



Dallas Area
Habitat
for Humanity®

Framing Basics 1

Dave Hermon

Russ Root

Stephen Seybold

Stephen Capuyan

Feb 2019

Overview of Framing Day

- 🏠 Major tasks of the day
 - 🏠 Stand walls
 - 🏠 Brace walls
 - 🏠 Build and install porches
 - 🏠 String walls
 - 🏠 Install cap plate
 - 🏠 Start sheathing exterior walls

Safety First

- 🏠 Hearing protection required for Ramset operator
- 🏠 Ramset can only be used by people who are certified
 - 🏠 <http://www.ramset.com/patlicensing>
- 🏠 Lift with legs not back
- 🏠 Leave unattended walls flat on slab → Do not lean against wall

PPE

🏠 Required



🏠 Recommended



*Remove when
using power tools



** required for prolonged exposure
to saws and Ramset

To lean or not to lean.....?

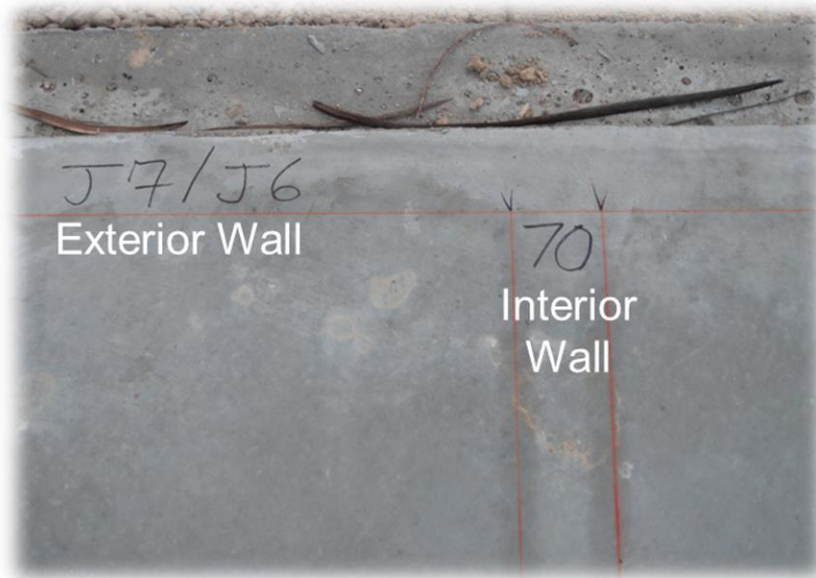


Tools of the trade

- 🏠 Hammer
- 🏠 12d and 8d nails
- 🏠 Speed square
- 🏠 Measuring tape
- 🏠 Nail Puller (Cat's paw)
- 🏠 Chisel
- 🏠 Chalk box
- 🏠 Tool belt/apron
- 🏠 8ft level
- 🏠 String line
- 🏠 Circular Saw
- 🏠 Miter Saw (chop saw)
- 🏠 Reciprocating Saw



Framing Overview of Build Day



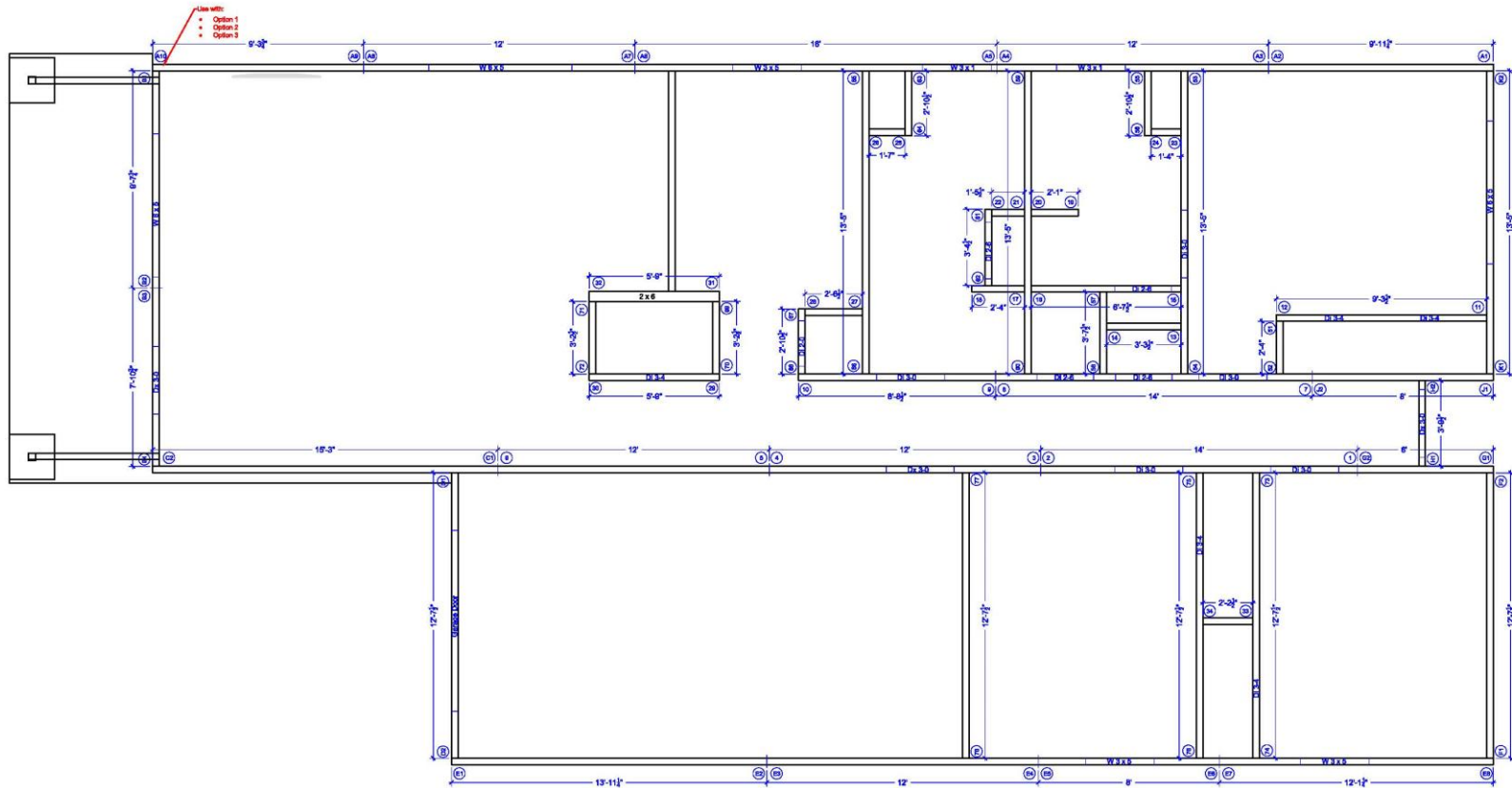
- 🏠 Exterior – Letter + Number
- 🏠 Interior – Number only



PRODUCED BY AN AUTODESK EDUCATIONAL PRODUCT

Magnolia CR
July 27, 2015

Plates

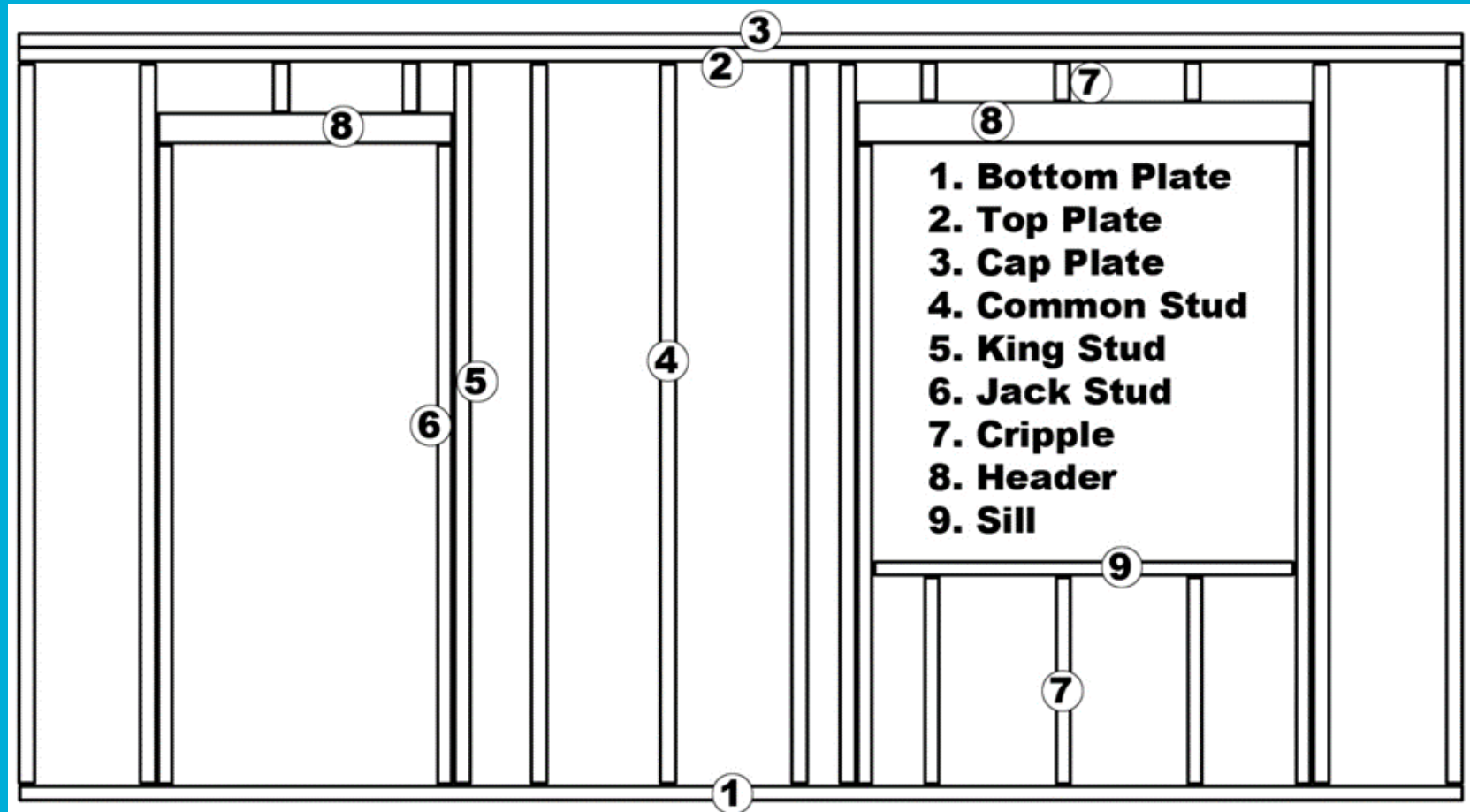


PRODUCED BY AN AUTODESK EDUCATIONAL PRODUCT

PRODUCED BY AN AUTODESK EDUCATIONAL PRODUCT

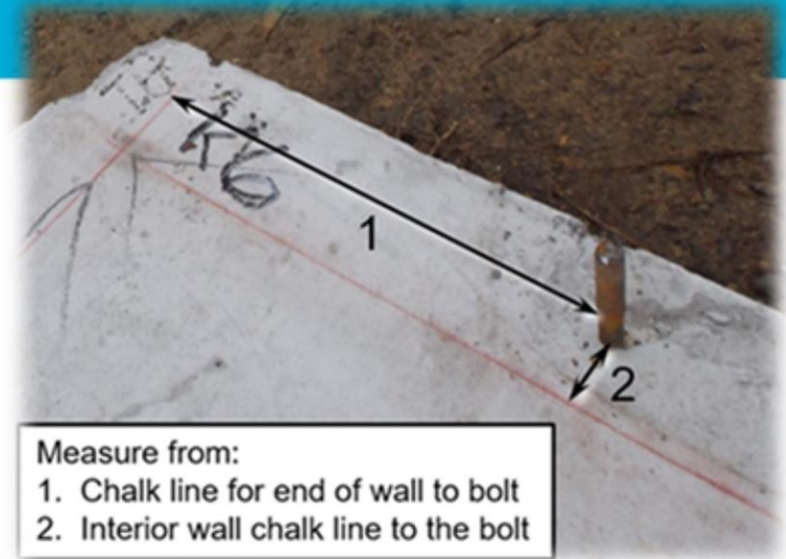
PRODUCED BY AN AUTODESK EDUCATIONAL PRODUCT

Common wall components



Anchor Bolts

- 🏠 Align wall
- 🏠 Measure for bolt location
- 🏠 Lay wall down



Anchor Bolts cont.

- 🏠 Drill hole with $\frac{3}{4}$ " bit
- 🏠 Add/replace Sill Seal
- 🏠 Lift wall onto bolt(s)
- 🏠 Lock in wall



Ramset (MUST be Certified)

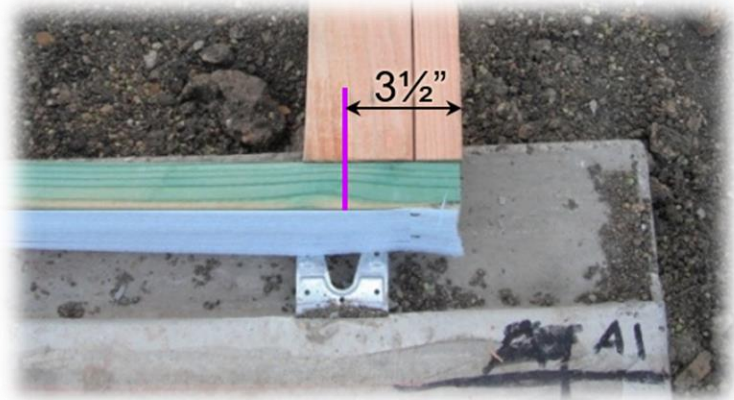
- 🏠 Walls should align on one line (stay consistent)
- 🏠 Exterior walls – set nail toward the inside edge of bottom plate
- 🏠 Place
 - 🏠 w/in 6in of each end of the wall
 - 🏠 Every 2nd bay or w/in 4ft of anchor bolt
- 🏠 Announce (loudly) “Noise!” prior to activating shot
 - 🏠 Ear plugs are mandatory
- 🏠 NEVER nail doorway



Standing Back Walls

🏠 Long wall

- 🏠 mark 3½in from end
- 🏠 Align mark to inside snap line of short wall
- 🏠 It's okay if the wall overhangs the slab



🏠 Squaring walls

- 🏠 Stand walls
- 🏠 Plumb walls w/ 8ft level
- 🏠 Brace w/ longest lumber necessary

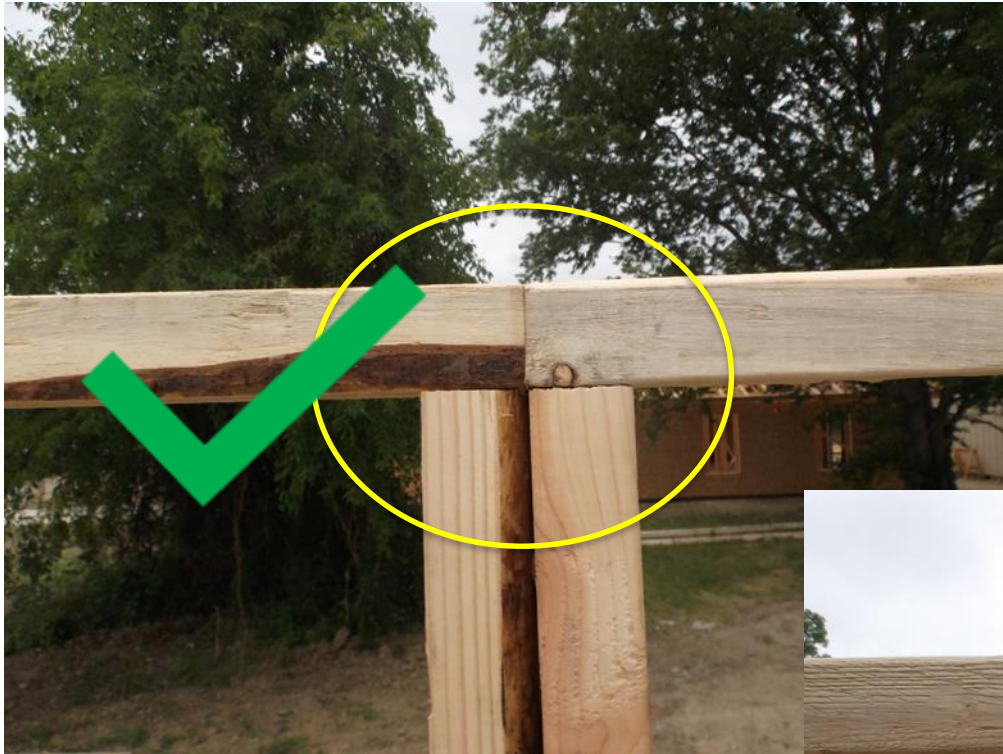


*plumb = perpendicular to ground

**Check level for accuracy at the beginning of the day

Standing walls (tips)

- 🏠 Green = BOTTOM
- 🏠 Use cleats to clamp walls together
- 🏠 Nail off all exterior walls
- 🏠 'Tack' interior walls to exterior walls and interior to interior walls
- 🏠 Be sure not to stand exterior walls too far ahead of interior wall → bracing
- 🏠 New short jacks



- **No gaps between plates!!**
- Be sure bottom plates and top plates are nailed securely to all studs.

- Check top plates are flush with each other

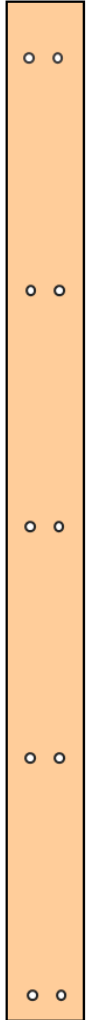




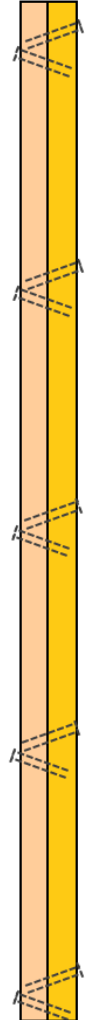
- **No gaps between plates!!**
- Be sure bottom plates and top plates are nailed securely to all studs.



Side View



Front View



Side View



Nailing Pattern



Cleats





- Corners need to be flush with each other
- Use clamp to close gap

****NEW** Short Jacks**

1.



2.



3.



4.



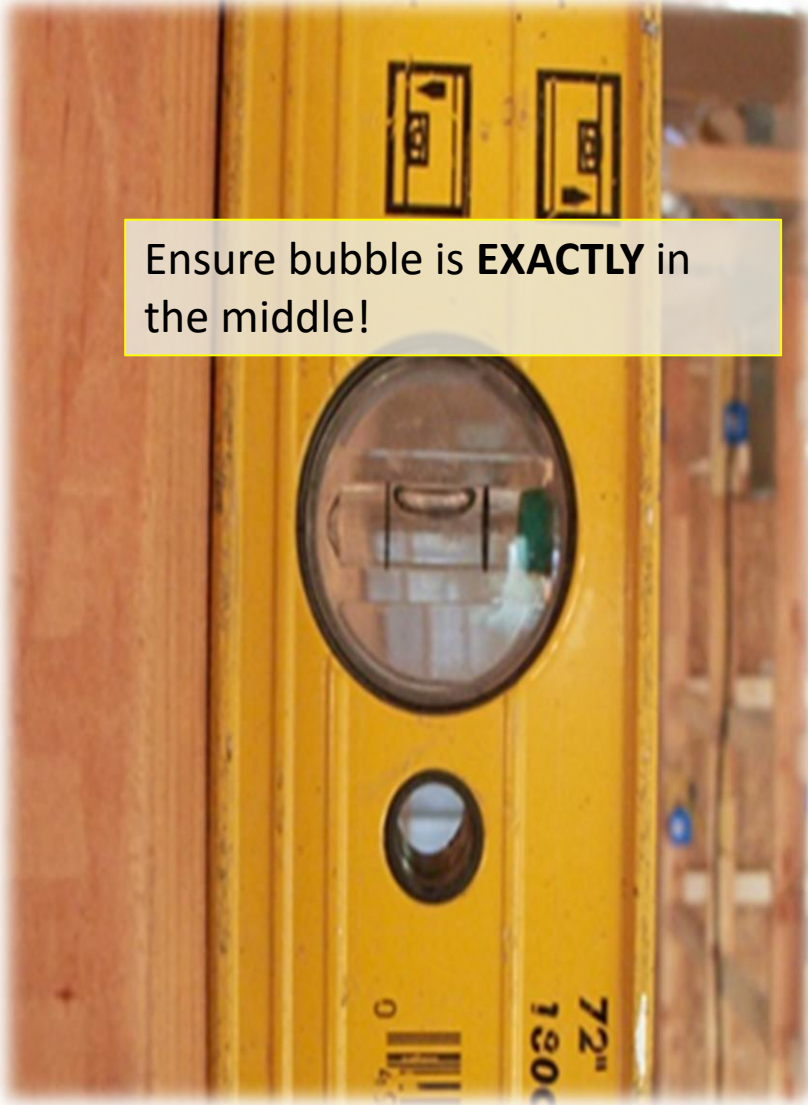
5.



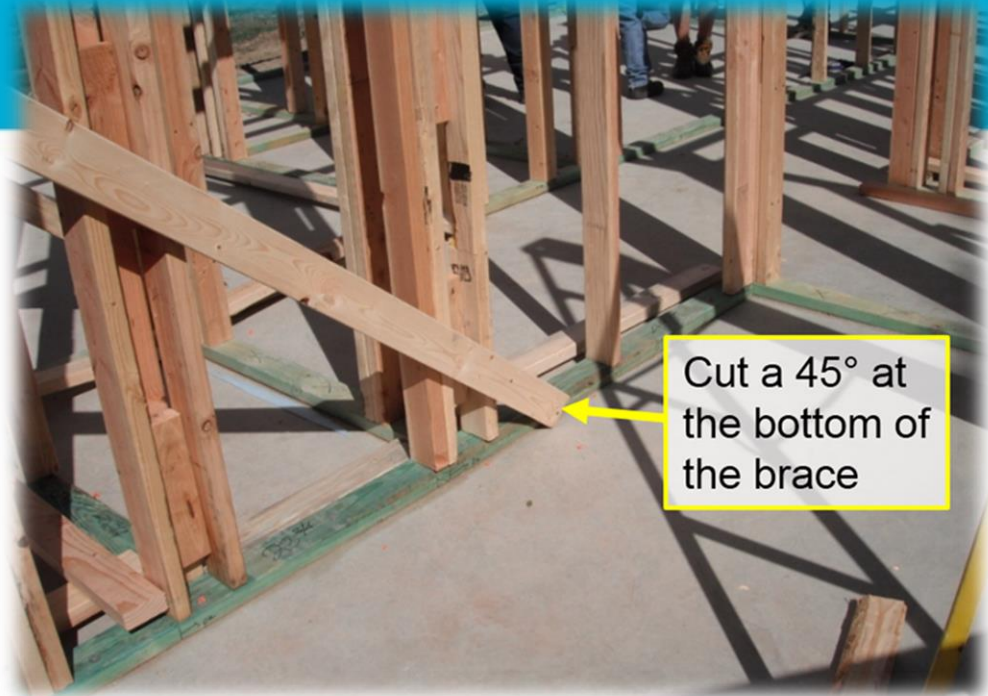
*Indicate somehow that door frame is shot and short jack is reinstalled and nailed-off

Plumbing/Bracing walls:

- 🏠 8' level only (verify accuracy before use)
- 🏠 Check for plumb using only top and bottom plates
- 🏠 Tack interior walls
 - 🏠 Use **ONLY** 2 12d-nails near each plate when tacking interior walls
- 🏠 Brace at points where exterior walls meet
- 🏠 Minimize use of anchor blocks/cleats
- 🏠 Never attach blocks on garage floor for bracing
- 🏠 **DO NOT** remove wall bracing until roof is 80% decked.



Ensure bubble is **EXACTLY** in the middle!



Polybarrier

- 🏠 Once all exterior are installed and braced
 - 🏠 Add 18" polybarrier to all exterior walls.
 - 🏠 Measure 16" from the bottom of plate and snap a line. Let the remaining plastic hang. (for siding walls)
 - 🏠 Measure 12" for brick walls
- 🏠 Cover exterior corners with 18" polybarrier.
 - 🏠 Crease corner with 2x4



Cut Plumbing Walls

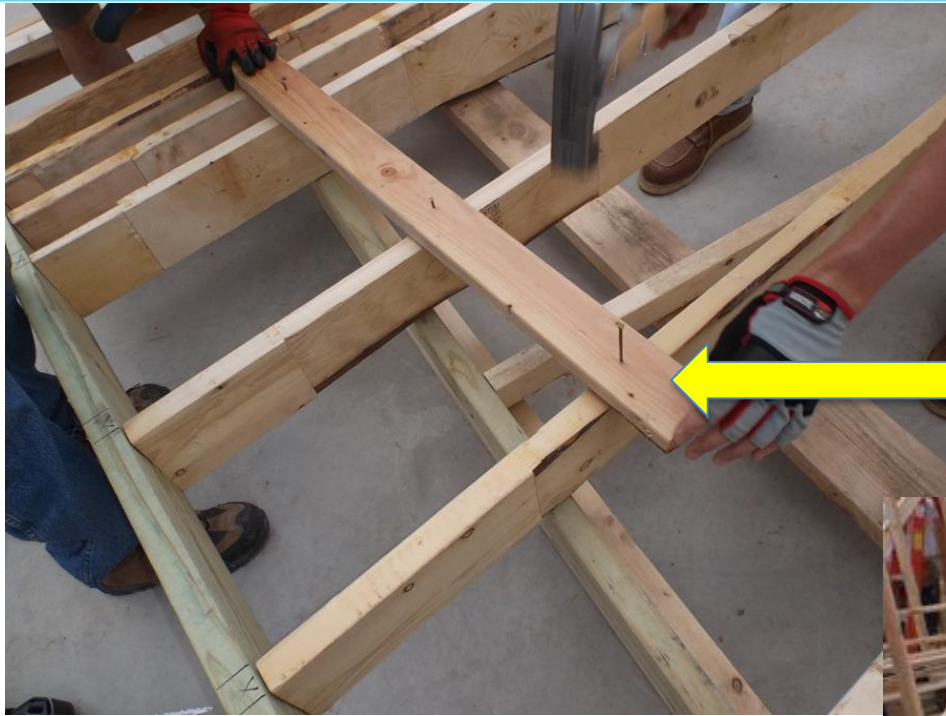
- 🏠 Accommodates kitchen/bathroom plumbing
- 🏠 Cut bottom plate(s) at appropriate locations
- 🏠 Bathtub
 - 🏠 Must be 60" minimum



- Mark plumbing location to be cut

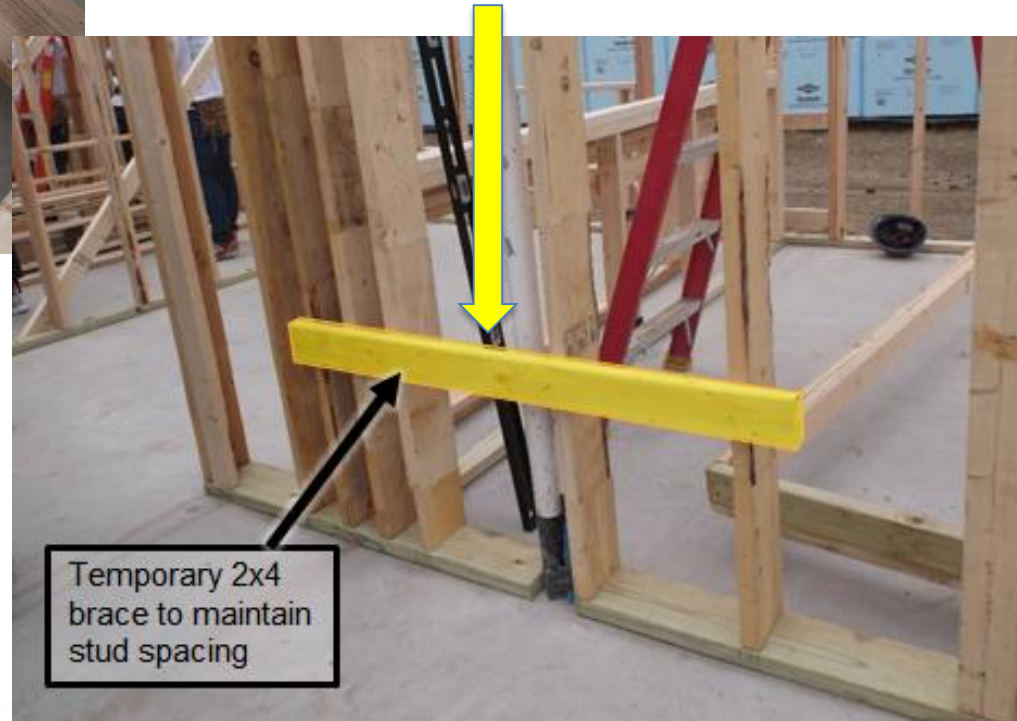
- Measure from one end of the wall
- Transfer measurement to plate





- Move stud(s) if necessary
- Add a horizontal brace with scrap 2x4

- Support wall under location of cut(s)





Stringing Walls

- 🏠 Straightens all exterior walls
- 🏠 Aids in properly aligning trusses
- 🏠 Telegraphs directly to siding



- Minimum 3 nails to anchor 2x4 post

- 2x4 on outer corner
- String taut, outside edge of 2x4
- Line is 1½ - 2in above top plate



- Only use straight 2x4's for checking against string



- 🏠 Brace where 2 exterior walls meet
- 🏠 Avoid over-bracing
- 🏠 However brace wherever necessary

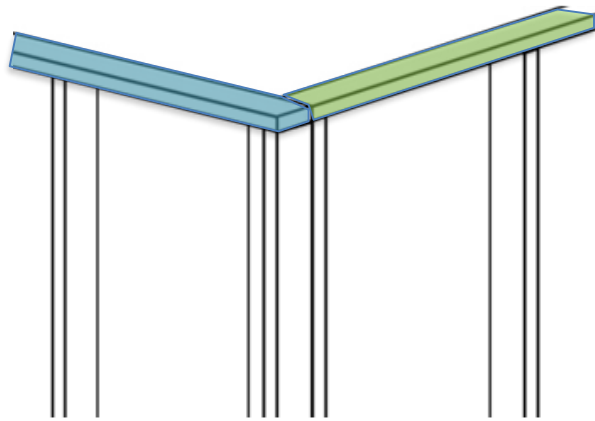


Stringing walls cont.

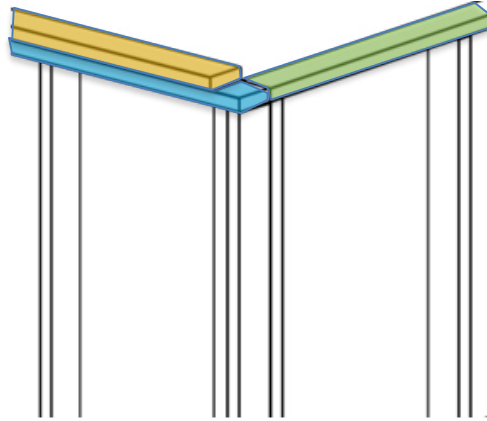
- 🏠 After stringing and bracing walls, plumb all interior walls with 8' level and nail off
 - 🏠 Center of bubble is essential
 - 🏠 Only check level against top and bottom plate

Cap plate

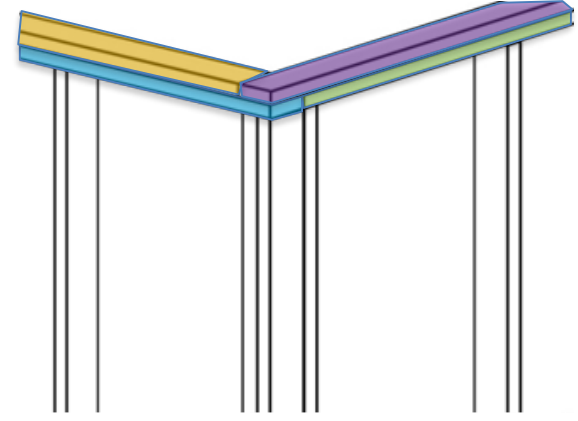
- 🏠 Cap plate only when walls are plumb, strung, and nailed off
- 🏠 Measure using bottom plates
 - 🏠 Mark measurements on bottom plate and cap plate
- 🏠 “Walk” cap plate (work from one end to the next)
- 🏠 Overlap at least 4’ from where walls join/intersect
- 🏠 2 nails over every stud
- 🏠 5 nails on intersecting walls



Without Cap Plate



With First Piece

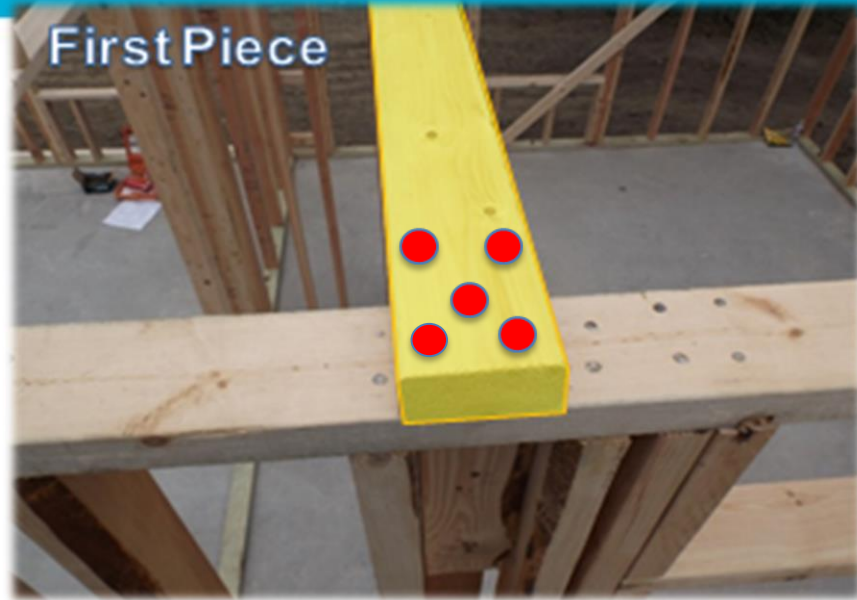


With Both Pieces

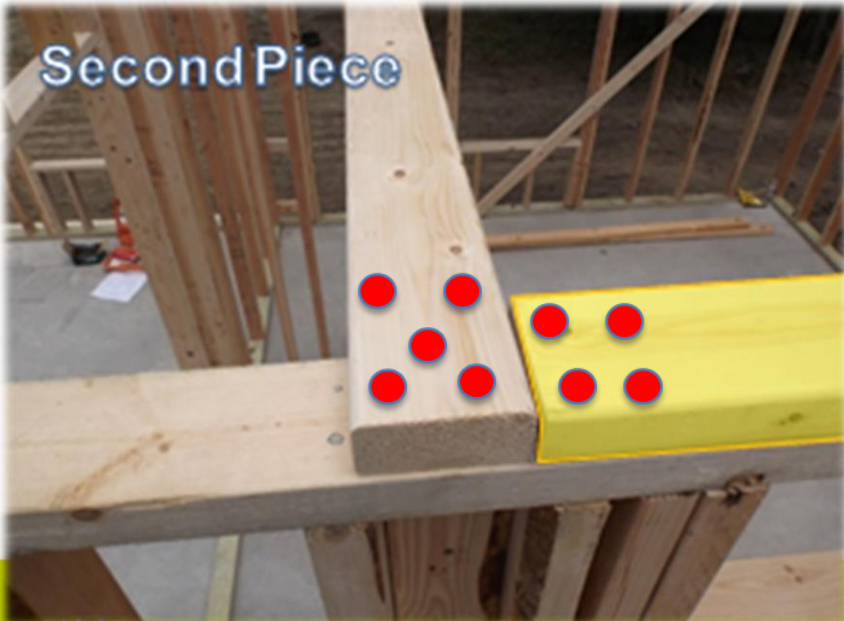
No Cap Plate



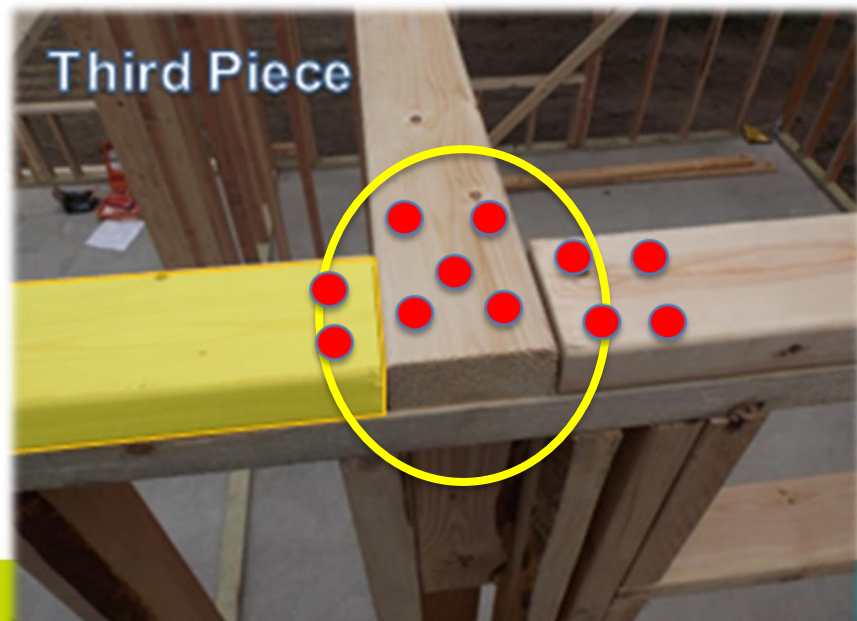
First Piece



Second Piece



Third Piece

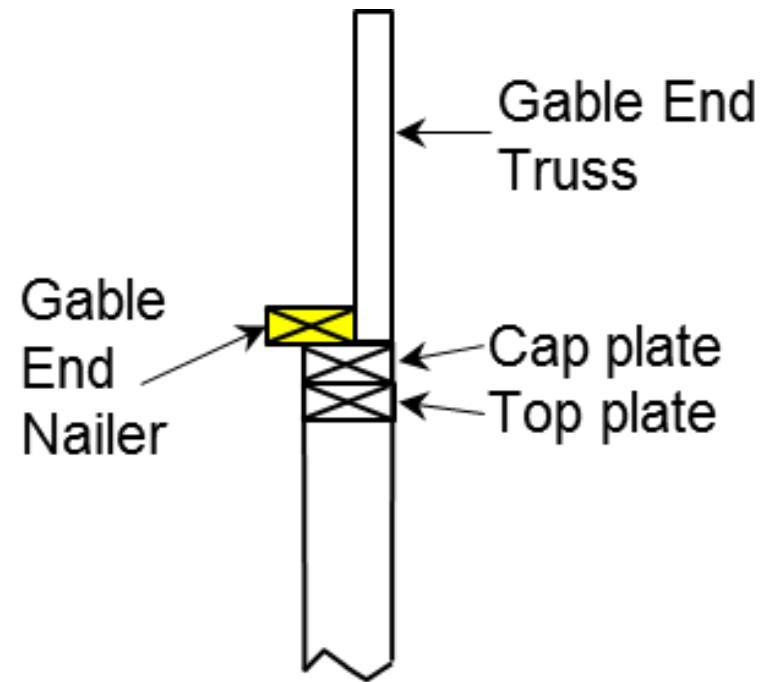


Temporary Truss Support

- 🏠 Located in the front of the house where there is a dearth of interior walls
- 🏠 Use wall pallet to make temporary wall
- 🏠 **Move into house before last exterior wall is stood**
- 🏠 Adjust to fit space
- 🏠 Nail securely to other walls
- 🏠 **DO NOT** attach to slab



Gable End Nailers/Truss Nailers



Side View

Questions?