Building Information

SCRD Building Department

SOIL GAS CONTROL (RADON) REQUIREMENTS

This bulletin is intended to provide information pertaining to the radon protection and subfloor depressurization system rough-in requirements prescribed in Division B, Part 9, Subsection 9.13.4 of the BC Building Code (BCBC).

Protection from Soil Gas Ingress

Air Barrier

All walls, roofs, or floors that separate heated indoor space from the ground must include an air barrier system that complies with Subsection 9.25.3. to help prevent soil gases from entering the building. In addition, unless the area beneath the building is designed so that a radon removal system can be installed later, the building must either:

a) include a rough-in for a future subfloor radon depressurization system in accordance with Article 9.13.4.3., or

b) be designed in accordance with Parts 5 and 6 of the BCBC to prevent radon from entering the building and to allow high radon levels to be addressed in the future.

Rough-in for a Soil Depressurization System

Gas Permeable Layer

Typically, at least 100 mm of clean coarse gravel to allow air movement beneath the floor (see Figures A1–A3). The gas-permeable layer must be continuous and not interrupted by intermediate barriers such as footings or stem walls. Where intermediate barriers are present, the separate compartments must either be interconnected to allow air movement (see Figure A4) or individually vented.

Vent Pipe

A radon vent pipe must extend from below the slab to the exterior of the building, with the inlet located to allow effective depressurization beneath the floor, typically near the center of the slab. The pipe must:

- have a minimum internal diameter of 100 mm,
- be sealed and non-perforated above the air barrier and comply with Article 7.1.3. of CAN/CGSB-149.11,
- be clearly labeled for future connection to a radon fan or other depressurization equipment, and
- The vent must terminate outside the building either through the roof or an above grade wall in a safe location away from openings, areas where snow or ice may accumulate, and min. 1.8m from property lines.

Permitted termination configurations are illustrated in Figures B1 and B2, with corresponding minimum clearances outlined in Tables B1 and Table B2 respectively.

Please note that the installation of a fan or alternate equipment is not currently required under the BCBC; however, allowances for the future installation are and must be considered during construction.

Figures:

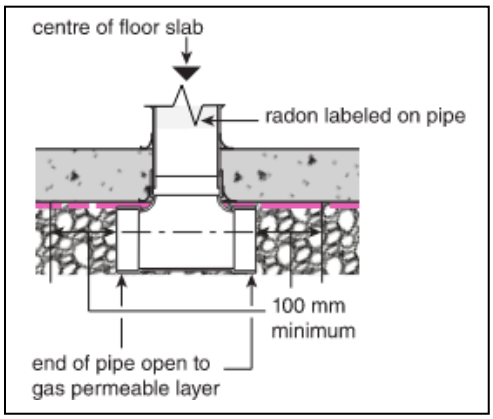

Figure A1

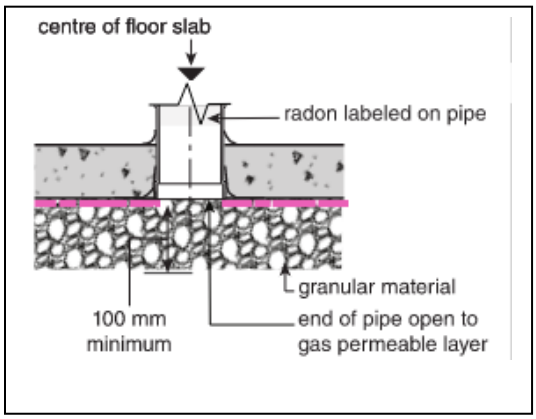

Figure A2

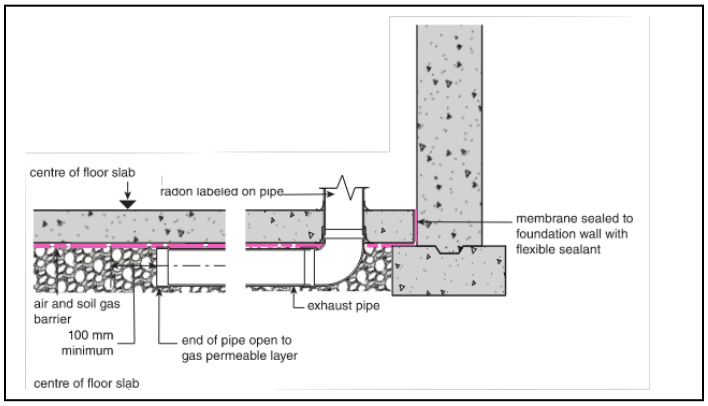

Figure A3

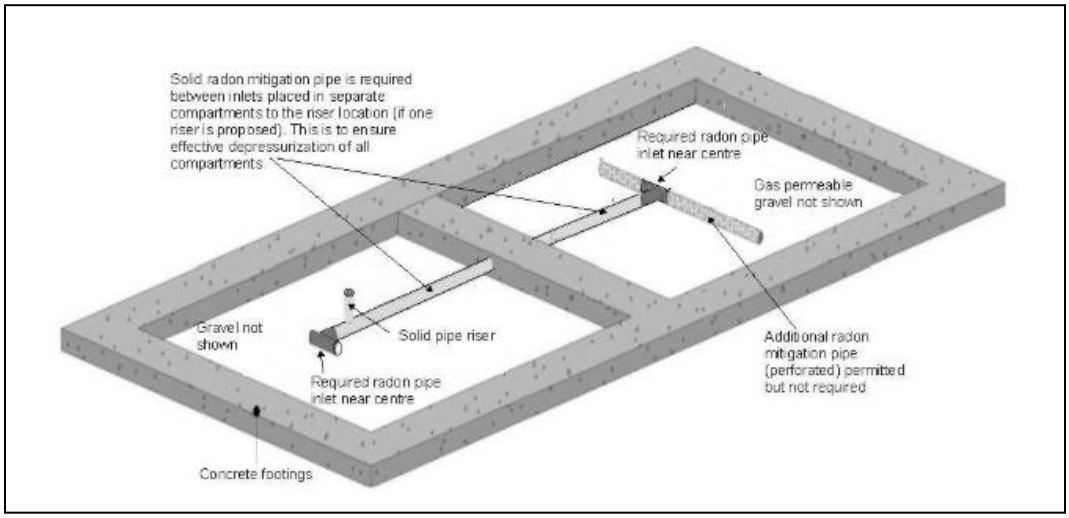

Figure A4

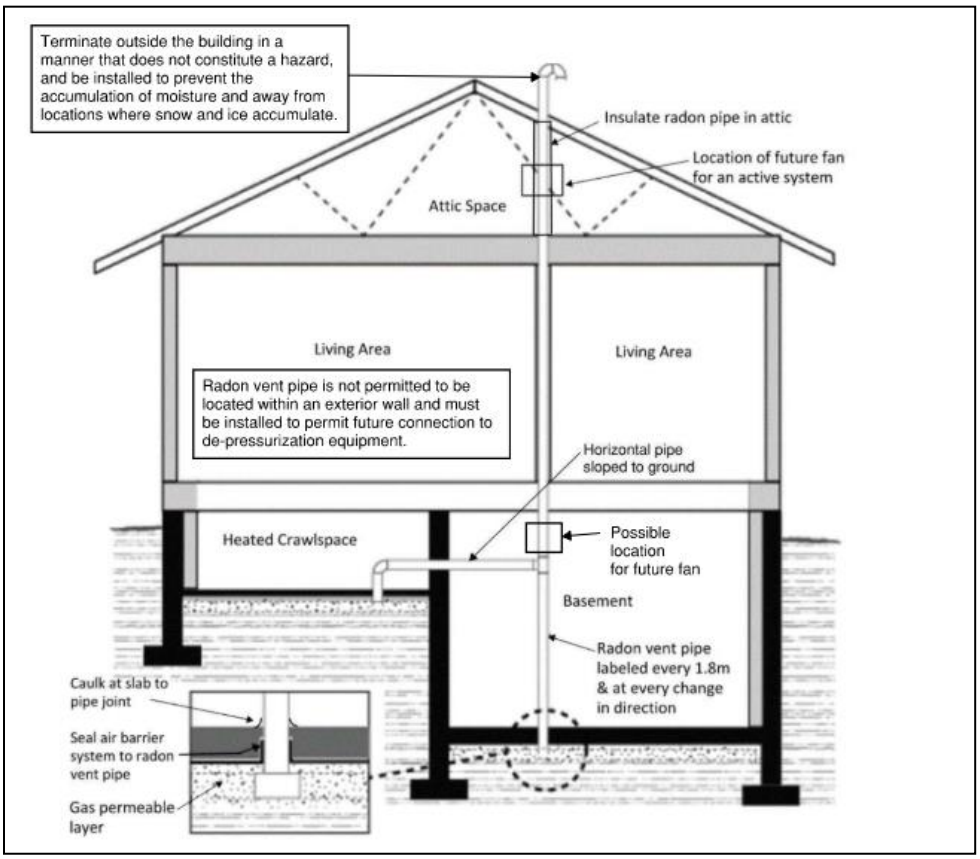

Figure B1

Location	Minimum dimension (m)
Vertical clearance above the roof at the point of penetration	0.30
Vertical clearance above windows or doors	0.60
Vertical clearance above mechanical air supply inlet (air intake)	0.90
Horizontal clearance from windows, doors or mechanical air supply inlet	3
Clearance horizontally from a vertical wall that extends above the roof penetrated	3

Table B1 (excerpt from Table 7.2.4.6 in CAN/CGSB-149.11-2019)

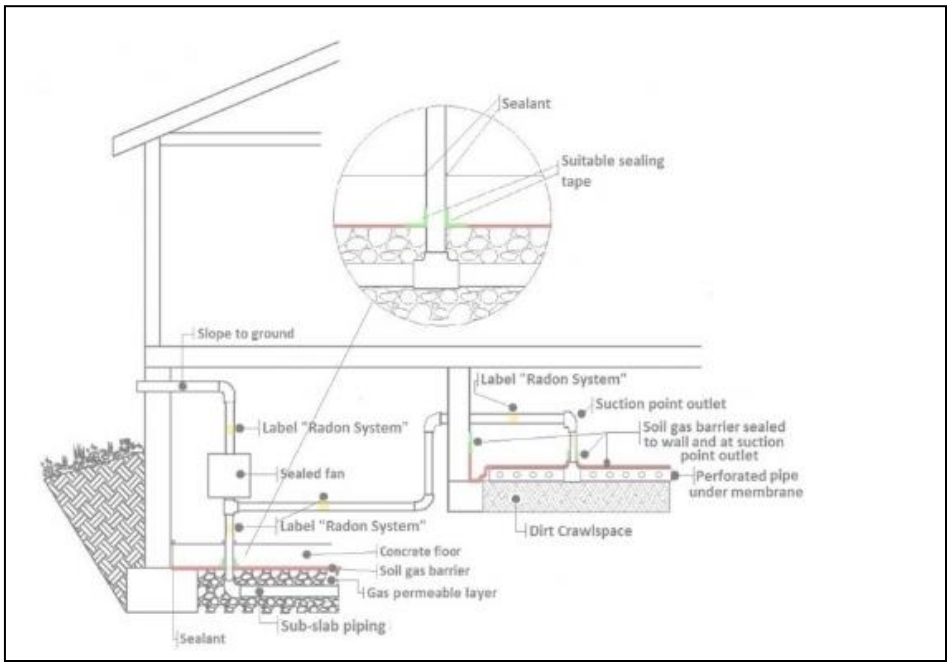

Figure B2

Locations	Suggested clearances (m)	Required minimal clearances (m)
Clearance to a mechanical air supply inlet	3	2
Clearance to permanently closed window	1	0.60
Clearance to a openable window	2	2
Clearance from a door that may be opened	2	1
Clearance to outside corner	0.30	0.30
Clearance to inside corner	0.30	0.30
Clearance above paved sidewalk or paved driveway located on public property	2	2
Clearance above grade, veranda, porch, deck, or balcony	1	0.30
Vertical Clearance below soffits or from any attic venting component	1	1
Horizontal clearance from an area directly below the discharge where there is a risk of injury from ice fall	2	1

Table B2 (excerpt from Table 7.3.4.3 in CAN/CGSB-149.11-2019)