



STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051

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

E-Mail: siting.council@ct.gov

www.ct.gov/csc

VIA ELECTRONIC MAIL

August 19, 2019

Elizabeth Jamieson
Real Estate Specialist
Transcend Wireless
10 Industrial Ave, Suite 3
Mahwah, NJ 07430

RE: **EM-T-MOBILE-121-190808** – T-Mobile notice of intent to modify an existing telecommunications facility located at 153 East Haddam Road, Salem, Connecticut.

Dear Ms. Jamieson:

The Connecticut Siting Council (Council) is in receipt of your correspondence of August 15, 2019 submitted in response to the Council's August 14, 2019 notification of an incomplete request for exempt modification with regard to the above-referenced matter.

The submission renders the request for exempt modification complete and the Council will process the request in accordance with the Federal Communications Commission 60-day timeframe.

Thank you for your attention and cooperation.

Sincerely,

Melanie A. Bachman
Executive Director

MAB/RDM/lm





En-t-mobile-121-190808

file copy

Mount Analysis of Existing Sector Frames for American Tower on behalf of T-Mobile

10027 - Salem CT
Project #: 12927188
T-Mobile Site ID: CTNH143C
Program: L600

East Haddam Rd



CLS Engineering PLLC Project #41124-12927188-01-MA-R1
July 3, 2019

MOUNT DESCRIPTION	Existing Sector Frames at 173 ft AGL
ANTENNA ELEVATION	Nominal Rad. Elevation of 175 ft AGL (Eccentricity of ~2 ft)
SITE DESCRIPTION	190 ft Self-Supporting Tower
SITE ADDRESS	Intersection of Connecticut Rt. 82 and Rt. 11, Salem, CT 06420, New London County
GPS COORDINATES	41.46846667, -72.27329444
ANALYSIS STANDARD	2015 IBC / 2018 Connecticut State Building Code / TIA-222-G
LOADING CRITERIA	135 mph, V_{ult} / 104.6 mph, V_{asd} (3-Second Gust) w/o ice & 50 mph (3-Second Gust) w/ 0.75"

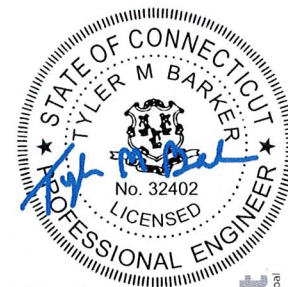
■ ANALYSIS RESULT: **Pass (Conditional)**

MEMBER USAGE	78%	Pass
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Modifications are proposed to bring mounts into compliance; see conclusion for details.

Prepared by:
Jennifer Soza

Reviewed and Approved by:
Tyler M. Barker, P.E.



Tyler M. Barker
CLS Engineering, PLLC
Director of Engineering
PE # 32402 Exp. 1/31/2020
COA # PEC.001833 Exp. 8/14/2019



Digitally signed by
Tyler Barker
DN: c=US,
o=Telamon
Corporation,
ou=A01427E00000
16A4525ADF80000
1D17, cn=Tyler
Barker
Date: 2019.07.03
21:59:01 -04'00'

■ INTRODUCTION

The proposed equipment is to be mounted to the existing Sector Frames. This proposed mounting configuration was analyzed using RISA-3D, a commercially available finite element analysis software package. A selection of input and output from our analysis is attached to the end of this report.

■ STRUCTURAL DOCUMENTS PROVIDED

STRUCTURAL DATA	Photos dated July 18, 2018 Site Pro 1 Assembly Drawing, #SCX2-K, dated June 30, 2011 Site Pro 1 Assembly Drawing, #SFS-V, dated April 29, 2014
PREVIOUS ANALYSES	Structural Analysis by ATC, Engineering #OAA714423_C3_03, dated March 22, 2018
LOADING DATA	American Tower Application, Project #12927188, dated April 2, 2019

■ ANALYSIS CRITERIA

STANDARD	2015 IBC / 2018 Connecticut State Building Code / TIA-222-G
BASIC WIND SPEED	135 mph, V_{ult} / 104.6 mph, V_{asd} (3-Second Gust)
BASIC WIND SPEED W/ ICE	50 mph (3-Second Gust) w/ 0.75" Radial Ice (Escalating)
EXPOSURE CATEGORY	B
MAX. TOPOGRAPHIC FACTOR, K_{zt}	1.00
RISK CATEGORY	II
MAINTENANCE LIVE LOAD	L_M : 500 lb

■ FINAL EQUIPMENT

ELEVATION (ft)		ANTENNAS	
MOUNT	RAD.	#	NAME
173.0	175.0	3	RFS Celwave APX16DWV-16DWVS-E-A20
		3	Ericsson RRUS 11 B2
		3	Ericsson RRUS 11 B4
		3	Ericsson RADIO 4449 B12/B71
		3	RFS Celwave APXVAARR24_43-U-NA20

■ RESULTS SUMMARY

Existing Mount Usage:

COMPONENT	PEAK USAGE	RESULT
Face Horizontals	131%	Pass
Mount Pipes	105%	Pass
Bracing Members	88%	Pass
Offset Conn Plate	65%	Pass

Modified Mount Usage:

COMPONENT	PEAK USAGE	RESULT
Mount Pipes	78%	Pass
Bracing Members	68%	Pass
Offset Conn Plate	65%	Pass
Face Horizontals	59%	Pass

■ CONCLUSION AND RECOMMENDATIONS

According to our structural analysis, the mounts have been found to **CONDITIONALLY PASS**. The mounting configuration considered in this analysis will be capable of supporting the referenced loading pursuant to referenced standards once the following scope is executed:

- Install (1) 13' long Pipe 2½ STD, A53 Gr. B, face horizontal pipe at each sector frame mount (3 total). Pipes to be installed 9" above the existing top face horizontal pipe member. Connect to all existing antenna mount pipes with Site Pro 1 SCX2-K crossover plate kits or equal.
- Install (1) Site Pro 1 SFS-V Sector Frame Stabilizer kit at each sector frame mount (3 total). Connect to proposed face horizontal pipe and existing tower leg as shown in the following sketches.
- Relocate equipment, as required, to facilitate installation of proposed modifications on mount.
- All hardware for Site Pro 1 SFS-V connection to the tower leg should be installed with "turn of the nut" method per the following table:

BOLT TIGHTENING PROCEDURE

- TIGHTEN BOLTS BY AISC "TURN OF THE NUT" METHOD USING THE CHART BELOW:

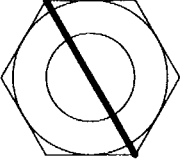
BOLT LENGTHS UP TO AND INCLUDING FOUR DIAMETERS:
+1/3 TURN BEYOND SNUG TIGHT

BOLT LENGTHS OVER FOUR AND UP TO EIGHT DIAMETERS:
+1/2 TURN BEYOND SNUG TIGHT

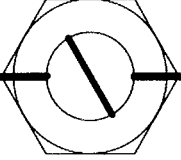
BOLT LENGTHS OVER EIGHT AND UP TO TWELVE DIAMETERS:
+2/3 TURN BEYOND SNUG TIGHT
- SPLICE BOLTS SUBJECT TO DIRECT TENSION SHALL BE INSTALLED AND TIGHTENED AS PER SECTION 8(d)(1) OF THE AISC MANUAL OF STEEL CONSTRUCTION. THE INSTALLATION PROCEDURE IS AS FOLLOWS:

"FASTENERS SHALL BE INSTALLED IN PROPERLY ALIGNED HOLES AND BE TIGHTENED BY ONE OF THE METHODS DESCRIBED IN SUBSECTION 8(d)(1) THROUGH 8(d)(4).

8(d)(1) TURN-OF-THE-NUT TIGHTENING.
BOLTS SHALL BE INSTALLED IN ALL HOLES OF THE CONNECTION AND BROUGHT TO A SNUG TIGHT CONDITION. SNUG TIGHT IS DEFINED AS THE TIGHTNESS THAT EXISTS WHEN THE PLIES OF A JOINT ARE IN FIRM CONTACT. THIS MAY BE OBTAINED BY A FEW IMPACTS OF AN IMPACT WRENCH OR THE FULL EFFORT OF A MAN USING AN ORDINARY SPUD WRENCH. SNUG TIGHTENING SHALL PROGRESS SYSTEMATICALLY...UNTIL ALL THE BOLTS ARE SIMULTANEOUSLY SNUG TIGHT AND THE CONNECTION IS FULLY COMPACTED. FOLLOWING THIS INITIAL OPERATION, ALL BOLTS IN THE CONNECTION SHALL BE TIGHTENED FURTHER BY THE APPLICABLE AMOUNT OF ROTATION SPECIFIED ABOVE. DURING THE TIGHTENING OPERATION, THERE SHALL BE NO ROTATION OF THE PART NOT TURNED BY THE WRENCH. TIGHTENING SHALL PROGRESS SYSTEMATICALLY.



BEFORE 1/3 TURN



AFTER 1/3 TURN

See following sketches and Site Pro 1 assembly drawings for additional details.

■ ASSUMPTIONS AND CONDITIONS

This analysis is inclusive of the antenna supporting frames/mounts and all recorded connections that will support the equipment listed in this report. It considers only the theoretical capacity of structural components and it is not a condition assessment. The validity of the analysis may be dependent on the accuracy of structural information supplied by others. The client is responsible for verifying this information. If any provided information is revised after completion of this analysis, CLS Engineering PLLC should be notified immediately to revise results.

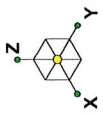
This analysis assumes the following:

1. The tower or other superstructure and mounts (if existing) were properly constructed as per the original design and have been properly maintained in accordance with applicable code standards.
2. Member sizes and strengths are accurate as supplied or are assumed as stated in the calculations.
3. In the absence of sufficient design information, all welds and connections are assumed to develop at least the capacity of the connected member, unless otherwise stated in this analysis.
4. All prior structural modifications, if any, are assumed to be correctly installed and fully effective.
5. The loading configuration is complete and accurate as supplied and/or as modeled in the previous analysis. All appurtenances are assumed to be properly installed and supported as per manufacturer requirements.
6. Some conservative assumptions may be used regarding appurtenances and their projected areas based on careful interpretation of data supplied, previous experience and standard industry practice.

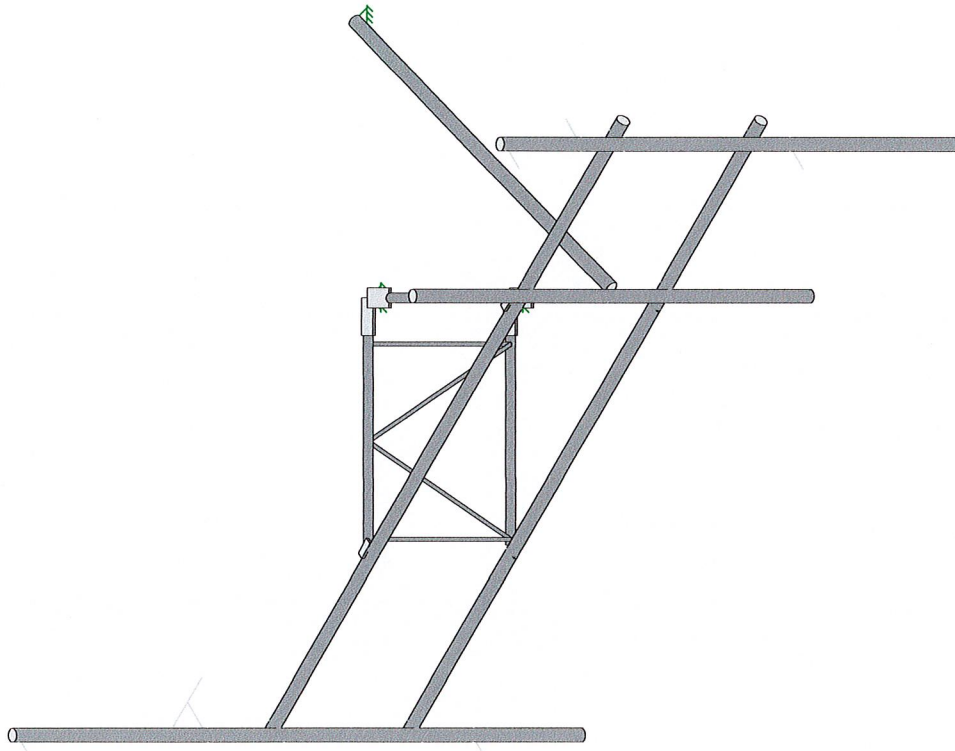
All opinions and conclusions are considered accurate to a reasonable degree of engineering certainty based upon the evidence available at the time of the report. All opinions and conclusions contained herein are subject to revision based upon receipt of new or updated information. All services are provided exercising a level of care and diligence equivalent to the standard of our profession. No warranty or guarantee, either expressed or implied, is offered. All services are confidential in nature and this report will not be released to any other party without the client's consent. The use of this analysis is limited to the expressed purpose for which it was commissioned and it may not be reused, copied or disseminated for any other purpose without consent from CLS Engineering PLLC.

All services were performed, results obtained and recommendations made in accordance with generally accepted engineering principles and practices. CLS Engineering PLLC is not responsible for the conclusions, opinions or recommendations made by others based on the information supplied in this analysis.

It is not possible to have the fully detailed information necessary to perform a complete and thorough analysis of every structural sub-component of an existing structure. The structural analysis by CLS Engineering PLLC verifies the adequacy of the primary members of the structure. CLS Engineering PLLC provides a limited scope of service in that we cannot verify the adequacy of every weld, bolt, gusset, etc.



Existing Mount - To Be Modified



Envelope Only Solution

CLS

ZSB

41124-12927188-01-MA

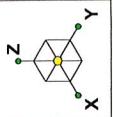
EX - 1

41124-12927188-Salem CT

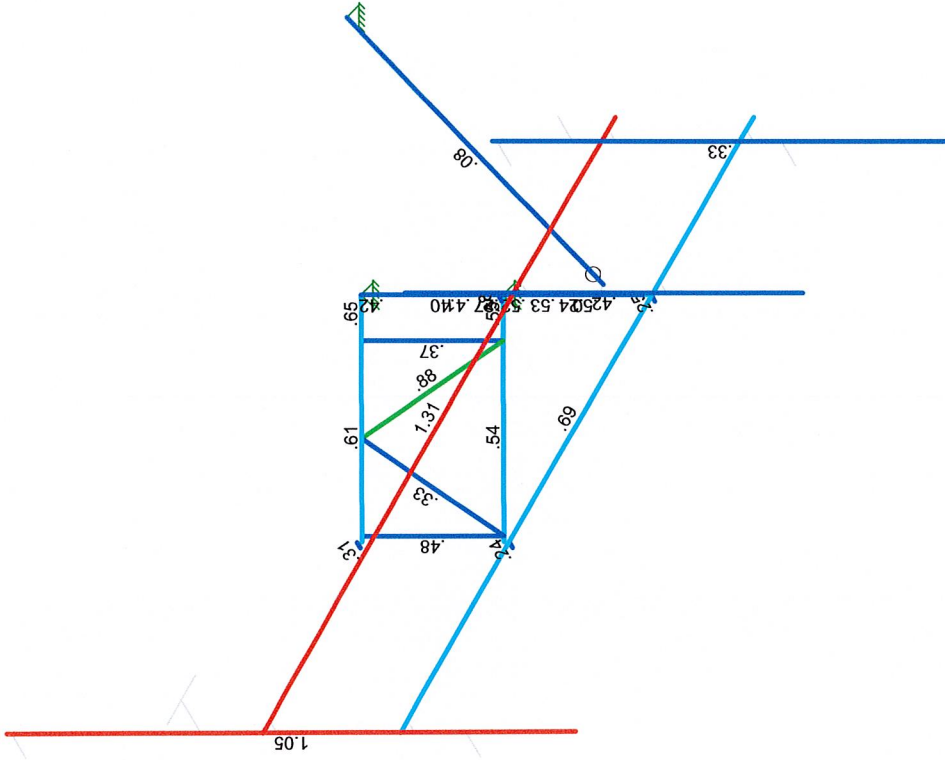
Existing Mount - Rendered

Apr 12, 2019 at 2:14 PM

41124-12927188-01-MA-Pre.r3d



Existing Mount - To Be Modified



Member Code Checks Displayed (Enveloped)
Envelope Only Solution

CLS

ZSB

41124-12927188-01-MA

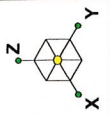
EX - 1

41124-12927188-Salem CT

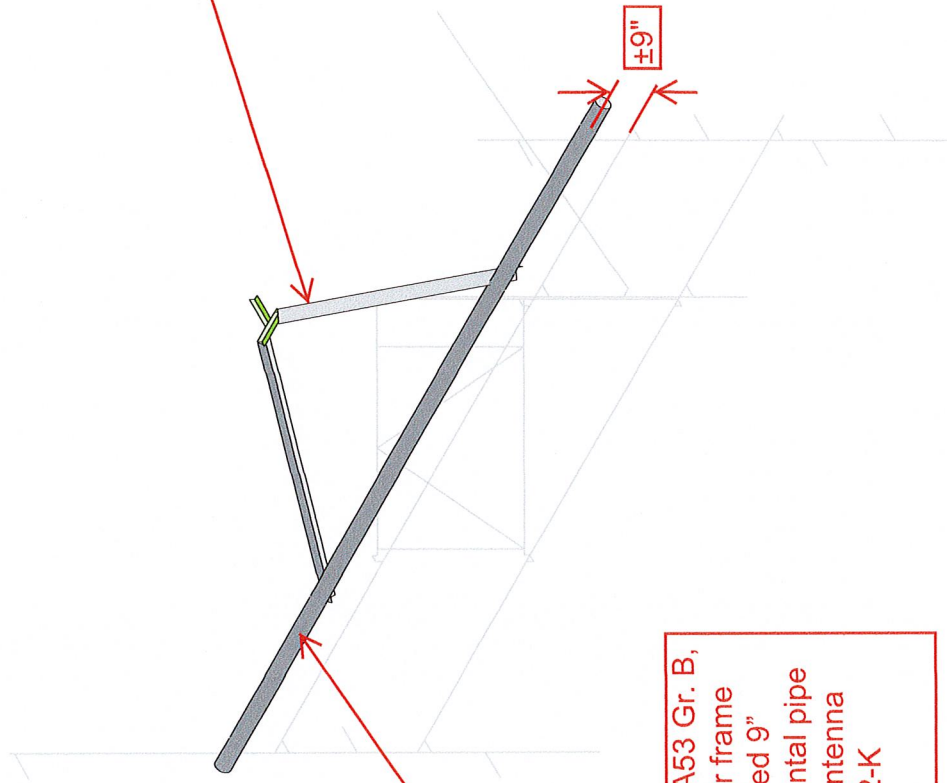
Apr 12, 2019 at 2:14 PM

Existing Mount - Bending

41124-12927188-01-MA-Pre.r3d



Install (1) Site Pro 1 SFS-V Sector Frame Stabilizer kit at each sector frame mount (3 total). Connect to proposed face horizontal pipe and existing tower leg.



Install (1) 13' long Pipe 2½ STD, A53 Gr. B, face horizontal pipe at each sector frame mount (3 total). Pipes to be installed 9" above the existing top face horizontal pipe member. Connect to all existing antenna mount pipes with Site Pro 1 SCX2-K crossover plate kits or equal.

Envelope Only Solution

CLS

ZSB

41124-12927188-01-MA

IN - 1

Apr 12, 2019 at 4:45 PM

41124-12927188-01-MA.r3d

41124-12927188-Salem CT

Proposed Modifications - Rendered

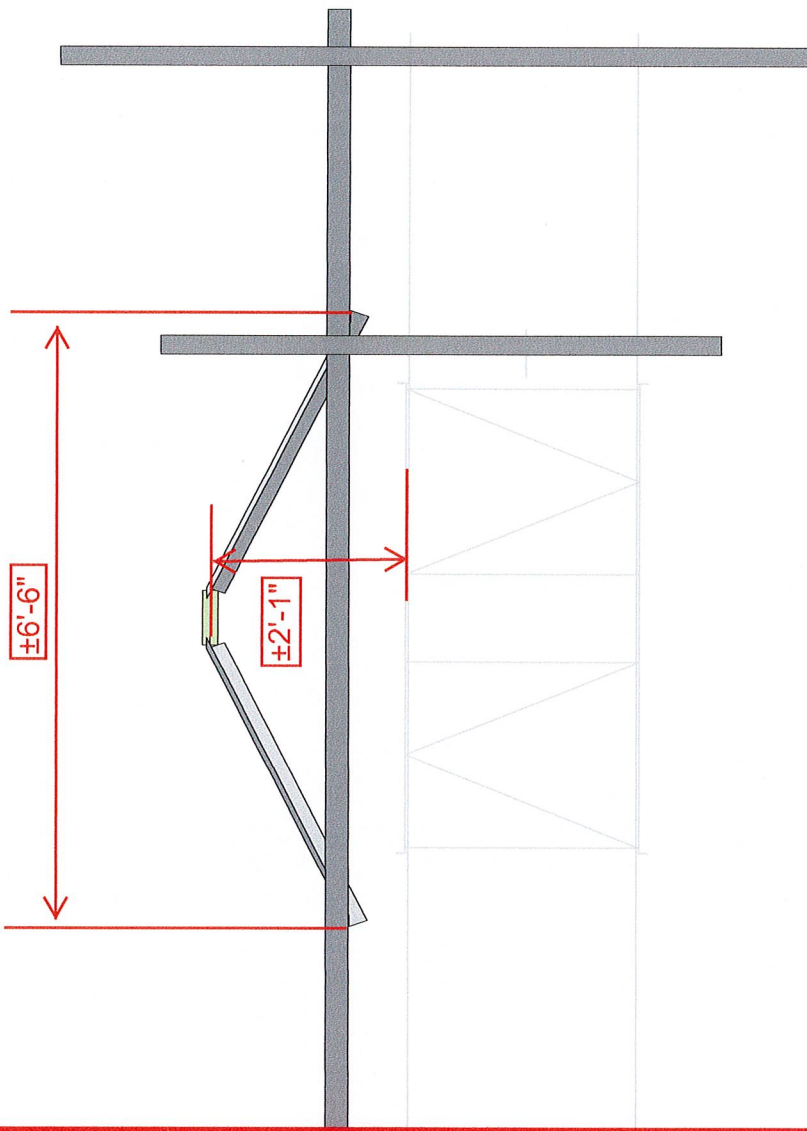


TIP: ±179'

RAD: ±175'

Mount: ±173'

TIP: ±171'



CLS

ZSB

41124-12927188-01-MA

41124-12927188-Salem CT
Proposed Modifications - Rendered

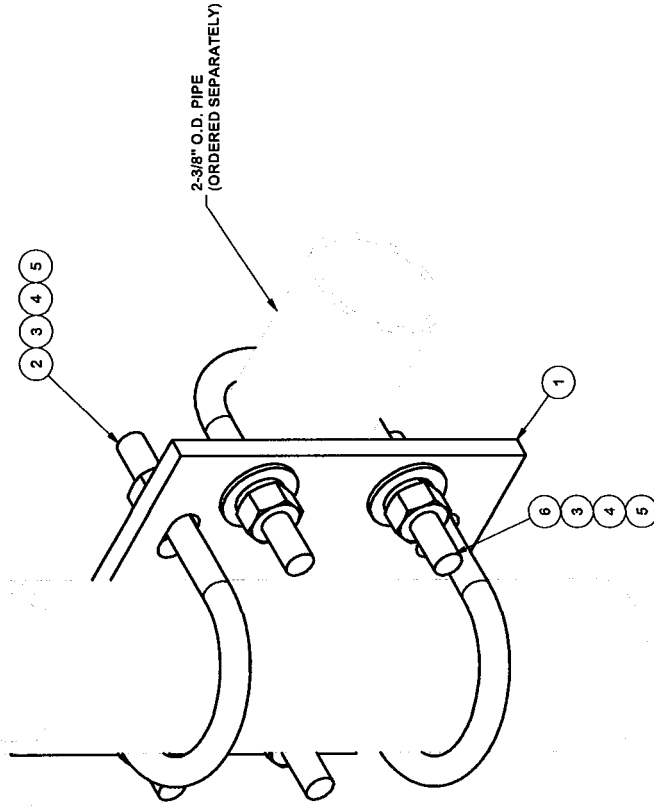
IN - 2

Apr 12, 2019 at 4:50 PM

41124-12927188-01-MA.r3d

PARTS LIST						
ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.
1	1	SCX2	CROSSOVER PLATE	7 in	4.80	4.80
2	2	X-UB1300	1/2" X 3" X 5" X 2" U-BOLT (HDG.)		0.66	1.31
3	8	G12FW	1/2" HDG USS FLATWASHER		0.03	0.27
4	8	G12LW	1/2" HDG LOCKWASHER		0.01	0.11
5	8	G12NUT	1/2" HDG HEAVY 2H HEX NUT		0.07	0.57
6	2	X-UB1212	1/2" X 2-1/2" X 4-1/2" X 2" U-BOLT (HDG.)		0.63	1.25
TOTAL WT. #					8.39	

2-7/8" O.D. ANTENNA PIPE
(ORDERED SEPARATELY)

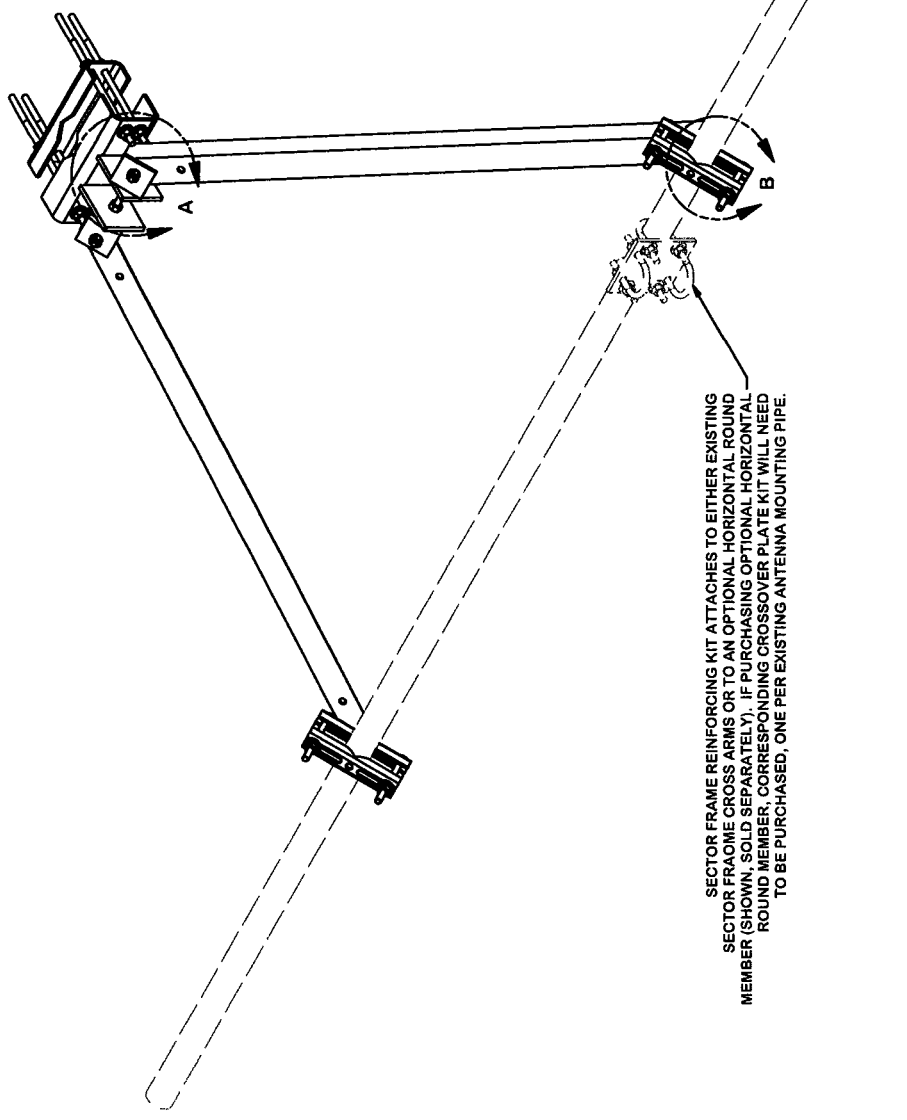


2-3/8" O.D. PIPE
(ORDERED SEPARATELY)

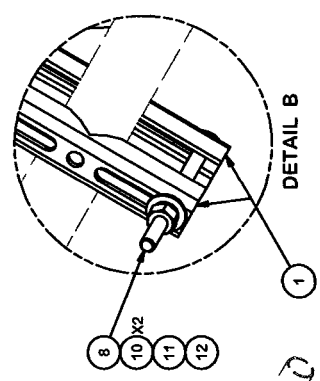
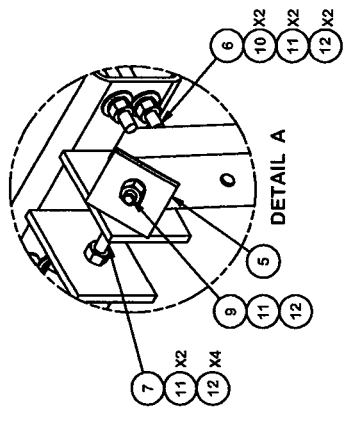
TOLERANCE NOTES TOLERANCES ON DIMENSIONS, UNLESS OTHERWISE NOTED ARE: SAWS, SHEARED AND GAS CUT EDGES (± 0.0607) DRILLED AND GAS CUT HOLES (± 0.0607) - NO CORING OF HOLES LASER CUT EDGES AND HOLES (± 0.0707) - NO CORING OF HOLES BENDS ARE $\pm 1/2$ DEGREE ALL OTHER MACHINING (± 0.0607) ALL OTHER ASSEMBLY (± 0.0607) <small>PROPRIETARY NOTE: THE DATA AND TECHNIQUES CONTAINED IN THIS DRAWING ARE PROPRIETARY INFORMATION OF VALMONT CORPORATION. ANY USE OR DISCLOSURE WITHOUT THE WRITTEN CONSENT OF VALMONT INDUSTRIES IS STRICTLY PROHIBITED.</small>		DESCRIPTION CROSSOVER PLATE KIT	LOCAL OFFICES New York, NY Atlanta, GA Los Angeles, CA Plymouth, IN Salem, OR Dallas, TX Engineering Support Team: 1-888-753-7448	Locations New York, NY Atlanta, GA Los Angeles, CA Plymouth, IN Salem, OR Dallas, TX
CPD NO. CLASS SUB	DRAWN BY CEK DRAWING USAGE SHOP	ENG. APPROVAL 6/30/2011	PART NO. SCX2-K	PAGE 1 OF 1
CHECKED BY BMC	DATE 7/1/2011	DWG. NO. SCX2-K		

ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.
1	4	X-STU	STIFF ARM CHANNEL BRACKET		1.37	5.49
2	2	X-232697	TRPD-HD DIAGONAL ANGLE - SITR PRO 1	52 1/2 in	14.21	28.42
3	1	OFS	LOWER GATE FOOT WELDMENT	12.72	12.72	12.72
4	1	GBB	GATE BACKING BAR	4.53	4.53	4.53
5	2	SHCM-T	CHAIN MOUNT TIGHTENER BRACKET	3 in	1.84	3.68
6	4	G12R-15	1/2" x 15" THREADED ROD (HDG.)		0.55	2.20
7	1	G12R-6	1/2" x 6" GALV. THREADED ROD		0.93	0.93
8	4	G12065	1/2" x 6-1/2" HDG HEX BOLT GR5 FULL THREAD	6 1/2 in	0.41	1.64
9	4	G12112	1/2" x 1-1/2" HDG HEX BOLT GR5	1 1/2 in	0.15	0.59
10	16	G12FW	1/2" HDG USS FLATWASHER		0.03	0.54
11	18	G12LW	1/2" HDG LOCKWASHER		0.01	0.25
12	20	G12NUT	1/2" HDG HEAVY 2H HEX NUT		0.07	1.43
					TOTAL WT. #	65.98

PARTS LIST



SECTOR FRAME REINFORCING KIT ATTACHES TO EITHER EXISTING SECTOR FRAME CROSS ARMS OR TO AN OPTIONAL HORIZONTAL ROUND MEMBER (SHOWN, SOLD SEPARATELY). IF PURCHASING OPTIONAL HORIZONTAL ROUND MEMBER, CORRESPONDING CROSSOVER PLATE KIT WILL NEED TO BE PURCHASED, ONE PER EXISTING ANTENNA MOUNTING PIPE.



DESCRIPTION
SECTOR FRAME
STABILIZER - VERTICAL

SITE PRO 1
A Valmont Company

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

Engineering Support Team:
1-888-753-7446

PART NO. **SFS-V**
DWG. NO. **SFS-V**

PAGE
1 OF 3

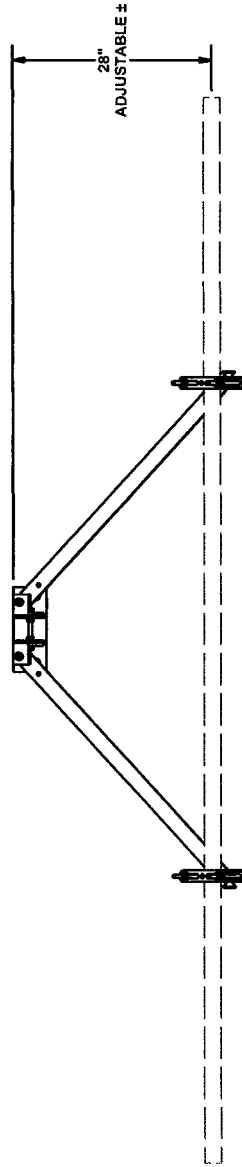
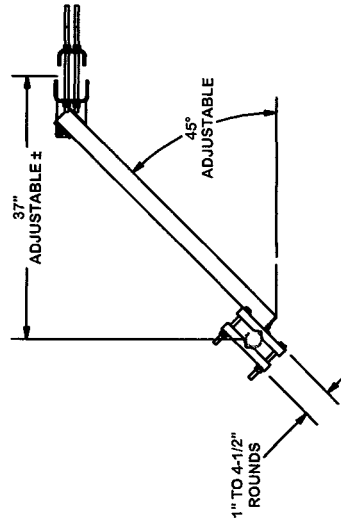
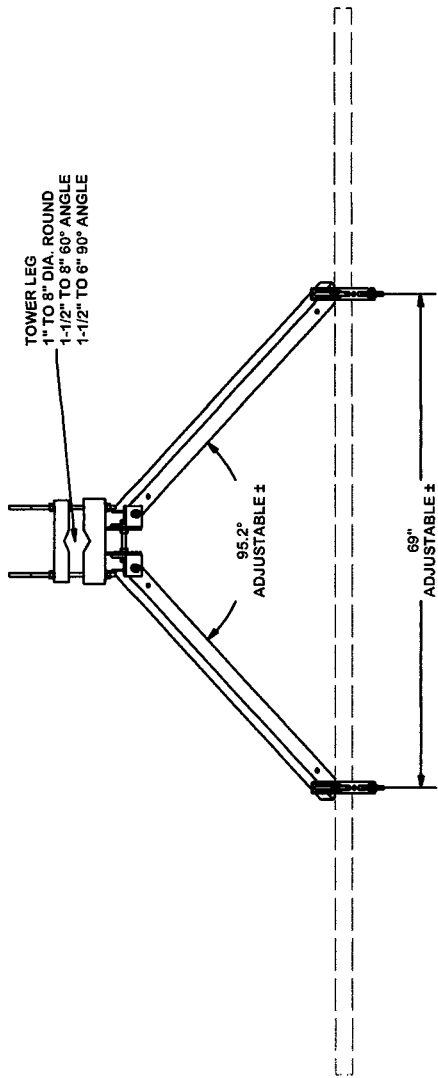
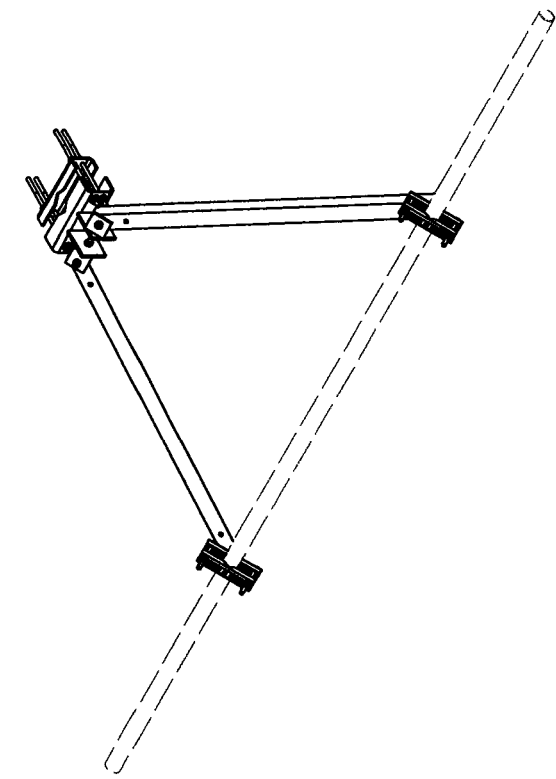
TOLERANCE NOTES
TOLERANCES ON DIMENSIONS UNLESS OTHERWISE NOTED ARE:
SAMED, SHEARED AND GAS CUT EDGES (± 0.007)
DRILLED AND GAS CUT HOLES (± 0.007), NO CONING OF HOLES
MILLED CUT EDGES AND HOLES (± 0.010) - NO CONING OF HOLES
BEARING SURFACES (± 0.005)
ALL OTHER MACHINING (± 0.007)
ALL OTHER ASSEMBLY (± 0.007)

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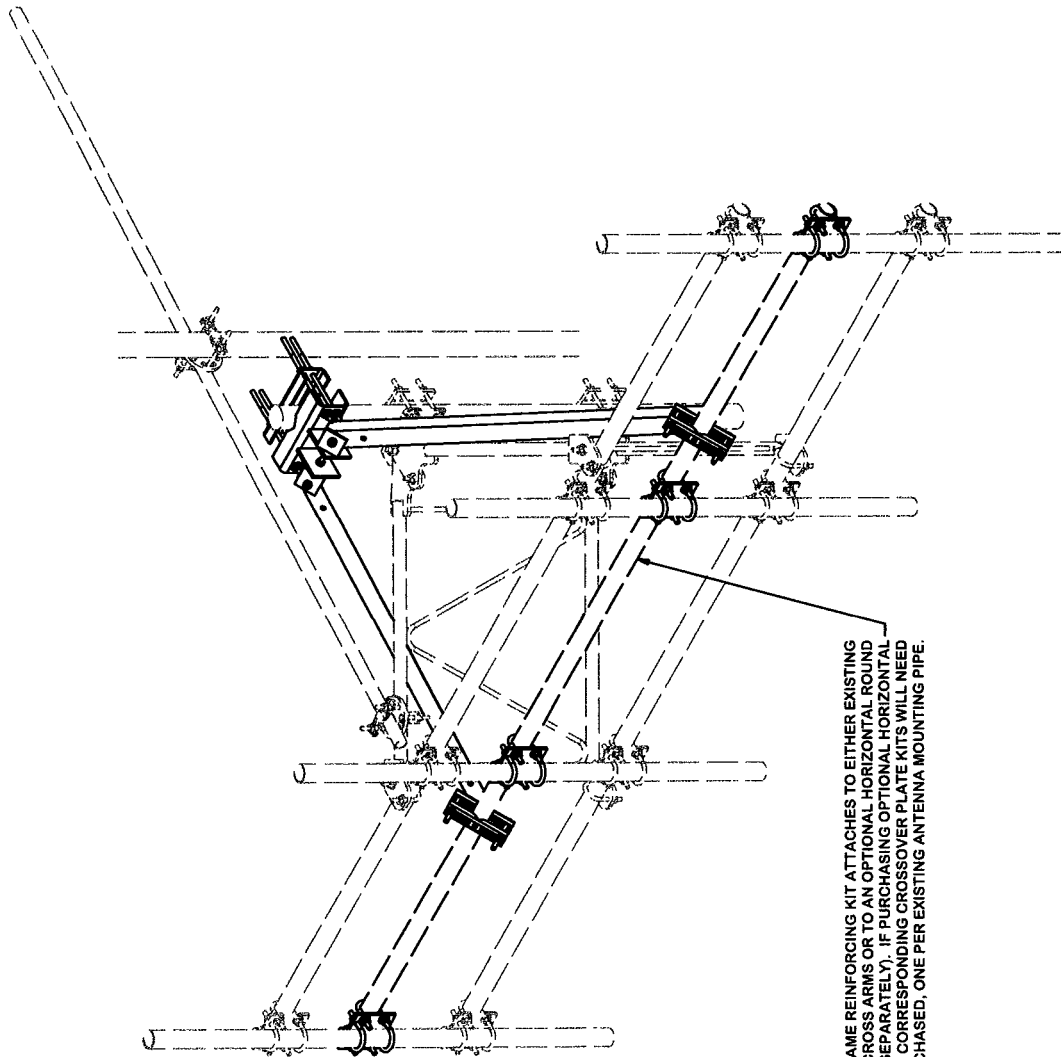
CFD NO. **5563**
CLASS **81**

DRAWN BY **CEK** 4/29/2014
SUB **01**

ENG. APPROVAL
CHECKED BY **BMC** 4/30/2014
CUSTOMER



TOLERANCE NOTES TOLERANCES ON DIMENSIONS, UNLESS OTHERWISE NOTED ARE: SAWED, SHEARED AND GAS CUT EDGES (± 0.0307) DRILLED AND GAS CUT HOLES (± 0.0307) - NO CONING OF HOLES LASER CUT EDGES AND HOLES (± 0.0107) - NO CONING OF HOLES BENDS ARE $\pm 1/2$ DEGREE ALL OTHER MACHINING (± 0.0307) ALL OTHER ASSEMBLY (± 0.0607) <small>PROPRIETARY NOTE: THESE DIMENSIONS AND REQUIREMENTS ARE THE PROPERTY OF VALMONT INDUSTRIES AND SHALL BE KEPT CONFIDENTIAL AND UNDISCLOSED WITHOUT THE CONSENT OF VALMONT INDUSTRIES. ANY USE OR DISCLOSURE WITHOUT THE CONSENT OF VALMONT INDUSTRIES IS STRICTLY PROHIBITED.</small>		DESCRIPTION SECTOR FRAME STABILIZER - VERTICAL		PART NO. SFS-V DWG. NO. SFS-V		PAGE 2 OF 3	
CPD NO. 5563 CLASS 81	SUB 01	DRAWN BY CEK DRAWING USAGE CUSTOMER	ENG. APPROVAL 4/29/2014	CHECKED BY BMC 4/30/2014	Locations: New York, NY Atlanta, GA Los Angeles, CA Plymouth, IN Salem, OR Dallas, TX Engineering Support Team: 1-888-753-7448		A Valmont COMPANY




SECTOR FRAME REINFORCING KIT ATTACHES TO EITHER EXISTING
 SECTOR FRAME CROSS ARMS OR TO AN OPTIONAL HORIZONTAL ROUND
 MEMBER (SHOWN, SOLD SEPARATELY). IF PURCHASING OPTIONAL HORIZONTAL
 ROUND MEMBER, CORRESPONDING CROSSOVER PLATE KITS WILL NEED
 TO BE PURCHASED, ONE PER EXISTING ANTENNA MOUNTING PIPE.

TOLERANCE NOTES

TOLERANCES ON DIMENSIONS, UNLESS OTHERWISE NOTED ARE:
 SAWED, SHEARED AND GAS CUT EDGES (± 0.0307)
 DRILLED AND GAS CUT HOLES (± 0.0307), NO CONING OF HOLES
 LASER CUT EDGES AND HOLES (± 0.0107) - NO CONING OF HOLES
 BENDS ARE $\pm 1/2$ DEGREE
 ALL OTHER MACHINING (± 0.0307)
 ALL OTHER ASSEMBLY (± 0.0307)

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DESCRIPTION		ENG. APPROVAL	
SECTOR FRAME STABILIZER - VERTICAL		[Signature]	
CPD NO.	DRAWN BY	DRAWING USAGE	CHECKED BY
5563	CEK	4/29/2014	BMC
CLASS	SUB	CUSTOMER	DATE
81	01	CUSTOMER	4/30/2014



SITE PRO
A Valmont Industries Company

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

Engineering
 Support Team:
 1-888-753-7446

PART NO.	SFS-V
DWG. NO.	SFS-V

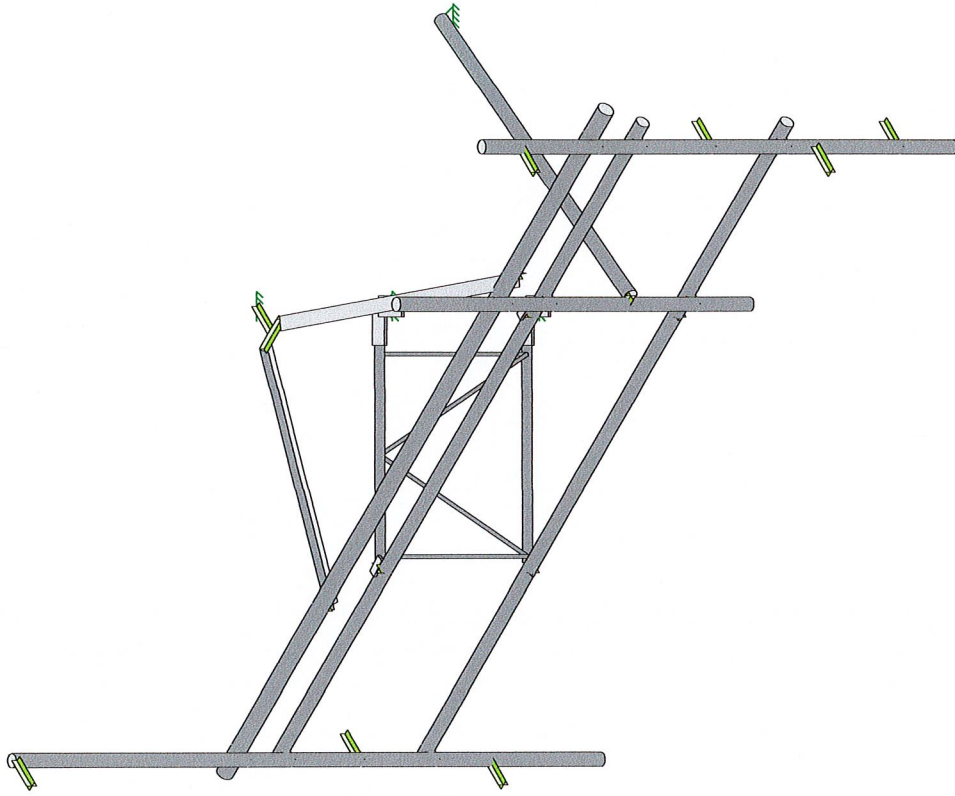
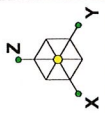
Wind & Ice Loading			
Nominal Mount Elevation (AGL), Z_{mount}	173 ft	K_a	0.90
Nominal Rad Elevation (AGL), Z_{rad}	175 ft	K_d	0.95
Elevation AMSL (ft)	-	K_e	-
TIA Standard	G	K_z	1.16
Basic Wind Speed, V_{ult} (bare)	135 mph	K_{zt}	1.00
Basic Wind Speed, V (ice)	50 mph	K_s	-
Design Ice Thickness, t_i	3/4 in	t_z	1.77 in
Exposure Category	B	G_h	1.00
Risk Category	II	q_z (bare)	51.2 psf
Seismic Response Coeff., C_s	-	q_z (ice)	7.0 psf

Live Loading	
At Mount Pipes, L_M	500 lb
	N63
	N54
	N10
	Joint Labels Considered

Member Distributed Loading			
Section Set Label	Shape Label	F_A (lb/ft)	
		Bare	Ice
Main Horizontal	PIPE_2.0	10.95	3.74
Offset Arm Internal	.625 Dia_HRA	2.88	2.63
Mount Pipe	PIPE_2.0	10.95	3.74
Offset Conn PL	PL3.5x.5	26.89	4.48
Offset Arm	PIPE_1.25	7.65	3.29
Stiff arm	PIPE_2.0	10.95	3.74
MOD SFS	L2.5x2.5x3	19.21	2.44
MOD FH	PIPE_2.5	13.26	4.06

Appurtenances

Appurtenance Model	Status	Azimuth Offset ($^{\circ}$, \cup)	Rad Elev. Override (ft)	Swap Width & Depth	Area Factor		Qty. 0 $^{\circ}$	Total Qty. Override	0 $^{\circ}$ Joints		Height (In)	Width (In)	Depth (In)	Weight (Bare) (lb)	Shape	Weight of Ice (lb)	EPA _A (Bare) (ft ²)		EPA _A (Ice) (ft ²)		F _A (Bare) (lb)		F _A (Ice) (lb)	
					Front	Side			1	2							N	T	N	T	N	T	N	T
APX16DWV-16DWVS-EA20				<input type="checkbox"/>			1	3	A1	A2	59.9	13	3.15	41.8	Flat	124.68	7.00	2.36	9.18	4.37	323.60	109.13	58.25	27.75
APXVAARR24_43-U-NA20				<input type="checkbox"/>			1	3	A3	A4	0	0	0	153.3	Generic	399.09	14.67	5.32	17.36	7.69	678.58	246.08	110.18	48.83
RRUS 11 B2				<input checked="" type="checkbox"/>	0.5	0.5	1	3	R2		20	17	7	50.7	Flat	73.98	0.59	1.42	1.03	2.02	27.34	65.53	6.56	12.79
RADIO 4449 B12/B71				<input type="checkbox"/>	0.5	0.5	1	3	R1		15	13.2	10.4	75	Flat	60.98	0.83	1.30	1.29	2.15	38.16	60.13	8.21	13.67
RRUS 11 B4				<input checked="" type="checkbox"/>	0.5	0.5	1	3	R3		19.7	17	7.2	50.7	Flat	73.98	0.60	1.40	1.04	1.99	27.58	64.55	6.60	12.63



Envelope Only Solution

CLS

ZSB

41124-12927188-01-MA-R1

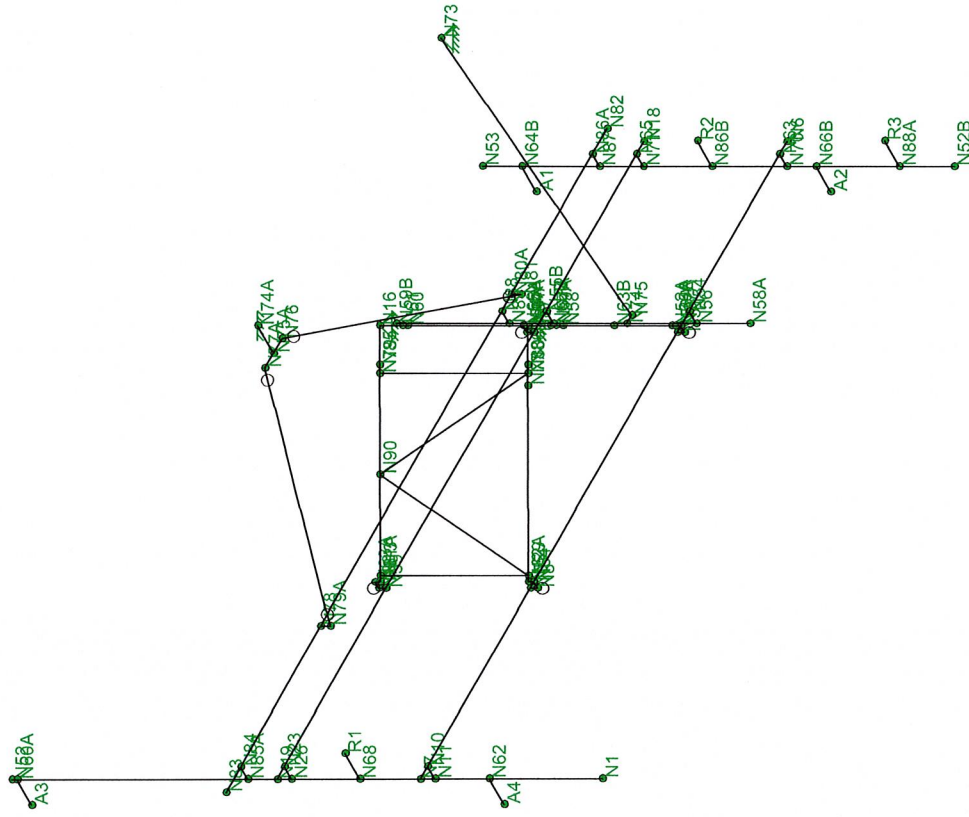
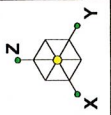
SK - 1

41124-12927188-Salem CT

Rendered

July 3, 2019 at 3:44 PM

41124-12927188-01-MA-R1.r3d



Envelope Only Solution

CLS

ZSB

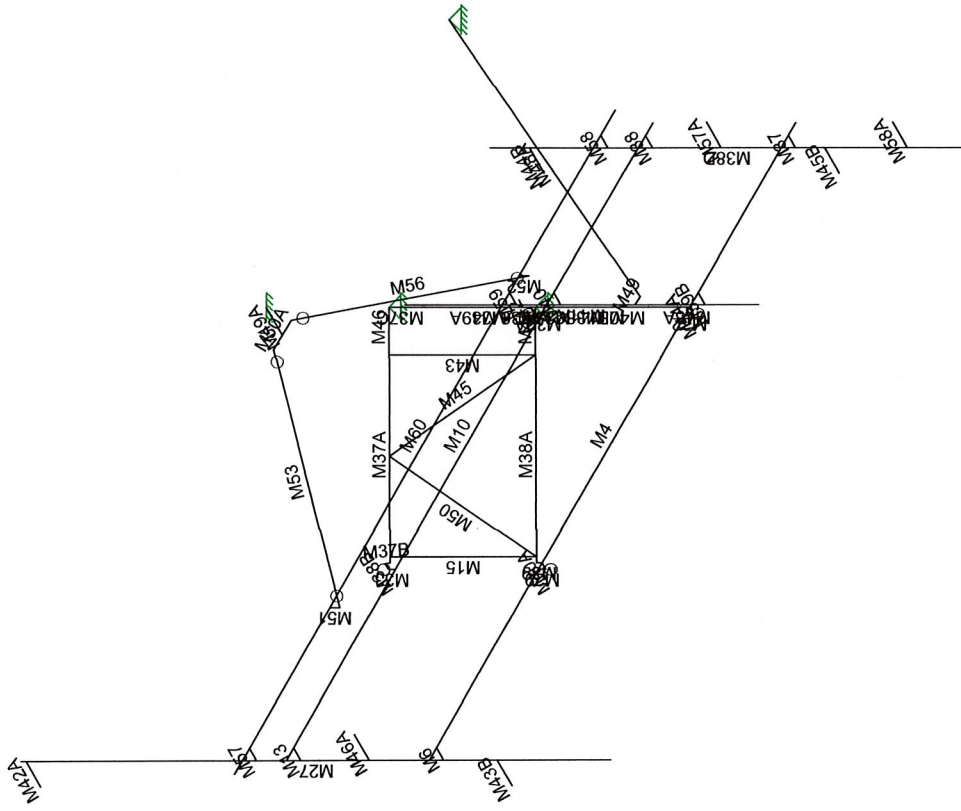
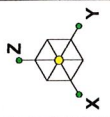
41124-12927188-01-MA-R1

41124-12927188-Salem CT
Joint Labels

SK - 2

July 3, 2019 at 3:44 PM

41124-12927188-01-MA-R1.r3d



Envelope Only Solution

CLS

ZSB

41124-12927188-01-MA-R1

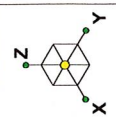
SK - 3

July 3, 2019 at 3:44 PM

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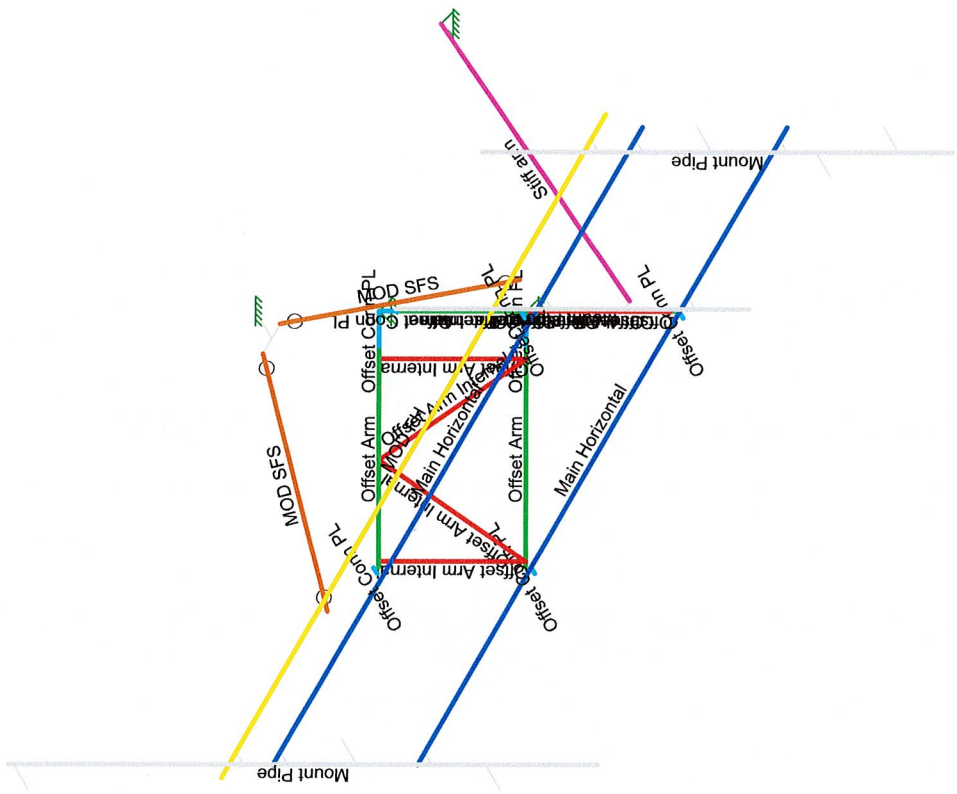
41124-12927188-Salem CT

Member Labels



Section Sets

Main Horizontal	Blue
Offset Arm	Green
Offset Arm Internal	Red
Mount Pipe	Yellow
Stiff arm	Pink
Offset Conn PL	Light Blue
MOD SFS	Orange
MOD FH	Light Green
RIGID	Purple



Envelope Only Solution

CLS

ZSB

41124-12927188-01-MA-R1

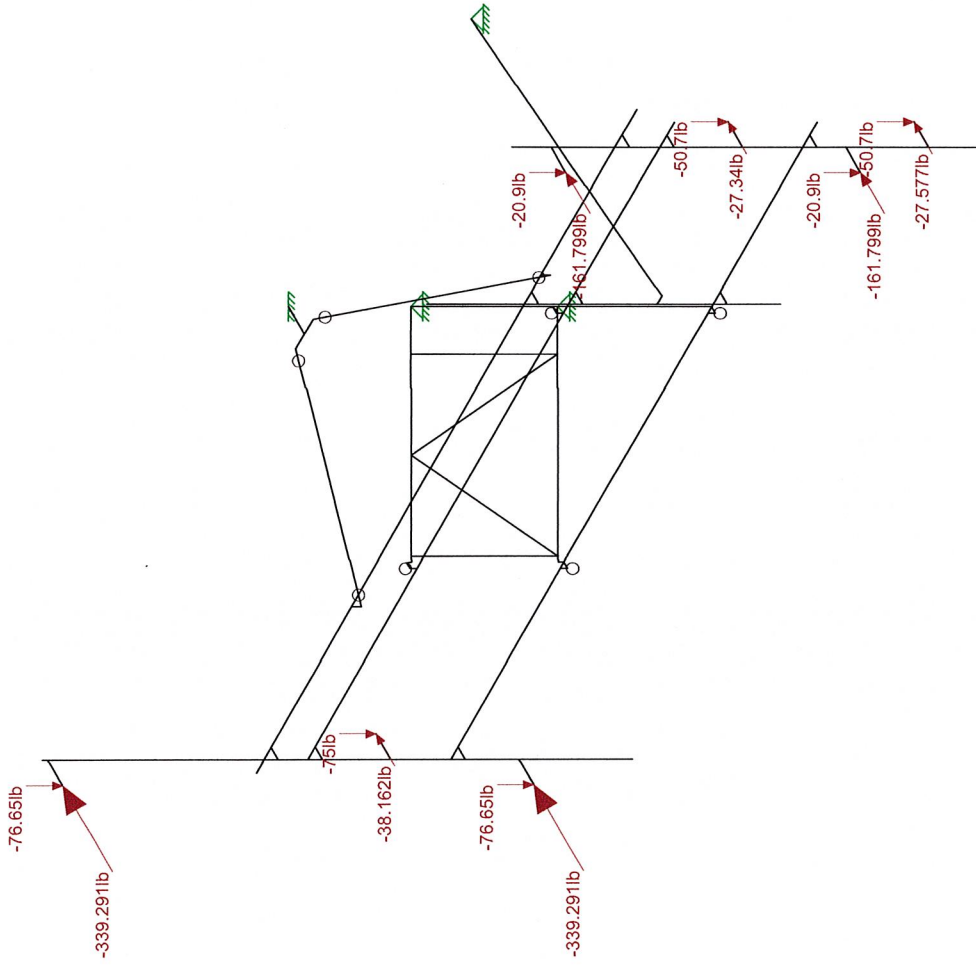
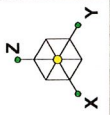
SK - 4

July 3, 2019 at 3:44 PM

41124-12927188-01-MA-R1.r3d

41124-12927188-Salem CT

Section Sets



Loads: LC 1, DISPLAY (1.0D + 1.0W_0°)
Envelope Only Solution

CLS

ZSB

41124-12927188-01-MA-R1

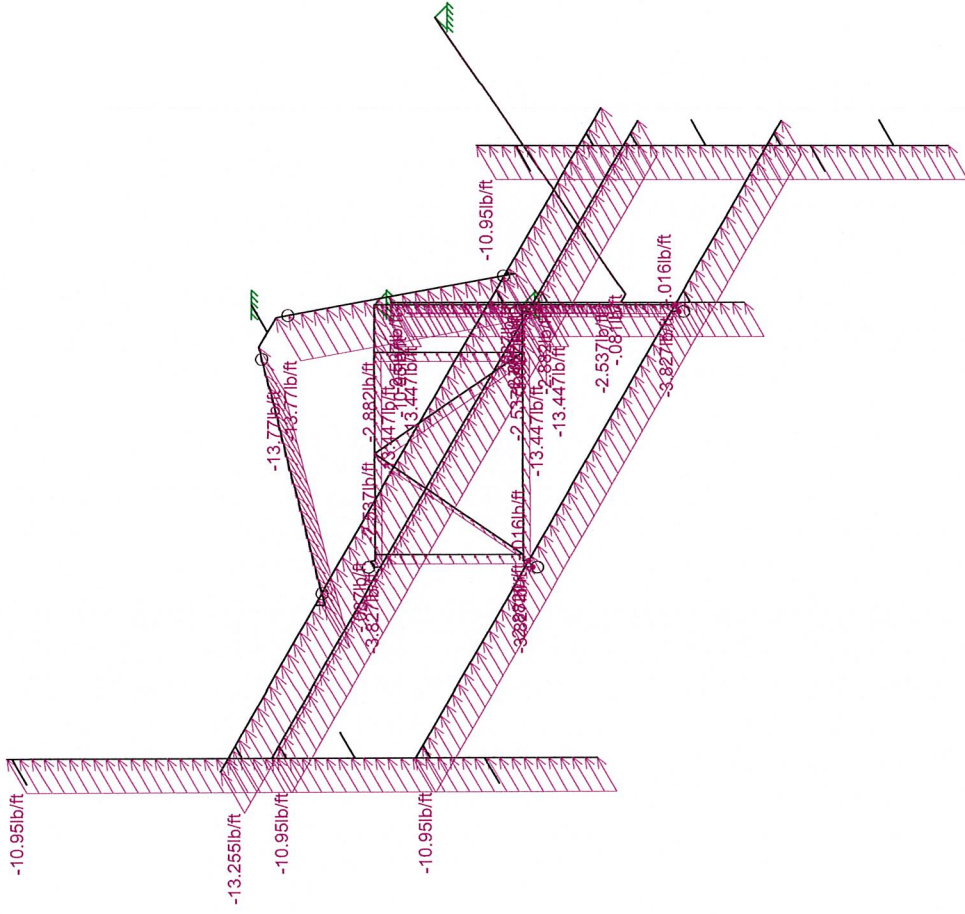
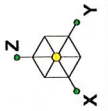
SK - 5

July 3, 2019 at 3:44 PM

41124-12927188-01-MA-R1.r3d

41124-12927188-Salem CT

Joint Loads - Dead and Normal Wind



Loads: BLC 4, Structure Wind 0°
Envelope Only Solution

CLS

ZSB

41124-12927188-01-MA-R1

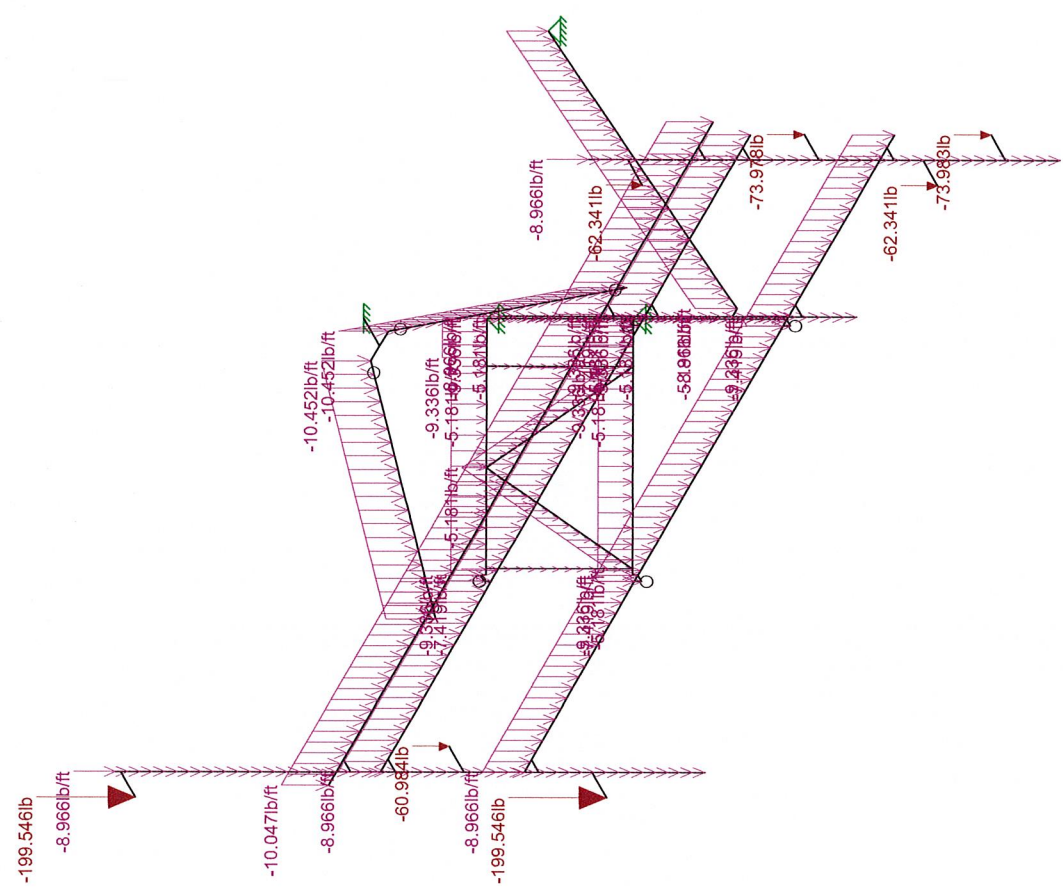
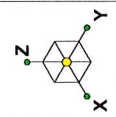
SK - 6

July 3, 2019 at 3:45 PM

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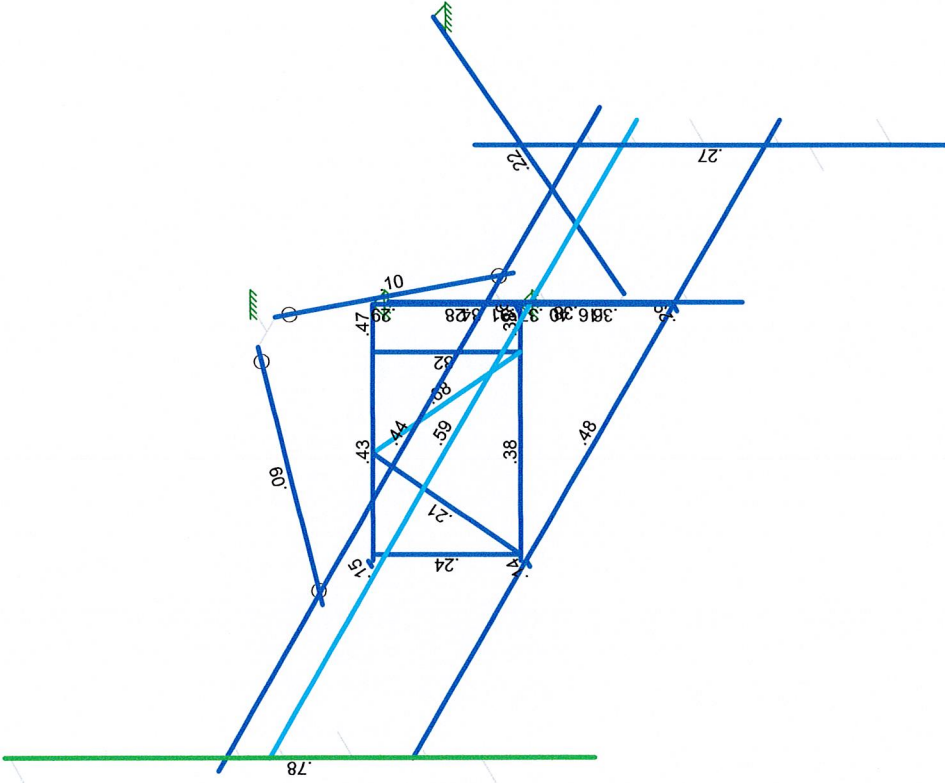
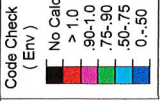
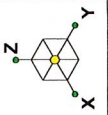
41124-12927188-Salem CT

Distributed Load - Normal Wind



Loads: BLC 2, Ice Dead
Envelope Only, Solution

CLS	41124-12927188-Salem CT	SK - 7
ZSB	Ice Dead Loads	July 3, 2019 at 3:45 PM
41124-12927188-01-MA-R1		41124-12927188-01-MA-R1.r3d



Member Code Checks Displayed (Enveloped)
Envelope Only Solution

CLS

ZSB

41124-12927188-01-MA-R1

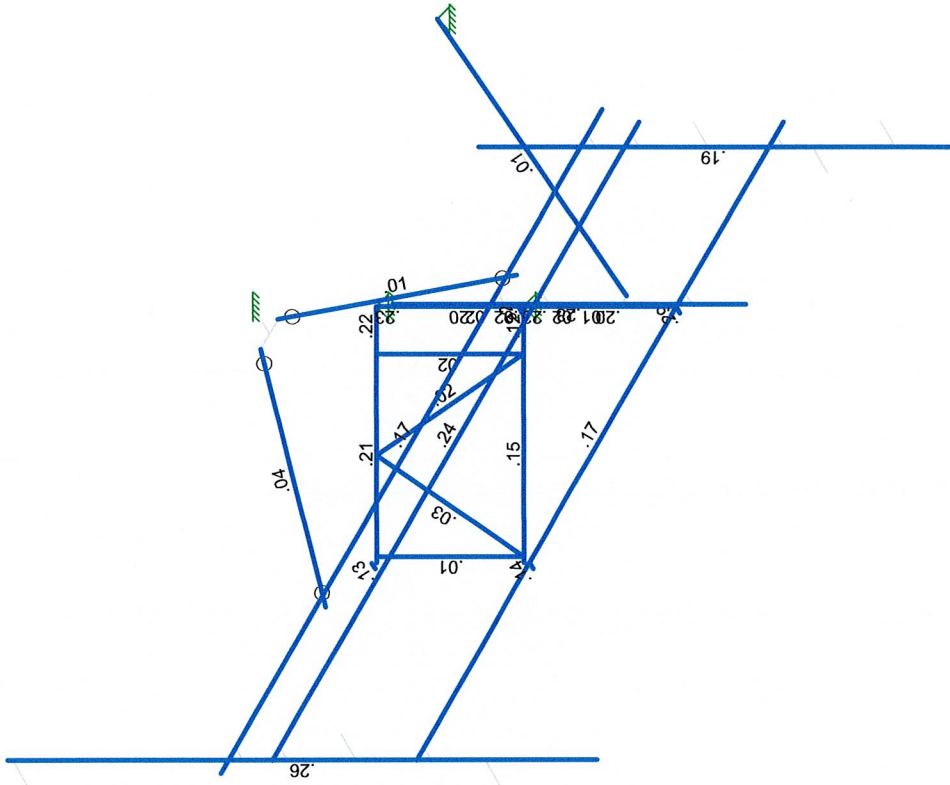
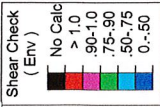
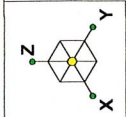
SK - 8

July 3, 2019 at 3:45 PM

41124-12927188-01-MA-R1.r3d

41124-12927188-Salem CT

Envelope Member Unity Check Results - Bending



Member Shear Checks Displayed (Enveloped)
Envelope Only Solution

CLS

ZSB

41124-12927188-01-MA-R1

SK - 9

July 3, 2019 at 3:45 PM

41124-12927188-01-MA-R1.r3d

41124-12927188-Salem CT

Envelope Member Check Results - Shear

Basic Load Cases

	BLC Description	Category	X Gravi...	Y Gravi...	Z Gravity	Joint	Point	Distributed	Area(Member)	Surfac...
1	Dead	DL			-1	7				
2	Ice Dead	RL				7		29		
4	Structure Wind 0°	None						29		
5	Structure Wind 30°	None						58		
6	Structure Wind 45°	None						50		
7	Structure Wind 60°	None						58		
8	Structure Wind 90°	None						26		
9	Structure Wind 120°	None						58		
10	Structure Wind 135°	None						50		
11	Structure Wind 150°	None						58		
12	Structure Wind w/ Ice 0°	None						29		
13	Structure Wind w/ Ice 30°	None						58		
14	Structure Wind w/ Ice 45°	None						58		
15	Structure Wind w/ Ice 60°	None						58		
16	Structure Wind w/ Ice 90°	None						26		
17	Structure Wind w/ Ice 120°	None						58		
18	Structure Wind w/ Ice 135°	None						58		
19	Structure Wind w/ Ice 150°	None						58		
20	Antenna Wind 0°	None				7				
21	Antenna Wind 30°	None				14				
22	Antenna Wind 45°	None				14				
23	Antenna Wind 60°	None				14				
24	Antenna Wind 90°	None				7				
25	Antenna Wind 120°	None				14				
26	Antenna Wind 135°	None				14				
27	Antenna Wind 150°	None				14				
28	Antenna Wind w/ Ice 0°	None				7				
29	Antenna Wind w/ Ice 30°	None				14				
30	Antenna Wind w/ Ice 45°	None				14				
31	Antenna Wind w/ Ice 60°	None				14				
32	Antenna Wind w/ Ice 90°	None				7				
33	Antenna Wind w/ Ice 120°	None				14				
34	Antenna Wind w/ Ice 135°	None				14				
35	Antenna Wind w/ Ice 150°	None				14				
39	Maintenance Live 500 (1)	OL1				1				
40	Maintenance Live 500 (2)	OL2				1				
41	Maintenance Live 500 (3)	OL3				1				

Load Combinations

	Description	S...	P...	S...	BLC	Factor	BLC	Factor	BLC	Factor	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
1	DISPLAY (1.0D + ...	Y...	Y		DL	1	20	1												
2	1.4D	Y...	Y		DL	1.4														
3	1.2D + 1.0W 0°	Y...	Y		DL	1.2	4	1	20	1										
4	1.2D + 1.0W_30°	Y...	Y		DL	1.2	5	1	21	1										
5	1.2D + 1.0W_45°	Y...	Y		DL	1.2	6	1	22	1										
6	1.2D + 1.0W_60°	Y...	Y		DL	1.2	7	1	23	1										
7	1.2D + 1.0W_90°	Y...	Y		DL	1.2	8	1	24	1										
8	1.2D + 1.0W_120°	Y...	Y		DL	1.2	9	1	25	1										
9	1.2D + 1.0W_135°	Y...	Y		DL	1.2	10	1	26	1										
10	1.2D + 1.0W_150°	Y...	Y		DL	1.2	11	1	27	1										
11	1.2D + 1.0W_180°	Y...	Y		DL	1.2	4	-1	20	-1										
12	1.2D + 1.0W_210°	Y...	Y		DL	1.2	5	-1	21	-1										
13	1.2D + 1.0W_225°	Y...	Y		DL	1.2	6	-1	22	-1										
14	1.2D + 1.0W_240°	Y...	Y		DL	1.2	7	-1	23	-1										

Load Combinations (Continued)

	Description	S...	P...	S...	BLC	Factor	BLC	Factor	BLC	Factor	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
15	1.2D + 1.0W_270°	Y...	Y		DL	1.2	8	-1	24	-1										
16	1.2D + 1.0W_300°	Y...	Y		DL	1.2	9	-1	25	-1										
17	1.2D + 1.0W_315°	Y...	Y		DL	1.2	10	-1	26	-1										
18	1.2D + 1.0W_330°	Y...	Y		DL	1.2	11	-1	27	-1										
19	1.2D + 1.0Di + 1.0...	Y...	Y		DL	1.2	12	1	28	1	RL	1								
20	1.2D + 1.0Di + 1.0...	Y...	Y		DL	1.2	13	1	29	1	RL	1								
21	1.2D + 1.0Di + 1.0...	Y...	Y		DL	1.2	14	1	30	1	RL	1								
22	1.2D + 1.0Di + 1.0...	Y...	Y		DL	1.2	15	1	31	1	RL	1								
23	1.2D + 1.0Di + 1.0...	Y...	Y		DL	1.2	16	1	32	1	RL	1								
24	1.2D + 1.0Di + 1.0...	Y...	Y		DL	1.2	17	1	33	1	RL	1								
25	1.2D + 1.0Di + 1.0...	Y...	Y		DL	1.2	18	1	34	1	RL	1								
26	1.2D + 1.0Di + 1.0...	Y...	Y		DL	1.2	19	1	35	1	RL	1								
27	1.2D + 1.0Di + 1.0...	Y...	Y		DL	1.2	12	-1	28	-1	RL	1								
28	1.2D + 1.0Di + 1.0...	Y...	Y		DL	1.2	13	-1	29	-1	RL	1								
29	1.2D + 1.0Di + 1.0...	Y...	Y		DL	1.2	14	-1	30	-1	RL	1								
30	1.2D + 1.0Di + 1.0...	Y...	Y		DL	1.2	15	-1	31	-1	RL	1								
31	1.2D + 1.0Di + 1.0...	Y...	Y		DL	1.2	16	-1	32	-1	RL	1								
32	1.2D + 1.0Di + 1.0...	Y...	Y		DL	1.2	17	-1	33	-1	RL	1								
33	1.2D + 1.0Di + 1.0...	Y...	Y		DL	1.2	18	-1	34	-1	RL	1								
34	1.2D + 1.0Di + 1.0...	Y...	Y		DL	1.2	19	-1	35	-1	RL	1								
35	1.2D + 1.5Lm_1 +..	Y...	Y		DL	1.2	4	.052	20	.052	O..	1.5								
36	1.2D + 1.5Lm_1 +..	Y...	Y		DL	1.2	5	.052	21	.052	O..	1.5								
37	1.2D + 1.5Lm_1 +..	Y...	Y		DL	1.2	6	.052	22	.052	O..	1.5								
38	1.2D + 1.5Lm_1 +..	Y...	Y		DL	1.2	7	.052	23	.052	O..	1.5								
39	1.2D + 1.5Lm_1 +..	Y...	Y		DL	1.2	8	.052	24	.052	O..	1.5								
40	1.2D + 1.5Lm_1 +..	Y...	Y		DL	1.2	9	.052	25	.052	O..	1.5								
41	1.2D + 1.5Lm_1 +..	Y...	Y		DL	1.2	10	.052	26	.052	O..	1.5								
42	1.2D + 1.5Lm_1 +..	Y...	Y		DL	1.2	11	.052	27	.052	O..	1.5								
43	1.2D + 1.5Lm_1 +..	Y...	Y		DL	1.2	4	-.052	20	-.052	O..	1.5								
44	1.2D + 1.5Lm_1 +..	Y...	Y		DL	1.2	5	-.052	21	-.052	O..	1.5								
45	1.2D + 1.5Lm_1 +..	Y...	Y		DL	1.2	6	-.052	22	-.052	O..	1.5								
46	1.2D + 1.5Lm_1 +..	Y...	Y		DL	1.2	7	-.052	23	-.052	O..	1.5								
47	1.2D + 1.5Lm_1 +..	Y...	Y		DL	1.2	8	-.052	24	-.052	O..	1.5								
48	1.2D + 1.5Lm_1 +..	Y...	Y		DL	1.2	9	-.052	25	-.052	O..	1.5								
49	1.2D + 1.5Lm_1 +..	Y...	Y		DL	1.2	10	-.052	26	-.052	O..	1.5								
50	1.2D + 1.5Lm_1 +..	Y...	Y		DL	1.2	11	-.052	27	-.052	O..	1.5								
51	1.2D + 1.5Lm_2 +..	Y...	Y		DL	1.2	4	.052	20	.052	O..	1.5								
52	1.2D + 1.5Lm_2 +..	Y...	Y		DL	1.2	5	.052	21	.052	O..	1.5								
53	1.2D + 1.5Lm_2 +..	Y...	Y		DL	1.2	6	.052	22	.052	O..	1.5								
54	1.2D + 1.5Lm_2 +..	Y...	Y		DL	1.2	7	.052	23	.052	O..	1.5								
55	1.2D + 1.5Lm_2 +..	Y...	Y		DL	1.2	8	.052	24	.052	O..	1.5								
56	1.2D + 1.5Lm_2 +..	Y...	Y		DL	1.2	9	.052	25	.052	O..	1.5								
57	1.2D + 1.5Lm_2 +..	Y...	Y		DL	1.2	10	.052	26	.052	O..	1.5								
58	1.2D + 1.5Lm_2 +..	Y...	Y		DL	1.2	11	.052	27	.052	O..	1.5								
59	1.2D + 1.5Lm_2 +..	Y...	Y		DL	1.2	4	-.052	20	-.052	O..	1.5								
60	1.2D + 1.5Lm_2 +..	Y...	Y		DL	1.2	5	-.052	21	-.052	O..	1.5								
61	1.2D + 1.5Lm_2 +..	Y...	Y		DL	1.2	6	-.052	22	-.052	O..	1.5								
62	1.2D + 1.5Lm_2 +..	Y...	Y		DL	1.2	7	-.052	23	-.052	O..	1.5								
63	1.2D + 1.5Lm_2 +..	Y...	Y		DL	1.2	8	-.052	24	-.052	O..	1.5								
64	1.2D + 1.5Lm_2 +..	Y...	Y		DL	1.2	9	-.052	25	-.052	O..	1.5								
65	1.2D + 1.5Lm_2 +..	Y...	Y		DL	1.2	10	-.052	26	-.052	O..	1.5								
66	1.2D + 1.5Lm_2 +..	Y...	Y		DL	1.2	11	-.052	27	-.052	O..	1.5								
67	1.2D + 1.5Lm_3 +..	Y...	Y		DL	1.2	4	.052	20	.052	O..	1.5								
68	1.2D + 1.5Lm_3 +..	Y...	Y		DL	1.2	5	.052	21	.052	O..	1.5								
69	1.2D + 1.5Lm_3 +..	Y...	Y		DL	1.2	6	.052	22	.052	O..	1.5								
70	1.2D + 1.5Lm_3 +..	Y...	Y		DL	1.2	7	.052	23	.052	O..	1.5								
71	1.2D + 1.5Lm_3 +..	Y...	Y		DL	1.2	8	.052	24	.052	O..	1.5								

Load Combinations (Continued)

	Description	S...	P...	S...	BLC	Factor	BLC	Factor	BLC	Factor	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
72	1.2D + 1.5Lm_3 +..	Y...	Y		DL	1.2	9	.052	25	.052	O..	1.5								
73	1.2D + 1.5Lm_3 +..	Y...	Y		DL	1.2	10	.052	26	.052	O..	1.5								
74	1.2D + 1.5Lm_3 +..	Y...	Y		DL	1.2	11	.052	27	.052	O..	1.5								
75	1.2D + 1.5Lm_3 +..	Y...	Y		DL	1.2	4	-.052	20	-.052	O..	1.5								
76	1.2D + 1.5Lm_3 +..	Y...	Y		DL	1.2	5	-.052	21	-.052	O..	1.5								
77	1.2D + 1.5Lm_3 +..	Y...	Y		DL	1.2	6	-.052	22	-.052	O..	1.5								
78	1.2D + 1.5Lm_3 +..	Y...	Y		DL	1.2	7	-.052	23	-.052	O..	1.5								
79	1.2D + 1.5Lm_3 +..	Y...	Y		DL	1.2	8	-.052	24	-.052	O..	1.5								
80	1.2D + 1.5Lm_3 +..	Y...	Y		DL	1.2	9	-.052	25	-.052	O..	1.5								
81	1.2D + 1.5Lm_3 +..	Y...	Y		DL	1.2	10	-.052	26	-.052	O..	1.5								
82	1.2D + 1.5Lm_3 +..	Y...	Y		DL	1.2	11	-.052	27	-.052	O..	1.5								

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (1/E..	Density[k/ft...	Yield[ksi]	Ry	Fu[ksi]	Rt
1	A36 Gr.36	29000	11154	.3	.65	.49	36	1.5	58	1.2
2	A572 Gr.50	29000	11154	.3	.65	.49	50	1.1	65	1.1
3	A992	29000	11154	.3	.65	.49	50	1.1	65	1.1
4	A500 Gr.B RND	29000	11154	.3	.65	.527	42	1.4	58	1.3
5	A500 Gr.B Rect	29000	11154	.3	.65	.527	46	1.4	58	1.3
6	A53 Gr.B	29000	11154	.3	.65	.49	35	1.6	60	1.2
7	A1085	29000	11154	.3	.65	.49	50	1.4	65	1.3

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design R...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	Main Horizontal	PIPE 2.0	Beam	Pipe	A53 Gr.B	Typical	1.02	.627	.627	1.25
2	Offset Arm	PIPE 1.25	Beam	Pipe	A53 Gr.B	Typical	.625	.184	.184	.368
3	Offset Arm Internal	.625 Dia. HRA	Beam	BAR	A36 Gr.36	Typical	.307	.007	.007	.015
4	Mount Pipe	PIPE 2.0	Beam	Pipe	A53 Gr.B	Typical	1.02	.627	.627	1.25
5	Stiff arm	PIPE 2.0	Beam	Pipe	A53 Gr.B	Typical	1.02	.627	.627	1.25
6	Offset Conn PL	PL3.5x.5	Beam	Pipe	A36 Gr.36	Typical	1.75	.036	1.786	.133
7	MOD SFS	L2.5x2.5x3	Beam	Pipe	A36 Gr.36	Typical	.901	.535	.535	.011
8	MOD FH	PIPE 2.5	Beam	Pipe	A53 Gr.B	Typical	1.61	1.45	1.45	2.89

Hot Rolled Steel Design Parameters

	Label	Shape	Length[in]	Lbyy[in]	Lbzz[in]	Lcomp top[in]	Lcomp bot[in]	L-torq...	Kyy	Kzz	Cb	Function
1	M4	Main Horizo..	150	60	107	Lbyy						Lateral
2	M10	Main Horizo..	150	60	107	Lbyy						Lateral
3	M15	Offset Arm I..	30			Lbyy			.65	.65		Lateral
4	M27	Mount Pipe	120			Lbyy						Lateral
5	M43	Offset Arm I..	30			Lbyy			.65	.65		Lateral
6	M44	Offset Conn..	6.5			Lbyy						Lateral
7	M45	Offset Arm I..	34.392			Lbyy			.65	.65		Lateral
8	M46	Offset Conn..	6.5			Lbyy						Lateral
9	M50	Offset Arm I..	34.392			Lbyy			.65	.65		Lateral
10	M37A	Offset Arm	36.068		17	Lbyy						Lateral
11	M38A	Offset Arm	36.068		34	Lbyy						Lateral
12	M38B	Offset Conn..	1.481			Lbyy						Lateral
13	M40A	Offset Conn..	1.525			Lbyy						Lateral
14	M31	Offset Arm I..	30			Lbyy			.65	.65		Lateral
15	M34	Offset Arm I..	30			Lbyy			.65	.65		Lateral
16	M35A	Offset Conn..	6.5			Lbyy						Lateral
17	M36	Offset Arm I..	34.392			Lbyy			.65	.65		Lateral

Hot Rolled Steel Design Parameters (Continued)

Label	Shape	Length[in]	Lbyy[in]	Lbzz[in]	Lcomp top[in]	Lcomp bot[in]	L-torq...	Kyy	Kzz	Cb	Function
18	M37C	Offset Conn..	6.5				Lbyy				Lateral
19	M38C	Offset Arm I..	34.392				Lbyy	.65	.65		Lateral
20	M39A	Offset Arm	36.068		34		Lbyy				Lateral
21	M40B	Offset Arm	36.068		17		Lbyy				Lateral
22	M42	Offset Conn..	1.481				Lbyy				Lateral
23	M44A	Offset Conn..	1.525				Lbyy				Lateral
24	M38D	Mount Pipe	96				Lbyy				Lateral
25	M41A	Mount Pipe	72				Lbyy				Lateral
26	M48A	Stiff arm	71.535				Lbyy				Lateral
27	M53	MOD SFS	47.214				Lbyy				Lateral
28	M56	MOD SFS	47.214				Lbyy				Lateral
29	M60	MOD FH	156				Lbyy				Lateral

Envelope Joint Reactions

Joint	X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [lb-ft]	LC	MY [lb-ft]	LC	MZ [lb-ft]	LC		
1	N74A	max	1311.637	3	698.713	82	1451.78	11	186.881	42	503.213	3	237.202	82
2		min	-2037.844	11	-1230.249	42	-922.197	3	-108.183	82	-789.34	11	-414.929	42
3	N16	max	882.649	11	1275.443	11	1016.408	19	0	82	0	82	0	82
4		min	-1245.57	3	-532.952	3	-301.757	11	0	1	0	1	0	1
5	N4	max	2850.677	18	525.61	49	884.71	19	0	82	0	82	0	82
6		min	-1741.71	10	-1458.744	73	-304.571	11	0	1	0	1	0	1
7	N73	max	1369.709	10	79.808	5	40.61	26	0	82	0	82	0	82
8		min	-1385.19	18	-78.084	13	-1.767	82	0	1	0	1	0	1
9	Totals:	max	2045.905	3	1152.021	14	2529.348	26						
10		min	-2045.91	11	-1152.023	6	721.429	1						

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

Member	Shape	Code Check	Loc[in]	LC	Shear Check	Loc[in]	Dir	LC	phi*Pn...	phi*Pn...	phi*Mn...	phi*Mn.....	Eqn	
1	M27	PIPE 2.0	.779	47.368	11	.263	50.526	82	9836.5...	32130	1871.6...	1871.6...	H1-1b	
2	M45	.625 Dia. _HRA	.676	0	19	.017	0	3	3385.9...	9940.19	103.542	103.542...	H1-1a	
3	M10	PIPE 2.0	.591	3.947	67	.238	106.5...	41	12371...	32130	1871.6...	1871.6...	H1-1b	
4	M4	PIPE 2.0	.478	43.421	3	.174	106.5...	18	12371...	32130	1871.6...	1871.6...	H1-1b	
5	M46	PL3.5x.5	.465	0	19	.216	6.5	y	3	50959...	56700	590.625	4134.3...	H1-1b
6	M60	PIPE 2.5	.436	41.053	11	.165	41.053	11	13460...	50715	3596.25	3596.25...	H1-1b	
7	M37A	PIPE 1.25	.428	35.119	19	.211	36.068	3	15702...	19687.5	800.625	800.625...	H1-1b	
8	M38C	.625 Dia. _HRA	.402	0	3	.019	34.392	30	3385.9...	9940.19	103.542	103.542...	H1-1a	
9	M41A	PIPE 2.0	.383	24.632	11	.227	60.632	10	20866...	32130	1871.6...	1871.6...	H1-1b	
10	M44	PL3.5x.5	.378	0	19	.121	6.5	y	18	50959...	56700	590.625	4134.3...	H1-1b
11	M38A	PIPE 1.25	.377	35.119	19	.147	36.068	34	15702...	19687.5	800.625	800.625...	H1-1b	
12	M35A	PL3.5x.5	.367	0	3	.227	6.5	y	19	50959...	56700	590.625	4134.3...	H1-1b
13	M40B	PIPE 1.25	.359	35.119	3	.196	36.068	19	15702...	19687.5	800.625	800.625...	H1-1b	
14	M34	.625 Dia. _HRA	.336	0	3	.025	30	42	4378.1...	9940.19	103.542	103.542...	H1-1b	
15	M43	.625 Dia. _HRA	.322	30	19	.023	0	42	4378.1...	9940.19	103.542	103.542...	H1-1b	
16	M36	.625 Dia. _HRA	.308	34.392	11	.022	34.392	82	3385.9...	9940.19	103.542	103.542...	H1-1a	
17	M44A	PL3.5x.5	.293	1.525	18	.286	0	y	10	56367...	56700	590.625	4134.3...	H1-1b
18	M37C	PL3.5x.5	.289	0	3	.232	6.5	y	19	50959...	56700	590.625	4134.3...	H1-1b
19	M39A	PIPE 1.25	.282	35.119	3	.195	36.068	19	15702...	19687.5	800.625	800.625...	H1-1b	
20	M38D	PIPE 2.0	.266	25.263	43	.192	30.316	44	14916...	32130	1871.6...	1871.6...	H1-1b	
21	M42	PL3.5x.5	.260	1.481	4	.320	0	y	44	56386...	56700	590.625	4134.3...	H1-1b
22	M15	.625 Dia. _HRA	.244	0	18	.012	0	42	4378.1...	9940.19	103.542	103.542...	H1-1b	
23	M48A	PIPE 2.0	.217	0	3	.007	0	3	20983...	32130	1871.6...	1871.6...	H1-1b	
24	M50	.625 Dia. _HRA	.210	34.392	18	.032	34.392	3	3385.9...	9940.19	103.542	103.542...	H1-1b	
25	M31	.625 Dia. _HRA	.160	30	9	.015	30	10	4378.1...	9940.19	103.542	103.542...	H1-1b*	
26	M38B	PL3.5x.5	.146	1.481	3	.126	0	y	3	56386...	56700	590.625	4134.3...	H1-1b

Company : CLS
 Designer : ZSB
 Job Number : 41124-12927188-01-MA-R1
 Model Name : 41124-12927188-Salem CT

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

Member	Shape	Code Check	Loc[jin]	LC	Shear Check	Loc[jin]	Dir	LC	phi*Pn...	phi*Pn...	phi*Mn...	phi*Mn.....	Eqn	
27	M40A	PL3.5x.5	.137	1.525	67	.138	0	y	3	56367...	56700	590.625	4134.3.....	H1-1b
28	M56	L2.5x2.5x3	.104	23.607	3	.014	47.214	z	36	17473...	29192.4	872.574	1759.5.....	H2-1
29	M53	L2.5x2.5x3	.086	23.607	10	.039	47.214	z	3	17473...	29192.4	872.574	1759.5.....	H2-1