

**ADVANCED
FRAMING
MAKES \$ENSE**

ADVANCED FRAMING

A.K.A.

O.V.E. - OPTIMUM VALUE ENGINEERING

A.K.A.

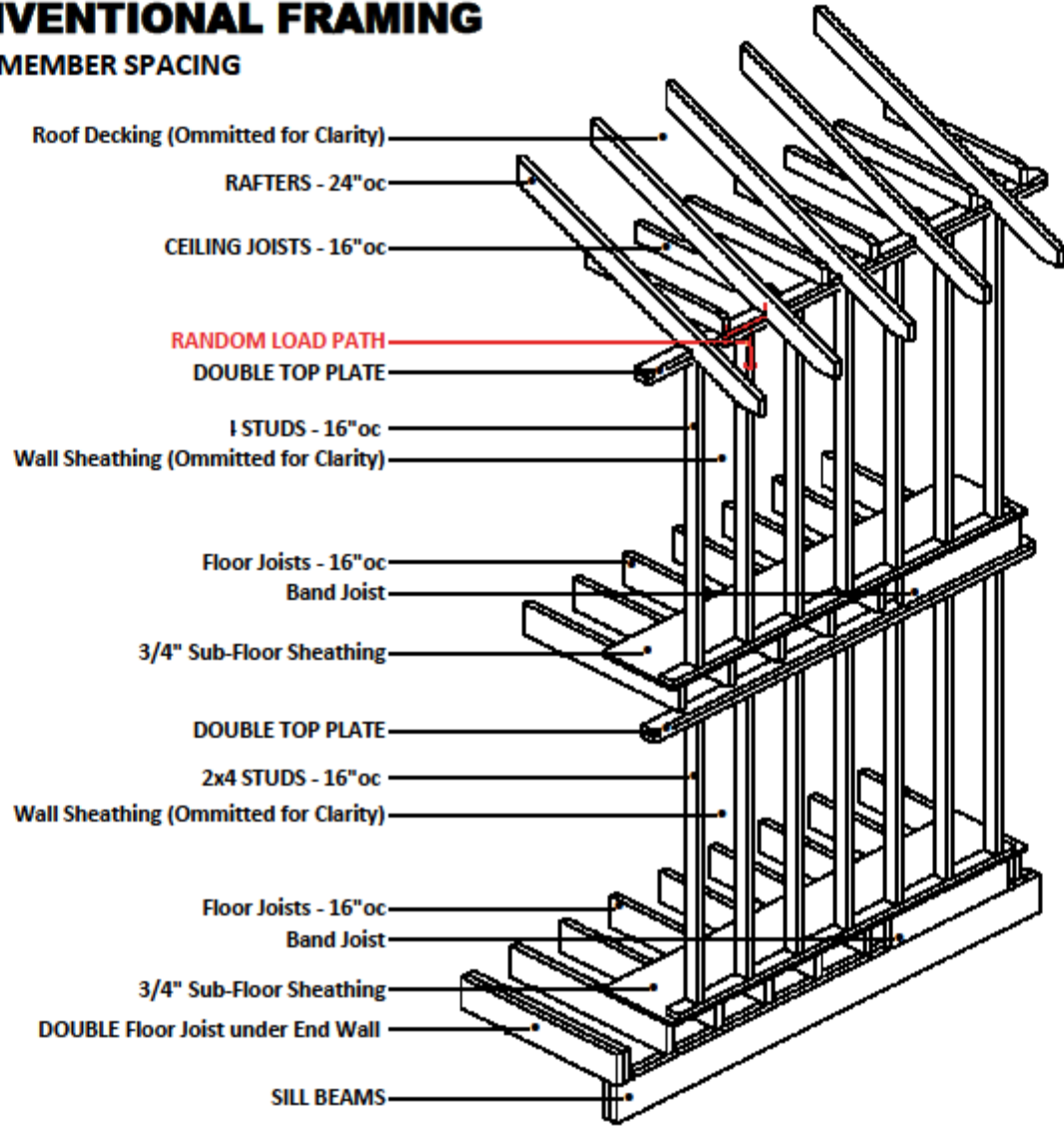
IN-LINE FRAMING

A.K.A.

STACKED FRAMING

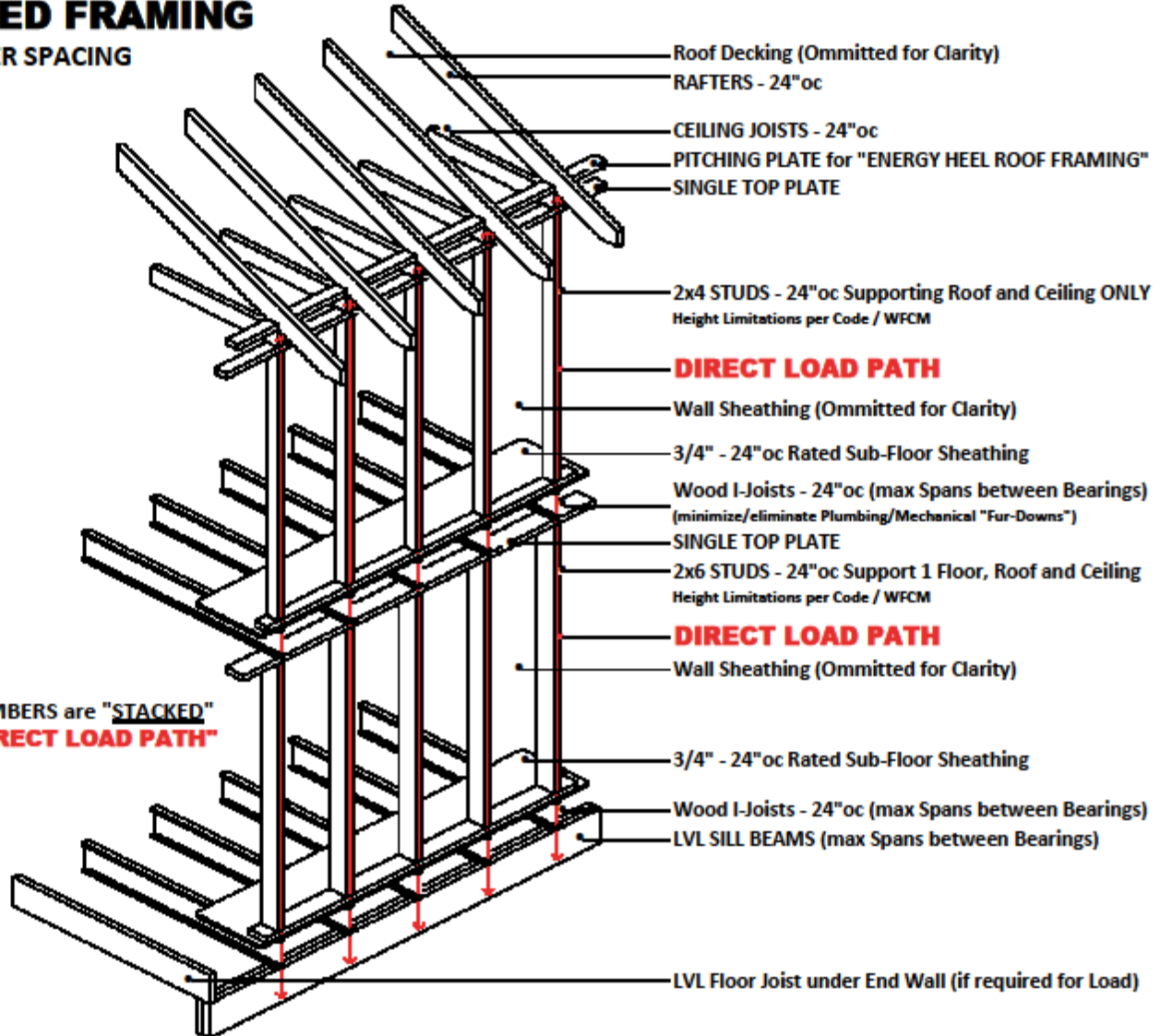
CONVENTIONAL FRAMING

16" oc MEMBER SPACING



ADVANCED FRAMING

24" oc MEMBER SPACING

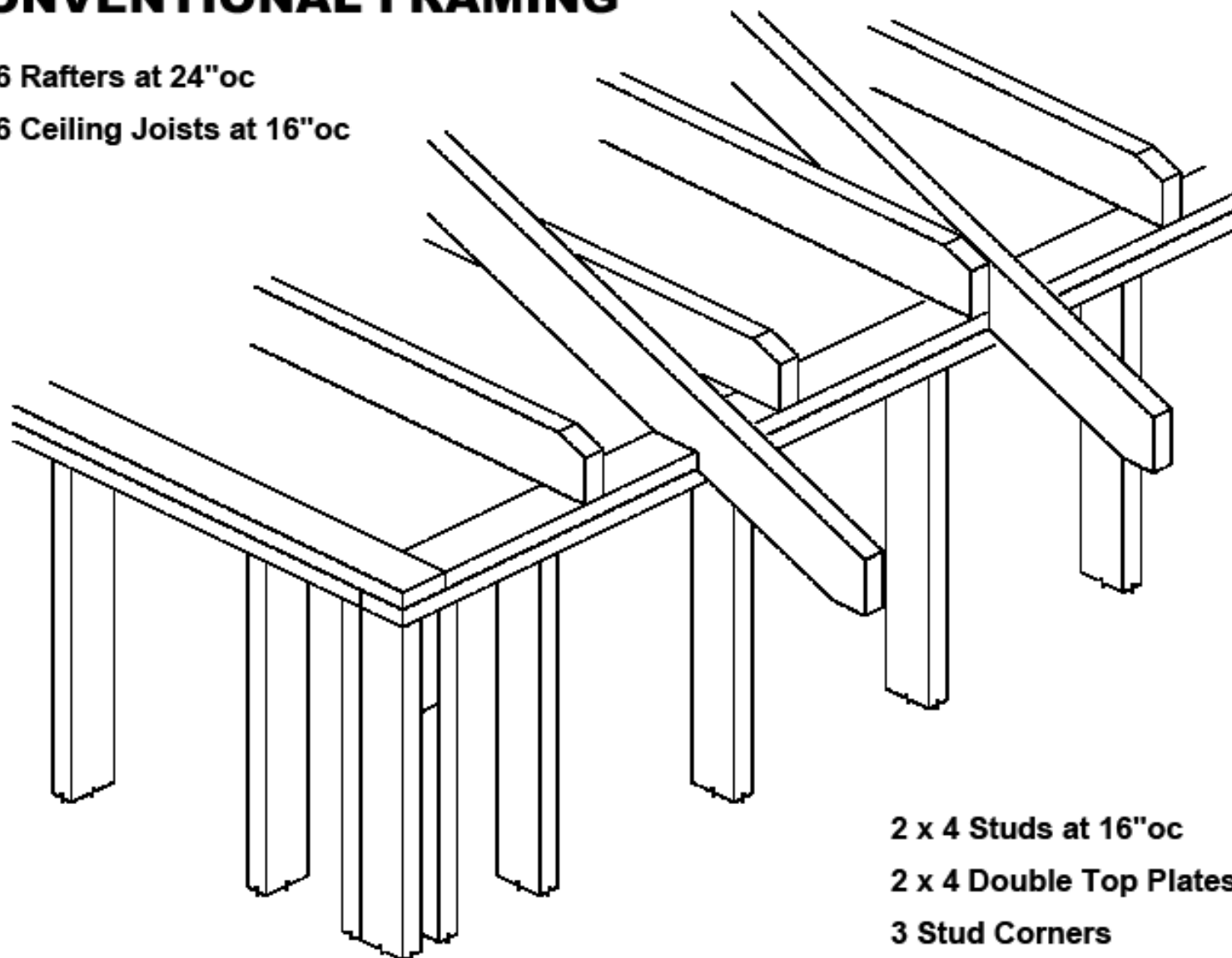


FRAMING MEMBERS are "STACKED"
Creating a "DIRECT LOAD PATH"

CONVENTIONAL FRAMING

2 x 6 Rafters at 24"oc

2 x 6 Ceiling Joists at 16"oc



2 x 4 Studs at 16"oc

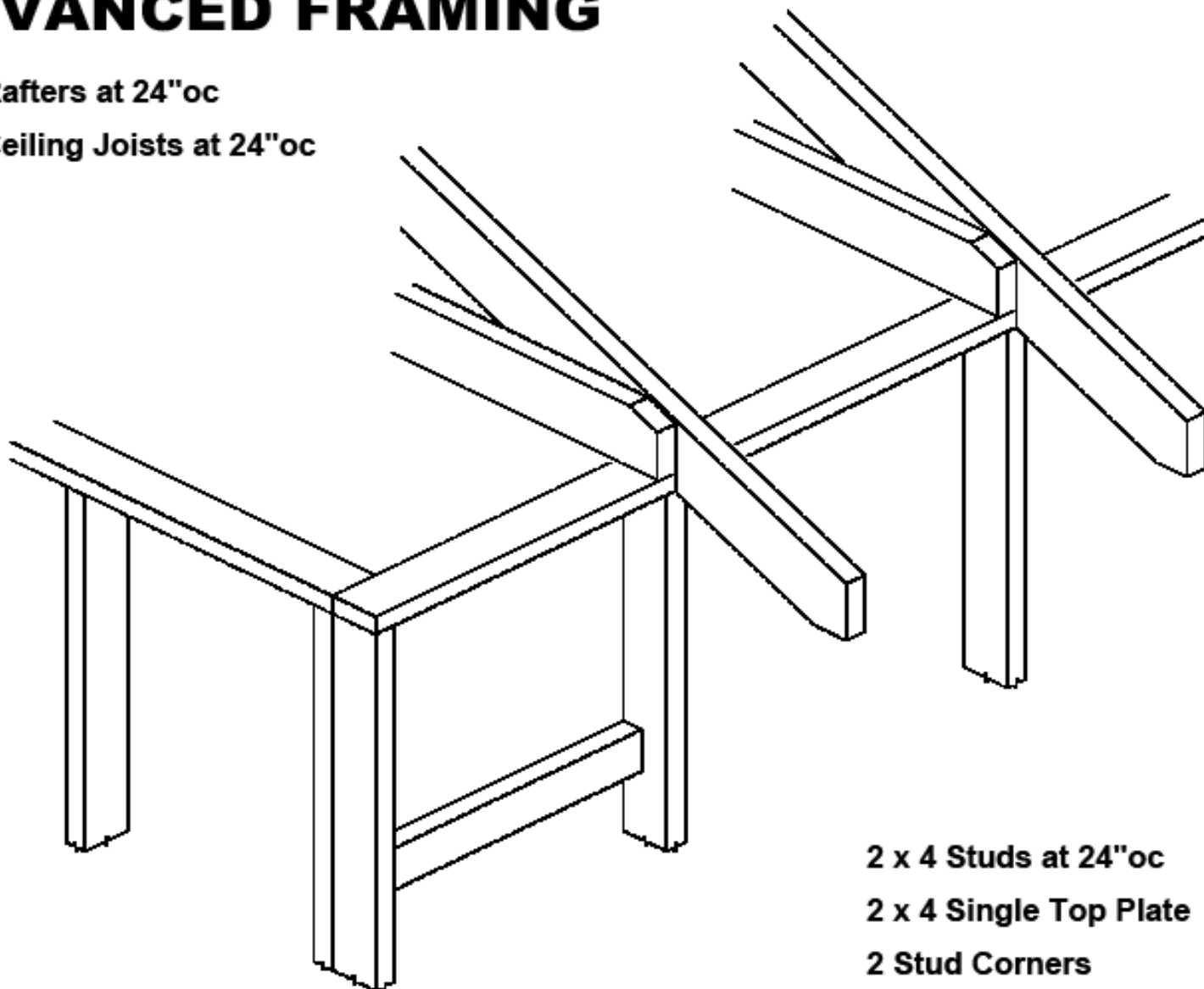
2 x 4 Double Top Plates

3 Stud Corners

ADVANCED FRAMING

2 x 6 Rafters at 24"oc

2 x 6 Ceiling Joists at 24"oc



2 x 4 Studs at 24"oc

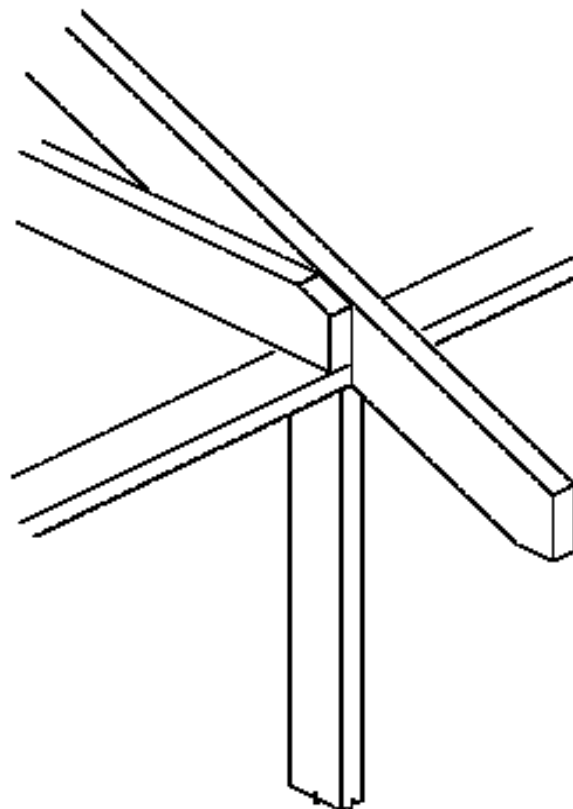
2 x 4 Single Top Plate

2 Stud Corners

ADVANCED FRAMING

STRONGER - "DIRECT LOAD PATH"

**Framing Members are
"Stacked" above
Members Below,
providing a
"DIRECT LOAD PATH"**



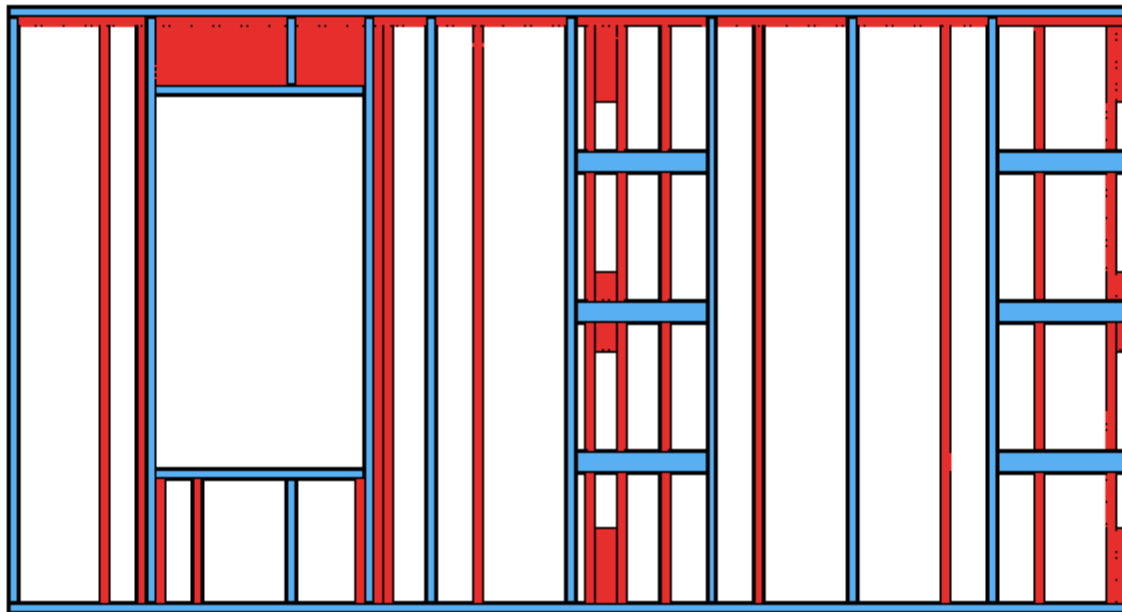
WALL FRAME OVER-LAY COMPARISON

ADVANCED FRAMING

2x4 Studs at 24" oc, Single Top Plate, 2 Stud Corner, Ladder Junctions, **Wood Structural Panel Header**, Single Studs at Sides of Opening, Redundant Cripple Studs Omitted

CONVENTIONAL FRAMING

2x4 Studs at 16" oc, Double Top Plate, 3-Stud Corner with Blocking, 2-Stud 'T' Junction with Blocking, Double 2x12 Header bearing on Jack Studs, Redundant Cripple Studs at ends of Window Sill Plate



83.33 BdFt Lumber **ADVANCE FRAMED** with W.S.P. HEADER

152.00 BdFt Lumber **CONVENTIONALLY FRAMED**

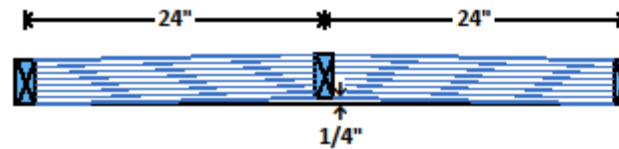
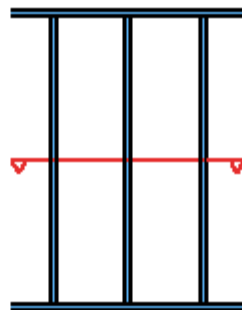
68.67 BdFt Lumber REDUCTION = 45% REDUCTION

ADVANCED FRAMING QUALITY

Where the measurement of how Straight a Wall Frame at mid-height is expressed as a ratio of : Deviation From Straight / 2 Stud Spacings
Walls built with 24"oc Stud Spacing are **ALWAYS** Straighter than Walls built with 16"oc Stud Spacing (where the same Studs would be used)

Illustrations below assume a Straight Stud installed each side of a Stud with 1/4" Crown. Top and Sole Plates assumed Straight.

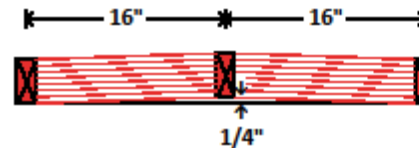
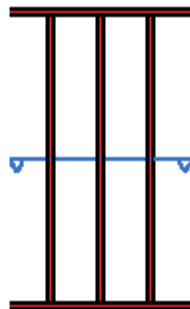
Walls built with 24"oc Stud Spacing



1/4" Deviation From Straight / 2 Stud Spacings at 24"oc (48")

$$\text{Deviation From Straight} = L/192$$

Walls built with 16"oc Stud Spacing



1/4" Deviation From Straight / 2 Stud Spacings at 16"oc (32")

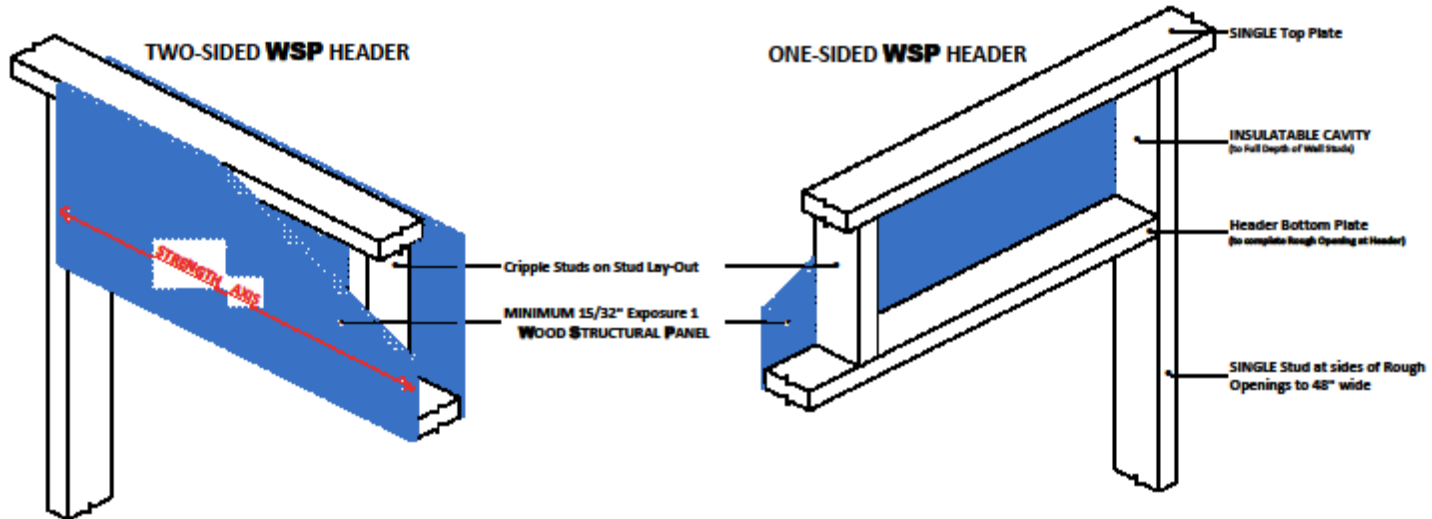
$$\text{Deviation From Straight} = L/128$$

Walls built with 24"oc Stud Spacing are **50% Straighter than** Walls built with 16"oc Stud Spacing *

* Measured over 2 Common Stud Spacings where the same Studs would be used.

ADVANCED FRAMING

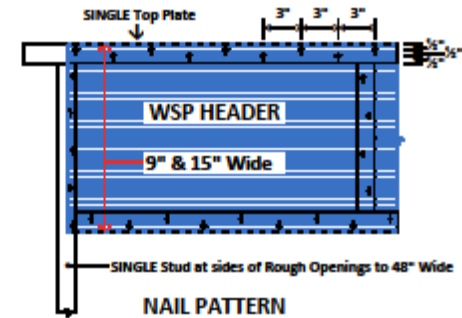
WOOD STRUCTURAL PANEL HEADER



IRC 2009 - Table R602.7.2
 MAXIMUM SPANS FOR WOOD STRUCTURAL PANEL BOX HEADERS

HEADER CONSTRUCTION	HEADER DEPTH (inches)	HOUSE DEPTH (feet)				
		24'	26'	28'	30'	32'
WOOD STRUCTURAL PANEL	9"	4'	4'	3'	3'	--
ONE SIDE ONLY	15"	5'	5'	4'	3'	3'
WOOD STRUCTURAL PANEL	9"	7'	5'	5'	4'	3'
BOTH SIDES	15"	8'	8'	7'	7'	6'

Spans based on Single Story with Clear Span Trussed Roof OR Two Story with Floor and Roof supported by Interior Bearing Walls

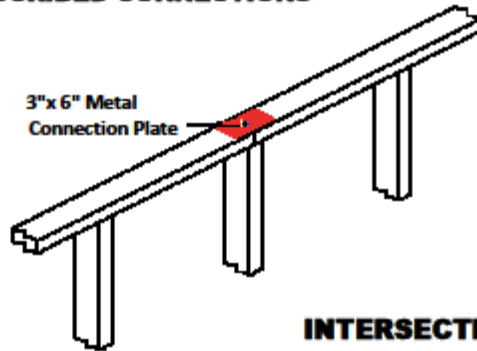


ADVANCED FRAMING

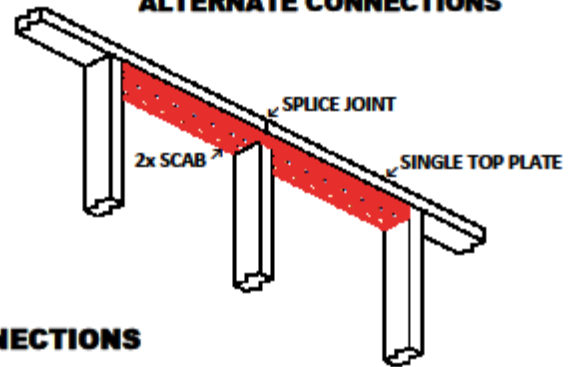
WALL CONNECTION SOLUTIONS

LONGITUDINAL TOP PLATE SPLICE

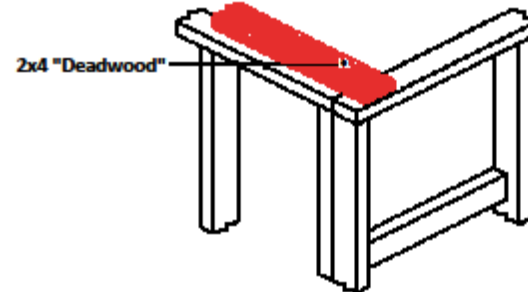
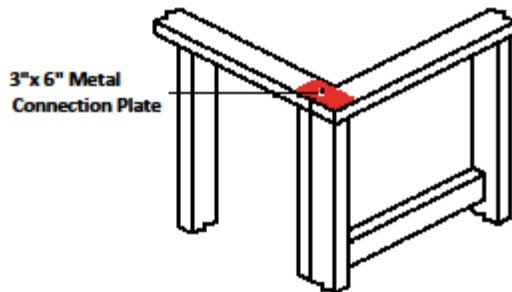
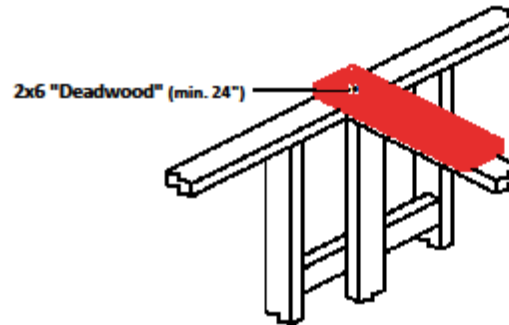
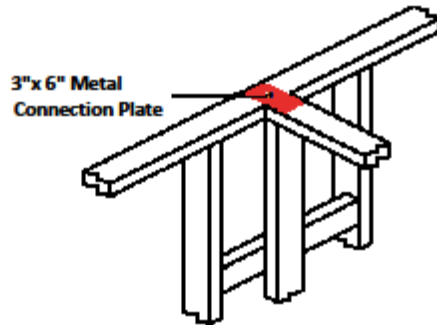
PRESCRIBED CONNECTIONS



ALTERNATE CONNECTIONS



INTERSECTING WALL CONNECTIONS



CONVENTIONAL FRAMING

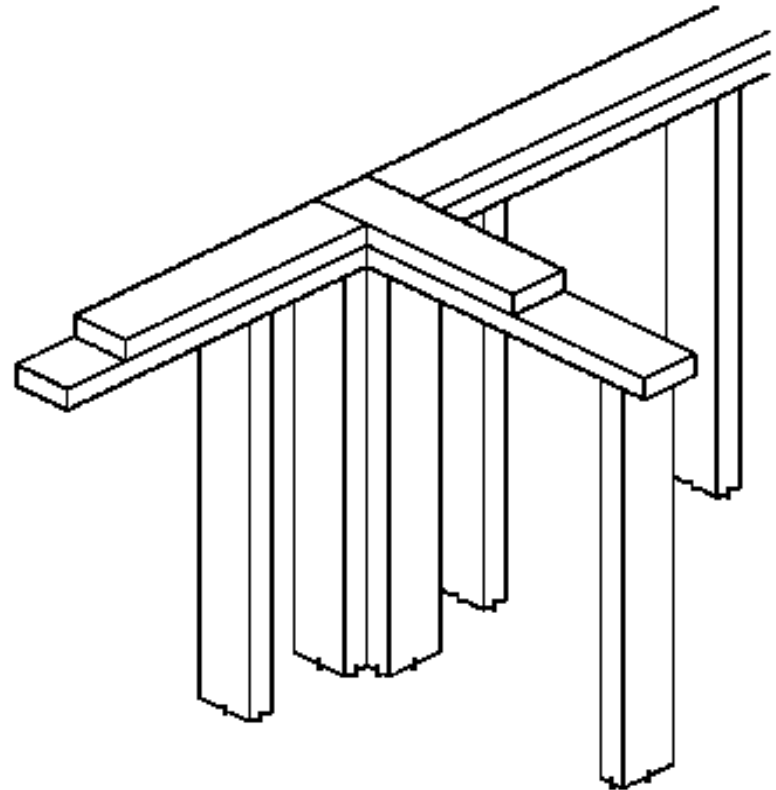
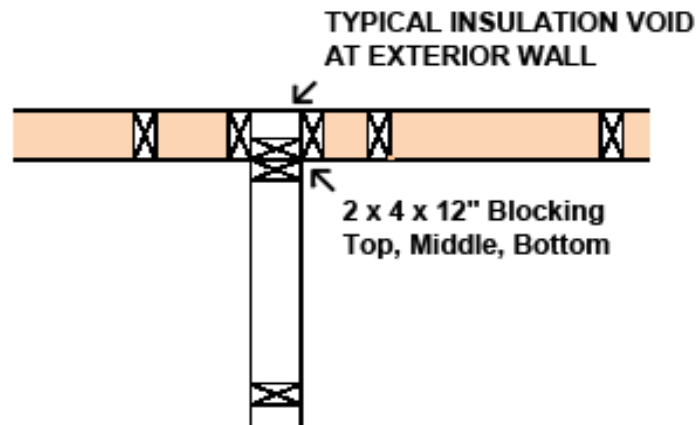
TYPICAL WALL JUNCTION

2 x 4 Studs at 16"oc

2 x 4 Double Top Plates

2 x 4 Studs at each side of Junction

PLAN VIEW



ADVANCED FRAMING

WALL JUNCTION "LADDER"

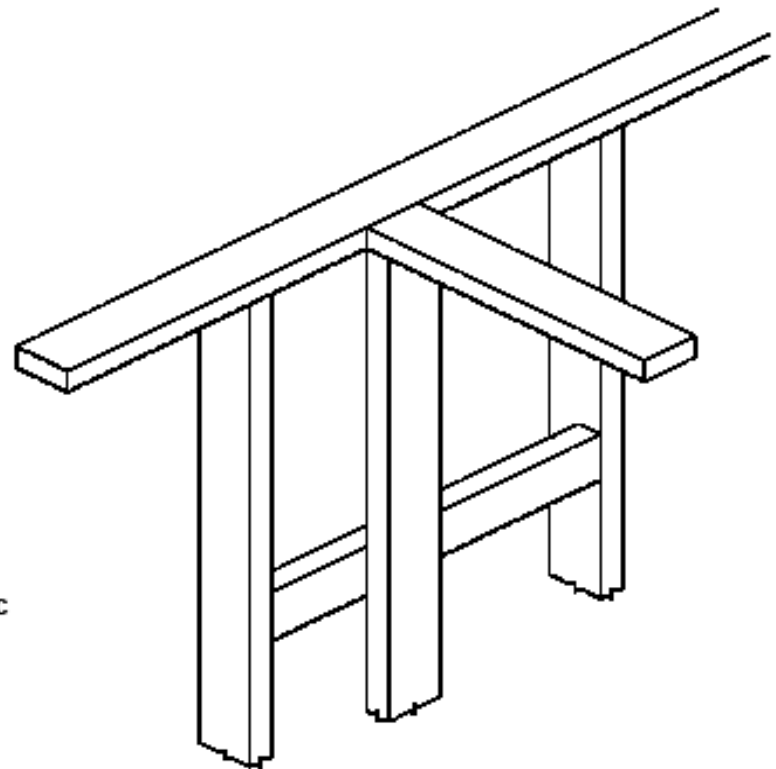
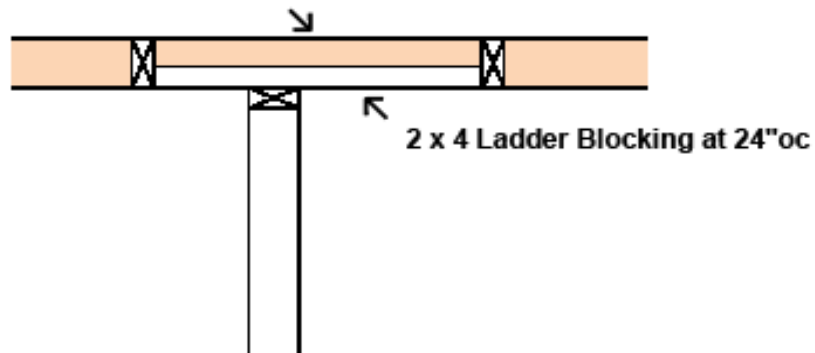
2 x 4 Studs at 24"oc

2 x 4 Single Top Plates

2 x 4 "Ladder" Blocking at 24"oc

PLAN VIEW

GREATER INSULATION POTENTIAL
AT EXTERIOR WALL



ADVANCED FRAMING

MORE ENERGY EFFICIENT

COMBINED CAVITY & FRAMED WALL VALUES

FRAMING	INSULATION	NOMINAL CAVITY R-VALUE	WOOD FRAMED "WHOLE-WALL" R-VALUE
2x4 at 16"oc	FIBERGLASS BATT	R - 11	R - 9.16
		R - 13	R - 10.36
		R - 15	R - 11.47
2x4 at 24"oc	FIBERGLASS BATT	R - 11	R - 9.70 + 5.90%
		R - 13	R - 11.11 + 7.24%
		R - 15	R - 12.44 + 8.46%

Tabulated Values above from www.foam-tech.com/theory/whole_wall_rvalue.htm

Reducing the number of Framing Members Reduces Thermal Bridging and increases the Insulatable Area of Floors, Walls & Ceilings

ADVANCED FRAMING

MORE COST EFFICIENT

TYPICAL REDUCTION OF FRAMING LUMBER

25 ~ 30%

ADVANCED FRAMING IS THE ONLY

GREEN BUILDING METHOD TO

REDUCE CONSTRUCTION COST

**ADVANCED
FRAMING
MAKES \$ENSE**