



COMBINED GARDEN WALL - RETAINING WALL

LEVEL BACKFILL - NO SURCHARGE
WALL AT CENTER OF FOOTING

Revised:	Drawing No: <b style="font-size: 2em;">4
Approved:	
Date 4-28-14	Pg 4 of 4

NOTES:

CONSTRUCTION REQUIREMENTS

1. All work shall conform to the 2013 CBC.
2. Minimum reinforcing steel lap splice = 24".
3. Expansion joints required every 25-foot maximum.
4. All masonry cells shall be grouted solid at retaining wall section and all cells with steel at garden wall section
5. Minimum 3-inches of concrete cover for reinforcing in footings.

REQUIRED INSPECTIONS

1. Foundation: Footing excavated with all reinforcing steel placed and supported. Wall location verified.
2. Pre-Grout: All masonry units installed. All vertical and horizontal reinforcing installed and supported.
3. Back of wall drain: Drain rock installed. Drain pipe installed (where used). Drain pipe cleanouts installed (where used). Bottom course head joints open and clear (walls 2'-8" high or less).
4. Final Inspection: Wall construction completed. Backfill behind wall installed and compacted.

BACK OF WALL DRAIN REQUIREMENTS (FOR COMBINATION WALLS ONLY)

1. Walls 2'-8" high or less:
 - a. 12" x 12" of clean gravel placed at top of footing level for the entire length of the retaining wall.
 - b. Head joints open and clear for all masonry units on the bottom course of the retaining wall.
 - c. System for walls higher than 2'-8" as shown in item 2 below.
2. Walls higher than 2'-8":
 - a. Minimum 3" diameter perforated drain pipe in 12" x 12" clean gravel placed at top of footing for entire length of the retaining wall..
 - b. Drain pipe daylighted to grade for drainage.
 - c. Drain pipe sloped minimum of 1/8" per foot to an at-grade opening.
 - d. Provide cleanouts in the drain pipe at 50' o.c. maximum.

MATERIAL SPECIFICATIONS

- Concrete Masonry Shall Conform To ASTM C90
F'm = 1,500 psi
- Mortar: Type M - 2,500 psi or Type S - 1,800 psi
- Grout Shall Conform To ASTM C476, 2,000psi
- Concrete: Minimum 2,500 psi, Type V Cement
- Steel Reinforcing: Grade 60, ASTM A615

DESIGN CRITERIA

- 2013 CBC & City of Upland Amendments
- Soil Bearing Value: 1,500 psf.
- Active Soil Pressure: 45.0 psf/ft.
- Passive Soil Pressure: 250.0 psf/ft.
- Soil Density: 115.0 psf.
- Soil Friction: 0.35.
- Wind Load: 14.84 psf.
- No Seismic Load for Walls Less Than 6' high.