



# LATAH COUNTY PLANNING & BUILDING

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## Frost Protected Shallow Foundations 2009 International Residential Code

As an alternate to standard footings and stemwall foundations, **Shallow Frost Protected Foundations [SFPF]** are applicable only to Group R-3 and Group U buildings where a monthly mean temperature of 64°F is maintained in the building. Foundations protected from frost in accordance with IRC R403.3 shall not be used for unheated spaces such as porches, utility rooms, garages and carports, and shall not be attached to basements or crawl spaces that are not maintained at a minimum monthly mean temperature of 64°F.

Because Latah County has an Air Freezing Index of less than 1500, horizontal insulation beyond the SFPF is not required, however, vertical insulation is required to have a minimum R-Value of 10 to meet the requirements of the energy conservation standards.

### Footing/Foundation Wall/Slab:

1. Footings: The bottom of footings shall be a minimum of 12 inches below grade. Footings shall have a minimum of two No. 4 [1/2"] reinforcement laid continuously in the footing.
2. Foundation Wall: Foundation walls must project minimum of 6 inches and a maximum of 12 inches above grade. Minimum thickness of foundation wall shall be 6 inches.
3. Slabs: Slabs shall be a minimum of 3 1/2" in thickness. Slabs shall be reinforced with a minimum No. 3 [3/8"] reinforcement, 24 inches on center each way, with reinforcement extending into the foundation wall/footing.

### Moisture Control:

1. Footing Drainage Layer: A compacted gravel footing base [drainage layer] of screened crushed rock or clean river gravel [no fines] 3/4 inch to 1 1/2 inches in size to a minimum depth of 6 inches below the footing shall be provided. Filter fabric shall be wrapped completely around the footing drainage layer.
2. Slab Gravel Base. A minimum of 4 inches of compacted gravel under the concrete slab shall be provided
3. Subsoil Drainage System: Two runs of subsoil drainage shall also be installed under the slab, tying into the perimeter system. No vapor barrier shall be installed under the concrete slab.
4. Final Grading: A 5% slope [6 inches in 10 feet] minimum grade away from foundation walls shall be provided.

### 2009 IECC Heated and Unheated Slab Insulation Requirements:

Vertical insulation [expanded or extruded polystyrene] on the exterior surface of the vertical foundation walls from the top of the foundation wall shall be provided to a depth of 18 inches below grade. The insulation shall have a minimum R-value of 10 for unheated slabs and R-15 for heated slabs and is to comply with recognized standards and shall be approved by the manufacturer for placement in moist, below ground conditions. Insulation shall be continuous to the top of the foundation wall and be protected with metal flashing extending a minimum depth of 4 inches below grade. Other protective materials may be used, if approved by the building official. Underslab insulation shall not be installed unless an engineered system is submitted and approved by the building official.

# FROST PROTECTED SHALLOW FOUNDATION SYSTEM (FPSF)

