SW16x7HD AND SW22x7
ALLOWABLE HOLE LOCATIONS

(1) - 1" (MAX) DIA. HOLE MAY BE DRILLED THROUGH THE CL. OF THE TOP PLATES WITHIN THIS ZONE

(1) - 1/2" DIA. HOLE THROUGH CL. OF BLOCKING

(1) - 7/8" (MAX) DIA. HOLE MAY BE DRILLED IN THE CL. OF THE OSB/PLYWD. WITHIN THE LOCATION SHOWN

1" (MAX) DIA. HOLE THROUGH CL. OF POST (1-HOLE ALLOWED PER POST AT OR ABOVE THIS LEVEL)

NO HOLES ALLOWED BELOW THIS LEVEL THROUGH THE VERTICAL FRAMING

TOP OF HOLDOWN

14"

2'-6"

12" MIN.

11"

SHEATHING

EQ. EQ.
(1)-1" (MAX) DIA. HOLE MAY BE DRILLED THROUGH THE CENTER OF THE TOP PLATES WITHIN THIS ZONE.

(1)-7/8" (MAX) DIA. HOLE MAY BE DRILLED IN THE CENTER OF THE OSB/PLYWD. WITHIN THE LOCATION SHOWN.

(1) - 1" (MAX) DIA. HOLE THROUGH CENTER OF POST (1-HOLE ALLOWED PER POST AT OR ABOVE THIS LEVEL).

SIDE-SEE DET. 34/SWP-1

NO HOLES ALLOWED BELOW THIS LEVEL IN THE VERTICAL FRAMING.
(1) 1” (MAX) DIA. HOLE MAY BE DRILLED THROUGH THE CL. OF THE TOP PLATES WITHIN THIS ZONE

(1) 1” (MAX) DIA. HOLE THROUGH CL. OF BLOCKING

1” (MAX) DIA. HOLE THROUGH CL. OF POST (1-HOLE ALLOWED PER POST AT OR ABOVE THIS LEVEL)

ONE CUT OUT IN THE OSB/PLYWD. UP TO 4” (MAX) SQUARE MAY BE LOCATED WITHIN ONE OF THESE ZONES

MODEL SW24

ALLOWABLE HOLE LOCATIONS
MODEL SW32

ALLOWABLE HOLE LOCATIONS

(1) - 1" (MAX) DIA. HOLE THROUGH CL. OF POST (1-HOLE ALLOWED PER POST AT OR ABOVE THIS LEVEL)

1" (MAX) DIA. HOLE THROUGH CL. OF BLOCKING

ONE CUT OUT IN THE OSB/PLYWD. UP TO 4" (MAX) SQUARE MAY BE LOCATED WITHIN ONE OF THESE ZONES

(1) - 1" (MAX) DIA. HOLE MAY BE DRILLED THROUGH THE CL. OF THE TOP PLATES WITHIN THESE ZONES

TOP OF HOLDOWN

TYP. ALL MODELS

12" MIN. TYP. ALL MODELS

NO HOLES ALLOWED BELOW THIS LEVEL

TYP. ALL MODELS

14"

TYP. ALL MODELS

14"

TOP OF HOLDOWN

TYP. ALL MODELS

14"

TYP. ALL MODELS

14"

TYP. ALL MODELS

14"
MODEL SW48

ALLOWABLE HOLE LOCATIONS

1) -1" (MAX) DIA. HOLE MAY BE DRILLED THROUGH THE CL. OF THE TOP PLATES WITHIN THIS ZONE

1" (MAX) DIA. HOLE THROUGH CL. OF BLOCKING

1" (MAX) DIA. HOLE THROUGH CL. OF POST (1-HOLE ALLOWED PER POST AT OR ABOVE THIS LEVEL)

TYP. ALL MODELS

TOP OF HOLDOWN

ALL MODELS

NO HOLES ALLOWED BELOW THIS LEVEL

14"

12" MIN. TYP. ALL MODELS

TYP. ALL MODELS

14"

TYP. ALL MODELS

ONE CUT OUT IN THE OSB/PLYWD. UP TO 4" (MAX) SQUARE MAY BE LOCATED WITHIN ONE OF THESE ZONES

TYP LOCATION OF HOLE

INTERIOR STUDS MAY HAVE (1) -1" (MAX) DIA. HOLE PLACED IN ANY POSITION AT THE CL. OF THE STUD

ONE CUT OUT IN THE OSB/PLYWD. UP TO 4" (MAX) SQUARE MAY BE LOCATED WITHIN ONE OF THESE ZONES

SAMPLES FROM: www.AutoCADDetails.net
Alternate Brace Panel

3/8" min. plywood
8d common or galv. box nails
@ 6" panel edges & 12" intermediate supports.

Tie-down device @ each panel end stud
w/1,800 pounds min. uplift capacity.

ALTERNATE BRACE PANEL
AT SECOND FLOOR
ALT. BRACE PANEL (ABP)

- 2" PWD W/8d AT 6" O.C. AT EDGES 12" O.C. INTERMEDIATE BRING ON 2X6 STUDS 16" O.C.
- ALT: USE 7/16" L.P. INNER SEAL OSB AND W/STUDS 16" O.C.
- RATED PANELS W/SAME NAILING AS PWD

- VERTS AT 2'-0" O.C.
- #4 VERTS AT 1/4 POINTS

- BLOCKING AT JOINTS

BRACE PANEL (BP)

- 1/2" PWD W/8d @ 6" O.C. AT EDGES AND 12" O.C. INTERMEDIATE BEARING
- 5/8" X 10" ANCHOR BOLTS @ 72" O.C. 12" FROM CORNERS
Alternate Braced Panel Detail

2-8" Min.

2x_ Blocking

Panel Edge Nailing

4x4 @ Each Strap

16d Nails @ 6" O.C.

Panels shall Butt at Common Wall Member (i.e. Rim joist, BLK’G or Plate)

Support Panel Edges W/2x BLK’G "Edge" nailing required

Center Strap on Rim Joist

1/2" APA-Rated Plywood W/Bd Nails @ 6" O.C. (12" Field)

4x4 @ Each Strap

16d Nails @ 6" O.C.

Panels shall Butt at Common Wall Member (i.e. Rim joist, BLK’G or Plate)

Simpson MST60 Strap Tie W/2x BLK’G "Edge" nailing required

(W/24 -10d x 1 1/2" Nails each end @ both ends of shear wall)

Samples from www.AutoCADDetails.net
If Smaller Beam is Narrowed
— Shim out to equal width of wider beam at the connection

Notch Deeper Beam for Small Beam Seating

Simpson CC Series Column Cap (Size to suite Larger Beam Width)

Simpson HST2 Strap Plates
Each side of beams w/ (6) 5/8" through bolts. Center straps on smaller beam

BEAM CONNECTION
(Joining unequal beams over posts)
BOTTOM OF STRONG-WALL, JOIST ALIGNED WITH END POST

NOTE:
- BLOCKING PANEL SHALL BE SAME SIZE AND MATERIAL AS RIM JOIST
- BLOCKING PANEL AT STRONG-WALL WITH ROWS OF 10d X 2 1/2" LONG NAILS AT 3" O.C. HORIZONTAL

PROVIDE 3 ADD'L. SQUASH BLOCKS WHERE STRONG-WALL END POST ALIGNS WITH FLOOR JOIST BELOW AS SHOWN. SQUASH BLOCKS SHALL BE CUT 1/16" TALLER THAN FLOOR.

SSTB28

OPTIONAL STUD

COUPLER

WITNESS HOLE

NOTE: BLOCKING PANEL SHALL BE SAME SIZE AND MATERIAL AS RIM JOIST

BLOCKING PANEL AT STRONG-WALL WITH ROWS OF 10d X 2 1/2" LONG NAILS AT 3" O.C. HORIZONTAL

BLOCK STOPS HERE

SSTB28

NOTE: NOTCH BLOCK, AS REQ'D, AT ANCHOR BOLTS

ANCHOR BOLT DESIGN BY OTHERS

BOTTOM OF STRONG-WALL, JOIST ALIGNED WITH END POST
Chimney Framing
Using A35 Framing Anchors

Fasteners
Use 12--8d x 1 1/2" Nails
**Door & Window Header Detail**

- 2" x Cripple
- Header (Size for Span)
- Double 2" x Studs
- 2" x Cripple
- For Rough Opening Size—See Window Specs.
- For Rough Opening Size—See Door Specs.
- Cut out Sole Plate After Erection or Before (Optional)

Samples from www.AutoCADDetails.net
DOUBLE TOP PLATE

TOP PLATE

SHIM INSIDE SURFACE

DOUBLE 2x HEADER

FURRING TO ELIMINATE CRIPPLES IN 8' WALL

TRIMMER

FRAMING-HEADER

DOUBLE 2x CRIPPLELESS
DOUBLE TOP PLATE

TOP PLATE

CRIPPLE STUDS

DOUBLE FLAT 2x HEADER

TRIMMER

FRAMING-HEADER

FLAT DOUBLE 2x
GABLE ROOF FRAMING DETAIL WITH OVERHANG
NOTE:

HEADERS #2 D.F. OR BETTER

UP TO 4' 4X6
4' TO 6' 4X8
6' TO 8' 4X10
OVER 8' AS DETAILED

4X HEADER IN EXTERIOR WALL

DOUBLE 2X6 TOP PLATE

RIGID INSULATION

4X HEADER

2X NAILER

(TYP) KING STUD
NOTE:
ALIGN WITNESS HOLE
WITH ENDS OF SSTB
& THREADED ROD TO
ALLOW INSPECTION INTO
COUPLER WITNESS HOLE

7D MINIMUM
3-1/2" FOR 1/2"Ø
4-3/8" FOR 5/8"Ø

TYPICAL STUD WALL
FRAMING AND ANCHORAGE
PER CODE (DESIGN BY
OTHERS)

7" MIN. EMBEDMENT
PER CODE

HOLDOWN BOLT CONNECTION
1. Use 4-1000# Straps each face on 1 story.
2. Use 2-4000# holdown anchors & 2-horizontal 1000# strap each face or 2-2000# straps each face (4 total), with 2-1000# straps horizontal each face, (4 total)

2-2x4 @ HDR Splice

4x4 Uprights

2- 4800# Holdowns, 1-Story
2-Story, 2- 5300# Holdowns

8' = 0" Max.

24" Min.

3" Clear

NOTE: This is not an alternate brace panel
2 Straps Front & Back
4 Straps Per Panel
8 Straps Total Per Panel
Min. 1000# each

NO ADDITIONAL WALL FRAMING ALLOWED

Non-Structural Intermediate Panel

25 Feet On Center Maximum Spacing (STRUCTURAL)

Min. 15" x 7" Footing with 2-#4 Cont.

NON-STRUCTURAL INTERMEDIATE PANEL
1.2" Plywood w/10d Nails @ 6" O.C at edges and 12" O.C. Field–code min.
3/8" Plywood w/8d nails @ 6" O.C. edges and 12" field.

Double Studs or 4x4

Blocking at plywood splices

Tie-down devices Min. 1800 Lbs.
Uplift Capacity–Installed per MFG
recommendation–Simpson HD2A as shown

Floor Framing Plate
P.T. Plate
Concrete Foundation

Two Anchor Bolts at Quarter points
--w/2"x2"x3/16" washers

5/8" Anchor Bolt

One Story Alternate Brace Wall Pane
(2'-8" Panel)
NOTE 1: TYPICAL 5300# Rated Hold Downs
Example HD8A SSTB 7/8": See Simpson Catalog for
correct installation. Use correct spacing and fasteners.

NOTE 2:
1. Panel Spacing: 8' min. clear, 25' Max on center.
2. Panels at each end or portal frame must be equal width and weight.
   Panels must be used in pairs with connecting headers.

PORTAL FRAME
1st Story of 2-Story Structure
PORTAL FRAME AT GARAGE

- 6"x8" P.T. Post to Foundation
- 4"x6" P.T. Post To Foundation
- Simpson HD8A W/7/8" Bolts to Studs
- Simpson HD8A W/7/8" Bolts to Studs
- 4"x6" PT Mudsill
- 4" Min. 3000 PSI Conc. Slab
- #4 Bars Continuous
- (2) #4 Bars Continuous

Samples from www.AutoCADDetails.net
(2) Simpson LTT20 W/1/2" Threaded Rod

DBL Studs @ 2 x 6 Framing U.N.O.

1/2" CDX Shear Panel W/ 10d nails @ 4" O.C. @ edges & 12" O.C. Int. Typ Shear Wall.

(2) Simpson FTM 43 Fas-Tie to Stem Wall

#4 Dowels "24/6" into Foundation

2 x 6 P.T. Mudsill W/5/8" Dia.
AB's 12" from corners & 4'-0" O.C.

PORTAL FRAME WALL WALL TYP.
2 Straps front & Back
4 Straps total each end
8 Straps per frame
Min. 1000# each.

TOP OF WALL

Min 4x12 Header Continuous
(Note: Header width must be the same as support framing)

Header width to match wall framing
Min. 4x4 each side

Min. 4800# Holdown
2 per panel, 4 total

1 Story Structure, Portal Frame
Top of Wall no further framing is allowed.

**STANDARD PROSPECTIVE FRAMING**

**FLOOR FRAMING**

- Min 4x12 Header Continuous
  - (Larger header may be required for gravity loads)
- Optional Straps
- Header width to match wall framing
  - Min. 4x4 each side
- Min. 5300# Holdown
  - 2 per panel, 4 total
- Min 15"x7" Footing, W/2-#4 Cont. extend
  - 10' beyond panel or corner.

**2 Story Structure, Portal Frame**
5/8" DRYWALL ON MTL. STUDS

PLASTIC LAMINATE ON 3/4" PLYWOOD - PROVIDE 3/4" X 1" EDGING

K & V 1195 BRACKET w/660SS POLE. MOUNT BRACKETS 3" FROM EA. WALL AND NOT MORE THAN 4'-0" O.C.

PROVIDE SOLID BLOCKING BEHIND BRACKETS

ROD AND SHELF
3/4" X 1-1/2" EDGE BAND, EASE EDGES

CLOSET POLE AND FLANGE, K&V #770, #766, US26

SHELF - WOOD, FINISH TO MATCH

WOOD BLOCKING AS REQ'D.

CONTINUOUS LEDGER - COUNTERSINK ANCHORAGE @ EACH SIDE

ROD AND SHELF SECTION
NOTE:
IF FLOOR PLAN PREVENTS THE MIN. 10' REQUIREMENT, FASTEN END OF RIM JOIST TO PERPENDICULAR FRAMING WITH (2) A35 EA. END.

1 1/4" TO 1 1/2" RIM JOIST

CONT. RIM JOIST (DESIGN BY OTHERS) MIN. LENGTH = 10', AT STRONG-WALL.

SIMPSON LTP4 SHEAR TRANSFER TO SILL PLATE PER CODE (DESIGN BY OTHERS)

SILL PLATE AND ANCHORAGE PER CODE (DESIGN BY OTHERS)

PRE-INSTALLED SDS1/4"x6" SCREWS

FLOOR JOIST PER CODE (DESIGN BY OTHERS)

BLK'G. PANELS (SHALL BE SAME AS RIM JOIST) W/10d NAILING-SEE

CONC. STEM WALL PER CODE (DESIGN BY OTHERS)

SHEAR TRANSFER AT RAISED FLOOR
USE SSTB34 A.B. IF COLD JOINT EXISTS AT SLAB AND FOOTING INTERFACE.

NOTE: FOR NOTES ON INSTALLATION AND MINIMUM FOUNDATION REINFORCING REQUIREMENTS, REFER TO SIMPSON'S "WOOD CONSTRUCTION CONNECTORS" CATALOG.

ONE #4 REBAR IN SHEAR CONE AS REQUIRED FOR SSTB

EMBEDMENT
24" (SSTB28)
28" (SSTB34)

3" CLR. MIN.

3" MIN. 5" MAX.

FOOTING AND REINFORCING DESIGN BY OTHERS

SSTB ANCHOR--Strong Walls
NOTE:

IT IS NOT NECESSARY TO FASTEN ADJACENT STUD TO STRONG-WALL. HOWEVER, IF THIS IS DESIRED, USE 10d COMMON FACE NAILS AT 24" ON CENTER (MIN.), UNLESS SPECIFIED BY OTHERS AS MORE STRINGENT.

BLOCKING AND SHEAR TRANSFER TO TOP PLATE PER CODE (DESIGN BY OTHERS)

PLYWD. SHIM AS REQ'D.

SAMPLES FROM www.AutoCADDetails.net
NOTE: BLOCKING PANEL SHALL BE SAME SIZE AND MATERIAL AS RIM JOIST

BLOCKING PANEL AT STRONG-WALL W/3 ROWS OF 10d X 2 1/2" LONG NAILS AT 3" O.C. HORIZONTAL

PROVIDE 3-2x4 SQUASH BLOCKS AT STRONG-WALL (OFFSET FROM FLOOR JOIST) AS SHOWN. SQUASH BLOCKS SHALL BE 1/16" TALLER THAN FLOOR JOISTS.

BOTTOM OF STRONG WALL, JOIST OFFSET FROM END POST
Strong Wall Framing Elevation (Inside View)

- Blocking and shear transfer to top plate per code (Design by others)
- Diaphragm nailing (Design by others)
- Roof or floor framing (Design by others)
- Typical stud wall framing and anchorage per code (Design by others)
- Strong wall panel—See DET. 12/2S/WF-1 for additional info. (See Simpson Catalog or dealer)
NOTE: RAISED FLOOR FRAMING PER CODE (DESIGN BY OTHERS)

NOTE: ALIGN WITNESS HOLE WITH ENDS OF A.B. & THREADED ROD TO ALLOW INSPECTION INTO WITNESS HOLE

TYP. STUD WALL FRAMING AND ANCHORAGE PER CODE (DESIGN BY OTHERS)

FLOOR JOIST AND BLK'G.

SSTB28 A.B. (TYP.)

HOLDDOWN BOLT CONNECTION
Install SDS 1/4" x 6" Screws into the top plates.

Simpson Bearing plate w/7" standard 5/8" anchor bolt. Use SDS 1/4"x 2 1/2" screws to secure bearing plate.

Simpson SWHD8 holdown (See Simpson Catalog for details on installation)

Simpson CNW installation

Strongwall Sizes
SW24x8, x9-4
SW32x8,9-4, x10-4
SW48x8-4, x9-4, x10-4

Simpson Strong-Tie
STRONGWALL SHEARWALL
(Standard Wall)
2 Straps Front & Back
12 Straps Total Per Panel
Min. 1000# each

NO ADDITIONAL WALL FRAMING ALLOWED
MINIMUM 8 FEET
25 Feet On Center Maximum Spacing (STRUCTURAL)

Structural Intermediate Panel

Min. 15" x 7" Footing with 2-#4 Cont. Extend Around Corners 10 Ft.

STRUCTURAL INTERMEDIATE PANEL
BLOCKING AND SHEAR TRANSFER TO TOP PLATE PER CODE (DESIGN BY OTHERS)

SDS1/4"x6" SCREWS-SEE STRONG-WALL TABLE DET. 12 (TYP.)

DIAPHRAGM NAILING (DESIGN BY OTHERS)

ROOF OR FLOOR FRAMING (DESIGN BY OTHERS)

ATTACHMENT BY OTHERS

TOP PLATE PER CODE (DESIGN BY OTHERS)

MAX. 7/8" SHIM (1/2" AND/OR 3/8" PLYWD. SHIMS) AS REQ'D. INSTALL BEFORE SCREWS ARE FASTENED TO THE TOP PLATE ABOVE THE STRONG-WALL. SHIMS ARE PROVIDED.

TOP PANEL
2x Blocking @ Plywood edge

2x Stud

2x Trimmer

Plywood Sheathing
Prescriptive Wall Bracing

Boundary Members

Simpson Holdown

2x Sole Plate nailed w/(2) rows 16d @ 3" o.c. to sill plate

Holdown Anchor Bolt

#4 Horizontal Bar
Top & Bottom

#4 Vertical @ 24" o.c.

6" Min. thickness

TYPICAL SHEAR WALL
Roofing: Customer Choice

Sheathing: 1/2" CDX Min. Marked for 24" spans. No vents in protected area. Block all horizontal panel edges. Gypsum board must be nailed @ 7" O.C. Fiberboard--1/2" for studs 16" O.C.

Note: Nails 3/4" min. from edge

Samples from www.AutoCADDetails.net
15 lb. Asphalt Sat. Felt

Sheathing

2"x8" Rafter @ 16' O.C.

2"x6" Ceiling Joist & 16' O.C.

Batt Insulation

Continuous Ridge Vent

To the Slope

Seal with Slope

When Beams are used, size for span

Continuous Ridge Vent

Plywood Gusset

2"x4" or 2"x6" cleats as required

2"x8" Rafter @ 16' O.C.

2x4 or 2x6 cleats for insulation

Beams

Size See Plan

NOTE: Attic ventilation requirements designed for cooling season. This will be adequate to prevent condensation during heating season. 1.5 to 2.0 C.F.M Per Sq Ft of attic floor area.
1/2" plywood inner sheathing

2x4 stud spaced 16" on center

2x4 bottom plate for drainage opening

2x6 decking boards installed diagonally

5 1/2" long lag screws driven through decking & into joist every 32"

1/2" plywood outer sheathing

2x4 bottom plate for wall

2x8 rim joist

1x4 trim

WALL & DRAINAGE OPENING CUTAWAY
NOTE: THIS DETAIL IS TYPICAL FOR ALL WINDOW AND DOOR OPENINGS ON SHEARWALLS.

- 2" X 6" TOP PLATE
- 2"x6" blocking
- Simpson MSTA 36 Strap
- Tie W (26) 10d nails
- 2"x 6" Sill
- 2"x6" blocking

Provide straps on both sides of wall

NOTE: 36" Simpson CS18 straps may be used in lieu of MST straps.

WINDOW & DOOR SHEARWALL DETAIL