

Acme Consulting
 1234 Example Street
 Kansas City, MO

Date 8/24/2020
 Project # Example
 Project Title Two Stem Wall
 Calculation Title Example Calc
 Designer

Stability

	SF Overturn	Allow. SF	SF Sliding	Allow. SF	Toe Bearing (psf)	Heel Bearing (psf)	Allow. Bearing (psf)
D + H	5.7	1.5	3.1	1.5	1,016.7	967.6	2,000.0

Concrete

		d (inch)	Mu (lb-ft/ft)	Vu (lb/ft)	Ru (psi)	As Req'd (inch ² /ft)	As Max. (inch ² /ft)	vu (psi)	vc (psi)
Toe	1.2D + 1.6L + 0.5S + 1.6H	8.50	4,301.4	2,167.2	66.2	0.204	1.579	28.3	109.5
Heel	1.2D + 1.6L + 0.5S + 1.6H	8.50	6,750.0	4,500.0	103.8	0.240	1.579	58.8	109.5
Key	1.2D + 1.6L + 0.5S + 1.6H	8.50	880.0	510.4	13.5	0.204	1.579	6.7	109.5
Bot. Stem	1.2D + 1.6L + 0.5S + 1.6H	20.50	8,000.0	2,400.0	21.2	0.369	3.809	13.0	109.5

Masonry

		d (inch)	P (lb/ft)	M (lb-ft/ft)	V (lb/ft)	fa (psi)	Fa (psi)	fb (psi)	Fb (psi)	csr	fs (psi)	Fs (psi)	fv (psi)	Fv (psi)
Top Stem	D + H	5.81	1,785.0	625.0	375.0	12.8	350.5	149.6	675.0	0.3	8,599.9	24,000.0	2.7	46.8

Suggested Rebar Spacing

	Rebar	As (inch ² /ft)	T & S Rebar
Toe	# 3@6" # 4@11 1/2" # 5@18"	0.220 0.209 0.207	# 3@4 1/2" # 4@8" # 5@12 1/2" # 6@18"
Heel	# 3@5" # 4@9 1/2" # 5@15" # 6@18"	0.264 0.253 0.248 0.293	# 3@4 1/2" # 4@8" # 5@12 1/2" # 6@18"
Key	# 3@6" # 4@11 1/2" # 5@18"	0.220 0.209 0.207	
Bot. Stem	# 3@3 1/2" # 4@6 1/2" # 5@10" # 6@14" # 7@18"	0.377 0.369 0.372 0.377 0.400	# 3@1 1/2" # 4@3" # 5@5" # 6@7" # 7@10"
Top Stem	# 3@8"	0.165	0.49 inch ²