13.3 Retaining Walls

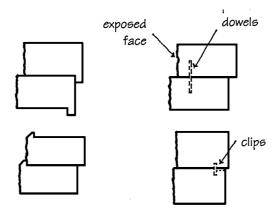




Figure 13-23 Units interlock physically or mechanically to resist sliding.

Maximum Exposed Wall Height*									
	Segmental Unit Depth (in.)	Angle of Internal Friction of Soil, ø (See Table Below)							
Segmental Unit Height (in.)		ø = 28°			ø = 34°				
		Wall Battered 5°	Wall Battered 10°	Wall Battered 15°	Wall Battered 5°	Wall Battered 10°	Wall Battered 15°		
6	12 24	2'-0" 5'-0"	2'-6" 5'-6"	3'-0" 6'-0"	2'-6" 6'-6"	3'-6" 7'-6"	3'-6" 7'-6"		
8	12 24	2'-3" 4'-10"	2'-3" 5'-6"	2'-10" 6'-3"	2'-10" 6'-3"	3'-6" 7'-6"	3'-6" 7'-6"		

^{*} Design based on non-critical case walls without soil reinforcing, zero slope backfill at top of wall, no surcharge load, required 6 in. wall embedment in ground at toe, soil and block unit weight 120 pcf.

	Angle of Internal Friction (ø) for Various Soil Types						
Soil		Angle of Internal Friction (Degrees)					
GW GP	Well-graded gravels, gravel-sand mixtures, little or no fines Poorly graded gravels or gravel-sand mixtures, little or no fines	37 to 42					
SW SP GM	Well-graded sands, gravelly sands, little or no fines Poorly graded sands or gravelly sands, little or no fines Silty gravels, gravel-sand-silt mixtures	33 to 40					
SM GC SC	Silty sand, sand-silt mixtures Clayey gravels, gravel-sand-clay mixtures Clayey sands, sand-clay mixtures	28 to 35					
ML CL	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, and lean clays	25 to 32					

Figure 13-24 Maximum height of segmental retaining walls. (*From NCMA* Design Manual for Segmental Retaining Walls, 1993.)

Chapter 13 Foundation and Retaining Walls

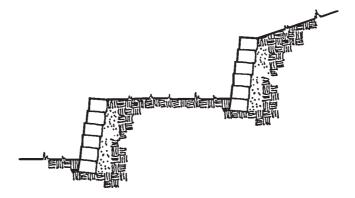


Figure 13-25 Two-level terraced wall.

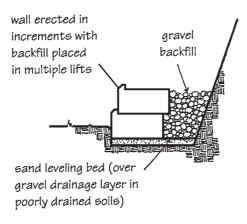


Figure 13-26 Segmental retaining wall construction.