



# Building Department Newsletter

August 2015



## Special points of interest:

- Pipe Protection and Steel Nail Plates
- Hot Water Pipe Insulation
- Residential Foundation Reinforcing
- Residential Duct Sealing

## Pipe Protection and Steel Nail Plates

### Uniform Plumbing Code Section 312.9

Plastic and copper plumbing pipes that are installed with less than 1 inch space between the exposed framing are required to be protected with at least 18 gauge steel plates. The steel nail plates are required to extend along the framing member and should not be less than 1 ½ inches from the **outside** of the pipes. A 3 inch nail plate is not acceptable for this use because it will only protect a pipe 0 inches in diameter.

### International Fuel Gas Code Section 404.7

Fuel gas piping, other than black or galvanized steel, installed with less than 1 ½ inches from the exposed framing member are required to be protected with at least 16 gauge steel shield plates. The steel shield plates are required to extend at least 4 inches above the bottom plate, below the top plate, and to each side of a stud, joist, or rafter. CSST piping must be installed in accordance with the manufactures instructions; this may require the use of pipe protection that is listed by the brand of CSST gas piping used. The inspections of CSST gas pipe systems require the manufacture’s installation instruction to be on site at the time of the inspection.

Please be aware of other locations that may put plumbing or gas piping at risk of damages. Piping installed close or against the underside of a subfloor may be damaged by nails or screws driven through floor sheathing.

## Hot Water Pipe Insulation

### Washington State Energy Code (WSEC) Section R403.4.2

All hot and cold water piping **outside** the building envelope is required by the Uniform Plumbing Code and Washington State Amendment Section 312.6 to be insulated at a minimum of R-3. The WSEC R403.4.2 also requires hot water piping **inside** the building envelope to be is insulated at a minimum of R-3.



**CITY OFFICES  
WILL BE  
CLOSED:  
MONDAY,  
SEPTEMBER 7  
FOR  
LABOR DAY**

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## Residential Foundation Reinforcing

### International Residential Code Section (IRC) R404.1.3

The IRC Section 404 contains general prescriptive foundation reinforcing provisions for multiple foundation scenarios, such as type of soil, thickness of the foundation wall, height of unsupported fill, and unbalanced back fill. IRC Section 404.1.3 **requires a design** for foundation walls subjected to hydrostatic pressure from ground water. It is our opinion that foundation stem walls are subjected to hydrostatic forces due to the typical non-draining clay soil found in the Pullman area.

Since 1988, the City of Pullman has accepted the use of the reinforcing steel, as shown in the table below, as a minimum design for foundation wall reinforcing. An engineering evaluation has shown that this is an acceptable design for basement foundation walls that are 30 feet in length and up to 8 feet tall with the following elements:

- not supporting a surcharge;
- pinned at each wall end;
- latterly supported at the top by the house;
- And, latterly supported at the bottom by a slab.

Reduced reinforcement is accepted for foundation walls of 4 feet in height or less when #4 vertical rebar bars are spaced 36 inches on center and #4 horizontal rebar bars are spaced at 18 inches on center have been installed.

All wall heights need to have a horizontal reinforcing bar installed within the top 6 inches of the foundation stem wall, vertical reinforcing must be embedded in the footings, footings must drain to the storm drain system, and all crawlspace and basement foundation walls need to be damp proofed unless conditions require water proofing. Walls greater than 4 feet in height will require lateral support at the top and bottom of the wall.

EIGHT-INCH FOUNDATION WALL > 4 FEET IN HEIGHT						
Grade 60	Vertical	Horizontal		Grade 40	Vertical	Horizontal
#5	18"	18"		#5	18"	15"
#4	18"	12 ½"		#4	16 ¾"	10"
#3	11 ½"	6 ¾"		#3	9"	5 ½"

## Residential Duct sealing

### IRC Section M1601.4.1

2012 IRC Section M1601.4.1 requires all interior and exterior duct joints, longitudinal and transverse seams, and connections in duct work to be securely fastened and sealed with welds, gaskets, mastics mastic-plus-embedded-fabric systems, or tapes. Locking-type longitudinal seams are exempt from this requirement. Unlisted duct tape is not permitted to be used for sealing duct joints. Duct testing is only required in new construction when ducting exists outside of the conditioned space, such as crawl spaces, garages, and attics.

### Gary Ruse

On July 20, Building Inspector Gary Ruse, lost his battle with cancer after a long progressive struggle. Gary enjoyed his job and working in this community; considering many to be his extended family. He will be missed by us all.

