

Chapter 30: Endwall Shear Walls

Most Common Mistakes:

1. Installing doors or windows in shear walls.
2. Failure to follow the step-by-step instructions.
3. Corner columns not plumb before osb is placed.
4. Not planning osb use to minimize waste.

These will be denoted on building plans as “Endwall Shear DTL16” and is most usually found on Page S-4.

Unless building has a large height-to-width ratio, many endwall doors, or is in a high wind load, it usually will NOT have shear walls required.



IMPORTANT: Doors and/or windows **CANNOT** be installed in an Endwall Shear wall. Doing so can and will compromise building's structural integrity. This could lead to catastrophic building failure and could result in injuries or death.

Step 1 Install girts:

Following along with typical flat girt installation, install girts across shear wall locations in the flat (barn style) position. See **Figure 30-1** which is the same as **Dtl 16** on building plans.

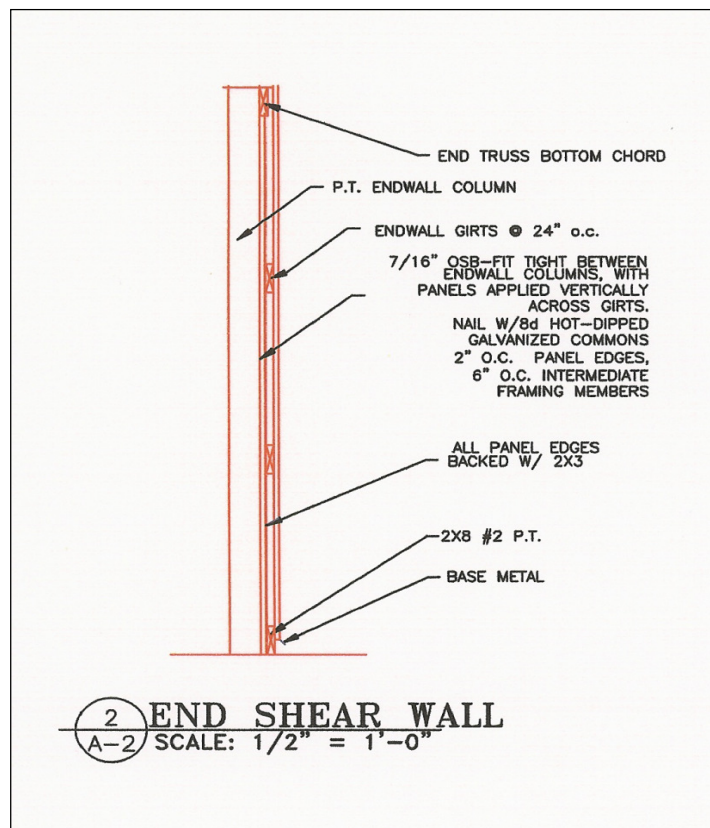


Figure 30-1

Spacing in BETWEEN these girts is typically 20-1/2" for 2x4 girts, or 18-1/2" for 2x6 girts - both result in girts at 24" o.c.

However, in high wind areas or wide bays they may end up closer together. Consult **building plans** for specific measurements.

For top most girt, lower end truss bottom chord siding backing so 1-3/4" is below bottom chord. Fasten siding backing to bottom chord in shear wall area with 10d nails at 6" on center. See **Figure 30-2**

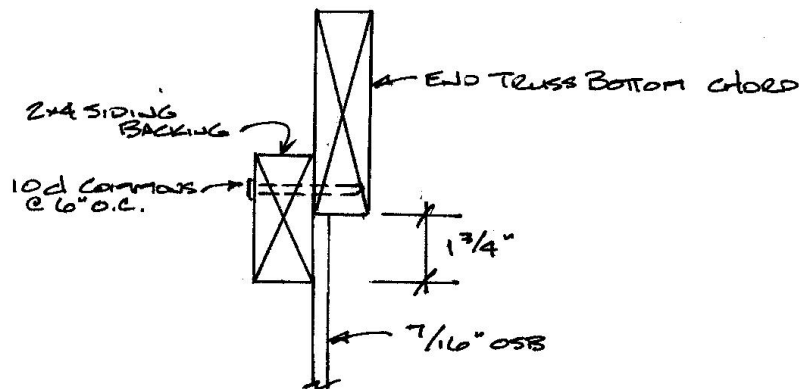


Figure 30-2

Step 2: Install blocking:

After girt installation, 2x3 (or 2x4) blocking is nailed vertically to the column face at shear wall edges. See **Figure 30 - 3**.

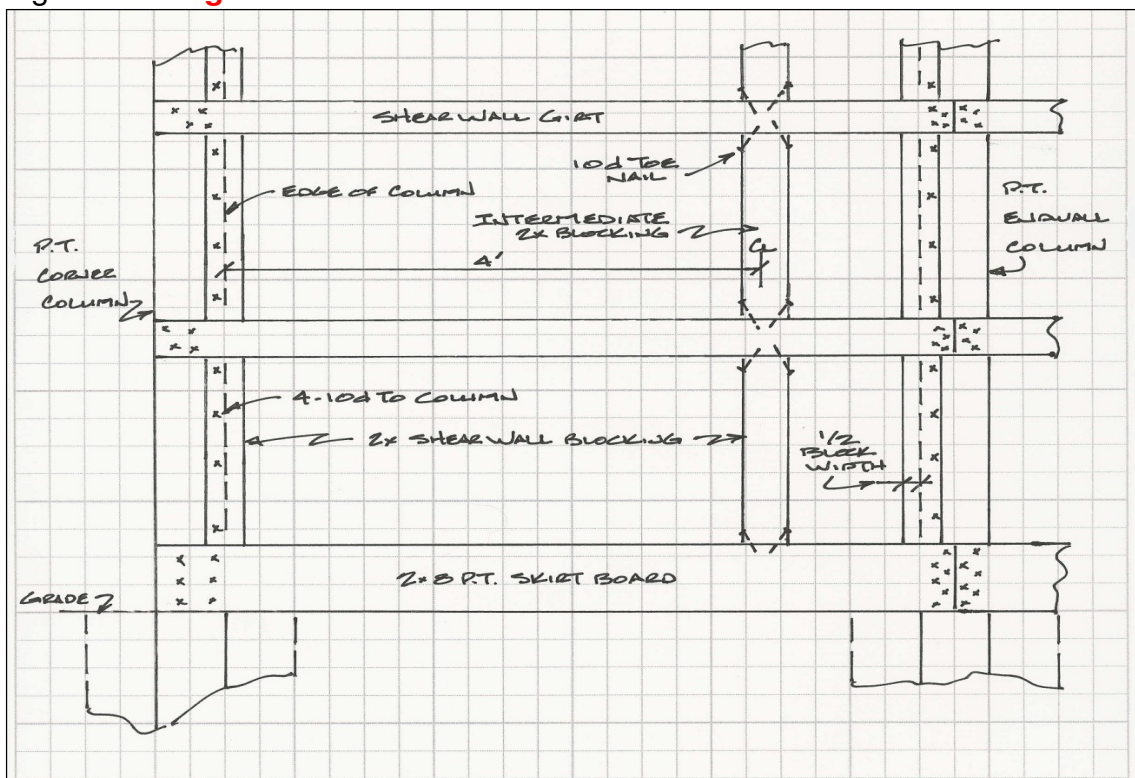


Figure 30-3

This blocking will be installed half on column and the other half **off column**.

If shear wall area is greater than 4' in width, install intermediate blocking vertically between shearwall girts, 4' o.c.

STOP **IMPORTANT:** Before going further confirm corner column is plumb in direction of endwall. See **Figure 30-4**.

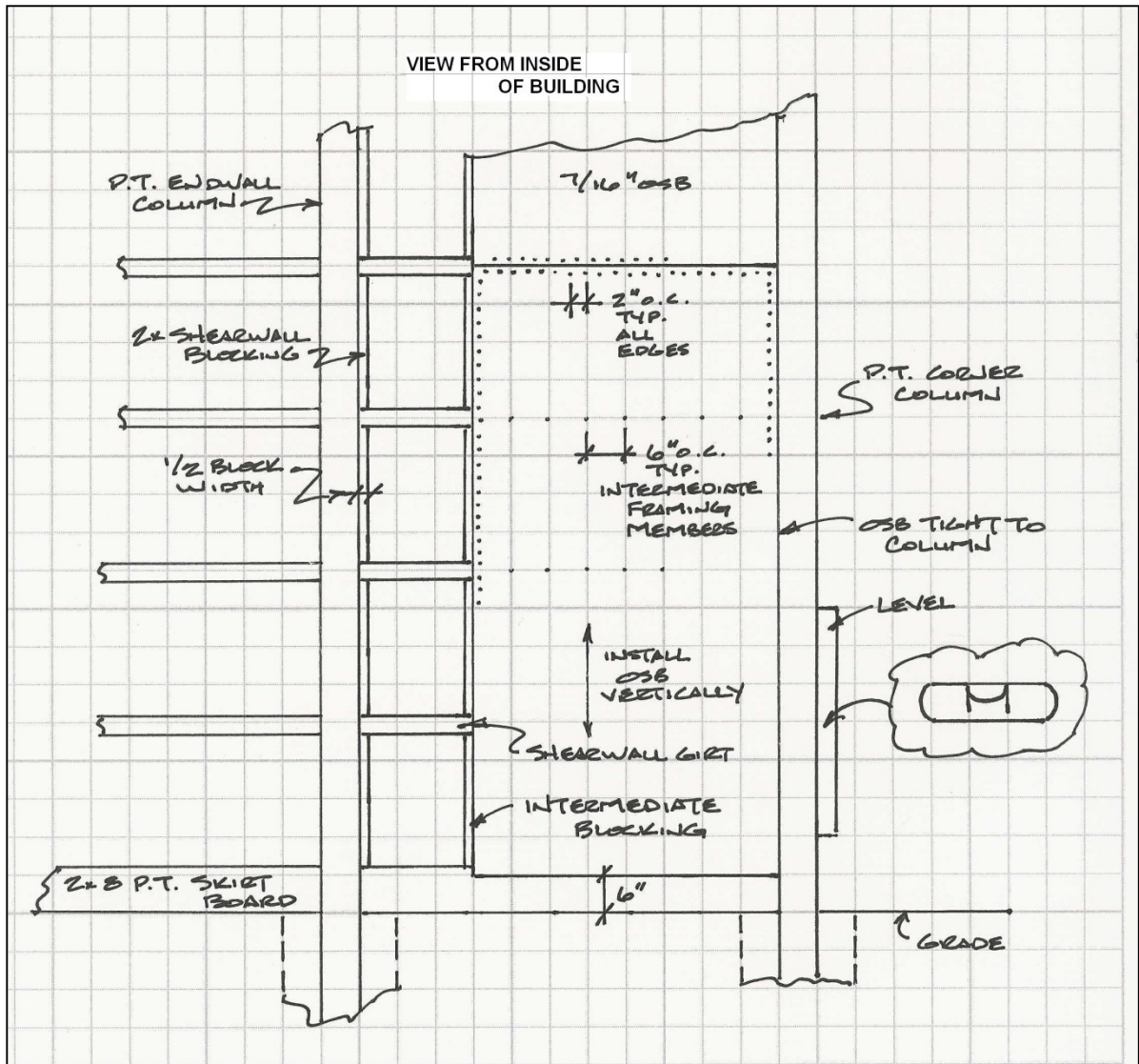


Figure 30-4

Step 3: Install osb:

From building **INSIDE** building, install first sheet of shear wall 7/16" OSB. If space between corner column and next endwall column is less than 4', rip OSB lengthwise, to distance between columns, so OSB panel will fit tightly between columns.

OSB bottom edge is six inches above bottom of skirt board. Nail OSB to girt insides with 8d hot dipped galvanized common nails. Install nails at a slight angle (so they do not protrude through shearwall girt exterior sides) or bend nail tips on exterior.

Nails are placed at 2" o.c. along all panel edges and 6" o.c. across intermediate girts, and no closer than 3/4" from panel edge. Where panels abut, stagger nails from adjacent OSB sheets.

OSB sheet top edge(s) extend tight to end truss bottom chord, or endwall rafter.

If building does have commercial girts, and space between columns is greater than 24" build a non-structural vertical studded wall to fit between columns. **See Figure 30-5**

To determine stud length, measure from future concrete floor top to truss bottoms and subtract 3".

Cut a 2x4 pressure treated and a non-treated 2x4 to the measurement of space between columns. These will become bottom and top plates, respectively, for stud wall.

Place studs at 24" o.c., and nail through plates into stud ends with (2) 10d commons. There will be no stud against columns at each wall end, as it is non-load bearing.

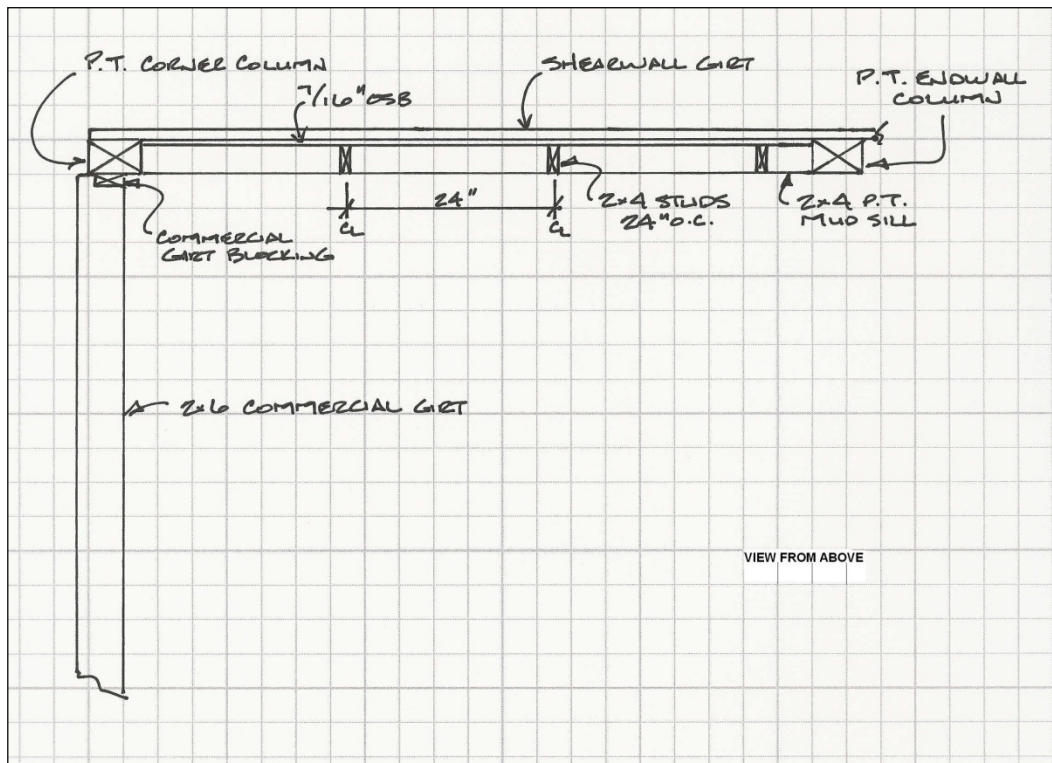


Figure 30-5