

John Shively PE

**Wall for overturning is SATISFACTORY****Check for slip**Resisting horizontal force  $H_{res} = 4374.78$  lbf/ftActive horizontal force  $H_{act} = 2278.40$  lbf/ft

Safety factor = 1.92 &gt; 1.50

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

Name	$F_{hor}$ [lbf/ft]	App.Pt. z [ft]	$F_{vert}$ [lbf/ft]	App.Pt. x [ft]	Design coefficient
Weight - wall	0.0	-4.20	3890.6	2.05	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
Weight - earth wedge	0.0	-6.48	77.7	3.20	1.000
Weight - earth wedge	0.0	-9.11	4.0	2.88	1.000
Active pressure	1866.0	-3.30	1899.4	4.16	1.000
Roadway	203.1	-3.51	153.2	4.09	1.000

**Verification of block No. 1****Check for overturning stability**Resisting moment  $M_{res} = 17578.4$  lbfft/ftOverturning moment  $M_{ovr} = 6861.5$  lbfft/ft

Safety factor = 2.56 &gt; 1.50

**Joint for overturning stability is SATISFACTORY****Check for slip**Resisting horizontal force  $H_{res} = 3596.88$  lbf/ftActive horizontal force  $H_{act} = 2041.28$  lbf/ft

Safety factor = 1.76 &gt; 1.50

**Joint for verification is SATISFACTORY****Bearing capacity of foundation soil (Stage of construction 1)****Design load acting at the center of footing bottom**

No.	Moment [lbfft/ft]	Norm. force [lbf/ft]	Shear Force [lbf/ft]	Eccentricity [-]	Stress [psf]
1	5058.9	7681.12	2278.40	0.110	1640.3

**Service load acting at the center of footing bottom**

No.	Moment [lbfft/ft]	Norm. force [lbf/ft]	Shear Force [lbf/ft]
1	5058.9	7681.12	2278.40

**Verification of foundation soil**

Stress in the footing bottom : rectangle