011704 C.H.C.

ENGINEERS STRUCTURAL

CLARENCE H.

CAMPBELL

Col +HRU

C. 7

RETAINING WALLS - PRYOR RESIDENCE 5506 E. HORRISON DR. PARADISE VALLEY, AZ.

CODE: 2012 F. B. C.

SOIL PROPERTIES:

CLASS 4 SOIL (TABLE 1806.2)

ALLOWABLE BEARING PRESSURE = 2000 psf 11 = 150 \$56/4C PASSIVE

= 301 ACTIVE PRESSURE = 0.25

COEFFICIENT OF FRICTION

N= 610, 310,110 RETAINING WALLS -SEE SHT4 C. 2 HALV C. 7

218" \$ MAS. PIER 533 /A we-(60×1.33×4+80×.61×4)×6=3200+

10=288 pat 015

3-40 × 10" FTG

Phoenix, Arizona 85013 PH: (602) 279-6226 FX: (602) 246-9513 Title 6' Site Wall Job #: 0711605

12.00 in

Description....

Dsgnr: CHC

Page: 1 Date: 30 JAN 2017

2.

This Wall in File: c:\users\clarence\documents\retainpro 10 project files\pryor.rpx.RPX

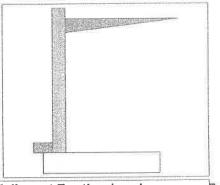
RetainPro (c) 1987-2016,	Build 11.16.11.12
License: KW-06057104	
License To : CAMPBE	LL ENGINEERING, INC

Cantilevered Retaining Wall

Code: IBC 2012,ACI 318-11,ACI 530-11

Criteria				
Retained Height	=	6.50 ft		
Wall height above soil	=	0.50 ft		
Slope Behind Wall	=	0.00		
Height of Soil over Toe	=	6.00 in		
Water height over heel	=	0.0 ft		

Soil Data	et transmit		
Allow Soil Bearing	=	2,000.0 psf	•
Equivalent Fluid Pressure	Meth	od	
Active Heel Pressure	=	30.0 psf/ft	
	=		
Passive Pressure	=	150.0 psf/ft	
Soil Density, Heel	=	110.00 pcf	
Soil Density, Toe	=	0.00 pcf	
Footing Soil Friction	=	0.250	
Soil height to ignore			



Surcharge Loads		
Surcharge Over Heel	==	0.0 psf
Used To Resist Sliding	& O	verturning
Surcharge Over Toe	=	0.0
Used for Sliding & Ove	rturni	ng

Axiai Load Applied		
Axial Dead Load	=	0.0 lbs
Axial Live Load	=	0.0 lbs
Axial Load Eccentricity	=	0.0 in

Axial Load Eccentricity	=	0.0 in
Design Summary		S.
Wall Stability Ratios Overturning Sliding	#	7.37 OK 1.56 OK
Total Bearing Loadresultant ecc.	=	4,902 lbs 3.12 in
Soil Pressure @ Toe Soil Pressure @ Heel Allowable Soil Pressure Less	= = = Than A	1,030 psf OK 604 psf OK 2,000 psf
ACI Factored @ Toe ACI Factored @ Heel	=	1,442 psf 846 psf
Footing Shear @ Toe Footing Shear @ Heel Allowable	= =	5.6 psi OK 2.0 psi OK 75.0 psi
Sliding Calcs Lateral Sliding Force less 100% Passive Force less 100% Friction Force		843.8 lbs 93.8 lbs 1,225.5 lbs
Added Force Req'dfor 1.5 Stability	=	0.0 lbs OK 0.0 lbs OK

Vertical component of active lateral soil pressure IS NOT considered in the calculation of soil bearing

Land Contorn	
Load Factors ———— Building Code	IBC 2012,ACI
Dead Load	1.200
Live Load	1.600
Earth, H	1.600
Wind, W	1.000
Seismic, E	1.000

Lateral Load Applied to Stem					
Lateral Load Height to Top Height to Bottom	= =	0.0 #/ft 0.00 ft 0.00 ft			
Load Type	=	Wind (W) (Service Level)			
Wind on Exposed Str	em.	0.0 psf			

for passive pressure

	(
Wind on Exposed Stem = (Service Level)	0.0 psf

Adjacent Footing Load				
Adjacent Footing Load	=	0.0 lbs		
Footing Width	==	0.00 ft		
Eccentricity	##	0.00 in		
Wall to Ftg CL Dist	=	0.00 ft		
Footing Type		Line Load		
Base Above/Below Soil at Back of Wall	=	0.0 ft		
Poisson's Ratio	=	0.300		

Ctom Construction	ke	Bottom		
Stem Construction		Stem OK		
Design Height Above Ftg	ft =	0.00		
Wall Material Above "Ht"	=	Masonry		
Design Method	=	ASD		
Thickness	=	8.00		
Rebar Size	=	# 5		
Rebar Spacing	=	16.00		
Rebar Placed at	=	Edge		
Design Data fb/FB + fa/Fa	-	0.757		
Total Force @ Section				
Service Level	lbs=	633.8		
Strength Level	lbs =			
MomentActual				
Service Level	ft-# =	1,373.1		
Strength Level	ft-#=	,		
MomentAllowable	=	1,812.8		
Service Level	psi =	6.9		
Strength Level	psi =			
ShearAllowable	psi =	45.4		
Anet (Masonry)	in2 =	91.50		
Rebar Depth 'd'	in =	5.25		
Masonry Data				
fm	psi =	1,500		
Fs	psi =	20,000		
Solid Grouting	=	Yes		
S Modular Ratio 'n'	=	21.48		
Wall Weight	psf =	78.0		
Short Term Factor	=	1.000		
Equiv. Solid Thick.	in =	7.60		
Masonry Block Type	=	Medium Wei	ght	
Masonry Design Method	=	ASD		
Concrete Data				
fc	psi =			

psi =

Fy

Campbell Engineering, Inc.

6158 N. 9th Ave.

Phoenix, Arizona 85013 PH: (602) 279-6226 FX: (602) 246-9513

Title 6' Site Wall Job #: 0711605

Description....

Dsgnr: CHC

Page: 2 30 JAN 2017 Date:

0.3

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Cantilevered Retaining Wall

Code: IBC 2012, ACI 318-11, ACI 530-11

Footing Dimension	ns & S	strengths
Toe Width	= Meanwhe	0.50 ft
Heel Width	=	5.50
Total Footing Width	=	6.00
Footing Thickness	=	12.00 in
Key Width	=	0.00 in
Key Depth	=	0.00 in
Key Distance from Toe	=	0.00 ft
rc = 2,500 psi Footing Concrete Densi Min. As % Cover @ Top 2.00	=	60,000 psí 150.00 pcf 0.0018 3tm.= 3.00 in

Footing Desig			
Englishmotous Contacts (Contacts)	amezone	Toe	Heel
Factored Pressure	=	1,442	846 psf
Mu': Upward	=	178	11,749 ft-#
Mu': Downward	=	51	12,961 ft-#
Mu: Design	=	127	1,211 ft-#
Actual 1-Way Shear	=	5.63	2.03 psi
Allow 1-Way Shear	=	75,00	75.00 psi
Toe Reinforcing	=	None Spec'd	
Heel Reinforcing	=		n
Key Reinforcing	=	None Spec'd	

Other Acceptable Sizes & Spacings

Toe: Not req'd: Mu < phi*5*lambda*sqrt(f'c)*Sm Heel: Not req'd: Mu < phi*5*lambda*sqrt(f'c)*Sm

Key: No key defined

Min footing T&S reinf Area Min footing T&S reinf Area per foot

If one layer of horizontal bars:

#4@ 9.26 in #5@ 14.35 in #6@ 20.37 in

1.56 in2 0.26 in2 /ft

If two layers of horizontal bars:

#4@ 18.52 in #5@ 28.70 in #6@ 40.74 in

Summary of	Overturning &	& Resisting	Forces &	8 1	/loments-

Compartment of Hotel Company	COLUMN TO SERVICE STREET, STRE	OV	ERTURNIN	IG			Rl	ESISTING	
tem		Force lbs	Distance ft	Moment ft-#	7		Force lbs	Distance ft	Moment ft-#
Heel Active Pressure	\ 	843.8	2.50	2,109.4	Soil Over Heel	=	3,455.8	3.58	12,383.4
Surcharge over Heel	=	040.0	2.00	,	Sloped Soil Over Heel	=			
Surcharge Over Toe	=				Surcharge Over Heel	=			
Adjacent Footing Load	=				Adjacent Footing Load	=			
Added Lateral Load	=				Axial Dead Load on Stem	ן ≕			
Load @ Stem Above So	il =				* Axial Live Load on Stem	=			
Load @ otom / boto oo	=				Soil Over Toe	=		0.25	
					Surcharge Over Toe	=			
			-	0.400.4	Stem Weight(s)	=	546.0	0.83	455.0
Total		843.8	O.T.M.	2,109.4	Earth @ Stem Transitions	S=			
	=		(3	=	Footing Weight	=	900.0	3.00	2,700.0
Resisting/Overturnin	n Rat	io	==	7.37	Key Weight	==			
Vertical Loads used f	or So	il Pressure	= 4,90	1.8 lbs	Vert. Component	=	V	-	
			,		Tota	1 =	4,901.8	lbs R.M.≃	15,538.4

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

Vertical component of active lateral soil pressure IS NOT considered in the calculation of Sliding Resistance.

Vertical component of active lateral soil pressure IS NOT considered in the calculation of Overturning Resistance.

Tilt

Horizontal Deflection at Top of Wall due to settlement of soil

(Deflection due to wall bending not considered)

Soil Spring Reaction Modulus

250.0 pci

Horizontal Defl @ Top of Wall (approximate only)

0.033 in

The above calculation is not valid if the heel soil bearing pressure exceeds that of the toe,

because the wall would then tend to rotate into the retained soil.

6158 N. 9th Ave.

Phoenix, Arizona 85013 PH: (602) 279-6226 FX: (602) 246-9513

3' Site Wall Title Job #: 0711605 Description....

Dsgnr: CHC

Page: 1 30 JAN 2017 Date:

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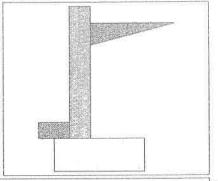
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Cantilevered Retaining Wall

Code: IBC 2012,ACI 318-11,ACI 530-11

Criteria		- CHINENESSE
Retained Height	=	3.50 ft
Wall height above soil	=	0.50 ft
Slope Behind Wall	=	0.00
Height of Soil over Toe	=	6.00 in
Water height over heel	=	0.0 ft

Soil Data			
Allow Soil Bearing Equivalent Fluid Pressure	= Meth	2,000.0 od	psf
Active Heel Pressure	=		psf/ft
	===		
Passive Pressure	=	150.0	psf/ft
Soil Density, Heel	=	110.00	pcf
Soil Density, Toe	=	0.00	pcf
Footing Soil Friction	=	0.250	
Soil height to ignore for passive pressure	=	8.00	in



Surcharge Over Heel	=	0.0 psf
Used To Resist Slidir	ig & Ov	
Surcharge Over Toe	==	0.0
Used for Sliding & Ov	erturnir	ng

Axiai Load Applie		Stelli
Axial Dead Load	=	0.0 lbs
Axial Live Load	=	0.0 lbs
Axial Load Eccentricity	=	0.0 in

Axial Load Eccentricity	=	0.0 in	
Design Summary	Total Parisin	eneres au	
Wall Stability Ratios Overturning Sliding	=	4.99 1.62	
total boarning mon-	=	1,423 lb 2.17 ir	
Soil Pressure @ Toe Soil Pressure @ Heel Allowable Soil Pressure Less	= = = Than Al	306 p 2,000 p lowable	
ACI Factored @ Toe ACI Factored @ Heel	=	937 p 429 p	
Footing Shear @ Toe Footing Shear @ Heel Allowable	= = =		si OK si OK si
Sliding Calcs Lateral Sliding Force less 100% Passive Force less 100% Friction Force Added Force Req'dfor 1.5 Stability			s

Vertical component of active lateral soil pressure IS
NOT considered in the calculation of soil bearing

Load Factors	IBC 2012,ACI 1.200 1.600 1.600 1.000
Seismic, E	1.000

Lateral Load Applied to Stem 0.0 #/ft Lateral Load = 0.00 ft ...Height to Top ...Height to Bottom = 0.00 ft = Wind (W)

(Service Level) 0.0 psf Wind on Exposed Stem = (Service Level)

Load Type

Adjacent Footing I	oad	
Adjacent Footing Load	=	0.0 lbs
Footing Width	==:	0.00 ft
Eccentricity	=	0.00 in
Wall to Ftg CL Dist	=	0.00 ft
Footing Type		Line Load
Base Above/Below Soil at Back of Wall	=	0.0 ft
Poisson's Ratio	=	0.300

Stem Construction	1	Bottom	
The state of the s	النس	Stem OK	
Design Height Above Ftg		0.00	
Wall Material Above "Ht"		Masonry	
Design Method /	=	ASD	
Thickness	=	8.00	
Rebar Size	=	# 5	
Rebar Spacing	=	48.00	
Rebar Placed at	=	Center	
Design Data fb/FB + fa/Fa	=	0.481	
Total Force @ Section		01101	
Service Level	lbs=	183.8	
Strength Level	lbs =	100.0	
MomentActual	1D2 -		
Service Level	ft-#=	214.4	
	ft-#=	214.4	
Strength Level		440.0	
MomentAllowable	=	446.0	
	. 20	0.0	
Service Level	psi=	2.0	
Strength Level	psi =		
ShearAllowable	psi=	44.6	
Anet (Masonry)	in2 =	91.50	
Rebar Depth 'd'	in=	3.75	
Masonry Data			
fm	psi =	1,500	
Fs	psi=	20,000	
Solid Grouting	=	Yes	
Modular Ratio 'n'	=	21.48	
Wall Weight	psf=	78.0	
Short Term Factor	=	1.000	
Equiv. Solid Thick.	in ≃	7.60	
Masonry Block Type	=	Medium W	'eight
Masonry Design Method	=	ASD	
Concrete Data			
fc	psi≂		

psi =

Fy

Campbell Engineering, Inc.

6158 N. 9th Ave.

FX: (602) 246-9513

Phoenix, Arizona 85013 PH: (602) 279-6226

3' Site Wall Title Job #: 0711605

Dsgnr: CHC

Page: 2 Date:

30 JAN 2017

Description....

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Cantilevered Retaining Wall

Code: IBC 2012, ACI 318-11, ACI 530-11

ns & S	Strengths
=	0.50 ft
=	2.42
=	2.92
==	12.00 in
	0.00 in
==	0.00 in
=	0.00 ft
=	60,000 psi 150.00 pcf 0.0018 Btm.= 3.00 in
	= = = = = Fy = ty = = = = = = = = = = = = = = = = =

Footing Desig	U		
Control of the Contro		Toe	Heel
Factored Pressure	=	937	429 psf
Mu' : Upward	=	114	813 ft-#
Mu' : Downward	=	51	1,171 ft-#
Mu: Design	=	62	358 ft-#
Actual 1-Way Shear	=	3.07	0.93 psi
Allow 1-Way Shear	=	75.00	75.00 psi
Toe Reinforcing	=	None Spec'd	
Heel Reinforcing	-	# 5 @ 12.00 in	
Key Reinforcing	=	None Spec'd	

Other Acceptable Sizes & Spacings

Toe: Not req'd: Mu < phi*5*lambda*sqrt(f'c)*Sm Heel: Not req'd: Mu < phi*5*lambda*sqrt(f'c)*Sm

Key: No key defined

Min footing T&S reinf Area Min footing T&S reinf Area per foot If one layer of horizontal bars:

0.76 in2 in2 /ft 0.26

If two layers of horizontal bars:

#4@ 9.26 in #5@ 14.35 in #6@ 20.37 in #4@ 18.52 in #5@ 28.70 in #6@ 40.74 in

Summary of Overturning &	Posieting	Forces	& Moments
Summary of Overturning or	Kealaming	101003	Or INIOIIIOIIICO

	AND REAL PROPERTY.	OV	ERTURNING	G				ESISTING	
Item		Force lbs	Distance ft	Moment ft-#			Force lbs	Distance ft	Moment ft-#
Heel Active Pressure	=	303.8	1.50	455.6	Soil Over Heel	=	673.9	2.04	1,375.9
Surcharge over Heel	=	000.0	1100	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Sloped Soil Over Hea	el =		.9	
Surcharge Over Toe	#				Surcharge Over Hee				
Adjacent Footing Load	100				Adjacent Footing Loa				
Added Lateral Load	=				Axial Dead Load on	Stem =			
Load @ Stem Above So	il =				* Axial Live Load on S	tem =			
2000 @ 01011(7.12012 21	=				Soil Over Toe	==		0.25	
					Surcharge Over Toe	=			
		202.0		455.6	Stem Weight(s)	=	312.0	0.83	260.0
Total		303.8	O.T.M.	455.0	Earth @ Stem Trans	itions=			
	=		=		Footing Weight	==	437.6	1.46	638.2
Resisting/Overturnin	o Rat	io	=	4.99	Key Weight	=			
Vertical Loads used			= 1,423	3.4 lbs	Vert. Component	=		s .	
1011100, 10000 0000						Total =	1,423.4	lbs R.M.=	2,274.1

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

Vertical component of active lateral soil pressure IS NOT considered in the calculation of Sliding Resistance.

Vertical component of active lateral soil pressure IS NOT considered in the calculation of Overturning Resistance.

Tilt

Horizontal Deflection at Top of Wall due to settlement of soil

(Deflection due to wall bending not considered)

Soil Spring Reaction Modulus

250.0 pci

Horizontal Defl @ Top of Wall (approximate only)

0.026 in

The above calculation is not valid if the heel soil bearing pressure exceeds that of the toe.

because the wall would then tend to rotate into the retained soil.

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Description....

Dsgnr: CHC

Page: 1 Date: 30 JAN 2017

C06

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Criteria						
Retained Height	=	1.50 ft				
Wall height above soil	=	2.50 ft				
Slope Behind Wall	=	0.00				
Height of Soil over Toe	=	6.00 in				
Water height over heel	=	0.0 ft				

Cantilevered Retaining Wall

Code: IBC 2012,ACI 318-11,ACI 530-11

Soil Data			
Allow Soil Bearing	=	2,000.0	psf
Equivalent Fluid Pressure	Meth	od	
Active Heel Pressure	=	30.0	psf/ft
	72		
Passive Pressure	=	150.0	psf/ft
Soil Density, Heel	700	110.00	pcf
Soil Density, Toe	==	0.00	pcf
Footing Soil Friction	==	0.250	
Soil height to ignore for passive pressure	=	8.00	in

Surcharge Loads		
Surcharge Over Heel Used To Resist Sliding Surcharge Over Toe Used for Sliding & Over	=	0.0
Avial Load Applie	_	

Axiai Load Applie	u LO	Otom
Axial Dead Load	-	0.0 lbs
Axial Live Load	=	0.0 lbs
Axial Load Eccentricity	=	0.0 in

Design Summary		recorne Vi	and the second second		
Wall Stability Ratios Overturning Sliding	=		6.03 2.86		
Total Bearing Loadresultant ecc.	11 11		534 0.81		
Soil Pressure @ Toe Soil Pressure @ Heel Allowable Soil Pressure Less	= = = Th	an Al	278 2,000		
ACI Factored @ Toe ACI Factored @ Heel	=======================================		731 390	•	
Footing Shear @ Toe Footing Shear @ Heel Allowable	=======================================			psi C psi C psi	
Sliding Calcs Lateral Sliding Force less 100% Passive Force less 100% Friction Force		#. #:	81.7 100.0 133.4	lbs	
Added Force Req'dfor 1.5 Stability	=			lbs C	

Vertical component of active lateral soil pressure IS NOT considered in the calculation of soil bearing

Load Factors	
Building Code	IBC 2012,ACI
Dead Load	1.200
Live Load	1.600
Earth, H	1.600
Wind, W	1.000
Seismic, E	1.000

Lateral Load Applied to Stem Lateral Load = 0.0 #/ft ...Height to Top = 0.00 ft ...Height to Bottom = 0.00 ft Load Type = Wind (W) (Service Level)

Wind on Exposed Stem = 0.0 psf (Service Level)

Adjacent Footing I	Load	
Adjacent Footing Load	==	0.0 lbs
Footing Width	=	0.00 ft
Eccentricity	=	0.00 in
Wall to Ftg CL Dist	=	0.00 ft
Footing Type		Line Load
Base Above/Below Soil at Back of Wall	=	0.0 ft
Poisson's Ratio	=	0.300

Stem Construction	M	Bottom	
MS IN HE WAY IS NOT STOWN		Stem OK	
Design Height Above Ftg			
Wall Material Above "Ht"	=	Masonry	
Design Method	=	ASD	
Thickness	=	8.00	
Rebar Size	=	# 5	
Rebar Spacing	=	48.00	
Rebar Placed at Design Data	=	Center	
fb/FB + fa/Fa	=	0.038	
Total Force @ Section		0,000	
Service Level	lbs ≃	33.8	
Strength Level	lbs =	55.0	
MomentActual	105 -		
Service Level	ft-#=	16.9	
Strength Level	ft-# =		
MomentAllowable	=	446.0	
MomentAllowable	-	440.0	
Service Level	psi=	0.4	
Strength Level	psi=		
ShearAllowable	psi =	44.6	
	in2 =	91.50	
Anet (Masonry) Rebar Depth 'd'	in =	3.75	
Masonry Data	101 -	3.75	
fm	psi =	1,500	
Fs	psi =	20,000	
Solid Grouting	P01 =	Yes	
Modular Ratio 'n'	=	21.48	
Wall Weight	psf=	78.0	
Short Term Factor	=	1.000	
Equiv. Solid Thick.	in =	7.60	
Masonry Block Type		Medium Weight	
Masonry Design Method		ASD	
Concrete Data			
fc	psi=		
Fy	psi=		

Campbell Engineering, Inc.

6158 N. 9th Ave.

Phoenix, Arizgija 85013 PH: (602) 279-6226 FX: (602) 246-9513

Title 1' Site Wall Job #: 0711605

Description....

Dsgnr: CHC

Page: 2 Date: 30 JAN 2017

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Cantilevered Retaining Wall

Code: IBC 2012,ACI 318-11,ACI 530-11

Footing Dimension	ons & Strengths	V.
Toe Width	= 0.33 ft	80
Heel Width	= 1.00	
Total Footing Width	= 1.33	
Footing Thickness	= 10.00 in	
Key Width	= 0.00 in	
Key Depth	= 0.00 in	
Key Distance from Toe	= 0.00 ft	
t'c = 2,500 psi Footing Concrete Dens Min. As %	Fy = 60,000 ps ity = 150.00 pc = 0.0018	
Cover @ Top 2.00	@ Btm.= 3.00	ir

Footing Desig			
Paralle Marie		Toe	Heel
Factored Pressure	=	731	390 psf
Mu' : Upward	=	39	23 ft-#
Mu' : Downward	=	24	39 ft-#
Mu: Design	=	15	15 ft-#
Actual 1-Way Shear	=	1.92	0.31 psi
Allow 1-Way Shear	=	75.00	75.00 psi
Toe Reinforcing	=	None Spec'd	
Heel Reinforcing	=	None Spec'd	
Key Reinforcing	=	None Spec'd	
Other Acceptable S	Size	s & Spacings	

Toe: Not req'd: Mu < phi*5*lambda*sqrt(f'c)*Sm Heel: Not req'd: Mu < phi*5*lambda*sqrt(f'c)*Sm

Key: No key defined

Min footing T&S reinf Area Min footing T&S reinf Area per foot

in2 0.29 0.22 in2 /ft

If one layer of horizontal bars:

If two layers of horizontal bars:

#4@ 11.11 in #5@ 17.22 in #6@ 24.44 in

#4@ 22.22 in #5@ 34.44 in #6@ 48.89 in

		OVERTURNING					RESISTING		ASSESSED AND ADDRESS.
Item		Force lbs	Distance ft	Moment ft-#			Force lbs	Distance ft	Moment ft-#
Heel Active Pressure	_	81.7	0.78	63.5	Soil Over Heel	=	55.0	1.17	64.1
Surcharge over Heel	±				Stoped Soil Over Heel	=			
Surcharge Over Toe	=				Surcharge Over Heel	=			
Adjacent Footing Load	=				Adjacent Footing Load	=			
Added Lateral Load	=				Axial Dead Load on Sto	em =			
oad @ Stem Above So	il =				* Axial Live Load on Ster	m =			
	=				Soil Over Toe	=		0.17	
					Surcharge Over Toe	=		-,	
Total		04.7	O.T.M.	63.5	Stem Weight(s)	=	312.0	0.67	207.9
Total		01.7	O. 1 . WI.	63.3	Earth @ Stem Transitions =				
	***		=		Footing Weight	=	166.6	0.67	111.1
Resisting/Overturnin	g Rat	io	=	6.03	Key Weight	=			
Vertical Loads used f	or So	il Pressure	= 533	.6 lbs	Vert. Component	=			
					, To	otal =	533.6 lb	s R.M.=	383.1

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

Vertical component of active lateral soil pressure IS NOT considered in the calculation of Sliding Resistance.

Vertical component of active lateral soil pressure IS NOT considered in the calculation of Overturning Resistance.

Tilt

Horizontal Deflection at Top of Wall due to settlement of soil

(Deflection due to wall bending not considered)

Soil Spring Reaction Modulus

250.0 pci

Horizontal Defl @ Top of Wall (approximate only)

0.044 in

The above calculation is not valid if the heel soil bearing pressure exceeds that of the toe.

because the wall would then tend to rotate into the retained soil.