

Job Aid:

Inspection Checklist for Wood Frame Shear Walls

1. Verify from the structural framing plans and architectural floor plans the location and length of all shear walls
2. Verify the nailing of the sheathing agrees with the shear wall schedule
 - Nail Type (common, galvanized box);
 - Nail Diameter (8d or 10d);
 - Nail Length (minimum penetration into framing 12 times nail diameter)
 - Spacing Along Each Edge of Each Piece of Sheathing (6", 4", 3" etc.)
 - Nail Head Shape (clipped heads not permitted)
 - Nail Placement
 - ___ Driven flush but not overdriven
 - ___ Minimum $\frac{3}{8}$ " from sheathing edge to center of nail
 - ___ View the stud side to check for nails that missed framing
 - ___ Staggered along edges where spacing is 3 inches o.c. or less
 - ___ Edge nails into hold-down post
3. Verify sheathing material agrees with the structural notes
 - Type (Plywood or OSB);
 - Grade (APA Rated Panel or APA Rated Panel - Structural I) and
 - Thickness ($\frac{3}{8}$ ", $\frac{15}{32}$ ")
 - Number of Plys (If specified for plywood)

4. Verify lumber size and grade agrees with the structural notes
 - Framing Grade of Studs & Posts (Stud, Construction, No. 2, No. 1);
 - Lumber Species (Douglas Fir Larch, Hem-Fir)
 - Framing Size (3x studs, sill at heavily nailed edges, 2-2x, 4x or 6x at HD posts)
5. Verify bottom of wall shear transfer (sill/sole plate) connection is based on the structural notes or specific sections and details
 - Nailing size and spacing of wall sole plate to floor framing below from shear wall schedule; verify nails penetrate framing below
 - Foundation sill bolt diameter and spacing from shear wall schedule or notes
 - Bolts not less than 7 bolt diameters from ends of sill piece; not more than 12 inches from ends; not less than 1 inch from edge of sill plate; not less than $1\frac{1}{2}$ inches to edge of concrete foundation.
 - Verify square plate washer is used on bolts.
 - Verify bolt hole in sill plate is not more than $\frac{1}{16}$ " larger than bolt diameter.

Job Aid:

Inspection Checklist for Wood Frame Shear Walls (continued)

6. **Verify top of wall shear transfer connection by looking at the shear wall schedule and typical sections at roof and floor level**

- Location of edge nail row along top plate of lower wall and sole plate of upper wall, and if required, along the rim joist or blocking
- Size and spacing of framing clips, when required, from top plate to floor or roof framing, with all nail holes filled
- Where 10 d nails are required for the sheathing, and when edge nailing is required into the rim member, the minimum rim member thickness is 1³/₄ inch. Therefore a nominal 2x is NOT sufficient.

7. **Verify top plate splice connections along shear wall lines, not only those occurring directly above the shear wall**

- Check for a detail or note on framing plans calling for typical or special plate splices.
- Verify the strap size (gage thickness and length) number of rows of nails, and total number of nails per the product manufacturer's catalogue
- Verify straps are centered on the splice and have all nail holes filled.
- Splices are needed anywhere that top plates are interrupted (by perpendicular beams or headers in the plane of the wall)

8. **Verify Hold-Down Installation**

- Confirm locations per Framing and Foundation Plans (usually, but not always, are hold-downs required at each end of a shear wall)
- Verify minimum Post Size and Lumber Grade
- Verify equal number of nails to upper and lower wall framing for Nailed Strap Type Hold-downs Spanning Floor Framing
- Verify bolt hole diameter through posts is not more than 1/16 inch larger than the actual bolt diameter.
- Verify bolts heads or nuts are not counter-sunk into the post, unless specifically permitted
- Verify a washer is installed under the nut on side of the post opposite the HD
- Verify nuts are tight on all bolts, including the anchor bolt into the foundation and the ends of threaded rods spanning between floor levels.
- Anchor bolts and threaded rods should not be bent. HD location should be installed to minimize the length of threaded rods.
- Verify all bolt diameters are as specified either by the hold-down product manufacturer's catalogue or as specified on the drawings.
- Verify prior to concrete pour the length of embedment of anchor bolts and the embedded end condition (e.g., L-hook, J-hook, nut and square plate washer, hex headed bolt) match the drawings
- Verify anchor bolt clearance from edges and ends of footings as specified on the drawings.