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SUMMIT, MO

SOLAIA II HFR184
2809 SW HEARTLAND RD. LEE'S SUMIN

HD#: 47793

DATE: 06/13/2024

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NO.	ISSUE/REVISION	Revision Date

PLANS DRAWN BY OTHERS

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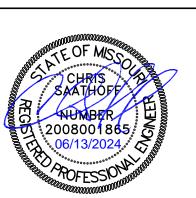
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SCALE: 1/4"=1"-0"

AREA= 1,154 SF

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<u>√1</u> 08/08/2024 PLAN UPDATE

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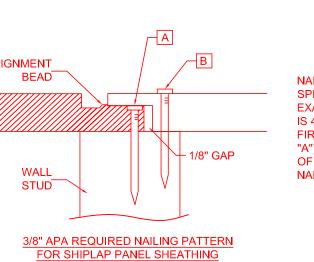
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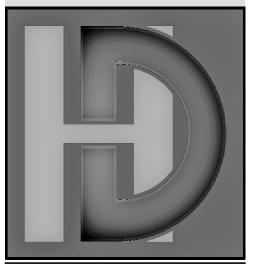


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P O.C. (NAIL
H SECTION
HALL BE
PLANS DRAWN BY OTHERS

S-0.3

ROOF FRAMING PLAN F

6/12 ROOF PITCH

UNLESS NOTED

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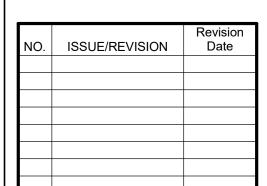
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PLANS DRAWN BY OTHERS

ALLOWABLE LOADS FOR PNEUMATIC OR MECHANICALLY DRIVEN NAILS AND STAPLES

	NAIL GUN		PENETRATION	Al	LLOWABLE LO	LOADS (POUNDS)	
FASTENER DESCRIPTION	NAILS/ WIRE	WIRE GAGE	REQUIRED INTO MAIN MEMBER FOR LATERAL	LATERAL	STRENGTH	WITHDRAWAL STRENGTH	
	DIAMETER	5115	STRENGTH (INCHES)	SP	DF/L	SP	DF/L
16 GA. STAPLE	.063	16	1	51		36	32
15 GA. STAPLE	.072	15	1	64		42	37
14 GA. STAPLE	.080	14	1	75		46	41
6d COOLER NAIL	000	40	_	40		07	00
6d SINKER NAIL	.092	13	1	46		27	23
6d BOX NAIL							
6d CASING NAIL	.099	12-1/2	1-1/8	61	55	31	24
7d COOLER NAIL							
6d COMMON NAIL							
8d COOLER NAIL							
8d SINKER NAIL	.113	11-1/2	1-1/4	79	72	35	28
8d BOX NAIL							
8d CASING NAIL							
6d RING SHANK NAIL							
6d SCREW SHANK NAIL							
8d RING SHANK NAIL	.120	11	1-3/8	89	81	41	32
8d SCREW SHANK NAIL							
10d COOLER NAIL							
10d SINKER NAIL	.128	3 10-1/2	1-1/2	89	81	36	31
12d SHORT							
10d BOX NAILS							
12d BOX NAILS	.128	10-1/2 1-1/2	101 93	40	31		
10d CASING NAILS							
8d COMMON NAILS							
16d SHORT	.131	10-1/4	1-1/2	106	97	41	32
12d SINKERS							
16d BOX NAILS	.135	10	1-1/2	113	103	42	33
10d RING SHANK NAILS							
0d SCREW SHANK NAILS							
12d RING SHANK NAILS	.135	10	1-5/8	113	103	46	36
2d SCREW SHANK NAILS							
10d COMMON NAILS							
12d COMMON NAILS							
16d SINKER NAILS	.148	9	1-5/8	128	118	46	36
20d BOX NAILS		Ü	1 5/5	.20			
30d BOX NAILS							
16d RING SHANK NAILS							
6d SCREW SHANK NAILS	.148	9	1-3/4	128	118	50	40
16d COMMON NAILS							
40d BOX NAILS	.162	8	1-3/4	154	141	50	40
20d RING SHANK NAILS							
20d SCREW SHANK NAILS	.177	7	2-1/8	178	163	59	47
20d SINKER NAILS	.177	7	2-1/8	178	163	54	43
20d COMMON NAILS	.1//		Z-1/0	170	103	J 4	43
ZUU GOIVIIVION NAILS	.148	9	2-1/8	170	166	59	47

MINIMUM SHEATHING REQUIREMENTS

30d SINKER NAILS

BUILDING COMPONENT	MATERIAL
DOOF SHEATHING	7/16" PLYWOOD
ROOF SHEATHING	1 x 4 #3 FURRING
FLOOR SHEATHING	3/4" T&G YELLOW PINE PLYWOOD
WALL COVERING	1/2" GYPSUM SHEATHING
CEILING COVERING	1/2" GYPSUM SHEATHING
EXTERIOR WALL	7/16" APA RATED SHEATHING
SHEATHING	RATED PANEL SIDING, RATED 16" O.C. 7/16" THICK

ALL SHEATHING MATERIALS TO BE APPLIED PERPENDICULAR TO JOISTS AND ENDS STAGGERED REFER TO TABLE R602.3(1) ON S-1.1 FOR FASTENING SCHEDULE

HIP/ VALLEY ALLOWABLE SPAN TABLE

TYPE	MAX. UNSUPPORTED SPAN					
TIPE	2x8	2x10	2x12	1 3/4"x9 1/2" LVL	1 3/4"x11 7/8" LVL	
HIP RAFTER	11'-3"	13'-3"	15'-2"	15'-8"	18'-2"	
VALLEY RAFTER	8'-11"	10'-6"	12'-0"	13'-2"	15'-3"	

FRAME FASTENING SCHEDULE

RAFTERS CEILING JOISTS BEAMS	RIDGE / VALLEY / HIP PLATE LEDGER STRIPS SUPPORTING JOISTS OR RAFTERS COLLAR TIE TO RAFTERS TOP PLATE WHERE CLG JST RUN PARALLEL TO RAFTERS FACI LAPS OVER PARTITIONS BLOCKING BETWEEN JOISTS/RAFTERS TO TOP PLATE BUILT-UP BEAMS, 2" LUMBER LAYERS, FACENAIL OPPOSITE SIDES, (2) @ EACH END PLUS BUILT-UP BEAMS OF ENGINEERED LUMBER, FACE NAIL OPPOSITE SIDES BUILT-UP HEADER, TWO PIECES W/ A 1/2" SPACER BUILT-UP HEADER, TWO PIECES W/ NO 1/2" SPACER BEARING	FACENAIL W/ (3) 10D TOENAIL W/ (3) 8D 10D @ 32" O.C. STAGGERED, TOP & BOTTOM, OPPOSITE SIDES (2) ROWS @ 12" O.C. 16D @ 16" O.C. ALONG EDGES 3" x 0.131" NAILS @ 12" O.C. ALONG EDGES
CEILING JOISTS —	LEDGER STRIPS SUPPORTING JOISTS OR RAFTERS COLLAR TIE TO RAFTERS TOP PLATE WHERE CLG JST RUN PARALLEL TO RAFTERS FACI LAPS OVER PARTITIONS BLOCKING BETWEEN JOISTS/RAFTERS TO TOP PLATE BUILT-UP BEAMS, 2" LUMBER LAYERS, FACENAIL OPPOSITE SIDES, (2) @ EACH END PLUS BUILT-UP BEAMS OF ENGINEERED LUMBER, FACE NAIL OPPOSITE SIDES BUILT-UP HEADER, TWO PIECES W/ A 1/2" SPACER BUILT-UP HEADER, TWO PIECES W/ NO 1/2" SPACER	FACENAIL W/ (3) 16D FACENAIL W/ (3) 10D TOENAIL W/ (3) 8D @ EACH END ENAIL TO RAFTERS W/ (3) 10D MINIMUM FACENAIL W/ (3) 10D TOENAIL W/ (3) 8D 10D @ 32" O.C. STAGGERED, TOP & BOTTOM, OPPOSITE SIDES (2) ROWS @ 12" O.C. 16D @ 16" O.C. ALONG EDGES 3" x 0.131" NAILS @ 12" O.C. ALONG EDGES
CEILING JOISTS —	COLLAR TIE TO RAFTERS TOP PLATE WHERE CLG JST RUN PARALLEL TO RAFTERS FACI LAPS OVER PARTITIONS BLOCKING BETWEEN JOISTS/RAFTERS TO TOP PLATE BUILT-UP BEAMS, 2" LUMBER LAYERS, FACENAIL OPPOSITE SIDES, (2) @ EACH END PLUS BUILT-UP BEAMS OF ENGINEERED LUMBER, FACE NAIL OPPOSITE SIDES BUILT-UP HEADER, TWO PIECES W/ A 1/2" SPACER BUILT-UP HEADER, TWO PIECES W/ NO 1/2" SPACER	FACENAIL W/ (3) 10D TOENAIL W/ (3) 8D @ EACH END ENAIL TO RAFTERS W/ (3) 10D MINIMUM FACENAIL W/ (3) 10D TOENAIL W/ (3) 8D 10D @ 32" O.C. STAGGERED, TOP & BOTTOM, OPPOSITE SIDES (2) ROWS @ 12" O.C. 16D @ 16" O.C. ALONG EDGES 3" x 0.131" NAILS @ 12" O.C. ALONG EDGES
- -	TOP PLATE WHERE CLG JST RUN PARALLEL TO RAFTERS FACI LAPS OVER PARTITIONS BLOCKING BETWEEN JOISTS/RAFTERS TO TOP PLATE BUILT-UP BEAMS, 2" LUMBER LAYERS, FACENAIL OPPOSITE SIDES, (2) @ EACH END PLUS BUILT-UP BEAMS OF ENGINEERED LUMBER, FACE NAIL OPPOSITE SIDES BUILT-UP HEADER, TWO PIECES W/ A 1/2" SPACER BUILT-UP HEADER, TWO PIECES W/ NO 1/2" SPACER	TOENAIL W/ (3) 8D @ EACH END ENAIL TO RAFTERS W/ (3) 10D MINIMUM FACENAIL W/ (3) 10D TOENAIL W/ (3) 8D 10D @ 32" O.C. STAGGERED, TOP & BOTTOM, OPPOSITE SIDES (2) ROWS @ 12" O.C. 16D @ 16" O.C. ALONG EDGES 3" x 0.131" NAILS @ 12" O.C. ALONG EDGES
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- -	LAPS OVER PARTITIONS BLOCKING BETWEEN JOISTS/RAFTERS TO TOP PLATE BUILT-UP BEAMS, 2" LUMBER LAYERS, FACENAIL OPPOSITE SIDES, (2) @ EACH END PLUS BUILT-UP BEAMS OF ENGINEERED LUMBER, FACE NAIL OPPOSITE SIDES BUILT-UP HEADER, TWO PIECES W/ A 1/2" SPACER BUILT-UP HEADER, TWO PIECES W/ NO 1/2" SPACER	FACENAIL W/ (3) 10D TOENAIL W/ (3) 8D 10D @ 32" O.C. STAGGERED, TOP & BOTTOM, OPPOSITE SIDES (2) ROWS @ 12" O.C. 16D @ 16" O.C. ALONG EDGES 3" x 0.131" NAILS @ 12" O.C. ALONG EDGES
- -	BLOCKING BETWEEN JOISTS/RAFTERS TO TOP PLATE BUILT-UP BEAMS, 2" LUMBER LAYERS, FACENAIL OPPOSITE SIDES, (2) @ EACH END PLUS BUILT-UP BEAMS OF ENGINEERED LUMBER, FACE NAIL OPPOSITE SIDES BUILT-UP HEADER, TWO PIECES W/ A 1/2" SPACER BUILT-UP HEADER, TWO PIECES W/ NO 1/2" SPACER	TOENAIL W/ (3) 8D 10D @ 32" O.C. STAGGERED, TOP & BOTTOM, OPPOSITE SIDES (2) ROWS @ 12" O.C. 16D @ 16" O.C. ALONG EDGES 3" x 0.131" NAILS @ 12" O.C. ALONG EDGES
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BEAMS	OPPOSITE SIDES, (2) @ EACH END PLUS BUILT-UP BEAMS OF ENGINEERED LUMBER, FACE NAIL OPPOSITE SIDES BUILT-UP HEADER, TWO PIECES W/ A 1/2" SPACER BUILT-UP HEADER, TWO PIECES W/ NO 1/2" SPACER	BOTTOM, OPPOSITE SIDES (2) ROWS @ 12" O.C. 16D @ 16" O.C. ALONG EDGES 3" x 0.131" NAILS @ 12" O.C. ALONG EDGES
BEAMS	NAIL OPPOSITE SIDES BUILT-UP HEADER, TWO PIECES W/ A 1/2" SPACER BUILT-UP HEADER, TWO PIECES W/ NO 1/2" SPACER	16D @ 16" O.C. ALONG EDGES 3" x 0.131" NAILS @ 12" O.C. ALONG EDGES
	BUILT-UP HEADER, TWO PIECES W/ NO 1/2" SPACER	3" x 0.131" NAILS @ 12" O.C. ALONG EDGES
	·	
	BEARING	TOPM 14/1/20 100 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
		TOENAIL W/ (2) 18D @ EACH END
	RIM JOIST TO SILL OR TOP PLATE	TOENAIL W/ 8D COMMON OR 10D BOX @ 6" O.C.
	JOIST TO SILL OR GIRDER	TOENAIL W/ (3) 8D
	JOIST TO RIM JOIST	FACENAIL W/ (3) 16D
	BRIDGING TO JOIST	TOENAIL W/ (2) 8D
FLOOR JOISTS	I-JOIST TO BEARING PLATE	TOENAIL W/ (2) 8D - ONE INTO EACH SIDE AT LEAST 1 1/2" FROM THE END
	RIM JOIST TO I-JOIST	FACENAIL W/ (2) 10D BOX - ONE INTO EACH FLANGE
	SOLE PLATE TO LSL RIM BOARD	16D BOX @ 12" O.C.
	SINGLE JOIST HANGERS*	10D FACENAILS AND TOENAILS
	DOUBLE JOIST HANGERS*	16D FACENAILS AND TOENAILS
	TOP AND SOLE PLATE TO STUD	END NAIL W/ (2) 16D
	STUD TO SOLE AND TOP PLATE	TOENAIL W/ (4) 8D
	DOUBLE TOP PLATES	FACENAIL W/ 16D @ 16" O.C.
	DOUBLE TOP PLATE LAP SPLICE	FACENAIL W/ (8) 16D
	TOP PLATE LAPS AND INTERSECTIONS	FACENAIL W/ (2) 16D
	DOUBLE STUDS	FACENAIL W/ 16D @ 24" O.C.
	BUILT-UP CORNER STUDS	FACENAIL W/ 16D - 2 ROWS @ 24" O.C.
	STEEL "X" BRACING	FACENAIL W/ (2) 16D IN EACH TOP AND BOTTOM PLATE AND (1) 8D PER STUD
一	SOLE PLATE TO JOIST OR BLOCKING	FACENAIL W/ 16D @ 16" O.C.
WALLS	SOLE PLATE TO JOIST OR BLOCKING AT BRACED WALL LINES, PERPENDICULAR TO FRAMING	FACENAIL W/ (3) 16D @ 16" O.C. ALONG BRACED WALL PANEL
	TOP PLATE TO JOIST OR BLOCKING AT BRACED WALL LINES, PERPENDICULAR TO FRAMING	TOENAIL W/ 8D @ 6" O.C. ALONG BRACED WALL PANEL
	SOLE PLATE TO JOIST OR BLOCKING AT BRACED WALL LINES, PARALLEL TO FRAMING, BLOCKING @ 16" O.C.	FACENAIL W/ (3) 16D @ 16" O.C. ALONG BRACED WALL PANEL AND AT EACH BLOCK
	TOP PLATE TO JOIST OR BLOCKING AT BRACED WALL LINES, PARALLEL TO FRAMING, BLOCKING @ 16" O.C.	TOENAIL W/ 8D @ 6" O.C. ALONG BRACED WALL PANEL AND AT EACH BLOCK
	NON-STRUCT. SIDING OVER STRUCT. SHEATHING	(1) 6D BOX IN EACH STUD
	FIBER-CEMENT PLANK SIDING	(1) 6D GALVANIZED IN EACH STUD
	WINDOW INSTALLATION NAILING	1 ³ / ₄ " - 2" ROOFING NAILS @ 12" O.C. MAX.

NO JOIST HANGER NAILS ALLOWED FOR TOENAILS.

NO GUN NAILS OR SCREWS ALLOWED IN CONNECTORS. TOENAILS SHALL ALWAYS BE A FULL 3" OR 3.5" NAIL.

COLUMN CONNECTION TO STEEL BEAMS SHALL BE WITH A CLIP POST CAP WITH ALL FOUR TAB EARS BENT AROUND THE BOTTOM FLANGE OF THE BEAM. FOR A BEARING PLATE, FOUR HOLES SHALL BE DRILLED IN THE BOTTOM FLANGE OF THE STEEL BEAM TO MATCH THE HOLE PATTERN OF THE PLATE. 1/2" x 2" BOLTS SHOULD THEN BE INSTALLED WITH A FLAT WASHER, LOCK WASHER, AND A NUT IN EACH OF THE HOLES. THE POST CAP MAY BE WELDED TO THE STEEL BEAM IN ACCORDANCE WITH AWS D1.1-92 AS AN ALTERNATIVE, AND WOULD NEED TO BE INSPECTED BY AN AWS-CERTIFIED INSPECTOR.

DUCT SEALING METHOD, PER 2018 IRC W1103.3.2

N1103.2.2 (R403.2.2) SEALING (MANDATORY) DUCTS, AIR HANDLERS, AND FILTER BOXES SHALL BE SEALED. JOINTS AND SEAMS SHALL COMPLY WITH SECTION M1601.4.1 OF THIS CODE.

1. AIR-IMPERMEABLE SPRAY FOAM PRODUCTS SHALL BE PERMITTED TO BE APPLIED WITHOUT ADDITIONAL JOINT 2. WHERE A DUCT CONNECTION IS MADE THAT IS PARTIALLY INACCESSIBLE, THREE SCREWS OR RIVETS SHALL

BE EQUALLY SPACED ON THE EXPOSED PORTION OF THE JOINT SO AS TO PREVENT A HINGE EFFECT. 3. CONTINUOUSLY WELDED AND LOCKING-TYPE LONGITUDINAL JOINTS AND SEAMS IN DUCTS OPERATING AT STATIC PRESSURE LESS THAN 2 INCHES OF WATER COLUMN (500 Pa) PRESSURE CLASSIFICATION SHALL NOT REQUIRE ADDITIONAL CLOSURE SYSTEMS.

DUCT TIGHTNESS SHALL BE VERIFIED BY EITHER OF THE FOLLOWING: 1. POST CONSTRUCTION TEST: TOTAL LEAKAGE SHALL NOT BE LESS THAN OR EQUAL TO 4 CFM (113.3 L/MIN) PER 100FT² (9.29m²) OF CONDITIONED FLOOR AREA WHEN TESTED AT A PRESSURE DIFFERENTIAL OF 0.1 INCHES W.G. (25 Pa) ACROSS THE ENTIRE SYSTEM, INCLUDING THE MANUFACTURER'S AIR HANDLER ENCLOSURE. ALL REGISTER BOOTS SHALL BE TAPED OR OTHERWISE SEALED DURING THE TEST.

2. ROUGH-IN TEST: TOTAL AIR LEAKAGE SHALL BE LESS THAN OR EQUAL TO 4 CFM (113.3 L/MIN) PER 100FT2 (9.29m²) OF CONDITIONED FLOOR AREA WHEN TESTED AT A PRESSURE DIFFERENTIAL OF 0.1 INCHES W.G. (25 Pa) ACROSS THE ENTIRE SYSTEM, INCLUDING THE MANUFACTURER'S AIR HANDLER ENCLOSURE. ALL REGISTERS SHALL BE TAPED OR OTHERWISE SEALED DURING THE TEST. IF THE AIR HANDLER IS NOT INSTALLED AT THE TIME OF THE TEST, TOTAL AIR LEAKAGE SHALL BE LESS THAN OR EQUAL TO 3 CFM (85 L/MIN) PER 100FT² (9.29m²) OF CONDITIONED FLOOR

EXCEPTION: THE TOTAL LEAKAGE IS NOT REQUIRED FOR DUCTS AND AIR HANDLERS LOCATED ENTIRELY WITHIN THE BUILDING THERMAL ENVELOPE.

PLANS SHALL COMPLY WITH THE 2018 INTERNATIONAL RESIDENTIAL CODE, ICC AS ADOPTED BY AHJ, AND ALL AMENDMENTS AS ADOPTED BY THE AHJ. IF ANY CHANGES MAKE ANY APPROPRIATE MODIFICATIONS TO THE PLANS

WHERE DISCREPANCIES EXIST BETWEEN THE STANDARD COMMENTS, NOTES FOR THE DESIGN PROFESSIONAL OR THE CODE, THE MOST RESTRICTIVE SHALL APPLY. THE CONTRACTUAL OBLIGATION OF THESE PLANS IS TO PROVIDE THE OWNER/BUILDER AND THE AHJ WITH A SET OF PLANS THAT MEET AHJ AND CODE REQUIREMENTS FOR A SINGLE SITE CONSTRUCTION PROJECT. UNLESS REQUESTED BY OUR CLIENT, CODE/AHJ MINIMUM DESIGNS WILL BE UTILIZED. ALSO, UNLESS REQUESTED BY THE OWNER, OUR FIRM CAN NOT AND WILL NOT BE AUTHORIZED TO VISIT THE SITE TO EVALUATE THE SITE OR ANY CONSTRUCTION FOR THIS PROJECT. IMPLEMENTATION OF ALTERNATES TO THE DESIGNS INCLUDING BUT NOT LIMITED TO PIER DESIGNS, FOUNDATION ALTERATIONS, OR ANY STRUCTURAL CHANGES NOT PROVIDED BY HD ENGINEERING OR A PROFESSIONAL REFERRED BY HD ENGINEERING SHALL RELEASE HD ENGINEERING FROM ALL LIABILITY ASSOCIATED WITH THIS DESIGN.

OUR FIRM HIGHLY RECOMMENDS THAT ANY SITE WITH GREATER THAN A 15% GRADE, ANY SITE WHERE A PREVIOUS STRUCTURE WAS LOCATED, OR ANY SITE WITH POTENTIAL FILL MATERIAL OR A POTENTIAL SOIL BEARING CAPACITY BELOW 1500 PSF SHOULD BE EVALUATED BY OUR FIRM OR AN HD ENGINEERING REFERRED GEOTECHNICAL FIRM PRIOR TO PLACING FOOTINGS. THE ATTACHED PLANS HAVE BEEN DESIGNED WITH THE UNDERSTANDING THAT <u>OUR FIRM HAS NOT AND CAN NOT VISIT OR INSPECT THE SITE</u> WITHOUT WRITTEN CONSENT/REQUEST OF THE OWNER/BUILDER. DUE TO THIS FACT, OUR FIRM CAN ONLY DESIGN THE ATTACHED PLANS TO CERTAIN CODE REQUIREMENTS WHICH ARE DETAILED THROUGHOUT THE PLAN AND ATTACHED DETAIL SHEETS, IF THE OWNER DESIRES GREATER THAN CODE

DESIGNS THAT REQUEST MUST BE MADE CLEARLY AND IN WRITING PRIOR TO ENGINEERING OF THE PLAN. DUE TO THE WIDE VARIETY OF SOIL CONDITIONS, PLASTICITY INDEXES, AND SOIL BEARING CAPACITIES IN OUR AREA, OUR FIRM RECOMMENDS ALL SITES BE EVALUATED BY HD ENGINEERING OR AN HD ENGINEERING REFERRED GEOTECHNICAL FIRM PRIOR TO PLACEMENT OF ANY "STANDARD" FOUNDATIONS.

THE FOUNDATION DESIGN SHALL COMPLY WITH THE ENFORCING JURISDICTION RESIDENTIAL FOUNDATION STANDARD IN LIEU OF ENGINEERING REPORT REQUIREMENTS BASED ON ACTUAL SITE CONDITIONS. FOUNDATION WALLS SHALL BE DAMP-PROOFED PER IRC SECTION R406.

PROVIDE A MINIMUM 4" PERFORATED DRAIN AROUND USABLE SPACE BELOW GRADE OR OTHER EQUIVALENT MATERIALS PER IRC SECTION 405.1. THE PIPE SHALL BE COVERED WITH NOT LESS THAN 6" OF WASHED GRAVEL OR CRUSHED ROCK. THE DRAIN SHALL DAYLIGHT TO THE EXTERIOR BELOW THE FLOOR LEVEL OR TERMINATE IN A MINIMUM 20 GALLON SUMP PIT. FOUNDATION DESIGN SHALL BE BASED ON A MINIMUM SOIL BEARING CAPACITY OF 1500 PSF.

FOOTINGS SHALL BE A MINIMUM OF 16" WIDE AND 8" DEEP WITH (2) #4 BARS CONTINUOUS, LOCATED A MINIMUM OF 3" CLEAR FROM THE BOTTOM. FOOTINGS SHALL BE A COLUMN PADS SHALL BE A MINIMUM OF 24"x24"x8" WITH (3) #4 BARS EACH WAY.

FOUNDATION WALLS SHALL BE A MINIMUM OF 8" THICK WITH MINIMUM #4 BARS @ 24" O.C. HORIZONTAL AND VERTICAL WITH THE TOP BAR WITHIN 8" OF THE TOP OF THE WALL UNLESS NOTED OTHERWISE ON PLAN. REINFORCEMENT SHALL LAP A MINIMUM OF 24".

INTERIOR BEARING WALLS AND COLUMNS SHALL BE ISOLATED FROM THE BASEMENT FLOOR SLAB.

INTERIOR NON-BEARING WALLS, OTHER THAN THOSE RESTING DIRECTLY ON THE FOOTING, SHALL BE ISOLATED FROM THE FLOOR FRAMING ABOVE BY A SEPARATION CONCRETE FLOOR SLABS ON GRADE SHALL BE A MINIMUM OF 4" THICK OVER A MINIMUM 4" BASE OF SAND, GRAVEL, OR CRUSHED STONE. BASEMENT SLABS SHALL

HAVE A MINIMUM 6 MIL POLYETHYLENE OR APPROVED VAPOR RETARDER WITH JOINTS LAPPED NOT LESS THAN 6" AND SHALL BE PLACED BETWEEN THE FLOOR SLAB FLOOR SLABS SUPPORTED BY FILL CONSISTING OF MORE THAN 24" OF GRANULAR FILL OR 8" OF EARTH SHALL BE REINFORCED PER A SEPARATE ENGINEERING DESIGN.

BASEMENT FOUNDATION SILL PLATES SHALL BE ANCHORED TO THE FOUNDATION WITH MINIMUM 1/2" DIAMETER ANCHOR BOLTS EMBEDDED AT LEAST 7" INTO THE CONCRETE AND SPACED NOT MORE THAN 3' ON CENTER AND WITHIN 12" OF EACH END OF THE PLATE SECTION PER IRC SECTION R403.1.6. FOUNDATION WINDOW WELLS FOR SECONDARY MEANS OF EGRESS SHALL PROVIDE A MINIMUM 3'x3' HORIZONTAL AREA.

THE BASE OF ALL FOOTING EXCAVATIONS SHOULD BE FREE OF ALL WATER AND LOOSE MATERIAL PRIOR TO PLACING CONCRETE. CONCRETE SHOULD BE PLACED AS SOON AS POSSIBLE AFTER EXCAVATING SO THAT EXCESSIVE DRYING OR DISTURBANCE OF BEARING MATERIALS DOES NOT OCCUR. SHOULD THE MATERIALS AT BEARING LEVEL BECOME EXCESSIVELY DRY OR SATURATED, WE RECOMMEND THAT THE AFFECTED MATERIAL BE REMOVED PRIOR TO PLACING CONCRETE.

IT IS RECOMMENDED THAT ALL FOOTING EXCAVATIONS BE EVALUATED AND TESTED BY A GEOTECHNICAL ENGINEER IMMEDIATELY PRIOR TO PLACEMENT OF FOUNDATION CONCRETE. UNSUITABLE AREAS IDENTIFIED AT THIS TIME SHOULD BE CORRECTED. CORRECTIVE PROCEDURES WOULD BE DEPENDENT UPON CONDITIONS ENCOUNTERED AND MAY INCLUDE THE DEEPENING OF FOUNDATION ELEMENTS, OR THE UNDERCUTTING OF UNSUITABLE MATERIALS AND REPLACEMENT WITH ENGINEERED FILL.

STAIRWAYS SHALL PROVIDE A MAXIMUM 7 3/4" RISE AND A MINIMUM 10" RUN. PROVIDE MINIMUM 36" GUARDRAILS ON THE OPEN SIDES OF RAISED FLOORS, PORCHES, AND BALCONIES. PROVIDE MINIMUM 34" GUARDRAILS ON THE OPEN SIDES OF STAIRWAYS LOCATED MORE THAN 30" ABOVE THE FLOOR OR GRADE BELOW. GUARDRAIL ENCLOSURES SHALL HAVE INTERMEDIATE RAILS OR ORNAMENTAL PATTERNS THAT DO NOT ALLOW PASSAGE OF A 4" DIAMETER SPHERE

EACH STAIRWAY OF 3 OR MORE RISERS SHALL PROVIDE A CONTINUOUS HANDRAIL ON AT LEAST ONE SIDE BETWEEN 34" AND 38" ABOVE THE NOSING OF THE TREADS. HANDRAILS SHALL HAVE A CIRCULAR CROSS-SECTION OF 1 1/4" MINIMUM TO 2" MAXIMUM OR ANOTHER APPROVED GRASPABLE SHAPE PER IRC SECTION R311.7.8.5. PROVIDE A MINIMUM 6'-8" OF HEADROOM CLEARANCE IN STAIRWAYS.

ENCLOSED ACCESSIBLE SPACE UNDER STAIRWAYS SHALL HAVE WALLS AND THE UNDERSIDE OF THE STAIR AND LANDING PROTECTED WITH 1/2" GYPSUM BOARD ON THE

WINDERS SHALL PROVIDE A MINIMUM TREAD OF 6" AT ANY POINT WITHIN CLEAR WIDTH OF STAIRS. WINDER TREAD PROPORTION IS TO COMPLY WITH IRC SECTION R311.7.5.2.1.

GLAZING IN HAZARDOUS LOCATIONS AS IDENTIFIED IN IRC SECTION R308.4 SHALL BE OF APPROVED SAFETY GLAZING MATERIALS. GLASS IN STORM DOORS, INDIVIDUAL FIXED OR OPERABLE PANELS ADJACENT TO A DOOR WHERE THE NEAREST VERTICAL EDGE IS WITHIN A 24" ARCH OF THE DOOR IN A CLOSED POSITION AND WHOSE BOTTOM EDGE IS WITHIN 60" OF THE FLOOR, WALLS ENCLOSING STAIRWAYS AND LANDINGS WHERE THE GLAZING IS WITHIN 60" OF THE TOP OR BOTTOM OF THE STAIR, ENCLOSURES FOR SPAS, TUBS, SHOWERS AND WHIRLPOOLS, GLAZING IN FIXED OR OPERABLE PANELS EXCEEDING 9 S.F. AND WHOSE BOTTOM EDGE IS LESS THAN 18" ABOVE THE FLOOR OR WALKING SURFACE WITHIN 36".

IN DWELLING UNITS WHERE THE OPENING OF AN OPERABLE WINDOW IS LOCATED MORE THAN 72" ABOVE THE FINISHED GRADE OR SURFACE BELOW, THE LOWEST PART OF THE CLEAR OPENING OF THE WINDOW SHALL BE A MINIMUM OF 24" ABOVE THE FINISHED FLOOR OF THE ROOM IN WHICH THE WINDOW IS LOCATED. OPERABLE SECTIONS OF WINDOWS SHALL NOT PERMIT OPENINGS THAT ALLOW PASSAGE OF A 4" DIAMETER SPHERE WHERE SUCH OPENINGS ARE LOCATED WITHIN 24" OF THE FINISHED FLOOR.

ALL LUMBER SIZES ARE FOR DOUGLAS FIR-LARCH UNLESS NOTED OTHERWISE

ALL HEADERS ARE TO BE A MINIMUM OF (2) #2 2x10'S UNLESS NOTED OTHERWISE. BLOCK CANTILEVERS, DOOR JAMBS, AND OVER BEAMS.

ALL HEADERS/BEAMS ARE TO BEAR ON A MINIMUM OF (2) 2x4 POSTS UNLESS NOTED OTHERWISE

INTERIOR NON-BEARING WALLS, OTHER THAN THOSE RESTING DIRECTLY ON THE FOOTING, SHALL BE ISOLATED FROM THE FLOOR FRAMING ABOVE WHERE JOISTS RUN PARALLEL TO FOUNDATION WALLS, SOLID BLOCKING FOR A MINIMUM OF (2) JOIST SPACES SHALL BE PROVIDED AT A MAXIMUM OF 4' ON CENTER TO TRANSFER LATERAL LOADS ON THE WALL TO THE FLOOR DIAPHRAGM. THE BLOCKING SHALL BE SECURELY NAILED TO THE JOISTS AND FLOORING. NAIL JOISTS AND

BLOCKING TO SILL PLATE WITH (4) 10D NAILS. IF DUCTS ARE INSTALLED IN THE FIRST JOIST SPACE(S), NAIL 2x4'S FLAT AT 4' ON CENTER WITHIN THE JOIST SPACE(S) AND THEN PROVIDE SOLID BLOCKING, INSTALLED

UPRIGHT, IN THE NEXT TWO JOIST SPACES. SECURE THE 2x4'S TO THE SILL PLATE WITH (4) 10D NAILS. ALL SILLS AND SLEEPERS SUPPORTED ON CONCRETE OR MASONRY AND FURRING ATTACHED TO CONCRETE OR MASONRY SHALL BE OF DECAY RESISTANT MATERIALS. JOISTS UNDER BEARING PARTITIONS SHALL BE SIZED TO CARRY THE DESIGN LOAD IN ACCORDANCE WITH IRC SECTION R502.4.

JOISTS FRAMING FROM OPPOSITE SIDES OVER BEARING SUPPORTS SHALL LAP A MINIMUM OF 3" AND SHALL BE NAILED TOGETHER WITH MINIMUM 10D FACE NAILS. JOISTS FRAMING INTO A WOOD GIRDER OR BEAM SHALL BE SUPPORTED BY APPROVED FRAMING ANCHORS OR ON MINIMUM 2"x2" LEDGER STRIPS. HEADER AND TRIMMERS SHALL BE OF SUFFICIENT CROSS SECTION TO SUPPORT THE FLOOR FRAMING. TRIMMER JOISTS SHALL BE DOUBLED WHEN THE HEADER IS SUPPORTED MORE THAN 3' FROM THE TRIMMER JOIST BEARING. WHEN THE HEADER SPAN EXCEEDS 4', THE HEADER AND TRIMMER SHALL BE DOUBLED.

JOISTS AT SUPPORTS SHALL BE SUPPORTED LATERALLY AT THE ENDS BY FULL-DEPTH SOLID BLOCKING NOT LESS THAN 2" IN NOMINAL THICKNESS OR BY ATTACHMENT TO A HEADER, BAND, OR RIM JOIST OR TO AN ADJOINING STUD OR OTHERWISE PROVIDED WITH LATERAL SUPPORT TO PREVENT ROTATION. ALL WALL COVERINGS ARE TO COMPLY WITH IRC SECTIONS 702 AND 703.

ALL RAFTER / COLLAR TIES ARE TO COMPLY WITH IRC SECTION 802. ALL RAFTERS ARE TO HAVE 2x4 COLLAR TIES @ 48" O.C. IN THE UPPER 1/3 OF DISTANCE BETWEEN THE CEILING AND ROOF

BLOCKING BETWEEN JOISTS UNDER A PERPENDICULAR LOAD-BEARING WALL IS NOT REQUIRED.

THE BOTTOM OF ALL FLOOR ASSEMBLIES SHALL BE PROVIDED WITH A 1/2" GYPSUM WALLBOARD MEMBRANE (IF REQUIRED BY LOCAL CODE).

I-JOIST AND FLOOR TRUSS SYSTEMS SHALL BE FIRE PROTECTED PER IRC AS ADOPTED BY AHJ

STUDS SHALL BE CONTINUOUS FROM THE FLOOR TO THE ROOF / CEILING DIAPHRAGM PER IRC SECTION 602.3

CONCRETE SHALL BE AIR-ENTRAINED (5%-7%) WITH A MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS OF 2500 PSI FOR BASEMENT AND INTERIOR FLOOR SLABS, 3000 PSI FOR BASEMENT AND FOUNDATION WALLS, AND 3500 PSI FOR PORCHES, CARPORTS AND GARAGE FLOOR SLABS.

EMERGENCY EGRESS AND RESCUE NOTES:

PROVIDE ONE WINDOW FOR EACH BEDROOM THAT HAS A MINIMUM OPENABLE AREA OF 5.7 S.F. WITH A MINIMUM OPENABLE HEIGHT OF 24" AND WIDTH OF 21". IN ADDITION, THE OPENABLE PORTION OF EGRESS WINDOWS SHALL NOT EXCEED 44" ABOVE THE ADJOINING FLOOR OR PERMANENT STEP.

PROVIDE SMOKE ALARMS IN EACH SLEEPING ROOM, OUTSIDE OF EACH SLEEPING AREA, AND ON EACH FLOOR INCLUDING BASEMENTS. ALARMS SHALL BE INTERCONNECTED IN SUCH A MANNER THAT THE ACTIVATION OF ONE ALARM WILL ACTIVATE ALL OF THE ALARMS IN THE DWELLING.

PROVIDE CARBON MONOXIDE ALARMS AS REQUIRED PER IRC. CARBON MONOXIDE ALARMS SHALL BE INSTALLED OUTSIDE OF EACH SEPARATE SLEEPING AREA. WHERE FUEL-BURNING APPLIANCES ARE LOCATED WITHIN A BEDROOM OR ITS ATTACHED BATHROOM, A CARBON MONOXIDE ALARM SHALL BE INSTALLED IN THE BEDROOM.

THE GARAGE FLOOR SHALL SLOPE TOWARDS THE GARAGE DOORWAYS OR SLOPE TO A TRENCH OR UNTRAPPED DRAIN THAT DISCHARGES DIRECTLY TO THE EXTERIOR

ABOVE GRADE. DOORS BETWEEN THE GARAGE AND DWELLING - MINIMUM 1 3/8" THICK SOLID WOOD, MINIMUM 1 3/8" THICK SOLID OR HONEY-COMB-CORE STEEL DOOR, OR 20-MINUTE

FIRE-RATED EQUIPPED WITH A SELF-CLOSING DEVICE PER IRC SECTION R302.5.1. GARAGE VEHICLE DOORS AND FRAMES SHALL BE DESIGNED AND INSTALLED TO MEET THE 115-MPH 3-SECOND GUST LOADING PER DASMA 108 AND ASTM E 330-96 PER

THE GARAGE SHALL BE SEPARATED FROM THE DWELLING AND ITS ATTIC AREAS BY MINIMUM 5/8" GYPSUM BOARD APPLIED TO THE GARAGE SIDE. WHERE HABITABLE SPACE OCCURS ABOVE THE GARAGE. THE FLOOR/CEILING ASSEMBLY SHALL BE PROTECTED WITH MINIMUM 5/8" TYPE X GYPSUM BOARD ON THE GARAGE CEILING. WHERE A FLOOR/CEILING SPACE IS PROVIDED ABOVE THE GARAGE, COLUMNS AND BEAMS SUPPORTING THE SEPARATION SHALL ALSO BE PROTECTED WITH 5/8"

GARAGE DOOR H-FRAME FOR THE ATTACHMENT OF THE TRACK AND COUNTER BALANCE SHALL CONSIST OF THE FOLLOWING: 2x6 VERTICAL JAMBS RUNNING FROM FLOOR TO CEILING ATTACHED WITH 1 3/4"x0.120" NAILS AT 7" ON CENTER STAGGERED WITH (7) 3 1/4"x0.120" NAILS THROUGH THE JAMB INTO THE HEADER, MINIMUM 2x8 HEADER FOR ATTACHMENT OF THE COUNTER BALANCE SYSTEM.

ANY ATTACHED GARAGE TO THE MAIN HOUSE SHALL BE PROVIDED WITH A SINGLE HEAT DETECTOR. THE HEAT DETECTOR SHALL BE HARDWIRED AND INTERCONNECTED WITH THE HOUSEHOLD SMOKE ALARM SYSTEM. THE HEAT DETECTOR SHALL BE LISTED FOR THE AMBIENT ENVIRONMENT AND INSTALLED PER

BUILDING ENVELOPE INSULATION SHALL COMPLY WITH IRC TABLE N1102.1.2 OR THE 2018 IECC. (SEE S-6.0 FOR MORE DETAILS)

ENCLOSED ATTICS SHALL HAVE CROSS VENTILATION FOR EACH SEPARATE SPACE BY VENTILATING OPENINGS PROTECTED AGAINST THE ENTRANCE OF RAIN OR SNOW. VENTILATING OPENINGS SHALL BE PROVIDED WITH CORROSION-RESISTANT WIRE MESH, WITH 1/8" TO 1/4" OPENINGS. THE TOTAL FREE VENTILATING AREA SHALL NOT BE LESS THAN 1/150th OF THE AREA OF SPACE VENTILATED. WHERE THE VENTILATORS ARE LOCATED IN THE UPPER PORTION OF THE SPACE TO BE VENTILATED, THE

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ANY OF THE INFORMATION AINED HEREIN MAY RESULT IN LIABILITY UNDER APPLICABLE LAW.



184 EE'S

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GENERAL NOTES

TABLE R602.3(1) FASTENING SCHEDULE

ITEM	DESCRIPTION OF BUILDING ELEMENTS	NUMBER AND TYPE OF FASTENER ^{a, b, c}	SPACING AND LOCATION				
	ROOF						
1	BLOCKING BETWEEN CEILING JOISTS OR RAFTERS TO TOP PLATE	4-8D BOX (2 ¹ / ₂ " x 0.113"); OR 3-8D COMMON (2 ¹ / ₂ " x 0.131"); OR 3-10D BOX (3" x 0.128"); OR	TOE NAIL				
2	CEILING JOISTS TO PLATE	ATE 3-3" x 0.131" NAILS					
3	CEILING JOISTS NOT ATTACHED TO PARALLEL RAFTER, LAPS OVER PARTITIONS (SEE SECTION R802.5.2 AND TABLE R802.5.2)	4-10D BOX (3" x 0.128"); OR 3-16D COMMON (3 ½" x 0.162"); OR 4-3" x 0.131" NAILS	FACE NAIL				
4	CEILING JOIST ATTACHED TO PARALLEL RAFTER (HEEL JOINT) (SEE SECTION R802.5.2 AND TABLE R802.5.2)	TABLE R802.5.2	FACE NAIL				
5	COLLAR TIE TO RAFTER, FACE NAIL OR 1 ½" x 20 GA. RIDGE STRAP TO RAFTER	4-10D BOX (3" x 0.128"); OR 3-10D COMMON (3" x 0.148"); OR 4-3" x 0.131" NAILS	FACE NAIL EACH RAFTER				
6	RAFTER OR ROOF TRUSS TO PLATE	3-16D BOX NAILS (3 ¹ / ₂ " x 0.135"); OR 3-10D COMMON NAILS (3" x 0.148"); OR 4-10D BOX (3" x 0.128"); OR 4-3" x 0.131" NAILS	2 TOE NAILS ON ONE SIDE AND 1 TOE NAIL ON OPPOSITE SIDE OF EACH RAFTER OR TRUSS ⁱ				
7	ROOF RAFTERS TO RIDGE, VALLEY OR HIP RAFTERS OR ROOF RAFTER TO MINIMUM 2" RIDGE BEAM	4-16D (3 ¹ / ₂ " x 0.135"); OR 3-10D COMMON (3" x 0.148"); OR 4-10D BOX (3" x 0.128"); OR 4-3" x 0.131" NAILS 3-16D BOX (3 ¹ / ₂ " x 0.135"); OR 2-16D COMMON (3 ¹ / ₂ " x 0.162"); OR 3-10D BOX (3" x 0.128"); OR 3-3" x 0.131" NAILS	TOE NAIL				
		WALL					
8	STUD TO STUD (NOT BRACED WALL PANELS)	16D COMMON (3 ¹ / ₂ " x 0.162")	24" O.C. FACE NAIL				
0	STOD TO STOD (NOT BRACED WALL FAMELS)	10D BOX (3" x 0.128"); OR 3" x 0.131" NAILS	16" O.C. FACE NAIL				
9	STUD TO STUD AND ABUTTING STUDS AT INTERSECTING	16D BOX (3 ¹ / ₂ " x 0.135"); OR 3" x 0.131" NAILS	12" O.C. FACE NAIL				
	WALL CORNERS (AT BRACED WALL PANELS)	16D COMMON (3 ¹ / ₂ " x 0.162")	16" O.C. FACE NAIL				
10	BUILT-UP HEADER (2" TO 2" HEADER WITH 1/2" SPACER)	16D COMMON (3 1/2" x 0.162")	16" O.C. EACH EDGE FACE NAIL				
		16D BOX (3 ½" x 0.135")	12" O.C. EACH EDGE FACE NAIL				
11	CONTINUOUS HEADER TO STUD	5-8D BOX (2 ¹ / ₂ " x 0.113"); OR 4-8D COMMON (2 ¹ / ₂ " x 0.131"); OR 4-10D BOX (3" x 0.128")	TOE NAIL				
12	TOP PLATE TO TOP PLATE	16D COMMON (3 ¹ / ₂ " x 0.162")	16" O.C. FACE NAIL				
		10D BOX (3" x 0.128"); OR 3" x 0.131" NAILS	12" O.C. FACE NAIL				
13	DOUBLE TOP PLATE SPLICE	8-16D COMMON (3 ¹ / ₂ " x 0.162"); OR 12-16D BOX (3 ¹ / ₂ " x 0.135"); OR 12-10D BOX (3" x 0.128"); OR 12-3" x 0.131" NAILS	FACE NAIL ON EACH SIDE OF END JOINT (MINIMUM 24" LAP SPLICE LENGTH EACH SIDE OF END JOINT)				
14	BOTTOM PLATE TO JOIST, RIM JOIST, BAND JOIST OR BLOCKING	16D COMMON (3 ¹ / ₂ " x 0.162")	16" O.C. FACE NAIL				
	(NOT AT BRACED WALL PANELS)	16D BOX (3 ¹ / ₂ " x 0.135"); OR 3" x 0.131" NAILS	12" O.C. FACE NAIL				
15	BOTTOM PLATE TO JOIST, RIM JOIST, BAND JOIST OR BLOCKING (AT BRACED WALL PANEL)	3-16D BOX (3 ½" x 0.135"); OR 2-16D COMMON (3 ½" x 0.162"); OR 4-3" x 0.131" NAILS	3 EACH 16" O.C. FACE NAIL 2 EACH 16" O.C. FACE NAIL 4 EACH 16" O.C. FACE NAIL				
16		4-8D BOX (2 ¹ / ₂ " x 0.113"); OR 3-16D BOX (3 ¹ / ₂ " x 0.135"); OR 4-8D COMMON (2 ¹ / ₂ " x 0.131"); OR 4-10D BOX (3" x 0.128"); OR 4-3" x 0.131" NAILS	TOE NAIL				
		3-16D BOX (3 ¹ / ₂ " x 0.135"); OR 2-16D COMMON (3 ¹ / ₂ " x 0.162"); OR 3-10D BOX (3" x 0.128"); OR 3-3" x 0.131" NAILS	END NAIL				
17	TOP PLATES, LAPS AT CORNERS AND INTERSECTIONS	3-10D BOX (3" x 0.128"); OR 2-16D COMMON (3 ¹ / ₂ " x 0.162"); OR 3-3" x 0.131" NAILS	FACE NAIL				
18	1" BRACE TO EACH STUD AND PLATE	3-8D BOX (2 ½" x 0.113"); OR 2-8D COMMON (2 ½" x 0.131"); OR 2-10D BOX (3" x 0.128"); OR 2 STAPLES 1 ¾"	FACE NAIL				
19	1" x 6" SHEATHING TO EACH BEARING	3-8D BOX (2 ¹ / ₂ " x 0.113"); OR 2-8D COMMON (2 ¹ / ₂ " x 0.131"); OR 2-10D BOX (3" x 0.128"); OR 2 STAPLES, 1" CROWN, 16 GA., 1 ³ / ₄ " LONG	FACE NAIL				
		3-8D BOX (2 ¹ / ₂ " x 0.113"); OR 3-8D COMMON (2 ¹ / ₂ " x 0.131"); OR 3-10D BOX (3" x 0.128"); OR 3 STAPLES, 1" CROWN, 16 GA., 1 ³ / ₄ " LONG					
20	1" x 8" AND WIDER SHEATHING TO EACH BEARING	WIDER THAN 1" x 8" 4-8D BOX (2 ¹ / ₂ " x 0.113"); OR 3-8D COMMON (2 ¹ / ₂ " x 0.131"); OR 3-10D BOX (3" x 0.128");	FACE NAIL				
		OR 4 STAPLES, 1" CROWN, 16 GA., 1 3/4" LONG FLOOR					
21	JOIST TO SILL, TOP PLATE OR GIRDER	4-8D BOX (2 ¹ / ₂ " x 0.113"); OR 3-8D COMMON (2 ¹ / ₂ " x 0.131"); OR 3-10D BOX (3" x 0.128"); OR	TOE NAIL				
22	RIM JOIST, BAND JOIST OR BLOCKING TO SILL OR TOP PLATE	3-3" x 0.131" NAILS 8D BOX (2 ¹ / ₂ " x 0.113")	4" O.C. TOE NAIL				
		8D COMMON (2 ¹ / ₂ " x 0.131"); OR 10D BOX (3" x 0.128"); OR 3" x 0.131" NAILS 3-8D BOX (2 ¹ / ₂ " x 0.113"); OR	6" O.C. TOE NAIL				
23	1" x 6" SUBFLOOR OR LESS TO EACH JOIST	3-8D BOX (2 ½ x 0.113"); OR 2-8D COMMON (2 ½ x 0.131"); OR 3-10D BOX (3" x 0.128"); OR 2 STAPLES, 1" CROWN, 16 GA., 1 ¾ LONG	FACE NAIL				
		FLOOR					
24	2" SUBFLOOR TO JOIST OR GIRDER	3-16D BOX (3 ½" x 0.135"); OR 2-16D COMMON (3 ½" x 0.162")	BLIND AND FACE NAIL				
25 26	2" PLANKS (PLANK & BEAM-FLOOR AND ROOF) BAND OR RIM JOIST TO JOIST	3-16D BOX (3 ½" x 0.135"); OR 2-16D COMMON (3 ½" x 0.162") 3-16D COMMON (3 ½" x 0.162"); OR 4-10D BOX (3" x 0.128"); OR	AT EACH BEARING, FACE NAIL END NAIL				
	22 5. (4-3" x 0.131" NAILS; OR 4-3" x 14 GA. STAPLES, ⁷ / ₁₆ " CROWN	NAIL EACH LAYER AS FOLLOWS: 32" O.C.				
27	BUILT-UP GIRDERS AND BEAMS, 2-INCH LUMBER LAYERS	20D COMMON (4" x 0.192"); OR 10D BOX (3" x 0.128"); OR 3" x 0.131" NAILS AND: 2-20D COMMON (4" x 0.192"); OR	AT TOP AND BOTTOM AND STAGGERED. 24" O.C. FACE NAIL AT TOP AND BOTTOM STAGGERED ON OPPOSITE SIDES				
28	LEDGER STRIP SUPPORTING JOISTS OR RAFTERS	3-10D BOX (3" x 0.128"); OR 3-3" x 0.131" NAILS 4-16D BOX (3 ¹ / ₂ " x 0.135"); OR 3-16D COMMON (3 ¹ / ₂ " x 0.162"); OR 4-10D BOX (3" x 0.128"); OR	FACE NAIL AT ENDS AND AT EACH SPLICE AT EACH JOIST OR RAFTER, FACE NAIL				
	PRIDOING OR BLOOMING TO 1919	4-3" x 0.131" NAILS 2-10D BOX (3" x 0.128"); OR 2-8D COMMON	FACULEND TOTAL				
29	BRIDGING OR BLOCKING TO JOIST = 25.4 mm, 1 foot = 304.8 mm, 1 mile per hour = 0.447 m/s; 1 ksi = 6.895 MPa.	(2 ¹ / ₂ " x 0.131" OR 2-3" x 0.131") NAILS	EACH END, TOE NAIL				

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 mile per hour = 0.447 m/s; 1 ksi = 6.895 MPa.

- NAILS ARE SMOOTH-COMMON, BOX OR DEFORMED SHANKS EXCEPT WHERE OTHERWISE STATED. NAILS USED FOR FRAMING AND SHEATHING CONNECTIONS SHALL HAVE MINIMUM AVERAGE BENDING YIELD STRENGTHS AS SHOWN: 80 KSI FOR
- SHANK DIAMETER OF 0.192 INCH (20D COMMON NAIL), 90 KSI FOR SHANK DIAMETERS LARGER THAN 0.142 INCH BUT NOT LARGER THAN 0.177 INCH, AND 100 KSI FOR SHANK DIAMETERS OF 0.142 INCH OR LESS. STAPLES ARE 16 GAGE WIRE AND HAVE A MINIMUM 7/16-INCH ON DIAMETER CROWN WIDTH. NAILS SHALL BE SPACED AT NOT MORE THAN 6 INCHES ON CENTER AT ALL SUPPORTS WHERE SPANS ARE 48 INCHES OR GREATER. FOUR-FOOT BY 8-FOOT OR 4-FOOT BY 9-FOOT PANELS SHALL BE APPLIED VERTICALLY.
- SPACING OF FASTENERS NOT INCLUDED IN THIS TABLE SHALL BE BASED ON TABLE R602.3(2).
- FOR WOOD STRUCTURAL PANEL ROOF SHEATHING ATTACHED TO GABLE END ROOF FRAMING AND TO INTERMEDIATE SUPPORTS WITHIN 48 INCHES OF ROOF EDGES AND RIDGES, NAILS SHALL BE SPACED AT 6 INCHES ON CENTER WHERE THE
- ULTIMATE DESIGN WIND SPEED IS LESS THAN 130 MPH AND SHALL BE SPACED 4 INCHES ON CENTER WHERE THE ULTIMATE DESIGN WIND SPEED IS 130 MPH OR GREATER BUT LESS THAN 140 MPH.

 GYPSUM SHEATHING SHALL CONFORM TO ASTM C1396 AND SHALL BE INSTALLED IN ACCORDANCE WITH GA 253. FIBERBOARD SHEATHING SHALL CONFORM TO ASTM C208. SPACING OF FASTENERS ON FLOOR SHEATHING PANEL EDGES APPLIES TO PANEL EDGES SUPPORTED BY FRAMING MEMBERS AND REQUIRED BLOCKING AND AT FLOOR PERIMETERS ONLY. SPACING OF FASTENERS ON ROOF SHEATHING PANEL EDGES APPLIES TO PANEL EDGES SUPPORTED BY FRAMING MEMBERS AND REQUIRED BLOCKING. BLOCKING OF ROOF OR FLOOR SHEATHING PANEL EDGES PERPENDICULAR TO THE FRAMING MEMBERS NEED NOT BE PROVIDED EXCEPT AS
- REQUIRED BY OTHER PROVISIONS OF THIS CODE. FLOOR PERIMETER SHALL BE SUPPORTED BY FRAMING MEMBERS OR SOLID BLOCKING.

 WHERE A RAFTER IS FASTENED TO AN ADJACENT PARALLEL CEILING JOIST IN ACCORDANCE WITH THIS SCHEDULE, PROVIDE TWO TOE NAILS ON ONE SIDE OF THE RAFTER AND TOE NAILS FROM THE CEILING JOIST TO TOP PLATE IN
- ACCORDANCE WITH THIS SCHEDULE. THE TOE NAIL ON THE OPPOSITE SIDE OF THE RAFTER SHALL NOT BE REQUIRED. RSRS-01 IS A ROOF SHEATHING RING SHANK NAIL MEETING THE SPECIFICATIONS IN ASTM F1667.

CONTINUED TABLE R602.3(1) FASTENING SCHEDULE

ITEM	TEM DESCRIPTION OF RUIL DING ELEMENTS AND TYPE OF FACTENERS		SPACING C	F FASTENERS			
ITEM	DESCRIPTION OF BUILDING ELEMENTS	NUMBER AND TYPE OF FASTENER ^{a, b, c}	EDGES (INCHES)h	INTERMEDIATE SUPPORTS ^{c, e} (INCHES)			
	WOOD STRUCTURAL PANELS, SUBFLOOR, ROOF AND INTERIOR WALL SHEATHING TO FRAMING AND PARTICLEBOARD WALL SHEATHING TO FRAMING [SEE TABLE R602.3(3) FOR WOOD STRUCTURAL PANEL <i>EXTERIOR</i> WALL SHEATHING TO WALL FRAMING]						
30	³ /8" - ¹ / ₂ "	6D COMMON (2" x 0.113") NAIL (SUBFLOOR, WALL) ⁱ 8D COMMON (2 ¹ / ₂ " x 0.131") NAIL (ROOF); OR RSRS-01 (2 ³ / ₈ " x 0.113") NAIL (ROOF)	6	12 ^f			
31	¹⁹ / ₃₂ " - 1"	8D COMMON NAIL (2 ¹ / ₂ " x 0.131"); OR RSRS-01 (2 ³ / ₈ " x 0.113") NAIL (ROOF)	6	12 ^f			
32	1 ¹ / ₈ " - 1 ¹ / ₄ "	10D COMMON (3" x 0.148") NAIL; OR 8D (2 ½" x 0.131") DEFORMED NAIL	6	12			
	OTHER WALL SHEATHING9						
33	1/2" STRUCTURAL CELLULOSIC FIBERBOARD SHEATHING	1 ¹ / ₂ " GALVANIZED ROOFING NAIL, ⁷ / ₁₆ " HEAD DIAMETER, OR 1 ¹ / ₄ " LONG 16 GA. STAPLE WITH ⁷ / ₁₆ " OR 1" CROWN	3	6			
34	²⁵ / ₃₂ " STRUCTURAL CELLULOSIC FIBERBOARD SHEATHING	1 ³ / ₄ " GALVANIZED ROOFING NAIL, ⁷ / ₁₆ " HEAD DIAMETER, OR 1 ¹ / ₂ " LONG 16 GA. STAPLE WITH ⁷ / ₁₆ " OR 1" CROWN	3	6			
35	1/2" GYPSUM SHEATHING ^d	1 1/2" GALVANIZED ROOFING NAIL; STAPLE GALVANIZED, 1 1/2" LONG; 1 1/4" SCREWS, TYPE W OR S	7	7			
36	5/8" GYPSUM SHEATHING ^d	1 ³ / ₄ " GALVANIZED ROOFING NAIL; STAPLE GALVANIZED, 1 ⁵ / ₈ " LONG; 1 ⁵ / ₈ " SCREWS, TYPE W OR S	7	7			
	WOOD STRUCTURAL PANELS, COMBINATION SUBFLOOR UNDERLAYMENT TO FRAMING						
37	³ / ₄ " AND LESS	6D DEFORMED (2" x 0.120") NAIL; OR 8D COMMON (2 ¹/₂" x 0.131") NAIL	6	12			
38	⁷ / ₈ " - 1"	8D COMMON (2 ¹ / ₂ " x 0.131") NAIL; OR 8D DEFORMED (2 ¹ / ₂ " x 0.120") NAIL	6	12			
39	1 ¹ / ₈ " - 1 ¹ / ₄ "	10D COMMON (3" x 0.148") NAIL; OR 8D DEFORMED (2 1/2" x 0.120") NAIL	6	12			

TABLE R602.3(2) ALTERNATE ATTACHMENTS TO TABLE R602.3(1)

NOMINAL MATERIAL PERCENTIONS IS OF FACTEMED AND LENGTH (NOMES)		SP	SPACING° OF FASTENERS		
THICKNESS (INCHES)	DESCRIPTION ^{a, b} OF FASTENER AND LENGTH (INCHES)	EDGES (INCHES)	INTERMEDIATE SUPPORTS (INCHES		
WOOD STRUCT	JRAL PANELS SUBFLOOR, ROOF ⁹ AND WALL SHEATHING TO FRAMING AND PART	ICLEBOARD WALL SI	HEATHING TO FRAMING		
	STAPLE 15 GA. 1 ³ / ₄	4	8		
UP TO ¹ / ₂	0.097 - 0.099 NAIL 2 ¹ / ₄	3	6		
	STAPLE 16 GA. 1 ³ / ₄	3	6		
	0.113 NAIL 2	3	6		
¹⁹ / ₃₂ AND ⁵ / ₈	STAPLE 15 AND 16 GA. 2	4	8		
	0.097 - 0.099 NAIL 2 ¹ / ₄	4	8		
	STAPLE 14 GA. 2	4	8		
224	STAPLE 15 GA. 1 3/4	3	6		
²³ / ₃₂ AND ³ / ₄	0.097 - 0.099 NAIL 2 ¹ / ₄	4	8		
	STAPLE 16 GA. 2	4	8		
	STAPLE 14 GA. 2 1/4	4	8		
,	0.113 NAIL 2 ¹ / ₄	3	6		
1	STAPLE 15 GA. 2 ¹ / ₄	4	8		
	0.097 - 0.099 NAIL 2 ¹ / ₂	4	8		
NOMINAL MATERIAL		SPACING° OF FASTENERS			
THICKNESS (INCHES)	DESCRIPTION ^{a, b} OF FASTENER AND LENGTH (INCHES)	EDGES (INCHES)	BODY OF PANEL® (INCHES)		
	FLOOR UNDERLAYMENT; PLYWOOD-HARDBOARD-PARTICLEBOARD	-FIBER-CEMENT ^h			
	FIBER-CEMENT				
	3D, CORROSION-RESISTANT, RING SHANK NAILS (FINISHED FLOORING OTHER THAN TILE)	3	6		
	STAPLE 18 GA., ⁷ / ₈ LONG, ³ / ₄ CROWN (FINISHED FLOORING OTHER THAN TILE)	3	6		
1/4	1 1/4 LONG x .121 SHANK x .375 HEAD DIAMETER CORROSION-RESISTANT (GALVANIZED OR STAINLESS STEEL) ROOFING NAILS (FOR TILE FINISH)	8	8		
	1 1/4 LONG, NO. 8 x .375 HEAD DIAMETER, RIBBED WAFER-HEAD SCREWS (FOR TILE FINISH)	8	8		
	PLYWOOD	•			
	1 ¹ / ₄ RING OR SCREW SHANK NAIL-MINIMUM 12 ¹ / ₂ GA. (0.099") SHANK DIAMETER	3	6		
¹ / ₄ AND ⁵ / ₁₆	STAPLE 18 GA., ⁷ / ₈ , ³ / ₁₆ CROWN WIDTH	2	5		
¹¹ / ₃₂ , ³ / ₈ , ¹⁵ / ₃₂ AND ¹ / ₂	1 ¹ / ₄ RING OR SCREW SHANK NAIL-MINIMUM 12 ¹ / ₂ GA. (0.099") SHANK DIAMETER	6	8 ^e		
	1 ¹ / ₂ RING OR SCREW SHANK NAIL-MINIMUM 12 ¹ / ₂ GA. (0.099") SHANK DIAMETER	6	8		
¹⁹ / ₃₂ , ⁵ / ₈ , ²³ / ₃₂ AND ³ / ₄	STAPLE 16 GA.1 ¹ / ₂	6	8		
	HARDBOARD				
	1 1/2 LONG RING-GROOVED UNDERLAYMENT NAIL	6	6		
0.200		+ -	6		
0.200	4D CEMENT-COATED SINKER NAIL	6	l 0		
0.200	4D CEMENT-COATED SINKER NAIL STAPLE 18 GA., ⁷ / ₈ LONG (PLASTIC COATED)	3	6		
0.200					
	STAPLE 18 GA., 7/8 LONG (PLASTIC COATED)				
0.200	STAPLE 18 GA., ⁷ / ₈ LONG (PLASTIC COATED) PARTICLEBOARD	3	6		
1/4	STAPLE 18 GA., ⁷ / ₈ LONG (PLASTIC COATED) PARTICLEBOARD 4D RING-GROOVED UNDERLAYMENT NAIL	3	6		
	STAPLE 18 GA., ⁷ / ₈ LONG (PLASTIC COATED) PARTICLEBOARD 4D RING-GROOVED UNDERLAYMENT NAIL STAPLE 18 GA., ⁷ / ₈ LONG, ³ / ₁₆ CROWN	3 3	6 6 6		
1/4	STAPLE 18 GA., ⁷ / ₈ LONG (PLASTIC COATED) PARTICLEBOARD 4D RING-GROOVED UNDERLAYMENT NAIL STAPLE 18 GA., ⁷ / ₈ LONG, ³ / ₁₆ CROWN 6D RING-GROOVED UNDERLAYMENT NAIL	3 3 3 6	6 6 6 10		

- NAIL IS A GENERAL DESCRIPTION AND SHALL BE PERMITTED TO BE T-HEAD, MODIFIED ROUND HEAD OR ROUND HEAD. STAPLES SHALL HAVE A MINIMUM CROWN WIDTH OF 7/16-INCH ON DIAMETER EXCEPT AS NOTED.
- NAILS OR STAPLES SHALL BE SPACED AT NOT MORE THAN 6 INCHES ON CENTER AT ALL SUPPORTS WHERE SPANS ARE 48 INCHES OR GREATER. NAILS OR STAPLES SHALL BE SPACED AT NOT MORE THAN 12 INCHES ON CENTER AT INTERMEDIATE
- SUPPORTS FOR FLOORS.
 FASTENERS SHALL BE PLACED IN A GRID PATTERN THROUGHOUT THE BODY OF THE PANEL.
 FOR 5-PLY PANELS, INTERMEDIATE NAILS SHALL BE SPACED NOT MORE THAN 12 INCHES ON CENTER EACH WAY.
 HARDBOARD UNDERLAYMENT SHALL CONFORM TO CPA/ANSI A135.4
 SPECIFIED ALTERNATE ATTACHMENTS FOR ROOF SHEATHING SHALL BE PERMITTED WHERE THE ULTIMATE DESIGN WIND SPEED IS LESS THAN 130 MPH. FASTENERS ATTACHING WOOD STRUCTURAL PANEL ROOF SHEATHING TO GABLE END WALL
- FRAMING SHALL BE INSTALLED USING THE SPACING LISTED FOR PANEL EDGES.
 FIBER-CEMENT UNDERLAYMENT SHALL CONFORM TO ASTM C1288 OR ISO 8336, CATEGORY C.

DESIGN LOADS (PSF)

THE DWELLING SHALL COMPLY WITH THE FOLLOWING LOAD CONDITIONS

AREA	MIN. DEAD LOAD	MIN. LIVE LOAD
EXTERIOR BALCONIES	10	60
DECKS, STAIRS	10	40
CEILING JOISTS / ATTICS NO STORAGE - SCUTTLE ACCESS ONLY ROOF SLOPE 3:12 OR LESS	10	10
CEILING JOISTS / ATTICS NO STORAGE - SCUTTLE ACCESS ONLY ROOF SLOPE OVER 3:12	10	10
CEILING JOISTS / ATTICS WITH STORAGE - DOOR PULL DOWN LADDER ACCESS	10	20
ROOMS: NON-SLEEPING	10	40
ROOMS: SLEEPING	10	30
ROOF: LIGHT ROOF COVERING	10	20
ROOF: HEAVY ROOF COVERING / CONCRETE / TILE / SLATE	20	20
GUARDRAILS, HANDRAILS	200# LL 1	NORMAL

HEAVY ROOF COVERING MATERIAL (TILE, CONCRETE, SLATE, ETC.) SHALL NOT BE USED UNLESS 20 PSF DEAD LOAD AND HEAVY ROOF IS NOTED ON THE ROOF PLAN. IF HEAVY ROOFING IS TO BE USED AND IS NOT NOTED ON THE ROOF PLAN, NOTIFY ENGINEER PRIOR TO ANY CONSTRUCTION, INCLUDING FOUNDATION AND SITE WORK. IF THE PLAN HAS BEEN DESIGNED FOR HEAVY ROOF LOADS IT WILL BE NOTED IN THE ROOF NOTES ON THE ROOF PLAN.

COLUMN SCHEDULE

BASED ON FOOTING SIZE (ASSUME 1500 PSF SOIL)

REINFORCEMENT	COL. MIN.	COL. TYPE	MAX. LOAD
(4) #4 BARS E/W	3"	SCH40	6K
(5) #4 BARS E/W	3"	SCH40	9.4K
(6) #4 BARS E/W	3"	SCH40	13.5K
(7) #4 BARS E/W	3 1/2"	SCH40	18.4K
(8) #4 BARS E/W	3 1/2"	SCH40	24.0K
(9) #4 BARS E/W	3 1/2"	SCH40	30.4K
(10) #4 BARS E/W	3 1/2"	SCH40	37.5K
	(4) #4 BARS E/W (5) #4 BARS E/W (6) #4 BARS E/W (7) #4 BARS E/W (8) #4 BARS E/W (9) #4 BARS E/W	REINFORCEMENT MIN. (4) #4 BARS E/W 3" (5) #4 BARS E/W 3" (6) #4 BARS E/W 3" (7) #4 BARS E/W 3 1/2" (8) #4 BARS E/W 3 1/2" (9) #4 BARS E/W 3 1/2"	REINFORCEMENT MIN. TYPE (4) #4 BARS E/W 3" SCH40 (5) #4 BARS E/W 3" SCH40 (6) #4 BARS E/W 3" SCH40 (7) #4 BARS E/W 3 1/2" SCH40 (8) #4 BARS E/W 3 1/2" SCH40 (9) #4 BARS E/W 3 1/2" SCH40

COLUMN CONNECTION TO STEEL BEAMS SHALL BE WITH A CLIP POST CAP WITH ALL FOUR TAB EARS BENT AROUND THE BOTTOM FLANGE OF THE BEAM. FOR A BEARING PLATE, FOUR HOLES SHALL BE DRILLED IN THE BOTTOM FLANGE OF THE STEEL BEAM TO MATCH THE HOLE PATTERN OF THE PLATE. 1/2" x 2" BOLTS SHOULD THEN BE INSTALLED WITH A FLAT WASHER, LOCK WASHER, AND A NUT IN ACCORDANCE WITH AWS D1.1-92 AS AN ALTERNATIVE, AND WOULD NEED TO BE INSPECTED BY AN AWS-CERTIFIED INSPECTOR.

ENGINEERED LUMBER

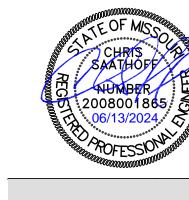
MIN. DESIGN REQUIREMENTS

	F _b (psi)	E (psi)	F _v (psi)
LVL	2600	1.8x10	285
GLULAM	2400	1.8x10	190
PARALAM	2600	2.0x10	290

BUILDER'S PLANS: THE TERM "BUILDER'S PLANS" REFERS TO A CERTAIN LEVEL OF DEVELOPMENT OF THE DRAWINGS. AS THE NAME IMPLIES, THESE PLANS REQUIRE THAT THE CONTRACTOR POSSESSES COMPETENCE IN RESIDENTIAL CONSTRUCTION AND A THOROUGH UNDERSTANDING OF THE INTERNATIONAL RESIDENTIAL CODE (IRC). THE CONTRACTOR WARRANTS TO HD ENGINEERING & DESIGN THAT THEY POSSESSES THE PARTICULAR COMPETENCE AND SKILL IN CONSTRUCTION NECESSARY TO BUILD THIS PROJECT WITHOUT FULL ENGINEERING AND DESIGN SERVICES, AND FOR THAT REASON THE CONTRACTOR OR HOME OWNER HAS RESTRICTED THE SCOPE OF PROFESSIONAL SERVICES. THE CONSTRUCTION DOCUMENTS PROVIDED BY THE LIMITED SERVICES SHALL BE TERMED "BUILDER'S PLANS" IN RECOGNITION OF THE CONTRACTOR'S SOPHISTICATION. ALTHOUGH HD ENGINEERING & DESIGN HAVE PERFORMED THEIR SERVICES WITH DUE CARE AND DILIGENCE, WE CANNOT GUARANTEE PERFECTION. ANY AMBIGUITY OR DISCREPANCY DISCOVERED BY THE USE OF THESE PLANS SHALL BE REPORTED IMMEDIATELY TO HD ENGINEERING. CONSTRUCTION MAY REQUIRE THAT THE CONTRACTOR ADAPT THE "BUILDER'S PLANS" TO THE FIELD CONDITIONS ENCOUNTERED AND MAKE LOGICAL ADJUSTMENTS IN FIT, FORM, DIMENSION AND QUANTITY. CHANGES MADE FROM THE PLANS WITHOUT THE CONSENT OF HD ENGINEERING & DESIGN ARE UNAUTHORIZED. IT IS ALSO UNDERSTOOD THAT THE CONTRACTOR WILL BE RESPONSIBLE FOR MEETING ALL APPLICABLE BUILDING CODES INCLUDING BUT NOT LIMITED TO MECHANICAL, ELECTRICAL, AND PLUMBING CODE REQUIREMENTS (WHICH IS EXCLUDED FROM THESE PLANS). IN THE EVENT ADDITIONAL DETAIL OR GUIDANCE IS NEEDED BY THE CONTRACTOR OR HOMEOWNER FOR CONSTRUCTION OF ANY ASPECT OF THE PROJECT, HD ENGINEERING & DESIGN OR A QUALIFIED ENGINEER SHALL IMMEDIATELY BE RETAINED. FAILURE TO NOTIFY US OF THESE NEEDS OR OF CHANGES TO THE PLANS SHALL RELIEVE HD ENGINEERING & DESIGN OF ALL RESPONSIBILITIES OF THE CONSEQUENCES.

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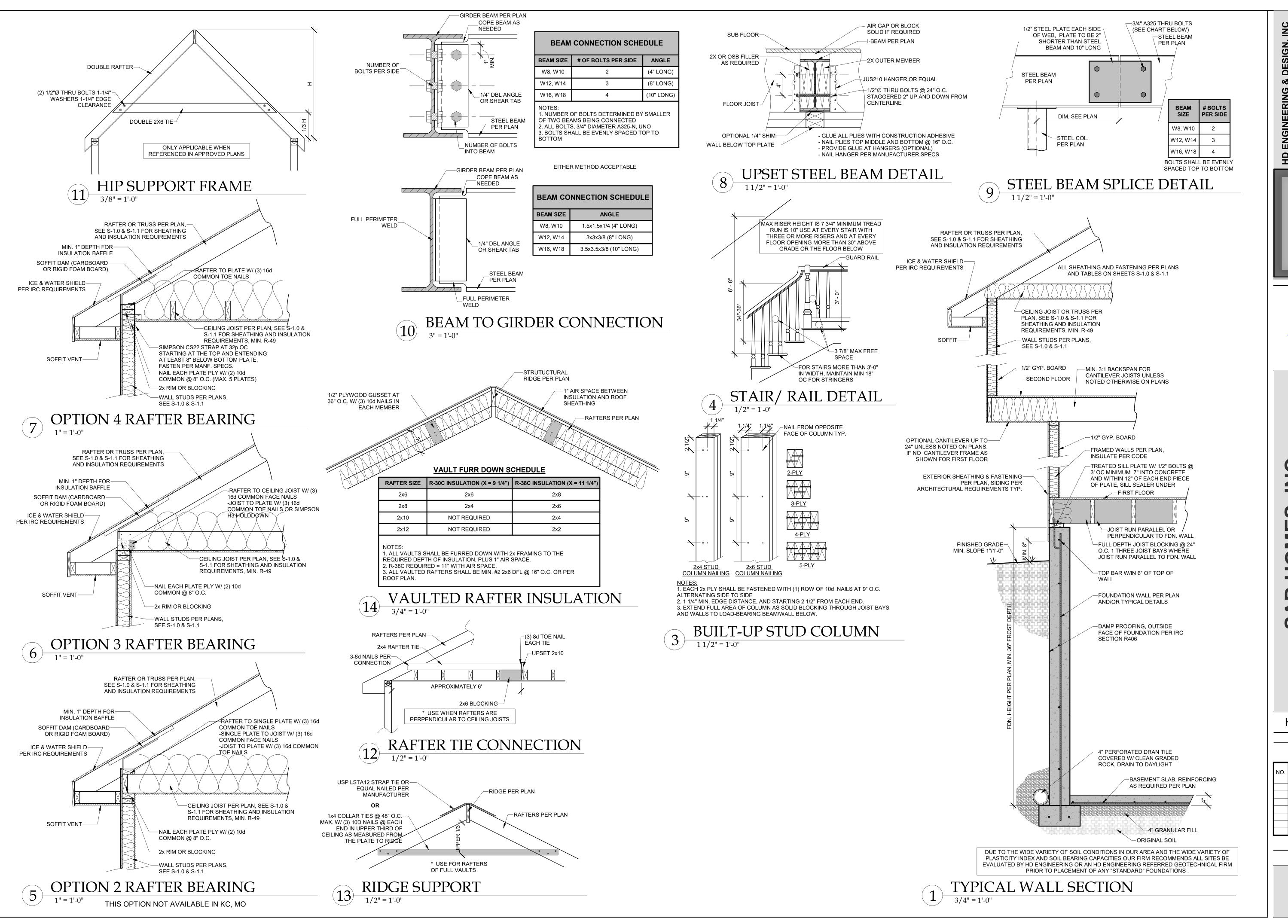
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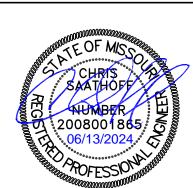
GENERAL NOTES



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SOLAIA II HFR184
SW HEARTLAND RD. LEE'S SUMMIT,

HD#: 47793

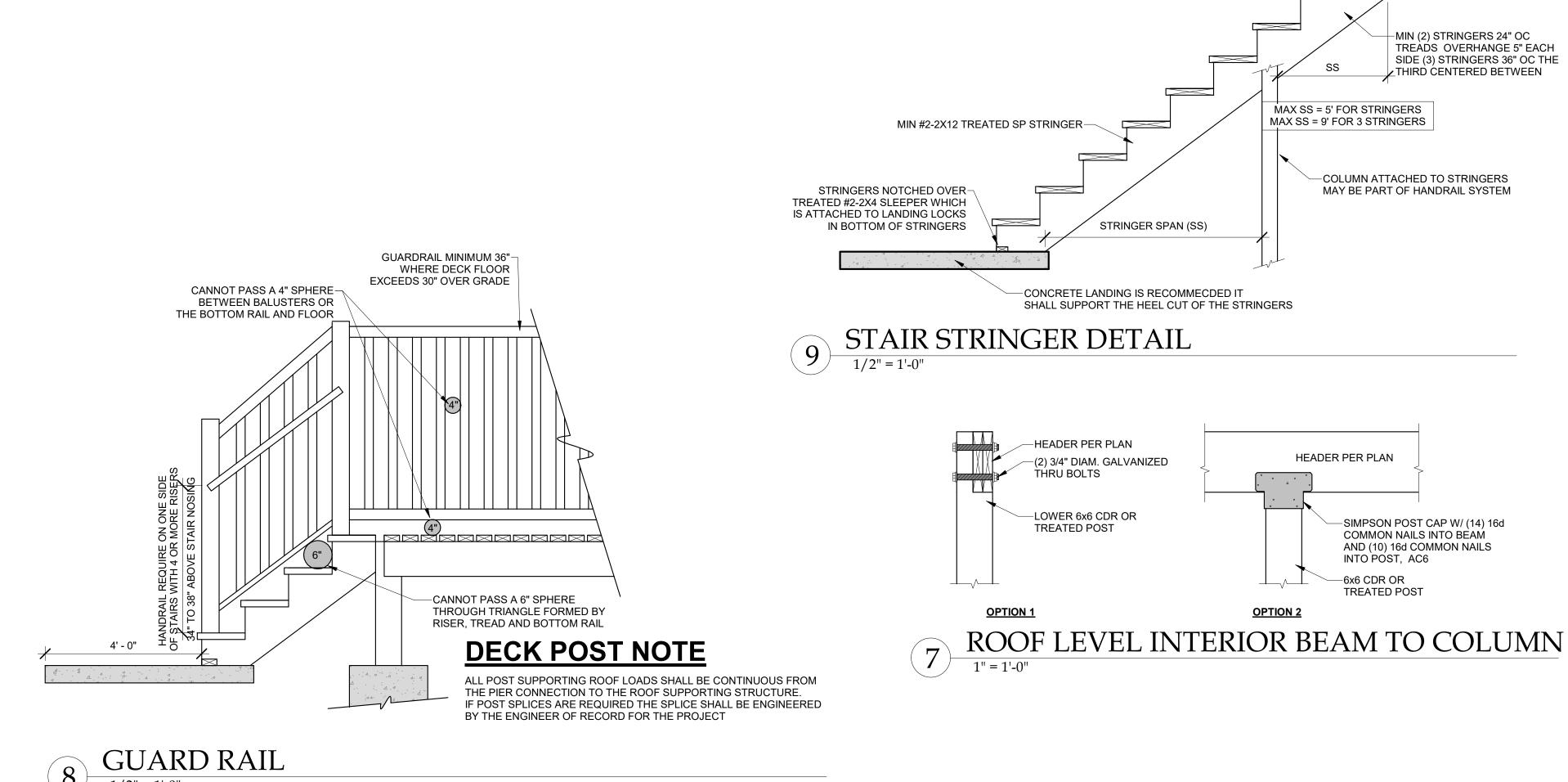
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FRAMING SECTIONS

S-1.2



JOIST SPAN

CONNECTION DETAILS

1/2" LAG SCREW WITH

15/32" MAX. SHEATHING c,

1/2" DIAM. BOLT WITH

15/32" MAX. SHEATHING d

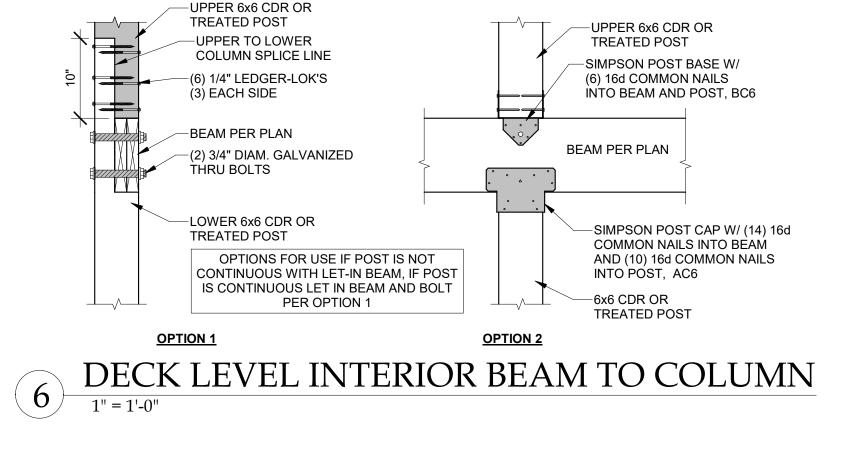
1/2" DIAM. BOLT WITH 15/32" MAX.

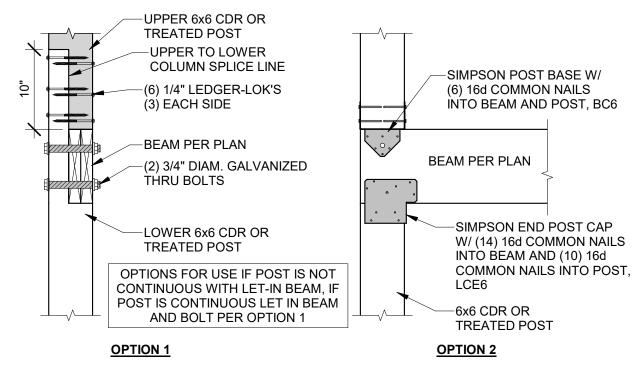
SHEATHING & 1/2" STACKED WASHERS

For SI: 1 inch = 25.4mm, 1 foot = 304.8mm, 1 pound per square foot = 0.0479 kPa

c. The tip of the lag screw shall fully extend beyond the inside face of the band joist.

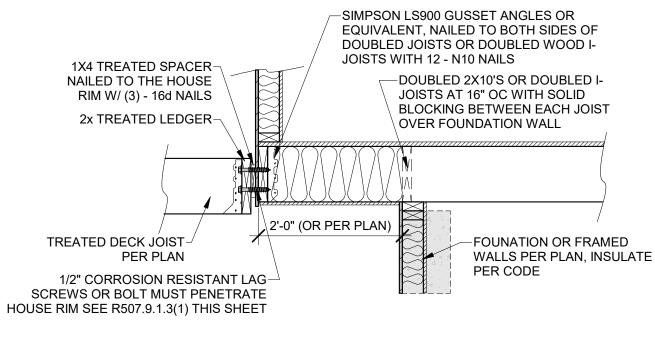
b. Snow load shall not be assumed to act concurrently with live load.





5 DECK LEVEL EXTERIOR BEAM TO COLUMN

5 T'' = 1'-0"



DECK LEDGER TO CANTILEVER 3/4" = 1'-0"

d. Sheathing shall be wood structural panel or solid sawn lumber. e. Sheathing shall be permitted to be wood structural panel, gypsum board, fiberboard lumber or foam sheathing. Up to 1/2" thinckness of stacked washers shall be permitted to substitute for you to 1/2" of allowable sheathing thickness where combined with wood structural panel or lumbers sheathing. TABLE IRC2018 R507.9.1.3(2) PLACEMENT OF LAG SCEWS AND BOLT IN 1X4 THE

a. Ledges shall be flashed in accordance with Section R703.4 to prevent water from contacting the house band joist.

TABLE IRC2018 R507.9.1.3(1)

(DECK LIVE LOAD = 40 PSF, DECK HEAD LOAD = 10 PSF,

SNOW LOAD ≤ 40 PSF)

6' AND LESS 6'-1" TO 8' 8'-1" TO 10' 10'-1" TO 12' 12'-1" TO 14' 14'-1" TO 16' 16'-1" TO 18

ON-CENTER SPACING OF FASTENERS d, G

13

24

21

DECK LEDGER CONNECTION TO BAND JOIST a,b

TOP OF EACH STRINGER IS— TOE-NAILED (TYP) AND

ON ONE SIDE, OR SLOPED

SUPPORTED BY SIMPSON LS70

GUSSET ANGLE OR EQUIVALENT

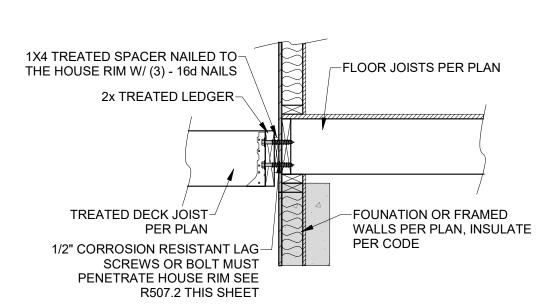
MINIMUM END AND EDGE DISTANCES AND SPACING BETWEEN ROWS							
	TOP EDGE	BOTTOM EDGE	ENDS	ROW SPACING			
LEDGER ^a	2 inches ^d	3/4 inches	2 inches ^b	1 5/8 inches ^b			
BAND JOIST °	3/4 inches	2 inches	2 inches	1 5/8 inches ^b			

DECK LEDGERS AND BAND JOISTS

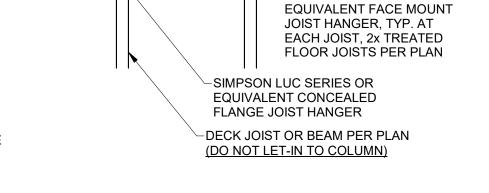
For SI: 1 inch = 25.4mm.

a. Lag screws of bolts shal lbe staggered from the top to the bottom along the horizontal run of the deck ledger in accordance with Figure R507.9.1.3(1)

b. Maximum 5 inces
c. For engineered rim joists, the manufacturer's recommendations shall govern.
d. The minimum distances from bottom row of lag screws or bolts to the top of the ledger shall be in accordance with Figure R507.9.1.3(1)



DECK LEDGER ATTACHMENT



1 DECK CORNER COLUMN

-6x6 CDR OR TREATED POST

-LET IN BEAM PER DETAILS

BEAM PER PLAN

-SIMPSON LUS SERIES OR

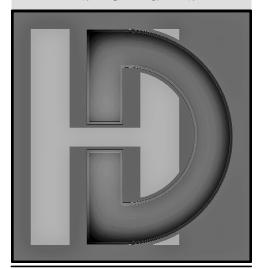
OR POST PER PLAN

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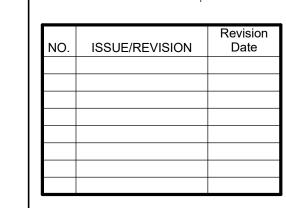
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DECK DETAILS

S-1.3

FRONT-TO-BACK RESISTANCE (lbs.) SIDE-TO-SIDE RESISTANCE (lbs. FRONT-TO-BACK RESISTANCE (lbs.) SIDE-TO-SIDE RESISTANCE (lbs IST FLOOR FRONT-TO-BACK 1ST FLOOR SIDE-TO-SIDE BASEMENT FRONT-TO-BACK BASEMENT SIDE-TO-SIDE RESISTANCE PERF. SHEAR WALL INTERIOR X-BRACES INTERIOR WALL LENGTH W/ 1/2" | SHEATHED W/ OSB ADDITIONAL METHODS (325#/BRACE) GYPSUM BOARD PER TABLE (FT.) (TOTAL LENGTH, ONE REQUIRED (POUNDS) RESISTANCE (POUNDS) 2) SEE SHEET S1 FOR INTERIOR STEEL X-BRACE INSTALLATION, 3) INTERIOR WALLS SHEATHED WITH OSB SHALL BE ATTACHED WITH SAME STAPLE/NAILING ATTERN AS EXTERIOR OSB ON SAME FLOOR (SEE TABLE ABOVE) AND ARE ONLY APPLICABLE FOR FULL-HEIGHT SECTIONS OF 2'-8" OR LONGER

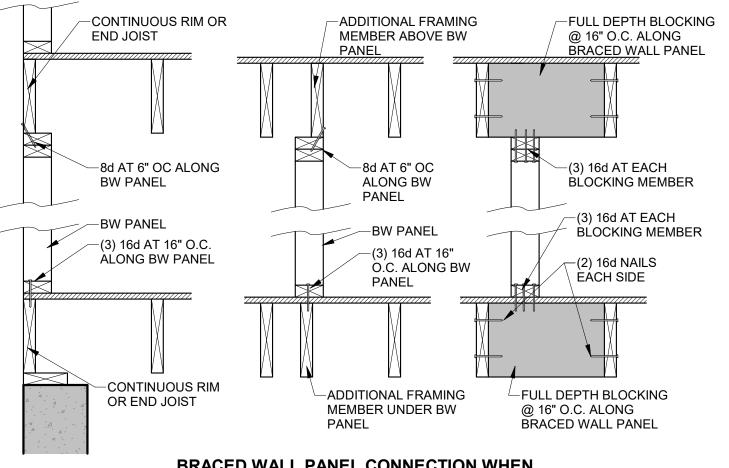
NOTE FOR CONSTRUCTION: HE CONTINUOUS STRUCTURAL PANEL SHEATHING BRACING METHOD REQUIRES USE OF THE ABOVE TABLE FOR SHEATHING OF THE ENTIRE STRUCTURE. IN ADDITION, FRAMING MEMBERS SHALL BE @ 16" O.C. MAX UNBLOCKED, AND W/ SHEATHING APPLIED DIRECTLY TO FRAMING MEMBERS

ALL WALLS USED IN THE CALCULATION OF THE RESISTANCE FOR THIS STRUCTURE SHALL HAVE A MINIMUM UNINTERRUPTED HEIGHT OF 8'-0" AND LENGTH OF 2'-8". ALLOWABLE RESISTANCES HAVE BEEN #/FT AND INCREASED BY 40% FOR WIND LOADS, PER VALUES IN 2018 IBC SECTION 2306 AND AF&PA SDPWS TABLE 4.3A. FOR EXAMPLE, 7/16" APA-RATED SHEATHING WITH 8d @ 6" & 12" HAS A SEISMIC SHEAR VALUE OF 220

TOTAL UPLIFT PER LINEAL FOOT ALONG EXTERIOR (POUNDS)

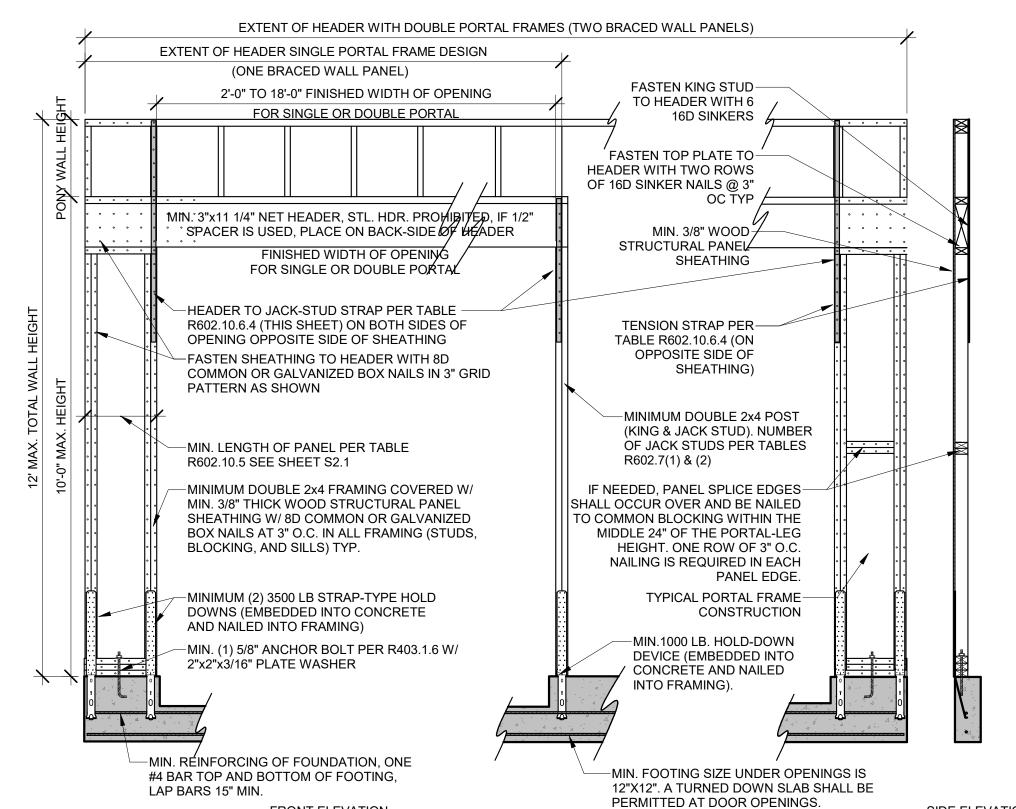
WITH CONSTRUCTION

NOTE: SOIL SITE CLASS ASSUMED TO BE CLASS D. IF SITE CONDITIONS ARE



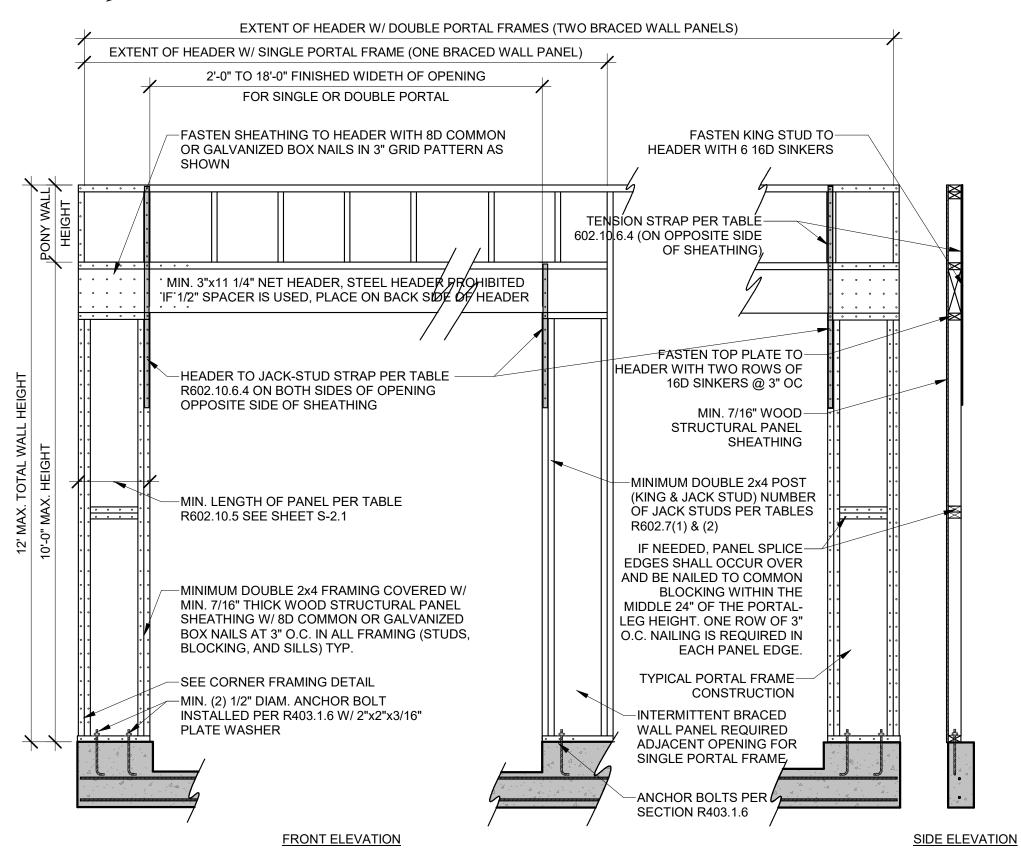
BRACED WALL PANEL CONNECTION WHEN PARALLEL TO FLOOR/CEILING JOISTS

BRACED WALL PANEL CONNECTIONS



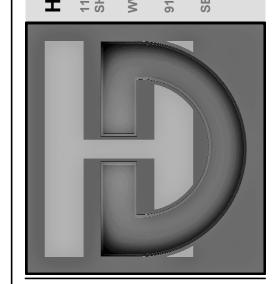
PFH PORTAL FRAME W/ HOLD DOWNS (R602.10.6.2)

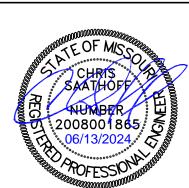
-FASTEN TOP PLATE TO HEADER WITH TWO ROWS OF 16D SINKERS @ 3" OC



PFG PORTAL FRAME W/OUT HOLD DOWNS (R602.10.6.3)

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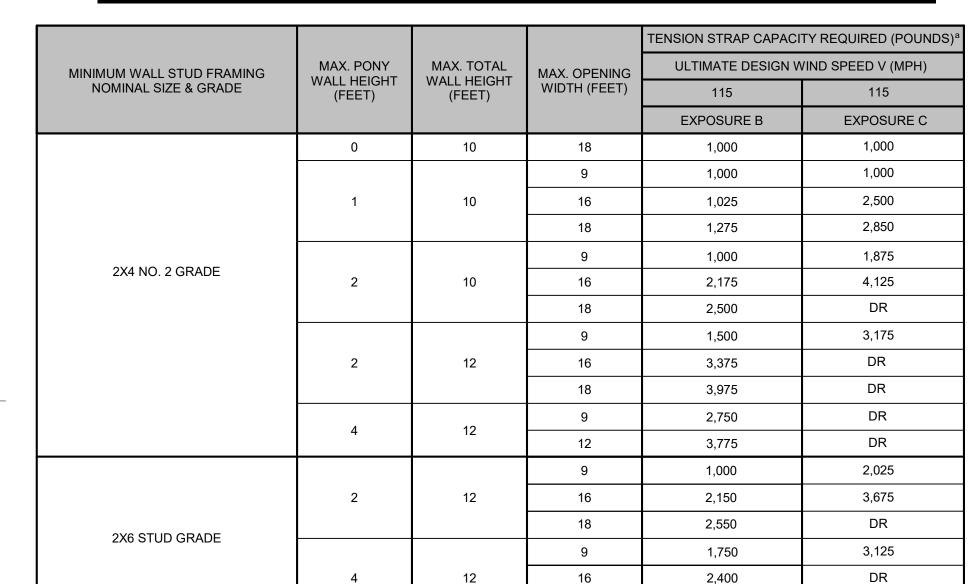
184 184 EE'S

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BRACED WALL NOTES & DETAILS

TENSION STRAP CAPACITY REQUIRED FOR RESISTING WIND PRESSURES PERPENDICULAR TO METHOD PFH, PFG AND CS-PF BRACED WALL PANELS IRC2018 TABLE R602.10.6.4



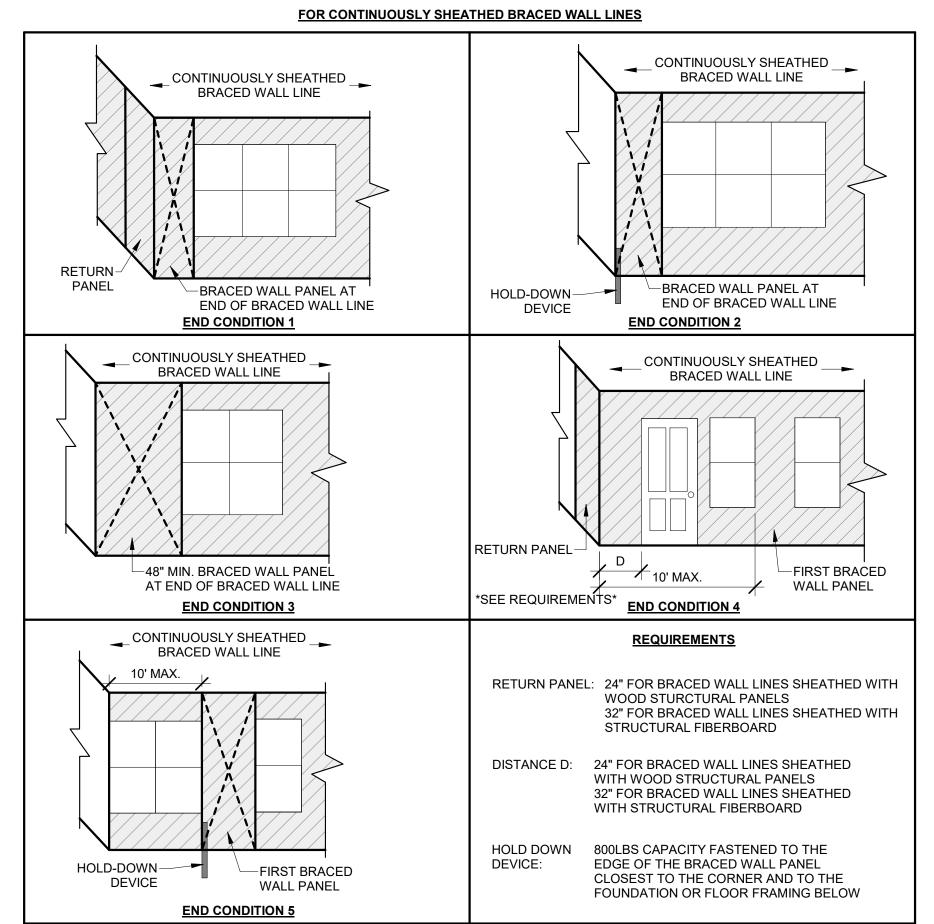
a. DR = DESIGN REQUIRED b. STRAP SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

END WALL CONDITIONS

18

3,800

DR



-CEILING/FLOOR DIAPHRAGM PER PLAN CEILING/FLOOR JOISTS @ 16" OC WITH PLYWOOD OR GYPSUM DIAPHRAGM ATTACHED PER PLAN BLOCKING BETWEEN JOISTS ABOVE WALL, TOENAILED TO WALL W/ (3) 8d NAILS

-WALL PLATE BELOW WITH MIN. (3) 8d NAILS OR (2) 18d NAILS

TOENAIL EACH FLOOR/CEILING JOIST-

OF DIAPHRAGM TO PLATE BELOW

DIAPHRAGM CONNECTION TO INTERIOR WALL

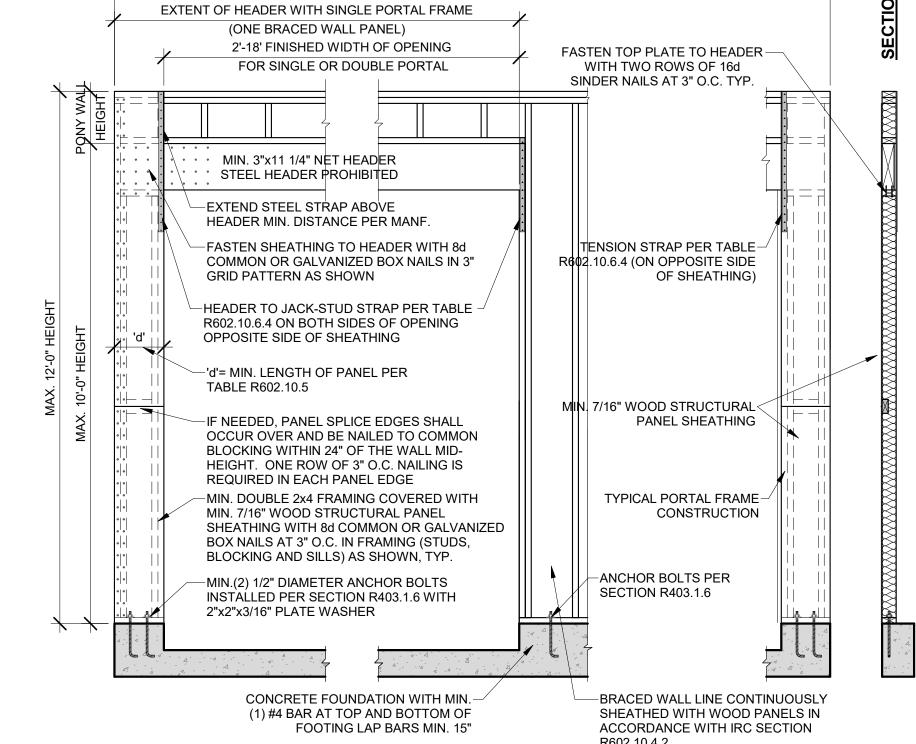
-1/**2†** GYPSUM BOARD W/ NO6 - 1 1/4 TYPE "W" OR "S" \$CREWS @ MIN. 410" GYP BOARD BOTH SIDES

GB BRACING

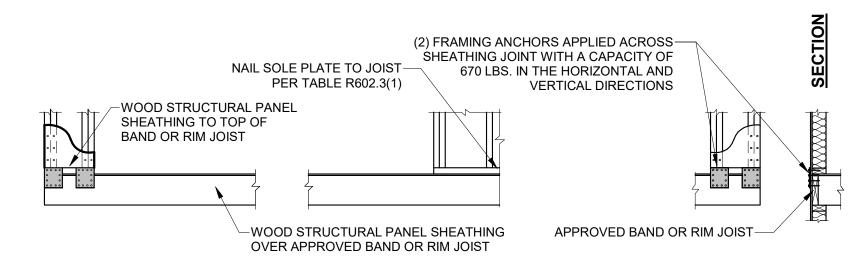
FRONT ELEVATION

EXTENT OF HEADER WITH DOUBLE PORTAL FRAMES

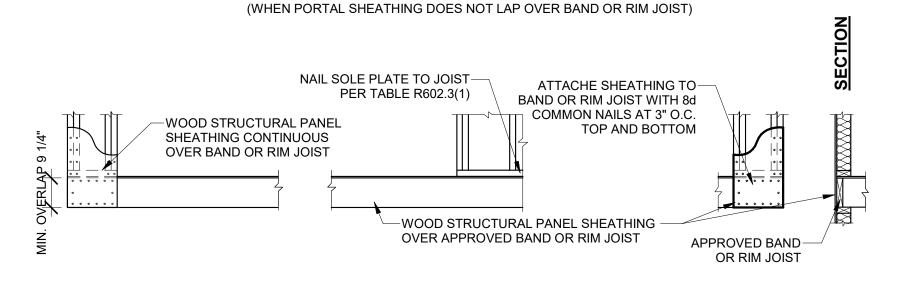
(TWO BRACED WALL PANELS)



OVER CONCRETE OR MASONRY BLOCK FOUNDATION



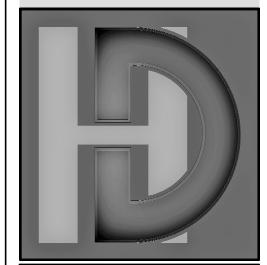
OVER RAISED WOOD FLOOR - FRAMING ANCHOR OPTION



OVER RAISED WOOD FLOOR - OVERLAP OPTION (WHEN PORTAL SHEATHING LAPS OVER BAND OR RIM JOIST)



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84 E'S

47793 06/13/2024 DATE:

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BRACED WALLS NOTES & DETAILS

5'-2" SIMPSON / USP TYPE WB (OR EQUIVALENT) 10'-0" 5'-9" NP (2) 16D NAILS @ EACH-(2) 16 NAIL\$ @ EACH PLATE FACE NAILED PLATE FACE NAILED 12'-0" NP LIB BRACING FOR IRC CODE PRESCRIPTIVE METHOD TABLE R602.10.5 MINIMUM LENGTH OF BRACED **WALL PANELS** MINIMUM LENGTH (INCHES)

(2) 8D NAILS @ EACH-NTÉRMEDIATE STUDS

16 GA. STL. STRAP-

BRACED WALL PANEL LENGTH

BASED ON WALL HEIGHT FOR

WALL MIN. WALL MAX WALL HEIGHT LENGTH (X) LENGTH (X

8'-0"

9'-0"

10'-0"

(2)|BD NAILS @ EACH-

INTÉRMEDIAITE STUDS

					(
		W	ALL HEIGI	CONTRIBUTING LENGTH (INCHES)					
	(SEE TABLE R602.10.4)	8 FEET	9 FEET	10 FEET	11 FEET	12 FEET	(
DWB,	WSP,SFB,PBS,PCP,HPS,BV-WSP	48	48	48	53	58	ACTUAL ^b		
GB		48	48	48	53	58	DOUBLE SIDED = ACTUAL SINGLE SIDED=.5xACTUAL		
LIB		55	62	69	NP	NP	ACTUAL ^b		
ABW	SDC A, B, AND C ULTIMATE DESIGN WIND SPEED<140	28	32	34	38	42	48		
ADVV	SDC D_0 , D_1 , D_2 ULTIMATE DESIGN WIND SPEED<140	32	32	34	NP	NP	40		
PFH	SUPPORTING ROOF ONLY	16	16	16	NOTE C	NOTE C	48		
	SPTNG. ONE STORY & ROOF	24	24	24	NOTE C	NOTE C	48		
	PFG	24	27	30	NOTE D	NOTE D	1.5 x ACTUAL ^b		
	CS-G	24	27	30	33	36	ACTUAL ^b		
	CS-PF	16	18	20	NOTE E	NOTE E	ACTUAL ^b		
	ADJACENT CLEAR OPENING HEIGHT (INCHES)								
	≤64	24	27	30	33	36			
	68	26	27	30	33	36			
	72	27	27	30	33	36			
	76	30	29	30	33	36			
	80	32	30	30	33	36			
	84	35	32	32	33	36			
	88	38	35	33	33	36			
	92	43	37	35	35	36			
CS-WSP,	96	48	41	38	36	36	ACTUAL ^b		
CS-SFB	100	-	44	40	38	38			
	104	-	49	43	40	39			
	108	-	54	46	43	41			
	112	-	-	50	45	43			
	116	-	-	55	48	45			
	120	-	-	60	52	48			
	124	-	-	-	56	51			
	128	-	-	-	61	54			
	132	-	-	-	66	58			
	136	-	-	-	-	62			
	140	-	-	-	-	66			
	1/1/1	I _	I _	I _	l <u>-</u>	72			

a. LINEAR INTERPOLATION SHALL BE PERMITTED b. USE THE ACTUAL LENGTH WHEN IT IS GREATER THAN OR EQUAL TO THE MINIMUM LENGTH c. MAX. HEADER HEIGHT FOR PFH IS 10' IN ACCORDANCE WITH R602.10.6.2, WALL HEIGHT MAY BE INCREASED TO 12' WITH PONY WALL. d. MAX. OPENING HEIGHT FOR PFG IS 10' IN ACCORDANCE WITH R602.10.6.3, WALL HEIGHT MAY BE INCREASED TO 12' WITH PONY WALL. e. MAX. OPENING HEIGHT FOR CS-PF IS 10' IN ACCORDANCE WITH R602.10.6.4, WALL HEIGHT MAY BE INCREASED TO 12' WITH PONY WALL.

BRACED WALL PRESCRIPTIVE METHOD:

CONTINOUS EXTERIOR SHEATHING (CS-WSP) PER WSP METHOD (BELOW) UNLESS OTHERWISE NOTED ON THE PLAN

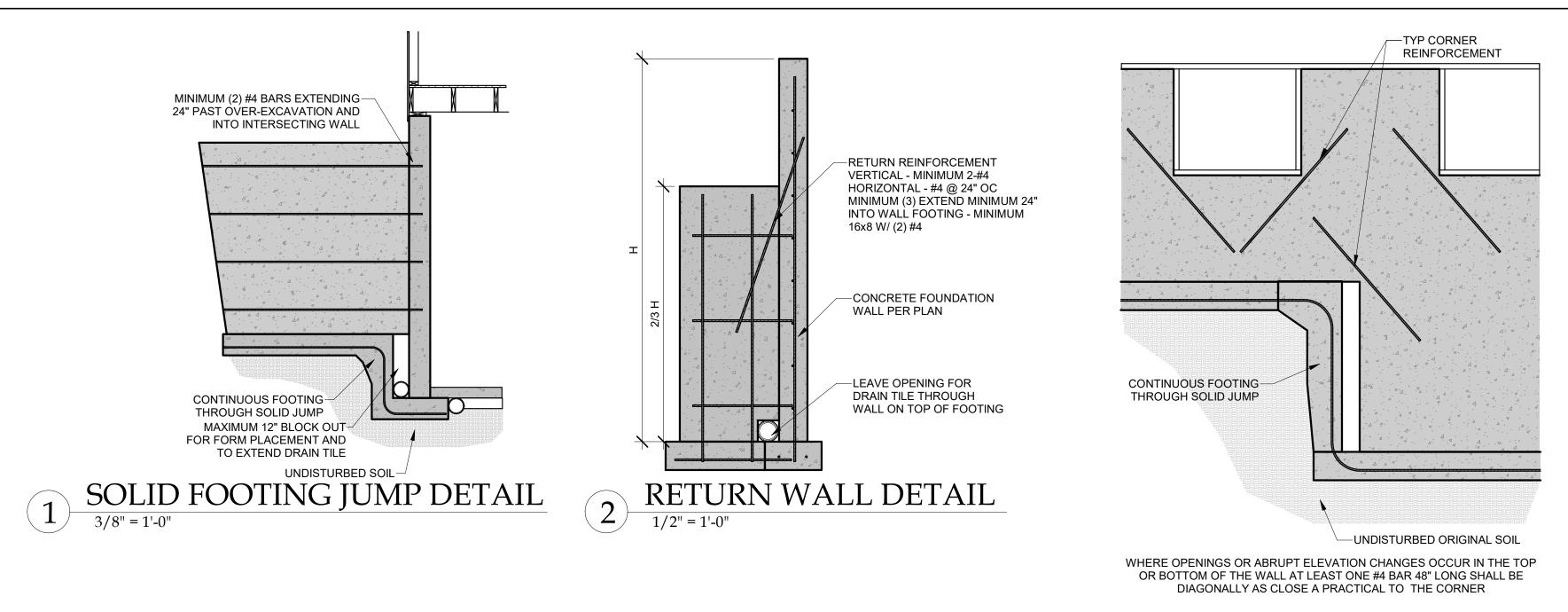
EXTERIOR BRACED WALL METHOD: (SEE ON THIS SHEET)

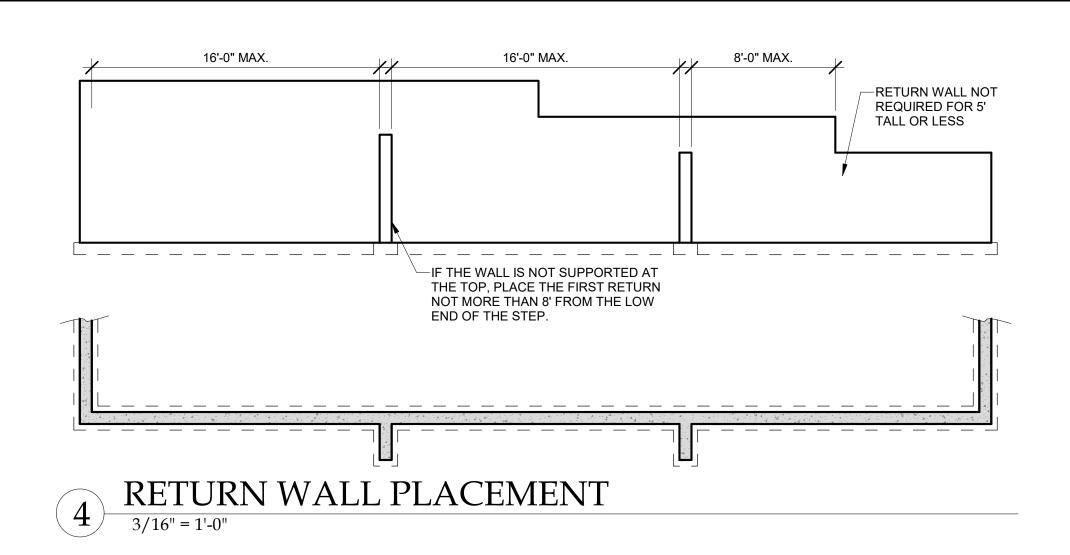
WOOD STRUCUTRAL PANEL SHEATHING WITH A THICKNESS NOT LESS THAN 3/8" WITH MINIMUM SPAN RATING OF 24/0 FOR 16" O.C. STUD SPACING WITH 6d NAILS COMMON NAILS @ 6" O.C. EDGES AND 12" O.C. FIELD OR SHEATHING THICKNESS NOT LESS THANK 7/16" WITH MINIMUM SPAN RATING OF 24/16 FOR 24" O.C. SPACING WITH 8d COMMON NAILS @ 6" O.C. EDGES AND 12" O.C. IN FIELD (NOTE: FRAMING MEMBERS 16" O.C. MAX, UNBLOCKED, AND W/ SHEATHING APPLIED DIRECTLY TO FRAMING

INTERIOR BRACED WALLS (SEE ON THIS SHEET)

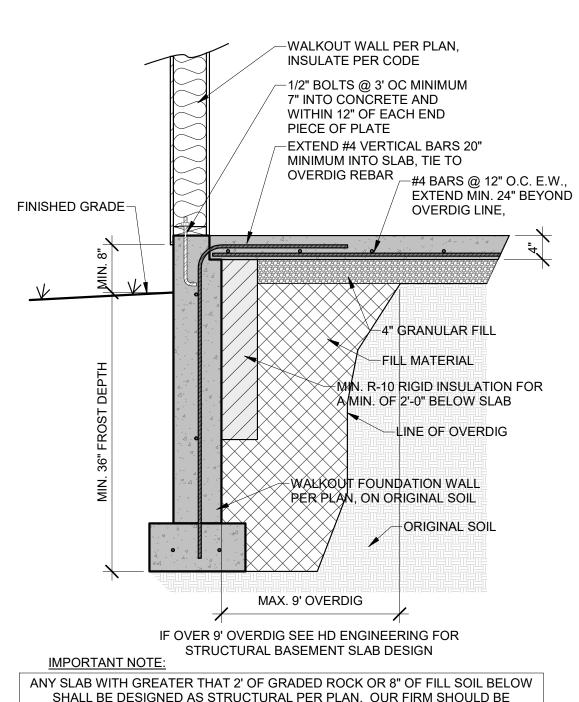
1/2" MINĪMUM GYPSUM BOARD OVER STUDS SPACED @ 24" MAXIMUM FASTENED W/ #6- 1 1/4" TYPE "W" OR "S" DRYWALL SCREWS @ 7" O.C. EDGES AND FIELD (MIN. 4'-0" SECTION FOR BOTH SIDES)

1X4 WOOD FASTENED W/ (3) 8d COMMON NAILS OR SIMPSON / USP 16 GA. TYPE WB (OR EQUIVALENT) STL. X-BRACE(S) @ 45° TO 60° ANGLES, MAXIMUM 16" O.C. STUDS FASTENED PER MANUF. SPECS.





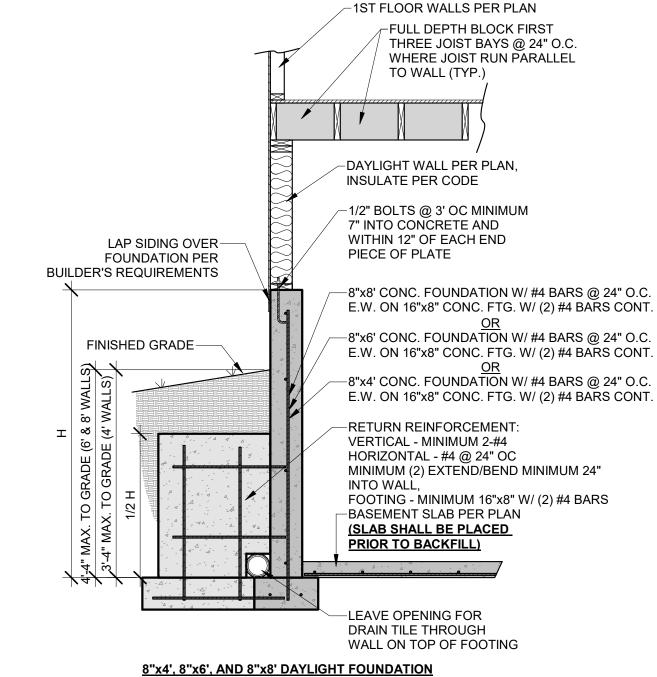
REINFORCEMENT AT CORNERS AND STEPS



SHALL BE DESIGNED AS STRUCTURAL PER PLAN. OUR FIRM SHOULD BE CONTACTED IMMEDIATELY FOR DESIGN RECOMMENDATIONS. DESIGN MUST BE COMPLETED PRIOR TO PLACEMENT OF PIERS OR FOOTINGS.

10 WALKOUT DETAIL

3/4" = 1'-0"



IF SLAB IS NOT PLACED PRIOR TO BACKFILL CONTRACTOR IS RESPONSIBLE FOR BRACING THE FOUNDATION AS REQUIRED

UNRESTRAINED FOUNDATION WALL

GUARD RAIL OR LIGHTWEIGHT REMOVABLE COVERING MIN. (2) #2-2X10 RIM 3' - 0"
EGRESS WINDOW: 5.7 S/F MIN OPENING 24" MIN CLEAR HT 20" MIN CLEAR WIDTH 44" MAX SILL HT OFF FLOOR
EGRESS WINDOW: 5.7 S/F MIN OPENING 24" MIN CLEAR HT 20" MIN CLEAR WIDTH 44" MAX SILL HT OFF FLOOR
FOUNDATION WALL PER PLANS

EGRESS WINDOW SECTION

1/2" = 1'-0"

VERTICAL REINFORCEMENT SPACING* 60 PSF SOIL; 40 & 60 KSI STEEL					
CONODETE OTDENOTU	8" THIC	K WALL	10" THICK WALL		
CONCRETE STRENGTH	8'	9'	8'	9'	10'
3000 PSI/ 40 KSI	16	12	24	16	12
3500 PSI/ 40 KSI	16	12	24	24	12
3000 PSI/ 60 KSI	24	16	24	20	16
3500 PSI/ 60 KSI	24	16	24	24	16
HORIZONTAL REINFORCEMENT**					
ONE BAR 12" FROM TOP OF WALL; MAX. SPACING 24" O.C.	4- #4	5- #4	4- #4	5- #4	6- #4

* CONCRETE SHALL HAVE AIR ENTRAINMENT OF 5-7%.

* MINIMUM REQUIREMENT FOR VERTICAL REBAR IN PLAIN CONCRETE WALLS IS #4 @ 36" ON CENTER (ACI 332). * VERTICÀL BARS SHALL BE CONTINUED UP TO WITHIN 8" OF THE TOP OF THE WALL.

* REBAR SHALL BE POSITIONED AT THE TENSION FACE OF THE WALL (2" FROM THE INSIDE

* REINFORCEMENT SHALL LAP A MINIMUM OF 24 INCHES AT ENDS, SPLICES, AND AROUND CORNERS.

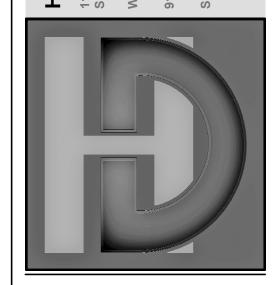
** #4 BARS @ 24" ON CENTER. ** #4 BAR WITHIN 12 OF TOP AND BOTTOM OF WALL.

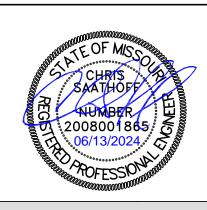
** MINIMUM GRADE 40 (40ksi) STEEL (PER ACI 332).

** HORIZONTAL REINFÒRCEMENT SHALL BE INSTALLED ON THE COMPRESSION SIDE (SOIL

SIDE) OF THE VERTICAL REINFORCEMENT

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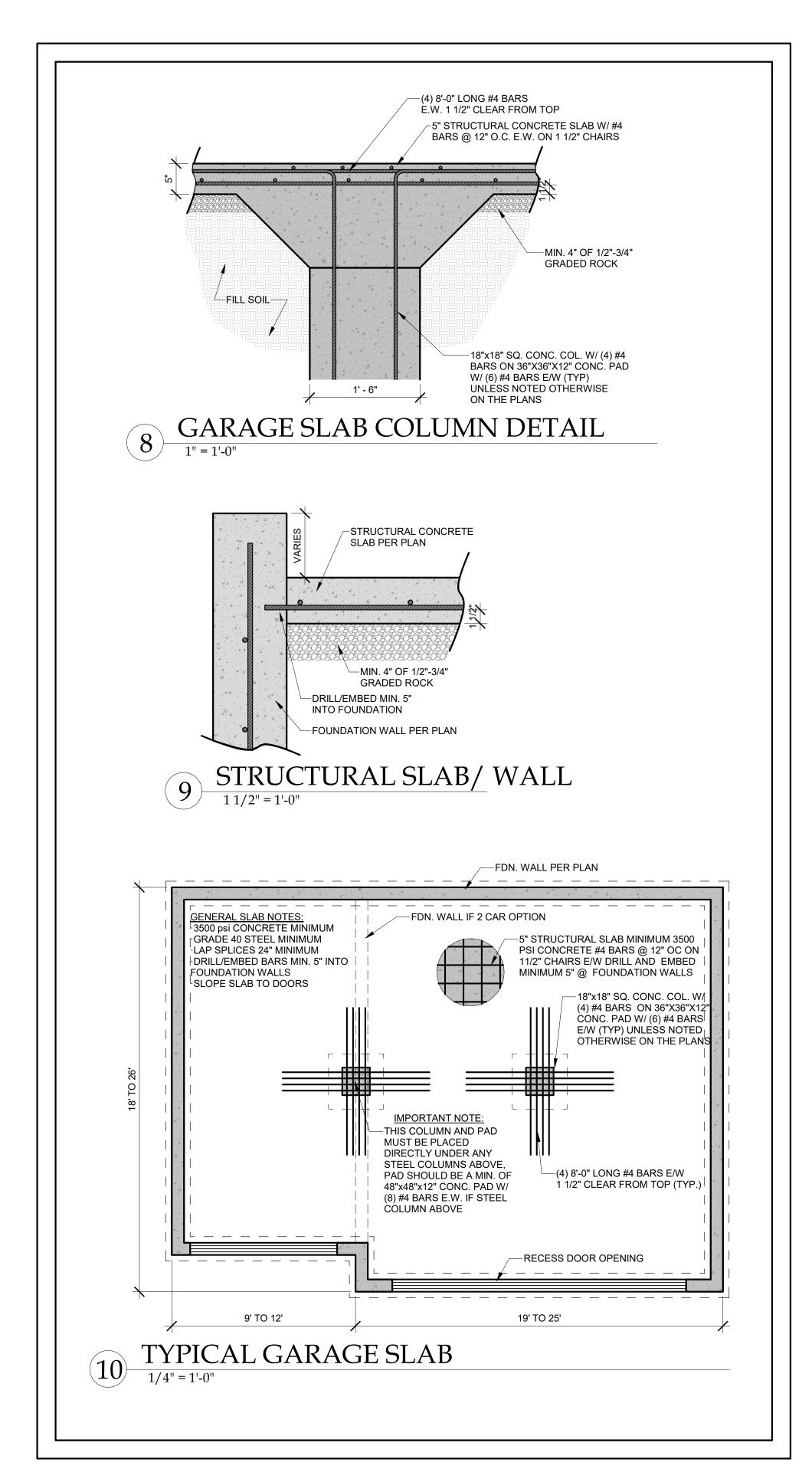
S, I :R184 LEE'S

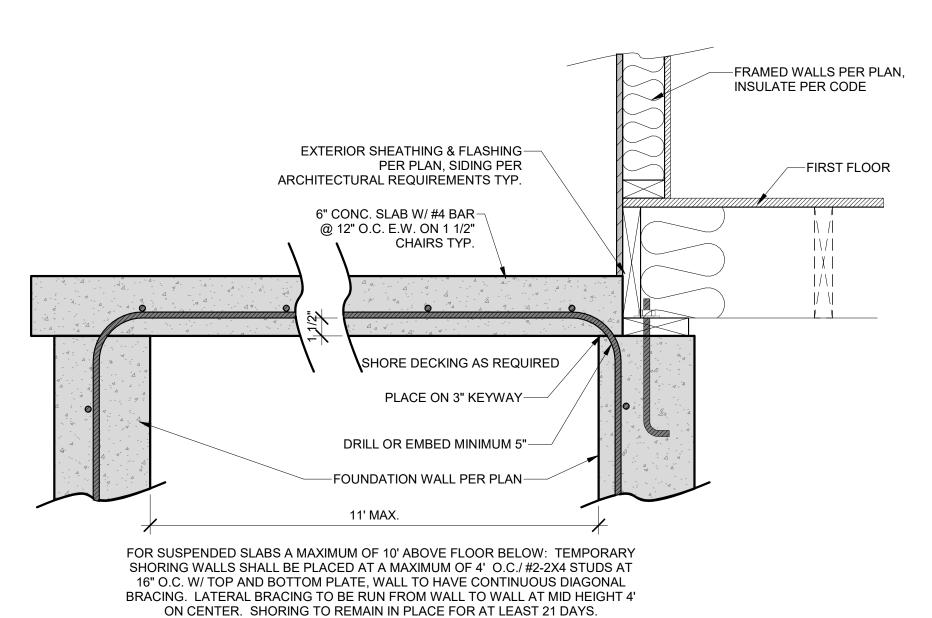
47793 06/13/2024 DATE:

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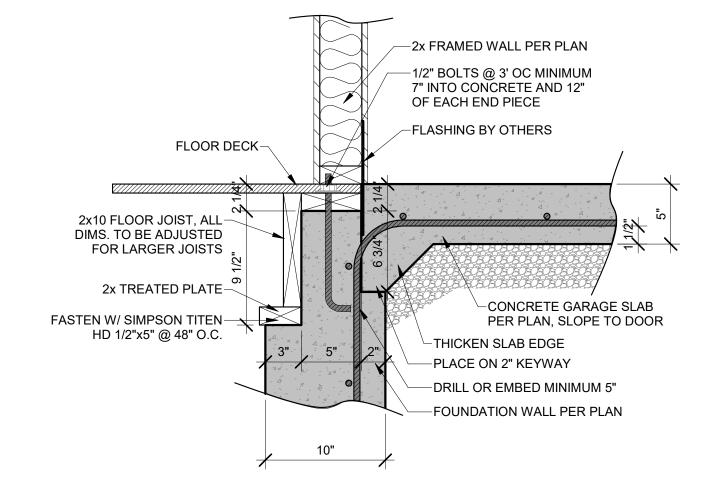
NO.	ISSUE/REVISION	Revision Date

CONCRETE DETAILS



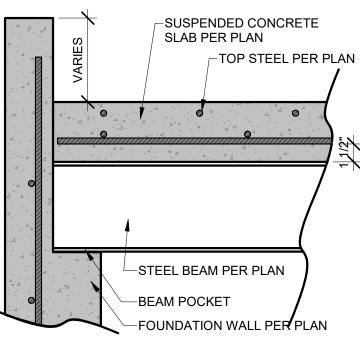


SUSPENDED PORCH STOOP SLAB



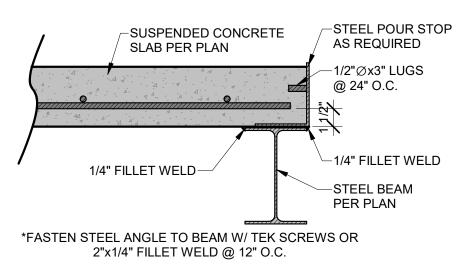
ZERO ENTRY GARAGE DETAIL

1 1/2" = 1'-0"



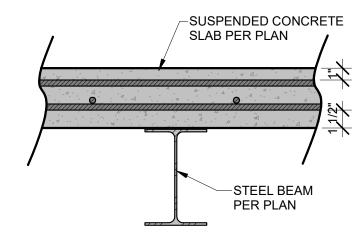
SUSPENDED SLAB BEAM/WALL CONNECTION

1 1/2" = 1'-0"



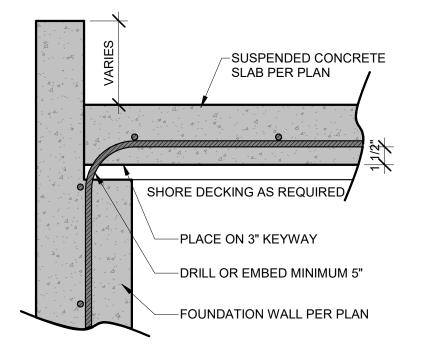
SUSPENDED SLAB POUR STOP

1 1/2" = 1'-0"

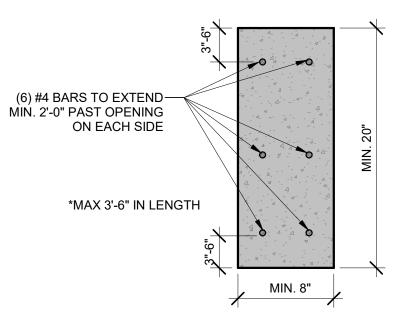


SUSPENDED SLAB/STEELBEAM CROSS SECTION

1 1/2" = 1'-0"



SUSPENDED SLAB/WALL CONNECTION



CONCRETE HEADER DETAIL

INPORTANT NOTE:

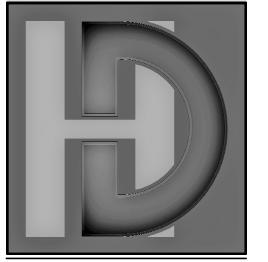
FOR SUSPENDED SLABS A MAXIMUM OF 10' ABOVE FLOOR BELOW: TEMPORARY SHORING WALLS SHALL BE PLACED AT A MAXIMUM OF 4' O.C. /#2-2X4 STUDS AT 16" O.C. W/ TOP AND BOTTOM PLATE, WALL TO HAVE CONTINUOUS DIAGONAL BRACING. LATERAL BRACING TO BE RUN FROM WALL TO WALL AT MID HEIGHT 4' ON CENTER. SHORING TO REMAIN IN PLACE FOR AT LEAST 21 DAYS.

-ANY CAST IN PLACE SLABS FORMED MORE THAN 10' ABOVE THE FLOOR BELOW SHALL HAVE A SITE SPECIFIC SHORING DESIGN DONE. OUR FIRM SHOULD BE CONSULTED FOR THIS DESIGN ONCE FOUNDATION WALLS ARE IN PLACE TO EVALUATE ALL FIELD CONDITIONS. IT SHOULD

GESTAL STREET

TAWNEE, KS 66214

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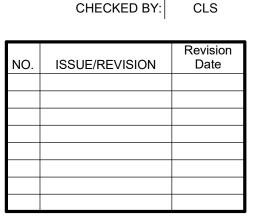


OW LIWWS

SAB HOMES, INC.
SOLAIA II HFR184
HEARTLAND RD. LEE'S SUMMI

HD#: 47793

DATE: 06/13/2024



SUSPENDED SLAB DETAILS

S-3.1

HD ENGINEERING STRUCTURAL
GARAGE SLAB DETAILS

MINIMUM INSULATION & FENSTRATION VALUES BY COMPONENT, PER IRC2018 N1102.1.2

CLIMATE ZONE	FENSTRATION U-FACTOR	SKYLIGHT U-FACTOR	GLAZED SHGC FENSTRATION	HNSULATED WETAL	INSULATED WOOD DOOR U-VALUE	CEILING R-VALUE	WOOD FRAMED WALL R-VALUE	FLOOR R-VALUE	BASEMENT WALL R-VALUE	SLAB R-VALUE & DEPTH		DUCTWORK OVER OUTSIDE R-VALUE	
4 EXCEPT MARINE	0.32	0.55	0.40	0.60	0.50	49	20 OR 13 CAV. +5	19	10 CONTINUOUS OR 13 CAVITY	R-10, 2 FT.	10 CONTINUOUS OR 13 CAVITY	8	6

NOTES: 1) BUILDING THERMAL ENVELOPE IS REQUIRED TO BE SEALED WITH AN AIR BARRIER AS PER N1102.4.1 OF THE 2018 IRC 2) RECESSED LIGHTING SHALL BE SEALED TO PREVENT LEAKAGE BETWEEN THE CONDITIONED SPACE AND UNCONDITIONED SPACE 3) ALL DUCTS, AIR HANDLERS, FILTER BOXES, AND BUILDING CAVITIES USED AS DUCTS SHALL BE SEALED AS PER N1103.2 OF THE 2018 IRC

VALUES BELOW ARE PER 2018 IECC, ACTUAL VALUES MAY VARY BASED ON ALTERNATE ENERGY COMPLIANCE PATH CHOSEN (IN JURISDITIONS WHERE ALTERNATIVE PATHS ARE AVAILABLE)

CATHEDRAL / VAULTED CEILING FRAMING AND INSULATION

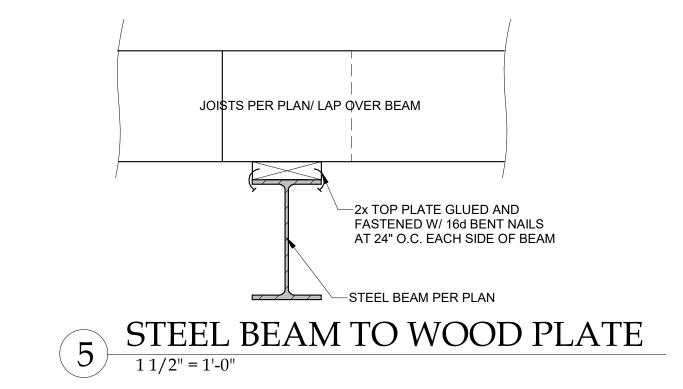
MINIMUM R-38 INSULATION REQUIRED, SEE DETAIL 14/S-1.2

WHERE THE CEILING IS APPLIED DIRECTLY TO THE BOTTOM OF THE RAFTERS, A MINIMUM 1" AIR SPACE SHALL BE PROVIDED BETWEEN THE TOP OF THE INSULATION AND THE SHEATHING FOR VENTILATION (R806.3) NOTE: RAFTER SIZES SPECIFIED ON PLANS ARE THE MINIMUM REQUIRED FOR STRUCTURAL PURPOSES ONLY.

IF FULL RAFTER DEPTH IS NOT ADEQUATE FOR MINIMUM INSULATION VALUE, RAFTER SIZES WILL NEED TO BE INCREASED. OR ADEQUATE FURRING SHALL BE USED TO OBTAIN THE MINIMUM JOIST DEPTH FOR THE REQUIRED INSULATION. IN ADDITION, IF THE RAFTER SIZE IS INCREASED IT SHALL BE VERIFIED THAT THE RIDGE BE A MINIMUM OF ONE NOMINAL SIZE LARGER THAN THE RAFTERS BEING RECEIVED. (SEE CHART BELOW)

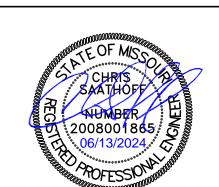
Г					
	MAXIMUM INSULATION VALUE	2x6	2x8	2x10	2x12
	1" AIR SPACE (FIBERGLASS)	R-13, 3 1/2"	R-19, 6 1/4"	CONDENSED R-38, 8 1/4"	R-38, 10 1/4"

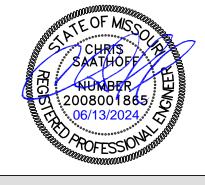
-JOIST SECTION TO BE REMOVED FOR SHOWER PAN -APA SHEATHING FILLER -JOIST SECTION TO BE REMOVED -1.75"x9.25" LVL (11-7/8" I-JOIST FLOOR) FOR SHOWER PAN 1.75"x7.25" LVL (9-1/2" I-JOIST FLOOR) -1.75"x9.25" LVL (2X12 FLOOR) * SISTER TO RUN FULL 1.75"x7.25" LVL (2X10 FLOOR) LENGTH OF FLOOR JOIST TO BE ALTERED SISTER TO RUN FULL LENGTH OF FLOOR JOIST TO BE ALTERED -12D 16" O.C FROM THIS SIDE -12D 16" O.C FROM THIS SIDE -JOIST PER PLAN ZERO ENTRY SHOWER DETAIL



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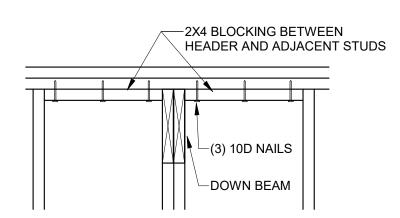
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TOP PLATE EXTERIOR WALL STEEL BEAM BEARING



-JOISTS PER PLAN

FLUSH WOOD BEAM

-(3) 8d TOE NAILS

-STEEL BEAM

FLUSH WOOD BEAM CONNECTION

-SIMPSON A34 FRAMING ANGLE

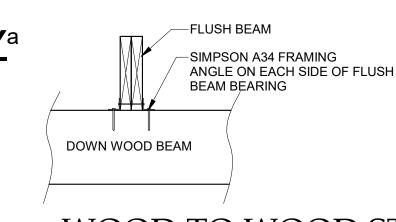
ON EACH SIDE OF BEAM

DOWN WOOD BEAM PERPENDICULAR

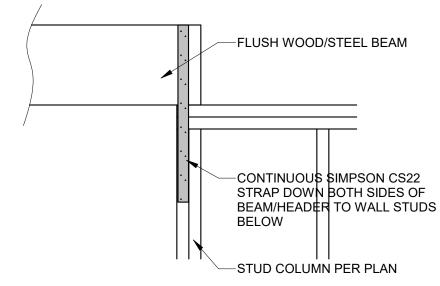
TABLE N1103.6.1 (R403.6.1) WHOLE-HOUSE MECHANICAL VENTILATION SYSTEM FAN EFFICACY

FAN LOCATION	AIR FLOW RATE MINIMUM (CFM)	MINIMUM EFFICACY (CFM/WATT)	AIR FLOW RATE MAXIMUM (CFM)	
HRV OR ERV	ANY	1.2 CFM/WATT	ANY	
RANGE HOODS	ANY	2.8 CFM/WATT	ANY	
IN-LINE FAN	ANY	2.8 CFM/WATT	ANY	
BATHROOM, UTILITY ROOM	10	1.4 CFM/WATT	< 90	
BATHROOM, UTILITY ROOM	90	2.8 CFM/WATT	ANY	

WHEN TESTED IN ACCORDANCE WITH HVI STANDARD 916

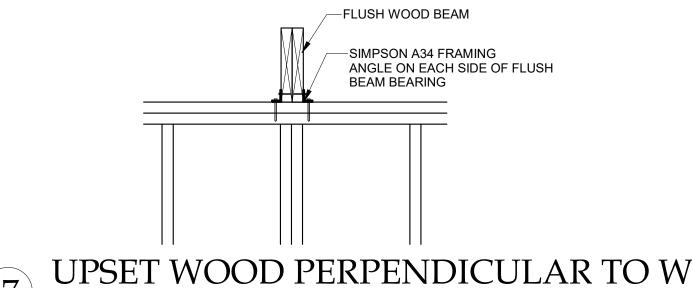


WOOD TO WOOD STACKED CONNECTION



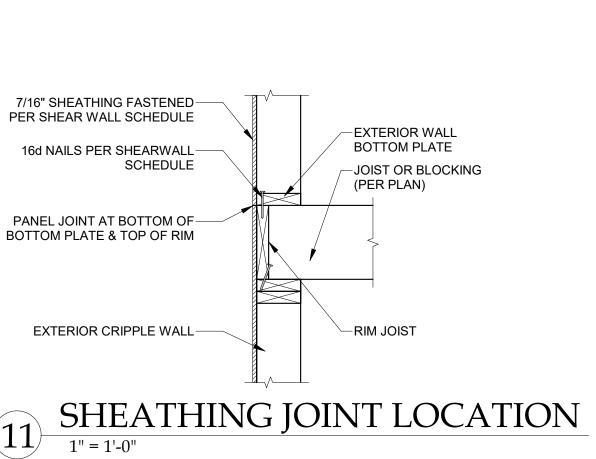
UPSET WOOD/STEEL PARALLEL TO WALL

1" = 1'-0"



UPSET WOOD PERPENDICULAR TO WALL

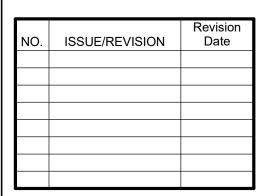
1" = 1'-0"



DOWN WOOD BEAM PARALLEL

1" = 1'-0"

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GENERAL DETAILS

