Converting a garage into living space in Washington State can be done--but under the Washington State Energy Code-Residential (WSEC-R), it's not just about drywall and paint. You'll need to meet energy efficiency standards that apply to new conditioned space, especially if you're heating or cooling the area. Here's how to tackle it:

1. Insulate Like New Construction (See attached details based on WSEC Table R402.1.2) or use the UA Alternative path [WSEC R402.1.5]
   - Walls: R-20+R5 or R-13+R-10 + cavity insulation (CI) for exterior walls.
   - Ceiling: R-60 min or U=0.024 max for attics without energy heels or R-38 for vaulted ceilings. Rigid insulation above exterior wall plates can be helpful to minimize compression of batt or loose fill insulation. Use vent baffles at eave vents.
   - Floors/Foundation Walls: Insulate interior slab edges and foundation walls per WSEC-R Table R402.1.3 or see the attached details for compliant methods.
   - Garage Door Opening: Must be infilled and insulated to match wall requirements above. See details for curb replacement, clearances for bottom of siding, and drainage requirements.
2. Windows & Doors
   - Replace or upgrade windows to meet U-factor ≤ 0.30 maximum. (Skylights are U-60 max.) One 24 SF door is exempt, however.
   - Exterior doors to meet U-factor ≤ 0.20 max (One 24 SF door is exempt however.)
   - Consider high efficiency glazing if adding/changing windows.
3. Heating & Cooling
   - Add a compliant heating system (e.g., ductless mini-split or electric resistance).
   - Must be sized properly and documented using the Code Compliance Calculator (C3) or prescriptive forms.
4. Ventilation & Air Sealing
   - Install mechanical ventilation per WSEC-R Section R403.6. Exempt if additional area is < 500 SF. [R303.4]
   - Perform blower door testing to meet 4 ACH air leakage requirements for the unit or 7 ACH for the entire house.
   - Seal all penetrations, rim joists, and wall-to-roof connections.
5. Existing equipment: Existing gas furnaces and water heaters cannot be located in a sleeping room or ensuite. Unless directed vented , the furnace will need to be enclosed in a separate room, with a tightly sealed, self-closing door and maintain adequate combustion and make-up air, and an interconnected smoke and carbon monoxide alarm will be required in the sleeping room. Contact an HVAC specialist to assist. [G2406.2 (303.3)]
6. Energy Credits (Section R406): Explore these options in the 2021 WSEC-R Energy Code Cookbook which offers "recipes" tailored to home size and system type. Select additional energy efficiency measures based on square footage and existing primary heat source. [R406.2, Table R406.3] Common choices include:
   - Ductless mini-splits are most recommended - (2.0 credits)
   - High-efficiency water heating options (e.g., heat pump water heater) (0.5-2.0 credits)
   - Enhanced envelope insulation (0.5 - 2.5 credits)
   - Rooftop PV Solar installation (0.5 - 4.5 credits)
7. Permit & Documentation Tips:
   - Submit detailed floor plans showing insulation, HVAC, windows, and ventilation.
   - Include cross-sections of wall and roof assemblies.
   - Visit the WSU Energy Program Building Efficiency site for assistance.
   - Complete the 2021 WSC-R 2nd Edition Remodel/Alteration Worksheet or use the Code Compliance Calculator (C3) to streamline documentation.
   - Coordinate with your local building department--as they may have specific forms or interpretations

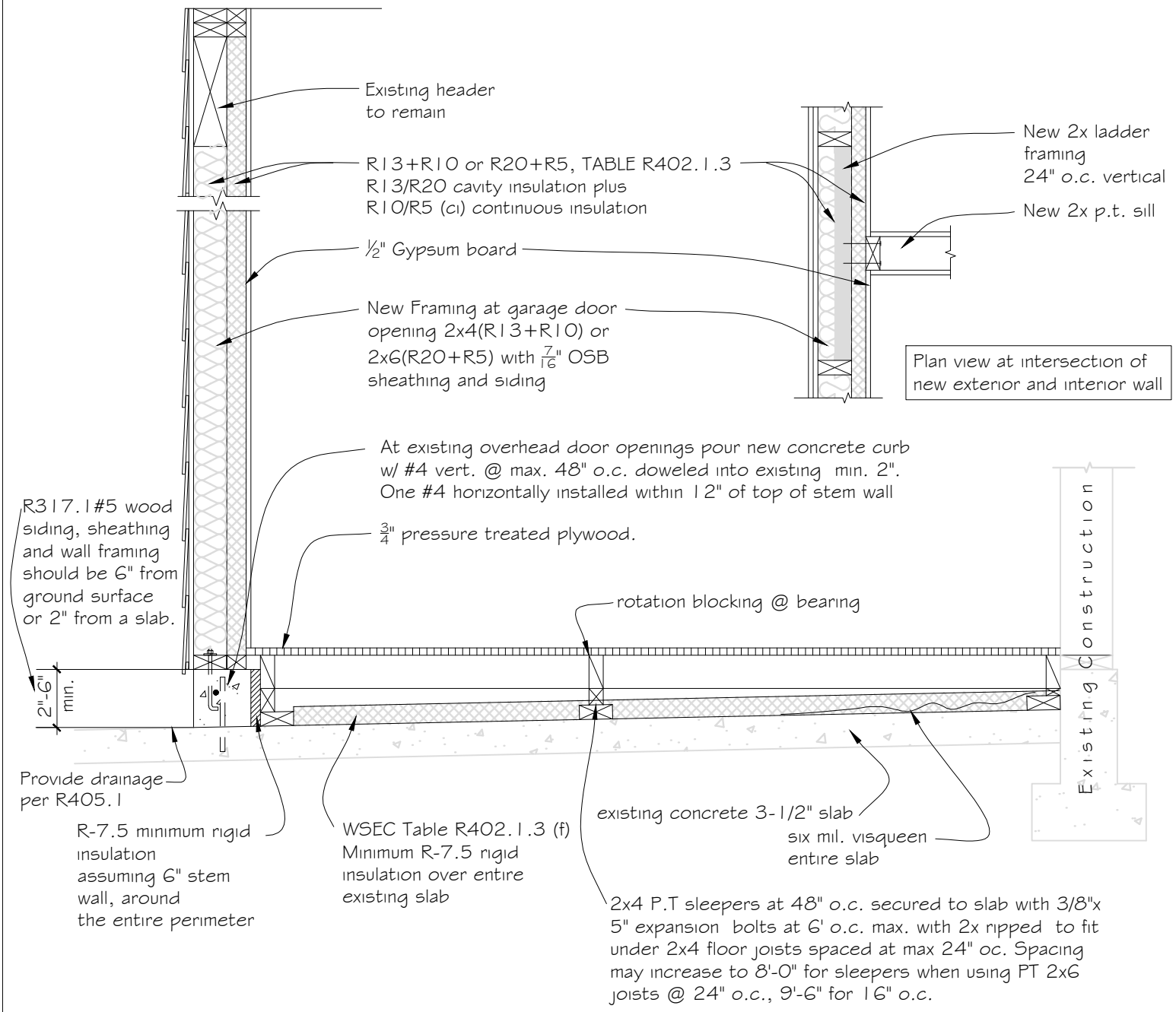
Southwest Washington Chapter of ICC

This construction detail is illustrative of the minimum standard of construction based upon the 2021 IRC / WAC 51-51

Visit our web site at: www.sww-icc.org

NOTE:

1. All wood floor framing, including plywood, to be pressure treated, unless vented.
2. Provide separate room and outside combustion air to any fuel burning appliances such as furnace or water heater.
3. Insulation requirements per WSEC.
4. Radon mitigation required per Appendix F IRC/WAC.
5. New fenestration: U-.30
6. Provide energy credits per WSEC R406.1.
7. Continuous insulation (ci). Insulating material that is continuous across all structural members without thermal bridges other than fasteners and service openings. It is installed on the interior or exterior or is integral to any opaque surface of the building envelope.
8. All joints or electrical outlets in the continuous insulation need to be taped and sealed to create a continuous air barrier.
9. For additional methods and details, visit MyBuildingPermit.com and https://mybuildingpermit.com/sites/default/files/TS_25_Garage_Conversions_2021_FINAL.pdf



Garage Conversion

Non ventilated raised joist

Reviewed by TAG 1/8/26 R317.1

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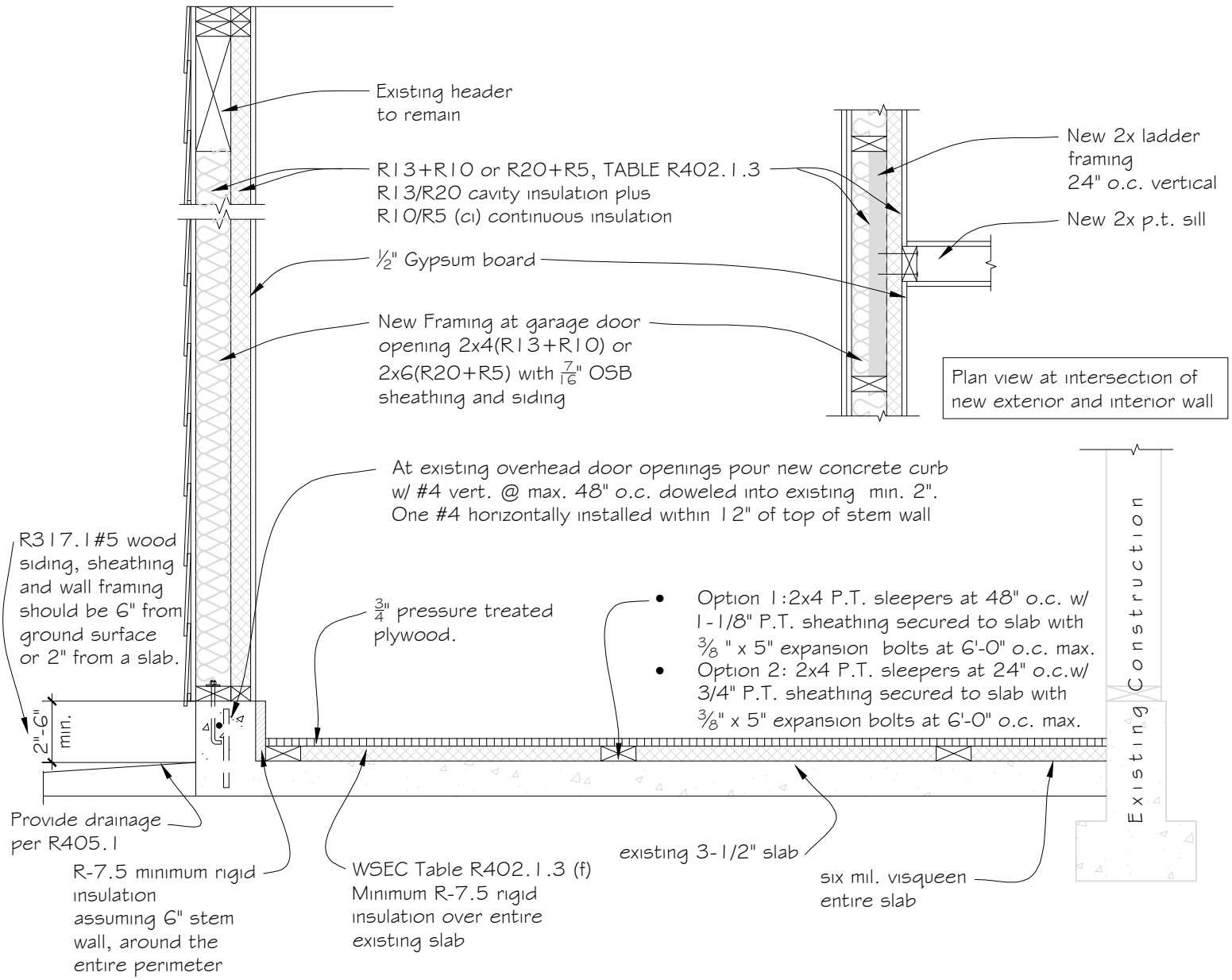

Garage Conversion-

Non ventilated space

Reviewed by TAG 1/8/26 R317.1 3