AMA Regional SCO Meeting
Building, Fire, Electrical, Plumbing, Gas
& Private Sewage

Tuesday April 5, 2016
8:30 am - 4:00 pm

Sandman Hotel & Suites
25 Hopewell Way NE, Calgary
Great Room A/B
AMA Regional SCO Meeting
Concurrent Building Break-Out Session
1:00 pm – 4:00 pm
Great Room A

Facilitators
Geoff Brownlie, Senior Building Inspector, AMA
Stephanie Martin, Building Inspector, AMA

Representatives
Jack Skrip, New Home Buyer Protection Program, AMA
Ryan Falk, New Home Buyer Protection Program, AMA

AGENDA

1:00 pm - 1:15 pm  Updates from CBA  Geoff Brownlie, AMA
1:15 pm - 1:45 pm  New Home Buyer Protection Plan Presentation  Jack Skrip, Compliance Officer, AMA
Ryan Falk, Compliance Officer, AMA
1:45 pm - 2:30 pm  General Code Concerns
• Visual Signal Devices
• Commissioning of Systems
• Intelligibility of Alarms
• Attic and Roof Access Hatches
• Bedroom Windows and 9.10.15.4.(3)
• Building Air Intakes (Definition)
• Radon Gas – Piping to use?
AMA
AMA
AMA
City of Airdrie
Town of Strathmore
City of Airdrie

2:30 – 2:45 pm  COFFEE BREAK  Coffee Sponsored by Safety Codes Council

2:45 pm - 4:00 pm  General Code Concerns
• Universal Toilet Rooms
• Water Supply for Firefighting
• NECB and ABC 9.36
• HRV Certification
• Building Collapse / Failures
• Micro-Breweries
• Screw Piles
Town of Strathmore
Rocky View County
Graham Smith
AMA
AMA
AMA

Discussion Topics from Floor

*** ADJOURNMENT ***
Meeting Minutes will be posted on the Safety Codes Council website
http://www.safetycodes.ab.ca/SCQ/Pages/Regional-Meetings.aspx
Updates from James Orr – CBA
Implementation and Training for 2011 NECB and ABC 9.36 Energy Efficiency

Next week AMA will be issuing a STANDATA information bulletin that provides guidance with respect to a revised and clarified transition for energy codes; for the authority for safety codes officers to inspect and enforce 9.36 energy efficiency under the Alberta Building Code (ABC) 2014 and the 2011 National Energy Codes for Buildings (NECB); and for the use of professional schedules to document compliance for the NECB. The STANDATA will identify November 1, 2016 as the end of the transition period for both 9.36 of the ABC 2014 and the NECB for energy efficiency. Any building permits received by the accredited authority after that date must comply with 9.36 of the ABC or the NECB as applicable. At this time, energy codes are in transition and if a person chooses to use NECB, they may do so now until after November 1, 2016, when it becomes mandatory. ABC 9.36 energy efficiency comes into force May 1, 2016 and between that date and November 1, 2016, a person may choose to use 9.36 but is not obligated to do so until after November 1, 2016.

The evidence required for determining if the NECB or 9.36 of the ABC applies is that the building permit must be received by the accredited authority by November 1, 2016. The STANDATA will provide guidance respecting site built housing/buildings and manufactured housing. Manufactured housing must be constructed by November 1, 2016 in order not to be subject to energy codes. MA website is being updated and will be completed next week with updated information. An early notice to the Alberta Building Officials Association occurred and has been distributed in response to inquiry to the ministry. The notice to ABOA should be treated as an advance notice, but not the actual guidance. Guidance will occur in the bulletin issued next week.

Why is the transition changing for the NECB?
There is flexibility to allow for an interpretation by the Chief Building Administrator to adjust the transition period. A survey of municipalities and industry as well as input from the building sub-council and professional associations has indicated that the May 1st 2016 mandatory application of the NEC3 will simply not be practical or feasible. The massive changes required to accommodate energy efficiency with respect to guidance, training, preparation and other information necessitates a relatively short extension in order to have a more successful implementation of energy efficiency. Consultation with our counter-parts in other provinces and territories has indicated similar issues and need for extra time and guidance in their jurisdictions, either through formal or informal means. One of the unexpected developments was the lack of readiness by professionals for the use of energy codes, which is critical to the application of the NECB.

SCO and municipal authority to apply energy codes:
The current terms in QMPs and SCO designations have created some confusion respecting an SCOs authority to inspect and enforce energy codes and an accredited body’s authority to administer energy codes. AMA has heard from a number of jurisdictions and SCOs that are of the belief they cannot apply the energy codes because the energy efficiency is not identified in their designation or QMP. This belief is not correct. Both the QMPs and designation of powers will be reviewed and adjusted as necessary to avoid this confusion in the future. In the meantime, Building Safety Codes Officers have the appropriate authority and designation of powers to enforce the 2011 NECB and section 9.36 ABC if voluntarily used by the owner before November 1, 2016 or as required after November 1, 2016. Accredited bodies such as municipalities also have the authority to administer energy codes in accordance with these dates.
Training
The Council is currently finalizing update training for both the 2011 NECB and section 9.36 of the 2014 ABC. All Building SCOs will be required to complete this training, which is expected to be available in late May 2016. The Council will be sending training registration details to all Building SCOs and accredited organizations in April. The fact that training has not occurred in no way affects a building SCOs authority to enforce energy codes in accordance with coming into force dates or voluntary application by an owner. A jointly signed document from the SCC and the CBA respecting training and authority for SCOs will be issued shortly as well.

Documentation of Compliance:
Questions have been raised respecting the application of professional schedules for construction under the NECB. There is a belief circulating that because the professional schedules do not specifically reference energy codes, the professional schedules do not apply to the NECB. This is false. Buildings constructed using the NECB that are Part 3 buildings or assessed by the SCO to require professional involvement (i.e. because of complexity) require professional involvement and schedules. The professional schedules have been under review and revision by a Building sub-council working group and that is why energy efficiency was not specifically listed, but it does apply. Safety codes officers should be requiring professional schedules for documentation of compliance for energy efficiency requirements. The owner and professional have the obligation to satisfy the SCO that energy efficiency requirements has been considered and met.

The building sub-council supported this guidance yesterday and the SCC will work with AMA to promote this and other related information.
Persons with Developmental Disabilities PDD

Question?
What is happening with the PDD Standata and the consultation?
The Minister accepted the Consultation Team's Phase One recommendations in its summary report to:

1. Repeal the PDD Safety Standards Regulation in its entirety.
2. Implement a co-ordinated approach across relevant ministries, including working with municipalities, to ensure clarity, consistency and alignment in, and implementation of, the repeal of the PDD Safety Standards Regulation.
3. Extend the Consultation Team's mandate to oversee Phase Two of the Safety Standards Consultation.

"I would like to thank those who shared their views during the consultation. Their valuable feedback told us that safety is important, but that the current Regulation is not the solution. We have heard the disability community loud and clear, and we will continue working to ensure we get this right. Everyone deserves to live safely, and our government is committed to listening to Albertans and ensuring that the dignity of persons with developmental disabilities is upheld."

Irfan Sabir, Minister of Human Services

"It was important for us to hear opinions and ideas from the community about what makes homes safe, and we appreciate that so many people took the time to sit and talk with us. We look forward to continuing our work on effective provisions for home safety in Phase Two of the consultation. We are committed to working together to identify solutions that will enable Albertans with developmental disabilities to live safely and with dignity."

John te Linde, Chair, PDD Safety Standards Consultation Team

Government has the following measures in place to support safety during the ongoing consultation:

- Service providers continue to have obligations under their contracts with Human Services to ensure safety, including the adherence to accreditation standards set out by the Alberta Council of Disability Services, which specify safety obligations and procedures.
- Safety codes legislation (i.e. building/fire codes) will apply to homes of individuals receiving PDD services to a residential standard. Inspections will occur based on a referral, complaint or incident. The care standard will still apply when the individual is detained or totally dependent on staff to evacuate in the event of a fire or other emergency.
- Other existing laws still apply, as they do for all Albertans. For example, Alberta Health Services public health inspectors may continue under the authority of the Public Health Act, in circumstances where that act applies, generally in response to complaints.

Full Report available at:  
http://www.alberta.ca/release.cfm?xId=414873A173CE1-CE8B-239F-2FD1BED5BB861F94

Government of Alberta website:  
Alberta Human Services - PDD Safety Standards Consultation
Re: Ongoing Safety Codes Exemption for Specified Residences under the Persons with Developmental Disabilities (PDD) Program

To whom it may concern,

Six months ago, my predecessor Minister Bilous wrote to you regarding placing a pause-period on inspections for accommodations which fall under the Persons with Developmental Disabilities Safety Standards Regulation (Regulation). He issued an exemption order under the Safety Codes Act for these accommodations in October after our colleague, Minister Irfan Sabir, extended the date for compliance with the Regulation. This meant that the inspection program under this Regulation would not proceed until after a consultation had been completed.

Human Services has been leading an extensive consultation with persons with developmental disabilities, their families, service providers, municipal governments, and other stakeholders to find workable ways to ensure individual safety, while also respecting and supporting individuals in their homes and communities.

Human Services has announced that it will be repealing the existing Regulation as an interim step while the consultation team completes its work developing appropriate solutions for accommodations formerly under this Regulation. To enable the continued work of the consultation team, Municipal Affairs is extending the exemption order under the Safety Codes Act until December 30, 2016. This includes the August 2015 Approved Guideline (STANDATA) that applies to accommodations for individuals receiving services from the PDD program. This means that the pause-period for inspections under the Safety Codes Act that began last fall will continue until the consultation team and Human Services have completed their work.

While accommodations formerly covered under the Regulation will be exempt from the care or treatment requirements under the Alberta building and fire codes during this time, they will still need to meet residential safety requirements. As with the previous exemption, this pause-period does not apply to a residence in which a person is dependent on the staff of the residence as the person’s only means of exit in the event of a fire or where a person may be detained as part of their service plan.

.../2
Alberta Municipal Affairs continues to encourage individuals, service providers, safety codes officers, and municipalities to work together to identify the safety needs of individuals.

In the interim, should any sensitive compliance issues arise, please contact Alberta Municipal Affairs, Alberta Human Services and/or the relevant municipality to ensure the issue is addressed in an appropriate and timely way.

Sincerely,

[Signature]

Hon. Danielle Larivee
Minister of Municipal Affairs
Repeal of the PDD Safety Standards Regulation

What was the PDD Safety Standards Regulation?

- The Persons with Developmental Disabilities (PDD) Safety Standards Regulation set standards of safety for service providers that contract with the PDD program.
- Standards addressed areas such as environmental health, safety and maintenance requirements; medication assistance; water temperature; concerns and complaints; and compliance with various safety codes and bylaws.

Why was the Regulation repealed?

- During a public consultation on the PDD Safety Standards, it was clear that the Regulation was not working as intended.
- Albertans said that the Regulation was confusing and not the best solution.
- The Minister of Human Services responded to these concerns and repealed the Regulation, effective March 31.
- The Minister supports a second phase of consultation with stakeholders – including individuals with developmental disabilities – to explore solutions on safety that support the personal choices, privacy, priorities and needs of the disability community.

Who participated in the PDD Safety Standards consultation?

- From February 18 to March 14, 2016, more than 750 people attended eight community forums and 1,300 questionnaires were completed.

- Participants included Albertans with developmental disabilities, their families and guardians, PDD service providers, health and safety professionals, landlords, and other stakeholders.

Who is leading the PDD Safety Standards Consultation?

- A team of representatives from the disability community as well as representatives from the broader community is conducting the consultation.

What are the recommendations from Phase One of the consultation?

- The government accepted all three recommendations in the Consultation Team’s Phase One summary report, to:

  1. Repeal the PDD Safety Standards Regulation in its entirety.
  2. Implement a coordinated approach across relevant ministries, including working with municipalities, to ensure clarity, consistency and alignment in and implementation of the repeal of the PDD Safety Standards Regulation.
  3. Extend the Consultation Team’s mandate to oversee Phase Two of the Safety Standards Consultation.
What input did Albertans give during the consultation?

- Consultation participants agreed that safety in the homes of individuals receiving supports from the PDD program is important, but that the Regulation is not the right mechanism to ensure safety.

- Participants’ suggestions to better address safety fell under four main themes:

  1. Clear and consistent communication with and among stakeholders;
  2. Increased training and education for individuals and support staff;
  3. Using existing mechanisms or systems to support safety in homes; and
  4. Meaningful consultation on issues like safety prior to policy development.

What happens next?

- Phase Two of the consultation will begin in May 2016. The Consultation Team will explore solutions on safety with select stakeholder groups, including individuals with developmental disabilities and those involved in supporting their safety and inclusion.

- The Consultation Team will submit a final report and recommendations to the Minister of Human Services.

How will the government support the safety of Albertans with developmental disabilities, as consultation continues?

- The status of home inspections and the application of safety codes is unchanged from the pause period. This means:

  - Safety codes legislation (i.e. building/fire codes) will apply to homes of individuals receiving PDD services to a residential standard as opposed to the care standard. The care standard will still apply where an individual is detained or totally dependent on staff to evacuate in the event of a fire or emergency. Inspections will occur based on a referral, complaint or incident.

  - Health licensing officers will cease all inspections under the PDD Regulation which has been repealed.

  - Alberta Health Services public health inspectors will cease proactive inspections under the PDD Regulation which has been repealed, but may conduct inspections to follow up on previous violations that fall under the Public Health Act. They may also inspect on receipt of complaints about certain types of housing as they would do for all Albertans.

  - Service providers continue to have obligations under their contracts with Human Services to ensure safety, including the adherence to the Creating Excellence Together (CET) accreditation standards set out by the Alberta Council of Disability Services. The CET accreditation standards specify detailed safety obligations and procedures in the areas of: physical environment; equipment maintenance; risk management; medication assistance; and complaints and concerns.

Where can I get more information?

- Learn more and read the Consultation Team’s Phase One Summary Report at humanservices.alberta.ca/pddconsultation
# Overview of PDD Funding Categories – Home Living Supports

## Overnight Staffed Living Arrangements
An individual may live in a home that is staffed overnight to receive services up to 24 hours/day.

Other individuals can also reside in the home and share services.

Staff may be regularly scheduled or on call, sleep or awake flexibility employees and not considered part of the household.

## Support Home/Supportive Roommate Living Arrangements
An individual receiving PDD supports lives with a person(s) without a developmental disability who provides support to the individual in a family-type arrangement. These supports are not generally "scheduled".

The home is considered to be the personal residence of all members of the household.

## Supported Independent Living Arrangements
An individual can receive staff supports that will assist them to live in their home. They may or may not be living with others who also have a developmental disability.

These supports focus on developing and maintain skills to live independently.

## Respite Supports
Provides a short break for caregivers. These supports can be provided either in the home where the individual receiving PDD supports lives or outside the home.

### Numbers of People Accessing Home Living Supports

**FMS – Family Managed Services**

**SP – Service Provider**

<table>
<thead>
<tr>
<th>Region</th>
<th>Overnight Staffed Living Arrangement</th>
<th>Support Home Supportive Roommate</th>
<th>Supported Independent Living</th>
<th>Total Individuals across all three</th>
<th>Individuals accessing multiple home living supports in one year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total  FMS SP</td>
<td>Total  FMS SP</td>
<td>Total  FMS SP</td>
<td>Total  FMS SP</td>
<td>Total  FMS SP</td>
</tr>
<tr>
<td>Northwest</td>
<td>198    16  184</td>
<td>50    13  39</td>
<td>137  18  120</td>
<td>385    47  343</td>
<td>18    1  16</td>
</tr>
<tr>
<td>Northeast</td>
<td>18     0  18</td>
<td>1      1  0</td>
<td>13    0  13</td>
<td>32     1  31</td>
<td>1      0  1</td>
</tr>
<tr>
<td>Edmonton</td>
<td>1452   59  1396</td>
<td>414   29  385</td>
<td>598  53  547</td>
<td>2464   141  2328</td>
<td>80     2  75</td>
</tr>
<tr>
<td>Central</td>
<td>725    15  710</td>
<td>256   51  207</td>
<td>553  61  494</td>
<td>1534   127  1411</td>
<td>40     3  34</td>
</tr>
<tr>
<td>Calgary</td>
<td>434    7   428</td>
<td>1189  156 1041</td>
<td>396  35  362</td>
<td>2019   198  1831</td>
<td>55     0  53</td>
</tr>
<tr>
<td>South</td>
<td>382    0   382</td>
<td>252   10  244</td>
<td>346  7   339</td>
<td>980    17  965</td>
<td>45     0  44</td>
</tr>
<tr>
<td>North Central</td>
<td>233    6   227</td>
<td>29    11  18</td>
<td>222  15  207</td>
<td>484    32  452</td>
<td>17     1  15</td>
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<tr>
<td>Provincial</td>
<td>3437   103 3339</td>
<td>2187  270 1933</td>
<td>2259  188 2078</td>
<td>7883   561 7350</td>
<td>261    7  242</td>
</tr>
<tr>
<td>Total</td>
<td>3442   103 3345</td>
<td>2191  271 1934</td>
<td>2265  189 2082</td>
<td>7898   563 7361</td>
<td>256    7  238</td>
</tr>
</tbody>
</table>

*Note: Total numbers may not be consistent with sum of FMS and SP as some individuals will receive both FMS and SP in the same fiscal year, as well as access more than one type of living arrangements during that same time period.*

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1 Excludes respite services and services provided through a government operated location. Figures are inclusive of arrangements funded via contract with agencies and Family Managed Services Funds Administrators.
Commissioning of Fire Alarm and Life Safety Systems

Question?
What does the commissioning of Fire alarm and Life Safety Systems mean for SCO’s?
Although not specifically referenced within the 2014 ABC, the CAN/ULC-S1001 standard, expected to be referenced within the 2015 NBC, would be an acceptable piece of reference material to be used when meeting the requirements of the ABC legislation.

Background Information:
2014 Alberta Building Code requirements
3.2.4.6. Commissioning of Life Safety and Fire Protection Systems
1) Where life safety and fire protection systems are installed to comply with the provisions of this Code or the Alberta Fire Code 2014, the commissioning of these integrated systems must be performed as a whole to ensure the proper operation and inter-relationship between the systems. (See Appendix A.)

A-3.2.4.6.(1) Commissioning of Life Safety and Fire Protection Systems. When commissioning a building, the owner must ensure that the life safety systems and their components (i.e. fire alarm systems, sprinklers, standpipes, smoke control, ventilation, pressurization, door hold-open devices, elevator recalls, smoke and fire shutters and dampers, emergency power, emergency lighting, etc.) are functioning according to the intent of their design. The commissioning provides the documented confirmation that building systems satisfy the intent of the Code. Ultimately, someone will have to ensure that the interconnected operation of all life safety systems within the building has been confirmed: this responsibility may fall on the designer, owner, contractor or a commissioning body. The Alberta Building Code does not specify who must fulfill this role as this is an administrative issue.

2015 NBC

3.2.9. Integrated Fire Protection and Life Safety Systems

3.2.9.1. Testing

1) Where fire protection and life safety systems and systems with fire protection and life safety functions are integrated with each other, they shall be tested as a whole in accordance with CAN/ULC-S1001, “Integrated Systems Testing of Fire Protection and Life Safety Systems,” to verify that they have been properly integrated. (See Note A-3.2.9.1.(1).)
A-3.2.9.1.(1) **Testing of Fire Protection and Life Safety Systems.** Building owners should verify that fire protection and life safety systems and their components (i.e., fire alarm systems, sprinklers, standpipes, smoke control, ventilation, pressurization, door hold-open devices, elevator recalls, smoke and fire shutters and dampers, emergency power, emergency lighting, fire pumps, generators, etc.), including their interconnections with other building systems, are functioning according to the intent of their design. CAN/ULC-S1001, "Integrated Systems Testing of Fire Protection and Life Safety Systems," provides the methodology for verifying and documenting that interconnections between building systems satisfy the intent of their design and that the systems function as intended by the Code.

Clause 6.1.5 of CAN/ULC-S1001 allows the Integrated Testing Coordinator to accept documented evidence of any tests that have been performed on a system as part of its acceptance testing for the purpose of demonstrating compliance with the integrated testing requirements of that standard, so as to avoid duplication of work.

**2010 NBC Intent Statements**

**Intent 1:**
To limit the probability that integrated life safety and fire protection systems will not meet proper standards, which could lead to such systems not performing in the way intended in a fire situation, which could lead to an inadequate water supply to fire suppression systems or a fire not being suppressed or controlled, which could lead to the spread of fire to other parts of the building, which could lead to harm to persons.

**Intent 2:**
To limit the probability that integrated life safety and fire protection systems will not perform as originally intended in a fire situation, which could lead to persons not being promptly notified of the fire situation, which could lead to delays in the evacuation or movement of persons to a safe place, which could lead to harm to persons.


**QUALIFICATIONS**

**Participants in the Integrated Testing Plan**
- Design Professionals, Installing Contractors, Verifying Parties
- Knowledge and experience in the design, installation, and operation of their relevant systems
- Regulations may exist for licensing and/or certification of these individuals

**Integrated Testing Coordinator**
The integrated testing coordinator must be:
- Knowledge and experience of integrated systems, operation under normal and fire conditions, and methods of validation
- Licenses and Certifications?
  - Standard can’t dictate professional qualifications
  - Only required IF required by federal, provincial, territorial or other regulations,
  - Could also be in Owner's contractual requirements

**TESTING REQUIREMENTS**

**Systems Considered**
- Fire Alarm System
- Mass Notification Systems
- Elevators
- Emergency Generators
• A/V and Lighting Control Systems
• Notification Systems
• Sprinkler Systems
• Standpipe Systems
• Fire Pumps
• Water Supplies
• Water Supply Control Valve
• Freeze Protection Systems
• Fixed Fire Suppression Systems
• Cooking Suppression Systems
• Hold-Open Devices
• Electromagnetic Locks
• Smoke Control Systems
• Hazardous Protection Monitoring
• Smoke Alarms

DOCUMENTATION
Integrated Systems Testing Report
• Final Integrated Testing Report consists of the
  • Integrated Testing Plan
  • Documentation collected during Implementation Phase
  • Integrated Testing Forms for Initial Test
  • Integrated Testing Forms for Re-Tests

LIFE CYCLE TESTING
Periodic Integrated Systems Testing
• Routine Integrated Systems Testing throughout the building's life cycle
• Ensure system integrations are maintained
• 1 Year Confirmation Test
• 5 Year Periodic Testing
Visual Signal Devices

Question?
Where are visual signal devices supposed to be installed? How many are required in a residential suite?

Fire alarm systems with only audible signal devices do not ensure the safety of people who are deaf or hard of hearing. It is important that the audible signal device be accompanied by a visual signal device, so that people who are deaf or hard of hearing are alerted to the emergency. Such a fire alarm system should be installed in all buildings to ensure that emergency systems are accessible.

A visual signal device within a residential suite must provide a signal so that at least one device is visible within a suite. The NBC states that the signal must be visible from through-out the floor area of the suite. AMA believes this wording has not changed in the 2015 NBC. And it is this difference in wording that is causing the confusion.

There are two differing thought processes to this requirement.

1) That a single visual signal device is adequate within a residential suite. A single device provides a level of safety greater than what was previously required under the 2006 ABC, and does not become too onerous.

2) Because the intent is to provide a level of safety for hearing impaired people, a level of protection equal to that of audible signal devices should be provided. This would require that visual signals must be seen from all locations within the suite. And because closed doors would restrict the passage of light into an adjacent room, common sense would provide justification that additional devices must be placed within each room.

Currently, this question is being reviewed by the Codes and Standards team, but it would seem to make sense that Alberta would follow the same stance as other provinces have taken. This seems in keeping with the wording of the NBC and the definition of “suite” as provided within the Appendix.
Therefore, it is our opinion that visual signal devices are required in all living areas of a suite. Specifically, living rooms, kitchens, and bedrooms. Visual signal devices are not required in closets, utility rooms, laundry rooms, or bathrooms.

**Background Information:**

**2014 Alberta Building Code requirements**  
3.2.4.20. Visual Signals  
2) Visual signal devices required by Sentence (1) shall be installed so that the signal from at least one device is visible within a *suite* in which they are installed.

*Suite* means a single room or series of rooms of complementary use, operated under a single tenancy, and includes *dwelling units*, individual guest rooms in motels, hotels, boarding houses, rooming houses and dormitories as well as individual stores and individual or complementary rooms for *assembly occupancies*, *business and personal services occupancies*, *medium-hazard industrial occupancies*, and *low-hazard industrial occupancies*. (See Appendix A.)

**A-1.4.1.2.(1) Defined Terms.**  
**Suite**  
For certain requirements in the Code, the expression “room or suite” is used (e.g., travel distance). This means that the requirement applies within the rooms of suites as well as to the suite itself and to rooms that may be located outside the suite. In other places the expression “suite, and rooms not located within a suite” is used (e.g., for the installation of smoke and heat detectors). This means that the requirement applies to individual suites as defined, but not to each room within the suite. The rooms “not within a suite” would include common laundry rooms, common recreational rooms and service rooms, which are not considered as tenant-occupied space.

**2010 National Building Code**  
3.2.4.20. Visual Signals  
2) Visual signal devices required by Sentence (1) shall be installed so that the signal from at least one device is visible throughout the *floor area* or portion thereof in which they are installed.

**Intent 1:**  
To limit the probability that persons with hearing impairment will not be promptly notified of a fire situation, which could lead to delays in evacuation or moving to a safe place, which could lead to harm to these persons [Clause (a) and (d)]

**Intent 1:**  
To limit the probability that persons relying on visual information to warn them of an emergency situation will not be promptly notified of a fire situation, which could lead to delays in evacuation or moving to a safe place, which could lead to harm to persons.

**NFPA 72 National Fire Alarm and Signaling Code**  
18.5 Visual Characteristics – Public Mode  
18.5.1. Visual Signalling  
18.5.1.2. The coverage area for visible occupant notification shall be required by other governing laws, codes, or standards. *Where the other governing laws, codes, or standards*
require visible occupant notification for all or part of an area or space, coverage shall only be required in *occupiable areas* as defined in 3.3.177.

**Occupied Area Definition 3.3.177.**
An area of a facility occupied by people on a regular basis.

**Reference Information from Other Provinces**

**Winnipeg** – See attached Information Bulletin

**Ontario Building Code**
3. Sentence 3.2.4.19.(4) of Division B of the Regulation is revoked and the following substituted:
(4) Except as permitted by Sentence (6), visual signal devices shall be installed in addition to audible signal devices,
(a) in a *building* or portion of a *building* intended for use primarily by persons with hearing impairment,
(b) in a *public corridor* serving a Group A, B, C, D or E *occupancy*,
(c) in a corridor used by the public and in a *floor area* or part of a *floor area* where the public may congregate in a Group A *occupancy*,
(d) in not less than 10% of the *suites* of a *hotel* or motel,
(e) in a washroom for *public use* described in Sentence 3.8.2.3.(2), (3), (4) or (6), and
(f) in the living space in a *suite of residential occupancy* in a Group C major *occupancy* apartment *building*.

**Canadian Oxford Dictionary**

**Living Space**
An area in a room or house for general use during the day; space for accommodation.

**Ontario Building Code**

**Visual Fire Safety Devices**
Approximately 10 per cent of Canadians report having a significant hearing problem. Visual fire alarms and smoke alarms equipped with a visual component are an important part of enhancing the safety and security of all Ontarians. New amendments expand the range of areas where visual fire alarms will be required, including in public corridors of all residential buildings, in all multi-unit residential suites, and in all barrier-free and universal washrooms.
Smoke alarms are required by the Building Code to be provided on every floor and in every sleeping room of residential buildings, including all houses. As of January 1, 2015, all smoke alarms will be required to include a visual component conforming to National Fire Protection Association standards.
2. The floor area should have a safe zone that is separated by fire resistive construction, such as a door that has the ability to retard the passage of smoke between zones, and minimizes the distance of travel for those who need to move to another zone. In office buildings, the distance to a safe zone and exit is 40 m; for all other occupancies the distance is no greater than 30 m. The size requirement of each safe zone can be created or designed by the number of occupants who may require assistance in an emergency.

3. Direct exit with zero grade to the exterior of the building is preferred. However, a ramp leading to the exterior ground level is also acceptable.

9.5.2.2. Protection on Floor Areas with a Barrier-Free Path of Travel

1) Where a barrier-free path of travel required in Article 9.5.2.1. is provided to any storey above the first storey, the requirements in Article 3.3.1.7. shall apply.

2) In addition to the requirements of Article 3.3.1.7., every floor area above or below the first storey that is not sprinklered throughout and that has a barrier-free path of travel shall in the case of residential occupancies, be provided with balconies conforming to Sentence (3), except on the storey containing the barrier-free entrance required by Article 3.8.1.2.

3) A balcony required by Sentence (2) shall
   a) have direct barrier-free access from the suite or floor area,
   b) be not less than 1.5 m deep from the outside face of the exterior wall to the inside edge of the balcony, and
   c) provide not less than 1.5 m² of balcony space for each non-ambulatory occupant and 0.5 m² for each ambulatory occupant.

Fire Alert and Alarm Systems
The primary purpose of fire alarm systems is to warn occupants to evacuate a building by providing the necessary information. An audible signal must be accompanied with a visual signal to ensure that people who are deaf or hard of hearing and people who are blind receive notification of the alert and/or alarm in an emergency. In addition, the system may include a textual notification appliance to provide further communication for people who are deaf or hard of hearing.

In buildings required to be barrier-free, the audible and visual signals shall be designed and installed to ensure that no harm befalls persons who are deaf or hard of hearing and all others. This can be done by reading and applying the engineering information in the National Fire Protection Association (NFPA) Standard 72® National Fire Alarm Code® handbook, with specific reference to the placement of visual signals when proximity to the audible signals is considered/necessitated.
The National Fire Protection Association® (NFPA) standards are used in this Guide to supplement the Alberta Building Code (ABC) on visual signalling systems. The NFPA® and fire alarm industry has worked closely with various code and advocacy groups in the US to develop safe, reasonable and effective visible signalling requirements that are not as fully referenced in Canadian materials.

Note: It is strongly recommended that ALL designers refer to the National Fire Protection Association (NFPA) Standard 72® National Fire Alarm Code® for further information on the design and installation of visual signaling appliances. The NFPA® has published a National Fire Alarm Code® Handbook 2007 edition that provides important information on good engineering design practises for visual signaling systems.

Note: In the following text, the NFPA 72® Standards are printed in blue.

3.2.4.17. Alert and Alarm Signals

4) In a building, or portion thereof, intended for use primarily by persons with hearing impairment, visual signal devices shall be installed in addition to audible signal devices.

Sentence (4) suggests that visual signalling devices will not be installed (in addition to audible signalling devices) when a building or a portion thereof is not primarily used by persons with hearing impairments. However, this is not considered acceptable. It is strongly recommended that signalling devices be installed in all buildings because persons who are deaf or hard of hearing might use any environment at any time, and emergency systems must be accessible to everyone.

3.2.4.19. Visual Signals

1) Visual signal devices required by Sentences 3.2.4.17.(4) and 3.2.4.18.(7) and (8) shall be installed so that the signal from at least one device is visible throughout the floor area or portion thereof in which they are installed. (See Appendix A.)


3) A visual signal appliance shall be installed in close proximity to each required audible signal appliance.

Sentence (3): close proximity of a visual signalling device to an audible may not be the most effective. Please refer to the NFPA 72® NFAC® Handbook for more information pertaining to the installation of these two signalling devices.

NFPA 72® 7.5 Visible Characteristics - Public Mode.

7.5.1 Visible Signaling. Public mode visible signaling shall meet the requirements of Section 7.5 using visible notification appliances.

A.7.5.1 There are two methods of visible signaling. These are methods in which notification of an emergency condition is conveyed by direct viewing of the illuminating appliance or by means of illumination of the surrounding area. Visible notification appliances used in the public mode must be located and must be of a type, size, intensity, and number so that the operating effect of the appliance is seen by the intended viewers regardless of the viewer’s orientation. (See A.7.5 mounting height of appliances.)

Fact Sheet – Visual Fire Safety Alarms

What is the Building Code?
- Ontario’s Building Code addresses new construction, renovations, and change of use or demolition of a building. The Building Code has been in place since 1975 and sets minimum standards for construction in Ontario.

What has changed?
- The 2012 Building Code was recently amended to enhance barrier-free design requirements (accessibility) for new construction and extensive renovations.
- The Building Code already requires that visual fire alarms must be installed in addition to audible fire alarms in public corridors and auditorium areas in a range of building types, including buildings with assembly, care, business and personal services, and commercial occupancies. Examples of these types of buildings are arenas, theatres, churches, hospitals, nursing homes, office buildings and retail establishments.
- Visual fire alarms are also already required in at least 10 per cent of hotel and motel suites.
- Audible smoke alarms are required by the Building Code in multi-unit residential buildings and houses and must be installed on every floor and in every sleeping room of dwelling units.
- New requirements expand the range of areas where visual fire alarms are required and set requirements for smoke alarms to be equipped with a visual signal component.
- Requirements take effect January 1, 2015, and apply only to new construction or extensive renovations.

What are the new requirements for visual fire alarms?
- New amendments expand the range of areas where visual fire alarms will be required.
- In large multi-unit residential buildings, visual fire alarms will be required in public corridors and in every residential suite. Visual fire alarms are already required in the public corridors of other building types.
- In all buildings where public washrooms are provided, visual fire alarms will be required in all barrier-free and universal washrooms.

What are the new requirements for smoke alarms?
- All smoke alarms will be required to include a visual signal component, which must meet technical standards specified in Ontario’s Building Code.
- The visual signal is not required to be an integrated component of the smoke alarm. An add-on visual signal connected to the smoke alarm is sufficient to comply with the regulation.
- Battery back-up is not required for the visual signal component of a smoke alarm. This requirement applies only to the audible alarm.

What do I have to do if I own or manage an existing building?
- Unless you are planning an extensive renovation, existing buildings are not affected. You do not have to change or upgrade existing buildings to comply with new requirements.
- Fire safety requirements in existing buildings are set through Ontario’s Fire Code, which is administered by the Office of the Fire Marshal.

Why were these changes made?
- The Accessibility for Ontarians with Disabilities Act, 2005 (AODA) became law in 2005. The purpose of the AODA is to benefit all Ontarians by developing, implementing and enforcing accessibility standards.
- As part of achieving Ontario’s goal of an accessible Ontario by 2025, Ontario is working to create a Building Code that demonstrates leadership in barrier-free design and is responsive to the needs and concerns of all its stakeholders.

Who can I call for more information?
- For more information, visit www.ontario.ca/buildingcode or contact your municipality’s building department.
CLARIFICATION FOR THE INSTALLATION OF FIRE ALARM VISUAL SIGNAL DEVICES

The Manitoba amendment to National Building Code Sentence 3.2.4.20.(1) requires that visual fire alarm signal devices be installed in all buildings.

The City of Winnipeg interpretation of this requirement is that the visual signals must be visible throughout the floor area, similar to the requirement that fire alarm system audibility is required throughout the floor area. It is reasonable then, that the visual signals should be visible from every location where people are likely to spend any length of time.

It should not be assumed that this requirement is met by simply locating visual signal devices in egress routes. In most cases, there will need to be more visual signal devices provided than what is typically provided for audible devices. Refer to CAN/ULC-S524 Standard for guidelines for visibility of visual signals.

By nature of their usage, every bathroom and every sleeping room in suites of residential occupancy shall have visual signals installed. These signals would be in addition to those required in the remainder of the dwelling unit to meet the above noted requirement that the signals be visible throughout the floor area. Refer to the dwelling unit plan below for a typical visual signal layout.

Visual signal devices are required to be installed only where new fire alarm systems are being installed after the coming into force of the January 1, 2012 Manitoba Building Code amendments.

Issued by:
Shirley Jenken, CET, Electrical Technical Support Officer
Development & Inspections Division, Planning Property & Development Department
65 Garry Street • Winnipeg • Manitoba R3C 4K4

January 29, 2013
sjenken@winnipeg.ca
note:
The two devices shown at the locations marked "A" may be substituted by the single device shown at location "B" if it is deemed that adequate visibility is provided by the single device.

DWELLING UNIT PLAN – TYPICAL VISUAL SIGNAL LAYOUT
NTS
Attic or Roof Access

Question?
Building code requires min. 550mm x 900mm, for single dwelling units and does not specify anything other. Gas code requires access opening to be 610mm x 760 mm. What if there is mechanical equipment present in the attic?
When an attic hatch is providing access to a roof space within a single dwelling unit, the hatch is only required to provide minimum opening of 550mm X 900mm or 0.32m2 with a minimum dimension of 500mm.

If the mechanical equipment has been installed within the attic space, the space within the attic is no longer considered attic space, but would be classified as a utility room. Access to the utility room should meet the requirements under Table 9.5.5.1. Size of Doors and a door must be provided. Additionally, the space would have to be reviewed for mechanical protection, spray foam would have to be encapsulated, stairs to the room would have to meeting 9.8.4., etc.

In these situations an alternative solution could be used to permit a smaller door if the intent of the ABC could be met.

When a discrepancy between the ABC and the Gas Code occurs, the legislation states that the Alberta Building Code takes precedence.

Background Information:
2014 Alberta Building Code requirements
9.19.2. Access
9.19.2.1. Access
1) Every attic or roof space shall be provided with an access hatch where the open space in the attic or roof space measures
a) 3 m2 or more in area,
b) 1 m or more in length or width, and
c) 600 mm or more in height over at least the area described in Clauses (a) and (b). (See Appendix A.)
2) The hatch required in Sentence (1) shall be not less than 550 mm by 900 mm except that, where the hatch serves not more than one dwelling unit, the hatch may be reduced to 0.32 m2 in area with no dimension less than 500 mm.
**Table 9.5.1.**
**Size of Doors**
**Forming Part of Sentence 9.5.1.1**

<table>
<thead>
<tr>
<th>At Entrance to:</th>
<th>Minimum Width, mm</th>
<th>Minimum Height, mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dwelling unit or house with a secondary suite (including common spaces, required entrance)</td>
<td>810</td>
<td>1 980</td>
</tr>
<tr>
<td>Vestibule or entrance hall</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stairs to a floor level that contains a finished space</td>
<td></td>
<td></td>
</tr>
<tr>
<td>All doors in at least one line of passage from the exterior to the basement</td>
<td>810</td>
<td>1 980</td>
</tr>
<tr>
<td>Utility rooms</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Walk-in closet</td>
<td>810</td>
<td>1 980</td>
</tr>
<tr>
<td>Bathroom, water-closet room, shower room [17]</td>
<td>610</td>
<td>1 980</td>
</tr>
<tr>
<td>Rooms located off hallways that are permitted to be 710 mm wide</td>
<td>610</td>
<td>1 980</td>
</tr>
<tr>
<td>Rooms not mentioned above, exterior/balconies</td>
<td>760</td>
<td>1 980</td>
</tr>
</tbody>
</table>

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**Section 1.5. Referenced Documents and Organizations**

**1.5.1. Referenced Documents**

**1.5.1.2. Conflicting Requirements**

1) In case of conflict between the provisions of this Code and those of a referenced document, the provisions of this Code shall govern.
Bedroom Egress Windows
ABC Article 9.10.15.4.(3)

Question?
Article 9.10.15.4.(3) How are SCO’s interpreting this clause? What if the bedroom window is larger than .35 sq. m.? On its own, is it allowed to exceed the 50% maximum?

In discussions with the NRC on this question, the response was given that the intent of the sentence was not to restrict the size of the window opening, but to permit windows that have been installed for bedroom egress. The NRC technical representative confirmed that the window area could be larger as the most common window egress window is a slider window, which would be acceptable.

Background Information:
2014 Alberta Building Code requirements
9.10.15.4. Glazed Openings in Exposing Building Face
3) Except for buildings that are sprinklered and for openable windows having an unobstructed opening equal to 0.35 m2 installed in accordance with Sentences 9.9.10.1.(1) and (2), where the limiting distance is 2 m or less, individual glazed openings or a group of glazed openings in an exposing building face shall not exceed 50% of the maximum allowable aggregate area of glazed openings determined in Sentence (1).

2010 NBC User’s Guide
Areas and Spacing of Individual Openings (NBC Sentences 9.10.14.4.(3) & 9.10.15.4.(3))
Because the requirements that limit the maximum opening areas assumed that smaller openings would be evenly distributed over the exposing building face, the NBC also limits the area of individual openings and their proximity to one another wherever the limiting distance is 2m or less. Exceptions are provided for sprinklered buildings and for openable bedroom windows with an unobstructed openable area of 0.35 sq meters where the window is installed to fulfill the requirements in NBC Subsection 9.9.10. for emergency egress.
Building Air Intake

Question?
Define building Air intake. Is a window a possible source for contamination from a furnace exhaust or envelope penetration?
The Gas Technical Sub-Council has reviewed a Standata to help clarify the definition of air intake, and when the clearances between an exhaust and an air intake would apply. The draft Standata is awaiting updating to the B149.1-2015 Codes, and will be taken to the Building Technical Sub-Council for review following those changes.

It has been questioned in the past as to whether open-able windows and doors fall under the category of “air intakes” described in the ABC requirements, and are required to have a 900mm separation from sidewall gas vents. Subsection 9.32.3 of the ABC 2014 deals only with “Heating-season Mechanical Ventilation”. Therefore the requirements for “air intakes” in the above sentences only apply to intake terminals serving the mechanical ventilation systems (e.g. those connected to furnaces, HRV’s, and make-up air units etc.). The 900mm requirement stipulated under sentence 9.32.3.13.(3) does not apply to windows or doors.

The draft Standata provides clarification that a window and a door would not be considered as an “air intake”, and the minimum clearance of 900mm, as required within the ABC, are not applicable.

Background Information:
2014 Alberta Building Code requirements
Alberta Building Code 2014

Sentence 9.32.3.13.(3) of the ABC 2014 states: The distance separating air intakes from building envelope penetrations that are potential sources of contaminates, such as gas vents or oil fill pipes, shall be not less than 900mm.

Sentence 9.32.3.13.(4) continues to state that: Air intakes shall be clearly labeled as such for identification from locations outside the dwelling unit.

Sentence 9.33.5.2.(1) of the ABC 2014 states: Except as provided in Articles 9.33.5.3. and 9.33.5.4., the installation of heating and air-conditioning equipment, including mechanical refrigeration equipment, and including provisions for mounting, clearances and air supply, shall conform to (d) the gas regulations made pursuant to the Safety Codes Act... Clarification No.1:
Location of Sidewall Vent Terminations

This bulletin has been jointly developed by Safety Services and the Gas/Building Subcouncils to inform designers, vendors, builders, contractors (Gasfitters and Sheet Metal Mechanics) and owners of the minimum requirements from adjacent structures and building envelope penetrations to ensure safe and effective venting of gas appliances.

Traditionally, gas appliances were equipped with a draft hood or a draft diverter and depended on natural buoyancy to vent their products of combustion to the outdoors through the roof. Recent trends to improve energy efficiency of appliances have resulted in more appliances with many different vent termination options. As the number of appliances being used in homes that have sidewalk vent termination options increases, so has the issues with combustion products at those locations.

The issues that could be affected by frost and ice accumulations due to side yard vent terminations include adjoining property air inlets, appliance performance, windows, doors, building openings, property surfaces, mould, and moisture.

The items to be considered for side wall vent venting of gas appliances are:

1. Vents from category III or category IV appliances or appliances with special venting systems exceeding 35,000 Btu/h.
2. Appliances that have some means of redirecting the exhaust plume.
3. Spacing requirements
   (a) Unobstructed distances to property lines of less than 4ft (1.2m),
   (b) distances of 4 ft (1.2m) and up to 8 ft (2.4m), and
   (c) distances beyond 8 ft (2.4m)
4. Separation from other building envelope penetrations.
5. Alcove installations
CSA B149.1 – 2010  Natural Gas and Propane Installation Code

8.14.8  a vent shall not terminate
(a) where it may cause hazardous frost or ice accumulations on adjacent property surfaces;
(b) less than 7 ft (2.1 m) above a paved sidewalk or a paved driveway that is located on public property;
(c) within 6 ft (1.8 m) of a mechanical air-supply inlet to any building;
(d) above a regulator within 3 ft (900 mm) horizontally of the vertical control line of the regulator vent outlet to a maximum vertical distance of 15 ft (4.5 m);
(e) except as required by Clause 8.14.8(d), any distance less than that of any gas pressure regulator vent outlet as detailed in Table 5.2;
(f) less than 1 ft (300 mm) above grade level;
(g) within the following distances of a window or door that can be opened in any building, of any nonmechanical air-supply inlet to any building, or of the combustion air inlet of any other appliance;
   (i) 6 in (150 mm) for inputs up to and including 10 000 Btuh (3 kW);
   (ii) 12 in (300 mm) for inputs from 10 000 Btuh (3 kW) up to and including 100 000 Btuh(30 kW); and
   (iii) 3 ft (900 mm) for inputs exceeding 100 000 Btuh (30 kW); and
(h) underneath a veranda, porch, or deck unless
   (i) the veranda, porch, or deck is fully open on a minimum of two sides beneath the floor; and
   (ii) the distance between the top of the vent termination and the underside of the veranda, porch, or deck is greater than 1 ft (300 mm).

Clause 8.14.8(a) above is an objective requirement that has no reference to caps, directional diversion, property line or building separations.

The CSA B149.1 allows for unrestricted side terminations of special vent systems for appliances up to 35 000 Btuh with less than 4 ft.(1.2m) clearance, which should cover such appliances as fireplaces and garage heaters under 35 000 Btuh which usually have shorter run times and not a lot of plume production.

Appliances over 35 000 Btuh venting within side yards having a width of no less than 4 ft.(1.2m) can be installed with discharge directed away from property lines. Most appliances allow for directional fittings and others already have termination caps such as ones used on garage heaters and boiler venting.

Appliances such as power vented water heaters over 35 000 Btuh are being used more and more for some space heating which increases run times and hence exhaust plumes. They need adequate space for proper plume dispersal and 4 ft.(1.2m) side yard terminations have resulted in numerous issues.

The following is a summary of the CSA B149-1 requirements on spacing of sidewall vent terminations in relation to adjacent structures or the property line:
- A vent from a category III or category IV appliance or an appliance with a special venting system exceeding 35,000 Btu/h shall not extend through an exterior wall and terminate adjacent to the exterior wall unless there is a minimum unobstructed distance of 4 ft. (1.2m) or greater from the wall penetration to the property line.
- A vent from a Category III or Category IV appliance or an appliance with a special venting system exceeding 35,000 Btu/h that terminates into a side yard which measures not less than 4 ft. (1.2m) from the wall penetration to property line, shall have a means of redirecting the vent plume with a certified fitting such as a "T", a 90 degree elbow, or termination acceptable to the authority having jurisdiction, installed in accordance to the manufacturer's installation instructions.
- Distances greater than 8 ft. (2.4m) will have no restriction.
- In an alcove installation the depth of the vent termination FROM THE EXTERIOR FACE cannot exceed the separation between the two opposing walls.

Note: These requirements do not apply to locations where adjoining properties are public spaces such as road ways, alleyways, walkways or parks where structures would not normally be erected.

Alberta Building Code 2014

Sentence 9.32.3.13.(3) of the ABC 2014 states: The distance separating air intakes from building envelope penetrations that are potential sources of contaminates, such as gas vents or oil fill pipes, shall be not less than 900mm.

Sentence 9.32.3.13.(4) continues to state that: Air intakes shall be clearly labeled as such for identification from locations outside the dwelling unit.

Sentence 9.33.5.2.(1) of the ABC 2014 states: Except as provided in Articles 9.33.5.3. and 9.33.5.4., the installation of heating and air-conditioning equipment, including mechanical refrigeration equipment, and including provisions for mounting, clearances and air supply, shall conform to (d) the gas regulations made pursuant to the Safety Codes Act...

Clarification No. 1:

It has been questioned in the past as to whether open-able windows and doors will fall under the category of "air intakes" described in the above ABC requirements and require to have a 900mm separation from sidewall gas vents.

Subsection 9.32.3 of the ABC 2014 deals only with "Heating-season Mechanical Ventilation". Therefore the requirements for "air intakes" in the above sentences only apply to intake terminals serving the mechanical ventilation systems (e.g. those connected to furnaces, HRV's, and make-up air units etc.). The 900mm requirement stipulated under sentence 9.32.3.13.(3) does not apply to windows or doors.
Clarification No. 2:

It was pointed out that there is a discrepancy between requirements stipulated under clause 8.14.8(c) of the CSA B149.1 and sentence 9.32.3.13.(3) of the ABC with respect to separation of mechanical air intakes from gas vents.

There will be no problem if the air intake hood was already installed before the gas fitter tries to run the sidewall vent. The gas fitter would have allowed for a separation of 1.8m from the air intake hood in accordance to clause 8.14.8(c) of the CSA B149.1 since that is the standard referenced under the Gas Code Regulation.

The 900mm minimum separation stipulated under sentence 9.32.3.13.(3) of the ABC is intended as a general provision to deal with various potential sources of contaminates in the absence of specific requirements from other standards. Since the referenced standard (i.e. CSA B149.1) does include a specific requirement, the more stringent of the two shall apply. The sheet metal contractor will need to allow for a 1.8m separation from any sidewall gas vent during the installation of air intake hoods.
Radon Gas

Question?
What type of pipe must be used when relocating the vent to a non-centralized location below the slab?
In the absence of specific requirements for the type of piping, provided the piping is 100mm in diameter, opens at or near the centre of the slab as specified by Division B Clause 9.13.4.3.(3)(b) and meets Division A Article 1.2.2.1. (The piping meets the requirements to be used sub surface in contact with soil or has a CCMC evaluation report) the piping would be acceptable.

Alberta Municipal Affairs Staff have spoken with Technical staff at the NRC regarding the use of perforated piping. It was stated perforated pipe can be used and may be more preferred as it permits more entry points for extraction should the end become clogged or if water was present.

The NRC − NBC 2010 Part 9 users guide has also been reviewed and the document also speaks to the use of perforated pipe being permitted in this application.

Therefore, perforated pipe (weeping tile), or solid pipe (PVC) could be used for this installation.

Background Information:
2014 Alberta Building Code requirements
9.13.4.3. Providing for the Rough-in for a Subfloor Depressurization System
1) Floors-on-ground shall be provided with a rough-in for subfloor depressurization consisting of
   a) a gas-permeable layer, an inlet and an outlet as described in Sentence (2), or
   b) clean granular material and a pipe as described in Sentence (3).

3) The rough-in referred to in Clause (1)(b) shall include
   a) clean granular material installed below the floor-on-ground in accordance with Sentence 9.16.2.1.(1), and
   b) a pipe not less than 100 mm in diameter installed through the floor, such that
      i) its bottom end opens into the granular layer required Clause (a) at or near the centre of the floor and not less than 100 mm of granular material projects beyond the terminus of the pipe measured along its axis (see A-9.13.4.3.(2)(b) and (3)(b)(i) in Appendix A),
      ii) its top end permits connection to depressurization equipment and is provided with an airtight cap, and
      iii) the pipe is clearly labelled near the cap and, if applicable, every 1.8 m and at every change in direction to indicate that it is intended only for the removal of radon from below the floor-on-ground.
A-9.13.4.3.(2)(b) and (3)(b)(i) Effective Depressurization. To allow effective depressurization of the space between the air barrier and the ground, the extraction opening (the pipe) should not be blocked and should be arranged such that air can be extracted from the entire space between the air barrier and the ground. This will ensure that the extraction system can maintain negative pressure underneath the entire floor (or in heated crawl spaces underneath the air barrier). The arrangement and location of the extraction system inlet(s) may have design implications where the footing layout separates part of the space underneath the floor.

Illustrated Users Guide – NBC 2010 Part 9 Housing and Small Buildings
9.13.4. Soil Gas Control
9.13.4.3. Providing Rough-in for a Subfloor Depressurization System
"The extraction opening (the pipe) should not be blocked and should be arranged such that air can be extracted from the entire space between the air barrier and the ground. This will ensure that the extraction system can maintain negative pressure underneath the entire floor (or in heated crawl spaces underneath the air barrier).

Locating the capped pipe near the center of the floor might restrict floor layout options. If it is desired to locate the pipe rough-in close to an exterior wall or into a service area of a basement, perforated pipe can be used to connect the vertical pipe to the center of the floor. If the subfloor space is interrupted by internal footings, it is important to ensure that the collection system is capable of depressurizing all areas should this become necessary."

Reducing Levels in Existing Homes: A Canadian Guide for Professional Contractors
Chapter 5: Mitigation of Exposed Soil
5.2 Sub-Membrane Depressurization
.... "An alternative to a concrete slab is a flexible membrane. This can be maneuvered into areas where the headroom is low and spread over the soil. Perforated piping or porous material is placed on the soil to ensure the fan suction is distributed to the edges of the membrane and acts as the gas collector.

Chapter 9: Fan and Piping Installation

9.6 Piping

The preferred piping is solvent welded 100 mm Schedule 40 PVC or ABS. This is used for domestic drain, waste and vent plumbing, and the pipe, fixtures, and the skills to install the piping are readily available. A lighter Schedule 20 pipe is available, and is satisfactory where the pipe is unlikely to be damaged. The Plumbing Code can be used as a guide to installation.
References from Other Provinces

British Columbia
Safety Services Branch - Information Bulletin
Question 3: Can I use perforated pipe below the air barrier system?
Answer: Yes, you may have multiple inlets on the same radon vent pipe and the perforations act as inlets. The material that serves as the gas permeable layer should project beyond the perforations to facilitate effective depressurization. The pipe must be sealed where it penetrates the air barrier system to maintain its integrity and must be air tight from that joint until termination.
Universal Toilet Rooms

Question?
Can a designer classify a universal toilet room as a “gender neutral washroom”? With Bill C-279 “An Act to amend the Canadian Human Rights Act and the Criminal Code (gender identity)” being reviewed in the House of Commons, this question may become very realistic for both new and retro-fit situations.

Universal toilet rooms are permitted to act as gender neutral washrooms when they provide the only washroom facilities for a space, therefore it would seem appropriate that a building such as a school, could also provide gender neutral universal toilet rooms as long as the number of required barrier-free washrooms for each sex is not decreased. For example, a universal toilet room could not be counted as both a female and a male washroom facility.

Background Information:
2014 Alberta Building Code requirements
3.7.2.2. Water Closets
1) Except as permitted by Sentence (4), water closets shall be provided for each sex assuming that the occupant load is equally divided between males and females, unless the proportion of each sex expected in the building can be determined with reasonable accuracy. (See Appendix A.)

2) If a single universal toilet room is provided in accordance with the requirements of Section 3.8., the total number of persons in the building used to determine the number of water closets to be provided, is permitted to be reduced by 10 before applying Sentences (6), (7), (8), (12), (13) or (14).

3) Except as permitted by Sentence (2), if only one universal toilet room is provided in accordance with Section 3.8., the water closet in this room shall not be taken into consideration in determining the number of water closets required by this Article, unless a single water closet is permitted in accordance with Sentence (4).
Water Supply for Firefighting

Question?
1. When a building is built and ABC 3.2.5.7. is used, specifically sentence (4), the amount of water is less than if the formula is used. Has there been an analysis to confirm if this 25% is equal to, less than or greater than the hand line allotment under NFPA 13?

Compliance under the ABC would be under Article 3.2.5.7. for an un sprinklered building or with NFPA 13, per the designated hazard classifications, for a sprinklered building. It must be noted that these are minimums and assume that the firefighting assumptions in the ABC have been met. If the AHJ thinks these assumptions have not been met then they are within their right to request additional items to reach that level. This requires the Building and Fire SCO's and the operations side of the FD to be on the same page prior to construction.

Background Information:
A-3.2.5.7. Water Supply.
The intent of Article 3.2.5.7. is that an adequate water supply for firefighting be readily available and of sufficient volume and pressure to enable emergency response personnel to control fire growth so as to enable the safe evacuation of occupants and the conduct of search and rescue operations, prevent the fire from spreading to adjacent buildings, and provide a limited measure of property protection......
The water supply requirements for buildings containing internal fire suppression systems, including sprinkler systems and standpipe systems, are contained in specific standards referenced in Sentences (3) and (4). Compliance with the referenced standard, including any variations made by this Code, is deemed to satisfy the intent of Article 3.2.5.7. However, it will be necessary to verify that an adequate source of water is available at the building site to meet the required quantities and pressures. While NFPA 13 and 13R are explicitly referenced in Sentence (4), NFPA 13D, “Installation of Sprinkler Systems in One- and Two-Family Dwellings and Manufactured Homes,” has been excluded and does not satisfy the intent of this Article......

2. When fire flow requirements and water supply are established, what is permitted for fire department access to this water source?
Within Article 3.2.5.6. of the Alberta Building Code, a list of requirements for fire department access routes is provided. The Building Inspector should be reviewing the site plans to confirm that the proposed access route meets these requirements.

Confirmation of the roads ability to carry the loads of the fire departments heaviest
apparatus should be provided by the professional. The local Fire Department should be included in the review of the information at the time of plans review, so that accurate apparatus weight information is discussed between all parties.

If additional apparatus are required to provide water supply for the sprinkler systems through the fire department connection, this pumper vehicle must be within 45 m of the building.

Background Information:
2014 Alberta Building Code requirements
3.2.5.6. Access Route Design
1) A portion of a roadway or yard provided as a required access route for fire department use shall
a) have a clear width not less than 6 m, unless it can be shown that lesser widths are satisfactory,
b) have a centre line radius not less than 12 m, 
c) have an overhead clearance not less than 5 m, 
d) have a change of gradient not more than 1 in 12.5 over a minimum distance of 15 m,  
e) be designed to support the expected loads imposed by firefighting equipment and be surfaced with concrete, asphalt or other material designed to permit accessibility under all climatic conditions,
f) have turnaround facilities for any dead-end portion of the access route more than 90 m long, and 
g) be connected with a public thoroughfare. (See Appendix A.)

A-3.2.5.6.(1) Fire Department Access Route. The design and construction of fire department access routes involves the consideration of many variables, some of which are specified in the requirements in the Code. All these variables should be considered in relation to the type and size of fire department vehicles available in the municipality or area where the building will be constructed. It is appropriate, therefore, that the local fire department be consulted prior to the design and construction of access routes.

1995 NBC User’s Guide
Access to a sprinklered building is much less stringent than that required to a building that is not sprinklered. Access to the principal entrance and to fire department connections satisfies Part 3. This provides opportunities for greater utilization of a building site because only one face of the building needs to be provided with access from adjacent roads.

The NBC 1995 also provides details on access routes for a second type of fire department vehicle, which is essential in all firefighting operations – the pumper. This vehicle is used to boost the available water supply by drawing from a water source, usually a hydrant, and pumping either directly through hose lines into the fire or into a fire department connection, which in turn feeds standpipes or automatic sprinklers within the building. The pumper need not be located immediately next to the building to accomplish this task. However, it must be within 45m to reduce friction loss in hoses and to keep the travel distances for the fire fighter at an acceptable working distance.
**NECB and ABC 9.36**

**Question?**  
**NECB and ABC 9.36 Energy Code Applications.**

1. **Is there a format for approvals and appeals process?**  
AMA, with the assistance of the Training Department at the Safety Codes Council, is currently reviewing what impacts implementation of the NECB will have on SCO's. Further information will be provided as soon as it is available.

2. **How do SCO’s confirm the building will meet and has met the NECB or ABC 9.36?**  
AMA, with the assistance of the Training Department at the Safety Codes Council, is currently reviewing what impacts implementation of the NECB will have on SCO’s. Further information will be provided as soon as it is available.

For Part 9 buildings meeting the prescriptive requirements of ABC 9.36, information on the construction of walls, roofs, floors etc. should be provided on the plans with confirmation of the applicable RSI or U-Value for the assembly. Building inspectors reviewing buildings constructed under ABC 9.36 can refer to a link provided by the Canadian Wood Council for wall assembly types, and the associated RSI values as a quick reference.

Wall thermal design calculator:  
[http://owc.ca/resources/wall-thermal-design/](http://owc.ca/resources/wall-thermal-design/)

Effective thermal resistance calculator:  
[http://insulation.owenscorning.ca/builders/calculators/thermal-project-calculator/](http://insulation.owenscorning.ca/builders/calculators/thermal-project-calculator/)

3. **How and when will there be training and certification?**  
The Safety Codes Council Training Department is currently working on training for the Energy Codes. Further information on training opportunities will be provided by the Council as soon as it is available.

4. **Will there be a charge and who will pay for it? Most budgets have been set for 2016 and there is little flexibility in Municipal Budgets.**  
Conformance to the NECB and ABC 9.36 is required under the SCA legislation. The design of these requirements falls under the scope of the building permit application. Additional fees are not required for this portion of the design.
5. If the workload of SCO's is added to, this can only be covered by an increase in Permit Fees. Is the Safety Codes Council going to assist Safety Codes Officers that will have to go to their Elected Representatives to justify an increase in fees at this time?

Permit fees are not specifically determined by the workload that is required to be completed by the SCO. A small deck permit may not generate revenue exceeding that of the permit fee, yet larger buildings typically generate excessive revenue which far exceeds that of the time associated for the work completed by the SCO. Permit fees have typically balanced themselves out, and should continue to do so with the adoption of the Energy Codes.

**Background Information:**

**2011 NECB and**

**1.1.2. Compliance**

**1.1.2.1. Prescriptive, Trade-Off, or Performance Compliance**

1) Buildings shall comply with
a) the prescriptive or trade-off requirements stated in Parts 3 to 7, or
b) the performance requirements stated in Part 8.

**ABC 9.36**

**9.36.1.3. Compliance and Application** (See Appendix A.)

1) Except as provided in Sentences (2) to (5), buildings shall comply with
a) the prescriptive or trade-off requirements in Subsections 9.36.2. tc 9.36.4.,
b) the performance requirements in Subsection 9.36.5., or
c) the NECB.

**Additional Reference Information**

**CHBA**

Link to the 2012 CHBA Webinar of 24 January 2012 on the NBC Part 9 Energy Efficiency Requirements:

Comparison between 2014 ABC Section 9.36 Prescriptive Requirements and Previous Requirements
- Without HRV Installation – 5000 – 5999 Heating Degree Days

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PART 9 ENERGY EFFICIENCY AND VENTILATION REQUIREMENTS
(For Single and Two Family Dwellings)

British Columbia's commitment to reduce greenhouse gases related to buildings and construction has prompted building code requirements for energy efficiency since 2008. Effective December 19, 2014, substantial new energy efficiency and ventilation requirements in the BC Building Code apply to all Part 9 buildings. This guide has been prepared to summarize the relevant code changes and clarify building permit drawing submissions for single and two family dwellings.

General Information

The BC Building Code contains the acceptable solutions, objectives, and functional statements attributed to energy efficiency and ventilation. It is strongly recommended that designers and builders incorporate energy efficiency and ventilation considerations early in the design process, as well as collaborate with the various trades throughout the construction process, in order to achieve the greatest degree of flexibility and compliance. Building permits for single and two family dwellings, applied on or after December 19, 2014, must comply with the new requirements.

Energy Efficiency Requirements (Section 9.36)

The new energy efficiency provisions treat the building as an interconnected system and provide three compliance pathways for buildings within the scope of this bulletin. Compliance can be achieved through the prescriptive path, the performance path, or the National Energy Code of Canada for Buildings (NECB) path. Most single and two family dwellings will likely utilize the prescriptive path. Climatic zones have been established in order to set the applicable requirements, and Surrey is located in Climate Zone 4 for all compliance paths. Part 3 single family dwellings must comply with ASHRAE 90.1-2010 or NECB 2011, although alternative solution proposals may be considered.
Prescriptive Path (Subsections 9.36.2 to 9.36.4)

The prescriptive requirements address building envelope assemblies in terms of effective thermal resistance and air leakage, and address heating, ventilating, and air-conditioning (HVAC) equipment and service water heating in terms of energy use efficiency. There are also trade-off options within each applicable Subsection. In order to apply these requirements appropriately within the building, the envelope assemblies have been grouped into three categories:

- Above-ground opaque assemblies,
- Fenestration and door assemblies, and
- Below-grade or in contact with the ground assemblies.

Attached garages are considered as unconditioned space even if insulated and heated. The use of a heat recovery ventilator (HRV) can be another factor in determining the requirements, although this does not affect Climate Zone 4.

For the building envelope requirements in Subsection 9.36.2, the minimum effective insulation requirements for various building elements are highlighted below. It is important to note that these are calculated values based on the thermal attributes of the assembly components, not nominal insulation values.
The air barrier considerations at various building locations are highlighted below. The air barrier must be continuous across joints, between assemblies, and around penetrations.

For more information and details on the above figures, refer to HPO Illustrated Guide: Energy Efficiency Requirements for Houses in British Columbia (Climate Zone 4).

The HVAC requirements in Subsection 9.36.3 are concerned with energy use efficiency by systems and equipment used for heating, ventilating, and air-conditioning. The major thrust of these requirements is improved energy efficiency through improved performance targets and standards, temperature control, heat recovery from ventilation systems, and heat recovery from dehumidification systems for spaces with indoor pools and hot tubs. Unless required to be located outside, HVAC equipment must be located inside the plane of insulation.

Similarly, the service water heating requirements in Subsection 9.36.4 are concerned with energy use efficiency by systems used to heat service water for household use and for indoor pools and hot tubs. The major thrust of these requirements is improved energy efficiency through improved performance targets and standards, and control of the equipment.

**Performance Path (Subsection 9.36.5)**

For the performance compliance path, energy model calculations are required to demonstrate that the proposed building’s energy consumption does not exceed that of a reference building, under the same conditions. The reference building is one that exactly complies with the prescriptive requirements.

**NECB Path**

NECB is a Canadian standard for energy efficiency in buildings, providing minimum requirements for building envelope, lighting, HVAC, service water heating, and electric power distribution. Compliance options within NECB also include prescriptive requirements, trade-offs, and energy-usage based modelling.
Ventilation Requirements (Section 9.32)

Significant refinements to the existing requirements for mechanical ventilation systems have been introduced in this Section for dwelling units. Dwelling units require a mechanical ventilation system that includes:

- A principal ventilation system that provides supply air and includes an exhaust fan,
- Kitchen and bathroom exhaust fans, and
- If the building has a heated crawl space, components to integrate ventilation of the crawl space and the space above or beside it.

Some of the new concepts are the requirements for heat-recovery systems and ducted central-recirculation ventilation systems in which air is supplied to or exhausted from each bedroom in the building. For more information, refer to Information Bulletin No. B4-05 issued by the Building and Safety Standards Branch, which also includes examples of code compliant ventilation systems.

Building Permit Application

In general, the building permit drawings should include sufficient information and details to demonstrate energy efficiency and ventilation compliance, including:

- Energy efficiency compliance path used, including any trade-offs.
- Wall and floor section details, including effective insulation value calculations, for all applicable building assemblies.
- Window and door section details, including overall U-value calculations, for all fenestration, doors, and skylights.
- Assembly details to indicate location of air barrier in walls, floors, and roofs.
- Details of critical assembly junctions to demonstrate the continuity of insulation and air barrier.
- Locations of HRV (if provided), space-heating equipment, and service water heating equipment.
- Performance rating and energy source for all space-heating, space-cooling, and service water heating systems.
- If trade-offs are utilized within the prescriptive path, applicable documentation to be provided.
- If the performance path is utilized, documentation outlined in Subsection 2.2.8 (Division C of BCBC 2012) to be provided, including a house performance compliance calculation report.
- If the NECB path is utilized, documentation outlined in Article 2.2.2.8 (Division C of NECB 2011) to be provided, including a building performance compliance calculation report.

Please refer to the attached sample drawings and calculations for the minimum required information to be shown on building permit drawings.
Heat Recovery Ventilator Certification

Question?
What type of certification does a Heat Recovery Ventilator (HRV) require? Are passive HRV’s tied into the furnace fan as the blower acceptable.
Under 9.32.3.10.(1) the air flow of an HRV must be tested and conform to the requirements of the CAN/CSA-C439 standard.

With HRV’s being a highly promoted option under ABC 9.36, ensuring certified units are being installed will become important for SCO’s to confirm. There are manufacturers who have designed versions of HRV’s without the internal fans who will be asking for approvals for their products.

Approvals for products not tested in conformance with the CSA-C439 standard can only be approved through an alternative solution proposal, and must still provide imperial data that they can meet the intent of the ABC requirements.

Background Information:

Heat-recovery ventilator (HRV)
A factory-assembled packaged unit including fans or blowers that transfers heat between two isolated airstreams.

2010 NBC Intent Statements

Intent 1:
To limit the probability that the performance of heat recovery ventilators will fall significantly below expectations, which could lead to inadequate ventilation.

This is to limit the probability of the inadequate control of:

- airborne pollutants,
- oxygen and other components necessary for breathable air, or
- relative humidity and indoor air temperatures.

This is to limit the probability of:

- negative effects on the air quality of indoor spaces, or
- the inadequate thermal comfort of persons.

This is to limit the probability of harm to persons.

2014 Alberta Building Code requirements
9.36.3.9. Heat Recovery from Ventilation Systems
1) This Article applies where a self-contained mechanical ventilation system is installed whose principal exhaust component is equipped with heat-recovery capability. (See Appendix A.)
2) Where an integrated mechanical system (IMS) with a heat-recovery ventilator provides the principal exhaust ventilation, the IMS shall
   a) be tested in accordance with CSA P.10, “Performance of Integrated Mechanical Systems for Residential Heating and Ventilation,” and
   b) have a minimum overall thermal performance factor conforming to Table 9.36.3.10.

3) When tested in conformance with the low-temperature thermal and ventilation test methods described in CAN/CSA-C439, “Rating the Performance of Heat/Energy-Recovery Ventilators,” heat-recovery ventilators described in Sentence (1) shall have a sensible heat-recovery efficiency of
   a) at least 60% at an outside air test temperature of 0°C for locations with a 2.5% January design temperature greater than or equal to −10°C, and
   b) at least 60% at an outside air test temperature of 0°C and at least 55% at an outside air test temperature of −25°C for locations with a 2.5% January design temperature less than −10°C. (See Appendix A.)

4) The requirements of Sentence (3) shall be met using a principal ventilation rate not less than that required in Section 9.32. (See A-9.36.3.9.(3) in Appendix A.)

9.32.3.10. Fans
1) Except as provided in Sentence (4), capacity ratings for required fans shall be determined in accordance with
   a) CAN/CSA-C260-M, “Rating the Performance of Residential Mechanical Ventilating Equipment,” or
   b) HVI Publication 916, “Airflow Test Procedure.”

4) Fans in heat recovery ventilators used to provide one or more required fans shall have their airflow at normal temperature rated in accordance with CAN/CSA-C439, “Rating the Performance of Heat/Energy-Recovery Ventilators.”

A-9.36.3.9.(3) Efficiency of Heat-Recovery Ventilators (HRVs). HRVs are required to be tested in conformance with CAN/CSA-C439, “Rating the Performance of Heat/Energy-Recovery Ventilators,” under different conditions to obtain a rating: to be rated for colder locations, HRVs must be tested at two different temperatures, as stated in Clause 9.36.3.9.(3)(b), whereas their rating for locations in mild climates relies only on the 0°C test temperature, as stated in Clause 9.36.3.9.(3)(a).

The performance of an HRV product and its compliance with Sentence 9.36.3.9.(3) can be verified using the sensible heat recovery at the 0°C and/or −25°C test station (i.e., location where the temperature is measured) published in the manufacturer’s literature or in product directories, such as HVI’s Certified Home Ventilating Products Directory.

The rating of HRVs also depends on the flow rate used during testing. Therefore, the minimum flow
rate required in Section 9.32. needs to be taken into consideration when selecting an HRV product.

**2010 NBC User’s Guide**

**9.32.3.10 Fans**

This article provides a standard means for rating the air-moving capacity and sound rating of fans, blowers and other ventilating equipment. A second purpose is to restrict the level of noise generation of air-moving equipment so that it does not cause undue annoyance to the occupants. Air flow capacity ratings must be based on a static pressure differential as indicated in NBC Table 9.32.3.10.A.

Heat recovery ventilators used to provide one or more of the required fans must be rated in accordance with CAN/CSA-C439-09, “Rating the Performance of Heat/Energy-Recovery Ventilators.”

The principal ventilation fan is intended to be capable of running for long periods. Even the supplemental exhaust fans may be used for significant periods. Therefore, all fans that are mounted such that their sound is likely to intrude on the household, other than kitchen exhaust fans, are required to have reasonably low sound ratings so that building occupants will not turn them off before the need for ventilation has been met.


**More Information on HRV’s**

National Research council


HVI Certification

Building Collapse / Failures

Question?
Who should owners be providing information to when they have a building failure or collapse?
There has been a wording change within the 2014 ABC which specifically states that the Authority Having Jurisdiction must be notified when a building failure or collapse occurs.

The previous Notice “Building Collapse Reporting” which was advertised in 2011 and 2014, refers to the previous Code requirements.

Background Information:
2014 Alberta Building Code requirements
2.2.16. Building Failures
2.2.16.1. Reporting Failures
1) Except as required by Sentence (2), if a failure occurs in a building regulated by this Code that causes, or has the potential to cause, injury or loss of life, the owner shall submit a report to the authority having jurisdiction, and if requested, to the Chief Building Administrator, that includes
   a) the name and address of the owner of the building,
   b) the name and address of the building involved in the failure,
   c) the name and address of the constructor or the person who supervised the construction of the building,
   d) the nature of the failure, and
   e) a description of the remedial action that is being undertaken.

2) If a structural collapse occurs in a building regulated by this Code, the owner shall submit a report to the Chief Building Administrator and the authority having jurisdiction that includes
   a) the name and address of the owner of the building,
   b) the name and address of the building,
   c) if involved, the name and address of
      i) the registered architectural professional who designed the building,
      ii) the registered engineering professional who designed the structure of the building,
      iii) the registered engineering professional who reviewed the construction of the building,
      and
      iv) the constructor who supervised the construction of the building,
   d) the nature of the structural collapse, and
   e) a description of the remedial action that is being undertaken.
NOTICE

Building Collapse Reporting

Excessive snowfall this winter has resulted in an increasing number of structural collapses (such as full or partial roof collapses) in buildings across the province. The owner of a building that has experienced a structural collapse is required to submit a report to the Chief Building Administrator for the Province of Alberta on the nature of the collapse and remedial action for building safety as described in the 2006 Alberta Building Code.

Municipalities and other authorities that administer the Safety Codes Act are advised to have their building safety codes officer notify the building owner to submit a report to the Chief Building Administrator if a collapse has taken place.

All reports should be submitted to the following address:
Alberta Municipal Affairs, Safety Services
16th Floor, Commerce Place
10155 – 102 Street
Edmonton, Alberta T5J 4L4
Attention: Chief Building Administrator

1. During the construction, alteration or demolition of any building, including an incomplete or abandoned building, building owners are responsible to take precautions to ensure that no person is exposed to undue risk in accordance with Sentence 8.1.2.2.(1) of Division B of the Alberta Building Code 2006;
2. obtain a building permit from the Authority Having Jurisdiction prior to construction, alteration or demolition including for the removal of construction debris;
3. comply with the Safety Codes Act and all other applicable regulations for safety of persons and property.

The report submitted to Alberta Municipal Affairs shall include information described in Sentence 2.2.15.1.(2) of Division C of the Alberta Building Code 2006, which states:

2.2.15. Building Failures

2.2.15.1. Reporting Failures

... 2) If a structural collapse occurs in a building regulated by this Code, the owner shall submit a report to the Chief Building Administrator that includes
a) the name and address of the owner of the building,
b) the name and address of the building,
c) if involved, the name and address of
   i) the registered architect who designed the building,
   ii) the professional engineer who designed the structure of the building,
   iii) the professional engineer who reviewed the construction of the building, and
   iv) the constructor who supervised the construction of the building,
d) the nature of the structural collapse, and
e) a description of the remedial action that is being undertaken.

February 18, 2011

For more information, please call 1-866-421-6929 or visit www.municipalaffairs.alberta.ca.
ISBN #978-0-7785-7123-0
Micro-Breweries

Question?
Can a distillery be classified as an occupancy other than an F1, if it is not listed in any other classification group?

Although distilleries are listed as an F1- High Hazard Occupancy, the specific use of the building can be looked at to determine if other classifications can be permitted.

An alternative solution can be proposed by a professional, by demonstrating that the F1 classification, and the high level of combustible and flammable or explosive materials which are inherent in these classifications, will not be part of the design in the building in question.

If the alternative solution proposal can show through imperial data, that the levels of combustible or flammable materials do not exceed that of a medium hazard or a low hazard classification, it could be reasonable to permit an F2 or even an A2 building classification.

Background Information:
2014 Alberta Building Code requirements

Group F, Division 1
Bulk plants for flammable liquids
Bulk storage warehouses for hazardous substances
Cereal mills
Chemical manufacturing or processing plants
Distilleries
Dry cleaning plants
Feed mills
Flour mills
Grain elevators
Lacquer factories
Mattress factories
Paint, varnish and pyroxylin product factories
Rubber processing plants
Spray painting operations
Waste paper processing plants
underneath the air barrier). The arrangement and location of the extraction system inlet(s) may have design implications where the footing layout separates part of the space underneath the floor.

1.4.1.2. Defined Terms
High-hazard industrial occupancy (Group F, Division 1) means an industrial occupancy containing sufficient quantities of highly combustible and flammable or explosive
materials which, because of their inherent characteristics, constitute a special fire hazard.

Medium-hazard industrial occupancy (Group F, Division 2) means an industrial occupancy in which the combustible content is more than 50 kg/m² or 1 200 MJ/m² of floor area and not classified as a high-hazard industrial occupancy.

Low-hazard industrial occupancy (Group F, Division 3) means an industrial occupancy in which the combustible content is not more than 50 kg/m² or 1 200 MJ/m² of floor area.
Screw Piles

Question?
What information should be provided to the AHJ when screw piles are being used as the foundation support for the structure?
The requirements for screw pile installations are not found within Part 9. Steel pile design requirements are found within Part 4. The design for a screw pile foundation must be based on a subsurface investigation. Drawings and field reviews must be completed by the designer (a registered engineering professional) or another suitable qualified person.

SCO’s must ask for designs specifying the installation requirements for each screw pile, and confirmation for each unit following the installation from the designer/suitable qualified person.

Background Information:
2014 Alberta Building Code requirements
4.2.2.1. Subsurface Investigation
1) A subsurface investigation, including groundwater conditions, shall be carried out by or under the direction of a registered engineering professional having knowledge and experience in planning and executing such investigations to a degree appropriate for the building and its use, the ground and the surrounding site conditions.

4.2.2.2. Drawings
1) Drawings associated with foundations and excavations shall conform to the appropriate requirements of Section 2.2. of Division C. (See Article 2.2.4.6. of Division C.)

4.2.2.3. Field Review
1) A field review shall be carried out by the designer or by another suitably qualified person to ascertain that the subsurface conditions are consistent with the design and that construction is carried out in accordance with the design and good engineering practice. (See Appendix A.)

A-4.2.2.3.(1) Responsibilities of the Designer as Defined in Part 4. In certain situations, such as when the design is highly technical, it may be necessary for the “other suitably qualified person” to be someone responsible to the designer. In such cases the authority having jurisdiction may wish to order that the review be done by the designer.

Section 9.15. Footings and Foundations
4.2.3.8. Steel Piles
1) Where steel piles are used in deep foundations and act as permanent load-carrying members, the steel shall conform with one of the following standards:
a) ASTM A 252, “Welded and Seamless Steel Pipe Piles,”
b) ASTM A 283/A 283M, “Low and Intermediate Tensile Strength Carbon Steel Plates,”
c) ASTM A 1008/A 1008M, "Steel, Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, Solution Hardened, and Bake Hardenable,"

d) ASTM A 1011/A 1011M, "Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, and Ultra-High Strength," or
e) CSA G40.21, "Structural Quality Steel."

2.2.4.6. Information Required on Foundation Drawings

1) Foundation drawings submitted with the application to build or excavate shall be provided to indicate
   a) the type and condition of the soil or rock, as well as the groundwater conditions, as determined by the subsurface investigation,
   b) the factored bearing pressures on the soil or rock, the factored loads when applicable and the design loads applied to foundation units, and
   c) the earth pressures and other loads applied to the supporting structures of supported excavations.

2) When required, evidence that justifies the information on the drawings shall be submitted with the application to excavate or build.

4.2.4. Design Requirements

4.2.4.1. Design Basis

1) The design of foundations, excavations and soil- and rock-retaining structures shall be based on a subsurface investigation carried out in conformance with the requirements of this Section, and on any of the following, as appropriate:
   a) application of generally accepted geotechnical and civil engineering principles by a registered engineering professional especially qualified in this field of work, as provided in this Section and other Sections of Part 4,
   b) established local practice, where such practice includes successful experience both with soils and rocks of similar type and condition and with a foundation or excavation of similar type, construction method, size and depth, or
   c) in situ testing of foundation units, such as the load testing of piles, anchors or footings, carried out by a person competent in this field of work. (See Appendix A.)