WINDSTORM FRAMING AND CONSTRUCTION REQUIREMENTS, ASCE705

(FOR CONSTRUCTION IN HURRICANE-PRONE REGIONS FOR A BASIC WINDSPEED OF 120 MPH, EXPOSURE B)

FOUNDATION NOTES:

1. CONCRETE SLAB SHALL HAVE A MIN. COMPRESSIVE STRENGTH OF 2,500 psi.
2. ANCHOR BOLTS SHALL BE MIN. 5/8" X 10" HEX HEAD OR J–BOLT WITH MIN. 2" x 2" x 1/8" OR 2" DIAMETER WASHER.
3. ANCHOR BOLTS SHALL HAVE A MINIMUM 7" EMBEDMENT
4. ANCHOR BOLT SPACING SHALL BE 32" O.C. FOR ALL EXTERIOR WALL SUPPORTING RAFTERS
5. ANCHOR BOLT SHALL BE PLACED 6" FROM CORNERS, ENDS OF PLATES AND DOORS OPENINGS WITH A MINIMUM OF 2 ANCHOR BOLTS PER SEGMENT.
6. 5/8" DIA. ANCHOR BOLTS SHALL BE SPACED 5' O.C. FOR INTERIOR SHEARWALLS.
7. RETROFIT ANCHOR BOLTS (NON–HOLDDOWN LOCATIONS) SHALL BE MIN. 5/8" DIA. AND PROVIDE A MIN. PULL OUT CAPACITY OF 1,300 LB..
8. WHERE SPECIFIED BY THE WINDSTORM DESIGN PLAN, PRE–MANUFACTURED SHEAR PANELS SHALL BE INSTALLED ACCORDING TO THE MANUFACTURES INSTALLATION INSTRUCTION AND THE WINDSTORM DESIGN PLAN. FOUNDATION FOOTING SIZE AND TEMPLATE INSTALLATION SHALL BE INSPECTED PRIOR TO PLACEMENT OF CONCRETE

HOLDDOWN INSTALLATION NOTES:

1. HOLDDOWN CONNECTORS SHALL BE INSTALLED AT ALL CORNERS, GARAGE DOOR OPENINGS, INTERIOR SHEARWALLS AND AS REQUIRED BY THE WINDSTORM DESIGN PLAN.
2. ACCEPTABLE HOLDDOWN CONNECTORS SHALL BE PER TABLE 1 OR EQUIV.
3. HOLDDOWN CONNECTORS MAY BE INSTALLED ONTO ANY FACE OF THE CORNER AS LONG AS THE VERTICAL LOAD PATH IS CONTINUOUS.
4. HOLDDOWN CONNECTORS SHALL BE INSTALLED ACCORDING TO DETAIL A1, A2 & A3 AND THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.
5. WHERE HD1 CONNECTORS ARE MISSING OR MISS–INSTALLED, IT SHALL BE ACCEPTABLE TO INSTALL A RETROFIT CONNECTOR ACCORDING TO DETAIL A2
6. ANCHOR BOLTS FOR HOLDDOWN CONNECTORS SHALL BE INSTALLED WITH EPOXY ANCHORS ACCORDING TO CONNECTORS CAPACITY SEE DETAILS A2 & A3.
7. HOLDDOWN CONNECTOR UPLIFT LOAD PATH SHALL BE CONTINUOUS FROM 2ND FLOOR TO FOUNDATION.
8. SEE **DETAIL E5** FOR HD1 WHERE HOLDDOWNS ARE ALIGNED VERTICALLY. SEE **DETAIL E6**. FOR OFFSET CONDITION

STRAPS AND CLIPS:

1. 1METAL FRAMING CONNECTOR SUCH AS STRAPS, CLIPS AND HANGERS SHALL BE INSTALLED ACCORDING TO THE MANUFACTURERS INSTALLATION INSTRUCTIONS USING THE SPECIFIED NUMBER AND TYPE OF FASTENERS
2. CLIPS AND STRAPS SHALL FORM A CONTINUOUS LOAD PATH FROM THE RAFTER TO THE FOUNDATION.
3. FOR TYPICAL UPLIFT CONNECTIONS SEE **DETAIL B1**
4. REQUIRED CONNECTION CAPACITY AND ACCEPTABLE FRAMING ANCHORS SHALL BE AS PER TABLE 3, OR AS SPECIFIED BY THE WINDSTORM DESIGN PLANS.
5. ANCHOR EACH RAFTER WHERE IT BEARS ON A WALL TO THE DOUBLE TOP PLATE ACCORDING TO TABLE 3.
6. ANCHOR EACH FULL HEIGHT EXTERIOR WALL STUD TO THE TOP PLATE ACCORDING TO TABLE 3.
7. ANCHOR INTERIOR WALL STUDS CARRYING RAFTER BRACING TO THE TOP PLATE TO RESIST 400# UPLIFT.
8. ANCHOR 2ND FLOOR STUDS AND HEADER STUDS TO 1ST FLOOR STUDS WITH A MINIMUM OF 5 NAILS PER STUD ACCORDING TO TABLE 3.
9. FOR OFFSET 1ST AND 2ND FLOOR, ANCHOR STUDS AND HEADER STUDS ACCORDING TO **DETAIL B2**. WHERE FRAMING DOES NOT COMPLY WITH DETAIL, ANCHORAGE SHALL MAY BE PROVIDED BY CUTTING FLOOR AND ANCHORING TO PLATE BELOW.
10. ANCHOR TOP PLATE TO HEADER 16" O.C. ALONG HEADER ACCORDING TO TABLE 3.
11. ANCHOR HEADER TO HEADER STUDS ACCORDING TO TABLE 3. SEE **DETAIL B1.**
12. ANCHOR EACH FULL HEIGHT EXTERIOR WALL STUD, INTERIOR WALL STUD CARRYING RAFTER BRACING AND HEADER STUDS TO THE SOLE PLATE ACCORDING TO TABLE 3.
13. ANCHOR EACH GABLE STUD TO END RAFTER AT THE TOP AND BOTTOM. SEE **DETAIL F1,F2 & F3**.
14. ANCHOR CEILING JOISTS TO TOP PLATE AND BEAMS AT PORCH/OVERHANG ACCORDING TO **DETAIL B3.**
15. OVERHANG SUPPORT BEAMS SHALL BE STRAPPED TO POSTS WITH 4 STRAPS (2 INSIDE/2 OUTSIDE) ACCORDING TO TABLE 3.
16. OVERHANG SUPPORT BEAMS SHALL BE ANCHORED TO THE STRUCTURE WITH 2 STRAPS ACCORDING TO TABLE 3. SEE **DETAIL B4**.
17. RIDGE STRAPS SHALL BE PROVIDED OVER RIDGES WITH 5 NAILS PER SIDE, SEE TABLE 3 FOR ANCHORAGE.
18. IN LIEU OF RIDGE STRAPS, COLLAR TIES MAY BE USED AT EACH RAFTER. SEE **DETAIL B5**.
19. STRAP HIP RAFTERS TO HIP OR OPPOSING HIP RAFTER AT ALL HIPS, SEE TABLE 3 FOR ANCHORAGE. OPPOSING RAFTERS MAY BE ANCHORED TO THE HIP RAFTER WITH 5 NAILS INTO EACH MEMBER.
20. BEAMS AND DOUBLE JOISTS CARRYING RAFTER BRACING SHALL BE STRAPPED AT EACH END TO RESIST 200 LBS UPLIFT FOR EACH BRACE SUPPORTED. LOAD PATH CONTINUOUS TO FOUNDATION.
21. PURLIN BRACES SHALL BE ANCHORED TO THE TOP PLATES, DOUBLE JOISTS OR 2–2x12 BEAM SUPPORTING THE BRACE.
22. WHERE A RAFTER CAN NOT BE FACE NAILED TO THE BRACE, AN LSTA STRAP SHALL BE USED TO ANCHOR THE RAFTER TO THE BRACE TO RESIST 400# UPLIFT.
23. CHIMNEY STUDS SHALL BE ANCHORED TO RAFTERS AND/ OR WALL STUDS BELOW TO RESIST 600 LBS. UPLIFT ACCORDING TO **DETAIL B6**.
24. DORMERS STUDS SHALL BE ANCHORED TOP DOUBLE RAFTERS ACCORDING TO **DETAIL B7.** LIVE DORMER WALL STUD SHALL BE STRAPPED AS FULL HEIGHT STUDS.
25. HORIZONTAL STRAPPING AT HEADERS AND SILLS SPECIFIED BY THE WINDSTORM DESIGN PLAN SHALL BE INSTALLED ACCORDING TO DETAIL **DETAIL B8 & B9**

PLYWOOD USED FOR SHEAR AND UPLIFT REQUIREMENT

26. WHERE SPECIFIED IN THE WINDSTORM DESIGN PLAN, FULL HEIGHT PLYWOOD/OSB MAY BE USED TO REPLACE STUD–TO–PLATE AND TOP PLATE–TO–HEADER STRAPPING WHEN INSTALLED ACCORDING TO **DETAIL C1**.
27. EACH RAFTERS AND RAFTER BRACING SHALL BE ANCHORED TO THE DOUBLE TOP PLATE ACCORDING TO TABLE 3.
28. STRAPPING SHALL BE PROVIDED ACCORDING TO TABLE 3 FOR ALL WINDOW AND DOOR HEADER STUDS
29. WHERE SPECIFIED BY THE WINDSTORM DESIGN TEMPLATE, PLYWOOD/OSB USED TO RESIST SHEAR AND UPLIFT SHALL BE FASTENED 3" O.C. @ PANEL EDGES AND 3"O.C. ALONG HEADERS AND THE LOWER MEMBER OF THE DOUBLE TOP PLATE. SEE **DETAIL C1**
30. PLYWOOD/OSB PANELS USED TO RESIST SHEAR AND UPLIFT SHALL BE CONTINUOUS FROM THE SOLE PLATE TO THE UPPER MEMBER OF THE DOUBLE TOP PLATE
31. PLYWOOD/OSB PANELS USED FOR UPLIFT RESISTANCE SHALL BE NORDBORD WINDSTORM OSB PANELS OR EQUIVALENT, AND HAVE THE FOLLOWING MINIMUM LENGTHS.

WALL HEIGHT	PANEL LENGTH
8'	97 1/8"
9'	109 1/8"
10'	121 1/8"

32. STANDARD LENGTH PLYWOOD/OSB SHALL NOT BE USED TO RESIST UPLIFT LOADS.
33. PLYWOOD SHALL BE USED TO RESIST SHEAR AND UPLIFT ONLY WHERE SPECIFIED. WHERE NOT SPECIFIED, CLIPS AND STRAPS SHALL BE USED PER THE UPLIFT REQUIREMENTS.

FRAMING NOTES AND LIMITATIONS:

GENERAL

1. FRAMING FASTENER SIZE AND SPACING SHALL BE PER TABLE 4 FOR ALL CONNECTIONS
2. FASTENERS SHALL BE CORROSION RESISTANT WHERE REQUIRED BY MUNICIPALITY OR TDI CODE AMENDMENT.

RAFTERS

3. RAFTERS SHALL BE MIN. 2x6 SYP. #3 MATERIAL OR EQUIV.
4. RAFTERS SHALL BE BRACED BY A PURLIN AND RAFTER BRACING TO MEET THE RAFTER SPANS SPECIFIED IN THE WINDSTORM DESIGN PLAN.
5. RAFTER BRACING AND PURLINS SHALL BE FRAMED ACCORDING TO **DETAIL D1**.
6. A RAFTER BRACE SHALL BE PROVIDED FOR EVERY OTHER RAFTER WHERE A BRACING LINE IS REQUIRED, AND AT LAPS OR SPLICES.
7. RAFTER SHALL BE BRACED TO INTERIOR WALLS OR A MIN 2–2X12 BEAM WHICH IS ANCHORED TO FRAMING BELOW
8. RAFTER BRACES SHALL BE NAILED IN SHEAR TO RAFTERS WITH 5 FRAMING FASTENERS.
9. LAPS IN RAFTERS SHALL BE MIN. 4' LONG FACE NAILED TOGETHER WITH 21 NAIL (3 ROWS OF 7 FASTENERS) ACCORDING TO **DETAIL D1**.
10. RAFTERS SHALL BE DOUBLED UNDER DORMER FRAMING.

COLLAR TIES:

11. MIN. 1x6 COLLAR TIES SHALL BE PROVIDED FOR EVERY OTHER SET OF RAFTERS LOCATED IN UPPER THIRD OF THE RAFTER FASTENED WITH 4 NAILS AT EACH END PER **DETAIL B5**

TOP PLATE

12. EXTERIOR WALLS AND INTERIOR SHEARWALLS SHALL HAVE A CONTINUOUS DOUBLE TOP PLATE OR THE PLATE SHALL BE SPLICED ACCORDING TO THIS SECTION.
13. TOP PLATES SHALL BE LAPPED A MINIMUM OF 4' AND FASTENED TOGETHER ACCORDING TO TABLE 4.
14. WHERE TOP PLATES ARE NOT CONTINUOUS, NOTCHED OR DO NOT MEET THE REQUIRED LAP LENGTH, AN LSTA STRAP OR CS16 COIL STRAP SHALL BE CENTERED IN EACH PLATE WITH 7 NAILS IN THE STRAP ON EACH SIDE OF THE JOINT.

WALL FRAMING

15. TYPICAL WALL FRAMING SHALL BE PER **DETAIL E1**
16. BALLOON FRAMING– WALL STUDS EXPOSED TO WIND LOADS SHALL BE CONTINUOUS FROM HORIZONTAL SUPPORT TO HORIZONTAL SUPPORT (FOUNDATION TO CEILING/ ROOF/FLOOR, OR FLOOR TO ROOF/CEILING)
17. LOAD BEARING STUDS WITH HEIGHT GREATER THAN 12' SHALL BE MINIMUM 2X6 SYP. # 2 LUMBER SPACED 12" O.C. OR AS SPECIFIED IN THE WINDSTORM DESIGN TEMPLATE
18. LOAD BEARING STUDS WITH HEIGHT GREATER THAN 10' SHALL BE SYP NO. 2 LUMBER.
19. 2X4 LOAD BEARING STUDS OF SPECIES OTHER THAN SYP SHALL BE LIMITED IN HEIGHT ACCORDING TO TABLE 3.20B OF THE WOOD FRAMED CONSTRUCTION MANUAL.
20. LATERALLY UNSUPPORTED PONY WALLS SHALL NOT BE USED FOR EXTERIOR WALLS.
21. DOUBLE STUDS SHALL BE PROVIDED WHERE HOLDDOWN CONNECTORS ARE SPECIFIED BY THE WINDSTORM DESIGN TEMPLATE
22. DOUBLE STUDS SHALL BE FASTENED TOGETHER ACCORDING TO TABLE 3 AND **DETAILS E2, E3 & E4**.
23. STUDS CARRYING HOLDDOWN LOADS SHALL FORM A LINE FROM 1ST FLOOR HOLDDOWN CONNECTOR TO 2ND FLOOR HOLDDOWN CONNECTOR, OR AN ADDITIONAL HOLDDOWN CONNECTOR SHALL BE PROVIDED BELOW THE 2ND FLOOR HOLDDOWN. **SEE DETAILS E5 & E6.**
24. STUDS CARRYING HOLDDOWN LOADS SHALL NOT BE NOTCHED, OR CUT
25. BOX OUT WINDOWS SHALL BE FULLY SHEATHED AND ANCHORED TO THE HEADER STUD PER **DETAIL E7**
26. TYPICAL GARAGE DOOR JAMB FRAMING PER **DETAIL E8** U.N.O
27. SPECIAL RETURN DETAILS SHALL BE FRAMED ACCORDING TO **DETAIL E9**.
28. HEADER/TRIMMER STUDS SHALL BE DOUBLED FOR OPENINGS 6' OR LARGER.

GABLE END WALL FRAMING

29. GABLE END WALLS AND OFFSET GABLE ENDWALLS SHALL BE FRAMED ACCORDING TO **DETAIL F1 & F2**.
30. STRONG BACKS SHALL BE PROVIDED AT ALL GABLE END WALLS SPACED 4' O.C. AND FACE NAILED TO GABLE STUDS ACCORDING TO TABLE 4

FLOOR FRAMING

31. 2ND FLOOR SOLE PLATE SHALL BE FASTENED TO RIM/DECK ACCORDING TO TABLE 4
32. FLOOR SHEATHING SHALL BE MIN. 5/8" WOOD SHEATHING.
33. FLOOR SHEATHING PANEL COURSES SHALL BE STAGGERED 4'.
34. FLOOR SHEATHING SHALL BE FASTENED 6" O.C. ALONG PANEL EDGES AND 12" O.C. IN THE FIELD. FOR OFFSET FLOOR CONDITIONS, BLOCKING AT 1ST FLOOR PLATE SHALL BE CONSIDERED AND EDGE.
35. BAND/RIM JOIST SHALL BE MINIMUM 1" THICK BETWEEN 1ST STORY AND 2ND STORY PLATES (SOLID 2x BAND JOIST SHALL BE USED FOR NON–ENGINEERED FLOOR JOISTS).
36. OFFSET FLOOR FRAMING (BRICK POCKET) SHALL BE FRAMED ACCORDING TO **DETAIL E1 AND/OR E2**.
37. PROVIDE BLOCKING BETWEEN ALL FLOOR JOISTS OVER TOP PLATES @ OFFSET FRAMING AND ABOVE INTERIOR SHEARWALLS. ANCHOR BLOCKING TO 1ST FLOOR TOP PLATE W/ LTP4 CONNECTOR 12" O.C. OR EQUIV.
38. MODIFICATIONS TO THE FLOOR FRAMING INVOLVING THE WINDSTORM DESIGN SHALL BE AS SPECIFIED IN THE WINDSTORM DESIGN TEMPLATE.

SOFFIT FRAMING

39. SOFFIT OVERHANG TYPICAL FRAMING SHALL BE ACCORDING TO **DETAIL H1**.
40. LOOKOUT BLOCKS SHALL BE FRAMED ACCORDING TO **DETAIL H3.**
41. OUTLOOKERS SHALL BE FRAMED ACCORDING TO **DETAIL H2**

PORCH/OVERHANG FRAMING

42. OVERHANG SUPPORT POSTS SHALL BE MIN 4X4 SYP NO. 2 LUMBER (NO CEDAR).
43. HOLDDOWN CONNECTORS AT COLUMN BASES MAY BE NOTCHED INTO THE COLUMNS IN ORDER TO COVER WITH A MIN. 4" OF MATERIAL REMAINING TO FASTEN CONNECTOR
44. BUILT UP COLUMNS SHALL BE FRAMED ACCORDING TO **DETAIL I1.**
45. HOLLOW COLUMNS SHALL BE ANCHORED ACCORDING TO **DETAILS I2**.
46. OVERHANG SUPPORT POST MAXIMUM SPACING OF 12' U.N.O.
47. LOAD BEARING PORCH BEAMS SHALL BE MIN. 2–2X12's SYP NO. 2 LUMBER. U.N.O
48. PORCH BEAMS SHALL ANCHORED TO INTERSECTING WALLS ACCORDING TO **DETAIL B4**

SHEAR WALLS:

49. EXTERIOR WALLS AND GABLE END WALLS SHALL BE SHEARWALLS U.N.O.
50. INTERIOR SHEARWALLS SHALL BE LOCATED AS INDICATED BY THE WINDSTORM DESIGN PLAN.
51. ALL SHEARWALLS SHALL BE FULLY SHEATHED WITH MIN. APA RATED PLYWOOD/OSB SHEATHING WITH A MIN. THICKNESS OF 7/16" (3/8" PLYWOOD IS ACCEPTABLE WHERE WALL FRAMING IS 16" O.C.).
52. SHEATHING MAY BE ORIENTED VERTICALLY OR HORIZONTALLY.
53. WALL SHEATHING SHALL BE CONTINUOUS FROM THE TOE PLATE TO THE UPPER MEMBER OF THE DOUBLE TOP PLATE WITH UNSUPPORTED HORIZONTAL PANEL EDGES BLOCKED.
54. WHERE SHEATHING IS NOT CONTINUOUS TO THE DOUBLE TOP PLATE, THE BOTTOM MEMBER OF THE TOP PLATE SHALL BE FACE NAILED FROM UNDERNEATH TO THE TOP MEMBER WITH 2–8D COMMON NAILS 6" O.C.
55. SHEARWALL FASTENERS SHALL BE MINIMUM 8D COMMON NAILS (0.131 X 2.5") OR AS SPECIFIED IN THE TABLE 3
56. SHEARWALLS SHALL BE FASTENED 4" O.C. ALONG ALL PANEL EDGES AND ALONG PANEL EDGES AND BLOCKING U.N.O.
57. SHEARWALLS SHALL BE FASTENED 12" O.C. IN THE FIELD U.N.O
58. SPECIAL RETURN DETAILS SPECIFIED BY THE WINDSTORM DESIGN PLAN SHALL BE CONSTRUCTED ACCORDING **DETAIL B9.** SPECIAL RETURN DETAILS SHALL PROVIDE THE MIN. WIDTH SPECIFIED BY THE WINDSTORM DESIGN PLAN.
59. FOR OFFSET FLOOR CONDITIONS (BRICK POCKET), WALL SHEATHING SHALL BE APPLIED ACCORDING TO **DETAIL E1**.
60. FOR STACKED FLOOR CONDITIONS, WALL SHEATHING SHALL BE APPLIED ACCORDING TO **DETAIL J1**.
61. SHEAR SHALL BE TRANSFERRED FROM ROOF AND FLOOR DIAPHRAGMS TO THE SHEARWALL BELOW.
62. EXTERIOR SHEARWALLS AND INTERIOR SHEARWALLS SHALL BE FASTENED TO A STRUT (FLOOR JOIST OR
63. BLOCKING) WITH A SIMPSON LTP4 OR EQUIVALENT EVERY 12" O.C. U.N.O. ACCORDING TO **DETAIL J2, J3 OR J4**.

ROOF DECK NOTES:

1. ALL ROOF SURFACES SHALL BE FULLY SHEATHED WITH APA RATED PLYWOOD/OSB SHEATHING WITH A MIN. THICKNESS OF 7/16".
2. PANEL COURSES SHALL BE STAGGERED 4'
3. EACH PANEL SHALL BE NAILED 4" O.C. TO RAFTERS AT PANEL EDGES AND 6" O.C. IN THE FIELD (FOR GABLE ENDS, THE GABLE RAFTER AND FLY BARG SHALL BE CONSIDERED AN EDGE).
4. FASTENERS SHALL BE MINIMUM 8D COMMON (0.131 X 2.5") OR AS SPECIFIED IN TABLE 4.

CHIMNEYS AND DORMERS:

1. CHIMNEYS AND DORMERS FRAMING SHALL BE FULLY SHEATHED WITH WOOD STRUCTURAL PANELS FROM THE TOP TO THE ROOF LINE.
2. WHERE DORMER WALL SHEATHING INTERSECTS THE ROOF LINE, THE JOINT SHALL BE BLOCKED ACCORDING TO DETAIL K1.

ROOF FELT NOTES:

1. ROOF FELT SHALL BE INSTALLED ACCORDING TO SECTION R905.1 OF THE 2009 IRC.
2. FOR ROOF SLOPES > 4:12 PROVIDE ONE LAYER OF FELT
3. LAPS SHALL BE PROVIDED ACCORDING TO SECTION R905.2.7 OF THE 2009 IRC.
4. SLOPES >2:12 AND < 4:12 SHALL BE DOUBLE FELTED WITH A 19" LAP.
5. ROOF FELT SHALL BE FASTENED WITH CORROSION RESISTANT FASTENERS SPACED A MAXIMUM OF 36" O.C. ALONG OVERLAPS

ASPHALT SHINGLES:

1. ASPHALT SHINGLE ROOF COVERINGS SHALL BE TESTED IN ACCORDANCE WITH ASTM D 3161, CLASS F AND INSTALLED PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
2. ASPHALT SHINGLE WRAPPERS SHALL BEAR A LABEL INDICATING COMPLIANCE WITH ASTM D3161, CLASS F.
3. ASPHALT SHINGLES SHALL BE FASTENED PER THE MANUFACTURER'S INSTALLATION INSTRUCTIONS ON THE SPECIFIED NAIL LINE.
4. FASTENERS SHALL NOT BE OVERDRIVEN OR CROOKED.
5. STARTER COURSE SHALL BE INSTALLED ACCORDING TO THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.

BRICK TIES:

1. BRICK TIES SHALL BE PROVIDED 16" O.C. ALONG EACH STUD
2. BRICK TIES SHALL BE ANCHORED TO WALL STUDS WITH 1– 8D CORROSION RESISTANT NAIL.
3. BRICK TIES SHALL BE SPACED 6" O.C. AROUND WINDOW AND DOOR OPENINGS WHERE WINDBORNE DEBRIS PROTECTION IS TO BE ANCHORED TO BRICK VENEER.

DOORS AND WINDOWS:

1. WINDOW, DOOR GARAGE DOOR AND SKYLIGHT PRODUCTS SHALL HAVE A MINIMUM DESIGN PRESSURE AS SPECIFIED IN TABLE R301.2(2) AND R301.2(3) OF THE 2009 INTERNATIONAL RESIDENTIAL CODE.
2. FOR INLAND II EXPOSURE B AND C CONDITIONS AND INLAND I EXPOSURE B CONDITIONS, A DESIGN PRESSURE REQUIREMENTS OF 35 psf MAY BE USED FOR WINDOW AND DOOR PRODUCT AND 32 psf FOR GARAGE DOOR PRODUCTS.
3. WINDOWS AND GLASS DOOR PRODUCTS SHALL MEET THE REQUIREMENTS OF SECTION R613 OF THE 2009 INTERNATIONAL RESIDENTIAL CODE.
4. IN LIEU OF THE INSTALLATION REQUIRED BY A PRODUCT EVALUATION,

- ALUMINUM WINDOWS MAY BE INSTALLED WITH 10D BOX NAILS (0.131 X 3"), SPACED 4" O.C. AROUND PERIMETER AND PLACED IN PRE–DRILLED HOLES WHERE PROVIDED.
- VINYL FRAMED WINDOWS SHALL BE INSTALLED WITH 1½" ROOFING NAILS (11 GAUGE SHANK DIAMETER, 7/16" HEAD DIAMETER) SPACED 3" ON CENTER.

4. 1x6 BUILD OUT MATERIAL FOR WINDOW INSTALLATION SHALL BE INSTALLED TO WALL FRAMING WITH SAME FASTENER SIZE AND SPACING AS WINDOWS.
5. IN LIEU OF THE INSTALLATION REQUIRED BY A PRODUCT EVALUATION, ENTRY DOORS MAY BE INSTALLED WITH EITHER:

- NO. 8 X 3" WOOD SCREWS, SPACED A MAXIMUM OF 4" FROM THE CORNERS AND 10" O.C. THEREAFTER, OR
- NO. 10 X 2 ½" WOOD SCREWS SPACED 6" FROM THE CORNERS AND 23" O.C. THEREAFTER.

6. IN ADDITION TO THE AFORE MENTIONED FASTENERS, EACH DOOR HINGE AND STRIKER PLATE SHALL BE INSTALLED W/ MIN. 1– NO. 8 x 3" WOOD SCREW.
7. GARAGE DOOR PRODUCTS SHALL BE INSTALLED ACCORDING TO THE MANUFACTURER'S SHOP DRAWINGS. SHOP DRAWINGS SHALL BE PROVIDED BE THE INSTALLER FOR EACH STRUCTURE FOR FINAL INSPECTION.
8. IT SHALL BE THE RESPONSIBILITY OF THE BUILDER TO OBTAIN AND MAINTAIN RECORDS OF PRODUCT EVALUATION OR TESTING INFORMATION THAT VERIFIED THE DESIGN PRESSURE PERFORMANCE OF WINDOW AND DOOR PRODUCTS. AN EVALUATION REPORT OR TESTING INFORMATION FOR WIDOW AND DOOR PRODUCTS SHALL BE AVAILABLE UPON REQUEST.

WINDBORNE DEBRIS PROTECTION:

1. STRUCTURES LOCATED IN AREAS WHERE THE DESIGN WIND SPEED IS 120 MPH OR GREATER SHALL HAVE GLAZED EXTERIOR OPENINGS PROTECTED FROM WINDBORNE DEBRIS BY AN APPROVED PROTECTION METHOD AS SPECIFIED IN THE 2009 INTERNATIONAL RESIDENTIAL CODE .
2. WINDBORNE DEBRIS PROTECTION METHOD SHALL MEET THE IMPACT AND CYCLIC WIND PRESSURE TESTING REQUIREMENTS OF ASTM E1886 AND 1996, OR BE AN APPROVED WOOD STRUCTURAL PANEL APPLICATION SPECIFIED IN THE 2009 INTERNATIONAL RESIDENTIAL CODE.
3. EVIDENCE OF PROTECTION METHOD SHALL BE PROVIDED PRIOR TO CERTIFICATION AND THE PROTECTION MATERIALS AND FASTENERS SHALL BE AT THE SITE AT THE TIME OF THE FINAL INSPECTION.
4. DOORS AND GARAGE DOOR OPENINGS WITH GLAZING SHALL BE PROTECTED FROM WINDBORNE DEBRIS. DOOR AND GARAGE DOOR OPENINGS WITHOUT GLAZING DO NOT REQUIRE PROTECTION AGAINST WINDBORNE DEBRIS.

TABLE 1– HOLDDOWN CONNECTORS

Required Holddown Capacity		Simpson	USP	Tamlyn
1st floor to foundation				
HD1	4,800 lbs	STHD14, HTT5, HDU8	STAD14, HTT22	
HD2	5,500 lbs.	PHD6, HTT5	STAD14, HTT22, PHD5	ADSJ–6
HD3	8,300 lbs.	HDQ8, HDU11	PHD8, UPHD8	ADQ8
2nd floor to First Floor				
HD1	4,500 lbs.	MSTC52, 3–CS16	MSTC 40, KST248	Mtsi72

TABLE 3- UPLIFT ANCHORAGE REQUIREMENTS

CONNECTION	REQUIRED CAPACITY	SIMPSON	USP	TAMLYN
Rafter to Double Top Plate (each rafter)	600 lbs.	H–8	RT7A	HT8
Overhang ceiling joists to Double Top Plate (each joist)	600 lbs.	H–8	RT7A	HT8
Double top plate to studs (each stud)	600 lbs.	H–8	RT7A	HT8
2nd floor studs to band joist or 1st floor studs (each stud)	600 lbs.	LSTA36	LSTA40	LTSA40
Stud to bottom plate (each stud)	420 lbs.	SSP	RSPT4	SPTR
Header end to king/trimmer stud	600 lbs.	LSTA12	MP4F	FAL
Trimmer/king stud to sole/bottom plate	420 lbs.	SSP	RSPT4	SPTR
Top plate to header (16"o.c. along header)	450 lbs.	LSTA (4 nails per side)	RSPT4 (4 nails per side)	LSTA (4 nails per side)
Ridge strap (each rafter)	970 lbs.	LSTA12	LSTA–12	SS–12
Overhang beam to post	4,000 lbs.	(4) LSTA12	(4) MP4F	(4) FAL
Overhang beam to structure	2,000 lbs.	(2) LSTA12	(2) MP4F	(2) FAL
Support post to foundation	4,000 lbs.	HTT16, HTT22	STAD14, HTT22	SSAD14, HAH22

TABLE 4- FASTENING REQUIREMENTS

FASTENING SCHEDULE		
CONNECTION	FASTENING	LOCATION
1. Sole plate to joist or blocking	16D (3 1/2" X 0.135") @ 16" O.C. 3" X 0.131" NAILS @ 8" O.C.	typical face nail
2. SOLE PLATE TO JOIST OR BLOCKING @ BRACED WALL PANEL	3 – 16D (3 1/2" X 0.135") @ 16" 4 – 3" X 0.131" NAILS @ 16"	shearwall locations
3. Top plate to stud	2 – 16D (3 1/2" X 0.162") 3 – 3" X 0.131" NAILS	end nail
4. Stud to sole plate	4 – 8D (2 1/2" X 0.131") 4 – 3" X 0.131" NAIL	toenail
	2 – 16D (3 1/2" X 0.162") 3 – 3" X 0.131" NAILS	end nail
5. Double Studs	16D (3 1/2" X 0.135") @ 24" O.C. 3" X 0.131" NAILS @ 8" O.C.	face nail
6. Double top plates	16D (3 1/2" X 0.135") @ 16" O.C. 3" X 0.131" NAILS @ 12" O.C.	typical face nail
7. Double top plates	8 – 16D (3 1/2" X 0.162")	lap splice
8. Blocking between joists or rafters to top plate	3 – 8D (2 1/2" X 0.131")	toenail
9. Rim joist to top plate	8D (2 1/2" X 0.131") @ 6" O.C. 3" X 0.131" NAILS @ 6" O.C.	toenail
10. Top plates, laps and intersections	2– 16D (3 1/2" X 0.162") @ 16" O.C. 2 – 3" X 0.131" NAILS @ 10" O.C.	face nail
11. Continuous header, two pieces	16D (3 1/2 " X 0.162")	16" o.c. along edge
12. Ceiling joists to plate	3 – 8D (2 1/2" X 0.131") 5 – 3" X 0.131" NAILS	toenail
13. Continuous header to stud	4 – 8D (2 1/2" X 0.131")	toenail
14. Ceiling joists, laps over partitions	3 – 16d (3 1/2" x 0.162") 4 – 3" x 0.131" nail	face nail
15. Ceiling joists to parallel rafters	3 – 16D (3 1/2" X 0.162") 4 – 3" X 0.131" NAIL	face nail
16. Rafters to plate	3 – 8D (2 1/2" X 0.131") 3 – 3" X 0.131" NAILS	toenail
17. Build– up corner studs	16D (3 1/2" X 0.162") 3" X 0.131" NAILS	12" o.c. 6" o.c.
18. Built–up girder and beams	20D (4" X 0.192") 32" O.C. 3" X 0.131" NAILS @ 24" O.C.	FACE NAIL @ TOP AND BOTTOM STAGGERED ON OPPOSITE SIDES
	2 – 20D (4" X 0.192") 3 – 3" X 0.131" NAILS	FACE NAIL @ ENDS AND @ EACH SPLICE
19. Collar tie to rafter	3 – 10D (3" X 0.148") 5 – 3" X 0.131" NAILS	face nail
20. Jack rafter to hip	3 – 10D (3" X 0.148") 4 – 3" X 0.131" NAILS	toenail
	2– 16D (3 1/2" X 0.162") 3 – 3" X 0.131" NAILS	face nail
21. Roof rafter to 2–by ridge beam	2 – 16D (3 1/2" X 0.162") 3 – 3" X 0.131" NAILS	toenail
	2 – 16D (3 1/2" X 0.162") 3 – 3" X 0.131" NAILS	
22. Joist to band joist	3 – 16d (3 1/2" x 0.162") 4 – 3" x 0.131" nails	face nail

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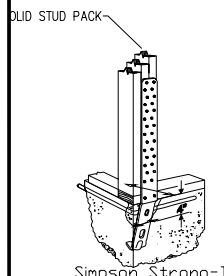
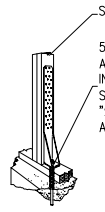
Coastal Building Inspections Engineering WINDSTORM

WINDSTORM FRAMING AND CONSTRUCTION REQUIREMENTS

SHEET NO:
CS 1-1

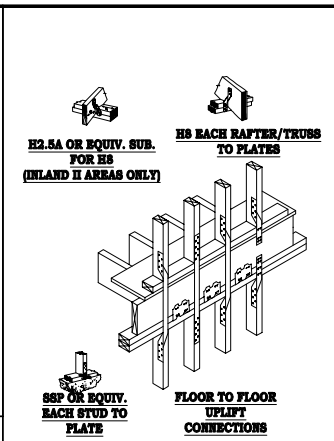


A1 WS1-2 HD1/HD2 HOLDDOWN CONNECTOR

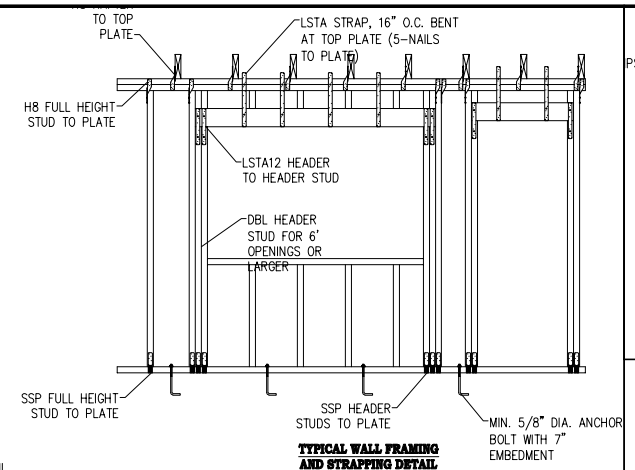


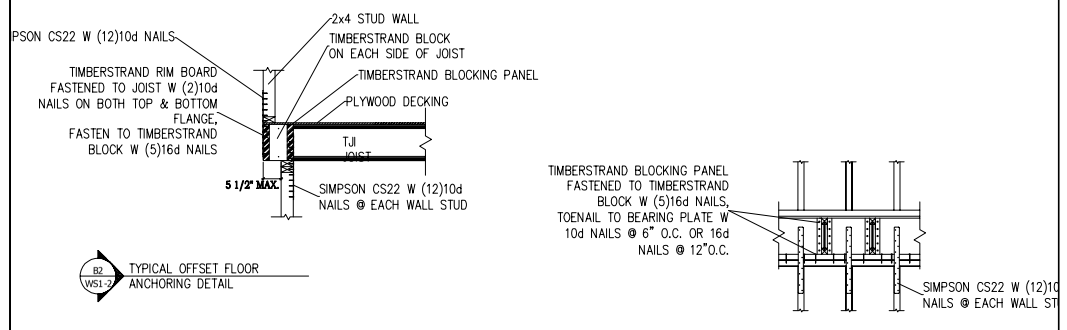
A2 WS1-2 HD1/HD2 HOLDDOWN CONNECTOR DEAIL (RETROFIT)

A3 WS1-2 HD3 HOLDDOWN CONNECTOR PLACED AFTER POUR

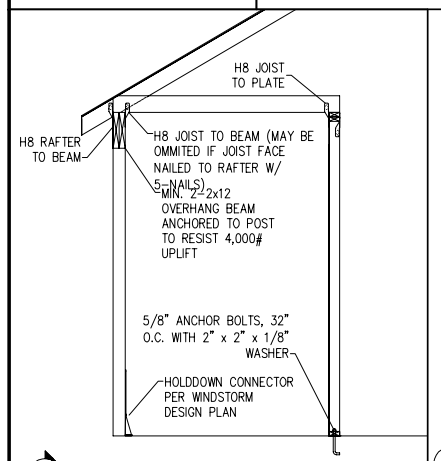


B1 WS1-2 TYPICAL UPLIFT FRAMING & ANHCORAGE DETAIL (SEE TABLE 3 FOR LOADS)

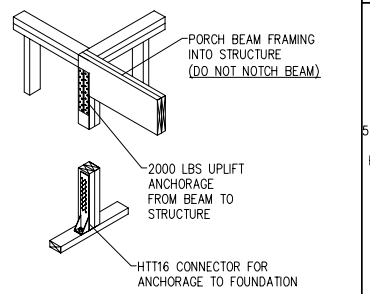




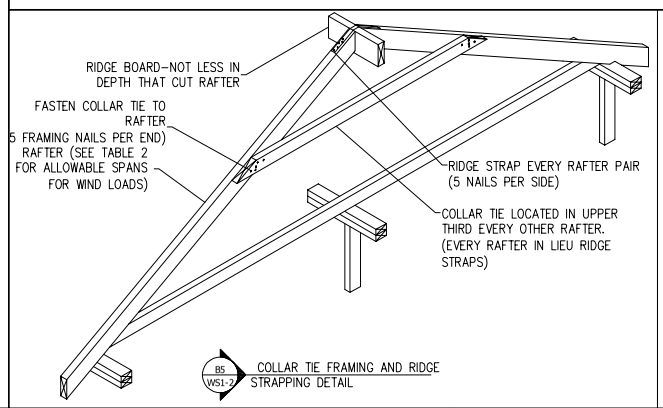
B2 WS1-2 TYPICAL OFFSET FLOOR ANCHORING DETAIL



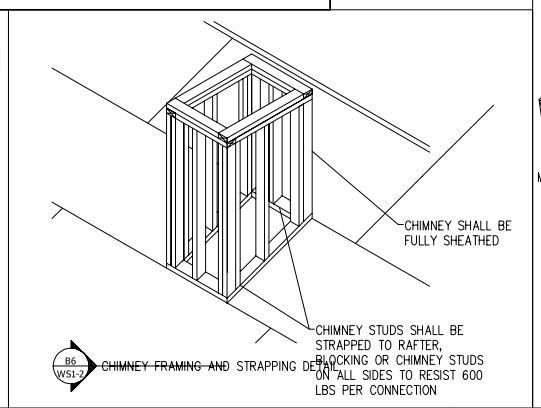
B3 WS1-2 OVERHANG (PORCH) FRAMING AND STRAPPING DETAIL



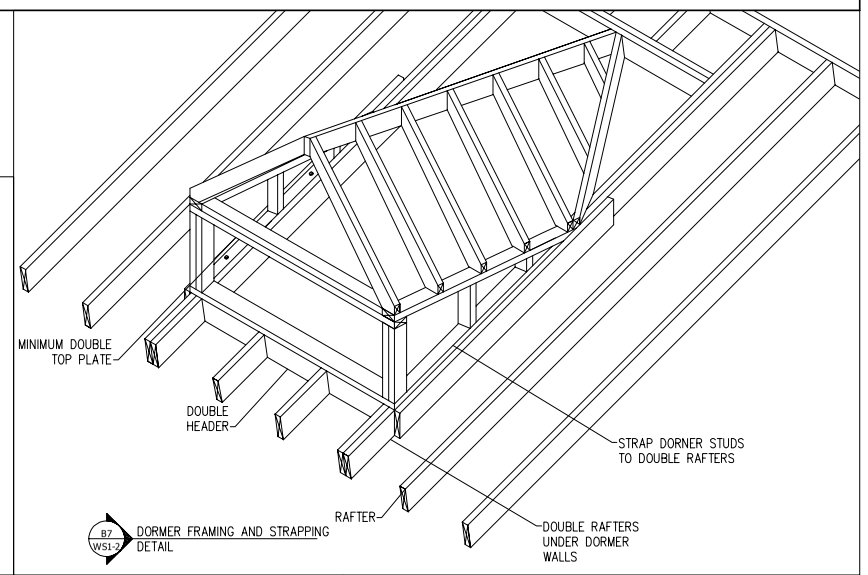
B4 WS1-2 PORCH/OVERHANG BEAM ANCHORAGE TO STRUTURE(CORNER & NON-CORNER LOCATIONS)



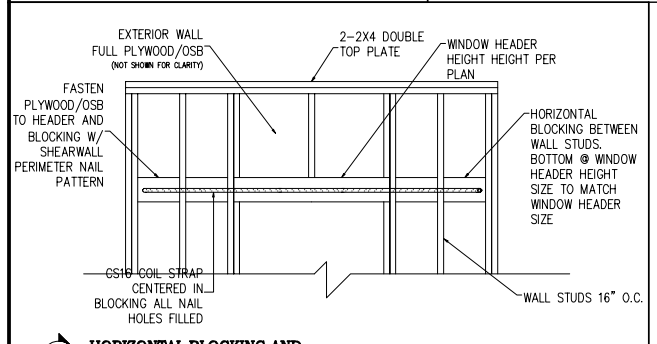
B5 WS1-2 COLLAR TIE FRAMING AND RIDGE STRAPPING DETAIL



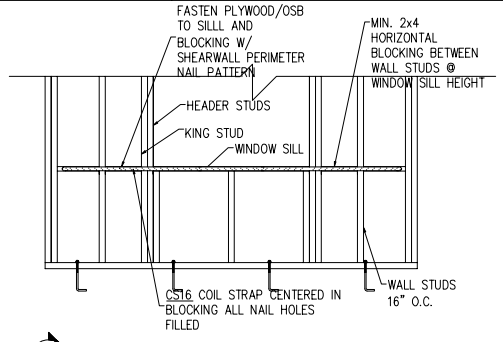
B6 WS1-2 CHIMNEY FRAMING AND STRAPPING DETAIL



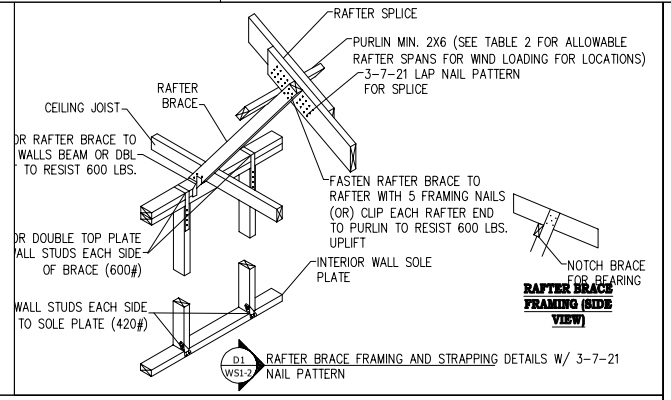
B7 WS1-2 DORMER FRAMING AND STRAPPING DETAIL



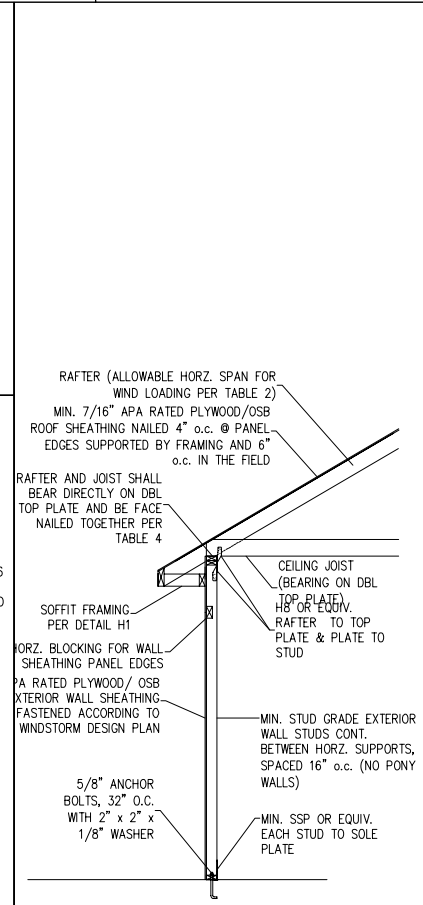
B8 WS1-2 **HORIZONTAL BLOCKING AND STRAPPING DETAIL @ HEADER**



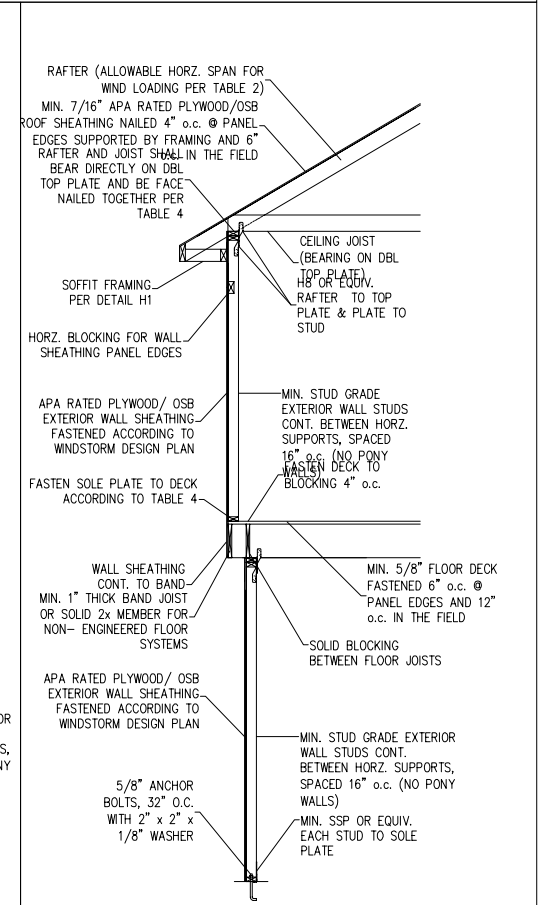
B9 WS1-2 HORIZONTAL BLOCKING AND STRAPPING DETAIL @ SILL



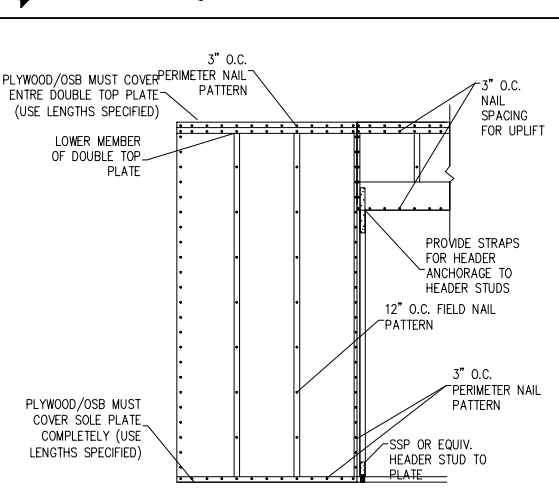
D1 WS1-2 RAFTER BRACE FRAMING AND STRAPPING DETAILS W/ 3-7-21 NAIL PATTERN



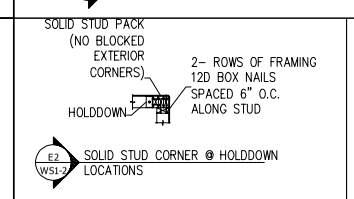
E1 WS1-2 TYPICAL WALL FRAMING DETAIL (1-STORY)



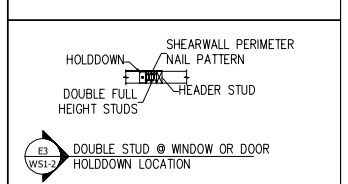
E1 WS1-2 TYPICAL WALL FRAMING DETAIL (2-STORY/BRICK POCKET)



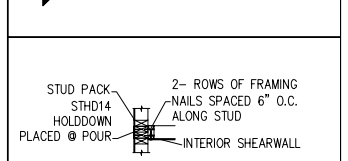
C1 WS1-2 PLYWOOD USED FOR SHEAR AND UPLIFT DETAIL (WHERE SPECIFIED BY TEMPLATE ONLY)



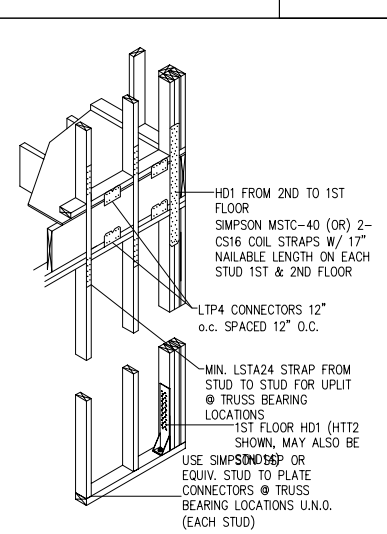
E2 WS1-2 SOLID STUD CORNER @ HOLDDOWN LOCATIONS



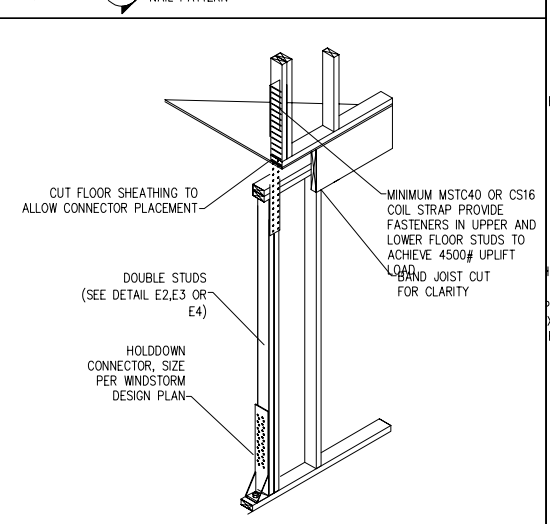
E3 WS1-2 DOUBLE STUD @ WINDOW OR DOOR HOLDDOWN LOCATION



E4 WS1-2 INTERIOR SHEARWALL INTERSECTING EXTERIOR WALL HOLDDOWN LOCATION



E5 WS1-2 EXTERIOR WALL CONNECTION DETAIL



E6 WS1-2 2ND FLOOR HOLDDOWN ANCHORAGE FOR OFFSET (BRICK POCKET)

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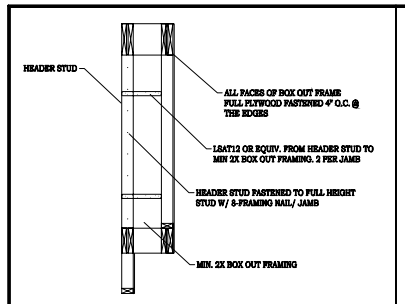
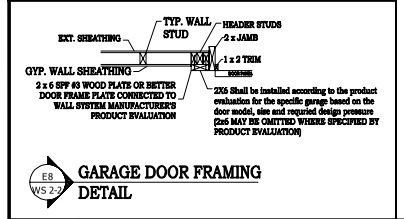
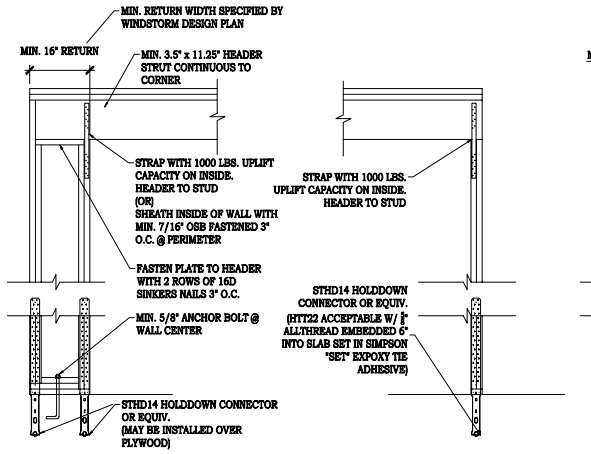
SHEET NO:
WS 1-2



E7 WS 2-2 BOX OUT WINDOW FRAMING ANCHORAGE

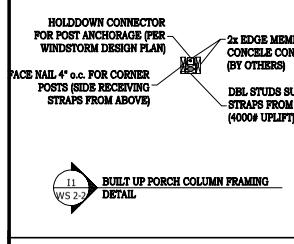


E8 WS 2-2 GARAGE DOOR FRAMING DETAIL

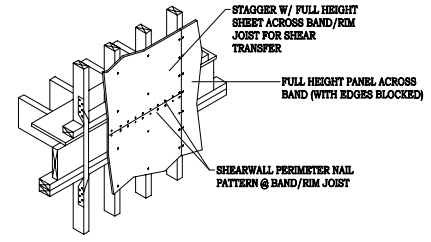


E9 WS 2-2 SPECIAL RETURN DETAIL FRAMING

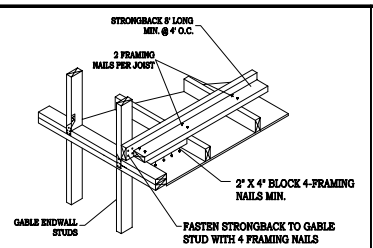
E9 WS 2-2 SPECIAL RETURN DETAIL SHEATHING APPLICATION



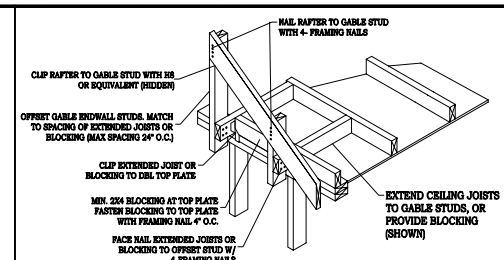
I1 WS 2-2 BUILT UP PORCH COLUMN FRAMING DETAIL



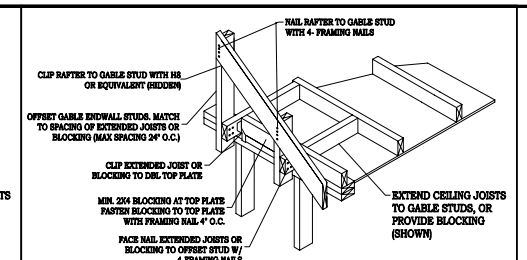
J1 WS 2-2 STACKED WALL SHEATHING APPLICATION DETAIL



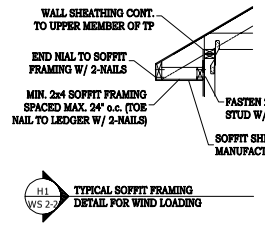
F1 WS 2-2 GABLE ENDWALL BRACING FRAMING DETAIL STRONGBACKS



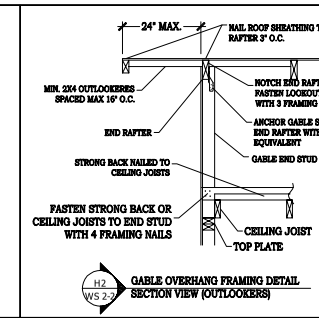
F2 WS 2-2 OFFSET GABLE ENDWALL FRAMING DETAIL



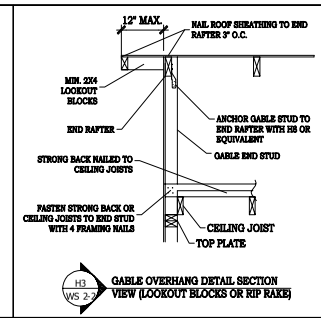
F2 WS 2-2 OFFSET GABLE ENDWALL FRAMING DETAIL



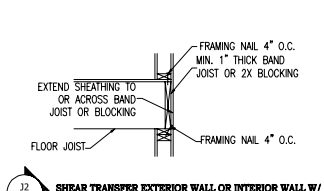
H1 WS 2-2 TYPICAL SOFFIT FRAMING DETAIL FOR WIND LOADING



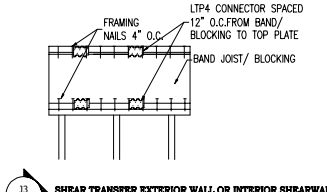
H2 WS 2-2 GABLE OVERHANG FRAMING DETAIL SECTION VIEW (OUTLOOKERS)



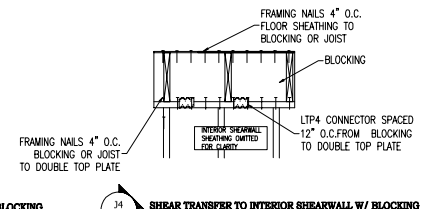
H3 WS 2-2 GABLE OVERHANG DETAIL SECTION VIEW (LOOKOUT BLOCKS OR RIP FAKES)



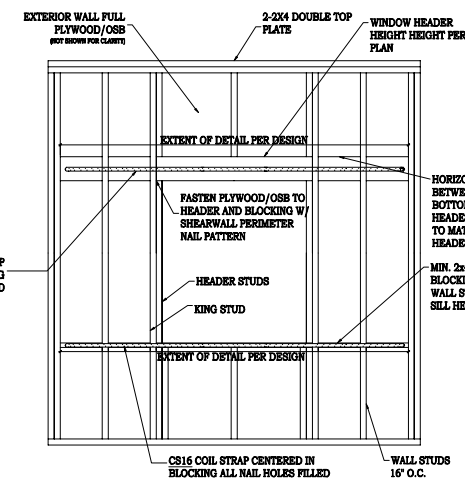
J2 WS 2-2 SHEAR TRANSFER EXTERIOR WALL OR INTERIOR WALL W/ BLOCKING (SHEATHING EXTENDS ACROSS BAND OR BLOCKING)



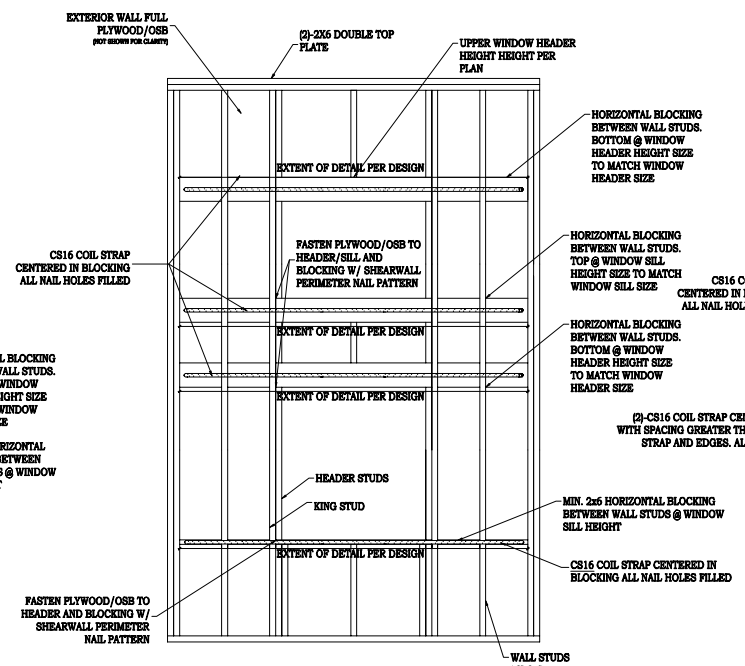
J3 WS 2-2 SHEAR TRANSFER EXTERIOR WALL OR INTERIOR SHEARWALL W/ BLOCKING (SHEATHING DOES NOT EXTEND ACROSS BAND OR BLOCKING)



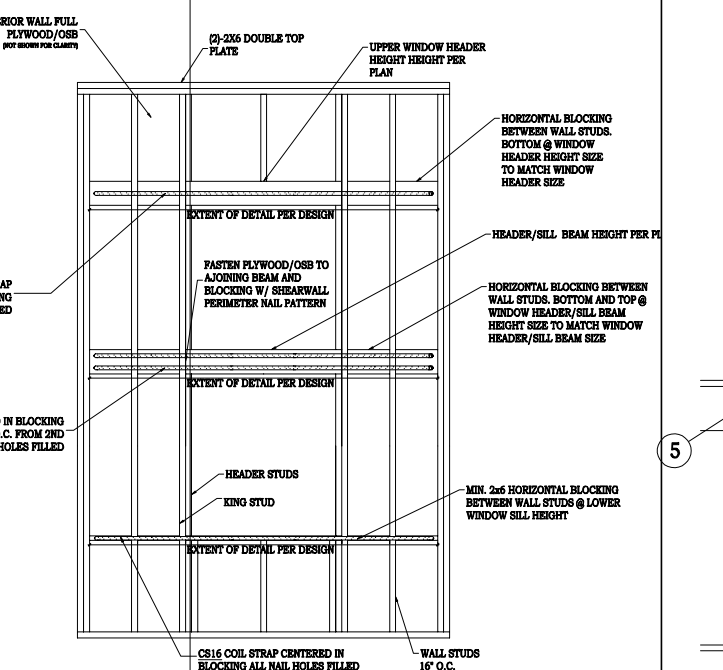
J4 WS 2-2 SHEAR TRANSFER TO INTERIOR SHEARWALL W/ BLOCKING (SHEATHING DOES NOT EXTEND ACROSS BAND OR BLOCKING)



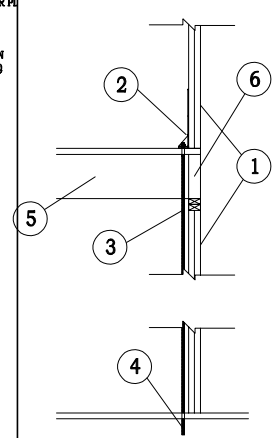
K1 WS 2-2 HORIZONTAL BLOCKING AND STRAPPING DETAIL WITH ONE OPENING FOR WALLS LESS THAN 12' IN HEIGHT



K2 WS 2-2 BALLOON-FRAMED HORIZONTAL BLOCKING AND STRAPPING DETAIL WITH WALL SPACE BTW OPENINGS

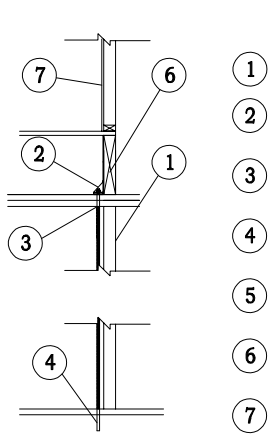


K3 WS 2-2 BALLOON-FRAMED HORIZONTAL BLOCKING AND STRAPPING DETAIL WITH HEADER/SILL BEAM BTW OPENINGS



1 CONT. DOUBLE FULL HEIGHT STUDS
2 HTT22 OR MGT HOLDDOWN CONNECTOR W/ 5/8" DIA. ALTHREAD CONT. TO FOUNDATION
3 MIN. 5/8" DIA. ALTHREAD CONT. TO FOUNDATION
4 5/8 " DIAMETER ALLTHREAD EMBEDDED 4" INTO SLAB SET IN SIMPSON "AT" OR "SET" EPOXY TIE ADHESIVE
5 FLOOR JOIST
6 MIN. 2-2x4 VERTICLE BLOCKING BETWEEN 2ND FLOOR SOLE PLATE AND 1ST FLOOR DBL TOP PLATE

L1 WS 2-2 ALTHREAD 2ND FLOOR TO 1ST FLOOR HOLDDOWN DETAIL



1 CONT. DOUBLE FULL HEIGHT STUDS BELOW BEAM
2 HDU4-SDS2.5 HOLDDOWN CONNECTOR W/ 5/8" DIA. ALTHREAD CONT. TO FOUNDATION
3 MIN. 5/8" DIA. ALTHREAD CONT. TO FOUNDATION
4 5/8 " DIAMETER ALLTHREAD EMBEDDED 4" INTO SLAB SET IN SIMPSON "AT" OR "SET" EPOXY TIE ADHESIVE
5 FLOOR JOIST
6 BEAM CARRYING HOLDDOWN TENSION LOADS
7 INTERIO SHEARWALL ABOVE

L2 WS 2-2 ALTHREAD BEAM TO 1ST FLOOR HOLDDOWN DETAIL

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WS 2-2