

# Basement/lower level development

## Construction information



## Permit requirements

Basement/lower level development may need permits.

For information about development permit requirements and exemptions, visit [winnipeg.ca/developmentpermits](http://winnipeg.ca/developmentpermits).

If you are adding rooms, bedrooms and creating living spaces, a building permit is needed. A building permit confirms the structure meets code requirements. It must match prior development permit approvals or applications.

Cosmetic changes, such as painting, flooring, millwork, etc. don't need a building permit.

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# Construction information

## Ceiling height

The minimum room heights, measured from the finished floor to the ceiling surface, are shown in **Table 1**.

**Table 1 - Room heights**

Room or space	Minimum heights	Minimum area over which minimum height must be provided (1)(2)
Bedroom or sleeping area	2.1 m (6'-11")	Lesser of the area of the space or 3.5 m <sup>2</sup> (38 sq. ft.)
Unfinished basement including laundry area therein	2 m (6'-7")	Area under beams in laundry areas and in any location that would normally be used for passage to laundry and storage areas.
Bathroom, water-closet room	2.1 m (6'-11")	Lesser of the area of the space or 2.2 m <sup>2</sup> (24 sq. ft.)
Passage, hall (3) and finished rooms not specifically mentioned above	2.1 m (6'-11")	Area of the space

### Notes to Table 1:

1. Areas in rooms or spaces over which ceiling height is not less than the minimum specified in Table 1 must be contiguous with the entry or entries to those rooms or spaces.
2. Area of the space must be measured at floor level.
3. Hallways must have a width of at least 860 mm (2'-10").

## Doors

The only required door in a lower level development is at the entrance to any room containing a toilet. Although other doors are not required by code, they must be of a minimum size when swinging, sliding and folding doors are installed as shown in **Table 2**.

**Table 2 - Door Sizes**

Door at entrance to:	Minimum Widths	Minimum Heights
Main bathroom	760 mm (2'-6")	1980 mm (6'-6")
Other bathroom(s)	610 mm (2'-0")	1980 mm (6'-6")
Bedroom(s)	760 mm (2'-6")	1980 mm (6'-6")
Walk-in closet(s)	610 mm (2'-0")	1980 mm (6'-6")
All other doors	810 mm (2'-8")	1980 mm (6'-6")

## Bedroom windows

Windows must be designed and installed to provide an exit from the bedroom in the event of an emergency where normal exiting is not possible. Having a door in the bedroom that leads directly to the outside negates the requirement for this window.

This window must open from the inside without the use of tools or special knowledge.

The window must provide an unobstructed opening (clear opening to allow for a means of escape) with a minimum area of 0.35 m<sup>2</sup> (3.77 sq. ft.) with no dimension less than 380 mm (1'-3"). See **Figure 1**.

Where a required bedroom window opens into a window-well, a clearance of at least 760 mm (2'-6") must be provided in front of the window. Where the window sash swings toward the window-well, the operation of the sash must not reduce the clearance in a manner that would restrict escape in an emergency.

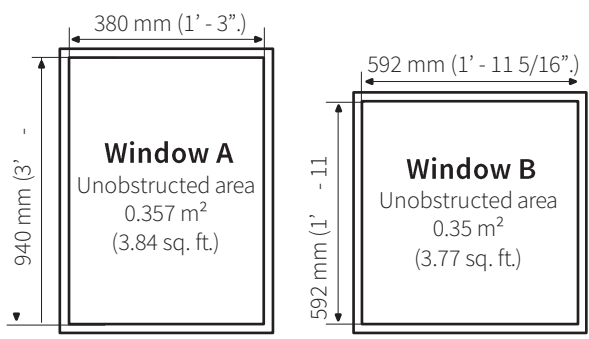
If the existing lower level windows do not meet the required size, they will need to be replaced or the bedroom will not be permitted.

### Figure 1 - Bedroom window sizing

Dimensions to be inside frame to inside frame

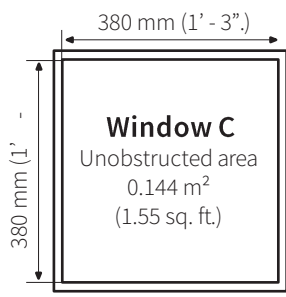
#### Approved

Windows A and B conform to dimensional and area requirements



#### Not approved

Window C conforms with dimensional requirements; does not conform to area requirements



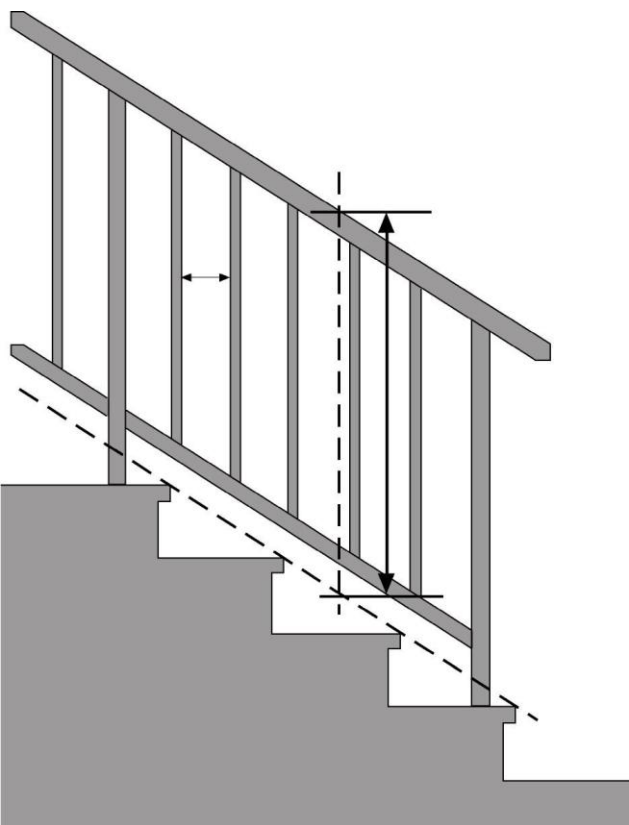
## Stair guards

When an interior stair has more than 2 risers, the sides of the stair and the landing or floor level around the stairwell must be enclosed by walls or be protected by guards.

Guards for stairs within dwellings must be not less than 900 mm (2'-11 1/2") in height (measured vertically above a line drawn through the outside edges of stair nosings) and above landings.

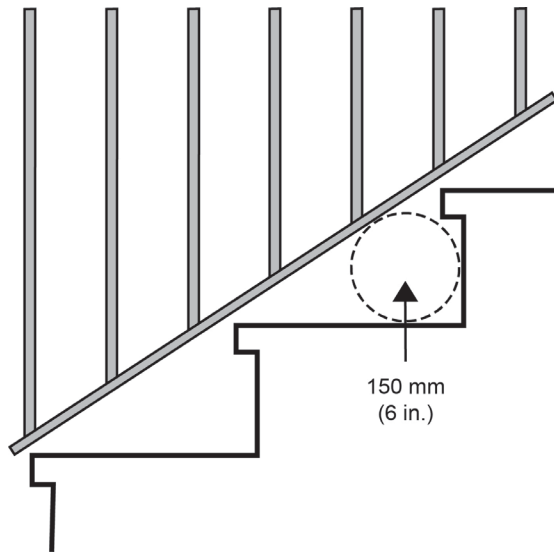
Openings through balusters in guards and handrails must be equal to or less than 100 mm (4 in.) unless it can be shown that the location and size of openings that exceed this limit do not represent a hazard. See **Figure 2**.

### Figure 2 - Guard/handrail



If a guardrail is required, the triangular openings formed by stair risers, stair treads and the bottom of a guardrail shall prevent the passage of a 150 mm (6 in.) diameter sphere. See **Figure 2A**.

**Figure 2A - Stair guardrail detail**



## Handrails

When a stair has more than 2 risers, a handrail must be provided on at least one side of the stair.

Handrails must be not less than 865 mm (2'-10") and not more than 1070 mm (3'-6") in height, measured vertically from a line drawn through the outside edges of the stair nosing.

**Note:** In those cases where a stair requires both a guard and a handrail, a reasonable solution is to provide a guard which also acts as a handrail. See Figure 2.

A clearance of not less than 50 mm (2 in.) must be provided between each handrail and the wall to which it is fastened.

Handrails must not project more than 100 mm (4 in.) into the required width of a stairway.

Handrails must be constructed to be continually graspable along their entire length with no obstruction on or above them to break a handhold throughout a flight of stairs, from the bottom riser to the top riser.

Handrails must be attached to wood studs, solid blocking, steel studs or masonry at points spaced not

more than 1200 mm (4'-0") apart, measured on the horizontal plane, by means of not less than 2 wood screws at each point, penetrating not less than 32 mm (1 ¼ in.) into backing material. The first attachment point shall be no more than 300 mm (12 in.) from either end.

## Smoke and carbon monoxide alarms

Smoke alarms must be installed on or near the ceiling in each dwelling, and there must be at least one smoke alarm on each floor level, including lower levels and one in each bedroom.

Where a dwelling contains a fuel burning appliance (e.g. gas furnace, fireplace, wood stove, gas hot water tank, gas appliance, etc.) or has an attached garage, a carbon monoxide alarm must be installed inside each bedroom or outside of each bedroom within 5 m (16'-0") of the bedroom door, measured following corridors and doorways. Where a dwelling contains a solid fuel burning appliance (e.g. wood fireplace, wood stove), a carbon monoxide alarm is also required within the same room the appliance is installed.

Installers should refer to the manufacturer's installation instructions.

Smoke and carbon monoxide alarms must be interconnected so that the activation of one alarm causes all alarms within the dwelling to sound.

Alarms may be connected to a ground fault circuit interrupter (GFCI) or arc fault circuit interrupter (AFCI) circuit as long as they have battery backup and are not interconnected to a heat sensor.

For existing dwellings that did not require interconnected alarms at the time the house was originally constructed, additional interconnected alarms must be installed on the floor above the lower level.

## Partition walls

It is a recommended practice that all non-loadbearing partition walls in the lower level be constructed as "floating" partitions. In this type of construction, it is recommended that a small space of about 25 mm (1 in.) or more be left at the top or the bottom of each partition wall. The reason for constructing partitions as "floating" is that concrete basement floors can move upward when there is an increase in the moisture

content of the soil. The small spaces at the top or bottom of the partition walls will help to absorb any upward movements of the concrete floor. This could prevent any walls constructed above the concrete floor from being pushed up against the floor joists of the main floor.

The minimum size and spacing of studs for a non-load-bearing partition wall is 38 x 38 mm (2 in. x 2 in.) at 400 mm (16 in.) spacing. The maximum height permitted for this size of stud is 2.4 m (7'-10"). It is strongly recommended that a larger stud size be used to allow the installation of insulation and/or electrical wiring in the wall. Note that all framing must be secured with nails meeting requirements of work being performed or with an approved equivalent.

### Insulation and vapour barrier

Foundation walls enclosing a heated space must have their insulation placed from the underside of the sub-floor to a minimum of 2.4 m (7'-10") below the exterior ground level or to the floor of the space, whichever is less.

The minimum thermal resistance of insulation for lower level foundation walls is RSI-2.8 (R-15.9) if you have a heat recovery ventilator (HRV) or RSI-3.46 (R-19.6) if you do not.

Vapour barriers must be installed on the warm side of the insulation.

6 mil polyethylene sheet vapour barriers are the most common and must conform to CAN/CGSB-51.34-M (vapour barrier, polyethylene sheet for use in building construction) and be labeled as such.

Where foamed plastic is applied on interior walls, it must be protected by any of the approved interior finishes listed in the Manitoba Building Code (MBC) - drywall, plaster, plywood, hardboard, particle board, waferboard, strandboard, or wall tile (plastic or ceramic).

### Ventilation

Ventilation in bathrooms or any rooms containing a toilet must be provided with a fan with a minimum capacity of 25 L/s (50 cfm), mechanically exhausted directly to the outdoors or through an HRV.

Natural ventilation (i.e. an openable window) is considered to be suitable only for summer use and

tends not to be used in winter, therefore it does not mitigate the need for mechanical ventilation.

Also, a return air duct tied into the forced air furnace system must be supplied in every bedroom and one centrally located in the living area.

**Note:** Unprotected openings are not permitted within 1.2 m (4'-0") of the property line, including windows and mechanical services. This can affect exterior exhaust and intake openings.

## Electrical requirements

Electrical work requires a separate electrical permit.

The electrical code requires that where walls are being finished with drywall, wood paneling or like material to within 450 mm (18 in.) of the floor, receptacles must be installed in these walls. In addition, the MBC requires that a lighting outlet be provided in each room. A light in the stairway that is controlled with a 3-way switch located at the top and bottom of the stair on a landing or similar location is also required.

All receptacles in lower level must be combination arc-fault protected with the exception of a bathroom basin receptacle and single sump pump receptacle.

All electrical wiring must be inspected before covering with insulation or wallboard.

Refer to [winnipeg.ca/electricalinstallations](http://winnipeg.ca/electricalinstallations) for more information.

## Plumbing requirements

Plumbing work requires a separate plumbing permit.

An approved backwater valve must be installed to protect all new plumbing branches installed below grade.

Both potable water supply lines and drainage must be kept on the warm side of the insulation and vapour barrier to protect from freezing.

All plumbing waterlines and drainage must be inspected before covering with insulation or wallboard.

Refer to [winnipeg.ca/plumbinginstallations](http://winnipeg.ca/plumbinginstallations) for more information.

# Inspections

The Housing Inspections Branch regulates construction for compliance with applicable codes, standards and bylaws. This monitoring is carried out through the permit approval process and periodic site inspections.

The responsibility for compliance rests with the property owner.

Before covering any new work, you must schedule an inspection by submitting the housing inspection request form at [winnipeg.ca/housinginspection](https://winnipeg.ca/housinginspection).



Commercial Plan Examination Branch

Unit 31 - 30 Fort Street, Winnipeg, Manitoba R3C 4X7 | [winnipeg.ca/buildingdevelopment](https://winnipeg.ca/buildingdevelopment)

Permits Direct Line

204-986-5140 | [ppd-permit@winnipeg.ca](mailto:ppd-permit@winnipeg.ca)

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Every effort has been made to ensure the accuracy of this publication. If there is a discrepancy between this document and the related City of Winnipeg By-law, refer to the bylaw.