Radon gas mitigation details

Part 9 residential buildings – 2024 Ontario Building Code (OBC) (active depressurization system)

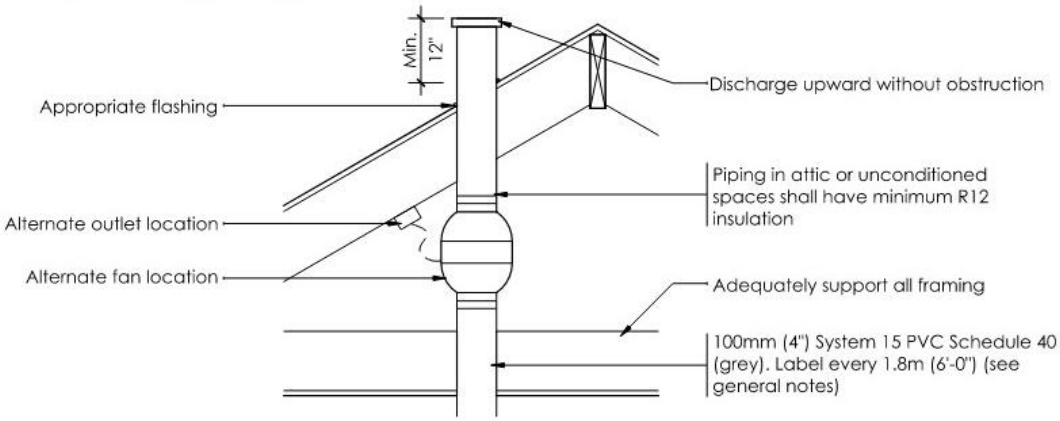
Disclaimer:

Details are to be used for guidance only. Reference should always be made to applicable codes and standards.

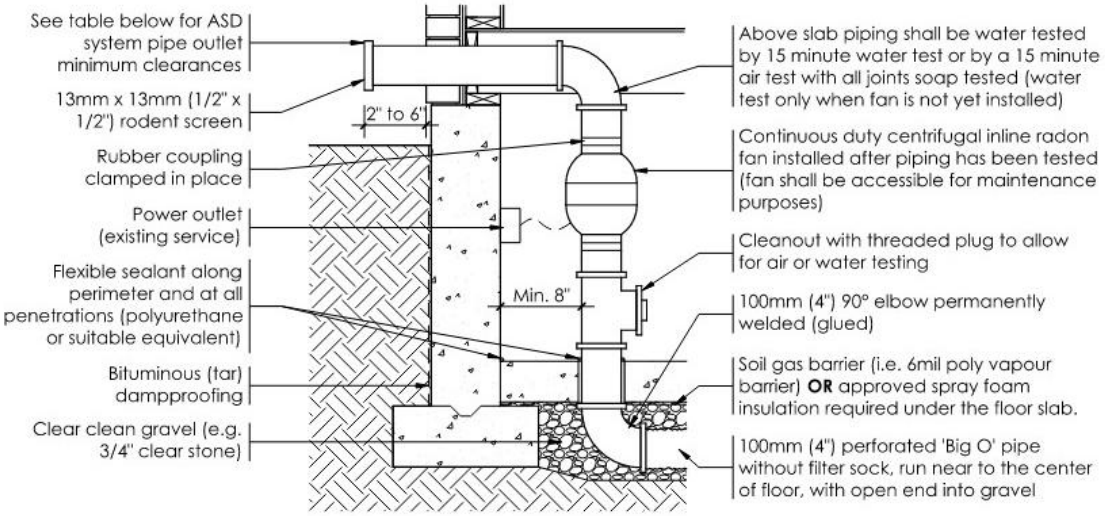
General notes:

1. Install a minimum 100 mm deep layer of 19 mm (¾ inches) clear stone beneath entire floor slab area to act as radon collection plenum.
2. Run 100 mm (4 inch) diameter perforated 'Big O' pipe within clear stone layer from the center of floor slab to area below a mechanical service space. Connect 'Big O' pipe to a 90-degree elbow.
3. Where obstructions such as strip footings exist below the floor slab, provide pipe sleeves through footings to allow for continuity of collection plenum.
4. Install 6-mil poly under floor slab, lapped not less than 300 mm (12 inches) or with joints sealed with a compatible tape OR install closed cell spray foam with a Canadian Construction Materials Centre (CCMC) Evaluation Report or Underwriters Laboratories of Canada (ULC) Evaluation Report indicating product approved for use as a radon barrier, installed in accordance with all requirements listed in the product CCMC or ULC Evaluation Report.
5. Where spray foam insulation is used as the principal radon gas barrier, the product shall have a CCMC or ULC evaluation report indicating that the specific product has been verified as a barrier to radon gas. Submit the spray foam manufacturer's product technical data sheet and CCMC or ULC evaluation report to the building inspector prior to installation.
6. Install 100 mm (4 inch) diameter solid wall above slab radon pipe. Pipe material shall be System 15 Schedule 40 PVC (grey) or IPEX Inc. RadonX PVC.
7. Connect above slab pipe to a continuous duty, centrifugal inline radon fan. Fan shall be sized by a Certified Canadian National Radon Proficiency Program (C-NRPP) radon mitigation professional. Submit fan sizing report to building inspector.
8. All above slab piping shall be adequately supported every 3.0 metres (9 ft-10 inches) for vertical piping and every 1.8 metres (6 ft) for horizontal piping.
9. All solid piping shall be sloped minimum 1% (⅛ inch per foot) to drain condensation to under slab.
10. Label above slab pipe every 1.8 m (6 ft) and at every change in direction. Radon labels provided by building inspector.
11. Radon discharge pipe shall not have rain cap (gooseneck).

Rooftop Discharge Diagram:



Exterior Wall Discharge Diagram:



ASD system pipe outlet minimum clearances

Location:	Clearance:	Location:	Clearance:
A mechanical air supply inlet	1.8m (5'-11")	Above paved sidewalk or driveway on public property	2.1m (6'-11")
A permanently closed window	0.3m (12")	A veranda, a porch, a deck, or a balcony	0.3m (12")
An openable window	1.0m (3'-3")	Vertical clearance above grade	0.3m (12")
A door that may be opened	0.3m (12")	Vertical clearance below soffit or attic	1.0m (3'-3")
A door that has an openable window	1.0m (3'-3")	Vertical distance above roof or parapet	0.3m (12")
An outside corner	0.3m (12")	Horizontal clearance (where risk of injury from ice falling)	1.0m (3'-3")
An inside corner (outlet of pipe shall not face inside corner)	1.0m (3'-3")	Horizontal clearance from the vertical line aligned with a gas relieve valve termination	1.0m (3'-3")

	Project Name	Drawing Title	Scale / Date / Project	Drawing Number
CITY OF Guelph Making a Difference	Radon gas mitigation details	Part 9 residential buildings - 2024 OBC (active depressurization system)	Scale: 3/4" = 1'-0" Date: April 2025 Project: Sample	RM-1

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