

### Cantilevered Retaining Wall

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ENERCALC, INC. 1983-2016, Build.6.16.5.11, Ver.6.16.5.11

Lic. #: KW-06002943

Licensee: DAN GREEN ENGINEERING

Description: Screen wall

#### Footing Dimensions & Strengths

Toe Width	=	0.75	ft
Heel Width	=	1.42	
Total Footing Width	=	2.17	
Footing Thickness	=	13.00	in
Key Width	=	0.00	in
Key Depth	=	0.00	in
Key Distance from Toe	=	0.00	ft
$f_c$	=	3,000	psi
$F_y$	=	60,000	psi
Footing Concrete Density	=	150.00	pcf
Min. As %	=	0.0018	
Cover @ Top	=	2.00	@ Blm. = 3.00 in

#### Footing Design Results

		Toe	Heel
Factored Pressure	=	3,120	0 psf
$\mu'$ : Upward	=	1,035	0 ft-lb
$\mu'$ : Downward	=	300	302 ft-lb
$\mu$ : Design	=	735	302 ft-lb
Actual 1-Way Shear	=	9.38	4.27 psi
Allow 1-Way Shear	=	82.16	82.16 psi
Toe Reinforcing	=	# 5 @ 18.00 in	
Heel Reinforcing	=	# 5 @ 18.00 in	
Key Reinforcing	=	None Spec'd	

#### Other Acceptable Sizes & Spacings

Toe: Not req'd,  $\mu < S * Fr$   
 Heel: Not req'd,  $\mu < S * Fr$   
 Key: No key defined

#### Summary of Overturning & Resisting Forces & Moments

Item	.....OVERTURNING.....			.....RESISTING.....		
	Force lbs	Distance ft	Moment ft-lb	Force lbs	Distance ft	Moment ft-lb
Heel Active Pressure	=	633.0	1.47	931.2		
Surcharge over Heel	=					
Toe Active Pressure	=	-634.0	1.47	-933.4		
Surcharge Over Toe	=					
Adjacent Footing Load	=					
Added Lateral Load	=					
Load @ Stem Above Soil	=	135.0	8.41	1,135.5		
<b>Total</b>	=	<b>134.0</b>	<b>O.T.M. =</b>	<b>1,133.4</b>		
<b>Resisting/Overturning Ratio</b>			=	<b>1.81</b>		
Vertical Loads used for Soil Pressure =				1,887.5 lbs		
Soil Over Heel	=			326.1	1.79	584.8
Sloped Soil Over Heel	=					
Surcharge Over Heel	=					
Adjacent Footing Load	=					
Axial Dead Load on Stem	=					
* Axial Live Load on Stem	=					
Soil Over Toe	=			325.0	0.38	121.9
Surcharge Over Toe	=					
Stem Weight(s)	=			883.7	1.08	957.4
Earth @ Stem Transitions	=					
Footing Weight	=			352.6	1.09	382.6
Key Weight	=					
Vert. Component	=					
<b>Total =</b>				<b>1,887.5 lbs</b>	<b>R.M. =</b>	<b>2,046.7</b>

\* Axial live load NOT included in total displayed, or used for overturning resistance, but is included for soil pressure calculation.