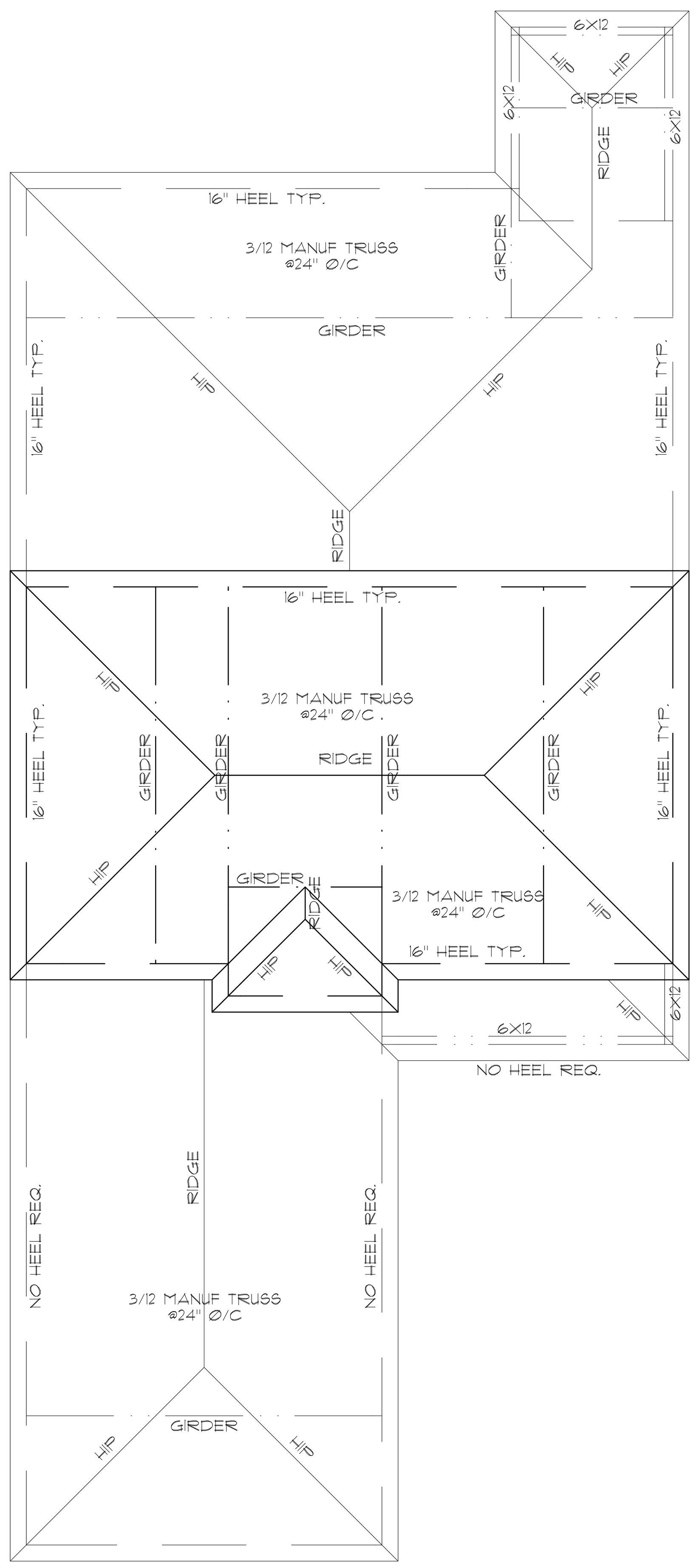
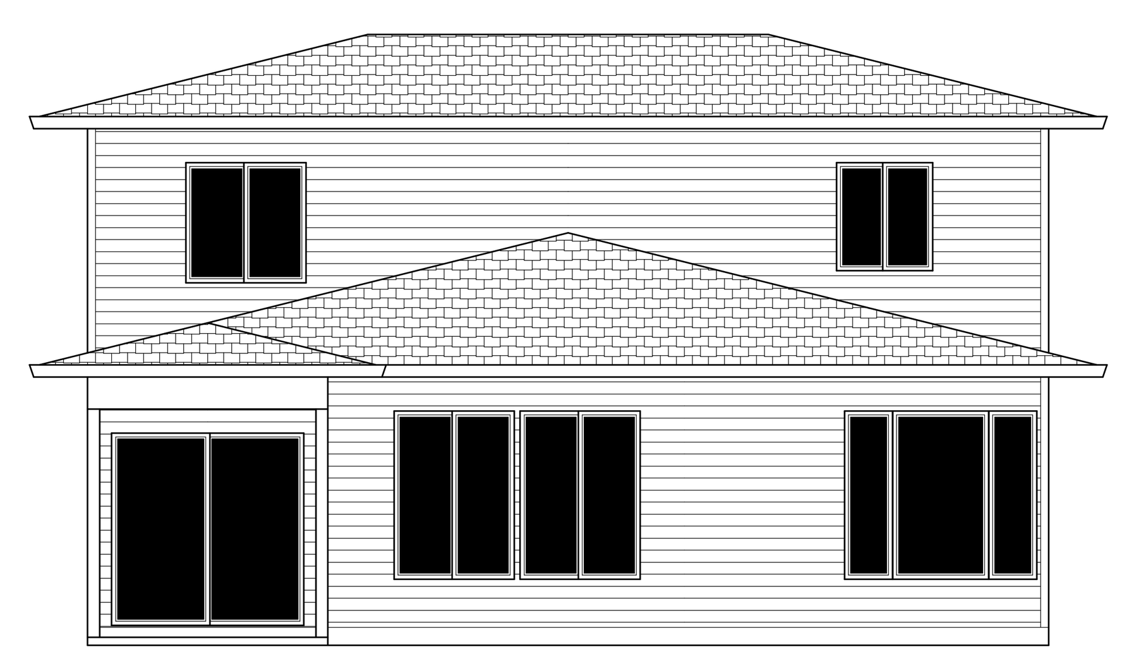


ROOF PLAN

SCALE 1/8"=1'0" SEE TRUSS ENGINEERING
FOR LAYOUT AND DETAILS.

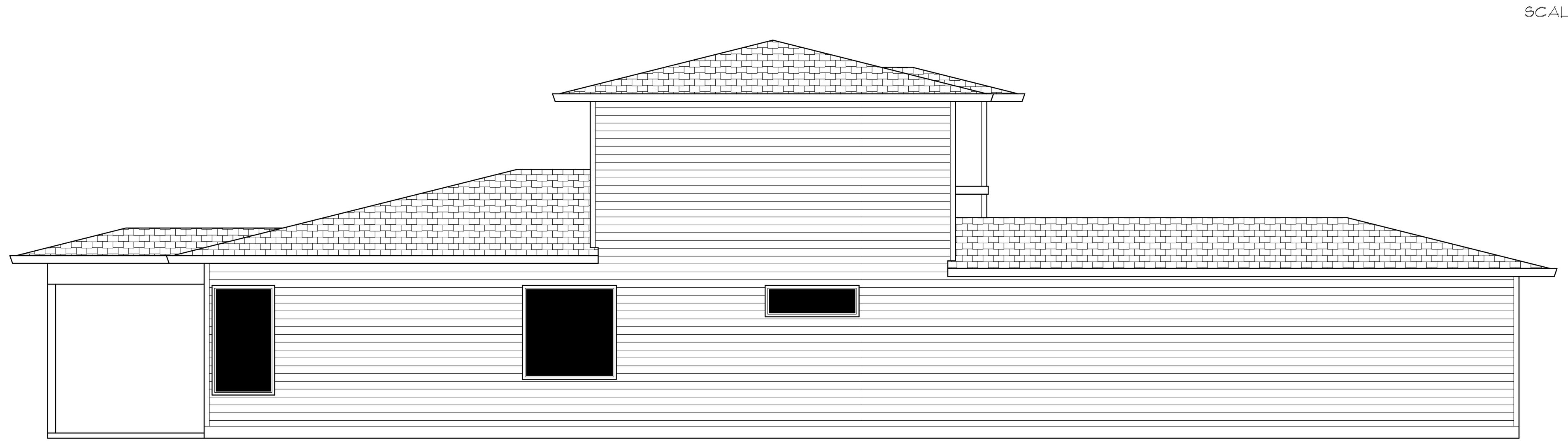
FRONT ELEVATION

SCALE 1/4"=1'0"



REAR ELEVATION

SCALE 1/8"=1'0"



LEFT SIDE ELEVATION

SCALE 1/8"=1'0"

RIGHT SIDE ELEVATION

SCALE 1/8"=1'0"

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VISION DESIGNS

Residential Design & Drafting

NICK

VISION DESIGNS: Vancouver, WA. Phone: 360-909-9546 E-mail: josh@visiondesigns-wa.com

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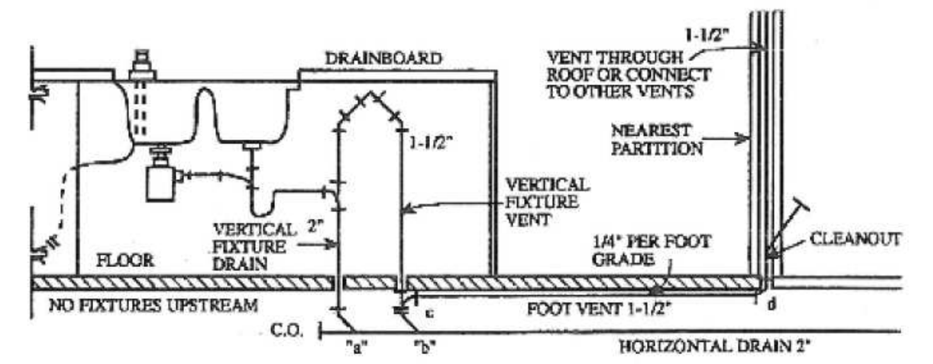
ISLAND SINK VENTING

The following is a list of the general requirements for special venting for island fixtures. This handout is intended to provide only general information.

Island Sink Venting.

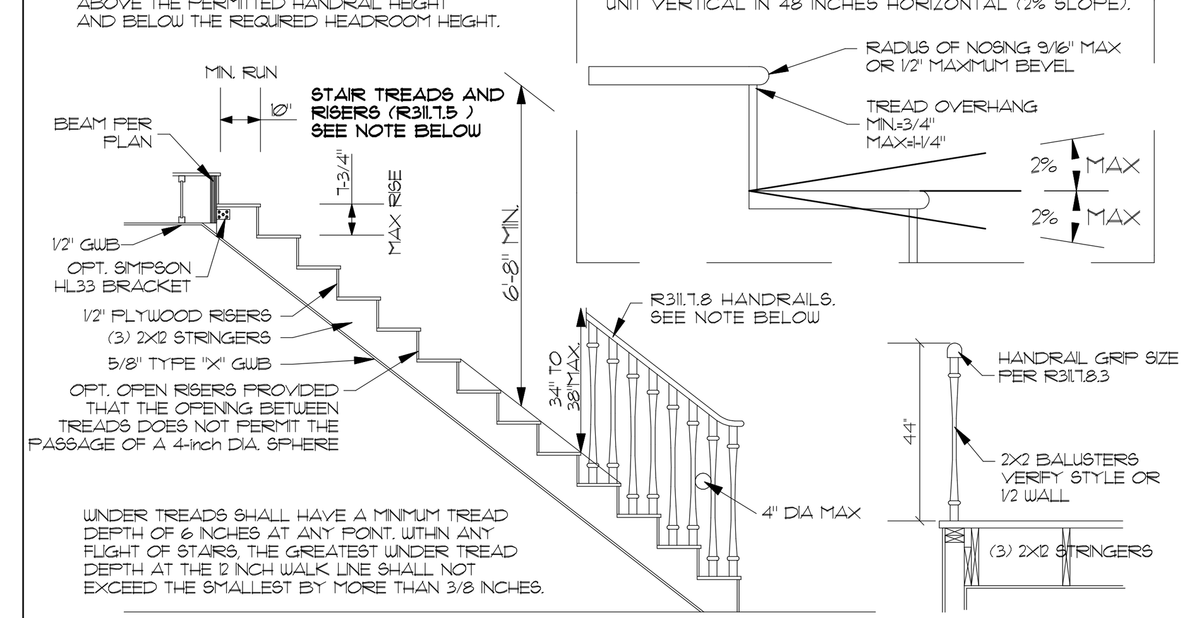
- Traps for island sinks and similar equipment shall be roughed in above the floor and shall be permitted to be vented by extending the vent as high as possible, but not less than the drain board height and then returning it downward and connecting it to the horizontal sink drain immediately downstream from the vertical sink fixture drain.
- The return vent shall be connected to the horizontal drain through a wye-branch fitting and shall, in addition, be provided with a foot vent taken off the vertical fixture vent by means of a wye branch immediately below the floor and extending to the nearest partition and then through the roof to the open air, or shall be permitted to be connected to other vents at a point not less than 6 inches above the floor-level rim of the fixtures served.
- Drainage fittings shall be used on the vent below the floor level, and a slope of not less than ¼ inch per foot back to the drain shall be maintained.
- The return bend used under the drain board shall be a one piece fitting or an assembly of a 45 degree, a 90 degree, and a 45 degree elbow in the order named.
- Pipe sizing shall be as elsewhere required in this code.
- The island sink drain, upstream of the returned vent, shall serve no other fixtures.
- An accessible cleanout shall be installed in the vertical portion of the foot vent.



A, B AND C ARE Y-BRANCH FITTINGS

R311.7 STAIRWAYS
STAIRWAYS SHALL NOT BE LESS THAN 36" (WHEN FINISHED W/SR) WIDTH AT ALL POINTS ABOVE THE PERMITTED HANDRAIL HEIGHT AND BELOW THE REQUIRED HEADROOM HEIGHT.

R311.7.7 STAIRWAY WALKING SURFACE.
THE WALKING SURFACE OF TREADS AND LANDINGS OF STAIRWAYS SHALL BE SLOPED NO STEEPER THAN ONE UNIT VERTICAL IN 48 INCHES HORIZONTAL (2% SLOPE).



R311.7.8 HANDRAILS.
HANDRAILS SHALL BE PROVIDED ON AT LEAST ONE SIDE OF EACH CONTINUOUS RUN OF TREADS OR FLIGHT WITH FOUR OR MORE RISERS.

R311.7.8.1 HEIGHT.
HANDRAIL HEIGHT, MEASURED VERTICALLY FROM THE SLOPED PLANE ADJOINING THE TREAD NOSING, OR FINISH SURFACE OF RAMP SLOPE, SHALL NOT BE LESS THAN 34 INCHES AND NOT MORE THAN 38 INCHES.

R311.7.8.2 CONTINUITY.
HANDRAILS FOR STAIRWAYS SHALL BE CONTINUOUS FOR THE FULL LENGTH OF THE FLIGHT, FROM A POINT DIRECTLY ABOVE THE TOP RISER OF THE FLIGHT TO A POINT DIRECTLY ABOVE THE LOWEST RISER OF THE FLIGHT. HANDRAIL ENDS SHALL BE RETURNED OR SHALL TERMINATE IN NEWEL POSTS OR SAFETY TERMINALS. HANDRAILS ADJACENT TO A WALL SHALL HAVE A SPACE OF NOT LESS THAN 1-1/2 INCH BETWEEN THE WALL AND THE HANDRAILS.

EXCEPTIONS:
1. HANDRAILS SHALL BE PERMITTED TO BE INTERRUPTED BY A NEWEL POST AT THE TURN.
2. THE USE OF A VOLUTE, TURNOUT, STARTING EASING OR STARTING NEWEL SHALL BE ALLOWED OVER THE LOWEST TREAD.

STAIR TREADS AND RISERS (R311.7.5)

RISER HEIGHT (R311.7.5.1)
THE MAXIMUM RISER HEIGHT SHALL BE 7-3/4 INCHES. THE RISER SHALL BE MEASURED VERTICALLY BETWEEN LEADING EDGES OF THE ADJACENT TREADS. THE GREATEST RISER HEIGHT WITHIN ANY FLIGHT OF STAIRS SHALL NOT EXCEED THE SMALLEST BY MORE THAN 3/8 INCH.

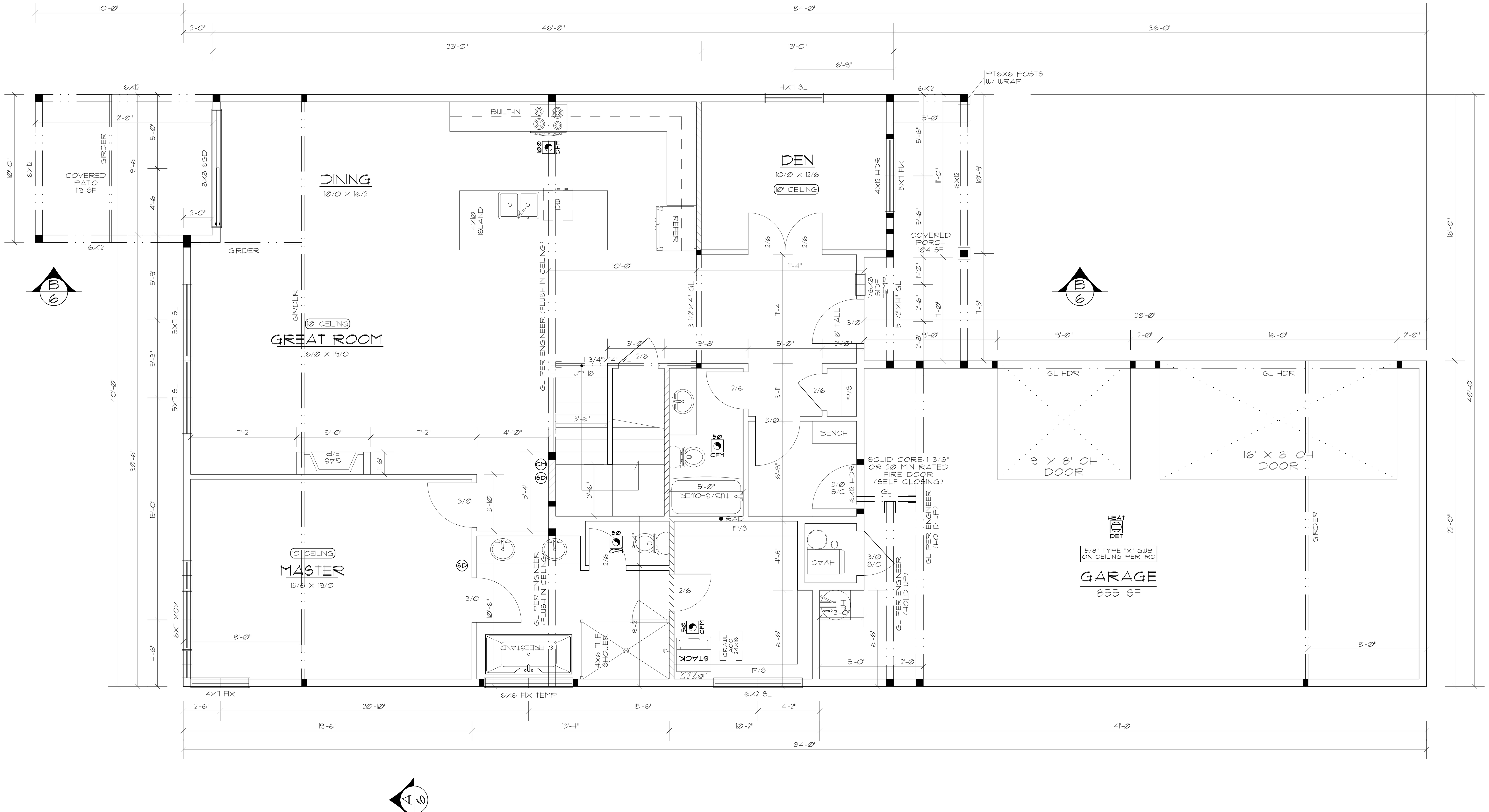
TREAD DEPTH (R311.7.5.2)
THE MINIMUM TREAD DEPTH SHALL BE 10 INCHES. THE TREAD DEPTH SHALL BE MEASURED HORIZONTALLY BETWEEN THE VERTICAL PLANES OF THE FOREMOST PROJECTION OF ADJACENT TREADS AND AT A RIGHT ANGLE TO THE TREAD'S LEADING EDGE.

R311.7.6 LANDINGS FOR STAIRWAYS.
THERE SHALL BE A FLOOR OR LANDING AT THE TOP AND BOTTOM OF EACH STAIRWAY. THE WIDTH PERPENDICULAR TO THE DIRECTION OF TRAVEL SHALL BE NOT LESS THAN THE WIDTH OF THE FLIGHT SERVED. LANDINGS OF SHAPES OTHER THAN SQUARE OR RECTANGULAR SHALL BE PERMITTED PROVIDED THAT THE DEPTH AT THE WALK LINE AND THE TOTAL AREA IS NOT LESS THAN THAT OF A QUARTER CIRCLE WITH A RADIUS EQUAL TO THE REQUIRED LANDING WIDTH. WHERE THE STAIRWAY HAS A STRAIGHT RUN, THE DEPTH IN THE DIRECTION OF TRAVEL SHALL BE NOT LESS THAN 36 INCHES.

EXCEPTION: A FLOOR OR LANDING IS NOT REQUIRED AT THE TOP OF AN INTERIOR FLIGHT OF STAIRS, INCLUDING STAIRS IN AN ENCLOSED GARAGE, PROVIDED THAT A DOOR DOES NOT SWING OVER THE STAIRS.

TYPICAL STAIR DETAIL

SCALE: NTS PER 2021 IRC



1ST FLOOR PLAN

SCALE 1/4"=1'0"

AREA

1ST FLOOR	1824 SF
2ND FLOOR	878 SF
	2702 SF

GOVERNING DESIGN CODES:

2021 INTERNATIONAL RESIDENTIAL CODE
(WITH WASHINGTON STATE AMENDMENTS)
2021 WSEC (WASHINGTON STATE ENERGY CODE)

2021 WASHINGTON STATE ENERGY CODE:

WALL INSULATION INSTALLATION TABLE R402.4.1.1
SEE NOTE IN 2021 WASHINGTON STATE ENERGY CODE DETAIL
INSULATION R-VALUES: 2021 WSEC TABLE R402.1.3

2X6 WALLS: R-20+R5 CONTINUOUS
FLAT ROOF CAVITIES: R-60 MIN. R-49@ EXTERIOR PLATE
TRUSS VAULTED CEILINGS: R-38 MIN. IF FULL INSULATION DEPTH EXTENDS OVER THE TOP PLATE OF THE WALL.
FLOOR: R-30 MIN.

FLOORS 2021 WSEC R402.2.7
FLOOR FRAMING CAVITY INSULATION SHALL BE INSTALLED TO MAINTAIN PERMANENT CONTACT WITH THE UNDERSIDE OF THE SUBFLOOR DECKING. INSULATION SUPPORTS SHALL BE INSTALLED SO SPACING IS NO MORE THAN 24-INCHES O/C. FOUNDATION VENTS SHALL BE PLACED SO THAT THE TOP OF THE VENT IS BELOW THE LOWER SURFACE OF THE FLOOR INSULATION
UNDER SLAB: R-10 RIGID INS. 48" HORIZONTAL LENGTH MIN. ENERGY CREDITS 1.2, 1.3 & 1.4 REQUIRE PERIMETER AND UNDER ENTIRE SLAB TO BE INSULATED.

ALL EXTERIOR DECKS EXPOSED TO WEATHER MUST UTILIZE WEATHER-RESISTANT WOOD SUCH AS CEDAR, REDWOOD, MOHOGANY OR PRESSURE-TREATED WOOD IN ACCORDANCE WITH IRC SECTION R502.1.1.1/R317.2
NOTICE: FASTENERS FOR PRESSURE PRESERVATIVE TREATED WOOD SHALL BE HOT DIPPED GALVANIZED OR PER IRC R502
ALL BEAMS, RAFTERS, JOIST, HDR'S, POSTS AND STUDS ARE TO BE DF#2 GRADE UNLESS OTHERWISE NOTED ON PLAN. ALL WOOD IN CONTACT WITH CONCRETE MUST BE PRESSURE TREATED PER 2021 IRC R502

FLASHING REQUIREMENTS: R703.4
GALVANIZED FLASHING REQUIRED ABOVE BELLY BANDS, WINDOW AND DOOR TRIM, DECKS AND ALL OTHER SIMILAR PROJECTIONS.
GUTTER AND DOWNSPOUTS TO APPROVED DRAINAGE RAIN AND LOW POINT DRAINS TO BE SCHEDULE 40 PVC OR ABS WITH DWV FITTINGS
FIELD VERIFY DIMENSIONS ELEVATIONS RETALIATIVE TO THE EXISTING STRUCTURE PRIOR TO FABRICATION OF MATERIALS.
FOR FEATURE CONSTRUCTION, FIELD VERIFY DIMENSIONS ON LOT WITH SETBACKS AND ELEVATIONS RETALIATIVE TO HEIGHT LIMITS PER CCR'S OR PER LOCAL JURISDICTIONS.
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PROVIDE BLOCKING BETWEEN STUDS (OR OTHER MEANS OF BRACING) AT WOOD BEARING WALLS TO PREVENT STUD BUCKLING PRIOR TO INSTALLATION OF GYPSUM WALLBOARD.

■ = 6X6 POST OR 3X STUDS
■ = 4X6 POST OR 3X STUDS
■ = 4X4 POST OR 2X STUDS

SOLID MEMBERS AT FIRE WALLS IN PLEX'S

MIN. LOADS
FLOOR
LIVE 40 PSF
DEAD 10 PSF
ROOF
LIVE 25 PSF
DEAD 15 PSF
DECKS
LIVE 60 PSF

TYPICAL HDR *UNLESS SPECIFIED BY E.O.R.
4X10 HDR MIN. 8'-0" CEILINGS W/ R-10 INS
4X10 HDR MIN. 9'-0" CEILINGS W/ R-10 INS
4X10 HDR MIN. 10'-0" CEILINGS W/ R-10 INS

POSITIVE CONNECTION AT POST BASE AND CAP REQUIRED

FOR 4X4 POST CONNECTIONS	SIMPSON "EPB44" POST BASE OR EQU. SIMPSON "ACH4Z" POST CAP OR EQU.
FOR 6X6 POST CONNECTIONS	SIMPSON "EPB66" POST BASE OR EQU. SIMPSON "ACH6Z" POST CAP OR EQU.

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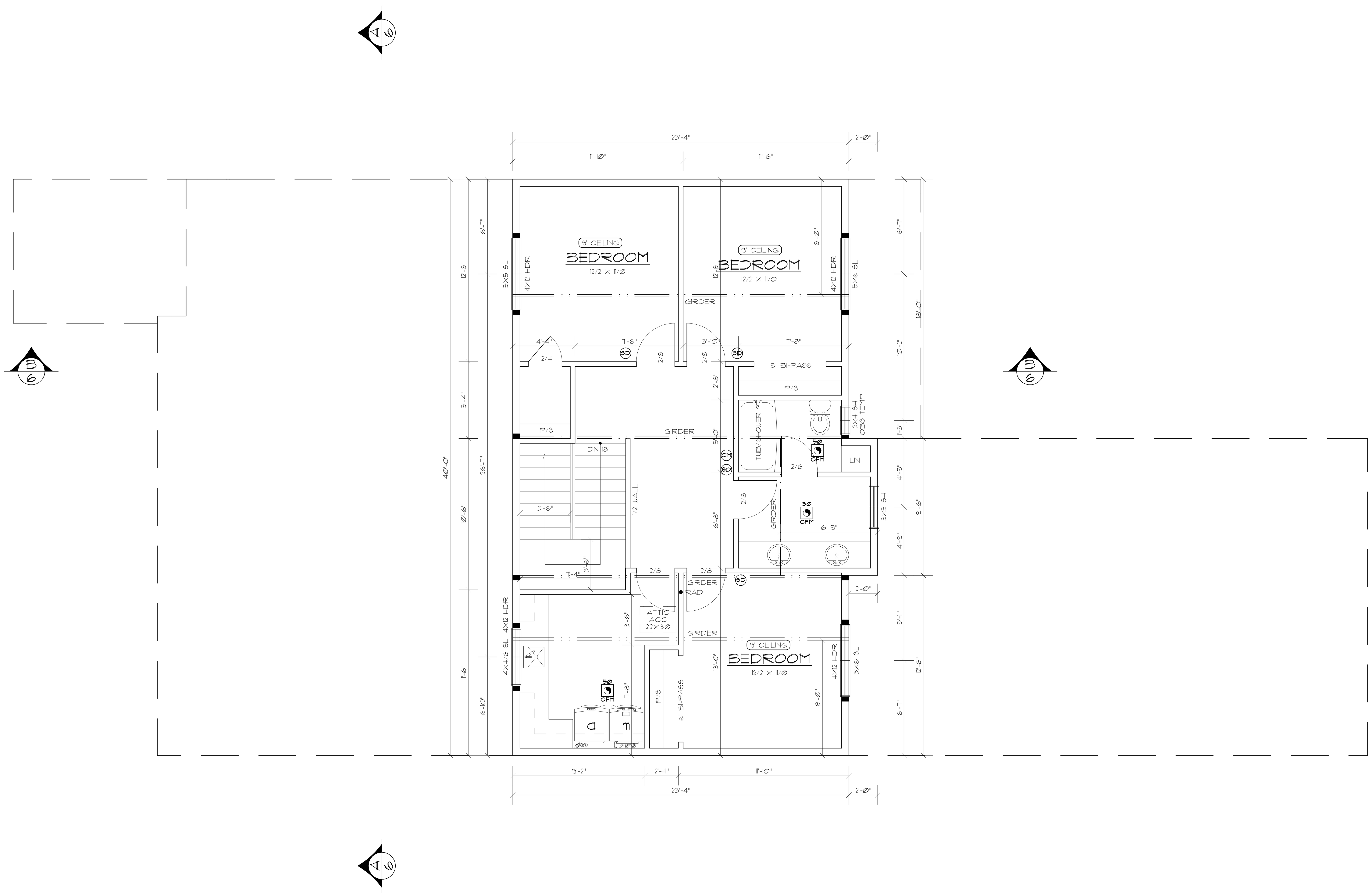

2ND FLOOR PLAN

SCALE 1/4"=1'0"

GOVERNING DESIGN CODES:

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2021 WSEC (WASHINGTON STATE ENERGY CODE)

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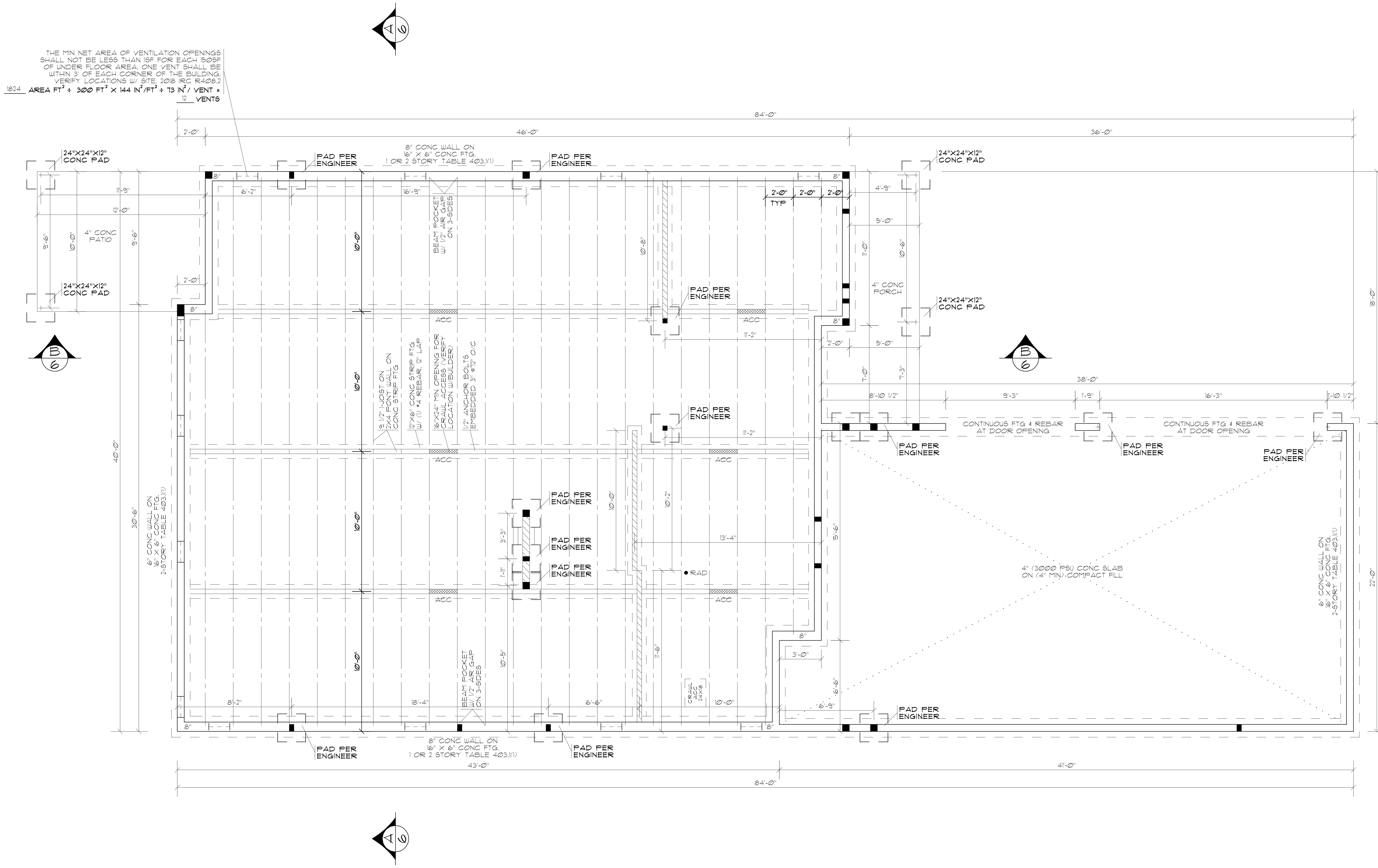

FOUNDATION PLAN

SCALE 1/4"=1'0"

STEM WALL NOTE:

ALL FOUNDATION WALLS THAT WILL HAVE BEAM POCKETS FOR FLOOR JOIST WILL NEED TO BE 8" CONC STEM WALLS WITH 16"X6" FTG FOR 1-STORY AND 16"X8" FOR 2-STORY. UNLESS SPECIFIED BY ENGINEER.

FOUNDATION NOTES:

GOVERNING DESIGN CODES:

2021 INTERNATIONAL RESIDENTIAL CODE
(WITH WASHINGTON STATE AMENDMENTS)

VERIFY ALL CRAWL SPACE VENTS WITH SITE. SIZE AND LOCATIONS MAY VARY, TO BE DETERMINED DURING CONSTRUCTION. DO NOT PLACE VENTS UNDER BEARING POINT LOCATIONS.

CRAWL ACCESS THROUGH PONY WALLS TO BE DETERMINED DURING CONSTRUCTION. LOCATIONS MAY VARY, VERIFY W/ SITE

FOOTINGS GENERAL (R403.1)
ALL EXTERIOR WALLS SHALL BE SUPPORTED ON CONTINUOUS SOLID OR FULLY GROUTED MASONRY OR CONCRETE FOOTINGS, CRUSHED STONE FOOTINGS, WOOD FOUNDATIONS, OR OTHER APPROVED STRUCTURAL SYSTEMS WHICH SHALL BE OF SUFFICIENT DESIGN TO ACCOMMODATE ALL LOADS ACCORDING TO SECTION R301 AND TO TRANSMIT THE RESULTING LOADS TO THE SOIL WITHIN THE LIMITATIONS AS DETERMINED FROM THE CHARACTER OF THE SOIL. FOOTINGS SHALL BE SUPPORTED ON UNDISTURBED NATURAL SOILS OR ENGINEERED FILL. CONCRETE FOOTING SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH THE PROVISIONS OF SECTION R403 OR IN ACCORDANCE WITH ACI 332.

CONCRETE (R402.2)
CONCRETE SHALL HAVE A MINIMUM SPECIFIED COMPRESSIVE STRENGTH OF 3000 PSI, AS SHOWN IN TABLE R402.2. CONCRETE SUBJECT TO MODERATE OR SEVERE WEATHERING AS INDICATED IN TABLE R301.2(1) SHALL BE AIR ENTRAINED AS SPECIFIED IN TABLE R402.2. THE MAXIMUM WEIGHT OF FLY ASH, OTHER POZZOLANS, SILICA FUME, SLAG OR BLENDED CEMENTS THAT IS INCLUDED IN CONCRETE MIXTURES FOR GARAGE FLOOR SLABS AND FOR EXTERIOR PORCHES, CARPORT SLABS AND STEPS THAT WILL BE EXPOSED TO DEICING CHEMICALS SHALL NOT EXCEED THE PERCENTAGES OF THE TOTAL WEIGHT OF CEMENTITIOUS MATERIALS SPECIFIED IN SECTION 19.3.3.4 OF ACI 318.

MINIMUM SIZE (R403.1.1)
MINIMUM SIZES FOR CONCRETE AND MASONRY FOOTINGS SHALL BE AS SET FORTH IN TABLE R403.1(1) AND FIGURE R403.1(1). THE FOOTING WIDTH, W, SHALL BE BASED ON THE LOAD-BEARING VALUE OF THE SOIL IN ACCORDANCE WITH TABLE R401.4.1. SPREAD FOOTINGS SHALL BE AT LEAST 6 INCHES IN THICKNESS, T. FOOTING PROJECTIONS, P, SHALL BE AT LEAST 2 INCHES AND SHALL NOT EXCEED THE THICKNESS OF THE FOOTING.

(1-STORY PER TABLE R403.1) MIN SIZE NOTED
6" CONC WALL (4' TALL MAX) ON 12"X6" CONC. FTG. SEE BASEMENT WALL DETAILS FOR HIGHER STEMWALLS OR VERIFY W/ ENGINEER.

(2-STORY PER TABLE R403.1) MIN SIZE NOTED
6" CONC WALL (4' TALL MAX) ON 15"X6" CONC. FTG. SEE BASEMENT WALL DETAILS FOR HIGHER STEMWALLS OR VERIFY W/ ENGINEER.

BEARING (R502.6)
THE ENDS OF EACH JOIST, BEAM OR GIRDER SHALL HAVE NOT LESS THAN 1 1/2 INCHES (38 MM) OF BEARING ON WOOD OR METAL, HAVE NOT LESS THAN 3 INCHES OF BEARING (76 MM) ON MASONRY OR CONCRETE OR BE SUPPORTED BY JOIST HANGERS. ALTERNATIVELY, THE ENDS OFJOISTS SHALL BE SUPPORTED ON A 1- INCH BY 4-INCH (25 MM BY 102 MM) RIBBON STRIP AND SHALL BE NAILED TO THE ADJACENT STUD. THE BEARING ON MASONRY OR CONCRETE SHALL BE DIRECT, OR A SILL PLATE OF 2-INCH-MINIMUM (51 MM) NOMINAL THICKNESS SHALL BE PROVIDED UNDER THE JOIST, BEAM OR GIRDER. THE SILL PLATE SHALL PROVIDE A MINIMUM NOMINAL BEARING AREA OF 48 SQUARE INCHES (30 865 MMZ).

SEISMIC REINFORCING (R403.1.3)
CONCRETE FOOTINGS SHALL HAVE THE MINIMUM REINFORCEMENT. BOTTOM REINFORCEMENT SHALL BE LOCATED A MIN. OF 3" CLEAR FROM THE BOTTOM OF THE FOOTING. WHERE A CONSTRUCTION JOINT IS CREATED BETWEEN A CONCRETE FOOTING AND A STEM WALL, A MIN. OF ONE NO. 4 BAR SHALL BE INSTALLED AT NOT MORE THAN 4 FEET O/C. THE VERTICAL BAR SHALL EXTEND TO 3" CLEAR OF THE BOTTOM OF THE FOOTING, HAVE A STANDARD HOOK AND EXTEND A MINIMUM OF 14 INCHES INTO THE STEM WALL.

FOUNDATIONS WITH STEMWALLS (R403.1.3.1)
FOUNDATIONS WITH STEM WALLS SHALL HAVE INSTALLED A MINIMUM OF ONE NO. 4 BAR WITHIN 12 INCHES OF THE TOP OF THE WALL AND ONE NO. 4 BAR LOCATED 3 TO 4 INCHES FROM THE BOTTOM OF THE FOOTING.

SLABS-ON-GROUND WITH TURNED-DOWN FOOTINGS (R403.1.3.3)
SLABS ON GROUND WITH TURNED DOWN FOOTINGS SHALL HAVE A MINIMUM OF ONE NO. 4 BAR AT THE TOP AND THE BOTTOM OF THE FOOTING. (SLABS MAY REQUIRE 6X6X10ga. IN SOME JURISDICTIONS)
EXCEPTION: FOR SLABS-ON-GROUND CAST MONOLITHICALLY WITH THE FOOTING, LOCATING ONE NO. 5 BAR OR TWO NO. 4 BARS IN THE MIDDLE THIRD OF THE FOOTING DEPTH SHALL BE PERMITTED AS AN ALTERNATIVE TO PLACEMENT AT THE FOOTING TOP AND BOTTOM.
WHERE THE SLAB IS NOT CAST MONOLITHICALLY WITH THE FOOTING, NO. 3 OR LARGER VERTICAL DOWELS WITH STANDARD HOOKS ON EACH END SHALL BE PROVIDED IN ACCORDANCE WITH FIGURE R403.1.3. (DETAIL 2)
STANDARD HOOKS SHALL COMPLY WITH SECTION R608.5.4.5

MINIMUM DEPTH (R403.1.4)
ALL EXTERIOR FOOTINGS SHALL BE PLACED AT LEAST 12 INCHES BELOW THE UNDISTURBED GROUND SURFACE. WHERE APPLICABLE, THE DEPTH OF FOOTINGS SHALL ALSO CONFORM TO SECTIONS R403.1.4.1 THROUGH R403.1.4.2. OR EXTENDED BELOW THE FROST LINE SPECIFIED IN TABLE R301.2.(1)± PER LOCAL JURISDICTION.
STRUCTURAL ENGINEER MAY CHANGE DEPTH REQUIREMENT (VERIFY)

FOUNDATION ANCHORAGE (R403.1.6) ANCHOR BOLTS
SILL PLATES AND WALLS SUPPORTED DIRECTLY ON CONTINUOUS FOUNDATIONS SHALL BE ANCHORED TO THE FOUNDATION IN ACCORDANCE WITH THIS SECTION. ALL WOOD SILL PLATES SHALL BE ANCHORED TO THE FOUNDATION WITH ANCHOR BOLTS SPACED A MAXIMUM OF 6 FEET O/C. BOLTS SHALL BE AT LEAST 1/2 INCH IN DIAMETER AND SHALL EXTEND A MINIMUM OF 7 INCHES INTO CONCRETE OR GROUTED CELLS OF CONCRETE MASONRY UNITS. A NUT AND WASHER SHALL BE TIGHTENED ON EACH ANCHOR BOLT. THERE SHALL BE A MINIMUM OF TWO BOLTS PER PLATE SECTION WITH ONE BOLT LOCATED NOT MORE THAN 12 INCHES OR LESS THAN SEVEN BOLT DIAMETERS FROM EACH END OF THE PLATE SECTION.

WALL ANCHORAGE FOR ALL BUILDINGS (R602.11.1) WASHERS
PLATE WASHERS, A MINIMUM OF 0.229 INCH BY 3 INCHES BY 3 INCHES IN SIZE, SHALL BE PROVIDED BETWEEN THE FOUNDATION SILL PLATE AND THE NUT EXCEPT WHERE APPROVED ANCHOR STRAPS ARE USED. THE HOLE IN THE PLATE WASHER IS PERMITTED TO BE DIAGONALLY SLOTTED WITH A WIDTH OF UP TO 3/16 INCH LARGER THAN THE BOLT DIAMETER AND A SLOT LENGTH NOT TO EXCEED 1 3/4 INCHES, PROVIDED A STANDARD CUT WASHER IS PLACED BETWEEN THE PLATE WASHER AND THE NUT.

DRAINAGE (R401.3)
SURFACE DRAINAGE SHALL BE DIVERTED TO A STORM SEWER CONVEYANCE OR OTHER APPROVED POINT OF COLLECTION THAT DOES NOT CREATE A HAZARD. LOTS SHALL BE GRADED TO DRAIN SURFACE WATER AWAY FROM FOUNDATION WALLS. THE GRADE SHALL FALL A MINIMUM OF 6 INCHES WITHIN THE FIRST 10 FEET. (3"DIA. PERF PIPE W/ 3/4" MIN. CRUSHED ROCK OR GRAVEL AND APPROVED FILTER MEMBRANE)

OPENINGS FOR UNDER-FLOOR VENTILATION (R408.2)
THE MINIMUM NET AREA OF VENTILATION OPENINGS SHALL NOT BE LESS THAN 1/SF FOR EACH 150/SF OF UNDER-FLOOR AREA. ONE VENTILATION OPENING SHALL BE WITHIN 3 FEET OF EACH CORNER OF THE BUILDING.

EMBED EXPANSION ANCHORS 4" MINIMUM INTO CONCRETE.

POST CONNECTIONS: TYPICAL (UNLESS NOTED BY E.O.R.)
SIMPSON "EPB44" POST BASE OR EQU.
SIMPSON "ACH4Z" POST CAP OR EQU.

SIMPSON "EPB66" POST BASE OR EQU.
SIMPSON "ACH6Z" POST CAP OR EQU.

POSITIVE CONNECTION AT POST BASE AND CAP

MINIMUM 16"X24" ACCESS THROUGH CRAWL SPACE PONY WALLS

VISION DESIGNS
Residential Design & Drafting
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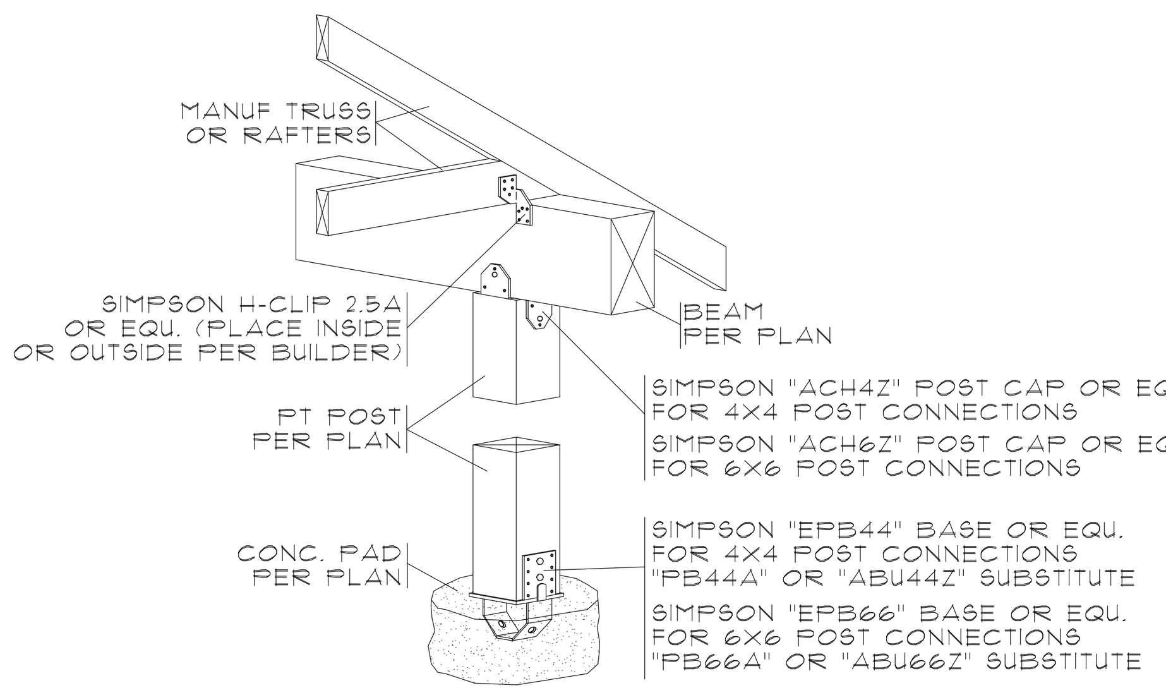
NICK

ORIG
REV
REV

2702 GL



TYPICAL POST CONNECTION DETAILS

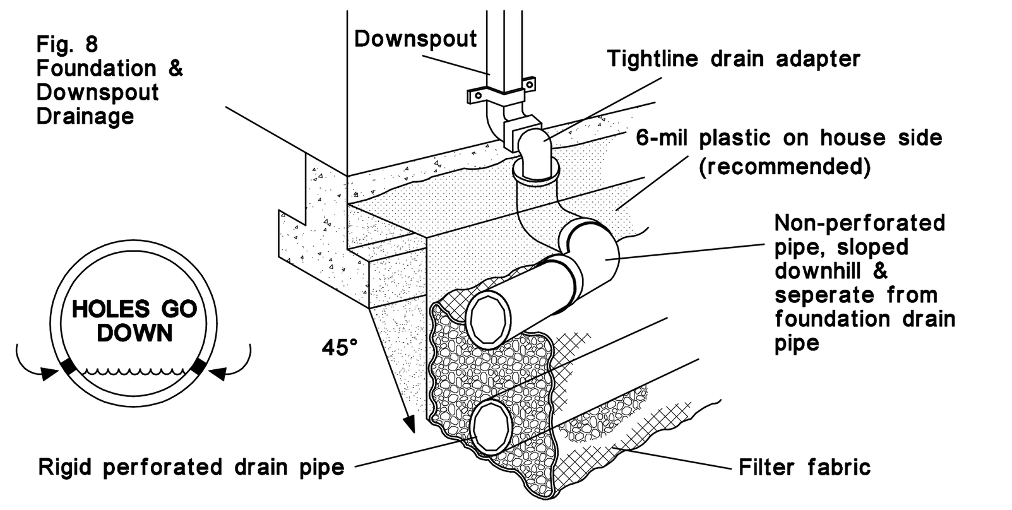
NOT TO SCALE

SECTION R405 FOUNDATION DRAINAGE

R405.1 Concrete or masonry foundations. Drains shall be provided around all concrete or masonry foundations that retain earth and enclose habitable or usable spaces located below grade. Drainage tiles, gravel or crushed stone drains, perforated pipe or other approved systems or materials shall be installed at or below the area to be protected and shall discharge by gravity or mechanical means into an approved drainage system. Gravel or crushed stone drains shall extend at least 1 foot (305 mm) beyond the outside edge of the footing and 6 inches (152 mm) above the top of the footing and be covered with an approved filter membrane material. The top of open joints of drain tiles shall be protected with strips of building paper, and the drainage tiles or perforated pipe shall be placed on a minimum of 2 inches (51 mm) of washed gravel or crushed rock at least one sieve size larger than the tile joint opening or perforation and covered with not less than 6 inches (152 mm) of the same material.

Exception: A drainage system is not required when the foundation is installed on well-drained ground or sand-gravel mixture soils according to the Unified Soil Classification System, Group I Soils, as detailed in Table R405.1.

Fig. 8
Foundation & Downspout Drainage



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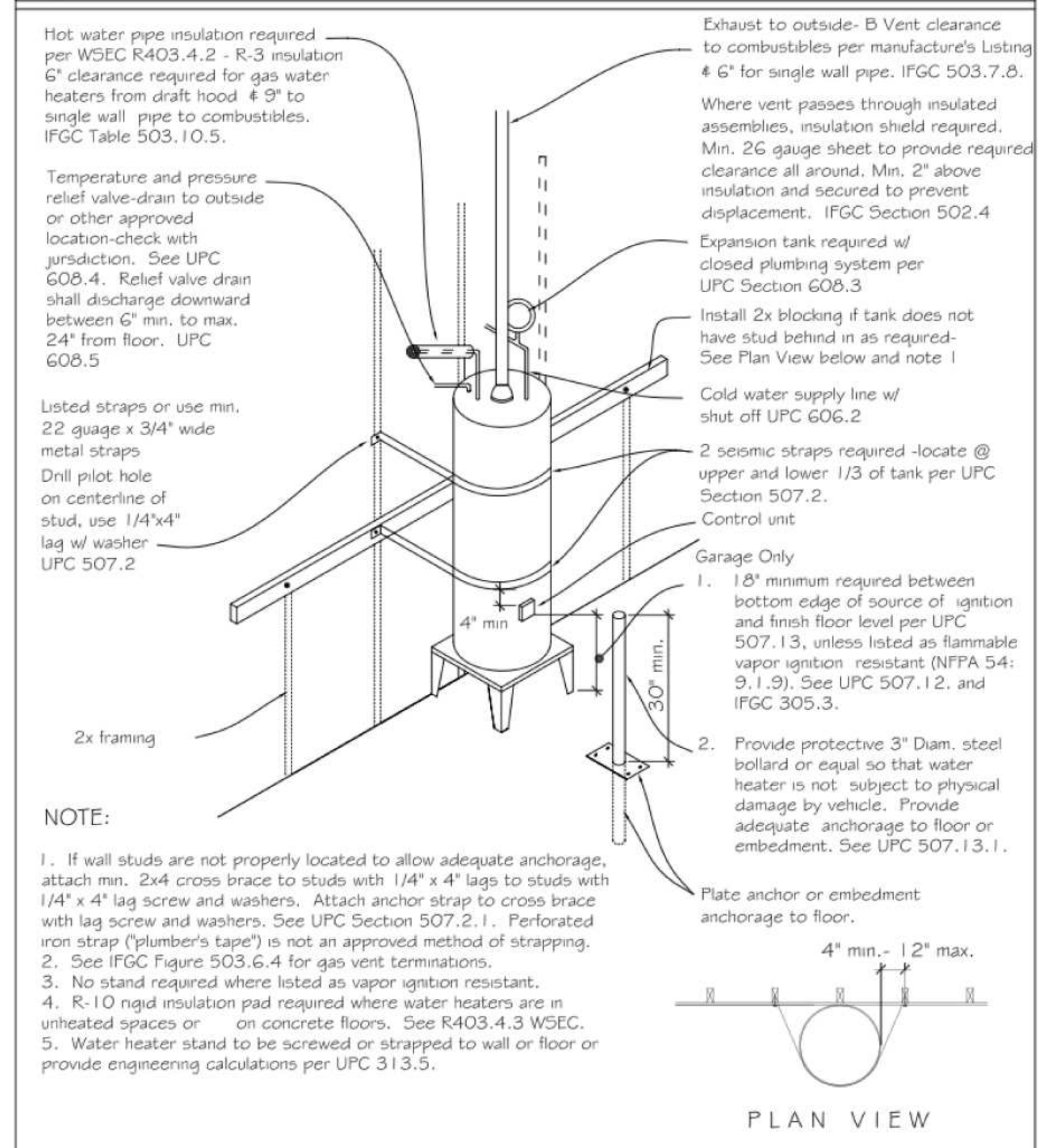
This construction detail is illustrative of the minimum standard of construction based upon the 2012 UPC / WAC 51-56



NOTE:

1. If wall studs are not properly located to allow adequate anchorage, attach min. 2x4 cross brace to studs with 1/4" x 4" lags to studs with 1/4" x 4" lag screw and washers. Attach anchor strap to cross brace with lag screw and washers. See UPC Section 507.2.1. Perforated iron strap ("plumber's tape") is not an approved method of strapping.
2. See IFGC Figure 503.6.4 for gas vent terminations.
3. No stand required where listed as vapor ignition resistant.
4. R-10 rigid insulation pad required where water heaters are in unheated spaces or on concrete floors. See R403.4.3 WSEC.
5. Water heater stand to be screwed or strapped to wall or floor or provide engineering calculations per UPC 313.5.

WATER HEATERS — DWG BY mlm — Date 12-8-15 — UPC 507

ADDITIONAL CONSTRUCTION NOTES:

FRAMING LUMBER
LUMBER SPECIES: DOUGLAS FIR-LARCH GRADE LUMBER
LUMBER GRADES:
EXTERIOR WALL STUDS NO.2 OR BETTER
INTERIOR NON-BEARING WALL STUDS ....STANDARD OR BETTER
INTERIOR BEARING WALL STUDS ....NO.2 OR BETTER
JOISTS ....NO.2 OR BETTER
BEAMS ....NO.2 OR BETTER UNLESS NOTED ON PLAN
POSTS ....NO.2 OR BETTER UNLESS NOTED ON PLAN
BLOCKING ....STANDARD OR BETTER
SOLID BLOCKING USE SAME DEPTH AS MEMBERS

MINIMUM HEIGHT (R305.1)
HABITABLE SPACE, HALLWAYS, BATHROOMS, TOILET ROOMS, LAUNDRY ROOMS AND PORTIONS OF BASEMENTS CONTAINING THESE SPACES SHALL HAVE A CEILING HEIGHT OF NOT LESS THAN 7 FEET.
EXCEPTIONS:
1. FOR ROOMS WITH SLOPED CEILINGS, AT LEAST 50 PERCENT OF THE REQUIRED FLOOR AREA OF THE ROOM MUST HAVE A CEILING HEIGHT OF AT LEAST 7 FEET AND NO PORTION OF THE REQUIRED FLOOR AREA MAY HAVE A CEILING HEIGHT OF LESS THAN 5 FEET.
2. BATHROOMS SHALL HAVE A MINIMUM CEILING HEIGHT OF 6 FEET 8 INCHES AT THE CENTER OF THE FRONT CLEARANCE AREA FOR FIXTURES.
3. BEAMS, GIRDERS, DUCTS OR OTHER OBSTRUCTIONS MAY PROJECT TO WITHIN 6 FEET 4 INCHES OF THE FINISHED FLOOR.

BATHTUB AND SHOWER SPACES (R307.2)
BATHTUB AND SHOWER FLOORS AND WALLS ABOVE BATHTUBS WITH INSTALLED SHOWER HEADS AND IN SHOWER COMPARTMENTS SHALL BE FINISHED WITH A NONABSORBENT SURFACE. SUCH WALL SURFACES SHALL EXTEND TO A HEIGHT OF NOT LESS THAN 6 FEET ABOVE THE FLOOR.

GLAZING ADJACENT TO DOORS (R308.4.2)
GLAZING IN AN INDIVIDUAL FIXED OR OPERABLE PANEL ADJACENT TO A DOOR SHALL BE CONSIDERED TO BE A HAZARDOUS LOCATION WHERE THE BOTTOM EXPOSED EDGE OF THE GLAZING IS LESS THAN 60 INCHES (1524 MM) ABOVE THE FLOOR OR WALKING SURFACE AND IT MEETS EITHER OF THE FOLLOWING CONDITIONS: 1. WHERE THE GLAZING IS WITHIN 24 INCHES (610 MM) OF EITHER SIDE OF THE DOOR IN THE PLANE OF THE DOOR IN A CLOSED POSITION. 2. WHERE THE GLAZING IS ON A WALL PERPENDICULAR TO THE PLANE OF THE DOOR IN A CLOSED POSITION AND WITHIN 24 INCHES (610 MM) OF THE HINGE SIDE OF AN IN-SWINGING DOOR.

FLOOR SURFACE (R309.1)
GARAGE FLOOR SURFACES SHALL BE OF APPROVED NONCOMBUSTIBLE MATERIAL. THE AREA OF FLOOR USED FOR PARKING OF AUTOMOBILES OR OTHER VEHICLES SHALL BE SLOPED TO FACILITATE THE MOVEMENT OF LIQUIDS TO A DRAIN OR TOWARD THE MAIN VEHICLE ENTRY DOORWAY.

GROUND CONTACT (R317.1.2) PROTECTION OF WOOD AGAINST DECAY
ALL WOOD IN CONTACT WITH THE GROUND, EMBEDDED IN CONCRETE IN DIRECT CONTACT WITH THE GROUND OR EMBEDDED IN CONCRETE EXPOSED TO THE WEATHER THAT SUPPORTS PERMANENT STRUCTURES INTENDED FOR HUMAN OCCUPANCY SHALL BE APPROVED PRESSURE-PRESERVATIVE TREATED WOOD SUITABLE FOR GROUND CONTACT USE, EXCEPT UNTREATED WOOD MAY BE USED WHERE ENTIRELY BELOW GROUNDWATER LEVEL OR CONTINUOUSLY SUBMERGED IN FRESH WATER.

FIELD TREATMENT (R317.1.1)
FIELD-CUT ENDS, NOTCHES AND DRILLED HOLES OF PRESERVATIVE-TREATED WOOD SHALL BE TREATED IN THE FIELD IN ACCORDANCE WITH AWPA M4.

GLULAM COLUMNS: USE COMBINATION #3 DF
GLUE LAMINATED MEMBERS:
MEMBER SPECIES: USE WESTERN GRADE SPECIES
MEMBER GRADE: (SIMPLE, MULTIPLE OR CANTILEVER SPANS) USE 24F-V4
MATERIAL STANDARDS: ARCHITECTURAL GRADE APPEARANCE DO NOT USE 24F-1.8E UNLESS NOTED & APPROVED BY A QUALIFIED SUPPLIER OR STRUCTURAL ENGINEER.

ALL EXTERIOR DECKS EXPOSED TO WEATHER MUST UTILIZE WEATHER-RESISTANT WOOD SUCH AS CEDAR, REDWOOD, MOHOGANY OR PRESSURE-TREATED WOOD IN ACCORDANCE WITH 2021 IRC R317

FASTENERS FOR PRESERVATIVE-TREATED WOOD (R317.3.1)
FASTENERS FOR PRESERVATIVE-TREATED WOOD SHALL BE OF HOT DIPPED ZINC COATED GALVANIZED STEEL, STAINLESS STEEL, SILICON BRONZE OR COPPER. COATING TYPES AND WEIGHTS FOR CONNECTORS IN CONTACT WITH PRESERVATIVE-TREATED WOOD SHALL BE IN ACCORDANCE WITH THE CONNECTOR MANUFACTURERS RECOMMENDATIONS. IN THE ABSENCE OF MANUFACTURERS RECOMMENDATIONS, A MINIMUM OF ASTM A 653 TYPE G185 ZINC-COATED GALVANIZED STEEL, OR EQUIVALENT, SHALL BE USED.

PLYWOOD SHEATING
ROOF SHEATHING: 1/2" MIN. INDEX 32/16.
FLOOR SHEATHING: 3/4" MIN. INDEX 48/24 T&G
WALLS SHEATHING: 7/16" MIN. INDEX 32/0
ENGINEERED WOOD PRODUCTS MUST CONFORM WITH ALL APPLICABLE PROVISIONS OF THE 2021 IBC CODE

WOOD PRODUCT MANUFACTURERS:
TRUS JOIST =TJI SERIES JOIST OR BOISE ENGINEERING =BCI SERIES JOISTS

ASSEMBLIES AND HANGERS, AS REQUIRED TO PROVIDE A COMPLETE FLOOR OR ROOF STRUCTURAL SYSTEM PER I-JOIST MANUF.

RIM BOARD:
1-1/4" WIDE, 1.3E GRADE UNLESS OTHERWISE NOTED ON PLANS OR APPROVED BY JOIST SUPPLIER OR STRUCTURAL ENGINEER.

BEARING REQUIREMENTS FOR MECHANICAL UNITS:
JOIST SUPPLIER AND CONTRACTOR TO DOUBLE ALL JOISTS MEMBERS UNDER MECHANICAL UNITS, UNLESS NOTED OTHERWISE. DO NOT NOTCH OR DRILL STRUCTURAL MEMBERS, EXCEPT AS APPROVED BY THE STRUCTURAL ENGINEER OF RECORD.

GENERAL (R703.1) EXTERIOR COVERING
EXTERIOR WALLS SHALL PROVIDE THE BUILDING WITH A WEATHER-RESISTANT EXTERIOR WALL ENVELOPE. THE EXTERIOR WALL ENVELOPE SHALL INCLUDE FLASHING PER SECTION R703.4.

WATER RESISTANCE (R703.1.1) EXTERIOR COVERING
THE EXTERIOR WALL ENVELOPE SHALL BE DESIGNED AND CONSTRUCTED IN A MANNER THAT PREVENTS THE ACCUMULATION OF WATER WITHIN THE WALL ASSEMBLY BY PROVIDING A WATER RESISTANT BARRIER BEHIND THE EXTERIOR CLADDING AS REQUIRED BY SECTION R703.2 AND A MEANS OF DRAINING TO THE EXTERIOR WATER THAT PENETRATES THE EXTERIOR CLADDING.

PANEL SIDING (R703.5.2)
JOINTS IN WOOD, HARDBOARD OR WOOD STRUCTURAL PANEL SIDING SHALL BE MADE AS FOLLOWS UNLESS OTHERWISE APPROVED. VERTICAL JOINTS IN PANEL SIDING SHALL OCCUR OVER FRAMING MEMBERS, UNLESS WOOD OR WOOD STRUCTURAL PANEL SHEATHING IS USED, AND SHALL BE SHIPLAPPED OR COVERED WITH A BATTEN. HORIZONTAL JOINTS IN PANEL SIDING SHALL BE LAPPED A MINIMUM OF 1 INCH OR SHALL BE SHIPLAPPED OR SHALL BE FLASHED WITH Z-FLASHING AND OCCUR OVER SOLID BLOCKING, WOOD OR WOOD STRUCTURAL PANEL SHEATHING.

HORIZONTAL SIDING (R703.5.3)
HORIZONTAL LAP SIDING SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUF. RECOMMENDATIONS. WHERE THERE ARE NO RECOMMENDATIONS THE SIDING SHALL BE LAPPED A MINIMUM OF 1 INCH, OR 1/2 INCH IF RABBETED, AND SHALL HAVE THE ENDS CAULKED, COVERED WITH A BATTEN OR SEALED AND INSTALLED OVER A STRIP OF FLASHING.

GARAGE / DWELLING SEPARATION (TABLE R302.6)
GWB BOARD SHALL BE PLACED ON THE GARAGE SIDE OF WALLS AND CEILINGS WHERE HABITABLE AREAS ARE ON THE OPPOSITE SIDE. A MIN. OF 1/2" GWB FOR WALL SEPERATIONS AND 5/8" TYPE "X" GWB AT CEILING SEPERATIONS WITH HABITABLE ROOMS ABOVE.

MINIMUM AREA (R806.2) ATTIC VENTILATION
ATTIC VENTILATION MUST BE 1/150TH OF THE ATTIC AREA OR 1/300TH OF ATTIC AREA IF AT LEAST 40 PERCENT BUT NOT MORE THAN 50 PERCENT OF THE REQUIRED VENTILATION IS LOCATED NOT MORE THAN 3' BELOW THE RIDGE. OR PROVIDE A MOISTURE BARRIER ON THE WARM IN WINTER SIDE OF THE CEILING.

ROOF COVERINGS (R905)
COMP ROOF SHINGLES TO COMPLY WITH ASTM D3462 REQUIREMENTS ON 1 OR 2 LAYERS OF UNDERLAYMENT THAT COMPLY WITH ASTM D226, D4869&D6757 AND SHALL BEAR A LABEL INDICATING COMPLIANCE. ON SOLID SHEATHED DECK ON MANUF TRUSS @24" O/C (PER IRC R905)

CRAWLSPACE:
18" MIN. CLEARANCE FROM GRADE TO BOTTOM OF FLOOR JOIST AND MIN. 12" CLEARANCE TO BOTTOM OF GIRDERS OR BEAMS IN THE CRAWLSPACE. VERIFY W/ LOCAL JURISDICTION.

OVERHANGS: OVERHANGS ARE TO BE DETERMINED BY OWNER/BUILDER

GUTTERS: GUTTERS ARE TO BE DETERMINED BY OWNER/BUILDER. GUTTER AND DOWNSPOUTS TO APPROVED DRAINAGE RAIN AND LOW POINT DRAINS TO BE SCHEDULE 40 PVC OR ABS WITH DWV FITTINGS. VERIFY W/ LOCAL JURISDICTION.

TABLE R602.3(1) FASTENER SCHEDULE FOR STRUCTURAL MEMBERS (2021 IRC)

	DESCRIPTION OF BUILDING ELEMENTS	NUMBER AND TYPE OF FASTENER a.b.c	SPACING OF FASTENERS
	ROOF		
1	Blocking between ceiling joists, rafters or trusses to top plate or other framing below	4-8d (2 1/2" x 0.113")	toe nail
	Blocking between rafters or truss not at the wall top plates, to rafter or truss	2-8d com (2 1/2" x 0.131")	each end toe nail
		2-16d com (3 1/2" x 0.162")	end nail
	flat blocking to truss and web filler	16d com (3 1/2" x 0.162")	6" o/c face nail
2	Ceiling joists to plate	4-8d (2 1/2" x 0.113")	per joist, toe nail
3	Ceiling joists not attached to parallel rafter, laps over partitions (R802.5.2 and table R802.5.2)	4-10d box (3" x 0.128")	face nail
4	Ceiling joists attached to parallel rafter (heel joint) (R802.5.2 and table R802.5.2)	Table R802.5.2	face nail
5	Collar Tie to rafter, face nail	4-10d (3" x 0.128")	face nail each rafter
6	Rafter or roof truss to plate	3-16d (3 1/2" x 0.135")	2 toe nails one side and 1 toe nail opposite side
7	Roof rafters to ridge, valley or hip rafters or roof rafter to min 2" ridge beam	4-16d box (3 1/2" x 0.135")	toe nail
		3-16d box (3 1/2" x 0.135")	end nail
	WALL		
8	stud to stud (not braced wall panels)	16d com (3 1/2" x 0.162")	24" o.c. face nail
		10d box (3" x 0.128")	16" o.c. face nail
9	Stud to stud and abutting studs at intersecting wall corners (at braced wall panels)	16d box (3 1/2" x 0.135")	12" o.c face nail
		16d com (3 1/2" x 0.162")	16" o.c face nail
10	Built-up header (2"to 2" header with 1/2" spacer)	16d com (3 1/2" x 0.162")	16" o.c. each edge face nail
		16d box (3 1/2" x 0.135")	12" o.c. each edge face nail
11	Continuous header to stud	5-8d box (2 1/2" x 0.113")	toe nail
12	adjacent full-height stud to end of header	4-10d box (3" x 0.128")	end nail
13	top plate to top plate	16d com (3 1/2" x 0.162")	16" o/c face nail
		10d box (3" x 0.128")	12" o/c face nail
14	double top plate splice	8-16d com (3 1/2" x 0.162")	Face nail on each side of end joint (min 24" lap splice length each side of end joint)
15	Bottom plate to joist, rim joist, band joist or blocking (not at braced wall panels)	16d com (3 1/2" x 0.162")	16" o.c face nail
		16d box (3 1/2" x 0.135")	12" o.c face nail
	ROOF		
16	bottom plate to joist, rim joist, band joist or blocking (at braced wall panel)	4-3" x 0.131" nails 3-16d box (3 1/2" x 0.135")	16" o.c face nail
17	top or bottom plate to stud	4-8d box (2 1/2" x 0.113")	toe nail
		2-16d com (3 1/2" x 0.162")	end nail
18	top plates, laps at corners and intersections	3-10d box (3" x 0.128") 2-16d com (3 1/2" x 0.162")	face nail
19	1" brace to each stud and plate	3-8d box (2 1/2" x 0.113")	face nail
20	1"x6" and wider sheathing to each bearing	3-8d box (2 1/2" x 0.113")	face nail
21	1"x8" and wider sheathing to each bearing	3-8d box (2 1/2" x 0.113")	face nail
		4-8d box (2 1/2" x 0.113")	(wider than 1"x8") face nail
	FLOOR		
22	Joist to sill, top plate or girder	4-8d box (2 1/2" x 0.113")	toe nail
23	Rim joist, band joist or blocking to sill or top plate (roof applications also)	8d box (2 1/2" x 0.113")	4" o.c toe nail
		8d com (2 1/2" x 0.131")	6" o.c toe nail
24	1"x6" subfloor or less to each joist	3-8d box (2 1/2" x 0.113")	face nail
25	2" subfloor to joist or girder	3-16d box (3 1/2" x 0.135")	blind and face nail
26	2" planks (plank & beam - floor and roof)	3-16d box (3 1/2" x 0.135")	at each bearing, face nail
27	Band or rim joist to joist	3-16d com(3 1/2" x 0.162")	end nail
28	Built-up girders and beams, 2" lumber layers	20d com (4" x 0.192")	nail each layer as follows: 32" o.c at top and bottom and staggered
		10d box (3" x 0.128")	24" o.c face nail at top/btm staggered on opp sides
		2-20d com (4" x 0.192")	face nail at ends and at each splice
29	Ledger strip supporting joists or rafters	4-16d box (3 1/2" x 0.135")	At each joist or rafter, face nail
30	Bridging or Blocking to joist, rafter or truss	2-10d box (3" x 0.128") or 2-8d com (2 1/2" x 0.131")	each end, toe nail

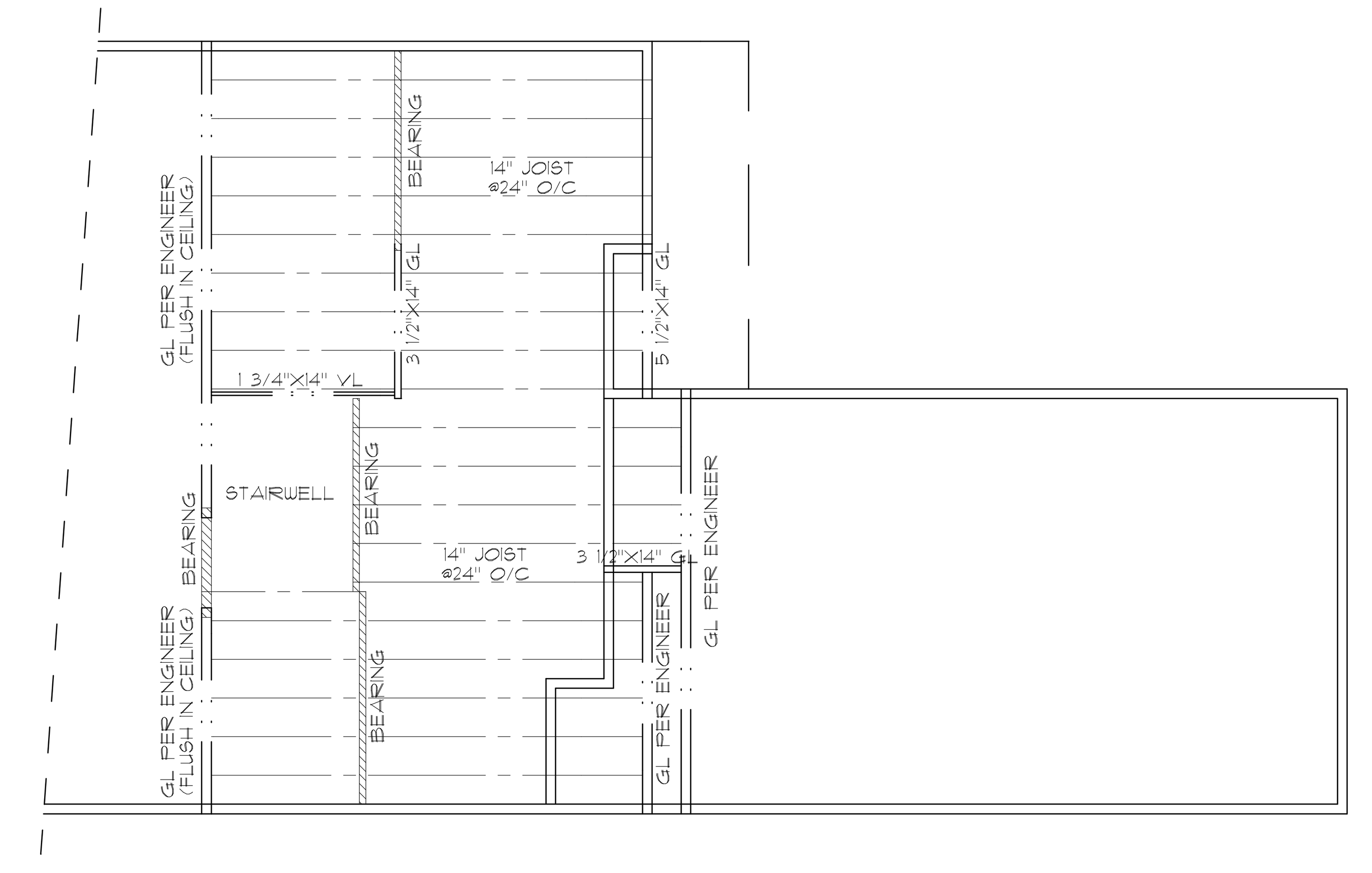
THIS SECTION APPLIES TO PRESCRIPTIVE ENGINEERING ONLY. SEE ENGINEERING DETAILS WHEN PRESCRIPTIVE METHOD IS NOT USED

WOOD STRUCTURAL PANELS, SUBFLOOR, ROOF AND INTERIOR WALL SHEATHING TO FRAMING AND PARTICLEBOARD WALL SHEATHING TO FRAMING
[see table R602.3(3) for wood structural panel *exterior* wall sheathing to wall framing. see table R602.3(2) for staple options]

	DESCRIPTION OF BUILDING ELEMENTS	NUMBER AND TYPE OF FASTENER A, B, C	SPACING OF FASTENERS Edges (Inches) h	SPACING OF FASTENERS Intermediate Supports C, E (Inches)
31	3/8" - 1/2"	6d common (2" x 0.113") nail (subfloor wall) i 8d common (2 1/2" x 0.131") nail (roof)	6	6 f
32	19/32" - 3/4"	8d common (2 1/2" x 0.131") nail (subfloor wall) i	6	12 f
		8d common (2 1/2" x 0.131") nail (roof)	6	6 f
33	7/8" - 1 1/4"	10d common (3" x 0.148") nail	6	12
	OTHER WALL SHEATHING g			f
34	1/2" structural cellulosic fiberboard sheathing	1 1/2"x0.120" galvanized roofing nail, 7/16" head diameter, or 1 1/4" long 16ga. staple with 7/16" or 1" crown	3	6
35	25/32" structural cellulosic fiberboard sheathing	1 3/4"x0.120" galvanized roofing nail, 7/16" head diameter, or 1 1/4" long 16ga. staple with 7/16" or 1" crown	3	6
36	1/2" gypsum sheathing d	1 1/2"x0.120" galvanized roofing nail, 7/16" head diameter, or 1 1/4" long 16ga. staple with 7/16" or 1" crown	7	7
37	5/8" gypsum sheathing d	1 3/4"x0.120" galvanized roofing nail, 7/16" head diameter, or 1 1/4" long 16ga. staple with 7/16" or 1" crown	7	7
	WOOD STRUCTURAL PANELS, COMBINATION SUBFLOOR UNDERLAYMENT TO FRAMING			
38	3/4" and less	deformed (2" x 0.120") nail or 8d common (2 1/2" x 0.131") nail	6	12
39	7/8" - 1"	8d common (2 1/2" x 0.131") nail or 8d deformed (2 1/2" x 0.120") nail	6	12
40	1 1/8" - 1 1/4"	10d common (3" x 0.148") nail or deformed (2 1/2" x 0.120") nail	6	12

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 mile per hour = 0.447 m/s; 1ksi = 6.895 MPa.

a. Nails are smooth-common, box or deformed shanks except where otherwise stated. Nails used for framing and sheathing connections are carbon steel and shall have minimum average bending yield strengths as shown: 80 ksi for shank diameter of 0.192 inch (20d common nail), 90 ksi for shank diameters larger than 0.142 inch but not larger than 0.177 inch, and 100 ksi for shank diameters of 0.142 inch or less. connections using nails and staples of other materials, such as stainless steel, shall be designed by accepted engineering practice or approved under section e104.11
b. RSRS-01 is a roof sheathing ring shank nail meeting the specifications in ASTM F1667.
c. Nails shall be spaced at not more than 6 inches on center at all supports where spans are 48 inches or greater.
d. Four-foot by 8-foot or 4-foot by 9-foot panels shall be applied vertically.
e. Spacing of fasteners not included in this table shall be based on Table R602.3(2).
f. For wood structural panel roof sheathing attached to gable end roof framing and to intermediate supports within 48 inches of roof edges and ridges, nails shall be spaced at 4 inches on center where the ultimate design wind speed is greater than 130 mph in exposure B or greater than 110 mph in exposure C.
g. Gypsum sheathing shall conform to ASTM C 1396 and shall be installed in accordance with ASTM C1280 or GA 253. Fiberboard sheathing shall conform to ASTM C208
h. Spacing of fasteners on floor sheathing panel edges applies to panel edges supported by framing members and required blocking and at floor perimeters only. Spacing of fasteners on roof sheathing panel edges applies to panel edges supported by framing members and required blocking. Blocking of roof or floor sheathing panel edges perpendicular to the framing members need not be provided except as required by other provisions of this code. Floor perimeter shall be supported by framing members or solid blocking
i. Where a rafter is fastened to an adjacent parallel ceiling joist in accordance with this schedule, provide two toe nails on one side of the rafter and toe nails from the ceiling joist to top plate in accordance with this schedule. The toe nail on the opposite side of the rafter shall not be requires.

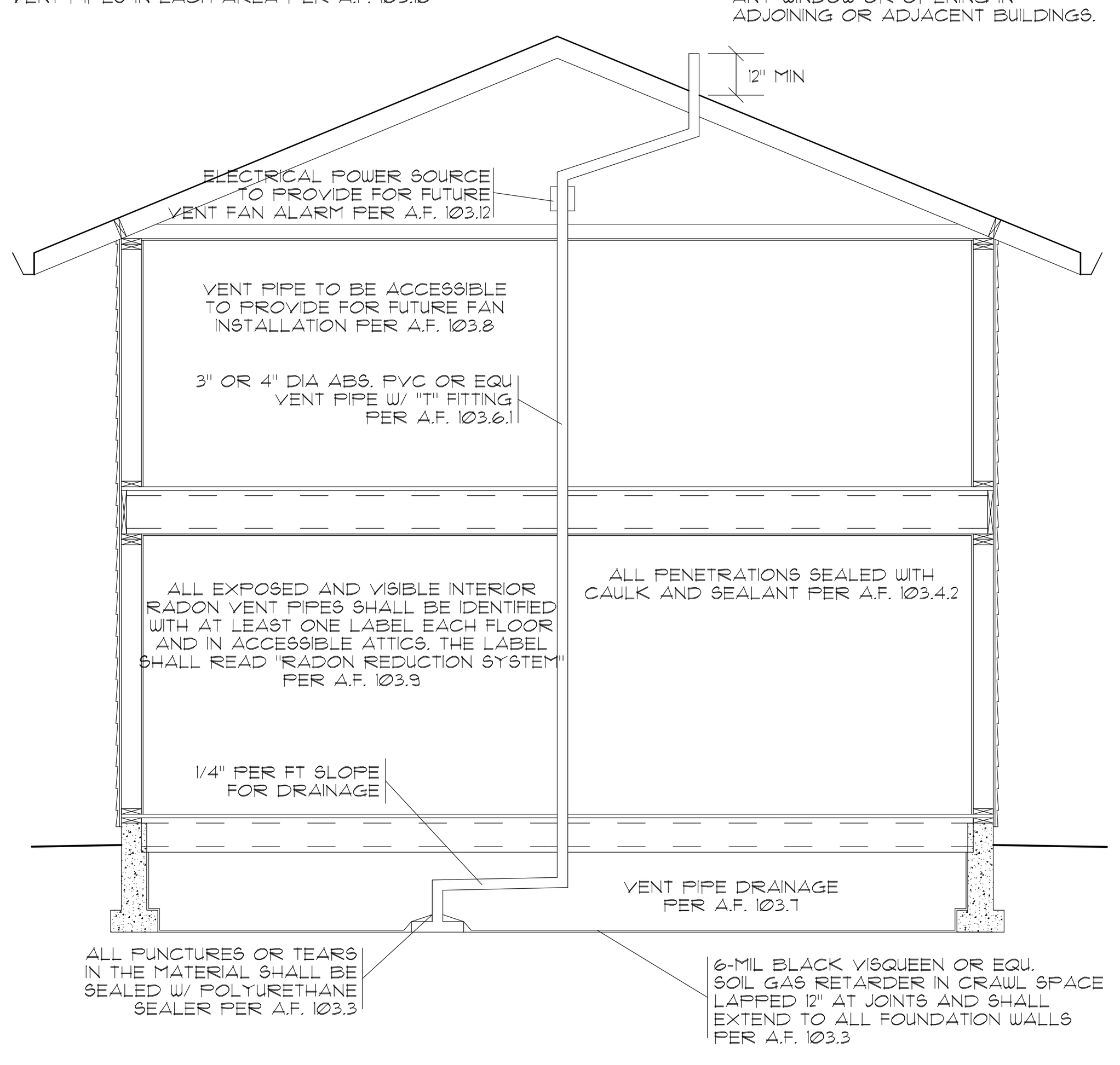


2ND FRAMING PLAN

SCALE 1/8"=1'0"

NOTES:
1. INSTALL RADON VENT PIPES PER UPC CHAPTER 7 DRAIN PIPING FOR MATERIALS, FITTING & INSTALLATION REQUIREMENTS
2. MULTIPLE VENT PIPES PER A.F. 103.6.2
3. COMBINATION SLAB AND CRAWL SHALL HAVE SEPARATE VENT PIPES IN EACH AREA PER A.F. 103.10

VENT PIPE MIN. 10'-0" AWAY FROM ANY WINDOW OR OTHER OPENING INTO CONDITIONED SPACES OF THE BUILDING THAT IS LESS THAN 2' BELOW THE EXHAUST POINT AND 10'-0" FROM ANY WINDOW OR OPENING IN ADJOINING OR ADJACENT BUILDINGS.



RADON REQUIREMENTS

RADON REDUCTION SYSTEM REQUIREMENTS:

PER WSEC, APPENDIX F, WSIAQ, AND 2021 IRC

1. MIN SCHEDULE 40 PVC PIPES, 3" DIA
2. "RADON REDUCTION SYSTEM" LABLES TO BE APPLIED TO PIPING AT ALL ACCESSIBLE LOCATIONS.
3. MIN 6 MIL BLACK POLY, VAPOR BARRIER WITH 12" OVERLAPS AT SEAMS.
4. ELECTRICAL JUNCTION BOX FOR FUTURE FAN REQUIRED AT ACCESSIBLE LOCATION NEAREST TO PIPE TERMINATION.

AF103.2 SUBFLOOR PREPARATION.
A LAYER OF GAS-PERMEABLE MATERIAL SHALL BE PLACED UNDER ALL CONCRETE SLABS AND OTHER FLOOR SYSTEMS THAT DIRECTLY CONTACT THE GROUND AND ARE WITHIN THE WALLS OF THE LIVING SPACES OF THE BUILDING, TO FACILITATE FUTURE INSTALLATION OF A SUBSLAB DEPRESSURIZATION SYSTEM, IF NEEDED. THE GAS-PERMEABLE LAYER SHALL CONSIST OF ONE OF THE FOLLOWING:

1. A UNIFORM LAYER OF CLEAN AGGREGATE, A MINIMUM OF 4 INCHES (102 MM) THICK. THE AGGREGATE SHALL CONSIST OF MATERIAL THAT WILL PASS THROUGH A 2-INCH (51 MM) SIEVE AND BE RETAINED BY A 1/4-INCH (6.4 MM) SIEVE.
2. A UNIFORM LAYER OF SAND (NATIVE OR FILL), A MINIMUM OF 4 INCHES (102 MM) THICK, OVERLAIN BY A LAYER OR STRIPS OF GEOTEXTILE DRAINAGE MATTING DESIGNED TO ALLOW THE LATERAL FLOW OF SOIL GASES.
3. OTHER MATERIALS, SYSTEMS OR FLOOR DESIGNS WITH DEMONSTRATED CAPABILITY TO PERMIT DEPRESSURIZATION ACROSS THE ENTIRE SUBFLOOR AREA.

AF103.3 SOIL-GAS-RETARDER.
A MINIMUM 6-MIL (0.15 MM) ¾OR 3-MIL (0.075 MM) CROSS-LAMINATED⅞ POLYETHYLENE OR EQUIVALENT FLEXIBLE SHEETING MATERIAL SHALL BE PLACED ON TOP OF THE GAS-PERMEABLE LAYER PRIOR TO CASTING THE SLAB OR PLACING THE FLOOR ASSEMBLY TO SERVE AS A SOIL-GAS-RETARDER BY BRIDGING ANY CRACKS THAT DEVELOP IN THE SLAB OR FLOOR ASSEMBLY, AND TO PREVENT CONCRETE FROM ENTERING THE VOID SPACES IN THE AGGREGATE BASE MATERIAL. THE SHEETING SHALL COVER THE ENTIRE FLOOR AREA WITH SEPARATE SECTIONS OF SHEETING LAPPED AT LEAST 12 INCHES (305 MM). THE SHEETING SHALL FIT CLOSELY AROUND ANY PIPE, WIRE OR OTHER PENETRATIONS OF THE MATERIAL. ALL PUNCTURES OR TEARS IN THE MATERIAL SHALL BE SEALED OR COVERED WITH ADDITIONAL SHEETING.

AF103.4.9 CRAWL SPACE FLOORS.
OPENINGS AROUND ALL PENETRATIONS THROUGH FLOORS ABOVE CRAWL SPACES SHALL BE CAULKED OR OTHERWISE FILLED TO PREVENT AIR LEAKAGE.

AF103.4.10 CRAWL SPACE ACCESS.
ACCESS DOORS AND OTHER OPENINGS OR PENETRATIONS BETWEEN BASEMENTS AND ADJOINING CRAWL SPACES SHALL BE CLOSED, GASKETED OR OTHERWISE FILLED TO PREVENT AIR LEAKAGE.

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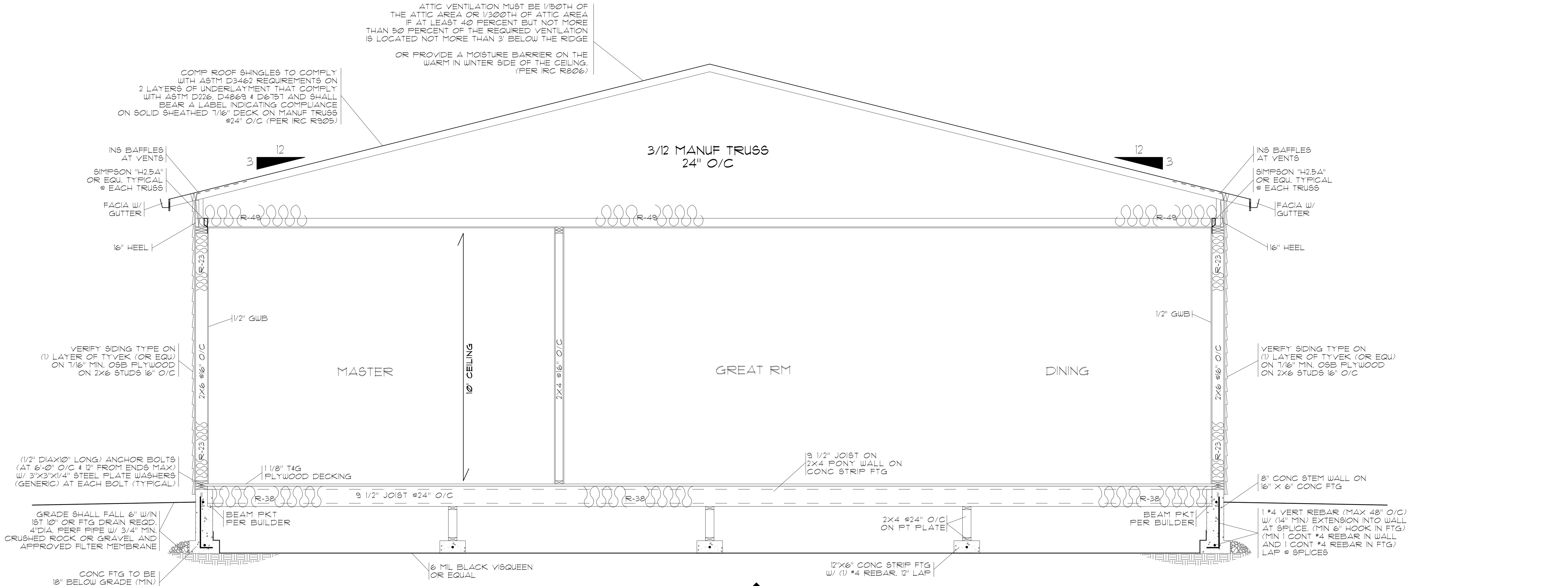
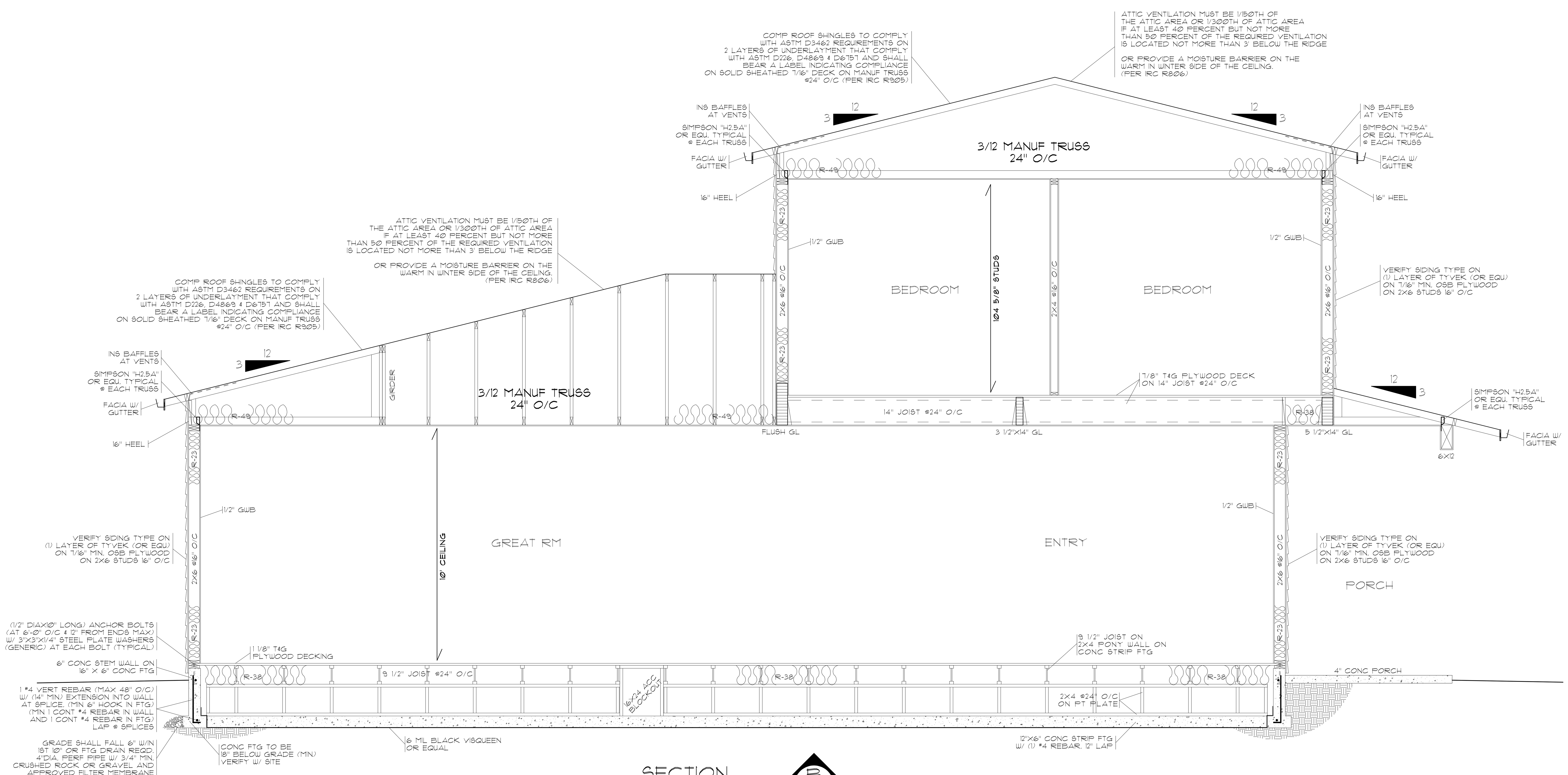


SECTION A/6
SCALE 3/8"=1'0"



SECTION B/6
SCALE 3/8"=1'0"

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