David Ford, Site Acquisition
c/o New Cingular Wireless, PCS LLC (AT&T)
Centerline Communications, LLC
95 Ryan Drive, Suite 1
Raynham, MA 02767
Mobile: (508) 821-6509
dford@clinellc.com

July 19, 2016

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

RE: Notice of Exempt Modification // Site Number: CT5144 – FA# 10070987
100 Berlin Road / Christian Hill Road, Cromwell, CT 06416 (Site Name: Cromwell South)
N 41.6055919 // W -72.7011989

Dear Ms. Bachman:

New Cingular Wireless, PCS, LLC (ñAT&Tò) currently maintains (9) antennas at the 98 foot level of the existing 115 tower structure at 100 Berlin Road / Christian Hill Road, Cromwell, Connecticut. The tower is owned by American Tower Corporation. The property is owned by 100 Berlin Holdings, LLC f.k.a. Shaner SPE Associates Limited Partnership. AT&T now intends to replace (3) antennas for its LTE upgrade. These antennas will be installed at the 98 foot level of the tower. AT&T also intends to install (3) remote radio units, (1)surge arrestor, (2) DC power lines and (1) fiber line.

The current proposal involves an antenna swap and remote radio unit add only.

Please accept this letter as notification pursuant to Regulations 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. § 16-50j-73, a copy of this letter is being sent to Mayor Enzo Faienza, as well as the tower owner, American Tower Corporation and the land owner 100 Berlin Holdings, LLC.

The planned modifications to the facility fall squarely within those activities explicitly provided for in R.C.S.A. § 16-50j-72(b)(2).

Attached to accommodate this filing are construction drawings dated July 8, 2016 by Com Ex Consultants, a structural analysis dated July1, 2016 by American Tower Corporation and an Emissions Analysis Report dated February 18, 2016 by EBI Consulting.

1. The proposed modifications will not result in an increase in the height of the existing structure.

2. The proposed modifications will not require the extension of the site boundary.

3. The proposed modifications will not increase noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.

4. The operation of the replacement antennas will not increase radio frequency emissions at the facility to a level at or above the Federal Communications Commission safety standard.

5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.

6. The existing structure and its foundation can support the proposed loading as shown in the attached structural analysis by American Tower Corporation, dated July 1, 2016.

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

Sincerely,

_____

David Ford, Site Acquisition
c/o New Cingular Wireless, PCS LLC (AT&T)
Centerline Communications, LLC
95 Ryan Drive, Suite 1
Raynham, MA 02767
Mobile: (508) 821-6509
dford@centerlincommunications.com

Attachments

cc: Mr. Enzo Faienza - Mayor ï Town of Cromwell
American Tower Corporation - Tower Owner
100 Berlin Holdings, LLC f.k.a. Shaner SPE Associates Limited Partnership

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RADIO FREQUENCY EMISSIONS ANALYSIS REPORT
EVALUATION OF HUMAN EXPOSURE POTENTIAL TO NON-IONIZING EMISSIONS

AT&T Existing Facility

Site ID: CT5144

Cromwell South
100 Christian Hill Road
Cromwell, CT 06416

February 18, 2016

EBI Project Number: 6216000625

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general public allowable limit:	27.89 %

21 B Street · Burlington, MA 01803 · Tel: (781) 273.2500 · Fax: (781) 273.3311

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February 18, 2016

AT&T Mobility – New England
Attn: Cameron Syme, RF Manager
550 Cochituate Road
Suite 550 – 13&14
Framingham, MA 06040

Emissions Analysis for Site: **CT5144 – Cromwell South**

EBI Consulting was directed to analyze the proposed AT&T facility located at **100 Christian Hill Road, Cromwell, CT**, for the purpose of determining whether the emissions from the Proposed AT&T Antenna Installation located on this property are within specified federal limits.

All information used in this report was analyzed as a percentage of current Maximum Permissible Exposure (% MPE) as listed in the FCC OET Bulletin 65 Edition 97-01and ANSI/IEEE Std C95.1. The FCC regulates Maximum Permissible Exposure in units of microwatts per square centimeter (μW/cm2). The number of $\mu W/cm^2$ calculated at each sample point is called the power density. The exposure limit for power density varies depending upon the frequencies being utilized. Wireless Carriers and Paging Services use different frequency bands each with different exposure limits, therefore it is necessary to report results and limits in terms of percent MPE rather than power density.

All results were compared to the FCC (Federal Communications Commission) radio frequency exposure rules, 47 CFR 1.1307(b)(1) – (b)(3), to determine compliance with the Maximum Permissible Exposure (MPE) limits for General Population/Uncontrolled environments as defined below.

General population/uncontrolled exposure limits apply to situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Therefore, members of the general public would always be considered under this category when exposure is not employment related, for example, in the case of a telecommunications tower that exposes persons in a nearby residential area.

Public exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter ($\mu W/cm^2$). The general population exposure limits for the 700 and 850 MHz Bands are approximately 467 $\mu W/cm^2$ and 567 $\mu W/cm^2$ respectively. The general population exposure limit for the 1900 MHz (PCS), 2100 MHz (AWS) and 2300 MHz (WCS) bands is 1000 $\mu W/cm^2$. Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report percent of MPE rather than power density.

Occupational/controlled exposure limits apply to situations in which persons are exposed as a consequence of their employment and in which those persons who are exposed have been made fully aware of the potential for exposure and can exercise control over their exposure. Occupational/controlled exposure limits also apply where exposure is of a transient nature as a result of incidental passage through a location where exposure levels may be above general population/uncontrolled limits (see below), as long as the exposed person has been made fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were done for the proposed AT&T Wireless antenna facility located at **100 Christian Hill Road, Cromwell, CT**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since AT&T is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was focused at the base of the tower. For this report the sample point is the top of a 6 foot person standing at the base of the tower.

For all calculations, all equipment was calculated using the following assumptions:

1) 2 UMTS channels (850 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.

2) 2 UMTS channels (PCS Band – 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.

3) 2 GSM channels (PCS Band – 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.

4) 2 LTE channels (WCS Band – 2300 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.

5) 2 LTE channels (700 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.

6) 2 LTE channels (PCS Band – 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel

7) All radios at the proposed installation were considered to be running at full power and were uncombined in their RF transmissions paths per carrier prescribed configuration. Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.

8) For the following calculations the sample point was the top of a six foot person standing at the base of the tower. The maximum gain of the antenna per the antenna manufactures supplied specifications minus 10 dB was used in this direction. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

9) The antennas used in this modeling are the **CCI OPA-65R-LCUU-H6, KMW AM-X-CD-16-65-00T-RET, Powerwave P65-17-XLH-RR and the Powerwave 7770.00** for transmission in the 700 MHz, 850 MHz, 1900 MHz (PCS) and 2300 MHz (WCS) frequency bands. This is based on feedback from the carrier with regards to anticipated antenna selection. Maximum gain values for all antennas are listed in the Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

10) The antenna mounting height centerline of the proposed antennas is **98 feet** above ground level (AGL).

11) Emissions values for additional carriers were taken from the Connecticut Siting Council active database. Values in this database are provided by the individual carriers themselves.

All calculations were done with respect to uncontrolled / general public threshold limits.

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AT&T Site Inventory and Power Data

Sector:	A	Sector:	B	Sector:	C
Antenna #:	**1**	Antenna #:	**1**	Antenna #:	**1**
Make / Model:	Powerwave 7770.00	Make / Model:	Powerwave 7770.00	Make / Model:	Powerwave 7770.00
Gain:	11.4 / 13.4 dBd	Gain:	11.4 / 13.4 dBd	Gain:	11.4 / 13.4 dBd
Height (AGL):	98 feet	Height (AGL):	98 feet	Height (AGL):	98 feet
Frequency Bands	850 MHz / 1900 MHz (PCS)	Frequency Bands	850 MHz / 1900 MHz (PCS)	Frequency Bands	850 MHz / 1900 MHz (PCS)
Channel Count	6	Channel Count	6	Channel Count	6
Total TX Power(W):	180	Total TX Power(W):	180	Total TX Power(W):	180
ERP (W):	3,453.54	ERP (W):	3,453.54	ERP (W):	3,453.54
Antenna A1 MPE%	**1.74**	Antenna B1 MPE%	**1.74**	Antenna C1 MPE%	**1.74**
Antenna #:	**2**	Antenna #:	**2**	Antenna #:	**2**
Make / Model:	CCI OPA-65R-LCUU-H6	Make / Model:	CCI OPA-65R-LCUU-H6	Make / Model:	CCI OPA-65R-LCUU-H6
Gain:	15.45 dBd	Gain:	15.45 dBd	Gain:	15.45 dBd
Height (AGL):	98 feet	Height (AGL):	98 feet	Height (AGL):	98 feet
Frequency Bands	2300 MHz (WCS)	Frequency Bands	2300 MHz (WCS)	Frequency Bands	2300 MHz (WCS)
Channel Count	2	Channel Count	2	Channel Count	2
Total TX Power(W):	120	Total TX Power(W):	120	Total TX Power(W):	120
ERP (W):	4,209.02	ERP (W):	4,209.02	ERP (W):	4,209.02
Antenna A2 MPE%	**1.79**	Antenna B2 MPE%	**1.79**	Antenna C2 MPE%	**1.79**
Antenna #:	**3**	Antenna #:	**3**	Antenna #:	**3**
Make / Model:	KMW AM-X-CD-16-65-00T-RET	Make / Model:	Powerwave P65-17-XLH-RR	Make / Model:	KMW AM-X-CD-16-65-00T-RET
Gain:	13.35 / 15.25 dBd	Gain:	14.3 / 15.1 dBd	Gain:	13.35 / 15.25 dBd
Height (AGL):	98 feet	Height (AGL):	98 feet	Height (AGL):	98 feet
Frequency Bands	700 MHz / 1900 MHz (PCS)	Frequency Bands	700 MHz / 1900 MHz (PCS)	Frequency Bands	700 MHz / 1900 MHz (PCS)
Channel Count	4	Channel Count	4	Channel Count	4
Total TX Power(W):	240	Total TX Power(W):	240	Total TX Power(W):	240
ERP (W):	6,614.85	ERP (W):	7,112.97	ERP (W):	6,614.85
Antenna A3 MPE%	**4.07**	Antenna B3 MPE%	**4.59**	Antenna C3 MPE%	**4.07**

Site Composite MPE%	
Carrier	**MPE%**
AT&T – Max per sector	**8.11 %**
MetroPCS	2.41 %
T-Mobile	2.36 %
Verizon Wireless	15.01 %
Site Total MPE %:	**27.89 %**

AT&T Sector 1 Total:	7.59 %
AT&T Sector 2 Total:	8.11 %
AT&T Sector 3 Total:	7.59 %
Site Total:	27.89 %

AT&T _ Max Sector (Sector B)	**# Channels**	**Watts ERP (Per Channel)**	**Height (feet)**	**Total Power Density ($\mu W/cm^2$)**	**Frequency (MHz)**	**Allowable MPE ($\mu W/cm^2$)**	**Calculated % MPE**
AT&T 850 MHz UMTS	2	414.12	98	3.52	850	567	0.62 %
AT&T 1900 MHz (PCS) UMTS	2	656.33	98	5.58	1900	1000	0.56 %
AT&T 1900 MHz (PCS) GSM	2	656.33	98	5.58	1900	1000	0.56 %
AT&T 2300 MHz (WCS) LTE	2	2104.51	98	17.88	2300	1000	1.79 %
AT&T 700 MHz LTE	2	1614.92	98	13.72	700	467	2.94 %
AT&T 1900 MHz (PCS) LTE	2	1941.56	98	16.49	1900	1000	1.65 %
						Total:	8.11 %

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Summary

All calculations performed for this analysis yielded results that were **within** the allowable limits for general public exposure to RF Emissions.

The anticipated maximum composite contributions from the AT&T facility as well as the site composite emissions value with regards to compliance with FCC's allowable limits for general public exposure to RF Emissions are shown here:

AT&T Sector	Power Density Value (%)
Sector 1:	7.59 %
Sector 2:	8.11 %
Sector 3 :	7.59 %
AT&T Maximum Total (per sector):	8.11 %
Site Total:	27.89 %
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **27.89%** of the allowable FCC established general public limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

FCC guidelines state that if a site is found to be out of compliance (over allowable thresholds), that carriers over a 5% contribution to the composite value will require measures to bring the site into compliance. For this facility, the composite values calculated were well within the allowable 100% threshold standard per the federal government.

Scott Heffernan
RF Engineering Director

EBI Consulting
21 B Street
Burlington, MA 01803

AMERICAN TOWER®
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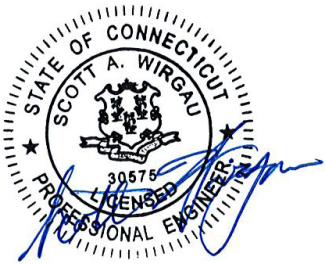
Structural Analysis Report

Structure	:	**111 ft Self Supported Tower**
ATC Site Name	:	**CromwellSW CT, CT**
ATC Site Number	:	**411261**
Engineering Number	:	**OAA648636_C3_05**
Proposed Carrier	:	**AT&T Mobility**
Carrier Site Name	:	**Cromwell South**
Carrier Site Number	:	**CT-5144/FA#10070987**
Site Location	:	**99 Christian Hill Road** **Cromwell, CT 06416-2612** **41.606210,-72.701206**
County	:	**Middlesex**
Date	:	**July 1, 2016**
Max Usage	:	**64%**
Result	:	**Pass**

Reviewed by:
Scott Wirgau, PE
Structural Team Leader



Prepared By:
Brian Davies, E.I.
Structural Engineer II

Jul 5 2016 9:01 AM

cosign

COA: PEC.0001553

Table of Contents

Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 111 ft self supported tower to reflect the change in loading by AT&T Mobility.

Supporting Documents

Tower Drawings	Mapping by ETS, Job #150929.01, dated August 21, 2015
Foundation Drawing	Mapping by ETS, Job #150929.01, dated August 21, 2015 Mapping by ETS, Job #150929.01, dated June 13, 2016
Geotechnical Report	FDH Velocitel Project #15BWZR1600, dated August 18, 2015

Analysis

The tower was analyzed using Risa 3D tower analysis software. This program considers an elastic three-dimensional model and second-order effects per ANSI/EIA-222.

Basic Wind Speed:	85 mph (Fastest Mile)
Basic Wind Speed w/ Ice:	74 mph (Fastest Mile)w/ 1/2" radial ice concurrent
Code:	ANSI/TIA/EIA-222-F / 2003 IBC , Sec. 1609.1.1, Exception (4) & Sec. 3108.4 w/ 2005 CT Supplement & 2009 CT Amendment

Conclusion

Based on the analysis results, the structure meets the requirements per the applicable codes listed above. The tower and foundation can support the equipment as described in this report.

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

Existing and Reserved Equipment

Elevation[1] (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
108.0	108.0	9	Andrew E15S09P94	Low Profile Platform	(24) 1 5/8" Coax (1) 3/8" Coax (1) 1.49" Hybrid	T-Mobile
		3	Ericsson RRUS-11 800MHz			
		3	Ericsson AIR 21, 1.3M, B2A B4P			
		3	Ericsson AIR B4A/B12P-B8P, 8FT			
91.0	95.0	3	Powerwave 7770.00	Low Profile Platform	(12) 1 5/8" Coax (1) 1 5/8" Hybriflex	AT&T Mobility
		3	KMW AM-X-CD-16-65-00T-RET			
	92.0	12	Powerwave LGP21401			
	91.0	6	Ericsson RRUS 11 B2			
	85.0	1	Raycap DC6-48-60-18-8F			
88.0	88.0	1	GPS	Platform w/ Handrails	(1) 1/2" Coax	Verizon
84.0	84.0	3	Alcatel-Lucent RRH2x40-AWS		(18) 1 5/8" Coax	
		6	Antel BXA-171085-12BF-EDIN-X			
		4	Decibel DB846F65ZAXY			
		3	Antel BXA-70063/6CF_4			
		2	Antel LPA-80080/6CF ___			
		1	VZW Unused Reserve: 19,053 sq in			
83.0	83.0	1	Raycap RRFDC-3315-PF-48		(1) 1 5/8" Hybriflex	
80.0	80.0	3	RFS APXV18-206517S-C	-	(6) 1 5/8" Coax	Metro PCS
77.0	77.0	2	5' Omni	Platform w/ Handrails	(2) 7/8" Coax	--
50.0	50.0	1	NAiS VIC-100	-	-	T-Mobile

Equipment to be Removed

Elevation[1] (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
98.0	98.0	3	Powerwave 7770.00	-	(12) 1 5/8" Coax	AT&T Mobility

Proposed Equipment

Elevation[1] (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
91.0	95.0	3	CCI OPA-65R-LCUU-H6	Low Profile Platform	(4) 0.78" 8 AWG 6 (2) 0.39" Fiber Trunk	AT&T Mobility
	91.0	3	Ericsson RRUS-32			
	85.0	1	Raycap DC6-48-60-18-8F			

[1]Mount elevation is defined as height above bottom of steel structure to the bottom of mount, RAD elevation is defined as center of antenna above ground level (AGL).

Install proposed coax alongside existing AT&T MOBILITY coax.

Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Legs	31%	Pass
Diagonals	58%	Pass
Horizontals	64%	Pass

Foundations

Reaction Component	Analysis Reactions	% of Usage
Uplift (Kips)	1005.0	45%
Axial (Kips)	74.8	20%
Shear (Kips)	17.8	26%

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

Deflection, Twist and Sway*

Antenna Elevation (ft)	Antenna	Carrier	Deflection (ft)	Twist (°)	Sway (Rotation) (°)
98.0	CCI OPA-65R-LCUU-H6	AT&T MOBILITY	0.032	0.011	0.029
	Ericsson RRUS-32				
88.0	Raycap DC6-48-60-18-8F(32.8 lbs)		0.029	0.006	0.018

***Deflection, Twist and Sway was evaluated considering a design wind speed of 50 mph (Fastest Mile) per ANSI/TIA/EIA-222-F.**

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CORPORATION

Standard Conditions

All engineering services are performed on the basis that the information used is current and correct. This information may consist of, but is not necessary limited, to:

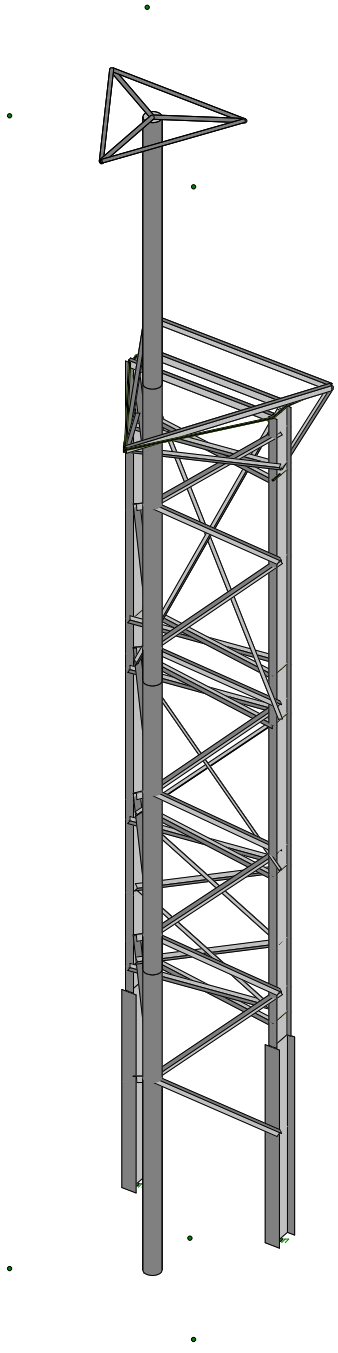
-- Information supplied by the client regarding the structure itself, antenna, mounts and feed line loading on the structure and its components, or other relevant information.

-- Information from drawings in the possession of American Tower Corporation, or generated by field inspections or measurements of the structure.

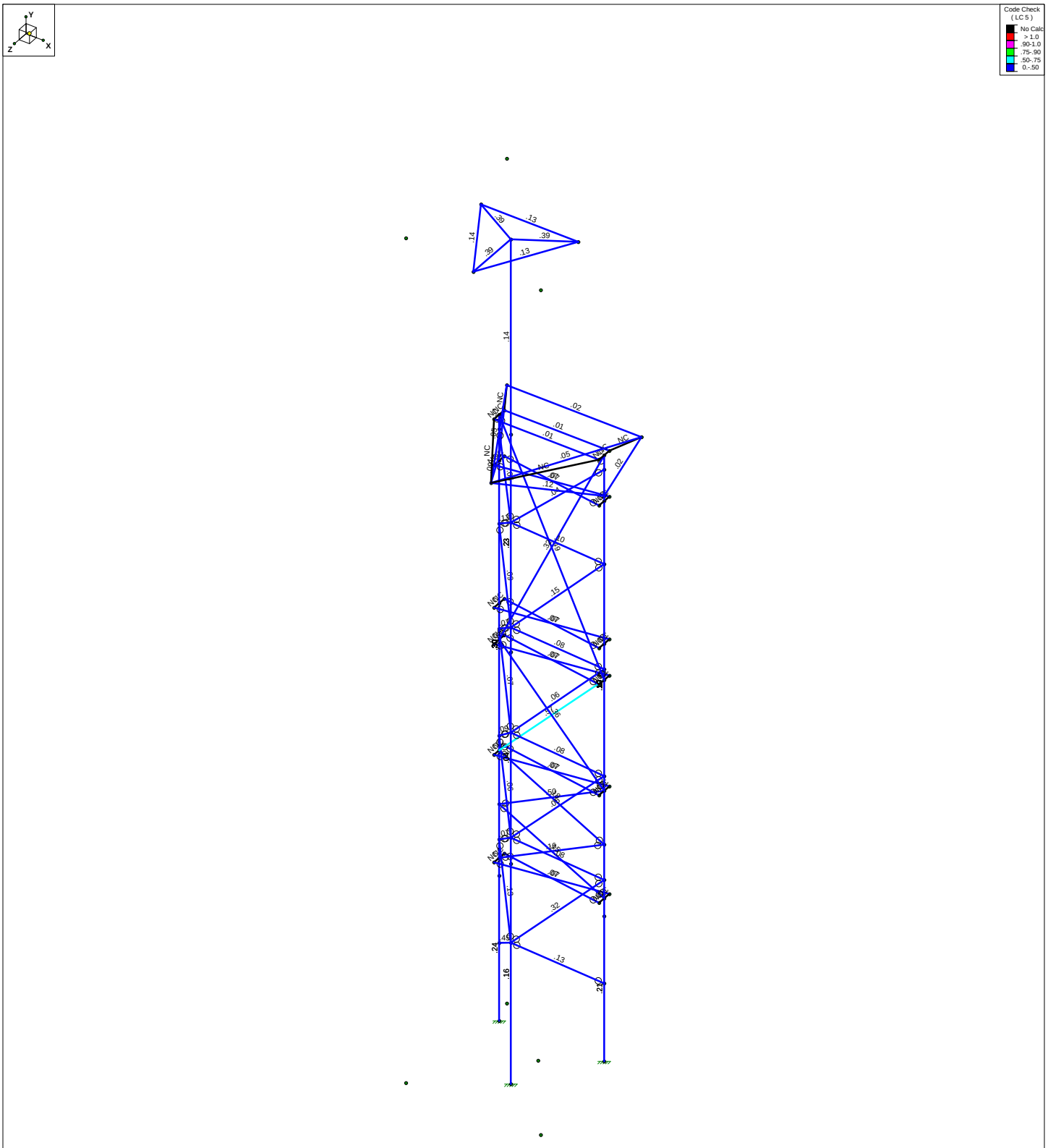
It is the responsibility of the client to ensure that the information provided to A.T. Engineering Service, PLLC and used in the performance of our engineering services is correct and complete. In the absence of information to the contrary, we assume that all structures were constructed in accordance with the drawings and specifications and that their capacity has not significantly changed from the "as new" condition.

Unless explicitly agreed by both the client and American Tower Corporation, all services will be performed in accordance with the current revision of ANSI/TIA -222. The design basic wind speed will be determined based on the minimum basic wind speed as prescribed in ANSI/TIA-222. Although every effort is taken to ensure that the loading considered is adequate to meet the requirements of all applicable regulatory entities, we can provide no assurance to meet any other local and state codes or requirements. If wind and ice loads or other relevant parameters are to be different from the minimum values recommended by the codes, the client shall specify the exact requirement.

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



AT&T Mobility		SK - 1
DAVI	Cromwell SW CT	July 1, 2016 at 3:22 PM
411261	Structure	2016.5.5 - AT&T Mobility - OAA64...



Member Code Checks Displayed
Results for LC 5, D + W (-X)

AT&T Mobility		SK - 2
DAVI	Cromwell SW CT	July 1, 2016 at 3:21 PM
411261	Structre Usage	2016.5.5 - AT&T Mobility - OAA64...

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design Rules	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	W24x68 w1...	W24x68 w1...	Beam	Wide Flange	A572 Gr.50	Typical	51.845	753.17	6681.05	27.435
2	L3.5x3.5x0.3...	L3.5x3.5x5	Beam	Single Angle	A36 Gr.36	Typical	2.1	2.44	2.44	.073
3	L5x5x3/8 wH...	L5x5x3/8 wH...	Beam	Single Angle	A36 Gr.36	Typical	5.256	9.617	9.617	3.099
4	L3x3x5/16	L3x3x5	Beam	Single Angle	A36 Gr.36	Typical	1.78	1.5	1.5	.06
5	18"x0.5"	HSS18x0.500	Beam	Pipe	A53 Gr.B	Typical	25.6	985	985	1970
6	WT6x15	WT6x15	Beam	W_Tee	A36 Gr.36	Typical	4.4	10.2	13.5	.228
7	HSS6x4x1/4	HSS6x4x4	Beam	Tube	A36 Gr.36	Typical	4.3	11.1	20.9	23.6
8	HSS8x4x1/4	HSS8x4x4	Beam	Tube	A36 Gr.36	Typical	5.24	14.4	42.5	35.3
9	L5x5x3/4	L5x5x12	Beam	Single Angle	A36 Gr.36	Typical	6.98	15.7	15.7	1.33
10	3.5" Pipe	PIPE_3.0	Beam	Pipe	A53 Gr.B	Typical	2.07	2.85	2.85	5.69
11	W24x68	W24x68	Beam	Wide Flange	A572 Gr.50	Typical	20.1	70.4	1830	1.87
12	L5x5x3/8	L5x5x6	Beam	Single Angle	A36 Gr.36	Typical	3.65	8.76	8.76	.183
13	L4x4x5/16 w...	L4x4x5/16 w...	Beam	Single Angle	A36 Gr.36	Typical	3.79	4.63	4.63	2.166
14	HSS4x4x1/4	HSS4x0.250	Beam	Pipe	A36 Gr.36	Typical	2.76	4.91	4.91	9.82

Joint Coordinates and Temperatures

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Dia...
1	N1	0	1	0	0	
2	N2	13.5	1	0	0	
3	N3	6.75	0	7.854167	0	
4	N4	0	11.208333	0	0	
5	N5	13.5	11.208333	0	0	
6	N8	0	22.333333	0	0	
7	N9	13.5	22.333333	0	0	
8	N10	0	24.75	0	0	
9	N11	13.5	24.75	0	0	
10	N6	0	20	0	0	
11	N7	13.5	20	0	0	
12	N12	0	29.375	0	0	
13	N13	13.5	29.375	0	0	
14	N14	0	36.416666	0	0	
15	N15	13.5	36.416666	0	0	
16	N16	0	38.333333	0	0	
17	N17	13.5	38.333333	0	0	
18	N18	0	50.916666	0	0	
19	N19	13.5	50.916666	0	0	
20	N20	0	52.333333	0	0	
21	N21	13.5	52.333333	0	0	
22	N22	0	55.666666	0	0	
23	N23	13.5	55.666666	0	0	
24	N24	0	66.083333	0	0	
25	N25	13.5	66.083333	0	0	
26	N26	0	74.336666	0	0	
27	N27	13.5	74.336666	0	0	
28	N28	0	78.458333	0	0	
29	N29	13.5	78.458333	0	0	
30	N30	0	80.336666	0	0	
31	N31	13.5	80.336666	0	0	
32	N32	6.75	18.5	7.854167	0	
33	N33	6.75	28.833333	7.854167	0	
34	N34	6.75	32.25	7.854167	0	
35	N35	6.75	46	7.854167	0	
36	N36	6.75	56.541667	7.854167	0	
37	N37	6.75	59.75	7.854167	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Dia...
38	N38	6.75	73.5	7.854167	0	
39	N39	6.75	85.020833	7.854167	0	
40	N40	6.75	110.5625	7.854167	0	
41	N41	0	22.333333	-0.9875	0	
42	N42	13.5	22.333333	-0.9875	0	
43	N43	0	22.333333	0.9875	0	
44	N44	13.5	22.333333	0.9875	0	
45	N45	0	36.416666	-0.9875	0	
46	N46	13.5	36.416666	-0.9875	0	
47	N47	0	36.416666	0.9875	0	
48	N48	13.5	36.416666	0.9875	0	
49	N49	0	50.916666	-0.9875	0	
50	N50	13.5	50.916666	-0.9875	0	
51	N51	0	50.916666	0.9875	0	
52	N52	13.5	50.916666	0.9875	0	
53	N53	0	55.666666	-0.9875	0	
54	N54	13.5	55.666666	-0.9875	0	
55	N55	0	55.666666	0.9875	0	
56	N56	13.5	55.666666	0.9875	0	
57	N57	0	74.336666	-0.9875	0	
58	N58	13.5	74.336666	-0.9875	0	
59	N59	0	74.336666	0.9875	0	
60	N60	13.5	74.336666	0.9875	0	
61	N61	0	80.336666	-0.9875	0	
62	N62	13.5	80.336666	-0.9875	0	
63	N63	0	80.336666	0.9875	0	
64	N64	13.5	80.336666	0.9875	0	
65	N67	-1.9103	80.92	-4.320833	0	
66	N68	15.4103	80.92	-4.320833	0	
67	N69	6.75	80.92	11.666667	0	
68	N68A	0	75.003333	0	0	
69	N69A	13.5	75.003333	0	0	
70	N93	.5	110.5625	4.2457	0	
71	N94	13	110.5625	4.2457	0	
72	N95	6.75	110.5625	15.071	0	
73	N75	-1.9103	1	15.071	0	
74	N76	15.4103	1	15.071	0	
75	N75A	-1.9103	111.5625	15.071	0	
76	N76A	15.4103	111.5625	15.071	0	
77	N77	-1.9103	-0.	-4.320833	0	
78	N78	-1.9103	110.5625	-4.320833	0	
79	N79	6.75	0	2.6181	0	

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed	Area(Me...	Surface(P...
1	Self Weight	DL		-1		8				
2	Wind Z	WLZ				6		64		
3	Wind X	WLX				6		85		
4	Appurtenance Ice De...	OL1		-1		8				
5	Wind Ice Z	OL2				6		64		
6	Wind Ice X	OL3				6		85		

Load Combinations

	Description	So...	P...	S...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...
1	D	Yes	Y		DL	1																				
2	D + W (Z)	Yes	Y		DL	1	W...	1																		
3	D + W (-Z)	Yes	Y		DL	1	W...	-1																		
4	D + W (X)	Yes	Y		DL	1	W...	1																		
5	D + W (-X)	Yes	Y		DL	1	W...	-1																		
6	D + W Ice (Z)	Yes	Y		OL1	1	OL2	.75																		
7	D + W Ice (-Z)	Yes	Y		OL1	1	OL2	-.75																		
8	D + W Ice (X)	Yes	Y		OL1	1	OL3	.75																		
9	D + W Ice (-X)	Yes	Y		OL1	1	OL3	-.75																		

Joint Loads and Enforced Displacements (BLC 1 : Self Weight)

	Joint Label	L,D,M	Direction	Magnitude[(lb,k-ft), (in,rad), (lb*s^2...
1	N40	L	Y	-2336.04
2	N93	L	Y	-315.3
3	N94	L	Y	-315.3
4	N95	L	Y	-315.3
5	N31	L	Y	-3110.6
6	N67	L	Y	-672.1
7	N68	L	Y	-672.1
8	N69	L	Y	-672.1

Joint Loads and Enforced Displacements (BLC 2 : Wind Z)

	Joint Label	L,D,M	Direction	Magnitude[(lb,k-ft), (in,rad), (lb*s^2...
1	N95	L	Z	-248.1
2	N94	L	Z	-198.9
3	N93	L	Z	-198.9
4	N67	L	Z	-865.7
5	N68	L	Z	-725.2
6	N69	L	Z	-725.2

Joint Loads and Enforced Displacements (BLC 3 : Wind X)

	Joint Label	L,D,M	Direction	Magnitude[(lb,k-ft), (in,rad), (lb*s^2...
1	N95	L	X	186
2	N94	L	X	235
3	N93	L	X	235
4	N67	L	X	722.1
5	N68	L	X	850.1
6	N69	L	X	850.1

Joint Loads and Enforced Displacements (BLC 4 : Appurtenance Ice Dead)

	Joint Label	L,D,M	Direction	Magnitude[(lb,k-ft), (in,rad), (lb*s^2...
1	N40	L	Y	-2336.04
2	N95	L	Y	-588.1
3	N94	L	Y	-588.1
4	N93	L	Y	-588.1
5	N31	L	Y	-3110.6
6	N67	L	Y	-2475.2
7	N68	L	Y	-2475.2
8	N69	L	Y	-2475.2

Joint Loads and Enforced Displacements (BLC 5 : Wind Ice Z)

	Joint Label	L,D,M	Direction	Magnitude[(lb,k-ft), (in,rad), (lb*s^2...

Joint Loads and Enforced Displacements (BLC 5 : Wind Ice Z) (Continued)

	Joint Label	L,D,M	Direction	Magnitude[(lb,k-ft), (in,rad), (lb*s^2...
1	N95	L	Z	-91.3
2	N94	L	Z	-100.4
3	N93	L	Z	-100.4
4	N67	L	Z	-286.1
5	N68	L	Z	-350.3
6	N69	L	Z	-350.3

Joint Loads and Enforced Displacements (BLC 6 : Wind Ice X)

	Joint Label	L,D,M	Direction	Magnitude[(lb,k-ft), (in,rad), (lb*s^2...
1	N95	L	Z	-91.3
2	N94	L	Z	-100.4
3	N93	L	Z	-100.4
4	N67	L	Z	-286.1
5	N68	L	Z	-350.3
6	N69	L	Z	-350.3

Member Area Loads

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

Member AISC 14th(360-10): LRFD Steel Code Checks

	LC	Member	Shape	UC Max	Loc[ft]	Shear UC	Loc[ft]	Dir	phi*Pnc[lb]	phi*Pnt[lb]	phi*Mnyy...	phi*Mnzz...	Cb	Eqn
1	1	M1	W24x68 w1...	.013	0	.000	19	y	1.15623...	1.55224...	375.833	1401.209	1.059	H1-1b*
2	1	M2	W24x68 w1...	.011	0	.000	19	y	1.15623...	1.55224...	375.833	1420.055	1.079	H1-1b*
3	1	M3	W24x68	.036	0	.001	59.08	y	328006....	601796....	61.128	337.623	1	H1-1b*
4	1	M4	W24x68	.026	0	.001	59.08	y	328006....	601796....	61.128	337.623	1	H1-1b*
5	1	M5	HSS18x0.500	.034	0	.000	18.622		457542....	536526....	249.75	249.75	1.94	H1-1b*
6	1	M6	HSS18x0.500	.028	0	.000	0		463151....	536526....	249.75	249.75	1.111	H1-1b*
7	1	M7	HSS18x0.500	.021	0	.000	3.263		459324....	536526....	249.75	249.75	2.097	H1-1b*
8	1	M8	HSS18x0.500	.013	0	.000	0		473500....	536526....	249.75	249.75	1.667	H1-1b*
9	1	M29	L5x5x6	.067	6.822	.003	0	y	19897.594	78682.635	4.935	8.139	1.136	H2-1
10	1	M30	L5x5x6	.067	6.822	.003	0	z	19897.594	78682.635	4.935	8.139	1.136	H2-1
11	1	M31	L5x5x6	.068	6.822	.003	0	y	19897.594	78682.635	4.935	8.139	1.136	H2-1
12	1	M32	L5x5x6	.068	6.822	.003	0	z	19897.594	78682.635	4.935	8.139	1.136	H2-1
13	1	M33	L5x5x6	.070	6.822	.003	0	y	19897.594	78682.635	4.935	8.139	1.136	H2-1
14	1	M34	L5x5x6	.070	6.822	.003	0	z	19897.594	78682.635	4.935	8.139	1.136	H2-1
15	1	M35	L5x5x6	.068	6.822	.003	0	y	19897.594	78682.635	4.935	8.139	1.136	H2-1
16	1	M36	L5x5x6	.068	6.822	.003	0	z	19897.594	78682.635	4.935	8.139	1.136	H2-1
17	1	M37	L5x5x6	.067	6.822	.003	0	y	19897.594	78682.635	4.935	8.139	1.136	H2-1
18	1	M38	L5x5x6	.067	6.822	.004	0	z	19897.594	78682.635	4.935	8.139	1.136	H2-1
19	1	M39	L5x5x6	.076	7.613	.003	0	y	49600.6	78682.635	4.935	7.829	1.136	H2-1
20	1	M40	L5x5x6	.076	7.613	.003	0	y	49600.6	78682.635	4.935	7.829	1.136	H2-1
21	1	M41	L5x5x6	.075	7.613	.003	0	y	15976.658	78682.635	4.935	7.829	1.136	H2-1
22	1	M42	L5x5x6	.075	7.613	.003	0	y	49600.6	78682.635	4.935	7.829	1.136	H2-1
23	1	M43	L3.5x3.5x5	.186	9.699	.003	19.812	y	10481.879	45269.461	1.918	2.577	1.136	H2-1
24	1	M44	L3.5x3.5x5	.186	9.699	.003	19.812	y	10481.879	45269.461	1.918	2.577	1.136	H2-1
25	1	M45	L5x5x3/8 wH...	.273	15.848	.005	0	y	20518.682	113307....	7.087	5.185	1.136	H2-1
26	1	M46	L5x5x3/8 wH...	.273	15.848	.005	0	y	20518.682	113307....	7.087	5.185	1.136	H2-1
27	1	M47	WT6x15	.032	6.333	.004	12.666	y	51096.504	94850.299	8.587	7.919	1.136	H1-1b
28	1	M48	WT6x15	.039	0	.004	0	y	51096.504	94850.299	8.587	4.949	2.558	H1-1b
29	1	M49	WT6x15	.030	6.048	.004	12.096	y	53179.64	94850.299	8.587	7.919	1.136	H1-1b
30	1	M50	WT6x15	.030	6.048	.004	12.096	y	53179.64	94850.299	8.587	7.919	1.136	H1-1b
31	1	M51	WT6x15	.032	6.393	.004	12.787	y	50651.021	94850.299	8.587	7.919	1.136	H1-1b

Member AISC 14th(360-10): LRFD Steel Code Checks (Continued)

	LC	Member	Shape	UC Max	Loc[ft]	Shear UC	Loc[ft]	Dir	phi*Pnc[lb]	phi*Pnt[lb]	phi*Mnyy..	phi*Mnzz...	Cb	Eqn
32	1	M52	WT6x15	.032	6.393	.004	0	y	50651.021	94850.299	8.587	7.919	1.136	H1-1b
33	1	M53	WT6x15	.030	6.005	.004	12.011	y	53489.16	94850.299	8.587	7.919	1.136	H1-1b
34	1	M54	WT6x15	.030	6.005	.004	12.011	y	53489.16	94850.299	8.587	7.919	1.136	H1-1b
35	1	M55	WT6x15	.032	6.443	.004	12.885	y	50288.185	94850.299	8.587	7.919	1.136	H1-1b
36	1	M56	WT6x15	.032	6.443	.004	0	y	50288.185	94850.299	8.587	7.919	1.136	H1-1b
37	1	M57	WT6x15	.030	6.07	.004	12.139	y	53022.321	94850.299	8.587	7.919	1.136	H1-1b
38	1	M58	WT6x15	.030	6.07	.004	12.139	y	53022.321	94850.299	8.587	7.919	1.136	H1-1b
39	1	M59	WT6x15	.032	6.369	.004	12.738	y	50830.303	94850.299	8.587	7.919	1.136	H1-1b
40	1	M60	WT6x15	.032	6.369	.004	12.738	y	50830.303	94850.299	8.587	7.919	1.136	H1-1b
41	1	M61	WT6x15	.031	6.07	.004	12.139	y	53022.321	94850.299	8.587	7.919	1.136	H1-1b
42	1	M62	WT6x15	.031	6.07	.004	0	y	53022.321	94850.299	8.587	7.919	1.136	H1-1b
43	1	M63	WT6x15	.032	6.369	.004	12.738	y	50830.303	94850.299	8.587	7.919	1.136	H1-1b
44	1	M64	WT6x15	.032	6.369	.004	0	y	50830.303	94850.299	8.587	7.919	1.136	H1-1b
45	1	M65	WT6x15	.030	5.741	.004	11.482	y	55390.925	94850.299	8.587	7.919	1.136	H1-1b
46	1	M66	WT6x15	.030	5.741	.004	11.482	y	55390.925	94850.299	8.587	7.919	1.136	H1-1b
47	1	M71	HSS8x4x4	.011	13.5	.003	13.5	y	68324.453	112958....	14.731	23.892	2.381	H1-1b
48	1	M72	HSS8x4x4	.011	0	.003	0	y	68324.453	112958....	14.731	23.892	2.381	H1-1b
49	1	M75	HSS6x4x4	.026	0	.004	0	y	35045.903	92694.611	11.587	15.323	2.381	H1-1b
50	1	M76	HSS6x4x4	.026	18.182	.004	18.182	y	35045.903	92694.611	11.587	15.323	2.381	H1-1b
51	1	M77	HSS6x4x4	.024	17.321	.004	17.321	y	38408.902	92694.611	11.587	15.323	2.381	H1-1b
52	1	M76A	L4x4x5/16 w...	.014	7.571	.001	7.571	y	39908.396	81697.15	3.706	6.632	1.973	H2-1
53	1	M77A	L4x4x5/16 w...	.014	0	.001	7.571	y	39908.396	81697.15	3.706	6.632	2.152	H2-1
54	1	M78	L4x4x5/16 w...	.100	14.72	.003	14.72	y	11074.117	81697.15	3.706	6.632	2.449	H2-1
55	1	M79	L4x4x5/16 w...	.089	14.72	.003	14.72	y	11074.117	81697.15	3.706	6.632	2.461	H2-1
56	1	M84	PIPE_3.0	.128	12.5	.003	12.5		18796.149	43383.234	3.825	3.825	1.236	H1-1b
57	1	M85	PIPE_3.0	.128	0	.003	0		18796.149	43383.234	3.825	3.825	1.236	H1-1b
58	1	M86	PIPE_3.0	.128	0	.003	0		18796.11	43383.234	3.825	3.825	1.236	H1-1b
59	1	M87	HSS4x0.250	.388	0	.026	0		47654.745	59497.006	5.946	5.946	2.189	H1-1b
60	1	M88	HSS4x0.250	.388	0	.026	0		47654.918	59497.006	5.946	5.946	2.189	H1-1b
61	1	M89	HSS4x0.250	.388	0	.026	0		47654.745	59497.006	5.946	5.946	2.189	H1-1b
62	2	M1	W24x68 w1...	.146	0	.040	0	y	1.15623...	1.55224...	375.833	1420.055	1.945	H1-1b
63	2	M2	W24x68 w1...	.148	0	.041	3.958	y	1.15623...	1.55224...	375.833	1420.055	1.939	H1-1b
64	2	M3	W24x68	.182	0	.011	0	y	328006....	601796....	61.128	137.13	2.746	H1-1b
65	2	M4	W24x68	.176	0	.012	0	y	328006....	601796....	61.128	139.12	2.786	H1-1b
66	2	M5	HSS18x0.500	.142	0	.008	0		457542....	536526....	249.75	249.75	1.609	H1-1b
67	2	M6	HSS18x0.500	.074	3.175	.008	17.318		463151....	536526....	249.75	249.75	1.042	H1-1b
68	2	M7	HSS18x0.500	.244	16.91	.033	16.91		459324....	536526....	249.75	249.75	2.125	H1-1b
69	2	M8	HSS18x0.500	.150	0	.012	0		473500....	536526....	249.75	249.75	1.668	H1-1b
70	2	M29	L5x5x6	.095	6.822	.004	0	y	19897.594	78682.635	4.935	8.139	1.136	H2-1
71	2	M30	L5x5x6	.095	6.822	.004	0	z	19897.594	78682.635	4.935	8.139	1.136	H2-1
72	2	M31	L5x5x6	.082	6.822	.004	0	y	19897.594	78682.635	4.935	8.139	1.136	H2-1
73	2	M32	L5x5x6	.082	6.822	.004	0	z	19897.594	78682.635	4.935	8.139	1.136	H2-1
74	2	M33	L5x5x6	.086	6.822	.003	0	y	19897.594	78682.635	4.935	8.139	1.136	H2-1
75	2	M34	L5x5x6	.086	6.822	.004	0	z	19897.594	78682.635	4.935	8.139	1.136	H2-1
76	2	M35	L5x5x6	.085	6.822	.004	0	y	19897.594	78682.635	4.935	8.139	1.136	H2-1
77	2	M36	L5x5x6	.085	6.822	.004	0	z	19897.594	78682.635	4.935	8.139	1.136	H2-1
78	2	M37	L5x5x6	.088	6.822	.004	0	y	19897.594	78682.635	4.935	8.139	1.136	H2-1
79	2	M38	L5x5x6	.088	6.822	.004	0	z	19897.594	78682.635	4.935	8.139	1.136	H2-1
80	2	M39	L5x5x6	.092	7.613	.004	0	y	49600.6	78682.635	4.935	7.829	1.136	H2-1
81	2	M40	L5x5x6	.060	7.613	.004	0	y	49600.6	78682.635	4.935	7.829	1.136	H2-1
82	2	M41	L5x5x6	.090	7.613	.004	15.226	y	15976.658	78682.635	4.935	7.829	1.136	H2-1
83	2	M42	L5x5x6	.063	7.613	.004	15.226	y	49600.6	78682.635	4.935	7.829	1.136	H2-1
84	2	M43	L3.5x3.5x5	.337	9.699	.005	0	z	10481.879	45269.461	1.918	2.577	1.136	H2-1
85	2	M44	L3.5x3.5x5	.362	9.699	.005	0	z	10481.879	45269.461	1.918	2.577	1.136	H2-1
86	2	M45	L5x5x3/8 wH...	.449	15.848	.007	0	z	20518.682	113307....	7.087	5.185	1.136	H2-1
87	2	M46	L5x5x3/8 wH...	.363	15.848	.007	32.37	z	20518.682	113307....	7.087	5.185	1.136	H2-1
88	2	M47	WT6x15	.163	0	.003	12.666	y	51096.504	94850.299	8.587	7.919	1.136	H1-1b*

Member AISC 14th(360-10): LRFD Steel Code Checks (Continued)

	LC	Member	Shape	UC Max	Loc[ft]	Shear UC	Loc[ft]	Dir	phi*Pnc[lb]	phi*Pnt[lb]	phi*Mnyy...	phi*Mnzz...	Cb	Eqn
89	2	M48	WT6x15	.171	0	.005	0	y	51096.504	94850.299	8.587	4.949	2.299	H1-1b
90	2	M49	WT6x15	.097	6.048	.005	0	y	53179.64	94850.299	8.587	7.919	1.136	H1-1b
91	2	M50	WT6x15	.098	6.048	.005	0	y	53179.64	94850.299	8.587	7.919	1.136	H1-1b
92	2	M51	WT6x15	.246	6.26	.003	12.787	y	50651.021	94850.299	8.587	7.919	1.136	H1-1a
93	2	M52	WT6x15	.252	6.26	.002	12.787	y	50651.021	94850.299	8.587	7.919	1.136	H1-1a
94	2	M53	WT6x15	.101	6.005	.005	12.011	y	53489.16	94850.299	8.587	7.919	1.136	H1-1b
95	2	M54	WT6x15	.103	6.005	.005	0	y	53489.16	94850.299	8.587	7.919	1.136	H1-1b
96	2	M55	WT6x15	.179	0	.002	12.885	y	50288.185	94850.299	8.587	7.919	1.136	H1-1b*
97	2	M56	WT6x15	.184	0	.002	12.885	y	50288.185	94850.299	8.587	7.919	1.136	H1-1b*
98	2	M57	WT6x15	.091	6.07	.005	0	y	53022.321	94850.299	8.587	7.919	1.136	H1-1b
99	2	M58	WT6x15	.092	6.07	.005	0	y	53022.321	94850.299	8.587	7.919	1.136	H1-1b
100	2	M59	WT6x15	.112	0	.002	12.738	y	50830.303	94850.299	8.587	7.919	1.136	H1-1b*
101	2	M60	WT6x15	.117	0	.003	12.738	y	50830.303	94850.299	8.587	7.919	1.136	H1-1b*
102	2	M61	WT6x15	.104	6.07	.005	0	y	53022.321	94850.299	8.587	7.919	1.136	H1-1b
103	2	M62	WT6x15	.105	6.07	.005	0	y	53022.321	94850.299	8.587	7.919	1.136	H1-1b
104	2	M63	WT6x15	.195	0	.004	12.738	y	50830.303	94850.299	8.587	7.919	1.136	H1-1b*
105	2	M64	WT6x15	.200	0	.004	12.738	y	50830.303	94850.299	8.587	7.919	1.136	H1-1b*
106	2	M65	WT6x15	.064	5.741	.006	0	y	55390.925	94850.299	8.587	7.919	1.136	H1-1b
107	2	M66	WT6x15	.065	5.741	.006	0	y	55390.925	94850.299	8.587	7.919	1.136	H1-1b
108	2	M71	HSS8x4x4	.027	13.5	.005	0	z	68324.453	112958....	14.731	23.892	2.381	H1-1b
109	2	M72	HSS8x4x4	.027	0	.005	13.5	z	68324.453	112958....	14.731	23.892	2.381	H1-1b
110	2	M75	HSS6x4x4	.033	0	.004	0	y	35045.903	92694.611	11.587	15.323	2.381	H1-1b
111	2	M76	HSS6x4x4	.033	18.182	.004	18.182	y	35045.903	92694.611	11.587	15.323	2.381	H1-1b
112	2	M77	HSS6x4x4	.049	17.321	.005	0	z	38408.902	92694.611	11.587	15.323	2.381	H1-1b
113	2	M76A	L4x4x5/16 w...	.023	0	.002	0	y	39908.396	81697.15	3.706	6.632	3	H2-1
114	2	M77A	L4x4x5/16 w...	.036	0	.002	0	y	39908.396	81697.15	3.706	6.632	2.759	H2-1
115	2	M78	L4x4x5/16 w...	.082	14.72	.002	14.72	y	11074.117	81697.15	3.706	6.632	2.741	H2-1
116	2	M79	L4x4x5/16 w...	.060	14.72	.002	0	y	11074.117	81697.15	3.706	6.632	2.281	H2-1
117	2	M84	PIPE_3.0	.130	12.5	.004	12.5		18796.149	43383.234	3.825	3.825	1.239	H1-1b
118	2	M85	PIPE_3.0	.130	0	.004	0		18796.149	43383.234	3.825	3.825	1.239	H1-1b
119	2	M86	PIPE_3.0	.136	12.5	.005	12.5		18796.11	43383.234	3.825	3.825	1.239	H1-1b
120	2	M87	HSS4x0.250	.385	0	.027	0		47654.745	59497.006	5.946	5.946	2.19	H1-1b
121	2	M88	HSS4x0.250	.395	0	.026	0		47654.918	59497.006	5.946	5.946	2.189	H1-1b
122	2	M89	HSS4x0.250	.385	0	.027	0		47654.745	59497.006	5.946	5.946	2.19	H1-1b
123	3	M1	W24x68 w1...	.130	0	.040	0	y	1.15623...	1.55224...	375.833	1420.055	1.901	H1-1b
124	3	M2	W24x68 w1...	.134	0	.041	3.958	y	1.15623...	1.55224...	375.833	1420.055	1.896	H1-1b
125	3	M3	W24x68	.086	2.514	.012	0	y	328006....	601796....	61.128	337.623	1	H1-1b
126	3	M4	W24x68	.091	2.514	.013	0	y	328006....	601796....	61.128	337.623	1	H1-1b
127	3	M5	HSS18x0.500	.297	0	.008	0		457542....	536526....	249.75	249.75	2.128	H1-1a
128	3	M6	HSS18x0.500	.184	0	.008	17.318		463151....	536526....	249.75	249.75	1.453	H1-1b*
129	3	M7	HSS18x0.500	.262	16.91	.033	16.91		459324....	536526....	249.75	249.75	2.069	H1-1b
130	3	M8	HSS18x0.500	.151	0	.012	0		473500....	536526....	249.75	249.75	1.665	H1-1b
131	3	M29	L5x5x6	.113	6.822	.004	0	y	19897.594	78682.635	4.935	8.139	1.136	H2-1
132	3	M30	L5x5x6	.113	6.822	.004	0	z	19897.594	78682.635	4.935	8.139	1.136	H2-1
133	3	M31	L5x5x6	.055	6.822	.004	0	y	19897.594	78682.635	4.935	8.139	1.136	H2-1
134	3	M32	L5x5x6	.055	6.822	.004	0	z	19897.594	78682.635	4.935	8.139	1.136	H2-1
135	3	M33	L5x5x6	.054	6.822	.004	0	y	19897.594	78682.635	4.935	8.139	1.136	H2-1
136	3	M34	L5x5x6	.054	6.822	.004	0	z	19897.594	78682.635	4.935	8.139	1.136	H2-1
137	3	M35	L5x5x6	.055	6.822	.004	0	y	19897.594	78682.635	4.935	8.139	1.136	H2-1
138	3	M36	L5x5x6	.055	6.822	.004	0	z	19897.594	78682.635	4.935	8.139	1.136	H2-1
139	3	M37	L5x5x6	.058	6.822	.004	0	y	19897.594	78682.635	4.935	8.139	1.136	H2-1
140	3	M38	L5x5x6	.058	6.822	.004	0	z	19897.594	78682.635	4.935	8.139	1.136	H2-1
141	3	M39	L5x5x6	.066	7.613	.004	0	y	49600.6	78682.635	4.935	7.829	1.136	H2-1
142	3	M40	L5x5x6	.093	7.613	.004	15.226	y	49600.6	78682.635	4.935	7.829	1.136	H2-1
143	3	M41	L5x5x6	.060	7.454	.004	15.226	y	15976.658	78682.635	4.935	7.829	1.136	H2-1
144	3	M42	L5x5x6	.092	7.613	.004	0	y	49600.6	78682.635	4.935	7.829	1.136	H2-1
145	3	M43	L3.5x3.5x5	.256	9.906	.005	0	z	10481.879	45269.461	1.918	2.577	1.136	H2-1

Member AISC 14th(360-10): LRFD Steel Code Checks (Continued)

	LC	Member	Shape	UC Max	Loc[ft]	Shear UC	Loc[ft]	Dir	phi*Pnc[lb]	phi*Pnt[lb]	phi*Mnyy..	phi*Mnzz...	Cb	Eqn
146	3	M44	L3.5x3.5x5	.206	9.906	.005	0	z	10481.879	45269.461	1.918	2.577	1.136	H2-1
147	3	M45	L5x5x3/8 wH...	.270	16.185	.007	0	z	20518.682	113307....	7.087	5.185	1.136	H2-1
148	3	M46	L5x5x3/8 wH...	.339	16.185	.007	0	z	20518.682	113307....	7.087	5.185	1.136	H2-1
149	3	M47	WT6x15	.101	6.333	.006	0	y	51096.504	94850.299	8.587	7.919	1.136	H1-1b
150	3	M48	WT6x15	.141	12.666	.008	12.666	y	51096.504	94850.299	8.587	4.949	2.594	H1-1b
151	3	M49	WT6x15	.154	0	.003	12.096	y	53179.64	94850.299	8.587	7.919	1.136	H1-1b*
152	3	M50	WT6x15	.155	0	.003	0	y	53179.64	94850.299	8.587	7.919	1.136	H1-1b*
153	3	M51	WT6x15	.117	6.393	.005	0	y	50651.021	94850.299	8.587	7.919	1.136	H1-1b
154	3	M52	WT6x15	.118	6.393	.005	12.787	y	50651.021	94850.299	8.587	7.919	1.136	H1-1b
155	3	M53	WT6x15	.173	0	.003	0	y	53489.16	94850.299	8.587	7.919	1.136	H1-1b*
156	3	M54	WT6x15	.179	0	.003	12.011	y	53489.16	94850.299	8.587	7.919	1.136	H1-1b*
157	3	M55	WT6x15	.107	6.443	.005	0	y	50288.185	94850.299	8.587	7.919	1.136	H1-1b
158	3	M56	WT6x15	.109	6.443	.005	0	y	50288.185	94850.299	8.587	7.919	1.136	H1-1b
159	3	M57	WT6x15	.133	0	.003	12.139	y	53022.321	94850.299	8.587	7.919	1.136	H1-1b*
160	3	M58	WT6x15	.138	0	.003	12.139	y	53022.321	94850.299	8.587	7.919	1.136	H1-1b*
161	3	M59	WT6x15	.090	6.369	.005	0	y	50830.303	94850.299	8.587	7.919	1.136	H1-1b
162	3	M60	WT6x15	.092	6.369	.006	0	y	50830.303	94850.299	8.587	7.919	1.136	H1-1b
163	3	M61	WT6x15	.186	0	.003	12.139	y	53022.321	94850.299	8.587	7.919	1.136	H1-1b*
164	3	M62	WT6x15	.190	0	.003	12.139	y	53022.321	94850.299	8.587	7.919	1.136	H1-1b*
165	3	M63	WT6x15	.113	6.369	.007	0	y	50830.303	94850.299	8.587	7.919	1.136	H1-1b
166	3	M64	WT6x15	.115	6.369	.007	0	y	50830.303	94850.299	8.587	7.919	1.136	H1-1b
167	3	M65	WT6x15	.065	5.741	.004	0	y	55390.925	94850.299	8.587	7.919	1.136	H1-1b
168	3	M66	WT6x15	.068	0	.005	0	y	55390.925	94850.299	8.587	7.919	1.136	H1-1b*
169	3	M71	HSS8x4x4	.027	0	.005	0	z	68324.453	112958....	14.731	23.892	2.381	H1-1b
170	3	M72	HSS8x4x4	.027	13.5	.005	13.5	z	68324.453	112958....	14.731	23.892	2.381	H1-1b
171	3	M75	HSS6x4x4	.033	18.182	.004	0	y	35045.903	92694.611	11.587	15.323	2.381	H1-1b
172	3	M76	HSS6x4x4	.033	0	.004	18.182	y	35045.903	92694.611	11.587	15.323	2.381	H1-1b
173	3	M77	HSS6x4x4	.049	0	.005	0	z	38408.902	92694.611	11.587	15.323	2.381	H1-1b
174	3	M76A	L4x4x5/16 w...	.014	7.571	.001	7.571	y	39908.396	81697.15	3.706	6.632	1.682	H2-1
175	3	M77A	L4x4x5/16 w...	.008	7.571	.001	7.571	z	39908.396	81697.15	3.706	6.632	2.003	H2-1
176	3	M78	L4x4x5/16 w...	.117	14.72	.003	14.72	y	11074.117	81697.15	3.706	6.632	2.381	H2-1
177	3	M79	L4x4x5/16 w...	.118	14.72	.003	14.72	y	11074.117	81697.15	3.706	6.632	2.894	H2-1
178	3	M84	PIPE_3.0	.132	12.5	.004	12.5		18796.149	43383.234	3.825	3.825	1.241	H1-1b
179	3	M85	PIPE_3.0	.132	0	.004	0		18796.149	43383.234	3.825	3.825	1.241	H1-1b
180	3	M86	PIPE_3.0	.133	0	.005	0		18796.11	43383.234	3.825	3.825	1.236	H1-1b
181	3	M87	HSS4x0.250	.390	0	.027	0		47654.745	59497.006	5.946	5.946	2.189	H1-1b
182	3	M88	HSS4x0.250	.385	0	.026	0		47654.918	59497.006	5.946	5.946	2.191	H1-1b
183	3	M89	HSS4x0.250	.390	0	.027	0		47654.745	59497.006	5.946	5.946	2.189	H1-1b
184	4	M1	W24x68 w1...	.234	0	.033	19	y	1.15623...	1.55224...	375.833	1420.055	1.171	H1-1b
185	4	M2	W24x68 w1...	.217	0	.032	19	y	1.15623...	1.55224...	375.833	1420.055	1.18	H1-1b
186	4	M3	W24x68	.305	5.028	.039	1.886	y	328006....	601796....	61.128	149.801	3	H1-1b
187	4	M4	W24x68	.189	0	.037	1.886	y	328006....	601796....	61.128	149.801	3	H1-1b
188	4	M5	HSS18x0.500	.156	0	.021	0		457542....	536526....	249.75	249.75	2.31	H1-1b
189	4	M6	HSS18x0.500	.040	27.708	.010	3.175		463151....	536526....	249.75	249.75	2.286	H1-1b
190	4	M7	HSS18x0.500	.232	16.91	.031	16.91		459324....	536526....	249.75	249.75	1.467	H1-1b
191	4	M8	HSS18x0.500	.143	0	.011	0		473500....	536526....	249.75	249.75	1.824	H1-1b
192	4	M29	L5x5x6	.067	6.822	.005	0	y	19897.594	78682.635	4.935	8.139	1.136	H2-1
193	4	M30	L5x5x6	.068	6.822	.005	0	z	19897.594	78682.635	4.935	8.139	1.136	H2-1
194	4	M31	L5x5x6	.068	6.822	.004	0	y	19897.594	78682.635	4.935	8.139	1.136	H2-1
195	4	M32	L5x5x6	.069	6.822	.004	0	z	19897.594	78682.635	4.935	8.139	1.136	H2-1
196	4	M33	L5x5x6	.070	6.822	.004	0	y	19897.594	78682.635	4.935	8.139	1.136	H2-1
197	4	M34	L5x5x6	.070	6.822	.004	0	z	19897.594	78682.635	4.935	8.139	1.136	H2-1
198	4	M35	L5x5x6	.068	6.822	.004	0	y	19897.594	78682.635	4.935	8.139	1.136	H2-1
199	4	M36	L5x5x6	.068	6.822	.004	0	z	19897.594	78682.635	4.935	8.139	1.136	H2-1
200	4	M37	L5x5x6	.067	6.822	.004	0	y	19897.594	78682.635	4.935	8.139	1.136	H2-1
201	4	M38	L5x5x6	.068	6.822	.004	0	z	19897.594	78682.635	4.935	8.139	1.136	H2-1
202	4	M39	L5x5x6	.149	7.613	.005	0	y	49600.6	78682.635	4.935	7.829	1.136	H2-1

Member AISC 14th(360-10): LRFD Steel Code Checks (Continued)

	LC	Member	Shape	UC Max	Loc[ft]	Shear UC	Loc[ft]	Dir	phi*Pnc[lb]	phi*Pnt[lb]	phi*Mnyy...	phi*Mnzz...	Cb	Eqn
203	4	M40	L5x5x6	.162	7.454	.003	15.226	y	49600.6	78682.635	4.935	7.829	1.136	H2-1
204	4	M41	L5x5x6	.175	7.613	.004	0	y	15976.658	78682.635	4.935	7.829	1.136	H2-1
205	4	M42	L5x5x6	.202	7.454	.003	15.226	y	49600.6	78682.635	4.935	7.829	1.136	H2-1
206	4	M43	L3.5x3.5x5	.575	9.08	.001	19.812	y	10481.879	45269.461	1.918	2.577	1.136	H2-1
207	4	M44	L3.5x3.5x5	.364	9.906	.006	19.812	y	10481.879	45269.461	1.918	2.577	1.136	H2-1
208	4	M45	L5x5x3/8 wH...	.318	0	.000	32.37	y	20518.682	113307....	7.087	5.185	1.136	H2-1
209	4	M46	L5x5x3/8 wH...	.494	16.185	.010	32.37	y	20518.682	113307....	7.087	5.185	1.136	H2-1
210	4	M47	WT6x15	.289	6.201	.005	12.666	y	51096.504	94850.299	8.587	7.919	1.136	H1-1a
211	4	M48	WT6x15	.291	12.666	.013	12.666	y	51096.504	94850.299	8.587	4.949	2.096	H1-1b
212	4	M49	WT6x15	.135	6.048	.006	0	y	53179.64	94850.299	8.587	7.919	1.136	H1-1b
213	4	M50	WT6x15	.318	5.922	.005	0	y	53179.64	94850.299	8.587	7.919	1.136	H1-1a
214	4	M51	WT6x15	.075	6.26	.004	12.787	y	50651.021	94850.299	8.587	7.919	1.136	H1-1b
215	4	M52	WT6x15	.078	6.393	.007	0	y	50651.021	94850.299	8.587	7.919	1.136	H1-1b
216	4	M53	WT6x15	.061	6.005	.006	12.011	y	53489.16	94850.299	8.587	7.919	1.136	H1-1b
217	4	M54	WT6x15	.052	6.005	.004	0	y	53489.16	94850.299	8.587	7.919	1.136	H1-1b
218	4	M55	WT6x15	.092	0	.005	12.885	y	50288.185	94850.299	8.587	7.919	1.136	H1-1b*
219	4	M56	WT6x15	.085	6.443	.008	0	y	50288.185	94850.299	8.587	7.919	1.136	H1-1b
220	4	M57	WT6x15	.068	6.07	.006	0	y	53022.321	94850.299	8.587	7.919	1.136	H1-1b
221	4	M58	WT6x15	.062	6.07	.005	12.139	y	53022.321	94850.299	8.587	7.919	1.136	H1-1b
222	4	M59	WT6x15	.069	6.236	.005	12.738	y	50830.303	94850.299	8.587	7.919	1.136	H1-1b
223	4	M60	WT6x15	.077	6.369	.008	0	y	50830.303	94850.299	8.587	7.919	1.136	H1-1b
224	4	M61	WT6x15	.094	6.07	.006	0	y	53022.321	94850.299	8.587	7.919	1.136	H1-1b
225	4	M62	WT6x15	.146	0	.004	12.139	y	53022.321	94850.299	8.587	7.919	1.136	H1-1b*
226	4	M63	WT6x15	.128	0	.003	12.738	y	50830.303	94850.299	8.587	7.919	1.136	H1-1b*
227	4	M64	WT6x15	.095	6.369	.005	0	y	50830.303	94850.299	8.587	7.919	1.136	H1-1b
228	4	M65	WT6x15	.052	5.741	.008	0	y	55390.925	94850.299	8.587	7.919	1.136	H1-1b
229	4	M66	WT6x15	.037	5.741	.007	0	y	55390.925	94850.299	8.587	7.919	1.136	H1-1b
230	4	M71	HSS8x4x4	.011	0	.003	0	y	68324.453	112958....	14.731	23.892	2.381	H1-1b
231	4	M72	HSS8x4x4	.011	13.5	.003	13.5	y	68324.453	112958....	14.731	23.892	2.381	H1-1b
232	4	M75	HSS6x4x4	.046	0	.004	18.182	y	35045.903	92694.611	11.587	15.323	2.381	H1-1b
233	4	M76	HSS6x4x4	.046	0	.004	18.182	y	35045.903	92694.611	11.587	15.323	2.381	H1-1b
234	4	M77	HSS6x4x4	.024	0	.004	0	y	38408.902	92694.611	11.587	15.323	2.381	H1-1b
235	4	M76A	L4x4x5/16 w...	.019	7.571	.001	7.571	z	39908.396	81697.15	3.706	6.632	3	H2-1
236	4	M77A	L4x4x5/16 w...	.021	7.571	.002	7.571	y	39908.396	81697.15	3.706	6.632	3	H2-1
237	4	M78	L4x4x5/16 w...	.081	14.72	.003	0	y	11074.117	81697.15	3.706	6.632	2.404	H2-1
238	4	M79	L4x4x5/16 w...	.085	14.72	.003	0	y	11074.117	81697.15	3.706	6.632	2.429	H2-1
239	4	M84	PIPE_3.0	.132	0	.004	0		18796.149	43383.234	3.825	3.825	1.237	H1-1b
240	4	M85	PIPE_3.0	.135	12.5	.004	12.5		18796.149	43383.234	3.825	3.825	1.24	H1-1b
241	4	M86	PIPE_3.0	.128	12.5	.004	12.5		18796.11	43383.234	3.825	3.825	1.24	H1-1b
242	4	M87	HSS4x0.250	.386	0	.026	0		47654.745	59497.006	5.946	5.946	2.19	H1-1b
243	4	M88	HSS4x0.250	.386	0	.027	0		47654.918	59497.006	5.946	5.946	2.19	H1-1b
244	4	M89	HSS4x0.250	.394	0	.027	0		47654.745	59497.006	5.946	5.946	2.189	H1-1b
245	5	M1	W24x68 w1...	.212	0	.032	19	y	1.15623...	1.55224...	375.833	1420.055	1.179	H1-1b
246	5	M2	W24x68 w1...	.237	0	.033	19	y	1.15623...	1.55224...	375.833	1420.055	1.172	H1-1b
247	5	M3	W24x68	.189	0	.038	1.886	y	328006....	601796....	61.128	149.801	3	H1-1b
248	5	M4	W24x68	.300	5.028	.038	1.886	y	328006....	601796....	61.128	149.801	3	H1-1b
249	5	M5	HSS18x0.500	.155	0	.020	0		457542....	536526....	249.75	249.75	2.301	H1-1b
250	5	M6	HSS18x0.500	.040	27.708	.010	3.175		463151....	536526....	249.75	249.75	2.35	H1-1b
251	5	M7	HSS18x0.500	.232	16.91	.031	16.91		459324....	536526....	249.75	249.75	1.469	H1-1b
252	5	M8	HSS18x0.500	.143	0	.011	0		473500....	536526....	249.75	249.75	1.824	H1-1b
253	5	M29	L5x5x6	.068	6.822	.005	0	y	19897.594	78682.635	4.935	8.139	1.136	H2-1
254	5	M30	L5x5x6	.067	6.822	.005	0	z	19897.594	78682.635	4.935	8.139	1.136	H2-1
255	5	M31	L5x5x6	.069	6.822	.004	0	y	19897.594	78682.635	4.935	8.139	1.136	H2-1
256	5	M32	L5x5x6	.068	6.822	.004	0	z	19897.594	78682.635	4.935	8.139	1.136	H2-1
257	5	M33	L5x5x6	.070	6.822	.004	0	y	19897.594	78682.635	4.935	8.139	1.136	H2-1
258	5	M34	L5x5x6	.070	6.822	.004	0	z	19897.594	78682.635	4.935	8.139	1.136	H2-1
259	5	M35	L5x5x6	.068	6.822	.004	0	y	19897.594	78682.635	4.935	8.139	1.136	H2-1

Member AISC 14th(360-10): LRFD Steel Code Checks (Continued)

	LC	Member	Shape	UC Max	Loc[ft]	Shear UC	Loc[ft]	Dir	phi*Pnc[lb]	phi*Pnt[lb]	phi*Mnyy...	phi*Mnzz...	Cb	Eqn
260	5	M36	L5x5x6	.068	6.822	.004	0	z	19897.594	78682.635	4.935	8.139	1.136	H2-1
261	5	M37	L5x5x6	.068	6.822	.004	0	y	19897.594	78682.635	4.935	8.139	1.136	H2-1
262	5	M38	L5x5x6	.067	6.822	.004	0	z	19897.594	78682.635	4.935	8.139	1.136	H2-1
263	5	M39	L5x5x6	.162	7.454	.004	15.226	y	49600.6	78682.635	4.935	7.829	1.136	H2-1
264	5	M40	L5x5x6	.149	7.613	.005	0	y	49600.6	78682.635	4.935	7.829	1.136	H2-1
265	5	M41	L5x5x6	.496	7.296	.003	15.226	y	15976.658	78682.635	4.935	7.829	1.136	H2-1
266	5	M42	L5x5x6	.175	7.613	.004	0	y	49600.6	78682.635	4.935	7.829	1.136	H2-1
267	5	M43	L3.5x3.5x5	.364	9.906	.006	0	y	10481.879	45269.461	1.918	2.577	1.136	H2-1
268	5	M44	L3.5x3.5x5	.575	9.08	.001	0	y	10481.879	45269.461	1.918	2.577	1.136	H2-1
269	5	M45	L5x5x3/8 wH...	.494	16.185	.010	32.37	y	20518.682	113307....	7.087	5.185	1.136	H2-1
270	5	M46	L5x5x3/8 wH...	.318	0	.000	32.37	y	20518.682	113307....	7.087	5.185	1.136	H2-1
271	5	M47	WT6x15	.127	6.333	.007	0	y	51096.504	94850.299	8.587	7.919	1.136	H1-1b
272	5	M48	WT6x15	.451	0	.011	0	y	51096.504	94850.299	8.587	4.949	2.49	H1-1a
273	5	M49	WT6x15	.318	5.922	.004	0	y	53179.64	94850.299	8.587	7.919	1.136	H1-1a
274	5	M50	WT6x15	.135	6.048	.007	12.096	y	53179.64	94850.299	8.587	7.919	1.136	H1-1b
275	5	M51	WT6x15	.079	6.393	.006	12.787	y	50651.021	94850.299	8.587	7.919	1.136	H1-1b
276	5	M52	WT6x15	.075	6.26	.004	12.787	y	50651.021	94850.299	8.587	7.919	1.136	H1-1b
277	5	M53	WT6x15	.052	6.005	.004	0	y	53489.16	94850.299	8.587	7.919	1.136	H1-1b
278	5	M54	WT6x15	.061	6.005	.006	12.011	y	53489.16	94850.299	8.587	7.919	1.136	H1-1b
279	5	M55	WT6x15	.085	6.443	.007	0	y	50288.185	94850.299	8.587	7.919	1.136	H1-1b
280	5	M56	WT6x15	.093	0	.005	12.885	y	50288.185	94850.299	8.587	7.919	1.136	H1-1b*
281	5	M57	WT6x15	.062	6.07	.004	12.139	y	53022.321	94850.299	8.587	7.919	1.136	H1-1b
282	5	M58	WT6x15	.068	6.07	.007	0	y	53022.321	94850.299	8.587	7.919	1.136	H1-1b
283	5	M59	WT6x15	.077	6.369	.007	0	y	50830.303	94850.299	8.587	7.919	1.136	H1-1b
284	5	M60	WT6x15	.069	6.236	.005	12.738	y	50830.303	94850.299	8.587	7.919	1.136	H1-1b
285	5	M61	WT6x15	.146	0	.004	12.139	y	53022.321	94850.299	8.587	7.919	1.136	H1-1b*
286	5	M62	WT6x15	.094	6.07	.006	0	y	53022.321	94850.299	8.587	7.919	1.136	H1-1b
287	5	M63	WT6x15	.095	6.369	.005	0	y	50830.303	94850.299	8.587	7.919	1.136	H1-1b
288	5	M64	WT6x15	.128	0	.003	12.738	y	50830.303	94850.299	8.587	7.919	1.136	H1-1b*
289	5	M65	WT6x15	.037	5.741	.007	0	y	55390.925	94850.299	8.587	7.919	1.136	H1-1b
290	5	M66	WT6x15	.053	5.741	.008	0	y	55390.925	94850.299	8.587	7.919	1.136	H1-1b
291	5	M71	HSS8x4x4	.011	13.5	.003	13.5	y	68324.453	112958....	14.731	23.892	2.381	H1-1b
292	5	M72	HSS8x4x4	.011	0	.003	0	y	68324.453	112958....	14.731	23.892	2.381	H1-1b
293	5	M75	HSS6x4x4	.046	18.182	.004	0	y	35045.903	92694.611	11.587	15.323	2.381	H1-1b
294	5	M76	HSS6x4x4	.046	18.182	.004	0	y	35045.903	92694.611	11.587	15.323	2.381	H1-1b
295	5	M77	HSS6x4x4	.024	17.321	.004	17.321	y	38408.902	92694.611	11.587	15.323	2.381	H1-1b
296	5	M76A	L4x4x5/16 w...	.023	7.571	.001	7.571	y	39908.396	81697.15	3.706	6.632	1.09	H2-1
297	5	M77A	L4x4x5/16 w...	.018	0	.001	0	z	39908.396	81697.15	3.706	6.632	1.201	H2-1
298	5	M78	L4x4x5/16 w...	.118	14.72	.003	14.72	y	11074.117	81697.15	3.706	6.632	2.823	H2-1
299	5	M79	L4x4x5/16 w...	.093	14.72	.003	14.72	y	11074.117	81697.15	3.706	6.632	2.768	H2-1
300	5	M84	PIPE_3.0	.135	0	.004	0		18796.149	43383.234	3.825	3.825	1.24	H1-1b
301	5	M85	PIPE_3.0	.132	12.5	.004	12.5		18796.149	43383.234	3.825	3.825	1.237	H1-1b
302	5	M86	PIPE_3.0	.128	0	.004	0		18796.11	43383.234	3.825	3.825	1.24	H1-1b
303	5	M87	HSS4x0.250	.394	0	.027	0		47654.745	59497.006	5.946	5.946	2.189	H1-1b
304	5	M88	HSS4x0.250	.386	0	.027	0		47654.918	59497.006	5.946	5.946	2.19	H1-1b
305	5	M89	HSS4x0.250	.386	0	.026	0		47654.745	59497.006	5.946	5.946	2.19	H1-1b
306	6	M1	W24x68 w1...	.052	0	.013	0	y	1.15623...	1.55224...	375.833	1420.055	1.997	H1-1b
307	6	M2	W24x68 w1...	.051	0	.013	4.552	y	1.15623...	1.55224...	375.833	1420.055	2.008	H1-1b
308	6	M3	W24x68	.082	0	.003	0	y	328006....	601796....	61.128	102.519	2.053	H1-1b*
309	6	M4	W24x68	.073	0	.003	0	y	328006....	601796....	61.128	103.019	2.063	H1-1b
310	6	M5	HSS18x0.500	.033	0	.003	0		457542....	536526....	249.75	249.75	1.525	H1-1b
311	6	M6	HSS18x0.500	.014	3.175	.003	17.318		463151....	536526....	249.75	249.75	1.095	H1-1b
312	6	M7	HSS18x0.500	.086	17.206	.011	16.91		459324....	536526....	249.75	249.75	2.056	H1-1b
313	6	M8	HSS18x0.500	.055	0	.004	0		473500....	536526....	249.75	249.75	1.667	H1-1b
314	6	M29	L5x5x6	.076	6.822	.004	0	y	19897.594	78682.635	4.935	8.139	1.136	H2-1
315	6	M30	L5x5x6	.076	6.822	.004	0	z	19897.594	78682.635	4.935	8.139	1.136	H2-1
316	6	M31	L5x5x6	.073	6.822	.004	0	y	19897.594	78682.635	4.935	8.139	1.136	H2-1

Member AISC 14th(360-10): LRFD Steel Code Checks (Continued)

	LC	Member	Shape	UC Max	Loc[ft]	Shear UC	Loc[ft]	Dir	phi*Pnc[lb]	phi*Pnt[lb]	phi*Mnyy...	phi*Mnzz...	Cb	Eqn
317	6	M32	L5x5x6	.073	6.822	.004	0	z	19897.594	78682.635	4.935	8.139	1.136	H2-1
318	6	M33	L5x5x6	.076	6.822	.004	0	y	19897.594	78682.635	4.935	8.139	1.136	H2-1
319	6	M34	L5x5x6	.076	6.822	.003	0	z	19897.594	78682.635	4.935	8.139	1.136	H2-1
320	6	M35	L5x5x6	.076	6.822	.004	0	y	19897.594	78682.635	4.935	8.139	1.136	H2-1
321	6	M36	L5x5x6	.076	6.822	.003	0	z	19897.594	78682.635	4.935	8.139	1.136	H2-1
322	6	M37	L5x5x6	.071	6.822	.003	0	y	19897.594	78682.635	4.935	8.139	1.136	H2-1
323	6	M38	L5x5x6	.071	6.822	.004	0	z	19897.594	78682.635	4.935	8.139	1.136	H2-1
324	6	M39	L5x5x6	.080	7.613	.004	0	y	49600.6	78682.635	4.935	7.829	1.136	H2-1
325	6	M40	L5x5x6	.070	7.613	.004	0	y	49600.6	78682.635	4.935	7.829	1.136	H2-1
326	6	M41	L5x5x6	.083	7.454	.004	0	y	15976.658	78682.635	4.935	7.829	1.136	H2-1
327	6	M42	L5x5x6	.070	7.613	.004	0	y	49600.6	78682.635	4.935	7.829	1.136	H2-1
328	6	M43	L3.5x3.5x5	.215	9.699	.003	19.812	y	10481.879	45269.461	1.918	2.577	1.136	H2-1
329	6	M44	L3.5x3.5x5	.243	9.699	.003	0	y	10481.879	45269.461	1.918	2.577	1.136	H2-1
330	6	M45	L5x5x3/8 wH...	.326	15.848	.005	32.37	y	20518.682	113307....	7.087	5.185	1.136	H2-1
331	6	M46	L5x5x3/8 wH...	.303	15.848	.005	0	y	20518.682	113307....	7.087	5.185	1.136	H2-1
332	6	M47	WT6x15	.059	6.333	.003	12.666	y	51096.504	94850.299	8.587	7.919	1.136	H1-1b
333	6	M48	WT6x15	.081	0	.004	0	y	51096.504	94850.299	8.587	4.949	2.522	H1-1b
334	6	M49	WT6x15	.052	6.048	.004	12.096	y	53179.64	94850.299	8.587	7.919	1.136	H1-1b
335	6	M50	WT6x15	.052	6.048	.004	12.096	y	53179.64	94850.299	8.587	7.919	1.136	H1-1b
336	6	M51	WT6x15	.073	0	.003	12.787	y	50651.021	94850.299	8.587	7.919	1.136	H1-1b*
337	6	M52	WT6x15	.070	0	.003	12.787	y	50651.021	94850.299	8.587	7.919	1.136	H1-1b*
338	6	M53	WT6x15	.053	6.005	.004	12.011	y	53489.16	94850.299	8.587	7.919	1.136	H1-1b
339	6	M54	WT6x15	.052	6.005	.004	12.011	y	53489.16	94850.299	8.587	7.919	1.136	H1-1b
340	6	M55	WT6x15	.063	6.308	.003	12.885	y	50288.185	94850.299	8.587	7.919	1.136	H1-1b
341	6	M56	WT6x15	.062	6.308	.003	12.885	y	50288.185	94850.299	8.587	7.919	1.136	H1-1b
342	6	M57	WT6x15	.050	6.07	.004	0	y	53022.321	94850.299	8.587	7.919	1.136	H1-1b
343	6	M58	WT6x15	.049	6.07	.004	0	y	53022.321	94850.299	8.587	7.919	1.136	H1-1b
344	6	M59	WT6x15	.049	6.369	.003	12.738	y	50830.303	94850.299	8.587	7.919	1.136	H1-1b
345	6	M60	WT6x15	.048	6.369	.003	12.738	y	50830.303	94850.299	8.587	7.919	1.136	H1-1b
346	6	M61	WT6x15	.053	6.07	.004	0	y	53022.321	94850.299	8.587	7.919	1.136	H1-1b
347	6	M62	WT6x15	.052	6.07	.004	0	y	53022.321	94850.299	8.587	7.919	1.136	H1-1b
348	6	M63	WT6x15	.061	6.369	.004	12.738	y	50830.303	94850.299	8.587	7.919	1.136	H1-1b
349	6	M64	WT6x15	.060	6.369	.004	12.738	y	50830.303	94850.299	8.587	7.919	1.136	H1-1b
350	6	M65	WT6x15	.038	5.741	.005	0	y	55390.925	94850.299	8.587	7.919	1.136	H1-1b
351	6	M66	WT6x15	.037	5.741	.005	0	y	55390.925	94850.299	8.587	7.919	1.136	H1-1b
352	6	M71	HSS8x4x4	.016	0	.003	0	y	68324.453	112958....	14.731	23.892	2.381	H1-1b
353	6	M72	HSS8x4x4	.016	13.5	.003	13.5	y	68324.453	112958....	14.731	23.892	2.381	H1-1b
354	6	M75	HSS6x4x4	.028	0	.004	0	y	35045.903	92694.611	11.587	15.323	2.381	H1-1b
355	6	M76	HSS6x4x4	.028	18.182	.004	18.182	y	35045.903	92694.611	11.587	15.323	2.381	H1-1b
356	6	M77	HSS6x4x4	.032	0	.004	0	y	38408.902	92694.611	11.587	15.323	2.381	H1-1b
357	6	M76A	L4x4x5/16 w...	.015	7.571	.001	7.571	y	39908.396	81697.15	3.706	6.632	2.257	H2-1
358	6	M77A	L4x4x5/16 w...	.015	7.571	.001	7.571	y	39908.396	81697.15	3.706	6.632	2.022	H2-1
359	6	M78	L4x4x5/16 w...	.124	14.72	.003	14.72	y	11074.117	81697.15	3.706	6.632	2.597	H2-1
360	6	M79	L4x4x5/16 w...	.108	14.72	.002	14.72	y	11074.117	81697.15	3.706	6.632	2.364	H2-1
361	6	M84	PIPE_3.0	.204	12.5	.004	12.5		18796.149	43383.234	3.825	3.825	1.138	H1-1b
362	6	M85	PIPE_3.0	.204	0	.004	0		18796.149	43383.234	3.825	3.825	1.138	H1-1b
363	6	M86	PIPE_3.0	.205	12.5	.004	12.5		18796.11	43383.234	3.825	3.825	1.137	H1-1b
364	6	M87	HSS4x0.250	.635	0	.042	0		47654.745	59497.006	5.946	5.946	2.171	H1-1b
365	6	M88	HSS4x0.250	.640	0	.042	0		47654.918	59497.006	5.946	5.946	2.171	H1-1b
366	6	M89	HSS4x0.250	.635	0	.042	0		47654.745	59497.006	5.946	5.946	2.171	H1-1b
367	7	M1	W24x68 w1...	.040	0	.013	0	y	1.15623...	1.55224...	375.833	1420.055	1.846	H1-1b
368	7	M2	W24x68 w1...	.039	0	.013	4.75	y	1.15623...	1.55224...	375.833	1420.055	1.848	H1-1b
369	7	M3	W24x68	.034	60.337	.006	59.08	y	328006....	601796....	61.128	337.623	1	H1-1b
370	7	M4	W24x68	.029	60.337	.006	59.08	y	328006....	601796....	61.128	337.623	1	H1-1b
371	7	M5	HSS18x0.500	.100	0	.003	0		457542....	536526....	249.75	249.75	1.956	H1-1b*
372	7	M6	HSS18x0.500	.081	0	.003	17.318		463151....	536526....	249.75	249.75	1.127	H1-1b*
373	7	M7	HSS18x0.500	.093	16.91	.011	16.91		459324....	536526....	249.75	249.75	2.08	H1-1b

Member AISC 14th(360-10): LRFD Steel Code Checks (Continued)

	LC	Member	Shape	UC Max	Loc[ft]	Shear UC	Loc[ft]	Dir	phi*Pnc[lb]	phi*Pnt[lb]	phi*Mnyy...	phi*Mnzz...	Cb	Eqn
374	7	M8	HSS18x0.500	.055	0	.004	0		473500....	536526....	249.75	249.75	1.666	H1-1b
375	7	M29	L5x5x6	.080	6.822	.004	0	y	19897.594	78682.635	4.935	8.139	1.136	H2-1
376	7	M30	L5x5x6	.080	6.822	.004	0	z	19897.594	78682.635	4.935	8.139	1.136	H2-1
377	7	M31	L5x5x6	.064	6.822	.004	0	y	19897.594	78682.635	4.935	8.139	1.136	H2-1
378	7	M32	L5x5x6	.064	6.822	.003	0	z	19897.594	78682.635	4.935	8.139	1.136	H2-1
379	7	M33	L5x5x6	.066	6.822	.004	0	y	19897.594	78682.635	4.935	8.139	1.136	H2-1
380	7	M34	L5x5x6	.066	6.822	.004	0	z	19897.594	78682.635	4.935	8.139	1.136	H2-1
381	7	M35	L5x5x6	.064	6.822	.003	0	y	19897.594	78682.635	4.935	8.139	1.136	H2-1
382	7	M36	L5x5x6	.064	6.822	.004	0	z	19897.594	78682.635	4.935	8.139	1.136	H2-1
383	7	M37	L5x5x6	.065	6.822	.004	0	y	19897.594	78682.635	4.935	8.139	1.136	H2-1
384	7	M38	L5x5x6	.065	6.822	.004	0	z	19897.594	78682.635	4.935	8.139	1.136	H2-1
385	7	M39	L5x5x6	.072	7.613	.004	0	y	49600.6	78682.635	4.935	7.829	1.136	H2-1
386	7	M40	L5x5x6	.083	7.613	.004	0	y	49600.6	78682.635	4.935	7.829	1.136	H2-1
387	7	M41	L5x5x6	.071	7.613	.004	0	y	15976.658	78682.635	4.935	7.829	1.136	H2-1
388	7	M42	L5x5x6	.079	7.613	.004	0	y	49600.6	78682.635	4.935	7.829	1.136	H2-1
389	7	M43	L3.5x3.5x5	.178	9.699	.003	0	y	10481.879	45269.461	1.918	2.577	1.136	H2-1
390	7	M44	L3.5x3.5x5	.149	9.699	.003	0	y	10481.879	45269.461	1.918	2.577	1.136	H2-1
391	7	M45	L5x5x3/8 wH...	.262	15.848	.005	0	y	20518.682	113307....	7.087	5.185	1.136	H2-1
392	7	M46	L5x5x3/8 wH...	.286	15.848	.005	32.37	y	20518.682	113307....	7.087	5.185	1.136	H2-1
393	7	M47	WT6x15	.053	6.333	.004	12.666	y	51096.504	94850.299	8.587	7.919	1.136	H1-1b
394	7	M48	WT6x15	.065	12.666	.005	12.666	y	51096.504	94850.299	8.587	4.949	2.706	H1-1b
395	7	M49	WT6x15	.054	6.048	.003	0	y	53179.64	94850.299	8.587	7.919	1.136	H1-1b
396	7	M50	WT6x15	.054	6.048	.003	0	y	53179.64	94850.299	8.587	7.919	1.136	H1-1b
397	7	M51	WT6x15	.059	6.393	.004	0	y	50651.021	94850.299	8.587	7.919	1.136	H1-1b
398	7	M52	WT6x15	.058	6.393	.004	0	y	50651.021	94850.299	8.587	7.919	1.136	H1-1b
399	7	M53	WT6x15	.059	6.005	.003	12.011	y	53489.16	94850.299	8.587	7.919	1.136	H1-1b
400	7	M54	WT6x15	.058	6.005	.003	12.011	y	53489.16	94850.299	8.587	7.919	1.136	H1-1b
401	7	M55	WT6x15	.056	6.443	.004	0	y	50288.185	94850.299	8.587	7.919	1.136	H1-1b
402	7	M56	WT6x15	.055	6.443	.004	0	y	50288.185	94850.299	8.587	7.919	1.136	H1-1b
403	7	M57	WT6x15	.052	6.07	.003	12.139	y	53022.321	94850.299	8.587	7.919	1.136	H1-1b
404	7	M58	WT6x15	.051	6.07	.003	12.139	y	53022.321	94850.299	8.587	7.919	1.136	H1-1b
405	7	M59	WT6x15	.052	6.369	.004	0	y	50830.303	94850.299	8.587	7.919	1.136	H1-1b
406	7	M60	WT6x15	.051	6.369	.004	0	y	50830.303	94850.299	8.587	7.919	1.136	H1-1b
407	7	M61	WT6x15	.066	0	.003	12.139	y	53022.321	94850.299	8.587	7.919	1.136	H1-1b*
408	7	M62	WT6x15	.064	0	.004	12.139	y	53022.321	94850.299	8.587	7.919	1.136	H1-1b*
409	7	M63	WT6x15	.060	6.369	.005	0	y	50830.303	94850.299	8.587	7.919	1.136	H1-1b
410	7	M64	WT6x15	.060	6.369	.005	0	y	50830.303	94850.299	8.587	7.919	1.136	H1-1b
411	7	M65	WT6x15	.044	5.741	.004	0	y	55390.925	94850.299	8.587	7.919	1.136	H1-1b
412	7	M66	WT6x15	.043	5.741	.004	11.482	y	55390.925	94850.299	8.587	7.919	1.136	H1-1b
413	7	M71	HSS8x4x4	.016	13.5	.003	13.5	y	68324.453	112958....	14.731	23.892	2.381	H1-1b
414	7	M72	HSS8x4x4	.016	0	.003	0	y	68324.453	112958....	14.731	23.892	2.381	H1-1b
415	7	M75	HSS6x4x4	.028	18.182	.004	0	y	35045.903	92694.611	11.587	15.323	2.381	H1-1b
416	7	M76	HSS6x4x4	.028	0	.004	18.182	y	35045.903	92694.611	11.587	15.323	2.381	H1-1b
417	7	M77	HSS6x4x4	.032	17.321	.004	17.321	y	38408.902	92694.611	11.587	15.323	2.381	H1-1b
418	7	M76A	L4x4x5/16 w...	.016	7.571	.001	7.571	y	39908.396	81697.15	3.706	6.632	1.29	H2-1
419	7	M77A	L4x4x5/16 w...	.011	7.571	.001	7.571	y	39908.396	81697.15	3.706	6.632	2.007	H2-1
420	7	M78	L4x4x5/16 w...	.132	14.72	.003	14.72	y	11074.117	81697.15	3.706	6.632	2.439	H2-1
421	7	M79	L4x4x5/16 w...	.129	14.72	.003	14.72	y	11074.117	81697.15	3.706	6.632	2.822	H2-1
422	7	M84	PIPE_3.0	.204	0	.004	0		18796.149	43383.234	3.825	3.825	1.138	H1-1b
423	7	M85	PIPE_3.0	.204	12.5	.004	12.5		18796.149	43383.234	3.825	3.825	1.138	H1-1b
424	7	M86	PIPE_3.0	.204	0	.004	0		18796.11	43383.234	3.825	3.825	1.137	H1-1b
425	7	M87	HSS4x0.250	.638	0	.042	0		47654.745	59497.006	5.946	5.946	2.171	H1-1b
426	7	M88	HSS4x0.250	.635	0	.042	0		47654.918	59497.006	5.946	5.946	2.171	H1-1b
427	7	M89	HSS4x0.250	.638	0	.042	0		47654.745	59497.006	5.946	5.946	2.171	H1-1b
428	8	M1	W24x68 w1...	.077	0	.010	19	y	1.15623...	1.55224...	375.833	1420.055	1.25	H1-1b
429	8	M2	W24x68 w1...	.064	0	.010	19	y	1.15623...	1.55224...	375.833	1420.055	1.125	H1-1b
430	8	M3	W24x68	.112	5.028	.011	1.886	y	328006....	601796....	61.128	149.801	3	H1-1b

Member AISC 14th(360-10): LRFD Steel Code Checks (Continued)

	LC	Member	Shape	UC Max	Loc[ft]	Shear UC	Loc[ft]	Dir	phi*Pnc[lb]	phi*Pnt[lb]	phi*Mnyy...	phi*Mnzz...	Cb	Eqn
431	8	M4	W24x68	.057	0	.012	1.886	y	328006....	601796....	61.128	133.32	2.67	H1-1b
432	8	M5	HSS18x0.500	.053	0	.006	0		457542....	536526....	249.75	249.75	2.311	H1-1b
433	8	M6	HSS18x0.500	.017	17.318	.004	3.175		463151....	536526....	249.75	249.75	2.072	H1-1b*
434	8	M7	HSS18x0.500	.066	17.206	.009	16.91		459324....	536526....	249.75	249.75	1.49	H1-1b
435	8	M8	HSS18x0.500	.042	0	.003	0		473500....	536526....	249.75	249.75	2.014	H1-1b
436	8	M29	L5x5x6	.068	6.822	.004	0	y	19897.594	78682.635	4.935	8.139	1.136	H2-1
437	8	M30	L5x5x6	.068	6.822	.004	0	z	19897.594	78682.635	4.935	8.139	1.136	H2-1
438	8	M31	L5x5x6	.069	6.822	.004	0	y	19897.594	78682.635	4.935	8.139	1.136	H2-1
439	8	M32	L5x5x6	.069	6.822	.004	0	z	19897.594	78682.635	4.935	8.139	1.136	H2-1
440	8	M33	L5x5x6	.072	6.822	.004	0	y	19897.594	78682.635	4.935	8.139	1.136	H2-1
441	8	M34	L5x5x6	.072	6.822	.004	0	z	19897.594	78682.635	4.935	8.139	1.136	H2-1
442	8	M35	L5x5x6	.069	6.822	.004	0	y	19897.594	78682.635	4.935	8.139	1.136	H2-1
443	8	M36	L5x5x6	.070	6.822	.004	0	z	19897.594	78682.635	4.935	8.139	1.136	H2-1
444	8	M37	L5x5x6	.067	6.822	.004	0	y	19897.594	78682.635	4.935	8.139	1.136	H2-1
445	8	M38	L5x5x6	.068	6.822	.004	0	z	19897.594	78682.635	4.935	8.139	1.136	H2-1
446	8	M39	L5x5x6	.096	7.613	.004	0	y	49600.6	78682.635	4.935	7.829	1.136	H2-1
447	8	M40	L5x5x6	.099	7.613	.003	15.226	y	49600.6	78682.635	4.935	7.829	1.136	H2-1
448	8	M41	L5x5x6	.105	7.613	.004	0	y	15976.658	78682.635	4.935	7.829	1.136	H2-1
449	8	M42	L5x5x6	.110	7.613	.003	15.226	y	49600.6	78682.635	4.935	7.829	1.136	H2-1
450	8	M43	L3.5x3.5x5	.299	9.699	.003	0	y	10481.879	45269.461	1.918	2.577	1.136	H2-1
451	8	M44	L3.5x3.5x5	.211	9.906	.004	0	y	10481.879	45269.461	1.918	2.577	1.136	H2-1
452	8	M45	L5x5x3/8 wH...	.268	15.51	.003	0	y	20518.682	113307....	7.087	5.185	1.136	H2-1
453	8	M46	L5x5x3/8 wH...	.338	15.848	.007	32.37	y	20518.682	113307....	7.087	5.185	1.136	H2-1
454	8	M47	WT6x15	.092	0	.004	0	y	51096.504	94850.299	8.587	7.919	1.136	H1-1b*
455	8	M48	WT6x15	.105	12.666	.007	12.666	y	51096.504	94850.299	8.587	4.949	2.259	H1-1b
456	8	M49	WT6x15	.067	6.048	.005	12.096	y	53179.64	94850.299	8.587	7.919	1.136	H1-1b
457	8	M50	WT6x15	.076	0	.004	0	y	53179.64	94850.299	8.587	7.919	1.136	H1-1b*
458	8	M51	WT6x15	.054	6.393	.004	12.787	y	50651.021	94850.299	8.587	7.919	1.136	H1-1b
459	8	M52	WT6x15	.044	6.393	.005	0	y	50651.021	94850.299	8.587	7.919	1.136	H1-1b
460	8	M53	WT6x15	.045	6.005	.004	0	y	53489.16	94850.299	8.587	7.919	1.136	H1-1b
461	8	M54	WT6x15	.034	6.005	.004	12.011	y	53489.16	94850.299	8.587	7.919	1.136	H1-1b
462	8	M55	WT6x15	.057	6.443	.004	12.885	y	50288.185	94850.299	8.587	7.919	1.136	H1-1b
463	8	M56	WT6x15	.045	6.443	.005	0	y	50288.185	94850.299	8.587	7.919	1.136	H1-1b
464	8	M57	WT6x15	.047	6.07	.005	0	y	53022.321	94850.299	8.587	7.919	1.136	H1-1b
465	8	M58	WT6x15	.034	6.07	.004	12.139	y	53022.321	94850.299	8.587	7.919	1.136	H1-1b
466	8	M59	WT6x15	.048	6.369	.004	12.738	y	50830.303	94850.299	8.587	7.919	1.136	H1-1b
467	8	M60	WT6x15	.045	6.369	.005	0	y	50830.303	94850.299	8.587	7.919	1.136	H1-1b
468	8	M61	WT6x15	.054	6.07	.005	0	y	53022.321	94850.299	8.587	7.919	1.136	H1-1b
469	8	M62	WT6x15	.040	6.07	.004	12.139	y	53022.321	94850.299	8.587	7.919	1.136	H1-1b
470	8	M63	WT6x15	.058	6.369	.004	12.738	y	50830.303	94850.299	8.587	7.919	1.136	H1-1b
471	8	M64	WT6x15	.045	6.369	.004	0	y	50830.303	94850.299	8.587	7.919	1.136	H1-1b
472	8	M65	WT6x15	.036	5.741	.005	0	y	55390.925	94850.299	8.587	7.919	1.136	H1-1b
473	8	M66	WT6x15	.033	5.741	.005	0	y	55390.925	94850.299	8.587	7.919	1.136	H1-1b
474	8	M71	HSS8x4x4	.011	0	.003	0	y	68324.453	112958....	14.731	23.892	2.381	H1-1b
475	8	M72	HSS8x4x4	.011	13.5	.003	13.5	y	68324.453	112958....	14.731	23.892	2.381	H1-1b
476	8	M75	HSS6x4x4	.034	0	.004	0	y	35045.903	92694.611	11.587	15.323	2.381	H1-1b
477	8	M76	HSS6x4x4	.034	0	.004	18.182	y	35045.903	92694.611	11.587	15.323	2.381	H1-1b
478	8	M77	HSS6x4x4	.024	0	.004	0	y	38408.902	92694.611	11.587	15.323	2.381	H1-1b
479	8	M76A	L4x4x5/16 w...	.013	7.571	.001	7.571	y	39908.396	81697.15	3.706	6.632	2.784	H2-1
480	8	M77A	L4x4x5/16 w...	.014	7.571	.001	7.571	y	39908.396	81697.15	3.706	6.632	3	H2-1
481	8	M78	L4x4x5/16 w...	.111	14.72	.003	14.72	y	11074.117	81697.15	3.706	6.632	2.42	H2-1
482	8	M79	L4x4x5/16 w...	.121	14.72	.003	14.72	y	11074.117	81697.15	3.706	6.632	2.42	H2-1
483	8	M84	PIPE_3.0	.204	12.5	.004	12.5		18796.149	43383.234	3.825	3.825	1.138	H1-1b
484	8	M85	PIPE_3.0	.203	0	.004	0		18796.149	43383.234	3.825	3.825	1.138	H1-1b
485	8	M86	PIPE_3.0	.205	12.5	.003	12.5		18796.11	43383.234	3.825	3.825	1.138	H1-1b
486	8	M87	HSS4x0.250	.635	0	.042	0		47654.745	59497.006	5.946	5.946	2.171	H1-1b
487	8	M88	HSS4x0.250	.639	0	.042	0		47654.918	59497.006	5.946	5.946	2.171	H1-1b

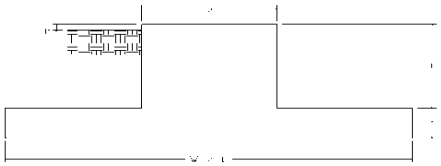
Member AISC 14th(360-10): LRFD Steel Code Checks (Continued)

	LC	Member	Shape	UC Max	Loc[ft]	Shear UC	Loc[ft]	Dir	phi*Pnc[lb]	phi*Pnt[lb]	phi*Mnyy...	phi*Mnzz...	Cb	Eqn
488	8	M89	HSS4x0.250	.636	0	.042	0		47654.745	59497.006	5.946	5.946	2.171	H1-1b
489	9	M1	W24x68 w1...	.057	0	.008	19	y	1.15623...	1.55224...	375.833	1420.055	1.313	H1-1b
490	9	M2	W24x68 w1...	.078	0	.011	19	y	1.15623...	1.55224...	375.833	1420.055	1.118	H1-1b
491	9	M3	W24x68	.046	1.886	.010	1.886	y	328006....	601796....	61.128	337.623	1	H1-1b
492	9	M4	W24x68	.089	5.028	.013	1.886	y	328006....	601796....	61.128	149.801	3	H1-1b
493	9	M5	HSS18x0.500	.071	0	.006	0		457542....	536526....	249.75	249.75	2.285	H1-1b
494	9	M6	HSS18x0.500	.047	0	.004	3.175		463151....	536526....	249.75	249.75	2.374	H1-1b*
495	9	M7	HSS18x0.500	.070	16.91	.009	16.91		459324....	536526....	249.75	249.75	1.498	H1-1b
496	9	M8	HSS18x0.500	.042	0	.003	0		473500....	536526....	249.75	249.75	2.014	H1-1b
497	9	M29	L5x5x6	.069	6.822	.004	0	y	19897.594	78682.635	4.935	8.139	1.136	H2-1
498	9	M30	L5x5x6	.069	6.822	.004	0	z	19897.594	78682.635	4.935	8.139	1.136	H2-1
499	9	M31	L5x5x6	.068	6.822	.004	0	y	19897.594	78682.635	4.935	8.139	1.136	H2-1
500	9	M32	L5x5x6	.068	6.822	.004	0	z	19897.594	78682.635	4.935	8.139	1.136	H2-1
501	9	M33	L5x5x6	.070	6.822	.004	0	y	19897.594	78682.635	4.935	8.139	1.136	H2-1
502	9	M34	L5x5x6	.070	6.822	.004	0	z	19897.594	78682.635	4.935	8.139	1.136	H2-1
503	9	M35	L5x5x6	.071	6.822	.004	0	y	19897.594	78682.635	4.935	8.139	1.136	H2-1
504	9	M36	L5x5x6	.071	6.822	.004	0	z	19897.594	78682.635	4.935	8.139	1.136	H2-1
505	9	M37	L5x5x6	.068	6.822	.004	0	y	19897.594	78682.635	4.935	8.139	1.136	H2-1
506	9	M38	L5x5x6	.068	6.822	.004	0	z	19897.594	78682.635	4.935	8.139	1.136	H2-1
507	9	M39	L5x5x6	.100	7.613	.004	15.226	y	49600.6	78682.635	4.935	7.829	1.136	H2-1
508	9	M40	L5x5x6	.096	7.613	.004	0	y	49600.6	78682.635	4.935	7.829	1.136	H2-1
509	9	M41	L5x5x6	.194	7.454	.003	15.226	y	15976.658	78682.635	4.935	7.829	1.136	H2-1
510	9	M42	L5x5x6	.105	7.613	.004	0	y	49600.6	78682.635	4.935	7.829	1.136	H2-1
511	9	M43	L3.5x3.5x5	.216	9.906	.004	0	y	10481.879	45269.461	1.918	2.577	1.136	H2-1
512	9	M44	L3.5x3.5x5	.276	9.699	.003	0	y	10481.879	45269.461	1.918	2.577	1.136	H2-1
513	9	M45	L5x5x3/8 wH...	.320	15.848	.007	0	y	20518.682	113307....	7.087	5.185	1.136	H2-1
514	9	M46	L5x5x3/8 wH...	.251	15.51	.003	0	y	20518.682	113307....	7.087	5.185	1.136	H2-1
515	9	M47	WT6x15	.064	6.333	.005	0	y	51096.504	94850.299	8.587	7.919	1.136	H1-1b
516	9	M48	WT6x15	.125	0	.006	0	y	51096.504	94850.299	8.587	4.949	2.719	H1-1b
517	9	M49	WT6x15	.096	0	.004	0	y	53179.64	94850.299	8.587	7.919	1.136	H1-1b*
518	9	M50	WT6x15	.061	6.048	.005	0	y	53179.64	94850.299	8.587	7.919	1.136	H1-1b
519	9	M51	WT6x15	.052	6.393	.005	12.787	y	50651.021	94850.299	8.587	7.919	1.136	H1-1b
520	9	M52	WT6x15	.038	6.393	.004	12.787	y	50651.021	94850.299	8.587	7.919	1.136	H1-1b
521	9	M53	WT6x15	.043	6.005	.004	12.011	y	53489.16	94850.299	8.587	7.919	1.136	H1-1b
522	9	M54	WT6x15	.041	6.005	.005	0	y	53489.16	94850.299	8.587	7.919	1.136	H1-1b
523	9	M55	WT6x15	.053	6.443	.005	0	y	50288.185	94850.299	8.587	7.919	1.136	H1-1b
524	9	M56	WT6x15	.041	6.443	.004	12.885	y	50288.185	94850.299	8.587	7.919	1.136	H1-1b
525	9	M57	WT6x15	.046	6.07	.004	12.139	y	53022.321	94850.299	8.587	7.919	1.136	H1-1b
526	9	M58	WT6x15	.040	6.07	.005	0	y	53022.321	94850.299	8.587	7.919	1.136	H1-1b
527	9	M59	WT6x15	.052	6.369	.005	0	y	50830.303	94850.299	8.587	7.919	1.136	H1-1b
528	9	M60	WT6x15	.035	6.369	.004	12.738	y	50830.303	94850.299	8.587	7.919	1.136	H1-1b
529	9	M61	WT6x15	.066	0	.004	12.139	y	53022.321	94850.299	8.587	7.919	1.136	H1-1b*
530	9	M62	WT6x15	.040	6.07	.005	0	y	53022.321	94850.299	8.587	7.919	1.136	H1-1b
531	9	M63	WT6x15	.059	6.369	.005	0	y	50830.303	94850.299	8.587	7.919	1.136	H1-1b
532	9	M64	WT6x15	.037	6.369	.003	12.738	y	50830.303	94850.299	8.587	7.919	1.136	H1-1b
533	9	M65	WT6x15	.039	5.741	.004	11.482	y	55390.925	94850.299	8.587	7.919	1.136	H1-1b
534	9	M66	WT6x15	.046	5.741	.005	0	y	55390.925	94850.299	8.587	7.919	1.136	H1-1b
535	9	M71	HSS8x4x4	.011	13.5	.003	13.5	y	68324.453	112958....	14.731	23.892	2.381	H1-1b
536	9	M72	HSS8x4x4	.011	0	.003	0	y	68324.453	112958....	14.731	23.892	2.381	H1-1b
537	9	M75	HSS6x4x4	.034	18.182	.004	0	y	35045.903	92694.611	11.587	15.323	2.381	H1-1b
538	9	M76	HSS6x4x4	.034	18.182	.004	18.182	y	35045.903	92694.611	11.587	15.323	2.381	H1-1b
539	9	M77	HSS6x4x4	.024	17.321	.004	17.321	y	38408.902	92694.611	11.587	15.323	2.381	H1-1b
540	9	M76A	L4x4x5/16 w...	.019	7.571	.001	7.571	y	39908.396	81697.15	3.706	6.632	1.193	H2-1
541	9	M77A	L4x4x5/16 w...	.014	7.571	.001	7.571	y	39908.396	81697.15	3.706	6.632	1.319	H2-1
542	9	M78	L4x4x5/16 w...	.145	14.72	.003	14.72	y	11074.117	81697.15	3.706	6.632	2.738	H2-1
543	9	M79	L4x4x5/16 w...	.116	14.72	.003	14.72	y	11074.117	81697.15	3.706	6.632	2.807	H2-1
544	9	M84	PIPE_3.0	.205	0	.004	0		18796.149	43383.234	3.825	3.825	1.138	H1-1b

Member AISC 14th(360-10): LRFD Steel Code Checks (Continued)

	LC	Member	Shape	UC Max	Loc[ft]	Shear UC	Loc[ft]	Dir	phi*Pnc[lb]	phi*Pnt[lb]	phi*Mnyy..	phi*Mnzz...	Cb	Eqn
545	9	M85	PIPE_3.0	.203	0	.004	12.5		18796.149	43383.234	3.825	3.825	1.138	H1-1b
546	9	M86	PIPE_3.0	.204	0	.003	0		18796.11	43383.234	3.825	3.825	1.137	H1-1b
547	9	M87	HSS4x0.250	.638	0	.042	0		47654.745	59497.006	5.946	5.946	2.171	H1-1b
548	9	M88	HSS4x0.250	.635	0	.042	0		47654.918	59497.006	5.946	5.946	2.171	H1-1b
549	9	M89	HSS4x0.250	.637	0	.042	0		47654.745	59497.006	5.946	5.946	2.171	H1-1b

Site Name:	Cromwell SW CT, CT	*Program Last Updated:* *11/15/2012*
Site Number:	411261	
Engineering Number:	64863623	
Engineer:	DAVI	
Date:	05/13/16	
Tower Type:	SST w/3 Legs	



Design Loads (Unfactored)

Design / Analysis / Mapping:	Mapping	
Compression/Leg:	74.8	k
Uplift/Leg:	105.5	k
Total Shear:	17.8	k
Moment:	1005.0	k-ft
Tower + Appurtenance Weight:	34.5	k
Depth to Base of Foundation:	3.00	ft
Diameter of Pier (d):	0.75	ft
Height of Pier above Ground (h):	0.50	
Width of Pad (W):	26.50	ft
Length of Pad (L):	16.00	ft
Thickness of Pad (t):	3.00	ft
Tower Leg Center to Center:	13.00	ft
Number of Tower Legs:	3.0	(1 if MP or GT)
Tower Center from Mat Center:	0.00	ft
Depth Below Ground Surface to Water Table:	99.00	ft
Unit Weight of Concrete:	150.0	pcf
Unit Weight of Soil Above Water Table:	110.0	pcf
Unit Weight of Water:	62.4	pcf
Unit Weight of Soil Below Water Table:	47.6	pcf
Friction Angle of Uplift:	15.00	Degrees
Ultimate Coefficient of Shear Friction:	0.30	
Allowable Compressive Bearing Pressure:	10000.0	psf
Ultimate Passive Pressure on Pad Face:	0.0	psf
Allowable Capacity Increase:	1.00	

Overturning Factor of Safety

Design OTM:	1067.3	k-ft
OTM Resistance:	4682.8	k-ft
OTM Resistance / Design OTM Factor of Safety:	4.39	Result: OK

Soil Bearing Pressure Usage:

Net Bearing Pressure:	1951	psf
Allowable Bearing Pressure:	10000	psf
Net Bearing Pressure/Allowable Bearing Pressure:	0.20	Result: OK
Load Direction Controling Design Bearing Pressure:	Diagonal to Pad Edge	

Sliding Factor of Safety

Total Ultimate Sliding Resistance:	67.6	k
Sliding Resistance/Sliding Design Factor of Safety:	3.80	Result: OK

PROJECT INFORMATION

SCOPE OF WORK:

- AT&T ANTENNAS: (1) NEW LTE ANTENNAS PER SECTOR WITH (3) SECTORS, FOR A TOTAL OF (3) NEW LTE ANTENNAS; (6) EXISTING ANTENNAS & TMAs TO BE RE-USED (2 PER SECTOR)
- AT&T RRUs: (1) NEW RRU PER SECTOR WITH (3) SECTORS, FOR A TOTAL OF (3) NEW RRUs; (2) EXISTING RRUs PER SECTOR TO BE REUSED, FOR A TOTAL OF (6) EXISTING RRUs.
- (1) NEW FIBER/DC SQUID TO BE INSTALLED
- (1) NEW FIBER TRUNKS & (2) NEW DC TRUNKS TO BE INSTALLED.

SITE ADDRESS:	100 CHRISTIAN HILL ROAD CROMWELL, CT 06416
LATITUDE:	41.6055919 41° 36' 20.13"N
LONGITUDE:	-72.701989 72° 42' 6.84"W
USID:	14990
TOWER OWNER:	AMERICAN TOWER CORPORATION, SITE# 411261
TYPE OF SITE:	BILLBOARD/OUTDOOR EQUIPMENT
TOWER HEIGHT:	115'-4"±
RAD CENTER:	98'-0"±
CURRENT USE:	UNMANNED WIRELESS TELECOMMUNICATIONS FACILITY
PROPOSED USE:	UNMANNED WIRELESS TELECOMMUNICATIONS FACILITY

at&t MOBILITY

FA CODE: 10070987
SITE NUMBER: CT5144
SITE NAME: CROMWELL SOUTH

PROJECT TEAM

CLIENT REPRESENTATIVE
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CONTACT: DAVID COOPER
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CONSTRUCTION MANAGEMENT:
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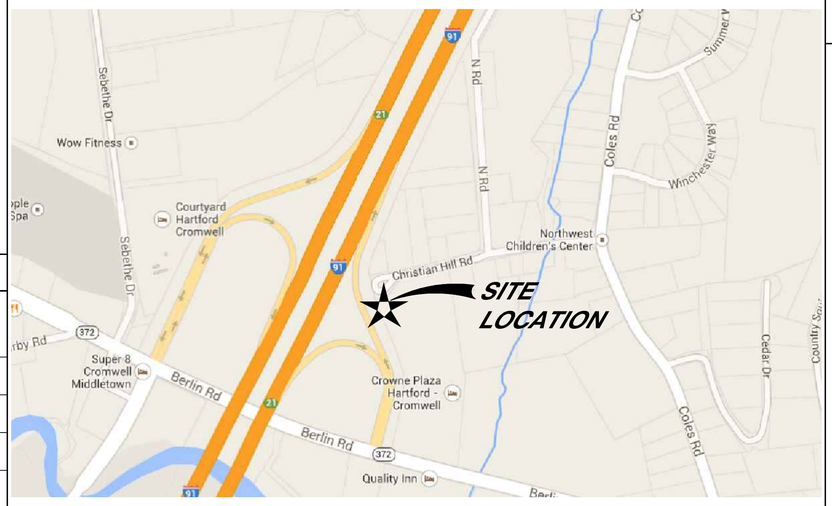
DRAWING INDEX

		REV.
T-1	TITLE SHEET	0
GN-1	GROUNDING & GENERAL NOTES	0
A-1	COMPOUND LAYOUT	0
A-2	EQUIPMENT LAYOUT	0
A-3	ANTENNA LAYOUTS & ELEVATION	0
A-4	DETAILS	0
G-1	GROUNDING, ONE-LINE DIAGRAM & DETAILS	0

VICINITY MAP

1. HEAD WEST ON COCHITUATE RD TOWARD BURR ST (0.3 MI). 2. TURN LEFT ONTO SHOPPERS WORLD DR (230 FT). 3. MAKE A U-TURN AT RING RD (138 FT). 4. TAKE THE 1ST RIGHT ONTO COCHITUATE RD (0.3 MI). 5. TAKE THE RAMP TO I-90 E/MASSPIKE W (0.6 MI). 6. KEEP LEFT AT THE FORK, FOLLOW SIGNS FOR INTERSTATE 90 W/MASSACHUSETTS TURNPIKE AND MERGE ONTO I-90 W/MASSACHUSETTS TURNPIKE (38.3 MI). 7. TAKE EXIT 9 TO MERGE ONTO I-84 TOWARD US-20 (41.7 MI). 8. KEEP LEFT TO CONTINUE ON CT-15 S, FOLLOW SIGNS FOR I-91 S (1.1 MI). 9. CONTINUE ONTO CT-15 S/US-5 S (0.8 MI). 10. TAKE EXIT 86 TO MERGE ONTO I-91 S TOWARD NEW HAVEN (10.7 MI). 11. TAKE EXIT 21 FOR CT-372 TOWARD CROMWELL (0.4 MI). 12. TURN LEFT ONTO CT-372 E (0.7 MI). 13. TURN LEFT ONTO COLES RD (0.4 MI). 14. TAKE THE 1ST LEFT ONTO CHRISTIAN HILL RD (0.2 MI). 15. TURN LEFT TO STAY ON CHRISTIAN HILL RD, SITE IS ON THE LEFT



GENERAL NOTES

1. THIS DOCUMENT IS THE CREATION, DESIGN, PROPERTY, AND COPYRIGHTED WORK OF AT&T. ANY DUPLICATION OR USE WITHOUT EXPRESS WRITTEN CONSENT IS STRICTLY PROHIBITED. DUPLICATION AND USE BY GOVERNMENT AGENCIES FOR THE PURPOSES OF CONDUCTING THEIR LAWFULLY AUTHORIZED REGULATORY AND ADMINISTRATIVE FUNCTIONS IS SPECIFICALLY ALLOWED.

2. THE FACILITY IS AN UNMANNED PRIVATE AND SECURED EQUIPMENT INSTALLATION. IT IS ONLY ACCESSED BY TRAINED TECHNICIANS FOR PERIODIC ROUTINE MAINTENANCE AND THEREFORE DOES NOT REQUIRE ANY WATER OR SANITARY SEWER SERVICE. THE FACILITY IS NOT GOVERNED BY REGULATIONS REQUIRING PUBLIC ACCESS PER ADA REQUIREMENTS.

3. CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE AT&T REPRESENTATIVE IN WRITING OF DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

CONNECTICUT ONE CALL SYSTEM, INC. STOP - CALL BEFORE YOU DIG! 1-800-922-4455

CONNECTICUT LAW REQUIRES TWO WORKING DAYS NOTICE PRIOR TO ANY EARTH MOVING ACTIVITIES BY CALLING 800-922-4455 OR DIAL 811

APPROVALS

THE FOLLOWING PARTIES HEREBY APPROVE AND ACCEPT THESE DOCUMENTS AND AUTHORIZE THE SUBCONTRACTOR TO PROCEED WITH THE CONSTRUCTION DESCRIBED HEREIN, ALL DOCUMENTS ARE SUBJECT TO REVIEW BY THE LOCAL BUILDING DEPARTMENT AND MAY IMPOSE CHANGES OR SITE MODIFICATIONS.

DISCIPLINE:	NAME:	DATE:
SITE ACQUISITION:		
CONSTRUCTION MANAGER:		
AT&T PROJECT MANAGER:		

COM-EX Consultants
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SUITE E39
MOUNTAIN LAKES, NJ 07046
PHONE: 862.209.4300
FAX: 862.209.4301

EMPIRE telecom
16 ESQUIRE ROAD
BILLERICA, MA 01821

SITE NUMBER: CT5144
SITE NAME: CROMWELL SOUTH

100 CHRISTIAN HILL ROAD
CROMWELL, CT 06416
MIDDLESEX COUNTY

at&t MOBILITY
550 COCHITUATE ROAD
FRAMINGHAM, MA 01701

NO.	DATE	REVISIONS	BY	CHK	APP'D
0	07/08/16	ISSUED AS FINAL	KCD	DTS	NB

SCALE: AS SHOWN | DESIGNED BY: JW | DRAWN BY: JW

SEAL: STATE OF CONNECTICUT, NICHOLAS D. BARILE, 28643, PROFESSIONAL ENGINEER

AT&T

DRAWING TITLE: TITLE SHEET

JOB NUMBER	DRAWING NUMBER	REV
15086-EMP	T-1	0

GROUNDING NOTES:

1. THE SUBCONTRACTOR SHALL REVIEW AND INSPECT THE EXISTING FACILITY GROUNDING SYSTEM AND LIGHTNING PROTECTION SYSTEM (AS DESIGNED AND INSTALLED) FOR STRICT COMPLIANCE WITH THE NEC (AS ADOPTED BY THE AHJ), THE SITE-SPECIFIC (UL, LPI, OR NFPA) LIGHTING PROTECTION CODE, AND GENERAL COMPLIANCE WITH TELCORDIA AND TIA GROUNDING STANDARDS. THE SUBCONTRACTOR SHALL REPORT ANY VIOLATIONS OR ADVERSE FINDINGS TO THE CONTRACTOR FOR RESOLUTION.

2. ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION, AND AC POWER GES'S) SHALL BE BONDED TOGETHER, AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS IN ACCORDANCE WITH THE NEC.

3. THE SUBCONTRACTOR SHALL PERFORM IEEE FALL-OF-POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81) FOR NEW GROUND ELECTRODE SYSTEMS. THE SUBCONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS. TESTS SHALL BE PERFORMED IN ACCORDANCE WITH 25471-000-3PS-EG00-0001, DESIGN & TESTING OF FACILITY GROUNDING FOR CELL SITES.

4. METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO BTS EQUIPMENT.

5. EACH BTS CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, 6 AWG STRANDED COPPER OR LARGER FOR INDOOR BTS; 2 AWG STRANDED COPPER FOR OUTDOOR BTS.

6. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.

7. APPROVED ANTIOXIDANT COATINGS (I.E., CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.

8. ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED WITH STAINLESS STEEL HARDWARE TO THE BRIDGE AND THE TOWER GROUND BAR.

9. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.

10. MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.

11. METAL CONDUIT AND TRAY SHALL BE GROUNDED AND MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH 6 AWG COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.

12. GROUND CONDUCTORS USED IN THE FACILITY GROUND AND LIGHTNING PROTECTION SYSTEMS SHALL NOT BE ROUTED THROUGH METALLIC OBJECTS THAT FORM A RING AROUND THE CONDUCTOR, SUCH AS METALLIC CONDUITS, METAL SUPPORT CLIPS OR SLEEVES THROUGH WALLS OR FLOORS. WHEN IT IS REQUIRED TO BE HOUSED IN CONDUIT TO MEET CODE REQUIREMENTS OR LOCAL CONDITIONS, NON-METALLIC MATERIAL SUCH AS PVC PLASTIC CONDUIT SHALL BE USED. WHERE USE OF METAL CONDUIT IS UNAVOIDABLE (E.G., NON-METALLIC CONDUIT PROHIBITED BY LOCAL CODE) THE GROUND CONDUCTOR SHALL BE BONDED TO EACH END OF THE METAL CONDUIT.

13. ALL TOWER GROUNDING SYSTEMS SHALL COMPLY WITH THE REQUIREMENTS OF ANSI/TIA 222. FOR TOWERS BEING BUILT TO REV-G OF THE STANDARD, THE WIRE SIZE OF THE BURIED GROUND RING AND CONNECTIONS BETWEEN THE TOWER AND THE BURIED GROUND RING SHALL BE CHANGED FROM 2 AWG TO 2/0 AWG. IN ADDITION, THE MINIMUM LENGTH OF THE GROUND RODS SHALL BE INCREASED FROM EIGHT FEET (8') TO TEN FEET (10').

14. ALL NEW STRUCTURES WITH A FOUNDATION AND/OR FOOTING HAVING 20 FT. OR MORE ½" OR GREATER ELECTRICALLY CONDUCTIVE REINFORCING STEEL MUST HAVE IT BONDED TO THE GROUND RING USING AN EXOTHERMIC WELD CONNECTION USING #2 AWG SOLID TINNED COPPER GROUND WIRE, PER NEC 250.50.

GENERAL NOTES:

1. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:
   - CONTRACTOR – EMPIRE TELECOM
   - SUBCONTRACTOR – GENERAL CONTRACTOR (CONSTRUCTION)
   - OWNER – AT&T MOBILITY
   - OEM – ORIGINAL EQUIPMENT MANUFACTURER

2. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CONTRACTOR.

3. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. SUBCONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.

4. DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.

5. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.

6. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.

7. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION SPACE FOR APPROVAL BY THE CONTRACTOR.

8. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND T1 CABLES, GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWING. SUBCONTRACTOR SHALL UTILIZE EXISTING TRAYS AND/OR SHALL ADD NEW TRAYS AS NECESSARY. SUBCONTRACTOR SHALL CONFIRM THE ACTUAL ROUTING WITH THE CONTRACTOR. ROUTING OF TRENCHING SHALL BE APPROVED BY CONTRACTOR

9. THE SUBCONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT SUBCONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.

10. SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OFF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.

11. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.

12. ALL CONCRETE REPAIR WORK SHALL BE DONE IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE (ACI) 301.

13. ANY NEW CONCRETE NEEDED FOR THE CONSTRUCTION SHALL HAVE 4000 PSI STRENGTH AT 28 DAYS UNLESS OTHERWISE SPECIFIED. ALL CONCRETING WORK SHALL BE DONE IN ACCORDANCE WITH ACI 318 CODE REQUIREMENTS.

14. ALL STRUCTURAL STEEL WORK SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH AISC SPECIFICATIONS. ALL STRUCTURAL STEEL SHALL BE ASTM A36 (Fy=36 ksi). ALL STEEL EXPOSED TO WEATHER SHALL BE HOT DIPPED GALVANIZED. TOUCH UP ALL SCRATCHES AND OTHER MARKS IN THE FIELD AFTER STEEL IS ERECTED USING A COMPATIBLE ZINC RICH PAINT.

15. CONSTRUCTION SHALL COMPLY WITH SPECIFICATION 25741-000-3APS-A00Z-00002, "GENERAL CONSTRUCTION SERVICES FOR CONSTRUCTION OF AT&T MOBILITY SITES."

16. SUBCONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS MUST BE VERIFIED. SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.

17. THE EXISTING CELL SITE IS IN FULL COMMERCIAL OPERATION. ANY CONSTRUCTION WORK BY SUBCONTRACTOR SHALL NOT DISRUPT THE EXISTING NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH CONTRACTOR. ALSO, WORK MAY NEED TO BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.

18. SINCE THE CELL SITE MAY BE ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE REQUIRED TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.

19. SUBCONTRACTOR'S WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ) FOR THE LOCATION. THE EDITION OF THE AHJ ADOPTED CODES AND STANDARDS IN EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN.
   - INTERNATIONAL BUILDING CODE: IBC 2009 WITH LOCAL & COUNTY AMENDMENTS
   - NATIONAL ELECTRICAL CODE: NEC 2011 WITH LOCAL & COUNTY AMENDMENTS
   - FIRE/LIFE SAFETY CODE: NFPA-101 2009 WITH LOCAL & COUNTY AMENDMENTS

20. SUBCONTRACTOR'S WORK SHALL COMPLY WITH THE LATEST EDITION OF THE FOLLOWING STANDARDS:
   - AMERICAN CONCRETE INSTITUTE (ACI) 318, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE
   - AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC), MANUAL OF STEEL CONSTRUCTION, THIRTEENTH EDITION
   - AMERICAN SOCIETY OF TESTING OF MATERIALS, ASTM
   - TELECOMMUNICATIONS INDUSTRY ASSOCIATION (ANSI/TIA-222-G-1), STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWER AND ANTENNA SUPPORTING STRUCTURES:
   - TIA 607, COMMERCIAL BUILDING GROUNDING AND BONDING REQUIREMENTS FOR TELECOMMUNICATIONS
   - OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION, OSHA
   - INSTITUTE FOR ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE) 81, GUIDE FOR MEASURING EARTH RESISTIVELY, GROUND IMPEDANCE, AND EARTH SURFACE POTENTIALS OF A GROUND SYSTEM IEEE 1100 (1999) RECOMMENDED PRACTICE FOR POWERING AND GROUNDING OF ELECTRONIC EQUIPMENT
   - TELCORDIA GR-1503, COAXIAL CABLE CONNECTIONS

21. FOR ANY CONFLICTS BETWEEN SECTIONS OF LISTED CODES AND STANDARDS REGARDING MATERIAL, METHODS OF CONSTRUCTION, OR OTHER REQUIREMENTS, THE MOST RESTRICTIVE REQUIREMENT SHALL GOVERN. WHERE THERE IS CONFLICT BETWEEN A GENERAL REQUIREMENT AND A SPECIFIC REQUIREMENT, THE SPECIFIC REQUIREMENT SHALL GOVERN.

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EMPIRE telecom
16 ESQUIRE ROAD
BILLERICA, MA 01821

SITE NUMBER: CT5144
SITE NAME: CROMWELL SOUTH

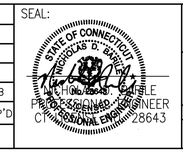
100 CHRISTIAN HILL ROAD
CROMWELL, CT 06416
MIDDLESEX COUNTY

at&t MOBILITY
550 COCHITUATE ROAD
FRAMINGHAM, MA 01701

NO.	DATE	REVISIONS	BY	CHK	APP'D
0	07/08/16	ISSUED AS FINAL	KCD	DTS	NB

SCALE: AS SHOWN | DESIGNED BY: JW | DRAWN BY: JW

SEAL:



AT&T

DRAWING TITLE:
GROUNDING NOTES & GENERAL NOTES

JOB NUMBER	DRAWING NUMBER	REV
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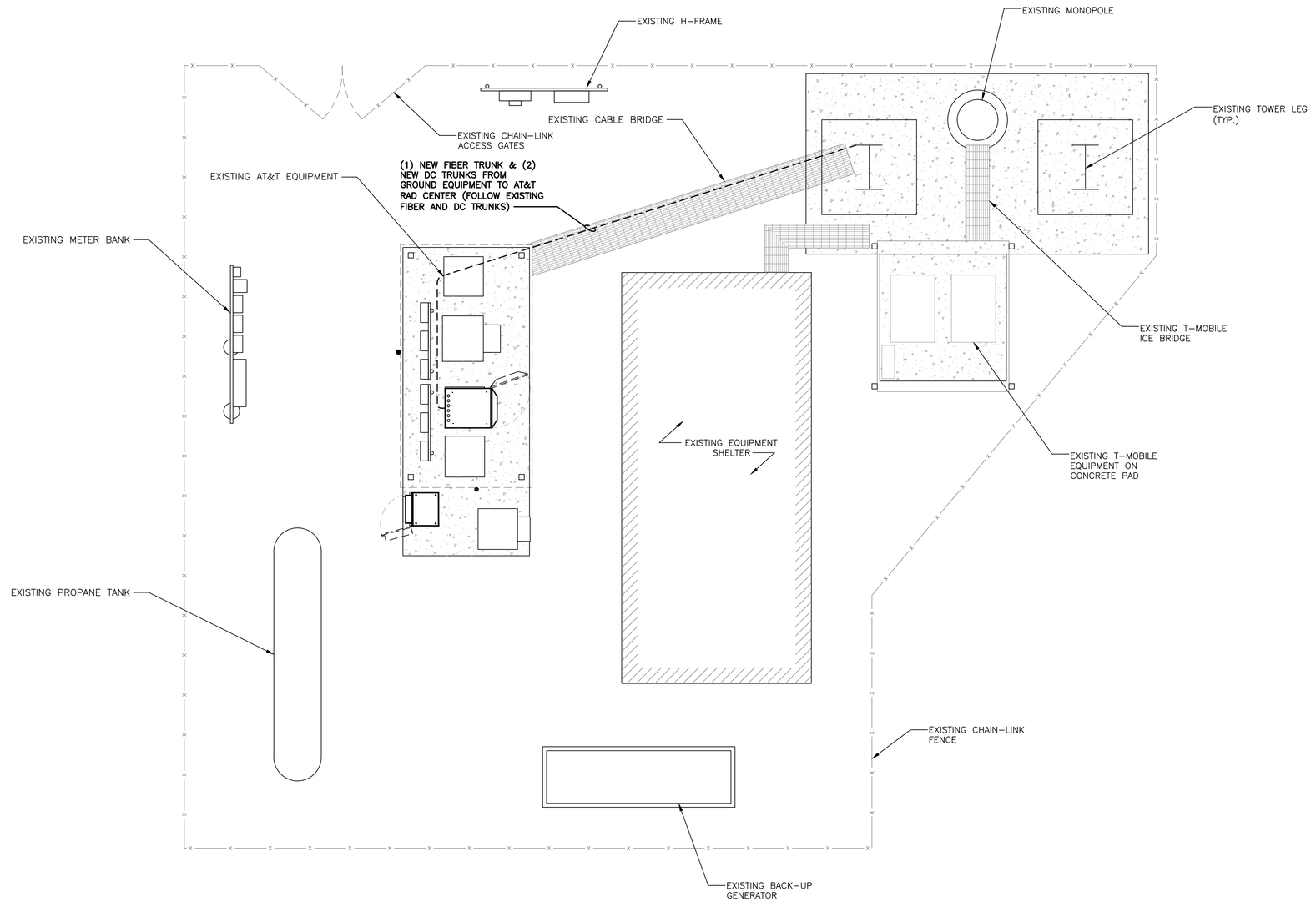

NORTH

COMPOUND LAYOUT

SCALE: 1/4" = 1'-0"

0 2 4 8

GRAPHIC SCALE: 1/4"=1'-0"

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0	07/08/16	ISSUED AS FINAL	KCD	DTS	NB

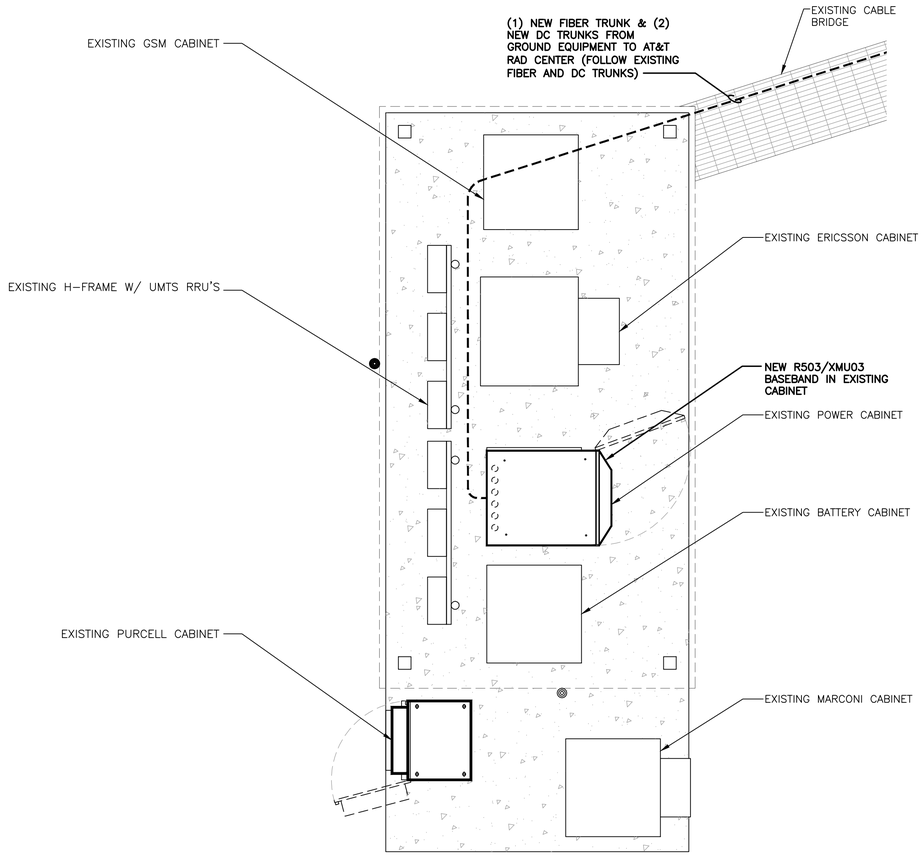
SCALE: AS SHOWN | DESIGNED BY: JW | DRAWN BY: JW

SEAL: STATE OF CONNECTION — THOMAS S. BASILE — 28643 — PROFESSIONAL ENGINEER

AT&T

DRAWING TITLE: COMPOUND LAYOUT

JOB NUMBER	DRAWING NUMBER	REV
15086-EMP	A-1	0

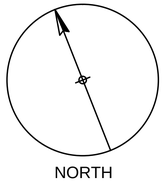


EXISTING EQUIPMENT LAYOUT

SCALE: 1/2" = 1'-0"

0 1 2 4

GRAPHIC SCALE: 1/2"=1'-0"



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SCALE: AS SHOWN | DESIGNED BY: JW | DRAWN BY: JW

SEAL:
STATE OF CONNECTICUT
ANGELOS "JIM" BAKOLAS
LICENSED PROFESSIONAL ENGINEER
PROFESSIONAL ENGINEER
CT 28643

AT&T

DRAWING TITLE:
EQUIPMENT LAYOUT

JOB NUMBER	DRAWING NUMBER	REV
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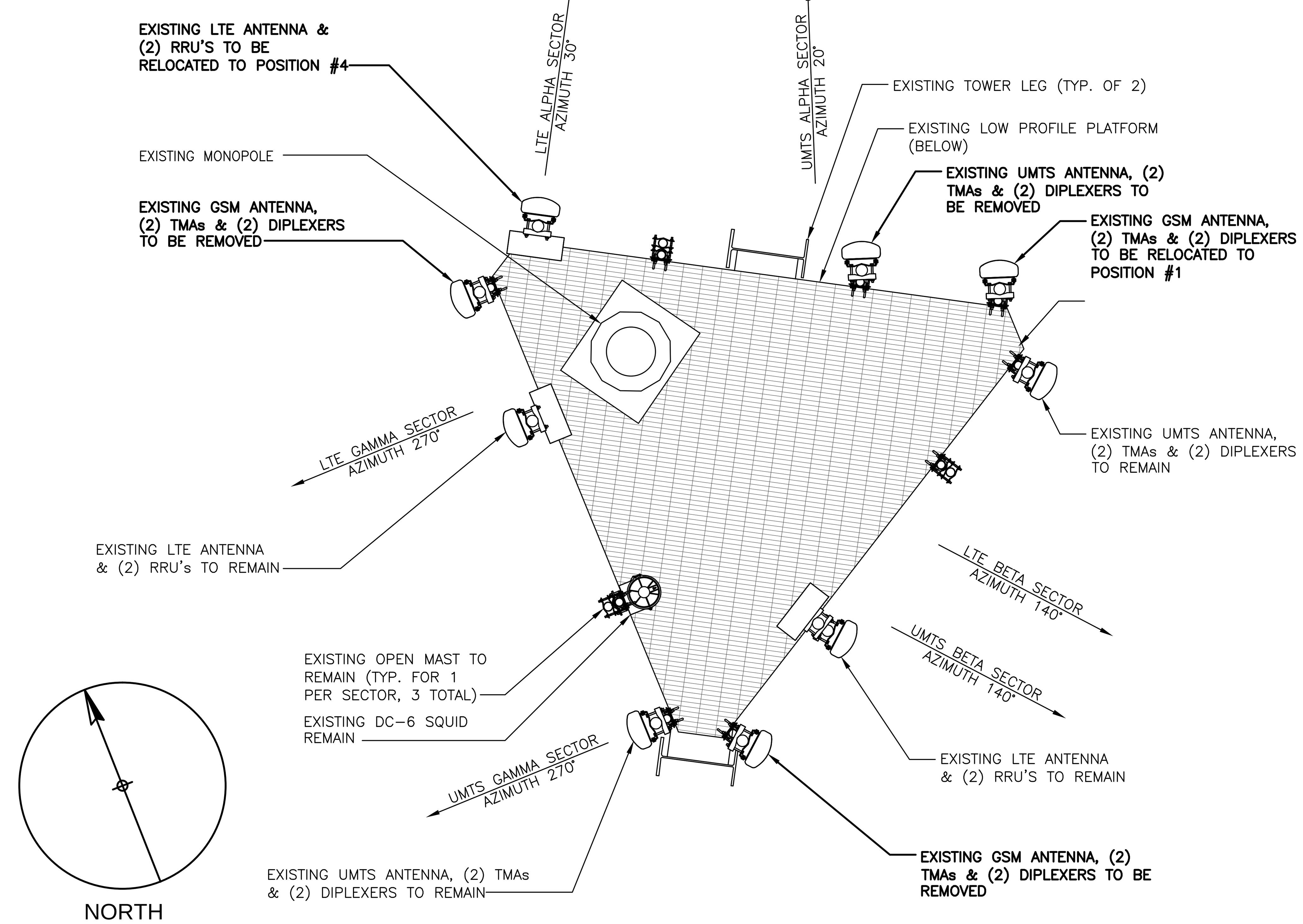

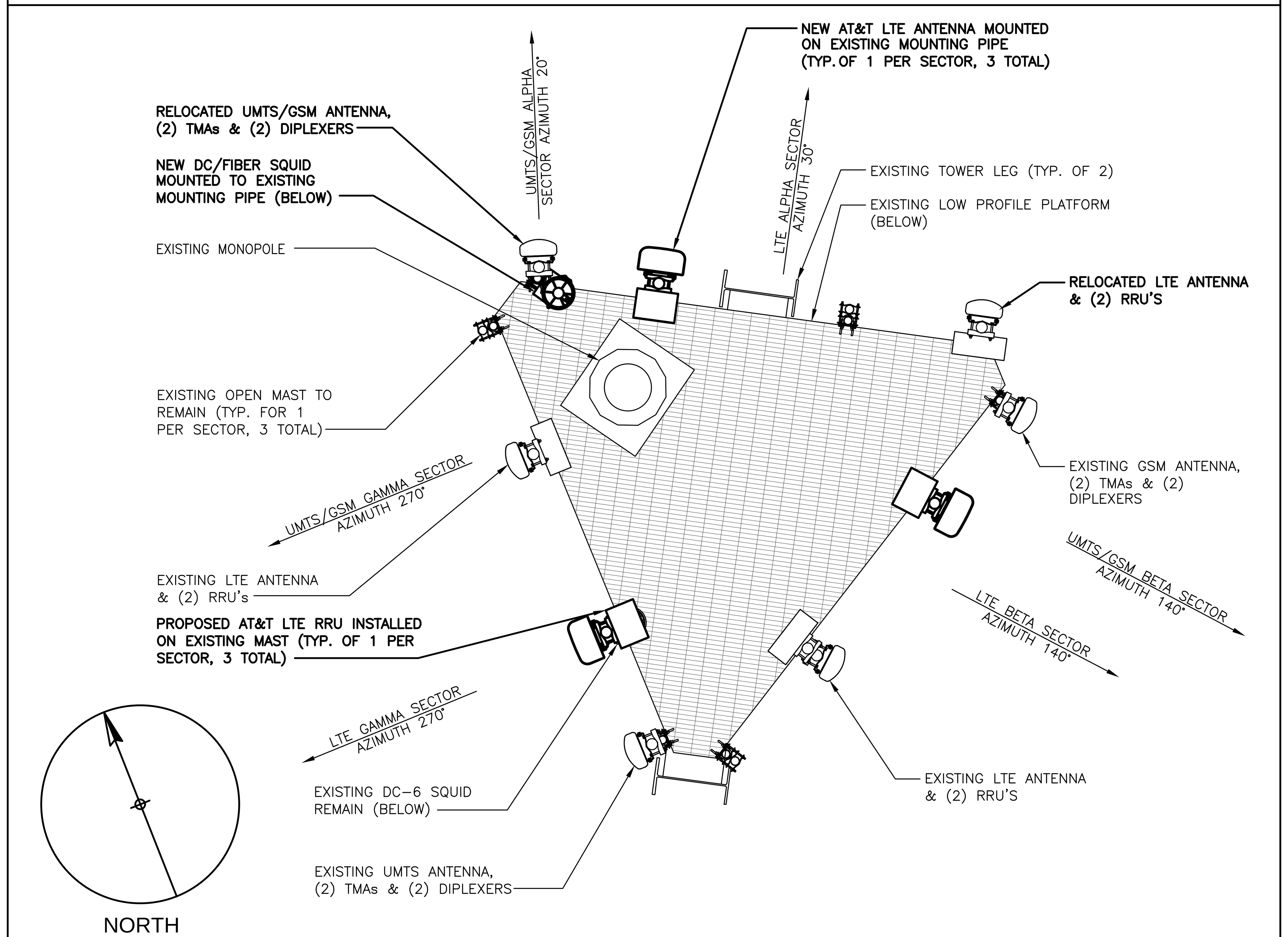

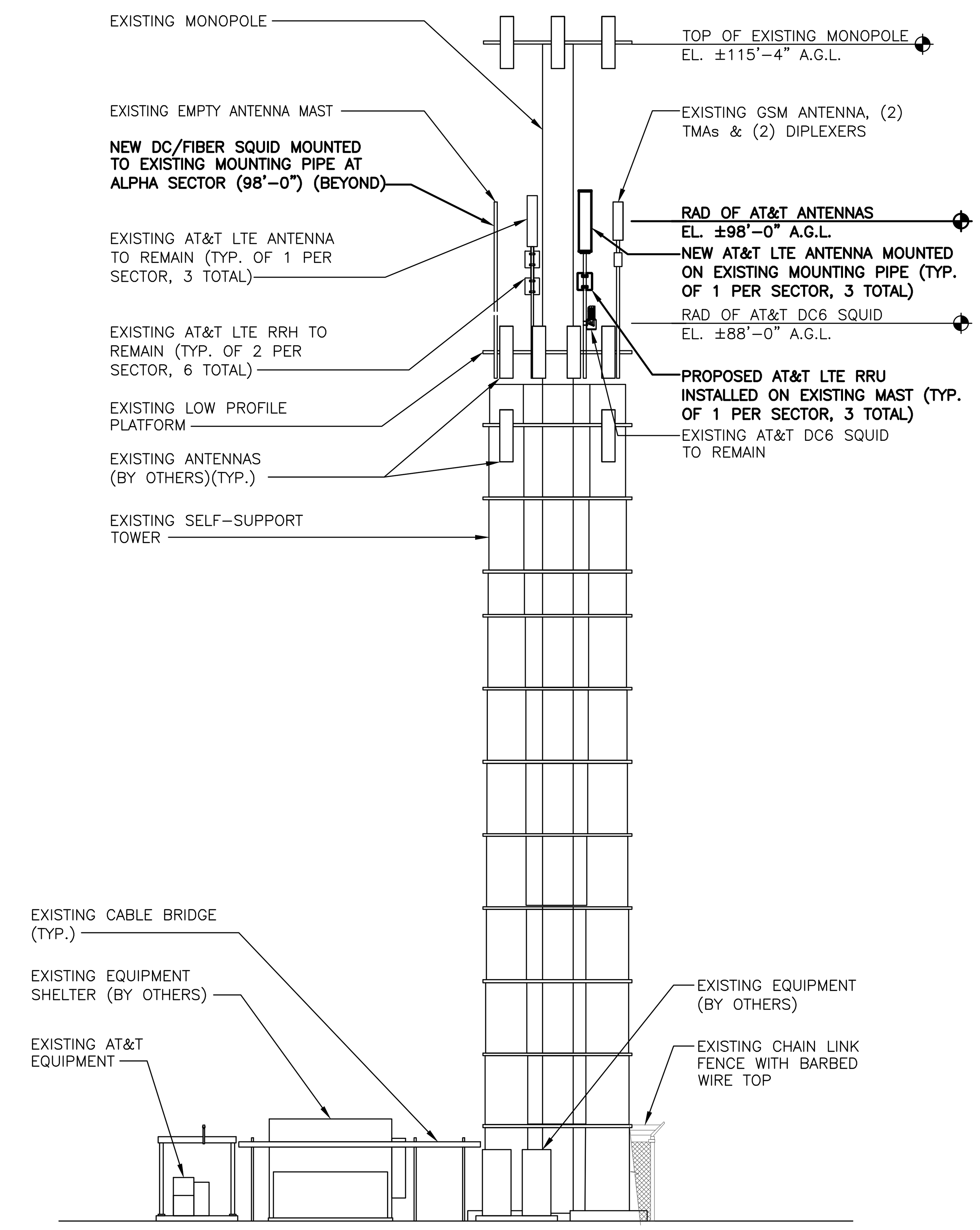

TOWER ELEVATION

SCALE: NTS

PROJECT OWNER IS RESPONSIBLE FOR PROVIDING A STRUCTURAL STABILITY ANALYSIS TO DETERMINE THE CAPACITY AND SUITABILITY OF THE EXISTING ANTENNA SUPPORT STRUCTURE TO SAFELY CARRY ALL ADDITIONAL LOADS IMPOSED BY THE PROPOSED EQUIPMENT AS SHOWN HEREIN. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR INCORPORATING ANY REQUIRED STRUCTURAL MODIFICATIONS INTO THEIR SCOPE OF WORK.

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NO.	DATE	REVISIONS	BY	CHK	APP'D
0	07/08/16	ISSUED AS FINAL	KCD	DTS	NB

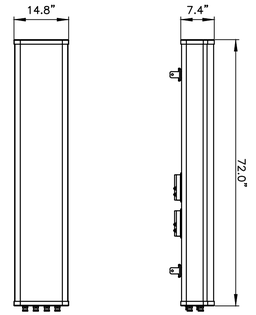
SCALE: AS SHOWN | DESIGNED BY: JW | DRAWN BY: JW

SEAL:

AT&T

DRAWING TITLE: ANTENNA LAYOUTS & ELEVATION

JOB NUMBER	DRAWING NUMBER	REV
15086-EMP	A-3	0



FRONT VIEW

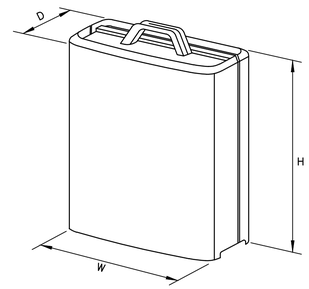
SIDE VIEW

BOTTOM VIEW

MANUFACTURER	CCI
MODEL	OPA-65R-LCUU-H6
WEIGHT	73.0 LBS

LTE ANTENNA DETAIL

SCALE: N.T.S.

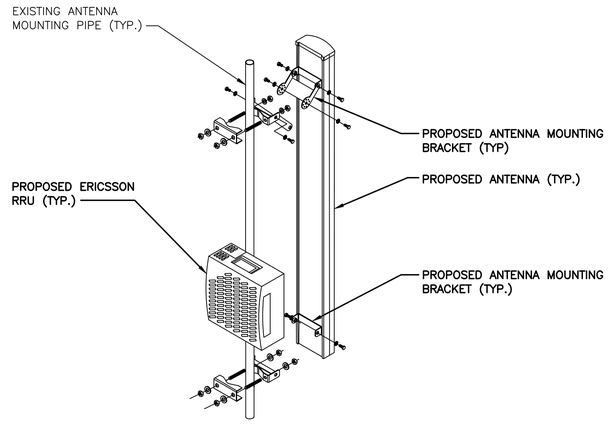


MODEL	L x W x H	WEIGHT
*RRUS-11	19.69" x 16.97" x 7.17"	50.7 LBS
RRUS-32	**29.9" x 13.3" x 9.5"**	**77 LBS**

*DENOTES EXISTING.

RRUS DETAIL

SCALE: N.T.S.



ANTENNA AND RRU MOUNTING DETAIL

SCALE: N.T.S.

EXISTING ANTENNA SCHEDULE

SECTOR	POSITION	MAKE	MODEL	SIZE (INCHES)
ALPHA	A1	KMW	AM-X-CD-16-65-00T-RET	72"x11.8"x5.9"
	A2	–	–	–
	A3	POWERWAVE	7770.00	55"x11"x5"
	A4	POWERWAVE	7770.00	55"x11"x5"
BETA	B1	POWERWAVE	7770.00	55"x11"x5"
	B2	–	–	–
	B3	KMW	AM-X-CD-16-65-00T-RET	72"x11.8"x5.9"
	B4	POWERWAVE	7770.00	55"x11"x5"
GAMMA	G1	POWERWAVE	7770.00	55"x11"x5"
	G2	–	–	–
	G3	KMW	AM-X-CD-16-65-00T-RET	72"x11.8"x5.9"
	G4	POWERWAVE	7770.00	55"x11"x5"

FINAL ANTENNA SCHEDULE

SECTOR	POSITION	MAKE	MODEL	SIZE (INCHES)
ALPHA	A1	POWERWAVE	7770.00	55"x11"x5"
	A2	**CCI**	**OPA-65R-LCUU-H6**	**72"x14.8"x7.4"**
	A3	–	–	–
	A4	KMW	AM-X-CD-16-65-00T-RET	72"x11.8"x5.9"
BETA	B1	POWERWAVE	7770.00	55"x11"x5"
	B2	**CCI**	**OPA-65R-LCUU-H6**	**72"x14.8"x7.4"**
	B3	KMW	AM-X-CD-16-65-00T-RET	72"x11.8"x5.9"
	B4	–	–	–
GAMMA	G1	POWERWAVE	7770.00.	55"x11"x5"
	G2	**CCI**	**OPA-65R-LCUU-H6**	**72"x14.8"x7.4"**
	G3	KMW	AM-X-CD-16-65-00T-RET	72"x11.8"x5.9"
	G4	–	–	–

PROPOSED RRH SCHEDULE

SECTOR	MAKE	MODEL	SIZE (INCHES)	ADDITIONAL COMPONENT	SIZE (INCHES)
ALPHA	**ERICSSON**	**RRUS-32**	**29.9"x13.3"x9.5"**		
	ERICSSON	RRUS-11	19.7"x16.9"x7.2"		
	ERICSSON	RRUS-11	19.7"x16.9"x7.2"		
BETA	**ERICSSON**	**RRUS-32**	**29.9"x13.3"x9.5"**		
	ERICSSON	RRUS-11	19.7"x16.9"x7.2"		
	ERICSSON	RRUS-11	19.7"x16.9"x7.2"		
GAMMA	**ERICSSON**	**RRUS-32**	**29.9"x13.3"x9.5"**		
	ERICSSON	RRUS-11	19.7"x16.9"x7.2"		
	ERICSSON	RRUS-11	19.7"x16.9"x7.2"		

PROJECT OWNER IS RESPONSIBLE FOR PROVIDING A STRUCTURAL STABILITY ANALYSIS TO DETERMINE THE CAPACITY AND SUITABILITY OF THE EXISTING ANTENNA SUPPORT STRUCTURE TO SAFELY CARRY ALL ADDITIONAL LOADS IMPOSED BY THE PROPOSED EQUIPMENT AS SHOWN HEREIN. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR INCORPORATING ANY REQUIRED STRUCTURAL MODIFICATIONS INTO THEIR SCOPE OF WORK.

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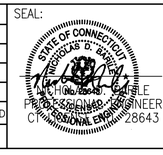
NO.	DATE	REVISIONS	BY	CHK	APP'D
0	07/08/16	ISSUED AS FINAL	KCD	DTS	NB

SCALE: AS SHOWN | DESIGNED BY: JW | DRAWN BY: JW

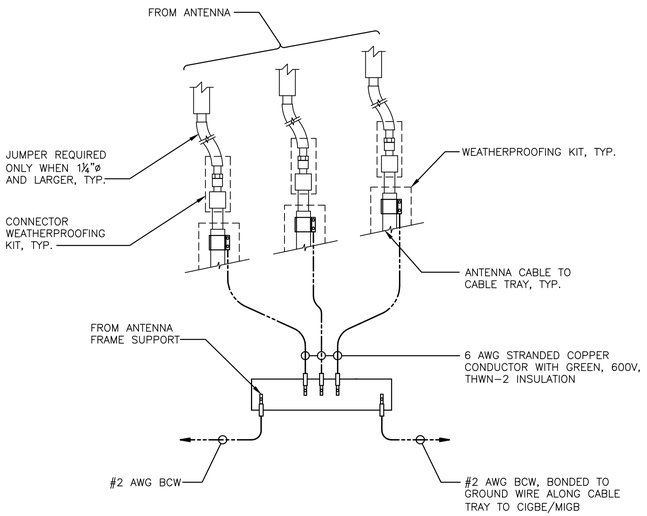
SEAL:



AT&T

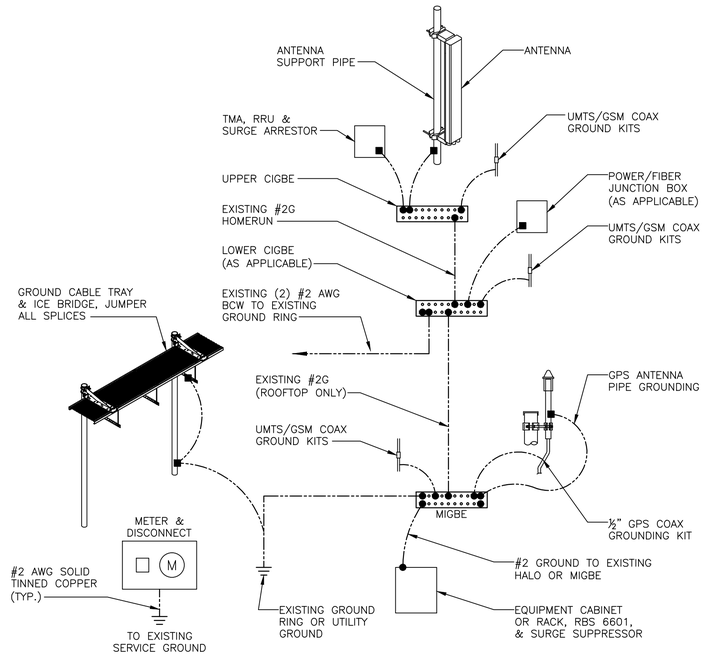
DRAWING TITLE:
ANTENNA LAYOUTS & ELEVATION

JOB NUMBER	DRAWING NUMBER	REV
15086-EMP	A-4	0



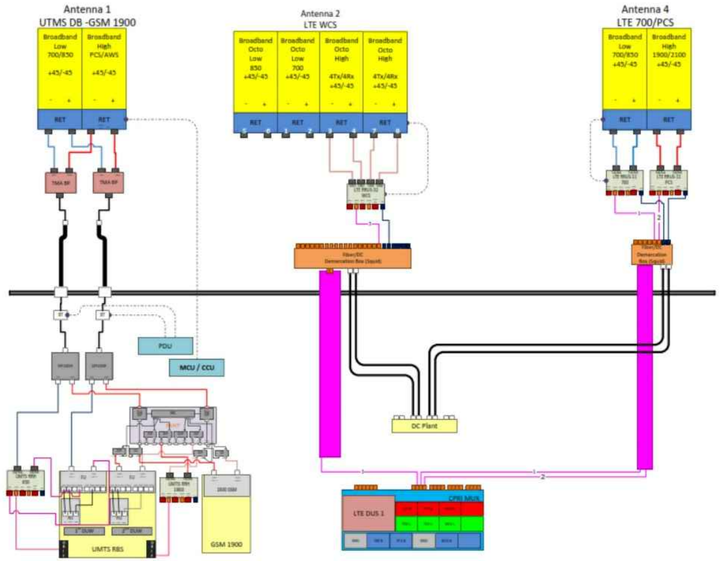
GROUND WIRE TO GROUND BAR CONNECTION DETAIL

SCALE: N.T.S.



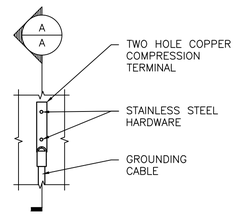
GROUNDING RISER DIAGRAM

SCALE: N.T.S.

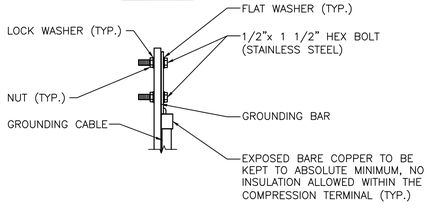


PLUMBING DIAGRAM (ALPHA SECTOR)

SCALE: N.T.S.



ELEVATION



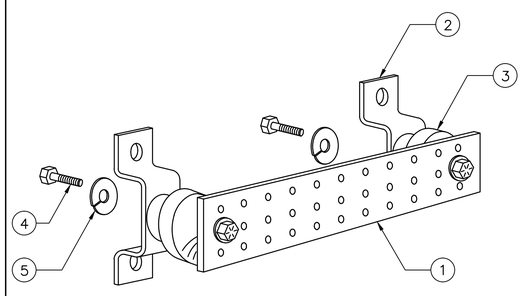
SECTION "A–A"

NOTE:

1. "DOUBLING UP" OR "STACKING" OF CONNECTIONS IS NOT PERMITTED.
2. OXIDE INHIBITING COMPOUND TO BE USED AT ALL LOCATIONS.
3. CADWELD DOWNLEADS FROM UPPER EGB, LOWER EGB, AND MGB.

TYPICAL GROUND BAR CONNECTION DETAIL

SCALE: N.T.S.



ITEM NO.	QTY.	DESCRIPTION
1	1	SOLID GROUND BAR (20"x 4"x ¼")
2	2	WALL MOUNTING BRACKET
3	2	INSULATORS
4	4	⅝"–11x1" H.H.C.S.
5	4	⅝" LOCK WASHER

GROUND BAR DETAIL

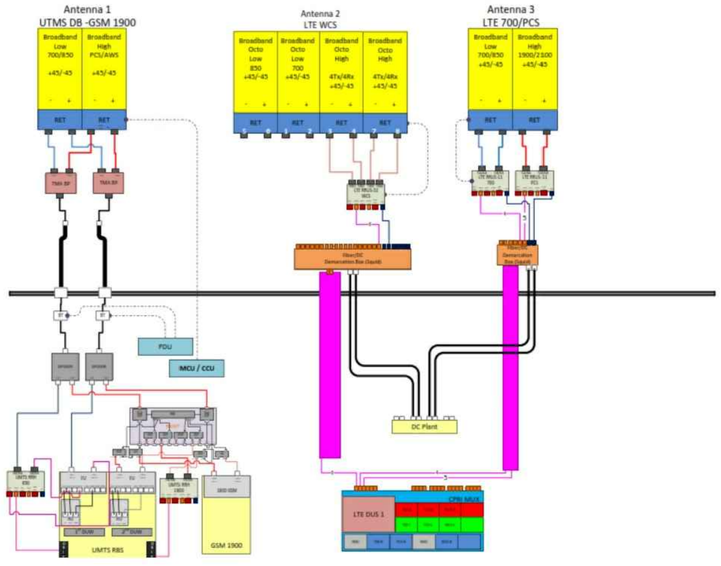
SCALE: N.T.S.

NOTES:

EACH GROUND CONDUCTOR TERMINATING ON ANY GROUND BAR SHALL HAVE AN IDENTIFICATION TAG ATTACHED AT EACH END THAT WILL IDENTIFY ITS ORIGIN AND DESTINATION

SECTION "P" – SURGE PRODUCERS
- CABLE ENTRY PORTS (HATCH PLATES) (#2)
- GENERATOR FRAMEWORK (IF AVAILABLE) (#2)
- TELCO GROUND BAR
- COMMERCIAL POWER COMMON NEUTRAL/GROUND BOND (#2)
- +24V POWER SUPPLY RETURN BAR (#2)
- –48V POWER SUPPLY RETURN BAR (#2)
- RECTIFIER FRAMES

SECTION "A" – SURGE ABSORBERS
- INTERIOR GROUND RING (#2)
- EXTERNAL EARTH GROUND FIELD (BURIED GROUND RING) (#2)
- METALLIC COLD WATER PIPE (IF AVAILABLE) (#2)
- BUILDING STEEL (IF AVAILABLE) (#2)



PLUMBING DIAGRAM (BETA & GAMMA SECTOR)

SCALE: N.T.S.

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SCALE: AS SHOWN | DESIGNED BY: JW | DRAWN BY: JW

SEAL:
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