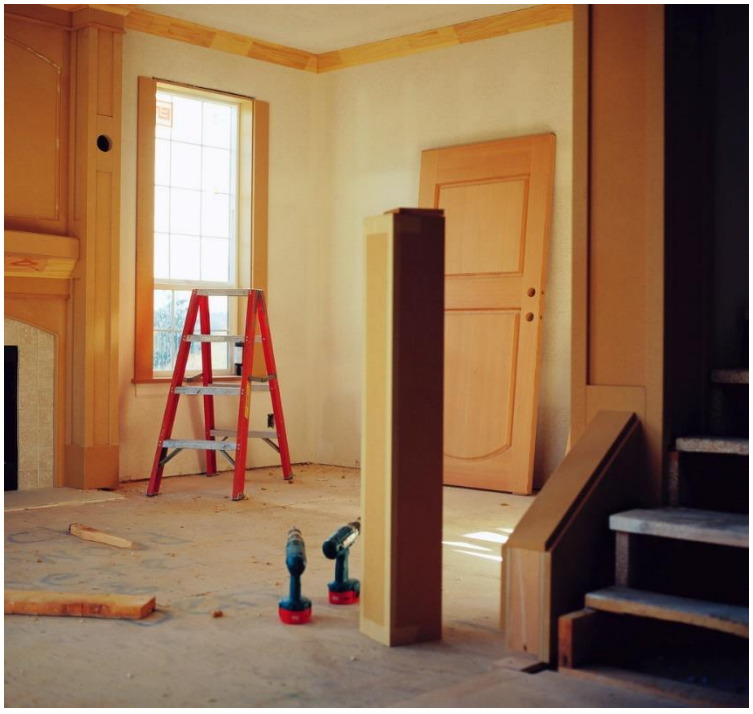
Dauphin

Everything you deserve

House Additions

Guide to the plans required when applying for a Building Permit.



Contents

The City of Dauphin Building Bylaw is primarily an administrative document that adopts the Manitoba Building Code and related standards to provide

construction requirements. Throughout this booklet the Manitoba Building Code will be referred to as the Building Code.

Every effort has been made to ensure the accuracy of information contained in this publication.

However, in the event of a discrepancy between this booklet and the governing City of Dauphin Bylaw, the Bylaw will take precedence.

General Information

This booklet is a guide to the type of plans that are required by the City of Dauphin when applying for a building permit to construct a "basic" addition to your house. This booklet does not cover all code requirements. Reference should be made to the City of Dauphin Building Bylaw and the Manitoba Building Code for the complete set of code requirements.

How many sets of plans will be required?

One set of plans must be presented upon permit application. Additionally, a copy of the Surveyor's Building Location Certificate, showing the location of the existing structures on the site, should accompany the plans presented. If a survey is not available, then a well-drawn site plan **may** be acceptable.

Will the homeowner be required to obtain the services of a Professional Engineer?

A professional engineer will be required to seal the plans when:

a) there are any variances from the minimum standards contained within the building code, OR;

b) the construction involves the use of certain structural components (e.g. steel beams, glulam beams, microlam beams, LVL beams, I-joist floors, suspended wood floors, tall walls (walls exceeding 11 ft. 10 in.), pre-cast concrete/wood/steel brackets, pile foundations, etc.), OR;

c) where in the opinion of the Authority Having Jurisdiction the

nature of the work is complex.

d) when it is suspected that the existing foundation is not structurally sound.

Does the building permit include any electrical or plumbing work that is being completed?

The building permit does **NOT** include the electrical or plumbing work that is being done. Permits for this type of work must be applied for separately.

Site Plan

What information should be indicated on the site plan?

The site plan should have the following information (see FIGURE 1):

a) street names, lot dimensions, civic address, legal description, and north arrow;

b) dimensions from building to property lines (building to building if applicable);

c) on irregular shaped lots, dimensions from property lines to the closest projections within side yards must be included;

d) dimensions of all projections such as alcoves, canopies, eaves, decks, fireplaces, landings, steps, wing walls, etc.;

e) locations of downspouts and sump pump discharge (sump pump discharge outlet will not be permitted on the side of the foundation adjacent to a public sidewalk);

f) the dimensions and locations of existing and proposed accessory structures (examples are detached garages, sheds, air-conditioning units);

g) the dimension, location, and type of surface of existing and proposed approaches, driveways, and vehicle parking areas;

h) construction accesses other than lane;

i) location and dimensions of registered easements (e.g. swales, land drainage sewer/catch basin lead);

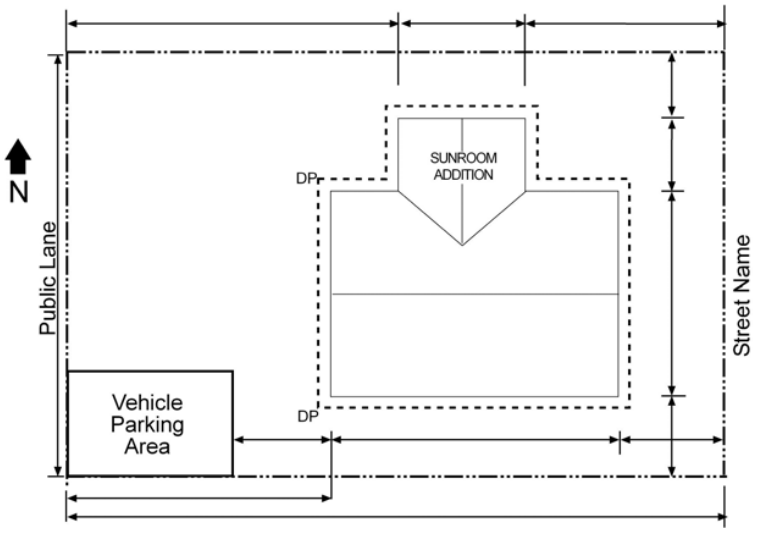


Figure 1 - Typical Site Plan

Floor Plan

What is required to be shown on the floor plan?

This plan must have the following details (see FIGURE 2):

a) size of addition, dimensioned;

b) size and type of rooms in addition;

c) location and sizes of windows, doors, closets, etc.; (see TABLE A below) Note: windows are not permitted in walls that are located less than 1.2 m (4 ft.) from the property line;

d) if there is a fireplace/woodstove, indicate type and location;

e) size of beam/lintel in wall openings, if required;

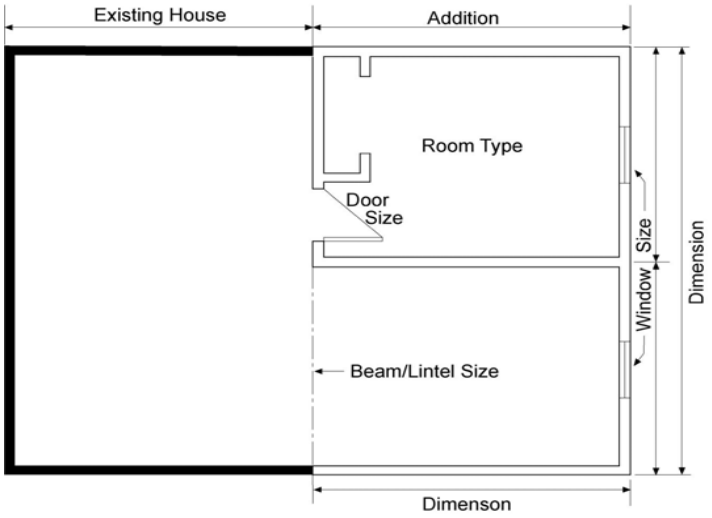
f) wired-in smoke alarm (SA) location - at least one is required if the addition includes a new bedroom.

Table A - Glass Area Requirements

Room	*Minimum Glass Area*
Living Room	10% of floor area served
Dining Room	10% of floor area served
All Bedrooms	5% of floor area served*

* Each bedroom must have at least one outside window which provides an unobstructed opening of not less than 0.35 sq. m. (3.77 sq. ft.) in area and no dimension less than 380 mm (15 in.)

Figure 2 - Typical Floor Plan



Foundation Plan

What plans are required for a house addition foundation and what are the two basic types of foundations used?

Typical house addition foundation plans and details are shown in FIGURES 3 to 7.

The two basic types of foundations you can use when constructing an addition are a full basement and a pile/pier and footing foundation.

1. Full Basement Foundation

a) If you construct a wood basement it must be designed and sealed by a registered professional engineer, and the engineer must be retained to inspect and certify the installation.

b) If you construct a concrete basement, it must meet the minimum code standards for wall thickness and reinforcement as shown in the following figures.

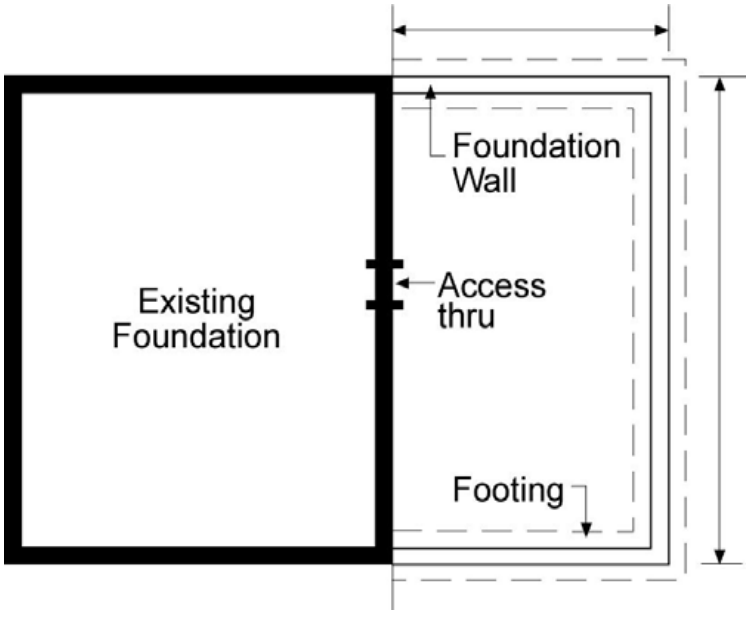
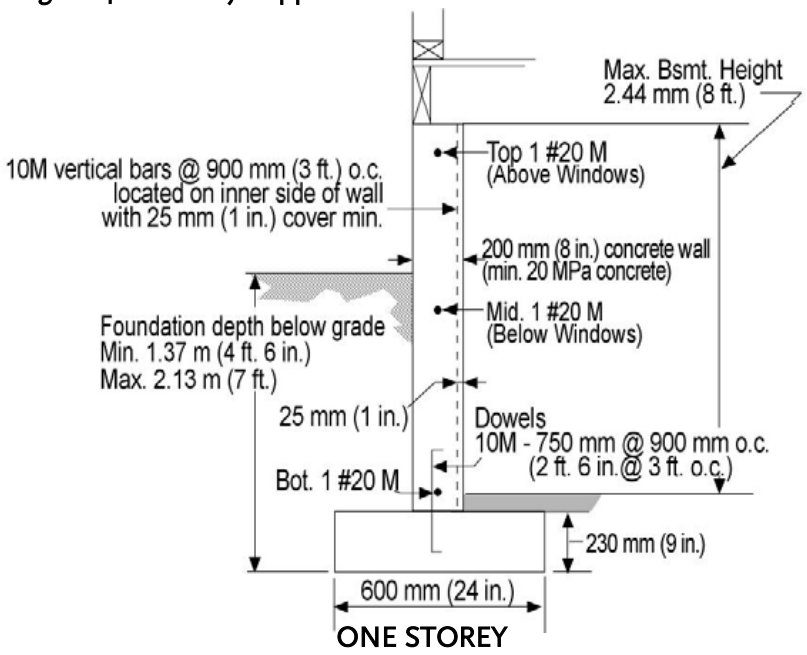
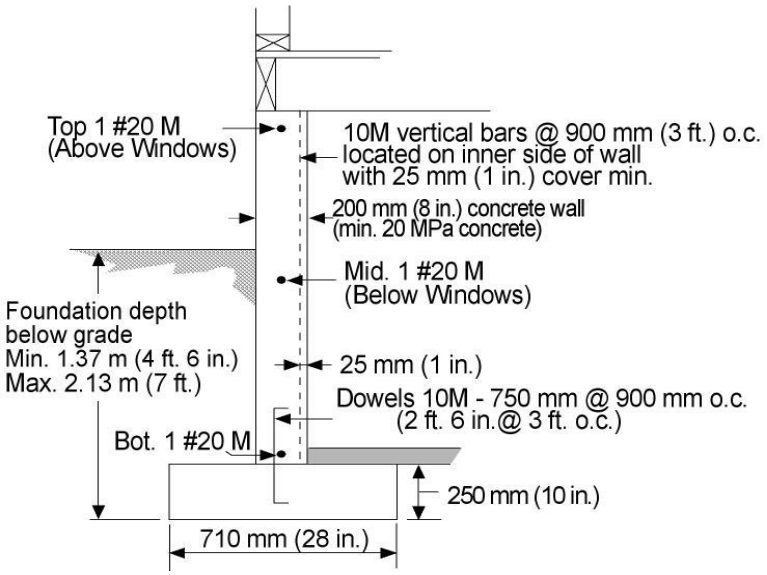


Figure 3 - Typical Full Basement Foundation Plan

Figure 4 - Laterally Supported Foundation Walls



ONE STOREY



TWO STOREY

Foundation Plan

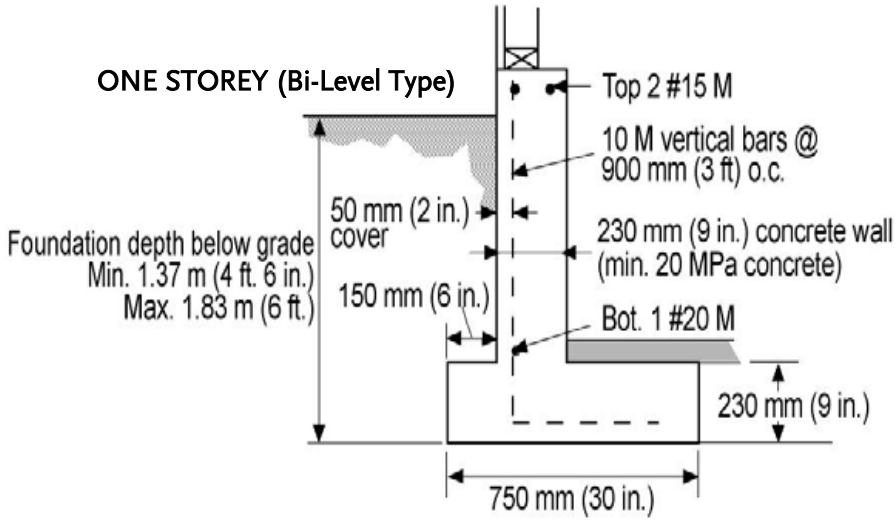


Figure 5 - Laterally Unsupported Foundation Walls

NOTES: *(For FIGURES 4 and 5)*
1. Length of supported joists shall not exceed 4.9 m (16 ft.).
2. Top of foundation shall be at least 150 mm (6 in.) above finished ground level.
3. Walls over 12 m (40 ft.) in length shall be designed by a registered professional engineer.
4. Maximum window opening size is 1.2 m (4 ft.) and openings not to exceed 25% of the wall length.

Interior Footing Sizes
One-Storey - 750 mm x 750 mm x 250 mm deep @ 3.05 m o.c. (30 in. x 30 in. x 10 in. deep @ 10 ft. o.c.)

Two-Storey - 900 mm x 900 mm x 300 mm deep @ 2.74 m o.c. (36 in. x 36 in. x 12 in. deep @ 9 ft. o.c.)

2. Pile/Pier and Footing Foundation

a) If you construct a one (1) storey addition, your foundation must meet the minimum standards as shown; or it must be designed and sealed by a professional engineer.
b) If you construct a two (2) storey addition, a grade beam and pile foundation must be designed and sealed by a professional engineer.
c) A **wood beam** can be used instead of a concrete grade beam. Pile spacing and size would still be the same as illustrated below.

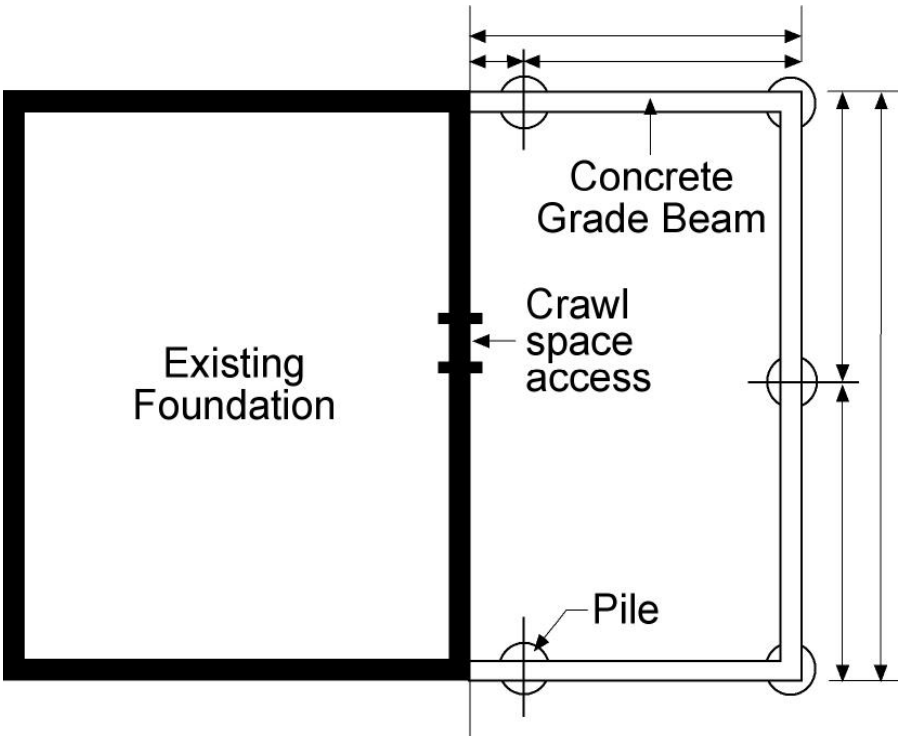
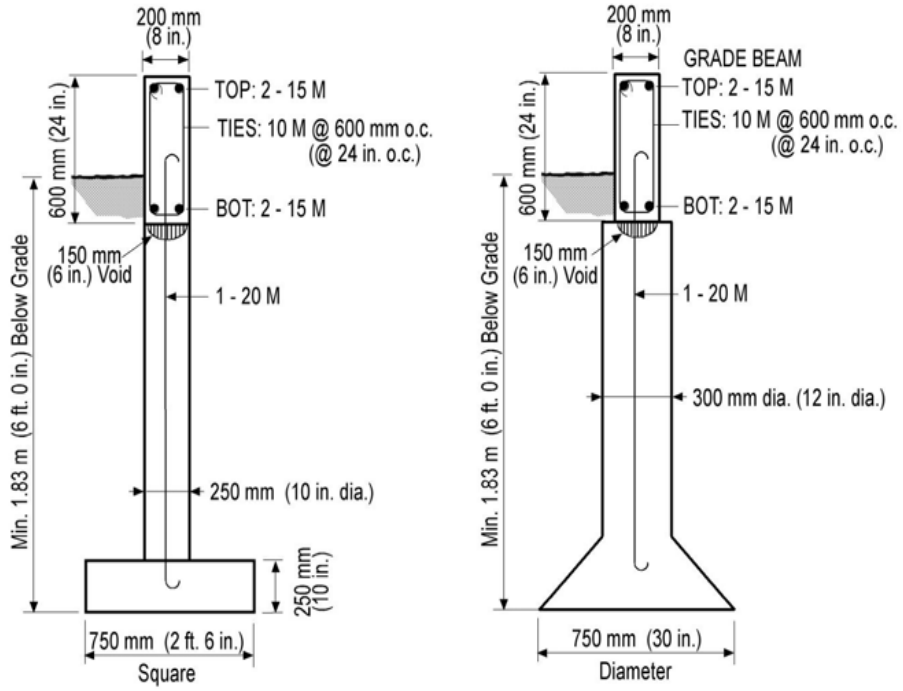


Figure 6 - Typical Pile and Grade Beam Foundation Plan

Foundation Plan

Figure 7 - Pile/Pier and Footing Foundation Standards



MAX. SPACING 2.44 m o.c. (8 ft. 0 in. o.c.)

NOTE:

1. Length of supported joists shall not exceed 4.9 m (16 ft.).
2. Top of foundation shall be at least 150 mm (6 in.) above finished ground level.
3. Piles/pier and footing shall be of sulphate resistant concrete.
4. Wood beam may be substituted

Floor Framing Plan

What details are required on the floor framing plan?

The details required on this plan are as follows (see FIGURE 8):
a) size of addition, dimensioned;
b) joist size, grade, spacing and direction;
c) bridging and strapping location, blocking;
d) location of openings and member sizes;
e) beam sizes if not shown on foundation plan;
f) pre-manufactured I-joists require submission of final I-joist layout(s) complete with engineering.

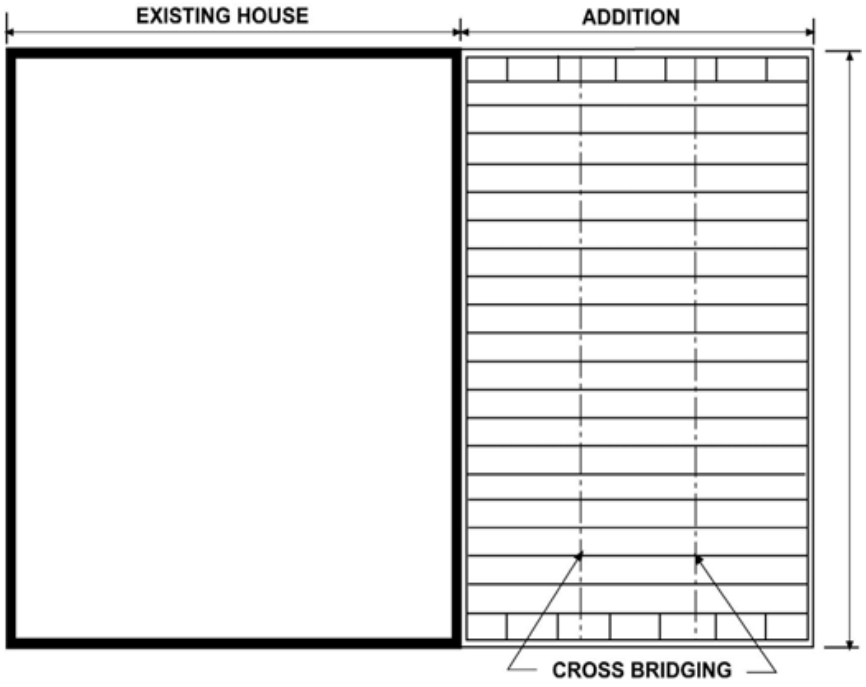


Figure 8 - Typical Floor Framing Plan

Section Drawing

What details are required on the section drawing?

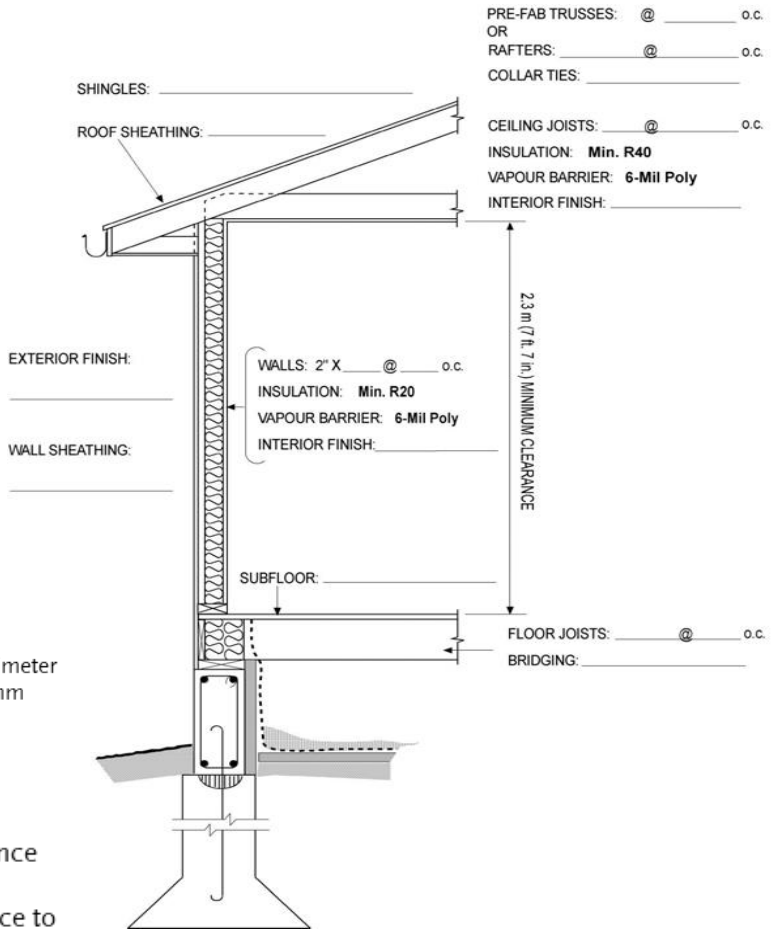
The following details should be indicated on the section drawing (see FIGURE 9):

a) Type and thickness of materials in the roof, walls, and floor construction assembly; (see appropriate tables for material selection)

b) If roof is to be a truss system it shall be either:

1. Built on site to meet minimum CMHC standards; or
2. Prefabricated and designed by a Professional Engineer.

Figure 9 - Section Drawing



Minimum R5 insulation required 1m (39 in.) around perimeter of new grade beam c/w 6 mil poly vapor barrier and 50mm (2 in). of granular fill under entire addition.

Note:

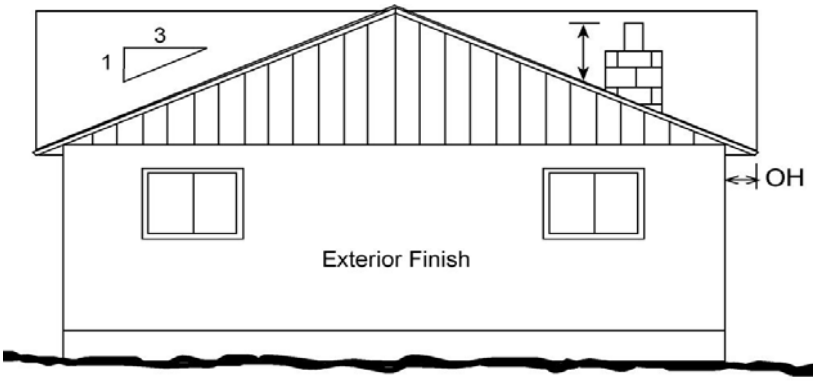
1. Crawl space shall be vented in conformance to 9.18.3.1 and 9.18.3.2
2. Attic space shall be vented in conformance to 9.19.1.1

Elevation Drawing

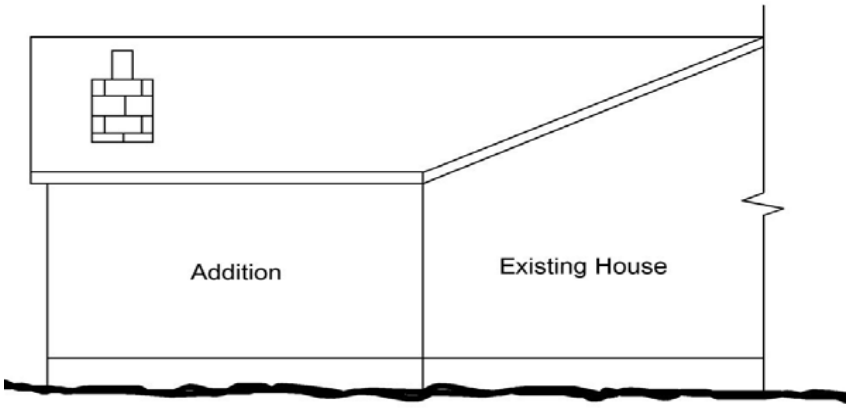
What information should be indicated on the elevation drawing?

The information to be indicated on the elevation drawing is as follows (see FIGURE 10):
a) type of finish siding material;
b) chimney height, if any;
c) window and door location;
d) indicate roof slope and overhang (OH);
e) guard rail height/picket spacing for any landings.

Figure 10 - Elevations



REAR ELEVATION



SIDE ELEVATION

Material Specifications

MINIMUM THICKNESS OF ROOF SHEATHING					
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
Column 1	2	3	4	5	6

THICKNESS OF WALL SHEATHING				
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
Column 1	2	3	4	5

THICKNESS OF SUBFLOORING			
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
Column 1	2	3	4

Ceiling Joist Spans

Commercial Designation	Grade	Member Size (in.)	Rafter Spacing			Member Size (in.)	Rafter Spacing		
			12 in.	16in.	24 in.		300mm	400mm	600mm
			ft.-in.	ft.-in.	ft.-in.		m	m	m
Douglas Fir-Larch	No.1 and No. 2	2 x 4	10 - 8	9 - 8	8 - 6	38 x 89	3.27	2.97	2.59
		2 x 6	16 - 9	15 - 3	13 - 4	38 x 140	5.14	4.67	4.08
		2 x 8	22 - 1	20 - 1	17 - 6	38 x 184	6.76	6.14	5.36
		2 x 10	26 - 2	25 - 7	22 - 4	38 x 235	8.63	7.84	6.85
Spruce Pine Fir	No. 1 and No. 2	2 x 4	10 - 2	9 - 3	8 - 1	38 x 89	3.11	2.83	2.47
		2 x 6	16 - 0	14 - 6	12 - 8	38 x 140	4.90	4.45	3.89
		2 x 8	21 - 0	19 - 1	16 - 8	38 x 184	6.44	5.85	5.11
		2 x 10	3 - 10	24 - 5	21 - 3	38 x 235	8.22	7.47	6.52

Roof Rafter Spans

Rafter Not Supporting Ceiling (Design Roof Snow Loads for 1.5kPa (30psf))

Commercial Designation	Grade	Member Size (in.)	Rafter Spacing			Member Size (mm)	Rafter Spacing		
			12 in.	16 in.	24 in.		300mm	400mm	600mm
			ft.-in.	ft.-in.	ft. - in.		m	m	m
Douglas Fir - Larch	No. 1 and No. 2	2 x 4	9 - 4	8 - 6	7 - 5	38 x 89	2.86	2.59	2.27
		2 x 6	14 - 8	13 - 4	10 - 10	38 x 140	4.49	4.08	3.34
		2 x 8	18 - 8	16 - 2	13 - 2	38 x 184	5.74	4.97	4.06
		2 x 10	22 - 10	19 - 9	16 - 2	38 x 235	7.02	6.08	4.96
Spruce Pine Fir	No. 1 and No. 2	2 x 4	8 - 10	8 - 1	7 - 1	38 x 89	2.72	2.47	2.16
		2 x 6	13 - 11	12 - 8	11 - 1	38 x 140	4.28	3.89	3.40
		2 x 8	18 - 4	16 - 8	14 - 4	38 x 184	5.65	5.11	4.41
		2 x 10	23 - 5	21 - 4	17 - 6	38 x 235	7.18	6.52	5.39

Roof Joist Spans

(Design Roof Snow Loads for 1.5kPa (30psf))

Commercial Designation	Grade	Member Size (in.)	Rafter Spacing			Member Size (mm)	Rafter Spacing		
			12 in.	16 in.	24 in.		300mm	400mm	600mm
			ft.-in.	ft.-in.	ft. - in.		m	m	m
Douglas Fir - Larch	No. 1 and No. 2	2 x 4	7-5	6-9	5-10	38 x 89	2.27	2.06	1.80
		2 x 6	11-8	10-7	9-3	38 x 140	3.57	3.24	2.83
		2 x 8	15-3	13-11	12-2	38 x 184	4.69	4.26	3.72
		2 x 10	19-6	17-9	15-5	38 x 235	5.98	5.44	4.74
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	11-1	10-1	8-10	38 x 140	3.40	3.08	2.69
		2 x 8	14-7	13-3	11-7	38 x 184	4.46	4.05	3.54
		2 x 10	18-7	16-11	14-9	38 x 235	5.70	5.18	4.52

Floor Joist Spans

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 - 1	9 - 6	8 - 7	10 - 9	9 - 10	8 - 7	10 - 9	9 - 10	8 - 7
		2 x 8	12 - 2	11 - 7	11 - 0	13 - 1	12 - 4	11 - 3	13 - 9	12 - 9	11 - 3
		2 x 10	14 - 4	13 - 8	13 - 0	15 - 3	14 - 4	13 - 6	15 - 10	14 - 9	13 - 9
		2 x 12	16 - 4	15 - 7	14 - 10	17 - 3	16 - 2	15 - 3	17 - 10	16 - 7	15 - 6
		(mm)	300mm m	400mm m	600mm m	300mm m	400mm m	600mm m	300mm m	400mm m	600mm 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	4.00	3.76	3.44	4.19	3.90	3.44
		38 x 235	4.38	4.16	3.96	4.66	4.38	4.11	4.84	4.51	4.20
		38 x 286	4.99	4.75	4.52	5.26	4.94	4.65	5.43	5.06	4.72
Spruce Pine Fir	No. 1 and No. 2	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 - 10	8 - 2	10 - 4	9 - 4	8 - 2	10 - 4	9 - 4	8 - 2
		2 x 8	11 - 7	11 - 0	10 - 6	12 - 6	11 - 9	10 - 9	13 - 1	12 - 2	10 - 9
		2 x 10	13 - 8	13 - 0	12 - 4	14 - 7	13 - 8	12 - 10	15 - 1	14 - 1	13 - 1
		2 x 12	15 - 7	14 - 10	14 - 1	16 - 5	15 - 5	14 - 6	17 - 0	15 - 10	14 - 9
		(mm)	300mm m	400mm m	600mm m	300mm m	400mm m	600mm m	300mm m	400mm m	600mm m
		38 x 89	1.86	1.72	1.58	1.99	1.82	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	3.81	3.58	3.27	3.99	3.72	3.27
		38 x 235	4.17	3.96	3.77	4.44	4.17	3.92	4.60	4.29	4.00
		38 x 286	4.75	4.52	4.30	5.01	4.71	4.42	5.17	4.82	4.49

Built Up Floor Beam Spans Supporting ONE Floor in Houses

Douglas Fir - Larch Grade No. 1 & No. 2

Size of Beam	Supported Joist Length					Size of Beam	Supported Joist Length				
	8ft.	10ft.	12ft.	14ft.	16ft.		2.4m	3.0m	3.6m	4.2m	4.8m
	ft.- in.	ft.-in.	ft.-in.	ft.-in.	ft.-in.		m	m	m	m	m
3-2x8	9-9	8-8	7-11	7-4	6-11	3-38x184	2.99	2.67	2.44	2.26	2.11
4-2x8	11-3	10-1	9-2	8-6	7-11	4-38x184	3.45	3.09	2.82	2.61	2.44
3-2x10	11-11	10-8	9-6	9-0	8-5	3-38x235	3.66	3.27	2.98	2.76	2.59
4-2x10	13-9	12-3	11-2	10-5	9-9	4-38x235	4.22	3.78	3.45	3.19	2.98
3-2x12	13-10	12-4	11-3	10-5	9-9	3-38x286	4.24	3.79	3.46	3.21	3.00
4-2x12	15-11	14-3	12-11	12-1	11-3	4-38x286	4.90	4.38	4.00	3.70	3.46

Compliance

Built Up Floor Beam Spans Supporting TWO Floors in Houses											
Douglas Fir - Larch Grade No. 1 & No. 2											
Size of Beam	Supported Joist Length					Size of Beam	Supported Joist Length				
	8ft.	10ft.	12ft.	14ft.	16ft.		2.4m	3.0m	3.6m	4.2m	4.8m
	ft.- in.	ft.-in.	ft.-in.	ft.-in.	ft.-in.		m	m	m	m	m
3-2x8	7-5	6-7	6-0	5-7	5-3	3-38x184	2.27	2.03	1.85	1.71	1.60
4-2x8	8-6	7-8	6-11	6-5	6-0	4-38x184	2.62	2.34	2.14	1.98	1.85
3-2x10	9-0	8-1	7-4	6-11	6-5	3-38x235	2.77	2.48	2.26	2.10	1.96
4-2x10	10-5	9-4	8-6	7-11	7-4	4-38x235	3.20	2.86	2.62	2.42	2.26
3-2x12	10-6	9-4	8-6	8-0	7-6	3-38x286	3.22	2.88	2.63	2.43	2.28
4-2x12	12-1	10-10	9-10	9-2	8-7	4-38x286	3.72	3.32	3.03	2.81	2.63

Who enforces all of these requirements?

The City of Dauphin Building Inspector is assigned the responsibility of monitoring construction for compliance with the various Building Codes and Bylaws. This monitoring is carried out by means of the permit approval process and periodic site inspections.

The ultimate responsibility for compliance rests with the owner and/or contractor.

Is there any way that compliance with a certain aspect of the Building Code can be waived?

The Building Inspector does not have the authority to waive the requirements.

Dave Derkach
Building Inspector
City of Dauphin

Ph: 204-622-3219
Fax: 204-622-3291
Email: daved@dauphin.ca

100 Main Street South
Dauphin, MB R7N 1K3

Remember to Click or Call Before You Dig

For BellMTS, Manitoba Hydro/Gas or Westman Communications Group locates:
Click: http://www.clickbeforeyoudigmb.com
Call: 1-800-940-3447
Water & Sewer locates:
Call: 204-622-3202 (Monday-Friday, 8 am-5 pm)
Email: locates@dauphin.ca

Dauphin

City of Dauphin

100 Main Street South

Dauphin, MB R7N 1K3

Phone: 204-622-3200

Fax: 204-622-3291