

## Smoke and Carbon Monoxide Alarms Upgrade Requirements for Single and Two Family Dwellings

The purpose of this bulletin is to clarify the upgrade requirements for smoke and carbon monoxide alarms for single and two family dwellings.

*"This information is provided for convenience only and is not in substitution of applicable City Bylaws or Provincial or Federal Codes or laws. You must satisfy yourself that any existing or proposed construction or other works complies with such Bylaws, Codes or other laws."*

### ***Other Brochures Related to This Topic***

- [Smoke Alarms](#)
- [Carbon Monoxide Alarms](#)

Residential dwelling units that were built prior to 1979 March 31 are required by the BC Fire Code to have battery operated smoke alarms between sleeping areas and the remainder of the dwelling. If the sleeping areas are served by hallways the smoke alarms shall be installed in the hallways.

Homes that were built after 1979 March 31 are required to have interconnected wired-in-place smoke alarms.

2006 BC Building Code introduced the requirements for battery operated carbon monoxide alarms in homes that contain a fuel-burning appliance or a storage garage.

If a single family dwelling or a two family dwelling is being renovated they shall be upgraded as per the following.

# Current Code Requirements

## Smoke Alarms

The current B.C. Building Code requires that at least one smoke alarm shall be installed:

- on each floor level without sleeping room
- inside each sleeping room
- between sleeping room and the remainder of the storey
- in a hallway serving sleeping rooms

Homes with secondary suites shall have all the required smoke alarms interconnected within the principal dwelling and within the secondary suite

In addition to the required smoke alarms one additional photoelectric smoke alarm is required in the principal dwelling and one in secondary suite and they shall be interconnected if the fire separations between the principal dwelling and the secondary suite has only 30 minutes fire-resistance rating.

All smoke alarms must be:

- wired so that the activation of one alarm will cause all alarms within the dwelling unit or within the secondary suite to sound.
- fed from a lighting circuit or a circuit that supplies a mix of lighting and receptacles. This circuit cannot be protected by a GFCI or AFCI.
- provided with a battery as an alternative power source that can continue to provide power to the smoke alarm for a period of no less than 7 days in the normal condition, followed by 4 minutes of alarm
- incorporated within the circuitry a manually operated device (hush button) so that the signal emitted by the smoke alarm can be silenced for a period of not more than 10 min, after which the smoke alarm will reset and sound again if the level of smoke in the vicinity is sufficient to re-actuate it

Please refer to our [Smoke Alarms](#) brochure for more information.

## Carbon Monoxide Alarms

The current B.C. Building Code also requires homes with a fuel-burning appliance or a storage garage to have battery operated carbon monoxide alarms:

- inside each bedroom, or
- outside each bedroom, within 5 m of each bedroom door

Please refer to our [Carbon Monoxide Alarms](#) brochure for more information.

# Upgrade of Existing homes

The following provide the criteria that trigger an upgrade of smoke and carbon monoxide alarms throughout the existing homes to comply with the current BC Building Code by installing hardwired and interconnected smoke alarms with battery back-up in locations specified by the current BC Building Code. Hardwired but wireless interconnected smoke alarms are also acceptable.

- Minor renovations, including but are not limited to adding a bathroom, closet or window; and exterior work such as deck, do not require additional smoke alarms and do not trigger an upgrade; however,
  - according the Fire Code homes built prior to 1979 March 31 shall have battery-operated smoke alarms between sleeping rooms and the remainder of the home. If the sleeping rooms are served by hallways the smoke alarms shall be installed in the hallways.
  - homes built after 1979 March 31 should already have interconnected wired-in-place smoke alarms in locations mentioned above.

- Renovation requires additional smoke alarm(s)

Examples of such renovations include but not limited to finishing a basement or adding a bedroom within an existing space.

- Any size of addition
- Substantial electrical upgrade (from 200 A to 400 A) or re-wire
- Adding a fuel-burning appliance such as gas fireplace and gas stove
- Change of use (child care, bed and breakfast, boarding, etc.)
- Homes contain secondary suites with a smoke separation consists of just ½” drywall between the principal dwelling and the secondary suite shall have all smoke alarms interconnected so that activation of any one of the smoke alarms will sound all the smoke alarms throughout the entire home.

Working smoke and carbon monoxide alarms save lives. Even if there is no renovation it is highly recommended that you upgrade your home by installing smoke and carbon monoxide alarms as per the current BC Building Code.

## Further Information

If you have any questions, please contact the Building Department at 604-294-7130.

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