Building Division

No. B5

City of Lakewood

Planning and Public Works

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Lakewood, WA 98499
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permits@cityoflakewood.us

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rentals@cityoflakewood.us

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Revised:
April 16, 2025

Residential Construction Plan Components

Code References:
- International Residential Code (IRC)
- IRC R106 Construction Documents

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

Land Use Approval including variances, subdivisions, and tree removal permits are recommended prior to submitting the building permit application to avoid delay in project review. *A residential building permit will not be issued prior to any required land use approvals.*

All environmentally critical areas (wetlands, streams, geologically hazardous areas, and associated buffers) on the subject property should be reviewed, delineated, and/or rated prior to submitting a single-family building permit application to avoid delay in project review. This may require the submission of a shoreline permit, floodplain development permit, or tree removal permit.

File Requirements
The City of Lakewood Planning and Public Works Department only accepts electronic permit documents that meet the following standards:
- PDF documents shall be created with a program that meets ISO standards for PDF creation.
- Maximum Size of document allowed is 100 MB.
- Properly formatted and compressed PDF files should not exceed 1 MB per sheet. Files should be only saved in black and white (1-bit monochrome).
- Files must be unlocked or unprotected.
- Zip files are not accepted.

Construction Documents Requirements
1. Plans shall be of sufficient clarity to indicate the location, nature, and extent of the work proposed, and shall demonstrate how the proposed work conforms to the

provisions of adopted codes and ordinances. Each plan sheet should be titled and dated (subsequent revisions shall be dated as well) and each drawing therein should be labeled.

2. Export Settings:
    a. Maintain output Scale – avoid “Fit to Page”.
    b. Export directly to PDF not printed and then scanned
3. Plans shall be combined into one complete set, no individual sheet submittals
4. Architectural plans must be drawn to scale not less than ⅛" ¼" for details and labeled.
5. Site and civil plans must be drawn to scale (1" = 20' minimum), dimensioned, and labeled.
6. Plans will not be accepted if they have been reduced in scale by photocopying.
7. Minimum plan sheet size is 11" x 17"; maximum plan sheet size is 24" x 36".
    a. A minor remodel will be accepted on 8.5”x11”
8. Documents shall be submitted in the correct orientation. Incorrect oriented documents will not be accepted.
9. Plans are required to be clearly legible, with scaled dimensions, in indelible ink.
10. All submittal documents are in PDF format, document security allows for adding review comments & markups.
11. All civil plan sheets must be stamped by a civil engineer licensed in the state of Washington (RCW 18.43.370)
12. Design & construction documents for structures containing 4 or more dwelling units shall be prepared & stamped by WA state licensed professional architect (RCW 18.08.410.(5))
13. Construction documents prepared by a Washington State design professional, whether required to be or not, must be stamped and signed by the preparer.
14. Plans will not be accepted that are marked "Not for Construction", "Preliminary", that have red lines, with watermarks in the center of the page, or that have been altered after the design professional has signed the plans.
15. Each Plan Sheet must be clearly bookmarked to clearly identify the content of the page. Example: *Page A1.0 Architectural Site Plan*.
16. Sheet title blocks shall remain consistent on each page of the plan set including sub disciplines.
17. Documents shall be created with TrueType Fonts.
18. No Cross-Hatching & Fill Pattern.
19. Figures within report documents shall be a maximum size of 11” x 17”, unless part of a separate appendix.
20. Reports and other documents must be submitted as a separate PDF for each document type (e.g. calculations, specifications, reports, studies, etc.).
    a. The completed submittal checklists and energy forms shall be submitted in PDF format separate from the drawing files.
21. Reserve a location on the plan sheets for City stamps. The size shall be 3” x 2” placed with the top corner of the location at 30 inches from the left edge of sheet and 19 inches from the top of the page.

Cover Page

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

1. Table of contents- Identify page numbers included in building plan package and label what items are included on each page.
2. Site address, parcel number, and scope of work.
3. Name and contact information for design professional (Architect, Civil & Structural Professional engineers), owner, & developer where applicable.
4. Specify model code information, WA state code amendments, climatic & geographic design criteria, design criteria used, i.e., snow load, roof live and dead loads, floor live and dead loads, soils allowable bearing pressures, wind speed & exposure category, & seismic zone.

Roof snow load	Wind Speed ultimate	Seismic Design Category	Subject to damage from weathering	Frost line depth	Termite	Decay	Winter design temperature	Ice barrier Underlayment	Flood Hazards	Air Freezing index	Mean Annual temperature
25 PSF	100mph Figure R301.2(2) Exposure Site specific basis per R301.2.1.4	D2	Moderate	12 in.	Slight to moderate	Slight to moderate	29°F	No	Current FEMA maps	117	50°F

Manual J Design Criteria

Elevation	Latitude	Winter Heating	Summer Cooling	Indoor Design temperature	Design temperature cooling
322 Feet	47.161418	29 °F	82 °F	68	82 °F

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

Site Plan

Check out our brochure on Site Plan Requirements. Setback must comply with IRC section R403.1.7. Site plans are not required for interior remodels that do not existing egress, add bedrooms, do not increase total square footage, the use remains the same.

Foundation (See Sample)

1. North arrow.
2. Outline of perimeter foundation, concrete slabs, patios, etc., with dimensions.
3. Location, width, thickness, depth for frost protection, of exterior and interior bearing footings/foundations stem wall or slab on grade with monolithic footings.

Specify pier sizes and show thickened footings where posts are supported on exterior footing.
4. Specify the footing & stem wall size and spacing of required reinforcing steel.
5. Specify thickness of concrete cover over rebar. Specify at least a 3.5" thickness for concrete floor slabs on grade.
6. Show the location, size, embedment, and spacing of anchor bolts and hold-downs.
7. Show the location of the underfloor ventilation vents.
8. Fills over four feet in height (measured from the bottom of the footing to the top of the wall) require engineering. All drawing pages and calculations must be stamped and signed by a Washington State engineer.
9. Foundation design & construction exceed prescriptive thresholds of section R301 or that do not conform to the International Residential Code must be prepared & signed by WA licensed professional engineer.

Floor Plan (See Sample)

1. North arrow.
2. Specify project square footage and room dimensions.
3. Specify proposed use of all rooms and spaces, i.e., bedroom, bathroom, closet, pantry, etc.
4. Dimensions for each room (existing & proposed).
5. Location of Smoke & carbon monoxide detectors.
6. Shear wall/brace wall locations, lengths identified.
7. Show windows and door locations and sizes.
    a. Identify locations & dimensions for emergency escape & rescue openings.
8. Show location of plumbing, heating, and mechanical fixtures and equipment.
9. Show location of crawl space, & attic access.

Framing Plan (See Sample)

1. North arrow.
2. Wall framing details showing stud sizes, species, grades, top & bottom plates anchorage spacing, and span of all framing members for each floor level.
3. Provide the header sizes over openings, & wall openings framing details.
4. Show beam locations, materials, spacing, and sizes. Show posts under all beams and specify the size, grade, species, and height
5. Floor layout plan: floor joists sizes, floor trusses, directions of run, spans, and spacing, floor insulation per WSEC-R requirements, & floor opening framing detail.
6. Roof layout plan: show ceiling joists, trusses, and roof rafter sizes, directions of run, spans, spacing, connectors to resist uplift, & roof insulation per WSEC-R requirements.
7. Clearly show bearing walls and provide nailing schedule(s).
8. Show all connections that resist wind & seismic forces. Specify the brand and model numbers of all hold-downs and connectors.
9. Indicate location of all braced wall panels on the plans.
    a. Designs that do not meet prescriptive requirements must be designed and stamped by a Washington State Registered Professional Engineer.

Decks (see Deck Construction Tips)
If a deck is being proposed off an exterior door, details shall be provided for the following:

1. If connected to home provide ledger details per IRC R507.9 including ledger size and attachment method.
    a. Decks more than 30 inches above grade at any location require deck attachment for lateral loads in accordance with IRC R507.9.2.
2. Location, size, and spacing of deck joists.
3. Location and size of supporting beams.
4. Size of posts and method of connection to beam and footing.
5. Size of footings (pre-cast pier blocks are not permitted).
6. Construction of stair details, to include handrail height, tread rise/ run, and connection detail.
7. Type, height, and attachment of guardrail (required for all decks over 30" in height).

Elevations (See Sample)

1. Provide a directional label for each elevation (north/south/east/west).
2. Specify the height above finish grade to:
    a. Finished floor
    b. Top plate/ceiling; and,
    c. Highest point of the structure.
3. Show existing and finished grade lines.
4. Show height of structure from Average Building Elevation (ABE) to midpoint of highest pitched roof; indicate how the ABE was calculated.
5. Specify all finish materials to be utilized
6. Show all doors and windows; distinguish between openable and fixed.

Building Cross Sections (See Sample)
Not required for interior remodels.

1. Provide complete foundation sections and details that show the minimum foundation sizes. Show backfill to top of interior footings.
2. Specify mudsill material (cedar or pressure treated).
3. Detail positive connection between posts and beams to ensure against uplift and lateral displacement.
4. Wood joists closer than 18", or wood girders closer than 12" to grade shall be shown as an approved wood of natural resistance to decay or treated wood.
5. Show components of wall construction, including exterior and interior wall finishes, and specify insulation R-value.
6. Show ceiling construction (size and spacing of joists) and R-value of insulation.
7. Show the roof structure, including size and spacing of joists, rafters or pre-manufactured truss spacing, a connection detail, R- value of insulation, and insulation baffles.
8. Detail roof construction, including sheathing, underlayment, and roofing material.
9. Provide a full-height section through stairways. Show riser and tread framing materials; riser height; tread width; handrail and guard height above tread nosing;

and clearance to ceiling above the stairs measured from a line drawn at and parallel to tread nosing.

General Building Notes

1. Hard-wired smoke detectors shall be shown on each floor (including basements), in each sleeping room, and at a point centrally located in the corridor or any area giving access to each separate sleeping area.
2. Carbon monoxide detectors shall be located in the immediate vicinity of each sleeping room and on each floor of the home.
3. Show compliance with the ventilation requirements for the attic space, & crawl space.

Stormwater Pollution Prevention Plan (Erosion Control Plan)

1. North arrow.
2. Show the size, location, setbacks, and use of existing and new buildings and additions.
3. Show existing and proposed site topography in two-foot contours.
4. Show the location of utilities (water, septic, gas, etc.) and their connection to buildings or additions.
5. Show adjacent right(s)-of-way, width, and street name(s).
6. Provide a list of existing impervious area(s) in square feet, including structures, concrete, gravel, etc.
7. Indicate total lot size in square feet.
8. Provide the new impervious area in square feet.
9. Show existing street improvements (sidewalk, curb, gutter, edge of roadway, curb-cuts for driveways, etc.) along the property frontage(s).
10. Show proposed Temporary Erosion and Sedimentation Control (TESC) measures. (Best Management Practices shall apply.)
11. Use directional arrows to show surface drainage.
12. Show grading and clearing limits; indicate approximate cut and fill quantities of site earthwork.
13. Show proposed flow control method for roof, driveway, and any other proposed impervious surface.
14. Show location of all existing and proposed drainage easements and drainage facilities (catch basins, ditches, swales, culvert, detention ponds, etc.) on the property.
15. Provide details for flow control facilities or Best Management Practices (BMPs).
16. Provide sizing calculations for flow control facilities or BMPs.

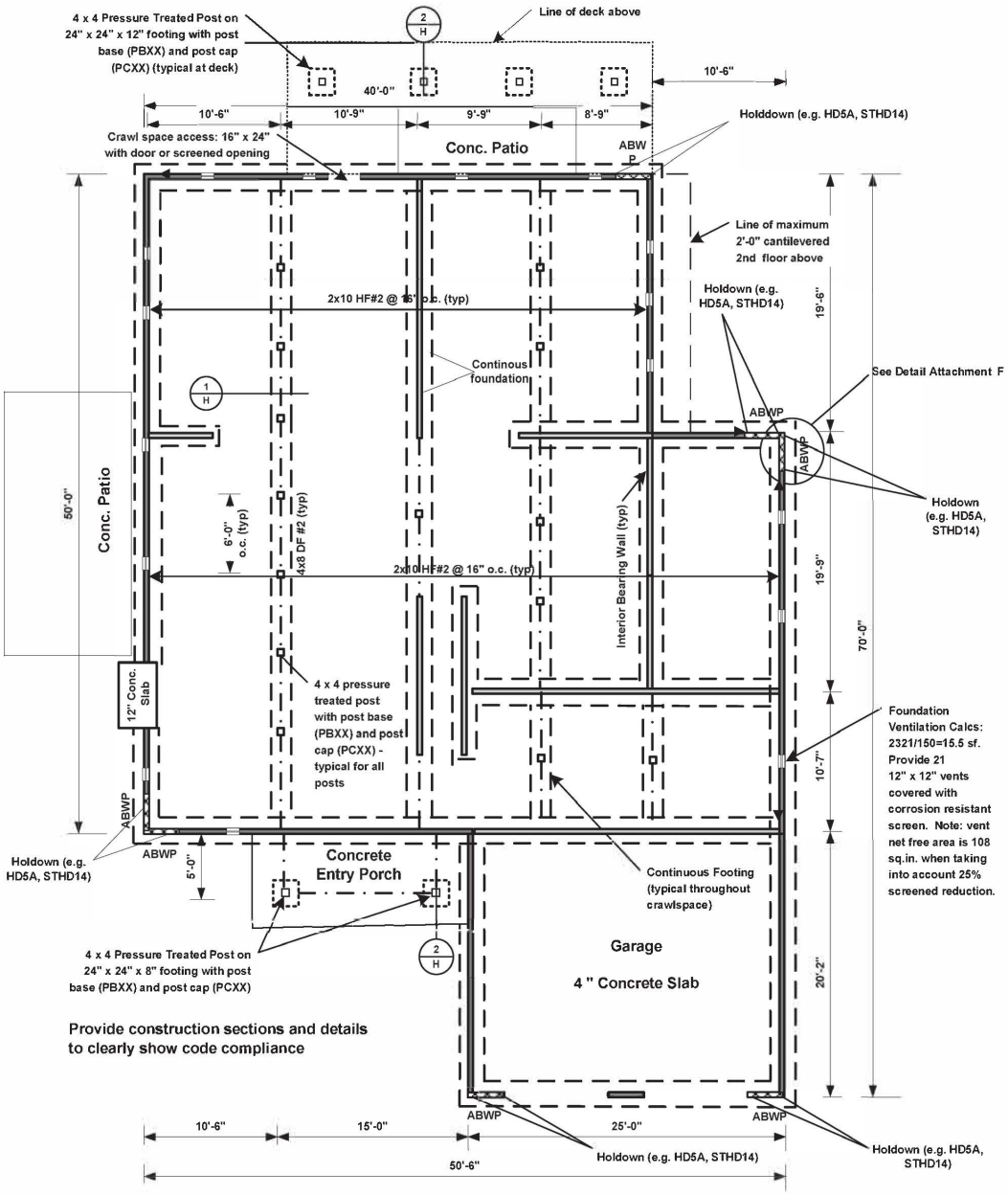
Tree Retention Plan

A Tree Retention Plan may be required depending on the scope of your project. This is not a requirement for interior remodels. Check out our brochure on Tree Preservation and Protection for more information.

SAMPLE FOUNDATION PLAN

INCLUDES 1ST FLOOR FRAMING

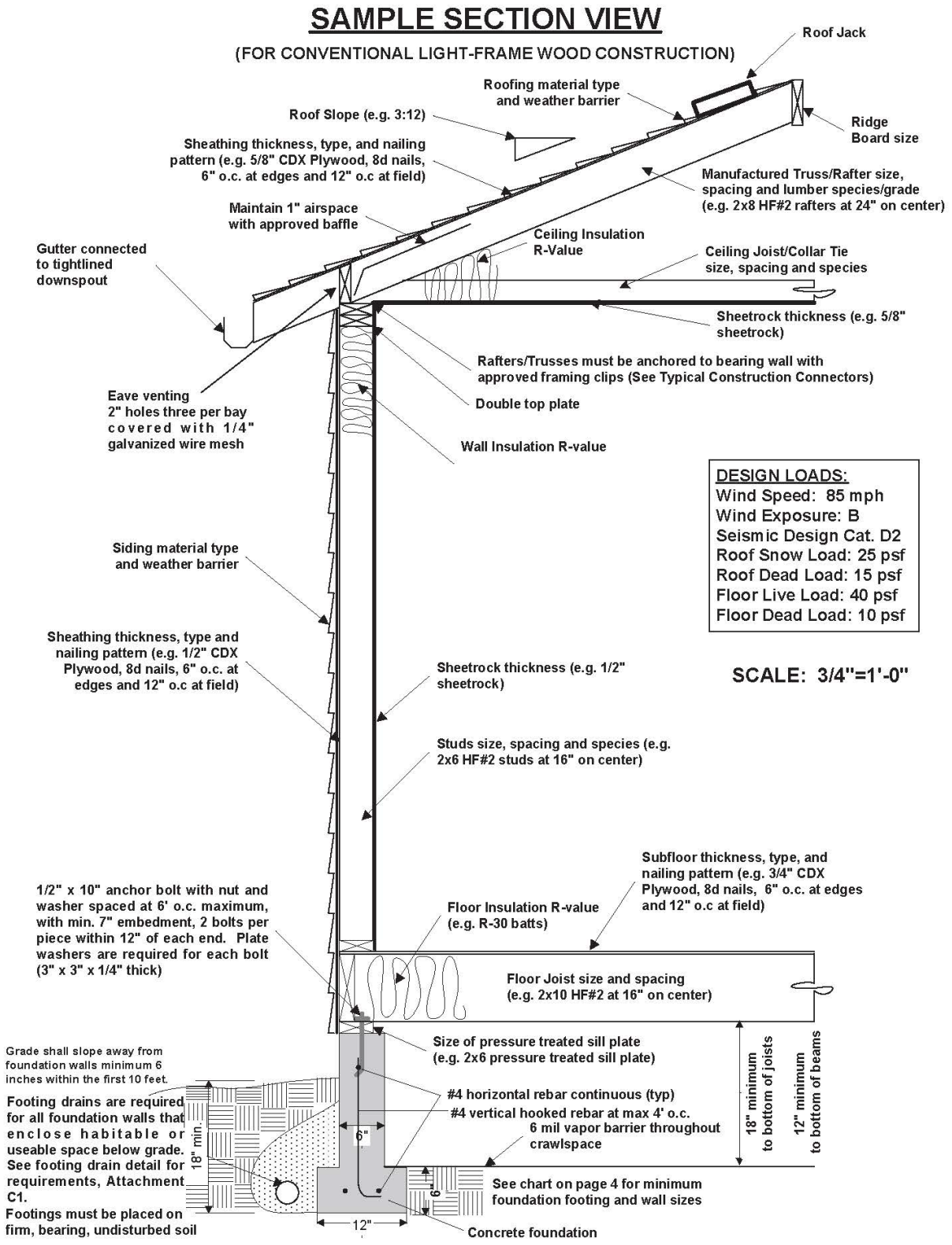
SCALE 1/4" = 1'-0"

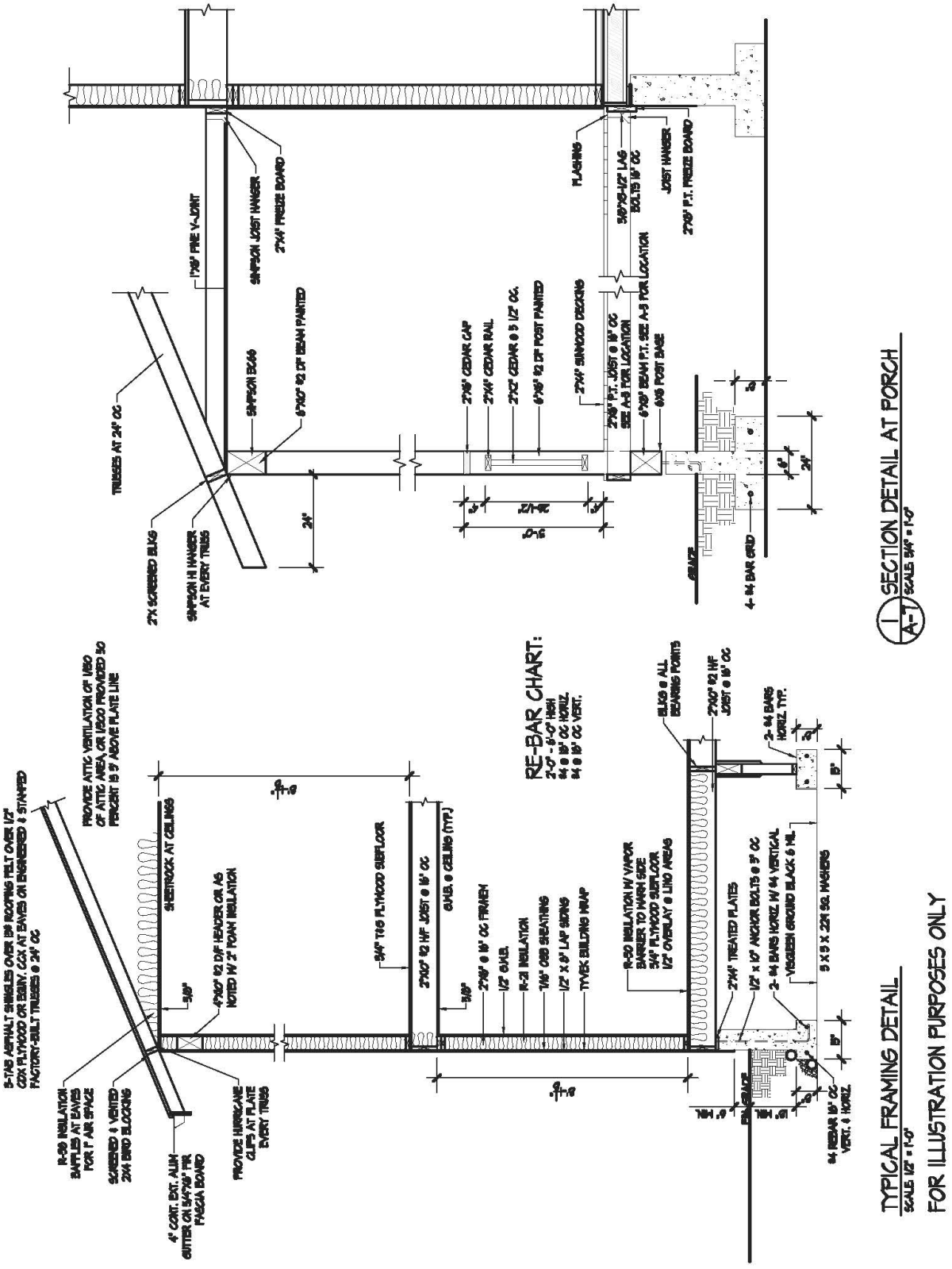


**Provide 6 mil black polyethylene moisture barrier throughout crawlspace, lap seams 12".

**All wood in contact with concrete or exposed to weather must be pressure treated or naturally resistant to decay.

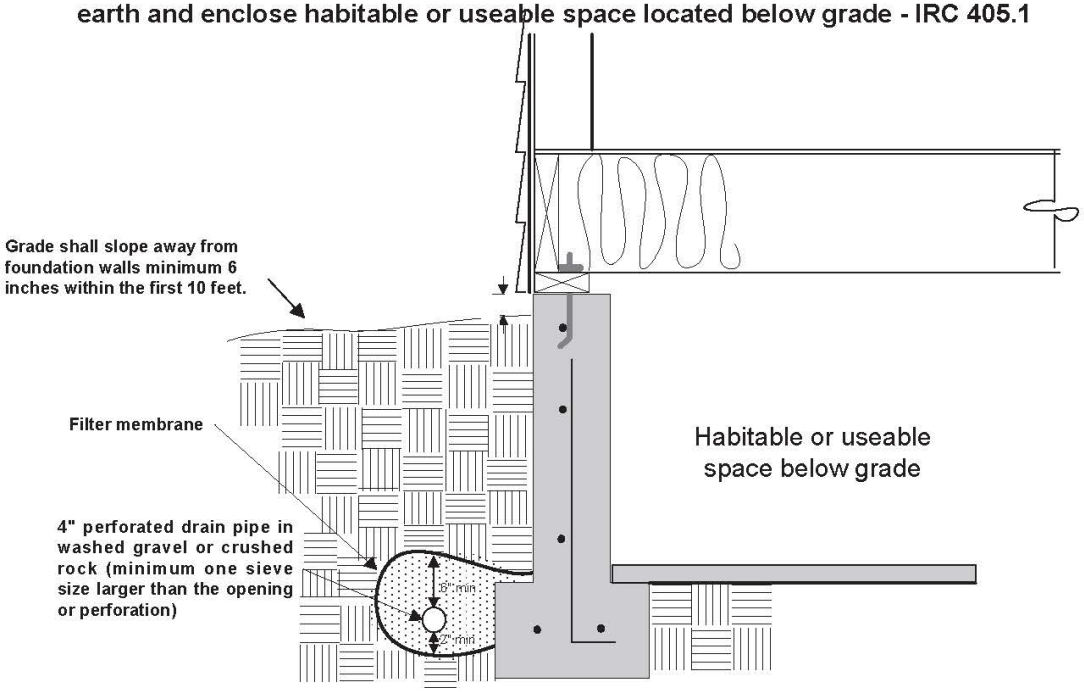
**Footings to bear on 2000 psf. undisturbed soil. Soil Type: Silty Gravel


SAMPLE SECTION VIEW
(FOR CONVENTIONAL LIGHT-FRAME WOOD CONSTRUCTION)
Roof Jack
Roofing material type and weather barrier
Roof Slope (e.g. 3:12)
Ridge Board size
Sheathing thickness, type, and nailing pattern (e.g. 5/8" CDX Plywood, 8d nails, 6" o.c. at edges and 12" o.c at field)
Manufactured Truss/Rafter size, spacing and lumber species/grade (e.g. 2x8 HF#2 rafters at 24" on center)
Maintain 1" airspace with approved baffle
Ceiling Insulation R-Value
Gutter connected to tightlined downspout
Ceiling Joist/Collar Tie size, spacing and species
Sheetrock thickness (e.g. 5/8" sheetrock)
Rafters/Trusses must be anchored to bearing wall with approved framing clips (See Typical Construction Connectors)
Eave venting 2" holes three per bay covered with 1/4" galvanized wire mesh
Double top plate
Wall Insulation R-value
DESIGN LOADS:
Wind Speed: 85 mph
Wind Exposure: B
Seismic Design Cat. D2
Roof Snow Load: 25 psf
Roof Dead Load: 15 psf
Floor Live Load: 40 psf
Floor Dead Load: 10 psf
Siding material type and weather barrier
SCALE: 3/4"=1'-0"
Sheathing thickness, type and nailing pattern (e.g. 1/2" CDX Plywood, 8d nails, 6" o.c. at edges and 12" o.c at field)
Sheetrock thickness (e.g. 1/2" sheetrock)
Studs size, spacing and species (e.g. 2x6 HF#2 studs at 16" on center)
Subfloor thickness, type, and nailing pattern (e.g. 3/4" CDX Plywood, 8d nails, 6" o.c. at edges and 12" o.c at field)
1/2" x 10" anchor bolt with nut and washer spaced at 6' o.c. maximum, with min. 7" embedment, 2 bolts per piece within 12" of each end. Plate washers are required for each bolt (3" x 3" x 1/4" thick)
Floor Insulation R-value (e.g. R-30 batts)
Floor Joist size and spacing (e.g. 2x10 HF#2 at 16" on center)
Size of pressure treated sill plate (e.g. 2x6 pressure treated sill plate)
Grade shall slope away from foundation walls minimum 6 inches within the first 10 feet.
#4 horizontal rebar continuous (typ)
#4 vertical hooked rebar at max 4' o.c.
Footing drains are required for all foundation walls that enclose habitable or useable space below grade. See footing drain detail for requirements, Attachment C1.
6 mil vapor barrier throughout crawlspace
18" minimum to bottom of joists
12" minimum to bottom of beams
18" min.
6"
See chart on page 4 for minimum foundation footing and wall sizes
Footings must be placed on firm, bearing, undisturbed soil
12"
Concrete foundation

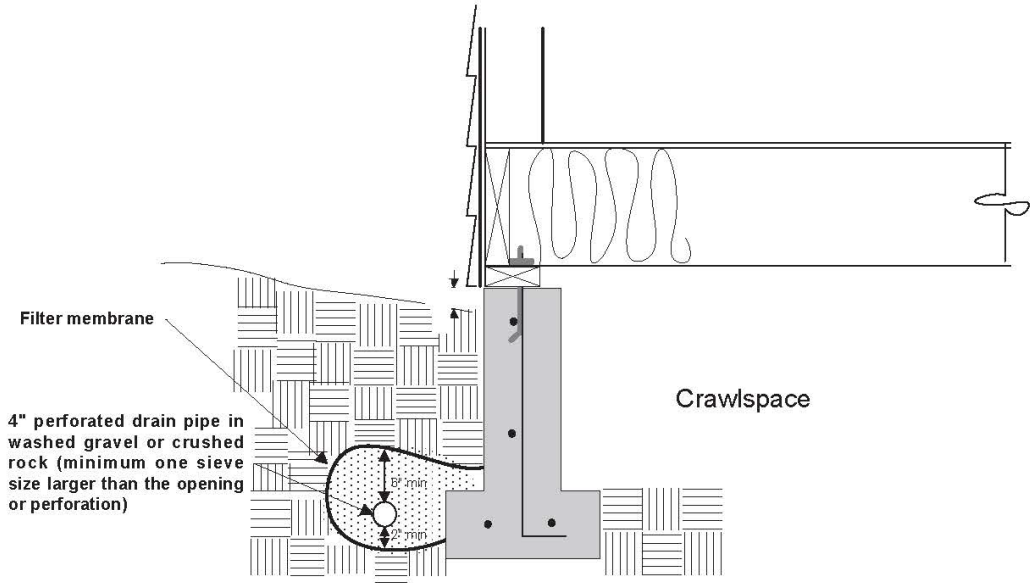

1 A-1 SECTION DETAIL AT PORCH
SCALE: 3/4" = 1'-0"
TYPICAL FRAMING DETAIL
SCALE: 1/2" = 1'-0"
FOR ILLUSTRATION PURPOSES ONLY
RE-BAR CHART:
2'-0" - 6'-0" HIGH
#4 @ 18" OC HORIZ.
#4 @ 18" OC VERT.
TRUSSES AT 24" OC
2"X SCREENED BLKG
SIMPSON H8 HANGER AT EVERY TRUSS
6"X10" #2 DF BEAM PAINTED
SIMPSON BC46
1"X8" FIRE Y-JOINT
SIMPSON JOIST HANGER
2"X4" FREEZE BOARD
2"X6" CEDAR CAP
2"X4" CEDAR RAIL
2"X2" CEDAR @ 5 1/2" OC.
6"X6" #2 DF POST PAINTED
2"X6" SUNWOOD DECKING
2"X6" P.T. JOIST @ 16" OC SEE A-3 FOR LOCATION
6"X8" BEAM P.T. SEE A-3 FOR LOCATION
6X6 POST BASE
FLASHING
5/8"X8-1/2" LAG BOLTS 16" OC
JOIST HANGER
2"X8" P.T. FREEZE BOARD
4- #4 BAR GRID
PROVIDE ATTIC VENTILATION OF 1/150 OF ATTIC AREA, OR 1/300 PROVIDED 50 PERCENT IS 3' ABOVE PLATE LINE
5-TAB ASPHALT SHINGLES OVER 15# ROOFING FELT OVER 1/2" CDX PLYWOOD OR EQUIV. CDX AT EAVES OR ENGINEERED & STAMPED FACTORY-BUILT TRUSSES @ 24" OC
SHEETROCK AT CEILINGS
4"X10" #2 DF HEADER OR AS NOTED W/ 2" FOAM INSULATION
5/8"
5/8"
5/8" T&G PLYWOOD SUBFLOOR
2"X10" #2 HF JOIST @ 16" OC
6"X6" @ CEILING (TYP.)
2"X6" @ 16" OC FRAMEN
1/2" GWB.
R-21 INSULATION
7/8" OSB SHEATING
1/2" X 8" LAP SIDING
TYVEK BUILDING WRAP
R-30 INSULATION W/ VAPOR BARRIER TO WARM SIDE
3/4" PLYWOOD SUBFLOOR
1/2" OVERLAY @ LIND AREAS
BLKG @ ALL BEARING POINTS
2"X10" #2 HF JOIST @ 16" OC
2- #4 BARS HORIZ. TYP.
2"X4" TREATED PLATES
1/2" x 10" ANCHOR BOLTS @ 3' OC
2- #4 BARS HORZ. W/ #4 VERTICAL
WESTERN GROUND BLACK, 6 MIL
5" X 5" X 22# SQ. WASHERS
#4 REBAR 16" OC VERT. & HORZ.
R-30 INSULATION BAFFLES AT EAVES FOR 1" AIR SPACE
SCREENED & VENTED 2X4 BIRD BLOCKING
4" CONT. EXT. ALUM GUTTER ON 5/4"X8" PIR FASCIA BOARD
PROVIDE HURRICANE CLIPS AT PLATE EVERY TRUSS

Foundation Drainage Examples

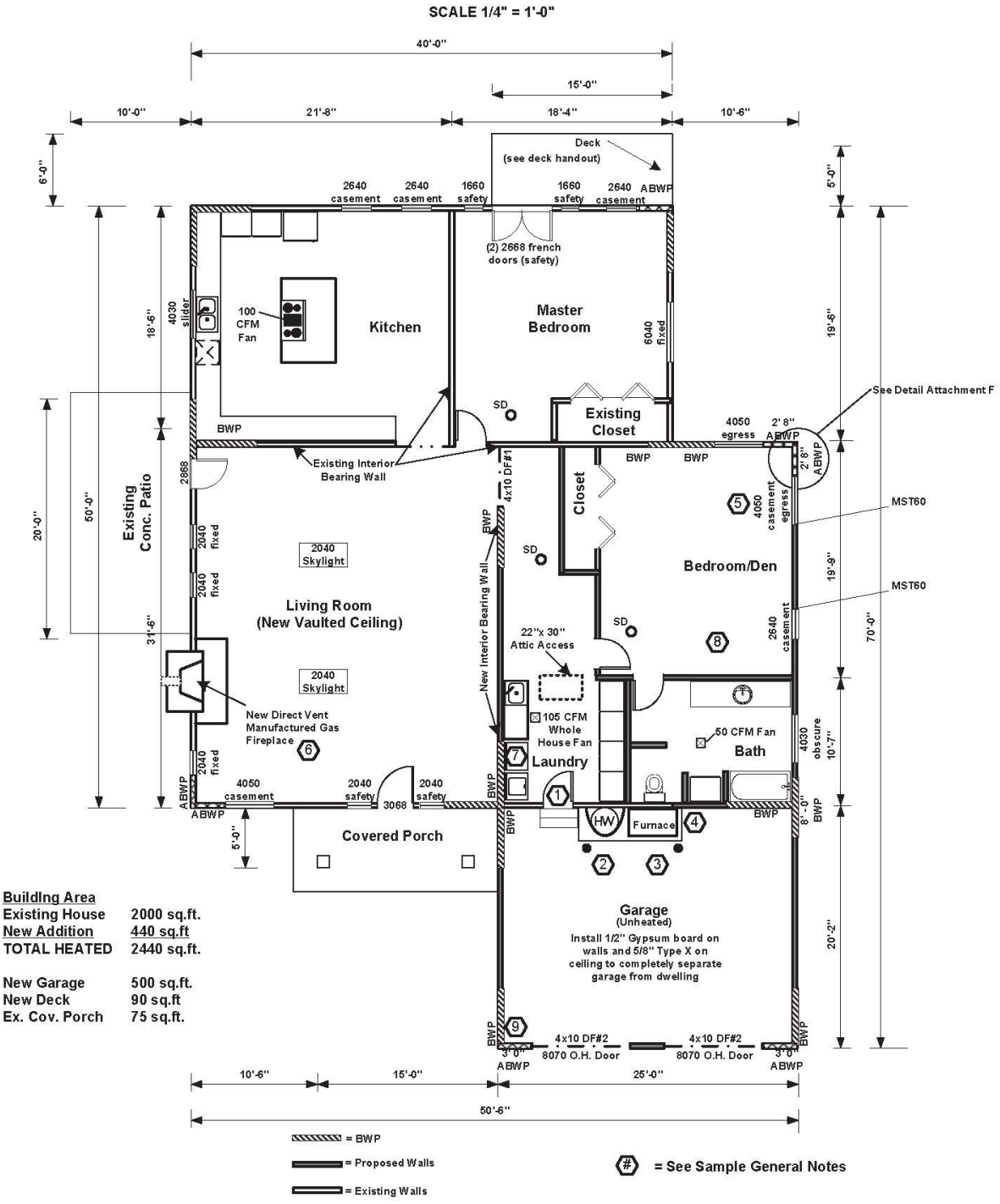
Footing drains are required for concrete or masonry foundation walls that retain earth and enclose habitable or useable space located below grade - IRC 405.1



Footing drains are required for crawlspaces if topography does not allow for minimum 6 inch slope away from the foundation wall within the first 10 feet - IRC 401.3



SAMPLE FLOOR PLAN



SAMPLE GENERAL NOTES FROM FLOOR PLAN REFERENCES

1. Door between garage and dwelling to be 1- 3/8" solid core or 20 minute door.

2. Vent hot water tank relief valve directly to the outside, provide seismic straps within upper 1/3 and lower 1/3 of hot water tank, provide expansion tank.

3. Install bollard or wheelstop to protect mechanical equipment from vehicle impact.

4. Sources of ignition for gas hot water tank and furnace to be located a minimum of 18" above finished floor, or labeled FVIR.

5. Provide one openable escape window in basement and in each sleeping room meeting all of the following requirements:
   1) An openable area of not less than 5.7 square feet (5.0 @ grade level)
   2) A minimum clear height of 24"
   3) A minimum clear width of 20"
   4) Finished sill height of not more than 44" above the finished floor

6. Install direct vent manufactured gas fireplace in accordance with manufacturer's specifications and State codes.

7. Dryer to vent directly to the outside with a maximum vent length of 25' and a maximum of two 90 degree elbows.

8. Smoke detectors to be hard wired, interconnected, with battery backup and installed in the following locations:
   1) In each sleeping room.
   2) Immediately outside sleeping rooms.
   3) Minimum of one installed on each floor, including the basement.

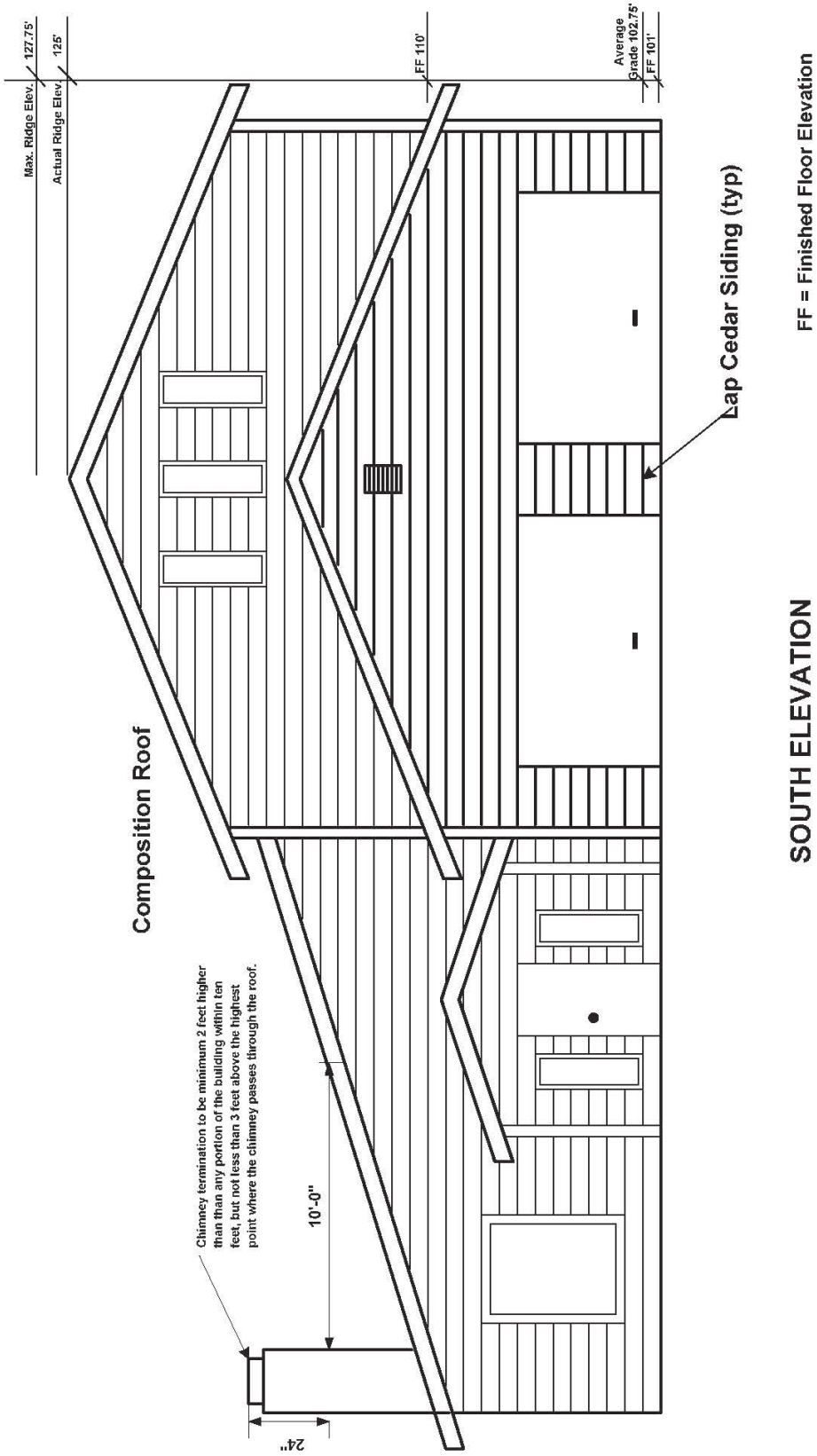
9. Provide pressure reducing valve and main water shut-off on water supply line

TABLE R301.5
MINIMUM UNIFORMLY DISTRIBUTED LIVE LOADS
(in pounds per square foot)

Use	Live Load
Uninhabitable attics without storage[b]	10
Uninhabitable attics with limited storage[b, g]	20
Habitable attics and attics served with fixed stairs	30
Balconies (exterior) and decks[e]	60[j]
Fire escapes	40
Guards and handrails[d]	200[h]
Guard in-fill components[f]	50[h]
Passenger vehicle garages[a]	50[a]
Rooms other than sleeping rooms	40
Sleeping rooms	30
Stairs	40[c]

SAMPLE ELEVATION

SCALE 1/4" = 1'-0"



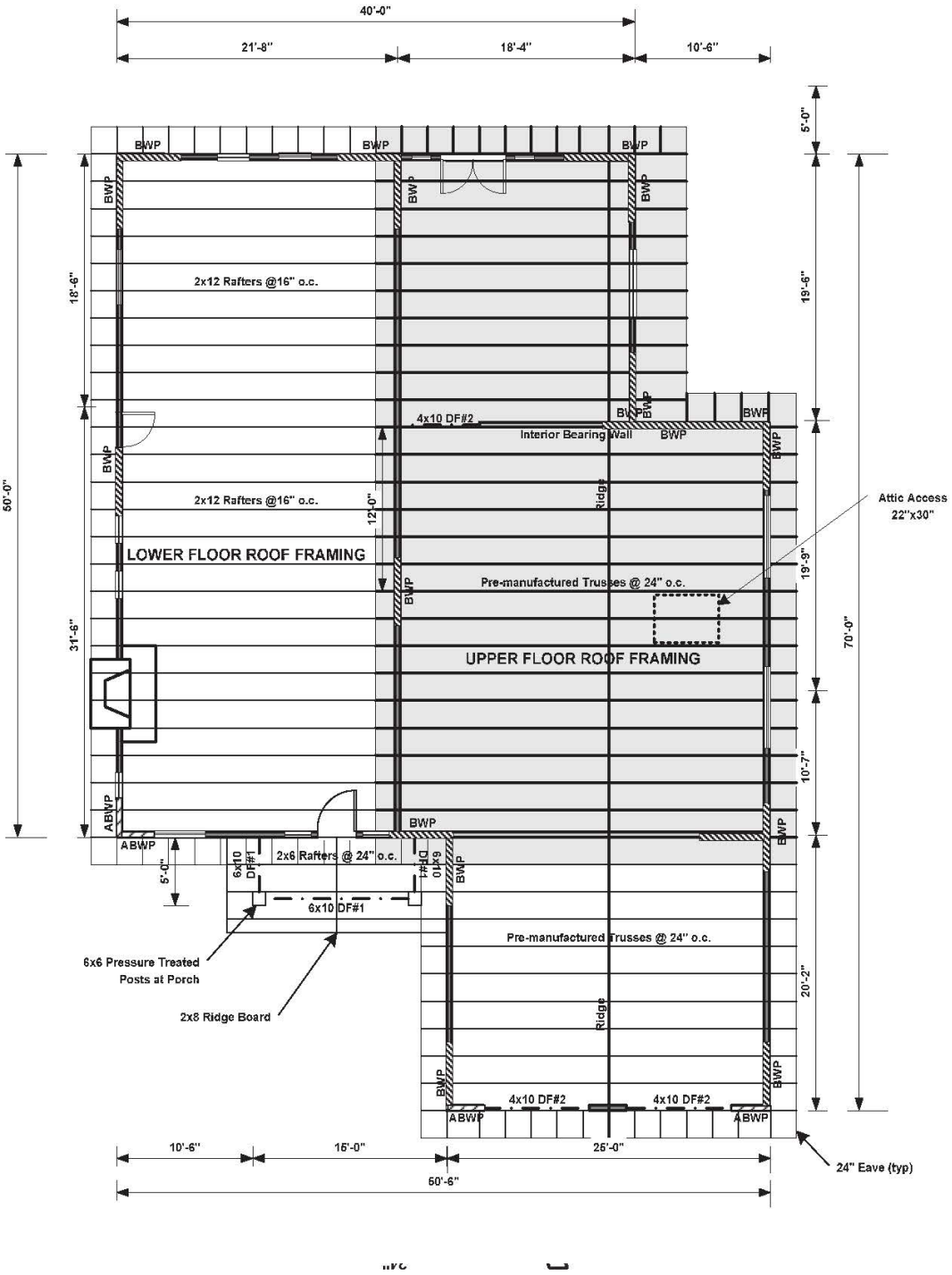
SOUTH ELEVATION

FF = Finished Floor Elevation

SAMPLE ROOF FRAMING PLAN

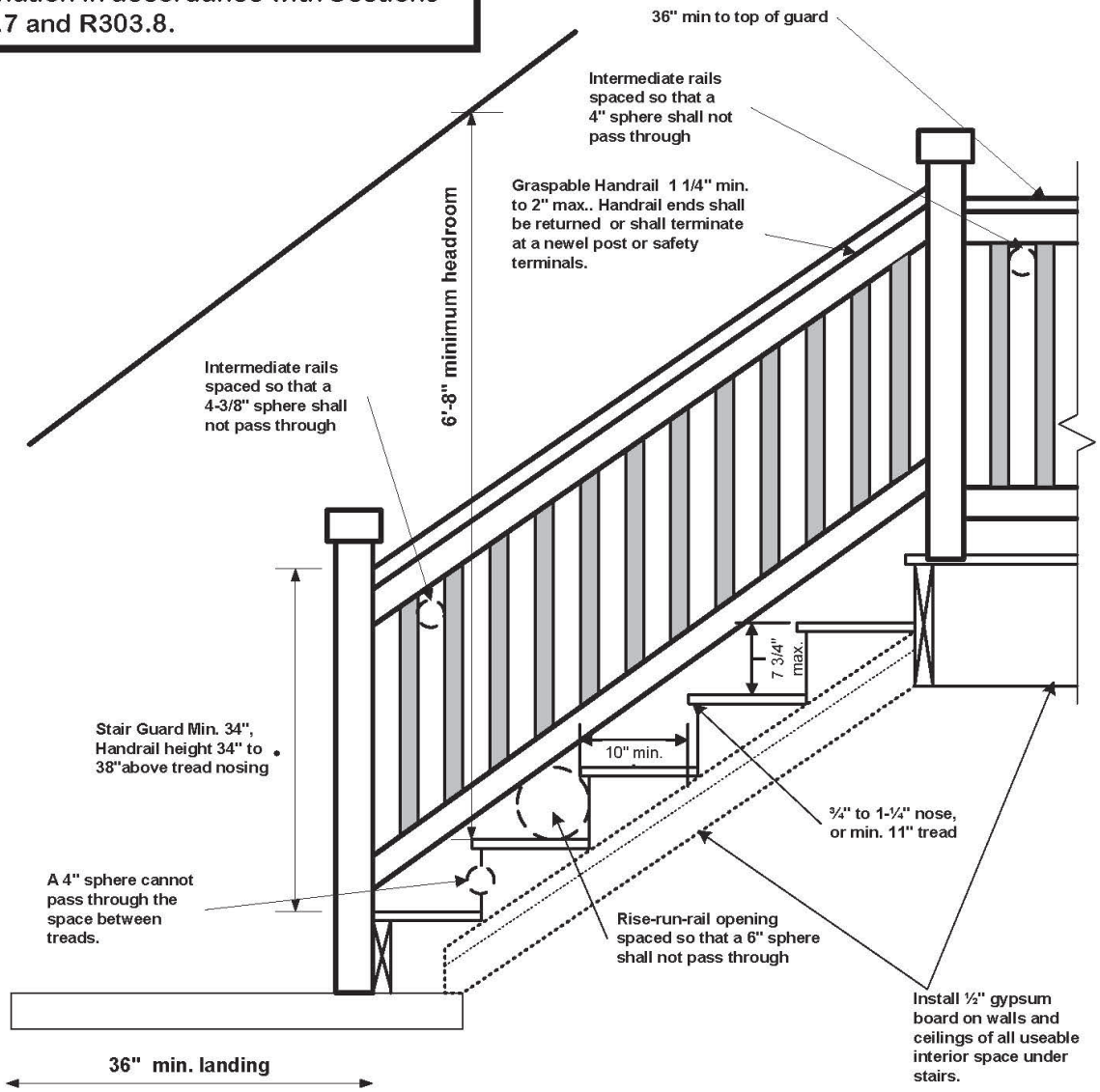
INCLUDES 1ST & 2ND FLOOR ROOF FRAMING

SCALE 1/4" = 1'-0"



Sample Stair Detail

R311.7.9 Illumination.
Stairways shall be provided with illumination in accordance with Sections R303.7 and R303.8.



Guard and handrail to sustain 200 lb. load

Guard balusters to sustain 50 psf load