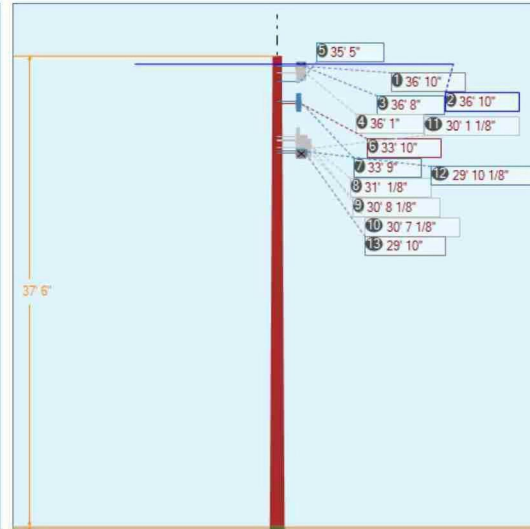
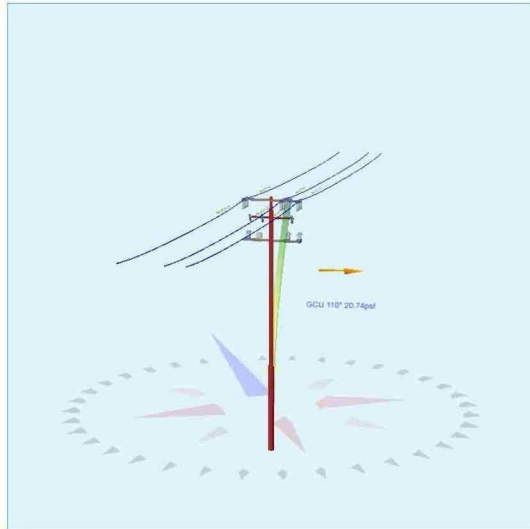




Pole Num:	0	Pole Length / Class:	45 / 3	Code:	HFTD 2-3 Peak Wind	Structure Type:	Unguyed Tangent
PM Order Number	35217268	Species:	DOUGLAS FIR	GO 95 Rule:	At Installation (New)	Pole Strength Factor:	0.50
Estimator LAN ID	[REDACTED]	Setting Depth (ft):	7.50	Construction Grade:	B	Transverse Wind LF:	1.00
Sketch Location	LOC_102	G/L Circumference (in):	36.94	Loading District:	Heavy	Wire Tension LF:	1.00
Joint Pole Number	Unset	G/L Fiber Stress (psi):	7,600	Ice Thickness (in):	0.00	Vertical LF:	1.00
Notification	120047659	Allowable Stress (psi):	3,800	Wind Speed (mph):	90.00	Pole Factor of Safety:	2.62
Aux Data 6	Unset	Fiber Stress Ht. Reduc:	No	Wind Pressure (psf):	20.74	Vertical Factor of Safety:	13.16
Latitude:	39.910817 Deg	Longitude:	-121.327387 Deg	Elevation:	1795.999942528 Feet	Bending Factor of Safety:	2.64



Pole Capacity Utilization (%)	Height (ft)	Wind Angle (deg)
Maximum	0.0	110.0
Groundline	0.0	110.0
Vertical	27.5	110.0

Pole Moments (ft-lb)	Load Angle (deg)	Wind Angle (deg)
Max Cap Util	38,338	109.4
Groundline	38,338	109.4
GL Allowable	50,550	
Overturn	67,000	



Digitally signed

by [REDACTED]

Date: 2021.06.15

14:07:36 -07'00'

Groundline Load Summary - Reporting Angle Mode: Load - Reporting Angle: 109.4°										
	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 (%)
Powers	253	18.4	9,388	24.5	18.6	700	57	1	700	18.4
GenericEquipments	419	30.6	14,202	37.0	28.1	1,058	565	5	1,063	28.0
Pole	618	45.2	11,768	30.7	23.3	877	1,137	10	887	23.3
Crossarms	16	1.2	603	1.6	1.2	45	751	7	52	1.4
Insulators	63	4.6	2,378	6.2	4.7	177	73	1	178	4.7
Pole Load	1,369	100.0	38,338	100.0	75.8	2,857	2,583	24	2,880	75.8
Pole Reserve Capacity			12,212		24.2	943			920	24.2

Load Summary by Owner - Reporting Angle Mode: Load - Reporting Angle: 109.4°										
	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 (%)
PG&E	751	54.8	26,570	69.3	52.6	1,980	1,446	13	1,993	52.4
Pole	618	45.2	11,768	30.7	23.3	877	1,137	10	887	23.3
Totals:	1,369	100.0	38,338	100.0	75.8	2,857	2,583	24	2,880	75.8

Detailed Load Components:

Power	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)	
Primary	1/0 (6/1) ACSR XLPE TW	PG&E	36.83	62.02	0.7480	0.78	0.284	74.0	28.0	74.0	1,872	10,283	3	1,725	12,011
Primary	1/0 (6/1) ACSR XLPE TW	PG&E	36.83	32.89	0.7480	0.78	0.284	74.0	28.0	74.0	1,872	10,283	3	1,725	12,010
Primary	1/0 (6/1) ACSR XLPE TW	PG&E	36.83	62.02	0.7480	0.78	0.284	74.0	28.0	74.0	1,872	10,283	-3	1,725	12,005
Primary	1/0 (6/1) ACSR XLPE TW	PG&E	36.83	58.47	0.7480	0.53	0.284	59.0	208.0	59.0	1,872	-10,283	2	1,375	-8,905
Primary	1/0 (6/1) ACSR XLPE TW	PG&E	36.83	25.58	0.7480	0.53	0.284	59.0	208.0	59.0	1,872	-10,283	2	1,375	-8,905
Primary	1/0 (6/1) ACSR XLPE TW	PG&E	36.83	58.47	0.7480	0.53	0.284	59.0	208.0	59.0	1,872	-10,283	-3	1,375	-8,910
										Totals:	0	5	9,300	9,305	

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	Insulator Bracket	PG&E	36.66	57.28	28.0	0.0	10.00	3.00	30.00	--	6.00	48	751	799

Cylinder	Switch Insulator	PG&E	36.07	59.12	102.6	0.0	10.00	14.00	--	8.00	--	49	594	643
Cylinder	Switch Insulator	PG&E	36.07	57.16	122.3	0.0	10.00	14.00	--	8.00	--	46	594	640
Box	Insulator Bracket	PG&E	36.66	22.73	28.0	0.0	10.00	3.00	30.00	--	6.00	19	751	770
Cylinder	Switch Insulator	PG&E	36.07	27.03	82.5	0.0	10.00	14.00	--	8.00	--	20	594	614
Cylinder	Switch Insulator	PG&E	36.07	22.42	129.1	0.0	10.00	14.00	--	8.00	--	18	594	612
Box	Insulator Bracket	PG&E	36.66	57.28	28.0	0.0	10.00	3.00	30.00	--	6.00	-46	751	705
Cylinder	Switch Insulator	PG&E	36.07	59.12	313.4	0.0	10.00	14.00	--	8.00	--	-45	594	549
Cylinder	Switch Insulator	PG&E	36.07	57.16	293.7	0.0	10.00	14.00	--	8.00	--	-48	594	547
Box	Switch SB	PG&E	35.41	57.28	28.0	0.0	10.00	1.00	36.00	--	3.00	-46	300	253
Box	Switch SB	PG&E	35.41	57.28	28.0	0.0	10.00	1.00	36.00	--	3.00	48	300	347
Box	Switch SB	PG&E	35.41	22.73	28.0	0.0	10.00	1.00	36.00	--	3.00	19	300	319
Cylinder	Disconnect Switch 1	PG&E	33.75	44.08	208.0	0.0	20.00	18.00	--	4.00	--	72	351	423
Cylinder	Disconnect Switch 2	PG&E	33.75	44.08	208.0	0.0	20.00	18.00	--	4.00	--	-73	351	278
Cylinder	Disconnect Switch 3	PG&E	33.75	18.19	208.0	0.0	20.00	18.00	--	4.00	--	-30	351	320
Box	Interrupter Bracket	PG&E	29.84	56.82	28.0	0.0	10.00	6.00	16.00	--	9.00	47	654	701
Cylinder	Bushing	PG&E	31.01	55.56	107.5	90.0	10.00	18.00	--	3.00	--	46	232	278
Cylinder	Bushing	PG&E	30.68	62.87	88.3	90.0	10.00	18.00	--	3.00	--	49	232	281
Cylinder	Interrupter Module	PG&E	30.59	58.39	97.3	0.0	70.00	14.00	--	9.00	--	333	541	874
Box	Interrupter Bracket	PG&E	29.84	34.38	28.0	0.0	10.00	6.00	16.00	--	9.00	27	654	681
Cylinder	Bushing	PG&E	31.01	32.26	99.7	90.0	10.00	18.00	--	3.00	--	26	232	258
Cylinder	Bushing	PG&E	30.68	43.66	72.6	90.0	10.00	18.00	--	3.00	--	29	232	261
Cylinder	Interrupter Module	PG&E	30.59	36.92	84.1	0.0	70.00	14.00	--	9.00	--	195	541	736
Box	Interrupter Bracket	PG&E	29.84	56.81	28.0	0.0	10.00	6.00	16.00	--	9.00	-43	654	611
Cylinder	Bushing	PG&E	31.01	55.55	308.5	90.0	10.00	18.00	--	3.00	--	-44	232	188
Cylinder	Bushing	PG&E	30.68	62.86	327.7	90.0	10.00	18.00	--	3.00	--	-41	232	191
Cylinder	Interrupter Module	PG&E	30.59	58.38	318.7	0.0	70.00	14.00	--	9.00	--	-297	541	244
Box	Bracket	PG&E	29.84	33.86	28.0	0.0	5.00	4.00	8.00	--	6.00	-12	219	207
Cylinder	Potential Transformer	PG&E	30.09	38.97	335.3	0.0	80.00	18.00	--	12.00	--	-181	928	747
Totals:												184	13,892	14,077

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	Bypass US Switch	PG&E	36.83	5.70	28.0	28.0	515.00	4.25	4.00	126.00	36	236	272	
Normal	Cutout Arm- 3 Wire	PG&E	33.83	4.88	28.0	28.0	36.00	4.00	2.00	92.00	2	121	123	
Normal	GW Viper - ST Reclosure	PG&E	29.83	6.11	28.0	28.0	200.00	4.25	4.00	120.50	15	187	203	
Totals:												54	544	598

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)
Deadend	Dead-End 18.75 (P/N 2)	PG&E	36.83	57.00	112.3	0.0	4.00	3.90	18.75	20	388	408
Deadend	Dead-End 18.75 (P/N 2)	PG&E	36.83	22.00	103.5	0.0	4.00	3.90	18.75	8	388	396
Deadend	Dead-End 18.75 (P/N 2)	PG&E	36.83	-57.00	303.7	0.0	4.00	3.90	18.75	-18	388	370
Deadend	Dead-End 18.75 (P/N 2)	PG&E	36.83	57.00	112.3	180.0	4.00	3.90	18.75	18	388	406
Deadend	Dead-End 18.75 (P/N 2)	PG&E	36.83	22.00	103.5	180.0	4.00	3.90	18.75	7	388	394
Deadend	Dead-End 18.75 (P/N 2)	PG&E	36.83	-57.00	303.7	180.0	4.00	3.90	18.75	-19	388	368
Underhung	Single Bolt	PG&E	36.66	57.00	112.3	0.0	5.00	3.00	0.00	24	0	24

Underhung	Single Bolt	PG&E	36.66	22.00	103.5	0.0	5.00	3.00	0.00	9	0	9
Underhung	Single Bolt	PG&E	36.66	-57.00	303.7	0.0	5.00	3.00	0.00	-23	0	-23
Underhung	Single Bolt	PG&E	36.66	-57.00	303.7	0.0	5.00	3.00	0.00	-23	0	-23
Underhung	Single Bolt	PG&E	36.66	57.00	112.3	0.0	5.00	3.00	0.00	24	0	24
Underhung	Single Bolt	PG&E	36.66	22.00	103.5	0.0	5.00	3.00	0.00	9	0	9
Bolt	Cutout	PG&E	34.00	44.00	111.7	180.0	5.00	3.00	0.00	18	0	18
Bolt	Cutout	PG&E	34.00	-44.00	304.3	180.0	5.00	3.00	0.00	-18	0	-18
Bolt	Cutout	PG&E	34.00	-18.00	313.2	180.0	5.00	3.00	0.00	-7	0	-7
Bolt	Single Bolt	PG&E	30.01	54.63	111.6	0.0	1.00	1.00	0.00	5	0	5
Bolt	Single Bolt	PG&E	30.01	30.63	106.7	0.0	1.00	1.00	0.00	3	0	3
Bolt	Single Bolt	PG&E	30.01	-54.62	304.4	0.0	1.00	1.00	0.00	-4	0	-4
Bolt	Bolts	PG&E	30.01	-31.00	309.2	0.0	1.00	1.00	0.00	-2	0	-2
Totals:										30	2,327	2,357

Pole Buckling													
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
2.00	27.48	34.15	10.65	7.34	7.32	11.77	2.38e+6	60.00	57.00	37.50	17,044	169.91	6.58

Notes		
Date	Author	Description
8/3/2015		Install C/O Arm min 2.5 ft below Primary Conductor
Install C/O Arm min 2.5 ft below Primary Conductor		