Offset in	Lateral Offset (Frac FW)	#	# Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight plf
Climbing Ladder (Af)	A	No	No	Af (CaAa)	126.83 - 1.83	-24.000	0.35	1	1	3.8400	3.8400		4.81
Safety Line (3/8")	A	No	No	Ar (CaAa)	126.83 - 1.83	-24.000	0.35	1	1	0.3750	0.3750		0.22
Feedline Ladder (Af)	A	No	No	Af (CaAa)	126.83 - 9.83	0.0000	0	2	1	3.0000	3.0000		8.40
LDF7-50A (1-5/8 FOAM)	A	No	No	Ar (CaAa)	126.83 - 9.83	0.0000	0	6	6	1.0000	1.9800		0.82
0.39" Fiber Cable	A	No	No	Ar (CaAa)	126.83 - 9.83	2.0000	0.08	2	2	0.3900	0.3900		0.10
0.78" DC Power Line	A	No	No	Ar (CaAa)	126.83 - 9.83	2.0000	0.08	4	2	0.7800	0.7800		0.33
LDF4-50A (1/2 FOAM)	A	No	No	Ar (CaAa)	126.83 - 9.83	0.0000	0.1	1	1	0.6300	0.6300		0.15
LDF5-50A (7/8 FOAM)	A	No	No	Ar (CaAa)	126.83 - 9.83	0.0000	0.1	1	1	1.0900	1.0900		0.33
1 1/4" Rigid Conduit	B	No	No	Ar (CaAa)	126.83 - 9.83	0.0000	0.4	1	1	1.2500	1.2500		0.70
LDF4-50A (1/2 FOAM)	B	No	No	Ar (CaAa)	126.83 - 9.83	0.0000	0.4	2	2	0.6300	0.6300		0.15

tnxTower GPD 520 South Main Street Suite 2531 Akron, Ohio 44311 Phone: (330) 572-2100 FAX: (330) 572-2101	Job	USID #: SNET009, GLASTONBURY	Page	2 of 5
	Project	2021723.01.SNET009.05	Date	07:51:59 06/28/21
	Client	AT&T Towers	Designed by	bdarkow

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Face Offset in	Lateral Offset (Frac FW)	# Rows	# Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight plf
Feedline Ladder (Af)	A	No	No	Af (CaAa)	126.83 - 9.83	-18.000	0.375	1	1	3.0000	3.0000		8.40

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment °	Placement ft	C _A A _A Front ft ²	C _A A _A Side ft ²	Weight K
			Horz Lateral ft	Vert ft					
20.0' Omni	A	From Leg	1.00	0.0000	126.83	No Ice	4.00	4.00	0.04
			0.00			1/2" Ice	6.03	6.03	0.07
			10.00			1" Ice	8.07	8.07	0.11
						2" Ice	12.20	12.20	0.24
20.0' Dipole	B	From Leg	1.00	0.0000	126.83	No Ice	4.00	4.00	0.04
			0.00			1/2" Ice	6.03	6.03	0.07
			10.00			1" Ice	8.07	8.07	0.11
						2" Ice	12.20	12.20	0.24
12.0' Omni	C	From Leg	1.00	0.0000	126.83	No Ice	3.00	3.00	0.02
			0.00			1/2" Ice	4.23	4.23	0.04
			6.00			1" Ice	5.47	5.47	0.07
						2" Ice	7.69	7.69	0.16
7770.00 w/Mount Pipe	A	From Face	2.00	0.0000	126.83	No Ice	5.51	4.10	0.06
			0.00			1/2" Ice	5.87	4.73	0.11
			1.17			1" Ice	6.23	5.37	0.16
						2" Ice	6.99	6.70	0.29
7770.00 w/Mount Pipe	B	From Face	2.00	0.0000	126.83	No Ice	5.51	4.10	0.06
			0.00			1/2" Ice	5.87	4.73	0.11
			1.17			1" Ice	6.23	5.37	0.16
						2" Ice	6.99	6.70	0.29
7770.00 w/Mount Pipe	C	From Leg	2.00	0.0000	126.83	No Ice	5.51	4.10	0.06
			0.00			1/2" Ice	5.87	4.73	0.11
			1.17			1" Ice	6.23	5.37	0.16
						2" Ice	6.99	6.70	0.29
OPA-65R-LCUU-H8 w/ Mount Pipe	A	From Face	2.00	0.0000	126.83	No Ice	12.98	9.32	0.12
			0.00			1/2" Ice	13.67	10.79	0.21
			1.17			1" Ice	14.36	12.24	0.32
						2" Ice	15.68	14.50	0.56
OPA-65R-LCUU-H6 w/ Mount Pipe	B	From Face	2.00	0.0000	126.83	No Ice	9.66	7.24	0.11
			0.00			1/2" Ice	10.13	8.06	0.18
			1.17			1" Ice	10.61	8.89	0.27
						2" Ice	11.58	10.61	0.47
OPA-65R-LCUU-H8 w/ Mount Pipe	C	From Leg	2.00	0.0000	126.83	No Ice	12.98	9.32	0.12
			0.00			1/2" Ice	13.67	10.79	0.21
			1.17			1" Ice	14.36	12.24	0.32
						2" Ice	15.68	14.50	0.56
DMP65R-BU8DA w/ Mount Pipe	A	From Face	2.00	0.0000	126.83	No Ice	17.87	10.02	0.03
			0.00			1/2" Ice	18.50	11.44	0.15
			1.17			1" Ice	19.14	12.72	0.28
						2" Ice	20.44	14.94	0.57
DMP65R-BU8DA w/ Mount Pipe	B	From Face	2.00	0.0000	126.83	No Ice	17.87	10.02	0.03
			0.00			1/2" Ice	18.50	11.44	0.15
			1.17			1" Ice	19.14	12.72	0.28
						2" Ice	20.44	14.94	0.57
DMP65R-BU8DA w/ Mount Pipe	C	From Leg	2.00	0.0000	126.83	No Ice	17.87	10.02	0.03

tnxTower GPD 520 South Main Street Suite 2531 Akron, Ohio 44311 Phone: (330) 572-2100 FAX: (330) 572-2101	Job		USID #: SNET009, GLASTONBURY		Page		3 of 5	
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	Client		AT&T Towers		Designed by		bdarkow	

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight
			Horz	Vert					
Pipe			0.00			1/2" Ice	18.50	11.44	0.15
			1.17			1" Ice	19.14	12.72	0.28
						2" Ice	20.44	14.94	0.57
7020.00 RET	A	From Face	2.00	0.0000	126.83	No Ice	0.10	0.17	0.00
			0.00			1/2" Ice	0.15	0.24	0.01
			1.17			1" Ice	0.20	0.31	0.01
						2" Ice	0.33	0.48	0.02
7020.00 RET	B	From Face	2.00	0.0000	126.83	No Ice	0.10	0.17	0.00
			0.00			1/2" Ice	0.15	0.24	0.01
			1.17			1" Ice	0.20	0.31	0.01
						2" Ice	0.33	0.48	0.02
7020.00 RET	C	From Leg	2.00	0.0000	126.83	No Ice	0.10	0.17	0.00
			0.00			1/2" Ice	0.15	0.24	0.01
			1.17			1" Ice	0.20	0.31	0.01
						2" Ice	0.33	0.48	0.02
B14 4478	A	From Face	2.00	0.0000	126.83	No Ice	1.84	1.06	0.06
			0.00			1/2" Ice	2.01	1.20	0.08
			1.17			1" Ice	2.19	1.34	0.09
						2" Ice	2.57	1.66	0.14
B14 4478	B	From Face	2.00	0.0000	126.83	No Ice	1.84	1.06	0.06
			0.00			1/2" Ice	2.01	1.20	0.08
			1.17			1" Ice	2.19	1.34	0.09
						2" Ice	2.57	1.66	0.14
B14 4478	C	From Leg	2.00	0.0000	126.83	No Ice	1.84	1.06	0.06
			0.00			1/2" Ice	2.01	1.20	0.08
			1.17			1" Ice	2.19	1.34	0.09
						2" Ice	2.57	1.66	0.14
8843 B2/B66A	A	From Face	2.00	0.0000	126.83	No Ice	1.98	1.70	0.07
			0.00			1/2" Ice	2.16	1.86	0.10
			1.17			1" Ice	2.34	2.04	0.12
						2" Ice	2.73	2.41	0.18
8843 B2/B66A	B	From Face	2.00	0.0000	126.83	No Ice	1.98	1.70	0.07
			0.00			1/2" Ice	2.16	1.86	0.10
			1.17			1" Ice	2.34	2.04	0.12
						2" Ice	2.73	2.41	0.18
8843 B2/B66A	C	From Leg	2.00	0.0000	126.83	No Ice	1.98	1.70	0.07
			0.00			1/2" Ice	2.16	1.86	0.10
			1.17			1" Ice	2.34	2.04	0.12
						2" Ice	2.73	2.41	0.18
4449 B5/B12	A	From Face	2.00	0.0000	126.83	No Ice	1.97	1.41	0.07
			0.00			1/2" Ice	2.14	1.56	0.09
			1.17			1" Ice	2.33	1.73	0.11
						2" Ice	2.72	2.07	0.16
4449 B5/B12	B	From Face	2.00	0.0000	126.83	No Ice	1.97	1.41	0.07
			0.00			1/2" Ice	2.14	1.56	0.09
			1.17			1" Ice	2.33	1.73	0.11
						2" Ice	2.72	2.07	0.16
4449 B5/B12	C	From Leg	2.00	0.0000	126.83	No Ice	1.97	1.41	0.07
			0.00			1/2" Ice	2.14	1.56	0.09
			1.17			1" Ice	2.33	1.73	0.11
						2" Ice	2.72	2.07	0.16
DC6-48-60-18-8F Surge Suppression Unit	C	From Leg	2.00	0.0000	126.83	No Ice	0.92	0.92	0.02
			0.00			1/2" Ice	1.46	1.46	0.04
			1.17			1" Ice	1.64	1.64	0.06
						2" Ice	2.04	2.04	0.11
12.0' Long W6 Mount Beam	A	From Face	1.00	0.0000	126.83	No Ice	8.40	0.35	0.10
			0.00			1/2" Ice	9.38	0.43	0.16

tnxTower GPD 520 South Main Street Suite 2531 Akron, Ohio 44311 Phone: (330) 572-2100 FAX: (330) 572-2101	Job	USID #: SNET009, GLASTONBURY	Page	4 of 5
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	Client	AT&T Towers	Designed by	bdarkow

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight
			Horz	Lateral					
			ft	ft	°	ft	ft ²	ft ²	K
			1.17				1" Ice 10.36	0.52	0.24
							2" Ice 12.36	0.73	0.41
12.0' Long W6 Mount Beam	B	From Face	1.00	0.0000	126.83	No Ice	8.40	0.35	0.10
			0.00			1/2" Ice	9.38	0.43	0.16
			1.17			1" Ice	10.36	0.52	0.24
						2" Ice	12.36	0.73	0.41
12.0' Long W6 Mount Beam	C	From Leg	1.00	0.0000	126.83	No Ice	8.40	0.35	0.10
			0.00			1/2" Ice	9.38	0.43	0.16
			1.17			1" Ice	10.36	0.52	0.24
						2" Ice	12.36	0.73	0.41
5' Yagi	D	From Leg	2.50	0.0000	126.83	No Ice	1.00	1.00	0.03
			0.00			1/2" Ice	1.39	1.39	0.03
			0.00			1" Ice	1.70	1.70	0.04
						2" Ice	2.35	2.35	0.08
Inner Platform	B	None		0.0000	116.83	No Ice	6.25	6.25	0.70
						1/2" Ice	7.81	7.81	0.88
						1" Ice	9.38	9.38	1.05
						2" Ice	12.50	12.50	1.41
Inner Platform	B	None		0.0000	101.83	No Ice	6.25	6.25	0.70
						1/2" Ice	7.81	7.81	0.88
						1" Ice	9.38	9.38	1.05
						2" Ice	12.50	12.50	1.41
Inner Platform	B	None		0.0000	86.83	No Ice	6.25	6.25	0.70
						1/2" Ice	7.81	7.81	0.88
						1" Ice	9.38	9.38	1.05
						2" Ice	12.50	12.50	1.41
Inner Platform	B	None		0.0000	76.83	No Ice	6.25	6.25	0.70
						1/2" Ice	7.81	7.81	0.88
						1" Ice	9.38	9.38	1.05
						2" Ice	12.50	12.50	1.41

(Global) Model Settings

Display Sections for Member Calcs	5
Max Internal Sections for Member Calcs	97
Include Shear Deformation?	Yes
Increase Nailing Capacity for Wind?	Yes
Include Warping?	Yes
Trans Load Btwn Intersecting Wood Wall?	Yes
Area Load Mesh (in^2)	144
Merge Tolerance (in)	.12
P-Delta Analysis Tolerance	0.50%
Include P-Delta for Walls?	Yes
Automatically Iterate Stiffness for Walls?	No
Max Iterations for Wall Stiffness	3
Gravity Acceleration (ft/sec^2)	32.2
Wall Mesh Size (in)	12
Eigensolution Convergence Tol. (1.E-)	4
Vertical Axis	Y
Global Member Orientation Plane	XZ
Static Solver	Sparse Accelerated
Dynamic Solver	Accelerated Solver

Hot Rolled Steel Code	AISC 15th(360-16): LRFD
Adjust Stiffness?	No
RISACONNECTION CODE	None
Cold Formed Steel Code	None
Wood Code	None
Wood Temperature	< 100F
Concrete Code	ACI 318-14
Masonry Code	None
Aluminum Code	None - Building
Stainless Steel Code	None

Number of Shear Regions	4
Region Spacing Increment (in)	4
Biaxial Column Method	Exact Integration
Parame Beta Factor (PCA)	.65
Concrete Stress Block	Rectangular
Use Cracked Sections?	Yes
Use Cracked Sections Slab?	No
Bad Framing Warnings?	No
Unused Force Warnings?	Yes
Min 1 Bar Diam. Spacing?	No
Concrete Rebar Set	REBAR SET ASTMA615
Min % Steel for Column	1
Max % Steel for Column	8



(Global) Model Settings, Continued

Seismic Code	ASCE 7-16
Seismic Base Elevation (ft)	Not Entered
Add Base Weight?	Yes
Ct X	.035
Ct Z	.035
T X (sec)	Not Entered
T Z (sec)	Not Entered
R X	8.5
R Z	8.5
Ct Exp. X	.75
Ct Exp. Z	.75
SD1	1
SDS	1
S1	1
TL (sec)	Not Entered
Risk Cat	I or II
Drift Cat	Other
Om Z	1
Om X	1
Cd Z	4
Cd X	4
Rho Z	1
Rho X	1

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (1E...	Density[k/ft...	Yield[ksi]	Ry	Fu[ksi]	Rt
1	A36	29000	11200	.295	.65	.49	36	1.5	58	1.2

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design R...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	TWR_LEG_T1	L5x5x3/8	Column	None	A36	Typical	3.609	8.745	8.745	.169
2	TWR_HTOP_GIRT_T1	L2 1/2x2 1/2x1/4	Beam	None	A36	Typical	1.19	.703	.703	.025
3	TWR_INNER_SUPP_T1	L3x3x3/16_HRA	Beam	None	A36	Typical	1.09	.96	.96	.014
4	TWR_DIAG_T1	L2 1/2x2x5/16	Column	None	A36	Typical	1.31	.446	.788	.043
5	TWR_HORZ_T1	L2 1/2x2 1/2x1/4	Beam	None	A36	Typical	1.19	.703	.703	.025
6	TWR_LEG_T2	L6x6x1/2	Column	None	A36	Typical	5.75	19.908	19.908	.479
7	TWR_HORZ_T2	L2 1/2x2 1/2x1/4	Beam	None	A36	Typical	1.19	.703	.703	.025
8	TWR_INNER_SUPP_T2	L3x3x1/4	Beam	None	A36	Typical	1.438	1.244	1.244	.03
9	TWR_DIAG_T2	L3 1/2x3x1/4_HRA	Column	None	A36	Typical	1.56	1.3	1.91	.036
10	TWR_RED_VERT_T2	L2 1/2x2x1/4	Column	None	A36	Typical	1.06	.372	.654	.023
11	TWR_HSTEP_T2	L2 1/2x2x1/4	Beam	None	A36	Typical	1.06	.372	.654	.023
12	TWR_LEG_T3	L6x6x3/4	Column	None	A36	Typical	8.438	28.155	28.155	1.582
13	TWR_HORZ_T3	L2 1/2x2 1/2x1/4	Beam	None	A36	Typical	1.19	.703	.703	.025
14	TWR_INNER_SUPP_T3	L3x3x3/16_HRA	Beam	None	A36	Typical	1.09	.96	.96	.014
15	TWR_DIAG_T3	L3 1/2x3x1/4_HRA	Column	None	A36	Typical	1.56	1.3	1.91	.036
16	TWR_RED_VERT_T3	L2 1/2x2x1/4	Column	None	A36	Typical	1.06	.372	.654	.023
17	TWR_HSTEP_T3	L2 1/2x2x1/4	Beam	None	A36	Typical	1.06	.372	.654	.023
18	TWR_LEG_T4	L6x6x3/4	Column	None	A36	Typical	8.438	28.155	28.155	1.582
19	TWR_HORZ_T4	L2 1/2x2 1/2x1/4	Beam	None	A36	Typical	1.19	.703	.703	.025
20	TWR_INNER_SUPP_T4	L3x3x3/16_HRA	Beam	None	A36	Typical	1.09	.96	.96	.014
21	TWR_DIAG_T4	L3 1/2x3x1/4_HRA	Column	None	A36	Typical	1.56	1.3	1.91	.036
22	TWR_RED_VERT_T4	L2 1/2x2x1/4	Column	None	A36	Typical	1.06	.372	.654	.023
23	TWR_HSTEP_T4	L2 1/2x2x1/4	Beam	None	A36	Typical	1.06	.372	.654	.023
24	TWR_LEG_T5	L6x6x7/8	Column	None	A36	Typical	9.734	31.917	31.917	2.484
25	TWR_HORZ_T5	2L2 1/2x2 1/2x1/4x3/4	Beam	None	A36	Typical	2.38	4.237	1.41	.049



Hot Rolled Steel Section Sets (Continued)

	Label	Shape	Type	Design List	Material	Design R...	A [in ²]	I _{yy} [in ⁴]	I _{zz} [in ⁴]	J [in ⁴]
26	TWR_DIAG_T5	2L2 1/2x2 1/2x1/4x3/4	Column	None	A36	Typical	2.38	4.237	1.41	.049
27	TWR_RED_HORZ_T5	L2 1/2x2x3/16	Beam	None	A36	Typical	.809	.291	.509	.01
28	TWR_RED_DIAG_T5	L2 1/2x2x3/16	Column	None	A36	Typical	.809	.291	.509	.01
29	TWR_INNER_SUPP_T5	L3x3x3/16_HRA	Beam	None	A36	Typical	1.09	.96	.96	.014

Joint Boundary Conditions

	Joint Label	X [k/in]	Y [k/in]	Z [k/in]	X Rot.[k-ft/rad]	Y Rot.[k-ft/rad]	Z Rot.[k-ft/rad]
1	N157	Reaction	Reaction	Reaction		Reaction	
2	N158	Reaction	Reaction	Reaction		Reaction	
3	N159	Reaction	Reaction	Reaction		Reaction	
4	N160	Reaction	Reaction	Reaction		Reaction	

Hot Rolled Steel Design Parameters

	Label	Shape	Length[ft]	L _{byy} [ft]	L _{bzz} [ft]	L _{comp top} [ft]	L _{comp bot} [ft]	L-torqu...	K _{yy}	K _{zz}	C _b	Function
1	M14	TWR_DIAG...	9.014	4.27	4.27	4.27	4.27	4.27	1	1		Lateral
2	M15	TWR_DIAG...	9.014	4.27	4.27	4.27	4.27	4.27	1	1		Lateral
3	M16	TWR_DIAG...	9.014	4.27	4.27	4.27	4.27	4.27	1	1		Lateral
4	M17	TWR_DIAG...	9.014	4.27	4.27	4.27	4.27	4.27	1	1		Lateral
5	M18	TWR_DIAG...	9.014	4.27	4.27	4.27	4.27	4.27	1	1		Lateral
6	M19	TWR_DIAG...	9.014	4.27	4.27	4.27	4.27	4.27	1	1		Lateral
7	M20	TWR_DIAG...	9.014	4.27	4.27	4.27	4.27	4.27	1	1		Lateral
8	M21	TWR_DIAG...	9.014	4.27	4.27	4.27	4.27	4.27	1	1		Lateral
9	M26	TWR_DIAG...	9.014	4.27	4.27	4.27	4.27	4.27	1	1		Lateral
10	M27	TWR_DIAG...	9.014	4.27	4.27	4.27	4.27	4.27	1	1		Lateral
11	M28	TWR_DIAG...	9.014	4.27	4.27	4.27	4.27	4.27	1	1		Lateral
12	M29	TWR_DIAG...	9.014	4.27	4.27	4.27	4.27	4.27	1	1		Lateral
13	M30	TWR_DIAG...	9.014	4.27	4.27	4.27	4.27	4.27	1	1		Lateral
14	M31	TWR_DIAG...	9.014	4.27	4.27	4.27	4.27	4.27	1	1		Lateral
15	M32	TWR_DIAG...	9.014	4.27	4.27	4.27	4.27	4.27	1	1		Lateral
16	M33	TWR_DIAG...	9.014	4.27	4.27	4.27	4.27	4.27	1	1		Lateral
17	M38	TWR_DIAG...	9.014	4.27	4.27	4.27	4.27	4.27	1	1		Lateral
18	M39	TWR_DIAG...	9.014	4.27	4.27	4.27	4.27	4.27	1	1		Lateral
19	M40	TWR_DIAG...	9.014	4.27	4.27	4.27	4.27	4.27	1	1		Lateral
20	M41	TWR_DIAG...	9.014	4.27	4.27	4.27	4.27	4.27	1	1		Lateral
21	M42	TWR_DIAG...	9.014	4.27	4.27	4.27	4.27	4.27	1	1		Lateral
22	M43	TWR_DIAG...	9.014	4.27	4.27	4.27	4.27	4.27	1	1		Lateral
23	M44	TWR_DIAG...	9.014	4.27	4.27	4.27	4.27	4.27	1	1		Lateral
24	M45	TWR_DIAG...	9.014	4.27	4.27	4.27	4.27	4.27	1	1		Lateral
25	M50	TWR_DIAG...	9.014	4.27	4.27	4.27	4.27	4.27	1	1		Lateral
26	M51	TWR_DIAG...	9.014	4.27	4.27	4.27	4.27	4.27	1	1		Lateral
27	M52	TWR_DIAG...	9.014	4.27	4.27	4.27	4.27	4.27	1	1		Lateral
28	M53	TWR_DIAG...	9.014	4.27	4.27	4.27	4.27	4.27	1	1		Lateral
29	M54	TWR_DIAG...	9.014	4.27	4.27	4.27	4.27	4.27	1	1		Lateral
30	M55	TWR_DIAG...	9.014	4.27	4.27	4.27	4.27	4.27	1	1		Lateral
31	M56	TWR_DIAG...	9.014	4.27	4.27	4.27	4.27	4.27	1	1		Lateral
32	M57	TWR_DIAG...	9.014	4.27	4.27	4.27	4.27	4.27	1	1		Lateral
33	M62	TWR_DIAG...	9.014	4.27	4.27	4.27	4.27	4.27	1	1		Lateral
34	M63	TWR_DIAG...	9.014	4.27	4.27	4.27	4.27	4.27	1	1		Lateral
35	M64	TWR_DIAG...	9.014	4.27	4.27	4.27	4.27	4.27	1	1		Lateral
36	M65	TWR_DIAG...	9.014	4.27	4.27	4.27	4.27	4.27	1	1		Lateral
37	M66	TWR_DIAG...	9.014	4.27	4.27	4.27	4.27	4.27	1	1		Lateral
38	M67	TWR_DIAG...	9.014	4.27	4.27	4.27	4.27	4.27	1	1		Lateral
39	M68	TWR_DIAG...	9.014	4.27	4.27	4.27	4.27	4.27	1	1		Lateral
40	M69	TWR_DIAG...	9.014	4.27	4.27	4.27	4.27	4.27	1	1		Lateral



Company : GPD Group
 Designer : bdarkow
 Job Number : 2021723.01.SNET009.05
 Model Name : USID #: SNET009, GLASTONBURY

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Hot Rolled Steel Design Parameters (Continued)

Label	Shape	Length[ft]	Lbyy[ft]	Lbzz[ft]	Lcomp top[ft]	Lcomp bot[ft]	L-torqu...	Kyy	Kzz	Cb	Function
41	M74	TWR_DIAG...	9.014	4.27	4.27	4.27	4.27	4.27	1	1	Lateral
42	M75	TWR_DIAG...	9.014	4.27	4.27	4.27	4.27	4.27	1	1	Lateral
43	M76	TWR_DIAG...	9.014	4.27	4.27	4.27	4.27	4.27	1	1	Lateral
44	M77	TWR_DIAG...	9.014	4.27	4.27	4.27	4.27	4.27	1	1	Lateral
45	M78	TWR_DIAG...	9.014	4.27	4.27	4.27	4.27	4.27	1	1	Lateral
46	M79	TWR_DIAG...	9.014	4.27	4.27	4.27	4.27	4.27	1	1	Lateral
47	M80	TWR_DIAG...	9.014	4.27	4.27	4.27	4.27	4.27	1	1	Lateral
48	M81	TWR_DIAG...	9.014	4.27	4.27	4.27	4.27	4.27	1	1	Lateral
49	M86	TWR_DIAG...	9.014	4.27	4.27	4.27	4.27	4.27	1	1	Lateral
50	M87	TWR_DIAG...	9.014	4.27	4.27	4.27	4.27	4.27	1	1	Lateral
51	M88	TWR_DIAG...	9.014	4.27	4.27	4.27	4.27	4.27	1	1	Lateral
52	M89	TWR_DIAG...	9.014	4.27	4.27	4.27	4.27	4.27	1	1	Lateral
53	M90	TWR_DIAG...	9.014	4.27	4.27	4.27	4.27	4.27	1	1	Lateral
54	M91	TWR_DIAG...	9.014	4.27	4.27	4.27	4.27	4.27	1	1	Lateral
55	M92	TWR_DIAG...	9.014	4.27	4.27	4.27	4.27	4.27	1	1	Lateral
56	M93	TWR_DIAG...	9.014	4.27	4.27	4.27	4.27	4.27	1	1	Lateral
57	M98	TWR_DIAG...	9.014	4.27	4.27	4.27	4.27	4.27	1	1	Lateral
58	M99	TWR_DIAG...	9.014	4.27	4.27	4.27	4.27	4.27	1	1	Lateral
59	M100	TWR_DIAG...	9.014	4.27	4.27	4.27	4.27	4.27	1	1	Lateral
60	M101	TWR_DIAG...	9.014	4.27	4.27	4.27	4.27	4.27	1	1	Lateral
61	M102	TWR_DIAG...	9.014	4.27	4.27	4.27	4.27	4.27	1	1	Lateral
62	M103	TWR_DIAG...	9.014	4.27	4.27	4.27	4.27	4.27	1	1	Lateral
63	M104	TWR_DIAG...	9.014	4.27	4.27	4.27	4.27	4.27	1	1	Lateral
64	M105	TWR_DIAG...	9.014	4.27	4.27	4.27	4.27	4.27	1	1	Lateral
65	M119	TWR_DIAG...	13.177	6.62	6.62	6.62	6.62	6.62	.99	.99	Lateral
66	M120	TWR_DIAG...	13.177	6.62	6.62	6.62	6.62	6.62	.99	.99	Lateral
67	M121	TWR_DIAG...	13.177	6.62	6.62	6.62	6.62	6.62	.99	.99	Lateral
68	M122	TWR_DIAG...	13.177	6.62	6.62	6.62	6.62	6.62	.99	.99	Lateral
69	M123	TWR_DIAG...	13.177	6.62	6.62	6.62	6.62	6.62	.99	.99	Lateral
70	M124	TWR_DIAG...	13.177	6.62	6.62	6.62	6.62	6.62	.99	.99	Lateral
71	M125	TWR_DIAG...	13.177	6.62	6.62	6.62	6.62	6.62	.99	.99	Lateral
72	M126	TWR_DIAG...	13.177	6.62	6.62	6.62	6.62	6.62	.99	.99	Lateral
73	M135	TWR_DIAG...	12.723	6.41	6.41	6.41	6.41	6.41	1	1	Lateral
74	M136	TWR_DIAG...	12.723	6.41	6.41	6.41	6.41	6.41	1	1	Lateral
75	M137	TWR_DIAG...	12.723	6.41	6.41	6.41	6.41	6.41	1	1	Lateral
76	M138	TWR_DIAG...	12.723	6.41	6.41	6.41	6.41	6.41	1	1	Lateral
77	M139	TWR_DIAG...	12.723	6.41	6.41	6.41	6.41	6.41	1	1	Lateral
78	M140	TWR_DIAG...	12.723	6.41	6.41	6.41	6.41	6.41	1	1	Lateral
79	M141	TWR_DIAG...	12.723	6.41	6.41	6.41	6.41	6.41	1	1	Lateral
80	M142	TWR_DIAG...	12.723	6.41	6.41	6.41	6.41	6.41	1	1	Lateral
81	M160	TWR_DIAG...	14.15	7.09	7.09	7.09	7.09	7.09	.97	.97	Lateral
82	M161	TWR_DIAG...	14.15	7.09	7.09	7.09	7.09	7.09	.97	.97	Lateral
83	M162	TWR_DIAG...	14.15	7.09	7.09	7.09	7.09	7.09	.97	.97	Lateral
84	M163	TWR_DIAG...	14.15	7.09	7.09	7.09	7.09	7.09	.97	.97	Lateral
85	M164	TWR_DIAG...	14.15	7.09	7.09	7.09	7.09	7.09	.97	.97	Lateral
86	M165	TWR_DIAG...	14.15	7.09	7.09	7.09	7.09	7.09	.97	.97	Lateral
87	M166	TWR_DIAG...	14.15	7.09	7.09	7.09	7.09	7.09	.97	.97	Lateral
88	M167	TWR_DIAG...	14.15	7.09	7.09	7.09	7.09	7.09	.97	.97	Lateral
89	M176	TWR_DIAG...	13.653	6.85	6.85	6.85	6.85	6.85	.98	.98	Lateral
90	M177	TWR_DIAG...	13.653	6.85	6.85	6.85	6.85	6.85	.98	.98	Lateral
91	M178	TWR_DIAG...	13.653	6.85	6.85	6.85	6.85	6.85	.98	.98	Lateral
92	M179	TWR_DIAG...	13.653	6.85	6.85	6.85	6.85	6.85	.98	.98	Lateral
93	M180	TWR_DIAG...	13.653	6.85	6.85	6.85	6.85	6.85	.98	.98	Lateral
94	M181	TWR_DIAG...	13.653	6.85	6.85	6.85	6.85	6.85	.98	.98	Lateral
95	M182	TWR_DIAG...	13.653	6.85	6.85	6.85	6.85	6.85	.98	.98	Lateral
96	M183	TWR_DIAG...	13.653	6.85	6.85	6.85	6.85	6.85	.98	.98	Lateral
97	M201	TWR_DIAG...	15.196	7.6	7.6	7.6	7.6	7.6	.96	.96	Lateral



Company : GPD Group
 Designer : bdarkow
 Job Number : 2021723.01.SNET009.05
 Model Name : USID #: SNET009, GLASTONBURY

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 Checked By: _____

Hot Rolled Steel Design Parameters (Continued)

Label	Shape	Length[ft]	Lbyv[ft]	Lbzz[ft]	Lcomp top[ft]	Lcomp bot[ft]	L-torqu...	Kyy	Kzz	Cb	Function
98	M202	TWR_DIAG...	15.196	7.6	7.6	7.6	7.6	7.6	.96	.96	Lateral
99	M203	TWR_DIAG...	15.196	7.6	7.6	7.6	7.6	7.6	.96	.96	Lateral
100	M204	TWR_DIAG...	15.196	7.6	7.6	7.6	7.6	7.6	.96	.96	Lateral
101	M205	TWR_DIAG...	15.196	7.6	7.6	7.6	7.6	7.6	.96	.96	Lateral
102	M206	TWR_DIAG...	15.196	7.6	7.6	7.6	7.6	7.6	.96	.96	Lateral
103	M207	TWR_DIAG...	15.196	7.6	7.6	7.6	7.6	7.6	.96	.96	Lateral
104	M208	TWR_DIAG...	15.196	7.6	7.6	7.6	7.6	7.6	.96	.96	Lateral
105	M217	TWR_DIAG...	14.665	7.34	7.34	7.34	7.34	7.34	.97	.97	Lateral
106	M218	TWR_DIAG...	14.665	7.34	7.34	7.34	7.34	7.34	.97	.97	Lateral
107	M219	TWR_DIAG...	14.665	7.34	7.34	7.34	7.34	7.34	.97	.97	Lateral
108	M220	TWR_DIAG...	14.665	7.34	7.34	7.34	7.34	7.34	.97	.97	Lateral
109	M221	TWR_DIAG...	14.665	7.34	7.34	7.34	7.34	7.34	.97	.97	Lateral
110	M222	TWR_DIAG...	14.665	7.34	7.34	7.34	7.34	7.34	.97	.97	Lateral
111	M223	TWR_DIAG...	14.665	7.34	7.34	7.34	7.34	7.34	.97	.97	Lateral
112	M224	TWR_DIAG...	14.665	7.34	7.34	7.34	7.34	7.34	.97	.97	Lateral
113	M234	TWR_DIAG...	14.233	13.75	6.875	6.875	6.875	6.875	1.07	1	Lateral
114	M237	TWR_DIAG...	14.233	13.75	6.875	6.875	6.875	6.875	1.07	1	Lateral
115	M241	TWR_DIAG...	14.233	13.75	6.875	6.875	6.875	6.875	1.07	1	Lateral
116	M244	TWR_DIAG...	14.233	13.75	6.875	6.875	6.875	6.875	1.07	1	Lateral
117	M248	TWR_DIAG...	14.233	13.75	6.875	6.875	6.875	6.875	1.07	1	Lateral
118	M251	TWR_DIAG...	14.233	13.75	6.875	6.875	6.875	6.875	1.07	1	Lateral
119	M255	TWR_DIAG...	14.233	13.75	6.875	6.875	6.875	6.875	1.07	1	Lateral
120	M258	TWR_DIAG...	14.233	13.75	6.875	6.875	6.875	6.875	1.07	1	Lateral
121	M267	TWR_DIAG...	14.025	13.55	6.775	6.775	6.775	6.775	1.07	1	Lateral
122	M270	TWR_DIAG...	14.025	13.55	6.775	6.775	6.775	6.775	1.07	1	Lateral
123	M274	TWR_DIAG...	14.025	13.55	6.775	6.775	6.775	6.775	1.07	1	Lateral
124	M277	TWR_DIAG...	14.025	13.55	6.775	6.775	6.775	6.775	1.07	1	Lateral
125	M281	TWR_DIAG...	14.025	13.55	6.775	6.775	6.775	6.775	1.07	1	Lateral
126	M284	TWR_DIAG...	14.025	13.55	6.775	6.775	6.775	6.775	1.07	1	Lateral
127	M288	TWR_DIAG...	14.025	13.55	6.775	6.775	6.775	6.775	1.07	1	Lateral
128	M291	TWR_DIAG...	14.025	13.55	6.775	6.775	6.775	6.775	1.07	1	Lateral
129	M22	TWR_HOR...	7.5	7.02	7.02	7.02	7.02	7.02	1	1	Lateral
130	M23	TWR_HOR...	7.5	7.02	7.02	7.02	7.02	7.02	1	1	Lateral
131	M24	TWR_HOR...	7.5	7.02	7.02	7.02	7.02	7.02	1	1	Lateral
132	M25	TWR_HOR...	7.5	7.02	7.02	7.02	7.02	7.02	1	1	Lateral
133	M34	TWR_HOR...	7.5	7.02	7.02	7.02	7.02	7.02	1	1	Lateral
134	M35	TWR_HOR...	7.5	7.02	7.02	7.02	7.02	7.02	1	1	Lateral
135	M36	TWR_HOR...	7.5	7.02	7.02	7.02	7.02	7.02	1	1	Lateral
136	M37	TWR_HOR...	7.5	7.02	7.02	7.02	7.02	7.02	1	1	Lateral
137	M46	TWR_HOR...	7.5	7.02	7.02	7.02	7.02	7.02	1	1	Lateral
138	M47	TWR_HOR...	7.5	7.02	7.02	7.02	7.02	7.02	1	1	Lateral
139	M48	TWR_HOR...	7.5	7.02	7.02	7.02	7.02	7.02	1	1	Lateral
140	M49	TWR_HOR...	7.5	7.02	7.02	7.02	7.02	7.02	1	1	Lateral
141	M58	TWR_HOR...	7.5	7.02	7.02	7.02	7.02	7.02	1	1	Lateral
142	M59	TWR_HOR...	7.5	7.02	7.02	7.02	7.02	7.02	1	1	Lateral
143	M60	TWR_HOR...	7.5	7.02	7.02	7.02	7.02	7.02	1	1	Lateral
144	M61	TWR_HOR...	7.5	7.02	7.02	7.02	7.02	7.02	1	1	Lateral
145	M70	TWR_HOR...	7.5	7.02	7.02	7.02	7.02	7.02	1	1	Lateral
146	M71	TWR_HOR...	7.5	7.02	7.02	7.02	7.02	7.02	1	1	Lateral
147	M72	TWR_HOR...	7.5	7.02	7.02	7.02	7.02	7.02	1	1	Lateral
148	M73	TWR_HOR...	7.5	7.02	7.02	7.02	7.02	7.02	1	1	Lateral
149	M82	TWR_HOR...	7.5	7.02	7.02	7.02	7.02	7.02	1	1	Lateral
150	M83	TWR_HOR...	7.5	7.02	7.02	7.02	7.02	7.02	1	1	Lateral
151	M84	TWR_HOR...	7.5	7.02	7.02	7.02	7.02	7.02	1	1	Lateral
152	M85	TWR_HOR...	7.5	7.02	7.02	7.02	7.02	7.02	1	1	Lateral
153	M94	TWR_HOR...	7.5	7.02	7.02	7.02	7.02	7.02	1	1	Lateral
154	M95	TWR_HOR...	7.5	7.02	7.02	7.02	7.02	7.02	1	1	Lateral



Hot Rolled Steel Design Parameters (Continued)

Label	Shape	Length[ft]	Lbyy[ft]	Lbzz[ft]	Lcomp top[ft]	Lcomp bot[ft]	L-torqu...	Kyy	Kzz	Cb	Function
155	M96	TWR_HOR...	7.5	7.02	7.02	7.02	7.02	7.02	1	1	Lateral
156	M97	TWR_HOR...	7.5	7.02	7.02	7.02	7.02	7.02	1	1	Lateral
157	M110	TWR_HOR...	7.5	7.02	3.51	3.51	3.51	3.51	1	1	Lateral
158	M111	TWR_HOR...	7.5	7.02	3.51	3.51	3.51	3.51	1	1	Lateral
159	M112	TWR_HOR...	7.5	7.02	3.51	3.51	3.51	3.51	1	1	Lateral
160	M113	TWR_HOR...	7.5	7.02	3.51	3.51	3.51	3.51	1	1	Lateral
161	M127	TWR_HOR...	8.216	7.74	3.87	3.87	3.87	3.87	1	1	Lateral
162	M128	TWR_HOR...	8.216	7.74	3.87	3.87	3.87	3.87	1	1	Lateral
163	M129	TWR_HOR...	8.216	7.74	3.87	3.87	3.87	3.87	1	1	Lateral
164	M130	TWR_HOR...	8.216	7.74	3.87	3.87	3.87	3.87	1	1	Lateral
165	M151	TWR_HOR...	8.931	4.98	4.23	4.23	4.23	4.23	1	1	Lateral
166	M152	TWR_HOR...	8.931	4.98	4.23	4.23	4.23	4.23	1	1	Lateral
167	M153	TWR_HOR...	8.931	4.98	4.23	4.23	4.23	4.23	1	1	Lateral
168	M154	TWR_HOR...	8.931	4.98	4.23	4.23	4.23	4.23	1	1	Lateral
169	M168	TWR_HOR...	9.647	9.17	4.58	4.58	4.58	4.58	1	1	Lateral
170	M169	TWR_HOR...	9.647	9.17	4.58	4.58	4.58	4.58	1	1	Lateral
171	M170	TWR_HOR...	9.647	9.17	4.58	4.58	4.58	4.58	1	1	Lateral
172	M171	TWR_HOR...	9.647	9.17	4.58	4.58	4.58	4.58	1	1	Lateral
173	M192	TWR_HOR...	10.363	6.171	4.94	4.94	4.94	4.94	1	1	Lateral
174	M193	TWR_HOR...	10.363	6.171	4.94	4.94	4.94	4.94	1	1	Lateral
175	M194	TWR_HOR...	10.363	6.171	4.94	4.94	4.94	4.94	1	1	Lateral
176	M195	TWR_HOR...	10.363	6.171	4.94	4.94	4.94	4.94	1	1	Lateral
177	M209	TWR_HOR...	11.078	10.6	5.3	5.3	5.3	5.3	.98	.98	Lateral
178	M210	TWR_HOR...	11.078	10.6	5.3	5.3	5.3	5.3	.98	.98	Lateral
179	M211	TWR_HOR...	11.078	10.6	5.3	5.3	5.3	5.3	.98	.98	Lateral
180	M212	TWR_HOR...	11.078	10.6	5.3	5.3	5.3	5.3	.98	.98	Lateral
181	M233	TWR_HOR...	12.688	6.1	6.1	6.1	6.1	6.1	1.31	1	Lateral
182	M240	TWR_HOR...	12.688	6.1	6.1	6.1	6.1	6.1	1.31	1	Lateral
183	M247	TWR_HOR...	12.688	6.1	6.1	6.1	6.1	6.1	1.31	1	Lateral
184	M254	TWR_HOR...	12.688	6.1	6.1	6.1	6.1	6.1	1.31	1	Lateral
185	M266	TWR_HOR...	11.794	5.66	5.66	5.66	5.66	5.66	1.36	1	Lateral
186	M273	TWR_HOR...	11.794	5.66	5.66	5.66	5.66	5.66	1.36	1	Lateral
187	M280	TWR_HOR...	11.794	5.66	5.66	5.66	5.66	5.66	1.36	1	Lateral
188	M287	TWR_HOR...	11.794	5.66	5.66	5.66	5.66	5.66	1.36	1	Lateral
189	M131	TWR_HST...	8.559	4.04	4.04	4.04	4.04	4.04	1	1	Lateral
190	M132	TWR_HST...	8.559	4.04	4.04	4.04	4.04	4.04	1	1	Lateral
191	M133	TWR_HST...	8.559	4.04	4.04	4.04	4.04	4.04	1	1	Lateral
192	M134	TWR_HST...	8.559	4.04	4.04	4.04	4.04	4.04	1	1	Lateral
193	M143	TWR_HST...	7.842	3.68	3.68	3.68	3.68	3.68	1	1	Lateral
194	M144	TWR_HST...	7.842	3.68	3.68	3.68	3.68	3.68	1	1	Lateral
195	M145	TWR_HST...	7.842	3.68	3.68	3.68	3.68	3.68	1	1	Lateral
196	M146	TWR_HST...	7.842	3.68	3.68	3.68	3.68	3.68	1	1	Lateral
197	M172	TWR_HST...	9.992	4.755	4.755	4.755	4.755	4.755	1	1	Lateral
198	M173	TWR_HST...	9.992	4.755	4.755	4.755	4.755	4.755	1	1	Lateral
199	M174	TWR_HST...	9.992	4.755	4.755	4.755	4.755	4.755	1	1	Lateral
200	M175	TWR_HST...	9.992	4.755	4.755	4.755	4.755	4.755	1	1	Lateral
201	M184	TWR_HST...	9.275	4.4	4.4	4.4	4.4	4.4	1	1	Lateral
202	M185	TWR_HST...	9.275	4.4	4.4	4.4	4.4	4.4	1	1	Lateral
203	M186	TWR_HST...	9.275	4.4	4.4	4.4	4.4	4.4	1	1	Lateral
204	M187	TWR_HST...	9.275	4.4	4.4	4.4	4.4	4.4	1	1	Lateral
205	M213	TWR_HST...	11.425	5.475	5.475	5.475	5.475	5.475	1	1	Lateral
206	M214	TWR_HST...	11.425	5.475	5.475	5.475	5.475	5.475	1	1	Lateral
207	M215	TWR_HST...	11.425	5.475	5.475	5.475	5.475	5.475	1	1	Lateral
208	M216	TWR_HST...	11.425	5.475	5.475	5.475	5.475	5.475	1	1	Lateral
209	M225	TWR_HST...	10.708	5.115	5.115	5.115	5.115	5.115	1	1	Lateral
210	M226	TWR_HST...	10.708	5.115	5.115	5.115	5.115	5.115	1	1	Lateral
211	M227	TWR_HST...	10.708	5.115	5.115	5.115	5.115	5.115	1	1	Lateral



Company : GPD Group
 Designer : bdarkow
 Job Number : 2021723.01.SNET009.05
 Model Name : USID #: SNET009, GLASTONBURY

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Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Length[ft]	Lby[ft]	Lbzz[ft]	Lcomp top[ft]	Lcomp bot[ft]	L-torqu...	Kyy	Kzz	Cb	Function
212	M228	TWR_HST...	10.708	5.115	5.115	5.115	5.115	5.115	1	1		Lateral
213	M5	TWR_HTO...	7.5	7.5	7.5	7.5	7.5	7.5	1	1		Lateral
214	M6	TWR_HTO...	7.5	7.5	7.5	7.5	7.5	7.5	1	1		Lateral
215	M7	TWR_HTO...	7.5	7.5	7.5	7.5	7.5	7.5	1	1		Lateral
216	M8	TWR_HTO...	7.5	7.5	7.5	7.5	7.5	7.5	1	1		Lateral
217	M297A	TWR_INNE...	10.607	5.303	10.607	5.303	5.303	5.303	1	1		Lateral
218	M298A	TWR_INNE...	5.303	5.303	5.303	5.303	5.303	5.303	1	1		Lateral
219	M299	TWR_INNE...	3.536	3.536	3.536	3.536	3.536	3.536	1	1		Lateral
220	M300	TWR_INNE...	3.536	3.536	3.536	3.536	3.536	3.536	1	1		Lateral
221	M301	TWR_INNE...	10.607	5.303	10.607	5.303	5.303	5.303	1	1		Lateral
222	M302	TWR_INNE...	5.303	5.303	5.303	5.303	5.303	5.303	1	1		Lateral
223	M303	TWR_INNE...	3.536	3.536	3.536	3.536	3.536	3.536	1	1		Lateral
224	M304	TWR_INNE...	3.536	3.536	3.536	3.536	3.536	3.536	1	1		Lateral
225	M305	TWR_INNE...	10.607	5.303	10.607	5.303	5.303	5.303	1	1		Lateral
226	M306	TWR_INNE...	5.303	5.303	5.303	5.303	5.303	5.303	1	1		Lateral
227	M307	TWR_INNE...	3.536	3.536	3.536	3.536	3.536	3.536	1	1		Lateral
228	M308	TWR_INNE...	3.536	3.536	3.536	3.536	3.536	3.536	1	1		Lateral
229	M309	TWR_INNE...	10.607	5.303	10.607	5.303	5.303	5.303	1	1		Lateral
230	M310	TWR_INNE...	5.303	5.303	5.303	5.303	5.303	5.303	1	1		Lateral
231	M311	TWR_INNE...	3.536	3.536	3.536	3.536	3.536	3.536	1	1		Lateral
232	M312	TWR_INNE...	3.536	3.536	3.536	3.536	3.536	3.536	1	1		Lateral
233	M313	TWR_INNE...	10.607	5.303	10.607	5.303	5.303	5.303	1	1		Lateral
234	M314	TWR_INNE...	5.303	5.303	5.303	5.303	5.303	5.303	1	1		Lateral
235	M315	TWR_INNE...	3.536	3.536	3.536	3.536	3.536	3.536	1	1		Lateral
236	M316	TWR_INNE...	3.536	3.536	3.536	3.536	3.536	3.536	1	1		Lateral
237	M317	TWR_INNE...	10.607	5.303	10.607	5.303	5.303	5.303	1	1		Lateral
238	M318	TWR_INNE...	5.303	5.303	5.303	5.303	5.303	5.303	1	1		Lateral
239	M319	TWR_INNE...	3.536	3.536	3.536	3.536	3.536	3.536	1	1		Lateral
240	M320	TWR_INNE...	3.536	3.536	3.536	3.536	3.536	3.536	1	1		Lateral
241	M321	TWR_INNE...	10.607	5.303	10.607	5.303	5.303	5.303	1	1		Lateral
242	M322	TWR_INNE...	5.303	5.303	5.303	5.303	5.303	5.303	1	1		Lateral
243	M323	TWR_INNE...	3.536	3.536	3.536	3.536	3.536	3.536	1	1		Lateral
244	M324	TWR_INNE...	3.536	3.536	3.536	3.536	3.536	3.536	1	1		Lateral
245	M325	TWR_INNE...	10.607	5.303	10.607	5.303	5.303	5.303	1	1		Lateral
246	M326	TWR_INNE...	5.303	5.303	5.303	5.303	5.303	5.303	1	1		Lateral
247	M327	TWR_INNE...	3.536	3.536	3.536	3.536	3.536	3.536	1	1		Lateral
248	M328	TWR_INNE...	3.536	3.536	3.536	3.536	3.536	3.536	1	1		Lateral
249	M289A	TWR_INNE...	11.619	5.809	11.619	5.809	5.809	5.809	1	1		Lateral
250	M290A	TWR_INNE...	10.607	5.303	10.607	5.303	5.303	5.303	1	1		Lateral
251	M291A	TWR_INNE...	5.809	5.809	5.809	5.809	5.809	5.809	1	1		Lateral
252	M292A	TWR_INNE...	5.303	5.303	5.303	5.303	5.303	5.303	1	1		Lateral
253	M293A	TWR_INNE...	3.873	3.873	3.873	3.873	3.873	3.873	1	1		Lateral
254	M294A	TWR_INNE...	3.873	3.873	3.873	3.873	3.873	3.873	1	1		Lateral
255	M295A	TWR_INNE...	3.536	3.536	3.536	3.536	3.536	3.536	1	1		Lateral
256	M296A	TWR_INNE...	3.536	3.536	3.536	3.536	3.536	3.536	1	1		Lateral
257	M155	TWR_INNE...	7.376	7.376	7.376	7.376	7.376	7.376	1	1		Lateral
258	M156	TWR_INNE...	5.255	5.255	5.255	5.255	5.255	5.255	1	1		Lateral
259	M157	TWR_INNE...	7.376	7.376	7.376	7.376	7.376	7.376	1	1		Lateral
260	M158	TWR_INNE...	5.255	5.255	5.255	5.255	5.255	5.255	1	1		Lateral
261	M159	TWR_INNE...	9.056	9.056	9.056	9.056	9.056	9.056	1	1		Lateral
262	M196	TWR_INNE...	8.388	8.388	8.388	8.388	8.388	8.388	1	1		Lateral
263	M197	TWR_INNE...	6.267	6.267	6.267	6.267	6.267	6.267	1	1		Lateral
264	M198	TWR_INNE...	8.388	8.388	8.388	8.388	8.388	8.388	1	1		Lateral
265	M199	TWR_INNE...	6.267	6.267	6.267	6.267	6.267	6.267	1	1		Lateral
266	M200	TWR_INNE...	10.471	10.471	10.471	10.471	10.471	10.471	1	1		Lateral
267	M261	TWR_INNE...	8.972	8.972	8.972	8.972	8.972	8.972	1	1		Lateral
268	M262	TWR_INNE...	8.972	8.972	8.972	8.972	8.972	8.972	1	1		Lateral



Company : GPD Group
 Designer : bdarkow
 Job Number : 2021723.01.SNET009.05
 Model Name : USID #: SNET009, GLASTONBURY

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Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Length[ft]	Lbyy[ft]	Lbzz[ft]	Lcomp top[ft]	Lcomp bot[ft]	L-torqu...	Kyy	Kzz	Cb	Function
269	M263	TWR_INNE...	8.972	8.972	8.972	8.972	8.972	8.972	1	1		Lateral
270	M264	TWR_INNE...	8.972	8.972	8.972	8.972	8.972	8.972	1	1		Lateral
271	M265	TWR_INNE...	12.688	12.688	12.688	12.688	12.688	12.688	1	1		Lateral
272	M294	TWR_INNE...	8.34	8.34	8.34	8.34	8.34	8.34	1	1		Lateral
273	M295	TWR_INNE...	8.34	8.34	8.34	8.34	8.34	8.34	1	1		Lateral
274	M296	TWR_INNE...	8.34	8.34	8.34	8.34	8.34	8.34	1	1		Lateral
275	M297	TWR_INNE...	8.34	8.34	8.34	8.34	8.34	8.34	1	1		Lateral
276	M298	TWR_INNE...	11.794	11.794	11.794	11.794	11.794	11.794	1	1		Lateral
277	M1	TWR_LEG...	40	5	5	5	5	5	1	1		Lateral
278	M2	TWR_LEG...	40	5	5	5	5	5	1	1		Lateral
279	M3	TWR_LEG...	40	5	5	5	5	5	1	1		Lateral
280	M4	TWR_LEG...	40	5	5	5	5	5	1	1		Lateral
281	M106	TWR_LEG...	20.026	5.234	5.234	5.234	5.234	5.234	1	1		Lateral
282	M107	TWR_LEG...	20.026	5.234	5.234	5.234	5.234	5.234	1	1		Lateral
283	M108	TWR_LEG...	20.026	5.234	5.234	5.234	5.234	5.234	1	1		Lateral
284	M109	TWR_LEG...	20.026	5.234	5.234	5.234	5.234	5.234	1	1		Lateral
285	M147	TWR_LEG...	20.026	5.199	5.199	5.199	5.199	5.199	1	1		Lateral
286	M148	TWR_LEG...	20.026	5.199	5.199	5.199	5.199	5.199	1	1		Lateral
287	M149	TWR_LEG...	20.026	5.199	5.199	5.199	5.199	5.199	1	1		Lateral
288	M150	TWR_LEG...	20.026	5.199	5.199	5.199	5.199	5.199	1	1		Lateral
289	M188	TWR_LEG...	20.026	5.174	5.174	5.174	5.174	5.174	1	1		Lateral
290	M189	TWR_LEG...	20.026	5.174	5.174	5.174	5.174	5.174	1	1		Lateral
291	M190	TWR_LEG...	20.026	5.174	5.174	5.174	5.174	5.174	1	1		Lateral
292	M191	TWR_LEG...	20.026	5.174	5.174	5.174	5.174	5.174	1	1		Lateral
293	M229	TWR_LEG...	25.032	6.258	6.258	6.258	6.258	6.258	1	1		Lateral
294	M230	TWR_LEG...	25.032	6.258	6.258	6.258	6.258	6.258	1	1		Lateral
295	M231	TWR_LEG...	25.032	6.258	6.258	6.258	6.258	6.258	1	1		Lateral
296	M232	TWR_LEG...	25.032	6.258	6.258	6.258	6.258	6.258	1	1		Lateral
297	M236	TWR_RED...	6.914	6.914	6.914	6.914	6.914	6.914	1	1		Lateral
298	M239	TWR_RED...	6.914	6.914	6.914	6.914	6.914	6.914	1	1		Lateral
299	M243	TWR_RED...	6.914	6.914	6.914	6.914	6.914	6.914	1	1		Lateral
300	M246	TWR_RED...	6.914	6.914	6.914	6.914	6.914	6.914	1	1		Lateral
301	M250	TWR_RED...	6.914	6.914	6.914	6.914	6.914	6.914	1	1		Lateral
302	M253	TWR_RED...	6.914	6.914	6.914	6.914	6.914	6.914	1	1		Lateral
303	M257	TWR_RED...	6.914	6.914	6.914	6.914	6.914	6.914	1	1		Lateral
304	M260	TWR_RED...	6.914	6.914	6.914	6.914	6.914	6.914	1	1		Lateral
305	M269	TWR_RED...	6.822	6.822	6.822	6.822	6.822	6.822	1	1		Lateral
306	M272	TWR_RED...	6.822	6.822	6.822	6.822	6.822	6.822	1	1		Lateral
307	M276	TWR_RED...	6.822	6.822	6.822	6.822	6.822	6.822	1	1		Lateral
308	M279	TWR_RED...	6.822	6.822	6.822	6.822	6.822	6.822	1	1		Lateral
309	M283	TWR_RED...	6.822	6.822	6.822	6.822	6.822	6.822	1	1		Lateral
310	M286	TWR_RED...	6.822	6.822	6.822	6.822	6.822	6.822	1	1		Lateral
311	M290	TWR_RED...	6.822	6.822	6.822	6.822	6.822	6.822	1	1		Lateral
312	M293	TWR_RED...	6.822	6.822	6.822	6.822	6.822	6.822	1	1		Lateral
313	M235	TWR_RED...	3.172	3.172	3.172	3.172	3.172	3.172	1	1		Lateral
314	M238	TWR_RED...	3.172	3.172	3.172	3.172	3.172	3.172	1	1		Lateral
315	M242	TWR_RED...	3.172	3.172	3.172	3.172	3.172	3.172	1	1		Lateral
316	M245	TWR_RED...	3.172	3.172	3.172	3.172	3.172	3.172	1	1		Lateral
317	M249	TWR_RED...	3.172	3.172	3.172	3.172	3.172	3.172	1	1		Lateral
318	M252	TWR_RED...	3.172	3.172	3.172	3.172	3.172	3.172	1	1		Lateral
319	M256	TWR_RED...	3.172	3.172	3.172	3.172	3.172	3.172	1	1		Lateral
320	M259	TWR_RED...	3.172	3.172	3.172	3.172	3.172	3.172	1	1		Lateral
321	M268	TWR_RED...	2.948	2.948	2.948	2.948	2.948	2.948	1	1		Lateral
322	M271	TWR_RED...	2.948	2.948	2.948	2.948	2.948	2.948	1	1		Lateral
323	M275	TWR_RED...	2.948	2.948	2.948	2.948	2.948	2.948	1	1		Lateral
324	M278	TWR_RED...	2.948	2.948	2.948	2.948	2.948	2.948	1	1		Lateral
325	M282	TWR_RED...	2.948	2.948	2.948	2.948	2.948	2.948	1	1		Lateral



Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Length[ft]	Lby[ft]	Lbzz[ft]	Lcomp top[ft]	Lcomp bot[ft]	L-torqu...	Kyy	Kzz	Cb	Function
326	M285	TWR_RED...	2.948	2.948	2.948	2.948	2.948	2.948	1	1		Lateral
327	M289	TWR_RED...	2.948	2.948	2.948	2.948	2.948	2.948	1	1		Lateral
328	M292	TWR_RED...	2.948	2.948	2.948	2.948	2.948	2.948	1	1		Lateral
329	M329	TWR_RED...	4.847	4.847	4.847	4.847	4.847	4.847	1	1		Lateral
330	M330	TWR_RED...	4.847	4.847	4.847	4.847	4.847	4.847	1	1		Lateral
331	M331	TWR_RED...	4.847	4.847	4.847	4.847	4.847	4.847	1	1		Lateral
332	M332	TWR_RED...	4.847	4.847	4.847	4.847	4.847	4.847	1	1		Lateral
333	M333	TWR_RED...	4.836	4.836	4.836	4.836	4.836	4.836	1	1		Lateral
334	M334	TWR_RED...	4.836	4.836	4.836	4.836	4.836	4.836	1	1		Lateral
335	M335	TWR_RED...	4.836	4.836	4.836	4.836	4.836	4.836	1	1		Lateral
336	M336	TWR_RED...	4.836	4.836	4.836	4.836	4.836	4.836	1	1		Lateral
337	M337	TWR_RED...	4.824	4.824	4.824	4.824	4.824	4.824	1	1		Lateral
338	M338	TWR_RED...	4.824	4.824	4.824	4.824	4.824	4.824	1	1		Lateral
339	M339	TWR_RED...	4.824	4.824	4.824	4.824	4.824	4.824	1	1		Lateral
340	M340	TWR_RED...	4.824	4.824	4.824	4.824	4.824	4.824	1	1		Lateral
341	M341	TWR_RED...	4.81	4.81	4.81	4.81	4.81	4.81	1	1		Lateral
342	M342	TWR_RED...	4.81	4.81	4.81	4.81	4.81	4.81	1	1		Lateral
343	M343	TWR_RED...	4.81	4.81	4.81	4.81	4.81	4.81	1	1		Lateral
344	M344	TWR_RED...	4.81	4.81	4.81	4.81	4.81	4.81	1	1		Lateral
345	M345	TWR_RED...	4.794	4.794	4.794	4.794	4.794	4.794	1	1		Lateral
346	M346	TWR_RED...	4.794	4.794	4.794	4.794	4.794	4.794	1	1		Lateral
347	M347	TWR_RED...	4.794	4.794	4.794	4.794	4.794	4.794	1	1		Lateral
348	M348	TWR_RED...	4.794	4.794	4.794	4.794	4.794	4.794	1	1		Lateral
349	M349	TWR_RED...	4.775	4.775	4.775	4.775	4.775	4.775	1	1		Lateral
350	M350	TWR_RED...	4.775	4.775	4.775	4.775	4.775	4.775	1	1		Lateral
351	M351	TWR_RED...	4.775	4.775	4.775	4.775	4.775	4.775	1	1		Lateral
352	M352	TWR_RED...	4.775	4.775	4.775	4.775	4.775	4.775	1	1		Lateral
353	m9	TWR_RED...	0	4.775	4.775	4.775	4.775	4.775	1	1		Lateral
354	m10	TWR_RED...	0	4.775	4.775	4.775	4.775	4.775	1	1		Lateral
355	m11	TWR_RED...	0	4.775	4.775	4.775	4.775	4.775	1	1		Lateral
356	m12	TWR_RED...	0	4.775	4.775	4.775	4.775	4.775	1	1		Lateral
357	m13	TWR_RED...	0	4.775	4.775	4.775	4.775	4.775	1	1		Lateral
358	m114	TWR_RED...	0	4.775	4.775	4.775	4.775	4.775	1	1		Lateral
359	m115	TWR_RED...	0	4.775	4.775	4.775	4.775	4.775	1	1		Lateral
360	m116	TWR_RED...	0	4.775	4.775	4.775	4.775	4.775	1	1		Lateral
361	m117	TWR_RED...	0	4.775	4.775	4.775	4.775	4.775	1	1		Lateral
362	m118	TWR_RED...	0	4.775	4.775	4.775	4.775	4.775	1	1		Lateral

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distribut...	Area(Me...Surface(...
1	Dead	DL		-1		80	132	20	
2	No Ice Wind 0 deg	LL				80	328	60	
3	No Ice Wind 45 deg	EL				160	352	80	
4	No Ice Wind 90 deg	WL				80	328	60	
5	No Ice Wind 135 deg	SL				160	352	80	
6	No Ice Wind 180 deg	RLL				80	328	60	
7	No Ice Wind 225 deg	LLS				160	352	80	
8	No Ice Wind 270 deg	TL				80	352	60	
9	No Ice Wind 315 deg	SLN				160	328	80	
10	Ice	HL				80	132	318	
11	Temperature Drop	FL						298	
12	Ice Wind 0 deg	RL				80	326	60	
13	Ice Wind 45 deg	PL				160	336	80	
14	Ice Wind 90 deg	EPL				80	326	60	
15	Ice Wind 135 deg	IL				160	336	80	



Company : GPD Group
 Designer : bdarkow
 Job Number : 2021723.01.SNET009.05
 Model Name : USID #: SNET009, GLASTONBURY

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Basic Load Cases (Continued)

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distribut...	Area(Me...	Surface(...
16	Ice Wind 180 deg	OL1				80	326	60		
17	Ice Wind 225 deg	OL2				160	336	80		
18	Ice Wind 270 deg	OL3				80	326	60		
19	Ice Wind 315 deg	OL4				160	336	80		
20	Service Wind 0 deg	OL5				80	312	60		
21	Service Wind 45 deg	OL6				160	332	80		
22	Service Wind 90 deg	OL7				80	312	60		
23	Service Wind 135 deg	OL8				160	338	80		
24	Service Wind 180 deg	OL9				80	312	60		
25	Service Wind 225 deg	OL10				160	332	80		
26	Service Wind 270 deg	ELX				80	312	60		
27	Service Wind 315 deg	ELY				160	338	80		

Load Combinations

	Description	S...	P...	S...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
1	Dead Only	Yes	Y		1	1	28	1	29	1														
2	1.2 Dead+1.0 Wind 0 deg...	Yes	Y		1	1.2	2	1	28	1.2	29	1												
3	0.9 Dead+1.0 Wind 0 deg...	Yes	Y		1	.9	2	1	28	.9	29	1												
4	1.2 Dead+1.0 Wind 45 deg...	Yes	Y		1	1.2	3	1	28	1.2	29	1												
5	0.9 Dead+1.0 Wind 45 deg...	Yes	Y		1	.9	3	1	28	.9	29	1												
6	1.2 Dead+1.0 Wind 90 deg...	Yes	Y		1	1.2	4	1	28	1.2	29	1												
7	0.9 Dead+1.0 Wind 90 deg...	Yes	Y		1	.9	4	1	28	.9	29	1												
8	1.2 Dead+1.0 Wind 135 de...	Yes	Y		1	1.2	5	1	28	1.2	29	1												
9	0.9 Dead+1.0 Wind 135 de...	Yes	Y		1	.9	5	1	28	.9	29	1												
10	1.2 Dead+1.0 Wind 180 de...	Yes	Y		1	1.2	6	1	28	1.2	29	1												
11	0.9 Dead+1.0 Wind 180 de...	Yes	Y		1	.9	6	1	28	.9	29	1												
12	1.2 Dead+1.0 Wind 225 de...	Yes	Y		1	1.2	7	1	28	1.2	29	1												
13	0.9 Dead+1.0 Wind 225 de...	Yes	Y		1	.9	7	1	28	.9	29	1												
14	1.2 Dead+1.0 Wind 270 de...	Yes	Y		1	1.2	8	1	28	1.2	29	1												
15	0.9 Dead+1.0 Wind 270 de...	Yes	Y		1	.9	8	1	28	.9	29	1												
16	1.2 Dead+1.0 Wind 315 de...	Yes	Y		1	1.2	9	1	28	1.2	29	1												
17	0.9 Dead+1.0 Wind 315 de...	Yes	Y		1	.9	9	1	28	.9	29	1												
18	1.2 Dead+1.0 Ice+1.0 Temp	Yes	Y		1	1.2	10	1	11	1	28	1.2	29	1										
19	1.2 Dead+1.0 Wind 0 deg...	Yes	Y		1	1.2	12	1	10	1	11	1	28	1.2	29	1								
20	1.2 Dead+1.0 Wind 45 deg...	Yes	Y		1	1.2	13	1	10	1	11	1	28	1.2	29	1								
21	1.2 Dead+1.0 Wind 90 deg...	Yes	Y		1	1.2	14	1	10	1	11	1	28	1.2	29	1								
22	1.2 Dead+1.0 Wind 135 de...	Yes	Y		1	1.2	15	1	10	1	11	1	28	1.2	29	1								
23	1.2 Dead+1.0 Wind 180 de...	Yes	Y		1	1.2	16	1	10	1	11	1	28	1.2	29	1								
24	1.2 Dead+1.0 Wind 225 de...	Yes	Y		1	1.2	17	1	10	1	11	1	28	1.2	29	1								
25	1.2 Dead+1.0 Wind 270 de...	Yes	Y		1	1.2	18	1	10	1	11	1	28	1.2	29	1								
26	1.2 Dead+1.0 Wind 315 de...	Yes	Y		1	1.2	19	1	10	1	11	1	28	1.2	29	1								
27	Dead+Wind 0 deg - Service	Yes	Y		1	1	20	1	28	1	29	1												
28	Dead+Wind 45 deg - Servi...	Yes	Y		1	1	21	1	28	1	29	1												
29	Dead+Wind 90 deg - Servi...	Yes	Y		1	1	22	1	28	1	29	1												
30	Dead+Wind 135 deg - Ser...	Yes	Y		1	1	23	1	28	1	29	1												
31	Dead+Wind 180 deg - Ser...	Yes	Y		1	1	24	1	28	1	29	1												
32	Dead+Wind 225 deg - Ser...	Yes	Y		1	1	25	1	28	1	29	1												
33	Dead+Wind 270 deg - Ser...	Yes	Y		1	1	26	1	28	1	29	1												
34	Dead+Wind 315 deg - Ser...	Yes	Y		1	1	27	1	28	1	29	1												



Company : GPD Group
 Designer : bdarkow
 Job Number : 2021723.01.SNET009.05
 Model Name : USID #: SNET009, GLASTONBURY

June 28, 2021
 8:06 AM
 Checked By: _____

Envelope Joint Reactions

	Joint		X [k]	LC	Y [k]	LC	Z [k]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
1	N157	max	6.996	12	117.42	12	6.96	5	0	34	.002	17	0	34
2		min	-6.26	5	-98.483	5	-7.746	12	0	1	-.003	8	0	1
3	N158	max	6.747	17	119.8	8	6.116	17	0	34	.002	13	0	34
4		min	-7.708	8	-95.593	17	-7.336	8	0	1	-.002	4	0	1
5	N159	max	6.986	13	116.378	4	6.942	4	0	34	.002	9	0	34
6		min	-7.75	4	-99.264	13	-6.254	13	0	1	-.002	16	0	1
7	N160	max	7.134	16	113.935	16	7.225	16	0	34	.003	5	0	34
8		min	-6.593	9	-102.009	9	-6.97	9	0	1	-.003	12	0	1
9	Totals:	max	23.519	15	98.677	26	24.356	3						
10		min	-24.93	6	30.889	3	-24.356	10						



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Section Set	Member	Comp. (K)	$\Phi P_{n,Comp}$ (K)	Ten (K)	$\Phi P_{n,Ten}$ (K)	Capacity	Pass/Fail
TWR_DIAG_T1	M14	3.188	25.09	2.98	33.82	12.7%	Pass
TWR_DIAG_T1	M15	3.598	25.09	3.27	33.82	14.3%	Pass
TWR_DIAG_T1	M16	3.34	25.09	2.91	33.82	13.3%	Pass
TWR_DIAG_T1	M17	3.075	25.09	2.83	33.82	12.3%	Pass
TWR_DIAG_T1	M18	3.542	25.09	3.26	33.82	14.1%	Pass
TWR_DIAG_T1	M19	3.318	25.09	3.25	33.82	13.2%	Pass
TWR_DIAG_T1	M20	3.574	25.09	3.31	33.82	14.2%	Pass
TWR_DIAG_T1	M21	3.541	25.09	3.24	33.82	14.1%	Pass
TWR_DIAG_T1	M26	2.823	25.09	2.70	33.82	11.3%	Pass
TWR_DIAG_T1	M27	3.172	25.09	2.92	33.82	12.6%	Pass
TWR_DIAG_T1	M28	2.938	25.09	2.64	33.82	11.7%	Pass
TWR_DIAG_T1	M29	2.804	25.09	2.59	33.82	11.2%	Pass
TWR_DIAG_T1	M30	3.132	25.09	2.85	33.82	12.5%	Pass
TWR_DIAG_T1	M31	2.973	25.09	2.95	33.82	11.9%	Pass
TWR_DIAG_T1	M32	3.217	25.09	2.94	33.82	12.8%	Pass
TWR_DIAG_T1	M33	3.149	25.09	2.89	33.82	12.6%	Pass
TWR_DIAG_T1	M38	2.526	25.09	2.46	33.82	10.1%	Pass
TWR_DIAG_T1	M39	2.807	25.09	2.61	33.82	11.2%	Pass
TWR_DIAG_T1	M40	2.635	25.09	2.41	33.82	10.5%	Pass
TWR_DIAG_T1	M41	2.562	25.09	2.36	33.82	10.2%	Pass
TWR_DIAG_T1	M42	2.853	25.09	2.50	33.82	11.4%	Pass
TWR_DIAG_T1	M43	2.682	25.09	2.67	33.82	10.7%	Pass
TWR_DIAG_T1	M44	2.926	25.09	2.67	33.82	11.7%	Pass
TWR_DIAG_T1	M45	2.856	25.09	2.62	33.82	11.4%	Pass
TWR_DIAG_T1	M50	2.163	25.09	2.18	33.82	8.6%	Pass
TWR_DIAG_T1	M51	2.408	25.09	2.27	33.82	9.6%	Pass
TWR_DIAG_T1	M52	2.314	25.09	2.14	33.82	9.2%	Pass
TWR_DIAG_T1	M53	2.253	25.09	2.10	33.82	9.0%	Pass
TWR_DIAG_T1	M54	2.493	25.09	2.14	33.82	9.9%	Pass
TWR_DIAG_T1	M55	2.333	25.09	2.36	33.82	9.3%	Pass
TWR_DIAG_T1	M56	2.553	25.09	2.35	33.82	10.2%	Pass
TWR_DIAG_T1	M57	2.494	25.09	2.31	33.82	9.9%	Pass
TWR_DIAG_T1	M62	1.951	25.09	1.94	33.82	7.8%	Pass
TWR_DIAG_T1	M63	2.134	25.09	1.98	33.82	8.5%	Pass
TWR_DIAG_T1	M64	2.062	25.09	1.90	33.82	8.2%	Pass
TWR_DIAG_T1	M65	2.008	25.09	1.87	33.82	8.0%	Pass
TWR_DIAG_T1	M66	2.2	25.09	1.83	33.82	8.8%	Pass
TWR_DIAG_T1	M67	2.06	25.09	2.08	33.82	8.2%	Pass
TWR_DIAG_T1	M68	2.248	25.09	2.07	33.82	9.0%	Pass
TWR_DIAG_T1	M69	2.195	25.09	2.04	33.82	8.7%	Pass
TWR_DIAG_T1	M74	1.737	25.09	1.69	33.82	6.9%	Pass
TWR_DIAG_T1	M75	1.856	25.09	1.70	33.82	7.4%	Pass
TWR_DIAG_T1	M76	1.807	25.09	1.66	33.82	7.2%	Pass
TWR_DIAG_T1	M77	1.763	25.09	1.64	33.82	7.0%	Pass
TWR_DIAG_T1	M78	1.907	25.09	1.56	33.82	7.6%	Pass
TWR_DIAG_T1	M79	1.797	25.09	1.80	33.82	7.2%	Pass
TWR_DIAG_T1	M80	1.94	25.09	1.78	33.82	7.7%	Pass
TWR_DIAG_T1	M81	1.897	25.09	1.77	33.82	7.6%	Pass
TWR_DIAG_T1	M86	1.446	25.09	1.41	33.82	5.8%	Pass
TWR_DIAG_T1	M87	1.515	25.09	1.40	33.82	6.0%	Pass
TWR_DIAG_T1	M88	1.487	25.09	1.39	33.82	5.9%	Pass
TWR_DIAG_T1	M89	1.454	25.09	1.38	33.82	5.8%	Pass
TWR_DIAG_T1	M90	1.552	25.09	1.35	33.82	6.2%	Pass
TWR_DIAG_T1	M91	1.482	25.09	1.49	33.82	5.9%	Pass
TWR_DIAG_T1	M92	1.57	25.09	1.47	33.82	6.3%	Pass
TWR_DIAG_T1	M93	1.537	25.09	1.46	33.82	6.1%	Pass



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TWR_DIAG_T1	M98	1.21	25.09	1.14	33.82	4.8%	Pass
TWR_DIAG_T1	M99	1.236	25.09	1.13	33.82	4.9%	Pass
TWR_DIAG_T1	M100	1.233	25.09	1.14	33.82	4.9%	Pass
TWR_DIAG_T1	M101	1.218	25.09	1.13	33.82	4.9%	Pass
TWR_DIAG_T1	M102	1.263	25.09	1.15	33.82	5.0%	Pass
TWR_DIAG_T1	M103	1.243	25.09	1.19	33.82	5.0%	Pass
TWR_DIAG_T1	M104	1.255	25.09	1.17	33.82	5.0%	Pass
TWR_DIAG_T1	M105	1.241	25.09	1.17	33.82	4.9%	Pass
TWR_DIAG_T2	M119	5.234	28.46	4.54	43.76	18.4%	Pass
TWR_DIAG_T2	M120	6.011	28.46	4.63	43.76	21.1%	Pass
TWR_DIAG_T2	M121	5.733	28.46	4.51	43.76	20.1%	Pass
TWR_DIAG_T2	M122	5.016	28.46	4.39	43.76	17.6%	Pass
TWR_DIAG_T2	M123	6.141	28.46	5.30	43.76	21.6%	Pass
TWR_DIAG_T2	M124	5.053	28.46	4.70	43.76	17.8%	Pass
TWR_DIAG_T2	M125	5.851	28.46	5.29	43.76	20.6%	Pass
TWR_DIAG_T2	M126	5.949	28.46	5.13	43.76	20.9%	Pass
TWR_DIAG_T2	M135	4.836	29.67	4.12	43.76	16.3%	Pass
TWR_DIAG_T2	M136	5.531	29.67	4.30	43.76	18.6%	Pass
TWR_DIAG_T2	M137	5.24	29.67	4.14	43.76	17.7%	Pass
TWR_DIAG_T2	M138	4.669	29.67	4.01	43.76	15.7%	Pass
TWR_DIAG_T2	M139	5.693	29.67	4.83	43.76	19.2%	Pass
TWR_DIAG_T2	M140	4.606	29.67	4.41	43.76	15.5%	Pass
TWR_DIAG_T2	M141	5.284	29.67	4.92	43.76	17.8%	Pass
TWR_DIAG_T2	M142	5.553	29.67	4.70	43.76	18.7%	Pass
TWR_DIAG_T3	M160	5.043	25.85	4.46	43.76	19.5%	Pass
TWR_DIAG_T3	M161	5.684	25.85	4.76	43.76	22.0%	Pass
TWR_DIAG_T3	M162	5.424	25.85	4.46	43.76	21.0%	Pass
TWR_DIAG_T3	M163	4.805	25.85	4.28	43.76	18.6%	Pass
TWR_DIAG_T3	M164	5.99	25.85	5.27	43.76	23.2%	Pass
TWR_DIAG_T3	M165	4.9	25.85	4.62	43.76	19.0%	Pass
TWR_DIAG_T3	M166	5.572	25.85	5.25	43.76	21.6%	Pass
TWR_DIAG_T3	M167	5.756	25.85	5.09	43.76	22.3%	Pass
TWR_DIAG_T3	M176	4.706	27.14	4.14	43.76	17.3%	Pass
TWR_DIAG_T3	M177	5.347	27.14	4.48	43.76	19.7%	Pass
TWR_DIAG_T3	M178	5.077	27.14	4.08	43.76	18.7%	Pass
TWR_DIAG_T3	M179	4.473	27.14	3.97	43.76	16.5%	Pass
TWR_DIAG_T3	M180	5.625	27.14	4.93	43.76	20.7%	Pass
TWR_DIAG_T3	M181	4.613	27.14	4.30	43.76	17.0%	Pass
TWR_DIAG_T3	M182	5.146	27.14	4.92	43.76	19.0%	Pass
TWR_DIAG_T3	M183	5.397	27.14	4.76	43.76	19.9%	Pass
TWR_DIAG_T4	M201	5.868	22.97	5.14	43.76	25.5%	Pass
TWR_DIAG_T4	M202	6.416	22.97	5.30	43.76	27.9%	Pass
TWR_DIAG_T4	M203	6.263	22.97	5.26	43.76	27.3%	Pass
TWR_DIAG_T4	M204	5.509	22.97	4.88	43.76	24.0%	Pass
TWR_DIAG_T4	M205	6.865	22.97	5.98	43.76	29.9%	Pass
TWR_DIAG_T4	M206	5.538	22.97	5.22	43.76	24.1%	Pass
TWR_DIAG_T4	M207	6.554	22.97	5.94	43.76	28.5%	Pass
TWR_DIAG_T4	M208	6.51	22.97	5.72	43.76	28.3%	Pass
TWR_DIAG_T4	M217	5.142	24.12	4.53	43.76	21.3%	Pass
TWR_DIAG_T4	M218	5.752	24.12	4.83	43.76	23.8%	Pass
TWR_DIAG_T4	M219	5.514	24.12	4.55	43.76	22.9%	Pass
TWR_DIAG_T4	M220	4.86	24.12	4.32	43.76	20.1%	Pass
TWR_DIAG_T4	M221	6.113	24.12	5.36	43.76	25.3%	Pass
TWR_DIAG_T4	M222	4.985	24.12	4.64	43.76	20.7%	Pass
TWR_DIAG_T4	M223	5.696	24.12	5.32	43.76	23.6%	Pass
TWR_DIAG_T4	M224	5.83	24.12	5.15	43.76	24.2%	Pass



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TWR_DIAG_T5	M234	8.171	38.91	7.89	63.37	21.0%	Pass
TWR_DIAG_T5	M237	7.986	38.91	7.26	63.37	20.5%	Pass
TWR_DIAG_T5	M241	7.852	38.91	7.37	63.37	20.2%	Pass
TWR_DIAG_T5	M244	7.32	38.91	7.05	63.37	18.8%	Pass
TWR_DIAG_T5	M248	8.951	38.91	8.22	63.37	23.0%	Pass
TWR_DIAG_T5	M251	8.038	38.91	8.19	63.37	20.7%	Pass
TWR_DIAG_T5	M255	9.075	38.91	8.60	63.37	23.3%	Pass
TWR_DIAG_T5	M258	8.658	38.91	8.28	63.37	22.3%	Pass
TWR_DIAG_T5	M267	8.49	40.06	7.98	63.37	21.2%	Pass
TWR_DIAG_T5	M270	8.147	40.06	7.46	63.37	20.3%	Pass
TWR_DIAG_T5	M274	8.143	40.06	7.49	63.37	20.3%	Pass
TWR_DIAG_T5	M277	7.48	40.06	7.21	63.37	18.7%	Pass
TWR_DIAG_T5	M281	9.214	40.06	8.50	63.37	23.0%	Pass
TWR_DIAG_T5	M284	8.145	40.06	8.37	63.37	20.3%	Pass
TWR_DIAG_T5	M288	9.36	40.06	8.71	63.37	23.4%	Pass
TWR_DIAG_T5	M291	8.82	40.06	8.46	63.37	22.0%	Pass
TWR_HORZ_T1	M22	1.133	11.15	1.51	31.69	10.2%	Pass
TWR_HORZ_T1	M23	1.077	11.15	1.52	31.69	9.7%	Pass
TWR_HORZ_T1	M24	1.109	11.15	1.55	31.69	9.9%	Pass
TWR_HORZ_T1	M25	1.121	11.15	1.50	31.69	10.1%	Pass
TWR_HORZ_T1	M34	0.881	11.15	1.21	31.69	7.9%	Pass
TWR_HORZ_T1	M35	0.834	11.15	1.22	31.69	7.5%	Pass
TWR_HORZ_T1	M36	0.86	11.15	1.25	31.69	7.7%	Pass
TWR_HORZ_T1	M37	0.867	11.15	1.20	31.69	7.8%	Pass
TWR_HORZ_T1	M46	0.679	11.15	0.96	31.69	6.1%	Pass
TWR_HORZ_T1	M47	0.651	11.15	0.96	31.69	5.8%	Pass
TWR_HORZ_T1	M48	0.66	11.15	0.99	31.69	5.9%	Pass
TWR_HORZ_T1	M49	0.664	11.15	0.96	31.69	6.0%	Pass
TWR_HORZ_T1	M58	0.499	11.15	0.73	31.69	4.5%	Pass
TWR_HORZ_T1	M59	0.483	11.15	0.73	31.69	4.3%	Pass
TWR_HORZ_T1	M60	0.482	11.15	0.76	31.69	4.3%	Pass
TWR_HORZ_T1	M61	0.484	11.15	0.79	31.69	4.3%	Pass
TWR_HORZ_T1	M70	0.336	11.15	0.57	31.69	3.0%	Pass
TWR_HORZ_T1	M71	0.328	11.15	0.55	31.69	2.9%	Pass
TWR_HORZ_T1	M72	0.321	11.15	0.65	31.69	2.9%	Pass
TWR_HORZ_T1	M73	0.321	11.15	0.67	31.69	2.9%	Pass
TWR_HORZ_T1	M82	0.206	11.15	0.46	31.69	1.8%	Pass
TWR_HORZ_T1	M83	0.204	11.15	0.45	31.69	1.8%	Pass
TWR_HORZ_T1	M84	0.193	11.15	0.52	31.69	1.7%	Pass
TWR_HORZ_T1	M85	0.193	11.15	0.54	31.69	1.7%	Pass
TWR_HORZ_T1	M94	0.097	11.15	0.36	31.69	1.1%	Pass
TWR_HORZ_T1	M95	0.097	11.15	0.36	31.69	1.1%	Pass
TWR_HORZ_T1	M96	0.087	11.15	0.42	31.69	1.3%	Pass
TWR_HORZ_T1	M97	0.087	11.15	0.42	31.69	1.3%	Pass



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Section Set	Member	Comp. (K)	$\Phi P_{n,Comp}$ (K)	Ten (K)	$\Phi P_{n,Ten}$ (K)	Capacity	Pass/Fail
TWR_HORZ_T2	M110	1.316	11.15	1.70	31.69	11.8%	Pass
TWR_HORZ_T2	M111	1.217	11.15	1.71	31.69	10.9%	Pass
TWR_HORZ_T2	M112	1.304	11.15	1.73	31.69	11.7%	Pass
TWR_HORZ_T2	M113	1.318	11.15	1.63	31.69	11.8%	Pass
TWR_HORZ_T2	M127	2.601	9.17	3.28	31.69	28.4%	Pass
TWR_HORZ_T2	M128	2.383	9.17	3.30	31.69	26.0%	Pass
TWR_HORZ_T2	M129	2.576	9.17	3.33	31.69	28.1%	Pass
TWR_HORZ_T2	M130	2.608	9.17	3.11	31.69	28.4%	Pass
TWR_HORZ_T3	M151	2.307	22.13	2.95	31.69	10.4%	Pass
TWR_HORZ_T3	M152	2.08	22.13	2.98	31.69	9.4%	Pass
TWR_HORZ_T3	M153	2.28	22.13	2.99	31.69	10.3%	Pass
TWR_HORZ_T3	M154	2.306	22.13	2.78	31.69	10.4%	Pass
TWR_HORZ_T3	M168	2.038	6.53	2.62	31.69	31.2%	Pass
TWR_HORZ_T3	M169	1.829	6.53	2.64	31.69	28.0%	Pass
TWR_HORZ_T3	M170	2.019	6.53	2.65	31.69	30.9%	Pass
TWR_HORZ_T3	M171	2.052	6.53	2.44	31.69	31.4%	Pass
TWR_HORZ_T4	M192	2.195	14.43	2.77	31.69	15.2%	Pass
TWR_HORZ_T4	M193	1.969	14.43	2.81	31.69	13.6%	Pass
TWR_HORZ_T4	M194	2.175	14.43	2.80	31.69	15.1%	Pass
TWR_HORZ_T4	M195	2.205	14.43	2.59	31.69	15.3%	Pass
TWR_HORZ_T4	M209	2.622	5.09	3.35	31.69	51.5%	Pass
TWR_HORZ_T4	M210	2.386	5.09	3.39	31.69	46.9%	Pass
TWR_HORZ_T4	M211	2.6	5.09	3.39	31.69	51.1%	Pass
TWR_HORZ_T4	M212	2.646	5.09	3.15	31.69	52.0%	Pass
TWR_HORZ_T5	M233	3.598	61.31	3.55	63.37	5.9%	Pass
TWR_HORZ_T5	M240	3.35	61.31	3.27	63.37	5.5%	Pass
TWR_HORZ_T5	M247	3.886	61.31	3.76	63.37	6.3%	Pass
TWR_HORZ_T5	M254	3.941	61.31	3.88	63.37	6.4%	Pass
TWR_HORZ_T5	M266	4.003	64.70	4.65	63.37	7.3%	Pass
TWR_HORZ_T5	M273	3.714	64.70	4.24	63.37	6.7%	Pass
TWR_HORZ_T5	M280	4.293	64.70	4.74	63.37	7.5%	Pass
TWR_HORZ_T5	M287	4.316	64.70	4.74	63.37	7.5%	Pass
TWR_HSTEP_T2	M131	0.53	22.40	0.59	27.45	2.4%	Pass
TWR_HSTEP_T2	M132	0.501	22.40	0.62	27.45	2.2%	Pass
TWR_HSTEP_T2	M133	0.571	22.40	0.62	27.45	2.5%	Pass
TWR_HSTEP_T2	M134	0.593	22.40	0.58	27.45	2.6%	Pass
TWR_HSTEP_T2	M143	0.359	25.08	0.39	27.45	1.4%	Pass
TWR_HSTEP_T2	M144	0.328	25.08	0.41	27.45	1.5%	Pass
TWR_HSTEP_T2	M145	0.407	25.08	0.42	27.45	1.6%	Pass
TWR_HSTEP_T2	M146	0.418	25.08	0.38	27.45	1.7%	Pass



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TWR_HSTEP_T3	M172	0.632	16.67	0.71	27.45	3.8%	Pass
TWR_HSTEP_T3	M173	0.613	16.67	0.74	27.45	3.7%	Pass
TWR_HSTEP_T3	M174	0.662	16.67	0.72	27.45	4.0%	Pass
TWR_HSTEP_T3	M175	0.682	16.67	0.70	27.45	4.1%	Pass
TWR_HSTEP_T3	M184	0.58	19.46	0.65	27.45	3.0%	Pass
TWR_HSTEP_T3	M185	0.561	19.46	0.68	27.45	2.9%	Pass
TWR_HSTEP_T3	M186	0.608	19.46	0.67	27.45	3.1%	Pass
TWR_HSTEP_T3	M187	0.63	19.46	0.64	27.45	3.2%	Pass
TWR_HSTEP_T4	M213	0.828	12.58	0.98	27.45	6.6%	Pass
TWR_HSTEP_T4	M214	0.826	12.58	1.01	27.45	6.6%	Pass
TWR_HSTEP_T4	M215	0.849	12.58	0.99	27.45	6.8%	Pass
TWR_HSTEP_T4	M216	0.876	12.58	0.99	27.45	7.0%	Pass
TWR_HSTEP_T4	M225	0.702	14.41	0.79	27.45	4.9%	Pass
TWR_HSTEP_T4	M226	0.688	14.41	0.81	27.45	4.8%	Pass
TWR_HSTEP_T4	M227	0.731	14.41	0.80	27.45	5.1%	Pass
TWR_HSTEP_T4	M228	0.753	14.41	0.79	27.45	5.2%	Pass
TWR_HTOP_GIRT_T1	M5	0.043	9.77	0.24	31.69	0.7%	Pass
TWR_HTOP_GIRT_T1	M6	0.044	9.77	0.24	31.69	0.7%	Pass
TWR_HTOP_GIRT_T1	M7	0.032	9.77	0.27	31.69	0.8%	Pass
TWR_HTOP_GIRT_T1	M8	0.032	9.77	0.27	31.69	0.8%	Pass
TWR_INNER_SUPP_T1	M297A	0.184	6.61	0.02	30.21	2.8%	Pass
TWR_INNER_SUPP_T1	M298A	0.367	24.69	0.04	30.21	1.5%	Pass
TWR_INNER_SUPP_T1	M299	0.226	32.77	0.00	30.21	0.7%	Pass
TWR_INNER_SUPP_T1	M300	0.226	32.77	0.00	30.21	0.7%	Pass
TWR_INNER_SUPP_T1	M301	0.25	6.61	0.02	30.21	3.8%	Pass
TWR_INNER_SUPP_T1	M302	0.367	24.69	0.04	30.21	1.5%	Pass
TWR_INNER_SUPP_T1	M303	0.226	32.77	0.00	30.21	0.7%	Pass
TWR_INNER_SUPP_T1	M304	0.226	32.77	0.00	30.21	0.7%	Pass
TWR_INNER_SUPP_T1	M305	0.291	6.61	0.02	30.21	4.4%	Pass
TWR_INNER_SUPP_T1	M306	0.368	24.69	0.04	30.21	1.5%	Pass
TWR_INNER_SUPP_T1	M307	0.226	32.77	0.00	30.21	0.7%	Pass
TWR_INNER_SUPP_T1	M308	0.226	32.77	0.00	30.21	0.7%	Pass
TWR_INNER_SUPP_T1	M309	0.321	6.61	0.01	30.21	4.9%	Pass
TWR_INNER_SUPP_T1	M310	0.369	24.69	0.03	30.21	1.5%	Pass
TWR_INNER_SUPP_T1	M311	0.227	32.77	0.00	30.21	0.7%	Pass



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TWR_INNER_SUPP_T1	M312	0.227	32.77	0.00	30.21	0.7%	Pass
TWR_INNER_SUPP_T1	M313	0.326	6.61	0.02	30.21	4.9%	Pass
TWR_INNER_SUPP_T1	M314	0.37	24.69	0.03	30.21	1.5%	Pass
TWR_INNER_SUPP_T1	M315	0.228	32.77	0.00	30.21	0.7%	Pass
TWR_INNER_SUPP_T1	M316	0.228	32.77	0.00	30.21	0.7%	Pass
TWR_INNER_SUPP_T1	M317	0.336	6.61	0.01	30.21	5.1%	Pass
TWR_INNER_SUPP_T1	M318	0.372	24.69	0.03	30.21	1.5%	Pass
TWR_INNER_SUPP_T1	M319	0.229	32.77	0.00	30.21	0.7%	Pass
TWR_INNER_SUPP_T1	M320	0.229	32.77	0.00	30.21	0.7%	Pass
TWR_INNER_SUPP_T1	M321	0.329	6.61	0.02	30.21	5.0%	Pass
TWR_INNER_SUPP_T1	M322	0.374	24.69	0.03	30.21	1.5%	Pass
TWR_INNER_SUPP_T1	M323	0.23	32.77	0.00	30.21	0.7%	Pass
TWR_INNER_SUPP_T1	M324	0.23	32.77	0.00	30.21	0.7%	Pass
TWR_INNER_SUPP_T1	M325	0.34	6.61	0.02	30.21	5.1%	Pass
TWR_INNER_SUPP_T1	M326	0.377	24.69	0.03	30.21	1.5%	Pass
TWR_INNER_SUPP_T1	M327	0.232	32.77	0.00	30.21	0.7%	Pass
TWR_INNER_SUPP_T1	M328	0.232	32.77	0.00	30.21	0.7%	Pass
TWR_INNER_SUPP_T2	M289A	2.172	7.25	0.13	39.78	30.0%	Pass
TWR_INNER_SUPP_T2	M290A	0.337	8.69	0.00	39.78	3.9%	Pass
TWR_INNER_SUPP_T2	M291A	0.269	28.65	0.02	39.78	0.9%	Pass
TWR_INNER_SUPP_T2	M292A	0.38	32.51	0.01	39.78	1.2%	Pass
TWR_INNER_SUPP_T2	M293A	0.153	41.49	0.01	39.78	0.4%	Pass
TWR_INNER_SUPP_T2	M294A	0.153	41.49	0.01	39.78	0.4%	Pass
TWR_INNER_SUPP_T2	M295A	0.215	43.20	0.01	39.78	0.5%	Pass
TWR_INNER_SUPP_T2	M296A	0.215	43.20	0.01	39.78	0.5%	Pass
TWR_INNER_SUPP_T3	M155	0.048	13.67	0.95	30.21	3.2%	Pass
TWR_INNER_SUPP_T3	M156	0.961	24.95	0.05	30.21	3.9%	Pass
TWR_INNER_SUPP_T3	M157	0.048	13.67	0.95	30.21	3.2%	Pass
TWR_INNER_SUPP_T3	M158	0.96	24.95	0.05	30.21	3.8%	Pass
TWR_INNER_SUPP_T3	M159	0	9.07	0.00	30.21	0.0%	Pass
TWR_INNER_SUPP_T4	M196	0.033	10.57	0.02	30.21	0.3%	Pass
TWR_INNER_SUPP_T4	M197	0.024	18.94	0.02	30.21	0.1%	Pass
TWR_INNER_SUPP_T4	M198	0.033	10.57	0.02	30.21	0.3%	Pass
TWR_INNER_SUPP_T4	M199	0.023	18.94	0.02	30.21	0.1%	Pass
TWR_INNER_SUPP_T4	M200	0.003	6.79	0.00	30.21	0.0%	Pass
TWR_INNER_SUPP_T5	M261	0.037	9.24	0.03	30.21	0.4%	Pass
TWR_INNER_SUPP_T5	M262	0.037	9.24	0.03	30.21	0.4%	Pass
TWR_INNER_SUPP_T5	M263	0.038	9.24	0.03	30.21	0.4%	Pass
TWR_INNER_SUPP_T5	M264	0.037	9.24	0.03	30.21	0.4%	Pass
TWR_INNER_SUPP_T5	M265	0.003	4.62	0.00	30.21	0.1%	Pass



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TWR_INNER_SUPP_T5	M294	0.102	10.70	0.04	30.21	1.0%	Pass
TWR_INNER_SUPP_T5	M295	0.041	10.70	0.07	30.21	0.4%	Pass
TWR_INNER_SUPP_T5	M296	0.103	10.70	0.03	30.21	1.0%	Pass
TWR_INNER_SUPP_T5	M297	0.042	10.70	0.07	30.21	0.4%	Pass
TWR_INNER_SUPP_T5	M298	0.003	5.35	0.00	30.21	0.1%	Pass
TWR_LEG_T1	M1	29.031	114.80	23.36	107.04	25.3%	Pass
TWR_LEG_T1	M2	30.375	114.80	22.03	107.04	26.5%	Pass
TWR_LEG_T1	M3	28.564	114.80	23.71	107.04	24.9%	Pass
TWR_LEG_T1	M4	27.405	114.80	25.28	107.04	23.9%	Pass
TWR_LEG_T2	M106	43.99	188.56	36.36	173.32	23.3%	Pass
TWR_LEG_T2	M107	45.522	188.56	34.57	173.32	24.1%	Pass
TWR_LEG_T2	M108	43.386	188.56	36.72	173.32	23.0%	Pass
TWR_LEG_T2	M109	41.867	188.56	38.77	173.32	22.4%	Pass
TWR_LEG_T3	M147	65.145	276.61	54.54	253.88	23.6%	Pass
TWR_LEG_T3	M148	67.07	276.61	52.22	253.88	24.2%	Pass
TWR_LEG_T3	M149	64.385	276.61	55.02	253.88	23.3%	Pass
TWR_LEG_T3	M150	62.578	276.61	57.35	253.88	22.6%	Pass
TWR_LEG_T4	M188	85.038	276.87	71.68	253.88	30.7%	Pass
TWR_LEG_T4	M189	87.067	276.87	69.11	253.88	31.4%	Pass
TWR_LEG_T4	M190	84.1	276.87	72.28	253.88	30.4%	Pass
TWR_LEG_T4	M191	82.101	276.87	74.79	253.88	29.7%	Pass
TWR_LEG_T5	M229	104.541	305.03	86.86	292.59	34.3%	Pass
TWR_LEG_T5	M230	106.656	305.03	84.15	292.59	35.0%	Pass
TWR_LEG_T5	M231	103.503	305.03	87.64	292.59	33.9%	Pass
TWR_LEG_T5	M232	101.364	305.03	90.23	292.59	33.2%	Pass
TWR_RED_DIAG_T5	M236	1.449	6.10	1.39	21.04	23.7%	Pass
TWR_RED_DIAG_T5	M239	0.434	6.10	0.59	21.04	7.1%	Pass
TWR_RED_DIAG_T5	M243	1.474	6.10	1.38	21.04	24.1%	Pass
TWR_RED_DIAG_T5	M246	0.413	6.10	0.63	21.04	6.8%	Pass
TWR_RED_DIAG_T5	M250	1.389	6.10	1.35	21.04	22.8%	Pass
TWR_RED_DIAG_T5	M253	0.394	6.10	0.66	21.04	6.5%	Pass
TWR_RED_DIAG_T5	M257	1.417	6.10	1.41	21.04	23.2%	Pass
TWR_RED_DIAG_T5	M260	0.432	6.10	0.64	21.04	7.1%	Pass
TWR_RED_DIAG_T5	M269	1.825	6.27	1.61	21.04	29.1%	Pass
TWR_RED_DIAG_T5	M272	0.614	6.27	0.67	21.04	9.8%	Pass
TWR_RED_DIAG_T5	M276	1.856	6.27	1.63	21.04	29.6%	Pass



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TWR_RED_DIAG_T5	M279	0.594	6.27	0.74	21.04	9.5%	Pass
TWR_RED_DIAG_T5	M283	1.743	6.27	1.56	21.04	27.8%	Pass
TWR_RED_DIAG_T5	M286	0.555	6.27	0.76	21.04	8.9%	Pass
TWR_RED_DIAG_T5	M290	1.806	6.27	1.63	21.04	28.8%	Pass
TWR_RED_DIAG_T5	M293	0.607	6.27	0.73	21.04	9.7%	Pass
TWR_RED_HORZ_T5	M235	1.201	21.81	1.36	21.04	6.5%	Pass
TWR_RED_HORZ_T5	M238	0.472	21.81	0.43	21.04	2.2%	Pass
TWR_RED_HORZ_T5	M242	1.197	21.81	1.39	21.04	6.6%	Pass
TWR_RED_HORZ_T5	M245	0.508	21.81	0.41	21.04	2.3%	Pass
TWR_RED_HORZ_T5	M249	1.17	21.81	1.31	21.04	6.2%	Pass
TWR_RED_HORZ_T5	M252	0.532	21.81	0.39	21.04	2.4%	Pass
TWR_RED_HORZ_T5	M256	1.218	21.81	1.34	21.04	6.3%	Pass
TWR_RED_HORZ_T5	M259	0.513	21.81	0.43	21.04	2.4%	Pass
TWR_RED_HORZ_T5	M268	1.331	22.81	1.61	21.04	7.7%	Pass
TWR_RED_HORZ_T5	M271	0.51	22.81	0.56	21.04	2.7%	Pass
TWR_RED_HORZ_T5	M275	1.348	22.81	1.64	21.04	7.8%	Pass
TWR_RED_HORZ_T5	M278	0.569	22.81	0.54	21.04	2.6%	Pass
TWR_RED_HORZ_T5	M282	1.286	22.81	1.54	21.04	7.3%	Pass
TWR_RED_HORZ_T5	M285	0.593	22.81	0.51	21.04	2.6%	Pass
TWR_RED_HORZ_T5	M289	1.344	22.81	1.60	21.04	7.6%	Pass
TWR_RED_HORZ_T5	M292	0.562	22.81	0.56	21.04	2.6%	Pass
TWR_RED_VERT_T4	M329	0.123	16.05	0.00	27.45	0.8%	Pass
TWR_RED_VERT_T4	M330	0.123	16.05	0.00	27.45	0.8%	Pass
TWR_RED_VERT_T4	M331	0.123	16.05	0.00	27.45	0.8%	Pass
TWR_RED_VERT_T4	M332	0.123	16.05	0.00	27.45	0.8%	Pass
TWR_RED_VERT_T4	M333	0.305	16.12	0.00	27.45	1.9%	Pass
TWR_RED_VERT_T4	M334	0.227	16.12	0.00	27.45	1.4%	Pass
TWR_RED_VERT_T4	M335	0.305	16.12	0.00	27.45	1.9%	Pass
TWR_RED_VERT_T4	M336	0.226	16.12	0.00	27.45	1.4%	Pass
TWR_RED_VERT_T3	M337	0.118	16.20	0.00	27.45	0.7%	Pass
TWR_RED_VERT_T3	M338	0.118	16.20	0.00	27.45	0.7%	Pass
TWR_RED_VERT_T3	M339	0.118	16.20	0.00	27.45	0.7%	Pass
TWR_RED_VERT_T3	M340	0.118	16.20	0.00	27.45	0.7%	Pass
TWR_RED_VERT_T3	M341	0.273	16.29	0.00	27.45	1.7%	Pass
TWR_RED_VERT_T3	M342	0.206	16.29	0.00	27.45	1.3%	Pass
TWR_RED_VERT_T3	M343	0.273	16.29	0.00	27.45	1.7%	Pass
TWR_RED_VERT_T3	M344	0.206	16.29	0.00	27.45	1.3%	Pass
TWR_RED_VERT_T2	M345	0.11	16.40	0.00	27.45	0.7%	Pass
TWR_RED_VERT_T2	M346	0.11	16.40	0.00	27.45	0.7%	Pass
TWR_RED_VERT_T2	M347	0.123	16.40	0.00	27.45	0.7%	Pass
TWR_RED_VERT_T2	M348	0.123	16.40	0.00	27.45	0.7%	Pass
TWR_RED_VERT_T2	M349	0.103	16.53	0.00	27.45	0.6%	Pass
TWR_RED_VERT_T2	M350	0.103	16.53	0.00	27.45	0.6%	Pass
TWR_RED_VERT_T2	M351	0.117	16.53	0.00	27.45	0.7%	Pass
TWR_RED_VERT_T2	M352	0.117	16.53	0.00	27.45	0.7%	Pass
TWR_RED_VERT_T2	m9	0	16.53	0.00	27.45	0.0%	Pass
TWR_RED_VERT_T2	m10	0	16.53	0.00	27.45	0.0%	Pass
TWR_RED_VERT_T2	m11	0	16.53	0.00	27.45	0.0%	Pass
TWR_RED_VERT_T2	m12	0	16.53	0.00	27.45	0.0%	Pass
TWR_RED_VERT_T2	m13	0	16.53	0.00	27.45	0.0%	Pass
TWR_RED_VERT_T2	m114	0.289	16.53	0.26	27.45	1.7%	Pass
TWR_RED_VERT_T2	m115	0	16.53	0.00	27.45	0.0%	Pass
TWR_RED_VERT_T2	m116	0	16.53	0.00	27.45	0.0%	Pass
TWR_RED_VERT_T2	m117	0.251	16.53	0.34	27.45	1.5%	Pass
TWR_RED_VERT_T2	m118	0.311	16.53	0.32	27.45	1.9%	Pass

APPENDIX C

Additional Calculations



TIA-222-H Code Bolt Checks
 USID #: SNET009, GLASTONBURY
 GPD Project #: 2021723.01.SNET009.05

Section #	Elevation (Ft.)	Section Set	Member	Bolt Grade	Bolt Size (in)	# of Bolts	Comp. (K)	Ten. (K)	Maximum Load (K)	Allowable Load (K)	% Capacity
T1	126.833	TWR_LEG_T1	L5x5x3/8	A307	0.75	12	30.375	25.282	30.375	149.100	20.4%
T1	126.833	TWR_HTOP_GIRT_T1	L2 1/2x2 1/2x1/4	A307	0.75	2	0.044	0.266	0.266	20.934	1.3%
T1	126.833	TWR_INNER_SUPP_T1	L3x3x3/16	A307	0.75	2	0.369	0.039	0.369	16.720	2.2%
T1	126.833	TWR_DIAG_T1	L2 1/2x2x5/16	A307	0.75	2	3.598	3.306	3.598	24.860	14.5%
T1	126.833	TWR_HORZ_T1	L2 1/2x2 1/2x1/4	A307	0.75	2	1.133	1.547	1.547	21.660	7.1%
T2	86.833	TWR_LEG_T2	L6x6x1/2	A307	0.75	16	45.522	38.772	45.522	198.800	22.9%
T2	86.833	TWR_HORZ_T2	L2 1/2x2 1/2x1/4	A307	0.75	2	2.608	3.328	3.328	21.660	15.4%
T2	86.833	TWR_INNER_SUPP_T2	L3x3x1/4	A307	0.75	2	2.172	0.126	2.172	22.294	9.7%
T2	86.833	TWR_DIAG_T2	L3 1/2x3x1/4	A307	0.75	2	6.141	5.299	6.141	24.860	24.7%
T2	86.833	TWR_RED_VERT_T2	L2 1/2x2x1/4	A307	0.75	2	0.289	0.263	0.289	20.934	1.4%
T2	86.833	TWR_HSTEP_T2	L2 1/2x2x1/4	A307	0.75	2	0.593	0.616	0.616	20.934	2.9%
T3	66.833	TWR_LEG_T3	L6x6x3/4	A307	0.75	20	67.07	57.35	67.070	248.500	27.0%
T3	66.833	TWR_HORZ_T3	L2 1/2x2 1/2x1/4	A307	0.75	2	2.307	2.989	2.989	21.660	13.8%
T3	66.833	TWR_INNER_SUPP_T3	L3x3x3/16	A307	0.75	2	0.961	0.952	0.961	16.720	5.7%
T3	66.833	TWR_DIAG_T3	L3 1/2x3x1/4	A307	0.75	2	5.99	5.27	5.990	24.860	24.1%
T3	66.833	TWR_RED_VERT_T3	L2 1/2x2x1/4	A307	0.75	2	0.273	0	0.273	20.934	1.3%
T3	66.833	TWR_HSTEP_T3	L2 1/2x2x1/4	A307	0.75	2	0.682	0.735	0.735	20.934	3.5%
T4	46.833	TWR_LEG_T4	L6x6x3/4	A307	0.75	24	87.067	74.786	87.067	298.200	29.2%
T4	46.833	TWR_HORZ_T4	L2 1/2x2 1/2x1/4	A307	0.75	2	2.646	3.388	3.388	21.660	15.6%
T4	46.833	TWR_INNER_SUPP_T4	L3x3x3/16	A307	0.75	2	0.033	0.023	0.033	16.720	0.2%
T4	46.833	TWR_DIAG_T4	L3 1/2x3x1/4	A307	0.75	2	6.865	5.977	6.865	24.860	27.6%
T4	46.833	TWR_RED_VERT_T4	L2 1/2x2x1/4	A307	0.75	2	0.305	0	0.305	20.934	1.5%
T4	46.833	TWR_HSTEP_T4	L2 1/2x2x1/4	A307	0.75	2	0.876	1.005	1.005	20.934	4.8%
T5	26.833	TWR_HORZ_T5	2L2 1/2x2 1/2x1/4x3/4	A307	0.75	2	4.316	4.74	4.740	43.300	10.9%
T5	26.833	TWR_DIAG_T5	2L2 1/2x2 1/2x1/4x3/4	A307	0.75	2	9.36	8.711	9.360	43.300	21.6%
T5	26.833	TWR_RED_HORZ_T5	L2 1/2x2x3/16	A307	0.75	2	1.348	1.638	1.638	15.701	10.4%
T5	26.833	TWR_RED_DIAG_T5	L2 1/2x2x3/16	A307	0.75	2	1.856	1.631	1.856	15.701	11.8%
T5	26.833	TWR_INNER_SUPP_T5	L3x3x3/16	A307	0.75	2	0.103	0.073	0.103	16.720	0.6%



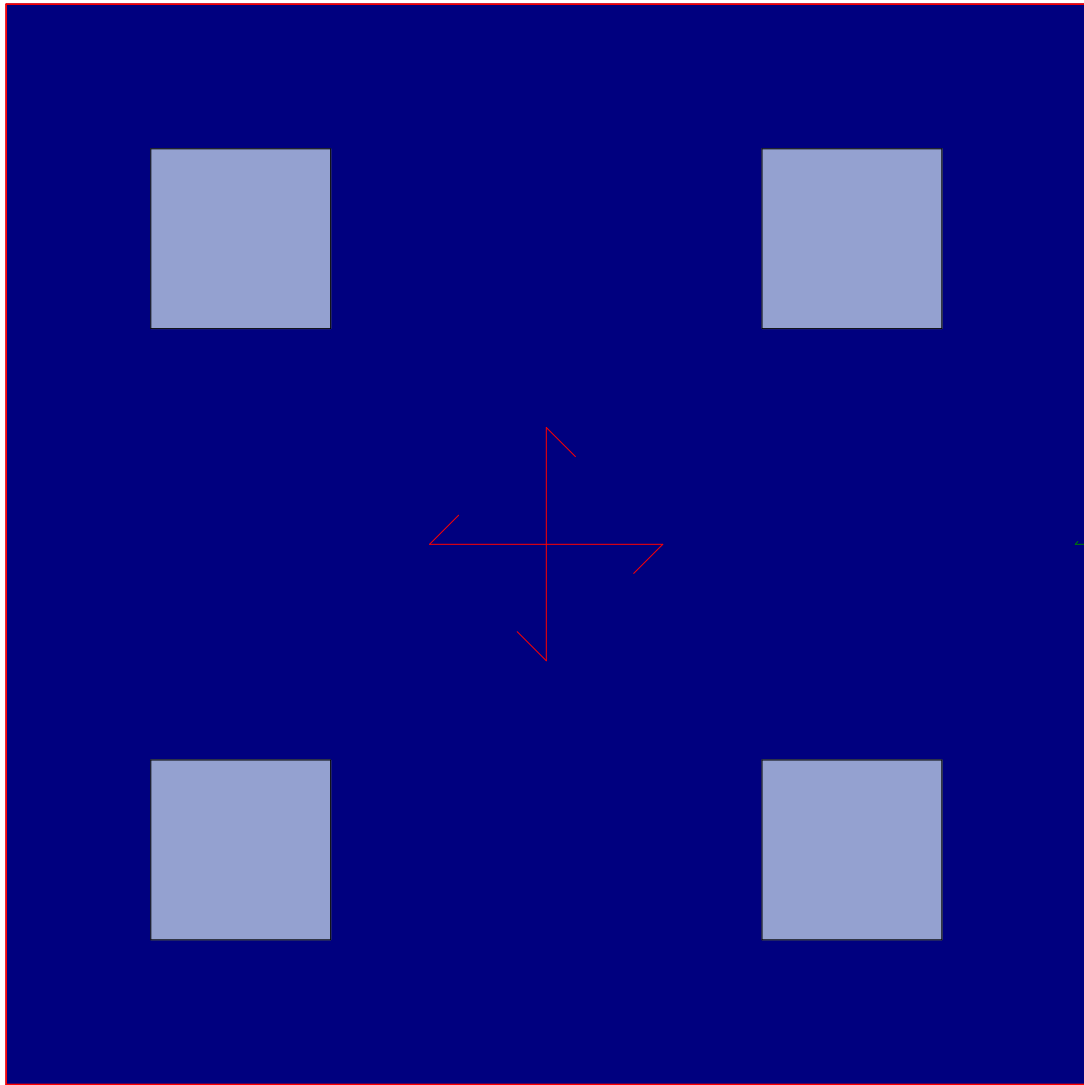
Self-Support Anchor Rod Analysis - TIA-222-H-1
USID #: SNET009, GLASTONBURY
GPD Project #: 2021723.01.SNET009.05

General Info	
Apply TIA-222-H Section 15.5	Yes
Modified Anchor Rods	No
Leg Eccentricity	No
Overstrength	No
Max Capacity	100%

Tower Reactions		
Compression, P_u =	119.80	kips
Compression Shear, V_u =	10.15	kips
Uplift, P_u =	102.01	kips
Uplift Shear, V_u =	10.64	kips
Number of Tower Legs =	4	
Tower Axial Force =	0.00	kips

Anchor Rods		
Number of Anchor Rods, n =	4	
Anchor Rod Grade =	C-1015	
Anchor Rod Diameter, d =	1.75	in
Bolt Circle Diameter, BC =	15	in
Rod Clear Span, l_{ar} =	2	in
Is grout present?	No	
Yield Strength, F_y =	47	ksi
Tensile Strength, F_u =	56	ksi
Rod Compression, P_{uc} =	29.95	kips
Rod Shear, V_u =	2.54	kips
Rod Moment, M_u =	3.30	k-in
Rod Tension, P_{ut} =	25.50	kips
Rod Shear, V_u =	2.66	kips
Rod Moment, M_u =	3.46	k-in

Anchor Rod Results		
$\phi_t R_{nt}$ =	79.80	kips
$\phi_c R_{nc}$ =	101.74	kips
$\phi_c R_{nb}$ =	101.53	kips
$\phi_v R_{nv}$ =	50.51	kips
$\phi_c R_{nvc}$ =	45.78	kips
$\phi_f M_n$ =	37.78	k-in
Tension Interaction	16.4%	OK
Compression Interaction	36.6%	OK



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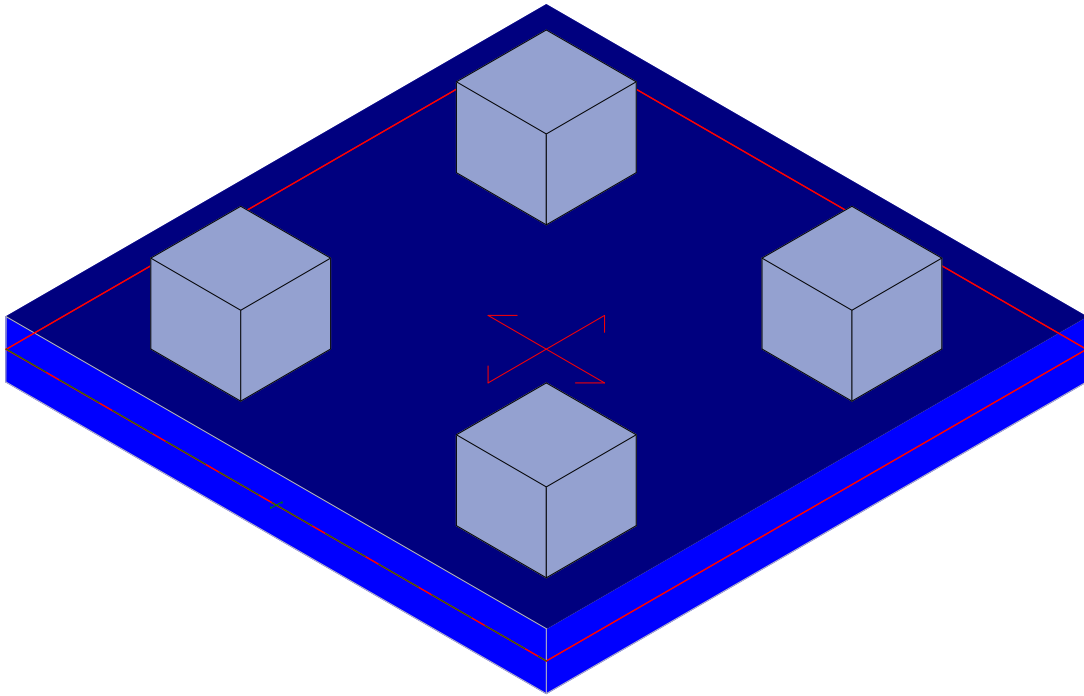
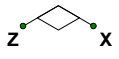
2021723.01.SNET009.05

USID #: SNET009, GLASTONBURY

SK - 4

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SNET009.05.rt3



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SNET009.05.rt3



(Global) Model Settings

Display Sections for Member Calcs	5
Max Internal Sections for Member Calcs	100
Mesh Size (in)	24
Max Iterations	10
Merge Tolerance (in)	.12
Solver	Sparse Accelerated
Coefficient of Friction	.3
No. of Shear Regions	4
Shear Region Spacing Increment (in)	4
Min 1 Bar Dia Spacing for Beams?	No
Optimize footings for OTM / Sliding?	No
Parme Beta Factor	.65
Pile Safety Factor	3
Concrete Stress Block	Rectangular
Concrete Rebar Set	ASTM A615
Concrete Code	ACI 318-14
HR Steel Pile Code	AISC 15th(360-16): LRFD
Wood Pile Code	None

Concrete Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (1/E...)	Density[k/ft...]	f'c[ksi]	Lambda	Flex Steel[...]	Shear Stee...
1	Conc3000NW	3156	1372	.15	.6	.15	3	1	60	60
2	Conc3500NW	3409	1482	.15	.6	.15	3.5	1	60	60
3	Conc4000NW	3644	1584	.15	.6	.15	4	1	60	60
4	Conc3000LW	2085	907	.15	.6	.11	3	1	60	60
5	Conc3500LW	2252	979	.15	.6	.11	3.5	1	60	60
6	Conc4000LW	2408	1047	.15	.6	.11	4	1	60	60

General Design Parameters

	Label	Max Bending Chk	Max Shear Chk	Top Cover[in]	Bottom Cover[in]
1	Typical	1	1	3	3

Slab Rebar Parameters

	Label	Top Bar	Bottom Bar	Max Top Bar S...	Min Top Bar S...	Max Bot Bar S...	Min Bot Bar S...	Spacing In...	Rebar Options
1	Typical	#8	#8	14	14	14	14	2	Force Top and Bottom

Pedestal/Pile Rebar Parameters

	Label	Longitudinal Bar	Shear Tie	Bar Cover[in]
1	Typical	#11	#4	3

Soil Definitions

	Label	Subgrade Modulus[k/ft^3]	Allowable Bearing[ksf]	Depth Properties	Default?
1	Soil 1	302.4	8.672	None	Yes

Slabs

	Label	Thickness [in]	Material	Local Axis Angle [...]	Analysis Offset [in]	Passive Pressure...	Soil Overburden [ksf]
1	S1	30	Conc3000NW	0	0	0	0



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 Designer : bdarkow
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Pedestals/Posts

	Label	Type	Shape	Material	Design Rules	Angle(deg)	Height[in]	Pedestal Layout	Shear Layout
1	R3D_N157	Pedestal	CRECT48X48	Conc3000N...	Typical	0	42	Use Design Rule	Use Design Rule
2	R3D_N158	Pedestal	CRECT48X48	Conc3000N...	Typical	0	42	Use Design Rule	Use Design Rule
3	R3D_N159	Pedestal	CRECT48X48	Conc3000N...	Typical	0	42	Use Design Rule	Use Design Rule
4	R3D_N160	Pedestal	CRECT48X48	Conc3000N...	Typical	0	42	Use Design Rule	Use Design Rule

Load Combinations

Label	S...	S...	A...	SF	Ca...	Fa...	Ca...	Fa...	Ca...	Fa...	Ca...	Fa...	Ca...	Fa...	Ca...	Fa...	Ca...	Fa...	Ca...	Fa...
1	Dead Only	Yes			DL	1.4	LL	1												
2	1.2 Dead+1.0 Wind 0	Yes			DL	1.2	LL	1												
3	0.9 Dead+1.0 Wind 0	Yes			DL	.9	EL	1												
4	1.2 Dead+1.0 Wind 4	Yes			DL	1.2	EL	1												
5	0.9 Dead+1.0 Wind 4	Yes			DL	.9	WL	1												
6	1.2 Dead+1.0 Wind 9	Yes			DL	1.2	WL	1												
7	0.9 Dead+1.0 Wind 9	Yes			DL	.9	SL	1												
8	1.2 Dead+1.0 Wind 1	Yes			DL	1.2	SL	1												
9	0.9 Dead+1.0 Wind 1	Yes			DL	.9	RLL	1												
10	1.2 Dead+1.0 Wind 1	Yes			DL	1.2	RLL	1												
11	0.9 Dead+1.0 Wind 1	Yes			DL	.9	LLS	1												
12	1.2 Dead+1.0 Wind 2	Yes			DL	1.2	LLS	1												
13	0.9 Dead+1.0 Wind 2	Yes			DL	.9	TL	1												
14	1.2 Dead+1.0 Wind 2	Yes			DL	1.2	TL	1												
15	0.9 Dead+1.0 Wind 2	Yes			DL	.9	SLN	1												
16	1.2 Dead+1.0 Wind 3	Yes			DL	1.2	SLN	1												
17	0.9 Dead+1.0 Wind 3	Yes			DL	.9	HL	1												
18	1.2 Dead+1.0 Ice+1.0	Yes			DL	1.2	FL	1												
19	1.2 Dead+1.0 Wind 0	Yes			DL	1.2	RL	1												
20	1.2 Dead+1.0 Wind 4	Yes			DL	1.2	PL	1												
21	1.2 Dead+1.0 Wind 9	Yes			DL	1.2	EPL	1												
22	1.2 Dead+1.0 Wind 1	Yes			DL	1.2	IL	1												
23	1.2 Dead+1.0 Wind 1	Yes			DL	1.2	OL1	1												
24	1.2 Dead+1.0 Wind 2	Yes			DL	1.2	OL2	1												
25	1.2 Dead+1.0 Wind 2	Yes			DL	1.2	OL3	1												
26	1.2 Dead+1.0 Wind 3	Yes			DL	1.2	OL4	1												
27	Dead+Wind 0 deg - S	Yes			DL	1	OL5	1												
28	Dead+Wind 45 deg -	Yes			DL	1	OL6	1												
29	Dead+Wind 90 deg -	Yes			DL	1	OL7	1												
30	Dead+Wind 135 deg	Yes			DL	1	OL8	1												
31	Dead+Wind 180 deg	Yes			DL	1	OL9	1												
32	Dead+Wind 225 deg	Yes			DL	1	OL...	1												
33	Dead+Wind 270 deg	Yes			DL	1	ELX	1												
34	Dead+Wind 315 deg	Yes			DL	1	ELY	1												
35	Dead Only	Yes	Yes		DL	1.4	LL	1												
36	1.2 Dead+1.0 Wind 0	Yes	Yes		DL	1.2	LL	1												
37	0.9 Dead+1.0 Wind 0	Yes	Yes		DL	.9	EL	1												
38	1.2 Dead+1.0 Wind 4	Yes	Yes		DL	1.2	EL	1												
39	0.9 Dead+1.0 Wind 4	Yes	Yes		DL	.9	WL	1												
40	1.2 Dead+1.0 Wind 9	Yes	Yes		DL	1.2	WL	1												
41	0.9 Dead+1.0 Wind 9	Yes	Yes		DL	.9	SL	1												
42	1.2 Dead+1.0 Wind 1	Yes	Yes		DL	1.2	SL	1												
43	0.9 Dead+1.0 Wind 1	Yes	Yes		DL	.9	RLL	1												
44	1.2 Dead+1.0 Wind 1	Yes	Yes		DL	1.2	RLL	1												
45	0.9 Dead+1.0 Wind 1	Yes	Yes		DL	.9	LLS	1												
46	1.2 Dead+1.0 Wind 2	Yes	Yes		DL	1.2	LLS	1												
47	0.9 Dead+1.0 Wind 2	Yes	Yes		DL	.9	TL	1												
48	1.2 Dead+1.0 Wind 2	Yes	Yes		DL	1.2	TL	1												
49	0.9 Dead+1.0 Wind 2	Yes	Yes		DL	.9	SLN	1												



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Load Combinations (Continued)

Label	S...	S...	A...	SF	Ca...	Fa...	Ca...	Fa...	Ca...	Fa...	Ca...	Fa...	Ca...	Fa...	Ca...	Fa...	Ca...	Fa...	Ca...	Fa...
50	1.2 Dead+1.0 Wind 3...	Yes	Yes		DL	1.2	SLN	1												
51	0.9 Dead+1.0 Wind 3...	Yes	Yes		DL	.9	HL	1												
52	1.2 Dead+1.0 Ice+1.0...	Yes	Yes		DL	1.2	FL	1												
53	1.2 Dead+1.0 Wind 0...	Yes	Yes		DL	1.2	RL	1												
54	1.2 Dead+1.0 Wind 4...	Yes	Yes		DL	1.2	PL	1												
55	1.2 Dead+1.0 Wind 9...	Yes	Yes		DL	1.2	EPL	1												
56	1.2 Dead+1.0 Wind 1...	Yes	Yes		DL	1.2	IL	1												
57	1.2 Dead+1.0 Wind 1...	Yes	Yes		DL	1.2	OL1	1												
58	1.2 Dead+1.0 Wind 2...	Yes	Yes		DL	1.2	OL2	1												
59	1.2 Dead+1.0 Wind 2...	Yes	Yes		DL	1.2	OL3	1												
60	1.2 Dead+1.0 Wind 3...	Yes	Yes		DL	1.2	OL4	1												
61	Dead+Wind 0 deg - S...	Yes	Yes		DL	1	OL5	1												
62	Dead+Wind 45 deg - ...	Yes	Yes		DL	1	OL6	1												
63	Dead+Wind 90 deg - ...	Yes	Yes		DL	1	OL7	1												
64	Dead+Wind 135 deg ...	Yes	Yes		DL	1	OL8	1												
65	Dead+Wind 180 deg ...	Yes	Yes		DL	1	OL9	1												
66	Dead+Wind 225 deg ...	Yes	Yes		DL	1	OL...	1												
67	Dead+Wind 270 deg ...	Yes	Yes		DL	1	ELX	1												
68	Dead+Wind 315 deg ...	Yes	Yes		DL	1	ELY	1												

Load Categories

Category	Point Loads	Line Loads	Area Loads
1	DL	13	
2	LL	16	
3	EL	16	
4	WL	16	
5	SL	16	
6	RLL	16	
7	LLS	16	
8	TL	16	
9	SLN	16	
10	HL	15	
11	FL	15	
12	RL	16	
13	PL	14	
14	EPL	16	
15	IL	12	
16	OL1	16	
17	OL2	14	
18	OL3	16	
19	OL4	12	
20	OL5	16	
21	OL6	16	
22	OL7	16	
23	OL8	14	
24	OL9	16	
25	OL10	16	
26	ELX	16	
27	ELY	14	

Strip Reinforcing

Label	UC Top	LC	Top Bars	Governin...	UC Bot	LC	Bot Bars/...	Governin...	UC Shear	LC	Governin...	
1	DS1	.062	1	#8@14in	DS1-X38	.135	9	#8@14in	DS1-X38	.12	9	DS1-X45
2	DS2	.05	14	#8@14in	DS2-X38	.142	5	#8@14in	DS2-X38	.124	5	DS2-X45



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Pedestals/Posts Design Values

	Label	UC	Gov LC	Shear UC	Gov LC	Dir	Phi Used	Vertical Reinf	Shear Reinf
1	R3D N157	.146	3	.09	12	z	.9	8#11	#4@9 in
2	R3D N158	.141	15	.09	8	x	.9	8#11	#4@9 in
3	R3D N159	.147	11	.09	4	x	.9	8#11	#4@9 in
4	R3D N160	.151	7	.084	16	z	.9	8#11	#4@9 in

Envelope Soil Pressures (By Combination)

	Label	Max UC	Max LC	Soil Pressure[ksf]	Allowable Bearing[ksf]
1	N5	.284	37	2.466	8.672
2	N6	.303	41	2.632	8.672
3	N7	.288	45	2.5	8.672
4	N8	.274	49	2.38	8.672
5	R3D N157	.179	45	1.553	8.672
6	R3D N158	.185	41	1.602	8.672
7	R3D N159	.178	37	1.54	8.672
8	R3D N160	.173	49	1.499	8.672
9	N9	.123	38	1.067	8.672
10	N10	.139	38	1.204	8.672
11	N11	.157	38	1.365	8.672
12	N12	.142	38	1.23	8.672
13	N13	.163	46	1.41	8.672
14	N14	.182	45	1.579	8.672
15	N15	.205	45	1.781	8.672
16	N16	.182	45	1.577	8.672
17	N17	.165	42	1.435	8.672
18	N18	.188	41	1.63	8.672
19	N19	.213	41	1.849	8.672
20	N20	.188	41	1.629	8.672
21	N21	.154	38	1.333	8.672
22	N22	.178	37	1.547	8.672
23	N23	.201	37	1.741	8.672
24	N24	.177	37	1.539	8.672
25	N25	.202	37	1.748	8.672
26	N26	.223	37	1.935	8.672
27	N27	.202	37	1.747	8.672
28	N28	.178	37	1.544	8.672
29	N29	.127	35	1.097	8.672
30	N30	.126	35	1.095	8.672
31	N31	.111	35	.959	8.672
32	N32	.111	35	.959	8.672
33	N33	.244	37	2.116	8.672
34	N34	.224	37	1.938	8.672
35	N35	.203	37	1.763	8.672
36	N36	.223	37	1.937	8.672
37	N37	.159	41	1.379	8.672
38	N38	.186	41	1.61	8.672
39	N39	.162	42	1.402	8.672
40	N40	.142	42	1.234	8.672
41	N41	.212	41	1.834	8.672
42	N42	.236	41	2.044	8.672
43	N43	.259	41	2.243	8.672
44	N44	.236	41	2.045	8.672
45	N45	.159	41	1.376	8.672
46	N46	.151	39	1.31	8.672
47	N47	.133	40	1.15	8.672
48	N48	.142	42	1.232	8.672
49	N49	.088	42	.76	8.672



Company : GPD Group
 Designer : bdarkow
 Job Number : 2021723.01.SNET009.05
 Model Name : USID #: SNET009, GLASTONBURY

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Envelope Soil Pressures (By Combination) (Continued)

	Label	Max UC	Max LC	Soil Pressure[ksf]	Allowable Bearing[ksf]
50	N50	.082	44	.709	8.672
51	N51	.099	44	.86	8.672
52	N52	.107	42	.926	8.672
53	N53	.159	50	1.376	8.672
54	N54	.173	49	1.497	8.672
55	N55	.197	49	1.711	8.672
56	N56	.178	49	1.547	8.672
57	N57	.156	46	1.351	8.672
58	N58	.18	45	1.559	8.672
59	N59	.159	46	1.379	8.672
60	N60	.14	46	1.218	8.672
61	N61	.204	45	1.767	8.672
62	N62	.226	45	1.959	8.672
63	N63	.247	45	2.144	8.672
64	N64	.226	45	1.961	8.672
65	N65	.155	46	1.342	8.672
66	N66	.147	43	1.278	8.672
67	N67	.131	44	1.138	8.672
68	N68	.14	46	1.211	8.672
69	N69	.088	46	.764	8.672
70	N70	.081	48	.704	8.672
71	N71	.097	48	.845	8.672
72	N72	.106	46	.923	8.672
73	N73	.095	35	.825	8.672
74	N74	.094	35	.817	8.672
75	N75	.112	35	.97	8.672
76	N76	.19	49	1.646	8.672
77	N77	.208	49	1.8	8.672
78	N78	.23	49	1.999	8.672
79	N79	.214	49	1.854	8.672
80	N80	.162	49	1.401	8.672
81	N81	.146	50	1.262	8.672
82	N82	.129	50	1.118	8.672
83	N83	.143	50	1.242	8.672
84	N84	.157	35	1.358	8.672
85	N85	.164	49	1.422	8.672
86	N86	.151	50	1.31	8.672
87	N87	.143	35	1.237	8.672
88	N88	.161	38	1.399	8.672
89	N89	.142	38	1.231	8.672
90	N90	.124	38	1.079	8.672
91	N91	.203	45	1.763	8.672
92	N92	.179	45	1.552	8.672
93	N93	.159	46	1.375	8.672
94	N94	.211	41	1.833	8.672
95	N95	.185	41	1.607	8.672
96	N96	.162	42	1.401	8.672
97	N97	.201	37	1.745	8.672
98	N98	.18	37	1.564	8.672
99	N99	.155	35	1.347	8.672
100	N100	.141	35	1.226	8.672
101	N101	.158	38	1.368	8.672
102	N102	.094	35	.814	8.672
103	N103	.106	38	.919	8.672
104	N104	.125	42	1.085	8.672
105	N105	.116	44	1.003	8.672
106	N106	.259	41	2.243	8.672



Company : GPD Group
 Designer : bdarkow
 Job Number : 2021723.01.SNET009.05
 Model Name : USID #: SNET009, GLASTONBURY

June 28, 2021
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Envelope Soil Pressures (By Combination) (Continued)

	Label	Max UC	Max LC	Soil Pressure[ksf]	Allowable Bearing[ksf]
107	N107	.236	41	2.044	8.672
108	N108	.125	42	1.084	8.672
109	N109	.145	42	1.256	8.672
110	N110	.201	49	1.743	8.672
111	N111	.181	49	1.573	8.672
112	N112	.159	50	1.377	8.672
113	N113	.124	46	1.076	8.672
114	N114	.113	48	.978	8.672
115	N115	.247	45	2.142	8.672
116	N116	.226	45	1.959	8.672
117	N117	.123	46	1.071	8.672
118	N118	.143	46	1.237	8.672
119	N119	.128	35	1.108	8.672
120	N120	.138	50	1.195	8.672
121	N121	.123	50	1.067	8.672
122	N122	.236	49	2.047	8.672
123	N123	.219	49	1.901	8.672
124	N124	.126	50	1.093	8.672
125	N125	.142	50	1.23	8.672
126	N126	.1	40	.864	8.672
127	N127	.117	40	1.011	8.672
128	N128	.125	46	1.084	8.672
129	N129	.143	46	1.239	8.672
130	N130	.126	42	1.095	8.672
131	N131	.145	42	1.257	8.672
132	N132	.175	39	1.52	8.672
133	N133	.18	37	1.565	8.672
134	N134	.244	37	2.116	8.672
135	N135	.141	35	1.224	8.672
136	N136	.264	37	2.29	8.672
137	N137	.264	37	2.292	8.672
138	N138	.244	37	2.114	8.672
139	N139	.17	43	1.473	8.672
140	N140	.188	41	1.627	8.672
141	N141	.212	41	1.837	8.672
142	N142	.212	41	1.834	8.672
143	N143	.187	41	1.623	8.672
144	N144	.107	42	.925	8.672
145	N145	.082	40	.709	8.672
146	N146	.078	35	.672	8.672
147	N147	.171	49	1.481	8.672
148	N148	.181	45	1.574	8.672
149	N149	.204	45	1.768	8.672
150	N150	.203	45	1.758	8.672
151	N151	.18	45	1.56	8.672
152	N152	.106	46	.921	8.672
153	N153	.108	50	.933	8.672
154	N154	.183	49	1.591	8.672
155	N155	.206	49	1.787	8.672
156	N156	.188	49	1.632	8.672
157	N157	.155	35	1.345	8.672
158	N158	.169	35	1.462	8.672
159	N159	.17	35	1.474	8.672
160	N160	.247	45	2.139	8.672
161	N161	.225	45	1.953	8.672
162	N162	.259	41	2.242	8.672
163	N163	.235	41	2.042	8.672



Envelope Soil Pressures (By Combination) (Continued)

	Label	Max UC	Max LC	Soil Pressure[ksf]	Allowable Bearing[ksf]
164	N164	.223	37	1.931	8.672
165	N165	.179	37	1.556	8.672
166	N166	.281	41	2.438	8.672
167	N167	.281	41	2.437	8.672
168	N168	.241	49	2.092	8.672
169	N169	.224	49	1.942	8.672
170	N170	.268	45	2.322	8.672
171	N171	.268	45	2.32	8.672
172	N172	.253	49	2.19	8.672
173	N173	.258	49	2.237	8.672

Slab Overturning Safety Factors (By Combination)

	LC	Slab	Angle[deg]	Mo-xx[k-ft]	Ms-xx[k-ft]	Mo-zz[k-ft]	Ms-zz[k-ft]	Ms-xx/Mo-xx	Ms-zz/Mo-zz
1	35	S1	0	1960.09	4760.744	40.318	4744.262	2.429	9.999+
2	36	S1	0	1960.09	4080.638	40.318	4066.51	2.082	9.999+
3	37	S1	0	1561.704	3060.478	1565.125	3082.816	1.96	1.997
4	38	S1	0	1561.704	4080.638	1565.125	4110.422	2.613	2.626
5	39	S1	0	40.318	3072.221	2005.824	3082.816	9.999+	1.537
6	40	S1	0	40.318	4096.294	2005.824	4110.422	9.999+	2.049
7	41	S1	0	1618.16	3072.221	1621.581	3082.816	1.899	1.901
8	42	S1	0	1618.16	4096.294	1621.581	4110.422	2.531	2.535
9	43	S1	0	1960.09	3072.221	40.318	3082.816	1.567	9.999+
10	44	S1	0	1960.09	4096.294	40.318	4110.422	2.09	9.999+
11	45	S1	0	1561.704	3072.221	1565.125	3049.883	1.967	1.949
12	46	S1	0	1561.704	4096.294	1565.125	4066.51	2.623	2.598
13	47	S1	0	338.402	3072.221	1824.13	3049.883	9.079	1.672
14	48	S1	0	338.402	4096.294	1824.13	4066.51	9.999+	2.229
15	49	S1	0	1263.62	3060.478	1746.819	3049.883	2.422	1.746
16	50	S1	0	1263.62	4080.638	1746.819	4066.51	3.229	2.328
17	51	S1	0	0	3730.801	0	3821.388	9.999+	9.999+
18	52	S1	0	0	4080.638	0	4110.422	9.999+	9.999+
19	53	S1	0	518.052	4080.638	6.372	4066.51	7.877	9.999+
20	54	S1	0	391.815	4080.638	391.815	4110.422	9.999+	9.999+
21	55	S1	0	6.372	4096.294	539.675	4110.422	9.999+	7.616
22	56	S1	0	400.668	4096.294	400.668	4110.422	9.999+	9.999+
23	57	S1	0	518.052	4096.294	6.372	4110.422	7.907	9.999+
24	58	S1	0	391.814	4096.294	391.814	4066.51	9.999+	9.999+
25	59	S1	0	6.372	4080.638	539.675	4066.51	9.999+	7.535
26	60	S1	0	400.666	4080.638	400.666	4066.51	9.999+	9.999+
27	61	S1	0	503.613	3400.531	10.128	3388.759	6.752	9.999+
28	62	S1	0	387.304	3400.531	387.83	3425.351	8.78	8.832
29	63	S1	0	10.128	3413.579	512.266	3425.351	9.999+	6.687
30	64	S1	0	401.65	3413.579	402.175	3425.351	8.499	8.517
31	65	S1	0	503.613	3413.579	10.128	3425.351	6.778	9.999+
32	66	S1	0	387.304	3413.579	387.83	3388.759	8.814	8.738
33	67	S1	0	10.128	3400.531	512.266	3388.759	9.999+	6.615
34	68	S1	0	401.65	3400.531	402.175	3388.759	8.466	8.426

Slab Sliding Safety Factors

	LC	Slab	Angle[deg]	Va-xx[k]	Vr-xx[k]	Va-zz[k]	Vr-zz[k]	SR-xx	SR-zz
1	35	S1	0	.305	119.247	24.356	119.247	9.999+	4.896
2	36	S1	0	.305	102.212	24.356	102.212	9.999+	4.197
3	37	S1	0	19.697	76.659	19.671	76.659	3.892	3.897
4	38	S1	0	19.697	102.212	19.671	102.212	5.189	5.196
5	39	S1	0	24.93	76.659	.305	76.659	3.075	9.999+
6	40	S1	0	24.93	102.212	.305	102.212	4.1	9.999+



Slab Sliding Safety Factors (Continued)

	LC	Slab	Angle[deg]	Va-xx[k]	Vr-xx[k]	Va-zz[k]	Vr-zz[k]	SR-xx	SR-zz
7	41	S1	0	20.125	76.659	20.099	76.659	3.809	3.814
8	42	S1	0	20.125	102.212	20.099	102.212	5.079	5.086
9	43	S1	0	.305	76.659	24.356	76.659	9.999+	3.147
10	44	S1	0	.305	102.212	24.356	102.212	9.999+	4.197
11	45	S1	0	19.697	76.659	19.671	76.659	3.892	3.897
12	46	S1	0	19.697	102.212	19.671	102.212	5.189	5.196
13	47	S1	0	23.519	76.659	2.654	76.659	3.26	9.999+
14	48	S1	0	23.519	102.212	2.654	102.212	4.346	9.999+
15	49	S1	0	21.109	76.659	17.322	76.659	3.632	4.425
16	50	S1	0	21.109	102.212	17.322	102.212	4.842	5.901
17	51	S1	0	0	93.906	0	93.906	9.999+	9.999+
18	52	S1	0	0	102.212	0	102.212	9.999+	9.999+
19	53	S1	0	.048	102.212	6.419	102.212	9.999+	9.999+
20	54	S1	0	4.921	102.212	4.921	102.212	9.999+	9.999+
21	55	S1	0	6.717	102.212	.048	102.212	9.999+	9.999+
22	56	S1	0	4.988	102.212	4.988	102.212	9.999+	9.999+
23	57	S1	0	.048	102.212	6.419	102.212	9.999+	9.999+
24	58	S1	0	4.921	102.212	4.921	102.212	9.999+	9.999+
25	59	S1	0	6.717	102.212	.048	102.212	9.999+	9.999+
26	60	S1	0	4.988	102.212	4.988	102.212	9.999+	9.999+
27	61	S1	0	.077	85.176	6.296	85.176	9.999+	9.999+
28	62	S1	0	4.921	85.176	4.917	85.176	9.999+	9.999+
29	63	S1	0	6.414	85.176	.077	85.176	9.999+	9.999+
30	64	S1	0	5.03	85.176	5.026	85.176	9.999+	9.999+
31	65	S1	0	.077	85.176	6.296	85.176	9.999+	9.999+
32	66	S1	0	4.921	85.176	4.917	85.176	9.999+	9.999+
33	67	S1	0	6.414	85.176	.077	85.176	9.999+	9.999+
34	68	S1	0	5.03	85.176	5.026	85.176	9.999+	9.999+

Envelope Soil Pressures (By Combination)

	Label	Max UC	Max LC	Soil Pressure[ksf]	Allowable Bearing[ksf]
1	N5	.284	37	2.466	8.672
2	N6	.303	41	2.632	8.672
3	N7	.288	45	2.5	8.672
4	N8	.274	49	2.38	8.672
5	R3D N157	.179	45	1.553	8.672
6	R3D N158	.185	41	1.602	8.672
7	R3D N159	.178	37	1.54	8.672
8	R3D N160	.173	49	1.499	8.672
9	N9	.123	38	1.067	8.672
10	N10	.139	38	1.204	8.672
11	N11	.157	38	1.365	8.672
12	N12	.142	38	1.23	8.672
13	N13	.163	46	1.41	8.672
14	N14	.182	45	1.579	8.672
15	N15	.205	45	1.781	8.672
16	N16	.182	45	1.577	8.672
17	N17	.165	42	1.435	8.672
18	N18	.188	41	1.63	8.672
19	N19	.213	41	1.849	8.672
20	N20	.188	41	1.629	8.672
21	N21	.154	38	1.333	8.672
22	N22	.178	37	1.547	8.672
23	N23	.201	37	1.741	8.672
24	N24	.177	37	1.539	8.672
25	N25	.202	37	1.748	8.672



Envelope Soil Pressures (By Combination) (Continued)

	Label	Max UC	Max LC	Soil Pressure[ksf]	Allowable Bearing[ksf]
83	N83	.143	50	1.242	8.672
84	N84	.157	35	1.358	8.672
85	N85	.164	49	1.422	8.672
86	N86	.151	50	1.31	8.672
87	N87	.143	35	1.237	8.672
88	N88	.161	38	1.399	8.672
89	N89	.142	38	1.231	8.672
90	N90	.124	38	1.079	8.672
91	N91	.203	45	1.763	8.672
92	N92	.179	45	1.552	8.672
93	N93	.159	46	1.375	8.672
94	N94	.211	41	1.833	8.672
95	N95	.185	41	1.607	8.672
96	N96	.162	42	1.401	8.672
97	N97	.201	37	1.745	8.672
98	N98	.18	37	1.564	8.672
99	N99	.155	35	1.347	8.672
100	N100	.141	35	1.226	8.672
101	N101	.158	38	1.368	8.672
102	N102	.094	35	.814	8.672
103	N103	.106	38	.919	8.672
104	N104	.125	42	1.085	8.672
105	N105	.116	44	1.003	8.672
106	N106	.259	41	2.243	8.672
107	N107	.236	41	2.044	8.672
108	N108	.125	42	1.084	8.672
109	N109	.145	42	1.256	8.672
110	N110	.201	49	1.743	8.672
111	N111	.181	49	1.573	8.672
112	N112	.159	50	1.377	8.672
113	N113	.124	46	1.076	8.672
114	N114	.113	48	.978	8.672
115	N115	.247	45	2.142	8.672
116	N116	.226	45	1.959	8.672
117	N117	.123	46	1.071	8.672
118	N118	.143	46	1.237	8.672
119	N119	.128	35	1.108	8.672
120	N120	.138	50	1.195	8.672
121	N121	.123	50	1.067	8.672
122	N122	.236	49	2.047	8.672
123	N123	.219	49	1.901	8.672
124	N124	.126	50	1.093	8.672
125	N125	.142	50	1.23	8.672
126	N126	.1	40	.864	8.672
127	N127	.117	40	1.011	8.672
128	N128	.125	46	1.084	8.672
129	N129	.143	46	1.239	8.672
130	N130	.126	42	1.095	8.672
131	N131	.145	42	1.257	8.672
132	N132	.175	39	1.52	8.672
133	N133	.18	37	1.565	8.672
134	N134	.244	37	2.116	8.672
135	N135	.141	35	1.224	8.672
136	N136	.264	37	2.29	8.672
137	N137	.264	37	2.292	8.672
138	N138	.244	37	2.114	8.672
139	N139	.17	43	1.473	8.672



Company : GPD Group
 Designer : bdarkow
 Job Number : 2021723.01.SNET009.05
 Model Name : USID #: SNET009, GLASTONBURY

June 28, 2021
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Envelope Soil Pressures (By Combination) (Continued)

	Label	Max UC	Max LC	Soil Pressure[ksf]	Allowable Bearing[ksf]
140	N140	.188	41	1.627	8.672
141	N141	.212	41	1.837	8.672
142	N142	.212	41	1.834	8.672
143	N143	.187	41	1.623	8.672
144	N144	.107	42	.925	8.672
145	N145	.082	40	.709	8.672
146	N146	.078	35	.672	8.672
147	N147	.171	49	1.481	8.672
148	N148	.181	45	1.574	8.672
149	N149	.204	45	1.768	8.672
150	N150	.203	45	1.758	8.672
151	N151	.18	45	1.56	8.672
152	N152	.106	46	.921	8.672
153	N153	.108	50	.933	8.672
154	N154	.183	49	1.591	8.672
155	N155	.206	49	1.787	8.672
156	N156	.188	49	1.632	8.672
157	N157	.155	35	1.345	8.672
158	N158	.169	35	1.462	8.672
159	N159	.17	35	1.474	8.672
160	N160	.247	45	2.139	8.672
161	N161	.225	45	1.953	8.672
162	N162	.259	41	2.242	8.672
163	N163	.235	41	2.042	8.672
164	N164	.223	37	1.931	8.672
165	N165	.179	37	1.556	8.672
166	N166	.281	41	2.438	8.672
167	N167	.281	41	2.437	8.672
168	N168	.241	49	2.092	8.672
169	N169	.224	49	1.942	8.672
170	N170	.268	45	2.322	8.672
171	N171	.268	45	2.32	8.672
172	N172	.253	49	2.19	8.672
173	N173	.258	49	2.237	8.672

Envelope Slab Soil Pressures (By Combination)

	Label	UC	LC	Soil Pressure[ksf]	Allowable Bearing[ksf]	Point
1	S1	.303	41	2.632	8.672	N6

RISA FOUNDATION SLAB BEARING CHECKS

Bearing Check				
Label	Max UC	Max LC	Soil Pressure[ksf]	Allowable Bearing[ksf]
S1	0.303	41	2.632	8.672

1.2D+1.6W	
Capacity =	30.3%

RISA FOUNDATION OVERTURNING CHECKS

Overturning Check									
	LC	Slab	Angle	Mo-XX[k-ft]	Ms-XX[k-ft]	Mo-ZZ[k-ft]	Ms-ZZ[k-ft]	Ms-XX/Mo-XX	Ms-ZZ/Mo-ZZ
1	35	S1	0	1960.09	4760.744	40.318	4744.262	2.429	9.999+
2	36	S1	0	1960.09	4080.638	40.318	4066.51	2.082	9.999+
3	37	S1	0	1561.704	3060.478	1565.125	3082.816	1.96	1.97
4	38	S1	0	1561.704	4080.638	1565.125	4110.422	2.613	2.626
5	39	S1	0	40.318	3072.221	2005.824	3082.816	9.999+	1.537
6	40	S1	0	40.318	4096.294	2005.824	4110.422	9.999+	2.049
7	41	S1	0	1618.16	3072.221	1621.581	3082.816	1.899	1.901
8	42	S1	0	1618.16	4096.294	1621.581	4110.422	2.531	2.535
9	43	S1	0	1960.09	3072.221	40.318	3082.816	1.567	9.999+
10	44	S1	0	1960.09	4096.294	40.318	4110.422	2.09	9.999+
11	45	S1	0	1561.704	3072.221	1565.125	3049.883	1.967	1.949
12	46	S1	0	1561.704	4096.294	1565.125	4066.51	2.623	2.598
13	47	S1	0	338.402	3072.221	1824.13	3049.883	9.079	1.672
14	48	S1	0	338.402	4096.294	1824.13	4066.51	9.999+	2.229
15	49	S1	0	1263.62	3060.478	1746.819	3049.883	2.422	1.746
16	50	S1	0	1263.62	4080.638	1746.819	4066.51	3.229	2.328
17	51	S1	0	0	3730.801	0	3821.388	9.999+	9.999+
18	52	S1	0	0	4080.638	0	4110.422	9.999+	9.999+
19	53	S1	0	518.052	4080.638	6.372	4066.51	7.877	9.999+
20	54	S1	0	391.815	4080.638	391.815	4110.422	9.999+	9.999+
21	55	S1	0	6.372	4096.294	539.675	4110.422	9.999+	7.616
22	56	S1	0	400.668	4096.294	400.668	4110.422	9.999+	9.999+
23	57	S1	0	518.052	4096.294	6.372	4110.422	7.907	9.999+
24	58	S1	0	391.814	4096.294	391.814	4066.51	9.999+	9.999+
25	59	S1	0	6.372	4080.638	539.675	4066.51	9.999+	7.535
26	60	S1	0	400.666	4080.638	400.666	4066.51	9.999+	9.999+
27	61	S1	0	503.613	3400.531	10.128	3388.759	6.752	9.999+
28	62	S1	0	387.304	3400.531	387.83	3425.351	8.78	8.832
29	63	S1	0	10.128	3413.579	512.266	3425.351	9.999+	6.687
30	64	S1	0	401.65	3413.579	402.175	3425.351	8.499	8.517
31	65	S1	0	503.613	3413.579	10.128	3425.351	6.778	9.999+
32	66	S1	0	387.304	3413.579	387.83	3388.759	8.814	8.738
33	67	S1	0	10.128	3400.531	512.266	3388.759	9.999+	6.615
34	68	S1	0	401.65	3400.531	402.175	3388.759	8.466	8.426

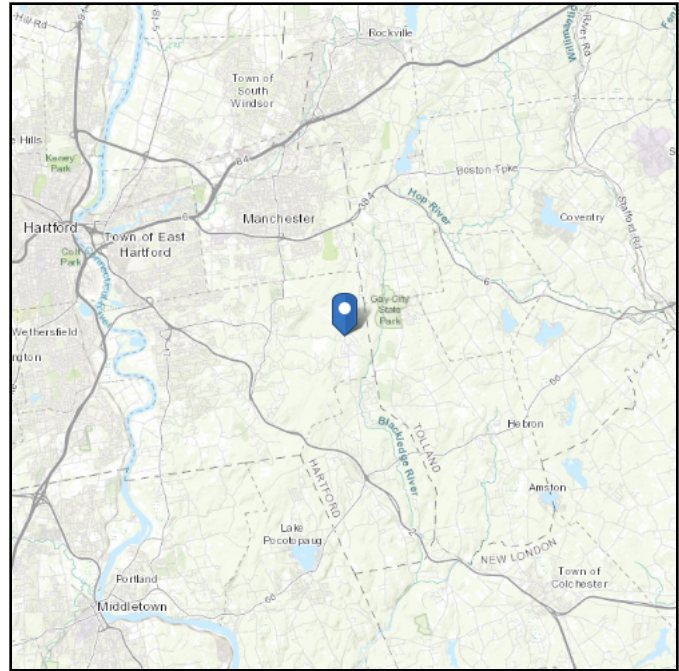
0.9D+1.6W	
Capacity =	65.1%

ASCE 7 Hazards Report

Address:
No Address at This Location

Standard: ASCE/SEI 7-16
Risk Category: II
Soil Class: D - Default (see Section 11.4.3)

Elevation: 865.89 ft (NAVD 88)
Latitude: 41.709833
Longitude: -72.474389



Wind

Results:

Wind Speed:	119 Vmph
10-year MRI	75 Vmph
25-year MRI	84 Vmph
50-year MRI	91 Vmph
100-year MRI	98 Vmph

Data Source: ASCE/SEI 7-16, Fig. 26.5-1B and Figs. CC.2-1–CC.2-4, and Section 26.5.2

Date Accessed: Thu Jun 24 2021

Value provided is 3-second gust wind speeds at 33 ft above ground for Exposure C Category, based on linear interpolation between contours. Wind speeds are interpolated in accordance with the 7-16 Standard. Wind speeds correspond to approximately a 7% probability of exceedance in 50 years (annual exceedance probability = 0.00143, MRI = 700 years).

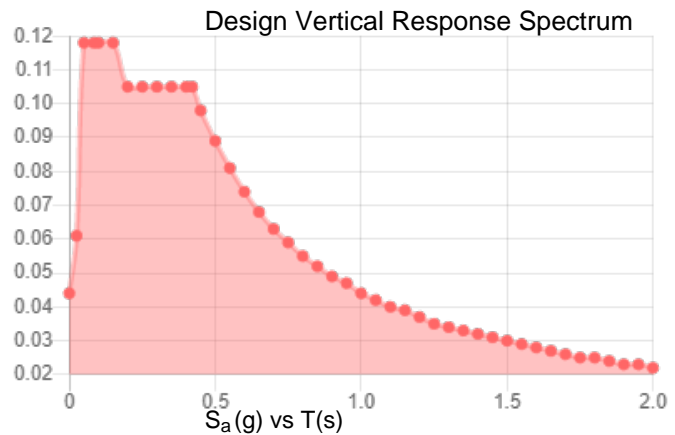
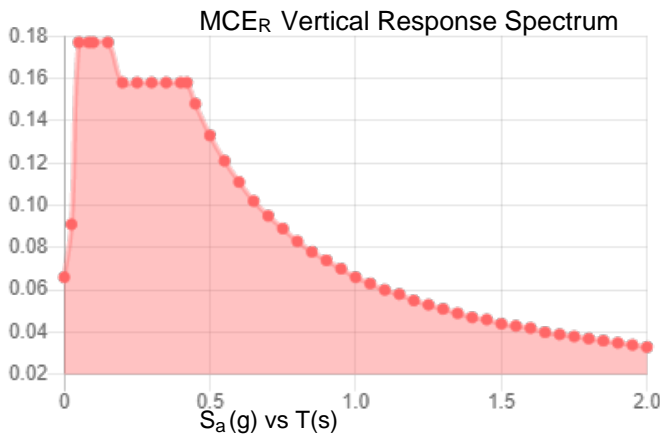
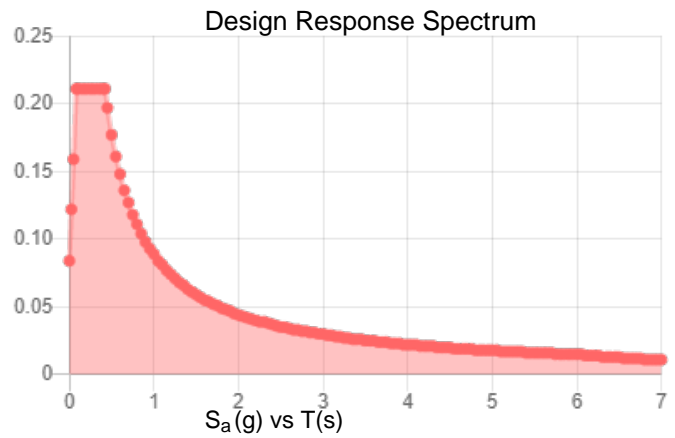
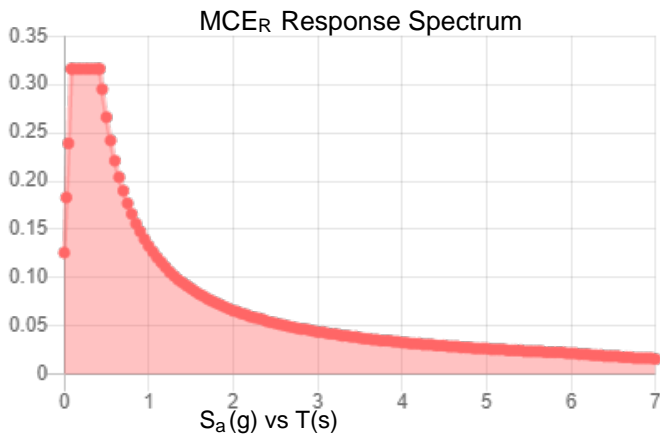
Site is in a hurricane-prone region as defined in ASCE/SEI 7-16 Section 26.2. Glazed openings need not be protected against wind-borne debris.

Site Soil Class: D - Default (see Section 11.4.3)

Results:

S_s :	0.197	S_{D1} :	0.089
S_1 :	0.055	T_L :	6
F_a :	1.6	PGA :	0.108
F_v :	2.4	PGA _M :	0.171
S_{MS} :	0.316	F_{PGA} :	1.584
S_{M1} :	0.133	I_e :	1
S_{DS} :	0.211	C_v :	0.7

Seismic Design Category B



Data Accessed:

Thu Jun 24 2021

Date Source:

USGS Seismic Design Maps based on ASCE/SEI 7-16 and ASCE/SEI 7-16 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-16 Ch. 21 are available from USGS.

Ice

Results:

Ice Thickness: 1.50 in.

Concurrent Temperature: 15 F

Gust Speed: 50 mph

Data Source: Standard ASCE/SEI 7-16, Figs. 10-2 through 10-8

Date Accessed: Thu Jun 24 2021

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

Values provided are equivalent radial ice thicknesses due to freezing rain with concurrent 3-second gust speeds, for a 500-year mean recurrence interval, and temperatures concurrent with ice thicknesses due to freezing rain. Thicknesses for ice accretions caused by other sources shall be obtained from local meteorological studies. Ice thicknesses in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

Snow

Results:

Ground Snow Load, p_g : 30 lb/ft²

Elevation: 865.9 ft

Data Source: ASCE/SEI 7-16, Table 7.2-8

Date Accessed: Thu Jun 24 2021

Values provided are ground snow loads. In areas designated "case study required," extreme local variations in ground snow loads preclude mapping at this scale. Site-specific case studies are required to establish ground snow loads at elevations not covered.

The ASCE 7 Hazard Tool is provided for your convenience, for informational purposes only, and is provided “as is” and without warranties of any kind. The location data included herein has been obtained from information developed, produced, and maintained by third party providers; or has been extrapolated from maps incorporated in the ASCE 7 standard. While ASCE has made every effort to use data obtained from reliable sources or methodologies, ASCE does not make any representations or warranties as to the accuracy, completeness, reliability, currency, or quality of any data provided herein. Any third-party links provided by this Tool should not be construed as an endorsement, affiliation, relationship, or sponsorship of such third-party content by or from ASCE.

ASCE does not intend, nor should anyone interpret, the results provided by this Tool to replace the sound judgment of a competent professional, having knowledge and experience in the appropriate field(s) of practice, nor to substitute for the standard of care required of such professionals in interpreting and applying the contents of this Tool or the ASCE 7 standard.

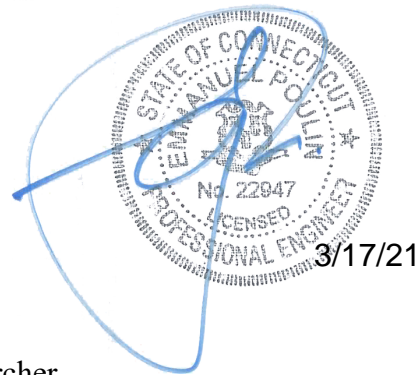
In using this Tool, you expressly assume all risks associated with your use. Under no circumstances shall ASCE or its officers, directors, employees, members, affiliates, or agents be liable to you or any other person for any direct, indirect, special, incidental, or consequential damages arising from or related to your use of, or reliance on, the Tool or any information obtained therein. To the fullest extent permitted by law, you agree to release and hold harmless ASCE from any and all liability of any nature arising out of or resulting from any use of data provided by the ASCE 7 Hazard Tool.

Mount Modification Report

March 17, 2021

Site Name	Glastonbury
Site Number	CTL01038
FA Location Code	10034994
PTN Number	2051A0WSM4/ 2051A0WQ9A/ 2051A0WQ43/ 2051A0WSM5/ 2051A0WQ6E
PACE Number	MRCTB049066/ MRCTB049061/ MRCTB049075/ MRCTB049063/ MRCTB049064
Infinigy Job Number	1106-A0001-B
Client	Smartlink
Carrier	AT&T
Site Location	Birch Mountain Road Glastonbury, CT 06033 Hartford County 41° 42' 35.3" N NAD83 72° 28' 27.8" W NAD83
Mount Centerline EL.	128.0 ft.
Mount Type	Sector Frames
Mount Usage Ratio	68.7%
Overall Result	Pass
Note	See appended documents for mount modifications.

Upon reviewing the results of this analysis, it is our opinion that the modified mount does meet the specified TIA code requirements. The modified mounts and connections are therefore deemed adequate to support the final loading as listed in this report.



Brenden Archer
Project Engineer II

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Analysis Code Requirements.....	3
Conclusion.....	3
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Mount Usages.....	4
Mount Connection Usages.....	4
Assumptions and Limitations.....	5
Calculations.....	Appended

Introduction

Infinigy Engineering has been requested to perform a mount modification on the existing AT&T 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

Construction Drawings	Infinigy Engineering, PLLC, Site No. CTL01038, dated January 29, 2021
Proposed Loading	AT&T RFDS Application ID No. 4165553, dated January 25, 2021
Mount Mapping Report	Infinigy Engineering, PLLC, Site No. CTL01038, dated December 8, 2020

Analysis Code Requirements

Wind Speed	119 mph (3-Second Gust)
Wind Speed w/ ice	50 mph (3-Second Gust) w/ 1.5” ice
TIA Revision	ANSI/TIA-222-H
Adopted IBC	2018 IBC
Risk Category	II
Exposure Category	C
Topographic Category	1
Calculated Crest Height	0.0 ft.
Spectral Response	$S_s = 0.197 g / S_1 = 0.055 g$
Site Class	D-Stiff Soil (Assumed)
HMSL	866.1 ft.

Conclusion

Upon reviewing the results of this analysis, it is our opinion that the modified mount does meet the specified TIA code requirements. The modified mounts and connections are therefore deemed adequate to support the final 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:

Brenden Archer
 Project Engineer II | **INFINIGY**
 1033 Watervliet Shaker Rd, Albany, NY 12205
 (518) 690-0790
barcher@infinigy.com | www.infinigy.com

Final Configuration Loading

Mount CL (ft)	Rad. HT (ft)	Horiz. O/S (ft)*	Qty	Appurtenance	Carrier
128.0	128.0	11.0	3	POWERWAVE 7770	AT&T
		6.0	2	CCI OPA65R-BU8DA	
		6.0	1	CCI OPA65R-BU6DA	
		1.0	2	CCI DMP65R-BU8DA	
		1.0	1	CCI DMP65R-BU6DA	
		11.0	3	POWERWAVE 7020	
		6.0	3	ERICSSON RRUS-4478 B14	
		6.0	3	ERICSSON RRUS-8843 B2/B66A	
		1.0	3	ERICSSON RRUS-4449 B5/B12	
		--	2	RAYCAP DC6-48-60-18-8F	

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

** Raycap assumed to be installed directly on tower

Mount Usages

Mount Pipe	64.1%	Pass
Horizontal	59.2%	Pass
Kickers	68.7%	Pass
Bracing	54.3%	Pass
Threaded Rod	31.5%	Pass
RATING =	68.7%	Pass

Mount Connection Usages – Alpha & Beta

Reaction Data	Design Capacity*	Analysis Reactions	Results
Max Tension (lbs.)	30,101.4	14,237.1	47.3%
Max Shear (lbs.)	19,880.4	1,579.9	7.9%
Combined Tension/Shear	--	--	23.0%

*(1) 3/4" A325 Bolt, (3) per mount to tower connection. Contractor to field verify anchor diameters prior to installation of proposed equipment.

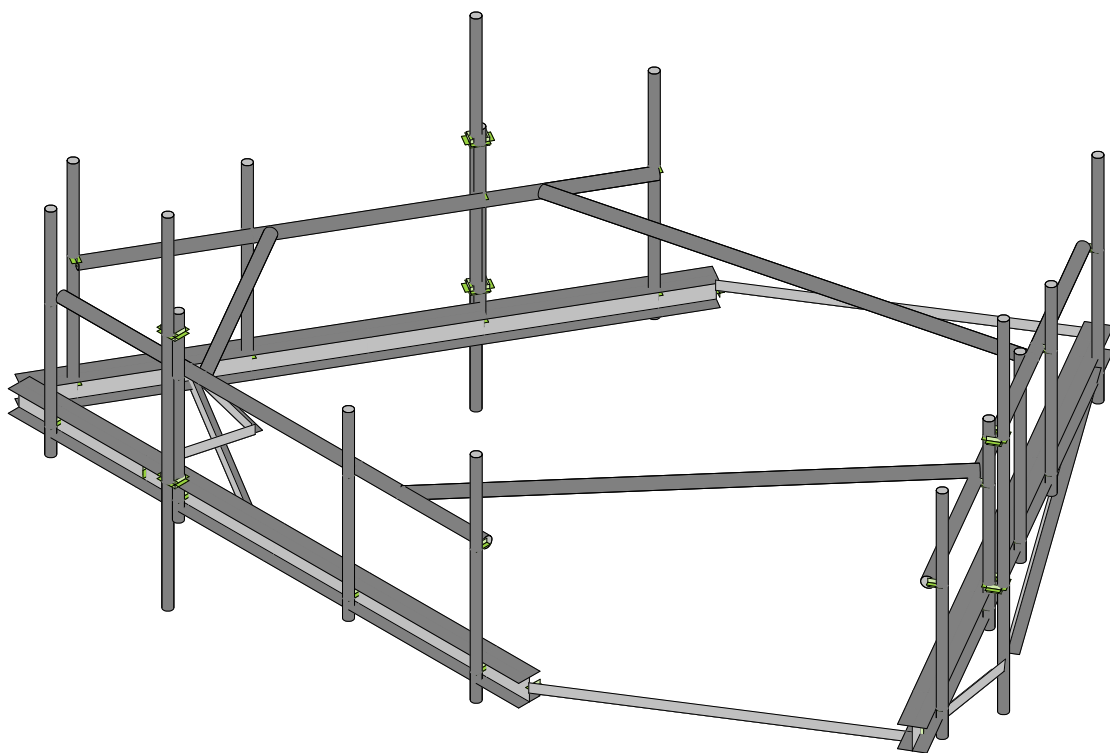
- Anchor reactions are acceptable per rigorous structural analysis.

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.

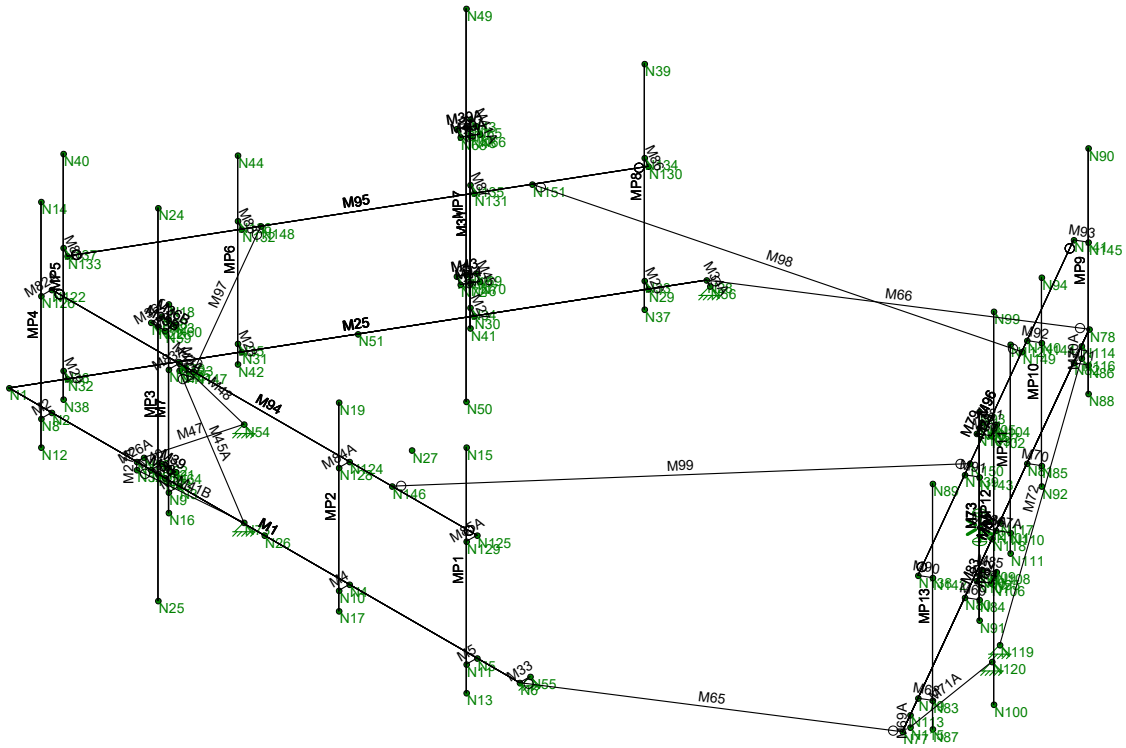
Our evaluation is completed using standard TIA, AISC, ACI, and ASCE methods and procedures. Our structural results are proprietary and should not be used by others as their own. Infinigy Engineering is not responsible for decisions made by others that are or are not based on our supplied assumptions 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	CTL01038	Final Configuration
BDA		Mar 11, 2021 at 8:30 AM
1106-A0001-B		CTL01038_Modified_loaded.r3d



Envelope Only Solution

Infinigy Engineering, PLLC

BDA

1106-A0001-B

CTL01038

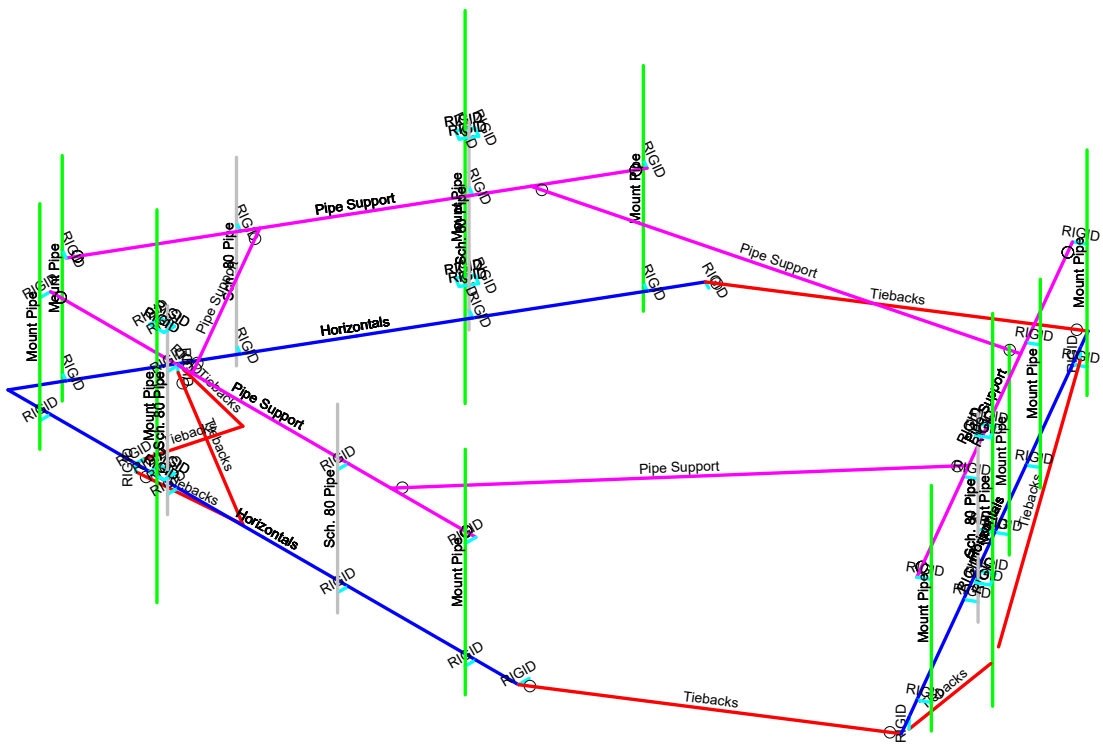
Final Configuration

Mar 11, 2021 at 8:34 AM

CTL01038_Modified_loaded.r3d



Section Sets	
Blue	Horizontals
Green	Mount Pipe
Red	Tiebacks
Grey	Sch. 80 Pipe
Pink	Pipe Support
Cyan	RIGID



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Infinigy Engineering, PLLC

BDA

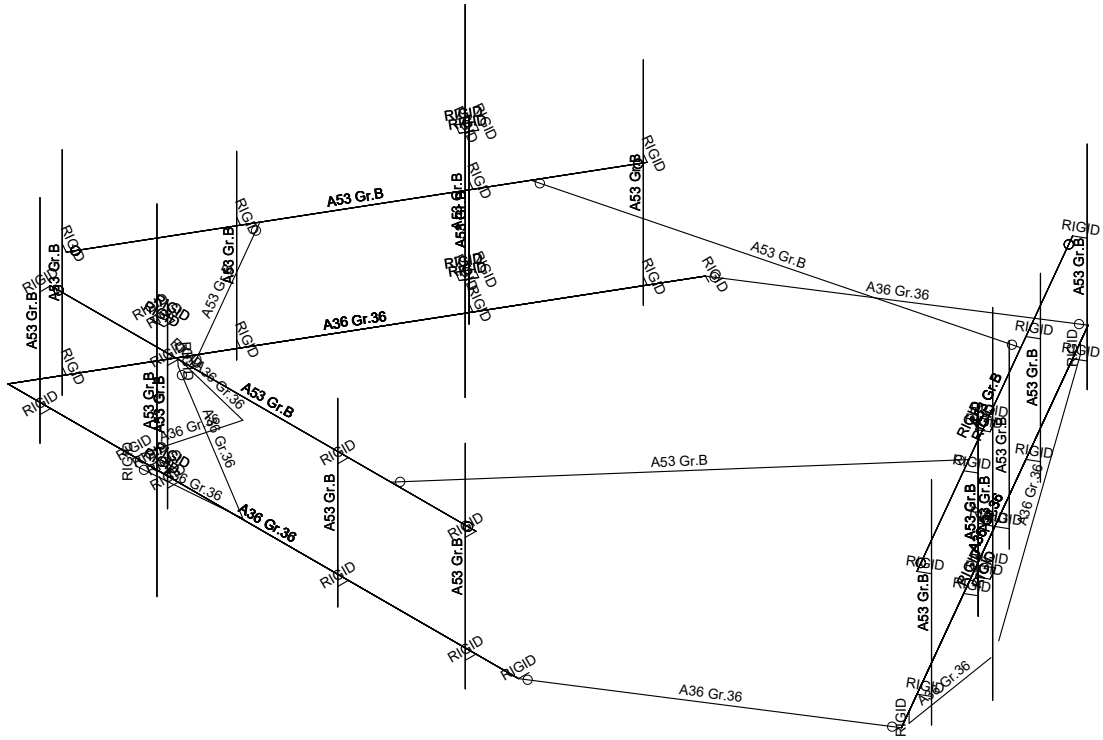
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CTL01038

Final Configuration

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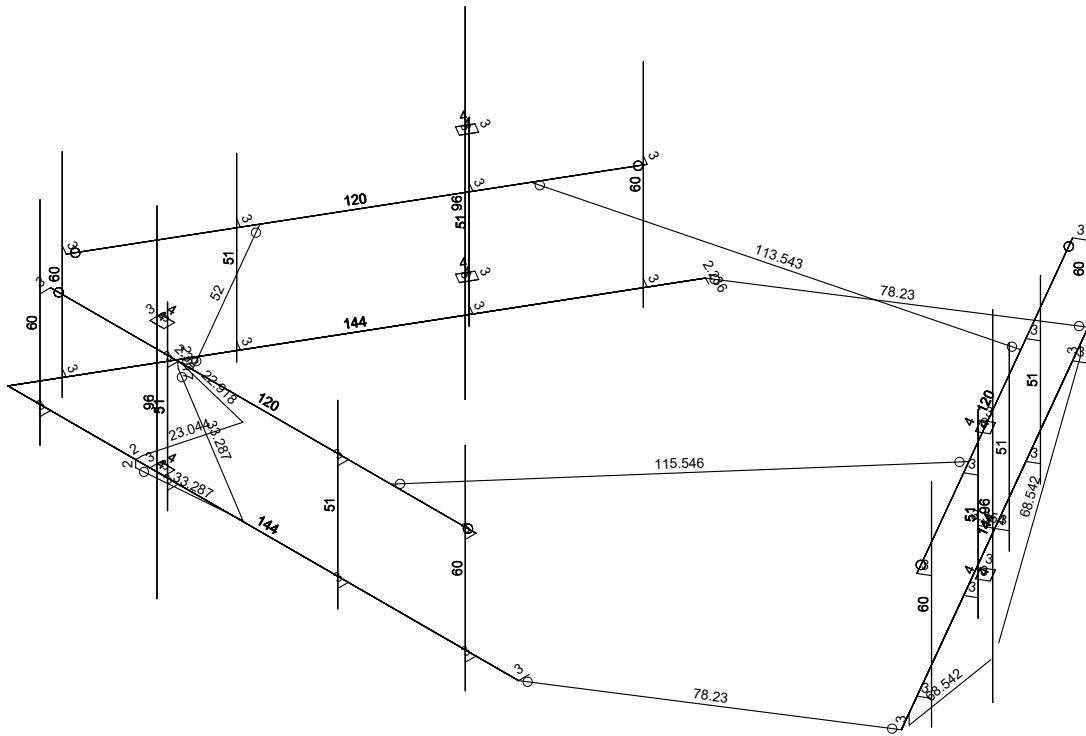


Envelope Only Solution

Infinigy Engineering, PLLC
BDA
1106-A0001-B

CTL01038

Final Configuration
Mar 11, 2021 at 8:34 AM
CTL01038_Modified_loaded.r3d



Member Length (in) Displayed
Envelope Only Solution

Infinigy Engineering, PLLC

BDA

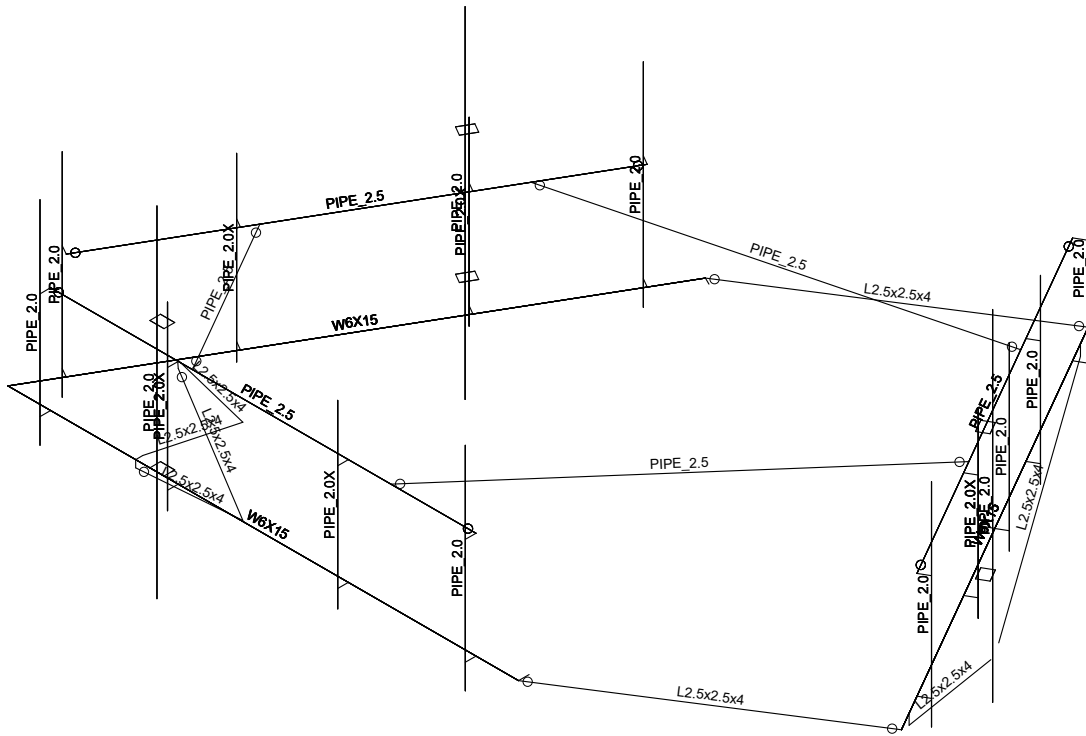
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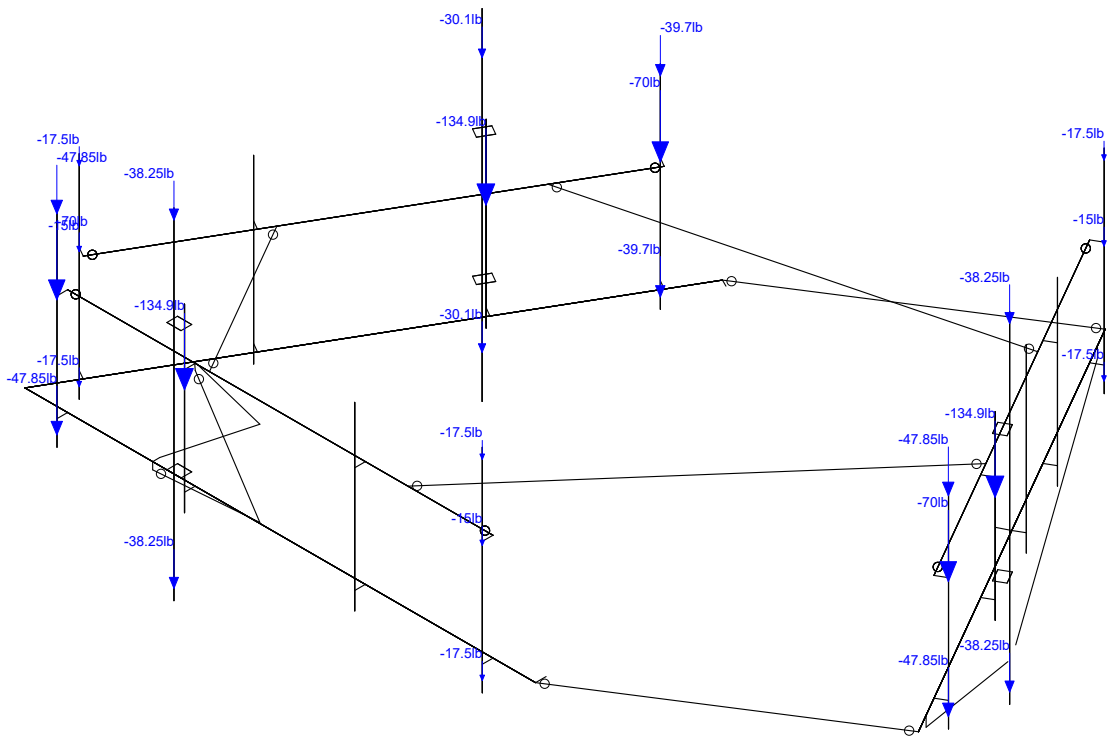
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BDA
1106-A0001-B

CTL01038

Final Configuration

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CTL01038_Modified_loaded.r3d



Loads: BLC 1, Self Weight
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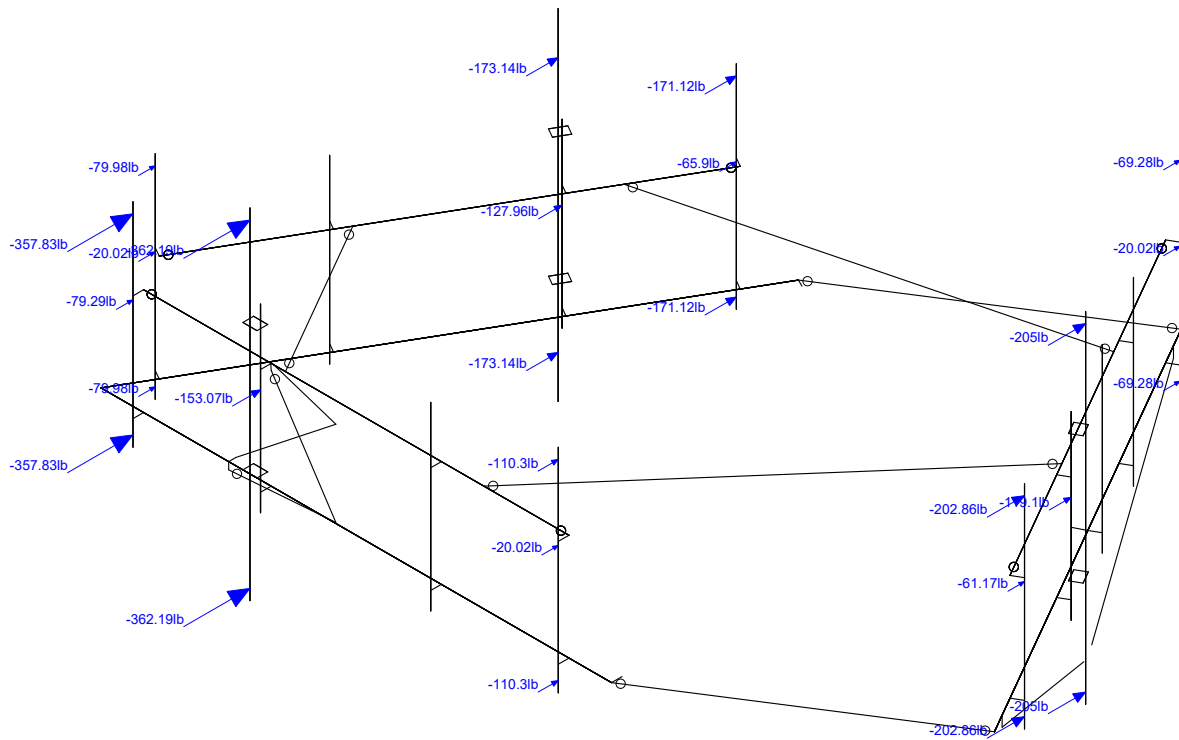
Infinigy Engineering, PLLC
BDA
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CTL01038

Final Configuration

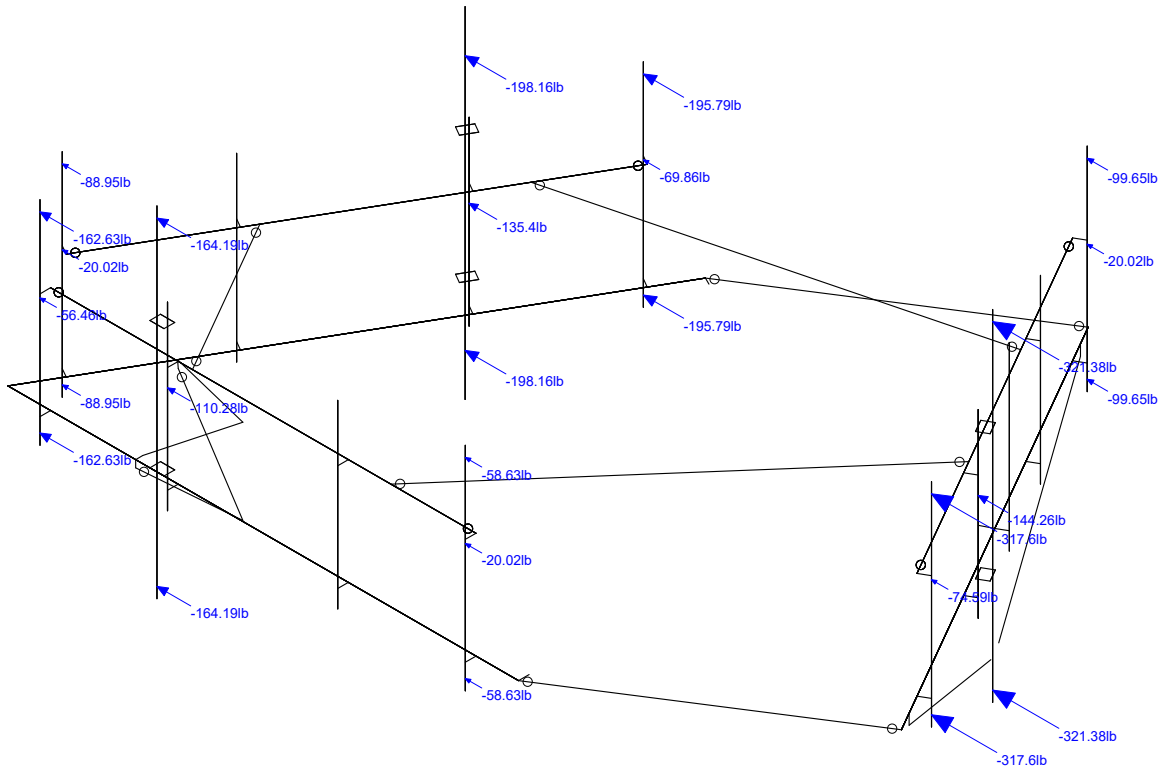
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CTL01038_Modified_loaded.r3d



Loads: BLC 2, Wind Load AZI 0
Envelope Only Solution

Infinigy Engineering, PLLC	CTL01038	Final Configuration
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1106-A0001-B		CTL01038_Modified_loaded.r3d



Loads: BLC 5, Wind Load AZI 90
Envelope Only Solution

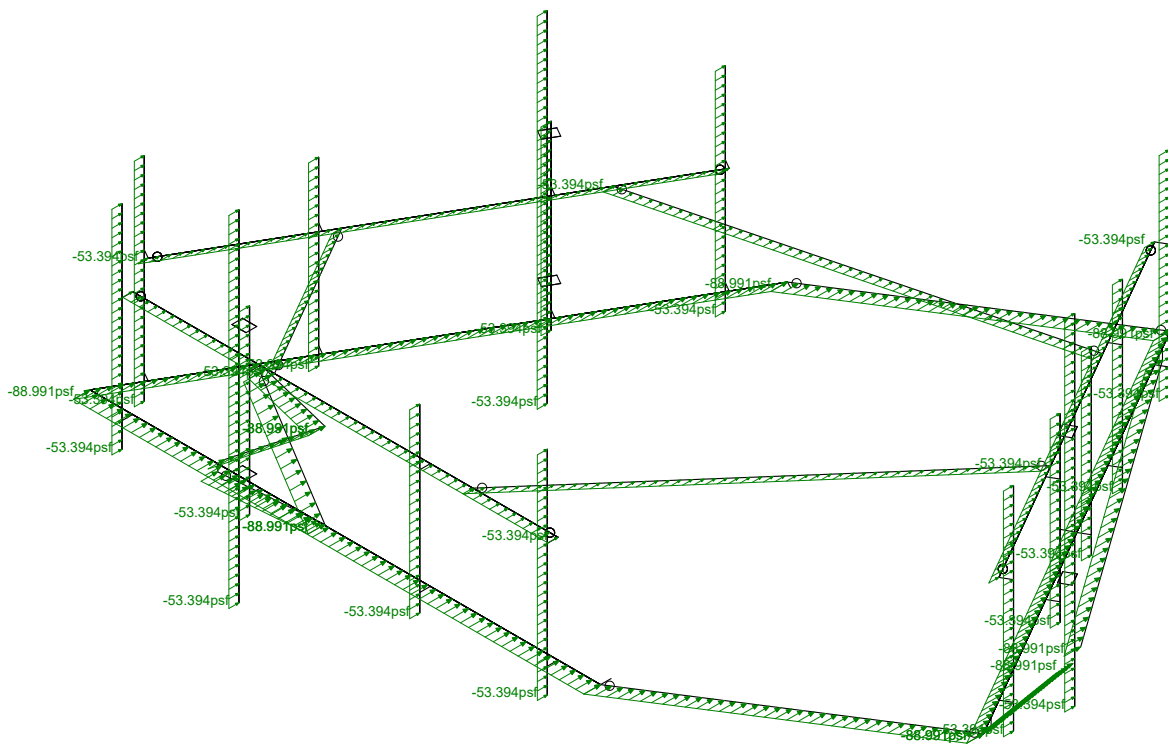
Infinigy Engineering, PLLC
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CTL01038

Final Configuration

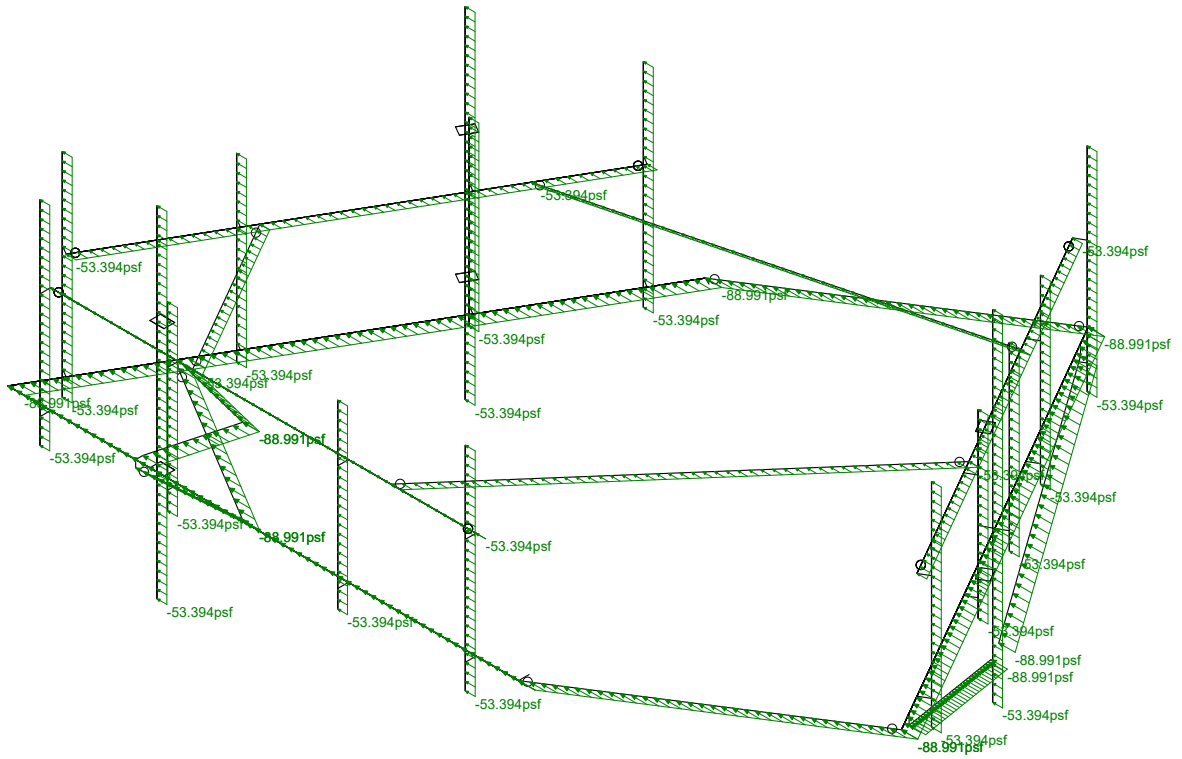
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CTL01038_Modified_loaded.r3d



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

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Loads: BLC 15, Distr. Wind Load X
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Infinigy Engineering, PLLC

BDA

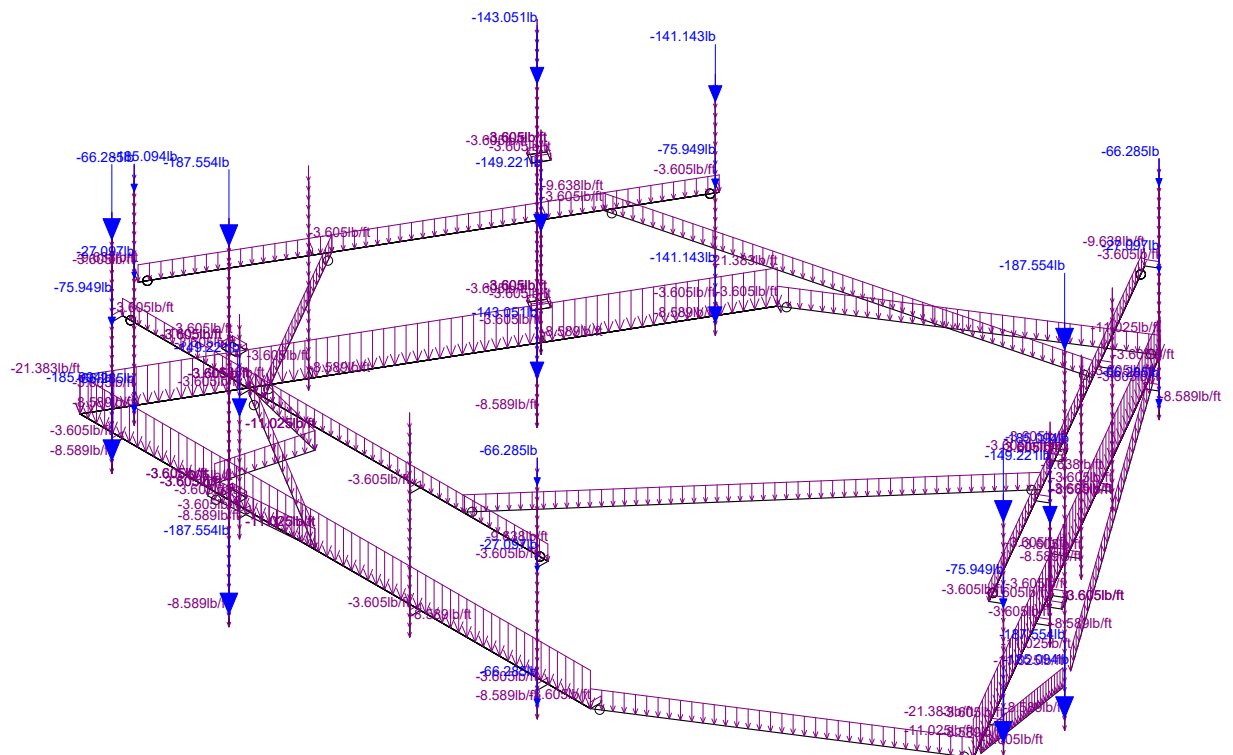
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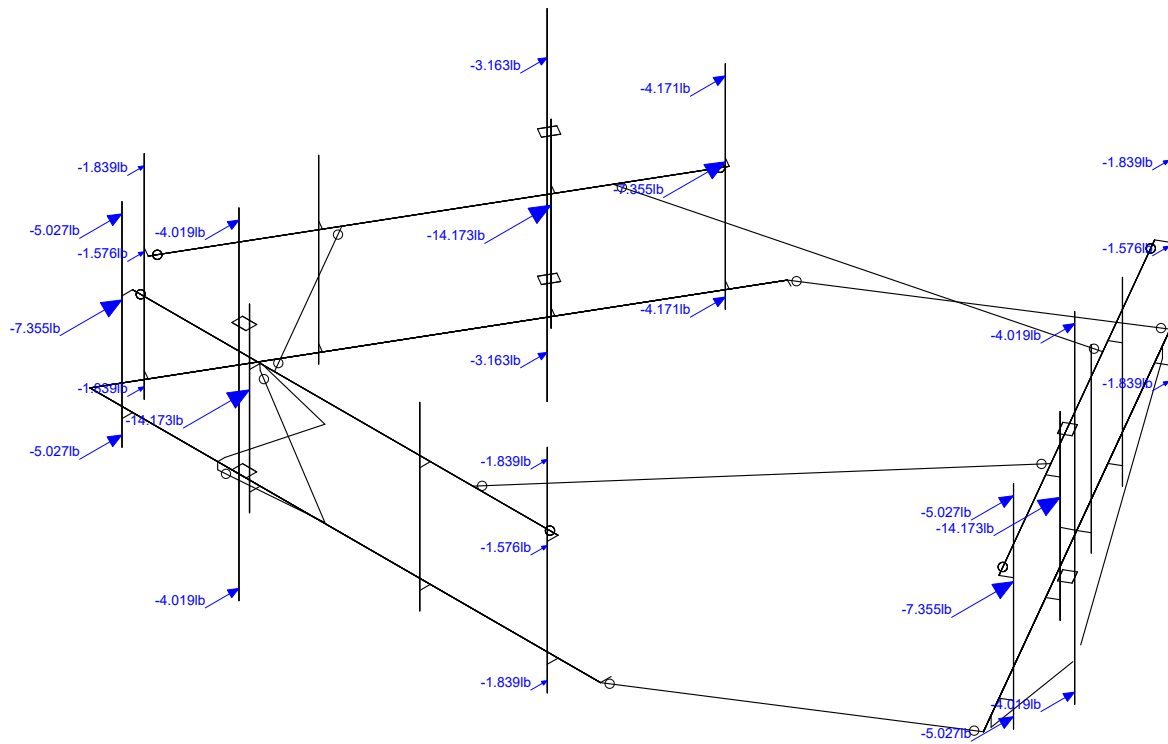
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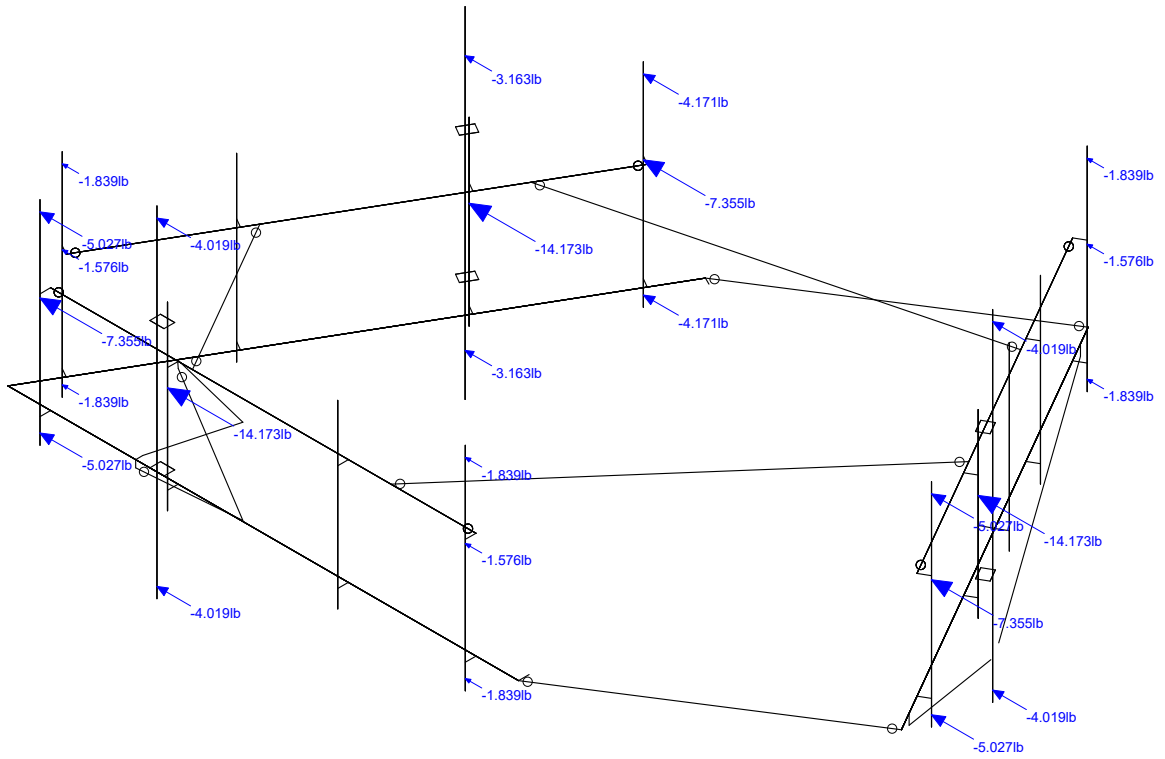
Loads: BLC 16, Ice Weight
Envelope Only Solution

Infingy Engineering, PLLC	CTL01038	Final Configuration
BDA		Mar 11, 2021 at 8:36 AM
1106-A0001-B		CTL01038_Modified_loaded.r3d



Loads: BLC 31, Seismic Load Z
Envelope Only Solution

Infinigy Engineering, PLLC	CTL01038	Final Configuration
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1106-A0001-B		CTL01038_Modified_loaded.r3d



Loads: BLC 32, Seismic Load X
Envelope Only Solution

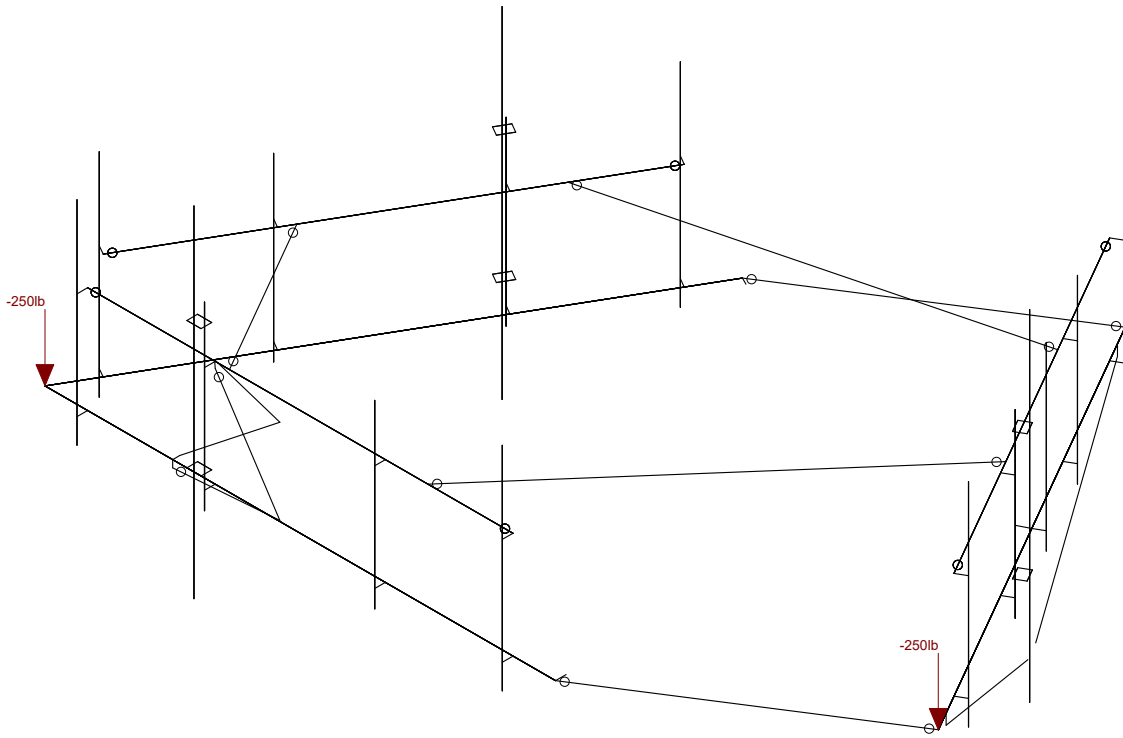
Infinigy Engineering, PLLC
BDA
1106-A0001-B

CTL01038

Final Configuration

Mar 11, 2021 at 8:36 AM

CTL01038_Modified_loaded.r3d



Loads: BLC 33, Service Live Loads
Envelope Only Solution

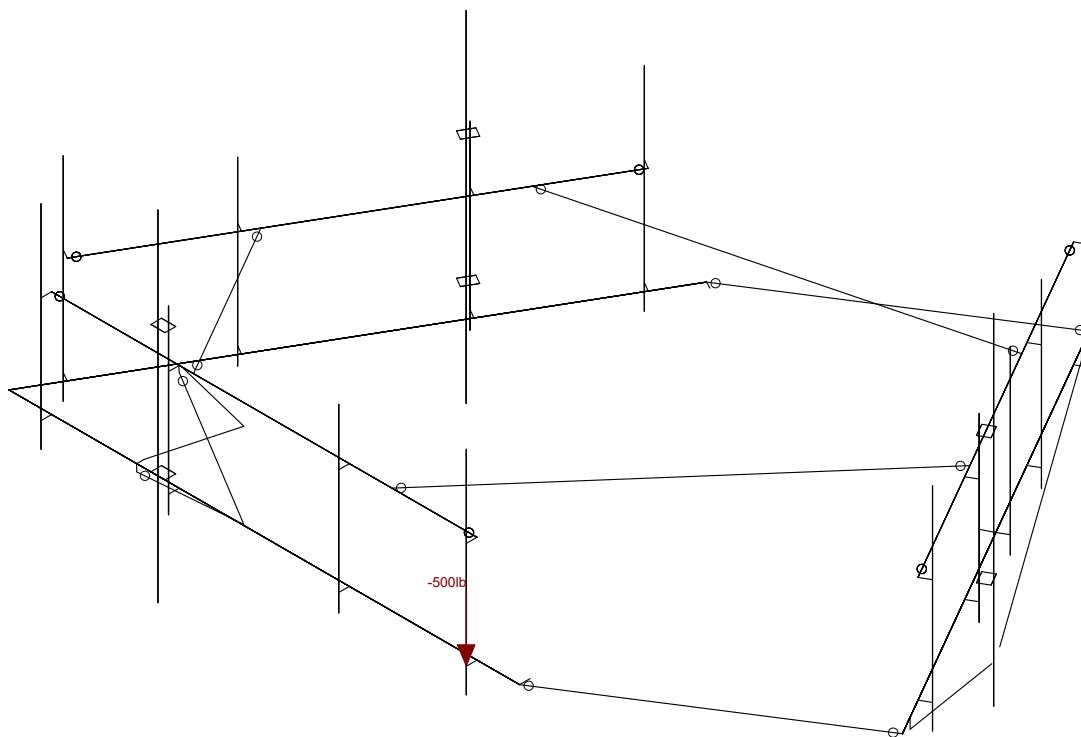
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CTL01038

Final Configuration

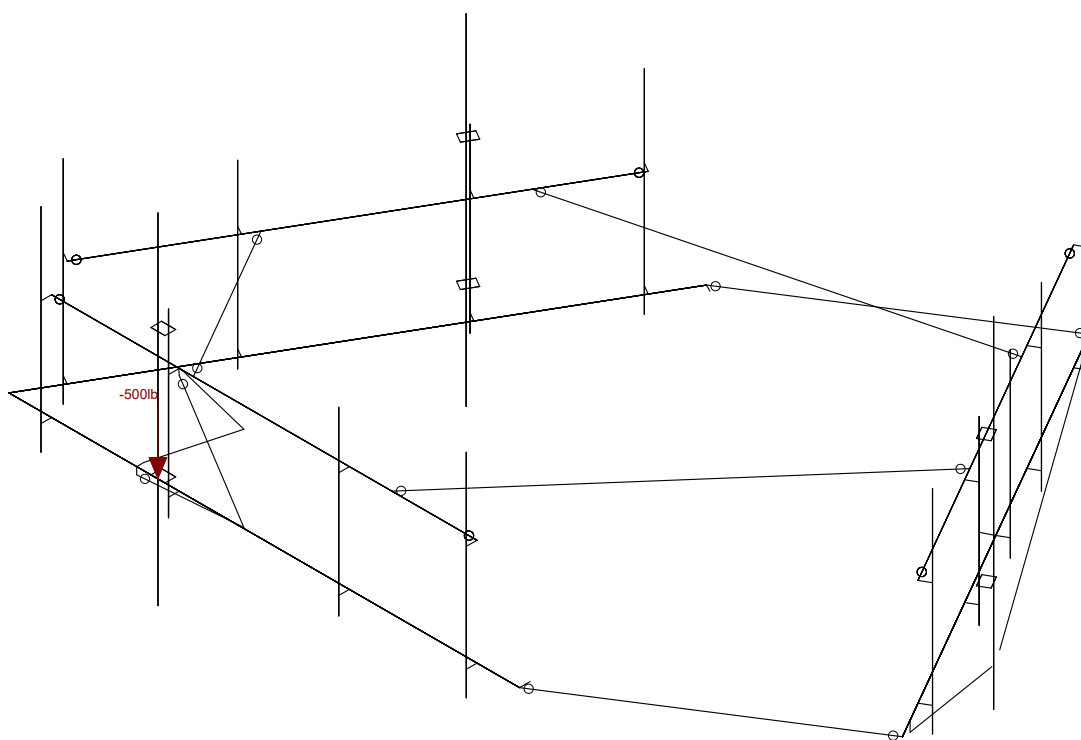
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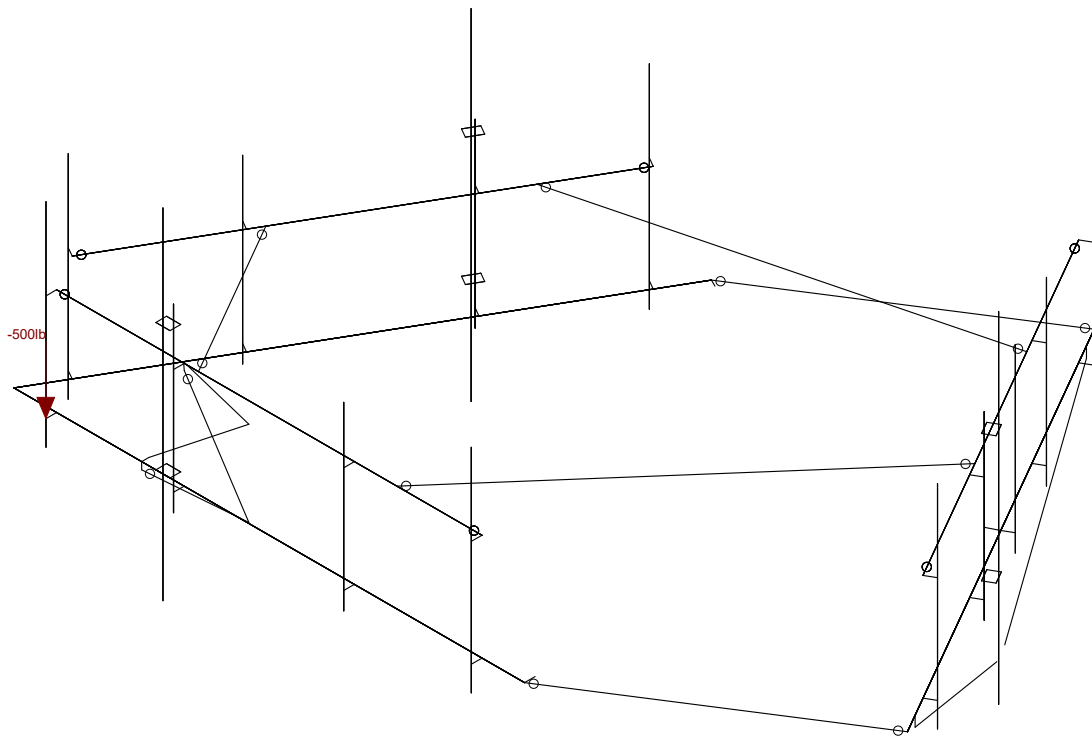
Loads: BLC 36, Maintenance Load 3
Envelope Only Solution

Infinigy Engineering, PLLC	CTL01038	Final Configuration
BDA		Mar 11, 2021 at 8:36 AM
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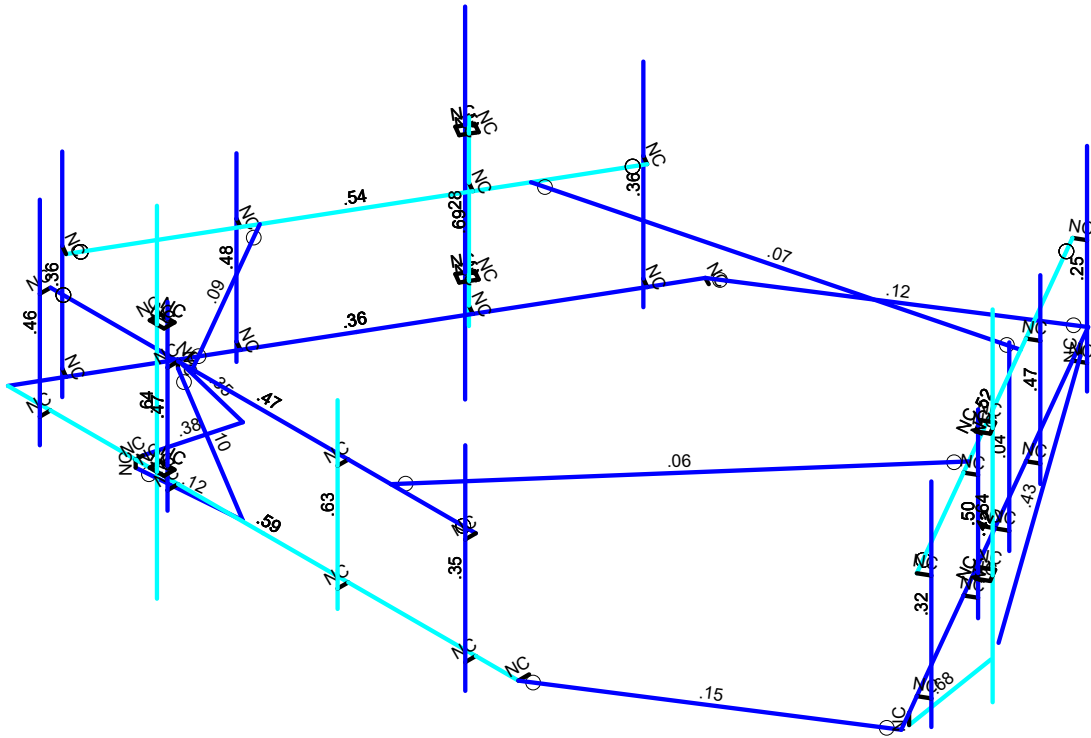
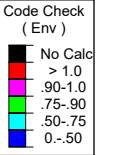
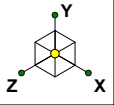
Loads: BLC 37, Maintenance Load 4
Envelope Only Solution

Infinigy Engineering, PLLC	CTL01038	Final Configuration
BDA		Mar 11, 2021 at 8:37 AM
1106-A0001-B		CTL01038_Modified_loaded.r3d



Loads: BLC 34, Maintenance Load 1
Envelope Only Solution

Infinigy Engineering, PLLC	CTL01038	Final Configuration
BDA		Mar 11, 2021 at 8:36 AM
1106-A0001-B		CTL01038_Modified_loaded.r3d



Member Code Checks Displayed (Enveloped)
Envelope Only Solution

Infinigy Engineering, PLLC

BDA

1106-A0001-B

CTL01038

Final Configuration

Mar 17, 2021 at 3:14 PM

CTL01038_Modified_loaded.r3d

Program Inputs

PROJECT INFORMATION		
Client:	Smartlink	
Carrier:	AT&T	
Engineer:	Brenden Archer	

SITE INFORMATION		
Risk Category:	II	
Exposure Category:	C	
Topo Factor Procedure:	Method 1, Category 1	
Site Class:	D - Stiff Soil	
Ground Elevation:	866.1	ft *Rev H

MOUNT INFORMATION		
Mount Type:	Sector Frame (Multiple)	
Num Sectors:	3	
Centerline AGL:	128.0	ft
Tower Height AGL:	127.0	ft

TOPOGRAPHIC DATA		
Topo Feature:	N/A	
Slope Distance:	N/A	ft
Crest Distance:	N/A	ft
Crest Height:	N/A	ft

FACTORS		
Directionality Fact. (K_d):	0.95	
Ground Ele. Factor (K_e):	0.97	*Rev H Only
Rooftop Speed-Up (K_s):	1.00	*Rev H Only
Topographic Factor (K_{zt}):	1.00	
Gust Effect Factor (G_h):	1.0	

CODE STANDARDS		
Building Code:	2018 IBC	
TIA Standard:	TIA-222-H	
ASCE Standard:	ASCE 7-16	

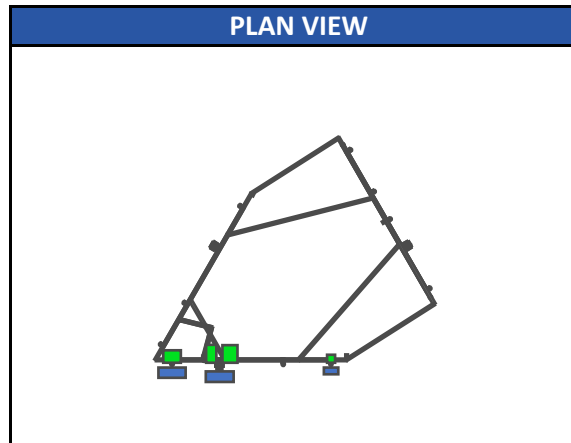
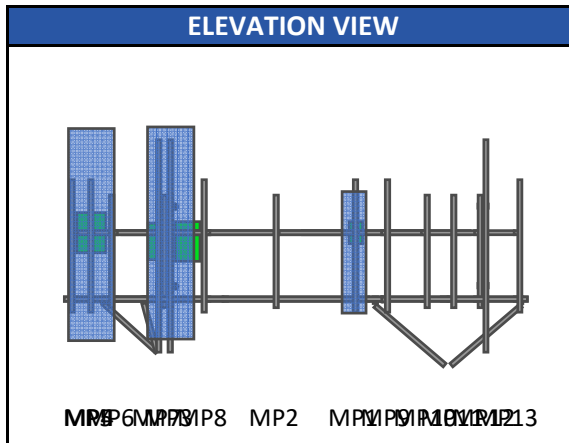
WIND AND ICE DATA		
Ultimate Wind (V_{ult}):	119	mph
Design Wind (V):	N/A	mph
Ice Wind (V_{ice}):	50	mph
Base Ice Thickness (t_i):	1.5	in
Flat Pressure:	88.99	psf
Round Pressure:	53.39	psf
Ice Wind Pressure:	9.43	psf

SEISMIC DATA		
Short-Period Accel. (S_s):	0.20	g
1-Second Accel. (S_1):	0.06	g
Short-Period Design (S_{DS}):	0.21	
1-Second Design (S_{D1}):	0.09	
Short-Period Coeff. (F_a):	1.60	
1-Second Coeff. (F_v):	2.40	
Amplification Factor (a_p):	1.00	
Response Mod. (R_p):	2.50	
Overstrength (Ω_o):	1.00	



Infinigy Load Calculator V2.1.4

Program Inputs



Infinigy Load Calculator V2.1.4

APPURTENANCE INFORMATION												
Appurtenance Name	Elevation	Qty.	K_a	q_z (psf)	EPA_N (ft ²)	EPA_T (ft ²)	Wind F_z (lbs)	Wind F_x (lbs)	Weight (lbs)	Seismic F (lbs)	Member (α sector)	
POWERWAVE TECHNOLOGIES 7770	128.0	3	0.90	44.50	5.51	2.93	220.59	117.26	35.00	3.68	MP1	
CCI ANTENNAS OPA65R-BU8DA	128.0	2	0.90	44.50	18.09	8.20	724.38	328.38	76.50	8.04	MP3	
CCI ANTENNAS OPA65R-BU6DA	128.0	1	0.90	44.50	12.87	5.67	515.43	227.18	60.20	6.33	Leg/Flush	
CCI ANTENNAS DMP65R-BU8DA	128.0	2	0.90	44.50	17.87	8.12	715.66	325.26	95.70	10.05	MP4	
CCI ANTENNAS DMP65R-BU6DA	128.0	1	0.90	44.50	12.71	5.62	508.96	224.87	79.40	8.34	Leg/Flush	
ERICSSON TME-RRUS 4478 B14	128.0	3	0.90	44.50	1.84	1.06	73.78	42.40	59.90	6.29	M7	
ERICSSON TME-RADIO 8843	128.0	3	0.90	44.50	1.98	1.70	79.29	67.88	75.00	7.88	M7	
ERICSSON TME-RADIO 4449	128.0	3	0.90	44.50	1.98	1.41	79.29	56.46	70.00	7.35	MP4	
RAYCAP TME-DC6-48-60-18-8F	128.0	2	0.90	44.50	2.90	2.90	116.16	116.16	32.80	3.45	Leg/Flush	
POWERWAVE TECHNOLOGIES 7020	128.0	3	0.90	44.50	0.50	0.50	20.02	20.02	15.00	1.58	MP1	

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(d...	Section/Shape	Type	Design List	Material	Design Rul...
1	M1	N1	N6			Horizontals	Beam	Wide Flange	A36 Gr.36	Typical
2	M2	N8	N2			RIGID	None	None	RIGID	Typical
3	M3	N9	N3			RIGID	None	None	RIGID	Typical
4	M4	N10	N4			RIGID	None	None	RIGID	Typical
5	M5	N11	N5			RIGID	None	None	RIGID	Typical
6	MP4	N12	N14			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
7	M7	N16	N18			Sch. 80 Pipe	Column	Pipe	A53 Gr.B	Typical
8	MP2	N17	N19			Sch. 80 Pipe	Column	Pipe	A53 Gr.B	Typical
9	MP1	N13	N15			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
10	MP3	N25	N24			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
11	M25	N28	N1			Horizontals	Beam	Wide Flange	A36 Gr.36	Typical
12	M26	N33	N29			RIGID	None	None	RIGID	Typical
13	M27	N34	N30			RIGID	None	None	RIGID	Typical
14	M28	N35	N31			RIGID	None	None	RIGID	Typical
15	M29	N36	N32			RIGID	None	None	RIGID	Typical
16	MP8	N37	N39			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
17	M31	N41	N43			Sch. 80 Pipe	Column	Pipe	A53 Gr.B	Typical
18	MP6	N42	N44			Sch. 80 Pipe	Column	Pipe	A53 Gr.B	Typical
19	MP5	N38	N40			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
20	MP7	N50	N49			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
21	M26A	N7	N53			RIGID	None	None	RIGID	Typical
22	M27A	N7	N52			RIGID	None	None	RIGID	Typical
23	M33	N6	N55			RIGID	None	None	RIGID	Typical
24	M34A	N28	N56			RIGID	None	None	RIGID	Typical
25	M35B	N57	N59			RIGID	None	None	RIGID	Typical
26	M36B	N58	N60			RIGID	None	None	RIGID	Typical
27	M36C	N57	N58			RIGID	None	None	RIGID	Typical
28	M37	N59	N60			RIGID	None	None	RIGID	Typical
29	M38	N61	N63			RIGID	None	None	RIGID	Typical
30	M39	N62	N64			RIGID	None	None	RIGID	Typical
31	M40	N61	N62			RIGID	None	None	RIGID	Typical
32	M41	N63	N64			RIGID	None	None	RIGID	Typical
33	M39A	N65	N67			RIGID	None	None	RIGID	Typical
34	M40A	N66	N68			RIGID	None	None	RIGID	Typical
35	M41A	N65	N66			RIGID	None	None	RIGID	Typical
36	M42	N67	N68			RIGID	None	None	RIGID	Typical
37	M43	N69	N71			RIGID	None	None	RIGID	Typical
38	M44	N70	N72			RIGID	None	None	RIGID	Typical
39	M45	N69	N70			RIGID	None	None	RIGID	Typical
40	M46	N71	N72			RIGID	None	None	RIGID	Typical
41	M41B	N73	N52			Tiebacks	Beam	None	A36 Gr.36	Typical
42	M43A	N76	N75			RIGID	None	None	RIGID	Typical
43	M44A	N76	N74			RIGID	None	None	RIGID	Typical
44	M45A	N73	N74			Tiebacks	Beam	None	A36 Gr.36	Typical
45	M47	N54	N53			Tiebacks	Beam	None	A36 Gr.36	Typical
46	M48	N54	N75			Tiebacks	Beam	None	A36 Gr.36	Typical
47	M67	N77	N78			Horizontals	Beam	Wide Flange	A36 Gr.36	Typical
48	M68	N83	N79			RIGID	None	None	RIGID	Typical
49	M69	N84	N80			RIGID	None	None	RIGID	Typical
50	M70	N85	N81			RIGID	None	None	RIGID	Typical
51	M71	N86	N82			RIGID	None	None	RIGID	Typical
52	MP13	N87	N89			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
53	M73	N91	N93			Sch. 80 Pipe	Column	Pipe	A53 Gr.B	Typical
54	MP10	N92	N94			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
55	MP9	N88	N90			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
56	MP12	N100	N99			Mount Pipe	Column	Pipe	A53 Gr.B	Typical

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(d...	Section/Shape	Type	Design List	Material	Design Rul...
57	M78	N102	N104			RIGID	None	None	RIGID	Typical
58	M79	N103	N105			RIGID	None	None	RIGID	Typical
59	M80	N102	N103			RIGID	None	None	RIGID	Typical
60	M81	N104	N105			RIGID	None	None	RIGID	Typical
61	M82	N106	N108			RIGID	None	None	RIGID	Typical
62	M83	N107	N109			RIGID	None	None	RIGID	Typical
63	M84	N106	N107			RIGID	None	None	RIGID	Typical
64	M85	N108	N109			RIGID	None	None	RIGID	Typical
65	M65	N77	N6			Tiebacks	Beam	None	A36 Gr.36	Typical
66	M66	N78	N28			Tiebacks	Beam	None	A36 Gr.36	Typical
67	M67A	N110	N101			RIGID	None	None	RIGID	Typical
68	MP11	N111	N112			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
69	M69A	N115	N113			RIGID	None	None	RIGID	Typical
70	M70A	N116	N114			RIGID	None	None	RIGID	Typical
71	M71A	N120	N115			Tiebacks	Beam	None	A36 Gr.36	Typical
72	M72	N119	N116			Tiebacks	Beam	None	A36 Gr.36	Typical
73	M73A	N101	N121			RIGID	None	None	RIGID	Typical
74	M82A	N126	N122			RIGID	None	None	RIGID	Typical
75	M83A	N127	N123			RIGID	None	None	RIGID	Typical
76	M84A	N128	N124			RIGID	None	None	RIGID	Typical
77	M85A	N129	N125			RIGID	None	None	RIGID	Typical
78	M86	N134	N130			RIGID	None	None	RIGID	Typical
79	M87	N135	N131			RIGID	None	None	RIGID	Typical
80	M88	N136	N132			RIGID	None	None	RIGID	Typical
81	M89	N137	N133			RIGID	None	None	RIGID	Typical
82	M90	N142	N138			RIGID	None	None	RIGID	Typical
83	M91	N143	N139			RIGID	None	None	RIGID	Typical
84	M92	N144	N140			RIGID	None	None	RIGID	Typical
85	M93	N145	N141			RIGID	None	None	RIGID	Typical
86	M94	N125	N122			Pipe Support	Column	Pipe	A53 Gr.B	Typical
87	M95	N133	N130			Pipe Support	Column	Pipe	A53 Gr.B	Typical
88	M96	N141	N138			Pipe Support	Column	Pipe	A53 Gr.B	Typical
89	M97	N147	N148			Pipe Support	Column	Pipe	A53 Gr.B	Typical
90	M98	N151	N149			Pipe Support	Column	Pipe	A53 Gr.B	Typical
91	M99	N150	N146			Pipe Support	Column	Pipe	A53 Gr.B	Typical

Material Takeoff

	Material	Size	Pieces	Length[in]	Weight[LB]
1	General				
2	RIGID		58	181.9	0
3	Total General		58	181.9	0
4					
5	Hot Rolled Steel				
6	A36 Gr.36	L2.5x2.5x4	8	406.1	137.029
7	A36 Gr.36	W6X15	3	432	542.675
8	A53 Gr.B	PIPE 2.0	11	750	216.927
9	A53 Gr.B	PIPE 2.0X	5	255	101.233
10	A53 Gr.B	PIPE 2.5	6	641.1	292.682
11	Total HR Steel		33	2484.2	1290.546

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (/...	Density[lb/ft^3]	Yield[ksi]	Ry	Fu[ksi]	Rt
1	A992	29000	11154	.3	.65	490	50	1.1	65	1.1
2	A36 Gr.36	29000	11154	.3	.65	490	36	1.5	58	1.2
3	A572 Gr.50	29000	11154	.3	.65	490	50	1.1	65	1.1
4	A500 Gr.B RND	29000	11154	.3	.65	527	42	1.4	58	1.3
5	A500 Gr.B Rect	29000	11154	.3	.65	527	46	1.4	58	1.3
6	A53 Gr.B	29000	11154	.3	.65	490	35	1.6	60	1.2
7	A1085	29000	11154	.3	.65	490	50	1.4	65	1.3

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed Area(Me...	Surface(P...
1	Self Weight	DL		-1			30		
2	Wind Load AZI 0	WLZ					60		
3	Wind Load AZI 30	None					60		
4	Wind Load AZI 60	None					60		
5	Wind Load AZI 90	WLX					60		
6	Wind Load AZI 120	None					60		
7	Wind Load AZI 150	None					60		
8	Wind Load AZI 180	None					60		
9	Wind Load AZI 210	None					60		
10	Wind Load AZI 240	None					60		
11	Wind Load AZI 270	None					60		
12	Wind Load AZI 300	None					60		
13	Wind Load AZI 330	None					60		
14	Distr. Wind Load Z	WLZ						91	
15	Distr. Wind Load X	WLX						91	
16	Ice Weight	OL1					30	91	
17	Ice Wind Load AZI 0	OL2					60		
18	Ice Wind Load AZI 30	None					60		
19	Ice Wind Load AZI 60	None					60		
20	Ice Wind Load AZI 90	OL3					60		
21	Ice Wind Load AZI 120	None					60		
22	Ice Wind Load AZI 150	None					60		
23	Ice Wind Load AZI 180	None					60		
24	Ice Wind Load AZI 210	None					60		
25	Ice Wind Load AZI 240	None					60		
26	Ice Wind Load AZI 270	None					60		
27	Ice Wind Load AZI 300	None					60		
28	Ice Wind Load AZI 330	None					60		
29	Distr. Ice Wind Load Z	OL2						91	
30	Distr. Ice Wind Load X	OL3						91	
31	Seismic Load Z	ELZ			-105		30		
32	Seismic Load X	ELX	-105				30		
33	Service Live Loads	LL				2			
34	Maintenance Load 1	LL				1			
35	Maintenance Load 2	LL				1			
36	Maintenance Load 3	LL				1			
37	Maintenance Load 4	LL				1			
38	Maintenance Load 5	LL				1			
39	Maintenance Load 6	LL				1			
40	Maintenance Load 7	LL				1			
41	Maintenance Load 8	LL				1			
42	Maintenance Load 9	LL				1			
43	Maintenance Load 10	LL				1			
44	Maintenance Load 11	LL				1			
45	Maintenance Load 12	LL				1			

Basic Load Cases (Continued)

BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed Area(Me...	Surface(P...
46 Maintenance Load 13	LL				1			

Load Combinations

Description	S...	PD...	S...	B...	Fact...	BLC	Fact...	BLC	Fact...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
1 1.4DL	Y...	Y			1 1.4														
2 1.2DL + 1WL AZI 0	Y...	Y			1 1.2	2	1	14	1	15									
3 1.2DL + 1WL AZI 30	Y...	Y			1 1.2	3	1	14	.866	15	.5								
4 1.2DL + 1WL AZI 60	Y...	Y			1 1.2	4	1	14	.5	15	.866								
5 1.2DL + 1WL AZI 90	Y...	Y			1 1.2	5	1	14		15	1								
6 1.2DL + 1WL AZI 120	Y...	Y			1 1.2	6	1	14	-.5	15	.866								
7 1.2DL + 1WL AZI 150	Y...	Y			1 1.2	7	1	14	-.866	15	.5								
8 1.2DL + 1WL AZI 180	Y...	Y			1 1.2	8	1	14	-1	15									
9 1.2DL + 1WL AZI 210	Y...	Y			1 1.2	9	1	14	-.866	15	-.5								
10 1.2DL + 1WL AZI 240	Y...	Y			1 1.2	10	1	14	-.5	15	-.866								
11 1.2DL + 1WL AZI 270	Y...	Y			1 1.2	11	1	14		15	-1								
12 1.2DL + 1WL AZI 300	Y...	Y			1 1.2	12	1	14	.5	15	-.866								
13 1.2DL + 1WL AZI 330	Y...	Y			1 1.2	13	1	14	.866	15	-.5								
14 0.9DL + 1WL AZI 0	Y...	Y			1 .9	2	1	14	1	15									
15 0.9DL + 1WL AZI 30	Y...	Y			1 .9	3	1	14	.866	15	.5								
16 0.9DL + 1WL AZI 60	Y...	Y			1 .9	4	1	14	.5	15	.866								
17 0.9DL + 1WL AZI 90	Y...	Y			1 .9	5	1	14		15	1								
18 0.9DL + 1WL AZI 120	Y...	Y			1 .9	6	1	14	-.5	15	.866								
19 0.9DL + 1WL AZI 150	Y...	Y			1 .9	7	1	14	-.866	15	.5								
20 0.9DL + 1WL AZI 180	Y...	Y			1 .9	8	1	14	-1	15									
21 0.9DL + 1WL AZI 210	Y...	Y			1 .9	9	1	14	-.866	15	-.5								
22 0.9DL + 1WL AZI 240	Y...	Y			1 .9	10	1	14	-.5	15	-.866								
23 0.9DL + 1WL AZI 270	Y...	Y			1 .9	11	1	14		15	-1								
24 0.9DL + 1WL AZI 300	Y...	Y			1 .9	12	1	14	.5	15	-.866								
25 0.9DL + 1WL AZI 330	Y...	Y			1 .9	13	1	14	.866	15	-.5								
26 1.2D + 1.0Di	Y...	Y			1 1.2	16	1												
27 1.2D + 1.0Di + 1.0Wi AZI 0	Y...	Y			1 1.2	16	1	17	1	29	1	30							
28 1.2D + 1.0Di + 1.0Wi AZI 30	Y...	Y			1 1.2	16	1	18	1	29	.866	30	.5						
29 1.2D + 1.0Di + 1.0Wi AZI 60	Y...	Y			1 1.2	16	1	19	1	29	.5	30	.866						
30 1.2D + 1.0Di + 1.0Wi AZI 90	Y...	Y			1 1.2	16	1	20	1	29		30	1						
31 1.2D + 1.0Di + 1.0Wi AZI 120	Y...	Y			1 1.2	16	1	21	1	29	-.5	30	.866						
32 1.2D + 1.0Di + 1.0Wi AZI 150	Y...	Y			1 1.2	16	1	22	1	29	-.866	30	.5						
33 1.2D + 1.0Di + 1.0Wi AZI 180	Y...	Y			1 1.2	16	1	23	1	29	-1	30							
34 1.2D + 1.0Di + 1.0Wi AZI 210	Y...	Y			1 1.2	16	1	24	1	29	-.866	30	-.5						
35 1.2D + 1.0Di + 1.0Wi AZI 240	Y...	Y			1 1.2	16	1	25	1	29	-.5	30	-.866						
36 1.2D + 1.0Di + 1.0Wi AZI 270	Y...	Y			1 1.2	16	1	26	1	29		30	-1						
37 1.2D + 1.0Di + 1.0Wi AZI 300	Y...	Y			1 1.2	16	1	27	1	29	.5	30	-.866						
38 1.2D + 1.0Di + 1.0Wi AZI 330	Y...	Y			1 1.2	16	1	28	1	29	.866	30	-.5						
39 (1.2 + 0.2Sds)DL + 1.0E AZI 0	Y...	Y			1 1.242	31	1	32											
40 (1.2 + 0.2Sds)DL + 1.0E AZI 30	Y...	Y			1 1.242	31	.866	32	.5										
41 (1.2 + 0.2Sds)DL + 1.0E AZI 60	Y...	Y			1 1.242	31		32	.866										
42 (1.2 + 0.2Sds)DL + 1.0E AZI 90	Y...	Y			1 1.242	31		32	1										
43 (1.2 + 0.2Sds)DL + 1.0E AZI 120	Y...	Y			1 1.242	31	-.5	32	.866										
44 (1.2 + 0.2Sds)DL + 1.0E AZI 150	Y...	Y			1 1.242	31	-.866	32	.5										
45 (1.2 + 0.2Sds)DL + 1.0E AZI 180	Y...	Y			1 1.242	31	-1	32											
46 (1.2 + 0.2Sds)DL + 1.0E AZI 210	Y...	Y			1 1.242	31	-.866	32	-.5										
47 (1.2 + 0.2Sds)DL + 1.0E AZI 240	Y...	Y			1 1.242	31	-.5	32	-.866										
48 (1.2 + 0.2Sds)DL + 1.0E AZI 270	Y...	Y			1 1.242	31		32	-1										
49 (1.2 + 0.2Sds)DL + 1.0E AZI 300	Y...	Y			1 1.242	31	.5	32	-.866										
50 (1.2 + 0.2Sds)DL + 1.0E AZI 330	Y...	Y			1 1.242	31	.866	32	-.5										
51 (0.9 - 0.2Sds)DL + 1.0E AZI 0	Y...	Y			1 .858	31	1	32											

Company : Infinigy Engineering, PLLC
 Designer : BDA
 Job Number : 1106-A0001-B
 Model Name : CTL01038

Mar 11, 2021
 8:37 AM
 Checked By: _____

Load Combinations (Continued)

52	(0.9 - 0.2Sds)DL + 1.0E AZI 30	Y..	Y	1	.858	31	.866	32	.5										
53	(0.9 - 0.2Sds)DL + 1.0E AZI 60	Y..	Y	1	.858	31	.5	32	.866										
54	(0.9 - 0.2Sds)DL + 1.0E AZI 90	Y..	Y	1	.858	31		32	1										
55	(0.9 - 0.2Sds)DL + 1.0E AZI 120	Y..	Y	1	.858	31	-.5	32	.866										
56	(0.9 - 0.2Sds)DL + 1.0E AZI 150	Y..	Y	1	.858	31	-.866	32	.5										
57	(0.9 - 0.2Sds)DL + 1.0E AZI 180	Y..	Y	1	.858	31	-1	32											
58	(0.9 - 0.2Sds)DL + 1.0E AZI 210	Y..	Y	1	.858	31	-.866	32	-.5										
59	(0.9 - 0.2Sds)DL + 1.0E AZI 240	Y..	Y	1	.858	31	-.5	32	-.866										
60	(0.9 - 0.2Sds)DL + 1.0E AZI 270	Y..	Y	1	.858	31		32	-1										
61	(0.9 - 0.2Sds)DL + 1.0E AZI 300	Y..	Y	1	.858	31	.5	32	-.866										
62	(0.9 - 0.2Sds)DL + 1.0E AZI 330	Y..	Y	1	.858	31	.866	32	-.5										
63	1.0DL + 1.5LL + 1.0SWL (60 m...)	Y..	Y	1	1	2	.254	14	.254	15			33	1.5					
64	1.0DL + 1.5LL + 1.0SWL (60 m...)	Y..	Y	1	1	3	.254	14	.22	15	.127		33	1.5					
65	1.0DL + 1.5LL + 1.0SWL (60 m...)	Y..	Y	1	1	4	.254	14	.127	15	.22		33	1.5					
66	1.0DL + 1.5LL + 1.0SWL (60 m...)	Y..	Y	1	1	5	.254	14		15	.254		33	1.5					
67	1.0DL + 1.5LL + 1.0SWL (60 m...)	Y..	Y	1	1	6	.254	14	-.127	15	.22		33	1.5					
68	1.0DL + 1.5LL + 1.0SWL (60 m...)	Y..	Y	1	1	7	.254	14	-.22	15	.127		33	1.5					
69	1.0DL + 1.5LL + 1.0SWL (60 m...)	Y..	Y	1	1	8	.254	14	-.254	15			33	1.5					
70	1.0DL + 1.5LL + 1.0SWL (60 m...)	Y..	Y	1	1	9	.254	14	-.22	15	-.1		33	1.5					
71	1.0DL + 1.5LL + 1.0SWL (60 m...)	Y..	Y	1	1	10	.254	14	-.127	15	-.22		33	1.5					
72	1.0DL + 1.5LL + 1.0SWL (60 m...)	Y..	Y	1	1	11	.254	14		15	-.2		33	1.5					
73	1.0DL + 1.5LL + 1.0SWL (60 m...)	Y..	Y	1	1	12	.254	14	.127	15	-.22		33	1.5					
74	1.0DL + 1.5LL + 1.0SWL (60 m...)	Y..	Y	1	1	13	.254	14	.22	15	-.1		33	1.5					
75	1.2DL + 1.5LL	Y..	Y	1	1.2	33	1.5												
76	1.2DL + 1.5LM-MP1 + 1SWL (3...)	Y..	Y	1	1.2	34	1.5	2	.064	14	.064		15						
77	1.2DL + 1.5LM-MP1 + 1SWL (3...)	Y..	Y	1	1.2	34	1.5	3	.064	14	.055		15	.032					
78	1.2DL + 1.5LM-MP1 + 1SWL (3...)	Y..	Y	1	1.2	34	1.5	4	.064	14	.032		15	.055					
79	1.2DL + 1.5LM-MP1 + 1SWL (3...)	Y..	Y	1	1.2	34	1.5	5	.064	14			15	.064					
80	1.2DL + 1.5LM-MP1 + 1SWL (3...)	Y..	Y	1	1.2	34	1.5	6	.064	14	-.0		15	.055					
81	1.2DL + 1.5LM-MP1 + 1SWL (3...)	Y..	Y	1	1.2	34	1.5	7	.064	14	-.0		15	.032					
82	1.2DL + 1.5LM-MP1 + 1SWL (3...)	Y..	Y	1	1.2	34	1.5	8	.064	14	-.0		15						
83	1.2DL + 1.5LM-MP1 + 1SWL (3...)	Y..	Y	1	1.2	34	1.5	9	.064	14	-.0		15	-.0					
84	1.2DL + 1.5LM-MP1 + 1SWL (3...)	Y..	Y	1	1.2	34	1.5	10	.064	14	-.0		15	-.0					
85	1.2DL + 1.5LM-MP1 + 1SWL (3...)	Y..	Y	1	1.2	34	1.5	11	.064	14			15	-.0					
86	1.2DL + 1.5LM-MP1 + 1SWL (3...)	Y..	Y	1	1.2	34	1.5	12	.064	14	.032		15	-.0					
87	1.2DL + 1.5LM-MP1 + 1SWL (3...)	Y..	Y	1	1.2	34	1.5	13	.064	14	.055		15	-.0					
88	1.2DL + 1.5LM-MP2 + 1SWL (3...)	Y..	Y	1	1.2	35	1.5	2	.064	14	.064		15						
89	1.2DL + 1.5LM-MP2 + 1SWL (3...)	Y..	Y	1	1.2	35	1.5	3	.064	14	.055		15	.032					
90	1.2DL + 1.5LM-MP2 + 1SWL (3...)	Y..	Y	1	1.2	35	1.5	4	.064	14	.032		15	.055					
91	1.2DL + 1.5LM-MP2 + 1SWL (3...)	Y..	Y	1	1.2	35	1.5	5	.064	14			15	.064					
92	1.2DL + 1.5LM-MP2 + 1SWL (3...)	Y..	Y	1	1.2	35	1.5	6	.064	14	-.0		15	.055					
93	1.2DL + 1.5LM-MP2 + 1SWL (3...)	Y..	Y	1	1.2	35	1.5	7	.064	14	-.0		15	.032					
94	1.2DL + 1.5LM-MP2 + 1SWL (3...)	Y..	Y	1	1.2	35	1.5	8	.064	14	-.0		15						
95	1.2DL + 1.5LM-MP2 + 1SWL (3...)	Y..	Y	1	1.2	35	1.5	9	.064	14	-.0		15	-.0					
96	1.2DL + 1.5LM-MP2 + 1SWL (3...)	Y..	Y	1	1.2	35	1.5	10	.064	14	-.0		15	-.0					
97	1.2DL + 1.5LM-MP2 + 1SWL (3...)	Y..	Y	1	1.2	35	1.5	11	.064	14			15	-.0					
98	1.2DL + 1.5LM-MP2 + 1SWL (3...)	Y..	Y	1	1.2	35	1.5	12	.064	14	.032		15	-.0					
99	1.2DL + 1.5LM-MP2 + 1SWL (3...)	Y..	Y	1	1.2	35	1.5	13	.064	14	.055		15	-.0					
100	1.2DL + 1.5LM-MP3 + 1SWL (3...)	Y..	Y	1	1.2	36	1.5	2	.064	14	.064		15						
101	1.2DL + 1.5LM-MP3 + 1SWL (3...)	Y..	Y	1	1.2	36	1.5	3	.064	14	.055		15	.032					
102	1.2DL + 1.5LM-MP3 + 1SWL (3...)	Y..	Y	1	1.2	36	1.5	4	.064	14	.032		15	.055					
103	1.2DL + 1.5LM-MP3 + 1SWL (3...)	Y..	Y	1	1.2	36	1.5	5	.064	14			15	.064					
104	1.2DL + 1.5LM-MP3 + 1SWL (3...)	Y..	Y	1	1.2	36	1.5	6	.064	14	-.0		15	.055					
105	1.2DL + 1.5LM-MP3 + 1SWL (3...)	Y..	Y	1	1.2	36	1.5	7	.064	14	-.0		15	.032					
106	1.2DL + 1.5LM-MP3 + 1SWL (3...)	Y..	Y	1	1.2	36	1.5	8	.064	14	-.0		15						
107	1.2DL + 1.5LM-MP3 + 1SWL (3...)	Y..	Y	1	1.2	36	1.5	9	.064	14	-.0		15	-.0					
108	1.2DL + 1.5LM-MP3 + 1SWL (3...)	Y..	Y	1	1.2	36	1.5	10	.064	14	-.0		15	-.0					

Load Combinations (Continued)

	Description	S...	PD...	S...	B...	Fact...	BLC	Fact...	BLC	Fact...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	
109	1.2DL + 1.5LM-MP3 + 1SWL (3...	Y...	Y			1	1.2	36	1.5	11	.064	14		15	-0...											
110	1.2DL + 1.5LM-MP3 + 1SWL (3...	Y...	Y			1	1.2	36	1.5	12	.064	14	.032	15	-0...											
111	1.2DL + 1.5LM-MP3 + 1SWL (3...	Y...	Y			1	1.2	36	1.5	13	.064	14	.055	15	-0...											
112	1.2DL + 1.5LM-MP4 + 1SWL (3...	Y...	Y			1	1.2	37	1.5	2	.064	14	.064	15												
113	1.2DL + 1.5LM-MP4 + 1SWL (3...	Y...	Y			1	1.2	37	1.5	3	.064	14	.055	15	.032											
114	1.2DL + 1.5LM-MP4 + 1SWL (3...	Y...	Y			1	1.2	37	1.5	4	.064	14	.032	15	.055											
115	1.2DL + 1.5LM-MP4 + 1SWL (3...	Y...	Y			1	1.2	37	1.5	5	.064	14		15	.064											
116	1.2DL + 1.5LM-MP4 + 1SWL (3...	Y...	Y			1	1.2	37	1.5	6	.064	14	-0...	15	.055											
117	1.2DL + 1.5LM-MP4 + 1SWL (3...	Y...	Y			1	1.2	37	1.5	7	.064	14	-0...	15	.032											
118	1.2DL + 1.5LM-MP4 + 1SWL (3...	Y...	Y			1	1.2	37	1.5	8	.064	14	-0...	15												
119	1.2DL + 1.5LM-MP4 + 1SWL (3...	Y...	Y			1	1.2	37	1.5	9	.064	14	-0...	15	-0...											
120	1.2DL + 1.5LM-MP4 + 1SWL (3...	Y...	Y			1	1.2	37	1.5	10	.064	14	-0...	15	-0...											
121	1.2DL + 1.5LM-MP4 + 1SWL (3...	Y...	Y			1	1.2	37	1.5	11	.064	14		15	-0...											
122	1.2DL + 1.5LM-MP4 + 1SWL (3...	Y...	Y			1	1.2	37	1.5	12	.064	14	.032	15	-0...											
123	1.2DL + 1.5LM-MP4 + 1SWL (3...	Y...	Y			1	1.2	37	1.5	13	.064	14	.055	15	-0...											
124	1.2DL + 1.5LM-MP5 + 1SWL (3...	Y...	Y			1	1.2	38	1.5	2	.064	14	.064	15												
125	1.2DL + 1.5LM-MP5 + 1SWL (3...	Y...	Y			1	1.2	38	1.5	3	.064	14	.055	15	.032											
126	1.2DL + 1.5LM-MP5 + 1SWL (3...	Y...	Y			1	1.2	38	1.5	4	.064	14	.032	15	.055											
127	1.2DL + 1.5LM-MP5 + 1SWL (3...	Y...	Y			1	1.2	38	1.5	5	.064	14		15	.064											
128	1.2DL + 1.5LM-MP5 + 1SWL (3...	Y...	Y			1	1.2	38	1.5	6	.064	14	-0...	15	.055											
129	1.2DL + 1.5LM-MP5 + 1SWL (3...	Y...	Y			1	1.2	38	1.5	7	.064	14	-0...	15	.032											
130	1.2DL + 1.5LM-MP5 + 1SWL (3...	Y...	Y			1	1.2	38	1.5	8	.064	14	-0...	15												
131	1.2DL + 1.5LM-MP5 + 1SWL (3...	Y...	Y			1	1.2	38	1.5	9	.064	14	-0...	15	-0...											
132	1.2DL + 1.5LM-MP5 + 1SWL (3...	Y...	Y			1	1.2	38	1.5	10	.064	14	-0...	15	-0...											
133	1.2DL + 1.5LM-MP5 + 1SWL (3...	Y...	Y			1	1.2	38	1.5	11	.064	14		15	-0...											
134	1.2DL + 1.5LM-MP5 + 1SWL (3...	Y...	Y			1	1.2	38	1.5	12	.064	14	.032	15	-0...											
135	1.2DL + 1.5LM-MP5 + 1SWL (3...	Y...	Y			1	1.2	38	1.5	13	.064	14	.055	15	-0...											
136	1.2DL + 1.5LM-MP6 + 1SWL (3...	Y...	Y			1	1.2	39	1.5	2	.064	14	.064	15												
137	1.2DL + 1.5LM-MP6 + 1SWL (3...	Y...	Y			1	1.2	39	1.5	3	.064	14	.055	15	.032											
138	1.2DL + 1.5LM-MP6 + 1SWL (3...	Y...	Y			1	1.2	39	1.5	4	.064	14	.032	15	.055											
139	1.2DL + 1.5LM-MP6 + 1SWL (3...	Y...	Y			1	1.2	39	1.5	5	.064	14		15	.064											
140	1.2DL + 1.5LM-MP6 + 1SWL (3...	Y...	Y			1	1.2	39	1.5	6	.064	14	-0...	15	.055											
141	1.2DL + 1.5LM-MP6 + 1SWL (3...	Y...	Y			1	1.2	39	1.5	7	.064	14	-0...	15	.032											
142	1.2DL + 1.5LM-MP6 + 1SWL (3...	Y...	Y			1	1.2	39	1.5	8	.064	14	-0...	15												
143	1.2DL + 1.5LM-MP6 + 1SWL (3...	Y...	Y			1	1.2	39	1.5	9	.064	14	-0...	15	-0...											
144	1.2DL + 1.5LM-MP6 + 1SWL (3...	Y...	Y			1	1.2	39	1.5	10	.064	14	-0...	15	-0...											
145	1.2DL + 1.5LM-MP6 + 1SWL (3...	Y...	Y			1	1.2	39	1.5	11	.064	14		15	-0...											
146	1.2DL + 1.5LM-MP6 + 1SWL (3...	Y...	Y			1	1.2	39	1.5	12	.064	14	.032	15	-0...											
147	1.2DL + 1.5LM-MP6 + 1SWL (3...	Y...	Y			1	1.2	39	1.5	13	.064	14	.055	15	-0...											
148	1.2DL + 1.5LM-MP7 + 1SWL (3...	Y...	Y			1	1.2	40	1.5	2	.064	14	.064	15												
149	1.2DL + 1.5LM-MP7 + 1SWL (3...	Y...	Y			1	1.2	40	1.5	3	.064	14	.055	15	.032											
150	1.2DL + 1.5LM-MP7 + 1SWL (3...	Y...	Y			1	1.2	40	1.5	4	.064	14	.032	15	.055											
151	1.2DL + 1.5LM-MP7 + 1SWL (3...	Y...	Y			1	1.2	40	1.5	5	.064	14		15	.064											
152	1.2DL + 1.5LM-MP7 + 1SWL (3...	Y...	Y			1	1.2	40	1.5	6	.064	14	-0...	15	.055											
153	1.2DL + 1.5LM-MP7 + 1SWL (3...	Y...	Y			1	1.2	40	1.5	7	.064	14	-0...	15	.032											
154	1.2DL + 1.5LM-MP7 + 1SWL (3...	Y...	Y			1	1.2	40	1.5	8	.064	14	-0...	15												
155	1.2DL + 1.5LM-MP7 + 1SWL (3...	Y...	Y			1	1.2	40	1.5	9	.064	14	-0...	15	-0...											
156	1.2DL + 1.5LM-MP7 + 1SWL (3...	Y...	Y			1	1.2	40	1.5	10	.064	14	-0...	15	-0...											
157	1.2DL + 1.5LM-MP7 + 1SWL (3...	Y...	Y			1	1.2	40	1.5	11	.064	14		15	-0...											
158	1.2DL + 1.5LM-MP7 + 1SWL (3...	Y...	Y			1	1.2	40	1.5	12	.064	14	.032	15	-0...											
159	1.2DL + 1.5LM-MP7 + 1SWL (3...	Y...	Y			1	1.2	40	1.5	13	.064	14	.055	15	-0...											
160	1.2DL + 1.5LM-MP8 + 1SWL (3...	Y...	Y			1	1.2	41	1.5	2	.064	14	.064	15												
161	1.2DL + 1.5LM-MP8 + 1SWL (3...	Y...	Y			1	1.2	41	1.5	3	.064	14	.055	15	.032											
162	1.2DL + 1.5LM-MP8 + 1SWL (3...	Y...	Y			1	1.2	41	1.5	4	.064	14	.032	15	.055											
163	1.2DL + 1.5LM-MP8 + 1SWL (3...	Y...	Y			1	1.2	41	1.5	5	.064	14		15	.064											
164	1.2DL + 1.5LM-MP8 + 1SWL (3...	Y...	Y			1	1.2	41	1.5	6	.064	14	-0...	15	.055											
165	1.2DL + 1.5LM-MP8 + 1SWL (3...	Y...	Y			1	1.2	41	1.5	7	.064	14	-0...	15	.032											

Load Combinations (Continued)

Description	S	PD	S	B	Fact	BLC	Fact	BLC	Fact	B	Fa	B	Fa	B	Fa	B	Fa	B	Fa	B	Fa	
166	1.2DL + 1.5LM-MP8 + 1SWL (3...	Y...	Y		1	1.2	41	1.5	8	.064	14	-0...	15									
167	1.2DL + 1.5LM-MP8 + 1SWL (3...	Y...	Y		1	1.2	41	1.5	9	.064	14	-0...	15	-0...								
168	1.2DL + 1.5LM-MP8 + 1SWL (3...	Y...	Y		1	1.2	41	1.5	10	.064	14	-0...	15	-0...								
169	1.2DL + 1.5LM-MP8 + 1SWL (3...	Y...	Y		1	1.2	41	1.5	11	.064	14	15	-0...									
170	1.2DL + 1.5LM-MP8 + 1SWL (3...	Y...	Y		1	1.2	41	1.5	12	.064	14	.032	15	-0...								
171	1.2DL + 1.5LM-MP8 + 1SWL (3...	Y...	Y		1	1.2	41	1.5	13	.064	14	.055	15	-0...								
172	1.2DL + 1.5LM-MP9 + 1SWL (3...	Y...	Y		1	1.2	42	1.5	2	.064	14	.064	15									
173	1.2DL + 1.5LM-MP9 + 1SWL (3...	Y...	Y		1	1.2	42	1.5	3	.064	14	.055	15	.032								
174	1.2DL + 1.5LM-MP9 + 1SWL (3...	Y...	Y		1	1.2	42	1.5	4	.064	14	.032	15	.055								
175	1.2DL + 1.5LM-MP9 + 1SWL (3...	Y...	Y		1	1.2	42	1.5	5	.064	14	15	.064									
176	1.2DL + 1.5LM-MP9 + 1SWL (3...	Y...	Y		1	1.2	42	1.5	6	.064	14	-0...	15	.055								
177	1.2DL + 1.5LM-MP9 + 1SWL (3...	Y...	Y		1	1.2	42	1.5	7	.064	14	-0...	15	.032								
178	1.2DL + 1.5LM-MP9 + 1SWL (3...	Y...	Y		1	1.2	42	1.5	8	.064	14	-0...	15									
179	1.2DL + 1.5LM-MP9 + 1SWL (3...	Y...	Y		1	1.2	42	1.5	9	.064	14	-0...	15	-0...								
180	1.2DL + 1.5LM-MP9 + 1SWL (3...	Y...	Y		1	1.2	42	1.5	10	.064	14	-0...	15	-0...								
181	1.2DL + 1.5LM-MP9 + 1SWL (3...	Y...	Y		1	1.2	42	1.5	11	.064	14	15	-0...									
182	1.2DL + 1.5LM-MP9 + 1SWL (3...	Y...	Y		1	1.2	42	1.5	12	.064	14	.032	15	-0...								
183	1.2DL + 1.5LM-MP9 + 1SWL (3...	Y...	Y		1	1.2	42	1.5	13	.064	14	.055	15	-0...								
184	1.2DL + 1.5LM-MP10 + 1SWL (...)	Y...	Y		1	1.2	43	1.5	2	.064	14	.064	15									
185	1.2DL + 1.5LM-MP10 + 1SWL (...)	Y...	Y		1	1.2	43	1.5	3	.064	14	.055	15	.032								
186	1.2DL + 1.5LM-MP10 + 1SWL (...)	Y...	Y		1	1.2	43	1.5	4	.064	14	.032	15	.055								
187	1.2DL + 1.5LM-MP10 + 1SWL (...)	Y...	Y		1	1.2	43	1.5	5	.064	14	15	.064									
188	1.2DL + 1.5LM-MP10 + 1SWL (...)	Y...	Y		1	1.2	43	1.5	6	.064	14	-0...	15	.055								
189	1.2DL + 1.5LM-MP10 + 1SWL (...)	Y...	Y		1	1.2	43	1.5	7	.064	14	-0...	15	.032								
190	1.2DL + 1.5LM-MP10 + 1SWL (...)	Y...	Y		1	1.2	43	1.5	8	.064	14	-0...	15									
191	1.2DL + 1.5LM-MP10 + 1SWL (...)	Y...	Y		1	1.2	43	1.5	9	.064	14	-0...	15	-0...								
192	1.2DL + 1.5LM-MP10 + 1SWL (...)	Y...	Y		1	1.2	43	1.5	10	.064	14	-0...	15	-0...								
193	1.2DL + 1.5LM-MP10 + 1SWL (...)	Y...	Y		1	1.2	43	1.5	11	.064	14	15	-0...									
194	1.2DL + 1.5LM-MP10 + 1SWL (...)	Y...	Y		1	1.2	43	1.5	12	.064	14	.032	15	-0...								
195	1.2DL + 1.5LM-MP10 + 1SWL (...)	Y...	Y		1	1.2	43	1.5	13	.064	14	.055	15	-0...								
196	1.2DL + 1.5LM-MP11 + 1SWL (...)	Y...	Y		1	1.2	44	1.5	2	.064	14	.064	15									
197	1.2DL + 1.5LM-MP11 + 1SWL (...)	Y...	Y		1	1.2	44	1.5	3	.064	14	.055	15	.032								
198	1.2DL + 1.5LM-MP11 + 1SWL (...)	Y...	Y		1	1.2	44	1.5	4	.064	14	.032	15	.055								
199	1.2DL + 1.5LM-MP11 + 1SWL (...)	Y...	Y		1	1.2	44	1.5	5	.064	14	15	.064									
200	1.2DL + 1.5LM-MP11 + 1SWL (...)	Y...	Y		1	1.2	44	1.5	6	.064	14	-0...	15	.055								
201	1.2DL + 1.5LM-MP11 + 1SWL (...)	Y...	Y		1	1.2	44	1.5	7	.064	14	-0...	15	.032								
202	1.2DL + 1.5LM-MP11 + 1SWL (...)	Y...	Y		1	1.2	44	1.5	8	.064	14	-0...	15									
203	1.2DL + 1.5LM-MP11 + 1SWL (...)	Y...	Y		1	1.2	44	1.5	9	.064	14	-0...	15	-0...								
204	1.2DL + 1.5LM-MP11 + 1SWL (...)	Y...	Y		1	1.2	44	1.5	10	.064	14	-0...	15	-0...								
205	1.2DL + 1.5LM-MP11 + 1SWL (...)	Y...	Y		1	1.2	44	1.5	11	.064	14	15	-0...									
206	1.2DL + 1.5LM-MP11 + 1SWL (...)	Y...	Y		1	1.2	44	1.5	12	.064	14	.032	15	-0...								
207	1.2DL + 1.5LM-MP11 + 1SWL (...)	Y...	Y		1	1.2	44	1.5	13	.064	14	.055	15	-0...								
208	1.2DL + 1.5LM-MP12 + 1SWL (...)	Y...	Y		1	1.2	45	1.5	2	.064	14	.064	15									
209	1.2DL + 1.5LM-MP12 + 1SWL (...)	Y...	Y		1	1.2	45	1.5	3	.064	14	.055	15	.032								
210	1.2DL + 1.5LM-MP12 + 1SWL (...)	Y...	Y		1	1.2	45	1.5	4	.064	14	.032	15	.055								
211	1.2DL + 1.5LM-MP12 + 1SWL (...)	Y...	Y		1	1.2	45	1.5	5	.064	14	15	.064									
212	1.2DL + 1.5LM-MP12 + 1SWL (...)	Y...	Y		1	1.2	45	1.5	6	.064	14	-0...	15	.055								
213	1.2DL + 1.5LM-MP12 + 1SWL (...)	Y...	Y		1	1.2	45	1.5	7	.064	14	-0...	15	.032								
214	1.2DL + 1.5LM-MP12 + 1SWL (...)	Y...	Y		1	1.2	45	1.5	8	.064	14	-0...	15									
215	1.2DL + 1.5LM-MP12 + 1SWL (...)	Y...	Y		1	1.2	45	1.5	9	.064	14	-0...	15	-0...								
216	1.2DL + 1.5LM-MP12 + 1SWL (...)	Y...	Y		1	1.2	45	1.5	10	.064	14	-0...	15	-0...								
217	1.2DL + 1.5LM-MP12 + 1SWL (...)	Y...	Y		1	1.2	45	1.5	11	.064	14	15	-0...									
218	1.2DL + 1.5LM-MP12 + 1SWL (...)	Y...	Y		1	1.2	45	1.5	12	.064	14	.032	15	-0...								
219	1.2DL + 1.5LM-MP12 + 1SWL (...)	Y...	Y		1	1.2	45	1.5	13	.064	14	.055	15	-0...								
220	1.2DL + 1.5LM-MP13 + 1SWL (...)	Y...	Y		1	1.2	46	1.5	2	.064	14	.064	15									
221	1.2DL + 1.5LM-MP13 + 1SWL (...)	Y...	Y		1	1.2	46	1.5	3	.064	14	.055	15	.032								
222	1.2DL + 1.5LM-MP13 + 1SWL (...)	Y...	Y		1	1.2	46	1.5	4	.064	14	.032	15	.055								

Load Combinations (Continued)

	Description	S...	PD...	S...	B...	Fact...	BLC	Fact...	BLC	Fact...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	
223	1.2DL + 1.5LM-MP13 + 1SWL (...Y...)	Y		1	1.2	46	1.5	5	.064	14		15.064										
224	1.2DL + 1.5LM-MP13 + 1SWL (...Y...)	Y		1	1.2	46	1.5	6	.064	14	-0.0	15.055										
225	1.2DL + 1.5LM-MP13 + 1SWL (...Y...)	Y		1	1.2	46	1.5	7	.064	14	-0.0	15.032										
226	1.2DL + 1.5LM-MP13 + 1SWL (...Y...)	Y		1	1.2	46	1.5	8	.064	14	-0.0	15.0										
227	1.2DL + 1.5LM-MP13 + 1SWL (...Y...)	Y		1	1.2	46	1.5	9	.064	14	-0.0	15.0										
228	1.2DL + 1.5LM-MP13 + 1SWL (...Y...)	Y		1	1.2	46	1.5	10	.064	14	-0.0	15.0										
229	1.2DL + 1.5LM-MP13 + 1SWL (...Y...)	Y		1	1.2	46	1.5	11	.064	14		15.0										
230	1.2DL + 1.5LM-MP13 + 1SWL (...Y...)	Y		1	1.2	46	1.5	12	.064	14	.032	15.0										

Envelope Joint Reactions

Joint		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [lb-ft]	LC	MY [lb-ft]	LC	MZ [lb-ft]	LC	
1	N55	max	3163.503	6	902.568	12	1097.115	12	0	230	0	230	0	230
2		min	-3136.756	23	-486.265	18	-1077.206	18	0	1	0	1	0	1
3	N56	max	2166.656	19	1335.371	38	3068.986	14	0	230	0	230	0	230
4		min	-2185.513	13	-306.321	19	-3139.969	8	0	1	0	1	0	1
5	N54	max	2181.233	29	299.42	30	2123.193	14	0	230	0	230	0	230
6		min	-853.809	21	-10.886	23	-2951.087	8	0	1	0	1	0	1
7	N73	max	126.488	23	3628.416	31	1775.969	33	0	230	0	230	0	230
8		min	-2344.866	30	-273.295	24	-734.645	14	0	1	0	1	0	1
9	N120	max	1637.118	35	1453.579	35	2793.374	35	0	230	0	230	0	230
10		min	-282.663	16	-267.053	16	-502.264	16	0	1	0	1	0	1
11	N119	max	320.469	20	866.888	196	461.735	20	0	230	0	230	0	230
12		min	-991.947	196	-264.378	20	-1731.985	196	0	1	0	1	0	1
13	N121	max	2558.489	16	1231.522	31	3545.987	15	0	230	2371.312	8	0	230
14		min	-2851.795	10	-208.886	24	-4336.491	9	0	1	-2176.439	14	0	1
15	Totals:	max	6566.854	17	8692.35	30	7092.055	2						
16		min	-6566.857	11	2178.598	58	-7092.054	20						

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

Member	Shape	Code Che...	Loc[in]	LC	Shear Ch...	Loc[in]	Dir	LC	phi*Pnc [lb]	phi*P...	phi*M...	phi*M.....	Eqn	
1	M31	PIPE 2.0X	.687	5.313	13	.384	5.313		6	35201.816	44100	2530.5	2530.5 ...	H3-6
2	M71A	L2.5x2.5x4	.677	68.542	12	.015	68.542	z	12	13294.373	38556	1113...	2391.....	H2-1
3	MP3	PIPE 2.0	.641	31	20	.117	31		9	14916.096	32130	1871...	1871.....	H1-1a
4	MP12	PIPE 2.0	.638	31	24	.157	31		13	14916.096	32130	1871...	1871.....	H1-1a
5	MP2	PIPE 2.0X	.634	5.313	17	.300	5.313		5	35201.816	44100	2530.5	2530.5 ...	H3-6
6	M1	W6X15	.592	0	8	.361	48	z	8	85428.52	143532	1253...	2870.....	H1-1b
7	M95	PIPE 2.5	.543	40	7	.332	36.25		7	22373.407	50715	3596...	3596.....	H3-6
8	M96	PIPE 2.5	.520	40	2	.336	80		2	22373.407	50715	3596...	3596.....	H3-6
9	M73	PIPE 2.0X	.498	5.313	3	.387	5.313		13	35201.816	44100	2530.5	2530.5 ...	H3-6
10	MP6	PIPE 2.0X	.484	5.313	8	.143	5.313		6	35201.816	44100	2530.5	2530.5 ...	H1-1b
11	MP10	PIPE 2.0	.468	5.313	3	.224	5.313		3	25873.617	32130	1871...	1871.....	H1-1b
12	M7	PIPE 2.0X	.468	5.313	5	.298	5.313		9	35201.816	44100	2530.5	2530.5 ...	H1-1b
13	M94	PIPE 2.5	.466	80	5	.361	80		3	22373.407	50715	3596...	3596.....	H3-6
14	MP4	PIPE 2.0	.463	7.5	2	.074	7.5		3	23808.54	32130	1871...	1871.....	H1-1b
15	M72	L2.5x2.5x4	.428	68.542	4	.010	68.542	z	5	13294.373	38556	1113...	2373.....	H2-1
16	M67	W6X15	.416	6	12	.198	73.5	z	28	85428.525	143532	1253...	2870.....	H1-1b
17	M47	L2.5x2.5x4	.385	23.044	2	.026	0	y	2	34184.987	38556	1113...	2537.....	H2-1
18	M25	W6X15	.362	144	8	.275	96	z	2	85428.53	143532	1253...	2870.....	H1-1b
19	MP5	PIPE 2.0	.359	7.5	8	.030	7.5		8	23808.54	32130	1871...	1871.....	H1-1b
20	MP8	PIPE 2.0	.357	7.5	13	.049	7.5		5	23808.54	32130	1871...	1871.....	H1-1b
21	MP1	PIPE 2.0	.354	7.5	12	.052	7.5		11	23808.54	32130	1871...	1871.....	H1-1b
22	M48	L2.5x2.5x4	.348	22.918	8	.026	22.918	y	2	34229.557	38556	1113...	2537.....	H2-1
23	MP13	PIPE 2.0	.323	37.5	12	.081	7.5		13	23808.54	32130	1871...	1871.....	H1-1b
24	MP7	PIPE 2.0	.279	31	16	.126	31		5	14916.096	32130	1871...	1871.....	H1-1b

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

Member	Shape	Code Che...	Loc[in]	LC	Shear Ch...	Loc[in]	Dir	LC	phi*Pnc [lb]	phi*P...	phi*M...	phi*M.....	Eqn
25	MP9	PIPE 2.0	.246	7.5	4	.028	7.5	9	23808.54	32130	1871...	1871...	H1-1b
26	M65	L2.5x2.5x4	.153	39.93	8	.033	0	7	10205.387	38556	1113...	2107...	H2-1
27	M66	L2.5x2.5x4	.123	39.115	15	.056	0	4	10205.387	38556	1113...	2107...	H2-1
28	M41B	L2.5x2.5x4	.115	0	33	.005	0	10	29995.279	38556	1113...	2498...	H2-1
29	M45A	L2.5x2.5x4	.095	17.337	30	.008	0	2	29995.279	38556	1113...	2537...	H2-1
30	M97	PIPE 2.5	.087	28.167	8	.273	0	8	43491.002	50715	3596...	3596...	H3-6
31	M98	PIPE 2.5	.066	56.772	8	.162	0	4	24375.266	50715	3596...	3596...	H1-1b
32	M99	PIPE 2.5	.062	57.773	4	.150	115.546	12	23748.019	50715	3596...	3596...	H1-1b
33	MP11	PIPE 2.0	.042	5.313	12	.004	5.313	12	25873.617	32130	1871...	1871...	H1-1b

Hot Rolled Steel Section Sets

Label	Shape	Type	Design List	Material	Design R...	A [in ²]	Iyy [in ⁴]	Izz [in ⁴]	J [in ⁴]	
1	Horizontals	W6X15	Beam	Wide Flange	A36 Gr.36	Typical	4.43	9.32	29.1	.101
2	Mount Pipe	PIPE 2.0	Column	Pipe	A53 Gr.B	Typical	1.02	.627	.627	1.25
3	Tiebacks	L2.5x2.5x4	Beam	None	A36 Gr.36	Typical	1.19	.692	.692	.026
4	Sch. 80 Pipe	PIPE 2.0X	Column	Pipe	A53 Gr.B	Typical	1.4	.827	.827	1.65
5	Pipe Support	PIPE 2.5	Column	Pipe	A53 Gr.B	Typical	1.61	1.45	1.45	2.89

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	Default			None
2	M2					Yes	** NA **			None
3	M3					Yes	** NA **			None
4	M4					Yes	** NA **			None
5	M5					Yes	** NA **			None
6	MP4					Yes	** NA **			None
7	M7					Yes	** NA **			None
8	MP2					Yes	** NA **			None
9	MP1					Yes	** NA **			None
10	MP3					Yes	** NA **			None
11	M25					Yes	** NA **			None
12	M26					Yes	** NA **			None
13	M27					Yes	** NA **			None
14	M28					Yes	** NA **			None
15	M29					Yes	** NA **			None
16	MP8					Yes	** NA **			None
17	M31					Yes	** NA **			None
18	MP6					Yes	** NA **			None
19	MP5					Yes	** NA **			None
20	MP7					Yes	** NA **			None
21	M26A					Yes	** NA **			None
22	M27A					Yes	** NA **			None
23	M33					Yes	** NA **			None
24	M34A					Yes	** NA **			None
25	M35B					Yes	** NA **			None
26	M36B					Yes	** NA **			None
27	M36C					Yes	** NA **			None
28	M37					Yes	** NA **			None
29	M38					Yes	** NA **			None
30	M39					Yes	** NA **			None
31	M40					Yes	** NA **			None
32	M41					Yes	** NA **			None
33	M39A					Yes	** NA **			None
34	M40A					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...
35	M41A						Yes	** NA **			None
36	M42						Yes	** NA **			None
37	M43						Yes	** NA **			None
38	M44						Yes	** NA **			None
39	M45						Yes	** NA **			None
40	M46						Yes	** NA **			None
41	M41B		BenPIN				Yes	Default			None
42	M43A						Yes	** NA **			None
43	M44A						Yes	** NA **			None
44	M45A		BenPIN				Yes	Default			None
45	M47						Yes				None
46	M48						Yes				None
47	M67						Yes				None
48	M68						Yes	** NA **			None
49	M69						Yes	** NA **			None
50	M70						Yes	** NA **			None
51	M71						Yes	** NA **			None
52	MP13						Yes	** NA **			None
53	M73						Yes	** NA **			None
54	MP10						Yes	** NA **			None
55	MP9						Yes	** NA **			None
56	MP12						Yes	** NA **			None
57	M78						Yes	** NA **			None
58	M79						Yes	** NA **			None
59	M80						Yes	** NA **			None
60	M81						Yes	** NA **			None
61	M82						Yes	** NA **			None
62	M83						Yes	** NA **			None
63	M84						Yes	** NA **			None
64	M85						Yes	** NA **			None
65	M65	BenPIN	BenPIN				Yes	Default			None
66	M66	BenPIN	BenPIN				Yes	Default			None
67	M67A						Yes	** NA **			None
68	MP11						Yes	** NA **			None
69	M69A						Yes	** NA **			None
70	M70A						Yes	** NA **			None
71	M71A						Yes				None
72	M72						Yes				None
73	M73A						Yes	** NA **			None
74	M82A						Yes	** NA **			None
75	M83A						Yes	** NA **			None
76	M84A						Yes	** NA **			None
77	M85A						Yes	** NA **			None
78	M86						Yes	** NA **			None
79	M87						Yes	** NA **			None
80	M88						Yes	** NA **			None
81	M89						Yes	** NA **			None
82	M90						Yes	** NA **			None
83	M91						Yes	** NA **			None
84	M92						Yes	** NA **			None
85	M93						Yes	** NA **			None
86	M94	BenPIN	BenPIN				Yes	** NA **			None
87	M95	BenPIN	BenPIN				Yes	** NA **			None
88	M96	BenPIN	BenPIN				Yes	** NA **			None
89	M97	BenPIN	BenPIN				Yes	** NA **			None
90	M98	BenPIN	BenPIN				Yes	** NA **			None
91	M99	BenPIN	BenPIN				Yes	** NA **			None

Hot Rolled Steel Design Parameters

	Label	Shape	Length[in]	Lbyy[in]	Lbzz[in]	Lcomp top[in]	Lcomp bot[in]	L-torq...	Kyy	Kzz	Cb	Function
1	M1	Horizontals	144			Lbyy						Lateral
2	MP4	Mount Pipe	60									Lateral
3	M7	Sch. 80 Pipe	51									Lateral
4	MP2	Sch. 80 Pipe	51									Lateral
5	MP1	Mount Pipe	60									Lateral
6	MP3	Mount Pipe	96									Lateral
7	M25	Horizontals	144			Lbyy						Lateral
8	MP8	Mount Pipe	60									Lateral
9	M31	Sch. 80 Pipe	51									Lateral
10	MP6	Sch. 80 Pipe	51									Lateral
11	MP5	Mount Pipe	60									Lateral
12	MP7	Mount Pipe	96									Lateral
13	M41B	Tiebacks	33.287			Lbyy						Lateral
14	M45A	Tiebacks	33.287			Lbyy						Lateral
15	M47	Tiebacks	23.044			Lbyy						Lateral
16	M48	Tiebacks	22.918			Lbyy						Lateral
17	M67	Horizontals	144			Lbyy						Lateral
18	MP13	Mount Pipe	60									Lateral
19	M73	Sch. 80 Pipe	51									Lateral
20	MP10	Mount Pipe	51									Lateral
21	MP9	Mount Pipe	60									Lateral
22	MP12	Mount Pipe	96									Lateral
23	M65	Tiebacks	78.23			Lbyy						Lateral
24	M66	Tiebacks	78.23			Lbyy						Lateral
25	MP11	Mount Pipe	51									Lateral
26	M71A	Tiebacks	68.542			Lbyy						Lateral
27	M72	Tiebacks	68.542			Lbyy						Lateral
28	M94	Pipe Support	120									Lateral
29	M95	Pipe Support	120									Lateral
30	M96	Pipe Support	120									Lateral
31	M97	Pipe Support	52									Lateral
32	M98	Pipe Support	113.543									Lateral
33	M99	Pipe Support	115.546									Lateral

Joint Loads and Enforced Displacements (BLC 33 : Service Live Loads)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^2/in, lb*s^2*i...
1	N1	L	Y	-250
2	N77	L	Y	-250

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

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^2/in, lb*s^2*i...
1	N8	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^2/in, lb*s^2*i...
1	N10	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^2/in, lb*s^2*i...
1	N11	L	Y	-500

Joint Loads and Enforced Displacements (BLC 37 : Maintenance Load 4)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^2/in, lb*s^2*i...
1	N11	L	Y	-500

Joint Loads and Enforced Displacements (BLC 37 : Maintenance Load 4) (Continued)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^2/in, lb*s^2*i...
1	N20	L	Y	-500

Joint Loads and Enforced Displacements (BLC 38 : Maintenance Load 5)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^2/in, lb*s^2*i...
1	N33	L	Y	-500

Joint Loads and Enforced Displacements (BLC 39 : Maintenance Load 6)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^2/in, lb*s^2*i...
1	N35	L	Y	-500

Joint Loads and Enforced Displacements (BLC 40 : Maintenance Load 7)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^2/in, lb*s^2*i...
1	N36	L	Y	-500

Joint Loads and Enforced Displacements (BLC 41 : Maintenance Load 8)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^2/in, lb*s^2*i...
1	N45	L	Y	-500

Joint Loads and Enforced Displacements (BLC 42 : Maintenance Load 9)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^2/in, lb*s^2*i...
1	N83	L	Y	-500

Joint Loads and Enforced Displacements (BLC 43 : Maintenance Load 10)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^2/in, lb*s^2*i...
1	N85	L	Y	-500

Joint Loads and Enforced Displacements (BLC 44 : Maintenance Load 11)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^2/in, lb*s^2*i...
1	N86	L	Y	-500

Joint Loads and Enforced Displacements (BLC 45 : Maintenance Load 12)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^2/in, lb*s^2*i...
1	N95	L	Y	-500

Joint Loads and Enforced Displacements (BLC 46 : Maintenance Load 13)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^2/in, lb*s^2*i...
1	N110	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	57
3	MP3	Y	-38.25	3
4	MP3	Y	-38.25	93
5	MP4	Y	-47.85	3
6	MP4	Y	-47.85	57
7	M7	Y	-59.9	30
8	M7	Y	-75	30
9	MP4	Y	-70	36
10	MP1	Y	-15	36
11	MP5	Y	-17.5	3

Member Point Loads (BLC 1 : Self Weight) (Continued)

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in. %]
12	MP5	Y	-17.5	57
13	MP7	Y	-30.1	12
14	MP7	Y	-30.1	84
15	MP8	Y	-39.7	3
16	MP8	Y	-39.7	57
17	M31	Y	-59.9	30
18	M31	Y	-75	30
19	MP8	Y	-70	36
20	MP5	Y	-15	36
21	MP9	Y	-17.5	3
22	MP9	Y	-17.5	57
23	MP12	Y	-38.25	3
24	MP12	Y	-38.25	93
25	MP13	Y	-47.85	3
26	MP13	Y	-47.85	57
27	M73	Y	-59.9	30
28	M73	Y	-75	30
29	MP13	Y	-70	36
30	MP9	Y	-15	36

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	-110.3	3
3	MP1	X	0	57
4	MP1	Z	-110.3	57
5	MP3	X	0	3
6	MP3	Z	-362.19	3
7	MP3	X	0	93
8	MP3	Z	-362.19	93
9	MP4	X	0	3
10	MP4	Z	-357.83	3
11	MP4	X	0	57
12	MP4	Z	-357.83	57
13	M7	X	0	30
14	M7	Z	-73.78	30
15	M7	X	0	30
16	M7	Z	-79.29	30
17	MP4	X	0	36
18	MP4	Z	-79.29	36
19	MP1	X	0	36
20	MP1	Z	-20.02	36
21	MP5	X	0	3
22	MP5	Z	-79.98	3
23	MP5	X	0	57
24	MP5	Z	-79.98	57
25	MP7	X	0	12
26	MP7	Z	-173.14	12
27	MP7	X	0	84
28	MP7	Z	-173.14	84
29	MP8	X	0	3
30	MP8	Z	-171.12	3
31	MP8	X	0	57
32	MP8	Z	-171.12	57
33	M31	X	0	30
34	M31	Z	-55.37	30

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

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in,%]
35	M31	X	0	30
36	M31	Z	-72.59	30
37	MP8	X	0	36
38	MP8	Z	-65.9	36
39	MP5	X	0	36
40	MP5	Z	-20.02	36
41	MP9	X	0	3
42	MP9	Z	-69.28	3
43	MP9	X	0	57
44	MP9	Z	-69.28	57
45	MP12	X	0	3
46	MP12	Z	-205	3
47	MP12	X	0	93
48	MP12	Z	-205	93
49	MP13	X	0	3
50	MP13	Z	-202.86	3
51	MP13	X	0	57
52	MP13	Z	-202.86	57
53	M73	X	0	30
54	M73	Z	-48.87	30
55	M73	X	0	30
56	M73	Z	-70.23	30
57	MP13	X	0	36
58	MP13	Z	-61.17	36
59	MP9	X	0	36
60	MP9	Z	-20.02	36

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

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in,%]
1	MP1	X	-48.69	3
2	MP1	Z	-84.33	3
3	MP1	X	-48.69	57
4	MP1	Z	-84.33	57
5	MP3	X	-156.35	3
6	MP3	Z	-270.8	3
7	MP3	X	-156.35	93
8	MP3	Z	-270.8	93
9	MP4	X	-154.52	3
10	MP4	Z	-267.63	3
11	MP4	X	-154.52	57
12	MP4	Z	-267.63	57
13	M7	X	-32.97	30
14	M7	Z	-57.1	30
15	M7	X	-38.22	30
16	M7	Z	-66.2	30
17	MP4	X	-36.79	36
18	MP4	Z	-63.73	36
19	MP1	X	-10.01	36
20	MP1	Z	-17.34	36
21	MP5	X	-52.13	3
22	MP5	Z	-90.29	3
23	MP5	X	-52.13	57
24	MP5	Z	-90.29	57
25	MP7	X	-120.43	12
26	MP7	Z	-208.59	12
27	MP7	X	-120.43	84

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

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in,%]
28	MP7	Z	-208.59	84
29	MP8	X	-118.93	3
30	MP8	Z	-206	3
31	MP8	X	-118.93	57
32	MP8	Z	-206	57
33	M31	X	-35.06	30
34	M31	Z	-60.72	30
35	M31	X	-38.98	30
36	M31	Z	-67.51	30
37	MP8	X	-38.31	36
38	MP8	Z	-66.36	36
39	MP5	X	-10.01	36
40	MP5	Z	-17.34	36
41	MP9	X	-29.39	3
42	MP9	Z	-50.9	3
43	MP9	X	-29.39	57
44	MP9	Z	-50.9	57
45	MP12	X	-82.37	3
46	MP12	Z	-142.66	3
47	MP12	X	-82.37	93
48	MP12	Z	-142.66	93
49	MP13	X	-81.58	3
50	MP13	Z	-141.31	3
51	MP13	X	-81.58	57
52	MP13	Z	-141.31	57
53	M73	X	-21.24	30
54	M73	Z	-36.79	30
55	M73	X	-33.95	30
56	M73	Z	-58.81	30
57	MP13	X	-28.26	36
58	MP13	Z	-48.95	36
59	MP9	X	-10.01	36
60	MP9	Z	-17.34	36

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

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in,%]
1	MP1	X	-61.96	3
2	MP1	Z	-35.77	3
3	MP1	X	-61.96	57
4	MP1	Z	-35.77	57
5	MP3	X	-185.06	3
6	MP3	Z	-106.84	3
7	MP3	X	-185.06	93
8	MP3	Z	-106.84	93
9	MP4	X	-183.1	3
10	MP4	Z	-105.72	3
11	MP4	X	-183.1	57
12	MP4	Z	-105.72	57
13	M7	X	-43.51	30
14	M7	Z	-25.12	30
15	M7	X	-61.25	30
16	M7	Z	-35.37	30
17	MP4	X	-53.84	36
18	MP4	Z	-31.09	36
19	MP1	X	-17.34	36
20	MP1	Z	-10.01	36

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

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in. %]
21	MP5	X	-94.17	3
22	MP5	Z	-54.37	3
23	MP5	X	-94.17	57
24	MP5	Z	-54.37	57
25	MP7	X	-219.42	12
26	MP7	Z	-126.68	12
27	MP7	X	-219.42	84
28	MP7	Z	-126.68	84
29	MP8	X	-216.68	3
30	MP8	Z	-125.1	3
31	MP8	X	-216.68	57
32	MP8	Z	-125.1	57
33	M31	X	-63.08	30
34	M31	Z	-36.42	30
35	M31	X	-68.37	30
36	M31	Z	-39.47	30
37	MP8	X	-68.07	36
38	MP8	Z	-39.3	36
39	MP5	X	-17.34	36
40	MP5	Z	-10.01	36
41	MP9	X	-64.05	3
42	MP9	Z	-36.98	3
43	MP9	X	-64.05	57
44	MP9	Z	-36.98	57
45	MP12	X	-193.06	3
46	MP12	Z	-111.46	3
47	MP12	X	-193.06	93
48	MP12	Z	-111.46	93
49	MP13	X	-190.99	3
50	MP13	Z	-110.27	3
51	MP13	X	-190.99	57
52	MP13	Z	-110.27	57
53	M73	X	-44.78	30
54	M73	Z	-25.85	30
55	M73	X	-61.72	30
56	M73	Z	-35.63	30
57	MP13	X	-54.76	36
58	MP13	Z	-31.62	36
59	MP9	X	-17.34	36
60	MP9	Z	-10.01	36

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

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in. %]
1	MP1	X	-58.63	3
2	MP1	Z	0	3
3	MP1	X	-58.63	57
4	MP1	Z	0	57
5	MP3	X	-164.19	3
6	MP3	Z	0	3
7	MP3	X	-164.19	93
8	MP3	Z	0	93
9	MP4	X	-162.63	3
10	MP4	Z	0	3
11	MP4	X	-162.63	57
12	MP4	Z	0	57
13	M7	X	-42.4	30

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

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in,%]
14	M7	Z	0	30
15	M7	X	-67.88	30
16	M7	Z	0	30
17	MP4	X	-56.46	36
18	MP4	Z	0	36
19	MP1	X	-20.02	36
20	MP1	Z	0	36
21	MP5	X	-88.95	3
22	MP5	Z	0	3
23	MP5	X	-88.95	57
24	MP5	Z	0	57
25	MP7	X	-198.16	12
26	MP7	Z	0	12
27	MP7	X	-198.16	84
28	MP7	Z	0	84
29	MP8	X	-195.79	3
30	MP8	Z	0	3
31	MP8	X	-195.79	57
32	MP8	Z	0	57
33	M31	X	-60.82	30
34	M31	Z	0	30
35	M31	X	-74.58	30
36	M31	Z	0	30
37	MP8	X	-69.86	36
38	MP8	Z	0	36
39	MP5	X	-20.02	36
40	MP5	Z	0	36
41	MP9	X	-99.65	3
42	MP9	Z	0	3
43	MP9	X	-99.65	57
44	MP9	Z	0	57
45	MP12	X	-321.38	3
46	MP12	Z	0	3
47	MP12	X	-321.38	93
48	MP12	Z	0	93
49	MP13	X	-317.6	3
50	MP13	Z	0	3
51	MP13	X	-317.6	57
52	MP13	Z	0	57
53	M73	X	-67.32	30
54	M73	Z	0	30
55	M73	X	-76.94	30
56	M73	Z	0	30
57	MP13	X	-74.59	36
58	MP13	Z	0	36
59	MP9	X	-20.02	36
60	MP9	Z	0	36

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

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in,%]
1	MP1	X	-61.96	3
2	MP1	Z	35.77	3
3	MP1	X	-61.96	57
4	MP1	Z	35.77	57
5	MP3	X	-185.06	3
6	MP3	Z	106.84	3

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

Member Label	Direction	Magnitude[lb.lb-ft]	Location[in,%]	
7	MP3	X	-185.06	93
8	MP3	Z	106.84	93
9	MP4	X	-183.1	3
10	MP4	Z	105.72	3
11	MP4	X	-183.1	57
12	MP4	Z	105.72	57
13	M7	X	-43.51	30
14	M7	Z	25.12	30
15	M7	X	-61.25	30
16	M7	Z	35.37	30
17	MP4	X	-53.84	36
18	MP4	Z	31.09	36
19	MP1	X	-17.34	36
20	MP1	Z	10.01	36
21	MP5	X	-56.01	3
22	MP5	Z	32.34	3
23	MP5	X	-56.01	57
24	MP5	Z	32.34	57
25	MP7	X	-112.97	12
26	MP7	Z	65.22	12
27	MP7	X	-112.97	84
28	MP7	Z	65.22	84
29	MP8	X	-111.76	3
30	MP8	Z	64.52	3
31	MP8	X	-111.76	57
32	MP8	Z	64.52	57
33	M31	X	-39.9	30
34	M31	Z	23.03	30
35	M31	X	-59.94	30
36	M31	Z	34.61	30
37	MP8	X	-51.21	36
38	MP8	Z	29.57	36
39	MP5	X	-17.34	36
40	MP5	Z	10.01	36
41	MP9	X	-95.4	3
42	MP9	Z	55.08	3
43	MP9	X	-95.4	57
44	MP9	Z	55.08	57
45	MP12	X	-313.2	3
46	MP12	Z	180.82	3
47	MP12	X	-313.2	93
48	MP12	Z	180.82	93
49	MP13	X	-309.43	3
50	MP13	Z	178.65	3
51	MP13	X	-309.43	57
52	MP13	Z	178.65	57
53	M73	X	-63.82	30
54	M73	Z	36.85	30
55	M73	X	-68.64	30
56	M73	Z	39.63	30
57	MP13	X	-68.61	36
58	MP13	Z	39.61	36
59	MP9	X	-17.34	36
60	MP9	Z	10.01	36

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

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

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in,%]
1	MP1	X	-48.69	3
2	MP1	Z	84.33	3
3	MP1	X	-48.69	57
4	MP1	Z	84.33	57
5	MP3	X	-156.35	3
6	MP3	Z	270.8	3
7	MP3	X	-156.35	93
8	MP3	Z	270.8	93
9	MP4	X	-154.52	3
10	MP4	Z	267.63	3
11	MP4	X	-154.52	57
12	MP4	Z	267.63	57
13	M7	X	-32.97	30
14	M7	Z	57.1	30
15	M7	X	-38.22	30
16	M7	Z	66.2	30
17	MP4	X	-36.79	36
18	MP4	Z	63.73	36
19	MP1	X	-10.01	36
20	MP1	Z	17.34	36
21	MP5	X	-30.09	3
22	MP5	Z	52.13	3
23	MP5	X	-30.09	57
24	MP5	Z	52.13	57
25	MP7	X	-58.97	12
26	MP7	Z	102.13	12
27	MP7	X	-58.97	84
28	MP7	Z	102.13	84
29	MP8	X	-58.36	3
30	MP8	Z	101.08	3
31	MP8	X	-58.36	57
32	MP8	Z	101.08	57
33	M31	X	-21.67	30
34	M31	Z	37.54	30
35	M31	X	-34.11	30
36	M31	Z	59.08	30
37	MP8	X	-28.58	36
38	MP8	Z	49.5	36
39	MP5	X	-10.01	36
40	MP5	Z	17.34	36
41	MP9	X	-47.49	3
42	MP9	Z	82.25	3
43	MP9	X	-47.49	57
44	MP9	Z	82.25	57
45	MP12	X	-151.73	3
46	MP12	Z	262.8	3
47	MP12	X	-151.73	93
48	MP12	Z	262.8	93
49	MP13	X	-149.96	3
50	MP13	Z	259.75	3
51	MP13	X	-149.96	57
52	MP13	Z	259.75	57
53	M73	X	-32.24	30
54	M73	Z	55.84	30
55	M73	X	-37.95	30
56	M73	Z	65.74	30
57	MP13	X	-36.26	36

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

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in,%]
58	MP13	Z	62.8	36
59	MP9	X	-10.01	36
60	MP9	Z	17.34	36

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	110.3	3
3	MP1	X	0	57
4	MP1	Z	110.3	57
5	MP3	X	0	3
6	MP3	Z	362.19	3
7	MP3	X	0	93
8	MP3	Z	362.19	93
9	MP4	X	0	3
10	MP4	Z	357.83	3
11	MP4	X	0	57
12	MP4	Z	357.83	57
13	M7	X	0	30
14	M7	Z	73.78	30
15	M7	X	0	30
16	M7	Z	79.29	30
17	MP4	X	0	36
18	MP4	Z	79.29	36
19	MP1	X	0	36
20	MP1	Z	20.02	36
21	MP5	X	0	3
22	MP5	Z	79.98	3
23	MP5	X	0	57
24	MP5	Z	79.98	57
25	MP7	X	0	12
26	MP7	Z	173.14	12
27	MP7	X	0	84
28	MP7	Z	173.14	84
29	MP8	X	0	3
30	MP8	Z	171.12	3
31	MP8	X	0	57
32	MP8	Z	171.12	57
33	M31	X	0	30
34	M31	Z	55.37	30
35	M31	X	0	30
36	M31	Z	72.59	30
37	MP8	X	0	36
38	MP8	Z	65.9	36
39	MP5	X	0	36
40	MP5	Z	20.02	36
41	MP9	X	0	3
42	MP9	Z	69.28	3
43	MP9	X	0	57
44	MP9	Z	69.28	57
45	MP12	X	0	3
46	MP12	Z	205	3
47	MP12	X	0	93
48	MP12	Z	205	93
49	MP13	X	0	3
50	MP13	Z	202.86	3

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

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in, %]
51	MP13	X	0	57
52	MP13	Z	202.86	57
53	M73	X	0	30
54	M73	Z	48.87	30
55	M73	X	0	30
56	M73	Z	70.23	30
57	MP13	X	0	36
58	MP13	Z	61.17	36
59	MP9	X	0	36
60	MP9	Z	20.02	36

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

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in, %]
1	MP1	X	48.69	3
2	MP1	Z	84.33	3
3	MP1	X	48.69	57
4	MP1	Z	84.33	57
5	MP3	X	156.35	3
6	MP3	Z	270.8	3
7	MP3	X	156.35	93
8	MP3	Z	270.8	93
9	MP4	X	154.52	3
10	MP4	Z	267.63	3
11	MP4	X	154.52	57
12	MP4	Z	267.63	57
13	M7	X	32.97	30
14	M7	Z	57.1	30
15	M7	X	38.22	30
16	M7	Z	66.2	30
17	MP4	X	36.79	36
18	MP4	Z	63.73	36
19	MP1	X	10.01	36
20	MP1	Z	17.34	36
21	MP5	X	52.13	3
22	MP5	Z	90.29	3
23	MP5	X	52.13	57
24	MP5	Z	90.29	57
25	MP7	X	120.43	12
26	MP7	Z	208.59	12
27	MP7	X	120.43	84
28	MP7	Z	208.59	84
29	MP8	X	118.93	3
30	MP8	Z	206	3
31	MP8	X	118.93	57
32	MP8	Z	206	57
33	M31	X	35.06	30
34	M31	Z	60.72	30
35	M31	X	38.98	30
36	M31	Z	67.51	30
37	MP8	X	38.31	36
38	MP8	Z	66.36	36
39	MP5	X	10.01	36
40	MP5	Z	17.34	36
41	MP9	X	29.39	3
42	MP9	Z	50.9	3
43	MP9	X	29.39	57

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

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in,%]
44	MP9	Z	50.9	57
45	MP12	X	82.37	3
46	MP12	Z	142.66	3
47	MP12	X	82.37	93
48	MP12	Z	142.66	93
49	MP13	X	81.58	3
50	MP13	Z	141.31	3
51	MP13	X	81.58	57
52	MP13	Z	141.31	57
53	M73	X	21.24	30
54	M73	Z	36.79	30
55	M73	X	33.95	30
56	M73	Z	58.81	30
57	MP13	X	28.26	36
58	MP13	Z	48.95	36
59	MP9	X	10.01	36
60	MP9	Z	17.34	36

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

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in,%]
1	MP1	X	61.96	3
2	MP1	Z	35.77	3
3	MP1	X	61.96	57
4	MP1	Z	35.77	57
5	MP3	X	185.06	3
6	MP3	Z	106.84	3
7	MP3	X	185.06	93
8	MP3	Z	106.84	93
9	MP4	X	183.1	3
10	MP4	Z	105.72	3
11	MP4	X	183.1	57
12	MP4	Z	105.72	57
13	M7	X	43.51	30
14	M7	Z	25.12	30
15	M7	X	61.25	30
16	M7	Z	35.37	30
17	MP4	X	53.84	36
18	MP4	Z	31.09	36
19	MP1	X	17.34	36
20	MP1	Z	10.01	36
21	MP5	X	94.17	3
22	MP5	Z	54.37	3
23	MP5	X	94.17	57
24	MP5	Z	54.37	57
25	MP7	X	219.42	12
26	MP7	Z	126.68	12
27	MP7	X	219.42	84
28	MP7	Z	126.68	84
29	MP8	X	216.68	3
30	MP8	Z	125.1	3
31	MP8	X	216.68	57
32	MP8	Z	125.1	57
33	M31	X	63.08	30
34	M31	Z	36.42	30
35	M31	X	68.37	30
36	M31	Z	39.47	30

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

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in, %]
37	MP8	X	68.07	36
38	MP8	Z	39.3	36
39	MP5	X	17.34	36
40	MP5	Z	10.01	36
41	MP9	X	64.05	3
42	MP9	Z	36.98	3
43	MP9	X	64.05	57
44	MP9	Z	36.98	57
45	MP12	X	193.06	3
46	MP12	Z	111.46	3
47	MP12	X	193.06	93
48	MP12	Z	111.46	93
49	MP13	X	190.99	3
50	MP13	Z	110.27	3
51	MP13	X	190.99	57
52	MP13	Z	110.27	57
53	M73	X	44.78	30
54	M73	Z	25.85	30
55	M73	X	61.72	30
56	M73	Z	35.63	30
57	MP13	X	54.76	36
58	MP13	Z	31.62	36
59	MP9	X	17.34	36
60	MP9	Z	10.01	36

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

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in, %]
1	MP1	X	58.63	3
2	MP1	Z	0	3
3	MP1	X	58.63	57
4	MP1	Z	0	57
5	MP3	X	164.19	3
6	MP3	Z	0	3
7	MP3	X	164.19	93
8	MP3	Z	0	93
9	MP4	X	162.63	3
10	MP4	Z	0	3
11	MP4	X	162.63	57
12	MP4	Z	0	57
13	M7	X	42.4	30
14	M7	Z	0	30
15	M7	X	67.88	30
16	M7	Z	0	30
17	MP4	X	56.46	36
18	MP4	Z	0	36
19	MP1	X	20.02	36
20	MP1	Z	0	36
21	MP5	X	88.95	3
22	MP5	Z	0	3
23	MP5	X	88.95	57
24	MP5	Z	0	57
25	MP7	X	198.16	12
26	MP7	Z	0	12
27	MP7	X	198.16	84
28	MP7	Z	0	84
29	MP8	X	195.79	3

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

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in,%]
30	MP8	Z	0	3
31	MP8	X	195.79	57
32	MP8	Z	0	57
33	M31	X	60.82	30
34	M31	Z	0	30
35	M31	X	74.58	30
36	M31	Z	0	30
37	MP8	X	69.86	36
38	MP8	Z	0	36
39	MP5	X	20.02	36
40	MP5	Z	0	36
41	MP9	X	99.65	3
42	MP9	Z	0	3
43	MP9	X	99.65	57
44	MP9	Z	0	57
45	MP12	X	321.38	3
46	MP12	Z	0	3
47	MP12	X	321.38	93
48	MP12	Z	0	93
49	MP13	X	317.6	3
50	MP13	Z	0	3
51	MP13	X	317.6	57
52	MP13	Z	0	57
53	M73	X	67.32	30
54	M73	Z	0	30
55	M73	X	76.94	30
56	M73	Z	0	30
57	MP13	X	74.59	36
58	MP13	Z	0	36
59	MP9	X	20.02	36
60	MP9	Z	0	36

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

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in,%]
1	MP1	X	61.96	3
2	MP1	Z	-35.77	3
3	MP1	X	61.96	57
4	MP1	Z	-35.77	57
5	MP3	X	185.06	3
6	MP3	Z	-106.84	3
7	MP3	X	185.06	93
8	MP3	Z	-106.84	93
9	MP4	X	183.1	3
10	MP4	Z	-105.72	3
11	MP4	X	183.1	57
12	MP4	Z	-105.72	57
13	M7	X	43.51	30
14	M7	Z	-25.12	30
15	M7	X	61.25	30
16	M7	Z	-35.37	30
17	MP4	X	53.84	36
18	MP4	Z	-31.09	36
19	MP1	X	17.34	36
20	MP1	Z	-10.01	36
21	MP5	X	56.01	3
22	MP5	Z	-32.34	3

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

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in,%]
23	MP5	X	56.01	57
24	MP5	Z	-32.34	57
25	MP7	X	112.97	12
26	MP7	Z	-65.22	12
27	MP7	X	112.97	84
28	MP7	Z	-65.22	84
29	MP8	X	111.76	3
30	MP8	Z	-64.52	3
31	MP8	X	111.76	57
32	MP8	Z	-64.52	57
33	M31	X	39.9	30
34	M31	Z	-23.03	30
35	M31	X	59.94	30
36	M31	Z	-34.61	30
37	MP8	X	51.21	36
38	MP8	Z	-29.57	36
39	MP5	X	17.34	36
40	MP5	Z	-10.01	36
41	MP9	X	95.4	3
42	MP9	Z	-55.08	3
43	MP9	X	95.4	57
44	MP9	Z	-55.08	57
45	MP12	X	313.2	3
46	MP12	Z	-180.82	3
47	MP12	X	313.2	93
48	MP12	Z	-180.82	93
49	MP13	X	309.43	3
50	MP13	Z	-178.65	3
51	MP13	X	309.43	57
52	MP13	Z	-178.65	57
53	M73	X	63.82	30
54	M73	Z	-36.85	30
55	M73	X	68.64	30
56	M73	Z	-39.63	30
57	MP13	X	68.61	36
58	MP13	Z	-39.61	36
59	MP9	X	17.34	36
60	MP9	Z	-10.01	36

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

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in,%]
1	MP1	X	48.69	3
2	MP1	Z	-84.33	3
3	MP1	X	48.69	57
4	MP1	Z	-84.33	57
5	MP3	X	156.35	3
6	MP3	Z	-270.8	3
7	MP3	X	156.35	93
8	MP3	Z	-270.8	93
9	MP4	X	154.52	3
10	MP4	Z	-267.63	3
11	MP4	X	154.52	57
12	MP4	Z	-267.63	57
13	M7	X	32.97	30
14	M7	Z	-57.1	30
15	M7	X	38.22	30

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

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in. %]
16	M7	Z	-66.2	30
17	MP4	X	36.79	36
18	MP4	Z	-63.73	36
19	MP1	X	10.01	36
20	MP1	Z	-17.34	36
21	MP5	X	30.09	3
22	MP5	Z	-52.13	3
23	MP5	X	30.09	57
24	MP5	Z	-52.13	57
25	MP7	X	58.97	12
26	MP7	Z	-102.13	12
27	MP7	X	58.97	84
28	MP7	Z	-102.13	84
29	MP8	X	58.36	3
30	MP8	Z	-101.08	3
31	MP8	X	58.36	57
32	MP8	Z	-101.08	57
33	M31	X	21.67	30
34	M31	Z	-37.54	30
35	M31	X	34.11	30
36	M31	Z	-59.08	30
37	MP8	X	28.58	36
38	MP8	Z	-49.5	36
39	MP5	X	10.01	36
40	MP5	Z	-17.34	36
41	MP9	X	47.49	3
42	MP9	Z	-82.25	3
43	MP9	X	47.49	57
44	MP9	Z	-82.25	57
45	MP12	X	151.73	3
46	MP12	Z	-262.8	3
47	MP12	X	151.73	93
48	MP12	Z	-262.8	93
49	MP13	X	149.96	3
50	MP13	Z	-259.75	3
51	MP13	X	149.96	57
52	MP13	Z	-259.75	57
53	M73	X	32.24	30
54	M73	Z	-55.84	30
55	M73	X	37.95	30
56	M73	Z	-65.74	30
57	MP13	X	36.26	36
58	MP13	Z	-62.8	36
59	MP9	X	10.01	36
60	MP9	Z	-17.34	36

Member Point Loads (BLC 16 : Ice Weight)

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in. %]
1	MP1	Y	-66.285	3
2	MP1	Y	-66.285	57
3	MP3	Y	-187.554	3
4	MP3	Y	-187.554	93
5	MP4	Y	-185.094	3
6	MP4	Y	-185.094	57
7	M7	Y	-65.945	30
8	M7	Y	-83.276	30

Member Point Loads (BLC 16 : Ice Weight) (Continued)

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in,%]
9	MP4	Y	-75.949	36
10	MP1	Y	-27.097	36
11	MP5	Y	-66.285	3
12	MP5	Y	-66.285	57
13	MP7	Y	-143.051	12
14	MP7	Y	-143.051	84
15	MP8	Y	-141.143	3
16	MP8	Y	-141.143	57
17	M31	Y	-65.945	30
18	M31	Y	-83.276	30
19	MP8	Y	-75.949	36
20	MP5	Y	-27.097	36
21	MP9	Y	-66.285	3
22	MP9	Y	-66.285	57
23	MP12	Y	-187.554	3
24	MP12	Y	-187.554	93
25	MP13	Y	-185.094	3
26	MP13	Y	-185.094	57
27	M73	Y	-65.945	30
28	M73	Y	-83.276	30
29	MP13	Y	-75.949	36
30	MP9	Y	-27.097	36

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	-11.76	3
3	MP1	X	0	57
4	MP1	Z	-11.76	57
5	MP3	X	0	3
6	MP3	Z	-31.9	3
7	MP3	X	0	93
8	MP3	Z	-31.9	93
9	MP4	X	0	3
10	MP4	Z	-31.58	3
11	MP4	X	0	57
12	MP4	Z	-31.58	57
13	M7	X	0	30
14	M7	Z	-8.24	30
15	M7	X	0	30
16	M7	Z	-8.75	30
17	MP4	X	0	36
18	MP4	Z	-8.75	36
19	MP1	X	0	36
20	MP1	Z	-4.08	36
21	MP5	X	0	3
22	MP5	Z	-10.47	3
23	MP5	X	0	57
24	MP5	Z	-10.47	57
25	MP7	X	0	12
26	MP7	Z	-17.88	12
27	MP7	X	0	84
28	MP7	Z	-17.88	84
29	MP8	X	0	3
30	MP8	Z	-17.75	3
31	MP8	X	0	57

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

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in. %]
32	MP8	Z	-17.75	57
33	M31	X	0	30
34	M31	Z	-7.27	30
35	M31	X	0	30
36	M31	Z	-8.42	30
37	MP8	X	0	36
38	MP8	Z	-8.09	36
39	MP5	X	0	36
40	MP5	Z	-4.08	36
41	MP9	X	0	3
42	MP9	Z	-10.02	3
43	MP9	X	0	57
44	MP9	Z	-10.02	57
45	MP12	X	0	3
46	MP12	Z	-22.28	3
47	MP12	X	0	93
48	MP12	Z	-22.28	93
49	MP13	X	0	3
50	MP13	Z	-22.16	3
51	MP13	X	0	57
52	MP13	Z	-22.16	57
53	M73	X	0	30
54	M73	Z	-6.93	30
55	M73	X	0	30
56	M73	Z	-8.31	30
57	MP13	X	0	36
58	MP13	Z	-7.86	36
59	MP9	X	0	36
60	MP9	Z	-4.08	36

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

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in. %]
1	MP1	X	-5.61	3
2	MP1	Z	-9.71	3
3	MP1	X	-5.61	57
4	MP1	Z	-9.71	57
5	MP3	X	-14.44	3
6	MP3	Z	-25.01	3
7	MP3	X	-14.44	93
8	MP3	Z	-25.01	93
9	MP4	X	-14.31	3
10	MP4	Z	-24.78	3
11	MP4	X	-14.31	57
12	MP4	Z	-24.78	57
13	M7	X	-3.91	30
14	M7	Z	-6.78	30
15	M7	X	-4.31	30
16	M7	Z	-7.46	30
17	MP4	X	-4.24	36
18	MP4	Z	-7.34	36
19	MP1	X	-2.04	36
20	MP1	Z	-3.53	36
21	MP5	X	-5.75	3
22	MP5	Z	-9.96	3
23	MP5	X	-5.75	57
24	MP5	Z	-9.96	57

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

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in, %]
25	MP7	X	-10.96	12
26	MP7	Z	-18.99	12
27	MP7	X	-10.96	84
28	MP7	Z	-18.99	84
29	MP8	X	-10.85	3
30	MP8	Z	-18.8	3
31	MP8	X	-10.85	57
32	MP8	Z	-18.8	57
33	M31	X	-4.02	30
34	M31	Z	-6.97	30
35	M31	X	-4.34	30
36	M31	Z	-7.52	30
37	MP8	X	-4.31	36
38	MP8	Z	-7.47	36
39	MP5	X	-2.04	36
40	MP5	Z	-3.53	36
41	MP9	X	-4.79	3
42	MP9	Z	-8.29	3
43	MP9	X	-4.79	57
44	MP9	Z	-8.29	57
45	MP12	X	-9.91	3
46	MP12	Z	-17.16	3
47	MP12	X	-9.91	93
48	MP12	Z	-17.16	93
49	MP13	X	-9.88	3
50	MP13	Z	-17.1	3
51	MP13	X	-9.88	57
52	MP13	Z	-17.1	57
53	M73	X	-3.3	30
54	M73	Z	-5.71	30
55	M73	X	-4.1	30
56	M73	Z	-7.09	30
57	MP13	X	-3.82	36
58	MP13	Z	-6.61	36
59	MP9	X	-2.04	36
60	MP9	Z	-3.53	36

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

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in, %]
1	MP1	X	-8.76	3
2	MP1	Z	-5.06	3
3	MP1	X	-8.76	57
4	MP1	Z	-5.06	57
5	MP3	X	-19.76	3
6	MP3	Z	-11.41	3
7	MP3	X	-19.76	93
8	MP3	Z	-11.41	93
9	MP4	X	-19.64	3
10	MP4	Z	-11.34	3
11	MP4	X	-19.64	57
12	MP4	Z	-11.34	57
13	M7	X	-6.07	30
14	M7	Z	-3.5	30
15	M7	X	-7.22	30
16	M7	Z	-4.17	30
17	MP4	X	-6.85	36

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

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in. %]
18	MP4	Z	-3.95	36
19	MP1	X	-3.53	36
20	MP1	Z	-2.04	36
21	MP5	X	-10.13	3
22	MP5	Z	-5.85	3
23	MP5	X	-10.13	57
24	MP5	Z	-5.85	57
25	MP7	X	-19.64	12
26	MP7	Z	-11.34	12
27	MP7	X	-19.64	84
28	MP7	Z	-11.34	84
29	MP8	X	-19.43	3
30	MP8	Z	-11.22	3
31	MP8	X	-19.43	57
32	MP8	Z	-11.22	57
33	M31	X	-7.09	30
34	M31	Z	-4.09	30
35	M31	X	-7.57	30
36	M31	Z	-4.37	30
37	MP8	X	-7.55	36
38	MP8	Z	-4.36	36
39	MP5	X	-3.53	36
40	MP5	Z	-2.04	36
41	MP9	X	-8.85	3
42	MP9	Z	-5.11	3
43	MP9	X	-8.85	57
44	MP9	Z	-5.11	57
45	MP12	X	-20.25	3
46	MP12	Z	-11.69	3
47	MP12	X	-20.25	93
48	MP12	Z	-11.69	93
49	MP13	X	-20.12	3
50	MP13	Z	-11.62	3
51	MP13	X	-20.12	57
52	MP13	Z	-11.62	57
53	M73	X	-6.13	30
54	M73	Z	-3.54	30
55	M73	X	-7.24	30
56	M73	Z	-4.18	30
57	MP13	X	-6.9	36
58	MP13	Z	-3.98	36
59	MP9	X	-3.53	36
60	MP9	Z	-2.04	36

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

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in. %]
1	MP1	X	-9.57	3
2	MP1	Z	0	3
3	MP1	X	-9.57	57
4	MP1	Z	0	57
5	MP3	X	-19.79	3
6	MP3	Z	0	3
7	MP3	X	-19.79	93
8	MP3	Z	0	93
9	MP4	X	-19.72	3
10	MP4	Z	0	3

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

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in. %]
11	MP4	X	-19.72	57
12	MP4	Z	0	57
13	M7	X	-6.59	30
14	M7	Z	0	30
15	M7	X	-8.19	30
16	M7	Z	0	30
17	MP4	X	-7.63	36
18	MP4	Z	0	36
19	MP1	X	-4.08	36
20	MP1	Z	0	36
21	MP5	X	-10.85	3
22	MP5	Z	0	3
23	MP5	X	-10.85	57
24	MP5	Z	0	57
25	MP7	X	-19.37	12
26	MP7	Z	0	12
27	MP7	X	-19.37	84
28	MP7	Z	0	84
29	MP8	X	-19.21	3
30	MP8	Z	0	3
31	MP8	X	-19.21	57
32	MP8	Z	0	57
33	M31	X	-7.56	30
34	M31	Z	0	30
35	M31	X	-8.52	30
36	M31	Z	0	30
37	MP8	X	-8.29	36
38	MP8	Z	0	36
39	MP5	X	-4.08	36
40	MP5	Z	0	36
41	MP9	X	-11.31	3
42	MP9	Z	0	3
43	MP9	X	-11.31	57
44	MP9	Z	0	57
45	MP12	X	-29.41	3
46	MP12	Z	0	3
47	MP12	X	-29.41	93
48	MP12	Z	0	93
49	MP13	X	-29.13	3
50	MP13	Z	0	3
51	MP13	X	-29.13	57
52	MP13	Z	0	57
53	M73	X	-7.9	30
54	M73	Z	0	30
55	M73	X	-8.64	30
56	M73	Z	0	30
57	MP13	X	-8.52	36
58	MP13	Z	0	36
59	MP9	X	-4.08	36
60	MP9	Z	0	36

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

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in. %]
1	MP1	X	-8.76	3
2	MP1	Z	5.06	3
3	MP1	X	-8.76	57

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

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in. %]
4	MP1	Z	5.06	57
5	MP3	X	-19.76	3
6	MP3	Z	11.41	3
7	MP3	X	-19.76	93
8	MP3	Z	11.41	93
9	MP4	X	-19.64	3
10	MP4	Z	11.34	3
11	MP4	X	-19.64	57
12	MP4	Z	11.34	57
13	M7	X	-6.07	30
14	M7	Z	3.5	30
15	M7	X	-7.22	30
16	M7	Z	4.17	30
17	MP4	X	-6.85	36
18	MP4	Z	3.95	36
19	MP1	X	-3.53	36
20	MP1	Z	2.04	36
21	MP5	X	-8.51	3
22	MP5	Z	4.91	3
23	MP5	X	-8.51	57
24	MP5	Z	4.91	57
25	MP7	X	-13.27	12
26	MP7	Z	7.66	12
27	MP7	X	-13.27	84
28	MP7	Z	7.66	84
29	MP8	X	-13.21	3
30	MP8	Z	7.63	3
31	MP8	X	-13.21	57
32	MP8	Z	7.63	57
33	M31	X	-5.88	30
34	M31	Z	3.39	30
35	M31	X	-7.15	30
36	M31	Z	4.13	30
37	MP8	X	-6.72	36
38	MP8	Z	3.88	36
39	MP5	X	-3.53	36
40	MP5	Z	2.04	36
41	MP9	X	-10.18	3
42	MP9	Z	5.88	3
43	MP9	X	-10.18	57
44	MP9	Z	5.88	57
45	MP12	X	-27.6	3
46	MP12	Z	15.93	3
47	MP12	X	-27.6	93
48	MP12	Z	15.93	93
49	MP13	X	-27.32	3
50	MP13	Z	15.77	3
51	MP13	X	-27.32	57
52	MP13	Z	15.77	57
53	M73	X	-7.13	30
54	M73	Z	4.12	30
55	M73	X	-7.58	30
56	M73	Z	4.38	30
57	MP13	X	-7.58	36
58	MP13	Z	4.38	36
59	MP9	X	-3.53	36
60	MP9	Z	2.04	36

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

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in, %]
1	MP1	X	-5.61	3
2	MP1	Z	9.71	3
3	MP1	X	-5.61	57
4	MP1	Z	9.71	57
5	MP3	X	-14.44	3
6	MP3	Z	25.01	3
7	MP3	X	-14.44	93
8	MP3	Z	25.01	93
9	MP4	X	-14.31	3
10	MP4	Z	24.78	3
11	MP4	X	-14.31	57
12	MP4	Z	24.78	57
13	M7	X	-3.91	30
14	M7	Z	6.78	30
15	M7	X	-4.31	30
16	M7	Z	7.46	30
17	MP4	X	-4.24	36
18	MP4	Z	7.34	36
19	MP1	X	-2.04	36
20	MP1	Z	3.53	36
21	MP5	X	-4.82	3
22	MP5	Z	8.34	3
23	MP5	X	-4.82	57
24	MP5	Z	8.34	57
25	MP7	X	-7.29	12
26	MP7	Z	12.62	12
27	MP7	X	-7.29	84
28	MP7	Z	12.62	84
29	MP8	X	-7.26	3
30	MP8	Z	12.58	3
31	MP8	X	-7.26	57
32	MP8	Z	12.58	57
33	M31	X	-3.32	30
34	M31	Z	5.75	30
35	M31	X	-4.1	30
36	M31	Z	7.11	30
37	MP8	X	-3.83	36
38	MP8	Z	6.64	36
39	MP5	X	-2.04	36
40	MP5	Z	3.53	36
41	MP9	X	-5.56	3
42	MP9	Z	9.62	3
43	MP9	X	-5.56	57
44	MP9	Z	9.62	57
45	MP12	X	-14.15	3
46	MP12	Z	24.52	3
47	MP12	X	-14.15	93
48	MP12	Z	24.52	93
49	MP13	X	-14.03	3
50	MP13	Z	24.3	3
51	MP13	X	-14.03	57
52	MP13	Z	24.3	57
53	M73	X	-3.88	30
54	M73	Z	6.71	30
55	M73	X	-4.29	30
56	M73	Z	7.44	30
57	MP13	X	-4.21	36

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

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in,%]
58	MP13	Z	7.29	36
59	MP9	X	-2.04	36
60	MP9	Z	3.53	36

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	11.76	3
3	MP1	X	0	57
4	MP1	Z	11.76	57
5	MP3	X	0	3
6	MP3	Z	31.9	3
7	MP3	X	0	93
8	MP3	Z	31.9	93
9	MP4	X	0	3
10	MP4	Z	31.58	3
11	MP4	X	0	57
12	MP4	Z	31.58	57
13	M7	X	0	30
14	M7	Z	8.24	30
15	M7	X	0	30
16	M7	Z	8.75	30
17	MP4	X	0	36
18	MP4	Z	8.75	36
19	MP1	X	0	36
20	MP1	Z	4.08	36
21	MP5	X	0	3
22	MP5	Z	10.47	3
23	MP5	X	0	57
24	MP5	Z	10.47	57
25	MP7	X	0	12
26	MP7	Z	17.88	12
27	MP7	X	0	84
28	MP7	Z	17.88	84
29	MP8	X	0	3
30	MP8	Z	17.75	3
31	MP8	X	0	57
32	MP8	Z	17.75	57
33	M31	X	0	30
34	M31	Z	7.27	30
35	M31	X	0	30
36	M31	Z	8.42	30
37	MP8	X	0	36
38	MP8	Z	8.09	36
39	MP5	X	0	36
40	MP5	Z	4.08	36
41	MP9	X	0	3
42	MP9	Z	10.02	3
43	MP9	X	0	57
44	MP9	Z	10.02	57
45	MP12	X	0	3
46	MP12	Z	22.28	3
47	MP12	X	0	93
48	MP12	Z	22.28	93
49	MP13	X	0	3
50	MP13	Z	22.16	3

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

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in. %]
51	MP13	X	0	57
52	MP13	Z	22.16	57
53	M73	X	0	30
54	M73	Z	6.93	30
55	M73	X	0	30
56	M73	Z	8.31	30
57	MP13	X	0	36
58	MP13	Z	7.86	36
59	MP9	X	0	36
60	MP9	Z	4.08	36

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

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in. %]
1	MP1	X	5.61	3
2	MP1	Z	9.71	3
3	MP1	X	5.61	57
4	MP1	Z	9.71	57
5	MP3	X	14.44	3
6	MP3	Z	25.01	3
7	MP3	X	14.44	93
8	MP3	Z	25.01	93
9	MP4	X	14.31	3
10	MP4	Z	24.78	3
11	MP4	X	14.31	57
12	MP4	Z	24.78	57
13	M7	X	3.91	30
14	M7	Z	6.78	30
15	M7	X	4.31	30
16	M7	Z	7.46	30
17	MP4	X	4.24	36
18	MP4	Z	7.34	36
19	MP1	X	2.04	36
20	MP1	Z	3.53	36
21	MP5	X	5.75	3
22	MP5	Z	9.96	3
23	MP5	X	5.75	57
24	MP5	Z	9.96	57
25	MP7	X	10.96	12
26	MP7	Z	18.99	12
27	MP7	X	10.96	84
28	MP7	Z	18.99	84
29	MP8	X	10.85	3
30	MP8	Z	18.8	3
31	MP8	X	10.85	57
32	MP8	Z	18.8	57
33	M31	X	4.02	30
34	M31	Z	6.97	30
35	M31	X	4.34	30
36	M31	Z	7.52	30
37	MP8	X	4.31	36
38	MP8	Z	7.47	36
39	MP5	X	2.04	36
40	MP5	Z	3.53	36
41	MP9	X	4.79	3
42	MP9	Z	8.29	3
43	MP9	X	4.79	57

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

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in,%]
44	MP9	Z	8.29	57
45	MP12	X	9.91	3
46	MP12	Z	17.16	3
47	MP12	X	9.91	93
48	MP12	Z	17.16	93
49	MP13	X	9.88	3
50	MP13	Z	17.1	3
51	MP13	X	9.88	57
52	MP13	Z	17.1	57
53	M73	X	3.3	30
54	M73	Z	5.71	30
55	M73	X	4.1	30
56	M73	Z	7.09	30
57	MP13	X	3.82	36
58	MP13	Z	6.61	36
59	MP9	X	2.04	36
60	MP9	Z	3.53	36

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

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in,%]
1	MP1	X	8.76	3
2	MP1	Z	5.06	3
3	MP1	X	8.76	57
4	MP1	Z	5.06	57
5	MP3	X	19.76	3
6	MP3	Z	11.41	3
7	MP3	X	19.76	93
8	MP3	Z	11.41	93
9	MP4	X	19.64	3
10	MP4	Z	11.34	3
11	MP4	X	19.64	57
12	MP4	Z	11.34	57
13	M7	X	6.07	30
14	M7	Z	3.5	30
15	M7	X	7.22	30
16	M7	Z	4.17	30
17	MP4	X	6.85	36
18	MP4	Z	3.95	36
19	MP1	X	3.53	36
20	MP1	Z	2.04	36
21	MP5	X	10.13	3
22	MP5	Z	5.85	3
23	MP5	X	10.13	57
24	MP5	Z	5.85	57
25	MP7	X	19.64	12
26	MP7	Z	11.34	12
27	MP7	X	19.64	84
28	MP7	Z	11.34	84
29	MP8	X	19.43	3
30	MP8	Z	11.22	3
31	MP8	X	19.43	57
32	MP8	Z	11.22	57
33	M31	X	7.09	30
34	M31	Z	4.09	30
35	M31	X	7.57	30
36	M31	Z	4.37	30

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

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in, %]
37	MP8	X	7.55	36
38	MP8	Z	4.36	36
39	MP5	X	3.53	36
40	MP5	Z	2.04	36
41	MP9	X	8.85	3
42	MP9	Z	5.11	3
43	MP9	X	8.85	57
44	MP9	Z	5.11	57
45	MP12	X	20.25	3
46	MP12	Z	11.69	3
47	MP12	X	20.25	93
48	MP12	Z	11.69	93
49	MP13	X	20.12	3
50	MP13	Z	11.62	3
51	MP13	X	20.12	57
52	MP13	Z	11.62	57
53	M73	X	6.13	30
54	M73	Z	3.54	30
55	M73	X	7.24	30
56	M73	Z	4.18	30
57	MP13	X	6.9	36
58	MP13	Z	3.98	36
59	MP9	X	3.53	36
60	MP9	Z	2.04	36

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

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in, %]
1	MP1	X	9.57	3
2	MP1	Z	0	3
3	MP1	X	9.57	57
4	MP1	Z	0	57
5	MP3	X	19.79	3
6	MP3	Z	0	3
7	MP3	X	19.79	93
8	MP3	Z	0	93
9	MP4	X	19.72	3
10	MP4	Z	0	3
11	MP4	X	19.72	57
12	MP4	Z	0	57
13	M7	X	6.59	30
14	M7	Z	0	30
15	M7	X	8.19	30
16	M7	Z	0	30
17	MP4	X	7.63	36
18	MP4	Z	0	36
19	MP1	X	4.08	36
20	MP1	Z	0	36
21	MP5	X	10.85	3
22	MP5	Z	0	3
23	MP5	X	10.85	57
24	MP5	Z	0	57
25	MP7	X	19.37	12
26	MP7	Z	0	12
27	MP7	X	19.37	84
28	MP7	Z	0	84
29	MP8	X	19.21	3

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

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in, %]
30	MP8	Z	0	3
31	MP8	X	19.21	57
32	MP8	Z	0	57
33	M31	X	7.56	30
34	M31	Z	0	30
35	M31	X	8.52	30
36	M31	Z	0	30
37	MP8	X	8.29	36
38	MP8	Z	0	36
39	MP5	X	4.08	36
40	MP5	Z	0	36
41	MP9	X	11.31	3
42	MP9	Z	0	3
43	MP9	X	11.31	57
44	MP9	Z	0	57
45	MP12	X	29.41	3
46	MP12	Z	0	3
47	MP12	X	29.41	93
48	MP12	Z	0	93
49	MP13	X	29.13	3
50	MP13	Z	0	3
51	MP13	X	29.13	57
52	MP13	Z	0	57
53	M73	X	7.9	30
54	M73	Z	0	30
55	M73	X	8.64	30
56	M73	Z	0	30
57	MP13	X	8.52	36
58	MP13	Z	0	36
59	MP9	X	4.08	36
60	MP9	Z	0	36

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

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in, %]
1	MP1	X	8.76	3
2	MP1	Z	-5.06	3
3	MP1	X	8.76	57
4	MP1	Z	-5.06	57
5	MP3	X	19.76	3
6	MP3	Z	-11.41	3
7	MP3	X	19.76	93
8	MP3	Z	-11.41	93
9	MP4	X	19.64	3
10	MP4	Z	-11.34	3
11	MP4	X	19.64	57
12	MP4	Z	-11.34	57
13	M7	X	6.07	30
14	M7	Z	-3.5	30
15	M7	X	7.22	30
16	M7	Z	-4.17	30
17	MP4	X	6.85	36
18	MP4	Z	-3.95	36
19	MP1	X	3.53	36
20	MP1	Z	-2.04	36
21	MP5	X	8.51	3
22	MP5	Z	-4.91	3

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

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in. %]
23	MP5	X	8.51	57
24	MP5	Z	-4.91	57
25	MP7	X	13.27	12
26	MP7	Z	-7.66	12
27	MP7	X	13.27	84
28	MP7	Z	-7.66	84
29	MP8	X	13.21	3
30	MP8	Z	-7.63	3
31	MP8	X	13.21	57
32	MP8	Z	-7.63	57
33	M31	X	5.88	30
34	M31	Z	-3.39	30
35	M31	X	7.15	30
36	M31	Z	-4.13	30
37	MP8	X	6.72	36
38	MP8	Z	-3.88	36
39	MP5	X	3.53	36
40	MP5	Z	-2.04	36
41	MP9	X	10.18	3
42	MP9	Z	-5.88	3
43	MP9	X	10.18	57
44	MP9	Z	-5.88	57
45	MP12	X	27.6	3
46	MP12	Z	-15.93	3
47	MP12	X	27.6	93
48	MP12	Z	-15.93	93
49	MP13	X	27.32	3
50	MP13	Z	-15.77	3
51	MP13	X	27.32	57
52	MP13	Z	-15.77	57
53	M73	X	7.13	30
54	M73	Z	-4.12	30
55	M73	X	7.58	30
56	M73	Z	-4.38	30
57	MP13	X	7.58	36
58	MP13	Z	-4.38	36
59	MP9	X	3.53	36
60	MP9	Z	-2.04	36

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

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in. %]
1	MP1	X	5.61	3
2	MP1	Z	-9.71	3
3	MP1	X	5.61	57
4	MP1	Z	-9.71	57
5	MP3	X	14.44	3
6	MP3	Z	-25.01	3
7	MP3	X	14.44	93
8	MP3	Z	-25.01	93
9	MP4	X	14.31	3
10	MP4	Z	-24.78	3
11	MP4	X	14.31	57
12	MP4	Z	-24.78	57
13	M7	X	3.91	30
14	M7	Z	-6.78	30
15	M7	X	4.31	30

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

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in. %]
16	M7	Z	-7.46	30
17	MP4	X	4.24	36
18	MP4	Z	-7.34	36
19	MP1	X	2.04	36
20	MP1	Z	-3.53	36
21	MP5	X	4.82	3
22	MP5	Z	-8.34	3
23	MP5	X	4.82	57
24	MP5	Z	-8.34	57
25	MP7	X	7.29	12
26	MP7	Z	-12.62	12
27	MP7	X	7.29	84
28	MP7	Z	-12.62	84
29	MP8	X	7.26	3
30	MP8	Z	-12.58	3
31	MP8	X	7.26	57
32	MP8	Z	-12.58	57
33	M31	X	3.32	30
34	M31	Z	-5.75	30
35	M31	X	4.1	30
36	M31	Z	-7.11	30
37	MP8	X	3.83	36
38	MP8	Z	-6.64	36
39	MP5	X	2.04	36
40	MP5	Z	-3.53	36
41	MP9	X	5.56	3
42	MP9	Z	-9.62	3
43	MP9	X	5.56	57
44	MP9	Z	-9.62	57
45	MP12	X	14.15	3
46	MP12	Z	-24.52	3
47	MP12	X	14.15	93
48	MP12	Z	-24.52	93
49	MP13	X	14.03	3
50	MP13	Z	-24.3	3
51	MP13	X	14.03	57
52	MP13	Z	-24.3	57
53	M73	X	3.88	30
54	M73	Z	-6.71	30
55	M73	X	4.29	30
56	M73	Z	-7.44	30
57	MP13	X	4.21	36
58	MP13	Z	-7.29	36
59	MP9	X	2.04	36
60	MP9	Z	-3.53	36

Member Point Loads (BLC 31 : Seismic Load Z)

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in. %]
1	MP1	Z	-1.839	3
2	MP1	Z	-1.839	57
3	MP3	Z	-4.019	3
4	MP3	Z	-4.019	93
5	MP4	Z	-5.027	3
6	MP4	Z	-5.027	57
7	M7	Z	-6.293	30
8	M7	Z	-7.88	30

Member Point Loads (BLC 31 : Seismic Load Z) (Continued)

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in,%]
9	MP4	Z	-7.355	36
10	MP1	Z	-1.576	36
11	MP5	Z	-1.839	3
12	MP5	Z	-1.839	57
13	MP7	Z	-3.163	12
14	MP7	Z	-3.163	84
15	MP8	Z	-4.171	3
16	MP8	Z	-4.171	57
17	M31	Z	-6.293	30
18	M31	Z	-7.88	30
19	MP8	Z	-7.355	36
20	MP5	Z	-1.576	36
21	MP9	Z	-1.839	3
22	MP9	Z	-1.839	57
23	MP12	Z	-4.019	3
24	MP12	Z	-4.019	93
25	MP13	Z	-5.027	3
26	MP13	Z	-5.027	57
27	M73	Z	-6.293	30
28	M73	Z	-7.88	30
29	MP13	Z	-7.355	36
30	MP9	Z	-1.576	36

Member Point Loads (BLC 32 : Seismic Load X)

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in,%]
1	MP1	X	-1.839	3
2	MP1	X	-1.839	57
3	MP3	X	-4.019	3
4	MP3	X	-4.019	93
5	MP4	X	-5.027	3
6	MP4	X	-5.027	57
7	M7	X	-6.293	30
8	M7	X	-7.88	30
9	MP4	X	-7.355	36
10	MP1	X	-1.576	36
11	MP5	X	-1.839	3
12	MP5	X	-1.839	57
13	MP7	X	-3.163	12
14	MP7	X	-3.163	84
15	MP8	X	-4.171	3
16	MP8	X	-4.171	57
17	M31	X	-6.293	30
18	M31	X	-7.88	30
19	MP8	X	-7.355	36
20	MP5	X	-1.576	36
21	MP9	X	-1.839	3
22	MP9	X	-1.839	57
23	MP12	X	-4.019	3
24	MP12	X	-4.019	93
25	MP13	X	-5.027	3
26	MP13	X	-5.027	57
27	M73	X	-6.293	30
28	M73	X	-7.88	30
29	MP13	X	-7.355	36
30	MP9	X	-1.576	36

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

	Member Label	Direction	Start Magnitude[lb/ft.F,psf]	End Magnitude[lb/ft.F,psf]	Start Locatio...	End Location[...
1	M1	SZ	-88.991	-88.991	0	%100
2	M2	SZ	0	0	0	%100
3	M3	SZ	0	0	0	%100
4	M4	SZ	0	0	0	%100
5	M5	SZ	0	0	0	%100
6	MP4	SZ	-53.394	-53.394	0	%100
7	M7	SZ	-53.394	-53.394	0	%100
8	MP2	SZ	-53.394	-53.394	0	%100
9	MP1	SZ	-53.394	-53.394	0	%100
10	MP3	SZ	-53.394	-53.394	0	%100
11	M25	SZ	-88.991	-88.991	0	%100
12	M26	SZ	0	0	0	%100
13	M27	SZ	0	0	0	%100
14	M28	SZ	0	0	0	%100
15	M29	SZ	0	0	0	%100
16	MP8	SZ	-53.394	-53.394	0	%100
17	M31	SZ	-53.394	-53.394	0	%100
18	MP6	SZ	-53.394	-53.394	0	%100
19	MP5	SZ	-53.394	-53.394	0	%100
20	MP7	SZ	-53.394	-53.394	0	%100
21	M26A	SZ	0	0	0	%100
22	M27A	SZ	0	0	0	%100
23	M33	SZ	0	0	0	%100
24	M34A	SZ	0	0	0	%100
25	M35B	SZ	0	0	0	%100
26	M36B	SZ	0	0	0	%100
27	M36C	SZ	0	0	0	%100
28	M37	SZ	0	0	0	%100
29	M38	SZ	0	0	0	%100
30	M39	SZ	0	0	0	%100
31	M40	SZ	0	0	0	%100
32	M41	SZ	0	0	0	%100
33	M39A	SZ	0	0	0	%100
34	M40A	SZ	0	0	0	%100
35	M41A	SZ	0	0	0	%100
36	M42	SZ	0	0	0	%100
37	M43	SZ	0	0	0	%100
38	M44	SZ	0	0	0	%100
39	M45	SZ	0	0	0	%100
40	M46	SZ	0	0	0	%100
41	M41B	SZ	-88.991	-88.991	0	%100
42	M43A	SZ	0	0	0	%100
43	M44A	SZ	0	0	0	%100
44	M45A	SZ	-88.991	-88.991	0	%100
45	M47	SZ	-88.991	-88.991	0	%100
46	M48	SZ	-88.991	-88.991	0	%100
47	M67	SZ	-88.991	-88.991	0	%100
48	M68	SZ	0	0	0	%100
49	M69	SZ	0	0	0	%100
50	M70	SZ	0	0	0	%100
51	M71	SZ	0	0	0	%100
52	MP13	SZ	-53.394	-53.394	0	%100
53	M73	SZ	-53.394	-53.394	0	%100
54	MP10	SZ	-53.394	-53.394	0	%100
55	MP9	SZ	-53.394	-53.394	0	%100
56	MP12	SZ	-53.394	-53.394	0	%100

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

Member Label	Direction	Start Magnitude[lb/ft.F.psf]	End Magnitude[lb/ft.F.psf]	Start Locatio...	End Location[...	
57	M78	SZ	0	0	%100	
58	M79	SZ	0	0	%100	
59	M80	SZ	0	0	%100	
60	M81	SZ	0	0	%100	
61	M82	SZ	0	0	%100	
62	M83	SZ	0	0	%100	
63	M84	SZ	0	0	%100	
64	M85	SZ	0	0	%100	
65	M65	SZ	-88.991	-88.991	0	%100
66	M66	SZ	-88.991	-88.991	0	%100
67	M67A	SZ	0	0	0	%100
68	MP11	SZ	-53.394	-53.394	0	%100
69	M69A	SZ	0	0	0	%100
70	M70A	SZ	0	0	0	%100
71	M71A	SZ	-88.991	-88.991	0	%100
72	M72	SZ	-88.991	-88.991	0	%100
73	M73A	SZ	0	0	0	%100
74	M82A	SZ	0	0	0	%100
75	M83A	SZ	0	0	0	%100
76	M84A	SZ	0	0	0	%100
77	M85A	SZ	0	0	0	%100
78	M86	SZ	0	0	0	%100
79	M87	SZ	0	0	0	%100
80	M88	SZ	0	0	0	%100
81	M89	SZ	0	0	0	%100
82	M90	SZ	0	0	0	%100
83	M91	SZ	0	0	0	%100
84	M92	SZ	0	0	0	%100
85	M93	SZ	0	0	0	%100
86	M94	SZ	-53.394	-53.394	0	%100
87	M95	SZ	-53.394	-53.394	0	%100
88	M96	SZ	-53.394	-53.394	0	%100
89	M97	SZ	-53.394	-53.394	0	%100
90	M98	SZ	-53.394	-53.394	0	%100
91	M99	SZ	-53.394	-53.394	0	%100

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

Member Label	Direction	Start Magnitude[lb/ft.F.psf]	End Magnitude[lb/ft.F.psf]	Start Locatio...	End Location[...	
1	M1	SX	-88.991	-88.991	0	%100
2	M2	SX	0	0	0	%100
3	M3	SX	0	0	0	%100
4	M4	SX	0	0	0	%100
5	M5	SX	0	0	0	%100
6	MP4	SX	-53.394	-53.394	0	%100
7	M7	SX	-53.394	-53.394	0	%100
8	MP2	SX	-53.394	-53.394	0	%100
9	MP1	SX	-53.394	-53.394	0	%100
10	MP3	SX	-53.394	-53.394	0	%100
11	M25	SX	-88.991	-88.991	0	%100
12	M26	SX	0	0	0	%100
13	M27	SX	0	0	0	%100
14	M28	SX	0	0	0	%100
15	M29	SX	0	0	0	%100
16	MP8	SX	-53.394	-53.394	0	%100
17	M31	SX	-53.394	-53.394	0	%100
18	MP6	SX	-53.394	-53.394	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft.F.psf]	End Magnitude[lb/ft.F.psf]	Start Locatio...	End Location[...
19	MP5	SX	-53.394	-53.394	0	%100
20	MP7	SX	-53.394	-53.394	0	%100
21	M26A	SX	0	0	0	%100
22	M27A	SX	0	0	0	%100
23	M33	SX	0	0	0	%100
24	M34A	SX	0	0	0	%100
25	M35B	SX	0	0	0	%100
26	M36B	SX	0	0	0	%100
27	M36C	SX	0	0	0	%100
28	M37	SX	0	0	0	%100
29	M38	SX	0	0	0	%100
30	M39	SX	0	0	0	%100
31	M40	SX	0	0	0	%100
32	M41	SX	0	0	0	%100
33	M39A	SX	0	0	0	%100
34	M40A	SX	0	0	0	%100
35	M41A	SX	0	0	0	%100
36	M42	SX	0	0	0	%100
37	M43	SX	0	0	0	%100
38	M44	SX	0	0	0	%100
39	M45	SX	0	0	0	%100
40	M46	SX	0	0	0	%100
41	M41B	SX	-88.991	-88.991	0	%100
42	M43A	SX	0	0	0	%100
43	M44A	SX	0	0	0	%100
44	M45A	SX	-88.991	-88.991	0	%100
45	M47	SX	-88.991	-88.991	0	%100
46	M48	SX	-88.991	-88.991	0	%100
47	M67	SX	-88.991	-88.991	0	%100
48	M68	SX	0	0	0	%100
49	M69	SX	0	0	0	%100
50	M70	SX	0	0	0	%100
51	M71	SX	0	0	0	%100
52	MP13	SX	-53.394	-53.394	0	%100
53	M73	SX	-53.394	-53.394	0	%100
54	MP10	SX	-53.394	-53.394	0	%100
55	MP9	SX	-53.394	-53.394	0	%100
56	MP12	SX	-53.394	-53.394	0	%100
57	M78	SX	0	0	0	%100
58	M79	SX	0	0	0	%100
59	M80	SX	0	0	0	%100
60	M81	SX	0	0	0	%100
61	M82	SX	0	0	0	%100
62	M83	SX	0	0	0	%100
63	M84	SX	0	0	0	%100
64	M85	SX	0	0	0	%100
65	M65	SX	-88.991	-88.991	0	%100
66	M66	SX	-88.991	-88.991	0	%100
67	M67A	SX	0	0	0	%100
68	MP11	SX	-53.394	-53.394	0	%100
69	M69A	SX	0	0	0	%100
70	M70A	SX	0	0	0	%100
71	M71A	SX	-88.991	-88.991	0	%100
72	M72	SX	-88.991	-88.991	0	%100
73	M73A	SX	0	0	0	%100
74	M82A	SX	0	0	0	%100
75	M83A	SX	0	0	0	%100

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

Member Label	Direction	Start Magnitude[lb/ft.F.psf]	End Magnitude[lb/ft.F.psf]	Start Locatio...	End Location[...	
76	M84A	SX	0	0	%100	
77	M85A	SX	0	0	%100	
78	M86	SX	0	0	%100	
79	M87	SX	0	0	%100	
80	M88	SX	0	0	%100	
81	M89	SX	0	0	%100	
82	M90	SX	0	0	%100	
83	M91	SX	0	0	%100	
84	M92	SX	0	0	%100	
85	M93	SX	0	0	%100	
86	M94	SX	-53.394	-53.394	0	%100
87	M95	SX	-53.394	-53.394	0	%100
88	M96	SX	-53.394	-53.394	0	%100
89	M97	SX	-53.394	-53.394	0	%100
90	M98	SX	-53.394	-53.394	0	%100
91	M99	SX	-53.394	-53.394	0	%100

Member Distributed Loads (BLC 16 : Ice Weight)

Member Label	Direction	Start Magnitude[lb/ft.F.psf]	End Magnitude[lb/ft.F.psf]	Start Locatio...	End Location[...	
1	M1	Y	-21.383	-21.383	0	%100
2	M2	Y	-3.605	-3.605	0	%100
3	M3	Y	-3.605	-3.605	0	%100
4	M4	Y	-3.605	-3.605	0	%100
5	M5	Y	-3.605	-3.605	0	%100
6	MP4	Y	-8.589	-8.589	0	%100
7	M7	Y	-8.589	-8.589	0	%100
8	MP2	Y	-8.589	-8.589	0	%100
9	MP1	Y	-8.589	-8.589	0	%100
10	MP3	Y	-8.589	-8.589	0	%100
11	M25	Y	-21.383	-21.383	0	%100
12	M26	Y	-3.605	-3.605	0	%100
13	M27	Y	-3.605	-3.605	0	%100
14	M28	Y	-3.605	-3.605	0	%100
15	M29	Y	-3.605	-3.605	0	%100
16	MP8	Y	-8.589	-8.589	0	%100
17	M31	Y	-8.589	-8.589	0	%100
18	MP6	Y	-8.589	-8.589	0	%100
19	MP5	Y	-8.589	-8.589	0	%100
20	MP7	Y	-8.589	-8.589	0	%100
21	M26A	Y	-3.605	-3.605	0	%100
22	M27A	Y	-3.605	-3.605	0	%100
23	M33	Y	-3.605	-3.605	0	%100
24	M34A	Y	-3.605	-3.605	0	%100
25	M35B	Y	-3.605	-3.605	0	%100
26	M36B	Y	-3.605	-3.605	0	%100
27	M36C	Y	-3.605	-3.605	0	%100
28	M37	Y	-3.605	-3.605	0	%100
29	M38	Y	-3.605	-3.605	0	%100
30	M39	Y	-3.605	-3.605	0	%100
31	M40	Y	-3.605	-3.605	0	%100
32	M41	Y	-3.605	-3.605	0	%100
33	M39A	Y	-3.605	-3.605	0	%100
34	M40A	Y	-3.605	-3.605	0	%100
35	M41A	Y	-3.605	-3.605	0	%100
36	M42	Y	-3.605	-3.605	0	%100
37	M43	Y	-3.605	-3.605	0	%100

Member Distributed Loads (BLC 16 : Ice Weight) (Continued)

Member Label	Direction	Start Magnitude[lb/ft.F.psf]	End Magnitude[lb/ft.F.psf]	Start Locatio...	End Location[...
38	M44	Y	-3.605	0	%100
39	M45	Y	-3.605	0	%100
40	M46	Y	-3.605	0	%100
41	M41B	Y	-11.025	0	%100
42	M43A	Y	-3.605	0	%100
43	M44A	Y	-3.605	0	%100
44	M45A	Y	-11.025	0	%100
45	M47	Y	-11.025	0	%100
46	M48	Y	-11.025	0	%100
47	M67	Y	-21.383	0	%100
48	M68	Y	-3.605	0	%100
49	M69	Y	-3.605	0	%100
50	M70	Y	-3.605	0	%100
51	M71	Y	-3.605	0	%100
52	MP13	Y	-8.589	0	%100
53	M73	Y	-8.589	0	%100
54	MP10	Y	-8.589	0	%100
55	MP9	Y	-8.589	0	%100
56	MP12	Y	-8.589	0	%100
57	M78	Y	-3.605	0	%100
58	M79	Y	-3.605	0	%100
59	M80	Y	-3.605	0	%100
60	M81	Y	-3.605	0	%100
61	M82	Y	-3.605	0	%100
62	M83	Y	-3.605	0	%100
63	M84	Y	-3.605	0	%100
64	M85	Y	-3.605	0	%100
65	M65	Y	-11.025	0	%100
66	M66	Y	-11.025	0	%100
67	M67A	Y	-3.605	0	%100
68	MP11	Y	-8.589	0	%100
69	M69A	Y	-3.605	0	%100
70	M70A	Y	-3.605	0	%100
71	M71A	Y	-11.025	0	%100
72	M72	Y	-11.025	0	%100
73	M73A	Y	-3.605	0	%100
74	M82A	Y	-3.605	0	%100
75	M83A	Y	-3.605	0	%100
76	M84A	Y	-3.605	0	%100
77	M85A	Y	-3.605	0	%100
78	M86	Y	-3.605	0	%100
79	M87	Y	-3.605	0	%100
80	M88	Y	-3.605	0	%100
81	M89	Y	-3.605	0	%100
82	M90	Y	-3.605	0	%100
83	M91	Y	-3.605	0	%100
84	M92	Y	-3.605	0	%100
85	M93	Y	-3.605	0	%100
86	M94	Y	-9.638	0	%100
87	M95	Y	-9.638	0	%100
88	M96	Y	-9.638	0	%100
89	M97	Y	-9.638	0	%100
90	M98	Y	-9.638	0	%100
91	M99	Y	-9.638	0	%100

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

Member Label	Direction	Start Magnitude[lb/ft.F.psf]	End Magnitude[lb/ft.F.psf]	Start Locatio...	End Location[...
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Member Distributed Loads (BLC 29 : Distr. Ice Wind Load Z) (Continued)

Member Label	Direction	Start Magnitude[lb/ft.F.psf]	End Magnitude[lb/ft.F.psf]	Start Locatio...	End Location[...
1	M1	SZ	-13.249	0	%100
2	M2	SZ	0	0	%100
3	M3	SZ	0	0	%100
4	M4	SZ	0	0	%100
5	M5	SZ	0	0	%100
6	MP4	SZ	-23.062	0	%100
7	M7	SZ	-23.062	0	%100
8	MP2	SZ	-23.062	0	%100
9	MP1	SZ	-23.062	0	%100
10	MP3	SZ	-23.062	0	%100
11	M25	SZ	-13.249	0	%100
12	M26	SZ	0	0	%100
13	M27	SZ	0	0	%100
14	M28	SZ	0	0	%100
15	M29	SZ	0	0	%100
16	MP8	SZ	-23.062	0	%100
17	M31	SZ	-23.062	0	%100
18	MP6	SZ	-23.062	0	%100
19	MP5	SZ	-23.062	0	%100
20	MP7	SZ	-23.062	0	%100
21	M26A	SZ	0	0	%100
22	M27A	SZ	0	0	%100
23	M33	SZ	0	0	%100
24	M34A	SZ	0	0	%100
25	M35B	SZ	0	0	%100
26	M36B	SZ	0	0	%100
27	M36C	SZ	0	0	%100
28	M37	SZ	0	0	%100
29	M38	SZ	0	0	%100
30	M39	SZ	0	0	%100
31	M40	SZ	0	0	%100
32	M41	SZ	0	0	%100
33	M39A	SZ	0	0	%100
34	M40A	SZ	0	0	%100
35	M41A	SZ	0	0	%100
36	M42	SZ	0	0	%100
37	M43	SZ	0	0	%100
38	M44	SZ	0	0	%100
39	M45	SZ	0	0	%100
40	M46	SZ	0	0	%100
41	M41B	SZ	-18.586	0	%100
42	M43A	SZ	0	0	%100
43	M44A	SZ	0	0	%100
44	M45A	SZ	-18.586	0	%100
45	M47	SZ	-18.586	0	%100
46	M48	SZ	-18.586	0	%100
47	M67	SZ	-13.249	0	%100
48	M68	SZ	0	0	%100
49	M69	SZ	0	0	%100
50	M70	SZ	0	0	%100
51	M71	SZ	0	0	%100
52	MP13	SZ	-23.062	0	%100
53	M73	SZ	-23.062	0	%100
54	MP10	SZ	-23.062	0	%100
55	MP9	SZ	-23.062	0	%100
56	MP12	SZ	-23.062	0	%100
57	M78	SZ	0	0	%100

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

Member Label	Direction	Start Magnitude[lb/ft.F,psf]	End Magnitude[lb/ft.F,psf]	Start Locatio...	End Location[...	
58	M79	SZ	0	0	%100	
59	M80	SZ	0	0	%100	
60	M81	SZ	0	0	%100	
61	M82	SZ	0	0	%100	
62	M83	SZ	0	0	%100	
63	M84	SZ	0	0	%100	
64	M85	SZ	0	0	%100	
65	M65	SZ	-18.586	-18.586	0	%100
66	M66	SZ	-18.586	-18.586	0	%100
67	M67A	SZ	0	0	0	%100
68	MP11	SZ	-23.062	-23.062	0	%100
69	M69A	SZ	0	0	0	%100
70	M70A	SZ	0	0	0	%100
71	M71A	SZ	-18.586	-18.586	0	%100
72	M72	SZ	-18.586	-18.586	0	%100
73	M73A	SZ	0	0	0	%100
74	M82A	SZ	0	0	0	%100
75	M83A	SZ	0	0	0	%100
76	M84A	SZ	0	0	0	%100
77	M85A	SZ	0	0	0	%100
78	M86	SZ	0	0	0	%100
79	M87	SZ	0	0	0	%100
80	M88	SZ	0	0	0	%100
81	M89	SZ	0	0	0	%100
82	M90	SZ	0	0	0	%100
83	M91	SZ	0	0	0	%100
84	M92	SZ	0	0	0	%100
85	M93	SZ	0	0	0	%100
86	M94	SZ	-20.69	-20.69	0	%100
87	M95	SZ	-20.69	-20.69	0	%100
88	M96	SZ	-20.69	-20.69	0	%100
89	M97	SZ	-20.69	-20.69	0	%100
90	M98	SZ	-20.69	-20.69	0	%100
91	M99	SZ	-20.69	-20.69	0	%100

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

Member Label	Direction	Start Magnitude[lb/ft.F,psf]	End Magnitude[lb/ft.F,psf]	Start Locatio...	End Location[...	
1	M1	SX	-13.249	-13.249	0	%100
2	M2	SX	0	0	0	%100
3	M3	SX	0	0	0	%100
4	M4	SX	0	0	0	%100
5	M5	SX	0	0	0	%100
6	MP4	SX	-23.062	-23.062	0	%100
7	M7	SX	-23.062	-23.062	0	%100
8	MP2	SX	-23.062	-23.062	0	%100
9	MP1	SX	-23.062	-23.062	0	%100
10	MP3	SX	-23.062	-23.062	0	%100
11	M25	SX	-13.249	-13.249	0	%100
12	M26	SX	0	0	0	%100
13	M27	SX	0	0	0	%100
14	M28	SX	0	0	0	%100
15	M29	SX	0	0	0	%100
16	MP8	SX	-23.062	-23.062	0	%100
17	M31	SX	-23.062	-23.062	0	%100
18	MP6	SX	-23.062	-23.062	0	%100
19	MP5	SX	-23.062	-23.062	0	%100

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

Member Label	Direction	Start Magnitude[lb/ft.F.psf]	End Magnitude[lb/ft.F.psf]	Start Locatio...	End Location[...
20	MP7	SX	-23.062	0	%100
21	M26A	SX	0	0	%100
22	M27A	SX	0	0	%100
23	M33	SX	0	0	%100
24	M34A	SX	0	0	%100
25	M35B	SX	0	0	%100
26	M36B	SX	0	0	%100
27	M36C	SX	0	0	%100
28	M37	SX	0	0	%100
29	M38	SX	0	0	%100
30	M39	SX	0	0	%100
31	M40	SX	0	0	%100
32	M41	SX	0	0	%100
33	M39A	SX	0	0	%100
34	M40A	SX	0	0	%100
35	M41A	SX	0	0	%100
36	M42	SX	0	0	%100
37	M43	SX	0	0	%100
38	M44	SX	0	0	%100
39	M45	SX	0	0	%100
40	M46	SX	0	0	%100
41	M41B	SX	-18.586	0	%100
42	M43A	SX	0	0	%100
43	M44A	SX	0	0	%100
44	M45A	SX	-18.586	0	%100
45	M47	SX	-18.586	0	%100
46	M48	SX	-18.586	0	%100
47	M67	SX	-13.249	0	%100
48	M68	SX	0	0	%100
49	M69	SX	0	0	%100
50	M70	SX	0	0	%100
51	M71	SX	0	0	%100
52	MP13	SX	-23.062	0	%100
53	M73	SX	-23.062	0	%100
54	MP10	SX	-23.062	0	%100
55	MP9	SX	-23.062	0	%100
56	MP12	SX	-23.062	0	%100
57	M78	SX	0	0	%100
58	M79	SX	0	0	%100
59	M80	SX	0	0	%100
60	M81	SX	0	0	%100
61	M82	SX	0	0	%100
62	M83	SX	0	0	%100
63	M84	SX	0	0	%100
64	M85	SX	0	0	%100
65	M65	SX	-18.586	0	%100
66	M66	SX	-18.586	0	%100
67	M67A	SX	0	0	%100
68	MP11	SX	-23.062	0	%100
69	M69A	SX	0	0	%100
70	M70A	SX	0	0	%100
71	M71A	SX	-18.586	0	%100
72	M72	SX	-18.586	0	%100
73	M73A	SX	0	0	%100
74	M82A	SX	0	0	%100
75	M83A	SX	0	0	%100
76	M84A	SX	0	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude[lb/ft,F,psf]	Start Locatio...	End Location[...
77	M85A	SX	0	0	0	%100
78	M86	SX	0	0	0	%100
79	M87	SX	0	0	0	%100
80	M88	SX	0	0	0	%100
81	M89	SX	0	0	0	%100
82	M90	SX	0	0	0	%100
83	M91	SX	0	0	0	%100
84	M92	SX	0	0	0	%100
85	M93	SX	0	0	0	%100
86	M94	SX	-20.69	-20.69	0	%100
87	M95	SX	-20.69	-20.69	0	%100
88	M96	SX	-20.69	-20.69	0	%100
89	M97	SX	-20.69	-20.69	0	%100
90	M98	SX	-20.69	-20.69	0	%100
91	M99	SX	-20.69	-20.69	0	%100

Member Area Loads

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

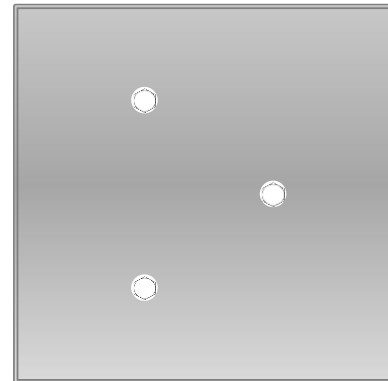
Bolt Calculation Tool, V1.4

PROJECT DATA	
Site Name:	Glastonbury
Site Number:	CTL01038
Job Code:	1106-A0001-B
Connection Description:	Mount to Tower Leg

APPLIED LOADS		
Bolt Tension:	14237.13	lbs
Bolt Shear:	1579.88	lbs

BOLT PROPERTIES		
Bolt Type:	Bolt	-
Bolt Diameter:	0.75	in
Bolt Grade:	A325	-
# of Bolts:	3	-
Threads Excluded?	No	-

BOLT CHECK		
Tensile Strength	30101.39	
Shear Strength	19880.39	
Tensile Usage	47.3%	
Shear Usage	7.9%	
Interaction Check	0.23	≤1.05
Result	Pass	



Bolt Calculation Tool, V1.4

PROJECT DATA	
Site Name:	Glastonbury
Site Number:	CTL01038
Job Code:	1106-A0001-B
Connection Description:	Pipe to Pipe

APPLIED LOADS		
Bolt Tension:	1944.20	lbs
Bolt Shear:	971.18	lbs

BOLT PROPERTIES		
Bolt Type:	Threaded Rod	-
Bolt Diameter:	0.5	in
Bolt Grade:	A36	-
# of Threaded Rods:	2	-
Threads Excluded?	No	-

BOLT CHECK		
Tensile Strength	6172.58	
Shear Strength	4270.60	
Tensile Usage	31.5%	
Shear Usage	22.7%	
Interaction Check	0.15	≤1.05
Result	Pass	



GENERAL NOTES:

1. THESE DOCUMENTS WERE DESIGNED IN ACCORDANCE WITH THE LATEST VERSION OF APPLICABLE LOCAL/STATE/COUNTY/CITY BUILDING CODES, AS WELL AS ANSI/TIA-222 STANDARD, AWWA-D100 STANDARD, NDS, NEC, MSJC, AND/OR THE LATEST VERSION OF THE INTERNATIONAL BUILDING CODE, UNLESS NOTED OTHERWISE IN THE CORRESPONDING STRUCTURAL REPORT.
2. ALL CONSTRUCTION METHODS SHOULD FOLLOW STANDARDS OF GOOD CONSTRUCTION PRACTICE.
3. ALL WORK INDICATED ON THESE DRAWINGS SHALL BE PERFORMED BY QUALIFIED CONTRACTORS EXPERIENCED IN SIMILAR CONSTRUCTION.
4. ALL NEW WORK SHALL ACCOMMODATE EXISTING CONDITIONS. IF OBSTRUCTIONS ARE FOUND, CONTRACTOR SHALL NOTIFY ENGINEER OF RECORD PRIOR TO CONTINUING WORK.
5. ANY CHANGES OR ADDITIONS MUST CONFORM TO THE REQUIREMENTS OF THESE NOTES AND SPECIFICATIONS, AND SHOULD BE SIMILAR TO THOSE SHOWN. ALL CHANGES OR ADDITIONS SHALL BE SUBMITTED TO THE ENGINEER OF RECORD FOR REVIEW AND APPROVAL PRIOR TO FABRICATION AND/OR CONSTRUCTION.
6. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN AND EXECUTION OF ALL MISCELLANEOUS SHORING, BRACING, TEMPORARY SUPPORTS, ETC. NECESSARY TO PROVIDE A COMPLETE AND STABLE STRUCTURE DURING CONSTRUCTION. TIA-1019-A-2011 IS AN APPROPRIATE REFERENCE FOR THOSE DESIGNS MEETING TIA STANDARDS. THE ENGINEER OF RECORD MAY PROVIDE FORMAL RIGGING PLANS AT THE REQUEST AND EXPENSE OF THE CONTRACTOR.
7. INSTALLATION SHALL NOT INTERFERE NOR DENY ADEQUATE ACCESS TO OR FROM ANY EXISTING OR PROPOSED OPERATIONAL AND SAFETY EQUIPMENT.
8. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS PRIOR TO ANY FABRICATION. CONTACT INFINIGY ENGINEERING IF ANY DISCREPANCIES EXIST.

STEEL CONSTRUCTION NOTES:

1. STRUCTURAL STEEL SHALL CONFORM TO THE AISC MANUAL OF STEEL CONSTRUCTION 14TH EDITION, FOR THE DESIGN AND FABRICATION OF STEEL COMPONENTS.
2. ALL FIELD CUT SURFACES, FIELD DRILLED HOLES, AND GROUND SURFACES WHERE EXISTING PAINT OR GALVANIZATION REMOVAL WAS REQUIRED SHALL BE REPAIRED WITH (2) BRUSHED COATS OF ZRC GALVILITE COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURERS' RECOMMENDATIONS.
3. ALL FIELD DRILLED HOLES TO BE USED FOR FIELD BOLTING INSTALLATION SHALL BE STANDARD HOLES, AS DEFINED BY AISC, UNLESS NOTED OTHERWISE.
4. ALL EXTERIOR STEEL WORK SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A123.
5. ALL STEEL MEMBERS AND CONNECTIONS SHALL MEET THE FOLLOWING GRADES:
 - ANGLES, CHANNELS, PLATES AND BARS TO BE A36. Fy=36 KSI, U.N.O.
 - W SHAPES TO BE A992. Fy=50 KSI, U.N.O.
 - RECTANGULAR HSS TO BE A500, GRADE B. Fy=46 KSI, U.N.O.
 - ROUND HSS TO BE A500, GRADE B. Fy=42 KSI, U.N.O.
 - STEEL PIPE TO BE A53, GRADE B. Fy=35 KSI, U.N.O.
 - BOLTS TO BE A325-X. Fu=120 KSI, U.N.O.
 - U-BOLTS AND LAG SCREWS TO BE A307 GR A. Fu=60 KSI, U.N.O.
6. ALL WELDING SHALL BE DONE USING E70XX ELECTRODES, U.N.O.
7. ALL WELDING SHALL CONFORM TO AISC AND AWS D1.1 LATEST EDITION.
8. ALL HILTI ANCHORS TO BE CARBON STEEL, U.N.O.
 - MECHANICAL ANCHORS: KWIK BOLT-TZ, U.N.O.
 - CMU BLOCK ANCHORS: ADHESIVE - HY120, U.N.O.
 - CONCRETE ANCHORS: ADHESIVE - HY150, U.N.O.
 - CONCRETE REBAR: ADHESIVE - RE500, U.N.O.
9. ALL STUDS TO BE NELSON CAPACITOR DISCHARGE 1/4"-20 LOW CARBON STEEL COPPER-FLASH AT 55 KSI ULT/50 KSI YIELD, U.N.O.
10. BOLTS SHALL BE TIGHTENED TO A "SNUG TIGHT" CONDITION AS DEFINED BY AISC.
11. MINIMUM EDGE DISTANCES SHALL CONFORM TO AISC TABLE J3.4.
12. REMOVAL/REPLACEMENT OF STRUCTURAL MEMBERS SHALL BE DONE ONE MEMBER AT A TIME. CONTRACTOR IS RESPONSIBLE FOR ENSURING THE STRUCTURAL INTEGRITY OF THE STRUCTURE DURING ALL PHASES OF CONSTRUCTION.

CONCRETE CONSTRUCTION NOTES:

1. CONCRETE TO BE 4000 PSI @ 28 DAYS. REINFORCING BAR TO CONFORM TO ASTM A615 GRADE 60 SPECIFICATIONS. CONCRETE INSTALLATION TO CONFORM TO ACI-318 BUILDING REQUIREMENTS FOR REINFORCED CONCRETE. ALL CONCRETE TO BE PLACED AGAINST UNDISTURBED EARTH FREE OF WATER AND ALL FOREIGN OBJECTS AND MATERIALS. A MINIMUM OF THREE INCHES OF CONCRETE SHALL COVER ALL REINFORCEMENT. WELDING OF REBAR IS NOT PERMITTED.
2. EXISTING CONCRETE SURFACES THAT ARE TO BE IN CONTACT WITH NEW PROPOSED CONCRETE SHOULD BE WIRE BRUSHED CLEAN AND TREATED WITH APPROPRIATE MECHANICAL SCRATCH COAT AND REPAIR MATERIALS OR APPROPRIATE CHEMICAL METHODS SUCH AS THE APPLICATION OF A BONDING AGENT, EX. SAKRETE OR EQUIVALENT, TO ENSURE A QUALITY BOND BETWEEN EXISTING AND PROPOSED CONCRETE SURFACES.

FIBER REINFORCED POLYMER (FRP) NOTES:

1. FRP PLATES, SHAPES, BOLTS AND NUTS (STUD/NUT ASSEMBLIES) SHALL CONFORM TO ASTM D638, 695, 790. PLATES AND SHAPES TO BE FY = 5.35 KSI LW (SAFETY FACTOR OF 8), .945 KSI CW (SAFETY FACTOR OF 8) MIN.
2. IF FIELD FABRICATION IS REQUIRED, ALL CUT EDGES AND DRILLED HOLES TO BE SEALED USING VINYL ESTER SEALING KIT SUPPLIED BY THE MANUFACTURER.
3. ALL FASTENERS TO BE 1/2" DIA FRP THREADED ROD WITH FIBER REINFORCED THERMOPLASTIC NUT, SPACED AT 12 INCHES ON CENTER MAXIMUM, U.N.O., FOR PANELS AND AS DESIGNED FOR STRUCTURAL MEMBERS.
4. THE COLOR AND SURFACE PATTERN OF EXPOSED FRP PANELS SHALL MATCH THE EXTERIOR OF THE EXISTING BUILDING, U.N.O.
5. STUD/NUT ASSEMBLIES SHOULD BE LUBRICATED FOR INSTALLATION
6. ENSURE BEARING SURFACES OF THE NUTS ARE PARALLEL TO THE SURFACES BEING FASTENED.
7. TORQUE BOLTS ACCORDING TO THE FOLLOWING TABLE:

INSTALLATION TORQUE TABLE		
SIZE	ULTIMATE TORQUE STRENGTH	RECOMMENDED MAXIMUM INSTALLATION TORQUE
3/8-16 UNC	8 FT-LBS	4 FT-LBS
1/2-13 UNC	18 FT-LBS	8 FT-LBS
5/8-11 UNC	35 FT-LBS	16 FT-LBS
3/4-10 UNC	50 FT-LBS	24 FT-LBS
1-8 UNC	110 FT-LBS	50 FT-LBS

8. WHEN TIGHTENING FRP STUD/NUT ASSEMBLIES, WRENCHES MUST MAKE FULL CONTACT WITH ALL NUT EDGES. A STANDARD SIX POINT SOCKET IS RECOMMENDED.
9. STUD/NUT ASSEMBLIES SHOULD BE BONDED BY APPLYING BONDING AGENT TO ENTIRE NUT AND EXPOSED STUD.
10. ALL FRP MATERIALS TO BE PROVIDED BY FIBERGRATE COMPOSITE STRUCTURES, DALLAS TX, OR APPROVED EQUAL.
11. ALL FRP SHAPES TO BE DYNAFORM PULTRUDED STRUCTURAL SHAPES.
12. ALL FRP PLATES TO BE FIBERPLATE MOLDED FRP PLATE.
13. ALL FRP PANELS TO BE FIBERPLATE CLADDING PANEL.
14. EACH FRP PANEL TO BE IDENTIFIED WITH LARR#25536 AND FIBERGRATE COMPOSITE STRUCTURAL LABEL.
15. FRP MATERIAL TO BE CLASSIFIED AS CC1 OR BETTER, AND HAVE MAXIMUM FLAME SPREAD OF 50.
16. ALL DESIGN AND CONSTRUCTION TO BE COMPLETED IN ACCORDANCE WITH LOS ANGELES RESEARCH REPORT RR25536, DATED FEBRUARY 1, 2016.
17. SPECIAL INSPECTIONS MUST BE PROVIDED FOR ALL FRP INSTALLMENTS. SEE SPECIAL INSPECTION SECTION, THIS SHEET.

RATIO OF EDGE DISTANCE TO FRP FASTENER DIAMETER		
	RANGE	RECOMMENDED
EDGE DISTANCE - CL* BOLT TO END	2.0-4.0	3.0
EDGE DISTANCE - CL* BOLT TO SIDE	1.5-3.5	2.5
BOLT PITCH - CL* TO CL*	4.0-5.0	5.0

WOOD CONSTRUCTION NOTES:

1. ALL EXISTING WOOD SHAPES ARE ASSUMED TO BE DOUGLAS FIR-LARCH WITH A REFERENCE DESIGN BENDING VALUE OF 1000 PSI MIN.
2. ALL PROPOSED WOOD SHAPES ARE TO BE DOUGLAS FIR-LARCH WITH A REFERENCE DESIGN BENDING VALUE OF 1000 PSI MIN. U.N.O.
3. ALL EXISTING AND PROPOSED GLUED LAMINATED TIMBERS ARE TO BE 24F-1.8C DOUGLAS FIR BALANCED WITH A REFERENCE DESIGN BENDING VALUE OF 2400 PSI MIN. U.N.O.

MASONRY CONSTRUCTION NOTES:

1. ALL BRICK TO BE 1500 PSI MIN. REINFORCING BAR (IF APPLICABLE) TO CONFORM TO ASTM A615 GRADE 60 SPECIFICATIONS. ALL MORTAR TO BE 2000 PSI MIN.
 - FOR INTERIOR/ABOVE GRADE APPLICATIONS TYPE N MORTAR HAVING MINIMUM MODULUS OF RUPTURE OF 100 PSI SHALL BE USED. FOR EXTERIOR/BELOW GRADE APPLICATIONS TYPE M OR S MORTAR HAVING A MINIMUM MODULUS OF RUPTURE OF 133 PSI.
 - BRICK AND MORTAR INSTALLATION TO CONFORM TO MSJC BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES.
2. ALL CMU TO BE 1500 PSI MIN. REINFORCING BAR (IF APPLICABLE) TO CONFORM TO ASTM A615 GRADE 60 SPECIFICATIONS. ALL MORTAR TO BE 2000 PSI MIN.
 - FOR INTERIOR/ABOVE GRADE APPLICATIONS, TYPE N MORTAR HAVING MINIMUM MODULUS OF RUPTURE OF 64 PSI SHALL BE USED FOR UNGROUTED BLOCKS, AND 158 PSI FOR FULLY GROUTED BLOCKS.
 - FOR EXTERIOR/BELOW GRADE APPLICATIONS TYPE M OR S MORTAR HAVING A MINIMUM MODULUS OF RUPTURE OF 84 PSI SHALL BE USED FOR UNGROUTED BLOCKS, AND 163 PSI FOR FULLY GROUTED BLOCKS.
 - BRICK AND MORTAR INSTALLATION TO CONFORM TO MSJC BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES.

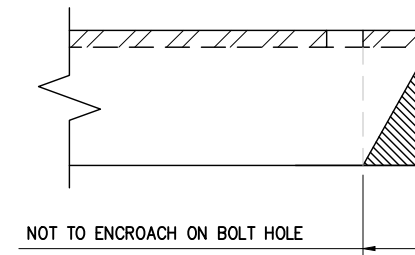
TOWER PLUMB & TENSION NOTES:

1. PLUMB AND TENSION TOWER UPON COMPLETION OF STRUCTURAL MODIFICATIONS DETAILED IN THESE DRAWINGS.
2. RETENSIONING OF EXISTING GUY WIRES SHALL BE PERFORMED AT A TIME WHEN THE WIND VELOCITY IS LESS THAN 10 MPH AT GROUND LEVEL AND WITH NO ICE ON THE STRUCTURE AND GUY WIRES.
3. PLUMB THE TOWER WHILE RETENSIONING THE EXISTING GUY WIRES. THE HORIZONTAL DISTANCE BETWEEN THE VERTICAL CENTERLINES AT ANY TWO ELEVATIONS SHALL NOT EXCEED 0.25% OF THE VERTICAL DISTANCE BETWEEN TWO ELEVATIONS FOR LATTICED STRUCTURES.
4. THE TWIST BETWEEN ANY TWO ELEVATIONS THROUGHOUT THE HEIGHT OF A LATTICE STRUCTURE SHALL NOT EXCEED 0.5 DEGREES IN 10 FEET. THE MAXIMUM TWIST OVER THE LATTICE STRUCTURE HEIGHT SHALL NOT EXCEED 5 DEGREES.

SPECIAL INSPECTIONS NOTES:

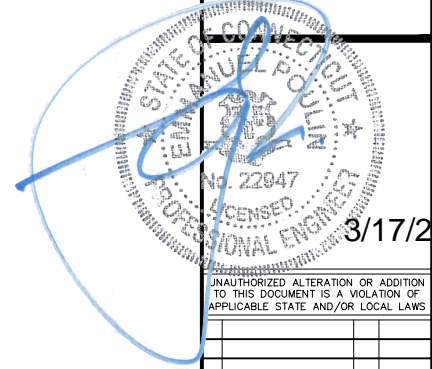
1. A QUALIFIED INDEPENDENT TESTING LABORATORY, EMPLOYED BY THE OWNER AND APPROVED BY THE JURISDICTION, SHALL PERFORM INSPECTION AND TESTING IN ACCORDANCE WITH THE THE GOVERNING BUILDING CODE, APPLICABLE SECTION(S) AS REQUIRED BY PROJECT SPECIFICATIONS FOR THE FOLLOWING CONSTRUCTION WORK:
 - a. STRUCTURAL WELDING (CONTINUOUS INSPECTION OF FIELD WELDS ONLY).
 - b. HIGH STRENGTH BOLTS (PERIODIC INSPECTION OF A325 AND/OR A490 BOLTS) TO BE TIGHTENED PER "TURN-OF-THE-NUT" METHOD.
 - c. MECHANICAL AND EPOXIED ANCHORAGES.
 - d. FIBER REINFORCED POLYMER.
 - THE SPECIAL INSPECTOR MUST VERIFY THAT THE FRP MATERIAL SPECIFIED ON THE APPROVED DESIGN DOCUMENTS IS BEING INSTALLED.
 - THE SPECIAL INSPECTOR MUST VERIFY THAT ALL CUT EDGES AND DRILLED HOLES ARE PROPERLY SEALED USING A VINYL ESTER SEALING KIT SUPPLIED BY THE MANUFACTURER.
 - THE SPECIAL INSPECTOR MUST VERIFY THAT THE STRUCTURE IS BUILT IN ACCORDANCE WITH THE APPROVED DESIGN DOCUMENTS.
2. THE INSPECTION AGENCY SHALL SUBMIT INSPECTION AND TEST REPORTS TO THE BUILDING DEPARTMENT, THE ENGINEER OF RECORD, AND THE OWNER UNLESS THE FABRICATOR IS APPROVED BY THE BUILDING OFFICIAL TO PERFORM WORK WITHOUT THE SPECIAL INSPECTIONS.

MAXIMUM ALLOWABLE ANGLE CLIP



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Fax # (518) 690-0793



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0	ISSUED FOR REVIEW	DMB	03/11/21
Drawn:	DMB	Date:	03/11/21
Designed:	BA	Date:	03/11/21
Checked:	JC	Date:	03/11/21
Project Number: 1106-A0001-B			

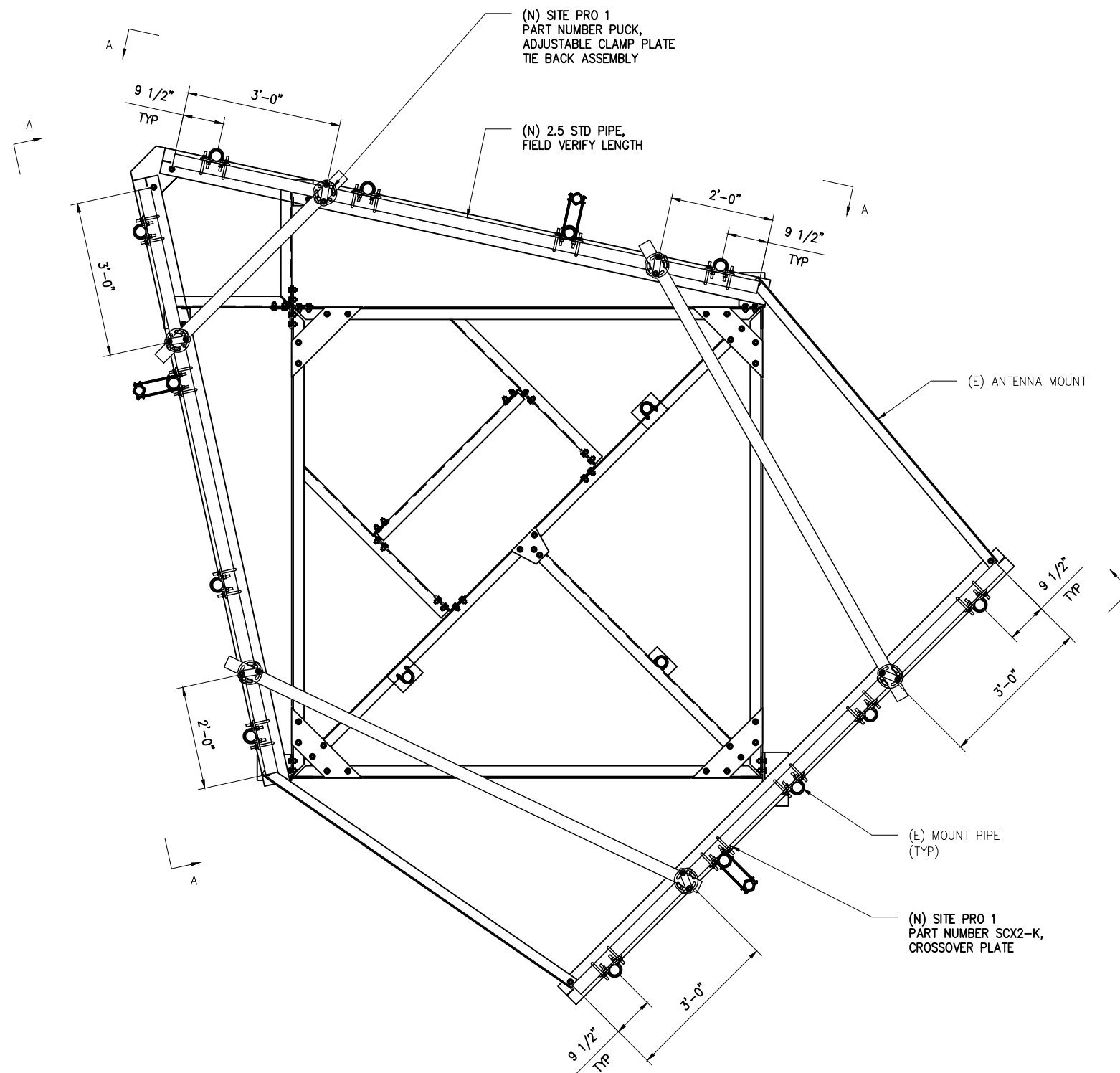
Project Title:
GLASTONBURY
CTL01038
FA# 10034994
BIRCH MOUNTAIN ROAD
GLASTONBURY, CT 06033



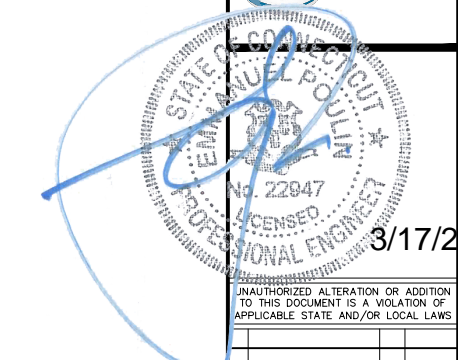
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Date: 03/11/21	

Drawing Title
GENERAL NOTES

Drawing Number
S1



1 ROOF PLAN
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Designed: BA Date: 03/11/21
Checked: JC Date: 03/11/21

Project Number:
1106-A0001-B

Project Title:
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CTL01038
FA# 10034994
BIRCH MOUNTAIN ROAD
GLASTONBURY, CT 06033



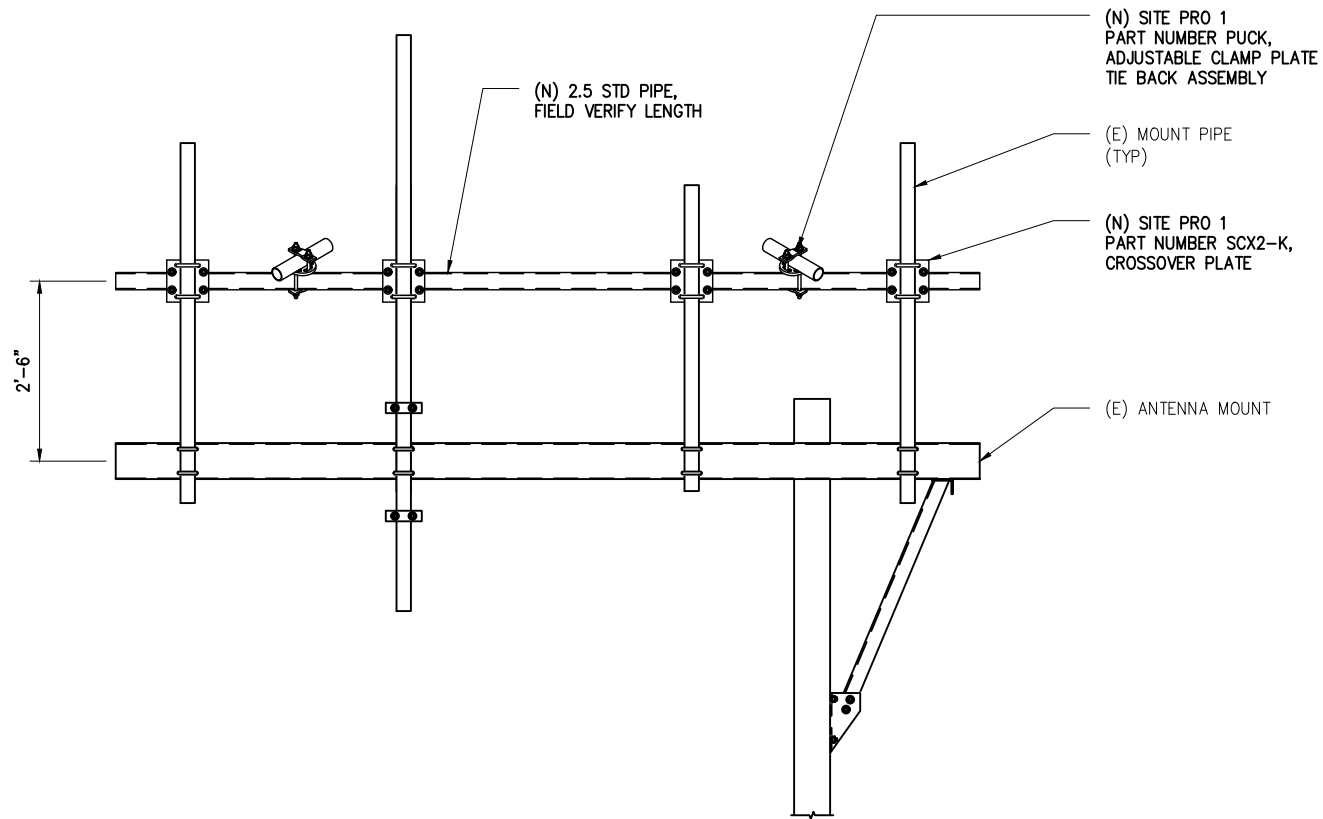
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Date:
03/11/21

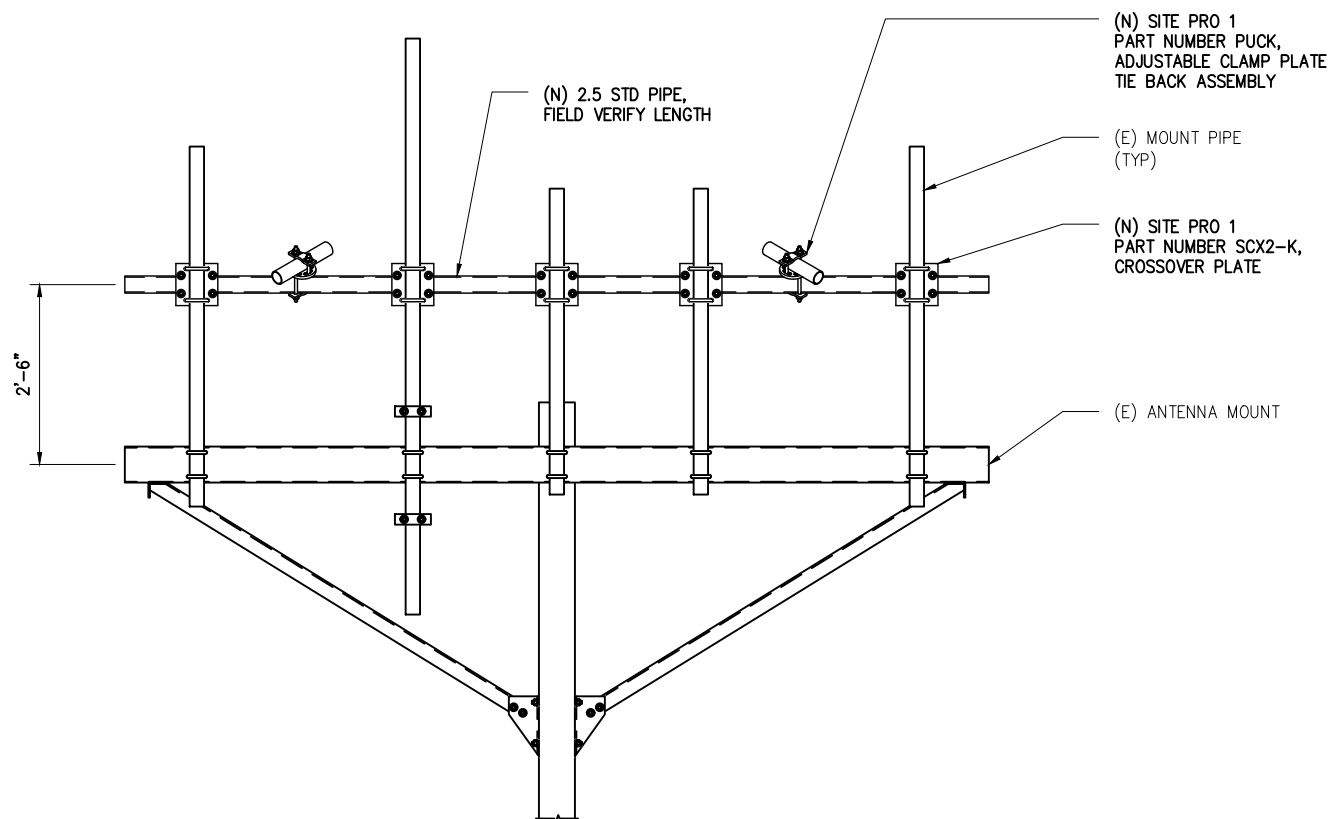
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Drawing Title
MOUNT MODIFICATION

Drawing Number
S2



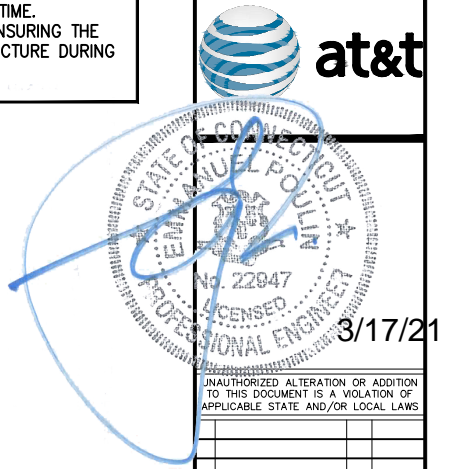
1 SECTION A-A
SCALE: NOT TO SCALE



2 SECTION B-B
SCALE: NOT TO SCALE

NOTES:

1. MODIFICATIONS SHOWN ARE TYPICAL FOR ALL SECTORS.
2. VARIOUS EXISTING CONDITIONS AND PROPOSED MODIFICATIONS NOT SHOWN FOR CLARITY.
3. ALL DESIGNATED PARTS ARE TO BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS, UNLESS OTHERWISE NOTED.
4. CONTRACTOR TO FIELD VERIFY REQUIRED LENGTHS OF PROPOSED ANGLES, PIPES & PLATES, AND CUT & DRILL ON SITE AS NECESSARY.
5. REMOVAL/REPLACEMENT OF STRUCTURAL MEMBERS SHALL BE DONE ONE MEMBER AT A TIME. CONTRACTOR IS RESPONSIBLE FOR ENSURING THE STRUCTURAL INTEGRITY OF THE STRUCTURE DURING ALL PHASES OF CONSTRUCTION.



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Drawn: DMB Date: 03/11/21
Designed: BA Date: 03/11/21
Checked: JC Date: 03/11/21

Project Number: 1106-A0001-B

Project Title: GLASTONBURY
CTL01038
FA# 10034994
BIRCH MOUNTAIN ROAD
GLASTONBURY, CT 06033

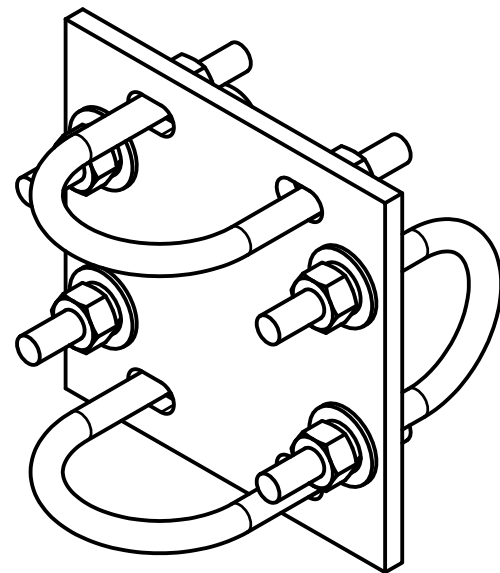


Drawing Scale: AS NOTED
Date: 03/11/21
SD

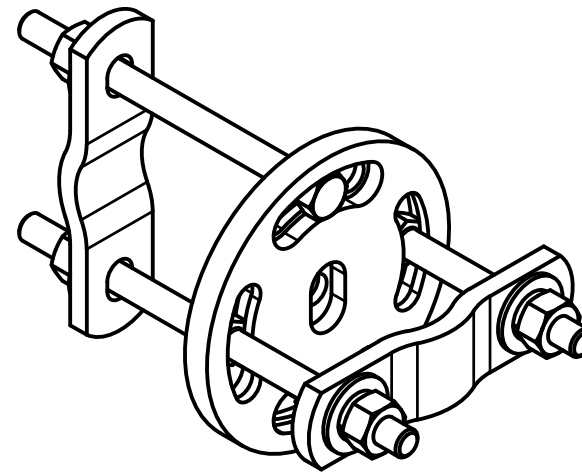
Drawing Title: MOUNT MODIFICATION

Drawing Number: S3

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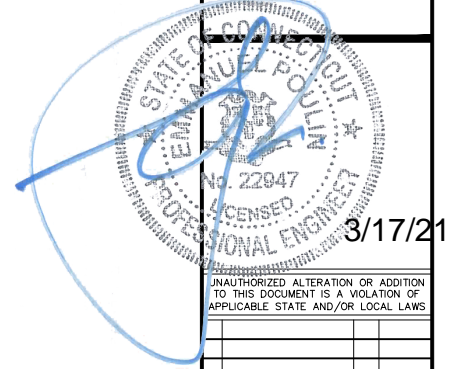


1 SITE PRO 1 P/N SCX2-K
 -- SCALE: NOT TO SCALE



2 SITE PRO 1 P/N PUCK
 -- SCALE: NOT TO SCALE

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 Designed: BA Date: 03/11/21
 Checked: JC Date: 03/11/21

Project Number:
 1106-A0001-B

Project Title:
 GLASTONBURY
 CTL01038
 FA# 10034994
 BIRCH MOUNTAIN ROAD
 GLASTONBURY, CT 06033



Drawing Scale:
 AS NOTED
 Date:
 03/11/21

SD

Drawing Title
REQUIRED PARTS

Drawing Number
S4

Kristina Cottone

From: TrackingUpdates@fedex.com
Sent: Wednesday, August 4, 2021 12:35 PM
To: Kristina Cottone
Subject: FedEx Shipment 774421675266: Your package has been delivered



Hi. Your package was delivered Wed, 08/04/2021 at 12:33pm.



Delivered to 2155 MAIN ST, GLASTONBURY, CT 06033
Received by S.IGNATURE ON FILE

OBTAIN PROOF OF DELIVERY

TRACKING NUMBER	774421675266
FROM	Smartlink LLC 85 Rangeway Road Building 3 Suite 102 NORTH BILLERICA, MA, US, 01862
TO	Town of Glastonbury ATTN: Building Department Peter C.

2155 Main Street
GLASTONBURY, CT, US, 06033

REFERENCE CTL01038 - Glastonbury

SHIPPER REFERENCE CTL01038 - Glastonbury

SHIP DATE Mon 8/02/2021 06:28 PM

DELIVERED TO Shipping/Receiving

PACKAGING TYPE FedEx Envelope

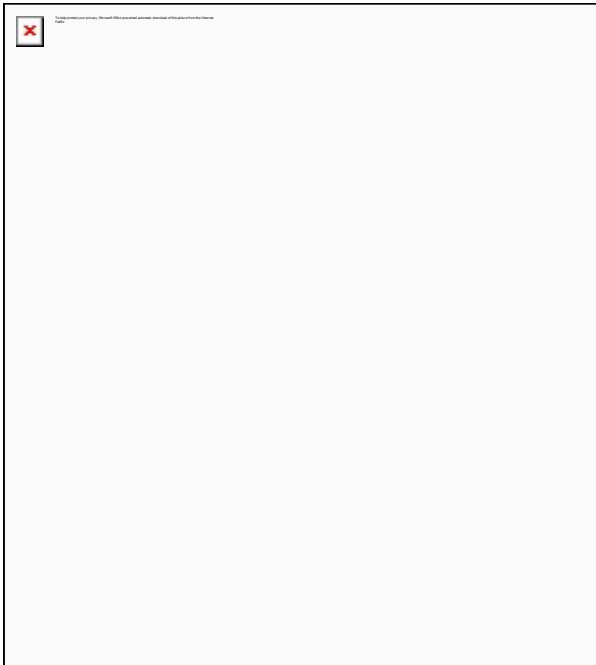
ORIGIN NORTH BILLERICA, MA, US, 01862

DESTINATION GLASTONBURY, CT, US, 06033

SPECIAL HANDLING Deliver Weekday
Ground Delivery
Ground Transportation

NUMBER OF PIECES 1

SERVICE TYPE FedEx 2Day



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Kristina Cottone

From: TrackingUpdates@fedex.com
Sent: Wednesday, August 4, 2021 12:35 PM
To: Kristina Cottone
Subject: FedEx Shipment 774421721898: Your package has been delivered



Hi. Your package was delivered Wed, 08/04/2021 at 12:33pm.



Delivered to 2155 MAIN ST, GLASTONBURY, CT 06033
Received by S.IGNATURE ON FILE

OBTAIN PROOF OF DELIVERY

TRACKING NUMBER [774421721898](#)

FROM Smartlink LLC
85 Rangeway Road
Building 3 Suite 102
NORTH BILLERICA, MA, US, 01862

TO Town of Glastonbury
ATTN: Town Mayor Richard J. Johnson

2155 Main Street
GLASTONBURY, CT, US, 06033

REFERENCE CTL01038 - Glastonbury

SHIPPER REFERENCE CTL01038 - Glastonbury

SHIP DATE Mon 8/02/2021 06:28 PM

DELIVERED TO Shipping/Receiving

PACKAGING TYPE FedEx Envelope

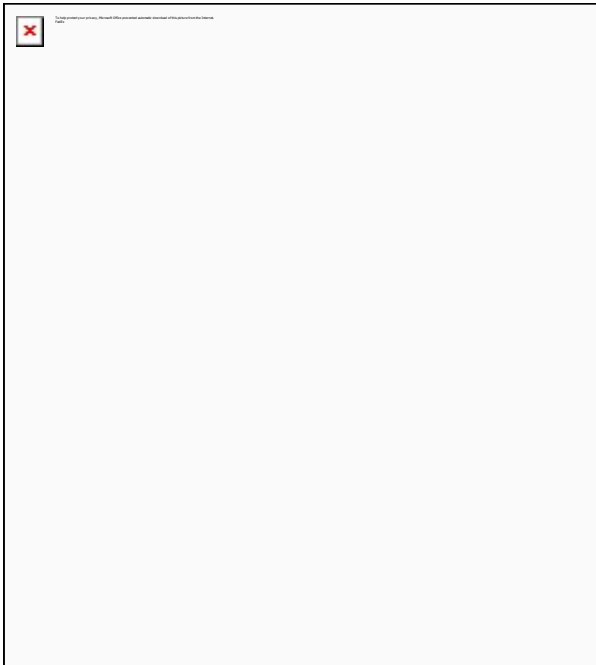
ORIGIN NORTH BILLERICA, MA, US, 01862

DESTINATION GLASTONBURY, CT, US, 06033

SPECIAL HANDLING Deliver Weekday
Ground Delivery
Ground Transportation

NUMBER OF PIECES 1

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August 6, 2021 at 9:32 am
SAINT LOUIS, MO 63101

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kristina.cottone@smartlinkgroup.com

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SHEET INDEX

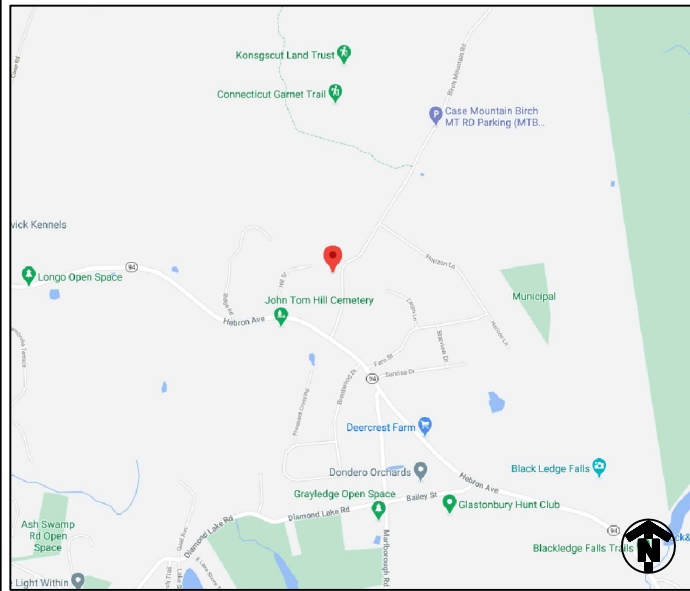
NO.	DESCRIPTION
T1	TITLE SHEET
C1	GENERAL NOTES
C2	OVERALL SITE PLAN
C2A	ENLARGED SITE PLAN
C3	ELEVATION VIEW
C4	ANTENNA ORIENTATION PLAN
C5	EQUIPMENT DETAILS
C6	PLUMBING DIAGRAM
C7	GROUNDING DETAILS
S1-S4	SECTOR FRAME MODIFICATIONS

DRIVING DIRECTIONS

FROM 550 COCHITUATE RD.:

GET ON I-90 WEST. HEAD NORTHWEST TOWARD LEGGATT MCCALL CONN. TURN LEFT ONTO LEGGATT MCCALL CONN. CONTINUE ONTO BURR STREET. TURN LEFT ONTO COCHITUATE ROAD. USE THE RIGHT LANE TO MERGE ONTO I-90 WEST VIA THE RAMP TO SPRINGFIELD. FOLLOW I-90 WEST AND I-84 TO STATE 542 IN VERNON. TAKE EXIT 66 FROM I-84. MERGE ONTO I-90 WEST. USE THE RIGHT 2 LANES TO TAKE EXIT 78 FOR I-84 TOWARD HARTFORD CT/NEW YORK CITY. CONTINUE ONTO I-84. TAKE EXIT 66 TOWARD TUNNEL ROAD/VERNON/BOLTON. TAKE STATE HWY 533 AND CT-85 SOUTH TO BIRCH MOUNTAIN ROAD IN GLASTONBURY. TURN LEFT ONTO STATE HWY 542. TURN LEFT ONTO STATE HWY 533. TURN LEFT ONTO STATE HWY 533/LAKE STREET. SLIGHT LEFT ONTO STATE HWY 533. CONTINUE ONTO CT-85 SOUTH. TURN RIGHT ONTO BIRCH MOUNTAIN ROAD EXTENSION. CONTINUE ONTO BIRCH MOUNTAIN ROAD. TURN LEFT ONTO VILLA LOUISA ROAD/VILLA LOUISE ROAD. CONTINUE ONTO BIRCH MOUNTAIN ROAD.

LOCATION MAP



PROJECT
LTE 3C/4C/RETROFIT/5G NR

SITE NAME
GLASTONBURY

CELL SITE ID
CTL01038

FA SITE NUMBER
10034994

PAGE ID
MRCTB049066/MRCTB049061/MRCTB049075
MRCTB049063/MRCTB049064

SITE ADDRESS
80 BIRCH MOUNTAIN ROAD
GLASTONBURY, CT 06033

STRUCTURE TYPE
SELF SUPPORT

PROJECT TEAM



PROJECT MANAGER



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

ENGINEER

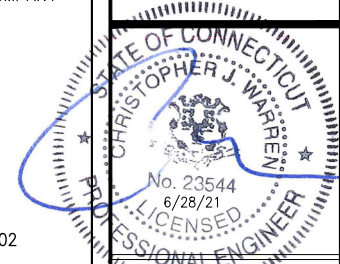
- SCOPE OF WORK (PER LTE RFDS, DATED 02/10/2021 V2.00):
- TOWER
 - REMOVE (6) PANEL ANTENNAS
 - REMOVE YAGI ANTENNA
 - REMOVE (6) TMA UNITS
 - INSTALL (6) PANEL ANTENNAS
 - REMOVE (3) RRUS-11 B12
 - REMOVE (3) RRUS-12 B2 WITH A2 MODULES
 - INSTALL (3) B14 4478
 - INSTALL (3) 4449 B5/B12
 - INSTALL (3) 8843 B2/B66A
 - INSTALL (6) Y-CABLES
 - INSTALL (1) DC/FIBER 'SQUID' WITH (2) #4 CABLES AND (1) FIBER
 - RELOCATE SMART BIAS FROM GSM FEEDER TO BMTS FEEDER CABLES
 - GROUND
 - ADD 2ND 6630
 - ADD IDLe CABLE
 - REMOVE TMA, GSM COAX LINES AND UNUSED ASSOCIATED EQUIPMENT
 - 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.

PROJECT SUMMARY

SITE NAME:	GLASTONBURY	
CELL SITE ID:	CTL01038	
FA SITE #:	10034994	
SITE ADDRESS:	80 BIRCH MOUNTAIN ROAD GLASTONBURY, CT 06033	
COUNTY:	HARTFORD	
SITE COORDINATES:		
LATITUDE:	41.7097981° N	(NAD 83)
LONGITUDE:	72.4743881° W	(NAD 83)
RAD CENTER	±128'	(AGL)
TOWER OWNER:	SOUTHERN NEW ENGLAND TELEPHONE COMPANY C/O PROPERTY TAX ADMINISTRATION ONE SBC CENTER RM 36 M02 ST. LOUIS, MO 63101	
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:	JASON MARGELOT (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)	

TO OBTAIN LOCATION OF PARTICIPANTS UNDERGROUND FACILITIES BEFORE YOU DIG IN CONNECTICUT, CONTACT CALL BEFORE YOU DIG TOLL FREE: 1-800-922-4455 OR www.cbyd.com

CONNECTICUT STATUTE REQUIRES MIN OF 2 WORKING DAYS NOTICE BEFORE YOU EXCAVATE



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Designed: ASW Date: 01/29/21
Checked: ASW Date: 01/29/21
Project Number: 499-006

Project Title:
GLASTONBURY
CTL01038
FA# 10034994
80 BIRCH MOUNTAIN ROAD
GLASTONBURY, CT 06033



Drawing Scale:
AS NOTED
Date:
06/16/21

CD

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.

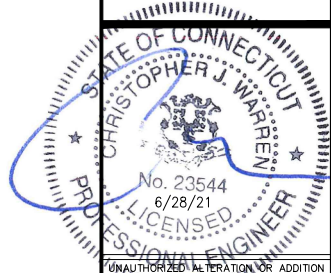
SYMBOL	DESCRIPTION
	CIRCUIT BREAKER
	NON-FUSIBLE DISCONNECT SWITCH
	FUSIBLE DISCONNECT SWITCH
	SURFACE MOUNTED PANEL BOARD
	TRANSFORMER
	KILOWATT HOUR METER
	JUNCTION BOX
	PULL BOX TO NEC/TELCO STANDARDS
-----	UNDERGROUND UTILITIES
	EXOTHERMIC WELD CONNECTION
	MECHANICAL CONNECTION
	GROUND ROD
	GROUND 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 Waterliet Shaker Rd
Albany, NY 12205
Office # (518) 690-0790
Fax # (518) 690-0793



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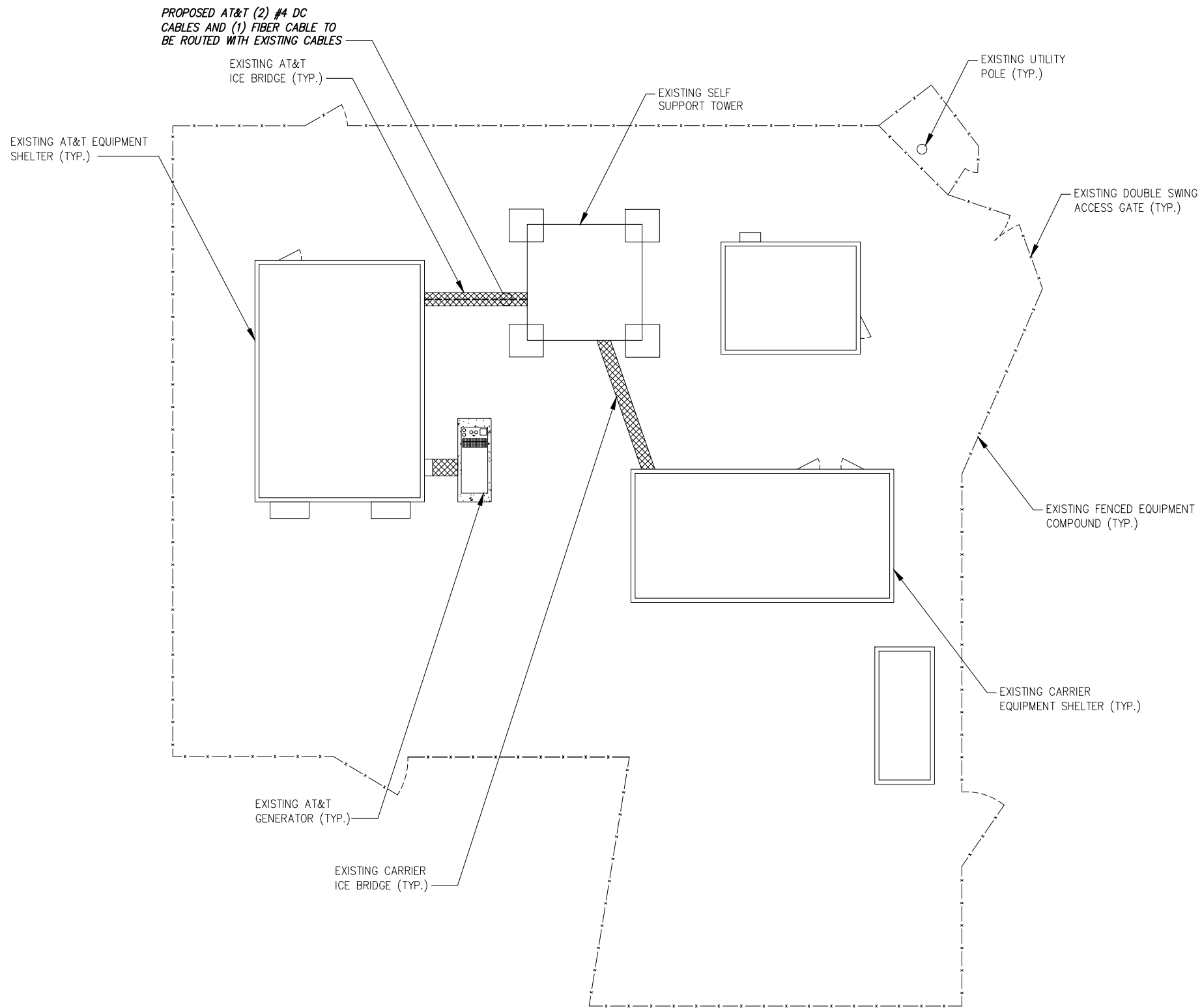


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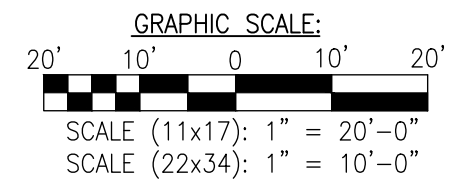
CD

Drawing Title
GENERAL NOTES

Drawing Number
C1



1 SITE PLAN
SCALE: AS NOTED



BASEMAPPING PREPARED FROM A SITE WALK PERFORMED BY INFINIGY ENGINEERING AND PROVIDED INFORMATION.

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Designed: ASW Date: 01/29/21
Checked: ASW Date: 01/29/21

Project Number: 499-006

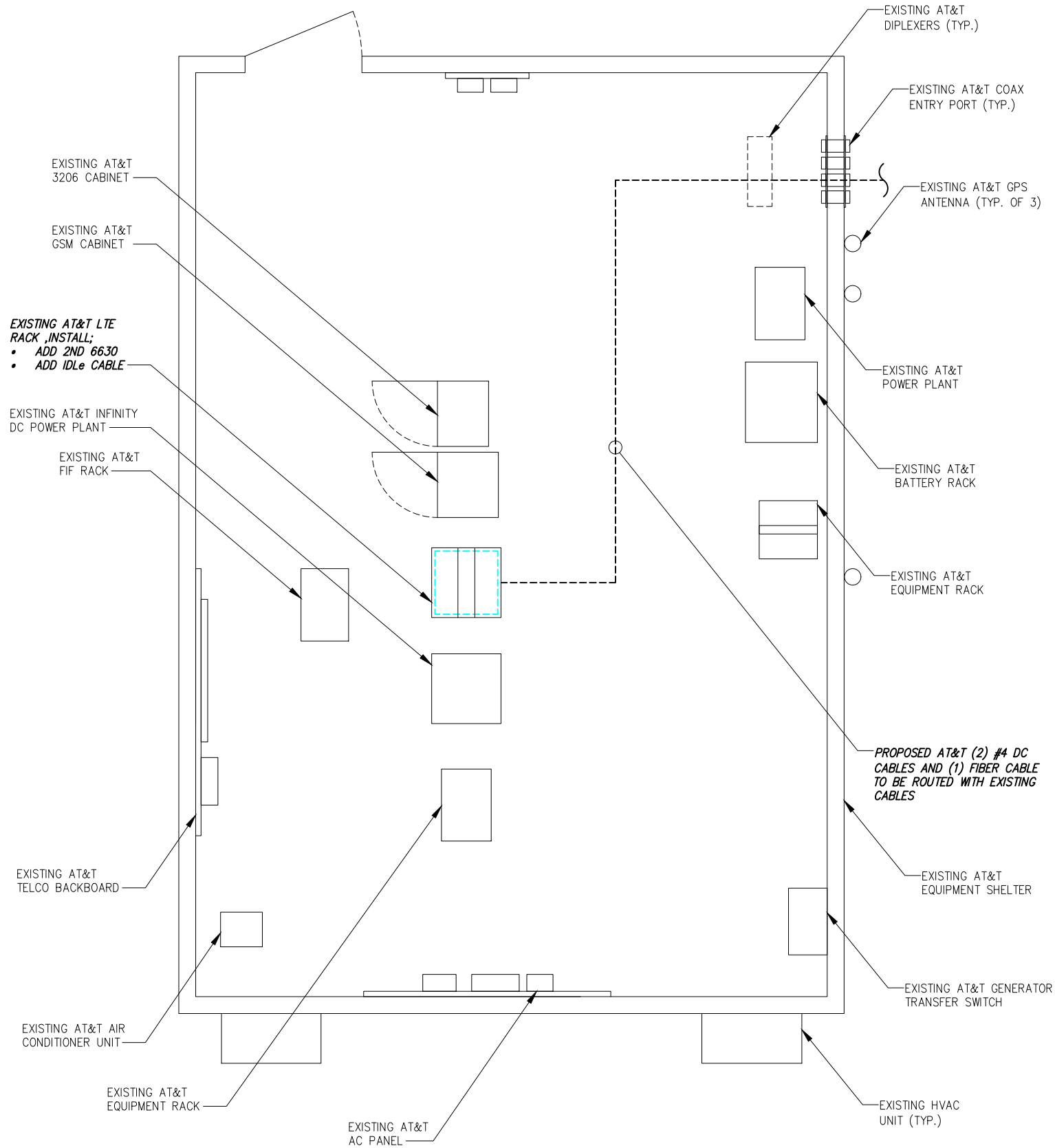
Project Title:
GLASTONBURY
CTL01038
FA# 10034994
80 BIRCH MOUNTAIN ROAD
GLASTONBURY, CT 06033



Drawing Scale: AS NOTED
Date: 06/16/21
CD

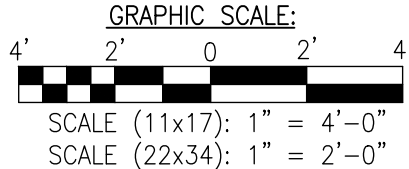
Drawing Title
OVERALL SITE PLAN

Drawing Number
C2



EXISTING AT&T LTE RACK, INSTALL:
 • ADD 2ND 6630
 • ADD IDLe CABLE

1 ENLARGED SITE PLAN
 SCALE: AS NOTED



BASEMAPPING PREPARED FROM A SITE WALK PERFORMED BY INFINIGY ENGINEERING AND PROVIDED INFORMATION.

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 INFINIGY ENGINEERING, PLLC
 1033 Watervliet Shaker Rd
 Albany, NY 12205
 Office # (518) 690-0790
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 CTL01038
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Drawing Scale: AS NOTED
 Date: 06/16/21

CD

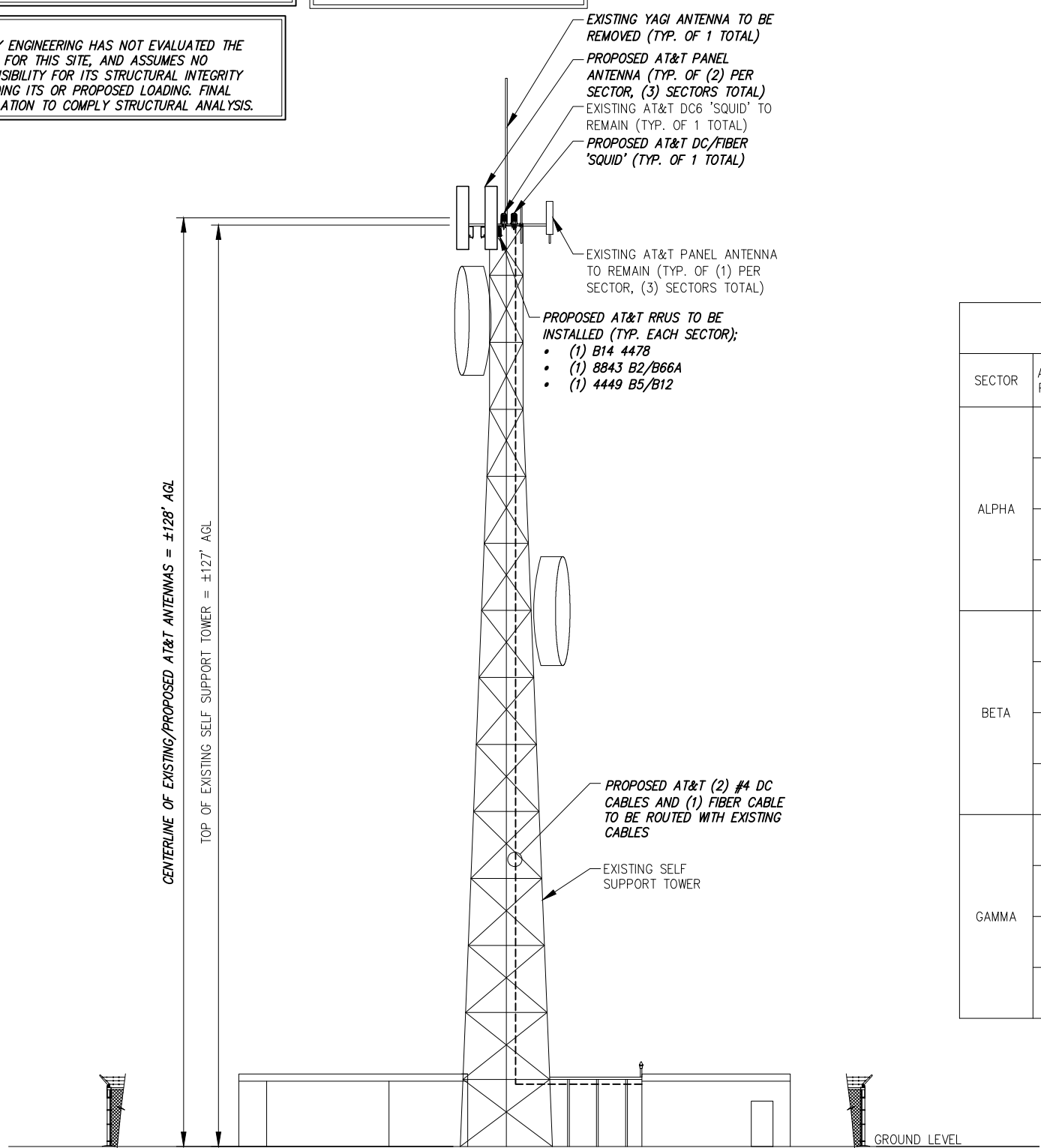
Drawing Title
ENLARGED SITE PLAN

Drawing Number
C2A

NOTE:
FOR ADDITIONAL MOUNT INFORMATION SEE:
"MOUNT MODIFICATION DESIGN REPORT" COMPLETED BY
INFINIGY, DATED 3/17/21. SEE SHEETS S1-S4 FOR
MODIFICATION DETAILS

NOTE:
• 3' MINIMUM SEPARATION BETWEEN ALL
LTE ANTENNAS
• 6' MINIMUM SEPARATION BETWEEN 700
BC/700 DE ANTENNAS

NOTE:
INFINIGY ENGINEERING HAS NOT EVALUATED THE
TOWER FOR THIS SITE, AND ASSUMES NO
RESPONSIBILITY FOR ITS STRUCTURAL INTEGRITY
REGARDING ITS OR PROPOSED LOADING. FINAL
INSTALLATION TO COMPLY STRUCTURAL ANALYSIS.



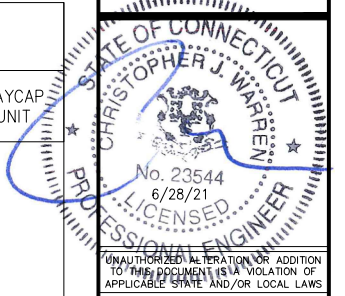
1 ELEVATION VIEW
--- NOT TO SCALE

FINAL ANTENNA CONFIGURATION & CABLE SCHEDULE BASED ON LTE RFDS DATED 02/10/21, V 2.00

SECTOR	ANTENNA POSITION	ANTENNA STATUS & TECHNOLOGY	ANTENNA MANF/MODEL	TMA/DIPLEXER	RRUS	AZIMUTH	ANTENNA CL HEIGHT	CABLE FEEDER		RAYCAP UNIT
								TYPE	LENGTH	
ALPHA	A-1	(E) UMS 850	POWERWAVE 7770	--	--	150°	±128'	(2) (E) 1-5/8" COAX CABLES	±167'	(1) (E) DC6 'SQUID' (1) (P) DC/FIBER 'SQUID'
	A-2	--	--	--	--	--	--	--	--	
	A-3	(P) LTE 700/1900	CCI OPA65R-BU8DA	--	(1) (P) B14 4478 (1) (P) 8843 B2/B66A	20°	±128'	(1) (E) FIBER CABLE (2) (E) DC CABLES	--	
	A-4	(P) LTE 700/850/AWS/5G 850	CCI DMP65R-BU8DA	--	(1) (P) 4449 B5/B12	20°	±128'	(1) (P) FIBER CABLE (2) (P) #4 DC CABLES	±167'	
BETA	B-1	(E) UMS 850	POWERWAVE 7770	--	--	263°	±128'	(2) (E) 1-5/8" COAX CABLES	±167'	
	B-2	--	--	--	--	--	--	--	--	
	B-3	(P) LTE 700/1900	CCI OPA65R-BU6DA	--	(1) (P) B14 4478 (1) (P) 8843 B2/B66A	150°	±128'	SHARED	--	
	B-4	(P) LTE 700/850/AWS/5G 850	CCI DMP65R-BU6DA	--	(1) (P) 4449 B5/B12	150°	±128'	SHARED	--	
GAMMA	G-1	(E) UMS 850	POWERWAVE 7770	--	--	20°	±128'	(2) (E) 1-5/8" COAX CABLES	±167'	
	G-2	--	--	--	--	--	--	--	--	
	G-3	(P) LTE 700/1900	CCI OPA65R-BU8DA	--	(1) (P) B14 4478 (1) (P) 8843 B2/B66A	263°	±128'	SHARED	--	
	G-4	(P) LTE 700/850/AWS/5G 850	CCI DMP65R-BU8DA	--	(1) (P) 4449 B5/B12	263°	±128'	SHARED	--	

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

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0	ISSUED FOR REVIEW	BMM	01/29/21

Drawn: BMM Date: 01/29/21
Designed: ASW Date: 01/29/21
Checked: ASW Date: 01/29/21

Project Number: 499-006

Project Title:
GLASTONBURY
CTL01038
FA# 10034994
80 BIRCH MOUNTAIN ROAD
GLASTONBURY, CT 06033



Drawing Scale: AS NOTED
Date: 06/16/21
CD

Drawing Title:
ELEVATION VIEW

Drawing Number:
C3

NOTE:

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

NOTE:
FOR ADDITIONAL MOUNT INFORMATION SEE:
'MOUNT MODIFICATION DESIGN REPORT' COMPLETED BY INFINIGY, DATED 3/17/21. SEE SHEETS S1-S4 FOR MODIFICATION DETAILS

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Checked:	ASW	Date:	01/29/21
Project Number:	499-006		

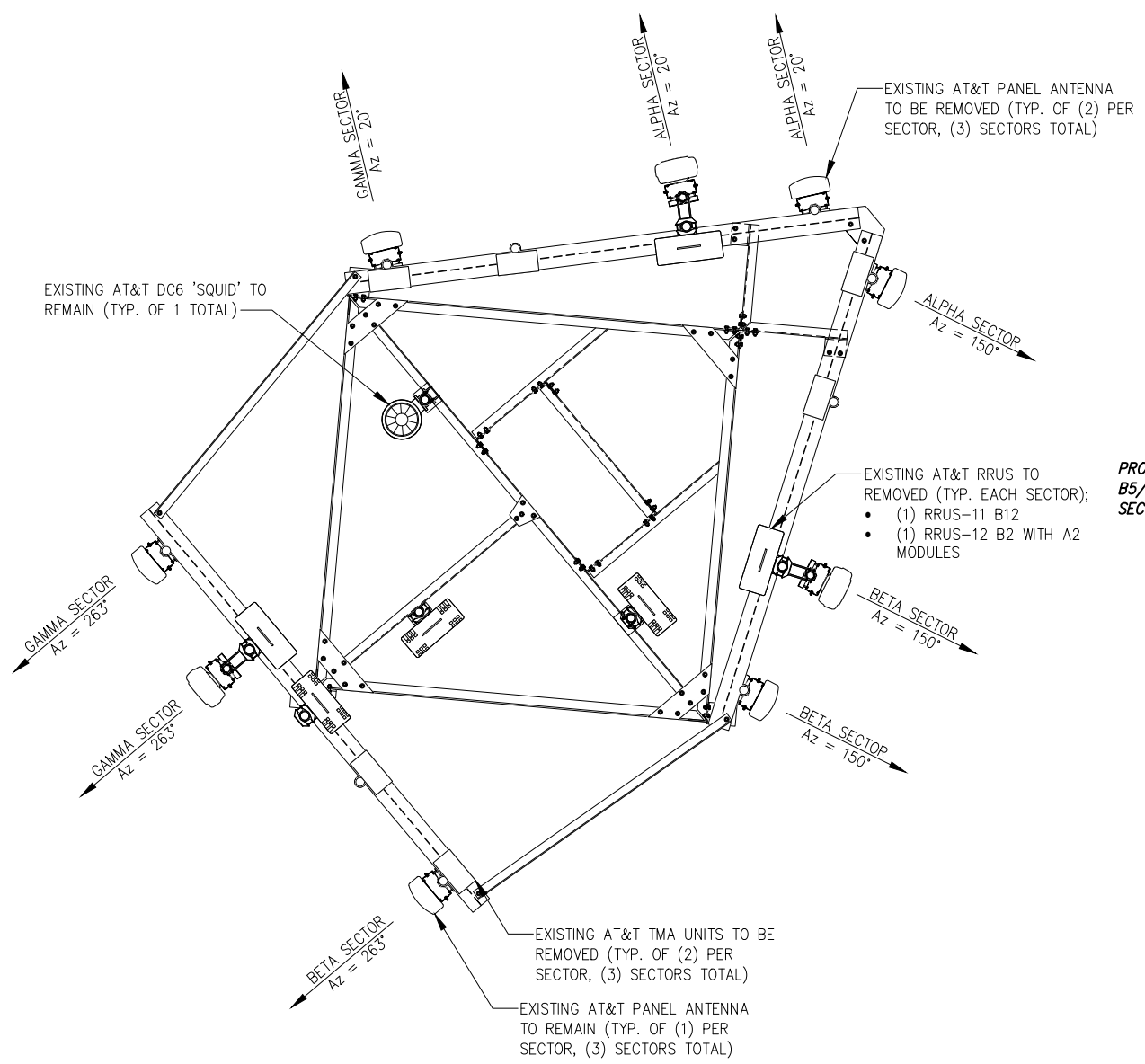
Project Title:
GLASTONBURY
CTL01038
FA# 10034994
80 BIRCH MOUNTAIN ROAD
GLASTONBURY, CT 06033



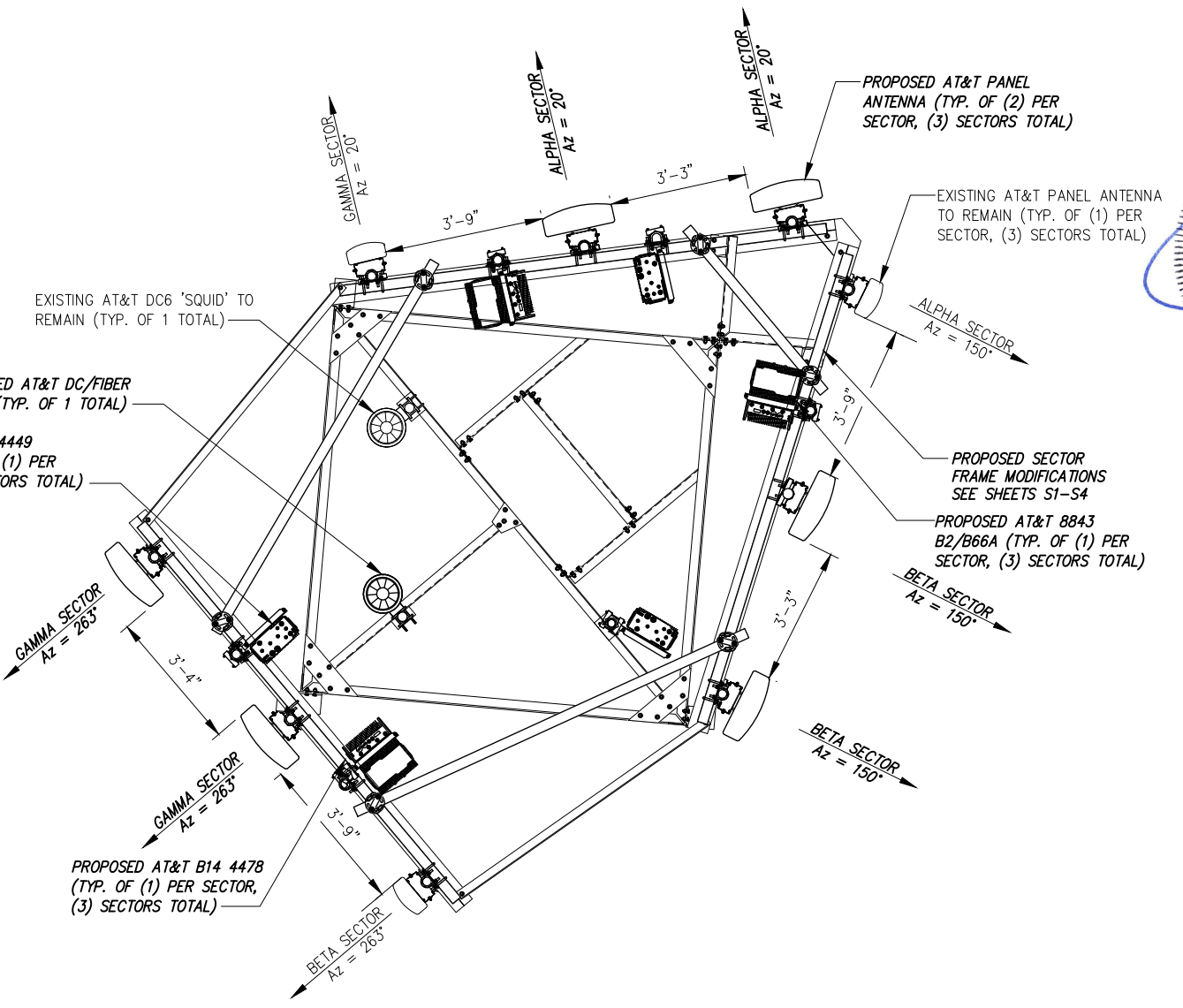
Drawing Scale:
AS NOTED
Date:
06/16/21
CD

Drawing Title
ANTENNA ORIENTATION PLAN

Drawing Number
C4

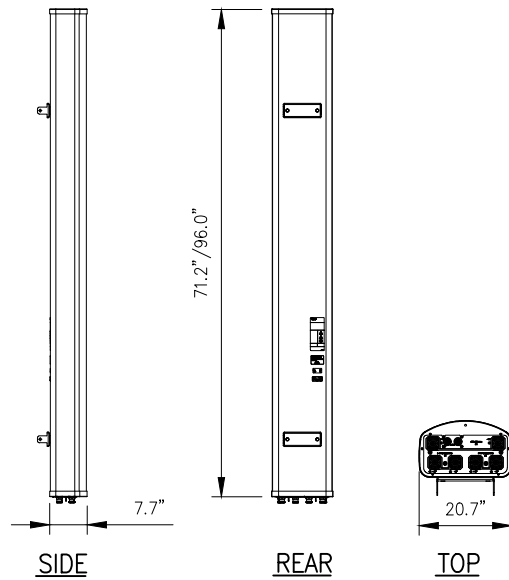


1 EXISTING ANTENNA ORIENTATION PLAN
--- NOT TO SCALE



2 PROPOSED ANTENNA ORIENTATION PLAN
--- NOT TO SCALE

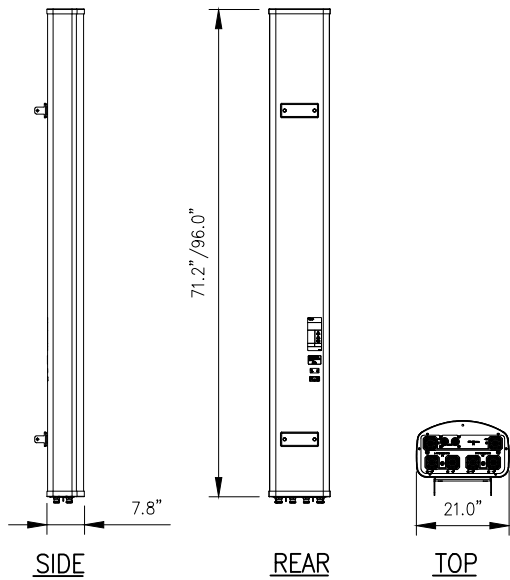




CCI MODEL NO.: **DMP65R-BU6DA/DMP65-BU8DA**

RADOME MATERIAL: FIBERGLASS, UV RESISTANT
 RADOME COLOR: LIGHT GRAY
 DIMENSIONS, HxWxD: 71.2"x20.7"x7.7"/96.0"x20.7"x7.7"
 WEIGHT, W/
 PRE-MOUNTED BRACKETS: 79.4 LBS/95.7 LBS
 CONNECTOR: 7-16 DIN FEMALE

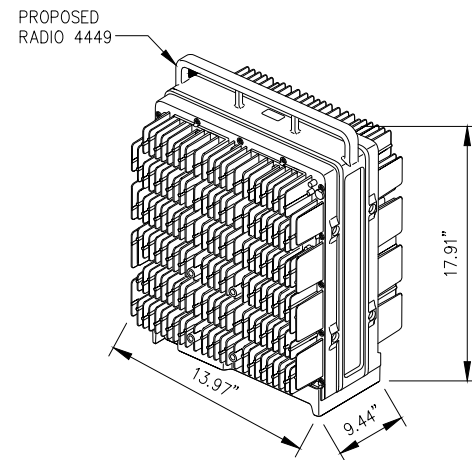
1 ANTENNA DETAIL
 --- NOT TO SCALE



CCI MODEL NO.: **OPA65R-BU8DA/OPA65-BU6DA**

RADOME MATERIAL: FIBERGLASS, UV RESISTANT
 RADOME COLOR: 96.0"x21.0"x7.8"/71.2"x21.0"x7.8"
 WEIGHT, W/
 PRE-MOUNTED BRACKETS: 76.5 LBS/60.2 LBS
 CONNECTOR: 7-16 DIN FEMALE

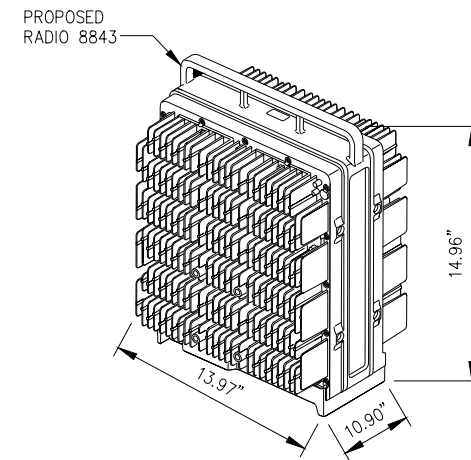
2 ANTENNA DETAIL
 --- NOT TO SCALE



RADIO 4449 SPECIFICATIONS

- HxWxD, (INCHES) : 17.91"x13.97"x9.44"
- WEIGHT (LBS) : 70.54
- COLOR : GRAY

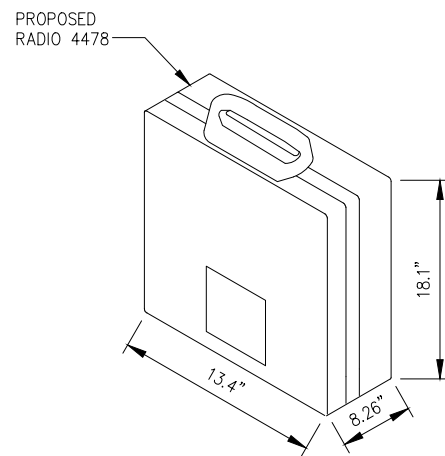
3 ERICSSON RADIO 4449 DETAIL
 --- NOT TO SCALE



RADIO 8843 SPECIFICATIONS

- HxWxD, (INCHES) : 14.96"x13.97"x10.90"
- WEIGHT (LBS) : 71.87
- COLOR : GRAY

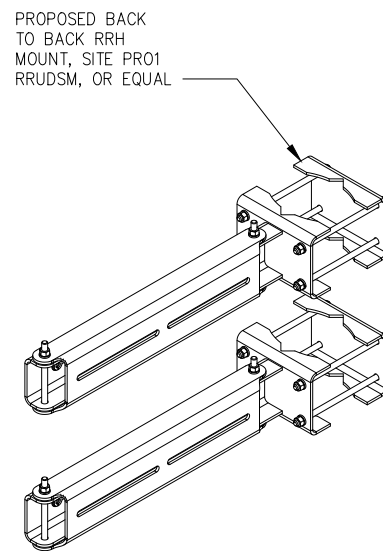
4 ERICSSON RADIO 8843 DETAIL
 --- NOT TO SCALE



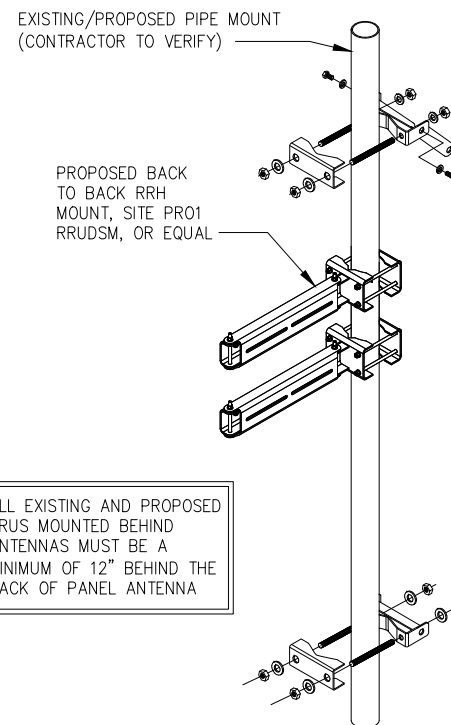
RADIO 4478-B14 SPECIFICATIONS

- HxWxD, (INCHES) : 18.1"x13.4"x8.26"
- WEIGHT (LBS) : 59.5
- COLOR : GRAY
- MOUNTING BRACKET: SXX1250244/1

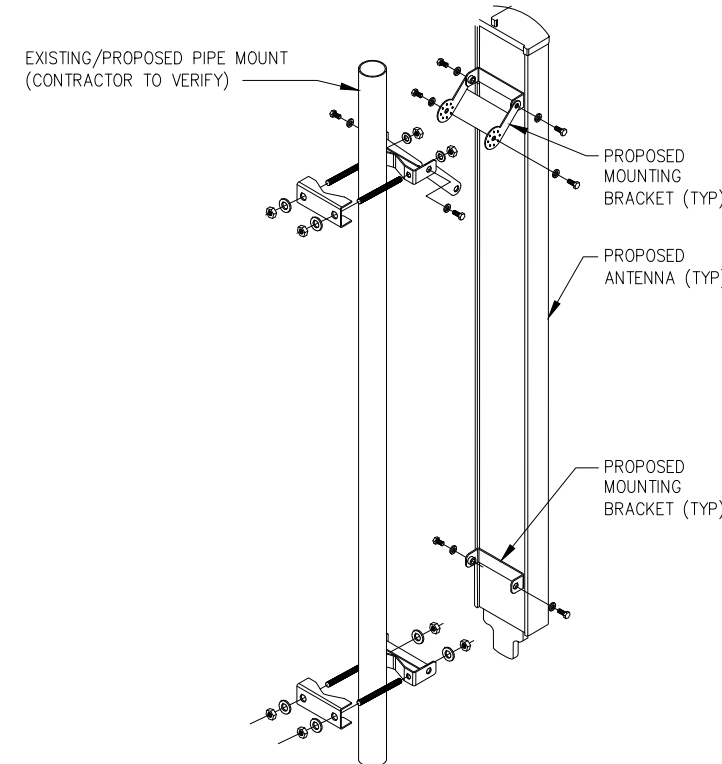
5 ERICSSON RADIO 4478-B14 DETAIL
 --- NOT TO SCALE



6 BACK TO BACK PIPE MOUNT DETAIL
 --- NOT TO SCALE



7 RRH MOUNTING DETAIL
 --- NOT TO SCALE



8 ANTENNA MOUNTING DETAIL
 --- NOT TO SCALE

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 Fax # (518) 690-0793

at&t

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 CHRISTOPHER J. WARDEN
 No. 23544
 6/28/21
 LICENSED PROFESSIONAL ENGINEER

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Project Number:	499-006		

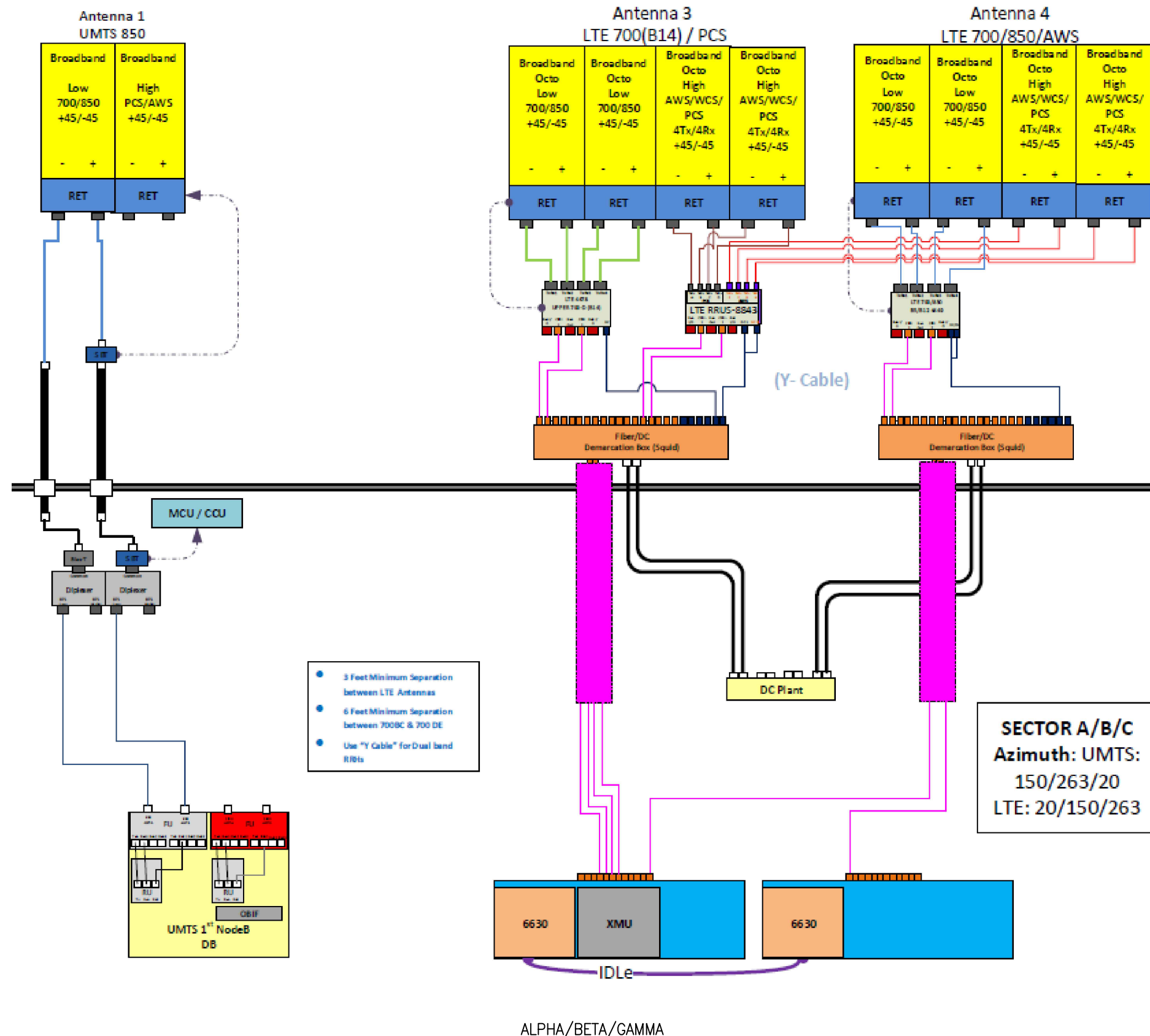
Project Title:
GLASTONBURY
CTL01038
FA# 10034994
 80 BIRCH MOUNTAIN ROAD
 GLASTONBURY, CT 06033

Prepared For:
smartlink

Drawing Scale:
 AS NOTED
 Date:
 06/16/21

Drawing Title
EQUIPMENT DETAILS

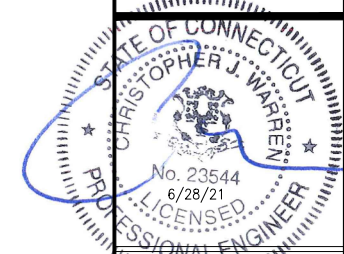
Drawing Number
C5



- 3 Feet Minimum Separation between LTE Antennas
- 6 Feet Minimum Separation between 700BC & 700 DE
- Use "Y Cable" for Dual band R/Rts

SECTOR A/B/C
Azimuth: UMTS:
 150/263/20
LTE: 20/150/263

1 PLUMBING DIAGRAM (FINAL CONFIGURATION)
 --- NOT TO SCALE



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Project Title:
 GLASTONBURY
 CTLO1038
 FA# 10034994
 80 BIRCH MOUNTAIN ROAD
 GLASTONBURY, CT 06033

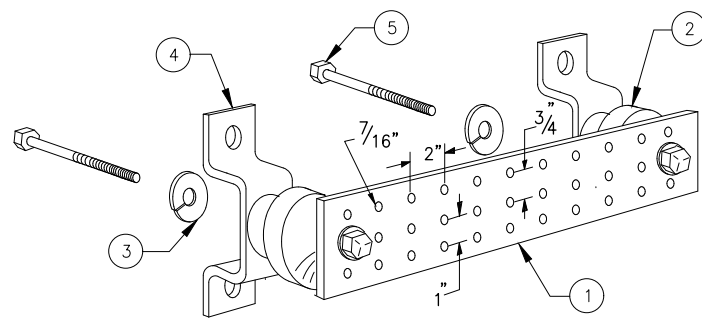


Drawing Scale: AS NOTED
 Date: 06/16/21
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Drawing Title:
PLUMBING DIAGRAM

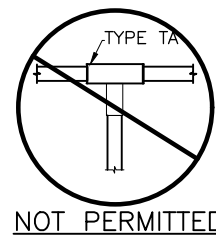
Drawing Number:
C6

*BASED ON LTE RFDS, DATED 02/10/2021, V2.00

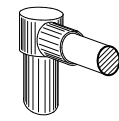


LEGEND

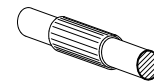
- 1 - SOLID TINNED COPPER GROUND BAR, 1/4"x 4"x 20" MIN., NEWTON INSTRUMENT CO. HOLE CENTERS TO MATCH NEMA DOUBLE LUG CONFIGURATION
- 2 - INSULATORS, NEWTON INSTRUMENT CAT. NO. 3061-4
- 3 - 5/8" LOCKWASHERS, NEWTON INSTRUMENT CO. CAT. NO. 3015-8
- 4 - WALL MOUNTING BRACKET, NEWTON INSTRUMENT CO. CAT 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"



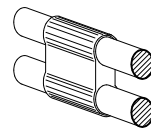
NOT PERMITTED



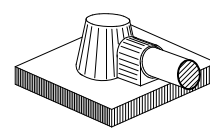
TYPE GR



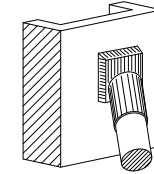
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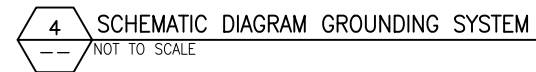
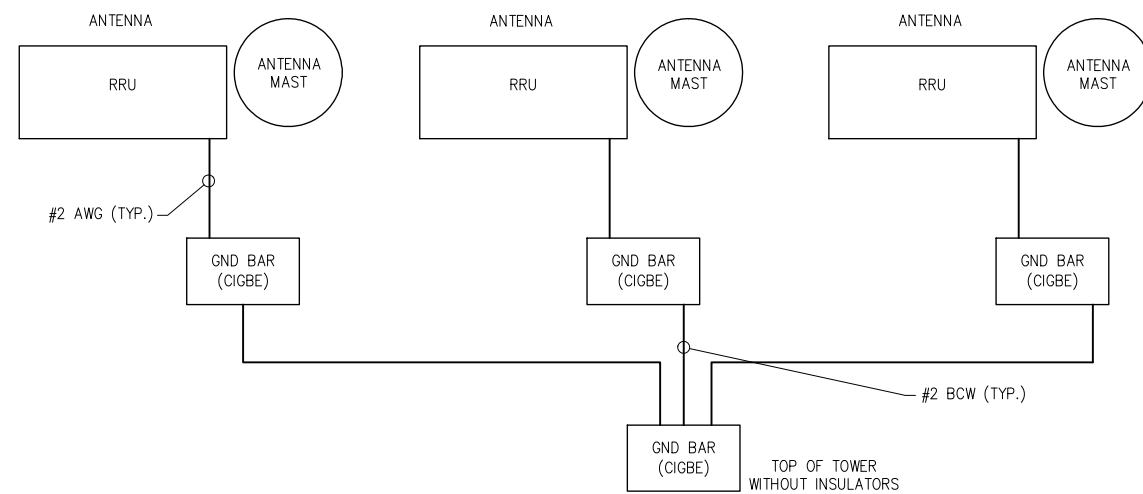
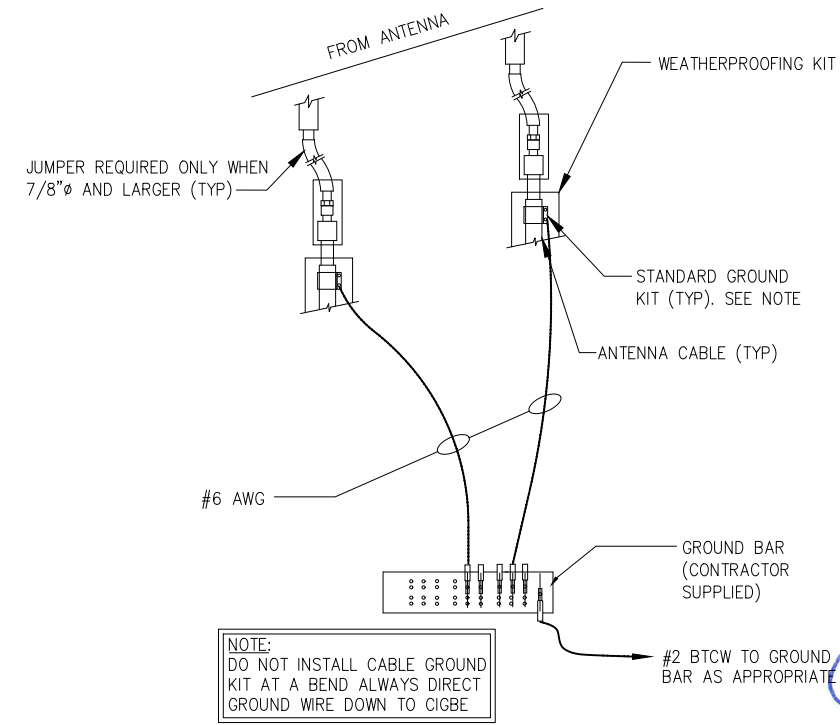
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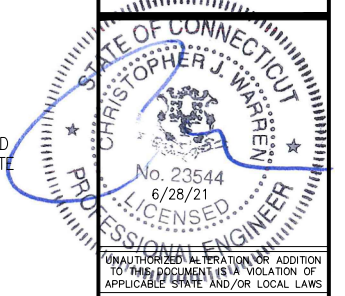
TYPE KA



TYPE VS



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Drawing Scale: AS NOTED
 Date: 06/16/21

Drawing Title:
GROUNDING DETAILS

Drawing Number:
C7