Medicine Hat
The Gas City

PLANNING, BUILDING & DEVELOPMENT
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NEWS LETTER

May 9, 2011

GENERAL

As per requests from the construction industry the City of Medicine Hat has established a policy for sump containers in all new residential homes which contain a basement.

Commencing June 1st, 2011 sump containers will be required in all "new" residential homes. This is already a requirement for all walkouts. There are different pump out options available. The options are noted on the attached sump pump guidelines. Each unit in a duplex, tri-plex, four-plex, etc. will require a sump container.
It is strongly recommended sump containers be installed in locations that are readily accessible at all times.

There are three options available for drainage disposal: 1) Sewer. 2) Dry well. 3) Drainage above ground such as a drainage ditch.
Sewer connection by gravity is self-explanatory. In areas where there are storm sewers sump container connections must be to the storm sewer. If there is only a sanitary sewer the sump container connection should be to the sanitary sewer.
If connected to a drywell, the drywell must be not less than 5m (approx. 16'0") away from the house foundation. If drainage is above ground, the discharge should be at least 2m away from the house foundation. A concrete trough extending at least 2 metres away from the foundation is recommended. Drainage can be directed to either the rear lane or front street (NOT ONTO A NEIGHBORING PROPERTY).
The hazard of drainage above ground is the possibility of freeze up during winter months.

A "power source" shall be provided in close proximity to the sump container. It shall be on its "own circuit".

THE SUMP PIT GUIDELINES ARE BEING PUBLISHED ON THE CITY OF MEDICINE HAT WEB SITE. THESE GUIDELINES ARE ATTACHED.

LATERAL BRACING OF FOUNDATION WALLS

There appears to be questions and concerns from the industry regarding the recently adopted Guidelines for Lateral Bracing of Residential Concrete Foundation Walls. Some of the questions are regarding deviation from the details, interpretation of the

Scope of Guidelines (page3), and when to apply each step of the guidelines.
The Builder is responsible to ensure the design drawings submitted in support of a Building Permit comply with the current edition of the Alberta Building Code. Where a residential foundation design does not comply with Section 9.15 Footing and Foundations of Division B, then the guideline may be used instead of site specific engineering.
A typical Part 9.15 foundation that does not require engineering would consist of an unreinforced foundation walls less than 2.5m (8'-4") in height. Typical 2x4 ladder or a mud sill anchored at the top that will allow the direct fastening of the floor and rim joists or the joists may be embedded in the wall. The wall may contain openings up to 1.2m in width and the total width of all openings in the wall must be less than 25% of the wall length. Based on this restriction, the minimum length of a foundation wall with a 4'-0" opening is 16'-0". Where more than 1 window opening is provided in a wall, the combined width of openings shall be considered a single opening if the average opening width is greater than the width of the solid wall between them. (A 48" window and a 30" window must be separated by at least 39" of solid concrete wall. If the two openings are closer than 39", then the both windows and the wall between them would be considered one larger opening but the 25% rule still applies.)
ANY deviation from Section 9.15 must be either designed as per the guidelines or will require site specific engineering. If the guidelines are to be used, all details must be provided on the foundation plans for the building. Steps 1, 2 & 3 of the Guidelines must be considered.
Step 1: Determine Reinforcement Requirements for Foundation Walls.

This step is used to determine reinforcing of 8'4" and 9'4" foundation walls supporting various backfill heights. Although the table includes 8'4" walls supporting up to 7'6" of backfill, these walls do not require reinforcing because 9.15 permits walls up to 8'4" with 7'6" of backfill. Because the guidelines are also considered good construction practice, a builder may apply this step to the foundation design, but it is not required as part of the permit application. Step 1 only applies to foundation walls that include:

a) 8'-4" foundation walls supporting MORE than 7'6" of backfill.

b) Walls higher than 8'-4" but no more than 9'-4" that support ANY backfill height.

Remember that the foundation wall height is the actual measurement of the wall from the top of footing to the top of the ladder or mudsill. Because the Code requires floor joists to be toenailed to the ladder or mudsill, adding additional plates to the top of wall to increase the basement headroom is not permitted.
Step 2: Determining Lateral Bracing Requirements for Foundations Walls.
This step is used to determine the connection details of the floor system to the ladder or mudsill of the foundation wall. Because 9.15 approves foundation walls up to 8'-4" and supporting up to 7'-6" of backfill, this step would not apply and the floor system may be toenailed as usual to the ladder or mudsill. Where an 8'-4" foundation wall is supporting more than 7'-6" of backfill or the wall is higher than 8'-4" supporting any backfill height, Tables 2a, 2b or 2c must be applied. The type and spacing of the connections must be considered when specifying the floor joists on center spacing. If a connection is required every 12", then the joists and blocking panels must be at 12" on center. If the connection is required every 24" on center, but the joists are spaced at 19.2" or 16", every joist would require the connection. The blocking panels on parallel walls may be

placed at 24” on center. The guidelines indicate that this additional bracing is not required within 8’-0” of a 90 degree corner in the foundation wall provided the abutting wall section is a minimum 48” long. Where the abutting wall is less than 48”, lateral bracing would be required. Based on this requirement, a 16’-0” foundation wall at any height and backfill pressure would not require this lateral bracing as long as both abutting walls are at least 48” long.

The lateral connection must be constructed as per details shown in figures 1-5 of the guidelines. Each connection type has two details where, figure (a) is when the joists run perpendicular to the foundation wall and figure (b) where the joists run parallel. When figure (b) is required, additional blocking panels are required as shown in the detail at the spacing required in Table 2. An example would be referring to Table 2c High Plastic Clay (typical for Southlands), an 8’-6” foundation wall supporting 4’-0” of backfill requires a Type 1 connection at 32” on center. Figure 1a shows the connection of toenailing the joists to the ladder of the foundation wall perpendicular to the joist direction... This would work for all joists spacing including 12”, 16”, 19.2” and 24” because no spacing will exceed the required 32” spacing of the connection. Figure 1b shows the connection required at the last spacing of the joists running parallel to the foundation wall. Because the connection is required every 32”, additional blocking panels must be added in this joist space. The last joist spacing may have to be adjusted to ensure a 16” blocking panel is used as per the detail. The blocking panels must be toenailed to the top and bottom chord of the last joist as well to the foundation wall ladder. Although pony walls are permitted, the pony wall studs must line up with each blocking panel.

Step 3

This step is used to determine if additional lateral bracing is required at windows and stairwell. This step applies to all openings over 1.2m (48”) in any wall height supporting any backfill. This step also applies when a stairwell runs along the foundation and is longer than 48” and less than 12’-0”. Stairwells longer than 12’-0” must be engineered. The required lateral bracing is required on each side of an opening, no matter the slope of the exterior grade. If a window or stairwell is located entirely within 8’-0” of a 90 degree corner, the additional bracing each side of the opening is not required provided the abutting wall is at least 48” long. Again, where the abutting wall is less than 48”, lateral bracing would be required.

Requests from Builder’s, Designer’s or Framer’s to deviate or provide interpretations of the details contained in the guidelines cannot be provided by the Building Department. Because the guidelines were published by the AHITC and adopted by Municipal Affairs by Standata 06-BCI-031, any questions must be directed to the publisher or the author, Bearden Engineering Consultants Ltd. Deviation to the guidelines must be approved by the author or require site specific engineering.

WINDOW SILL DRIP ACCESSORIES AND CAULKING OF CIRCULAR WALL PENETRATIONS

Window sill drip assembly was discussed in a recent Southern Alberta Building Officials Meeting.

It is the opinion of Municipal Affairs snap-in drip accessories (provided by some of the window manufacturers) meet code requirements. These snap-in accessories would eliminate the installation of reverse flashings directly under the window. Please ensure these snap-in drip flashings are used in an appropriate manner.

The question was again raised as to circular pipe penetrations of exterior walls. Up to 4" diameter "circular" vent pipe penetrations are allowed providing the vent pipes are caulked at tar paper/tyvek/typar-wall AND vent pipe- exterior finish locations. Should "circular" penetrations exceed 4" in diameter they must be picture framed and flashed much similar to a window.

MECHANICAL/GAS

THE CITY OF MEDICINE HAT (GAS SAFETY CODES) WILL BE HOLDING AN UPDATE COURSE DEALING WITH CHANGES TO THE NATURAL GAS & PROPANE INSTALLATION CODE B-149-2-10. THIS COURSE WILL BE HELD AT THE MEDICINE HAT COLLEGE IN ROOM S159 AT 1:00 P.M SHARP ON JUNE 2, 2011.
ALL MECHANICAL CONTRACTORS, GAS FITTERS AND APPRENTICES ARE WELCOME.

REMINDER- A gas permit is required for replacing "commercial" hot water heaters. An inspection of the replacement is required upon completion.

ROOF TOP WALK WAYS

There have been changes to the gas code dealing with access and the protection of workers installing or servicing roof top units. The code references follow.

4.15.5
An appliance shall not be installed on a roof,

(a) exceeding 13 ft. (4m) in height from grade to roof elevation unless fixed access to the roof is provided; and
(b) exceeding 26 ft. (8m) in height from grade to roof elevation unless permanent fixed access to the roof by means of either a stairway or a stairway leading to a ladder not exceeding 13ft (4 m) in height is provided.

4.14.6
When an appliance is installed on a roof,

(a) the appliance shall be installed on a well-drained surface. When water stands on the roof, either at the appliance or in the passageways to the appliance, or when the roof is sloped or has a water seal, a suitable anti-skid walkway shall be provided. Such a walkway shall be located adjacent to the appliance and control panels, and when the appliance is located on a sloped roof, the walkway shall extend from the appliance to the point of access and be equipped with "guardrails" so that the appliance can be safely accessed and serviced;
(b) the clearance between the appliance and the edge of the roof or other hazard shall be at least 6'0" (2 m), and
(c) if the appliance is enclosed, such an enclosure shall permit easy entry and

movement, be of reasonable height, and have at least 2’0” (600mm) clearance on either side of the service access panel of each appliance in the enclosure.

4.14.7
An appliance installed at a distance of 10’0” (3m) or more from either the floor or finished grade level, as measured from the lowest point of the appliance, shall be provided with either

(a) a permanent accessible service platform that permits access to all parts of the appliance requiring service; or
(b) other approved means of service access.

ABC-ROOF ACCESS

3.6.4.7
1) A building shall be provided with direct access to the roof by an interior stairway if

(a) heating, ventilating or air-conditioning equipment is installed on a roof and
(c) the roof elevation is more than 4m (13’0’’) above grade.

STANDATA 06-BVC-009-R1
VARIANCE

The interior stairways and staircases required by sentences 3.2.5.3 (1) and “3.6.4.7 (1)” are permitted to be provided, alone or in combination, by any of the following methods:

(a) a fixed staircase similar to that of a ships ladder with a maximum length of 3.7 m. (12’0”).
(b) a suitably folding stair with a maximum length of 3.7 m, or
(c) a rung-type ladder that is permanent and fixed at an interior location with a maximum length as determined by the Occupational Health & Safety Code for ladders not requiring a safety cage or fall arrest system.