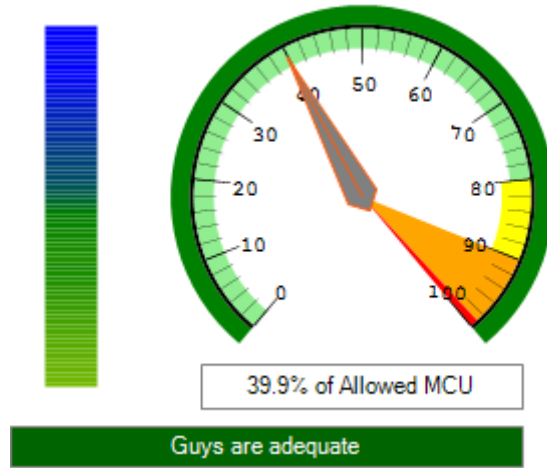


# O-Calc® Pro Capacity Summary Info

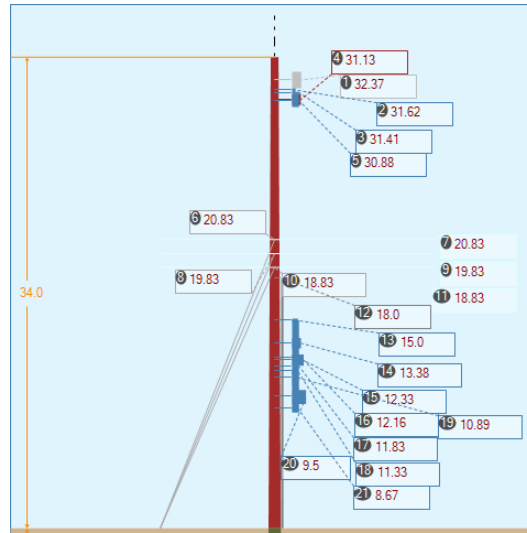
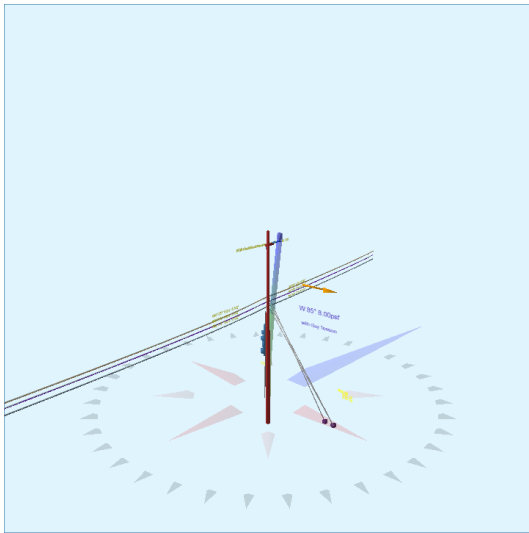
Pole Identification: GT72469

Report Created: 9/15/2023

File: CA002\_CLC CULVER 023\_OCalcs\_20230915\_REV\_pplx.pplx



Pole Num:	<b>GT72469</b>	Pole Length / Class:	<b>40 / 4</b>	Code:	<b>GO 95</b>	Structure Type:	<b>Guyed Tangent</b>
Job Site	<b>CA002_CLC_CULVER_023</b>	Species:	<b>DOUGLAS FIR</b>	GO 95 Rule:	<b>At Installation (New)</b>	Pole Strength Factor:	<b>0.25</b>
Address	<b>1252 Grayridge Dr</b>	Setting Depth (ft):	<b>6.0</b>	Construction Grade:	<b>A</b>	Transverse Wind LF:	<b>1.00</b>
City	<b>CULVER CITY</b>	G/L Circumference (in):	<b>33.50</b>	Loading District:	<b>Light</b>	Wire Tension LF:	<b>1.00</b>
State	<b>CA</b>	G/L Fiber Stress (psi):	<b>8,000</b>	Ice Thickness (in):	<b>0.00</b>	Vertical LF:	<b>1.00</b>
Zip Code	<b>90230</b>	Allowable Stress (psi):	<b>1,942</b>	Wind Speed (mph):	<b>55.90</b>	Pole Factor of Safety:	<b>10.02</b>
Aux Data 6	<b>Unset</b>	Fiber Stress Ht. Reduc:	<b>No</b>	Wind Pressure (psf):	<b>8.00</b>	Vertical Factor of Safety:	<b>181.82</b>
Latitude:	<b>33.991042</b>	Longitude:	<b>-118.403852</b>	Elevation:	<b>25' 0"</b>	Bending Factor of Safety:	<b>10.39</b>



Pole Capacity Utilization (%)	Height (ft)	Wind Angle (deg)
<b>Crossarm allowance 300 lbs</b>		
Maximum	39.9	84.8
Groundline	39.9	84.8
Vertical	2.2	270.0

Pole Moments (ft-lb)	Load Angle (deg)	Wind Angle (deg)
<b>Crossarm allowance 300 lbs</b>		
Max Cap Util	7,420	84.8
Groundline	7,420	84.8
GL Allowable	19,264	

Guy System Component Summary				Load From Worst Wind Angle on Pole		Individual Maximum Load With Overload Applied	
Description	Lead Length (ft)	Lead Angle (deg)	Height (ft)	Nominal Capacity (%)	Wind Angle (deg)	Max* Load Capacity (%)	Wind Angle (deg)
NEW Single Helix Anchor	15.0	90.0		0.0	84.8	4.4	270.0
NEW 10M (Down)			20.8	0.0	84.8	63.5	270.0
Single Helix Anchor	17.0	90.0		0.0	84.8	3.0	270.0
EHS 1/8 (Down)			19.8	0.0	84.8	22.5	270.0
EHS 1/8 (Down)			18.8	0.0	84.8	21.7	270.0
<b>System Capacity Summary:</b>				<b>Adequate</b>		<b>Adequate</b>	

Groundline Load Summary - Reporting Angle Mode: Load - Reporting Angle: 84.3°										
	Shear Load* (lbs)	Applied Load (%)	Bending Moment (ft-lb)	Applied Moment (%)	Pole Capacity (%)	Bending Stress (+/- psi)	Vertical Load (lbs)	Vertical Stress (psi)	Total Stress (psi)	Pole Capacity (%)
Comms	131	27.5	2,456	33.1	12.8	256	120	1	257	13.2
GuyBraces	3	0.6	58	0.8	0.3	6	2	0	6	0.3
GenericEquipments	101	21.3	1,297	17.5	6.7	135	359	4	139	7.2
Pole	197	41.3	3,286	44.3	17.1	342	852	10	352	18.1
Crossarms	11	2.3	317	4.3	1.6	33	28	0	33	1.7
Risers	33	7.0	5	0.1	0.0	1	1,080	12	13	0.6
Insulators	0	0.0	1	0.0	0.0	0	20	0	0	0.0
Pole Load	476	100.0	7,420	100.0	38.5	772	2,461	28	800	41.2
Pole Reserve Capacity			11,844		61.5	1,170			1,142	58.8

Load Summary by Owner - Reporting Angle Mode: Load - Reporting Angle: 84.3°										
	Shear Load* (lbs)	Applied Load (%)	Bending Moment (ft-lb)	Applied Moment (%)	Pole Capacity (%)	Bending Stress (+/- psi)	Vertical Load (lbs)	Vertical Stress (psi)	Total Stress (psi)	Pole Capacity (%)
CCI	201	42.2	2,708	36.5	14.1	282	1,522	17	299	15.4
CATV	39	8.3	732	9.9	3.8	76	43	0	77	3.9
TELCO	39	8.3	694	9.4	3.6	72	43	0	73	3.7
Pole	197	41.3	3,286	44.3	17.1	342	852	10	352	18.1
COMM	0	0.0	0	0.0	0.0	0	0	0	0	0.0
<b>Totals:</b>	476	100.0	7,420	100.0	38.5	772	2,461	28	800	41.2

Detailed Load Components:

Comm	Owner	Height (ft)	Horiz. Offset (in)	Cable Diameter (in)	Sag at Max Temp (ft)	Cable Weight (lbs/ft)	Lead/Span Length (ft)	Span Angle (deg)	Wire Length (ft)	Tension (lbs)	Tension Moment* (ft-lb)	Offset Moment* (ft-lb)	Wind Moment* (ft-lb)	Moment at GL* (ft-lb)	
Overlashed Bundle	6M	CCI	20.83	6.61	0.2420	1.96	0.104	103.0	175.0	103.1	500	-126	-3	457	328
Fiber	NEW Fiber 270° 141.0 1.030" Voff=- 0.6 (NEW BELOPTIX AT864 - 864 FIBERS - ARMORED (1.03))	CCI	20.78	6.61	1.0300		0.376	103.0	175.0	103.1		-10		456	446
Fiber	NEW Fiber .625 Low Voltage	CCI	20.71	6.61	0.6850		0.114	103.0	175.0	103.1		-3		454	451
Overlashed Bundle	6M	CCI	20.83	6.61	0.2420	0.52	0.104	47.0	350.0	47.0	500	-761	-1	207	-555

Fiber	NEW Fiber 90° 141.0 1.030" Voff=-0.6 (NEW BELOPTIX AT864 - 864 FIBERS - ARMORED (1.03))	CCI	20.78	6.61	1.0300		0.376	47.0	350.0	47.0		-5	207	202	
Fiber	NEW Fiber .625 Low Voltage	CCI	20.71	6.61	0.6850		0.114	47.0	350.0	47.0		-1	206	205	
Overlashed Bundle	6M	CATV	19.83	6.67	0.2420	2.27	0.104	103.0	175.0	103.1	500	-120	-3	545	423
CATV	CATV 1.0	CATV	19.75	6.67	1.0000		0.400	103.0	175.0	103.1			-11	543	532
Overlashed Bundle	6M	CATV	19.83	6.67	0.2420	0.69	0.104	47.0	350.0	47.0	500	-724	-1	247	-478
CATV	CATV 1.0	CATV	19.75	6.67	1.0000		0.400	47.0	350.0	47.0			-5	246	241
Overlashed Bundle	6M	TELCO	18.83	6.73	0.2420	2.27	0.104	103.0	175.0	103.1	500	-114	-3	518	401
Telco	TELE 1.0	TELCO	18.75	6.73	1.0000		0.400	103.0	175.0	103.1			-11	516	504
Overlashed Bundle	6M	TELCO	18.83	6.73	0.2420	0.69	0.104	47.0	350.0	47.0	500	-688	-1	235	-454
Telco	TELE 1.0	TELCO	18.75	6.73	1.0000		0.400	47.0	350.0	47.0			-5	234	229
<b>Totals:</b>											<b>-2,532</b>	<b>-65</b>	<b>5,072</b>	<b>2,475</b>	

GenericEquipment		Owner	Height (ft)	Horiz. Offset (in)	Offset Angle (deg)	Rotate Angle (deg)	Unit Weight (lbs)	Unit Height (in)	Unit Depth (in)	Unit Diameter (in)	Unit Length (in)	Offset Moment* (ft-lb)	Wind Moment* (ft-lb)	Moment at GL* (ft-lb)
Box	NEW ANTENNA STREET MACRO 6705 (Radio x3)	CCI	32.37	42.23	180.0	0.0	95.00	14.50	5.90	--	7.90	2	232	234
Cylinder	NEW ANTENNA MOUNT	CCI	31.62	41.68	360.0	0.0	5.00	3.00	--	3.00	--	0	15	15
Box	NEW NYM ANTENNA MOUNTING BRACKET	CCI	31.41	31.24	360.0	0.0	70.00	2.00	26.00	--	6.50	-4	140	135
Box	NEW FlushMount BracelessPlate (11")	CCI	30.88	3.02	270.0	0.0	7.50	11.00	3.00	--	6.00	-2	176	174
Box	Equipment Rack C Channel	CCI	11.83	11.64	270.0	0.0	95.00	80.00	2.00	--	6.00	-90	490	400
Box	6" Bracket	CCI	15.00	7.39	270.0	0.0	5.00	3.50	7.50	--	5.00	-3	18	15
Box	6" Bracket	CCI	12.33	7.39	270.0	0.0	5.00	3.50	7.50	--	5.00	-3	18	15
Box	6" Bracket	CCI	11.33	7.39	270.0	0.0	5.00	3.50	7.50	--	5.00	-3	18	15
Box	6" Bracket	CCI	8.67	7.39	270.0	0.0	5.00	3.50	7.50	--	5.00	-3	18	15
Box	NEW Dongan Buck Boost Transformer	CCI	10.89	15.34	270.0	0.0	28.00	15.25	5.30	--	4.90	-35	71	36
Box	NEW B-Line Box	CCI	9.50	16.28	270.0	0.0	25.00	12.00	7.00	--	12.00	-33	118	85
Box	NEW FRONTHAUL	CCI	13.38	14.91	270.0	0.0	7.70	9.05	4.72	--	7.67	-9	80	71
Box	NEW Load Center	CCI	12.16	15.62	270.0	0.0	5.50	9.76	6.00	--	10.00	-7	103	96
<b>Totals:</b>											<b>-189</b>	<b>1,497</b>	<b>1,307</b>	

Crossarm		Owner	Height (ft)	Horiz. Offset (in)	Offset Angle (deg)	Rotate Angle (deg)	Unit Weight (lbs)	Unit Height (in)	Unit Depth (in)	Unit Length (in)	Offset Moment* (ft-lb)	Wind Moment* (ft-lb)	Moment at GL* (ft-lb)
Normal	NEW FlushMount BracelessPlate Macro MK-130	CCI	31.13	5.39	270.0	270.0	28.00	4.75	3.75	26.04	-12	332	319
<b>Totals:</b>											<b>-12</b>	<b>332</b>	<b>319</b>

Riser		Owner	Height (ft)	Horiz. Offset (in)	Offset Angle (deg)	Rotate Angle (deg)	Unit Weight (lbs)	Unit Height (in)	Unit Depth (in)	Unit Diameter (in)	Unit Length (in)	Offset Moment* (ft-lb)	Wind Moment* (ft-lb)	Moment at GL* (ft-lb)
NEW 2" POWER RISER 320.0° H:18.0	NEW 2" POWER RISER	CCI	18.00	5.45	320.0	320.0	540.00	216.00	2.00	2.00	216.00	-157	231	74
NEW 2" POWER RISER 230.0° H:18.0	NEW 2" POWER RISER	CCI	18.00	5.45	230.0	230.0	540.00	216.00	2.00	2.00	216.00	-230	160	-69
<b>Totals:</b>												<b>-387</b>	<b>391</b>	<b>5</b>

Insulator		Owner	Height (ft)	Horiz. Offset (in)	Offset Angle (deg)	Rotate Angle (deg)	Unit Weight (lbs)	Unit Diameter (in)	Unit Length (in)	Offset Moment* (ft-lb)	Wind Moment* (ft-lb)	Moment at GL* (ft-lb)	
Bolt	Single Bolt	CCI	31.33	0.00	270.0	180.0	5.00	1.00	0.10	0	0	0	
Bolt	NEW Bolt CCI H:20.83	CCI	20.83	0.00	270.0	270.0	5.00	3.00	0.10	0	0	0	
Bolt	Single Bolt	CATV	19.83	0.00	270.0	180.0	5.00	3.00	0.10	0	0	0	
Bolt	RELOCATE Single Bolt	TELCO	18.83	0.00	270.0	180.0	5.00	3.00	0.10	0	0	0	
<b>Totals:</b>											<b>0</b>	<b>1</b>	<b>1</b>

Guy Wire and Brace		Owner	Attach Height (ft)	End Height (ft)	Lead/Span Length (ft)	Wire Diameter (in)	Percent Solid (%)	Lead Angle (deg)	Incline Angle (deg)	Wire Weight (lbs/ft)	Rest Length (ft)	Stretch Length (in)
NEW 10M	Down	CCI	20.83	0.00	15.00	0.306	75.00	90.0	54.1	0.032	29.07	0.00
EHS 1/8	Down	CATV	19.83	0.00	17.00	0.125	75.00	90.0	49.2	0.032	29.23	0.00
EHS 1/8	Down	TELCO	18.83	0.00	17.00	0.125	75.00	90.0	47.8	0.032	28.39	0.00

Guy Wire and Brace (Loads and Reactions)		Elastic Modulus (psi)	Rated Tensile Strength (lbs)	Guy Strength Factor	Allowable Tension (lbs)	Initial Tension (lbs)	Loaded Tension <sup>2</sup> (lbs)	Maximum Tension <sup>2</sup> (lbs)	Applied Tension <sup>3</sup> (lbs)	Vertical Load (lbs)	Shear Load In Guy Dir (lbs)	Shear Load At Report Angle (lbs)	Proportional Moment at GL <sup>3</sup> (ft-lb)	
NEW 10M	Down	2.30e+7	1,830	0.50	915	700	581	581	0	0	0	0	21	
EHS 1/8	Down	2.30e+7	1,830	0.50	915	700	206	206	0	0	0	0	19	
EHS 1/8	Down	2.30e+7	1,830	0.50	915	700	199	199	0	0	0	0	18	
<b>Totals:</b>											<b>0</b>	<b>0</b>	<b>0</b>	<b>58</b>

Anchor/Rod Load Summary		Owner	Rod Length AGL (in)	Lead Length (ft)	Lead Angle (deg)	Strength of Assembly (lbs)	Anchor/Rod Strength Factor	Allowable Load (lbs)	Max Load <sup>2</sup> (lbs)	Load at Pole MCU <sup>3</sup> (lbs)	Max Required Capacity <sup>2</sup> (%)
NEW Single Helix Anchor		CCI	18.00	15.00	90.0	20,000	0.67	13,333	581	0	4.4
Single Helix Anchor		COMM	18.00	17.00	90.0	20,000	0.67	13,333	405	0	3.0

<b>Pole Buckling</b>													
Buckling Constant	Buckling Column Height* (ft)	Buckling Section Height (% Buckling Col. Hgt.)	Buckling Section Diameter (in)	Minimum Buckling Diameter at GL (in)	Diameter at Tip (in)	Diameter at GL (in)	Modulus of Elasticity (psi)	Pole Density (pcf)	Ice Density (pcf)	Pole Tip Height (ft)	Buckling Load Capacity at Height (lbs)	Buckling Load Applied at Height (lbs)	Buckling Load Factor of Safety
0.71	15.81	32.60	10.06	4.12	6.69	10.67	1.60e+6	60.00	57.00	34.00	109,929	<b>1118.44</b>	<b>45.45</b>

---

# O-Calc® Pro Applied Loads Summary

Pole Identification: GT72469

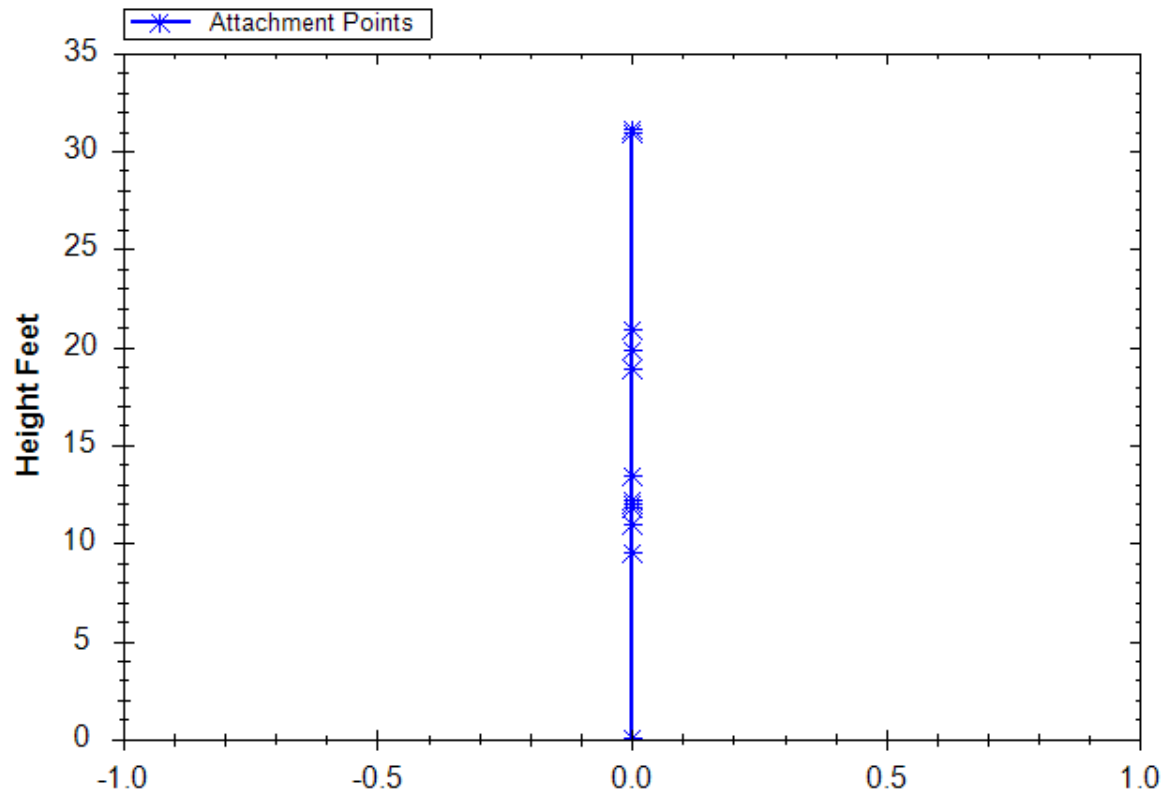
Report Created: 9/15/2023

File: CA002\_CLC CULVER 023\_OCalcs\_20230915\_REV\_pplx.pplx

---

LoadCase	<b>GO 95 Light Grade A At Installation (W:8psf)</b>		
Wind Pressure (psf)	<b>8.00</b>		
Wind Angle (degrees)	<b>84.77</b>		
<b>Load Height (ft)</b>	<b>Force Perpendicular to Wind (lbs)</b>	<b>Force Parallel to Wind (lbs)</b>	<b>Force Vertical (lbs)</b>
31.13	0.94	23.64	203
30.88	0.27	5.84	7.5
20.83	0.55	54.43	49.51
19.83	0.17	38.32	42.8
18.83	0.17	38.32	42.8
13.38	0.22	6.15	7.7
12.16	0.32	8.65	5.5
12	0	19.72	540
12	0	13.69	540
11.83	2.3	48.68	115
10.89	0.05	6.65	28
9.5	0.48	12.76	25
0	0.28	0.03	0.65
0	0.23	0.02	1.29

### Load Heights



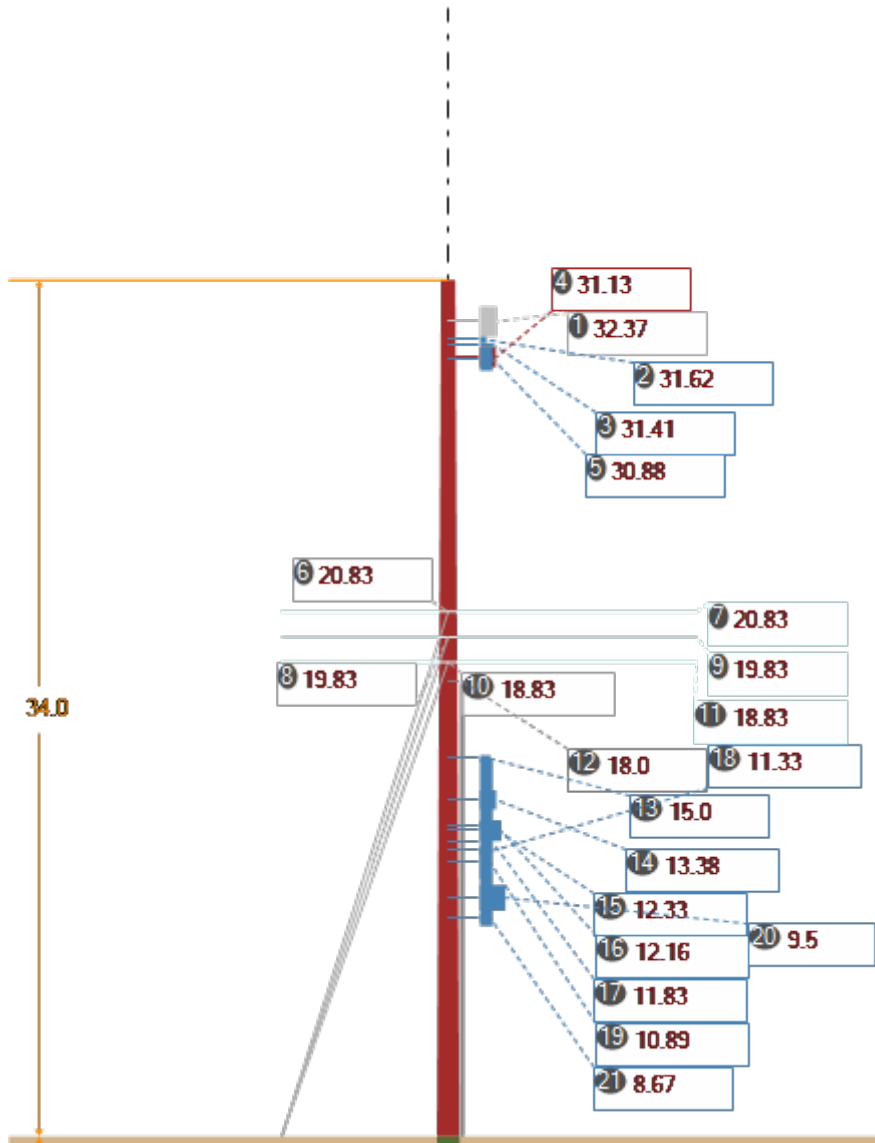


# O-Calc® Pro Schematic View

Pole Identification: GT72469

Report Created: 9/15/2023

File: CA002\_CLC CULVER 023\_OCalcs\_20230915\_REV\_pplx.pplx



1 - 32.37	NEW RADIO x3
2 - 31.62	NEW ANTENNA MOUNT
3 - 31.41	NEW NYM ANTENNA MOUNTING BRACKET
4 - 31.13	Normal 2.2ft H:31.13
5 - 30.88	NEW FlushMount Braceless Plate H:30.88
6 - 20.83	NEW 10M Down Guy 20.8 ft hgt, 54.2° angle
7 - 20.83	6M 175° 103.0 D:1.96" 6M 350° 47.0 D:1.96"

8 - 19.83	EHS 1/8 Down Guy 19.8 ft hgt, 49.4° angle
9 - 19.83	6M 175° 103.0 D:1.64" 6M 350° 47.0 D:1.64"
10 - 18.83	EHS 1/8 Down Guy 18.8 ft hgt, 47.9° angle
11 - 18.83	6M 175° 103.0 D:1.64" 6M 350° 47.0 D:1.64"
12 - 18.0	NEW 2" POWER RISER 320.0° H:18.0 NEW 2" POWER RISER 230.0° H:18.0
13 - 15.0	6" Bracket
14 - 13.38	NEW FRONTHAUL H:13.38
15 - 12.33	6" Bracket
16 - 12.16	NEW Load Center H:12.16
17 - 11.83	Equipment Rack C Channel H:11.83
18 - 11.33	6" Bracket
19 - 10.89	NEW Dongan Buck Boost Transformer H:10.89
20 - 9.5	NEW B-Line Box H:9.5
21 - 8.67	6" Bracket

GT72469

