House additions

Construction information

Permit requirements

House additions need development and building permits.

A development permit establishes land use and confirms the location of a structure lines up with the zoning bylaw and other City requirements.

A building permit confirms the structure meets code requirements. It must match prior development permit approvals or applications.

Electrical and plumbing work require separate permits. Visit winnipeg.ca/electricalinstallations and winnipeg.ca/plumbinginstallations for more information.

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Construction information

Windows

1. Windows are not permitted in walls that are located less than 1.2 m (4’-0”) from the property line when facing a neighbouring property.
2. Each bedroom must have at least one outside window that provides an unobstructed opening of not less than 0.35 m² (3.77 sq. ft.) in area and no dimension less than 380 mm (15 in.).
3. Maximum foundation window opening size is 1.2 m (4’-0”) and openings not to exceed 25 percent of the wall length.

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 home was originally constructed, additional interconnected alarms may be required to be installed adjacent to the addition.

Unprotected openings and roof soffits

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. Where roof soffits project to less than 1.2 m (4’-0”) from the property line, they shall be protected by approved materials. Minimum roof space venting remains applicable, including 25 percent minimum openings required at the bottom of the space.

Foundations

The two basic types of foundations that can be used when constructing an addition are a full basement on a footing or a foundation supported on piles. All foundation types must be designed by an engineer. A wood basement design also requires an engineer to inspect and certify the installation.

If screw piles are being used to support a foundation, see the Information Bulletin on helical, augered and screw piles at:
winnipeg.ca/ppd/infocentre/informationbulletins.stm

Insulation requirements

Insulation values are determined based on whether or not an HRV is being installed **(see Figure 4)**.

Figure 4 – Insulation requirements

Minimum effective thermal resistance (R-Value)			
	Building assembly	HRV	No HRV
Above ground	Ceilings below attics	49.2	59.2
	Vaulted ceilings and flat roofs	28.5	28.5
	Walls	16.9	17.5
	Floors over unheated spaces	28.5	28.5
Below ground	Foundation walls	16.9	19.6
	Unheated floors below frost line	-	-
	Unheated floors above frost line	11.1	11.1
	Slabs-on-grade with an integral footing	16.1	21.1

Note: The values in Figure 4 are cumulative for the entire assembly. Example – a wall assembly that includes 2 X 6 wood studs at 16 in. on center, R22 batt insulation, 1/2 in. drywall interior finish, 7/16 OSB exterior sheathing and 5/8 in. thick stucco has an effective R-Value of 17.0.

Heat recovery ventilator (HRV) requirements

An HRV is required when:

- A secondary suite is being created
- The renovation and/or addition affects 50 percent or more of the final total exterior wall or ceiling area
- The authority having jurisdiction deems it to be necessary

Material specifications

The material specification tables contained in this document are only a guide and do not cover all structural limitations available in the code. An engineer may be required for any variation from the minimum standards contained within these tables and in the Manitoba Building Code (MBC).

Minimum thickness of roof sheathing – MBC 9.23.16.7.A					
Maximum spacing of supports	Plywood		Waferboard and strandboard		Lumber
	Edges supported	Edges unsupported	Edges supported	Edges unsupported	
mm	mm	mm	mm	mm	mm
300	7.5	7.5	9.5	9.5	17.0
400	7.5	9.5	9.5	11.1	17.0
600	9.5	12.5	11.1	12.7	19.0
in.	in.	in.	in.	in.	in.
12	5/16	5/16	3/8	3/8	11/16
16	5/16	3/8	3/8	7/16	11/16
24	3/8	1/2	7/16	1/2	3/4

Thickness of wall sheathing - MBC 9.23.17.2.A				
Type of sheathing	Minimum thickness			
	Supports @ 16 in. o.c.	Supports @ 24 in. o.c.	Supports @ 400 mm o.c.	Supports @ 600 mm o.c.
	in.	in.	mm	mm
Lumber	11/16	11/16	17.0	17.0
Fibreboard	3/8	7/16	9.5	11.1
Plywood	1/4	5/16	6.0	7.5
Waferboard/ strandboard	1/4	5/16	6.35	7.9

Thickness of subflooring – MBC 9.23.15.5.A			
Maximum spacing of supports	Plywood	Waferboard and strandboard	Lumber
mm	mm	mm	mm
400	15.5	15.9	17.0
500	15.5	15.9	19.0
600	18.5	19.0	19.0
in.	in.	in.	in.
16	5/8	5/8	11/16
20	5/8	5/8	3/4
24	3/4	3/4	3/4

Ceiling joist spans – Table 9.23.4.2.-C									
Commercial designation	Grade	Member size (in)	Joist spacing			Member size (mm)	Joist spacing		
			12 in.	16 in.	24 in.		300 mm	400 mm	600 mm
			ft.-in.	ft.-in.	ft.-in.		m	m	m
Spruce-pine-fir	No.1 and No. 2	2 x 4	10 - 3	9 - 3	8 - 1	38 x 89	3.11	2.83	2.47
		2 x 6	16 - 1	14 - 7	12 - 9	38 x 140	4.90	4.45	3.89
		2 x 8	21 - 1	19 - 2	16 - 9	38 x 184	6.44	5.85	5.11
		2 x 10	27 - 0	24 - 6	21 - 5	38 x 235	8.22	7.47	6.52

Roof rafter spans – Table 9.23.4.2.-F Rafter not supporting ceiling (Design roof snow loads for 1.5 kPa (30 psf)									
Rafter not supporting ceiling	Grade	Member size (in)	Rafter spacing			Member size (mm)	Rafter spacing		
			12 in.	16 in.	24 in.		300 mm	400 mm	600 mm
			ft.-in.	ft.-in.	ft.-in.		m	m	m
Spruce-pine-fir	No.1 and No. 2	2 x 4	8 - 11	8 - 1	7 - 1	38 x 89	2.72	2.47	2.16
		2 x 6	14 - 0	12 - 9	11 - 2	38 x 140	4.28	3.89	3.40
		2 x 8	18 - 5	16 - 9	14 - 6	38 x 184	5.62	5.11	4.41
		2 x 10	23 - 7	21 - 5	17 - 8	38 x 235	7.18	6.52	5.39

Roof joist spans – Table 9.23.4.2.-D (Design roof snow loads for 1.5 kPa (30 psf)									
Rafter not supporting ceiling	Grade	Member size (in)	Rafter spacing			Member size (mm)	Rafter spacing		
			12 in.	16 in.	24 in.		300 mm	400 mm	600 mm
			ft.-in.	ft.-in.	ft.-in.		m	m	m
Spruce-pine-fir	No.1 and No. 2	2 x 4	7 - 1	6 - 5	5 - 7	38 x 89	2.16	1.96	1.71
		2 x 6	11 - 2	10 - 1	8 - 10	38 x 140	3.40	3.08	2.69
		2 x 8	14 - 8	13 - 4	11 - 7	38 x 184	4.46	4.05	3.54
		2 x 10	18 - 8	17 - 0	14 - 10	38 x 235	5.70	5.18	4.52

Built-up floor beam spans - Table 9.23.4.2.-H

Supporting one floor in houses

Douglas fir-larch Grade No. 1 & 2

Size of beam	Supported joist length					Size of beam	Supported joist length				
	8 ft.	10 ft.	12 ft.	14 ft.	16 ft.		2.4 m	3.0 m	3.6 m	4.2 m	4.8 m
	ft.-in.	ft.-in.	ft.-in.	ft.-in.	ft.-in.		m	m	m	m	m
3 - 2 x 8	9 - 9	8 - 8	7 - 11	7 - 4	6 - 11	3 - 38 x 184	2.99	2.67	2.44	2.26	2.11
4 - 2 x 8	11 - 3	10 - 1	9 - 2	8 - 6	7 - 11	4 - 38 x 184	3.45	3.09	2.82	2.26	2.44
3 - 2 x 10	11 - 11	10 - 8	9 - 9	9 - 0	8 - 5	3 - 38 x 235	3.66	3.27	2.98	2.61	2.59
4 - 2 x 10	13 - 9	12 - 3	11 - 3	10 - 5	9 - 9	4 - 38 x 235	4.22	3.78	3.45	2.76	2.98
3 - 2 x 12	13 - 10	12 - 4	11 - 3	10 - 5	9 - 9	3 - 38 x 286	4.24	3.79	3.46	3.19	3.00
4 - 2 x 12	15 - 11	14 - 3	13 - 0	12 - 1	11 - 3	4 - 38 x 286	4.90	4.38	4.00	3.70	3.46

Spruce-pine-fir Grade No. 1 & 2

Size of beam	Supported joist length					Size of beam	Supported joist length				
	8 ft.	10 ft.	12 ft.	14 ft.	16 ft.		2.4 m	3.0 m	3.6 m	4.2 m	4.8 m
	ft.-in.	ft.-in.	ft.-in.	ft.-in.	ft.-in.		m	m	m	m	m
3 - 2 x 8	10 - 7	9 - 5	8 - 8	8 - 0	7 - 6	3 - 38 x 184	3.25	2.90	2.65	2.45	2.30
4 - 2 x 8	12 - 2	10 - 11	10 - 0	9 - 3	8 - 8	4 - 38 x 184	3.75	3.35	3.06	2.83	2.65
3 - 2 x 10	12 - 11	11 - 7	10 - 7	9 - 9	9 - 2	3 - 38 x 235	3.97	3.55	3.24	3.00	2.81
4 - 2 x 10	14 - 11	13 - 4	12 - 2	11 - 3	10 - 7	4 - 38 x 235	4.59	4.10	3.74	3.47	3.24
3 - 2 x 12	15 - 0	13 - 5	12 - 3	11 - 4	10 - 7	3 - 38 x 286	4.61	4.12	3.76	3.48	3.26
4 - 2 x 12	17 - 4	15 - 6	14 - 2	13 - 1	12 - 3	4 - 38 x 286	5.32	4.76	4.34	4.02	3.76

Built-up floor beam spans - Table 9.23.4.2.-I

Supporting two floors in houses

Douglas fir-larch Grade No. 1 & 2

Size of beam	Supported joist length					Size of beam	Supported joist length				
	8 ft.	10 ft.	12 ft.	14 ft.	16 ft.		2.4 m	3.0 m	3.6 m	4.2 m	4.8 m
	ft.-in.	ft.-in.	ft.-in.	ft.-in.	ft.-in.		m	m	m	m	m
3 - 2 x 8	7 - 5	6 - 7	6 - 0	5 - 7	5 - 3	3 - 38 x 184	2.27	2.03	1.85	1.71	1.60
4 - 2 x 8	8 - 6	7 - 8	7 - 0	6 - 5	6 - 0	4 - 38 x 184	2.62	2.34	2.14	1.98	1.85
3 - 2 x 10	9 - 0	8 - 1	7 - 4	6 - 10	6 - 5	3 - 38 x 235	2.77	2.48	2.26	2.10	1.96
4 - 2 x 10	10 - 5	9 - 4	8 - 6	7 - 11	7 - 4	4 - 38 x 235	3.20	2.86	2.62	2.42	2.26
3 - 2 x 12	10 - 6	9 - 4	8 - 7	7 - 11	7 - 5	3 - 38 x 286	3.22	2.88	2.63	2.43	2.28
4 - 2 x 12	12 - 1	10 - 10	9 - 11	9 - 2	8 - 7	4 - 38 x 286	3.72	3.32	3.03	3.03	2.63

Spruce-pine-fir Grade No. 1 & 2

Size of beam	Supported joist length					Size of beam	Supported joist length				
	8 ft.	10 ft.	12 ft.	14 ft.	16 ft.		2.4 m	3.0 m	3.6 m	4.2 m	4.8 m
	ft.-in.	ft.-in.	ft.-in.	ft.-in.	ft.-in.		m	m	m	m	m
3 - 2 x 8	8 - 0	7 - 2	6 - 7	6 - 1	5 - 9	3 - 38 x 184	2.46	2.20	2.01	1.86	1.74
4 - 2 x 8	9 - 3	8 - 3	7 - 7	7 - 0	6 - 7	4 - 38 x 184	2.85	2.55	2.32	2.15	2.01
3 - 2 x 10	9 - 10	8 - 9	8 - 0	7 - 5	6 - 10	3 - 38 x 235	3.01	2.70	2.46	2.28	2.11
4 - 2 x 10	11 - 4	10 - 2	9 - 3	8 - 7	8 - 0	4 - 38 x 235	3.48	3.11	2.84	2.63	2.46
3 - 2 x 12	11 - 5	10 - 2	9 - 4	8 - 7	7 - 9	3 - 38 x 286	3.50	3.13	2.85	2.64	2.38
4 - 2 x 12	13 - 2	11 - 9	10 - 9	9 - 11	9 - 4	4 - 38 x 286	4.04	3.61	3.30	3.05	2.85

Floor joist spans - Table 9.23.4.2.-A												
Commercial designation	Grade	Member size (in)	Joist spacing with strapping			Joist spacing with bridging			Joist spacing with strapping & bridging			
			12 in.	16 in.	24 in.	12 in.	16 in.	24 in.	12 in.	16 in.	24 in.	
			ft.-in.	ft.-in.	ft.-in.	ft.-in.	ft.-in.	ft.-in.	ft.-in.	ft.-in.	ft.-in.	
Douglas fir-larch	No.1 and No. 2	2 x 4	6 - 7	6 - 0	5 - 5	6 - 10	6 - 3	5 - 5	6 - 10	6 - 3	5 - 5	
		2 x 6	10 - 2	9 - 7	8 - 7	10 - 10	9 - 10	8 - 7	10 - 10	9 - 10	8 - 7	
		2 x 8	12 - 2	11 - 7	11 - 0	13 - 1	12 - 4	11 - 3	13 - 9	12 - 10	11 - 3	
		2 x 10	14 - 4	13 - 8	13 - 0	15 - 3	14 - 4	13 - 6	15 - 10	14 - 1	13 - 10	
		2 x 12	16 - 5	15 - 7	14 - 10	17 - 2	16 - 2	15 - 3	17 - 10	16 - 7	15 - 6	
		(mm)	300mm	400mm	600mm	300mm	400mm	600mm	300mm	400mm	600mm	
			m	m	m	m	m	m	m	m	m	
		38 x 89	2.00	1.85	1.66	2.09	1.90	1.66	2.09	1.90	1.66	
		38 x 140	3.09	2.91	2.62	3.29	2.99	2.62	3.29	2.99	2.62	
		38 x 184	3.71	3.53	3.36	3.98	3.75	3.44	4.19	3.90	3.44	
		38 x 235	4.38	4.16	3.96	4.64	4.37	4.11	4.84	4.51	4.21	
		38 x 286	4.99	4.75	4.52	5.24	4.93	4.64	5.43	5.07	4.72	
Spruce-pine- fir	No.1 and No. 2	(in.)	12 in.	16 in.	24 in.	12 in.	16 in.	24 in.	12 in.	16 in.	24 in.	
			ft.-in.	ft.-in.	ft.-in.	ft.-in.	ft.-in.	ft.-in.	ft.-in.	ft.-in.	ft.-in.	
		2 x 4	6 - 1	5 - 8	5 - 2	6 - 6	5 - 11	5 - 2	6 - 6	5 - 11	5 - 2	
		2 x 6	9 - 7	8 - 11	8 - 2	10 - 4	9 - 4	8 - 2	10 - 4	9 - 4	8 - 2	
		2 x 8	11 - 7	11 - 0	10 - 6	12 - 5	11 - 9	10 - 9	13 - 1	12 - 2	10 - 9	
		2 x 10	13 - 8	13 - 0	12 - 4	14 - 6	13 - 8	12 - 10	15 - 1	14 - 1	13 - 2	
		2 x 12	15 - 7	14 - 10	14 - 1	16 - 4	15 - 5	14 - 6	17 - 0	15 - 10	14 - 9	
		(mm)	300mm	400mm	600mm	300mm	400mm	600mm	300mm	400mm	600mm	
			m	m	m	m	m	m	m	m	m	
		38 x 89	1.86	1.72	1.58	1.99	1.81	1.58	1.99	1.81	1.58	
		38 x 140	2.92	2.71	2.49	3.14	2.85	2.49	3.14	2.85	2.49	
		38 x 184	3.54	3.36	3.20	3.79	3.57	3.27	3.99	3.72	3.27	
		38 x 235	4.17	3.96	3.77	4.41	4.16	3.92	4.61	4.30	4.01	
		38 x 286	4.75	4.52	4.30	4.99	4.10	4.42	5.17	4.82	4.50	

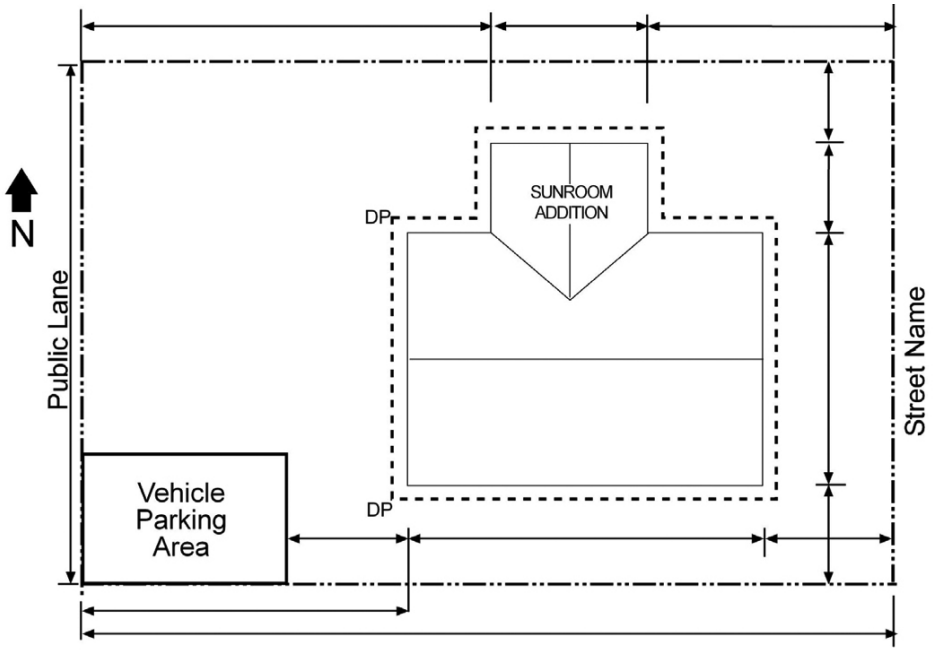
Inspections

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.

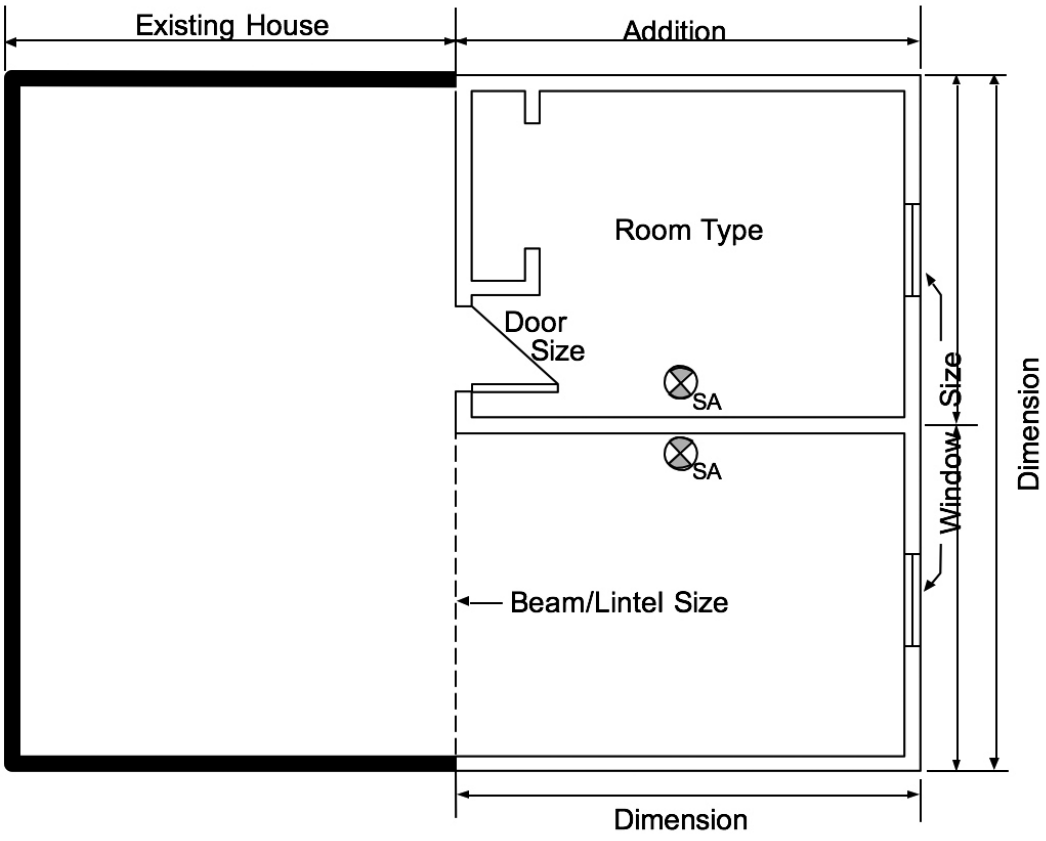
Before covering any new work, you must schedule an inspection by submitting the housing inspection request form at winnipeg.ca/housinginspection.

Sample drawings

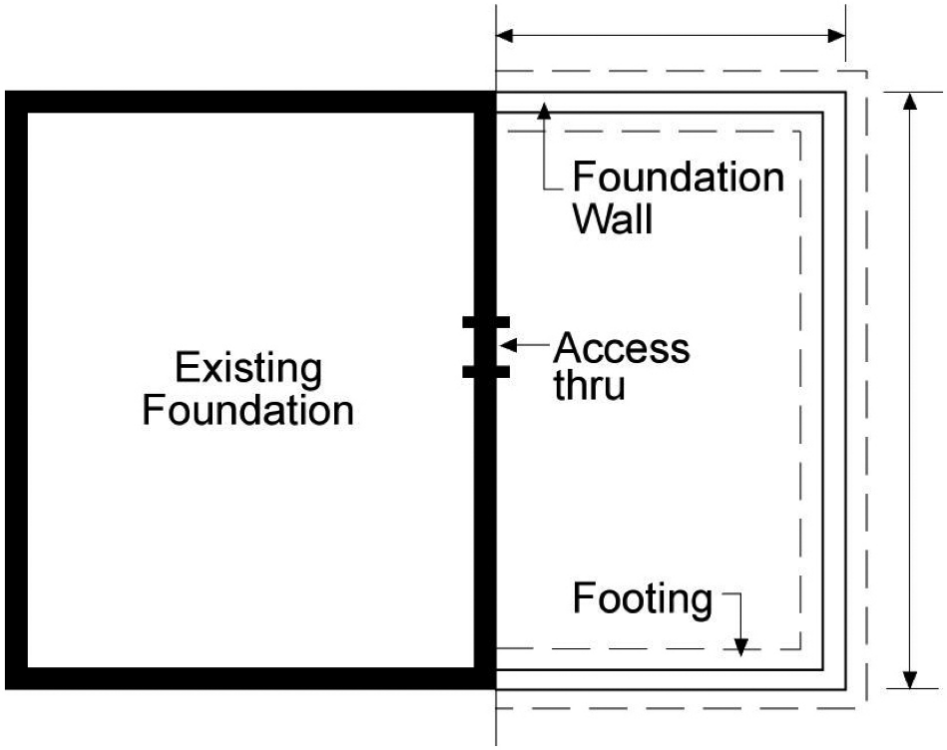
Site plan



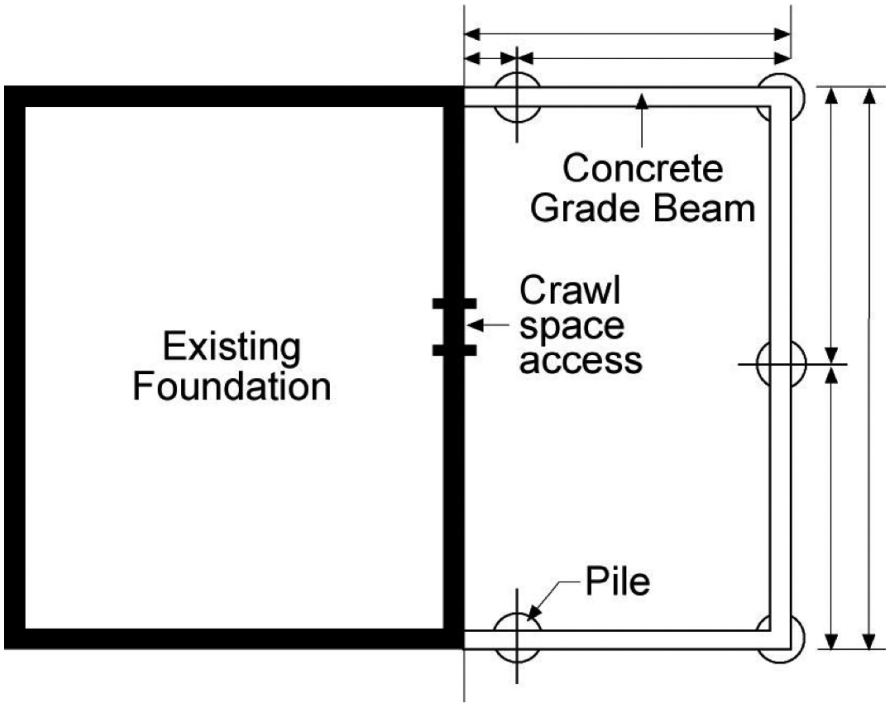
Floor plan



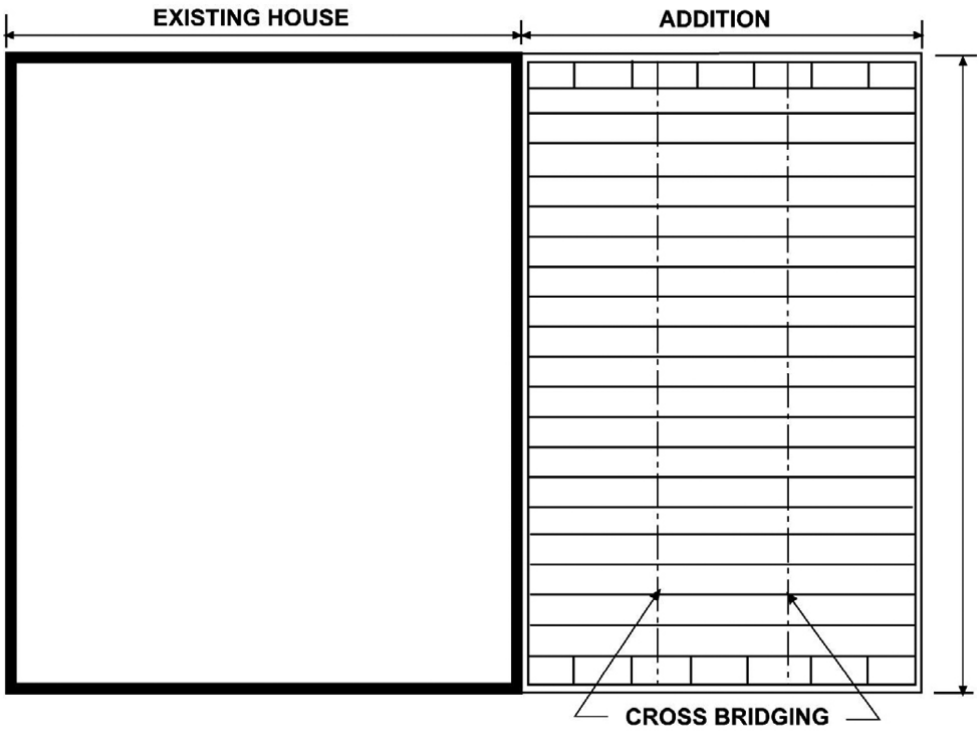
Foundation plan



Pile and grade beam foundation plan

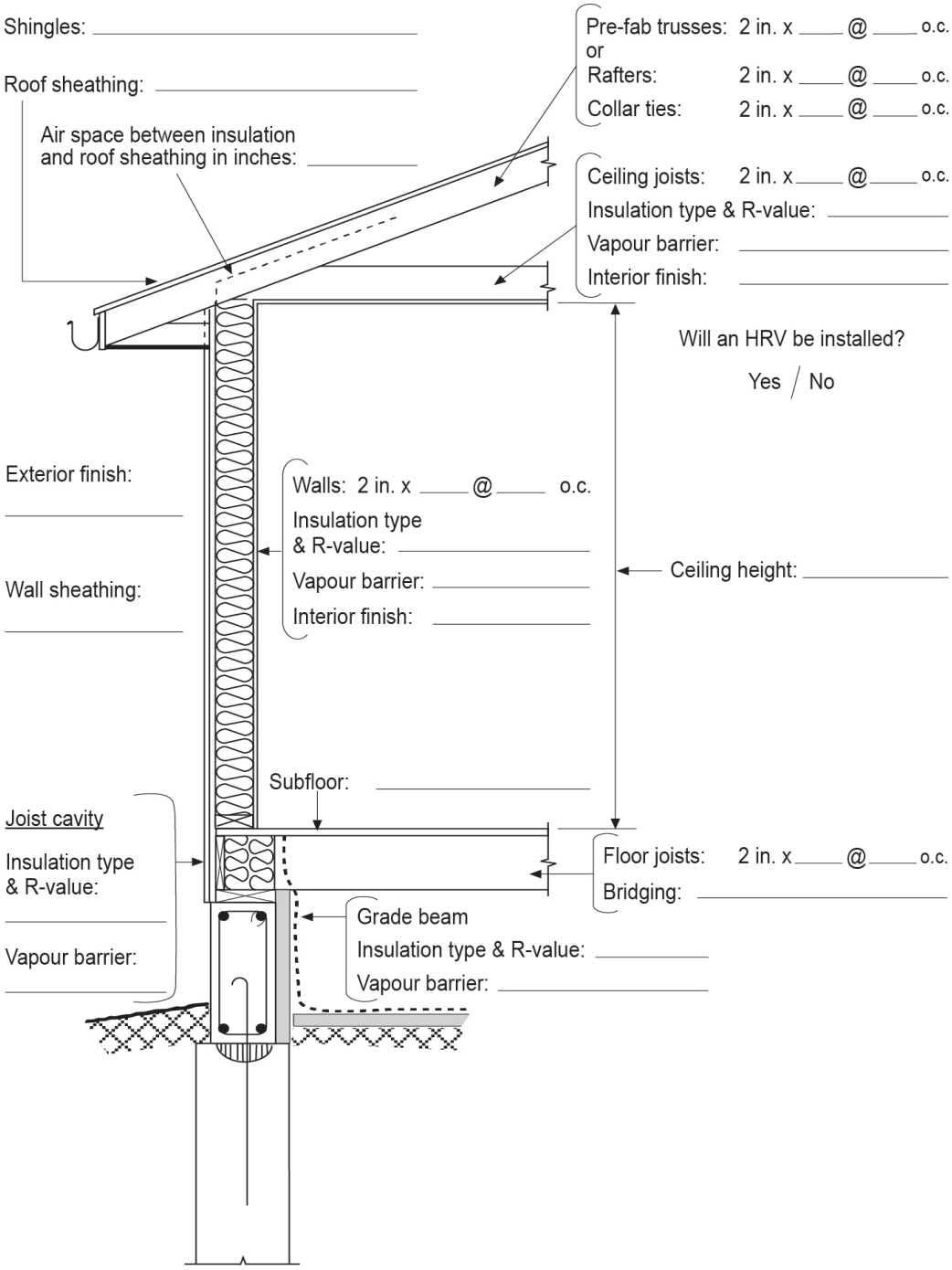


Floor framing plan



Section drawing

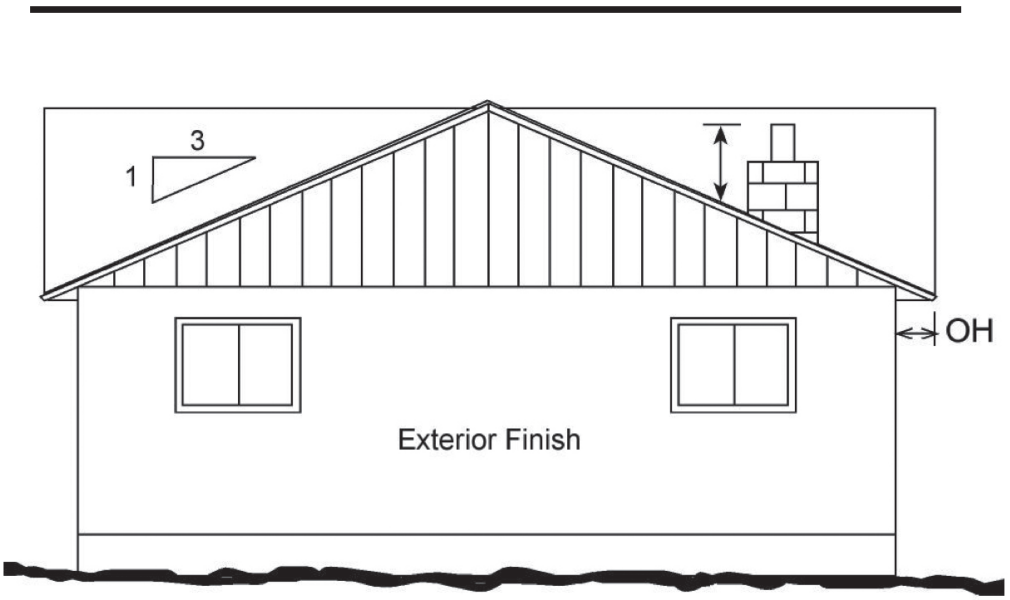
Provide material description details.



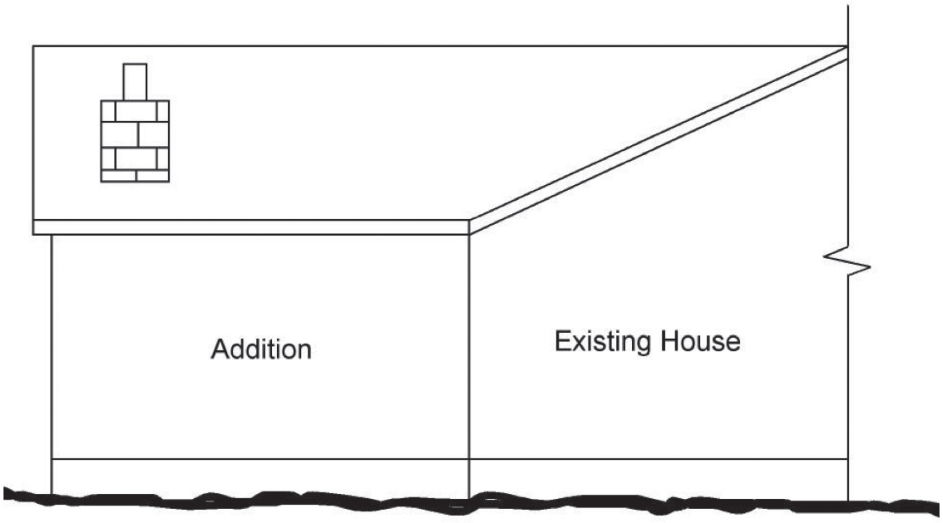
Notes:

1. Crawl space shall be vented in conformance to 9.18.3.1 and 9.18.3.2
2. Attic space shall be vented in conformance to 9.19.1.1.
3. Crawl space access required per 9.18.2.1.
4. Attic access required as per 9.12.2.1.

Elevations



Rear elevation



Side elevation

Winnipeg

Zoning & Permits Branch
Unit 31 - 30 Fort Street, Winnipeg, Manitoba R3C 4X7 | winnipeg.ca/buildingdevelopment

Permits Direct Line
204-986-5140 | ppd-permit@winnipeg.ca

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