



Medicine Hat
The Gas City

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NEWSLETTER

NOVEMBER 2014

BUILDING

Solar Ready Trusses:

Southlands 6 C are now offering incentives for meeting a Green Program that includes solar panels. When solar panels are installed on the roof of a single family dwelling, the roof trusses must be engineered to resist the additional loads and provide approved connections of the panels to the structure.

The Truss Institute of Canada (TPIC) has created a Technical Bulletin #7 that provides guidelines to all truss manufacturers for the design and engineering of Solar Ready (SR) trusses. This includes specifications for Truss Design Drawings so that SR truss design will output the following on the drawings.

- 1) Text containing the wording “Solar ready” to indicate the truss has been designed SR.
- 2) Truss chord label under the SR plane. Example “Chord A-E supports solar panels”.
- 3) The SR truss design drawings shall output a maximum factor point load at each point of the attachment (up and down).
- 4) Indicate the connection method assumed in design:
 - a) Scab method or
 - b) Blocking method or J & U bolts.

All homes that are taking advantage of the Green Program incentives must have roof trusses that are labeled SR and be installed as per the truss supplier’s details. Should trusses not be designed to be SR, **NO** solar panels will be permitted.

There are recommendations for electrical installations included in NRC Solar Guidelines.

The link to both the NRC Solar Guidelines and the TPIC Technical bulletin is: <http://www.nrcan.gc.ca/energy/efficiency/housing/research/5141>.

When using treated lumber for deck construction it is critical the joist hangers and fasteners be compatible with the framing material used. Ensure your supplier provides you with the correct hangers and fasteners.

It is important to remember spray foam insulation CANNOT be used in return air spaces UNLESS protected by drywall or another material approved for such. This is extremely critical in the joist ends of return air spaces.

Walltite, manufactured by BASF, is the only spray foam product approved for direct contact with the EXTERIOR surfaces of supply and return air ducts. Keep in mind, all connections (joints) must be properly sealed prior to the spray foam product being applied. All other spray foam products CANNOT be DIRECTLY applied to supply and return air ducts. Wrapping the ducts with a poly vapour barrier would be necessary and would have to be inspected at the rough-in stage of mechanical prior to spray foam application.

Reminder: Soils bearing reports are required at the time of the footing inspection should they be required for the specific site. Building Safety Codes Officers CANNOT approve a concrete pour until such time as this report has been submitted. We are finding more and more often the report is not available. Please ensure the geo-technical engineer submits the report prior to the scheduling of a footing inspection.

Final grade compliance reports are necessary and SHOULD be provided at or prior to the final (occupancy) inspection. This report must bear the stamp of an Alberta approved Surveyor (Company or Corporation) and have both the originally approved and actual final grades. We also need to know if the final grades are rough or finished grades. If they are rough grades the purchaser needs to be made aware of it. Adding an additional 4" to 6" of top soil to rough grades that are shown at or slightly higher than what was originally approved without first removing 4" to 6" of clay or sand could create drainage issues at a later date.

We are starting to see homes with floor joists deeper than 16" and joists span exceeding 20'. With these increased spans, increased loads are being transferred to exterior foundation walls. 9.15.3 Of Division B of the 2006 ABC references typical interior and exterior footings where floor joists spans do not exceed 4.9m (16'). 9.15.3.4(2) states "where the supported joist span exceeds 4.9m in buildings with light wood-framed walls, floors and roofs, footing width shall be determined according to a) Section 4.2, or b) the following formula:

$$W = w * [\sum s_j / (\text{storeys} * 4.9)]$$

Where

W = Minimum footing width as per Table 9.15.3.4.

w = Minimum width of footing supporting joists not exceeding 4.9m
 Σs_j = Sum of the supported joist length on each storey
storeys = number of storeys supported by footing”

Based on this formula, a typical two storey home with 20” wide footings may only support floor joists up to 23’ clear span.

Recently, a two storey home was submitted for review that included floor truss designs for 20” deep OWJ spanning 30’0” for each floor. During the review for this permit, it was determined that the minimum footing width based on the above formula would be 25-3/4” or 26” inches. Because the footing projection beyond the supported element (8” foundation wall) was 9”, the minimum footing thickness is 9”. The 20”x8” footings specified by the building designer were undersized and not compliant with the ABC. Please ensure when floor joist spans are greater than 23’, proper design procedures are followed so that adequate footing are proposed.

Further consideration when using longer spans is the reduction in floor performance. Floor joists are permitted to deflect up to L/360 under Live Load. When considering a floor joist spanning 16’, the allowable Live Load deflection is 9/16” A 24’ and 30’ joist would be 13/16” and 1” respectively. As a result, longer spans mean greater the bounce of the floor.

Although NOT an ABC requirement, to increase performance at these larger spans, you may want to consider reducing the deflection limits to L/480 for live load with a maximum allowable limit of 1/2”. This will result in a better performing floor with less “bounce”.

PLUMBING

The installation of water hammer arrestors was addressed in March 2014 newsletter.

We are experiencing problems with water hammer arrestors being improperly installed (not installed per the National Plumbing Code requirements). Article 2.6.1.9 (1) of the National Plumbing Code states: Provisions shall be made to protect the water distribution system from adverse effects of water hammer.

A water hammer can be created by a washing machine, ice maker/water dispenser of a fridge, or any quick closing type of valve. These types of installations require some type of pre-manufactured water hammer arrestors. This water hammer protection must be provided. It is being enforced as per the infractions noted in our inspection reports.

GAS

We are still having problems in the field with appliance connectors. Corrugated Stainless Steel Pipe (CSST) CANNOT be used for an appliance connector. You can use CSST up to the manual shutoff valve of the appliance, but it must then change to an approved appliance connector beyond that point.

ELECTRICAL

No new updates.

GAS UTILITY DEPARTMENT

When changing or adding additional gas fired appliances on an existing site with units that have a higher BTU rating it is important to complete a Gas Service Application and submit it to the Gas Distribution Department. This will help to ensure the customer continues to receive the required amount of gas to run all connected appliances.

The Gas Service Application form can be found at:
<http://www.medicinehat.ca/index.aspx?page=447>.