SINGLE FAMILY RESIDENTIAL STRUCTURES
AND ACCESSORY BUILDINGS
MINIMUM SUBMITTAL REQUIREMENTS FOR STRUCTURAL PLANS

One set of plans must be submitted for review. **Plans must be drawn to scale (¼" = 1'0" minimum)** and be clear and legible enough to indicate the location, nature, and extent of work proposed. Detailing must be adequate to ensure that the proposed project will conform to all applicable laws, codes, ordinances, rules, and regulations.
Plan size requirements: Use a minimum of 11"x17" paper for projects 600 square feet or less. A minimum size of 18"x24" paper is to be used for projects larger than 600 square feet.

Foundation plans shall include:

- ► Length, width, and location of foundation footing and wall, piers, or location of holes and posts for pole buildings.
- ► Location and size of footings and slabs.
- ► Size and location of vents (1 vent required within 3 feet of each corner) and underfloor access.
- ► Location and specific model numbers of required holddowns.
- ► Reinforcing steel and anchor bolts (size, spacing, and embedment depth).
- ► Foundation plates.
- ► Ground cover (6 mil black poly).

Floor framing plans shall include:

- ► Location, size, grade, and species of posts, beams, headers, and bearing walls.
- ► Size, grade, species, and spacing of floor joists. **For manufactured I-joists**, provide all required details for the use of I-joists and label the plans as to where a specific detail is required. This would include any nailing patterns, filler material, squash blocks, rim material, blocking including pressure blocks, and any other design component required by the joist manufacturer. The beams and joists called out on the I-joist plan must match the floor plans.
- ► Blocking, beams, cross-bracing, flooring, insulation, etc.
- ► Floor truss design specifications per R 502.11.1 (by WA state licensed engineer)

First floor framing may be shown on the foundation plan if clarity is not compromised.

Framing for other floors may be shown on the floor plans if clarity is not compromised.

Floor plans shall include:

- ► Length, width, and location of all walls.
- ► Size and locations of all windows and doors.
- ► Location and type of all required bracing panels, and/or shear walls.
- ► All appropriate engineering requirements.
- ► Location of all plumbing fixtures, appliances used for heating and cooking, cabinets, smoke detectors, exhaust fans, stairways, attic access, underfloor access, fireplaces, etc.
- ► Identify the use of each room.
- ► **For additions**, please provide a floor plan of the existing areas adjoining the addition. Show the use of the existing rooms and all doors and windows. Provide sufficient structural information about the existing building in order that loads for new framing can be calculated.

Wall section plans to include:

- ► Side view from bottom of footing or post to roofing.
- ► Size of foundation, location of finished grade, size and location of rebar, sill plate, and anchor bolt size and spacing, holddowns, etc.
- ► Size, grade, and species of headers, beams, studs, insulation, wallboard, etc.
- ► Rafters, ceiling joists, trusses, sheetrock, insulation, venting, roof sheathing, roof felt, roof covering, roof pitch, vaulted ceilings, etc.
- ► Show size, grade, species, and spacing of materials as appropriate.

Roof framing plans to include:

- ► Size, grade, species, and spacing of all roof beams, headers, posts, rafters, purlins, and ceiling joists. **For manufactured I-joists** used for rafters, please provide details as required for floor framing.
- ► Location of bearing walls and any details that may be required.
- ► Roof truss layout including specific location of girder and hipmaster trusses, ridges, valleys, and hips.
- ► Roof truss design specifications per R 802.10.1 (by WA state licensed engineer)

Roof framing plan may be included on the floor plan if clarity is not compromised.

Cross-Section plans to include:

- ► Complete section views - front-to-back, side-to-side, bearing soil to roof peaks.
- ► Side view from bottom of footing or post to roofing.

Elevation plans shall include:

- ► Minimum of four (4) elevation views.
- ► Side view of structure from tallest side.
- ► Show finished earth grade, windows, doors, decks, landings, chimneys, roof pitch, and overhangs.

2015 Washington State Energy Code Compliance:

Prescriptive path to include:

- ► General compliance form
- ► Glazing Schedule
- ► Simple Heat System Sizing

OR

- ► Provide WSEC accepted analysis

Other: Some structures may require additional plans, details, or information - for example:

- ► Connection details for additions.
- ► Manufacturer's specifications for any non-standard or prefabricated building materials.
- ► Any/all unusual framing details.
- ► Stair details.
- ► Deck details, including method of attachment, ledger flashing.
- ► Any/all engineering details.
- ► Wall bracing schedule.
- ► Shear wall schedule.
- ► Holddown schedule.
- ► Details for slab insulation, below grade insulation, thermal break, etc.
- ► Designate heated and unheated areas.

Engineering will be required when:

- ► Plans submitted for review do not meet all prescriptive code provisions found in 2015 IRC
- ► Proposed structures (by definition) are of unusual shape and design.
- ► Site conditions exist that could undermine or jeopardize the proposed construction.

Several examples where engineering requirements have been waived are:

One-Story Pole Buildings having:

- ► Clear span not more than 24 feet (trusses), or 12 feet (rafters).
- ► Eave height not more than 12 feet.
- ► Bay spacing not more than 12 feet.

Other:

- ► Retaining walls not over 4 feet in height measured from the bottom of the footing to the top of the wall and not supporting a surcharge.
- ► Conventional wood-frame structures not having an unusual size, shape, or design which complies with all provisions of the 2015 IRC.

TABLE R301.2(1)
Climatic and Geographic Design Criteria

((~~Ground~~)) Roof Snow Load (PSF)	Wind Design		Seismic Design Category[f]	Subject to Damage From			Winter Design Temp[e]	Ice Barrier Underlayment Required[h]	Flood Hazards[g]	Air Freezing Index[i]	Mean Annual Temp[j]
	Speed[d] (MPH)	Topographic Effects[k]		Weathering[a]	Frost line depth[b]	Termite[c]					
25 May increase depending on site location	85	NO	D/D2	Moderate	18 inches	Moderate	26° F	NO	12/23/71 9/16/05	175	50.5° F

a. Weathering may require a higher strength concrete or grade of masonry than necessary to satisfy the structural requirements of the residential code. The weathering column shall be filled in with the weathering index (i.e., "negligible," "moderate" or "severe") for concrete as determined from the Weathering Probability Map [Figure R.301.2(3)]. The grade of masonry units shall be determined from ASTM C 34, C 55, C 62, C 73, C 90, C 129, C 145, C 216 or C 652.
b. The frost line depth may require deeper footings than indicated in Figure F403.1(1). The jurisdiction shall fill in the frost line depth column with the minimum depth of footing below finish grade.
c. The jurisdiction shall fill in this part of the table to indicate the need for protection depending on whether there has been a history of local subterranean termite damage.
d. The jurisdiction shall fill in this part of the table with the wind speed from the basic wind speed map [Figure R301.2(4)]. Wind exposure category shall be determined on a site-specific basis in accordance with Section R301.2.1.4.
e. The outdoor design dry-bulb temperature shall be selected from the columns of 97 1/2-percent values for winter from Appendix D of the International Plumbing Code. Deviations from the Appendix D temperatures shall be permitted to reflect local climates or local weather experience as determined by the building official.
f. The jurisdiction shall fill in this part of the table with the seismic design category determined from Section R301.2.2.1.
g. The jurisdiction shall fill in this part of the table with (a) the date of the jurisdiction's entry into the National Flood Insurance Program (date of adoption of the first code or ordinance for management of flood hazard areas), (b) the date(s) of the Flood Insurance Study, and (c) the date(s) of the currently effective FIRM and FBFM, or other flood hazard map adopted by the county, as may be amended.
h. In accordance with Sections R905.2.7.1, R905.4.3.1, R905.5.3.1, R905.6.3.1, R905.7.3.1 and R905.8.3.1, where there has been a history of local damage from the effects of ice damming, the jurisdiction shall fill in this part of the table with "YES". Otherwise, the jurisdiction shall fill in this part of the table with "NO".
i. The jurisdiction shall fill in this part of the table with the 100-year return period air freezing index (BF-days) from Figure R403.3.(2) or from the 100-year (99%) value on the National Climatic Data Center data table "Air Freezing Index - USA Method (Base 32 o Fahrenheit)" at www.ncdc.noaa.gov/fpsf.html.
j. The jurisdiction shall fill in this part of the table with the mean annual temperature from the National Climatic Data Center data table "Air Freezing Index-USA Method (Base 32? Fahrenheit)" at www.ncdc.noaa.gov/fpsf.html.
k. In accordance with Section R301.2.1.5, where there is local historical data documenting structural damage to buildings due to topographic wind speed-up effects, the jurisdiction shall fill in this part of the table with "YES." Otherwise, the jurisdiction shall indicate "NO" in this part of the table.

Note to footnote d: Minimum 110 mph ultimate design wind speed to be used for buildings designed according to the International Building Code.
Note to footnote k: Topographical effects shall be included for buildings designed according to the International Building Code.

(Added Amended Ord. 07-084, Sept. 5, 2007, Eff date Sept. 21, 2007; Amended by Amended Ord. 11-031, Aug. 3, 2011, Eff date Aug. 18, 2011

2015 Washington State Energy Code Requirements

Provide the following three worksheets: General compliance form, which includes “credit” requirements from Table 406.2; Glazing schedule; and Simple Heat System Size calculations. These three worksheets may be downloaded for free at www.energy.wsu.edu/code and used to meet the 2015 WSEC requirements. Please provide the energy worksheet forms from the WSEC website, or another code-complying source.

2015 WASHINGTON STATE ENERGY CODE (W.S.E.C.) - TABLE 6-1

PRESCRIPTIVE REQUIREMENTS FOR GROUP R OCCUPANCY
CLIMATE ZONE 1

GLAZING U-FACTOR		DOOR U-FACTOR	CEILING	VAULTED CEILING	WALL ABOVE GRADE	WALL-INT. BELOW GRADE	WALL-INT. BELOW GRADE	WALL-EXT. BELOW GRADE	FLOOR	SLAB ON GRADE
VERTICAL	OVERHEAD									
0.30	0.50	0.30	R-49 or R-38 adv	R-38	R-21 int.	R-15 c.i.	R-21 cavity TB	R-10	R-30	R-10 2’

The following information should be noted in the plans:

2015 WASHINGTON STATE ENERGY CODE REQUIREMENTS

SEC. 401.3 – Post Energy Code Compliance Certificate within 3 ft. of electrical panel (these are available at www.energy.wsu.edu/code)
SEC. 402.4.1 -Provide door blower test affidavit by final building inspection
SEC. 403.1.1 – Provide (1) programmable thermostat
SEC. 403.2.2 – Provide duct sealing affidavit by final inspection
SEC. 404.1 – A minimum of 75% of all interior lighting shall be of high efficiency