

John Shively PE

Water below the GWT is restricted.

**Settings of the stage of construction**

Design situation : seismic

Reduction of soil/soil friction angle : do not reduce

**Verification No. 1 (Stage of construction 2)****Forces acting on construction**

Name	F <sub>hor</sub> [lb/ft]	App.Pt. z [ft]	F <sub>vert</sub> [lb/ft]	App.Pt. x [ft]	Design coefficient
Weight - wall	0.0	-4.41	4670.6	2.62	1.000
Earthq.- constr.	521.3	-4.64	0.0	2.60	1.000
FF resistance	-240.5	-1.01	0.3	-0.32	1.000
Weight - earth wedge	0.0	-1.28	25.5	5.67	1.000
Earthquake - soil wedge	2.8	-1.28	0.0	5.67	1.000
Weight - earth wedge	0.0	-3.26	205.1	4.55	1.000
Earthquake - soil wedge	22.6	-3.26	0.0	4.55	1.000
Weight - earth wedge	0.0	-7.48	77.7	3.70	1.000
Earthquake - soil wedge	8.5	-7.48	0.0	3.70	1.000
Weight - earth wedge	0.0	-10.11	4.0	3.38	1.000
Earthquake - soil wedge	0.4	-10.11	0.0	3.38	1.000
Earthquake - soil wedge	0.0	-11.50	0.0	3.31	1.000
Active pressure	2294.9	-3.62	2516.3	4.95	1.000
Earthq.- act.pressure	602.6	-7.63	506.6	4.09	1.000
Roadway	224.0	-4.07	181.7	4.80	1.000

**Verification of complete wall****Check for overturning stability**Resisting moment  $M_{res} = 29024.5$  lbfft/ftOverturning moment  $M_{ovr} = 16129.3$  lbfft/ft

Safety factor = 1.80 &gt; 1.00

**Wall for overturning is SATISFACTORY****Check for slip**Resisting horizontal force  $H_{res} = 4617.25$  lb/ftActive horizontal force  $H_{act} = 3436.62$  lb/ft

Safety factor = 1.34 &gt; 1.00

**Wall for slip is SATISFACTORY****Overall check - WALL is SATISFACTORY****Dimensioning No. 1 (Stage of construction 2)****Forces acting on construction**

Name	F <sub>hor</sub> [lb/ft]	App.Pt. z [ft]	F <sub>vert</sub> [lb/ft]	App.Pt. x [ft]	Design coefficient
Weight - wall	0.0	-4.20	3890.6	2.05	1.000
Earthq.- constr.	440.4	-4.41	0.0	2.03	1.000
FF resistance	-27.8	-0.34	0.0	0.00	1.000
Weight - earth wedge	0.0	-2.26	205.1	4.05	1.000