

1 Department of Administration

2

3 Adopted Permanent Rules Relating to Foundations

4

5 Rules as Adopted

6 1300.6100 CONVENTIONAL FOUNDATION CONSTRUCTION.

7 Subpart 1. Conventional foundation construction. The
8 provisions in this part may be used for the design and
9 construction of conventional foundations serving Group R,
10 Division 3, and Group U, Division 1 occupancies subject to the
11 approval of the building official. Other methods may be used
12 provided a satisfactory design is submitted showing compliance
13 with the other provisions of this code.

14 TABLE 2-A

15 Foundation wall reinforcement requirements of 12-inch thick
16 hollow unit masonry or eight-inch thick cast-in-place (CIP)
17 concrete.

18 Height of unbalanced backfill Size of vertical reinforcing bars required when
19 foundation wall is constructed in soil groups I
20 or II of Table 2-B

21	22	23
	Group I Soil	Group II Soil
24 5 feet	No. 4 bars	No. 4 bars
25 6 feet	No. 4 bars	No. 5 bars
26 7 feet	No. 4 bars	No. 5 bars
27 8 feet	No. 5 bars	No. 6 bars

28 Notes:

29
30 1. All reinforcing is to be installed vertically a maximum
31 of six feet on center. Vertical reinforcing bars must be placed
32 three inches clear maximum from the inside nonpressure face of
33 masonry walls and 1-1/2 inches clear maximum from the inside
34 face of the CIP walls.

35 2. Reinforcing may be omitted in wall sections ten feet or
36 less in length that are bounded by wall corners or by wall
37 offsets or returns at least two feet in depth.

38 3. Reinforced cells of hollow unit masonry must be filled
39 solid with grout having a specified compressive strength at 28
40 days of 2,000 psi. Reinforcing steel must be ASTM A615 grade 40.

41 4. Hollow masonry units must be ASTM C-90 Grade N-1 and be

1 installed with Type M or Type S mortar.

2 5. Cast-in-place concrete must have a 28-day minimum
3 strength of 3,000 psi.

4 6. Anchor bolts must be installed to align with vertical
5 reinforcing in addition to the locations and in the manner
6 specified in Uniform Building Code, Section 1806.6 or Figure
7 R-303 of the One and Two Family Dwelling Code.

8 7. If foundation walls are parallel to floor framing,
9 solid blocking or diagonal bracing must be installed at the
10 anchor bolt locations in the first two joist or truss spaces.

11 8. Floor framing must be nailed to the sill plate in
12 accordance with Uniform Building Code Table 23-I-Q or Table
13 R-402.3a of the One and Two Family Dwelling Code. In addition,
14 approved metal angle clips must be used to fasten floor joists,
15 trusses, or blocking to the sill plate at the anchor bolt
16 locations. The clips must not be less than 18 gauge and be
17 fastened to the plate and adjoining joists, trusses, or blocking
18 with at least three 1-1/2 inch by 8d nails in each leg of the
19 clip.

20 9. Foundation walls must not exceed a height of 8-1/2
21 feet, as measured from the basement floor. Height of unbalanced
22 fill must also be measured from the basement floor.

23 10. Prior to backfilling, foundation walls must be
24 laterally supported by floor construction at both top and bottom
25 or by adequate temporary bracing.

26 11. A foundation drainage system must be installed,
27 consisting of a foundation drain complying with Uniform Building
28 Code Appendix 1824.3 and 1824.4, section R-305.1 of the One and
29 Two Family Dwelling Code, or other approved design.

30 12. Foundations must also comply with the applicable
31 construction provisions of Uniform Building Code chapters 19 and
32 21.

TABLE 2-B

TYPES OF SOILS AND THEIR PROPERTIES

Soil group	Unified soil classification system symbol	Soil description	Drainage Characteristics	Volume change potential expansion
Group I Excellent	GW	Well-graded gravels, gravel sand mixtures, little or no fines.	Good	Low
	GP	Poorly graded gravels or gravel sand mixtures little or no fines.	Good	Low
	SW	Well-graded sands, gravelly sands, little or no fines.	Good	Low
	SP	Poorly graded sands or gravelly sands, little or no fines.	Good	Low
	GM	Silty gravels, gravel-sand-silt mixtures.	Good	Low
	SM	Silty sand, sand-silt mixtures.	Good	Low
Group II Fair to Good	GC	Clayey gravels, gravel-sand-clay mixtures.	Medium	Low
	SC	Clayey sands, sand-clay mixture.	Medium	Low
	ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity.	Medium	Low
	CL	Inorganic clays of low to medium plasticity, gravelly clays, sands, clays, silty clays, lean clays.	Medium	Medium
Group III Poor	CH	Inorganic clays of high plasticity, fat clays	Poor	High
	MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts.	Poor	High
Group IV Unsatisfactory	OL	Organic silts and organic silty clays of low plasticity.	Poor	Medium
	OH	Organic clays of medium to high plasticity, organic silts.	Unsatisfactory	High
	Pt	Peat and other highly organic soils.	Unsatisfactory	High

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