



SWISS

Version 1.2.3

Span Wire Signal Support Design

PROJECT DETAIL

SR 435 & NB 71 Ramp

Project Date: 01/30/2024

Author: MJH

Last Revision Date: 01/30/2024

Filename: 2 - SR 435 & I-71 NB Ramps_BOX.xml

Comments: Box with tails configuration (using 42psf for wind pressure)



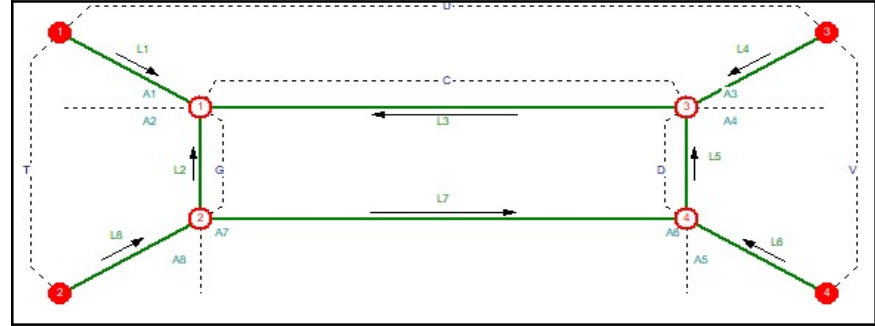
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INPUT VALUES

Sequence #: 1
 Configuration Type: Box
 Problem Identification: Box



Angles (Degrees)							
[A 1]	[A 2]	[A 3]	[A 4]	[A 5]	[A 6]	[A 7]	[A 8]
55.00	87.00	52.00	92.00	36.00	88.00	93.00	35.00

Span Lengths (ft)							
[L 1]	[L 2]	[L 3]	[L 4]	[L 5]	[L 6]	[L 7]	[L 8]
10.00	121.00	85.00	35.00	119.00	22.00	89.00	32.00

Elevation Differences (ft)		
[C]	[D]	[G]
0.00	0.00	0.00

Base Elevations (ft)				
[Pavement]	[Pole 1]	[Pole 2]	[Pole 3]	[Pole 4]
1054.16	1052.27	1052.08	1053.77	1053.14

Signals and Signs	
{Distance (ft) / Weight (lbs)}	
Span 1	No signals or signs attached at this span.
Span 2	[53.00/11.80], [82.00/20.80], (87.00/49.30), (99.00/49.30), (111.00/49.30)
Span 3	(12.00/49.30), [18.00/20.50], (24.00/49.30), (32.00/49.30), (43.00/49.30)
Span 4	No signals or signs attached at this span.
Span 5	[3.00/20.80], (8.00/49.30), (20.00/49.30), (32.00/49.30)
Span 6	No signals or signs attached at this span.
Span 7	No signals or signs attached at this span.
Span 8	[28.00/11.80]

Wire Weights (lbs)	
(Assumed)	
15.00	Span 1
181.50	Span 2
127.50	Span 3
52.50	Span 4
178.50	Span 5
33.00	Span 6
133.50	Span 7
48.00	Span 8

Design Data					
Min. SAG (ft):	6.51	Max. SAG (ft):	10.85	Minimum Clearance (ft):	22.00
Sum of Loads (lbs):	578.70	Sum of Areas (ft):	46.68	Wire Weight (lbs/ft):	1.50
				Wind Pressure (psf):	42.00
				Box Warp Enabled:	Yes



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RESULT OF FINAL CALCULATION [MAX SAG]

Sequence #:	1	Configuration Type:	Box	Problem Identification:						Box
Span Results										
		[SPAN 1]	[SPAN 2]	[SPAN 3]	[SPAN 4]	[SPAN 5]	[SPAN 6]	[SPAN 7]	[SPAN 8]	
Tension Relations:	_____	1.62204	1.33052	1.00000	1.70027	1.34064	1.61612	0.95051	1.67515	
Elevation Differences (ft)	_____	2.13	0.00	0.00	6.78	0.00	4.00	0.00	4.13	
Reaction at the end of the span (lbs)	_____	363.49	-231.02	-132.47	327.36	-114.63	299.32	-66.75	197.73	
Distance from end to low point (ft)	_____	0.00	41.55	53.00	0.00	76.42	0.00	44.50	0.00	
SAG below end of span (ft)	_____	0.00	3.75	4.07	0.00	3.04	0.00	1.46	0.00	
Pole Results										
		[POLE 1]	[POLE 2]	[POLE 3]	[POLE 4]	Other information				
Stringing Tension (lbs):	_____	1741.79	1798.82	1825.79	1735.43	Calculated Design Factor : 3.89 System is in balance Distance between Highest and Lowest Point (ft) : 10.85 Max. Wire Load (lbs): 7246.21				
Attachment Height above pole base (ft)	_____	30.09	32.28	33.24	31.09					
Attachment Elevation (ft)	_____	1082.36	1084.36	1087.01	1084.23					
Base Moment (ft/lbs)	_____	203655.	225617.	235814.	209680.					
Height of each signal or sign attachment point above the lowest (ft) _____										

- Span 1** No signals or signs attached at this span.
- Span 2** [0.69], [0.32], (0.42), (1.18), (2.51)
- Span 3** (1.79), [1.01], (0.38), (0.00), (0.12)
- Span 4** No signals or signs attached at this span.
- Span 5** [3.59], (2.88), (1.71), (1.09)
- Span 6** No signals or signs attached at this span.
- Span 7** No signals or signs attached at this span.
- Span 8** [4.52]



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RESULT OF FINAL CALCULATION [MIN SAG]

Sequence #:	1	Configuration Type:	Box	Problem Identification:	Box				
Span Results									
		[SPAN 1]	[SPAN 2]	[SPAN 3]	[SPAN 4]	[SPAN 5]	[SPAN 6]	[SPAN 7]	[SPAN 8]
Tension Relations:		1.62204	1.33052	1.00000	1.70027	1.34064	1.61612	0.95051	1.67515
Elevation Differences (ft)		1.28	0.00	0.00	4.07	0.00	2.40	0.00	2.48
Reaction at the end of the span (lbs)		363.49	-231.02	-132.47	327.36	-114.63	299.32	-66.75	197.73
Distance from end to low point (ft)		0.00	41.55	53.00	0.00	76.42	0.00	44.50	0.00
SAG below end of span (ft)		0.00	2.25	2.44	0.00	1.83	0.00	0.87	0.00

Pole Results					Other information				
		[POLE 1]	[POLE 2]	[POLE 3]	[POLE 4]				
Stringing Tension (lbs):		2902.98	2998.04	3042.98	2892.39	Calculated Design Factor : 3.89			
Attachment Height above pole base (ft)		27.61	29.00	28.90	27.86	System is in balance			
Attachment Elevation (ft)		1079.88	1081.08	1082.67	1081.00	Distance between Highest and Lowest Point (ft) : 6.51			
Base Moment (ft/lbs)		311445.	337822.	341708.	313166.	Max. Wire Load (lbs): 11915.60			

_____ Height of each signal or sign attachment point above the lowest (ft) _____

- Span 1** No signals or signs attached at this span.
- Span 2** [0.41], [0.19], (0.25), (0.71), (1.50)
- Span 3** (1.08), [0.60], (0.23), (0.00), (0.07)
- Span 4** No signals or signs attached at this span.
- Span 5** [2.15], (1.73), (1.02), (0.65)
- Span 6** No signals or signs attached at this span.
- Span 7** No signals or signs attached at this span.
- Span 8** [2.71]