



# **BROCHURE # 108** **CONSTRUCTION PLAN COMPONENTS**

**Please note:** This construction plan component list is to be used as a guide to assist you with your project. There may be elements unique to your project not shown on this plan that will be required on your submittal construction plans.

**Cover page-** At a minimum, the cover page should be provided that includes:

- a. Table of contents- Identify page numbers included in building plan package and label what items are included on each page
- b. Name and contact information for the designer
- c. Site address or other identification for the location of the proposed structure
- d. Code references and design criteria used, i.e., snow load, roof live and dead loads, floor live and dead loads, wind speed, seismic zone, specific exposure.

Ground Snow Load	Wind	Topo Effects	Special Wind Region	Wind-Borne Debris	Seismic Design Category	Weathering	Frost Line Depth	Termite	Decay	Winter Design Temp	Ice Shield Underlay Req'd	Flood Hazard	Air Freezing Index	Mean Annual Temp
25 lbs.	110 mph Ult.	No	No	No	D2	Moderate	12"	Slight to Moderate	Moderate to Severe	26° F	No	(a) 1980, (b) 1980)	148	51.4 °F

Other items may be included on the cover page that pertain to the project

**\*\*Plans shall be drawn to a standard scale, i.e. 1/4"= 1' or 1/8"= 1'.**

**Foundation-**

- a. Scaled layout of the foundation, including exterior footing/ stem walls and interior footing/ stem walls, piers or strip footings.
- b. Details or reference to a details page showing the proposed width of the footing, height and thickness of the stem wall, reinforcement placement and spacing, pressure treated sill plate and size and spacing of anchor bolts.
- c. Location and type of hold-down devices, where applicable
- d. Point loads from framing above
- e. When constructing a masonry fireplace, foundation plan shall also include specific footing information for the fireplace.
- f. Crawl space ventilation calculations that specify how much ventilation is required and how it will be provided
- g. Location of crawl space access, if providing it through the foundation stem wall.
- h. Location of vents (number of vents determined by the vent calculations)
- i. For concrete walls enclosing habitable space, i.e. below grade basement, details shall include how damp-proofing will be accomplished and how drainage is being installed.

## Floor framing-

- a. Location and size of floor beams
- b. Size and location of posts, post connections at beam and piers/ footings for beam support or detail of pony wall being constructed
- c. Type of material (TJI's/ doug fir/ hem fir) size and spacing of proposed floor joists
- d. If it is not the intent to install the floor joists on top of the foundation stem wall, provide information and details to show how the floor joist will be attached at the foundation walls.
- e. Indicate any cantilevered floor joists
- f. Show the location of the crawl space access, if providing through the floor framing
- g. Indicate double joists or other appropriate support for bearing walls above
- h. Blocking shall be provided at all intermediate supports and under braced wall panels
- i. Label location and size of all headers and beams. If manufactured type beams are used, i.e. Glulam, LVL, PSL, etc., calculations that show span information shall accompany construction plans. Other beams with large spans may also be subject to providing calculations.

**Decks-** If a deck is being proposed off of an exterior door, details shall be provided for the following:

- a. If being supported off the house, indicate the ledger size and how it will be attached. For decks over 30" in height, lateral hold-down devices shall be provided in a minimum of two locations for each section of deck.
- b. Location, size, and spacing of deck joists.
- c. Location and size of supporting beams.
- d. Size of posts and connection to beam and footing
- e. Size of footings (pre-cast pier blocks are not permitted)
- f. Construction of stair details, to include handrail height, tread rise/ run
- g. Type, height and attachment of guardrail (required for all decks over 30" in height)

## Floor Plan-

- a. Show outline of house at exterior walls and indicate location of windows, doors with minimum U factors indicated per [WSEC table R402.1.3](#).
- b. Indicate decks, patios, porches or landings being constructed outside exterior doors.
- c. Provide location of all interior walls and doors
- d. Label the use of each space.
- e. Label location of all appliances. This is to include the location of kitchen range, dishwasher, water heaters, fireplaces, furnaces, duct-less systems, heat pumps, washer, dryer, etc. For appliances that can be electric or gas, indicate fuel type.
- f. Show location of fixtures (sinks, water closets, showers, etc.)
- g. Label smoke and carbon monoxide alarms
- h. Label windows complying with the rescue opening (aka egress window) requirements; in every sleeping room
- i. Location of source specific exhaust fans and proposed CFM (shower, water closets and utility rooms require a minimum of 50 cfm and kitchen hood fans require a minimum of 100 cfm).
- j. If utilizing a whole house exhaust to meet the ventilation requirements, label the location and size of the whole house exhaust fan.
- k. Energy code compliance options (see worksheet included in the building permit application for description of options). Options selected shall be clearly identified on the plans. If utilizing an appliance, i.e. high efficiency water heater or furnace, minimum required efficiencies shall be included on the label.

- I. Label windows requiring safety glazing.

### **Elevations-**

- a. Scaled elevations of all four sides.
- b. Window, door and skylight locations.
- c. Roof overhangs.
- d. Roof slopes.
- e. Roof & wall coverings.
- f. Fireplace and other appliance vent terminations.
- g. Accurate finished grade showing the slope extending 10 feet away from the structure.

### **Wall construction-**

- a. Sectional drawing or similar detail shall be provided to show stud size and spacing. If utilizing a full wall (foundation to roof) sectional drawing, this same detail can show foundation sizing and reinforcement, sill, anchor bolt spacing, stud size and spacing, wall insulation, interior, exterior finishes, roof attachment, attic insulation, etc.
- b. Structures provided with engineering shall provide details for shear wall requirements.
- c. Prescriptive designed structures shall include braced wall method chosen and construction details, calculations to show how much bracing is required (per the tables included in section 602.10 of the International Residential Code) and how much is being provided for interior and exterior wall lines.
- d. If fire walls are required for your project, approved fire wall assembly details shall be provided.

### **Roof construction**

- a. If using pre-manufactured trusses, the proposed roof layout shall be provided; this shall include location of girder trusses, etc.
- b. For areas requiring over-framing, rafter size and spacing, ridge board and roof attachment shall be provided.
- c. If stick framing roof; provide type of wood being used, size and spacing of roof rafters, size and spacing of ceiling joist, size and spacing of collar ties, size of ridge board or ridge beam (whichever is applicable)
- d. Indicate size and location of attic access
- e. Indicate how attic ventilation will be provided and include ventilation calculations used. If roof overhang extends into a 5' setback (to property line), bird block vents, soffit vents or gable vents are not allowed. If this is applicable, alternative ventilation needs to be provided.
- f. If mechanical equipment is being installed in the attic, required platforms shall be shown on the plans. If manufactured trusses are used, engineering shall include the installation of the equipment. If stick building a roof system with mechanical equipment, design shall indicate that the additional loads are accounted for.
- g. Show interior and exterior roof finishes (where applicable)
- h. Show attic insulation

### **Architectural Construction drawings**

If a licensed Architect is obtained to develop construction plans, the Architect is required to provide his/her wet-stamp and signature on the plans. Plans will not be accepted for permit review if the wet-stamp and signature is not provided.

When plans are revised or modified to accommodate a design change, the original Architect is responsible for providing new plans that reflect the revisions/ modifications. New plans shall bear the wet-stamp and signature.

## Engineered Plans

If your project exceeds the parameters for prescriptive design, engineered plans and calculations shall be provided with the construction plans. Plans that include engineering shall be wet-stamped and signed by the designing engineer. Plans will not be accepted for permit review if the wet-stamp and signature is not provided.

When plans are revised or modified to accommodate a design change, the original Engineer is responsible for providing new plans that reflect the revisions/ modifications. New plans and calculations shall bear the wet-stamp and sign.

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## Construction Plan Submittal Definitions:

1. Foundation: Foundation walls are usually designed and constructed in accordance with accepted engineering practices to carry vertical loads from the structure above, resist wind and any lateral forces transmitted to the foundations and sustain earth pressures exerted against the walls, including any forces that may be imposed by frost action.
  - a. Footing: The bottommost part of a foundation wall, with a course of concrete wider than the base of the wall, designed to support the foundation and prevent settling. Properly designed and constructed footings provide the necessary counter balance forces that enable a house or a building to withstand the forces of nature.
  - b. Stem Walls: Structures used to connect the foundation of a building to its walls.
  - c. Pier: A collection of individual posts dug into the ground, sometimes called a post foundation. Only permitted to support structures of light frame construction not more than two stories in height.
  - d. Strip Footing: Another name for continuous footing, a continuous strip of concrete on either side of a foundation wall that serves to spread the weight of the loading bearing wall across an area of soil.
  - e. Sill Plate: A horizontal structure located at the bottom of the studs used to hold a wall together, provides a surface for attaching the wall to the supporting structure.
  - f. Damp-Proofing: Section 1805 of the IBC, generally refers to the application of one or more coatings of a compound or other materials that are impervious to water, which are used to prevent the passage of water vapor through walls or other building components, and which restrict the flow of water under slight hydrostatic pressure.
2. Floor Framing
  - a. Pony Wall: A wall that only extends partway from floor to ceiling.
  - b. Floor Joists: Length of timber or steel supporting part of the structure of a building, typically arranged in parallel series to support the floor.
  - c. Cantilevered Floor Joists: A joist that projects over a beam.
  - d. Bearing Walls: A wall that bears the weight of the house above.
3. Decks
  - a. Ledger Size: Horizontal beam attached to an existing wall and used to tie in construction elements such as porch roofs and decks. Installed as part of the deck frame construction.
  - b. Deck Joists: Length of horizontal timber used to support the deck floor.
4. Floor Plan
  - a. CFM (Cubic Feet Per Minute): A measurement of the velocity at which air flows into or out of a space.

- b. Safety Glazing: Reduces the possibility of injury caused by broken glass. The most common type of safety glazing in residential applications is tempered glass.
5. Wall Construction
- a. Shear Wall: A wall designed of braced panels to resist lateral forces, generally wind or seismic loads, parallel to the plane of a wall.
6. Roof Construction
- a. Pre-Manufactured Trusses: The structural framework which supports the roof.
  - b. Girder Trusses: Long straight trusses utilized for large buildings primarily used to support other structural elements in the frame, such as traditional trusses, rafters, or purlins.
  - c. Over Framing: When a roof section is framed on top of another roof section, such as when constructing an L shaped roof.
  - d. Stick Framing Roof: Utilized to construct houses with cathedral ceilings, attic rooms, or attic storage areas by creating a triangle between the rafters and ceiling joists.