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Job No	Sheet No <b>1</b>	Rev
Part		
Job Title	Ref	
	By	Date 17-Dec-14 Chd
Client	File Sttad Talleres.std	Date/Time 22-Dec-2014 10:01

## Job Information

	Engineer	Checked	Approved
Name:			
Date:	17-Dec-14		

<b>Structure Type</b>	SPACE FRAME
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Number of Nodes	230	Highest Node	326
Number of Elements	367	Highest Beam	581

Number of Basic Load Cases	5
Number of Combination Load Cases	55

Included in this printout are data for:

All	The Whole Structure
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Included in this printout are results for load cases:

Type	L/C	Name
Primary	1	SISMO X
Primary	2	SISMO Z
Primary	3	CARGA VIVA
Primary	4	CARGA MUERTA
Primary	56	CARGA DE VIENTO
Combination	5	1.2 CM + 1.6 CV
Combination	6	1.2 CM + CV + (SX/R + 0,30 SZ/R)
Combination	7	1.2 CM + CV - (SX/R - 0,30 SZ/R)
Combination	8	1.2 CM + CV + (SX/R - 0,30 SZ/R)
Combination	9	1.2 CM + CV - (SX/R + 0,30 SZ/R)
Combination	10	1.2 CM + CV + (0.3 SX/R + SZ/R)
Combination	11	1.2 CM + CV - (0.3 SX/R - SZ/R)
Combination	12	1.2 CM + CV + (0.3 SX/R - SZ/R)
Combination	13	1.2 CM + CV - (0.3 SX/R + SZ/R)
Combination	14	0.9 CM + (SX/R + 0,30 SZ/R)
Combination	15	0.9 CM - (SX/R - 0,30 SZ/R)
Combination	16	0.9 CM + (SX/R - 0,30 SZ/R)
Combination	17	0.9 CM - (SX/R + 0,30 SZ/R)
Combination	18	0.9 CM + (0.3 SX/R + SZ/R)
Combination	19	0.9 CM - (0.3 SX/R - SZ/R)
Combination	20	0.9 CM + (0.3 SX/R - SZ/R)
Combination	21	0.9 CM - (0.3 SX/R + SZ/R)
Combination	22	CM + CV
Combination	23	CM + 0,75 CV + 0.75 (0.7)(SX + 0,3 SZ)/R
Combination	24	CM + 0,75 CV - 0.75 (0.7)(SX - 0,3 SZ)/R
Combination	25	CM + 0,75 CV + 0.75 (0.7)(SX - 0,3 SZ)/R
Combination	26	CM + 0,75 CV - 0.75 (0.7)(SX + 0,3 SZ)/R
Combination	27	CM + 0,75 CV + 0.75 (0.7)(0,3 SX + SZ)/R



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## Job Information Cont...

Type	L/C	Name
Combination	28	CM + 0,75 CV - 0.75 (0.7)(0.3 SX - SZ)/R
Combination	29	CM + 0,75 CV + 0.75 (0.7)(0.3 SX - SZ)/R
Combination	30	CM + 0,75 CV - 0.75 (0.7)(0.3 SX + SZ)/R
Combination	31	0.6 CM + 0.700 ( SX + 0.3 SZ)/R
Combination	32	0.6 CM - 0.700 ( SX - 0.3 SZ)/R
Combination	33	0.6 CM + 0.700 ( SX - 0.3 SZ)/R
Combination	34	0.6 CM - 0.700 ( SX + 0.3 SZ)/R
Combination	35	0.6 CM + 0.700 ( 0.3 SX + SZ)/R
Combination	36	0.6 CM - 0.700 ( 0.3 SX - SZ)/R
Combination	37	0.6 CM - 0.700 ( 0.3 SX + SZ)/R
Combination	38	0.6 CM + 0.700 ( 0.3 SX - SZ)/R
Combination	39	1.2 CM + 1.6 CV
Combination	40	1.2 CM + CV + (SX/R + 0,30 SZ/R)
Combination	41	1.2 CM + CV - (SX/R - 0,30 SZ/R)
Combination	42	1.2 CM + CV + (SX/R - 0,30 SZ/R)
Combination	43	1.2 CM + CV - (SX/R + 0,30 SZ/R)
Combination	44	1.2 CM + CV + (0.3 SX/R + SZ/R)
Combination	45	1.2 CM + CV - (0.3 SX/R - SZ/R)
Combination	46	1.2 CM + CV + (0.3 SX/R - SZ/R)
Combination	47	1.2 CM + CV - (0.3 SX/R + SZ/R)
Combination	48	0.9 CM + (SX/R + 0,30 SZ/R)
Combination	49	0.9 CM - (SX/R - 0,30 SZ/R)
Combination	50	0.9 CM + (SX/R - 0,30 SZ/R)
Combination	51	0.9 CM - (SX/R + 0,30 SZ/R)
Combination	52	0.9 CM + (0.3 SX/R + SZ/R)
Combination	53	0.9 CM - (0.3 SX/R - SZ/R)
Combination	54	0.9 CM + (0.3 SX/R - SZ/R)
Combination	55	0.9 CM - (0.3 SX/R + SZ/R)
Combination	57	1.2 CM + W + CV
Combination	58	1.2 CM - W + CV
Combination	59	0.9 CM + W
Combination	60	0.9 CM - W



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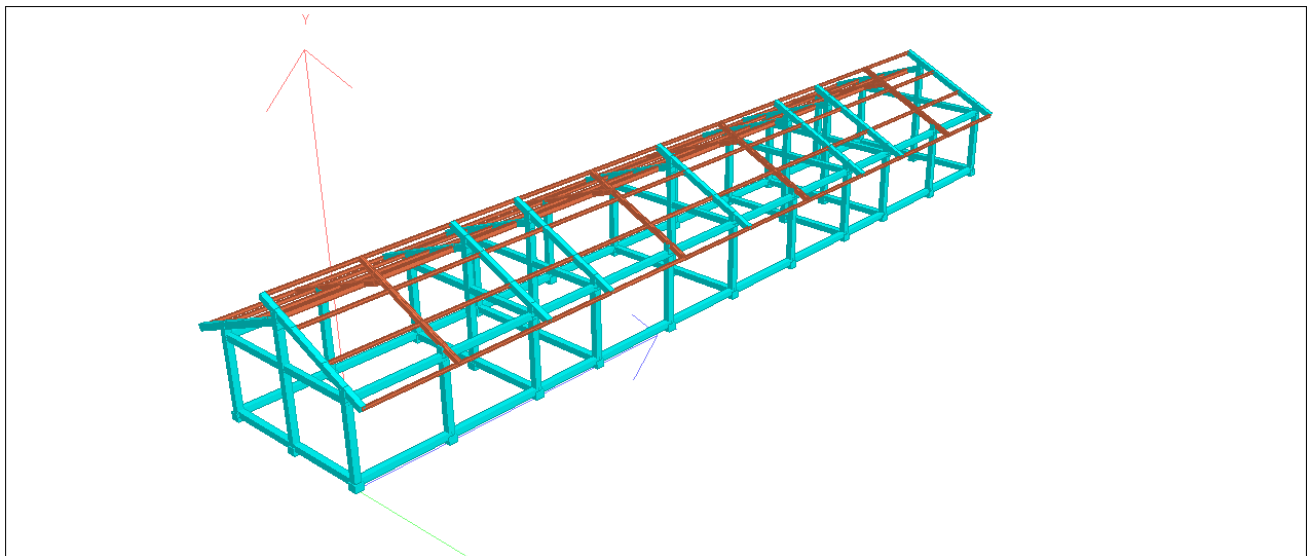
File Sttad Talleres.std

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## Section Properties

Prop	Section	Area (cm <sup>2</sup> )	I <sub>yy</sub> (cm <sup>4</sup> )	I <sub>zz</sub> (cm <sup>4</sup> )	J (cm <sup>4</sup> )	Material
1	Rect 0.25x0.20	500.000	16.7E+3	26E+3	34.2E+3	CONCRETE
2	Rect 0.25x0.25	625.000	32.6E+3	32.6E+3	54.9E+3	CONCRETE
3	UPN200 FR	64.400	2.1E+3	3.82E+3	22.926	STEEL
4	UPN140	20.400	62.700	605.000	5.486	STEEL
5	Rect 0.25x0.25	625.000	32.6E+3	32.6E+3	54.9E+3	CONCRETE
6	Rect 0.35x0.35	1.22E+3	125E+3	125E+3	211E+3	CONCRETE
7	UPN120	17.000	43.200	364.000	3.942	STEEL
8	UPN80	11.000	19.400	106.000	2.054	STEEL
9	UPN180	28.000	114.000	1.35E+3	9.096	STEEL
10	UPN200	32.200	148.000	1.91E+3	11.463	STEEL



3D Rendered View

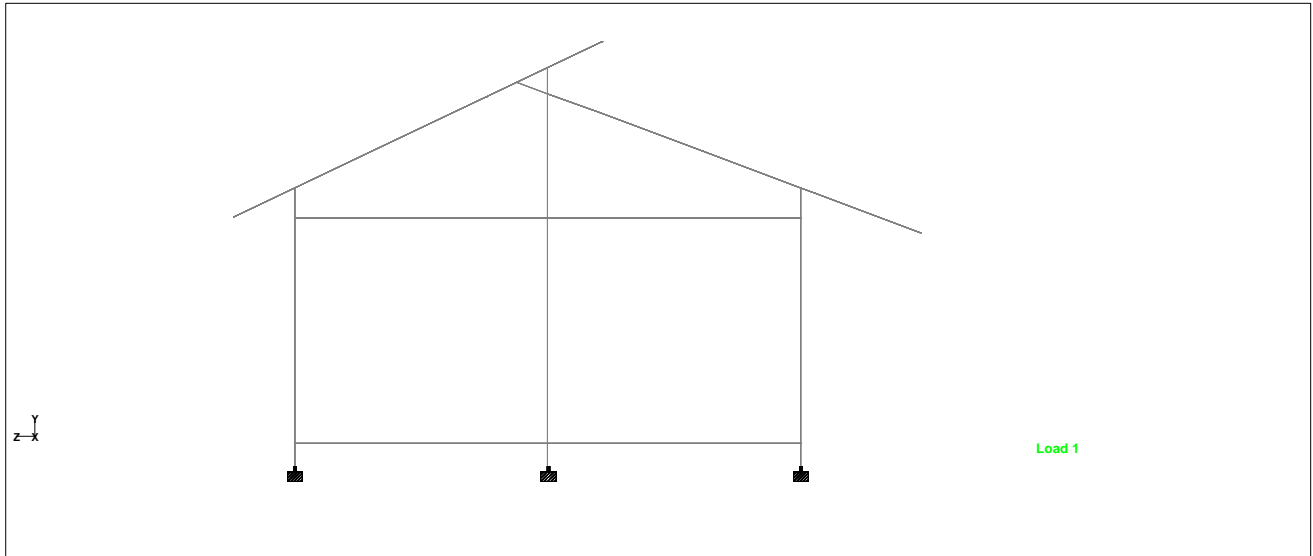
## Materials

Mat	Name	E (kN/mm <sup>2</sup> )	v	Density (kg/m <sup>3</sup> )	α (/°C)
1	STEEL	205.000	0.300	7.83E+3	12E -6
2	STAINLESSSTEEL	197.930	0.300	7.83E+3	18E -6
3	ALUMINUM	68.948	0.330	2.71E+3	23E -6
4	CONCRETE	21.718	0.170	2.4E+3	10E -6



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Whole Structure

### Basic Load Cases

Number	Name
1	SISMO X
2	SISMO Z
3	CARGA VIVA
4	CARGA MUERTA
56	CARGA DE VIENTO

### Combination Load Cases

Comb.	Combination L/C Name	Primary	Primary L/C Name	Factor
5	1.2 CM + 1.6 CV	4	CARGA MUERTA	1.20
		3	CARGA VIVA	1.60
6	1.2 CM + CV + (SX/R + 0,30 SZ/R)	4	CARGA MUERTA	1.20
		3	CARGA VIVA	1.00
		1	SISMO X	0.25
		2	SISMO Z	0.08
7	1.2 CM + CV - (SX/R - 0,30 SZ/R)	4	CARGA MUERTA	1.20
		3	CARGA VIVA	1.00
		1	SISMO X	-0.25
		2	SISMO Z	0.08
8	1.2 CM + CV + (SX/R - 0,30 SZ/R)	4	CARGA MUERTA	1.20
		3	CARGA VIVA	1.00
		1	SISMO X	0.25
		2	SISMO Z	-0.08
9	1.2 CM + CV - (SX/R + 0,30 SZ/R)	4	CARGA MUERTA	1.20



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**Combination Load Cases Cont...**

Comb.	Combination L/C Name	Primary	Primary L/C Name	Factor
		3	CARGA VIVA	1.00
		1	SISMO X	-0.25
		2	SISMO Z	-0.08
10	1.2 CM + CV + (0.3 SX/R + SZ/R)	4	CARGA MUERTA	1.20
		3	CARGA VIVA	1.00
		1	SISMO X	0.08
		2	SISMO Z	0.25
11	1.2 CM + CV - (0.3 SX/R - SZ/R)	4	CARGA MUERTA	1.20
		3	CARGA VIVA	1.00
		1	SISMO X	-0.08
		2	SISMO Z	0.25
12	1.2 CM + CV + (0.3 SX/R - SZ/R)	4	CARGA MUERTA	1.20
		3	CARGA VIVA	1.00
		1	SISMO X	0.08
		2	SISMO Z	-0.25
13	1.2 CM + CV - (0.3 SX/R + SZ/R)	4	CARGA MUERTA	1.20
		3	CARGA VIVA	1.00
		1	SISMO X	-0.08
		2	SISMO Z	-0.25
14	0.9 CM + (SX/R + 0,30 SZ/R)	4	CARGA MUERTA	0.90
		1	SISMO X	0.25
		2	SISMO Z	0.08
15	0.9 CM - (SX/R - 0,30 SZ/R)	4	CARGA MUERTA	0.90
		1	SISMO X	-0.25
		2	SISMO Z	0.08
16	0.9 CM + (SX/R - 0,30 SZ/R)	4	CARGA MUERTA	0.90
		1	SISMO X	0.25
		2	SISMO Z	-0.08
17	0.9 CM - (SX/R + 0,30 SZ/R)	4	CARGA MUERTA	0.90
		1	SISMO X	-0.25
		2	SISMO Z	-0.08
18	0.9 CM + (0.3 SX/R + SZ/R)	4	CARGA MUERTA	0.90
		1	SISMO X	0.08
		2	SISMO Z	0.25
19	0.9 CM - (0.3 SX/R - SZ/R)	4	CARGA MUERTA	0.90
		1	SISMO X	-0.08
		2	SISMO Z	0.25
20	0.9 CM + (0.3 SX/R - SZ/R)	4	CARGA MUERTA	0.90
		1	SISMO X	0.08
		2	SISMO Z	-0.25
21	0.9 CM - (0.3 SX/R + SZ/R)	4	CARGA MUERTA	0.90
		1	SISMO X	-0.08
		2	SISMO Z	-0.25
22	CM + CV	4	CARGA MUERTA	1.00
		3	CARGA VIVA	1.00



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**Combination Load Cases Cont...**

Comb.	Combination L/C Name	Primary	Primary L/C Name	Factor
23	CM + 0,75 CV + 0.75 (0.7)(SX + 0,3 SZ)/R	4	CARGA MUERTA	1.00
		3	CARGA VIVA	0.75
		1	SISMO X	0.13
		2	SISMO Z	0.04
24	CM + 0,75 CV - 0.75 (0.7)(SX - 0,3 SZ)/R	4	CARGA MUERTA	1.00
		3	CARGA VIVA	0.75
		1	SISMO X	-0.13
		2	SISMO Z	0.04
25	CM + 0,75 CV + 0.75 (0.7)(SX - 0,3 SZ)/R	4	CARGA MUERTA	1.00
		3	CARGA VIVA	0.75
		1	SISMO X	0.13
		2	SISMO Z	-0.04
26	CM + 0,75 CV - 0.75 (0.7)(SX + 0,3 SZ)/R	4	CARGA MUERTA	1.00
		3	CARGA VIVA	0.75
		1	SISMO X	-0.13
		2	SISMO Z	-0.04
27	CM + 0,75 CV + 0.75 (0.7)(0,3 SX + SZ)/R	4	CARGA MUERTA	1.00
		3	CARGA VIVA	0.75
		1	SISMO X	0.04
		2	SISMO Z	0.13
28	CM + 0,75 CV - 0.75 (0.7)(0.3 SX - SZ)/R	4	CARGA MUERTA	1.00
		3	CARGA VIVA	0.75
		1	SISMO X	-0.04
		2	SISMO Z	0.13
29	CM + 0,75 CV + 0.75 (0.7)(0.3 SX - SZ)/R	4	CARGA MUERTA	1.00
		3	CARGA VIVA	0.75
		1	SISMO X	0.04
		2	SISMO Z	-0.13
30	CM + 0,75 CV - 0.75 (0.7)(0.3 SX + SZ)/R	4	CARGA MUERTA	1.00
		3	CARGA VIVA	0.75
		1	SISMO X	-0.04
		2	SISMO Z	-0.13
31	0.6 CM + 0.700 ( SX + 0.3 SZ)/R	4	CARGA MUERTA	0.60
		1	SISMO X	0.18
		2	SISMO Z	0.05
32	0.6 CM - 0.700 ( SX - 0.3 SZ)/R	4	CARGA MUERTA	0.60
		1	SISMO X	-0.18
		2	SISMO Z	0.05
33	0.6 CM + 0.700 ( SX - 0.3 SZ)/R	4	CARGA MUERTA	0.60
		1	SISMO X	0.18
		2	SISMO Z	-0.05
34	0.6 CM - 0.700 ( SX + 0.3 SZ)/R	4	CARGA MUERTA	0.60
		1	SISMO X	-0.18
		2	SISMO Z	-0.05
35	0.6 CM + 0.700 ( 0.3 SX + SZ)/R	4	CARGA MUERTA	0.60



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**Combination Load Cases Cont...**

Comb.	Combination L/C Name	Primary	Primary L/C Name	Factor
		1	SISMO X	0.05
		2	SISMO Z	0.18
36	0.6 CM - 0.700 ( 0.3 SX - SZ)/R	4	CARGA MUERTA	0.60
		1	SISMO X	-0.05
		2	SISMO Z	0.18
37	0.6 CM - 0.700 ( 0.3 SX + SZ)/R	4	CARGA MUERTA	0.60
		1	SISMO X	-0.05
		2	SISMO Z	-0.18
38	0.6 CM + 0.700 ( 0.3 SX - SZ)/R	4	CARGA MUERTA	0.60
		1	SISMO X	0.05
		2	SISMO Z	-0.18
39	1.2 CM + 1.6 CV	4	CARGA MUERTA	1.20
		3	CARGA VIVA	1.60
40	1.2 CM + CV + (SX/R + 0,30 SZ/R)	4	CARGA MUERTA	1.20
		3	CARGA VIVA	1.00
		1	SISMO X	0.25
		2	SISMO Z	0.08
41	1.2 CM + CV - (SX/R - 0,30 SZ/R)	4	CARGA MUERTA	1.20
		3	CARGA VIVA	1.00
		1	SISMO X	-0.25
		2	SISMO Z	0.08
42	1.2 CM + CV + (SX/R - 0,30 SZ/R)	4	CARGA MUERTA	1.20
		3	CARGA VIVA	1.00
		1	SISMO X	0.25
		2	SISMO Z	-0.08
43	1.2 CM + CV - (SX/R + 0,30 SZ/R)	4	CARGA MUERTA	1.20
		3	CARGA VIVA	1.00
		1	SISMO X	-0.25
		2	SISMO Z	-0.08
44	1.2 CM + CV + (0.3 SX/R + SZ/R)	4	CARGA MUERTA	1.20
		3	CARGA VIVA	1.00
		1	SISMO X	0.08
		2	SISMO Z	0.25
45	1.2 CM + CV - (0.3 SX/R - SZ/R)	4	CARGA MUERTA	1.20
		3	CARGA VIVA	1.00
		1	SISMO X	-0.08
		2	SISMO Z	0.25
46	1.2 CM + CV + (0.3 SX/R - SZ/R)	4	CARGA MUERTA	1.20
		3	CARGA VIVA	1.00
		1	SISMO X	0.08
		2	SISMO Z	-0.25
47	1.2 CM + CV - (0.3 SX/R + SZ/R)	4	CARGA MUERTA	1.20
		3	CARGA VIVA	1.00
		1	SISMO X	-0.08
		2	SISMO Z	-0.25



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**Combination Load Cases Cont...**

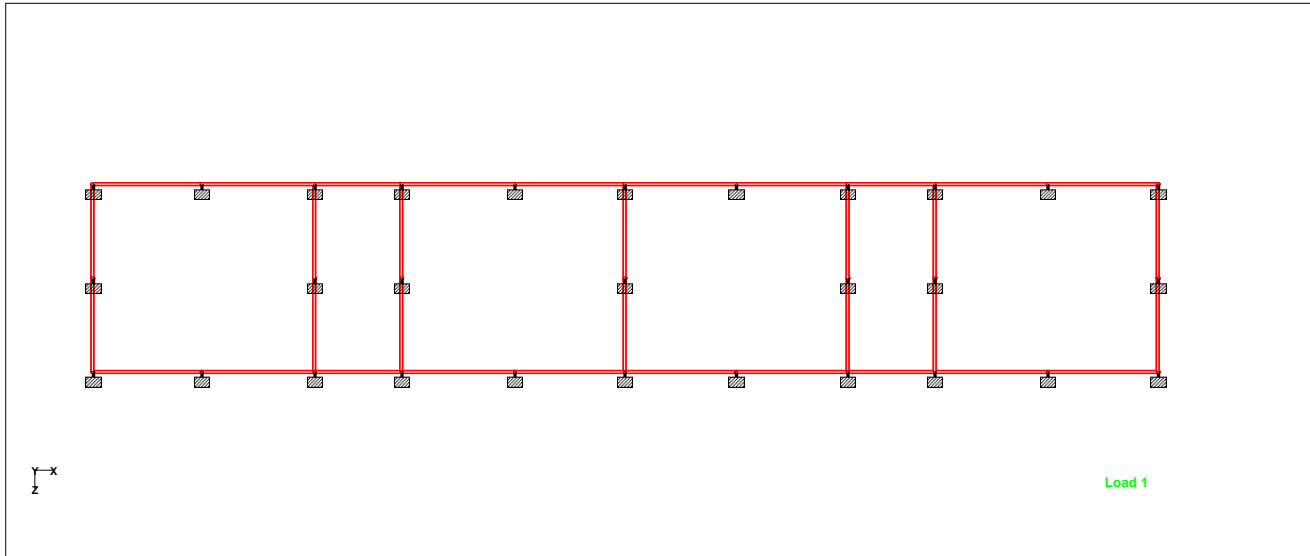
Comb.	Combination L/C Name	Primary	Primary L/C Name	Factor
48	0.9 CM + (SX/R + 0,30 SZ/R)	4	CARGA MUERTA	0.90
		1	SISMO X	0.25
		2	SISMO Z	0.08
49	0.9 CM - (SX/R - 0,30 SZ/R)	4	CARGA MUERTA	0.90
		1	SISMO X	-0.25
		2	SISMO Z	0.08
50	0.9 CM + (SX/R - 0,30 SZ/R)	4	CARGA MUERTA	0.90
		1	SISMO X	0.25
		2	SISMO Z	-0.08
51	0.9 CM - (SX/R + 0,30 SZ/R)	4	CARGA MUERTA	0.90
		1	SISMO X	-0.25
		2	SISMO Z	-0.08
52	0.9 CM + (0.3 SX/R + SZ/R)	4	CARGA MUERTA	0.90
		1	SISMO X	0.08
		2	SISMO Z	0.25
53	0.9 CM - (0.3 SX/R - SZ/R)	4	CARGA MUERTA	0.90
		1	SISMO X	-0.08
		2	SISMO Z	0.25
54	0.9 CM + (0.3 SX/R - SZ/R)	4	CARGA MUERTA	0.90
		1	SISMO X	0.08
		2	SISMO Z	-0.25
55	0.9 CM - (0.3 SX/R + SZ/R)	4	CARGA MUERTA	0.90
		1	SISMO X	-0.08
		2	SISMO Z	-0.25
57	1.2 CM + W + CV	4	CARGA MUERTA	1.20
		56	CARGA DE VIENTO	1.00
		3	CARGA VIVA	1.00
58	1.2 CM - W + CV	4	CARGA MUERTA	1.20
		56	CARGA DE VIENTO	-1.00
		3	CARGA VIVA	1.00
59	0.9 CM + W	4	CARGA MUERTA	0.90
		56	CARGA DE VIENTO	1.00
60	0.9 CM - W	4	CARGA MUERTA	0.90
		56	CARGA DE VIENTO	-1.00





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Whole Structure

## Reaction Summary

	Node	L/C	Horizontal	Vertical	Horizontal	Moment		
			FX (kN)	FY (kN)	FZ (kN)	MX (kNm)	MY (kNm)	MZ (kNm)
Max FX	21	9:1.2 CM + CV	<b>10.402</b>	88.767	6.605	-2.329	0.280	-11.052
Min FX	134	1:SISMO X	<b>-29.029</b>	-11.783	-0.058	0.021	-1.218	44.394
Max FY	146	5:1.2 CM + 1.6	0.023	<b>109.028</b>	0.111	1.657	-0.000	-0.036
Min FY	31	2:SISMO Z	-9.895	<b>-30.001</b>	-26.501	-44.179	3.202	15.242
Max FZ	31	12:1.2 CM + C'	0.458	90.750	<b>11.764</b>	6.564	-0.904	-0.493
Min FZ	146	2:SISMO Z	0.357	3.875	<b>-29.456</b>	-46.878	5.176	0.247
Max MX	61	13:1.2 CM + C'	4.929	68.528	11.303	<b>22.614</b>	-0.502	-7.213
Min MX	53	2:SISMO Z	-9.399	-10.813	-22.138	<b>-49.569</b>	2.535	15.291
Max MY	45	2:SISMO Z	0.141	-0.512	-25.641	-40.427	<b>5.329</b>	0.714
Min MY	38	1:SISMO X	-23.911	18.349	0.781	1.205	<b>-1.621</b>	43.253
Max MZ	22	1:SISMO X	-28.994	12.108	0.065	-0.014	-1.221	<b>44.403</b>
Min MZ	63	2:SISMO Z	8.971	10.739	-19.366	-42.788	2.901	<b>-15.096</b>