



**MASON COUNTY
DEPARTMENT OF COMMUNITY DEVELOPMENT**

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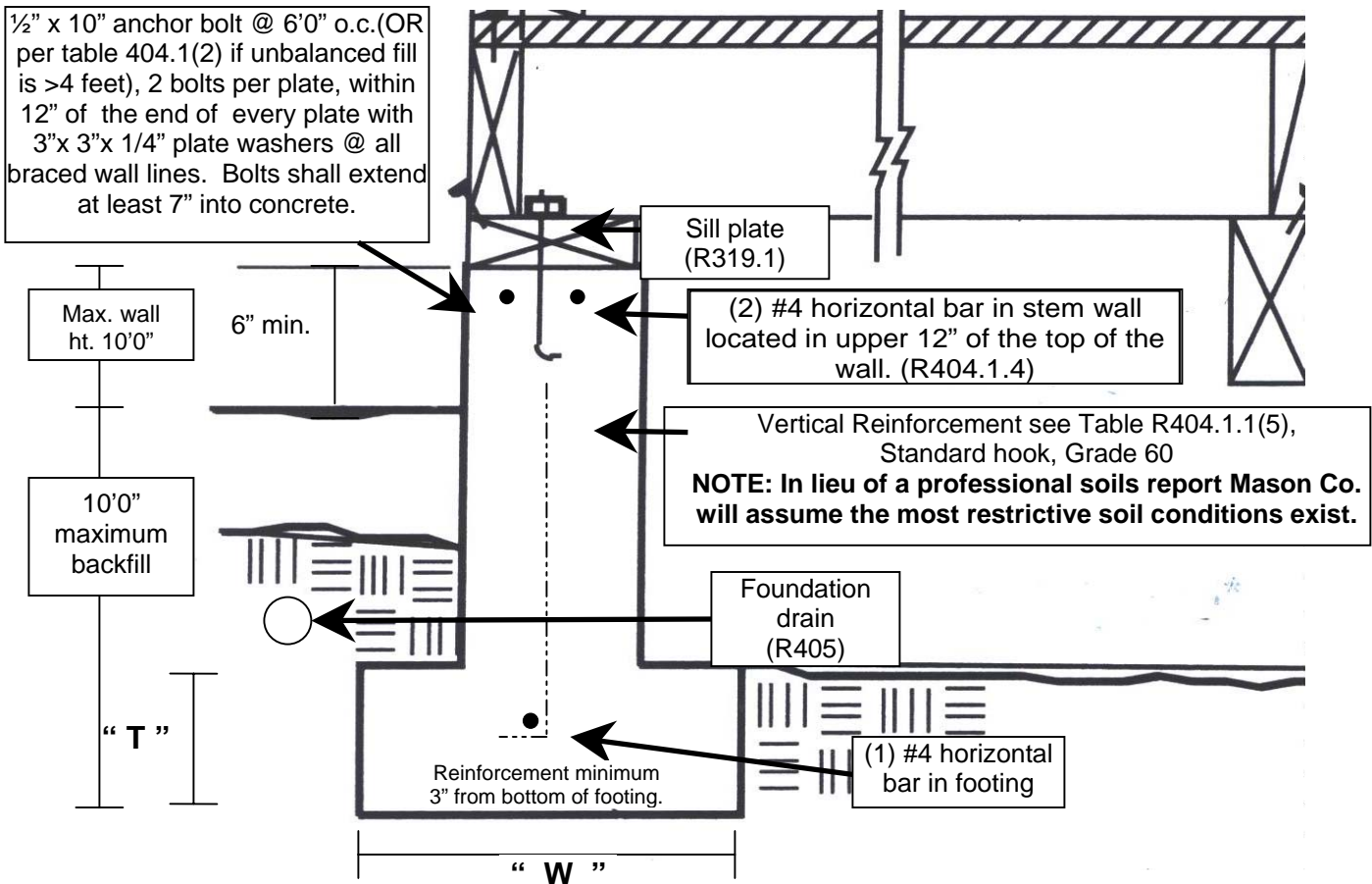
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**Concrete Foundation Walls Greater than 8' in height
or Supporting more than 4' of unbalanced fill****

Nominal Wall Thickness –Varies See Table R404.1.1(5)



**Unbalanced backfill height is the difference in height of the exterior and interior finish ground levels. Where there is an interior slab the distance inside is measured from the top of that slab.

Story	1	2	3
Footing Thickness (" T ")	6"	6"	8 1/2"
Footing Width (" W ")	12"	15"	23"
Vertical reinforcement /Foundation Walls: Per Table R404.1.1(5)			

Backfill shall not be placed against the wall until the wall has sufficient strength and has been anchored to the foundation at all points a minimum of 4 inches where masonry veneer is used and a minimum of 6 inches elsewhere. (R404.1.7). For purposes of determining wall height the concrete wall is measured from the top of the footing to the top of the concrete wall. In basements the wall height is measured from the top of the slab to the top of the concrete wall.

Surface drainage shall be diverted to an approved point of collection so as to not create a hazard. Lots shall be graded so as to drain surface water away from foundation walls. The grade away from foundation walls shall fall a minimum of 6 in. within the first 10 ft. Exception: Where lot lines, walls, slopes or other physical barriers prohibit 6 in. of fall within 10 ft. drains or swales shall be provided to ensure drainage away from the structure. (R401.3)

NOTE: In lieu of a professional soils report Mason County will assume that the most restrictive soil conditions exist.

**Table R405.1
Properties of Soils Classified According to the Unified Soil Classification System**

Soil Group	Unified Soil Classification System Symbol	Soil Description	Drainage Characteristics ^a	Frost Heave Potential	Volume Change Potential Expansion ^b
Group I	GW	Well-graded gravels, gravel sand mixtures, little or no fines.	Good	Low	Low
	GP	Poorly graded gravels or gravel sand mixtures, little or no fines.	Good	Low	Low
	SW	Well-graded sands, gravelly sands, little or no fines.	Good	Low	Low
	SP	Poorly graded sands or gravelly sands, little or no fines.	Good	Low	Low
	GM	Silty gravels, gravel-silt mixtures.	Good	Medium	Low
	SM	Silty sand, sand-silt mixtures.	Good	Medium	Low
Group II	GC	Clayey gravels, gravel-sand-clay mixtures.	Medium	Medium	Low
	SC	Clayey sands, sand-clay mixture.	Medium	Medium	Low
	ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity.	Medium	High	Low
	CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays.	Medium	Medium	Medium to low
Group III	CH	Inorganic clays of high plasticity, fat clays	Poor	Medium	High
	MH	Inorganic silts, micaceous or diamaceous fine sandy or silty soils, elastic silts.	Poor	High	High
Group IV	OL	Organic silts and organic silty clays of low plasticity.	Poor	Medium	Medium
	OH	Organic clays of medium to high plasticity, organic silts.	Unsatisfactory	Medium	High
	Pt	Peat and other high organic soils	Unsatisfactory	Medium	High

- (a) The percolation rate for good drainage is over 4 inches per hour, medium drainage is 2 inches to 4 inches per hour, and poor drainage is less than 2 inches per hour.
- (b) Soils with a low potential expansion typically have a plasticity index (PI) of 0 to 15, soils with a medium potential expansion have a PI of 10 to 35 and soils with a high potential expansion have a PI greater than 20.

FOUNDATION WATERPROOFING AND DAMPPROOFING

(R406.1) Foundation walls that retain earth and enclose habitable or usable spaces located below grade shall be damp proofed from the top of the footing to the finished grade. Masonry walls shall have not less than 3/8" Portland cement parging applied to the exterior of the wall. The parging shall be damp proofed with bituminous coating, 3 lbs. per square yard of acrylic modified cement, 1/8" coat of surface-bonding mortar complying with ASTM C 887 or any material permitted for waterproofing in Section R406.2 (see below). Concrete walls shall be damp proofed by applying any one of the waterproofing materials listed in Section R406.2 (see below) to the exterior of the wall.

Section R406.2: Concrete and masonry foundation waterproofing: In areas where a high water table or other severe soil-water conditions are known to exist, exterior foundation walls that retain earth and enclose habitable or usable spaces located below grade shall be waterproofed with a membrane extending from the top of the footing to the finished grade. The membrane shall consist of 2-ply hot-mopped felts, 55 lb. roll roofing, 6 mil polyvinyl chloride, 6 mil polyethylene, 40-mil polymer-modified asphalt or 60 mil flexible polymer cement. The joints in the membrane shall be lapped and sealed with an adhesive compatible with waterproofing membrane. *Exception:* Organic solvent based products such as hydrocarbons, chlorinated hydrocarbons, ketones and esters shall not be used for ICF walls and expanded polystyrene form material. Plastic roofing cements, acrylic coatings, latex coatings, mortars and pargings are permitted to be used to seal ICF walls. Cold setting asphalt or hot asphalt shall conform to type C of ASTM D 449. Hot asphalt shall be applied at a temperature of less than 200 degrees.