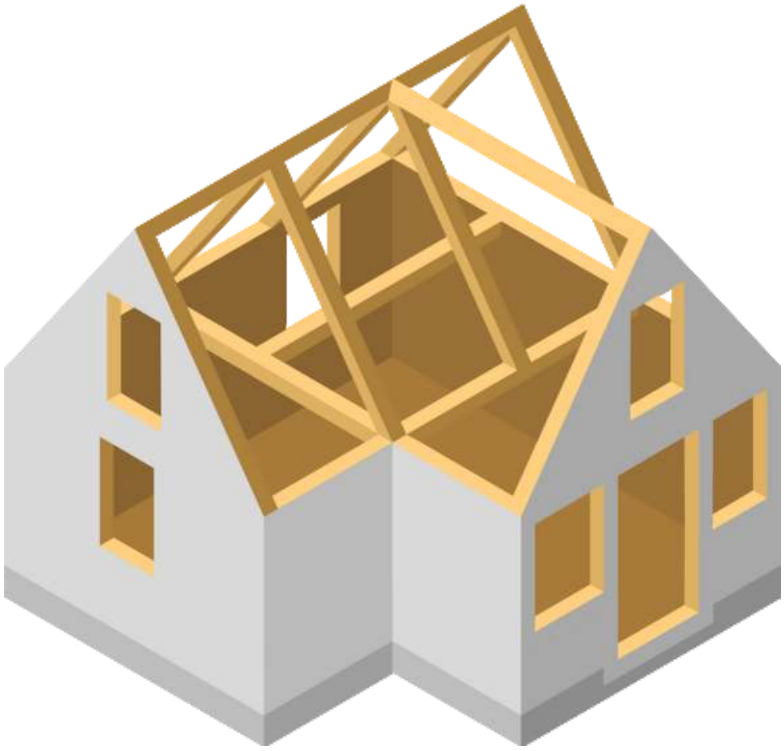
Why you don't need an Architect

PRESENTED BY
Giorgio Giovinazzo Architect

WRITTEN BY
Grant Vernile

Introduction



Welcome!

If you're a homeowner in Welland or anywhere in Ontario planning to add a room, garage, or new living space to your home, this guide is here to help. Whether you're tackling the design yourself or just trying to understand what's involved, you'll find clear, step-by-step information to get you started with confidence. It also includes local considerations for Welland's permit process, inspections, and zoning rules, so you can plan your addition with clarity and peace of mind.

We'll walk you through your **rights as a homeowner, what you need to apply for a building permit, and how the building code and zoning rules apply to your project.**

Disclaimer: The information in this guide is intended to provide general assistance to homeowners planning residential additions in the City of Welland. It does not constitute professional architectural, engineering, or legal advice. While it references local building practices, zoning rules, and materials, all construction must comply with the Ontario Building Code (OBC), local bylaws, and site-specific conditions. Despite efforts to ensure accuracy, this guide assumes no responsibility for errors, omissions, or outcomes resulting from its use. Homeowners, contractors, and designers are encouraged to consult with qualified professionals and Welland's Building Division for project-specific approvals.

All measurements are presented in metric units.

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Chapter 1:
Understanding Your Rights and Property

Before you start designing or submitting anything, it's important to understand the legal and practical groundwork for your project.

This chapter covers the essentials every homeowner should know: **your rights when it comes to renovating your home, how the building permit process works in Ontario, and what zoning rules or site conditions might affect your design.**

Getting familiar with these topics early on can save you time, money, and stress later in the process.

1.1 Legal Rights as a Homeowner

What Are Your Rights as a Homeowner?

If you're planning to add a room, a garage, or another living space to your home, you might be asking:

Do I need to hire an architect?

In many cases, the answer is **no**, and the Ontario law supports that.

Can a Homeowner Design Their Own Addition?

Yes, if the project is for your own home and you're not offering design services to others, you're exempt from the requirement to hire a qualified designer under the Ontario Building Code (O. Reg. 332/12).

According to Division C, Section 3.2.4.1, if:

- You own the house, and
- You're not offering design services to the public (meaning you're not doing it as a paid business)...

...then you're exempt from needing a registered or qualified designer under the Code.

This means you can create your own drawings and submit a building permit application yourself, as long as the work is for your own home.

Do I Need an Architect?

Not always. Ontario law allows many homeowners to design their own home additions, without hiring an architect, if certain conditions are met.

- Your house is only for living (not a business)
- It has one or two units (like a main home and a legal basement suite)
- It's 3 stories or less
- It's under 600 square metres in size

So if your house meets these rules, you don't need to hire an architect to design the addition.

Building Code Act: You Still Need a Permit

While the law gives you the right to design your own project, you still need to get permission before building.

The **Building Code Act, 1992**, says that no construction can begin without a permit.
- Building Code Act, S.O. 1992, c. 23, s. 8(1)

So, you must apply to your local building department before starting any construction, even if you're doing the drawings yourself.

City of Welland – Building Department Guidance

If you live in **Welland**, you can **make and submit your own building plans**, as long as your project follows the rules explained earlier.

From the City's official building permit resources:

"Homeowners may prepare their own drawings provided the work does not exceed the limits set out under the Architects Act. However, all drawings must be clear, to scale, and meet the Ontario Building Code requirements."

Source: City of Welland Building Permit Guide (Residential Construction)

Summary Checklist

You Do Not Need an Architect When...

Criteria	Meets Exception?
Residential use only	☐
Maximum 2 dwelling units	☐
Max 3 stories high	☐
Max 600 m^2 in total area	☐
Not used for public, institutional, or commercial purposes	☐

1.2 How the Permit Process Works

(City of Welland and Beyond)

1. Pre-consultation (Optional)

You can contact your city's building department to ask questions before submitting your application.

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2. Prepare Your Documents

This includes your drawings (site plan, floor plans, elevations), building code study, application forms.

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3. Submit Your Application

In Welland, you can apply online through their e-permitting portal:

- *Link to Application: Submit Your Application*

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4. Municipal Review

City staff will check your drawings for zoning rules and Building Code compliance (like exits, stairs, or fire safety).

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5. Permit Issued

Once your plans are approved, you'll get your building permit. You're now allowed to begin construction, but you'll need to follow the approved plans exactly and schedule inspections along the way.

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6. Application Fees & Timelines

Fees vary by city and by project size, but for a small residential addition, expect a few hundred dollars.

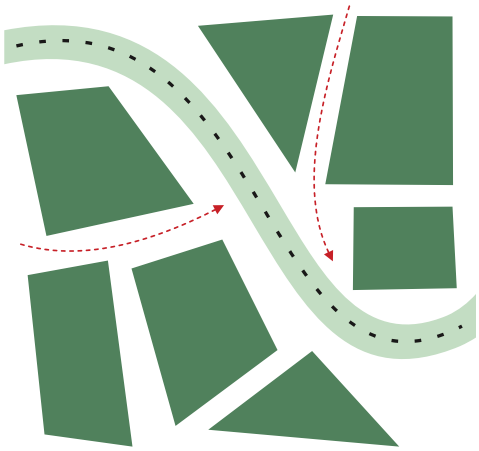
In the City of Welland, the flat-rate minimum permit fee is $195. For most residential additions (like adding a room or floor), the permit fee is calculated based on floor area. As of 2025, Welland charges $1.71 per square foot (0.0929m^2) for new residential construction or additions to detached, semi-detached, townhouse, or rowhouse buildings.

1.3 Understanding Your Property: Scope of Work and Site Conditions

Before you start drawing, you need to know what's possible on your property.

What Are You Building? (Your Scope of Work)

This guide is for residential additions, things like a room extension, a new living space, or a rear sunroom. It's important to describe clearly what you plan to build, because this will affect which rules apply.



To help you get started, we've included a simple Pre-Design Questionnaire. Think of it as a quick self-check that will help you organize your goals, avoid common pitfalls, and make the entire process, from permits to construction, much easier.

Pre-Design Questionnaire for Home Additions

A pre-design questionnaire is a short list of questions you answer before starting a home addition project. It helps you get clear on what you want, why you want it, and how you plan to use the new space.

Why Should You Fill One Out?

- Clarify Your Goals – Understand what you need and why.
- Save Time & Money – Avoid costly mistakes by planning ahead.
- Get Better Designs – Clearly share your needs with your designer.
- Simplify the Process – Make permits and construction go smoother.

Pre-Design Questionnaire for Home Additions

Lifestyle & Household

- What kind of addition are you considering? (e.g. extra bedroom, larger kitchen, mudroom, office, in-law suite)
- What are your main goals for this addition? (e.g. more space, better layout, more light, resale value)
- What problems are you trying to solve? (e.g. not enough storage, small bedrooms, no privacy, cold room)
- Do you need the new space to be accessible for seniors, kids, or people with mobility issues?

Construction & Practical Details

- Have you ever done renovations before? What worked and what didn't?
- Do you plan to live in the house during construction?
- Do you have a budget in mind? Is it flexible?
- When would you like the work to start and finish?

Light, Layout & Comfort

- Do you want more sunlight in the new space? Which direction should it face?
- Should the new space feel open or cozy?
- Are there specific views you want to capture or block?
- Do you want high ceilings, vaulted ceilings, or keep it simple?
- Do you want the new space to connect easily to your yard or garden?

Pre-Design Questionnaire for Home Additions

Style & Features

- What is the general style of your house? Would you like the addition to match it or contrast?
- Are there any must-have features? (e.g. fireplace, skylight, large windows, built-in shelves)
- Do you have specific materials in mind? (e.g. wood floors, tile, natural finishes)
- What feeling do you want the space to create? (e.g. calming, bright, cozy, luxurious)

Function & Flow

- How should the new space connect with the rest of the house?
- Are there parts of your current layout that frustrate you?
- Will this addition change how you use existing rooms?

Final Questions

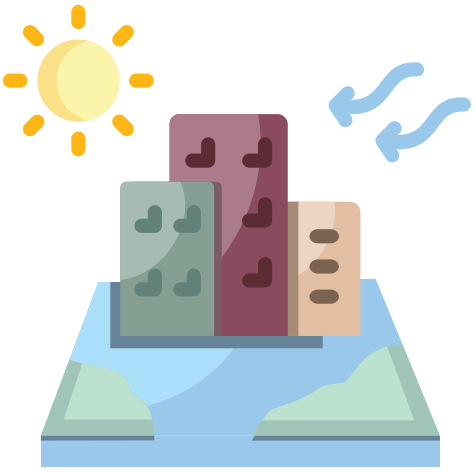
- Are there any special needs to plan for (pets, work-from-home, frequent guests)?
- Do you have any images or inspiration?

What Is a Site Analysis?

A site analysis is a basic review of your property to identify anything that could affect your design or construction. It includes both physical conditions (like trees, slopes, or fences) and legal constraints (like zoning rules or setbacks).

Why It Matters

- *Where your addition can go*
- *How big it can be*
- *What rules apply to your lot*
- *What might get in the way (like fences, trees, or property lines)*



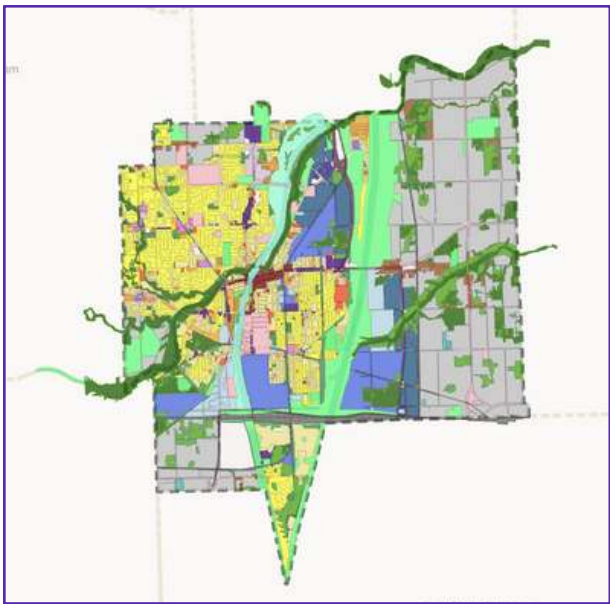
What to Look At: Site Analysis Checklist (Beginner-Friendly)

1. Zoning and Lot Rules

Zoning is how the city decides what types of buildings are allowed in each area. Your property has a zoning label (like R1, R2, RM, or RL) that tells you what you're allowed to build and where.

How to find your zoning:

- Go to your city's website and search for zoning map or interactive zoning viewer.
- Enter your address to find your zoning code (like "R1B" or "RL1").
- Once you know your zone, search "[Your city] zoning bylaw" and look for a section that lists setbacks, lot coverage, and building height limits for that zone.



Important zoning terms to look up:

- Setbacks: How far your building must be from the front, back, and side property lines.
- Lot Coverage: The maximum percentage of your land that buildings can cover. For example, if your lot is 500 m^2 and the coverage limit is 35%, you can build on up to 175 m^2.
- Maximum Height: “Height” means the distance from the average ground level at the base of the main wall to the highest point of the roof.

In Welland, the residential zones have heights listed as:

- Main buildings: Max height is 11.0 m or 3 storeys
- Accessory buildings: Max height is 6.0 m

You must stay within these limits unless you apply for a variance.

2. Services and Utilities

Where are your hydro, water, sewer, and gas lines located?
Will you need to move any service lines for your addition?
Are there overhead wires, meters, or underground pipes nearby?

Your city or utility provider can often provide service maps or help you locate buried lines**.**

Utility Locates – City of Welland

Before digging or building, you must locate underground services like hydro, gas, water, and sewer.

Call or request online through Ontario One Call:

- Request at least 5 business days in advance.
- Painted lines or flags will mark buried utilities.

For private lines (e.g., backyard gas, electrical to sheds), you’ll need a private locate service.

For more info:

- Welland Hydro: wellandhydro.com
- City of Welland Public Works:
- pw@welland.ca | 905-735-1700

3. Site Conditions, Climate, and Sunlight

Look at how your home sits on the lot and how the environment around it might affect your project:

- Sunlight & Orientation:

South-facing areas get more sun (great for warmth and views), while north-facing walls stay cooler and shadier.

- Weather Exposure:

Consider wind, snow drifting, and whether your addition will block or benefit from natural shelter.

- Slope & Drainage:

Check if your yard is flat or sloped. Make sure rainwater drains away from the house and that your addition won't block any natural drainage paths.

- Obstructions:

Watch for large trees, roots, or anything that might interfere with excavation.

Source: Building America Solution Center

What If My Project Doesn't Follow the Zoning Rules?

Sometimes your proposed addition might not meet one or more zoning rules, like if you want to build closer to the property line than allowed. In that case, you may need to apply for something called a Minor Variance.

A minor variance is special permission from your city (Under the Planning Act, Section 45) to break one zoning rule, if the change is small and reasonable.

To get approved, your request must meet four key tests:

- It must be minor: The change is small and not excessive.
- It must be desirable: The change makes sense for your home and neighborhood.
- It must follow the general intent of the zoning bylaw: You're not breaking the spirit of the rule.
- It must follow the general intent of the official plan: The project still fits your city's long-term planning goals.

Chapter 2: Building Code Study

Once you've completed your site analysis and have a good understanding of what you're allowed to build, the next step is to complete a **Building Code Study**.

This is a short summary document that explains how your proposed home addition complies with the Ontario Building Code (OBC).

In This Chapter, You'll Learn:

- What a Building Code Study is and why it's required
- What parts of the Ontario Building Code apply to small residential additions (especially Part 9)
- How to find the code sections that match your project (e.g., fire protection, insulation, stairs, exits)
- How to create a clear, simple Code Study summary to submit with your permit application
- Where to look for guidance, examples, or help if you get stuck

By the end of this chapter, you'll be able to outline the relevant building code rules for your project and organize them into a document the city can easily review.

What Is It?

A Building Code Study is a simple document that shows how your home addition follows the rules in the Ontario Building Code, the legal rulebook that makes sure buildings are safe, healthy, energy-efficient, and built to last.

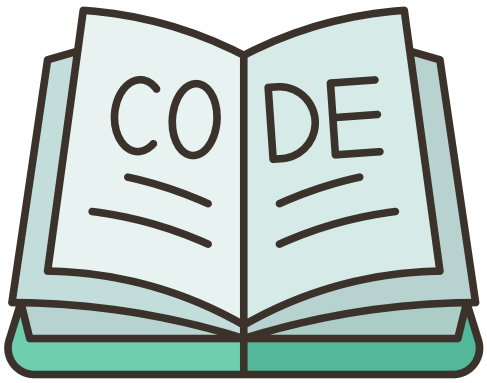
Think of it as a summary sheet that tells the city:

- What you're building
- What your addition is made of
- How it meets safety rules (like fire protection and exits)
- That it follows energy efficiency standards (like insulation and heating)

Why Do I Need One?

The city needs to make sure every addition:

- Won't be a fire risk
- Has proper exits and windows
- Doesn't block emergency access
- Meets the latest energy standards
- Is the right distance from property lines



A Building Code Study helps prove all of this in one place. It's part of what helps your permit get approved faster, with fewer questions or delays.

How to Know What Code Sections to Use for a Residential Addition

1. Know Your Building Type

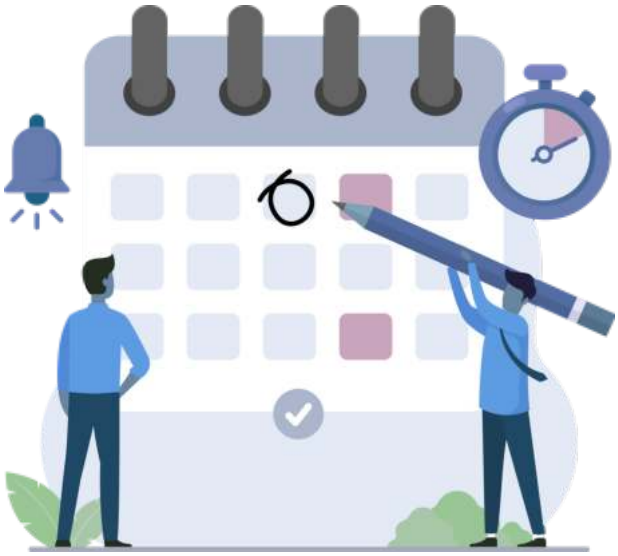
Most residential additions fall under Part 9 of the Ontario Building Code, which applies to:

- Houses and small buildings
- Under 600 m^2 (6,458 ft^2) in building area
- 3 storeys or fewer

Part 9 is and is designed for projects like single-family homes, additions, garages, and decks.

2. Match Your Design Elements to Code Sections

Here's how to break down your design and match it to relevant parts of the OBC:



1: Building Area and Height (Ontario Building Code Reference: 2.1.1.3)

When planning a residential addition or new construction under Part 9 of the Ontario Building Code, it's important to understand the limitations on building height and building area.

Building Area and Height

Design Feature	OBC Reference	What It Is	Example
Stories above grade/building area	2.1.1.3	Limits the number of storeys and total building area	2-storey house with 400m^2 total area
Room and space dimensions	9.5	Minimum room sizes and dimensions required for habitability	Bedroom must be at least 7m^2
Shoring details	9.12.1.4	Requirements for supporting excavation and surrounding structures	Timber shoring around a basement dig

2. Fire Safety Protection (For Home Additions)

(OBC References: Select Parts of 9.10, 9.6, 9.7, and 9.33)

When adding onto your home, especially if expanding a floor, adding a garage, or creating new bedrooms, fire protection must be considered. These requirements help contain fires, provide safe escape, and protect new openings or shared walls.

Fire Safety Table (Simplified for Home Additions)

Design Feature	OBC Reference	What It Is	Example
Unprotected openings near property line	9.10.14.1–10	Limits window/opening sizes close to lot lines	Window within 1.2 m of neighbour's fence
Fire rating of walls close to lot line (<600 mm)	9.10.14.11–12	Walls near property line must be fire-rated and non-combustible	Brick-clad wall close to edge of lot
Protected doors/windows in fire-rated walls	9.10.14.5	Openings near lot lines need rated closures	Fire-rated side door
Fire stopping in concealed spaces	9.10.15	Blocks hidden fire paths in attics, walls, ceilings	Mineral wool between floor joists
Doors from garage to house	9.10.13.15 & 9.6.5.6	Must be solid core or fire-rated and self-closing	Door from attached garage
Smoke alarms on each floor (interconnected)	9.10.18	Required on every level, must be hardwired or interconnected	One per floor, near bedrooms
Carbon monoxide detector (near sleeping areas)	9.33.4	Must be installed if fuel-burning appliance or attached garage present	Plug-in CO detector in hallway
Bedroom egress window (0.35 m^2 clear openable min.)	9.7.1.3 & 9.7.1.4	Each bedroom must have a window big enough to escape in emergency	Casement or sliding window in new bedroom

3. Requirements for Exits (For Home Additions)

(OBC Reference: Selected from Section 9.9)

When building a home addition, especially one that includes a new floor level, basement suite, or changes to circulation (like stairs or hallways), the Ontario Building Code outlines safe exit requirements. These cover clear pathways, door sizes, stair safety, and unobstructed escape routes.

Exit Requirements Table (Simplified for Home Additions)

Design Feature	OBC Reference	What It Is	Example
Minimum headroom clearance (2100 mm)	9.9.3.2 & 9.9.3.3	Ensures exits are wide enough for safe movement	Hallway minimum 860 mm clear width
Width of exits and corridors	9.9.3.4.(1)	Exit paths must have full head clearance	No bulkheads or beams in basement hallway
Separation of exits	9.9.4.2	Exit paths should be separated to reduce risk if one is blocked	Two stairways located at opposite ends
Protection of exterior exit stairs	9.9.4.4	Outside stairs must be protected from snow and rain if they serve as an exit	Covered side stair from basement
Protection for windows/doors in exits	9.9.4.5 & 9.9.4.6	Must be protected if they open onto or are within an exit path	Glass doors beside stairway have wire mesh
Boiler/appliances not to block exit	9.9.5.7 & 9.9.5.8	Mechanical units can't obstruct exits	Furnace must not be placed near stairwell
Door swing in exit paths	9.9.6.2	Doors must swing in the direction of exit travel if used by many people	Exterior door swings outward
Minimum exit door size (810 mm x 2030 mm)	9.9.6.4	Ensures people can fit through easily in an emergency	Standard-sized exterior door
Exit landing dimensions	9.9.6.6	Landing must be 300 mm wider and longer than the door	Concrete landing at back door

4. Footings and Foundations (For Home Additions)

(OBC References: Selected from Sections 9.4, 9.12–9.15, 9.23)

Whenever you're adding space to your home, whether it's a new room, basement extension, or crawlspace, you must ensure the foundation is safe, stable, and built to code. These requirements apply to soil conditions, footing sizes, frost protection, and waterproofing.

Footings & Foundations Table (Simplified for Home Additions)

Design Feature	OBC Reference	What It Is	Example
Soil bearing capacity (min 75 kPa)	9.4.4.1 & Table 9.4.4.1	The soil must be strong enough to support the building	Clay soil may need engineer review
Size of footings / column pad footings	9.15.3.3, Table 9.15.3.3, SG-10	Specifies minimum sizes depending on load	610 mm x 610 mm concrete pad under a post
Frost protection depth	9.12.2.2 & Table 9.12.2.2	Footings must be below frost line (to prevent heaving)	1.2 m depth for most of Ontario
Max. height of foundation wall	9.15.4.1 & Table 9.15.4.1	Limits how tall the foundation wall can be without added support	2.4 m wall height unless engineered
Foundation exposed above grade (min 150 mm)	9.15.4.3	Prevents water damage by keeping siding off the ground	Concrete shows above finished grade
Dampproofing and drainage	9.13.3, 9.14.2	Exterior walls need dampproofing and a drainage layer	Bituminous coating and gravel trench
Drainage around foundation	9.14.3 & 9.14.4.2	Drain pipes required to carry water away from footings	Perimeter weeping tile with gravel
Step footings	9.15.3.8	Required when foundation changes elevation	Stepped footing for sloped lot
Sill plate anchorage and levelling	9.23.7.2, 9.23.6.1 & 9.23.6.2	Secures wood framing to concrete and keeps it level	Anchor bolts embedded in concrete foundation

5. Concrete Slabs (For Home Additions)

(OBC References: 9.3 & 9.31)

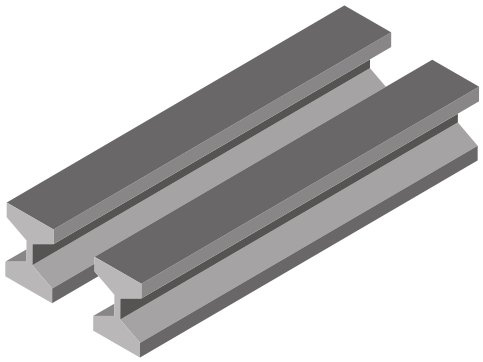
If your home addition includes a basement, garage, or slab-on-grade, the Ontario Building Code outlines basic requirements for slab strength, reinforcement, and drainage. These ensure durability and moisture management.
Concrete Slab Requirements Table

Design Feature	OBC Reference	What It Is	Example
Concrete strength	9.3.1.6 & 9.3.1.7	Specifies minimum compressive strength	Ready-mix concrete for basement floor
Reinforcement for structural slabs	9.3.1.9 & Part 4	Slabs that support loads need rebar or mesh	Garage floor with steel reinforcement
Basement floor drain	9.31.4.4	Floor drain required to collect groundwater or overflow	Drain in center of concrete basement floor

6. Structural Components (For Home Additions)

(OBC References: 9.4, 9.20, 9.23)

Whether you're framing over a new foundation or opening up walls, structural components like beams, lintels, and floor systems must meet code. These ensure your addition carries loads safely and doesn't crack or sag.



Design Feature	OBC Reference	What It Is	Example
Maximum deflections	Table 9.4.3.1	Limits bending or sagging in beams and floors	Joists must not deflect more than L/360
Lintels for masonry walls	9.20.5.3	Minimum support sizes over masonry openings	Steel lintel over basement window
Wood lintels	9.23.12.3 & Tables A-13 to A-20	Spans and sizes for wood beams above doors and windows	Double 2x10 wood beam over patio door
Steel beams supporting floors	Table 9.23.4.3 & Part 4	Requires structural engineer calculation (not covered by span tables)	Wide-span steel I-beam under open concept room
Joists and steel beam framing	9.23.9.2.(1)–(5)	Rules for spacing, bearing, and joining of joists/beams	Joists resting on steel beam in basement
Steel columns	9.17.3.1–9.17.3.4	Must meet sizing and load requirements	Lally column under beam in crawlspace
Wood columns	9.17.4.1–9.17.4.4	Prescriptive sizes and supports for wood posts	6x6 post supporting porch roof
Masonry/concrete columns	9.17.5 & 9.17.6	Prescribed dimensions for solid structural posts	Concrete pier under deck beam

7. Floor Construction (For Home Additions)

(OBC References: Section 9.23 & Tables A-1 to A-11)

Any new floors in an addition, whether over a basement, crawlspace, or main level, must be properly sized, supported, and braced. This includes choosing approved joists, ensuring stability with bridging, and following limits for cantilevers.

Design Feature	OBC Reference	What It Is	Example
Floor joists and beams (proprietary or not)	9.23.4.1 & Tables A-1 to A-11	Joist size and span must follow code tables or be verified by manufacturer	2x10 SPF joists spaced at 400 mm o.c.
Strapping & bridging	9.23.9.4 & Tables A-1 & A-2	Joists must be laterally braced for stability	1x3 strapping or H-clips across joists
Cantilevered floor joists	9.23.9.10 & Table 9.23.3.4	Limits how far joists can project beyond supports	Balcony extends 600 mm from wall
Concrete topping	9.23.4.4 & Tables A-1, A-8, A-11	Additional concrete layer must be supported by properly sized framing	38 mm concrete topping on garage floor

8. Wood Frame Walls (For Home Additions)

(OBC Reference: 9.23.10 & Table 9.23.10.1)

Framed walls in an addition must meet strength and spacing rules to support loads above. The OBC provides prescriptive sizing for studs depending on wall height, number of floors, and spacing.

Design Feature	OBC Reference	What It Is	Example
Stud size and spacing	9.23.10 & Table 9.23.10.1	Specifies the size and spacing of studs based on wall height and number of floors	2x4 studs @ 300 mm o.c. for 2-storey wall

9. Masonry/Stone Veneer (For Home Additions)

(OBC References: Section 9.20 & 9.23.17)

Masonry or stone veneer can add durability and curb appeal to your addition—but it needs to be safely supported and water-protected. The OBC outlines minimum thickness, attachment, and moisture protection.

Design Feature	OBC Reference	What It Is	Example
Thickness & height limits	9.20.1.1 & 9.20.6.4	Maximum height and minimum thickness for veneer	Brick veneer max 11 m high (non-load bearing)
Veneer ties	9.20.9.5 & Table 9.20.9.5	Metal ties required to secure veneer to structure	Brick ties at every 400 mm vertically
Sheathing paper	9.23.17.1 to 9.23.17.3	Moisture barrier behind masonry veneer	Asphalt-impregnated building paper
Control of rain water	9.20.13.1 to 9.20.13.8	Details to drain water behind veneer	25 mm air gap with weep holes

10. Roof & Ceiling Construction (For Home Additions)

(OBC References: 9.23.4, 9.23.13, Tables A-3 to A-7)

Whether you're building a shed roof, gable, or tying into an existing roof, framing must follow code for spans, supports, and additional loads. Roof structures must safely resist snow, wind, and sometimes tile weight.

Design Feature	OBC Reference	What It Is	Example
Ceiling joists	9.23.4.1, Table A-3, 9.23.13.10	Horizontal framing between walls that supports ceilings	2x6 joists at 400 mm o.c.
Roof joists	9.23.13.9, Tables A-4, A-5	Sloped structural members holding up roof surface	2x8 joists supporting sloped roof
Max. roof rafter span (9.75 m)	9.23.13.8, Tables A-6, A-7	Limit for traditional rafter span before engineering required	Rafter span ≤ 32 ft for wood construction
Extra load for tile/clay roof	9.23.4.5	Roofs with heavy finishes need increased framing strength	Heavier framing under clay tiles
Roof trusses (engineer-stamped)	9.23.13.11.(1)–(6)	Pre-engineered trusses must be installed per layout with structural support	Girder truss bearing on wall with beam below
Collar ties	9.23.13.7.(1) & (2)	Horizontal ties between rafters to resist spreading	2x4 collar ties every 2nd rafter
Struts & dwarf walls	9.23.13.7.(3)–(5)	Additional vertical supports for roof framing	Load-bearing dwarf wall on attic floor
Ridge support (<4:12 slope)	9.23.13.8.(1) & (2)	Ridge board must be supported for low-slope or wide roofs	Ridge beam under low-slope cathedral roof
Roof wall ties	9.23.13.8.(4)	Roof system must be tied to wall framing	Hurricane ties or structural nailing

11. Roof Details (For Home Additions)

(OBC References: 9.19 & 9.26)

Proper roof design is key to managing moisture, heat loss, and long-term durability. The code outlines ventilation requirements for attic spaces and cathedral ceilings, as well as the minimum slope to allow water runoff.

Design Feature	OBC Reference	What It Is	Example
Roof ventilation ratio (1:150 or 1:300)	9.19.1.1 to 9.19.1.4	Attic ventilation must be sized based on ceiling area and roof type	Ridge vent + soffit vents = 1:300 ratio
Cathedral ceilings	9.19.1.2 & 9.19.1.3	Ventilation must be provided in vaulted ceilings	25 mm ventilation channel above insulation
Roof slope	9.26.3.1 & Table 9.26.3.1	Minimum slope for various roofing materials to shed water properly	Asphalt shingles = 1:4 minimum slope

12. Insulation (For Home Additions)

(OBC References: 9.25, 9.26 & 9.38)

Insulating a home addition properly is critical for energy efficiency and comfort. The code provides minimum R-values by location, as well as rules for moisture protection through vapour and air barriers.

Design Feature	OBC Reference	What It Is	Example
Insulation values by area (Zone 1)	Table 9.25.2.1	Minimum R-values for walls, roofs, floors, and basements	R-22 walls, R-50 attic in southern Ontario
Thermal design by Architect or Engineer	9.38	Required if using performance-based (non-prescriptive) energy design	Engineered energy model for net-zero home
Eave protection	9.26.5.1.(1) & (2)	Ice and water shield required at roof edges	Peel-and-stick membrane along eaves
Air and vapour barriers	9.25.3 & 9.25.4	Required to control moisture and air leakage in exterior assemblies	Poly vapour barrier with sealed seams in wall

13. Natural Light & Ventilation (For Home Additions)

(OBC References: Table 9.7.1.2, 9.32.1.2, 9.32.2)

All habitable rooms in a home addition must have access to natural light and ventilation. This includes bedrooms, living rooms, and laundry rooms. These elements support comfort, health, and code compliance.

Design Feature	OBC Reference	What It Is	Example
Natural light and ventilation for rooms	Table 9.7.1.2, 9.32.1.2, 9.32.2	Finished rooms must have windows for light and air	Bedroom with window = ≥5% of floor area glazed
Interior/laundry room ventilation	9.32.2	Mechanical exhaust required if no exterior window	Fan vented to exterior in laundry room

14. Stairs (For Home Additions)

(OBC References: 9.8.3–9.8.9)

When you're adding a floor level, rear deck, or basement access, you'll likely need stairs. The code sets dimensions for safety and comfort.

Design Feature	OBC Reference	What It Is	Example
Interior & exterior stairs	9.8.3.1 & 9.8.3.2	Riser and tread sizing for all stair types	180 mm rise, 280 mm tread for interior stairs
Minimum width and headroom	9.8.3.3 & 9.8.3.4	Must be wide and tall enough for safe use	860 mm wide, 2.05 m headroom
Curved stairs and winders	9.8.5	Allowed if specific dimensions are met	Winders permitted with 230 mm minimum tread
Landings	9.8.4	Required at top and bottom of stairs	Concrete landing outside back door
Handrails	9.8.7	Required on stairs with more than 3 risers	Wooden handrail along basement stairs
Foundation under exterior stairs	9.8.9.1	Exterior stairs must be supported by frost-protected foundation	Concrete piers under porch steps

15. Guards (For Home Additions)

(OBC References: 9.8.8 & SG-7)

Guards are needed to prevent falls from decks, landings, and stairways. They must be the right height and strength, and some designs require engineering.

Design Feature	OBC Reference	What It Is	Example
Guards for stairs (interior & exterior)	9.8.8.2.(4) & (5)	Must be installed on open sides of stairs	Guardrail on side of basement stair
Guards on decks, landings, porches	9.8.8.2.(1) to (5)	Required where drop >600 mm from walking surface	Guard around second-storey rear deck
Guard construction requirements	9.8.8.4 to 9.8.8.8 & SG-7	Must be built to withstand loads	SG-7 details for 3-rail wooden guard

16. Chimneys (For Home Additions)

(OBC References: 9.21)

If you're adding a fireplace or wood-burning appliance in your home addition, the Ontario Building Code has safety requirements for chimney construction, clearance, and slope. These prevent fire hazards and ensure proper ventilation.

Design Feature	OBC Reference	What It Is	Example
650°C-rated chimney (ULC S629)	9.21.1.2	Chimneys must meet temperature rating standards for solid-fuel appliances	Metal chimney labeled “ULC S629” for fireplace
Flues serve fireplace only	9.21.2.1	Each chimney flue can only serve one fireplace	One flue per fireplace in masonry chimney
Multiple appliances not on one flue	9.21.2.2	You can't connect more than one appliance to the same chimney flue	No furnace + stove on one chimney
Chimney slope limit: 45° from vertical	9.21.2.3	Chimneys must rise straight for proper draft	Angled metal chimney capped at 45° max
Clearance to combustibles	9.21.5.1	Chimneys must be a safe distance from wood framing/materials	50 mm air space between chimney and wood studs
Flue clearance from beams/joists	9.21.5.3	Special spacing around chimney flue near structural members	Joists not allowed to touch masonry flue

17. Solid Fuel Appliances (For Home Additions)

(OBC References: 9.22 & 9.33)

Adding a fireplace, wood stove, or insert to your home requires special attention to materials, ventilation, and fire safety. These code items ensure solid fuel appliances are installed safely and operate correctly.

Design Feature	OBC Reference	What It Is	Example
Masonry fireplace wall thickness	9.22.1.2	Ensures masonry walls are thick enough and framed at safe distance	Brick firebox with 190 mm thick back wall
Fireplace liner (ULC S639M)	9.22.2	Steel liners must meet fire rating certification	Stainless steel flue liner labeled ULC S639M
Hearth, damper & smoke chamber	9.22.5–9.22.7	These must be correctly sized and constructed to control smoke and fire spread	Concrete hearth with hinged damper above firebox
Prefab fireplaces (ULC S610)	9.22.8.1, 9.33.1.2	Factory-built fireplaces must be certified	Metal fireplace insert with label ULC S610
Clearance from smoke chamber (min 25 mm)	9.22.9	Ensures heat from smoke chamber won't ignite nearby framing	1" air gap between smoke chamber and wood framing
Combustion air / HRV coordination	9.22.1.4.(1)–(7), 9.32.3.8	Fresh air supply required to support combustion, especially in tight homes	Ducted outside air line to fireplace
Fireplace inserts (ULC S628 & CSA B365M)	9.22.10	Inserts must be certified for retrofit use in existing masonry fireplaces	EPA-certified wood insert installed in old firebox
Wood stoves (ULC S627 & CSA B365M)	9.33.1.2	Freestanding stoves must meet certification and installation standards	Cast iron stove with CSA B365M installation guide

Building Code Study Template

1: Building Area and Height (Ontario Building Code Reference: 2.1.1.3)

Ref	Design Feature	OBC Reference	N / R / C / RC
a	Storeys above grade and building area	2.1.1.3	
b	Room and space dimensions	9.5	
c	Shoring details	9.12.1.4	

2. Fire Safety Protection

Ref	Design Feature	OBC Reference	N / R / C / RC
a	% of unprotected openings (>130 cm^2)	9.10.14.1 to 9.10.14.10	
b	Fire resistance of wall near property line (LD < 600	9.10.14.11 & 9.10.14.12	
c	F.R.R. of external wall and construction, dwelling	9.10.14.11	
d	Protected openings	9.10.14.5	
e	Rating for closures	9.10.13.1	
f	Party walls (wood wall separation)	9.10.11.2, 9.10.11.4, 9.11.2	
g	Firewalls (internal/external)	9.10.11 & 9.11.2	
h	Combustible projection in townhouse	9.10.14.13	
i	Protection of soffits (shared attic spaces)	9.10.12.5	
j	Fire stopping	9.10.15	
k	Gas proofing of garage	9.10.9.16.(3)	
l	Garage floor slope	9.35.2.2	

Fire and Safety (Continued)

m	Doors from garage	9.10.13.15 & 9.6.5.6	
n	Single exit travel >1 storey (balcony/window	9.9.9	
o	Forced entry requirements for	9.6.8 & 9.7.6	
p	Openable window in each bedroom (0.35 m²	9.7.1.3 & 9.7.1.4	
q	Windows or access panels (when dwelling	9.10.19.1	
r	Smoke alarms on each floor (interconnected) +	9.10.18 & 9.33.4	

3. Requirements for Exits (For Home Additions)

Ref	Design Feature	OBC Reference	N / R / C / RC
a	Width of exits and exit corridors	9.9.3.2 & 9.9.3.3	
b	Minimum headroom in exits (2100 mm)	9.9.3.4.(1)	
c	Separation of exits	9.9.4.2	
d	Protection of exposed exterior exit stair	9.9.4.4	
e	Protection of window/door in exit	9.9.4.5 & 9.9.4.6	
f	Appliances/boilers not to block exits	9.9.5.7 & 9.9.5.8	
g	Door swing in exit corridors/stairs	9.9.6.2	
h	Minimum exit door size (810x2030 mm)	9.9.6.4	
i	Exit landing min. 300 mm wider/longer	9.9.6.6	

4. Footings and Foundations (For Home Additions)

Ref	Design Feature	OBC Reference	N / R / C / RC
a	Soil bearing capacity (min. 75 kPa)	9.4.4.1 & Table 9.4.4.1	
b	Size of footings / basement column pads	9.15.3.3, Table 9.15.3.3, SG-10	
c	Frost protection depth	9.12.2.2 & Table 9.12.2.2	
d	Max. height of foundation wall	9.15.4.1 & Table 9.15.4.1	
e	Foundation height above grade (min. 150 mm)	9.15.4.3	
f	Reduced wall thickness conditions	9.15.4.4.(1) to (3)	
g	Capping & parging (for block walls)	9.15.5.1, 9.15.6.1 & 9.15.6.2	
h	Dampproofing and drainage layer	9.13.3, 9.14.2	
i	Drainage piping and soil coverage	9.14.3 & 9.14.4.2	
j	Step footings for elevation changes	9.15.3.8	
k	Sill plate anchorage and levelling	9.23.6.1, 9.23.6.2, 9.23.7.2	

5. Concrete Slabs (For Home Additions)

Ref	Design Feature	OBC Reference	N / R / C / RC
a	Minimum concrete strength	9.3.1.6 & 9.3.1.7	
b	Reinforcement for structural slabs	9.3.1.9 & Part 4	
c	Basement floor drain (required)	9.31.4.4	

6. Structural Components (For Home Additions)

Ref	Design Feature	OBC Reference	N / R / C / RC
a	Maximum deflections	Table 9.4.3.1	
b	Lintels for masonry openings	9.20.5.2.A & 9.20.5.2.B	
c	Wood lintels (non-masonry openings)	9.23.12.3 & Tables A-13 to A-20	
d	Steel beams supporting floors (P.Eng req.)	Table 9.23.4.3 & Part 4	
e	Joists bearing on steel beams	9.23.9.2.(1)–(5)	
f	Steel columns	9.17.3.1 to 9.17.3.4	
g	Wood columns	9.17.4.1 to 9.17.4.4	
h	Masonry/concrete columns	9.17.5 & 9.17.6	

7. Floor Construction (For Home Additions)

Ref	Design Feature	OBC Reference	N / R / C / RC
a	Floor joists and beams (proprietary OK?)	9.23.4.1 & Tables A-1 to A-11	
b	Strapping & bridging (IBS/engineered OK?)	9.23.9.4 & Tables A-1 & A-2	
c	Cantilevered floor joists	9.23.9.10 & Table 9.23.3.4	
d	Concrete topping on floor framing	9.23.4.4 & Tables A-1, A-8, A-11	

8. Wood Frame Walls (For Home Additions)

Ref	Design Feature	OBC Reference	N / R / C / RC
a	Stud size and spacing for framed walls	9.23.10 & Table 9.23.10.1	

9. Masonry/Stone Veneer (For Home Additions)

Ref	Design Feature	OBC Reference	N / R / C / RC
a	Veneer thickness & height limits	9.20.1.1 & 9.20.6.4	
b	Veneer ties (spacing and type)	9.20.9.5 & Table 9.20.9.5	
c	Sheathing paper behind veneer	9.23.17.1 to 9.23.17.3	
d	Control of rain water penetration	9.20.13.1 to 9.20.13.8	

10. Roof & Ceiling Construction (For Home Additions)

Ref	Design Feature	OBC Reference	N / R / C / RC
a	Ceiling joists	9.23.4.1, Table A-3, 9.23.13.10	
b	Roof joists	9.23.13.9, Tables A-4 & A-5	
c	Roof rafters (max. span 9.75 m / 32 ft)	9.23.13.8, Tables A-6 & A-7	
d	Additional roof loads (e.g., clay tile)	9.23.4.5	
e	Engineered roof trusses (P.Eng. design req.)	9.23.13.11.(1)–(6)	

10. Roof & Ceiling Construction (For Home Additions) Continued

f	Collar ties between rafters	9.23.13.7.(1) & (2)	
g	Struts and dwarf walls	9.23.13.7.(3)–(5)	
h	Ridge support if slope <4:12 or no wall ties	9.23.13.8.(1) & (2)	
i	Wall ties to connect roof to structure	9.23.13.8.(4)	

11. Roof Details (For Home Additions)

Ref	Design Feature	OBC Reference	N / R / C / RC
a	Roof space ventilation (1:150 or 1:300)	9.19.1.1 to 9.19.1.4	
b	Venting of cathedral ceilings	9.19.1.2 & 9.19.1.3	
c	Minimum slope for roofing materials	9.26.3.1, Table 9.26.3.1	

12. Insulation (For Home Additions)

Ref	Design Feature	OBC Reference	N / R / C / RC
a	Areas to be insulated & minimum R-values	Table 9.25.2.1 (Zone 1)	
b	Thermal design (required by Arch. or P.Eng.)	9.38	
c	Eave protection (ice and water shield)	9.26.5.1.(1) & (2)	
d	Air and vapour barriers	9.25.3 & 9.25.4	

13. Natural Light & Ventilation (For Home Additions)

Ref	Design Feature	OBC Reference	N / R / C / RC
a	Windows or ventilation for finished/interior rooms	Table 9.7.1.2, 9.32.1.2, 9.32.2	

14. Stairs (For Home Additions)

Ref	Design Feature	OBC Reference	N / R / C / RC
a	Interior & exterior stair geometry	9.8.3.1.(1), (2), & 9.8.3.2	
b	Minimum width & headroom	9.8.3.3 & 9.8.3.4	
c	Curved stairs and winders	9.8.5	
d	Landings (required at top/bottom of stairs)	9.8.4	
e	Handrails	9.8.7	
f	Foundation under exterior stairs	9.8.9.1	

15. Guards (For Home Additions)

Ref	Design Feature	OBC Reference	N / R / C / RC
a	Guards on interior and exterior stairs	9.8.8.2.(4) & (5)	

b	Guards on balconies, porches, stairwells	9.8.8.2.(1) to (5)	
c	Guard construction (SG-7 or P.Eng. design)	9.8.8.4 to 9.8.8.8 & SG-7	

16. Chimneys (For Home Additions)

Ref	Design Feature	OBC Reference	N / R / C / RC
a	650°C chimney rating (ULC S629)	9.21.1.2	
b	Chimney flues to serve only fireplaces	9.21.2.1	
c	No multiple appliances on one flue	9.21.2.2	
d	Max. 45° incline from vertical	9.21.2.3	
e	Clearance to combustible	9.21.5.1	
f	Clearance from joists and beams	9.21.5.3	

17. Solid Fuel Appliances (For Home Additions)

Ref	Design Feature	OBC Reference	N / R / C / RC
a	Masonry fireplace wall thickness	9.22.1.2	
b	Fireplace liner (steel, ULC S639M)	9.22.2	
c	Hearth, damper, and smoke chamber	9.22.5, 9.22.6, 9.22.7	
d	Prefabricated fireplaces (ULC S610)	9.22.8.1, 9.33.1.2	
e	Clearance from smoke chamber (min. 25 mm)	9.22.9	
f	Combustion air / HRV integration	9.22.1.4.(1)–(7), 9.32.3.8	
g	Fireplace inserts (ULC S628 & CSA B365M)	9.22.10	
h	Wood stoves (ULC S627 & CSA B365M)	9.33.1.2	

Chapter 3:
Drawing Set for Permit Applications

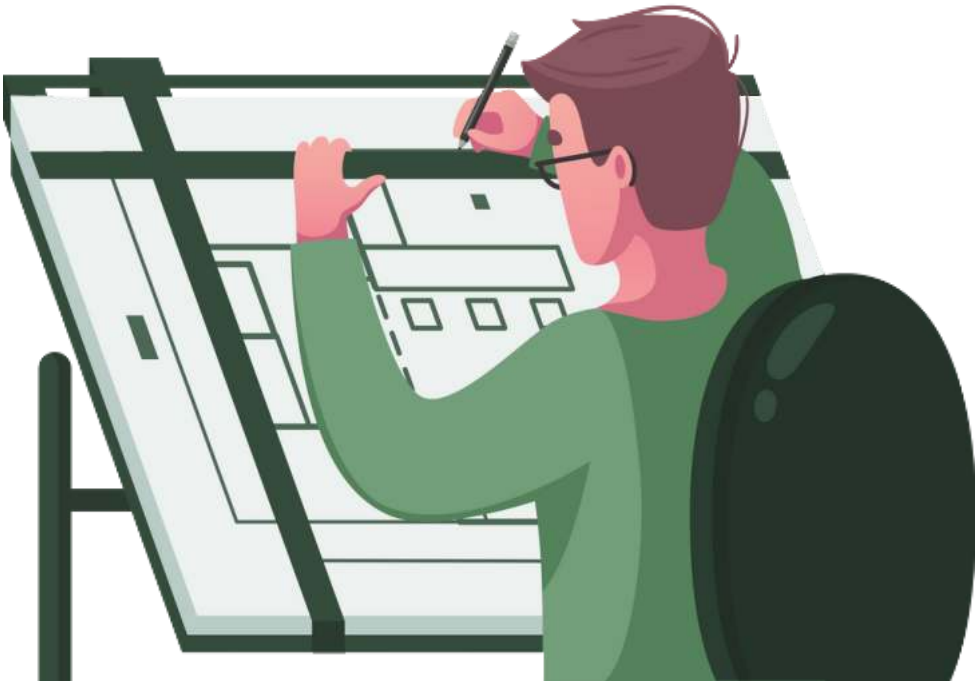
Once you've completed your site analysis and Building Code Study, the next step is to prepare your drawing set, **a collection of plans and diagrams that show exactly what you're building.** These drawings are submitted to the city as part of your building permit application.

Even if you're not a professional designer, your drawings must clearly show that your addition meets zoning rules, follows the Ontario Building Code, and is safe to build. Think of them as the visual explanation of your project, for city reviewers, builders, and even yourself.

This chapter will guide you through:

- Which drawings are required for a typical home addition
- What to include on each drawing (e.g., site plan, floor plans, elevations, sections)
- Tips for making your drawings clear and compliant
- File format and submission standards used by most municipalities

By the end of this section, you'll know how to organize a complete, permit-ready drawing set that communicates your design effectively and avoids common delays.



3.1 Required Drawings for a Permit Application

Disclaimer: All measurements shown in this guide and related drawings are in millimetres (mm) unless otherwise noted.

This set of drawings has been prepared to support a building permit application for a residential addition.

This drawing set is like a step-by-step picture guide to your home addition. It includes everything a city reviewer, builder, or contractor needs to understand your project, and how the design meets the Ontario Building Code.

These drawings are grouped by type using standard sheet labels:

- Sheets starting with A are architectural (site plan, floor plans, elevations, sections)
- Sheets starting with S are structural (beams, footings, etc.)
- Sheets with M are mechanical (HVAC systems)
- Sheets with E are electrical (lights, switches, smoke detectors)

Drawing Index

Drawing No.	Sheet Title
A0	Cover Page & Drawing Index
A1	Site Plan & Zoning Info
A2	Floor Plans & Roof Plan
A3	Elevations (All Sides)
A4	Building Sections
A5	Wall Section(s)
A6	Construction Details

Service Drawings Index

Drawing No.	Sheet Title
S0	Structural Plans
M0	Mechanical / HVAC Layout
E0	Electrical Plans

A1 - Site Plan

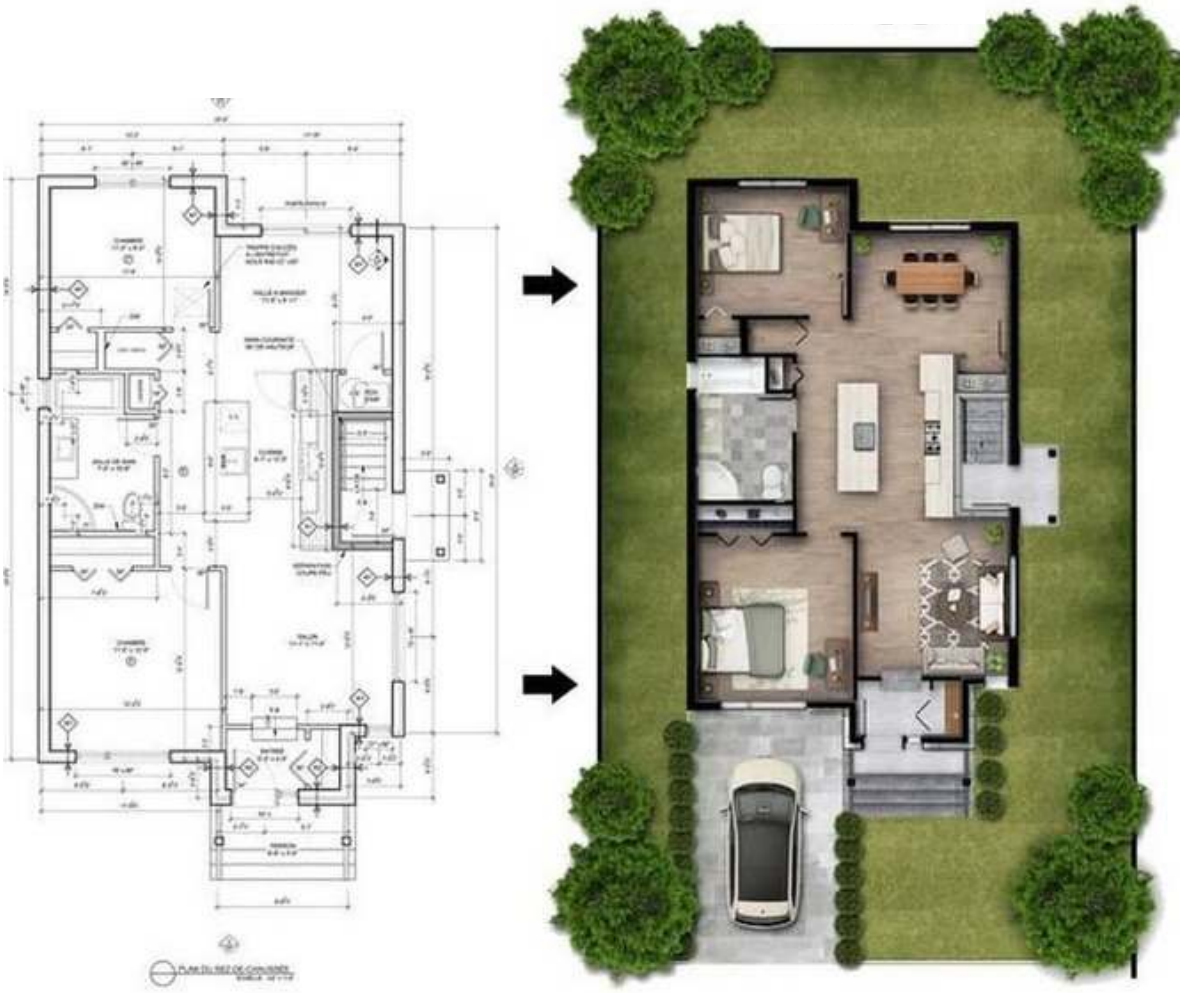
What it is:

Think of this like a map of your property—a bird's-eye view from above. It shows your existing house, your proposed addition, your driveway, trees, fences, and anything else on your lot.

Why it matters:

This drawing helps you (and the city) see how everything fits together. It shows whether your new space sits legally on the land, not too close to your neighbors, the sidewalk, or the back fence.

It's also where your project starts to feel real. You get to imagine your new space, maybe a sunroom looking over the backyard, or a cozy studio tucked beside the garden and see how it connects to what you already have.



What to Include on a Site Plan

1.Property Lines
Draw the edges of your lot and label how long each side is.

2. North Arrow and Scale
Add a small arrow pointing north, and write the scale (like 1:100) so reviewers know how big things are in real life.

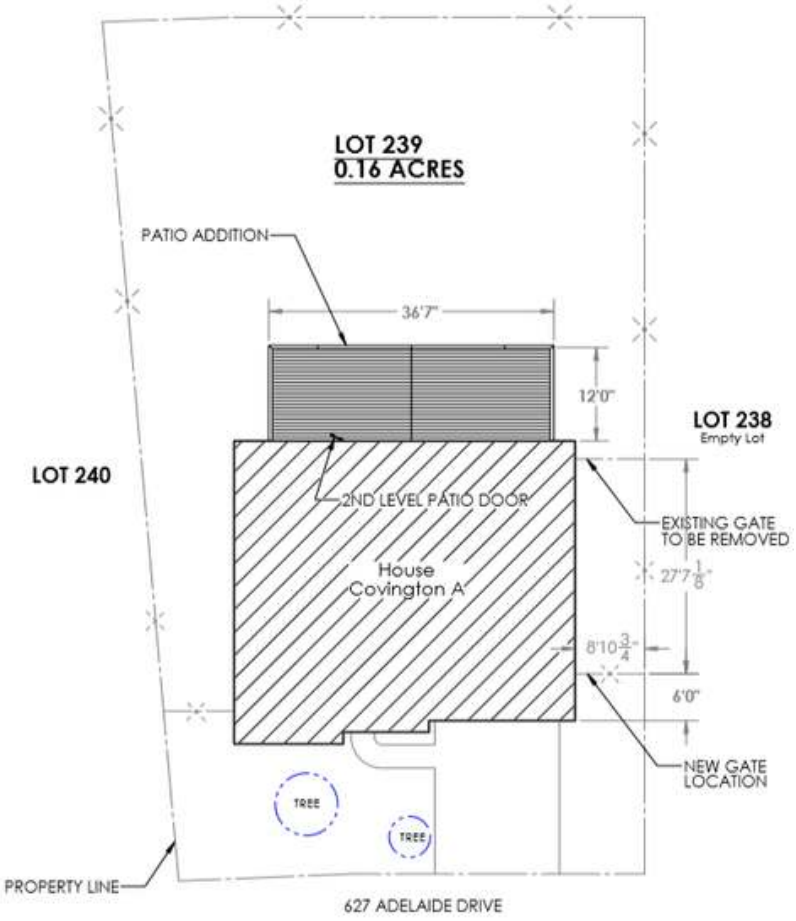
3. Buildings and Additions
Show your house and any other buildings (like a shed). Label what's already there as "existing" and your addition as "proposed."

4. Driveway, Porch, and Deck
Draw any outside features like your driveway, porch, deck, shed, or walkways.

5. Setbacks (Distances to Property Lines)
Measure how far your addition is from each edge of your property (front, sides, and back) and label them.

6. Trees, Easements, and Utilities
Mark large trees, any shared access paths (easements), and where your utility lines connect (gas, water, sewer).

7. Lot Area and Coverage
Write your total lot size, and calculate what percentage of it is covered by buildings (this is called "lot coverage").



A2-0 Existing Foundation Plan

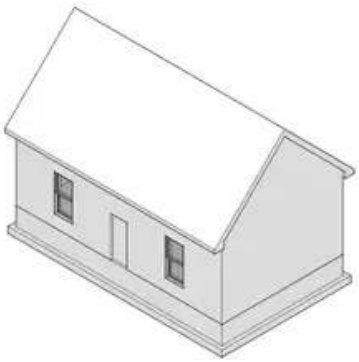
What it is:

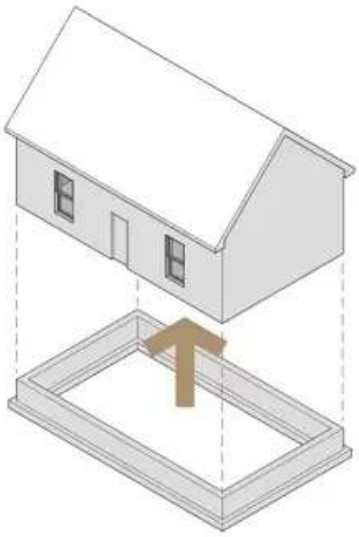
A drawing that shows what's beneath your addition, whether it's a concrete slab, crawl space, or full basement. It outlines footings, walls, columns, and anything that supports the structure from below.

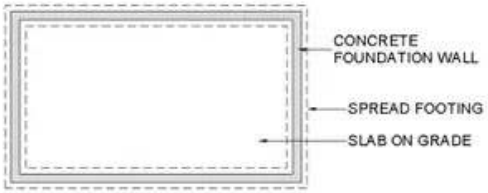
Why it matters:

This plan is all about what holds your addition up. It tells the city and your builder how the structure is supported and whether extra support is needed for the foundation.

For you, it's a peek at the invisible strength of your home, the solid base that everything else is built on.







What to include:

1. Footing and Foundation Walls

- Draw the outline of the foundation walls (like the basement or crawlspace walls)
- Show the footings underneath (wider parts that spread the load)
- Add dimensions — total width and length of the foundation and individual footings

2. Beams, Posts, and Piers

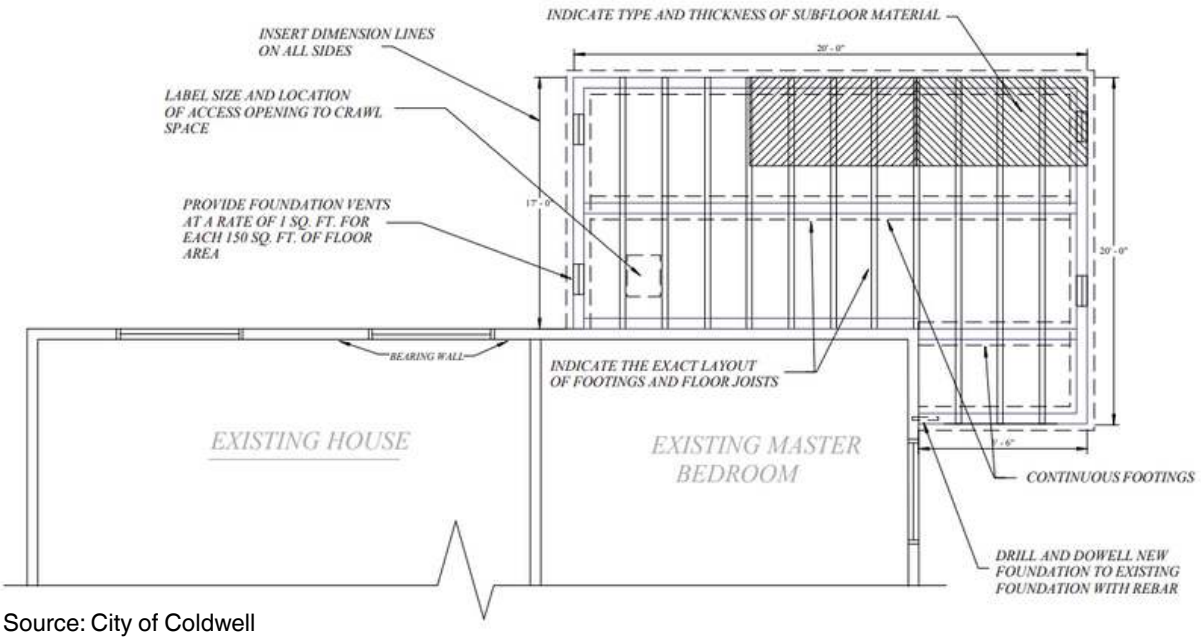
- If you have long spans or a crawlspace, show:
- Beams (thick horizontal supports)
- Posts or columns (vertical supports)
- Pads or piers under posts (small concrete bases)
- Label everything clearly, “Post,” “Pad,” “Beam”

3. Rebar Details (If Needed)

- If your city requires it or your engineer provides it, show:
- Rebar (steel reinforcement inside concrete footings or walls)
- This can be a simple note, like “2 x 15M bars in footing”

4. Insulation or Frost Protection

- If the foundation is for a heated space, you need:
- Insulation around the footing or floor slab
- Frost protection (minimum depth depends on your location — often 1.2 m in Ontario)
- Use a note like: “R-10 rigid insulation around perimeter” or “Footing at 1.2 m below grade”



Source: City of Coldwell

A2-1 Proposed Foundation Plan

What It Is:

It's a foundation plan, but specifically for your new addition. It shows what supports the new part of your house, like footings, foundation walls, and posts.

Why It Matters:

The city needs to make sure your addition has a safe, code-compliant base. It also helps your builder know exactly where and how to build the foundation.

What to Include:

1. Foundation Walls & Footings
Draw the new foundation walls and the footings beneath them
Add sizes (e.g. 200mm wall, 600mm wide footing)
Label clearly (e.g. "Concrete Wall", "Footing")

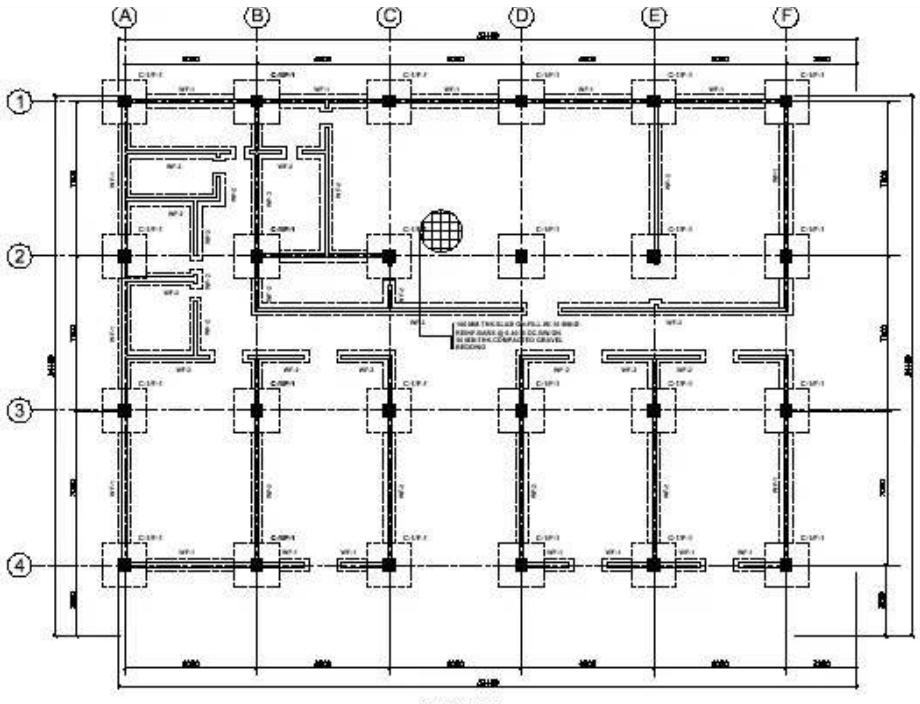
2. Posts, Piers & Pads (if needed)
Show any pads under posts (e.g. for decks or crawlspaces)
Label each post and footing

3. Dimensions
Width, length, and depth of the foundation
Distance between walls, posts, or piers

4. Frost Protection
Note footing depth:
"Footing 1.2 m below grade" (common in Ontario)
"R-10 rigid insulation at perimeter" for heated spaces

5. Rebar (if required)
Example note: "2 x 15M bars in footing"
Only needed if your city or engineer asks for it

6. Connection to Existing House
Show where the new foundation meets the existing one
Add note: "Dowels into existing footing" or "Keyed joint"



A2-0 : Existing Foundation Plan Checklist

- [ ] Dimensions & Layout
  - Outline of the existing foundation
  - Dimensions (length and width of foundation walls and footings)
  - Label any basement, crawlspace, or slab

- [ ] Foundation Elements
  - Foundation wall thickness and type (e.g., “Concrete wall – 200mm”)
  - Footing size (if known)
  - Slab thickness (if known)

- [ ] Structural Supports
  - Columns/posts and beams (label if visible or known)
  - Existing stair foundation or landings

- [ ] Elevation Reference (if available)
  - Ground level vs. top of foundation (if known)

A2-1: Proposed Foundation Plan Checklist

- [ ] Foundation Layout
  - Outline of the new addition’s foundation
  - Dimensions of walls, footings, pads, piers
  - Label any basement, crawlspace, or slab area

- [ ] Foundation Details
  - Foundation wall type and thickness (e.g., “200mm poured concrete”)
  - Footing size (e.g., “600mm x 200mm footing”)
  - Slab-on-grade? Include thickness and insulation

- [ ] Structural Supports
  - Locations of beams, columns, and posts
  - Connection to existing foundation (note dowels or joint)

- [ ] Frost Protection
  - Note footing depth (e.g., “1.2 m below grade”)
  - Include insulation notes for heated spaces (e.g., “R-10 rigid insulation at perimeter”)

- [ ] Rebar / Reinforcement (if known or required)
  - Example note: “2-15M bars in continuous footing”
  - Vertical rebar in walls (if applicable)

A2-2: Existing Floor Plans

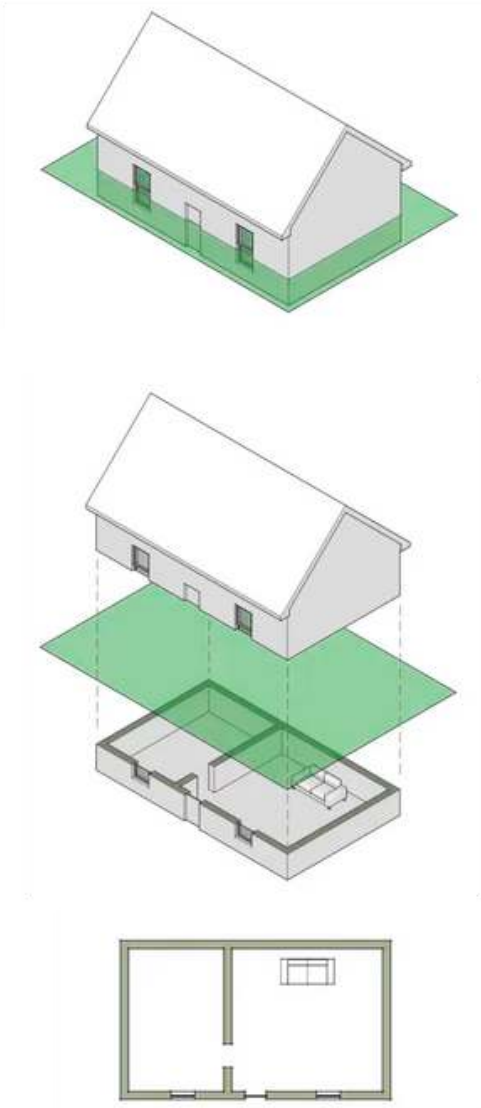
What it is:

A top-down view of your current home's layout—like looking at your house with the roof off. It shows where your rooms, walls, windows, and doors are right now.

Why it matters:

This plan gives context. It helps you, and the city, see how your new addition will connect to the existing house.

Will it open off the kitchen? Extend the living room? Replace an old deck? Think of it as the "before" picture that sets the stage for your dream "after."



What to include:

Step 1: Start with the Outside Walls

- *Look at the shape of your house from the outside.*
- *Draw the outline of your house to scale (typically 1:50, meaning 1mm is equal to 50mm in real life).*

Step 2: Go Room by Room and Measure

- *Measure each room's length and width, draw interior walls, and label each space (e.g., Bedroom, Kitchen).*

Step 3: Add Doors, Windows, and Stairs

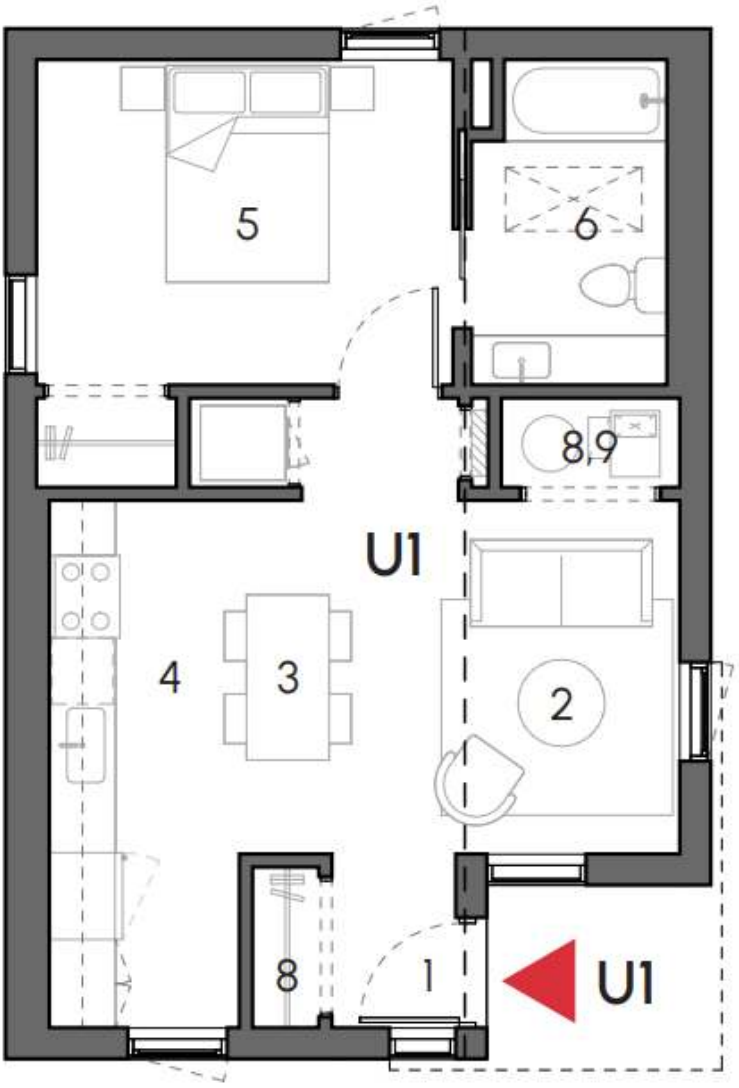
- *Use curved lines for door swings, double lines for windows, and arrows for stairs. (As seen in the Ground Floor Plan)*

Step 4: Include Plumbing Fixtures

- *Draw and label where toilets, sinks, tubs, and showers are. (Especially important for bathrooms and kitchens)*

Step 5: Add Dimensions

- *Write down wall lengths and room sizes.*
- *Add total house width and a few major dimensions for accuracy.*



Ground Floor

Legend:

1. Entry	4. Kitchen	7. Laundry	10. N/A
2. Living	5. Bedroom	8. Storage	11. N/A
3. Dining	6. Washroom	9. Mechanical	

A2-3: Proposed Floor Plans

What it is:

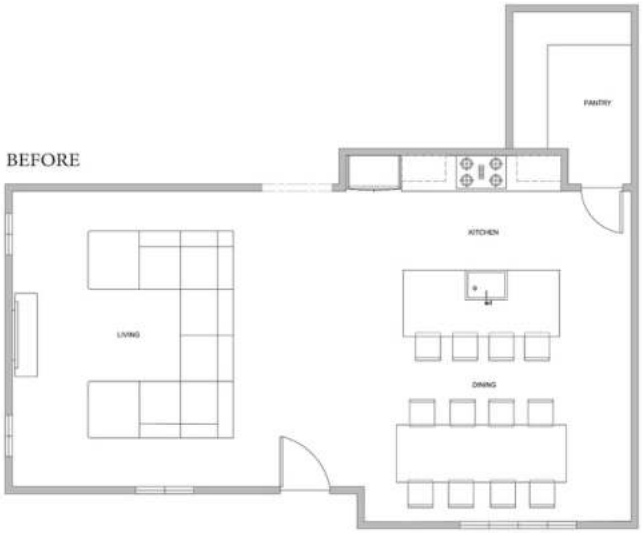
A top-down view of your home after the addition is built. It shows the layout of the new space—rooms, walls, windows, and how it connects to your existing house.

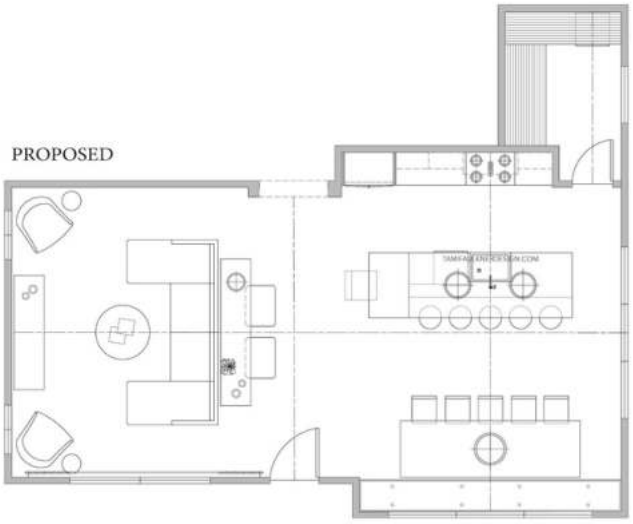
Why it matters:

This is where your vision comes to life. It shows how the new space will be used and how it will flow with the rest of your home. The city uses this to check that your design follows building rules and makes sense structurally.

What to include:

Everything from the existing plan plus the new stuff:





1. Label All Spaces
   - Draw all the rooms, both existing and new
   - Write the name inside each one (e.g., “Bedroom Addition,” “New Bathroom”)

2. Show New Walls and Changes
   - Draw new walls using solid lines
   - Use dashed lines for anything you’re planning to remove (like an old wall or closet)
   - Clearly show where the new addition connects to the original house

3. Add Doors, Windows, and Stairs
   - Show any new doors or windows with their location and size
   - If you’re changing any stair layouts or adding a new floor, include them too

4. Include Dimensions
   - Label the length and width of each new room
   - Add total building width if it changes

5. Plumbing and Fixtures (If Relevant)
   - If you’re adding a bathroom or kitchen, draw in: toilets, bathtubs, sinks

A2-2 : Checklist for Floor Plan

- [ ] **Dimensions & Layout**
  - Overall dimensions of the house
  - Interior room sizes and wall thicknesses
  - Clearly labeled rooms (e.g., “Living Room,” “Kitchen”)

- [ ] **Doors and Windows**
  - Location and swing of all doors
  - Window sizes and placements

- [ ] **Structural Elements**
  - Show load-bearing walls if known
  - Staircases, fireplaces, columns

- [ ] **Fixtures**
  - Show sinks, toilets, tubs, kitchen layout, etc.

A2-3: Proposed Floor Plan Checklist (What You're Adding or Changing)

- [ ] **Dimensions & Layout**
  - All new or modified room layouts
  - Dimensions of added space
  - Clearly labeled rooms (new and existing)

- [ ] **Doors and Windows**
  - Location, swing, and type (sliding, swinging)
  - Sizes and placements (in mm)

- [ ] **Structural Elements**
  - New walls, beams, or columns
  - Staircases, if part of the addition
  - Foundation wall location (if part of another drawing, cross-reference)

- [ ] **Fixtures**
  - Show added plumbing or built-ins (e.g., new bathroom or kitchen)
  - Label appliances and built-in furniture if any

- [ ] **Construction Notes**
  - Materials used (e.g., “2x6 stud wall with insulation”)
  - Wall types (e.g., load-bearing, partition)
  - Label areas as “New” or “To Be Demolished” if relevant

A2-4: Existing Roof Plan

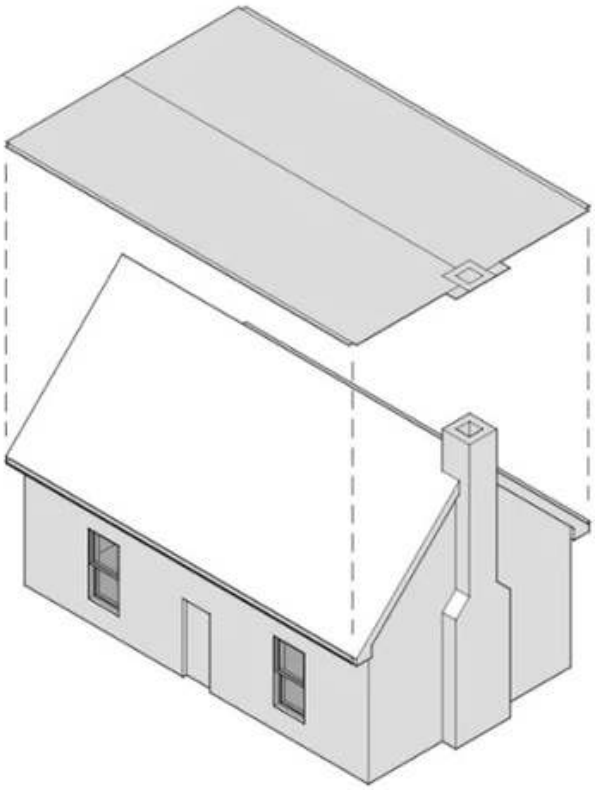
What it is:

A view of your home from directly above, showing the shape, slopes, and layout of the roof, both existing and new.

Why it matters:

The roof plan helps the city, and your builder, see how the new addition will blend into your existing roof. It's especially important for managing rain, snow, and drainage, and making sure the roof design follows code and won't cause leaks or ice buildup.

For you, it's a chance to picture how your home will look from above!



What to include:

1. Roof Shape
- Draw the outline of your roof, including both the existing part and the addition
- Keep the scale the same as your floor plans, if possible

2. Roof Slope or Pitch
- Add arrows to show which way the roof slopes
- Next to each arrow, write the pitch (1:3 (metric)) (e.g, 3:12 in imperial)
- This means 1 meter of rise for every 3 meters it goes across.

How do you find this?

Option 1: Tape Measure & Level
- *Measure 60 cm straight across (horizontally) under the roof.*
- *Measure how much the roof rises at that point. If it rises 20 cm, your slope is 1:3 (20:60).*

Option 2: Use an App
- *Download a roof pitch or angle app (like Pitch Gauge or Measure).*
- *Place your phone on the sloped roof.*
- *It will show the angle or slope (e.g., 18° ≈ 1:3).*

Option 3: Check House Plans
- *Look for numbers like 1:3, 4:12, or 18°.*

3. Overhangs and Eaves

Draw the edges of the roof that stick out beyond the walls, these are called overhangs or eaves. Include the depth (e.g., 18” overhang)

4. Drainage Features

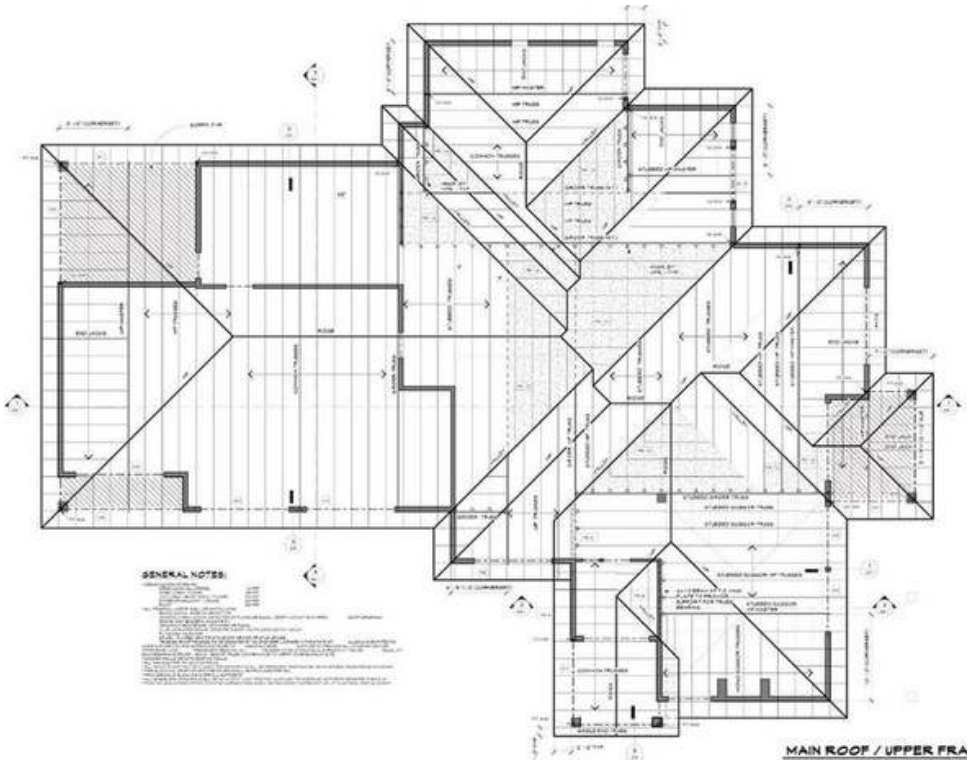
Mark where gutters and downspouts will go to direct water off the roof. (You can label them with small notes or arrows)

5. Skylights or Roof Features

If you have any skylights, vents, chimneys, or solar panels, draw them as rectangles or circles and label what they are

6. Materials

Write what roofing material you plan to use (e.g., asphalt shingles, metal roof, etc.)



A2-4: Proposed Roof Plan

What it is:
A view of your home from directly above, showing the shape, slopes, and layout of the roof, both existing and new.

Why it matters:
The roof plan helps the city, and your builder, see how the new addition will blend into your existing roof. It's especially important for managing rain, snow, and drainage, and making sure the roof design follows code and won't cause leaks or ice buildup.

For you, it's a chance to picture how your home will look from above!

What to Include in Your Proposed Roof Plan:

Here's a simple checklist for your proposed roof (the new part you're adding):

1. Show Both Existing and New Roof Areas
Use a dashed line to show the outline of the existing roof (if not on a separate plan).
Use a solid line for the proposed addition.

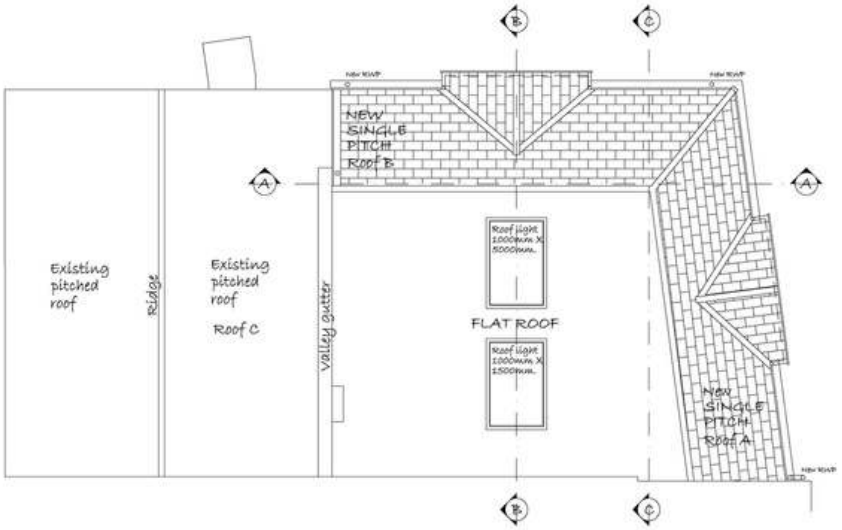
2. Roof Slopes (Pitch)
Add arrows showing the direction water will flow off the roof.
Label the slope next to the arrows (e.g., "4:12" means 4 inches of rise for every 12 inches of run).

3. Roof Features
Show key parts like:
Ridges (where two slopes meet at the top)
Valleys (where two roof sections come together and form a dip)
Eaves/Overhangs
Gutters and Downspouts (optional but helpful)

4. Dimensions
Add measurements showing:
Total width and depth of the addition's roof
Distance from the addition to the main house
Size of roof overhangs

5. Material Notes
Write what kind of roof covering you're planning:
"Asphalt shingles to match existing"
Include any insulation if your roof is part of a heated space:
Example: "R-40 insulation in attic"

6. Framing (Optional unless required)
If you know it, include:
Size of roof rafters or trusses
Spacing



Existing Roof Plan Checklist

- [ ] **Roof Layout**
  - Outline of the existing roof (top-down view)
  - Roof shape (gable, hip, shed, flat, etc.)
  - Dimensions of the roof area

- [ ] **Slopes and Direction**
  - Arrows showing roof slope direction
  - Slope labels (e.g., “4:12”)

- [ ] **Roof Features**
  - Ridges, hips, valleys, eaves
  - Chimneys, skylights, vents (if visible)
  - Gutters and downspouts (optional)

Proposed Roof Plan Checklist

- [ ] **Roof Layout**
  - Outline of new and existing roof areas
  - Use solid lines for new, dashed lines for existing
  - Show how the new roof ties into the old one

- [ ] **Slopes and Direction**
  - Arrows showing direction of roof slopes
  - Label slope values (e.g., “4:12”, “2:12”)
  - Highlight any changes in height or roof shape

- [ ] **Roof Features**
  - New ridges, hips, valleys, overhangs
  - Chimneys, skylights, vents (if added)
  - Gutter/downspout locations (if new or relocated)

- [ ] **Connection Notes**
  - Note how the new roof connects to the existing one (e.g., flashing, step tie-in)
  - Indicate roof height from ground to peak if needed for zoning

- [ ] **Material Notes**
  - Roof covering (e.g., “Asphalt shingles to match existing”)
  - Insulation or ventilation (if required)
  - Label clearly as “Proposed Roof Plan”

A3 Series: Elevations (All Sides – Existing & Proposed)

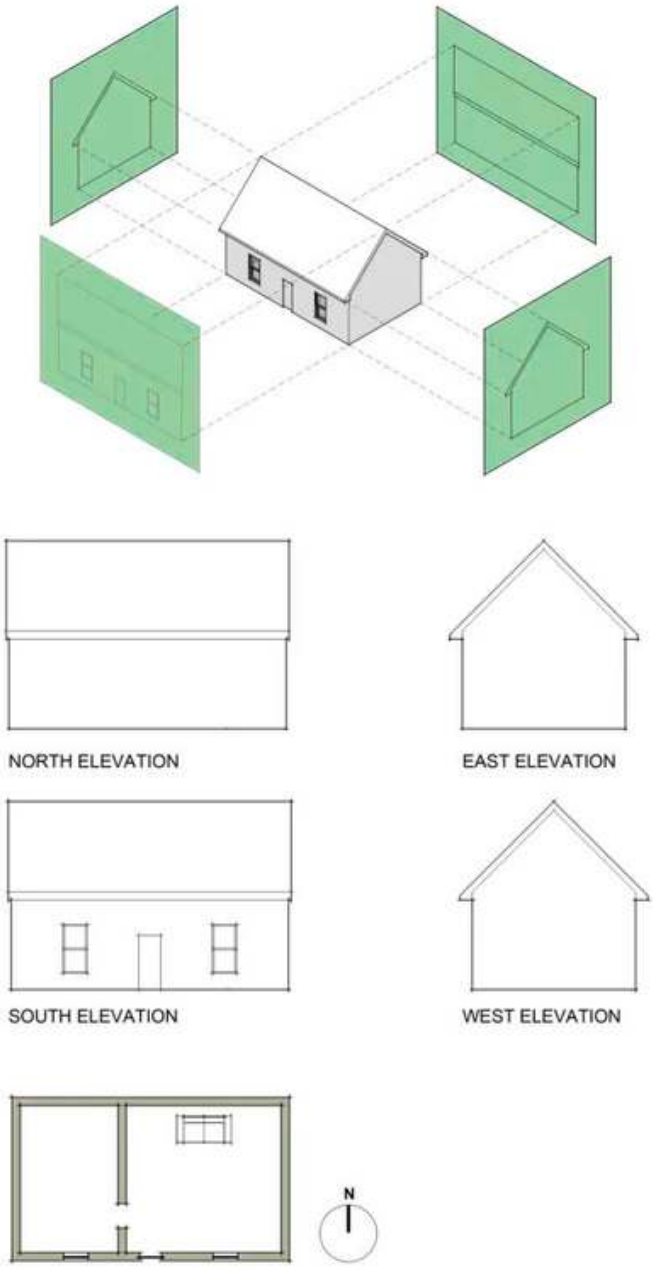
What it is:

These are flat drawings of each side of your house, like you're standing directly in front of it. They show the height, shape, and design details of your home—both before and after the addition.

Why it matters:

Elevations help you and the city see what your home will look like from the outside. They confirm that your design follows height limits and zoning rules, and they show important features like roof slopes, windows, and exterior finishes.

For you, this is where your home starts to take on its new character, from curb appeal to how it fits into the neighborhood.



What to include:

1. One Drawing for Each Side

- *Do four separate drawings — front, rear, left side, right side*
- *Label each one clearly at the bottom (e.g., "Front Elevation – Proposed")*

2. Ground Line

- *Draw a straight line at the bottom to show where the house meets the ground*

3. Height of the House

- *From the ground line, draw and label:*
- *Bottom of the first floor*
- *Top of the second floor (if applicable)*
- *Roof peak (ridge)*
- *Highest point of the building, this might be the roof ridge or something taller like a chimney or parapet*
- *You don't need to be exact down to the millimetre, but include overall height in metres.*

4. Doors and Windows

- *Draw each window and door on the correct side*
- *Show their size and location*
- *Try to keep the shapes consistent with your floor plan*

5. Roof Shape

- *Draw the roof as it looks from that side, sloped, gabled, flat, etc.*
- *If the slope is visible, you can label the pitch (e.g., 1:3)*

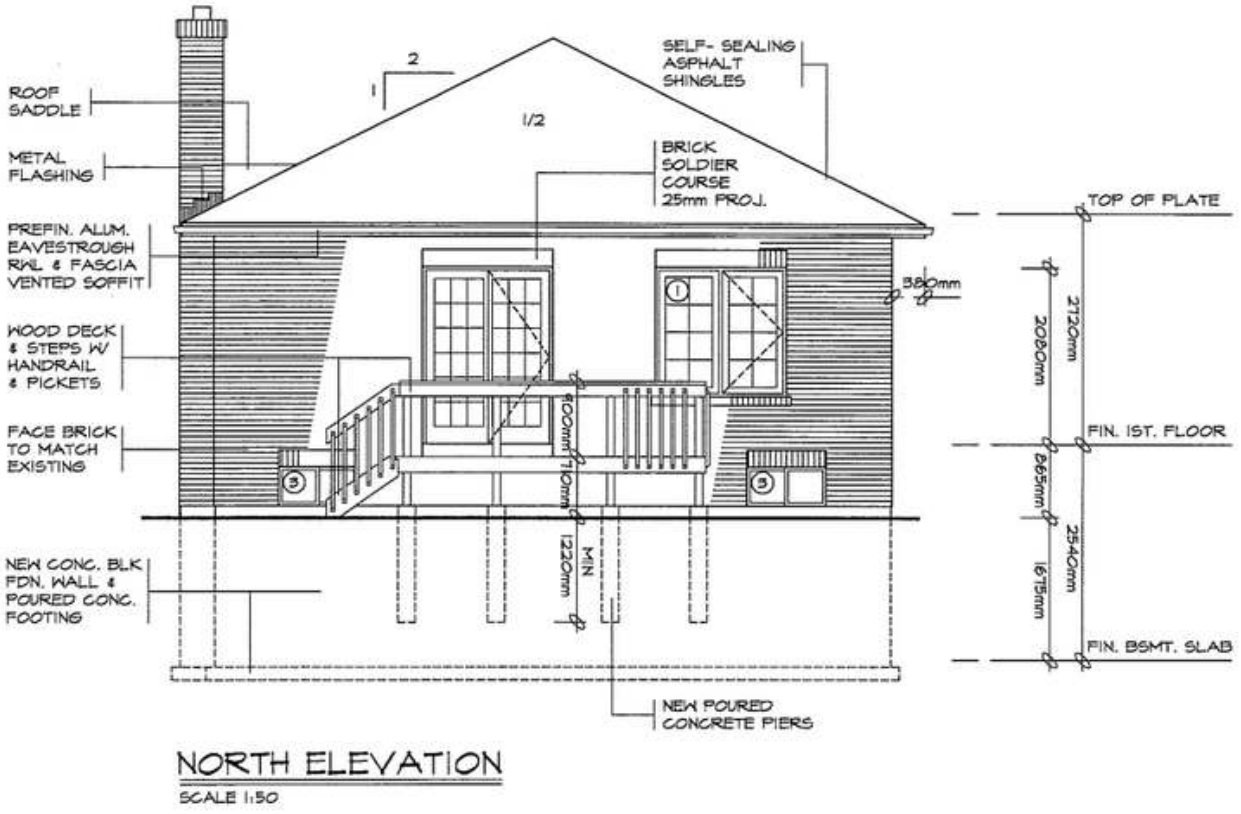
6. Exterior Materials

- *Label what you're using on the walls: e.g.: Brick and Wood cladding*
- *You don't need fancy textures, just write what material is used where*

7. Dimensions:

Add basic measurements:

- *Distance from ground to top of wall*
- *Distance from ground to top of roof*
- *Height of windows and doors*



NORTH ELEVATION

SCALE 1:50

Elevation Drawing Checklist

(One for each side: Front, Rear, Left, Right)

☐ **Drawing for Each Side**

- Create 4 separate elevation views:
- Front
- Rear
- Left Side
- Right Side
- Label each clearly at the bottom (e.g., “Rear Elevation – Existing”)

☐ **Heights & Levels**

- Draw a ground line where the building meets the earth
- From ground line, label key height points:
- Bottom of main floor
- Top of each floor (first floor, second floor, etc.)
- Top of roof / ridge height
- Show overall building height in metres

☐ **Doors and Windows**

- Draw all windows and doors on each elevation
- Match their size and position to your floor plan
- Label or note the dimensions (e.g., “1200 x 1500 mm window”)

☐ **Materials & Features**

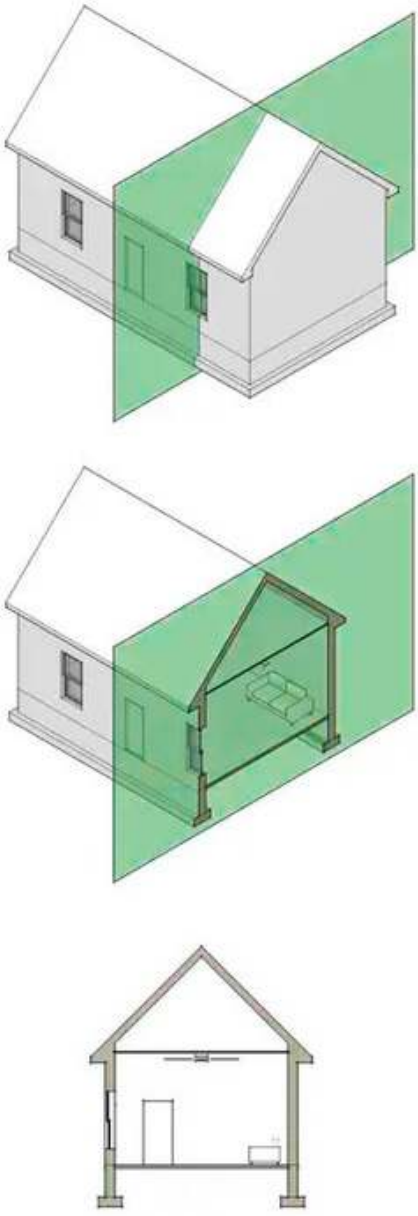
- Indicate exterior materials:
- Siding, brick, stucco, etc.
- Roofing type (shingles, metal, etc.)
- Show key features:
- Roof overhangs
- Porches or balconies
- Stairs or ramps (if visible)
- Trim or decorative elements

6. Building Sections

What it is:
A slice through your house, like if you cut it from top to bottom and looked inside. It shows the layers of your walls, floors, roof, and foundation, everything from ceiling heights to insulation and how different parts connect.

Why it matters:
This drawing helps the city understand how your home is built and how it all fits together. It shows structural details, floor levels, roof slopes, and thermal performance.

For you, it's a behind-the-scenes look at how your cozy new space stays warm, dry, and well built, like the blueprint of comfort.



Source: Architect Wisdom

What to include:

1. Foundation
- Show what your addition sits on:
- Concrete footings
- Foundation walls
- Slab on grade or crawlspace
- Include insulation under or around the foundation (if heated)

2. Floor Structure
- Show how the floor is built:
- Floor joists or slab
- Subfloor
- Floor finishes (like tile or wood)

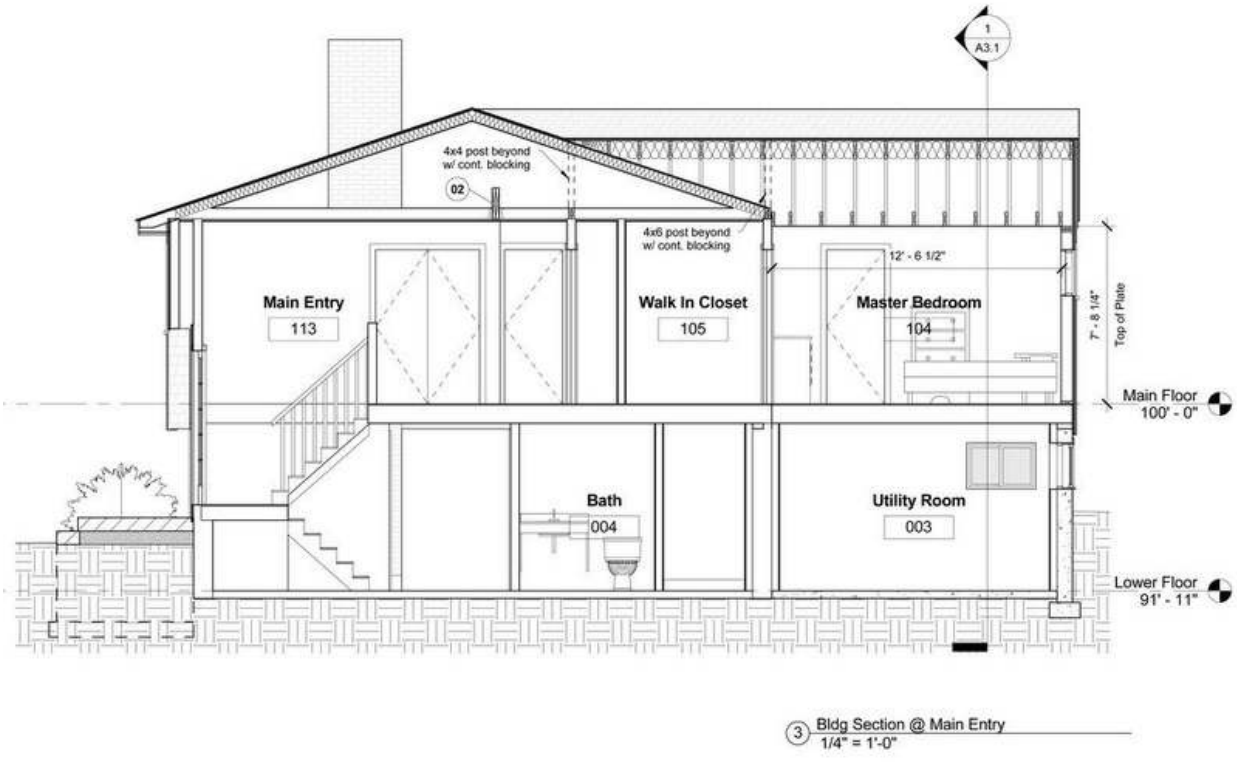
3. Wall Construction
- Show what's inside the wall, including:
- Wood framing (e.g., 2x6 studs)
- Insulation (batts, foam)
- Vapour barrier (plastic sheet inside wall)
- Drywall (interior finish)
- Exterior cladding (brick, siding)

4. Ceiling Height
- Draw the height from the floor to the ceiling (in metres)
- Make sure it's at least the minimum required (usually 2.1 m or more)

5. Roof Structure
- Show how the roof is built:
- Roof rafters or trusses
- Roof sheathing (wood boards or plywood)
- Shingles or metal roofing
- Insulation in the attic or ceiling space
- Any ventilation if required

6. Stairs (if applicable)
- Show how stairs connect floors
- Include headroom height above stairs (minimum 1.95 m in most cases)

7. Connection Between Old and New
- If your addition connects to the existing house, show how the floor, wall, or roof lines connect
- This helps the city confirm there's proper support and no weak spots



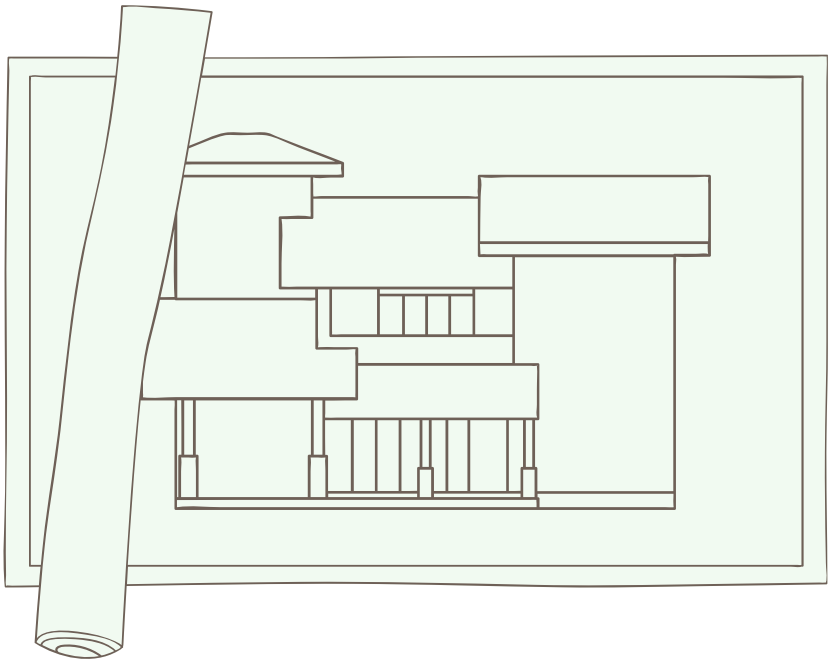
Building Section Drawing Checklist

- [ ] **Section Location**
  - Indicate on your floor plan where the section cut is taken
  - Use a line with arrows (e.g., “Section A-A”)
  - Label the drawing to match (e.g., “Section A-A”)

- [ ] **Overall Dimensions**
  - Floor-to-floor heights (e.g., from basement to first floor, first to second, etc.)
  - Floor-to-ceiling heights
  - Total building height (from finished grade to top of roof)
  - Indicate finished ground level (grade)

- [ ] **Structural Layers**
  - Show layers from bottom to top, including:
  - Foundation (footing, wall, slab thickness)
  - Floor assemblies (joists, subfloor, insulation)
  - Wall assemblies (framing, insulation, sheathing, cladding)
  - Roof assembly (framing, insulation, shingles or finish)

- [ ] **Key Features**
  - Show windows and doors that the section cuts through
  - Indicate stairs, landings, or split levels (if present)
  - Show ceiling or roof slopes (and pitch if known)

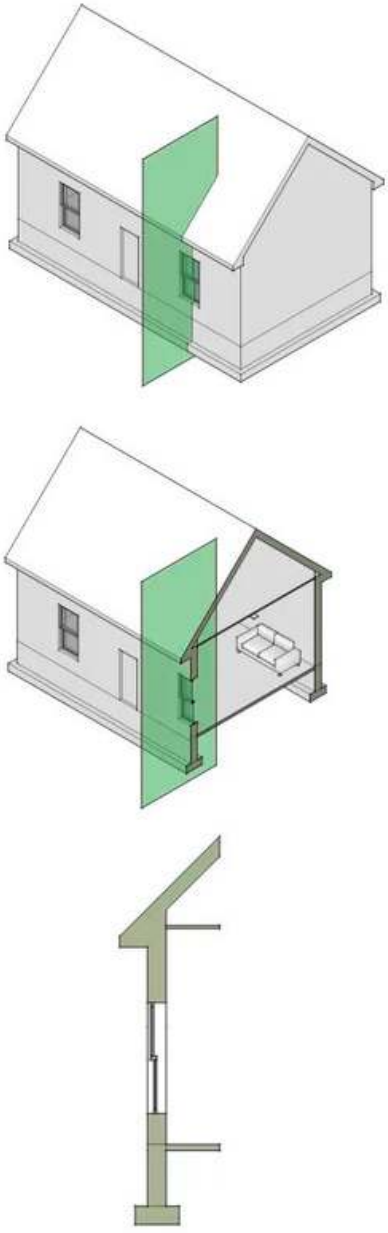


A5 – Wall Section(s)

What it is:
A close-up, layer-by-layer look at how your wall is built—from drywall to insulation to exterior siding. It's like zooming in on a slice of your home to see all the materials that keep it strong and weatherproof.

Why it matters:
Wall sections show the city how your design meets building code requirements for energy efficiency, insulation, and moisture control.

For you, it's a reassuring glimpse into how your walls will keep your home warm in winter, cool in summer, and protected from the elements, all while still looking great.



Source: Architect Wisdom

What to Include:

1. Footing & Foundation

Show how the wall starts underground:

- A concrete footing (a wider base that supports the wall)
- A foundation wall (concrete block or poured concrete)
- Any insulation or waterproofing on the outside

2. Floor Framing

Show how the floor connects to the wall:

- Floor joists (horizontal wood beams)
- Subfloor layer (usually plywood)
- Any insulation under the floor (if over a crawlspace)

3. Wall Framing

This is the main structure of the wall:

- Typically 2x6 wood studs, spaced 400 mm
- (16 inches) apart
- Draw the vertical studs and label their size and spacing

4. Insulation and Barriers

- Show what goes between and around the studs:
- Batt insulation (fluffy pink or mineral wool)
- A vapour barrier (usually plastic sheeting on the warm side)
- An air barrier or house wrap on the outside

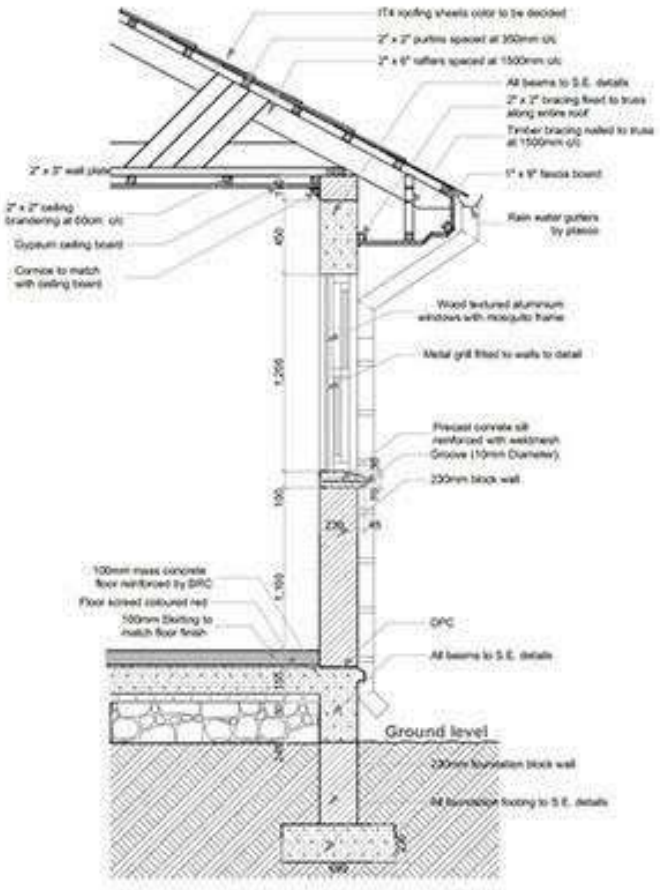
5. Sheathing and Siding

- Outside the insulation, there's a wood or foam sheathing board
- On top of that: your exterior finish:
- Vinyl siding, Wood cladding or Brick veneer
- Don't forget to show flashing (metal pieces that prevent water leaks)

6. Roof Detail

Draw the roof piece that sits above the wall:

- Roof truss or rafter, Attic insulation
- Roof sheathing + shingles or metal
- Soffits and overhangs (the part that sticks out from the wall)



Wall Section Drawing Checklist

A wall section shows a close-up, vertical cut through an exterior wall of your house, from the foundation all the way to the roof, to explain how everything is built and layered.

- [ ] Section Location
  - Show on the floor plan where the wall section is taken (optional but helpful)
  - Label it clearly (e.g., “Wall Section at Rear Addition”)

- [ ] Foundation to Roof Detail
  - Draw the entire wall vertically from bottom to top, including: Foundation:
  - Footing size and depth (e.g., “600mm x 200mm footing at 1.2 m below grade”)
  - Foundation wall (thickness and material)
  - Insulation (if required — e.g., “R-10 rigid around slab edge”)
  - Damp-proofing or waterproofing note
  - Sump pit or drainage layer (if applicable)

- [ ] Floor Assembly:
  - Floor joists or slab
  - Subfloor material (e.g., “19mm plywood”)
  - Insulation or air barrier below floor (if crawlspace or basement)

- [ ] Wall Assembly:
  - Interior finish (e.g., “gypsum board”)
  - Framing (e.g., “2x6 wood studs @ 400mm o.c.”)
  - Insulation (e.g., “R-22 batt insulation”)
  - Sheathing (e.g., “OSB or plywood”)
  - Air barrier (e.g., “house wrap”)
  - Cladding (e.g., “vinyl siding,” “brick veneer”)
  - Include total wall thickness

- [ ] Roof Assembly:
  - Roof framing (e.g., “2x8 rafters @ 400mm o.c.” or “Pre-fab trusses”)
  - Ceiling insulation (e.g., “R-40 batt insulation”)
  - Roof sheathing
  - Roofing material (e.g., “asphalt shingles”)
  - Roof slope (e.g., “4:12”)
  - Eaves/overhang with gutter (if applicable)
  - Ventilation space (e.g., “25mm air gap”)

A6 – Details

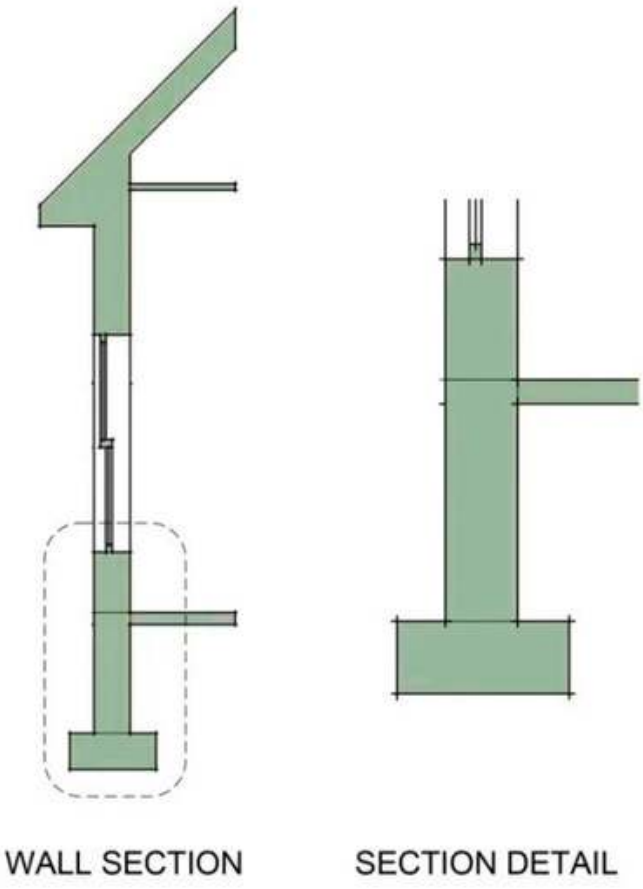
What it is:

These are zoomed-in drawings of key parts of your build, like how the roof meets the wall, how a window is installed, or how the deck connects to the house. They focus on the little spots where materials come together.

Why it matters:

Details show exactly how your addition will be built, down to bolts, sealants, and flashing. The city uses them to confirm that everything is structurally sound and weather-tight.

For you, it's where the craftsmanship happens, the thoughtful touches that make your home durable, safe, and built to last.



Pick the Key Spots to Zoom In On

Choose areas that the city or a contractor will need more info on. Common ones include:

- Where the roof meets the wall
- A typical exterior wall build-up (from inside drywall to outside siding)
- How a window is installed in the wall
- How the foundation connects to the wall
- Where a deck or porch connects to the house

Start with a Cross-Section View

You're not drawing the whole house, just a slice through one part. Think of it like you're looking at the edge of a cake, not the whole cake.

Use Layers

Sketch the layers of the construction from inside to outside (or bottom to top):

For a wall:
Drywall → Studs + Insulation → Sheathing → Air Barrier → Siding

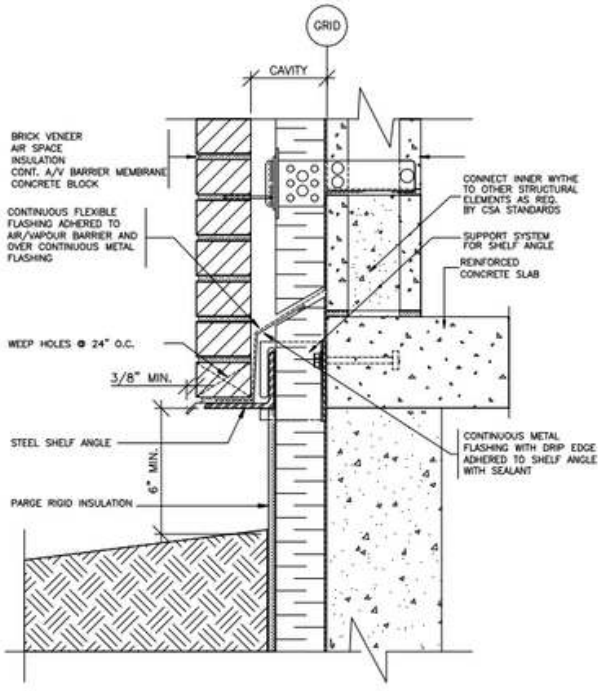
For the foundation:
Soil → Concrete Footing → Foundation Wall → Waterproofing → Floor Slab

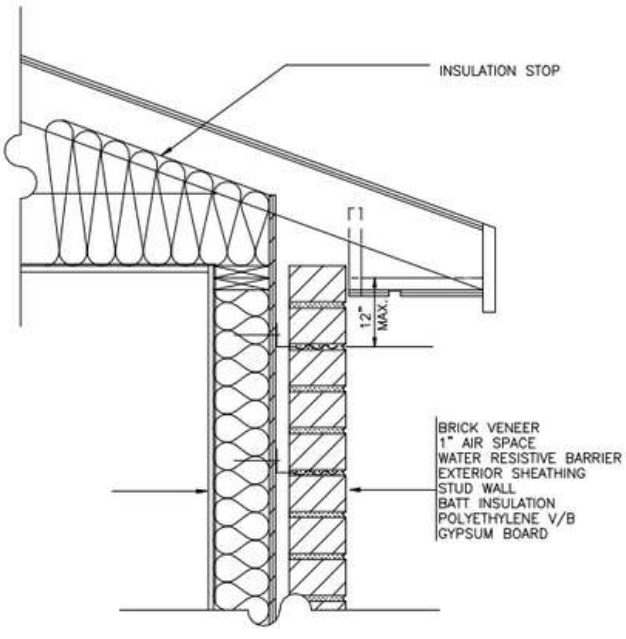
Label Every Layer

- Next to each material, write what it is and how thick it is (e.g., "2x6 wood stud wall with R22 batt insulation").
- Add Notes for Key Details

Use arrows and notes to explain things like:

- "Install flashing above window"
- "Continuous air barrier"
- "Sloped sill to drain water"





Detail Drawing Checklist

(For construction connections, material junctions, framing, and building envelope features)

- [ ] **What to Include in a Detail Drawing**
  - *These drawings zoom in on key construction elements. Include only what's relevant to your project:*

- [ ] **Common Residential Detail Types:**
  - *Wall-to-foundation connection*
  - *Wall-to-roof connection*
  - *Window or door sill/jamb/head*
  - *Floor framing detail*
  - *Deck ledger-to-wall*
  - *Eaves/soffit and gutter*
  - *Flashing and waterproofing at transitions*

- [ ] **Drawing Elements**
  - *Use a larger scale to show precise layers (e.g., 1:5 or 1:2)*
  - *Draw a cross-section through the detail (as if sliced through)*
  - *Use consistent line weights (thicker for outer edges)*

- [ ] **Label All Construction Layers**
  - *Label each layer or part clearly, such as:*
  - *Interior finish (e.g., drywall)*
  - *Framing (e.g., 2x6 studs)*
  - *Insulation (e.g., R-22 batt)*
  - *Sheathing (e.g., 12mm plywood)*
  - *Vapor barrier / air barrier*
  - *Exterior cladding (e.g., siding or brick)*
  - *Flashing (e.g., step flashing at roof-wall junction)*
  - *Fasteners or anchor bolts (if shown)*

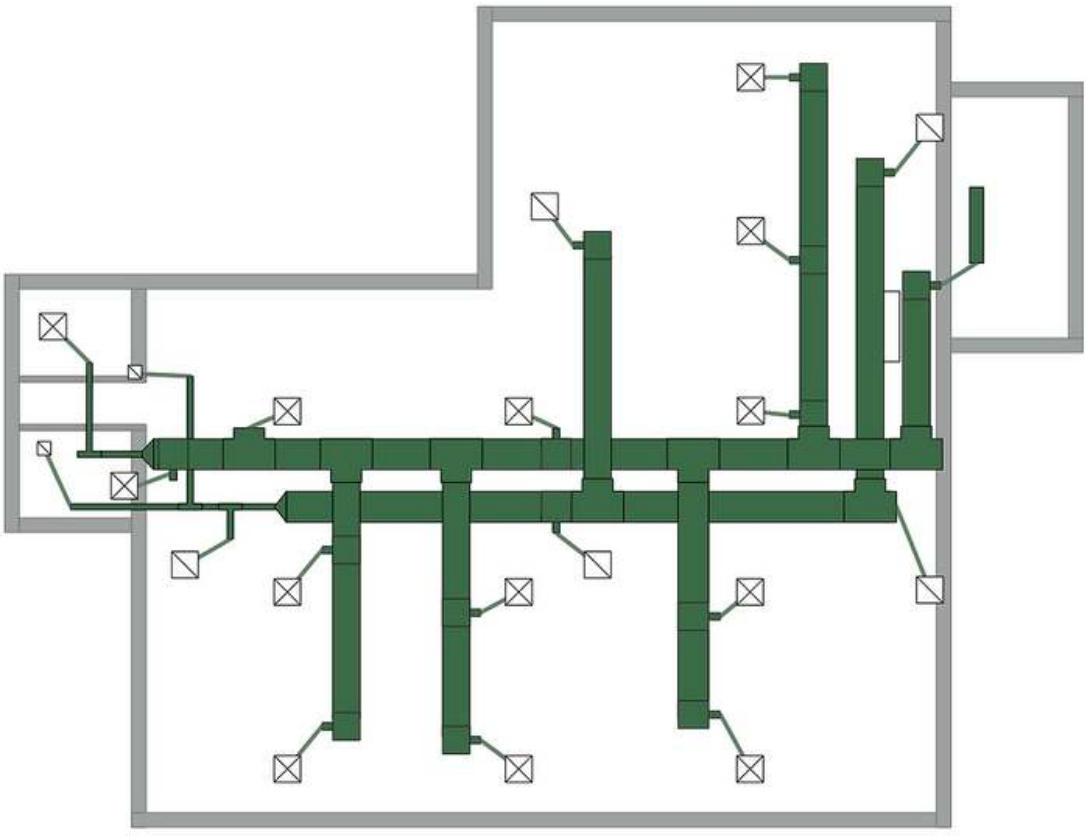
- [ ] **Notes and Callouts**
  - *Use leader lines to explain how parts connect*
  - *Add material specs where helpful (e.g., "Galvanized flashing" or "Continuous bead of caulking")*
  - *Indicate important measurements (e.g., overhang depth, slope angle, or clearance)*

M-0: Mechanical / HVAC Layout (If Altered)

What it is:
A drawing that shows your heating, cooling, and ventilation system, like where the furnace is, how air moves through ductwork, and where vents are placed. You only need this if you're adding or changing ducts for your addition.

Why it matters:
This plan makes sure your home stays comfortable and healthy. It helps reviewers confirm there's enough airflow, that rooms get proper heating and cooling, and that ventilation meets code.

For you, it means your new space won't feel stuffy, chilly, or forgotten, just as livable and cozy as the rest of your home.



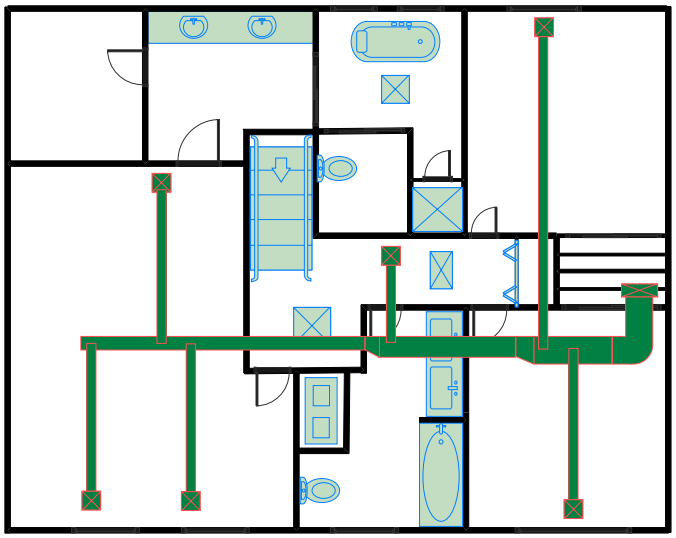
1. Ductwork and Vents (Air Movement)

How to figure this out:

- Look at your current house, find the vents on the floors, walls, or ceilings. These are where warm or cool air comes out (supply) or goes back (return).
- In most homes, ducts are hidden in basements, walls, or ceilings, follow where the air seems to come from and go.
- In basements or utility rooms, you can often see the metal ductwork going to each room.

What to draw:

- On your floor plan, mark where the supply vents (air comes in) will go in the new room.
- Label them with an arrow to indicate direction.
- Use dashed lines to show where the ducts might run through the walls, floor, or ceiling.
- If it's a simple room, one supply and one return is usually enough.



2. Furnace, HRV, or A/C Units (Main Equipment)

How to figure this out:

- Your furnace is usually in the basement or utility room.
- If you have a Heat Recovery Ventilator (HRV), it's also near your furnace — it has smaller pipes going outside.
- Your air conditioner unit (condenser) is outside, often on the side or back of the house — a big box with a fan on top.

What to draw:

On your floor plan (or on a small utility diagram), mark:

- Where the furnace is inside
- Where the HRV is, if you have one
- Where the A/C unit is outside

3. Fans and Fresh Air (Ventilation)

How to figure this out:

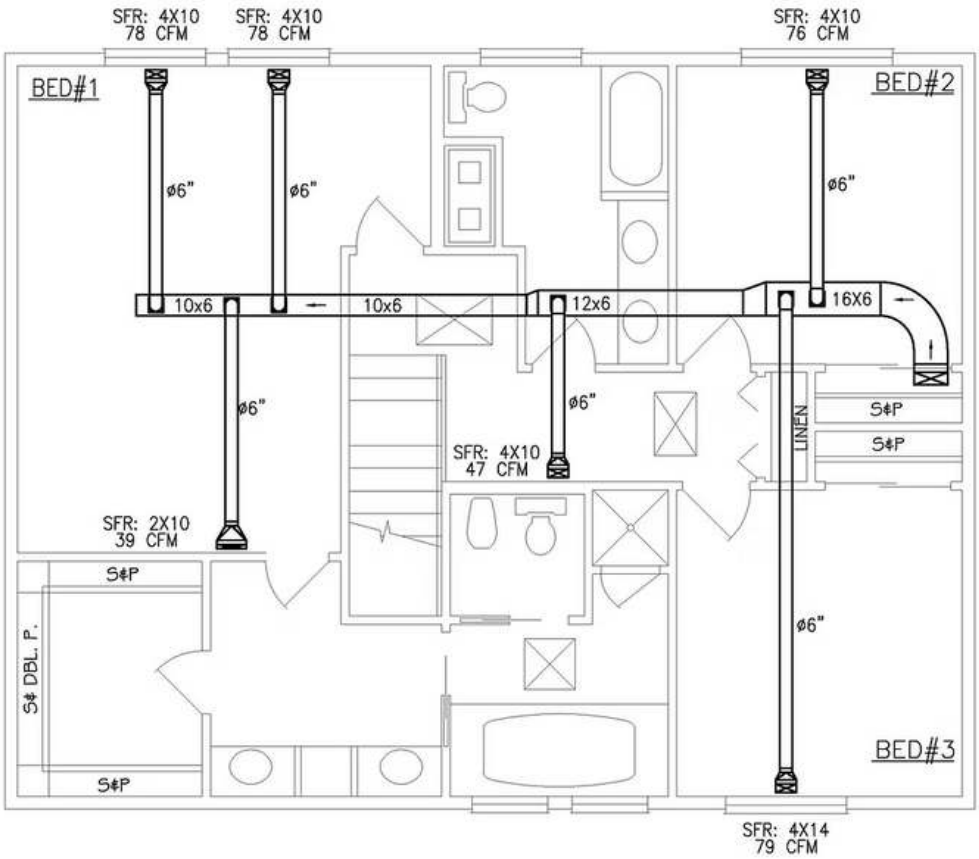
In bathrooms and kitchens, there should be fans that push air outside (look above shower or stove). These fans often vent through the roof or side wall.
Some homes also have a fresh air intake pipe outside — this brings in clean air, often connected to your furnace or HRV.

What to draw:

- Show where any bathroom or kitchen fans are,
- and draw an arrow to the outside wall where they vent.
- If you're required to add fresh air intake, draw where it
- connects to your system (usually near the furnace or HRV).

Tips for Homeowners

- If you're just extending ducts into one new room, you can show that on your floor plan, no need for a separate HVAC plan
- If you're doing major HVAC work, ask your contractor or HVAC installer to provide a layout, they often have standard drawings
- Always check with your city's building department to see if this section is needed



HVAC Drawing Checklist
(Heating, Ventilation, and Air Conditioning)

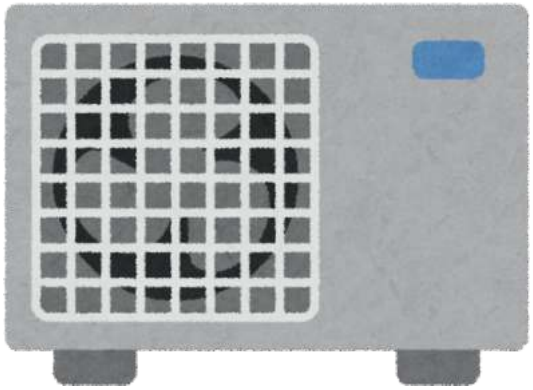
- [ ] **Layout Overview**
  - *Create separate plans for each floor level if needed*
  - *Show HVAC components in relation to floor plan*
  - *Label all rooms and spaces clearly*

- [ ] **Heating System**
  - *Type of system (e.g., furnace, boiler, baseboard heaters, radiant floor)*
  - *Location of furnace or heating unit*
  - *Duct layout or pipe routing*
  - *Floor registers and return air grilles (label supply vs. return)*
  - *Size of ducts if known (e.g., “6” round duct”)*
  - *Vent pipe or chimney (if required for gas appliances)*

- [ ] ***Cooling System***
  - *Air conditioning unit location (indoor and outdoor)*
  - *Connection to ductwork or standalone units*
  - *Condensate drain line routing*
  - *Electrical disconnect location (for outdoor unit)*

- [ ] **Ventilation**
  - *Exhaust fans (bathrooms, kitchen hood, etc.)*
  - *Fresh air intakes or HRV (Heat Recovery Ventilator), if applicable*
  - *Exhaust vent locations (e.g., side wall or roof)*
  - *Dryer vent outlet*
  - *Ventilation paths for attic or crawlspace if required*

- [ ] **Symbols and Labels**
  - *Use a legend to explain symbols (registers, ducts, fans, etc.)*
  - *Label each vent/grille (e.g., “Supply S1”, “Return R1”)*
  - *Label HVAC equipment clearly (e.g., “High-Efficiency Gas Furnace”, “HRV”)*

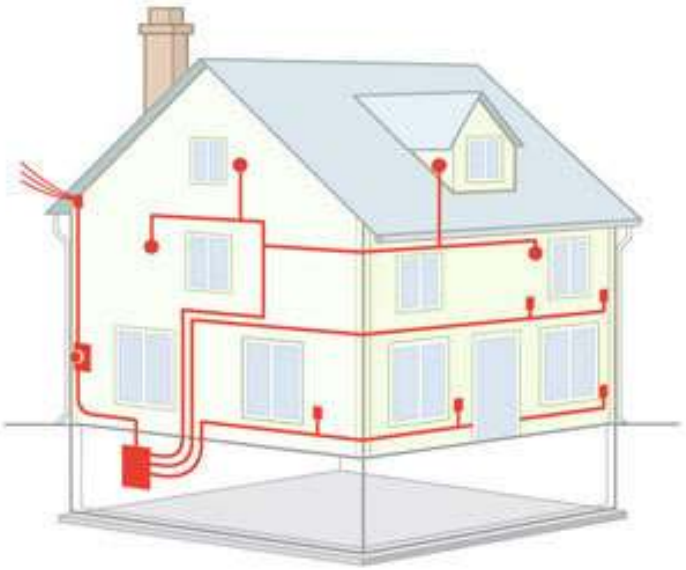


E-0: Electrical Plan (If Required)

What it is:
A simple drawing that shows where your lights, outlets, switches, and safety devices (like smoke and carbon monoxide detectors) will go in the new or renovated space.

Why it matters:
You may need this plan if you're adding new wiring, especially for bedrooms or major rooms. It helps ensure your electrical system is safe, meets Code, and provides enough power where you need it, so you're not left without a plug where you want one.

For you, this is a chance to think about how you'll actually live in the space, a reading lamp beside your favourite chair, a phone charger right by the bed, or soft lighting in your new hallway. A good electrical plan makes sure your space isn't just safe, it's comfortable and convenient, too.



What to include:

1. Light Fixtures

- Draw where your ceiling lights or wall lights will go
- Use a small symbol like a circle or “L” to mark them
- Label them: “Light” or “Ceiling Fixture”

2. Outlets and Switches

- Mark where each electrical outlet (plug) will be
- Use “O” for outlets, and “S” for switches
- Show which switch controls which light (use a dashed line or label)
- Most rooms need an outlet every 1.8 m (6 ft) along the wall, check Code or ask your city for exact spacing

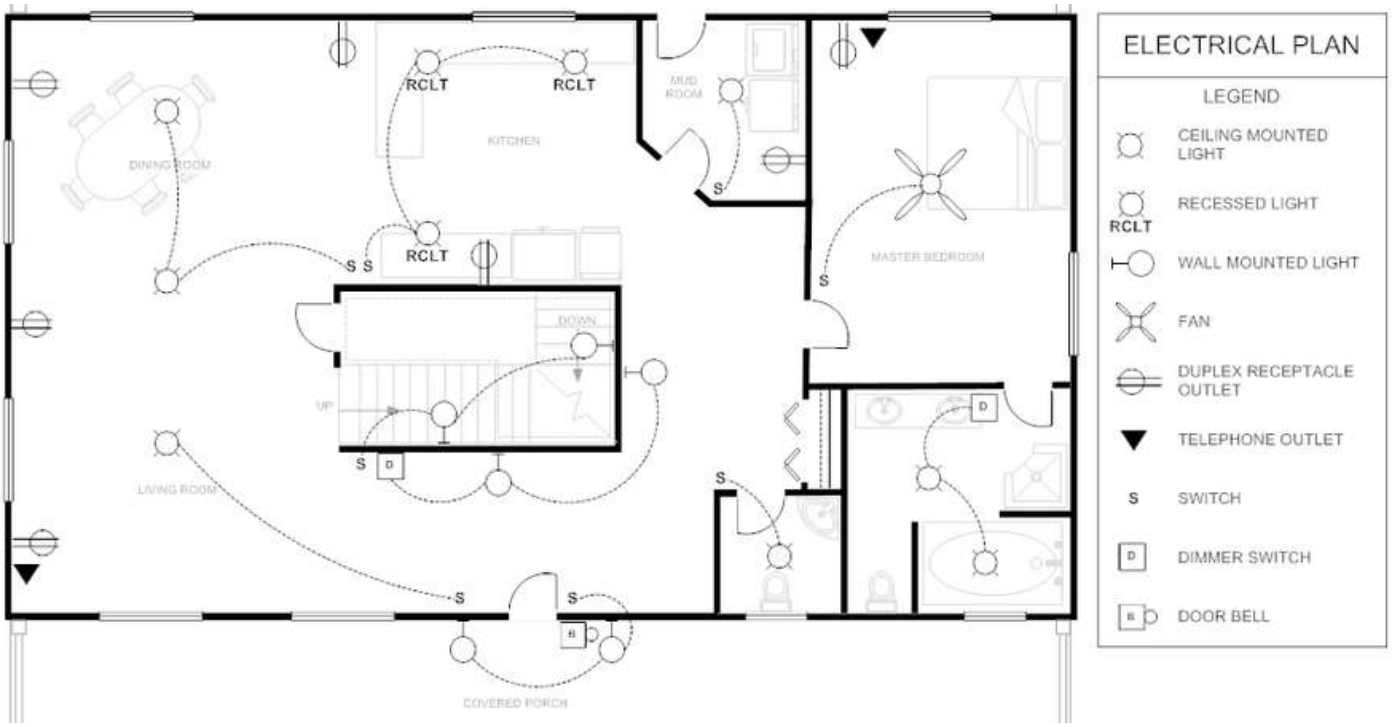
3. Smoke and CO Detectors

- Draw and label smoke detectors in every bedroom and hallway
- Draw and label carbon monoxide (CO) detectors near sleeping areas

4. Electrical Panel (if relevant)

- If you’re adding lots of new wiring or circuits, show where your main panel is
- Label it clearly on the drawing

Accessible source option to create an electrical plan: Smart Draw



Electrical Plan Checklist

(Lighting, power outlets, and wiring layout)

- [ ] **General Layout**
  - Use the floor plan as your base
  - Show all rooms, clearly labeled
  - Indicate new, existing, and relocated electrical components

- [ ] **Power Outlets**
  - Standard wall outlets (symbol: or small circle)
  - GFCI outlets in kitchens, bathrooms, and outdoors (label clearly)
  - Special outlets (e.g., for range, dryer, EV charger — label with voltage/amps)
  - Exterior outlets (weatherproof and GFCI)

- [ ] **Lighting**
  - Ceiling lights, pendants, pot lights (symbol:)
  - Light switches (symbol: S or similar)
  - Show switch control (e.g., dashed line from switch to light)
  - 3-way or dimmer switches (label accordingly)
  - Outdoor lighting (wall lights, soffit pot lights, motion sensors)

- [ ] **Circuits & Electrical Panel**
  - Location of electrical panel or sub-panel
  - Label circuits if known (optional unless required by your city)
  - Indicate arc-fault breakers (AFCI) for bedrooms, GFCI protection where required

- [ ] **Smoke/CO Detectors**
  - Show smoke detectors in bedrooms, hallways, and on each floor
  - Show CO detectors near sleeping areas if there is fuel-burning equipment
  - Label them clearly (e.g., “Smoke/CO Combo – Hardwired with Battery Backup”)

- [ ] **Other Features (if applicable)**
  - Ceiling fan rough-ins
  - Thermostat location
  - Doorbell transformer
  - Data/TV/Cable outlets
  - EV charger (label voltage and amperage)

- [ ] **Legend and Notes**
  - Include a legend explaining all electrical symbols
  - Add notes like:
  - “All receptacles to be tamper-resistant (TR) type”
  - “All bathroom and kitchen receptacles GFCI-protected”
  - “Lighting to be LED fixtures”

A12 – Energy Efficiency (SB-12 Form or Energy Model)

What it is:
A required form that proves your addition meets Ontario's energy efficiency standards, based on Supplementary Standard SB-12. It shows how your walls, windows, insulation, and heating systems meet or exceed minimum energy performance requirements.

Why it matters:
The city needs this to ensure your home will be energy efficient and code compliant, keeping heating bills lower and your home comfortable in all seasons.

For you, this means a warmer home in winter, cooler in summer, and a smaller environmental footprint, without sacrificing comfort.

How It Works:

You'll fill out the form with basic details like:

- Wall insulation (e.g., R-22 or RSI 3.87)
- Attic insulation (e.g., R-60 or RSI 10.5)
- Basement or foundation insulation (if you have one)
- Windows and doors – U-value (e.g., U = 1.40 $W/m^2 \cdot K$)
- Heating system type (e.g., high-efficiency gas furnace or heat pump)

Where to Get the Form:

- Ask your local city building department. For Welland, you can access it here: Prescriptive Method
- Download it from the Ontario Ministry of Municipal Affairs website
- Your contractor or HVAC technician may already have a copy

What to Do with It:

Fill it out with your chosen materials, then submit it with your building permit application. It shows the city that your design meets Ontario's energy rules.
Tip: Choose materials from the same "package" on the form, they are designed to work together and meet the Code.

Drawing Checklist

Overall Drawing Set Checklist

Use this as a master list to make sure all required sheets are included and complete.

A0 - Cover Page & Drawing
- Index
- Project title and address
- Drawing list with sheet numbers
- Designer/homeowner name and contact
- Applicable codes and by-laws (brief note)

A1 - Site Plan & Zoning Info
- Property lines and building footprint
- Existing vs. proposed clearly shown
- Setbacks and lot coverage
- North arrow and scale

A2 - Floor Plans & Roof Plan
- Existing and proposed floor plans
- Room labels and basic dimensions
- Doors, windows, stairs
- Existing and proposed roof plans
- Roof slopes and overhangs

A3 - Elevations (All Sides)
- Front, rear, left, and right sides
- Grade line and total building height
- Window/door placement
- Exterior materials labeled

A4 - Building Sections
- Section from foundation to roof
- Floor-to-floor and total height
- Basic construction layers labeled

A5 - Wall Section(s)
- Typical wall cut from footing to roof
- Layers of wall, insulation, and cladding
- Roof and footing connection

A6 - Construction Details
- 1-2 key junctions (e.g., roof-wall, wall-foundation)
- Labeled materials and flashing/waterproofing

S1 - Structural Plans
- Existing and proposed foundation plans
- Footings, beams, posts labeled
- Dimensions and any rebar notes (if known)

M0 - Mechanical / HVAC
- Furnace, ducts, vents, fans
- Basic HVAC layout and equipment location

E0 - Electrical Plan
- Lights, outlets, switches
- Smoke/CO detectors
- Panel location (if new/relocated)

Chapter 4: Construction Specifications and Materials

Introduction to the General Specification (Residential Addition)

When you're planning a home addition, especially if you're doing it yourself without hiring an architect, it's important to not only draw the design but also clearly explain how it should be built. That's where a general specification comes in.

What Is This For?

General specification helps you:

- Communicate your expectations to contractors, trades, or city reviewers.
- Set minimum standards for materials and construction.
- Reduce misunderstandings during the permit process and on-site work.
- Show that your project meets Ontario Building Code and safety requirements.

What Do I Do With This Information?

You'll use this section to:

- List the materials you plan to use (like insulation, concrete, windows, finishes)
- Identify which parts of the project need to meet specific building code rules
- Share these notes with your contractor, engineer, or the city as part of your drawing set

You don't need to write pages of technical detail. Just be clear, specific, and consistent with what you expect.

Why Use NMS?

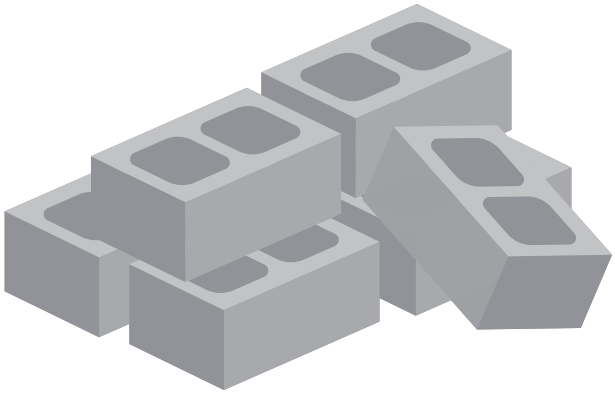
The National Master Specification (NMS) is a standardized system used across Canada in construction projects to organize specifications into clear sections. It's like a big master checklist that professionals use to make sure no detail is missed. The NMS is broken into Divisions, each focused on a particular part of construction (like concrete, plumbing, or finishes).

To access the full Canadian Masters Construction Specification use the link: here

So Where Does NMS Go?

You would use NMS to help write:

- General Notes on the drawings (e.g., wall types, materials)
- Specification Sheets that go with the drawings
- A separate "General Specification" document if you're being thorough



Division 00 – Procurement and Contracting Requirements (Simple Guide)

What is Division 00?

Division 00 covers the legal and organizational documents that come before construction starts. It's about how the project is set up, like contracts, proposal requests, and the paperwork that kicks everything off.

Sections You Would Typically Include in a Home Addition:

Section	Title	What It's About (Simple Explanation)	Example
00 01 07	Seals Page	A placeholder page that shows the designer's or engineer's professional seal and credentials.	A BCIN stamp or P.Eng. seal for permit drawings.
00 01 10	Table of Contents	A list that organizes all included specification sections and documents.	Helps reviewers or contractors navigate your spec.
00 01 15	List of Drawing Sheets	A page that lists every drawing included in your set.	A-1 Site Plan, A-2 Foundation Plan, A-3 Elevations.
00 31 00	Available Project Information	Summarizes reports or data about the existing site that are shared with contractors.	Survey, geotechnical report, existing building drawings.

Other Sections in Division 00 (Not Typically Needed for Home Additions)

These are meant for formal bidding and public contracts, not homeowner-led or small-scale additions:

- 00 11 19.53 – Request for Proposal – Design Build (Single Prime Contract)
- 00 21 13 – Instructions to Bidders

Division 01 – General Requirements (Simple Guide)

What is Division 01?

Division 01 is the “big picture” section of your project. It doesn’t talk about the specific materials (like concrete or windows), instead, it covers how the project will be done, including timelines, safety, payments, and cleanup.

Sections You Would Typically Include in a Home Addition:

Section	Title	What It’s About (Simple Explanation)	Example
01 11 00	Summary of Work	A short summary of what you're building and what's included.	Building a one-story addition at the rear of the house.
01 14 00	Work Restrictions	Limits on when work can be done, such as noise or time restrictions.	Work will take place Monday to Saturday between 8:00 AM and 6:00 PM. No work on Sundays or statutory holidays.
01 21 00	Allowances	Budget placeholders for things not yet selected (e.g., tile, lighting).	Tile allowance: $107.64/m^2 (approx. $10/sf). Lighting fixture allowance: $1,000 total. Vanity/sink allowance: $800.
01 29 00	Payment Procedures	How and when payments will be made to contractors or trades.	Payment to be made in 3 parts: 1/3 at start, 1/3 at midpoint, and final 1/3 after inspection and approval. Holdback of 10% until all work is complete.
01 31 19	Project Meetings	When and how you will meet with your contractor to check progress.	Homeowner will meet with contractor on site every Friday afternoon to review progress and discuss next steps.
01 32 16.19	Bar (Gantt) Chart Schedule	A simple construction timeline using a bar chart (helpful for organization).	Week 1-2: Excavation and foundation, Week 3-4: Framing and roofing, Week 5-6: Electrical, plumbing, HVAC rough-in Week 7-8: Insulation, drywall, finishes Week 9: Final inspection and clean-up

01 33 00	Submittal Procedures	Items to review before installation.	Approve tile and fixture samples first.
01 35 29.06	Health/Safety Requirements	Safety rules for the job site.	PPE required; first aid kit on-site.
01 41 00	Regulatory Requirements	Code and bylaw compliance.	Follows OBC and Welland permit rules.
01 43 00	Quality Assurance	Work must meet standards.	All trades must be licensed and insured.
01 45 00	Quality Control	Who checks the work and when.	Homeowner inspects weekly; city inspections required.
01 51 00	Temporary Utilities	Temporary services used during work.	Use home's water; contractor arranges power.
01 56 00	Temporary Barriers/Enclosures	Dust and access control.	Plastic sheeting separates work from house.
01 57 00	Temporary Controls	Dust, debris, and erosion management.	Keep site clean; cover waste bins.
01 71 00	Examination and Preparation	Site checks before work starts.	Verify property lines and utility locations.
01 73 00	Execution	How work is to be done properly.	Work neat, aligned with plans.
01 74 00	Cleaning	Who cleans during and after.	Daily cleanup; full clean at end.
01 74 19	Waste Management/Disposal	Where construction waste goes.	Contractor handles off-site disposal.
01 77 00	Closeout Procedures	Final checks before completion.	Final walkthrough; fix issues in 10 days.
01 78 00	Closeout Submittals	Final documents to keep.	Manuals, paint codes, warranties.

Other Sections in Division 01 (Not Typically Needed for Home Additions)

These are part of the official NMS but are more relevant to commercial, industrial, or highly specialized projects. Still, it's useful to know what they are.

01 12 00 – Multiple Contract Summary
For projects with multiple separately contracted trades (e.g., you hire a roofer and framer separately).

01 23 00 – Alternatives
Lists backup material or product choices (used more in formal bidding or complex builds).

01 29 83 – Payment Procedures for Testing Laboratory Services
Only used if you need material testing by a lab (unusual in residential projects).

01 32 16.16 – CPM Schedule
A Critical Path Method schedule (complex method mostly for large builds).

01 33 29 – Sustainable Design Reporting
Required only if you're applying for green building certification (e.g., LEED).

01 35 13.13 – Special Procedures for Airport Facilities
Irrelevant for homes.

01 35 13.43 – Procedures for Contaminated Sites
Needed if building on land with hazardous material history.

01 35 13.93 – Procedures During COVID-19 Pandemic
Site safety procedures used during pandemic conditions.

01 35 21 – LEED Requirements
For projects pursuing official LEED green building certification.

01 35 29.13 – Health & Safety for Contaminated Sites
For hazardous or polluted work areas.

01 35 35 – DND Fire Safety Requirements
For military projects—does not apply to residential construction.

01 35 43 – Environmental Procedures
Used for environmentally sensitive areas or large-scale disturbance.

01 35 43.10 – Environmental Procedures – Bridges
For bridge work only.

01 47 15 – Sustainable Requirements: Construction
Optional section if you're trying to reduce environmental impact (not required).

01 50 13 – Temporary Facilities for Dredging
Used only in marine or dredging construction.

01 52 00 – Construction Facilities
Temporary offices or trailers (unlikely for a home project).

01 55 26 – Traffic Control
Needed only if the work impacts a road or public path.

01 61 00 – Common Product Requirements
General requirements for manufactured products, often already covered by trades.

01 79 00 – Demonstration and Training
For systems that require showing the owner how to use them (more common in commercial jobs).

01 79 00.13 – Demo & Training for Building Commissioning
For formally commissioned systems, uncommon in homes.

01 91 13 – Commissioning Requirements
Formal testing for HVAC and systems, used in larger or public buildings.

01 91 13.13 – Commissioning Plan
A detailed plan for testing and verifying systems.

01 91 13.16 – Commissioning Forms
Related forms and documentation for the above.

01 92 00 – Facility Operation
For large buildings where ongoing operations need documentation.

What is Division 02 – Existing Condition

This division covers everything you might need to inspect, demolish, or remediate before starting construction. This includes things like:

- Demolition of old parts of your home
- Assessments of structural condition or hazardous materials
- Site cleanup or material salvage

In a typical home addition, only a few of these sections are needed. Most are used in large or special-purpose buildings (like schools, labs, or heritage sites).

Sections You Would Typically Include in a Home Addition:

Section	Title	What It's About (Simple Explanation)	Example
02 22 10	Existing Building Condition Assessments	Evaluates structure before attaching the addition.	Foundation and wall reviewed; no major issues found.
02 26 00	Hazardous Material Assessment	Checks for asbestos, lead, or other hazards.	No asbestos or lead found in drywall or tiles.
02 41 13	Selective Site Demolition	Removes outdoor features like decks or shrubs.	Rear deck and shrubs removed for new foundation.
02 41 16	Structure Demolition	Demolishes larger parts like a garage or rear wall.	Rear wall and small roof overhang to be removed.
02 41 19	Selective Demolition	Takes out parts of the home like one wall or floor.	Kitchen wall and slab cut for new tie-in.
02 41 19.13	Selective Building Demolition	Removes exterior parts only, not the whole structure.	Rear siding and windows to be removed.
02 41 19.16	Selective Interior Demolition	Interior-only work like drywall and flooring.	Kitchen drywall and floors removed for framing.

Other Sections (Not Typically Required for Home Additions)

These sections are part of the full NMS, but are not usually applicable to small-scale residential projects. Still, they're listed here so you're aware of them:

02 03 43 – Period Structure Relocating: Moving historic buildings (not typical for homes).

02 03 44 – Shoring of Period Structures: Structural support for heritage buildings.

02 25 29.23 – Roofing Investigations-Thermographic: Infrared imaging of roofs—used in commercial or large residential diagnosis.

02 27 13 to 02 27 23 – Thermographic Assessments: Infrared checks for envelopes, mechanical or electrical—rare in small additions.

02 41 13.13 – Paving Removal: Only needed if removing a driveway or major slab.

02 41 20 – Decommissioning of Fume Hoods: Labs and industrial settings.

02 42 00 to 02 42 19.48 – Salvage/Deconstruction/Recycling: Used in commercial or green-certified builds; optional.

02 50 00 – Site Remediation: Cleanup of contaminated land—only if you're building on a polluted site.

02 56 13 – Waste Containment: Commercial or long-term work sites.

02 65 00 – Underground Storage Tank Removal: For oil tanks or fuel tanks—only if present.

02 81 00 – Hazardous Materials: General section covering multiple material types—can be referenced if issues are found.

02 82 00.01 to 02 82 00.03 – Asbestos Abatement: Required if asbestos is found (categorized by level of risk).

02 83 10 to 02 83 12 – Lead Paint Abatement: Only if lead paint is present.

02 84 00 – PCB Remediation: Polychlorinated Biphenyl removal—industrial only.

02 87 13.13 to 02 87 13.15 – Mould Remediation: Only needed if mould contamination is confirmed.

What is Division 03 – Concrete

Division 03 covers everything related to concrete work for your home addition. This includes forming, reinforcing, pouring, and finishing the concrete that forms your foundation, footings, or slab-on-grade.

This division includes things like:

- Temporary wood forms to hold wet concrete in place
- Steel rebar that strengthens the concrete
- Pouring concrete on-site for foundations or slabs
- Smoothing or texturing the concrete surface

Sections You Would Typically Include in a Home Addition:

Section	Title	What It's About (Simple Explanation)	Example
03 10 00	Concrete Forming and Accessories	Temporary forms that shape the concrete while it sets.	Plywood forms used for footings and walls; treated for easy removal.
03 20 00	Concrete Reinforcing	Steel bars or mesh inside concrete to make it stronger.	Rebar added in footings/walls per engineer's drawings.
03 30 00	Cast-in-Place Concrete	Pouring concrete on site for footings, walls, and slabs.	25 MPa concrete poured for footings, walls, and slab.
03 35 00	Concrete Finishing	Smoothing or texturing the concrete surface after pouring.	Basement slab trowelled smooth; garage slab broom finished.

Other Division 03 Sections (Not Typically Required for Home Additions)

• 03 01 37 – Concrete Restoration: Used for repairing damaged concrete, not for new additions.
• 03 01 40.51 – Cleaning of Precast Concrete
• 03 11 19 – Insulating Concrete Forming – For ICF foundation systems, only used if specified.
• 03 31 23.13 – High-Performance Concrete for Bridge Decks – Not applicable.
• 03 35 46 – Concrete Topical Treatments – Used for coatings, sealers, or decorative work.
• 03 37 13 – Shotcrete
• 03 37 26 – Underwater Placed Concrete – Marine or bridge footings only.
• 03 41 00 – Precast Structural Concrete – Large pre-made concrete components (not site poured).
• 03 41 36 – Post-Tensioned Precast
• 03 45 00 – Precast Architectural Concrete – Decorative pre-made concrete panels.
• 03 48 00 – Precast Concrete Specialties – Unique factory concrete items.
• 03 60 10 – Pressure Grouting Rock
• 03 64 00 – Injection Grouting – Used for repairing voids or sealing cracks in existing concrete.

What is Division 04 – Masonry?

Division 04 includes anything related to brick, block, stone, and mortar.

In a home addition, you might use masonry for exterior walls, fireplaces, chimneys, or veneer cladding.

Some additions may skip masonry entirely (e.g., if using siding), but if masonry is part of the exterior, these specs matter.

Sections You Would Typically Include in a Home Addition:

Section	Title	What It's About (Simple Explanation)	Example
04 05 00	Common Work Results for Masonry	General requirements that apply to all masonry work (tools, protection, tolerances).	Masonry built straight and clean; protected from weather.
04 05 13	Masonry Mortaring and Grouting	Mixing and applying mortar between bricks or blocks.	Mortar mixed on-site; joints tooled for neat finish.
04 05 19	Masonry Anchorage/Reinforcing	How brick or block is secured to the structure (ties, rebar, reinforcement).	Brick tied to framing; rebar added in block walls.
04 05 23	Masonry Accessories	Flashing, weep holes, joint reinforcement — important for water control.	Flashing at windows; weep holes added for drainage.
04 20 00.08	Masonry for Minor Works	Simple masonry jobs (small walls, chimneys, etc.).	Brick veneer and small block wall for utility room.
04 21 13	Brick Masonry	For brick walls or brick veneer cladding.	Clay brick veneer to match the existing house.
04 22 00	Concrete Unit Masonry	For concrete block (CMU) walls — garages, basements, utility areas.	Concrete block used on garage wall; reinforced and grouted.

Other Division 04 Sections (Not Typically Used in Home Additions)

These sections deal with heritage restoration, decorative stone, or specialty applications, not normally found in small residential work:

04 01 20.93 – Testing and Sampling Brick Units for Restoration
04 03 01.13 to 04 03 43.19 – Period Masonry Repairs & Restoration
04 03 21.19 – Clay Brick Conservation Treatment
04 03 21.26 – Glazed Clay Tile Repair
04 43 13 to 04 43 26 – Stone Veneer Cladding (marble, granite, quarried stone)
04 21 19 – Clay Tile Masonry
04 23 00 – Glass Unit Masonry
04 71 13 to 04 73 13 – Calcium Silicate & Manufactured Stone Masonry

What is Division 05 – Metals

Division 05 covers structural steel, metal framing, and custom metal items like stairs or railings.

In a home addition, metal might be used in:

- Steel beams or columns (if needed for large openings)
- Structural metal studs (instead of wood framing in some cases)
- Custom railings or exterior stairs

Sections You Would Typically Include in a Home Addition:

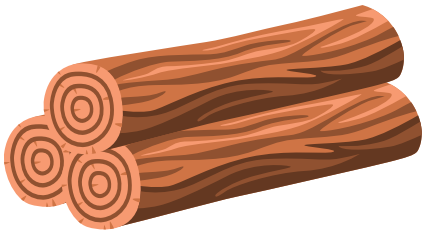
Section	Title	What It's About (Simple Explanation)	Example
05 12 23	Structural Steel for Buildings	For steel beams, lintels, or columns supporting parts of the addition (especially over large windows or openings).	Steel I-beam spans rear opening; installed per structural plans.
05 41 00	Structural Metal Stud Framing	Used instead of wood studs in some areas, especially basements or moisture-prone zones.	Steel studs used in basement; spaced at 400 mm O.C.
05 50 00	Metal Fabrications	For custom metal parts like handrails, brackets, or stair components.	Steel handrail at steps; galvanized and painted black.

Other Division 05 Sections (Not Typically Used in Home Additions)

05 12 33 Structural Steel for Bridges Only used for bridge and infrastructure projects.
05 14 00 Structural Aluminum Framing Uncommon in residential—used more in curtain walls or industrial buildings.
05 21 00 Steel Joist Framing Prefabricated joists mostly used in large buildings, not typical in homes.
05 31 00 Steel Decking Used in commercial roofs and mezzanines, not residential floors.
05 51 00 Metal Stairs and Ladders Used in fire exits or exterior stairs for multi-storey buildings. Rare in single-family homes.
05 52 16 Modular Workplace Guardrail System For factories or work platforms—never used in homes.

What is Division 06 – Wood, Plastics, and Composites

Division 06 covers almost everything made from wood or engineered wood, and it's one of the most important divisions for home additions.



This includes the materials used to build:

- Framing for walls, floors, and roofs
- Wood decks and structural beams
- Interior trim like baseboards and casings

Sections You Would Typically Include in a Home Addition:

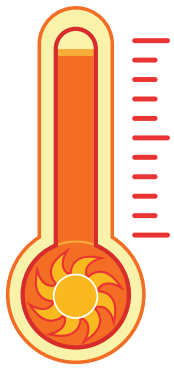
Section	Title	What It's For	Example
06 08 99	Rough Carpentry for Minor Works	General wood framing and support work for small additions.	2x6 wood framing for walls, floor, and roof.
06 10 53	Miscellaneous Rough Carpentry	Bracing, blocking, and non-structural woodwork.	Backing for drywall and stair framing.
06 14 00	Treated Wood Foundations	Only used if using wood-based foundation walls.	Not used in this project.
06 15 00	Wood Decking	For wood decks attached to the addition.	Rear pressure-treated wood deck.
06 17 00	Shop-Fabricated Structural Wood	Prefab headers, beams, or laminated members.	Engineered LVL beams installed per specs.
06 17 53	Shop-Fabricated Wood Trusses	Pre-made wood roof trusses.	Roof trusses at 600 mm O.C. with ties.
06 20 00	Finish Carpentry	Trim, baseboards, window and door casings.	Baseboards and door trim to match interior.
06 40 00	Architectural Woodwork	Built-ins like shelves or decorative wood features.	Mudroom bench and shelving in birch plywood.

Not Typically Used in Home Additions

These are specialty or heritage sections and not needed for standard home additions:
06 03 01.31 – Period Wood Storage and Protection
06 03 05.73 to 06 03 05.75 – Period Wood Treatments (antiseptic, insect, long-term)
06 03 13 & 06 03 13.23 – Conservation of Period Log or Heavy Timber
06 03 50.13 to 06 03 50.19 – Wood vessel construction (e.g., boats)
06 05 73 – Wood Treatment – Only used if chemically treating structural wood.
06 18 00 – Glued-Laminated Construction – Used in large-span structures (optional in homes).
06 40 23.13 – Plastic Laminate Finishing – Used for commercial casework and millwork.
06 41 93 – Cabinet and Miscellaneous Hardware – Usually covered under kitchen packages or separate millwork contracts.
06 83 16 – Fibreglass Reinforced Panelling – Used in commercial washrooms or kitchens, not homes.

What is Division 07 – Thermal and Moisture Protection

This division covers insulation, air and moisture control, roofing, wall cladding, and sealants, all of which are critical to keeping a home warm, dry, and energy efficient.



In a residential home addition, Division 07 is almost always involved, especially for:

- Insulating new walls, roofs, and floors
- Ensuring vapour and air barriers are in place
- Matching or upgrading the roofing and siding

Sections You Would Typically Include in a Home Addition:

Section	Title	What It's For	Example
07 21 13	Board Insulation	Rigid foam panels used in walls, floors, or exterior sheathing.	2" rigid foam added to exterior wall sheathing before siding.
07 21 16	Blanket Insulation	Typical batt insulation (fiberglass or mineral wool) in walls and ceilings.	R22 batt insulation installed between wall studs.
07 21 29	Sprayed Insulation	Spray foam used in tight areas or for air sealing.	Closed-cell spray foam used around rim joists and window headers.
07 26 00	Vapour Retarders	Poly sheets or membranes that reduce moisture in walls.	6 mil poly vapour barrier stapled to interior face of studs.
07 27 00.01 / .02	Air Barriers	Wraps or coatings that stop air leakage.	Tyvek or equivalent house wrap installed behind siding.

07 31 13	Asphalt Shingles	Standard residential roofing material.	New shingles to match existing roof, installed over roof sheathing.
07 42 13.13 / 07 46 19 / 07 46 23	Siding (Metal or Wood)	Exterior wall cladding (steel, aluminum, wood, etc.).	Horizontal wood siding installed to match existing home.
07 62 00	Sheet Metal Flashing and Trim	Flashing at roof edges, around openings or siding transitions.	Aluminum flashing at window heads and base of walls.
07 84 00	Firestopping	Fire-resistant materials in required gaps (per code).	Firestop sealant used at top of wall where it meets ceiling framing.
07 92 00	Joint Sealants	Caulking for joints at windows, doors, and penetrations.	Exterior-grade caulk applied around window and door frames.

Not Typically Required for Residential Additions

These sections are for heritage restorations, flat roofs, or commercial applications:

- Heritage/Restoration:

07 03 xx – Conservation Treatments for Canvas, Wood, Slate, Concrete, Metal, Sod Roofs, etc. (Used only in historic building preservation)

- Specialty Waterproofing & Testing:

07 08 13 – Building Enclosure Performance Testing
07 11 13 to 07 19 00 – Bituminous, Elastomeric, or Hot-Applied Waterproofing
07 17 13 – Bentonite Panel Waterproofing
07 18 00 – Traffic Coatings
07 24 00+ – Exterior Insulation and Finish Systems (EIFS; optional for modern homes)

- Roofing (Commercial or Flat):

07 51 00 to 07 56 13 – Membrane Roofing, Protected Roofing, Fluid-Applied Roofing
07 55 63 – Vegetated Roofing (Green Roof)
07 61 00 – Sheet Metal Roofing (used, but less common in residential additions)
07 71 29 / 07 72 33 – Expansion Joints & Roof Hatches (used in large/flat roofs)

- Fire Protection (Special Use):

07 81 00 / 07 81 23 – Applied/Intumescent Fireproofing
07 95 13 – Expansion Joint Covers (for large buildings)

What is Division 08 – Openings

This division includes everything that opens or lets light through: doors, windows, skylights, glass, and vents. For a home addition, you'll often be adding:

-
- New windows and exterior doors
- Door hardware (handles, locks, hinges)
- Possibly a skylight, garage door, or new patio door

Sections You Would Typically Include in a Home Addition:

Section	Title	What It's For	Example
08 14 00	Wood Doors	Interior or exterior wood doors (bedroom, bath, rear entry).	Solid core doors for rooms; insulated exterior entry door.
08 36 13.13 / .16	Sectional Wood or Metal Doors	Overhead garage doors if garage is part of addition.	Sectional garage door with opener; painted to match exterior.
08 50 00	Windows	Vinyl, aluminum, or wood-framed windows.	Double-glazed vinyl windows, Energy Star rated.
08 62 00	Unit Skylights	Pre-fab skylights on sloped roofs (optional).	Skylight over new bathroom with roof flashing kit.
08 71 00	Door Hardware	Handles, locks, and hinges.	Brushed nickel levers and keyed locks for doors.
08 80 00	Glazing	Glass in windows, doors, or sidelights.	Sealed glass units with tempered glass in sidelights.
08 90 00	Louvres and Vents	Vents in walls or doors for air exhaust or crawlspaces.	Aluminum vents for bath fan and kitchen hood.

Not Typically Required for Residential Additions

These are for heritage, commercial, institutional, or specialty uses:

- Heritage and Period Restoration:

08 03 11 – Historic-Period Wood Doors
08 03 14.33 – Conservation for Stile and Rail Doors
08 03 51.23 – Conservation for Period Steel Windows
08 03 52 – Conservation for Period Wood Windows

- Specialty Doors & Entrances:

08 11 13 to 08 11 19 – Hollow Metal, Aluminum, or Stainless Steel Doors
08 11 73 – Sliding Metal Fire Doors
08 33 00 to 08 38 16 – Overhead coiling, counter doors, traffic doors (used in malls, commercial kitchens)
08 35 13.13 / .33 – Accordion or Panel Folding Doors
08 36 19 – Vertical Lift Doors (industrial)
08 42 26.33 / 08 42 29 – Glass entrances and automatic doors (commercial use)
08 44 13 / 08 44 23 – Curtain walls and structural glazing (for towers or commercial facades)
08 87 23.16 – Security Films (used for shatter resistance, not typical in homes)

What is Division 09 – Finishes

This division covers everything that goes on top of the structure, drywall, flooring, painting, tile, ceilings, and wall finishes. Most home additions will use at least some parts of Division 09, especially for:

- Interior walls (drywall and paint)
- Flooring (tile, vinyl, or wood)
- Tiling in bathrooms or kitchens

Sections You Would Typically Include in a Home Addition:

Section	Title	What It's For	Example
09 21 16	Gypsum Board Assemblies	Standard drywall for walls and ceilings.	½" drywall on walls/ceilings; moisture-resistant in bathroom.
09 21 16.08	Gypsum Board for Minor Works	For small patching or light drywall work.	Patching at old door opening with joint compound.
09 30 13	Ceramic Tiling	Wall and floor tile in bathrooms or kitchens.	12"x12" floor tile and wall tile in tub surround.
09 64 29	Wood Strip and Plank Flooring	Hardwood or engineered wood flooring.	Engineered hardwood in new bedroom addition.
09 65 00.08	Resilient Flooring for Minor Works	Vinyl plank or minor resilient areas.	Vinyl plank in hallway; click-lock install.

09 65 16 / 09 65 19	Resilient Sheet or Tile Flooring	Vinyl or linoleum for wet areas.	Sheet vinyl in laundry room with welded seams.
09 68 13 / 09 68 16	Tile or Sheet Carpeting	Carpeted rooms like bedrooms or rec rooms.	Wall-to-wall carpet in basement rec room.
09 91 00.08	Painting for Minor Works	Interior/exterior painting touchups.	Touch-up on baseboards and patched drywall.
09 91 23	Interior Painting	Full paint of walls, ceilings, and trim.	Eggshell on walls, flat on ceilings, low-VOC paint.

Not Typically Required in Residential Home Additions

These are for heritage buildings, commercial interiors, or specialty finishes:

- Heritage or Conservation:

09 03 25 / 09 03 91.13 / .23 – Conservation of period plaster or paint
09 01 90.62 / .63 – Exterior/Interior Repainting (Restoration or large-scale repainting jobs)

- Specialty Ceilings and Flooring:

09 22 00 / 09 22 16 – Supports and Non-Structural Metal Framing (used in T-bar ceilings or large commercial interiors)
09 23 00 – Gypsum Plastering (rare—drywall is more common)
09 30 15 – Quarry & Paver Tile (used outdoors or in commercial kitchens)
09 51 13 / 09 54 23 / 09 58 00 – Acoustical and Metal Ceilings (office/industrial use)
09 63 40 / 09 66 13 / .16 / .23 – Stone or Terrazzo Flooring (luxury or institutional use)
09 69 00 – Access Flooring (raised flooring used in data centres)
09 72 16 – Vinyl Wall Coverings (used in hospitals or commercial spaces)
09 84 00 – Acoustic Room Components (sound studios, theaters)
09 91 13.23 – Exterior Painting of Structural Steel (bridges, columns)
09 96 53 / .59 / .66 – Elastomeric or Aggregate Coatings (used on concrete or stucco)

What is Division 21 – Fire Suppression

Division 21 covers systems that detect and suppress fire, including sprinklers, extinguishers, and fire pumps. In a typical residential home addition, most of this division is not required unless you are working on:

- Multi-unit dwellings
- Large custom homes with integrated sprinkler systems
- Buildings with attached garages requiring code upgrades

Sections You Would Typically Include in a Home Addition:

Section	Title	When It Might Be Used	Example
21 05 00	Common Work Results for Fire Suppression	General info if fire suppression is used (rare in single homes).	Not applicable. No fire suppression system included.
21 13 13	Wet Pipe Sprinkler Systems	Only used if sprinklers are required by code.	Not applicable. Sprinklers not required for this addition.
21 24 00	Dry Chemical Fire Extinguishing Systems	For garages or mechanical rooms (rare in homes).	Not applicable. No chemical suppression planned.

Not Typically Required for Residential Additions

These sections are mostly for commercial, industrial, or institutional projects:
21 08 00 – Commissioning of Fire Suppression
21 12 00 – Standpipes (for high-rises or large buildings)
21 13 16 – Dry Pipe Sprinkler Systems (used in unheated commercial spaces)
21 21 16.13 / .16 – CO_2 Fire Extinguishing Systems (used in data centers, not homes)
21 22 00 – Clean Agent Fire Systems (used around electronics or museums)
21 23 00 – Wet Chemical Systems (for commercial kitchens)
21 30 00 – Fire Pumps (only in large buildings with multi-zone sprinkler systems)

What is Division 22 – Plumbing

This division covers everything related to water supply, drainage, venting, and plumbing fixtures. If your addition includes a bathroom, laundry room, kitchen extension, or any plumbing modifications, Division 22 will apply.

Sections You Would Typically Include in a Home Addition:

Section	Title	What It's For	Example
22 05 00	Common Work Results for Plumbing	General requirements for all plumbing work (tools, connections, tests).	Plumbing to follow code and tested before drywall.
22 05 05	Selective Demolition for Plumbing	Removing old pipes or fixtures when modifying existing plumbing.	Old vent pipe in wall removed and capped.
22 05 15	Plumbing Specialties and Accessories	Items like cleanouts, traps, air gaps, and fixture supports.	Cleanouts and traps added where needed.
22 07 19	Plumbing Piping Insulation	Insulating hot water lines or pipes in exterior walls.	Foam insulation on hot water lines at exterior wall.
22 11 16	Domestic Water Piping	Hot and cold water supply pipes (typically PEX or copper).	PEX lines installed for bathroom and laundry.
22 13 16.16	Sanitary Waste and Vent Piping – Plastic	Drain and vent pipes (typically ABS or PVC used in homes).	ABS piping for drains; vents tied into existing stack.
22 33 00	Electrical Domestic Water Heaters	Used if the addition has a dedicated electric water heater.	Not used — addition connects to existing water heater.

Not Typically Required in Home Additions

The following sections are part of the NMS but are usually not relevant for small residential projects:

22 08 00 – Commissioning of Plumbing is mainly used in large commercial buildings or certified sustainable (LEED) projects where the full plumbing system is tested and documented.
22 10 10 – Plumbing Pumps are installed in large or multi-storey buildings to maintain water pressure—not typical for a single-family home.
22 13 16.13 – Sanitary Waste and Vent Piping – Cast Iron and Copper is an older or commercial-grade option. Most homes now use plastic piping for waste systems.
22 15 00 – General Service Compressed-Air Systems are used in garages, labs, or commercial kitchens—not needed in a house.
22 31 13 / 22 31 16 – Domestic Water Softeners may be used in specific regions with hard water, but they're optional and usually handled as part of appliance or plumbing packages, not specified in a home addition.
22 42 13 / 22 42 16 / 22 42 19 – Commercial Plumbing Fixtures like industrial-grade toilets, sinks, and showers are specified for public washrooms, not homes. Residential fixtures are covered more generally under accessories or appliance selection.
22 47 00 – Drinking Fountains and Water Coolers are for schools, malls, or office buildings—not homes.

What is Division 23 – HVAC

This division covers heating systems, cooling systems, ventilation ducts, and mechanical controls. In a home addition, HVAC work is often limited to:

- Extending existing ductwork or piping
- Installing new equipment (e.g. mini-split, fan coil)
- Adding registers, grills, or a thermostat zone

Sections You Would Typically Include in a Home Addition:

Section	Title	What It's For	Example
23 05 00	Common Work Results for HVAC	General HVAC info—applies to ducting, heating, cooling, and mechanical systems.	HVAC extended into new rooms per existing system layout.
23 05 05	Selective Demolition for HVAC	Used when modifying or removing existing ductwork, piping, or equipment.	Old duct removed to connect new supply branch.
23 05 15	Common Requirements for HVAC Pipework	Covers standard pipe installation practices for heating or cooling lines.	New refrigerant lines run to outdoor heat pump.
23 07 13	Duct Insulation	Required if extending insulated ductwork into the addition.	Fiberglass insulation added to new ducts in attic.
23 07 19	HVAC Piping Insulation	For insulating refrigerant or hydronic lines to reduce heat loss.	Line set for heat pump wrapped in foam insulation.
23 31 13.01	Metal Ducts – Low Pressure	For new or extended ductwork (supply and return air systems).	Sheet metal ducts added for bedroom and living area.
23 33 46	Flexible Ducts	For short duct runs from trunk lines to registers or vents.	Flexible duct connects mainline to ceiling diffuser.
23 34 00.13	Domestic Fans	Exhaust fans for bathrooms, laundry, or kitchen rangehoods.	New bath fan installed and vented outside.

23 37 13	Diffusers, Registers and Grilles	Supply air outlets and return grilles in floors, ceilings, or walls.	Ceiling diffuser installed in family room.
23 81 43	Air Source Unitary Heat Pumps	Ducted or ductless mini-split units for heating and cooling the addition.	Ductless mini-split installed in sunroom addition.
23 82 00.13	Forced Air Heaters	Electric baseboard or wall heaters (if used).	Wall heater added in small bathroom with no duct access.
23 83 13.23	Radiant Heating – Floor Warming	Optional floor heating systems, often in bathrooms.	In-floor electric mat under tile in bathroom.

Not Typically Required in Home Additions

Most of the remaining Division 23 sections are for large, commercial, or institutional buildings, and not typically needed in a small residential addition. For example:

Testing, Adjusting, and Balancing (23 05 93) and Commissioning of HVAC (23 08 00) are usually done on larger mechanical systems in offices or high-rises—not required for a small extension of ductwork.

Motor Requirements, Pipe Welding, Seismic Controls, and Valves (23 05 xx) apply to industrial HVAC systems, not residential duct runs or small furnaces.

Hydronic and Steam Heating (23 21 xx / 23 22 xx) applies to boiler systems, which are rare in home additions unless the existing house already has one.

Refrigerant Piping (23 23 00) may be used with mini-split systems but often covered by manufacturer installation guidelines rather than full NMS specs.

Chillers, Cooling Towers, Heat Exchangers, and Energy Recovery (23 64 xx – 23 74 xx) are for high-performance buildings, not homes.

Commercial Fans, Hoods, and Fume Exhaust (23 34 xx – 23 38 xx) relate to restaurants, labs, and large ventilation systems.

Advanced control systems (23 09 xx) and pressurization equipment are outside the scope of typical residential work.

What is Division 26 – Electrical

This division covers all electrical work, from wiring and lighting to outlets, panels, and grounding. In a home addition, you'll typically need to:

- Add circuits for lighting, outlets, and HVAC equipment
- Update or extend the electrical panel
- Provide code-compliant wiring and safety devices (e.g., GFCIs)

Sections You Would Typically Include in a Home Addition:

Section	Title	What It's For	Example
26 05 00	Common Work Results for Electrical	General electrical requirements (codes, safety, inspections).	Work to follow Ontario Electrical Safety Code; licensed electrician used.
26 05 05	Selective Demolition for Electrical	Removing or adjusting old wiring for the new space.	Wiring in exterior wall removed or rerouted.
26 05 20 / 26 05 21	Wire Box Connectors / Cables	Typical residential wiring (lighting, outlets, appliances).	12 AWG copper wire with wire nuts and push connectors.
26 05 22	Connectors and Terminations	Safe, approved wire connections in boxes or panels.	CSA-approved connectors in all junction boxes.
26 05 32 / 33 / 34	Boxes, Raceways, and Conduits	Housings for wiring; surface or in-wall runs.	Plastic boxes and BX cable inside walls; PVC conduit outside.
26 24 16.01	Panelboards – Breaker Type	Electrical panels for circuits (main or subpanels).	New 60A subpanel for HVAC and lighting circuits.
26 27 26	Wiring Devices	Outlets, switches, dimmers.	15A outlets, switches, and dimmers in living room.
26 28 20	Ground Fault Circuit Interrupters (GFCIs)	Required protection for wet areas (bath, kitchen, laundry).	GFCIs installed in bathroom and laundry area.
26 50 00	Lighting	Interior and exterior light fixtures.	LED pot lights inside; motion light outside.
26 52 13.16	Exit Signs (if required)	For code compliance in second suites or basement units.	Not applicable — no separate dwelling unit.

Not Typically Required in Residential Additions

These sections are part of the NMS but are generally not applicable to home additions, unless you're building a large custom home with advanced systems.

26 06 31 – Diesel Electric Generating Units
Used for backup power in commercial or institutional buildings—homes may use portable generators instead.

26 08 00 – Commissioning of Electrical Systems
Full commissioning applies to complex or LEED-certified systems, not standard home wiring.

26 09 13 – Electrical Power Monitoring
Monitoring systems are for energy management in large buildings, not typical in residential settings.

26 11 xx / 26 12 xx – Outdoor/Unit Substations & Transformers
Medium-voltage power distribution (up to 15 kV), only used in large buildings or campuses.

26 13 xx – Switchgear and Interrupters
Specialized power distribution hardware for industrial-scale electrical infrastructure.

26 18 xx – Reclosers and Motor Controllers (2000–5000 V)
Used in facilities with large electric motors or medium-voltage systems.

26 24 13.01 / .02 – Generator Switchboards
For backup power distribution in facilities—irrelevant for homes.

26 27 13 – Electricity Metering
Typically provided by the utility. Homeowners don't usually install or spec their own meters.

26 28 16.01 / 26 28 16.02 – Air and Moulded Case Circuit Breakers
Used in commercial or industrial electrical panels—not standard for residential panels.

26 29 xx – Contactors, Control Devices, Motor Starters
These control large electrical loads in commercial buildings, not household appliances or HVAC.

26 32 13.xx – Power Generation (Diesel)
Whole-building diesel generators for institutions—homes rarely install full generator systems using these specs.

26 33 43 / 26 33 53 – Battery Chargers / UPS Systems
Used for uninterruptible power in hospitals, data centers, and critical systems—not homes.

26 41 xx – Lightning Arresters / Protection
Specialized systems to redirect lightning strikes—rarely used in detached homes.

26 42 00 – Cathodic Protection
Used to prevent corrosion in underground pipelines and tanks—not applicable to homes.

26 52 00.01 / 26 52 13.13 – Emergency Lighting / Central Systems
Full emergency lighting setups (with batteries or generators) are only required in public/commercial buildings.

26 55 36.xx – Obstruction Lighting
Used to mark tall structures for aircraft visibility—irrelevant for residential.

26 56 19 – Roadway Lighting
For city infrastructure or commercial developments—not home additions.

What is Division 31 – Earthwork

This division covers site preparation, excavation, grading, and foundation support. In a residential home addition, it usually involves:

- Excavating for footings or a small basement
- Backfilling and compacting soil
- Basic site grading and drainage

Sections You Would Typically Include in a Home Addition:

Section	Title	What It's For	Example
31 00 99	Earthwork for Minor Works	General earthwork tasks for small additions or garages.	Excavation, backfill, and grading for foundation.
31 11 00	Clearing and Grubbing	Removing grass, shrubs, and topsoil from the site.	Grass and shrubs cleared from footprint before digging.
31 14 13	Soil Stripping and Stockpiling	Saving topsoil for reuse during landscaping.	Topsoil stockpiled on-site for regrading later.
31 22 13	Rough Grading	Shaping the site before foundation work.	Fill used to level site and slope water away.
31 23 33.01	Excavating, Trenching and Backfilling	Digging for footings and backfilling foundations.	Trenches dug and filled with compacted granular material.
31 05 16	Aggregates for Earthwork	Gravel or stone used under footings/slabs.	Granular A placed below slab and footings per code.

Not Typically Required in Residential Additions

These sections apply to specialized or large-scale earthworks, and are not needed for typical home projects:

31 08 13 – Pile Load Testing and 31 63 xx – Piles / Caissons: Used when deep foundations are required—uncommon for homes unless built on poor soil or steep slopes.

31 24 13 / 31 22 14 – Roadway Embankments / Airfield Grading: Only for civil infrastructure like roads and airports.

31 23 16.26 – Rock Removal: Needed only when solid rock must be excavated. Usually avoided in residential lots due to cost.

31 32 xx – Soil Stabilization (lime, geogrid, shotcrete, soil nailing): Applies to unstable slopes or engineered soil conditions—typical residential sites don't need this level of intervention.

31 33 xx – Rock Slope Stabilization (anchors, mesh, drains): Used in mountainous terrain or highways, not backyards.

31 36 xx / 31 37 00 – Gabions / Rip-Rap: Flood control or erosion protection, not common unless near a watercourse.

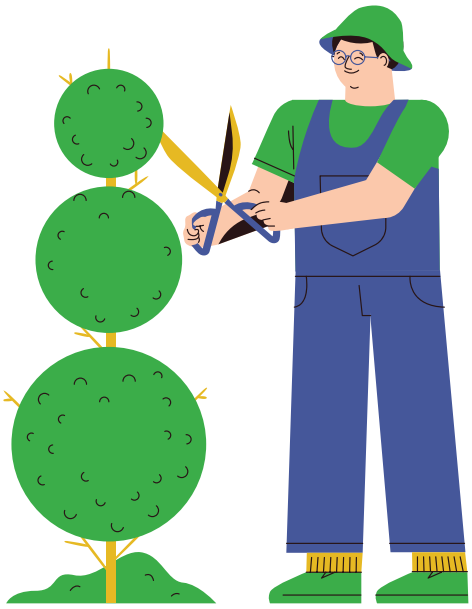
31 53 13 – Timber Cribwork: Used in retaining wall systems for industrial or steep terrain support.

31 61 13 / 31 62 xx – Pile Foundations: Steel, concrete, or timber piles are deep foundation systems—overkill for simple slab-on-grade or basement additions.

What is Division 32 – Exterior Improvements

This division covers anything done outside the building once the structure is up, like driveways, walkways, landscaping, fences, retaining walls, and planting. For home additions, you might need to:

- Restore lawn areas
- Rebuild or extend walkways
- Manage surface drainage
- Replace disturbed fencing



Sections You Would Typically Include in a Home Addition:

Section	Title	What It's For	Example
32 00 00	Exterior Improvements	Broad category for outdoor finishes and landscaping.	Includes grading, paving, and planting after construction.
32 01 90.23	Pruning	Light trimming near work areas.	Shrubs pruned to clear access for construction.
32 01 90.33	Tree and Shrub Preservation	Protecting trees during work.	Fence and mulch placed around tree near dig zone.
32 11 16.01	Granular Sub-Base	Crushed gravel under walkways or patios.	Granular A base placed under new walkway.
32 11 23	Aggregate Base Courses	Base layers under asphalt or concrete.	Granular B used under extended driveway.
32 12 16.02	Asphalt Paving for Building Sites	Driveway paving or patching.	Driveway extended 1.5 m with compacted hot mix.
32 13 13.01	Concrete Paving for Building Sites	Concrete sidewalks or pads.	Broom-finish concrete path to backyard poured.
32 14 10 / 32 14 13	Unit or Precast Concrete Paving	Paving stone walkways or patios.	Not used in this project, but applies to interlock patios.
32 16 00	Curbs, Gutters and Sidewalks	Replacing any disturbed city sidewalks or curbs.	Only needed if city sidewalk/curb is affected.
32 91 19.13	Topsoil Placement and Grading	Restoring and leveling lawn areas.	Topsoil placed and sloped for drainage.
32 92 23	Sodding	Laying new grass over disturbed areas.	Sod laid over regraded lawn behind addition.
32 93 10	Trees, Shrubs/Ground Planting	Planting new greenery after work.	Two shrubs and small garden planted near addition.

Not Typically Required in Home Additions

These sections are meant for municipal works, commercial sites, or special-use projects and are not used in most single-family residential additions:

32 01 11.xx – Pavement Cleaning, Marking Removal, Crack Filling: These are maintenance specs for roadways, not private driveways.

32 01 13.xx / 32 01 16.xx – Flexible Paving Surface Treatments: Typically used for road resurfacing or parking lots, not homes.

32 12 10 / 32 12 13.xx – Bitumen and Asphalt Prime Coats: Used in civil and heavy-duty commercial paving systems.

32 12 36.xx – Seal Coats and Coal Tar Coats: Mostly used for parking lots and public roadways —not driveways.

32 13 13.17 – Roller Compacted Concrete: Industrial pavements or heavy-load areas—not residential.

32 15 40 / 32 15 60 – Crushed Stone Surfacing / Dust Control: Gravel roads or construction sites—not typical suburban homes.

32 17 23 – Pavement Markings: Line painting for roads or parking—irrelevant for residential use.

32 21 00.01 – Well Pumps: Only applies if you're adding a well system, which is uncommon in urban home additions.

32 31 13 / 32 31 26 – Chain-Link or Wire Fences: Only needed if replacing or extending an existing perimeter fence.

32 32 26 / 32 32 34 – Retaining Walls: Needed only on sloped sites or where grading height differences require structural support.

32 33 00 – Site Furnishings: Benches, bike racks, bollards—used in parks and public spaces.

32 91 19.16 – Vegetated Roofs: Not applicable unless the addition includes a green roof system.

32 92 19.13 / .16 – Seeding (Mechanical or Hydraulic): More common on large sites or slopes; sod is typically used in homes.

32 93 23.13 – Interior Plantings: Not relevant—refers to malls and office interiors.

What is Division 33 – Utilities

This division covers underground site servicing, such as water supply, sewer lines, storm drains, and utility connections. In a typical residential addition, most utility work involves:

- Connecting new plumbing drains to existing sewer
- Extending water lines
- Managing site drainage or foundation drainage

Sections You Would Typically Include in a Home Addition:

Section	Title	What It's For	Example
33 14 16.13	Site Water Utility Distribution Piping	Connects new water lines to home or municipal water supply.	19 mm PEX line extended from main for new bathroom.
33 31 11	Public Sanitary Sewerage Piping	Connects drains from the addition to the sewer line.	4" ABS pipe tied into existing gravity sewer.
33 41 00	Storm Utility Drainage Piping	Manages surface water and connects downspouts.	Downspouts redirected with splash pads or storm tie-in.
33 41 16	Subdrainage Piping	Weeping tile to control groundwater around foundation.	100 mm perforated pipe around foundation base.
33 46 13.01	Foundation and Underslab Drainage	Drainage beneath slab or in crawlspace to prevent moisture.	Clear stone and pipe under slab draining to sump pit.

Not Typically Required in Residential Additions

These sections are for large, commercial, rural, or industrial projects and are not usually applicable to small home additions:

33 05 xx – Maintenance Holes, Catch Basins, Steel Manholes
These are used in municipal roads or large commercial parking lots, not single-family homes.
33 07 xx – Thermal Insulation & Pre-Insulated Utility Piping (Telethermics)
Part of energy-distribution or district heating systems—irrelevant for detached houses.
33 11 00 – Groundwater Sources
Used only if drilling a well—uncommon in serviced residential areas.
33 31 23 – Sanitary Sewerage Force Main Piping
Applies to pressurized sewer lines—homes typically use gravity-fed systems.
33 32 13.13 – Packaged Sewage Lift (Wet Well Type)
For multi-unit buildings or sites where sewer must be pumped—rare in additions.
33 36 xx – Wastewater Storage Tanks / Drainage Fields / Lagoons
Used for septic systems or rural applications—not connected homes.
33 47 xx – Ponds, Reservoirs, Lagoons
Water management for large developments, parks, or agricultural sites.
33 56 xx – Fuel Storage Tanks (Above or Underground)
These apply to backup generators or commercial fueling—not homes.
33 65 xx – Telethermics Distribution Systems
Industrial piping for steam, heat, or large utility corridors.
33 71 xx / 33 77 xx – Electrical Pole Lines, Overhead Service, Fuse Cutouts
Utility company handles these—only specified for subdivisions or off-grid setups.

Chapter 5: After Submission - What Happens Next

Submitting your building permit application is a major milestone, but it's not the final step. Once the application is in, your project enters a new phase where city officials review your plans, inspect your construction, and ultimately sign off on the finished work.

This chapter walks you through what happens after submission, including:

- How to respond to revision requests from the city
- What inspections will happen during construction
- What you need to do to receive final approvals and potentially an occupancy permit
- What documents you should keep for your records

Whether you're building the addition yourself or hiring a contractor, understanding the post-submission process will help you avoid delays, stay compliant, and close out your project smoothly.

5.1: Permit Submission

Once your drawings and documents are ready, the next step is to submit your building permit application to your municipality. The following explains what's required in Ontario and walks you through the process, with guidance tailored to the City of Welland.

Required Forms and Documents

You will typically need to include the following with your application:

1. Building Permit Application Form

This is the core form for your permit submission.
Download from the City of Welland Building Division website: **here**

The form is standardized under the Ontario Building Code Act (Form 1) and includes: Project description, Applicant and owner information, Construction value and Signature and declaration

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2. Ontario Building Code Compliance Summary / Study

This shows that your design meets the technical requirements of the Ontario Building Code, especially Part 9 (for residential) and SB-12 (energy efficiency).

You'll need to identify: Occupancy classification (usually "Group C" for residential), Building area and height, Applicable Part 9 provisions and Energy efficiency path (prescriptive or modeled)

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3. Permit Drawings

Include all required drawings listed in Chapter 3:

Site plan, floor plans, elevations, sections, energy forms, etc.

Format: Most cities now require PDF copies (digitally stamped) and may also ask for 1–2 printed hard copies for review.

4. Owner's Authorization Form (if applicable)

If the applicant is not the legal property owner, you must include a signed form authorizing the applicant (e.g., contractor or designer) to act on the owner's behalf.

Welland and most cities have a standardized form available for download.

5. Proof of Ownership or Property Tax Bill

Required to verify the applicant has legal right to alter the property.
Accepted forms:

- Recent property tax bill
- Property deed or legal title

6. Permit Fees

Fees are based on the size (m^2) and type of construction.
Welland lists its permit fees on the same page as its forms. Expect to pay:
- A base fee + a fee per m^2 of added floor space
- A minimum fee (e.g., ~$200–$300 for small projects)

- Fees are usually paid at submission (credit, debit, or cheque).

Submit Your Application

In Welland, you can apply online through their e-permitting portal:

- Link to Application: Submit Your Application

5.2: Permit Review and Revisions

Once you've submitted your building permit application, your drawings will be reviewed by the City's Building Department. This step is to make sure your addition is safe, legal, and follows all the local rules.

What the City Checks:

- Zoning Compliance: Does your addition fit within the rules for your property? (e.g., size, location, height, lot coverage)
- Building Code Compliance: Are you meeting the Ontario Building Code for structure, fire safety, and energy efficiency?
- Structural Safety: If your project involves beams, foundations, or anything load-bearing, a structural engineer may need to review and stamp your plans.

If Changes Are Needed:

Sometimes the city will ask you to revise your drawings. Don't worry, this is normal. They'll send you a letter or email with what needs to be fixed. You can update the plans and resubmit.

What Happens After Approval:

1. You'll receive a building permit, this is your official permission to start construction.
2. The permit will list required inspections (like for framing or insulation) and any special conditions.
3. Once you have the permit, keep a copy on site during construction.

5.3: Construction Phase and Inspections

Once your building permit is approved, you're allowed to start construction, but there are a few important rules to follow to keep your project safe, legal, and on track.

Required Inspections (City of Welland)

The City of Welland requires inspections at specific stages of your project to ensure it's built safely and follows the approved drawings. You must book and pass each inspection before moving on to the next phase.

For a residential addition, typical inspections include:

- Footing Inspection – Before pouring concrete
- Foundation/Drainage Inspection – Before backfilling
- Framing Inspection – After framing, before drywall
- Insulation & Vapour Barrier Inspection
- Final Inspection

How to Book an Inspection

To schedule an inspection in Welland:

- Call 905-735-1700, ext. 2257 or 2251
- Or email: devserv@welland.ca

Make sure someone is on-site to give the inspector access, especially if the interior is involved

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Working With Trades

If you're hiring electricians, plumbers, HVAC installers, or other trades:

- Ensure they are licensed to work in Ontario
- Ask for proof of insurance for your protection
- Let them know you'll need to pass city inspections, most trades will handle their own inspection bookings, but confirm this upfront

Stick to the Approved Plans

Don't make changes without asking the City first. Even small adjustments, like changing a window size or moving a wall, may require a permit revision.

If you think something needs to change, contact your inspector or the Building Division before continuing.

5.3: Final Approvals

You're almost done! Once construction is finished, there are just a few final steps to officially close out your project with the city.

Final Inspection

Before you can start using your new space, the city will do a final inspection. They'll check that everything was built as approved and meets safety standards.

If everything looks good, you may receive an Occupancy Permit, this gives you legal permission to use the space (not always required for small additions, but check with your city).

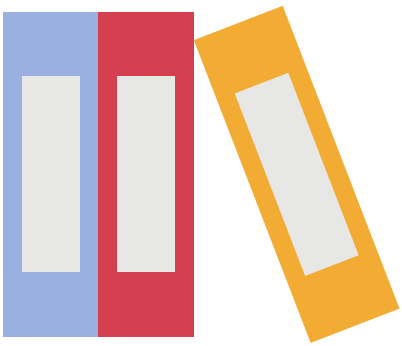
Other Final Documents

Depending on your project, the city might ask for:
A Certificate of Completion (proves all inspections passed)
A final survey or as-built drawing (shows what was actually built, if required)

Insurance and Liability

Make sure your builder or contractor updates your construction insurance coverage to reflect that the project is finished.

Keep Good Records



Hang on to:

- A copy of your permit
- Final inspection approvals
- Any structural or energy reports
- Product warranties or receipts

This will help later if you sell, refinance, or need to prove work was done legally.

Thank You for Reading!

Your Guide to Planning a Residential Home Addition in Ontario

Whether you're managing your own renovation or working with a team of professionals, we hope this guide helped you understand the steps, drawings, codes, and specifications required to complete a successful home addition project.

Remember:

- Always check with your local municipality for specific zoning or permit requirements.
- Keep a copy of your approved permit documents, inspection reports, and specifications.
- Communicate clearly with your contractor or designer and refer to your general specifications throughout construction.
- A well-planned addition doesn't just add square footage, it adds value, comfort, and longevity to your home.

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