National Building Code – 2023 (AE)

Permits for Basement Development

Permits are required when you are developing or renovating your basement!

What do you need to apply for your permits?

1) A completed "Residential Alteration/Improvement Accessory Permit Application" form

This must contain the names of contractors who will be working on your project.

- Contractors must have a current business license with the City of Airdrie.
- Contractors performing HVAC, plumbing, gas and electrical work must hold a valid trade qualification certificate to perform work in these trades.

2) "Basement Development Front Counter Checklist"

3) A floor plan drawing on a scale of not less than 1:100 and legibly drawn showing the information contained on the "Basement Development Front Counter Checklist" See example floor plan on last page. Maximum size of floor plans provided with a Permit Application shall be 8 ½" x 14".

4) Payment - Cash, personal cheque, debit, MasterCard & Visa are accepted.

Note - All forms and checklists available at www.airdrie.ca

Permit Application questions? Contact:

Building Inspections Department: (403) 948-8832 Office Hours: 8:30 am - 4:30 pm

Code questions? Contact an Inspector:

Building, Heating/Ventilation, Electrical, Gas and Plumbing

Email: building.inspections@airdrie.ca Phone: (403) 948-8832

First Inspections - are required prior to covering or concealing the work.

Please note: When booking Inspections online, they are all labeled as "final" This includes rough in inspections.

Framing, HVAC, electrical, plumbing and gas inspections are required same day. Once basement is 100% completed, A Final inspection for electrical is mandatory and a final inspection for building, HVAC, plumbing & gas may also be required depending on scope of work and at the discretion of the Inspectors.

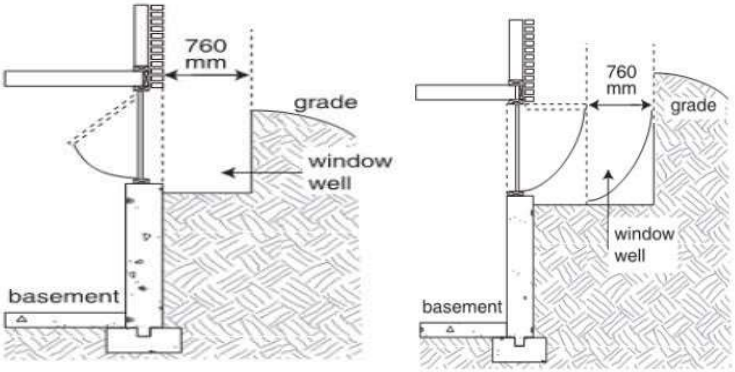
When ready for inspection

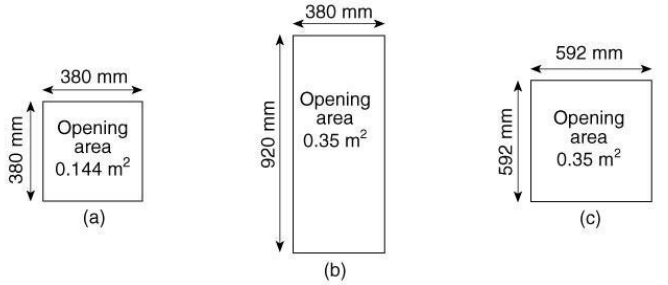
Book online with your MyAirdrie account www.airdrie.ca
Call: 403-948-8832
Email: inspection.requests@airdrie.ca

Common Code Items under National Building Code -2023 (Alberta Edition), Canadian Electrical Code 2021, National Plumbing Code 2020

Bedroom Windows

- Bedroom windows must open for ventilation and emergency exiting.
- Each bedroom must have at least one window that has an opening with an area of at least 3.8 sq.ft. (0.35 m^2) AND the opening cannot have any dimension less than 15" (380 mm).
  • The opening is required to be maintained during an emergency without the need for additional support.
- A minimum 30" (760 mm) clearance is required in front (outside) of bedroom windows with a window well (see drawing below).
- Window must open from the inside without the use of tools or special knowledge. This includes opening of security bars. If security bars are installed they must also be openable from the inside without the use of keys, tools or special knowledge.

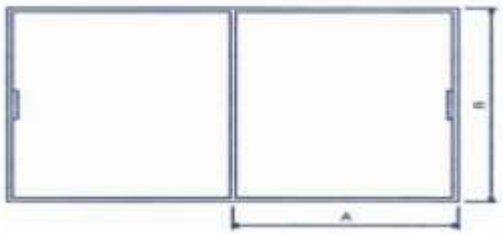




(a) conforms to opening height and width requirements; does not conform to opening area requirements

(b) and (c) conform to height, width and opening area requirements

EG00318B



Slider Type Window

Dimensions A or B cannot be <15" (380 mm) **AND** A x B cannot be < 3.8 sq. ft. (0.35 m²)

Furnace/Utility Room

- Any door leading to a utility room (furnace, hot water tank or laundry room) must be a minimum 32” x 78” door. This 32” width applies to all doors leading to that utility room in the path of travel from the top of the basement stairs to the utility room.
- Minimum clearances are required to be maintained around your furnace room appliances. Check your appliance labels as these clearances will be checked at time of inspection.
- Furnace Disconnect Switch – if the furnace is in an emergency condition, you must be able to shut it down without passing by the furnace. If the panel is behind the furnace, locate the furnace disconnect switch near the furnace room doorway.
- A clear walkway to the gas appliances of 36” is required. A clear path of travel of 29.5” is required to reach the electrical panel.

Heat and ventilation

- A warm air vent must be provided in each finished room that is located adjacent to an outside wall, including washrooms. Warm air vents must be located so at least one exterior wall or window is bathed by warm air. You cannot “tap off (Siamese)” an existing heat duct running to another area of the house, any new ducts must be connected to the main furnace plenum/duct.
- Warm air vents in finished areas must have heat registers with adjustable openings and cannot be located on a furnace plenum.
- The return air system must be designed to handle the entire air supply of the house. This may mean installing a cold air return in each room or leaving adequate gaps below doors.
- Do not locate return air openings within 10 ft (3m) (horizontally) from the furnace and not in an enclosed furnace room, bathroom or laundry room.
- Bathroom and Clothes dryer exhaust shall be located at least 1800mm away from fresh air intakes and vented soffits.

Bathrooms

- The bathroom must have a fan which is vented to the exterior to remove odors and condensation and the switch must be located inside the bathroom. Note newer homes may have an HRV ventilation system for the bathroom. In this case there should be a ventilation duct rough in already nearby for connection to the bathroom when it is developed.
- If bathroom is on exterior wall it requires a source of heat. If an electric baseboard heater or floor heat is installed there still must be provision for ventilation air.
- Bathroom door to be minimum (30”) 760mm

Beams, floor joists and structural components:

- Do not drill or notch beams or engineered joists unless allowed by the manufacturer in the specifications for the specific product.
- Removal or relocation of load bearing walls or teleposts is allowed only with supporting documentation from a structural engineer.

Carbon Monoxide and Smoke Alarms

- A carbon monoxide (CO) alarm is required either within each bedroom or in the hallway serving the bedroom within 5 m of all bedroom doors.
- CO alarm can be 120V or battery powered. “Plug in” CO alarms are not acceptable.
- 120V CO alarms are to be connected to a lighting circuit and must not be on a circuit protected by an AFCI or GFCI.
- CO alarms are to be installed in accordance with the manufacturers’ installation instructions (on or near the ceiling)
- A smoke alarm shall be installed so that there is at least one smoke alarm on each storey, including basements. This alarm is most likely already in place in your basement but may need to be relocated to the hallway between each sleeping room(s) and the remainder of the storey and in close proximity to the stairs

leading to the level above. Smoke alarms in the vicinity of a doorway to a bathroom or laundry room are to be placed not less than 1 m from the centre of the doorway header.

- There must be an additional smoke alarm inside each sleeping room.
- Smoke alarms are to be installed in accordance with the manufacturers' installation instructions. A smoke alarm can be installed on the ceiling (at least 100 mm away from any wall or obstruction) or it can be mounted on a wall with the top edge of the alarm 100 - 300 mm from the ceiling
- Smoke alarms shall be installed by permanent connections to a 120V electrical circuit AND have built-in battery backup.
- Smoke alarms are to be connected to a lighting circuit and must not be on a circuit protected by an AFCI or GFCI.
- Smoke alarms are required to be interconnected. "Smoke alarms shall be wired so that the activation of one alarm will cause all the alarms within the dwelling unit to sound". Because of this interconnection requirement, all alarms must be compatible. They are to be of the same type from the same manufacturer. Note there is no provision to allow "wireless" interconnection of smoke alarms.

Electrical

- The electrical panel requires 1 m clearance in front at all times and cannot be inside a clothes closet or bathroom.
- One circuit may have a maximum of 12 outlets (combination of lights and receptacles).
- Boxes installed on an insulated outside wall must have a vapour barrier hat installed around the box before it is nailed to the stud.
- All junction boxes must remain accessible (do not cover a box with drywall or build it into an inaccessible location).
- Three way switches are required to control the basement stairway lighting in finished basements and are to be located at the head and foot of the stairway.
- Audio cables must be FT1 or FT4 flame spread rated for in-wall use. All communications cables must be separated from power cables by 2" (50mm) throughout (drill separate holes through the studs as well as install separate boxes). T.V., telephone and speaker cables must also be installed prior to inspection.
- Light switches must always be located inside the room in which the light is located. In a bathroom, they are to be at least 500 mm horizontally from the edge of the tub or shower. Switches in a bathroom must be on a GFCI protected circuit when located less than 1 m from the tub or shower.
- All receptacles with 1.5 m of any sink requires GFCI protection unless they are located behind an appliance such as a bar fridge.
- Branch circuits that supply 15 and 20 amp receptacles shall be protected by a combination arc-fault circuit interrupter breaker or an outlet type AFCI device (an outlet type device requires a specific wiring method from the panel to the device). Bathroom GFCI's are excluded.
- All receptacles located < 2m from finished floor to be tamper resistant type.

Method of determining the layout of receptacles in finished walls

Step 1
Identify any unusable wall spaces around the perimeter of the room or area.

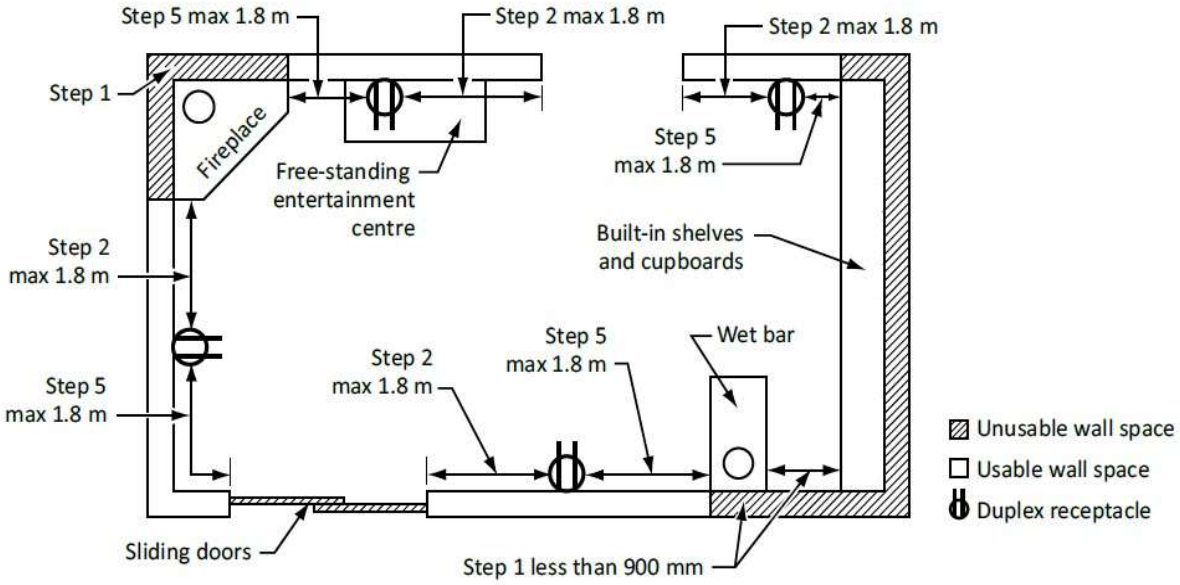
Step 2
Measure the first 1.8 m from the start of a finished wall at the floor line along the perimeter of the usable wall space to determine where the first receptacle should be. It can be located anywhere within the first 1.8 m. Usable wall space is a wall space 900 mm or more in width but does not include doorways, areas occupied by a door when fully opened, windows that extend to the floor, fireplaces, or other permanent installations that would limit the use of the wall space.

Step 3
From the location of the first receptacle, measure 3.6 m along the floor line of the wall perimeter. The second receptacle can be located anywhere within the 3.6 m distance from the first receptacle.

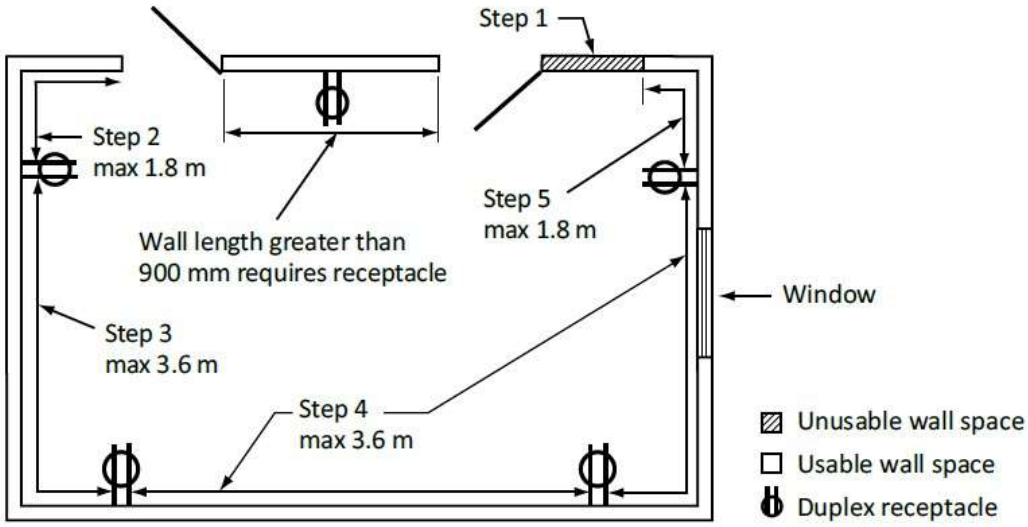
Step 4
Repeat Step 3 until the end of the perimeter of the finished wall has been reached.

Step 5
The last receptacle in the series must be within 1.8 m of the end of the finished wall.

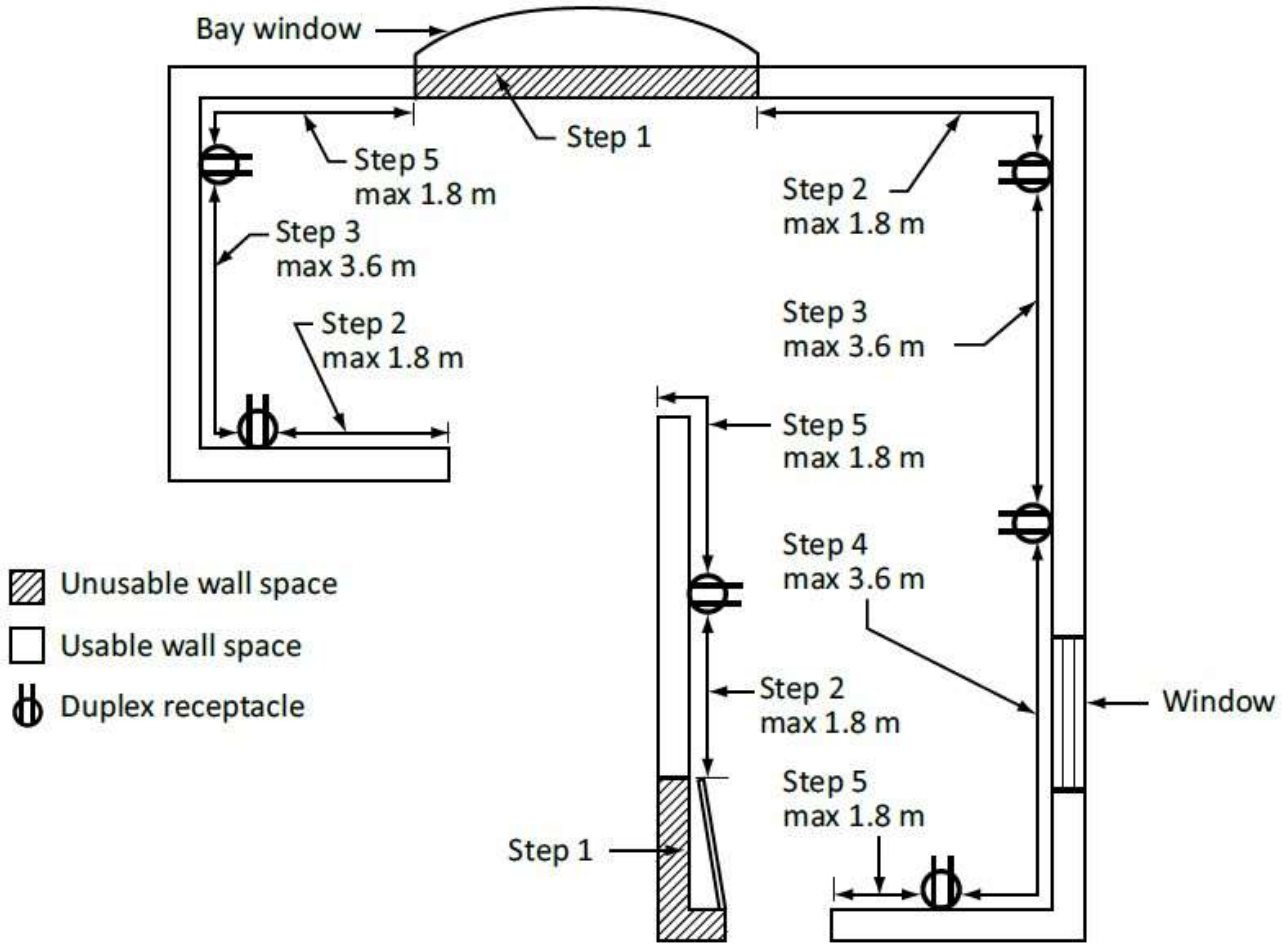
Receptacle layout — Recreational room



Receptacle layout — Bedroom



Receptacle layout — Living and dining room



Plumbing

- All clean outs require access cover. Wall and floor access covers must be **permanently** accessible.
- Hose Bibb shut-offs require access covers.
- Water lines and/or drainage piping cannot be located in exterior walls unless an insulation value of R12 can be achieved behind. Drainage and waterlines to be on the warm side of the insulation/vapour barrier.
- All plumbing fixtures are required to be "low flow" design. Toilets to be max. 6.1 L per flush as per the City of Airdrie Water Bylaw.
- All shower valves must be pressure-balanced or thermostatically protected.
- All fixtures located below grade (basements) require protection from backwater.

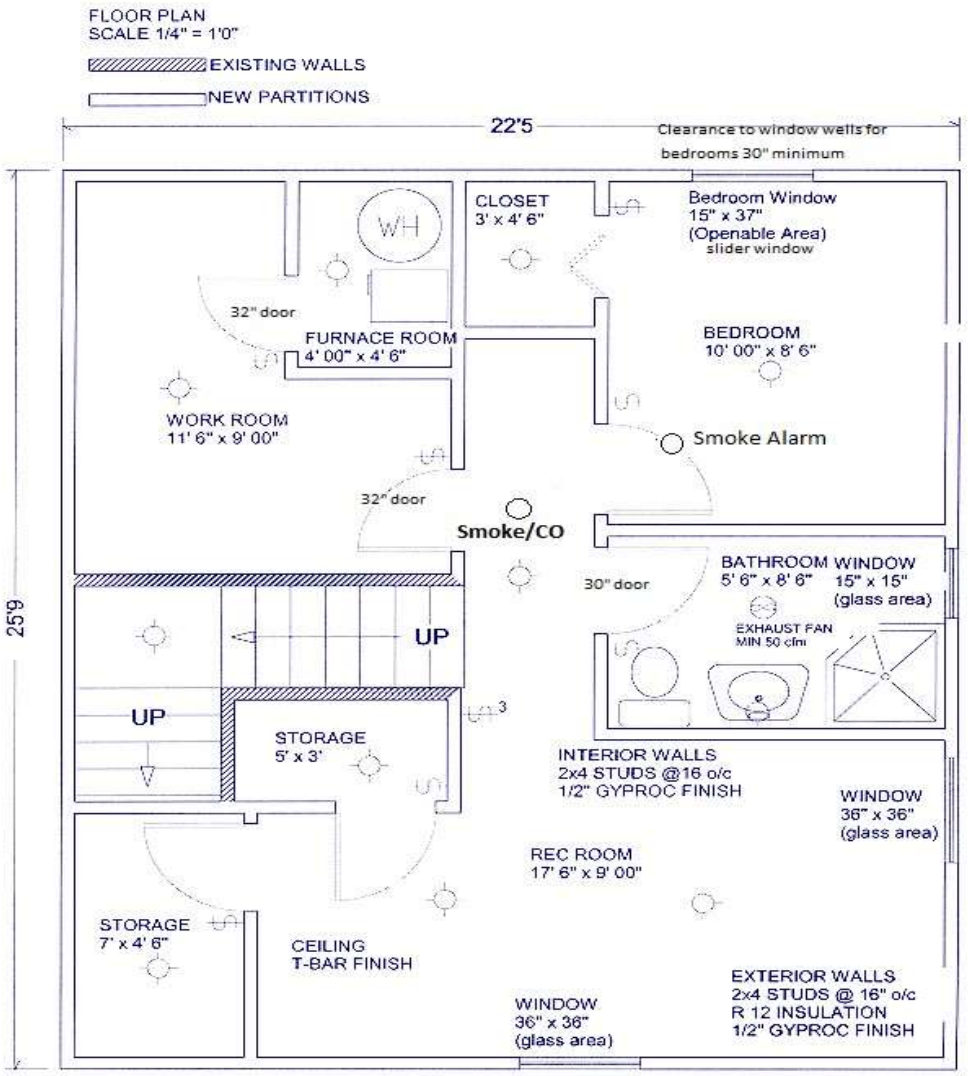
Secondary Suites

(A second self contained dwelling unit that is located with a primary dwelling unit, where both dwelling units are registered under the same land title)

Secondary suites are only allowed when the City of Airdrie's Land Use Zoning allows for this use and the construction of the suite has been properly permitted and constructed to conform as a secondary suite. When this approval is not in place your dwelling must be occupied as a single tenancy.

Floor Plan Example Drawing

The Floor Plan Example is for reference only and should not be copied for Permit Applications.

See "Basement Development Front Counter Checklist" for items required to be the drawing

- also show electrical receptacle and electrical panel location