

SIGN H1WB-421 LATERAL LOAD ANALYSIS

Interstate Route H-1 and H-201

Destination Sign Upgrade/Replacement, Phase 3

Island of Oahu, Hawaii

2 feet		4 feet		6 feet		8 feet		11 feet	
y	p	y	p	y	p	y	p	y	p
(inch)	(pounds/inch)	(inch)	(pounds/inch)	(inch)	(pounds/inch)	(inch)	(pounds/inch)	(inch)	(pounds/inch)
0.000	0.0	0.000	0.0	0.000	0.0	0.000	0.000	0.000	0.000
0.002	264.9	0.002	284.8	0.001	258.2	0.001	275.967	0.286	4512.033
0.025	529.8	0.025	569.5	0.020	516.5	0.020	551.934	0.370	4764.266
0.127	794.7	0.127	854.3	0.101	774.7	0.101	827.901	0.453	4975.191
0.401	1059.6	0.401	1139.0	0.320	1032.9	0.320	1103.868	0.536	5157.567
0.978	1324.5	0.978	1423.8	0.782	1291.1	0.782	1379.835	0.619	5318.899
2.028	1589.4	2.028	1708.5	1.622	1549.4	1.622	1655.802	0.702	5464.005
3.756	1854.3	3.756	1993.3	3.005	1807.6	3.005	1931.769	0.785	5596.177
6.408	2119.2	6.408	2278.1	5.126	2065.8	5.126	2207.736	0.868	5717.769
10.264	2384.1	10.264	2562.8	8.211	2324.0	8.211	2483.703	0.951	5830.529
15.644	2649.0	15.644	2847.6	12.516	2582.3	12.516	2759.670	1.034	5935.793
22.905	2913.9	22.905	3132.3	18.324	2840.5	18.324	3035.637	1.117	6034.604
32.440	3178.8	32.440	3417.1	25.952	3098.7	25.952	3311.603	1.200	6127.797
44.682	3443.6	44.682	3701.8	35.746	3357.0	35.746	3587.570	1.950	6946.188
60.100	3708.5	60.100	3986.6	48.080	3615.2	48.080	3863.537	2.700	7764.580
79.200	3973.4	79.200	4271.4	63.360	3873.4	63.360	4139.504	3.240	7764.580
99.000	3973.4	99.000	4271.4	79.200	3873.4	79.200	4139.504	3.780	7764.580

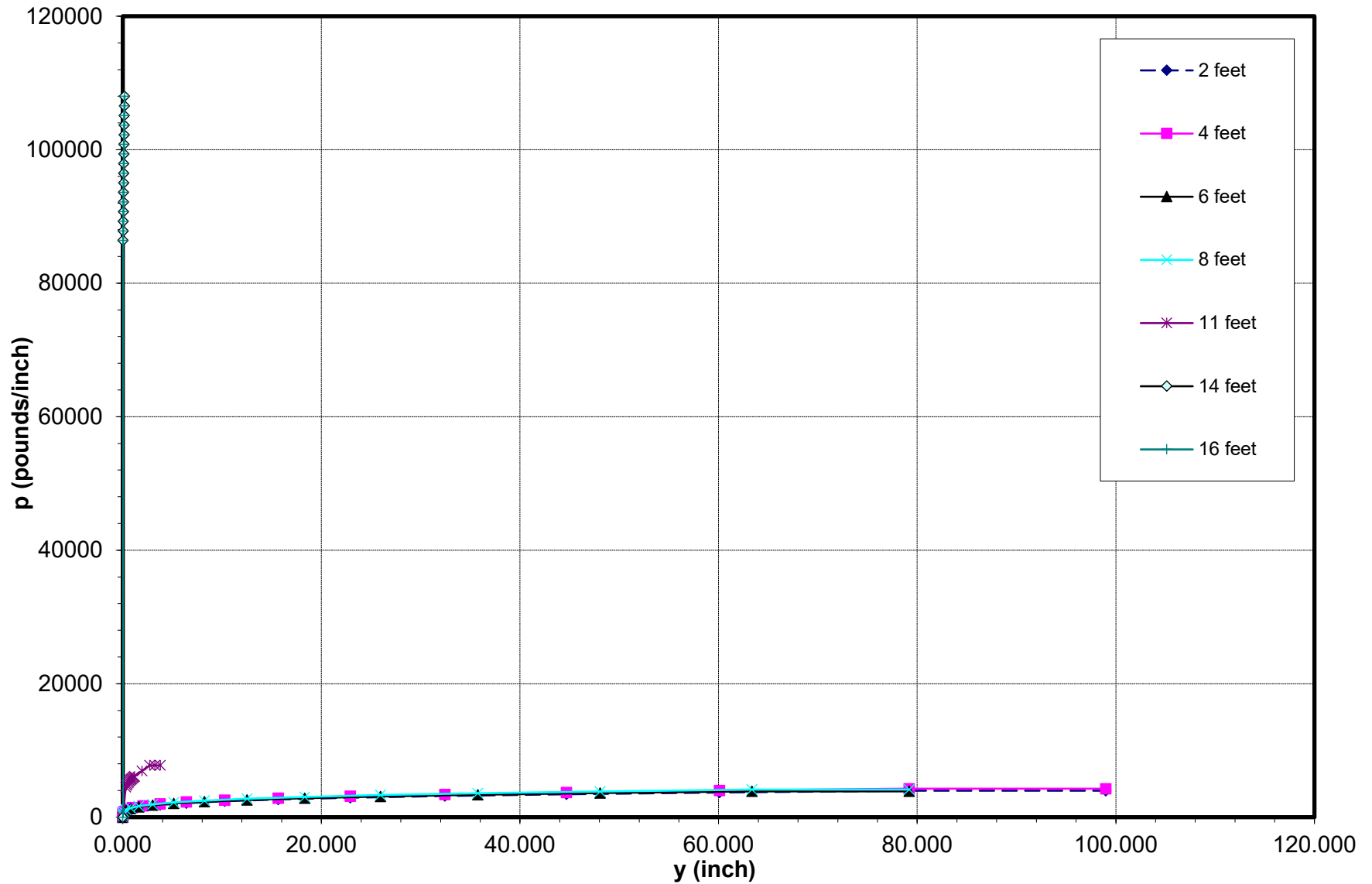
14 feet		16 feet	
y	p	y	p
(inch)	(pounds/inch)	(inch)	(pounds/inch)
0.000	0.0	0.000	0.0
0.029	86400.0	0.029	86400.0
0.038	87840.0	0.038	87840.0
0.048	89280.0	0.048	89280.0
0.058	90720.0	0.058	90720.0
0.067	92160.0	0.067	92160.0
0.077	93600.0	0.077	93600.0
0.086	95040.0	0.086	95040.0
0.096	96480.0	0.096	96480.0
0.106	97920.0	0.106	97920.0
0.115	99360.0	0.115	99360.0
0.125	100800.0	0.125	100800.0
0.134	102240.0	0.134	102240.0
0.144	103680.0	0.144	103680.0
0.154	105120.0	0.154	105120.0
0.163	106560.0	0.163	106560.0
0.173	108000.0	0.173	108000.0

Soil Profile at Sign H1WB-421 (B-6)

Fill	0-5 feet
Residual Soil	5-10 feet
Saprolite	10-12 feet
Basalt Formation	12-26 feet

SIGN H1WB-421 LATERAL LOAD ANALYSIS
Interstate Route H-1 and H-201
Destination Sign Upgrade/Replacement, Phase 3
Island of Oahu, Hawaii

P-Y Curves



SIGN H1EB-104 LATERAL LOAD ANALYSIS
Interstate Route H-1 and H-201
Destination Sign Upgrade/Replacement, Phase 3
Island of Oahu, Hawaii

2 feet		4 feet		6 feet		10 feet		12 feet	
y	p	y	p	y	p	y	p	y	p
(inch)	(pounds/inch)	(inch)	(pounds/inch)	(inch)	(pounds/inch)	(inch)	(pounds/inch)	(inch)	(pounds/inch)
0.000	0.0	0.000	0.0	0.000	0.0	0.000	0.000	0.000	0.000
0.050	80.5	0.002	132.3	0.133	1100.0	0.178	2541.529	0.198	3410.370
0.182	116.5	0.025	264.5	0.230	1248.4	0.271	2786.487	0.289	3688.413
0.313	136.1	0.127	396.8	0.327	1354.2	0.364	2972.552	0.380	3903.579
0.445	150.4	0.401	529.1	0.424	1438.1	0.457	3124.554	0.471	4081.005
0.577	162.0	0.978	661.3	0.521	1508.3	0.550	3254.060	0.562	4232.987
0.709	171.8	2.028	793.6	0.618	1569.0	0.643	3367.469	0.653	4366.525
0.841	180.3	3.756	925.9	0.715	1622.9	0.736	3468.726	0.744	4486.017
0.973	188.0	6.408	1058.1	0.812	1671.4	0.828	3560.448	0.836	4594.416
1.104	194.9	10.264	1190.4	0.909	1715.6	0.921	3644.463	0.927	4693.808
1.236	201.3	15.644	1322.6	1.006	1756.3	1.014	3722.108	1.018	4785.726
1.368	207.2	22.905	1454.9	1.103	1794.1	1.107	3794.387	1.109	4871.331
1.500	212.7	32.440	1587.2	1.200	1829.5	1.200	3862.077	1.200	4951.526
2.438	250.6	44.682	1719.4	1.950	2094.2	1.950	4391.910	1.950	5591.425
3.375	288.5	60.100	1851.7	2.700	2358.9	2.700	4921.744	2.700	6231.323
4.050	288.5	79.200	1984.0	3.240	2358.9	3.240	4921.744	3.240	6231.323
4.725	288.5	99.000	1984.0	3.780	2358.9	3.780	4921.744	3.780	6231.323

14 feet		18 feet	
y	p	y	p
(inch)	(pounds/inch)	(inch)	(pounds/inch)
0.000	0.0	0.000	0.0
0.029	28800.0	0.029	28800.0
0.038	29280.0	0.038	29280.0
0.048	29760.0	0.048	29760.0
0.058	30240.0	0.058	30240.0
0.067	30720.0	0.067	30720.0
0.077	31200.0	0.077	31200.0
0.086	31680.0	0.086	31680.0
0.096	32160.0	0.096	32160.0
0.106	32640.0	0.106	32640.0
0.115	33120.0	0.115	33120.0
0.125	33600.0	0.125	33600.0
0.134	34080.0	0.134	34080.0
0.144	34560.0	0.144	34560.0
0.154	35040.0	0.154	35040.0
0.163	35520.0	0.163	35520.0
0.173	36000.0	0.173	36000.0

Soil Profile at Sign H1EB-104 (B-9)

Fill	0-3 feet
Residual Soil	3-5 feet
Saprolite	5-13 feet
Basalt Formation	13-31 feet

SIGN H1EB-104 LATERAL LOAD ANALYSIS
Interstate Route H-1 and H-201
Destination Sign Upgrade/Replacement, Phase 3
Island of Oahu, Hawaii

P-Y Curves

