



Building Department Newsletter

January 2009

IRC and Concrete Floors

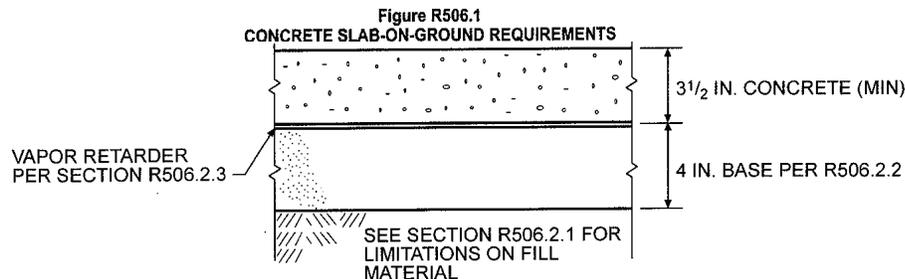
Special points of interest:

- IRC and Concrete Floors
- Erosion Control Plans: Where's the Beef?
- BMP of the Month: Storm Drain Inlet & Catch Basin Protection

The International Residential Code (IRC Section R506) has new requirements for the installation of concrete slab on grade floors, sub grade, and vapor retarders. Inspection of these items is not required under the IRC but knowing and practicing these requirements could reduce failures of concrete slab on grade floors, floor coverings and infiltration of moisture into homes.

The following requirements were in the previous building code prior to the adoption of the IRC by the State of Washington:

- The minimum thickness of a concrete slab on grade floor is 3.5 inches.
- Prior to placing a slab on grade floor, remove all vegetation, top soil and any foreign material from the area within the foundation wall.



For SI: 1 inch = 25.4 mm.

In addition to the above items that we are all familiar with, it is important to note the IRC has additional specific requirements for slab on grade floors:

- Any under slab fill material is required to be compacted for uniform support of the slab.
- Slabs placed below grade are required to be placed on a base course of 4 inches of clean graded sand, gravel or crushed stone. *This base course provides a capillary break for water rising through the soil into the slab.*
- A minimum 6 mil polyethylene or other approved vapor retarder is required to be placed between the floor slab and the base course. *A vapor retarder limits the passage of water vapor through a slab on grade concrete floor. Water vapor that passes up through the concrete can damage adhered floor finishes. Plumbing and mechanical penetrations of the vapor retarder should be sealed and care should be taken to limit additional penetrations during the placement of concrete.*
- If a base course is not used, then the vapor retarder may be placed between the floor slab and the sub-grade.
- The vapor retarder must be lapped at least 6 inches at all joints.

There are exceptions to the requirement for a vapor retarder:

- * The vapor retarder may be omitted from detached garages, utility buildings and unheated accessory buildings.
- * The vapor retarder may be omitted from driveways, walks, patios and flatwork not likely to be enclosed and heated at a later date.
- * The building official may approve omitting a vapor retarder if it can be demonstrated that there are specific site conditions that would make a vapor retarder unnecessary.

The IRC does not require reinforcing in slab on grade floors; but if reinforcement is placed in a floor slab, it must be supported to remain in place between the center and upper third of the slab.

Erosion Control Plans: Where's the Beef?

For almost two years now, the City has been under an NPDES Municipal Stormwater Permit which is administered by the Washington Department of Ecology (Ecology). Through this permit Ecology is requiring the City to pay more attention to construction site runoff which means the city is going to be requiring contractors/builders to pay more attention to construction site runoff. Erosion control plans have to be submitted and approved before any permits get issued or any dirt gets moved. We are seeing more of the larger projects in town making an effort to identify erosion control on plans ahead of time. However, we continue to receive site plans for residential homes with little to no erosion control measures identified. At a minimum, the following items should be included on the site plan when applying for a building permit:

- * Silt fence or other approved perimeter control;
- * Rocked construction entrance (driveway);
- * Protection for the nearest catch basin/storm drain inlet (i.e. silt sack);
- * A few notes explaining how polluted runoff will be prevented from leaving the job site (i.e. sweep street regularly, no concrete washout in street or near storm drain, cover dirt piles, etc.).

These few simple additions to the site plan will go a long way toward getting a building permit approved in a timely manner in 2009.

BMP of the Month: Storm Drain Inlet & Catch Basin Protection

Muddy runoff from construction sites is a fact of life on the Palouse. No matter what steps are taken, tracking of mud onto streets happens eventually. Regular sweeping takes care of the big chunks but there is still a lot of dirt that has been making its way to Pullman's storm drain system. Planning for this eventuality ahead of time will ensure that you are doing your part to limit polluted runoff from entering local streams.

Gravel bars, sand bags, straw bales and other devices are used in some parts of the country to intercept runoff in street gutters dropping out sediment and allowing the "clean" water to move on and enter the nearest catch basin. Unfortunately, our fine soil does not readily drop out and can stay suspended in water for days or even weeks. One of the sediment control devices that appears somewhat effective as a last line of defense is a catch basin insert or filter, also referred to as a "silt sack". If you have applied for a building permit recently, you were pleasantly surprised to discover that this type of product is being required by City staff instead of the "traditional" filter fabric under the grate. Filter fabric under the grate (although considerably cheaper) has proven ineffective at best. With Pullman's topography, the water flows hard and fast. A device is needed that allows runoff to flow into the catch basin but also is able to intercept sediment and other pollutants. Silt sacks may not be perfect, but they are better than the alternatives. There are several different models available. One type is shown below. As with any BMP, it will only be effective if regular inspection and maintenance are performed.

