

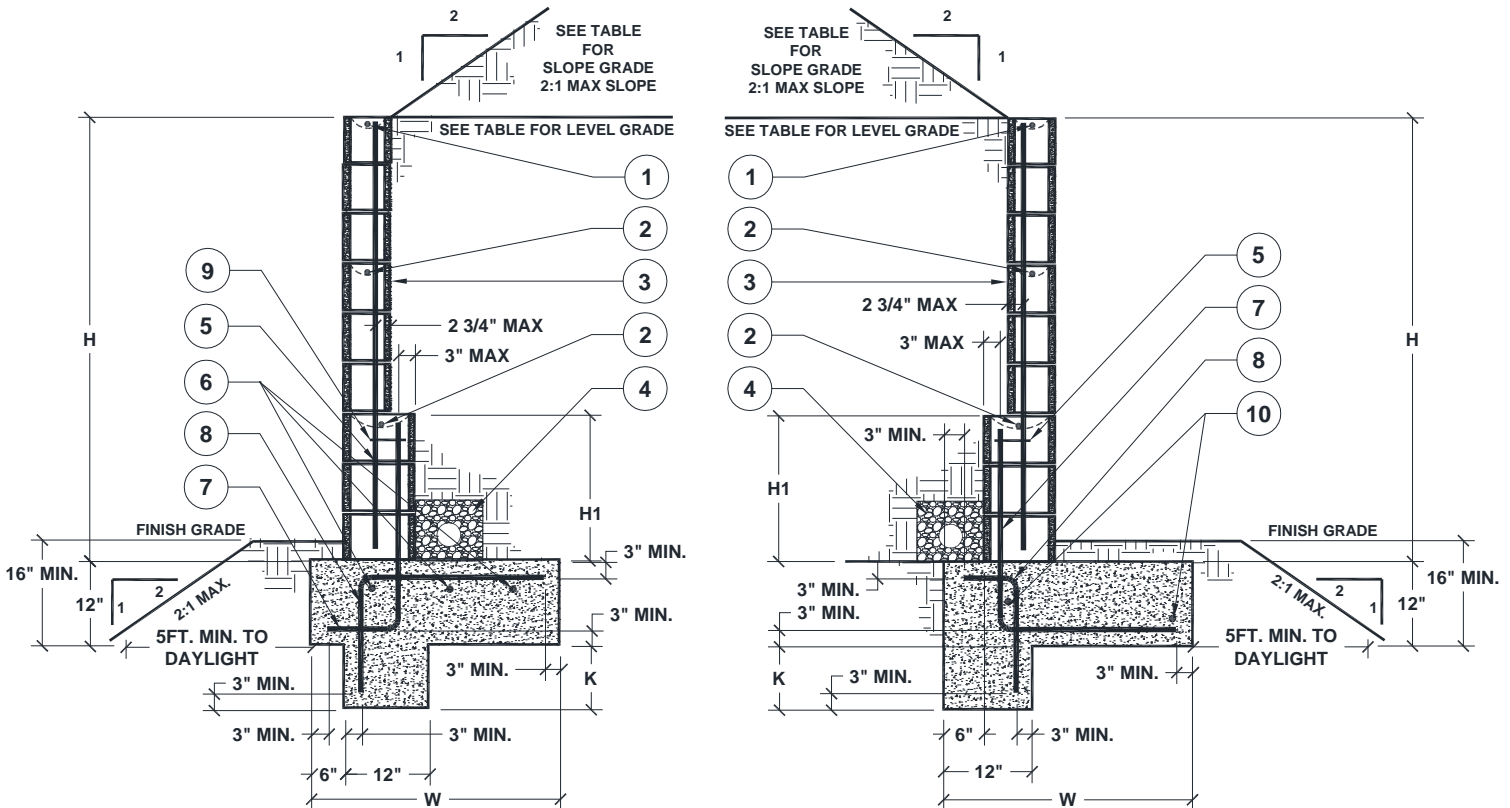
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## RETAINING WALL STANDARD

### TYPE 1: 6" TOE

### TYPE 2: 6" HEEL

NOT TO SCALE

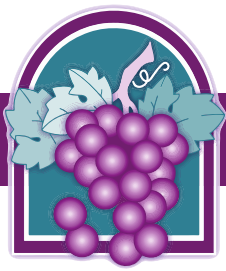


### RETAINING WALL LEGEND

- |   |                               |
|---|-------------------------------|
| 1. #4 horizontal rebar at top course              | 6. (3) - #4 horizontal rebar  |
| 2. #4 horizontal rebar at 24" on center           | 7. X - BARS                   |
| 3. 8" concrete block                              | 8. Z - BARS                   |
| 4. Drainage System – <b>See General Note No.2</b> | 9. #2 ties                    |
| 5. Y- BARS  | 10. (2) - #4 horizontal rebar |

### TYPE 1: 6" TOE

GRADE CONDITION	H WALL HEIGHT	H1 12" BLOCK	W WIDTH	X - BARS	Y - BARS	Z - BARS	K KEY DEPTH
SLOPE GRADE AT TOP OF WALL (2:1 MAX.)	5'-1" TO 6'-0"	24"	69"	#4 @ 16"	#4 @ 32"	#4 @ 11"	30"
	4'-1" TO 5'-0"	N/R	48"	#4 @ 16"	#4 @ 16"	#4 @ 12"	25"
	3'-1" TO 4'-0"	N/R	30"	#4 @ 32"	#4 @ 32"	#4 @ 32"	16"
	UP TO 3'-0"	N/R	18"	#4 @ 32"	#4 @ 32"	#4 @ 32"	8"
LEVEL GRADE AT TOP OF WALL	5'-1" TO 6'-0"	24"	45"	#4 @ 24"	#4 @ 32"	#4 @ 24"	8"
	4'-1" TO 5'-0"	N/R	36"	#4 @ 24"	#4 @ 24"	#4 @ 24"	7"
	3'-1" TO 4'-0"	N/R	24"	#4 @ 32"	#4 @ 32"	#4 @ 32"	5"
	UP TO 3'-0"	N/R	21"	#4 @ 32"	#4 @ 32"	#4 @ 32"	N/R



TYPE 1: 6" HEEL							
GRADE CONDITION	H WALL HEIGHT	H1 12" BLOCK	W WIDTH	X - BARS	Y - BARS	Z - BARS	K KEY DEPTH
SLOPE GRADE AT TOP OF WALL (2:1 MAX.)	5'-1" TO 6'-0"	24"	39"	#4 @ 16"	#4 @ 32"	#4 @ 12"	28"
	4'-1" TO 5'-0"	N/R	29"	#4 @ 16"	#4 @ 16"	#4 @ 12"	22"
	3'-1" TO 4'-0"	N/R	24"	#4 @ 32"	#4 @ 32"	#4 @ 32"	15"
	UP TO 3'-0"	N/R	18"	#4 @ 32"	#4 @ 32"	#4 @ 32"	8"
LEVEL GRADE AT TOP OF WALL	5'-1" TO 6'-0"	24"	33"	#4 @ 24"	#4 @ 32"	#4 @ 24"	18"
	4'-1" TO 5'-0"	N/R	26"	#4 @ 24"	#4 @ 24"	#4 @ 24"	13"
	3'-1" TO 4'-0"	N/R	20"	#4 @ 32"	#4 @ 32"	#4 @ 32"	7"
	UP TO 3'-0"	N/R	20"	#4 @ 32"	#4 @ 32"	#4 @ 32"	N/R

**DISCLAIMER:** ALTERNATING WALL DESIGNS MAY BE POSSIBLE WHEN PROVIDED WITH AN ENGINEERED ANALYSIS. USE OF THIS STANDARD DESIGN IS AT THE USER'S RISK AND CARRIES NO IMPLIED OR INFERRED GUARANTEE AGAINST FAILURE OR DEFECTS. N/R = NOT REQUIRED

**NOTES**

1. Wall heights are regulated by the Planning Department. Consult with the Building Department before beginning construction.
2. **Provide retaining wall drainage system as follows:**
  - 1 cubic ft of clean coarse gravel with 4" diameter perforated PVC drainage pipe. 1% gradient to drain or omit head joints in first course.
3. **Optional:** Installation of a moisture barrier on the fill side of the wall will help to prevent moisture from penetrating the visible side of the wall, resulting in discoloration.
4. This retaining wall standard is not designed to support surcharge loads from motor vehicles or other structures.
5. Cleanouts shall be provided for all grout pours over 5 feet in height. Where required, cleanouts shall be provided in the bottom course at every vertical bar and shall be sealed after inspection and before grouting.
6. All reinforcing steel shall be intermediate grade and overlap splices shall be 40 bar diameters minimum. All rebar hooks shall be minimum of 12 times the rebar diameter (12bd) in length.

**MATERIAL SPECIFICATION**

- **All Rebar:** ASTM A615 Grade 40 Min.
- **All Masonry Units:** ASTM C-90, Grade N
- **Mortar:** 1,800 PSI Min., ASTM C 270, Type M or S.
- **Grout:** 2,000 PSI Min.
- **Concrete:** 2,500 PSI Min. at 28 days, ASTM C 150

**DESIGN PARAMETERS**


- **Active Soil Pressure:**  
Level Backfill = 30 PSF and Sloping (2:1 Max.) = 43 PSF
- **Passive Soil Bearing:** 150 lbs./sq.ft.
- **Coefficient of Friction:** 0.25
- **Allowable Soil Bearing:** 1500 lbs./sq.ft.
- **Wind Speed:** 110 mph (ULT.)
- **Exposure:** C
- **Seismic Design:** Category 'E', Site Class 'D'

**MANDATORY FIELD INSPECTION**

1. **Footing:** Excavation trench shall be clean. Steel must in place supported 3" above and away from the surrounding soil.
2. **Rebar/Pre-Grout:** Bond beam rebar and vertical rebar must be in place and inspected prior to grouting.
3. **Final:** After grouting, but prior to any decorative cap placement.

**DISCLAIMER**

Alternate designs may be possible when provided with an engineered analysis. Use of this standard design is at the user's risk and carries no implied or inferred guarantee against failure or defects.

Approved by:   
Signature

Michael Frasure, CBO  
Building & Safety Services Manager