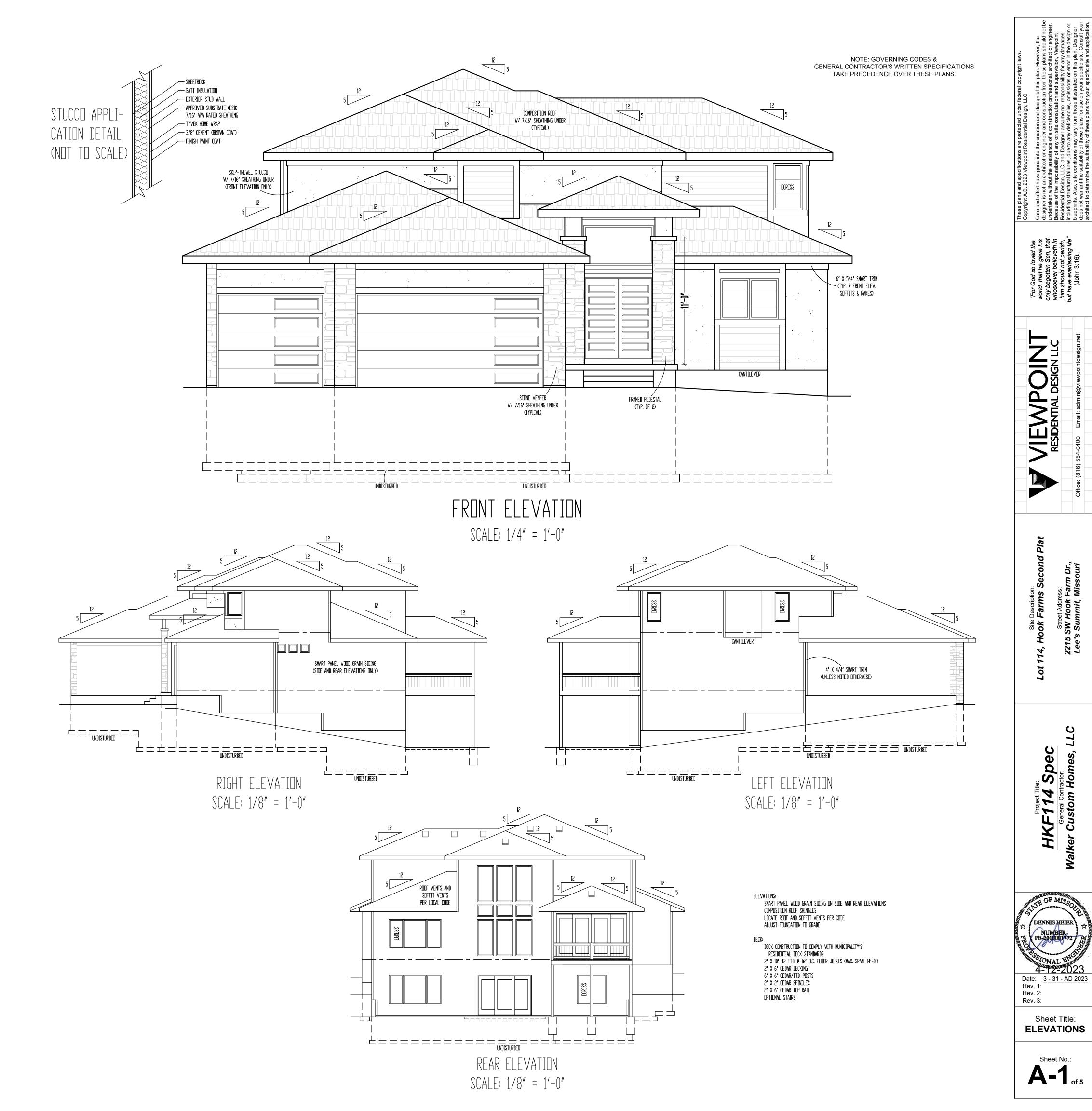
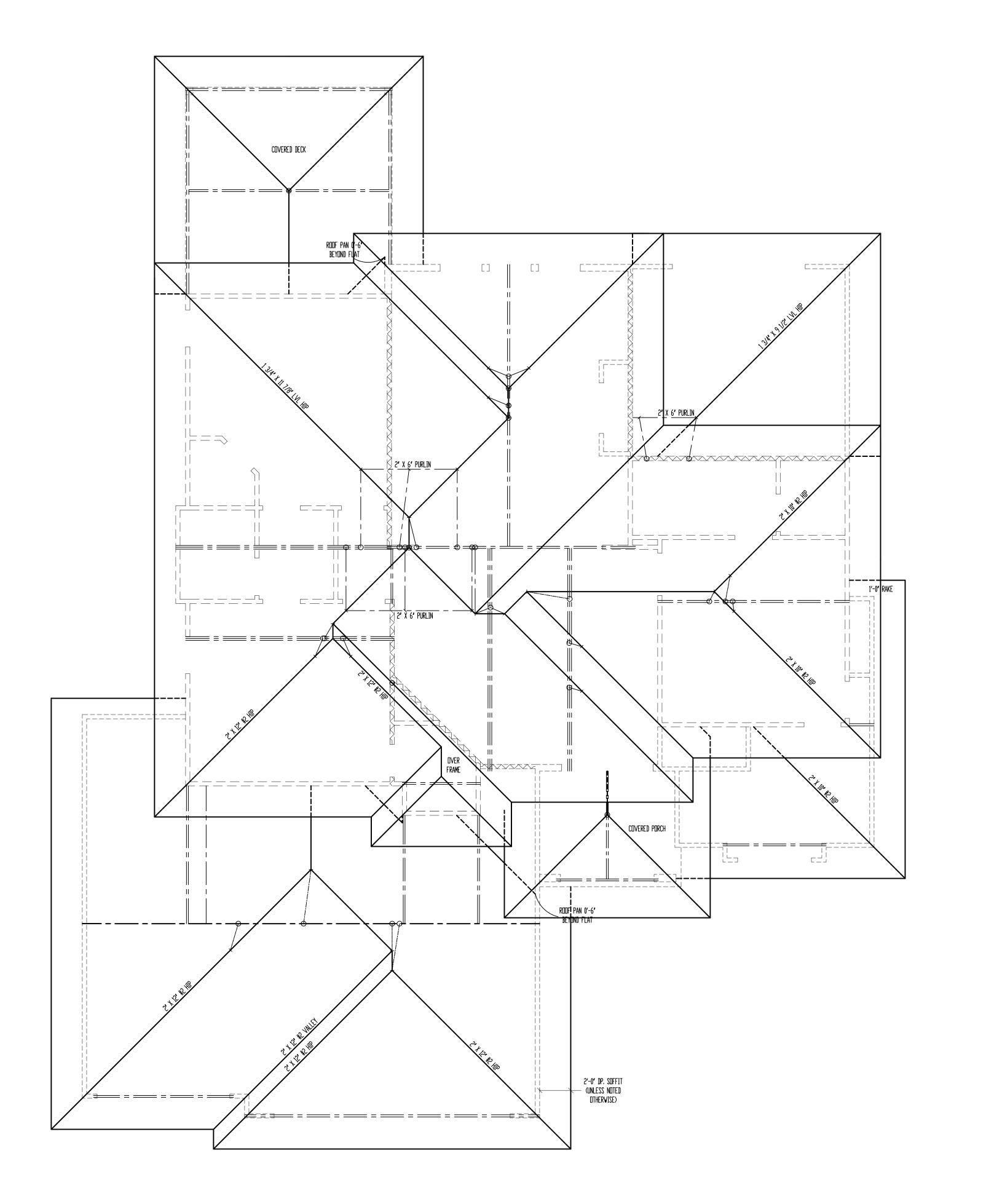
RELEASE FOR CONSTRUCTION AS NOTED ON PLANS REVIEW DEVELOPMENT SERVICES LEE'S SUMMIT, MISSOURI 04/17/2023 4:57:49





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

\*ALL RAFTERS SHALL BE 2' X 6' #2 € 16' D.C., UNLESS NOTED OTHERWISE. SEE DETAIL 7/S3.2 FOR ALTERNATE RAFTER BEARING DETAIL WHEN RAFTERS ARE REQUIRED TO BEAR HIGHER THAN THE WALL DOUBLE TOP PLATE.

### FLASHING NOTE: DRIP EDGE, VALLEYS AND FLASHINGS TO BE METAL CLAD.

ROOF DESIGNED FOR LIGHT ROOF COVERING 30psf TOTAL LOAD (10psf DL, 20psf LL (SL)) \* RAFTERS (HEM-FIR, DOUG-FIR, OR EQUAL): SEE SPAN CHARTS BELOW

CODE MINII	MUM		
RAFTERS	SPACING	MAX HORIZONTAL CLEARSPAN	
#2-2x6	@24″ □.C.	11'-7 <b>'</b>	
#2-2x6	016 <b>′</b> □.C.	14'-2 <b>'</b>	<b>〈</b>
#2-2x8	@24″ □.C.	14'-8 <b>'</b>	
#2-2x8	016 <b>′</b> □.C.	17'-11 <b>"</b>	
#2-2x10	@24″ □.C.	17'-10 <b>'</b>	
#2-2x10	016 <b>′</b> □.C.	21'-11 <b>'</b>	
NOTE: CODE	E MINIMUM ALL	OWS FOR A RAFTER DEFLECTION	OF L/180 TOTAL LOAD

HIGHER PERFORMANCE (RECOMMENDED)						
RAFTERS SPACING MAX HORIZONTAL CLEARSPAN						
#2-2x6	@24″ □.C.	8'-6 <b>"</b>				
#2-2x6	016 <b>′</b> □.C.	9'-9 <b>'</b>				
#2-2x8	@24″ □.C.	11'-3 <b>'</b>				
#2-2x8	016 <b>′</b> □.C.	12'-9 <b>'</b>				
#2-2x10	@24 <b>′</b> □.C.	14′-3 <b>′</b>				
#2-2x10	<b>0</b> 16 <b>′</b> □.C.	16'-3 <b>'</b>				
DEFLECTIO	N = L/360 LIV	VE LOAD, L/240 TOTAL LOAD				

\* VAULTS TO BE 2x10 DEPTH \* RIDGE BOARDS ARE: (UNLESS OTHERWISE NOTED) - #2- 2X8 UP TO 10/12 PITCH - #2- 2X10 OVER 10/12 PITCH \* ALL HIPS & VALLEYS ARE: (UNLESS OTHERWISE NOTED) - #2- 2X8 UP TO 10/12 PITCH - #2- 2X10 OVER 10/12 PITCH

\* PURLINS ARE 2X6 MIN. - PURLIN STRUTS ARE AT 4'-0" D.C. - PURLIN STRUTS SHALL BE INSTALLED AT NOT LESS THAN A 45 Degree angle with the Horizontal - ALL PURLINS STRUTS SHALL HAVE A MAXIMUM UNBRACED LENGTH OF 8'-0' - PURLINS STRUTS SHALL BE CONSTRUCTED IN A 'T' CONFIGURATION AND PER THE FOLLOWING CHART:

PURLIN STRUT	MAX PURLIN STRUT LENGTH
(2) 2x4	8′-0 <b>′</b>
(1) 2x4 & (1) 2x6	12'-0 <b>'</b>
(1) 2x6 & (1) 2x8	20'-0 <b>'</b>
(2) 2x6 & (1) 2x8	30'-0 <b>'</b>
CONSULT ARCH./ENGR. >	30′-0 <b>″</b>

\* RIDGE BRACES ARE SAME AS PURLIN BRACES-SPACING, SIZE, CONFIGURATION, & INSTALLATION (SEE PURLIN BRACE NOTES ABOVE) \* HIP & VALLEY BRACES ARE SAME AS PURLIN SIZE, CONFIGURATION, & INSTALLATION (SEE PURLIN BRACE NOTES ABOVE)

\* VERTICAL BRACE IF DOT IS UNDER HIP OR VALLEY \* SLASH IS TOP END OF BRACE ( / ), DOT IS BOTTOM OF BRACE ( o ). \*---- DENOTES ROOF BRACE \*---- DENOTES PURLIN \*---- DENDTES BEARING STRUCTURE

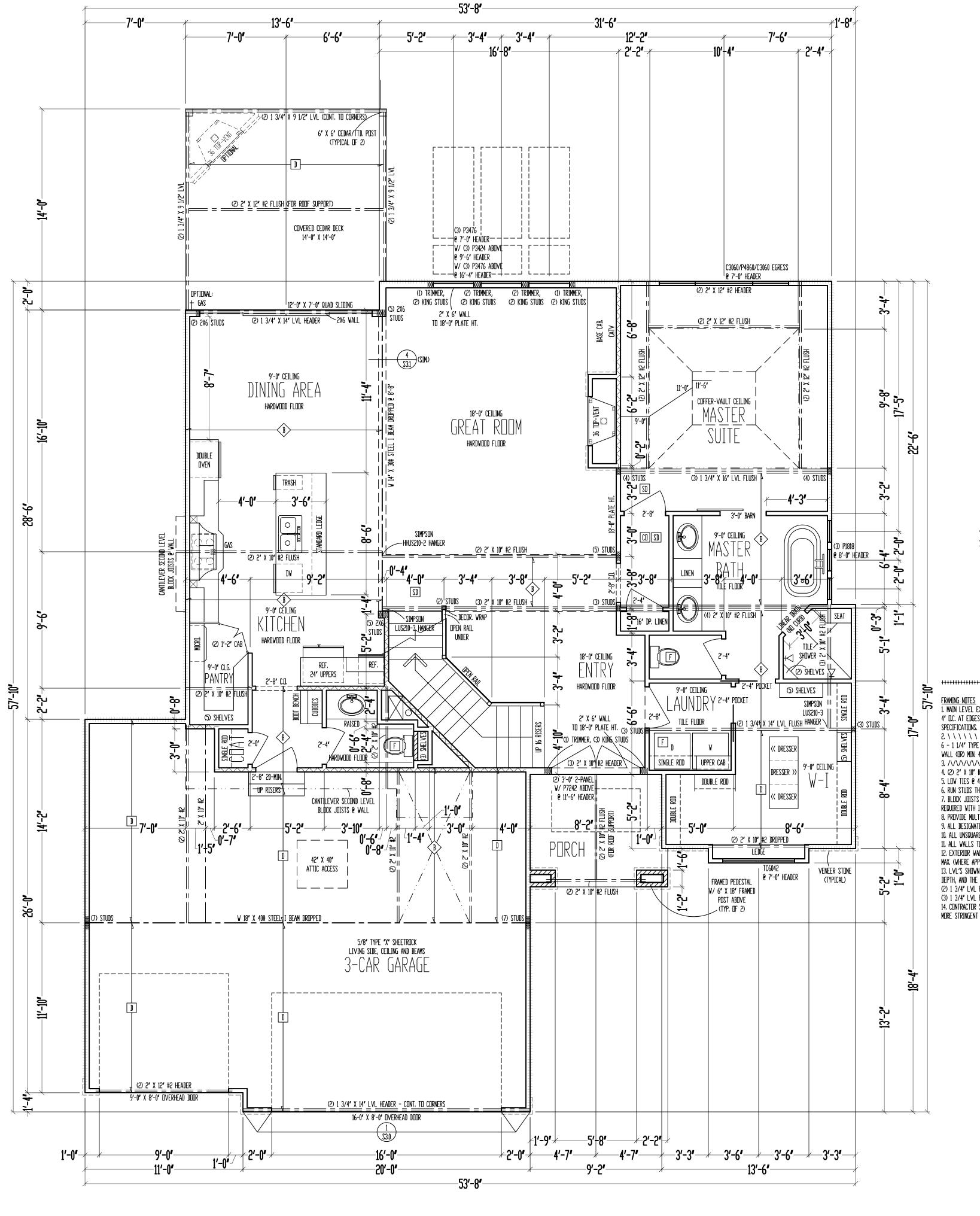
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Rev. 2: Rev. 3:

Sheet Title: **ROOF PLAN** 

Sheet No.:



9'-0" CEILING 2" X 10" FLOOR SYSTEM ABOVE MAIN LEVEL SCALE: 1/4" = 1'-0"

MAIN LEVEL: 1673 SQ. FT. SECOND LEVEL: 827 SQ. FT. TOTAL: 2500 SQ. FT.

> GARAGE: 751 SQ. FT. COV. OUT/LIV: 196 SQ. FT UNFIN. BASEMENT: 1426 SQ. FT

1. MAIN LEVEL EXTERIOR WALLS SHALL BE SHEATHED W/ 7/16' D.S.B. A.P.A. PANELS W/ 8d COMMON NAILS @ 4' D.C. AT EDGES & @ 12' D.C. IN THE FIELD. SMART PANEL, DR EQUAL, INSTALLED PER MANUFACTURER'S SPECIFICATIONS. 2. \ \ \ \ \ \ \ \ = G.B.: 1/2" MIN. GYPSUM BOARD OVER STUDS SPACED 24" MAX FASTENED W/ ND. 6 - 1 1/4" TYPE W OR S DRYWALL SCREWS @ 7" D.C. EDGES & FIELD. (MIN. 8"-0" SECTIONS ONE SIDE OF WALL (OR) MIN. 4'-0" SECTION FOR BOTH SIDES)

3. / / / / / / / / / / = LOAD bearing interior wall. 4. (2) 2' X 10' #2 HEADER AT ALL EXTERIOR AND LOAD BEARING WALLS, UNLESS NOTED OTHERWISE.

5. LOW TIES @ 4'-0' D.C. (TYPICAL) 6. RUN STUDS THE FULL HEIGHT OF RAISED PLATE WALLS.

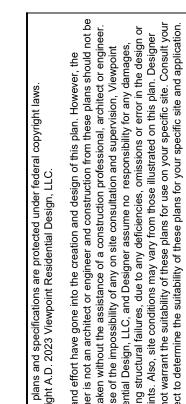
7. BLOCK JOISTS ABOVE BEAMS, CANTILEVERS AND LOAD BEARING WALLS WITH JOIST MATERIAL (NOT REQUIRED WITH I-JOISTS). 8. PROVIDE MULTIPLE STUDS FOR SOLID BEARING BELOW ALL BEAMS.

9. ALL DESIGNATED 2' X 6' WALLS SHALL HAVE DOUBLE KING STUDS AT DOOR AND WINDOW OPENINGS. 10. ALL UNSQUARE WALLS SHALL BE 45°, UNLESS NOTED OTHERWISE. 11. ALL VALLS TO BE FRAMED V/ MIN. STUD GRADE 2' X 4'S @ 16' D.C., UNLESS NOTED OTHERVISE. 12. EXTERIOR WALL BOTTOM PLATES SHALL BE NAILED TO FRAMING BELOW WITH 16d COMMON NAILS @ 8° D.C. MAX. (WHERE APPLICABLE.)

13. LVL'S SHOWN ON PLANS MAY BE REPLACED WITH DF/DF GRADE 24F-V4 GLULAM BEAMS OF THE SAME DEPTH, AND THE FOLLOWING WIDTHS: (2) 1 3/4" LVL PLIES = 3 1/2" GLULAM (3) 1 3/4" LVL PLIES = 5 1/2" GLULAM

14. CONTRACTOR SHALL NOTIFY ENGINEER OF RECORD BEFORE CONSTRUCTION OF ANY DEFLECTION LIMITATIONS MORE STRINGENT THAN CODE MINIMUMS ABOVE ANY OPENINGS.

	JOIST SCHEDULE					
(A)	2" X 10" #2 TTD. FLOOR JOIST @ 16" O.C.					
$\bigcirc$ B $>$	2" X 10" #2 FLDDR JDIST @ 16" D.C.					
⟨¢⟩	2" X 10" #2 FLOOR JOIST @ 16" D.C DOUBLE EVERY OTHER					
D	2" X 6" #2 CEILING JOIST @ 16" D.C.					



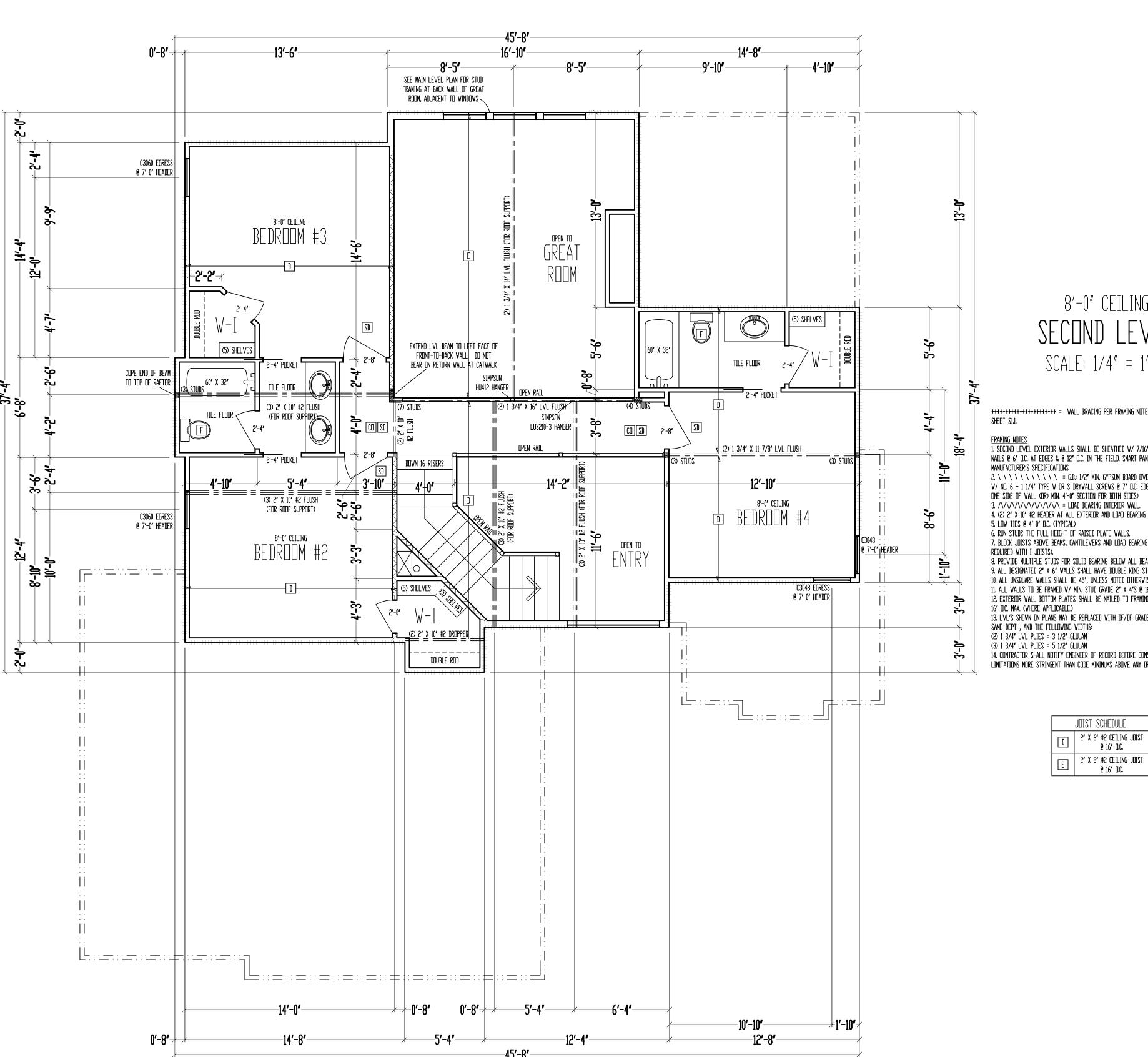
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Rev. 2: Rev. 3:

Sheet Title: **MAIN LEVEL** PLAN





# 8'-0" CEILING

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

+++++++ = Wall Bracing per framing note #1 and per calculations on

FRAMING NOTES

1. SECOND LEVEL EXTERIOR WALLS SHALL BE SHEATHED W/ 7/16' D.S.B. A.P.A. PANELS W/ 8d COMMON NAILS @ 6' D.C. AT EDGES & @ 12' D.C. IN THE FIELD. SMART PANEL, DR EQUAL, INSTALLED PER

MANUFACTURER'S SPECIFICATIONS.
2. \ \ \ \ \ \ \ \ = G.B.: 1/2" MIN. GYPSUM BOARD OVER STUDS SPACED 24" MAX FASTENED W/ NO. 6 - 1 1/4" TYPE V OR S DRYWALL SCREWS @ 7" D.C. EDGES & FIELD. (MIN. 8'-0" SECTIONS ONE SIDE OF WALL (OR) MIN. 4'-0" SECTION FOR BOTH SIDES)

3. /\/\/\/\/\/\\ = LOAD BEARING INTERIOR WALL. 4. (2) 2' X 10' #2 HEADER AT ALL EXTERIOR AND LOAD BEARING WALLS, UNLESS NOTED OTHERWISE. 5. LOW TIES @ 4'-0" D.C. (TYPICAL)

6. RUN STUDS THE FULL HEIGHT OF RAISED PLATE WALLS. 7. BLOCK JOISTS ABOVE BEAMS, CANTILEVERS AND LOAD BEARING WALLS WITH JOIST MATERIAL (NOT

8. PROVIDE MULTIPLE STUDS FOR SOLID BEARING BELOW ALL BEAMS. 9. ALL DESIGNATED 2" X 6" WALLS SHALL HAVE DOUBLE KING STUDS AT DOOR AND WINDOW OPENINGS.

10. ALL UNSQUARE WALLS SHALL BE 45°, UNLESS NOTED OTHERWISE. 11. ALL WALLS TO BE FRAMED W/ MIN. STUD GRADE 2' X 4'S @ 16' D.C., UNLESS NOTED OTHERWISE. 12. EXTERIOR WALL BOTTOM PLATES SHALL BE NAILED TO FRAMING BELOW WITH 16d COMMON NAILS @ 16" D.C. MAX. (WHERE APPLICABLE.) 13. LVL'S SHOWN ON PLANS MAY BE REPLACED WITH DF/DF GRADE 24F-V4 GLULAM BEAMS OF THE

(3) 1 3/4" LVL PLIES = 5 1/2" GLULAM 14. CONTRACTOR SHALL NOTIFY ENGINEER OF RECORD BEFORE CONSTRUCTION OF ANY DEFLECTION

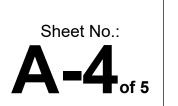
LIMITATIONS MORE STRINGENT THAN CODE MINIMUMS ABOVE ANY OPENINGS.

JOIST SCHEDULE

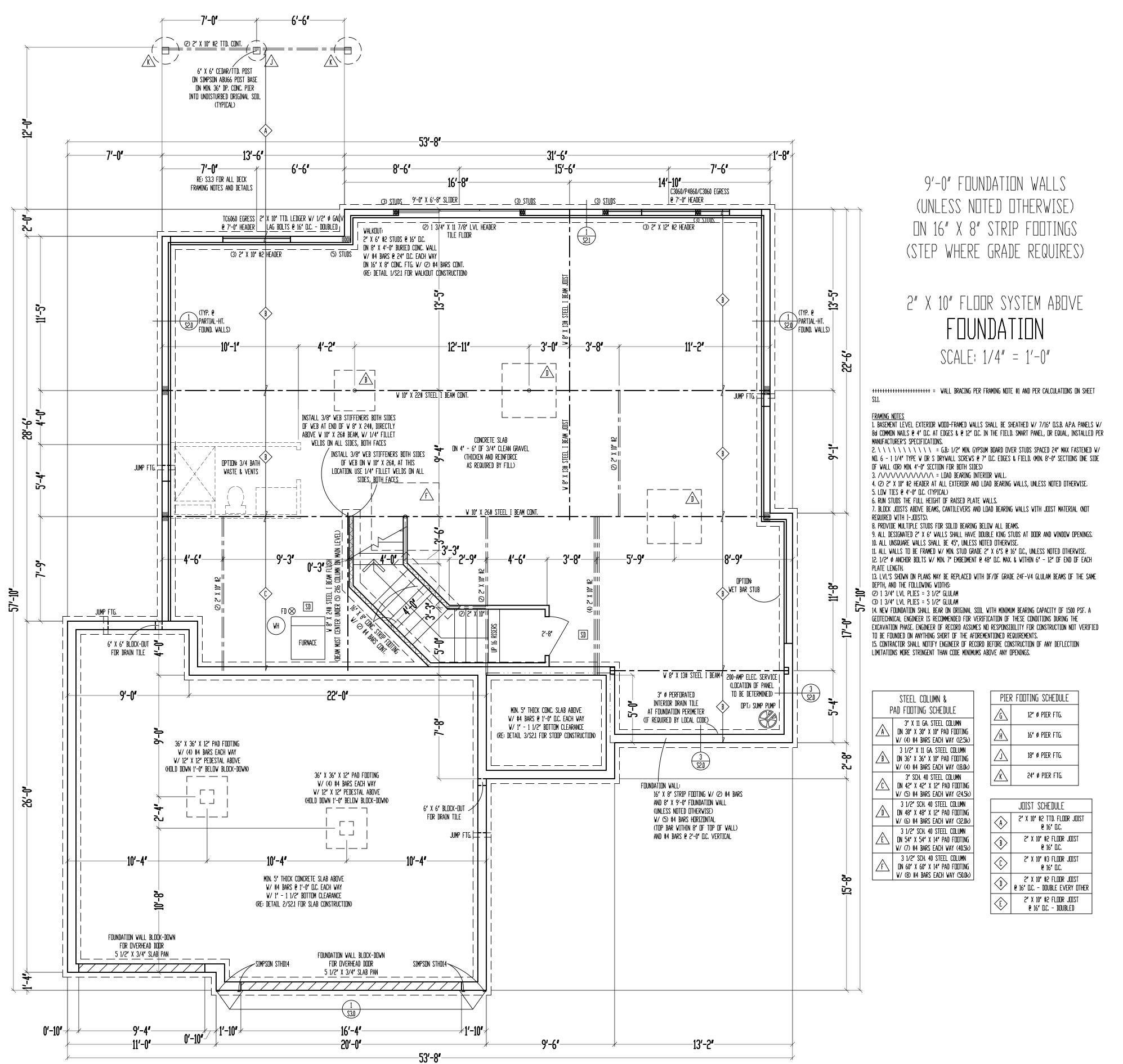
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Date: <u>3 - 31 - AD 2023</u> Rev. 1: Rev. 2: Rev. 3:

Sheet Title: **SECOND LEVEL** PLAN



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Rev. 2: Rev. 3:

> Sheet Title: **FOUNDATION** PLAN

Sheet No.:

RELEASE FOR CONSTRUCTION **AS NOTED ON PLANS REVIEW** DEVELOPMENT SERVICES LEE'S SUMMIT, MI

REVIEW			
souri 57:51		FASTENER SCHEDULE FOR STRUCTURAL MEMBERS	
DE	SCRIPTION OF BUILDING ELEMENTS	NUMBER AND TYPE OF FASTENER	SPACING AND LOCATION
		ROOF <sup>1</sup>	
BLOCKING BETWEEN JOISTS OR RAFTERS TO TOP PLATE, TOE NAIL		4-8d (2 <b>½</b> " x 0.113")	TOENAIL
С	EILING JOISTS TO PLATE, TOE NAIL	4-8d (2½" x 0.113")	PER JOIST, TOENAIL
	IG JOISTS NOT ATTACHED TO PARALLEL ER, LAPS OVER PARTITIONS, FACE NAIL	4-10d (3" x 0.128")	FACE NAIL
CEILING	JOIST TO PARALLEL RAFTER (HEEL JOINT)	TBLE R802.5.2	FACE NAIL
COLLAR	TIE TO RAFTER, FACE NAIL OR 1 ½" x 20 GA. RIDGE STRAP TO RAFTER	4-10d (3" x 0.128")	FACE NAIL, EACH RAFTER
R	RAFTER OR ROOF TRUSS TO PLATE	3-16d BOX NAILS (3½" x 0.135") OR 3-10d COMMON NAILS (3" x 0.148")	2 TOE NAILS ON ONE SIDE AND 1 TOE NAIL ON OPPOSITE SIDE OF EACH RAFTER OR TRUSS
	F RAFTERS TO RIDGE, VALLEY, OR HIP S OR ROOF RAFTER TO MINIMUM 2" RIDGE BEAM	4-16d (3 ½" x 0.135") - TOENAIL; 3-16d BOX (3 ½" x 0.135") - END NAIL	TOENAIL, END NAIL
		WALL	
STUD T	O STUD (NOT AT BRACED WALL PANELS)	10d (3" x 0.128")	16" O.C. FACE NAIL
	JD TO STUD AND ABUTTING STUDS AT ECTING WALL CORNERS (AT BRACED WALL PANELS)	16d (3 <b>½</b> " x 0.135")	12" O.C. FACE NAIL
BUILT-U	P HEADER, TWO PIECES WITH <b>½</b> " SPACER	16d (3 <b>½</b> " x 0.135")	12" O.C. EACH EDGE FACE NAIL
	CONTINUOUS HEADER TO STUD	4-8d (2½" x 0.131")	TOENAIL
	TOP PLATE TO TOP PLATE	10d (3" x 0.128")	12" O.C. FACE NAIL
DOUBLE TOP PLATE SPLICE		8-16d COMMON (3 ½" x 0.162")	FACE NAIL ON EACH SIDE OF END JOINT (MIN. 24" LAP SPLICE LENGTH EACH SIDE OF END JOINT)
BOTTOM PLATE TO JOIST, RIM JOIST, BAND JOIST, OR BLOCKING (NOT AT BRACED WALL PANELS)		16d COMMON (3 ½" x 0.162")	16" O.C. FACE NAIL
	I PLATE TO JOIST, RIM JOIST, BAND JOIST, BLOCKING (AT BRACED WALL PANEL)	3-16d BOX (3 ½" x 0.135")	3 EACH 16" O.C. FACE NAIL
TOF	P OR SOLE PLATE TO STUD, END NAIL	4-8d BOX (2 $\frac{1}{2}$ " x 0.113") - TOENAIL; 3-16d BOX (3 $\frac{1}{2}$ " x 0.135") - END NAIL	TOENAIL, END NAIL (SEE LEFT)
TO	OP PLATES, LAPS AT CORNERS AND INTERSECTIONS	3-10d BOX (3" x 0.128")	FACE NAIL
1"	' BRACE TO EACH STUD AND PLATE	3-8d BOX (2 ½" x 0.113")	FACE NAIL
1'	"x6" SHEATHING TO EACH BEARING	3-8d BOX (2 ½" x 0.113")	FACE NAIL
1'	"x8" SHEATHING TO EACH BEARING	3-8d BOX (2 ½" x 0.113") - FACE NAIL; WIDER THAN 1"x8" - 4-8d BOX (2 ½" x 0.113")	FACE NAIL
		FLOOR	
JO	SIST TO SILL, TOP PLATE, OR GIRDER	4-8d BOX (2 ½" x 0.113")	TOE NAIL
	ST, BAND JOIST, OR BLOCKING TO SILL OR P PLATE (ROOF APPLICATIONS ALSO)	8d BOX (2 ½" x 0.113")	4" O.C. TOE NAIL
1" x 6	6" SUBFLOOR OR LESS TO EACH JOIST	3-8d BOX (2 ½" x 0.113")	FACE NAIL
2	2" SUBFLOOR TO JOIST OR GIRDER	3-16d BOX (3 ½" x 0.135")	BLIND AND FACE NAIL
2" PLA	NKS (PLAN & BEAM - FLOOR AND ROOF)	3-16d BOX (3 ½" x 0.135")	AT EACH BEARING, FACE NAIL
	BAND OR RIM JOIST TO JOIST	3-16d COMMON (3 ½" x 0.162")	END NAIL
BUILT-U	JP GIRDERS AND BEAMS, 2-INCH LUMBER LAYERS	10d BOX (3" x 0.128")	24" O.C. FACE NAIL AT TOP AND BOTTOM STAGGERED ON OPPOSITE SIDES
EDGER	STRIP SUPPORTING JOISTS OR RAFTERS	4-16d BOX (3 ½" x 0.135")	AT EACH JOIST OR RAFTER, FACE NAIL

	FASTNER SCHEDULE FOR	STRUCTURAL MEMBERS EDGE SPACING (INCHES)	
SCRIPTION OF BUILDING MATERIAL WOOD STRUCTURAL PANELS, SU	S DESCRIPTION OF FASTENER  JBFLOOR, ROOF AND INTERIOR WALL SHEA		I INTERMEDIATE SUPPORTS (INCHES)  ARD WALL SHEATHING TO FRAMING <sup>1</sup>
3 <sub>8</sub> " - 1 <u>2</u> "	6d COMMON (2" x 0.113") NAIL (SUBFLOOR, WALL) 8d COMMON NAIL (ROOF)	6	12
<sup>19</sup> / <sub>32</sub> " - 1"	8d COMMON NAIL (2½" x 0.131")	6	12
11/8" - 11/4"	10d COMMON (3" x 0.148") NAIL OR 8d (2½" x 0.131") DEFORMED NAIL	6	12
	OTHER WALL	. SHEATHING 1	
½" STRUCTURAL CELLULOSIC FIBERBOARD SHEATHING	$1\frac{1}{2}$ " GALVANIZED ROOFING NAIL, $\frac{7}{16}$ " HEAD DIAMETER, OR $1\frac{1}{4}$ " LONG 16 GA. STAPLE WITH $\frac{7}{16}$ " OR 1" CROWN	3	6
25" STRUCTURAL CELLULOSIC FIBERBOARD SHEATHING	$1\frac{3}{4}$ " GALVANIZED ROOFING NAIL, $\frac{7}{16}$ " HEAD DIAMETER, OR $1\frac{1}{2}$ " LONG 16 GA. STAPLE WITH $\frac{7}{16}$ " OR 1" CROWN	3	6
<b>½</b> " GYPSUM SHEATHING	1½" GALVANIZED ROOFING NAIL; STAPLE GALVANIZED, 1½" LONG; 1¼" SCREWS, TYPE W OR S	7	7
13/4" GALVANIZED ROOFING NAIL STAPLE GALVANIZED, 15/8" LONG; 1 SCREWS, TYPE W OR S		7	7
v	VOOD STRUCTURAL PANELS, COMBINATION	N SUBFLOOR UNDERLAYMENT TO FRAM	IING
¾" AND LESS	6d DEFORMED (2" x 0.120") NAIL OR 8d COMMON (2½" x 0.131") NAIL	6	12
<b>%</b> " - 1"	8d COMMON (2½" x 0.131") NAIL OR 8d DEFORMED (2½" x 0.120") NAIL	6	12
41/" 41/"	10d COMMON (3" x 0.148") NAIL OR 8d	C	12

1. IF INFORMATION LISTED ON PLAN SHEETS CONTRADICTS INFORMATION IN THIS TABLE, INFORMATION ON PLANS TAKES PRECEDENCE OVER INFORMATION

DEFORMED (2½" x 0.120") NAIL

2-10d BOX (3" x 0.128")

BRIDGING OR BLOCKING TO JOIST

11/8" - 11/4"

### FOUNDATION NOTES

- CONCRETE SHALL BE AIR-ENTRAINED BETWEEN 5%-7% WITH A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 2500 PSI FOR BASEMENT AND INTERIOR FLOOR SLABS-ON-GRADE, 3000 PSI FOR FOUNDATION WALLS, AND 3500 PSI FOR PORCHES AND GARAGE FLOOR SLABS
- THE FOUNDATION DESIGN SHALL COMPLY WITH THE ENFORCING JURISDICTION'S RESIDENTIAL FOUNDATION STANDARDS
- PROVIDE A MINIMUM 4"-DIAMETER PERFORATED DRAIN PIPE ALONG PERIMETER OF USABLE SPACE AT FOOTING LEVEL OR OTHER EQUIVALENT MATERIALS PER IRC SECTION R405.1. THE PIPE SHALL BE COVERED WITH A MINIMUM OF 6" OF GRAVEL OR CRUSHED ROCK. THE DRAIN SHALL DAYLIGHT BELOW FOOTING LEVEL OR TERMINATE IN A
- MINIMUM 20 GALLON SUMP PIT. FOUNDATION SHALL BE DESIGNED FOR A BEARING CAPACITY OF 1500 PSF AND FOUNDED ON COMPETENT ORIGINAL SOIL AS DETERMINED AND CONFIRMED BY A LICENSED GEOTECHNICAL ENGINEER OR ENGINEERING GEOLOGIST. ENGINEER OF RECORD ASSUMES NO RESPONSIBILITY FOR CONSTRUCTION NOT VERIFIED TO BE FOUNDED ON ANY
- SOIL WITH THE AFOREMENTIONED MINIMUM PROPERTIES. FOOTINGS SHALL BE A MINIMUM OF 16" WIDE x 8" DEEP AND SHALL HAVE A MINIMUM OF (2) CONTINUOUS GRADE 40
- #4 BARS WITH 3" BOTTOM CLERANCE. BOTTOM OF FOOTING SHALL BE LOCATED A MINIMUM OF 3'-0" BELOW GRADE FOR FROST PROTECTION.
- CONCRETE PADS SUP0PORTING COLUMN LOADS SHALL BE NO SMALLER THAN 2'-0" x 2'-0" x 1'-0" DEEP WITH A MINIMUM OF (4) GRADE 40 #4 BARS EACH WAY WITH 3" BOTTOM CLEARANCE
- FOUNDATION WALLS SHALL BE A MINIMUM OF 8" NOMINAL WIDTH AND SHALL HAVE HOIZONTAL GRADE 40 #4 BARS AT 2'-0" O.C. MAX. WITH VERTICAL #4 BARS AS REQUIRED ON FOUNDATION CROSS SECTION ON SHEET S2.0 REINFORCEMENT SHALL LAP A MINIMUM OF 2'-0" (CLASS B SPLICE)
- INTERIOR BEARING WALLS AND COLUMNS SHALL BE ISOLATED FROM THE BASEMENT FLOOR SLAB
- BASEMENT FLOOR SLAB SHALL BE A MINIMUM OF 4" THICK ON A MINIMUM BASE COURSE OF 4" TO 6" OF SAND, GRAVEL OR CRUSHED ROCK. BETWEEN THE BASE COURSE AND FLOOR SLAB SHALL BE PLACED A 6-MIL POLY VAPOR RETARDER WITH MINIMUM OVERLAP OF 6" AT DISCONTINUITIES
- 11. IF A FLOOR IS TO BE SUPPORTED BY A MINIMUM OF 2'-0" OF GRANULAR FILL OR 8" OF EARTH, BASEMENT SLAB SHALL BE DESIGNED BY A LICENSED ENGINEER
- 12. SILL PLATES SHALL BE ANCHORED TO THE FOUNDATION WALL WITH  $\frac{1}{2}$ " Ø ANCHOR BOLTS EMBEDDED A MINIMUM OF 7" INTO CENTER OF WALL STEM AND SHALL BE INSTALLED AT A MAXIMUM OF 6'-0" O.C. (OR AS NOTED ON PLANS) AND SHALL BE INSTALLED WITHIN 6" TO 12" OF EACH END OF EACH SILL PLATE LENGTH, PER IRC SECTION R403.1.6
- 14. THE GARAGE FLOOR SHALL SLOPE TOWARD THE VEHICLE DOORS OR TO A TRENCH OR UNTRAPPED DRAIN THAT DISCHARGES TO THE EXTERIOR, ABOVE GRADE

13. FOUNDATION WINDOW WELLS SHALL BE PROVIDED WITH MINIMUM DIMENSIONS AS SHOWN IN DETAIL ON SHEET

### FRAMING NOTES

- ALL DIMENSIONAL LUMBER SHALL BE DOUGLAS-FIR-LARCH GRADE #2, UNLESS NOTED OTHERWISE ON PLANS
- ALL INTERIOR LOAD-BEARING AND EXTERIOR WALL HEADERS SHALL BE (2) #2 2x10's, UNLESS NOTED OTHERWISE
- BLOCK OVER BEAMS AND AT CANTILEVERS AND DOOR JAMBS
- INTERIOR NON-BEARING WALLS RESTING ON BASEMENT SLAB SHALL BE ISOLATED FROM ABOVE FRAMING BY A
- ALL HEADERS/BEAMS SHALL BEAR ON A MINIMUM OF (2) 2x4 POSTS (KING AND JACK STUDS), UNLESS NOTED
- 20. WHERE JOISTS SPAN PARALLEL TO FOUNDATION, BLOCKING SHALL BE PROVIDED IN THE TWO SPACES MOST ADJACENT TO THE FOUNDATION WALL AT 4'-0" O.C. FOR THE PURPOSE OF TRANSFERRING LATERAL FOUNDATION WALL LOAD TO THE FLOOR DIAPHRAGM. FASTEN JOISTS AND BLOCKING TO SILL PLATE WITH (4) 10d NAILS. IF MECHANICAL DUCTWORK IS INSTALLED IN ONE OF THESE FIRST TWO BAYS, FASTEN 2x4's FLAT AT 4'-0" O.C. BETWEEN JOIST(S) AND/OR SILL AND PROVIDE BLOCKING AS PRESCRIBED ABOVE IN THE NEXT TWO JOIST BAYS. SECURE 2x4's TO JOIST(S)/SILL PLATE WITH (4) 10d NAILS.
- ALL WOOD MATERIAL SUPPORTED ON CONCRETE OR MASONRY SHALL BE TREATED OR OF DECAY-RESISTANT
- JOISTS UNDER BEARING PARTITIONS ON PLANS HAVE BEEN SIZED TO SUPPORT THE DESIGN LOAD.
- 23. JOISTS FRAMING INTO THE FACE OF A STEEL OR WOOD BEAM SHALL BE SUPPORTED WITH APPROPRIATE COLD-FORMED STEEL JOIST HANGERS
- JOISTS FRAMED ON TOP OF STRUCTURAL MEMBER SHALL BE SUPPORTED AT EN DS BY FULL-DEPTH SOLID BLOCKING MIN. 11/8" IN THICKNESS OR BY FASTENING RIM TO JOISTS PER FASTENING TABLE TO LEFT
- ALL WALL COVERINGS SHALL COMPLY WITH IRC SECTION R702.3
- ALL RAFTERS AND COLLAR TIES SHALL COMPLY WITH IRC SECTION R802.3. ALL RAFTERS SHALL HAVE 2x4 COLLAR TIES @ 4'-0" O.C. IN UPPER  $\frac{1}{3}$  OF VERTICAL DISTANCE BETWEEN CEILING AND
- BLOCKING BETWEEN JOISTS UNDER A LOAD-BEARING WALL IS NOT REQUIRED
- PER IRC SECTION 501.3, BOTTOM OF ALL FLOOR ASSEMBLIES ABOVE UNFINISHED AREAS SHALL BE PROVIDED WITH A ½" GYPSUM BOARD MEMBRANE OR RESIDENTIAL FIRE SPRINKLER SYSTEM WHEN FLOOR SYSTEM IS CONSTRUCTED OF OTHER THAN DIMENSION LUMBER OR STRUCTURAL COMPOSITE LUMBER EQUAL TO OR
- GREATER THAN 2x10 NOMINAL DIMENSION(WHERE REQUIRED BY ENFORCING JURISDICTION) 30. ENGINEERED LVL's SHALL HAVE MINIMUM PROPERTIES OF Fb = 2600 psi, E=1900 ksi, AND Fv=285 psi
- ENGINEERED PARALLAMS SHALL HAVE MINIMUM PROPERTIES OF Fb = 2600 psi, E = 2000 ksi, AND Fv = 290 psi 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 SHALL 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. 33. WHEN MECHANICAL EQUIPMENT IS LOCATED IN AN ENCLOSED ROOM, THERE SHALL BE (2) 14"x12" VENTS LOCATED IN A WALL COMMON WITH ADDITIONAL LIVING AREA. ONE VENT SHALL BE LOCATED SUCH THAT THE BOTTOM OF THE VENT BEGINS 12" FROM THE FLOOR AND THE OTHER VENT SHALL BE LOCATED SUCH THAT THE TOP OF THE
- VENT BEGINS 12" FROM THE CEILING. 34. ALL ROOF SHEATHING SHALL BE  $\frac{7}{16}$ " OSB WITH 8d COMMON NAILS @ 6" O.C. AT PANEL EDGES AND @ 12" O.C. IN FIELD

# **GLAZING NOTES**

EACH END, TOENAIL

- 35. 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 OPENABLE PANELS ADJACENT TO A DOOR WHERE THE NEAREST VERTICAL EDGE IS WITHIN A 2'-0" ARC OF THE DOOR IN A CLOSED POSITION AND FOR WHICH THE BOTTOM EDGE IS WITHIN 5'-0" OF THE FLOOR, WALLS ENCLOSING STAIRWAYS AND LANDINGS WHERE THE GLAZING IS WITHIN 5'-0" OF THE TOP OR BOTTOM OF THE STAIR, ENCLOSURES FOR SPAS, TUBS, SHOWERS, AND WHIRLPOOLS, GLAZING IN FIXED OR OPENABLE PANELS EXCEEDING NINE SQUARE FEET AND FOR WHICH THE
- BOTTOM EDGE IS LESS THAN 1'-6" ABOVE THE FLOOR OR WALKING SURFACE WITHIN 3'-0" 36. ALL OPERABLE WINDOWS SHALL HAVE FALL PROTECTION PER IRC SECTION R612.2

# ATTIC VENTILATION

37. 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  $\frac{1}{2}$ " TO  $\frac{1}{2}$ " OPENINGS. THE TOTAL FREE VENTILATING AREA SHALL NOT BE LESS THAN  $\%_{50}$  OF THE AREA OF SPACE VENTILATED, EXCEPT WHERE THE VENTILATORS ARE LOCATED IN THE UPPER PORTION OF THE SPACE TO BE VENTILATED - THE REQUIRED AREA MAY BE REDUCED TO 1/300.

## **EMERGENCY EGRESS**

- PROVIDE A MINIMUM OF ONE WINDOW FOR EACH BEDROOM THAT HAS A MINIMUM OPENABLE AREA OF 5.7 SQUARE FEET WITH A MINIMUM OPENABLE HEIGHT OF 2'-0" AND A MINIMUM WIDTH OF 1'-9". IN ADDITION, THE OPENABLE PORTION OF EGRESS WINDOWS SHALL NOT EXCEED 3'-8" ABOVE THE ADJOINING FLOOR OR PERMANENT STEP.
- PROVIDE SMOKE ALARMS IN EACH SLEEPING ROOM, OUTSIDE OF EACH SLEEPING AREA AND ON EACH FLOOR, INCLUDING BASEMENT (IF APPLICABLE). ALARMS SHALL BE HARDWIRED TOGETHER SO THAT THE ACTIVATION OF ONE SMOKE ALARM WILL ACTIVATE ALL SMOKE ALARMS IN THE DWELLING. PROVIDE CARBON MONOXIDE DETECTORS OUTSIDE EACH SLEEPING AREA.

- 40. MASONRY VENEER SHALL BE ANCHORED TO THE SUPPORTING WALL STUDS WITH CORROSION-RESISTANT METAL TIES EMBEDDED IN MORTAR OR GROUT AND EXTENDING INTO THE VENEER A MINIMUM OF 1½", WITH NOT LESS
- THAN %" MORTAR OR GROUT COVER TO OUTSIDE FACE. 41. VENEER TIES, IF STRAND WIRE, SHALL NOT BE LESS IN THICKNESS THAN NO. 9 U.S. GAGE WIRE AND SHALL HAVE A HOOK EMBEDDED IN THE MORTAR JOINT, OR IF SHEET METAL, SHALL BE NOT LESS THAN NO. 22 U.S. GAGE BY  $\frac{7}{3}$ "
- 42. EACH TIE SHALL SUPPORT NOT MORE THAN 2.67 SQUARE FEET OF WALL AREA AND SHALL BE SPACED NOT MORE THAN 32 INCHES ON CENTER HORIZONTALLY AND 24 INCHES ON CENTER VERTICALLY.

43. VENEER TIES AROUND WALL OPENINGS: ADDITIONAL METAL TIES SHALL BE PROVIDED AROUND ALL WALL

- OPENINGS GREATER THAN 16 INCHES IN EITHER DIMENSION. METAL TIES AROUND THE PERIMETER OF OPENINGS SHALL BE SPACED NOT MORE THAN 3 FEET ON CENTER AND PLACED WITHIN 12 INCHES OF THE WALL OPENING.
- DOOR(S) BETWEEN THE GARAGE AND DWELLING SHALL BE MINIMUM 1%" SOLID CORE OR HONEY-COMBED STEEL
- DOOR WITH 20-MINUTE FIRE RATING EQUIPPED WITH A SELF-CLOSING DEVICE 45. 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 IRC 2018

### GARAGE NOTES (CONTINUED)

- THE GARAGE SHALL BE SEPARATED FROM THE DWELLING AND ITS ATTIC AREAS BY MINIMUM %" GYP. BOARD APPLIED TO THE GARAGE SIDE OF FRAMING. WHERE HABITABLE SPACE OCCURS ABOVE THE GARAGE, THE GARAGE CEILING ASSEMBLY SHALL BE PROTECTED WITH A MINIMUM 5/4" TYPE X GYP. BOARD. WHERE A FLOOR/CEILING SPACE IS PROVIDED ABOVE THE GARAGE COLUMNS AND BEAMS SUPPORTING THE SEPARATION SHALL ALSO BE PROTECTED WITH 5/8" GYP. BOARD.
- 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 AND SHALL BE FASTENED WITH  $2\frac{1}{2}$ "" x 0.120" NAILS AT 7" O.C. STAGGERED WITH (7) 31/4" x 0.120" NAILS THROUGH THE JAMB INTO THE HEADER. MINIMUM 2x8 HEADER FOR ATTACHMENT OF COUNTER BALANCE SYSTEM.

### DESIGN LOADING (PER TABLE R301.5)

MINIMUM UNIFORMLY DISTRIBUTED LIVE LOADS (PSF)						
USE	LIVE LOAD	DEAD LOAD				
UNINHABITABLE ATTICS WITHOUT STORAGE	10	10				
UNINHABITABLE ATTICS WITH LIMITED STORAGE	20	10				
HABITABLE ATTICS AND ATTICS SERVED WITH FIXED STAIRS	30	10				
BALCONIES (EXTERIOR) AND DECKS	40	10 <sup>d</sup>				
FIRE ESCAPES	40	10				
GUARDRAILS AND HANDRAILS a	200 <sup>c</sup>	-				
GUARDRAIL IN-FILL COMPONENTS <sup>b</sup>	50 <sup>c</sup>	-				
PASSENGER VEHICLE GARAGES	50	DEPENDENT UPON SLAB CONSTRUCTION				
ROOMS OTHER THAN SLEEPING ROOM	40	10 <sup>d</sup>				
SLEEPING ROOM	30	10 <sup>d</sup>				
STAIRS	40	10 <sup>d</sup>				

a. A single concentrated load applied in any direction at any point along the top.

withstand a horizontally applied normal load of 50 pounds on an area equal to one square foot. This load need not be assumed to act concurrently with any other live load requirement. c. Glazing used in handrail assemblies and guards shall be designed with a safety factor of 4. The safety factor shall be applied to each of the concentrated loads applied to the top of the rail, and to the load on the infill components. These loads shall be determined independently of one another, and loads are assumed

b. Guard in-fill components (all those except the handrail), ballusters and panel fillers shall be designed to

not to occur with any other live load. d. An additional dead loading of 10 psf shall be applied where thinset tile floor is to be installed. An additional dead loading of 50 psf shall be applied where mudset tile floor is to be installed.

### INSULATION/EFFICIENCY

- BUILDING ENVELOPE INSULATION SHALL COMPLY WITH IRC TABLE N1102.1.1 OR THE 2012 IECC (SEE SHEET S3.1 FOR FRAMING DETAILS AND TABLES ON THIS SHEET FOR MORE INFORMATION)
- CATHEDRAL -VAULTED CEILING FRAMING SHALL BE FRAMED WITH A MINIMUM INSULATION VALUE OF R-38. IF VAULTED RAFTERS DO NOT PROVIDE REQUIRED DEPTH TO ACHIEVE R-38 INSULATION BUILDER SHALL FUR DOWN RAFTERS PER DETAILS PROVIDED ON SHEET S3.1.

INSULATION AND FENESTRATION REQUIREMENTS BY COMPONENT (TABLE N1102.1.1)					
CLIMATE ZONE	4-A				
FENESTRATION U-FACTOR	0.35				
SKYLIGHT U-FACTOR	0.55				
GLAZED FENSTRATION SHGC	0.40				
CEILING R-VALUE	49				
WOOD FRAME WALL R-VALUE	15				
MASS WALL R-VALUE	8 / 13				
FLOOR R-VALUE	19				
BASEMENT WALL R-VALUE	10-CONTINUOUS OR 13-CAVITY				
SLAB R-VALUE AND DEPTH	10 AT 2'-0"				
CRAWL SPACE WALL R-VALUE	10-CONTINUOUS OR 13-CAVITY				
DUCTWORK EXPOSED TO OUTSIDE AIR R-VALUE	8				
DUCTWORK NOT EXPOSED TO OUTSIDE AIR R-VALUE	6				
CATHEDRAL VAULTED CEILING R-VALUE	38				

# DUCT SEALING

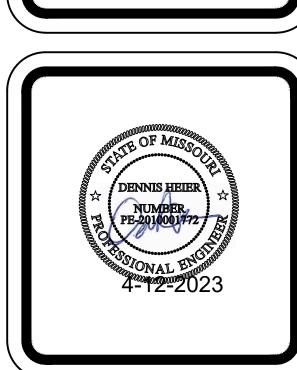
N1103.2.2 (R403.2.2) SEALING (MANDATORY). DUCTS, AIR HANDLERS, AND FILTER BOXES SHALL BE SEALED. JOINTS AND SEAMS SHALL COMPLY WITH SECTION M1601.4.1 OF 2018 IRC.

- 1. AIR-IMPERMEABLE SPRAY FOAM PRODUCTS SHALL BE PERMITTED TO BE APPLIED
- WITHOUT ADDITIONAL JOINT SEALS. 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. CONTINUOUSLY WELDED AND LOCKING-TYPE LONGITUDINAL JOINTS AND SEAMS IN DUCTS OPERATING AT STATIC PRESSURES LESS THAN 2 INCHES OF WATER COLUMN PRESSURE CLASSIFICATION SHALL NOT REQUIRE ADDITIONAL CLOSURE SYSTEMS.
- DUCT TIGHTNESS SHALL BE VERIFIED BY EITHER OF THE FOLLOWING:
- POST-CONSTRUCTION TEST: TOTAL LEAKAGE SHALL BE LESS THAN OR EQUAL TO 4 CFM PER 100 SQUARE FEET OF CONDITIONED FLOOR AREA WHEN TESTED AT A PRESSURE DIFFERENTIAL OF 0.1 INCHES W.G. ACROSS THE ENTIRE SYSTEM, INCLUDING THE MANUFACTURER'S AIR HANDLER ENCLOSURE. ALL REGISTER BOOTS SHALL BE TAPED OR OTHERWISE SEALED DURING THE TEST.
- ROUGH-IN TEST: TOTAL LEAKAGE SHALL BE LESS THAN OR EQUAL TO 4 CFM PER 100 SQUARE FEET OF CONDITIONED FLOOR AREA WHEN TESTED AT A PRESSURE DIFFERENTIAL OF 0.1 INCHES W.G. ACROSS THE 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 LEAKAGE SHALL BE LESS THAN OR EQUAL TO 3 CFM PER 100 SQUARE FEET OF CONDITIONED FLOOR AREA.

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

ME	CHANICAL VENTILATIO	N SYSTEM FAN EFFICA	<u>~</u>
FAN LOCATION	AIR FLOW RATE  MINIMUM (CFM)	MINIMUM EFFICACY (CFM/WATT)	AIR FLOW RATE MAXIMUM (CFM)
RANGE HOODS	ANY	2.8	ANY
IN-LINE FAN	ANY	2.8	ANY
BATHROOM, UTILITY ROOM	10	1.4	90
BATHROOM, UTILITY ROOM	90	2.8	ANY





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### RESIDENTIAL SEISMIC & WIND ANALYSIS

				INPUT
DETERMINE WEIGHT OF HOUSE:				CALCULATED VALUE
LOCATION		DEAD LOAD (psf)	AREA (ft <sup>2</sup> )	WEIGHT (lbs.)
ROOF		10	2692	26920
CEILING		10	2692	26920
SECOND FLOOR		10	827	8270
FIRST FLOOR		10	2692	26920
	WALL LENGTH (ft)	WALL HEIGHT (ft)	WALL UNIT WT. (psf)	WEIGHT (lbs)
SECOND FLOOR EXT. WALL DL	166	8	- 8	10624
FIRST FLOOR EXT. WALL DL	223	10	10	22300
		DEAD LOAD (psf)	AREA (ft2)	WEIGHT (lbs)
SECOND FLOOR INT. PARTITION WALL DL		6	827	4962
FIRST FLOOR INT. PARTITION WALL DL		6	2692	16152

	PROJECTED AREAS (WIND DESIGN PER 115 MPH 3-SECOND GUST, EXPOSURE C AND MEAN ROOF HEIGHT <= 30 FT ASSUMED)							
:	FRONT-TO-BACK				SIDE-TO-S			
	AREA	LOAD			AREA	LOAD		
SLOPED ROOF	213	938		SLOPED ROOF	291	1261		
VERT. ROOF	0	0	CUMULATIVE	VERT. ROOF	0	0	CUMULATIVE	
2ND	411.03	5897	6835	2ND	335.97	5024	6285	
1ST	590.37	8232	15067	1ST	636.13	8765	15049	
BSMT <sup>a</sup>	0	0	0	BSMT <sup>a</sup>	157	2732	10256	
·	PRESSURE						·	
	SLOPED ROOF	ZONE B		5.9	ZONE C	11.6	2a (FIG. 28.6-1, ASCE7)	
	WALL/VERT. ROOF	ZONE A		17.4	ZONE D	3.4	10.734	
	MEAN ROOF HT., h		26					

a) If there is a walkout wall to be sheathed, determine tributary wind area and enter here. If no walkout, enter 0 for area.

 $q_{z10}$ =0.00256 $K_zK_{zt}K_dV^2$  (ASCE7-10 Velocity Pressure)  $q_{z10\_ASD}$ =0.6 $q_{z10}$  (Design Velocity Pressure for ASD analysis under ASCE7-10 and IRC/IBC 2012)

2ND FLOOR TRIBUTARY WEIGHT
1ST FLOOR TRIBUTARY WEIGHT
BASEMENT TRIBUTARY WEIGHT
S<sub>S</sub> (SITE GROUND MOTION - %g - FROM ASCE7 SEISMIC MAP)
F<sub>a</sub> (from ASCE7 Table 11.4-1)

 $S_{DS}$  (= 2/3 \*  $S_{S}$  \*  $F_{a}$ )

R (from ASCE7 Table 12.2-1)

	 SEISMIC SHEAR		+ + + + + + + + + + + + + + + + + + +
LOCATION		From ASCE7 (Eq. 12.8-1):	V (= 1.2 * S <sub>DS</sub> * W / R) (lbs.)
2ND FLOOR			1398
1ST FLOOR			2099
BASEMENT			2099

Sheathing Location	Min. Sheathing Schedule	Fastening Schedule	Allowable Shear (#/LF)	Code Reference
Exterior (Option #1)	7/16" APA Rated Plywood/OSB	1-1/2" 16ga. Staples w/ 1" penetration@ 6" OC Edges, 6" OC Field For 24" stud spacing, 12" OC Field For 16" stud spacing	155	per IBC, Table 2305.3(1)
Exterior (Option #2)	7/16" APA Rated Plywood/OSB	1-1/2" 16ga. Staples w/ 1" penetration@ 4" CC Edges, 6" OC Field For 24" stud spacing, 12" OC Field For 16" stud spacing	230	per IBC, Table 2305.3(1)
Exterior (Option #3)	7/16" APA Rated Plywood/OSB	1-1/2" 16ga. Staples w/ 1" penetration@ 3" OC Edges, 6" OC Field For 24" stud spacing, 12" OC Field For 16" stud spacing	310	per IBC, Table 2305.3(1)
Exterior (Option #4)	7/16" APA Rated Plywood/OSB or shiplap panel sheathing, or 3/8" shiplap panel sheathing with tighter nail spacing	8d Common Nails w/ 1-3/8" penetration @ 6" O.C. Edges, 12" O.C. Field for 7/16" APA-rated plywood/OSB or shiplap panel sheathing OR @ 4" O.C. Edges, 12" O.C. Field for 3/8" shiplap panel sheathing	220	AF&PA SDPW Table 4.3A
Exterior (Option #5)	7/16" APA Rated Plywood/OSB or shiplap panel sheathing, or 3/8" shiplap panel sheathing with tighter nail spacing	8d Common Nails w/ 1-3/8" penetration @ 4" O.C. Edges, 12" O.C. Field for 7/16" APA-rated plywood/OSB or shiplap panel sheathing OR @ 3" O.C. Edges, 12" O.C. Field for 3/8" shiplap panel sheathing	320	AF&PA SDPW Table 4.3A
Exterior (Option #6)	7/16" APA Rated Plywood/OSB or shiplap panel sheathing, or 3/8" shiplap panel sheathing with tighter nail spacing and double studs at each panel edge	8d Common Nails w/ 1-3/8" penetration @ 3" O.C. Edges, 12" O.C. Field	410	AF&PA SDPW Table 4.3A
Interior	1/2" Gypsum Board	No. 6- 1 <sup>1</sup> / <sub>4</sub> " Type W or S Screws @ 8" O.C. Edges, 12" O.C. Field	60	per IBC, Table 2306.4.4
Interior	16 Ga. Simpson/USP Type WB Steel X-Brace (or equal)	(3) 16d @ end studs & (1) 8d @ intermediate studs (per manufacturer specifications - see detail on sheet S3)	325	

EXTERIOR SHEATHING OPTION FOR SECOND FLOOR	4
EXTERIOR SHEATHING OPTION FOR FIRST FLOOR	5
EXTERIOR SHEATHING OPTION FOR BASEMENT WALLS	5

		<u> </u>	
WIDTH OF 1ST STORY (FT.)	53.67	WIDTH OF 2ND STORY (FT.)	45.67
DEPTH OF 1ST STORY (FT.)	57.83	DEPTH OF 2ND STORY (FT.)	37.33
BACK WALL OF GARAGE (FT.)	0		
GAR. WALL: 1=F-B, 2=S-S	2		

59152

88846 88846

12.0%

1.6

0.128

			=\/===	NOD OTRUGELIES	ENGTIO (%) A DEGLETANCES			
			EXTER	RIOR STRUCTURAL WALL	LENGTHS (ft.) & RESISTANCES			
,		SE	ISMIC			WIND		
	FRONT-TO-BACK	RESISTANCE (lbs.)	SIDE-TO-SIDE	RESISTANCE (lbs.)	FRONT-TO-BACK	RESISTANCE (lbs.)	SIDE-TO-SIDE	RESISTANCE (lbs.)
2ND FLOOR	30	8400	42	11760	30	11760	42	16464
1ST FLOOR	70	26600	30	11400	70	37240	30	15960
BASEMENT	0	0	22	8360	0	0	22	11704
				_				
		ADDITIONAL RESIS	STANCE REQUIRED		Anchor Bolt Spacing	(in.)	16d Nail Spacing req'd at	oottom plate (in.)
		SEISMIC	WIND		diameter (in.)	0.5	2nd Floor F-B	40
2ND FLOOR FRONT-	TO-BACK	0	0		Shear value (per NDS)	944	2nd Floor S-S	40
2ND FLOOR SIDE-TO	-SIDE	0	0		Spacing F-B (inches)	139.1	1st Floor F-B	2
1ST FLOOR FRONT-T	TO-BACK	0	0	1	spacing S-S (inches)	129.3	1st Floor S-S	19

		RESISTANCE REQUI	RED IN ADDITION TO RES	SISTANCE PROVIDED BY EXTERIOR W	ALLS**		
	ADDITIONAL RESISTANCE REQUIRED (POUNDS)	PORTAL FRAMES OR PERF. SHEAR WALL RESISTANCE	INTERIOR X-BRACES (325#/BRACE)	INTERIOR WALL LENGTH W/ 1/2" GYPSUM BOARD PER TABLE (FT.)	INT. WALL LENGTH SHEATHED W/ OSB (TOTAL LENGTH, ONE SIDE, FT.)	RESISTANCE PROVIDED BY ADDITIONAL METHODS (POUNDS)	OK?
2ND FLOOR FRONT-TO-BACK	0	·				0	YES
2ND FLOOR SIDE-TO-SIDE	0					0	YES
1ST FLOOR FRONT-TO-BACK	0					0	YES
1ST FLOOR SIDE-TO-SIDE	0					0	YES
BASEMENT FRONT-TO-BACK	0					0	YES
BASEMENT SIDE-TO-SIDE	0					0	YES

\*\*NOTES: 1) SEE ATTACHED CALCULATIONS FOR PORTAL FRAME OR PERFORATED SHEAR WALL RESISTANCE CAPACITIES (IF APPLICABLE),
2) SEE SHEET S1 FOR INTERIOR STEEL X-BRACE INSTALLATION, 3) INTERIOR WALLS SHEATHED WITH OSB SHALL BE ATTACHED WITH SAME STAPLE/NAILING

PATTERN AS EXTERIOR OSB ON SAME FLOOR (SEE TABLE ABOVE) AND ARE ONLY APPLICABLE FOR FULL-HEIGHT SECTIONS OF 2'-8" OR LONGEF
ALL LATERAL BRACING ACHIEVED AT EXTERIOR WALLS AND WALLS DIRECTLY ON FOUNDATIONS; THEREFORE, NO INTERIOR BRACING PER 2012 IRC SECTION R502.2.1 IS REQUIRE

ALL LATERAL BRACI	ING ACHIEVED AT EXT	ERIOR WALLS AND WA	ALLS DIRECTLY ON FO	JNDATIONS; THEREFORE	, NO INTERIOR BRACING PER 2012	IRC SECTION R502.2.1 IS	REQUIRE
				WIND UPLIFT	TANALYSIS		
	X/12	DEGREES			_		
ROOF PITCH (MAX)	5	22.6	PITCH OF 6 OR LESS:	EOH -13.3, E -7.2, G -5.2			
		ASCE 7					
	LENGTH (FT.)	PRESSURE (PSF)	LINEAL FT. OF OH	UPLIFT PER FT* (LBS)			
OVERHANG	1	16.56	225	16.56			
	TOTAL AREA (FT <sup>2</sup> )	ZONE E AREA (FT <sup>2</sup> )	ZONE G AREA (FT <sup>2</sup> )	PRESSURE ZN. E (PSF)	PRESSURE ZN. G (PSF)	TOTAL FORCE (LBS)	FORCE PER LINEAL FT @ PERIMETER (LBS)
MAIN ROOF**	3103.7361	1320.968976	1782.767124	15.12	10.5	38692	173.5
*ALONG PERIMETER		TOTAL UPLIFT PER LINEAL	FOOT ALONG EXTERIOR (PC	OUNDS)	190.1	UPLIFT OK	
**INSIDE EXTERIOR V	VALLS	RESISTANCE DUE TO DEAD	WEIGHT & (3) 10d TOENAILS	<b>1</b>	251.6		

NOTE FOR CONSTRUCTION:

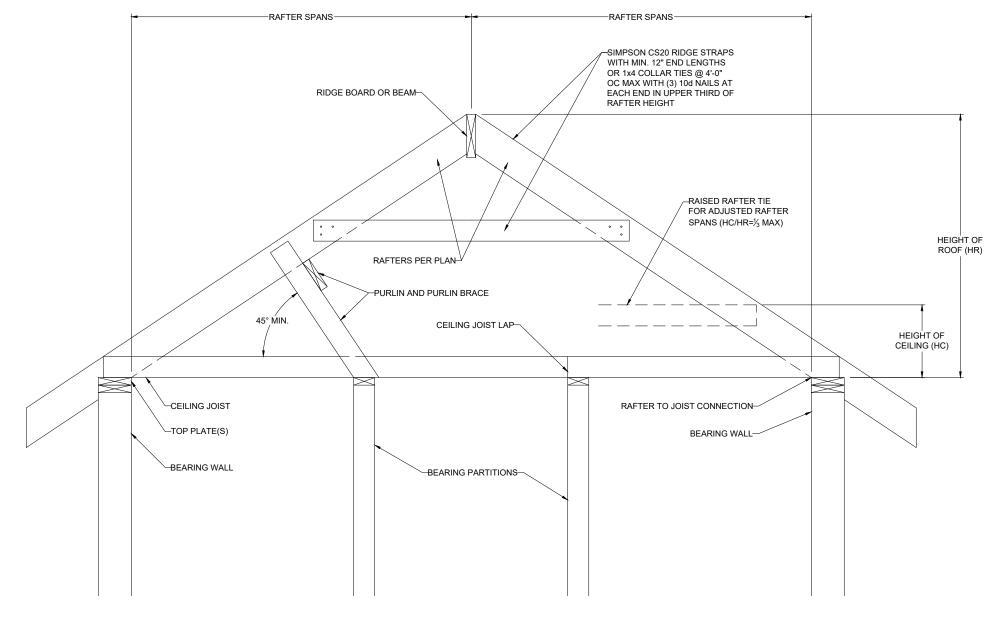
1ST FLOOR SIDE-TO-SIDE BASEMENT FRONT-TO-BACK BASEMENT SIDE-TO-SIDE

THE 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

NOTE FOR DESIG

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 2012 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 240 A WIND SHEAR VALUE OF 335#/FT - 40% GREATER THAN THAT OF SEISMIC)

NOTE: SOIL SITE CLASS ASSUMED TO BE CLASS D. IF SITE CONDITIONS ARI DETERMINED TO BE CLASS E OR F, CONSULT ENGINEER BEFORE PROCEEDING WITH CONSTRUCTION







CLIENT: WALKER CUSTOM HOMES,
JOB TITLE: HKF114 SPEC

15 F.S



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ENGI JOB I	NEER: DM NO. :: 04-12	UL 1H 2-23	CHECK	[] (	  C	NS MH

S2.0 SCALE:  $\frac{1}{2}$ " = 1'-0" (18x24) OR  $\frac{3}{4}$ " = 1'-0" (24x36)

MIN. (2) #4 BARS EXTENDING 24"

PAST OVER-EXCAVATION AND

INTO INTERSECTING WALL

-CONTINUOUS FOOTING

AND REBAR THROUGH

6'-0" MAX.

SOLID JUMP

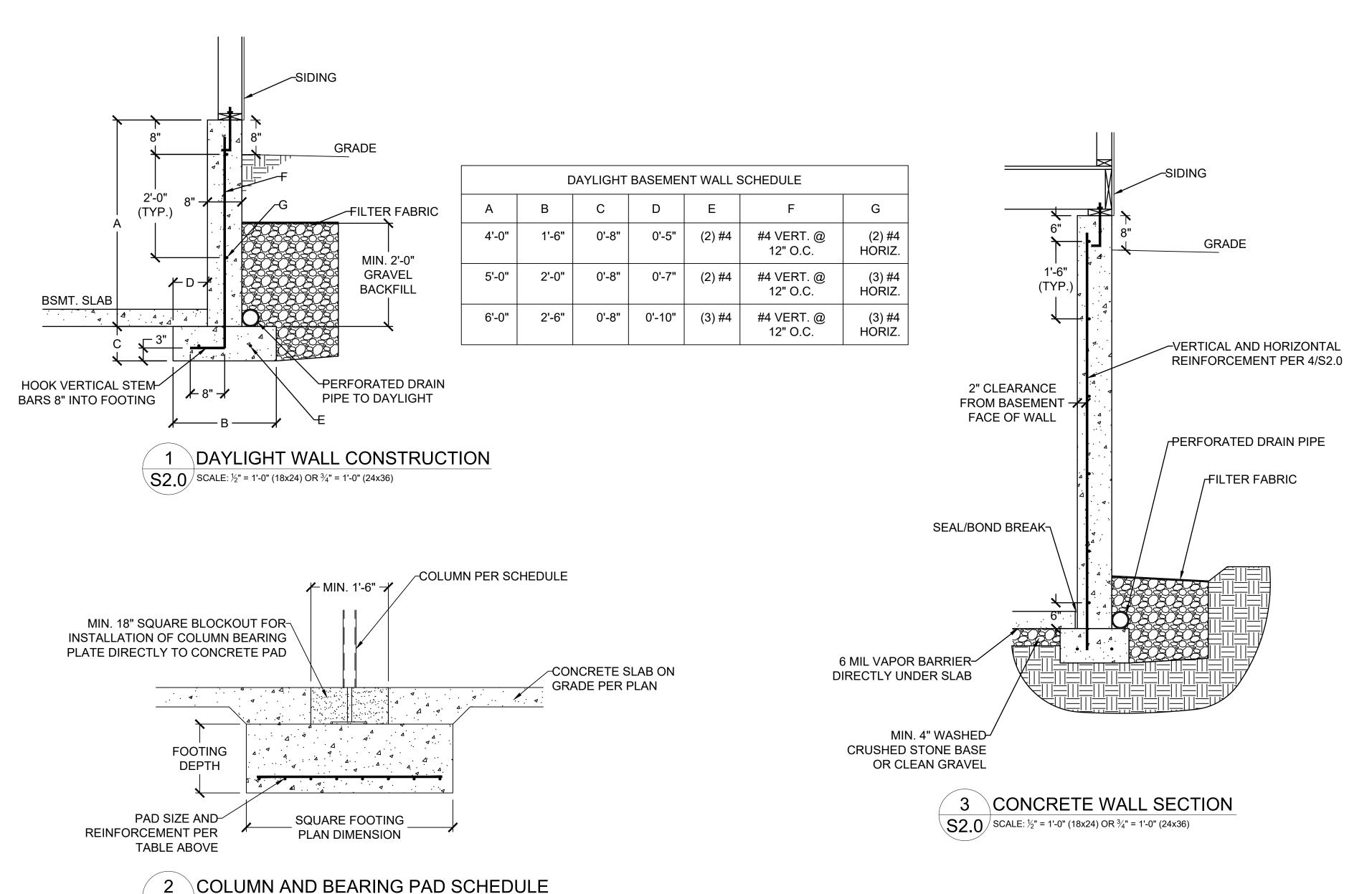
MAX. 12" BLOCKOUT FOR

FORM PLACEMENT AND

TO EXTEND DRAIN TILE

5 SOLID JUMP

S2.0 SCALE:  $\frac{1}{2}$ " = 1'-0" (18x24) OR  $\frac{3}{4}$ " = 1'-0" (24x36)



VERTICAL REINFORCEMENT SPACING CONCRETE STRENGTH/GRADE 8" THICK WALL 10" THICK WALL REINFORCEMENT (#4 BARS) 9' 10' 3,000 PSI/ GRADE 40 24 24 24 18 24 24 3,500 PSI/ GRADE 40 24 24 3,000 PSI/ GRADE 60 24 24 24 24 18 3,500 PSI/ GRADE 60 24 24 16 24 24 18 HORIZONTAL REINFORCEMENT - MINIMUM GRADE 40 STEEL ONE BAR 12" FROM TOP OF WALL; 6-#4 7-#4 6-#4 7-#4 7-#4 7-#4 MAX. SPACING 24" OC

### FOOTNOTES:

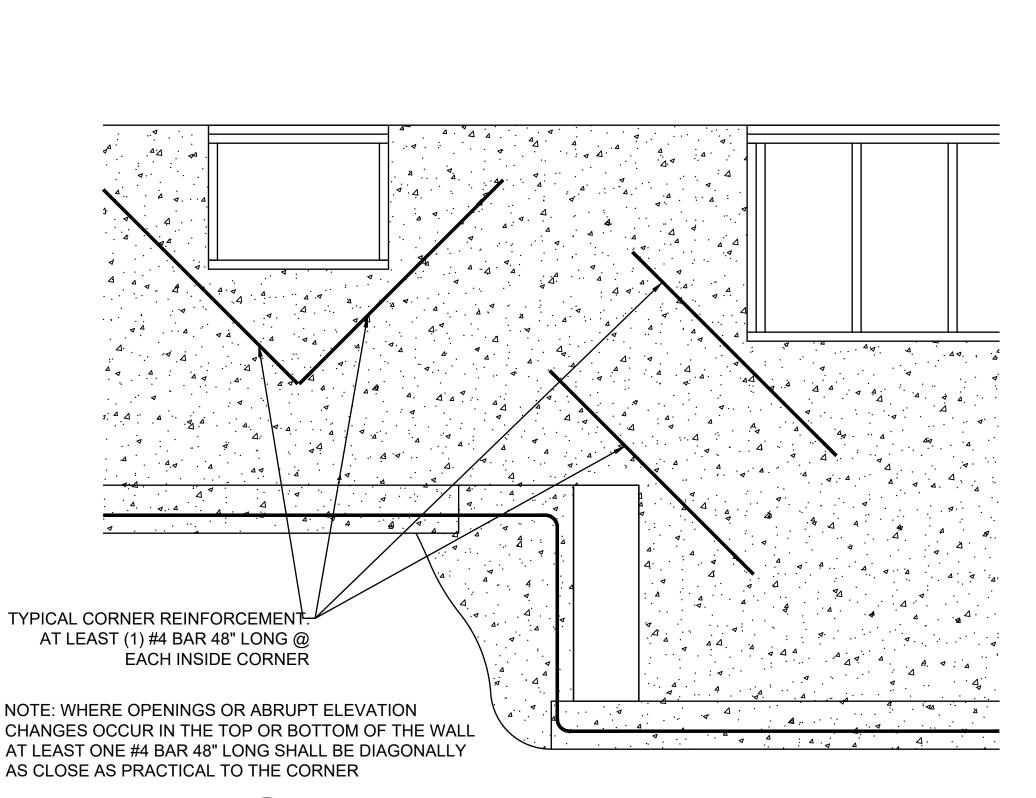
1) WALL HEIGHT IS MEASURED FROM THE TOP OF THE WALL TO THE TOP OF THE FLOOR SLAB
2) VERTICAL REINFORCEMENT FOR CONCRETE WALLS THAT ARE NOT FULL HEIGHT, AND FOR
REINFORCEMENT SPACING 24" OC, REINFORCEMENT MAY BE PLACED IN THE MIDDLE OF THE
WALL. OTHER WALLS SHALL HAVE VERTICAL REINFORCEMENT AS FOLLOWS:

- A) 8" WALL MINIMUM 5" FROM THE OUTSIDE FACE
- B) 10" WALL MINIMUM 63/4" FROM THE OUTSIDE FACE
- C) EXTEND BARS TO WITHIN 8" OF THE TOP OF THE WALL

### 3) REINFORCEMENT CLEARANCES:

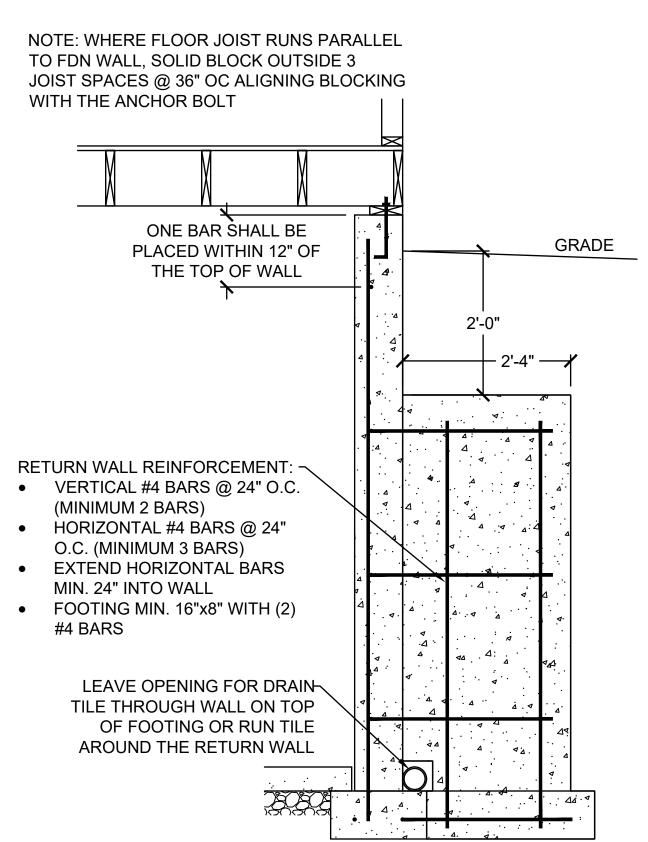
- A) CONCRETE EXPOSED TO EARTH MINIMUM 11/2"
- B) NOT EXPOSED TO WEATHER (INTERIOR SIDE OF WALLS) -3/4"
  C) CONCRETE EXPOSED TO WEATHER (TOP CLEARANCE IN GARAGE AND DRIVEWAY
- SLABS) 1½"
- 4) HORIZONTAL REINFORCEMENT:
  - A) ONE BAR SHALL BE PLACED WITHIN 12" OF THE TOP OF THE WALL
    B) OTHER BARS SHALL BE EQUALLY SPACED WITH SPACING NOT TO EXCEED 24" OC
  - C) HORIZONTAL BARS SHOULD BE AS CLOSE TO THE TENSION FACE AS POSSIBLE (INTERIOR) AND BEHIND THE VERTICAL REINFORCEMENT (I.E. 2" TOWARD THE INSIDE)
- D) SUPPLEMENTAL REINFORCEMENT AT CORNERS PLACE (1) #4 BAR 48" LONG AT 45
  DEGREE ANGLE AT CORNERS OF OPENINGS. PLACE REINFORCEMENT WITHIN 6" OF
  THE EDGE OF INSIDE CORNERS.
- 5) REINFORCEMENT SHALL BE LAPPED A MINIMUM 24" AT ENDS, SPLICES, AND AROUND CORNERS.
- 6) AT MASONRY LEDGES THE MINIMUM WALL THICKNESS SHALL BE 3½". LEDGES SHALL NOT EXCEED A DEPTH OF MORE THAN 24" BELOW THE TOP OF THE WALL. FOR WALL THICKNESSES LESS THAN 4" PROVIDE #4 BARS AT MAX. 24" OC TO WITHIN 8" OF THE TOP OF THE WALL.
- 7) STRAIGHT WALLS MORE THAN 5' TALL AND MORE THAN 16 FEET LONG SHALL BE PROVIDED WITH EXTERIOR BRACED RETURN WALLS. WALL LENGTH SHALL BE MEASURED USING INSIDE THE SHORTEST DIMENSION BETWEEN INTERSECTING WALLS
- 8) WALL SHALL NOT BE BACKFILLED UNTIL FLOOR SYSTEM AND DIAPHRAGM ARE IN PLACE

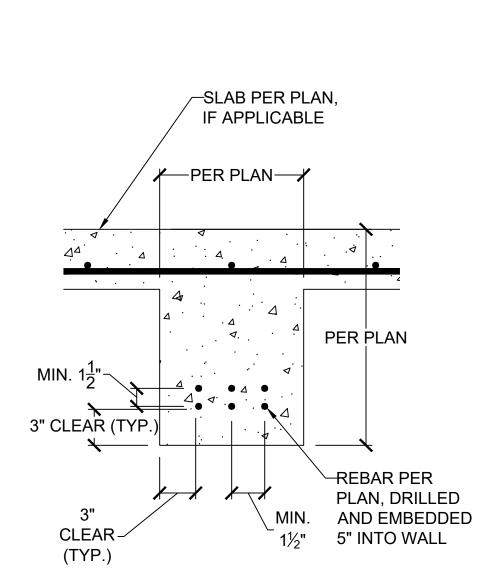
4 FOUNDATION WALL REINFORCEMENT TABLE S2.0 NO SCALE



6 REINFORCEMENT AT OPENING CORNERS
S2.0 AND STEP CORNERS @ INSIDE CORNERS

SCALE: ½" = 1'-0" (18x24) OR ¾" = 1'-0" (24x36)





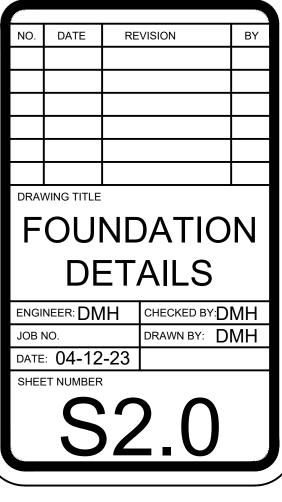
8 CONCRETE GRADE BEAM S2.0 SCALE: 1" = 1'-0" (18x24) OR 1½" = 1'-0" (24x36)

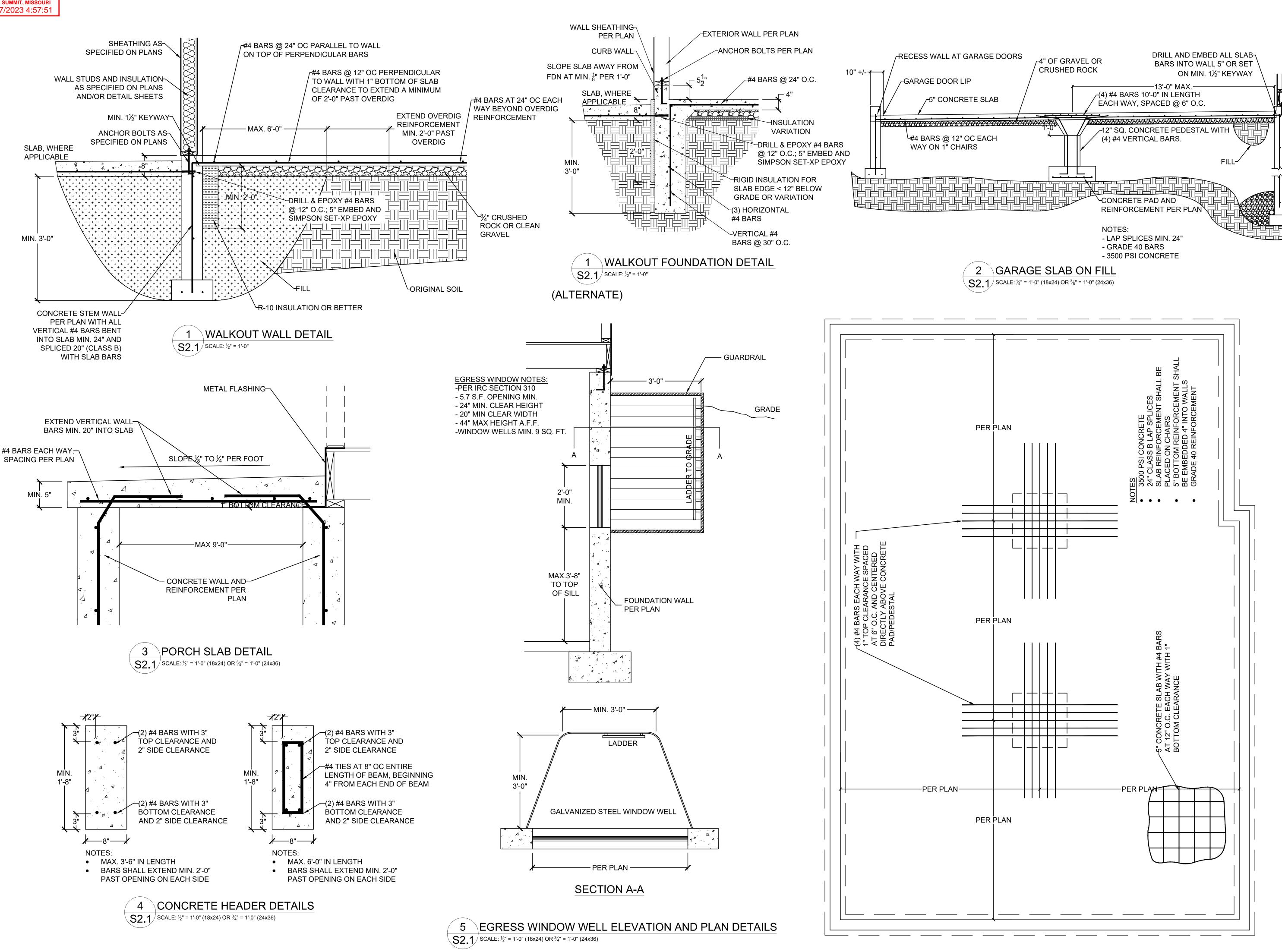
7 RETURN WALL DETAIL S2.0 SCALE: ½" = 1'-0" (18x24) OR ¾" = 1'-0" (24x36)



)B TITLE: HKF114 SPEC LOT 114, HOOK FARMS SECOND PL/ )CATION: 2215 SW HOOK FARM DR.



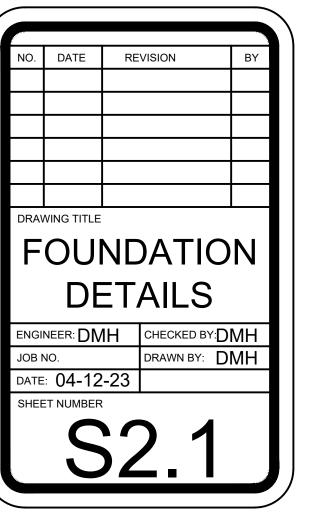


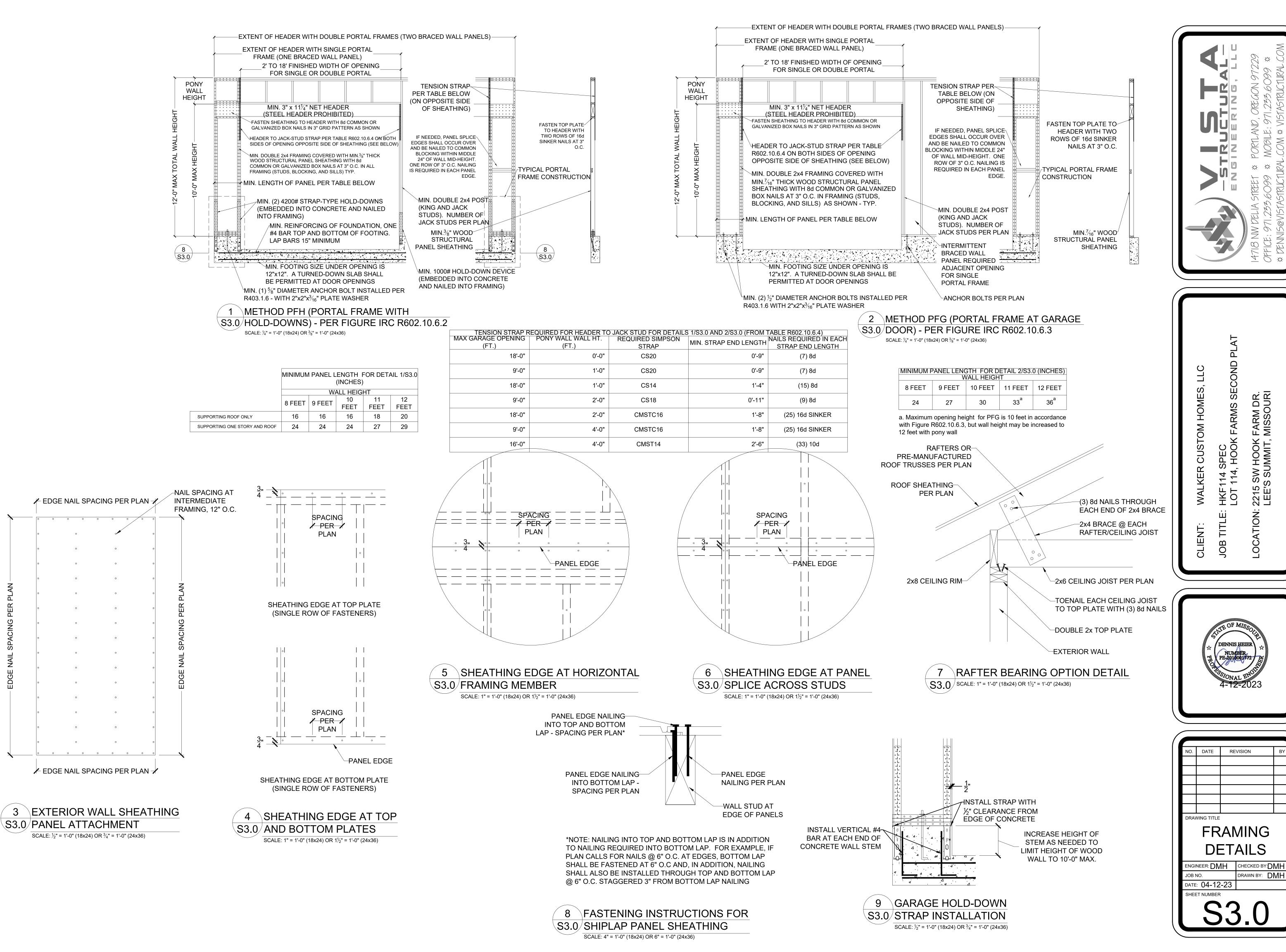


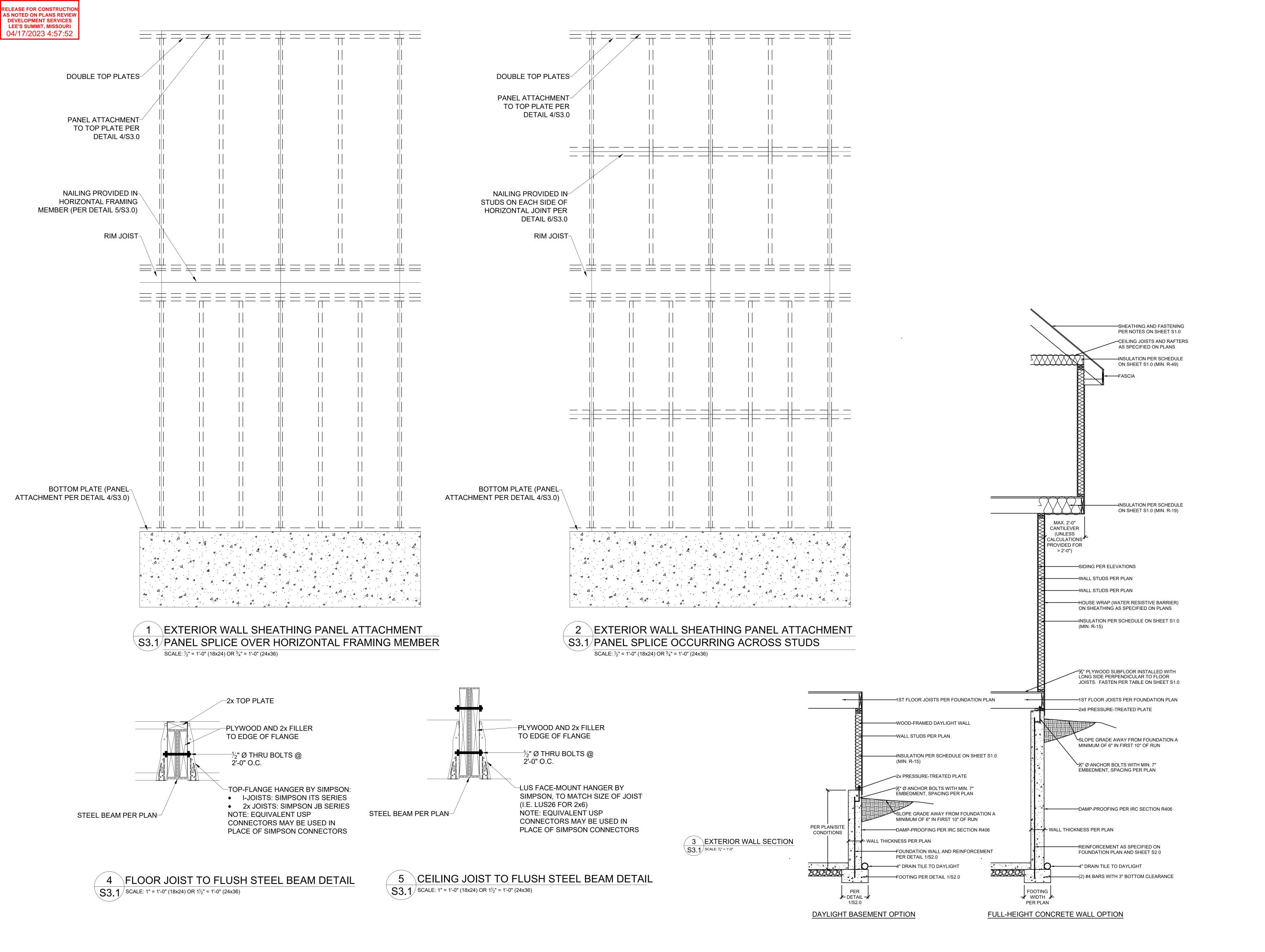


JOB TITLE: HKF114 SPEC
LOT 114, HOOK FARMS SECOND PLAT
LOCATION: 2215 SW HOOK FARM DR.
LEE'S SUMMIT, MISSOURI





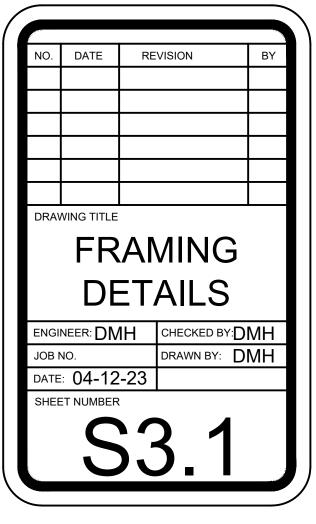






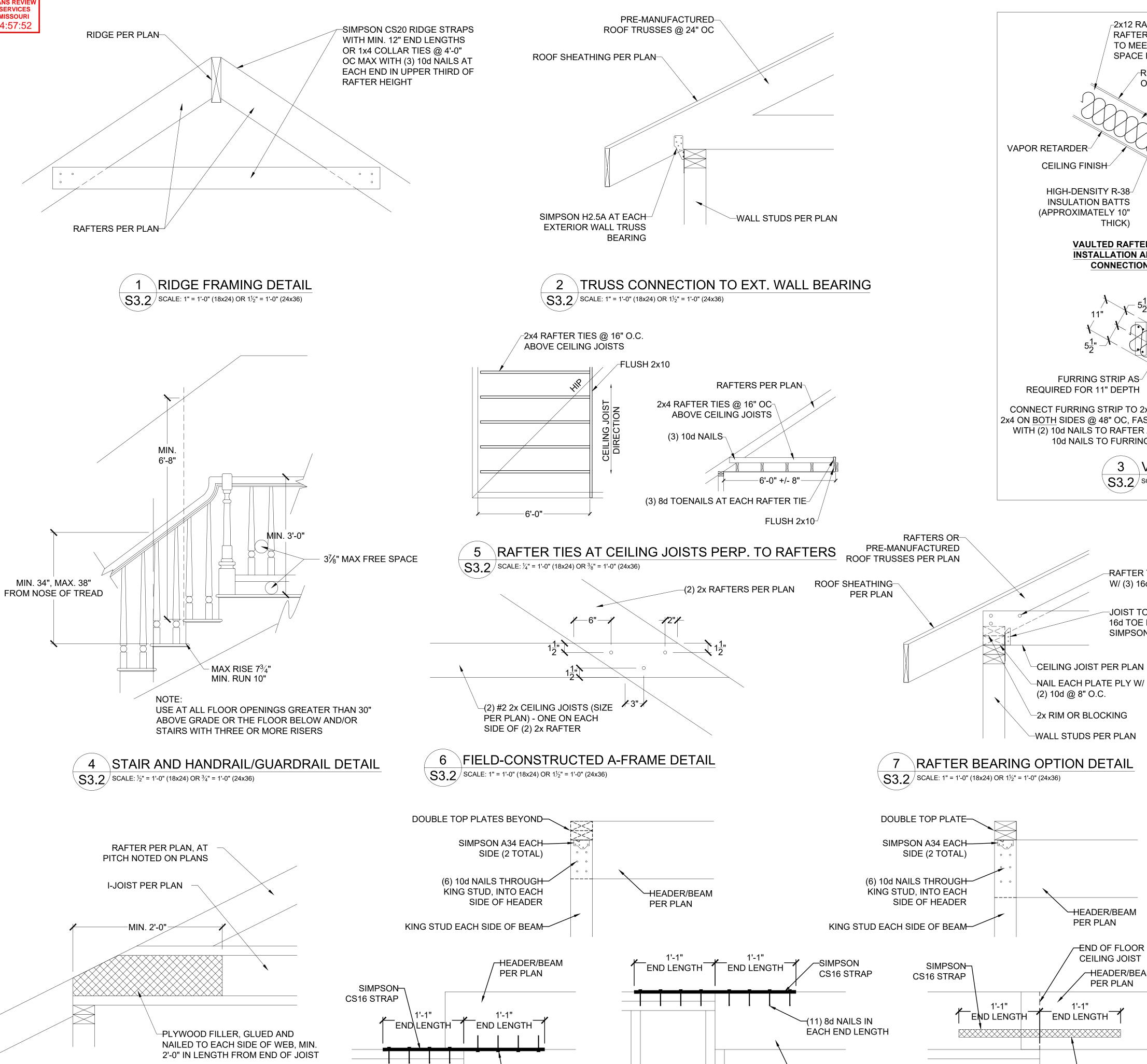
TITLE: HKF114 SPEC
LOT 114, HOOK FARMS SECOND PLAT





9 COPED I-JOIST REINFORCEMENT

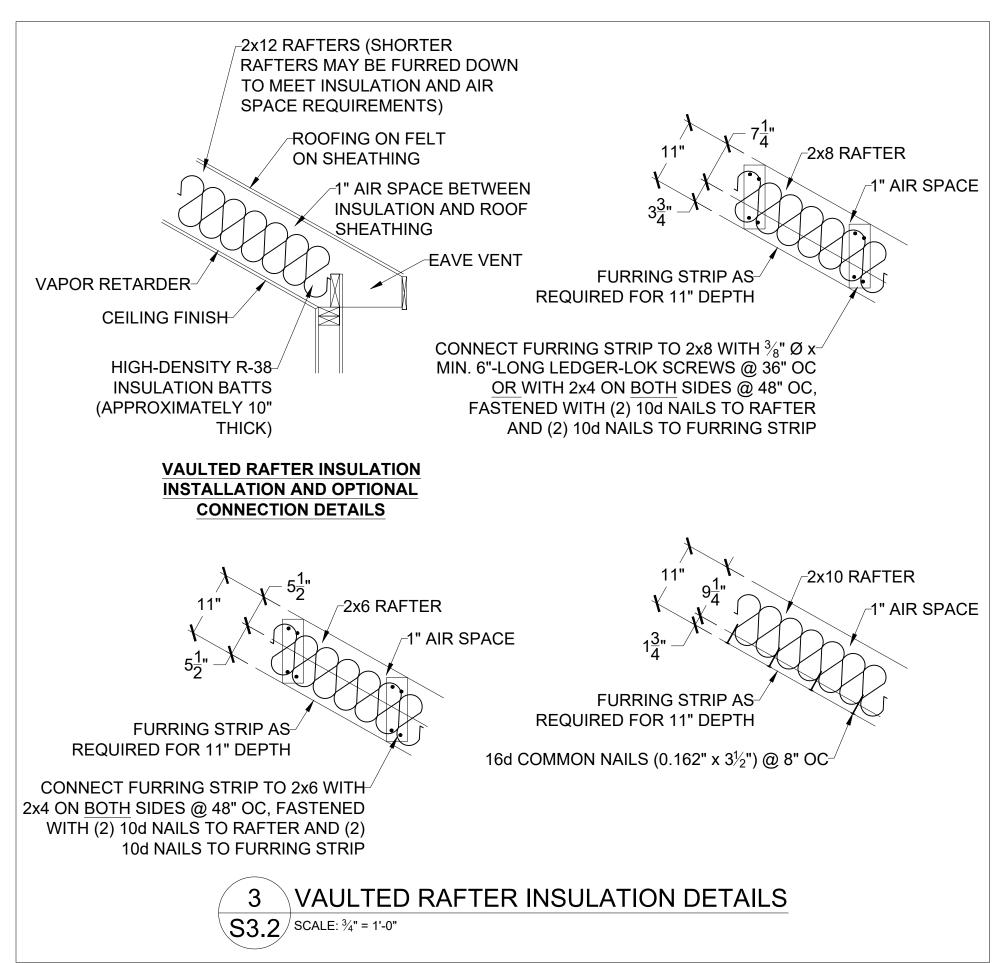
S3.2 SCALE: 1" = 1'-0" (18x24) OR  $1\frac{1}{2}$ " = 1'-0" (24x36)



└─(11) 8d NAILS IN

**BEARING WALL-**

EACH END LENGTH



RAFTER TO CEILING JOIST

W/ (3) 16d FACE NAILS

JOIST TO PLATE W/ (3)

SIMPSON H3 HOLDDOWN

16d TOE NAILS OR

PER PLAN

-END OF FLOOR OR

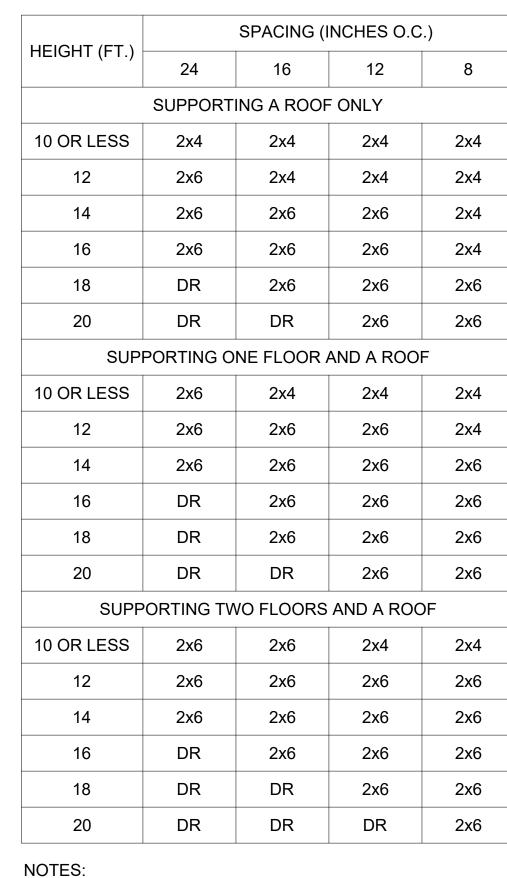
-HEADER/BEAM

└─(11) 8d NAILS IN

BEARING WALL EACH END LENGTH

**CEILING JOIST** 

PER PLAN



1) DR = DESIGN REQUIRED 2) UTILITY, STANDARD, STUD AND #3 GRADE LUMBER OF ANY SPECIES ARE NOT PERMITTED 3) THIS TABLE DOES NOT APPLY FOR STUDS SUPPORTING MEMBERS WITH A TRIB. LENGTH GREATER THAN 6'-0"

8 MAXIMUM ALLOWABLE LENGTH OF S3.2/WOOD WALL STUDS (IRC TABLE 602.3.1)





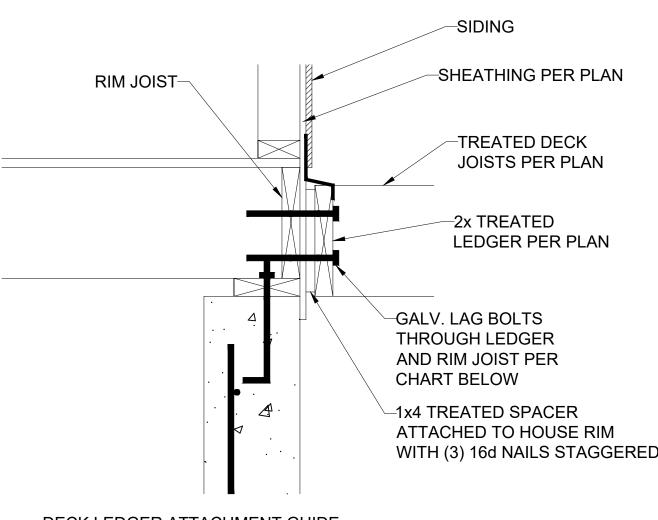
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10 HEADER/BEAM CONNECTION OPTIONS AT OUTDOOR/OPEN SPACE S3.2 SCALE: 1" = 1'-0" (18x24) OR  $1\frac{1}{2}$ " = 1'-0" (24x36)

HEADER/BEAM

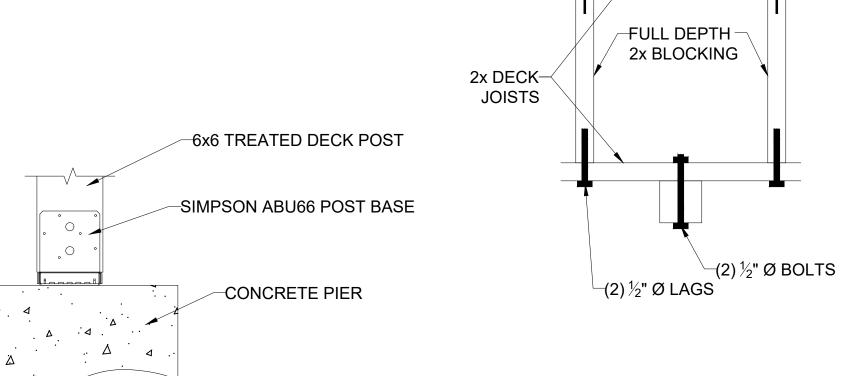
PER PLAN

─BEARING WALL



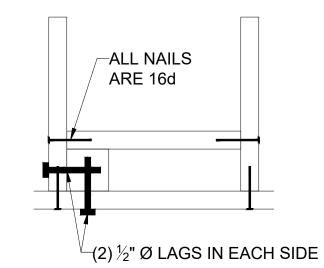
# WITH (3) 16d NAILS STAGGERED

### RIM JOIST-SIMPSON LS90 GUSSET ANGLES, NAILED TO BOTH-SIDES OF DOUBLED JOISTS W/ (12) N10 NAILS -SIDING FLOOR JOISTS PER PLAN. IF JOISTS ARE-NOT DOUBLED, INSTALL ADDITIONAL PLY SHEATHING PER PLAN TO EACH JOIST, MIN. 6'-0" IN LENGTH TREATED DECK JOISTS PER PLAN (MAX. SPAN = 16'-0") -2x TREATED LEDGER PER PLAN FASTEN DECK JOISTS TO LEDGER WITH SIMPSON LUS210 HANGERS GALV. LAG BOLTS CANTILEVER LENGTH\_ THROUGH LEDGER AND RIM PER PLAN JOIST PER CHART BELOW SIMPSON H2.5A AT EACH CANTILEVERED JOIST -1x4 TREATED SPACER WHICH SUPPORTS DECK ATTACHED TO HOUSE RIM WITH (3) 16d NAILS STAGGERED



3 DECK POST BASE

S3.3 SCALE: 1" = 1'-0" (18x24) OR  $1\frac{1}{2}$ " = 1'-0" (24x36)

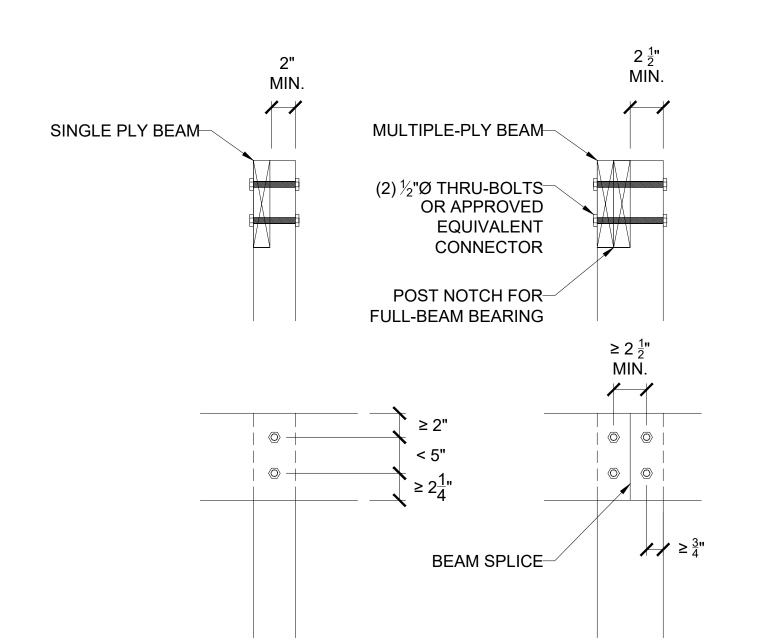




DECK LEDGER ATTACHMENT GUIDE

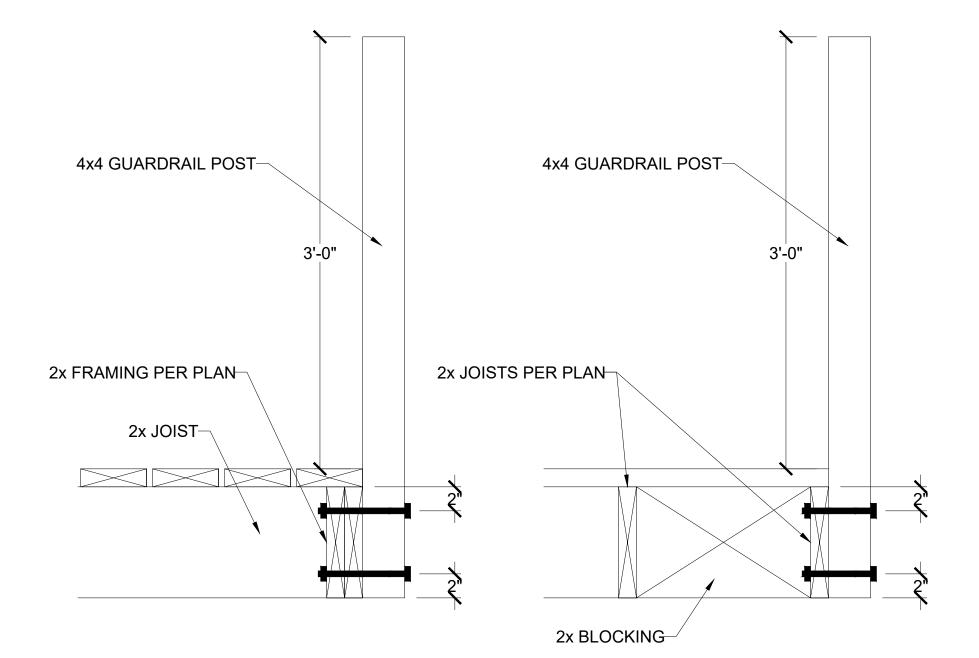
DECK JOIST SPAN	$^{1\!\!/_{\!\!2}}$ " Ø GALV. LAG OR $^{3\!\!/_{\!\!8}}$ " Ø LEDGER-LOK SPACING
10'-0" OR LESS	16" OC
10'-0" - 13'-11"	12" OC OR @ 16" OC DOUBLED EVERY OTHER
14'-0" - 18'-0"	8" OC OR @ 16" OC DOUBLED



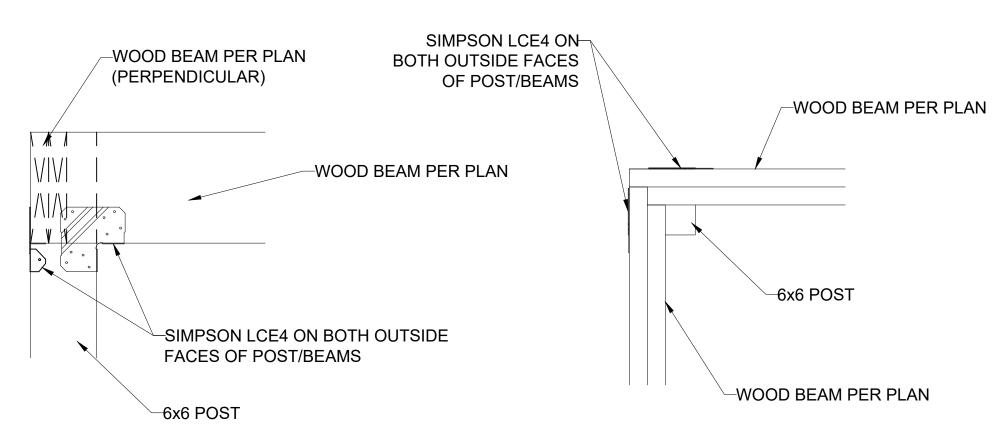


5 LET-IN (COVERED) DECK BEAM CONNECTION S3.3 | SCALE: 1" = 1'-0" (18x24) OR 1½" = 1'-0" (24x36)

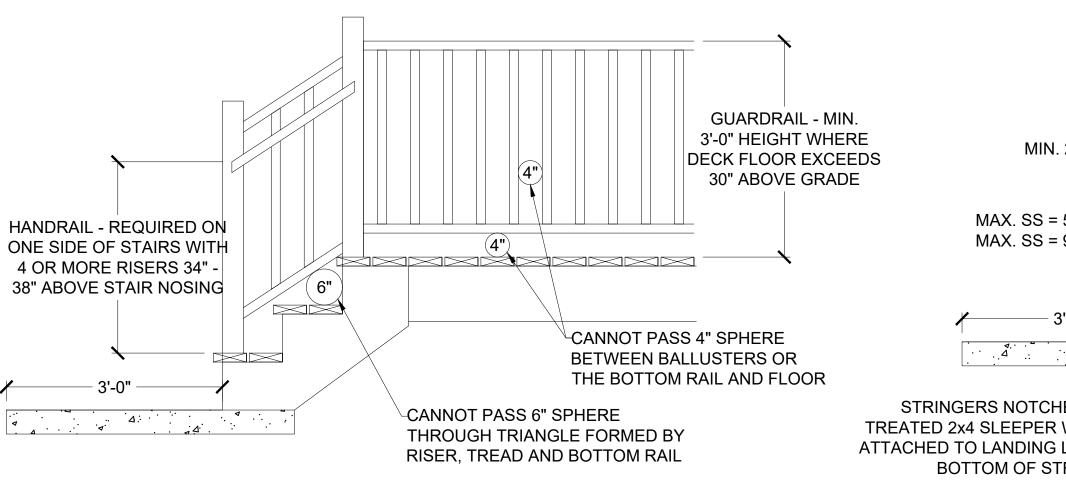
# 2 CANTILEVER WITH DECK ATTACHMENT S3.3 SCALE: 1" = 1'-0" (18x24) OR $1\frac{1}{2}$ " = 1'-0" (24x36)



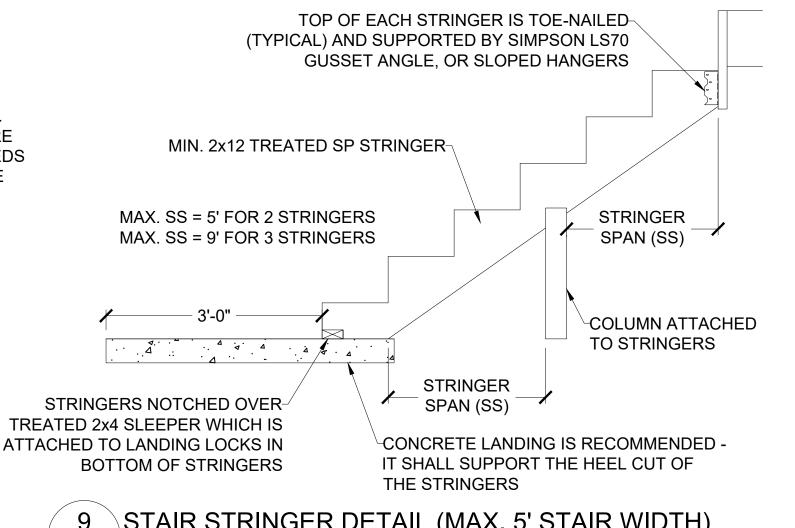
6 GUARDRAIL CONNECTION S3.3 SCALE: 1" = 1'-0" (18x24) OR 1½" = 1'-0" (24x36)



7 ALTERNATE COVERED DECK/PORCH INTERSECTION S3.3/CORNER BEAM CONNECTION SCALE: 1" = 1'-0" (18x24) OR 1½" = 1'-0" (24x36)



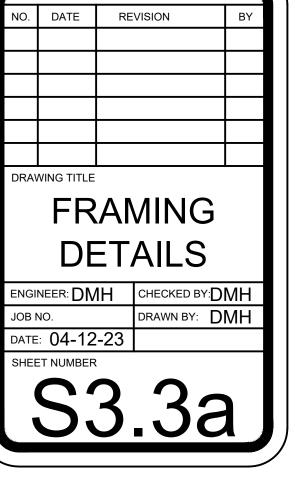


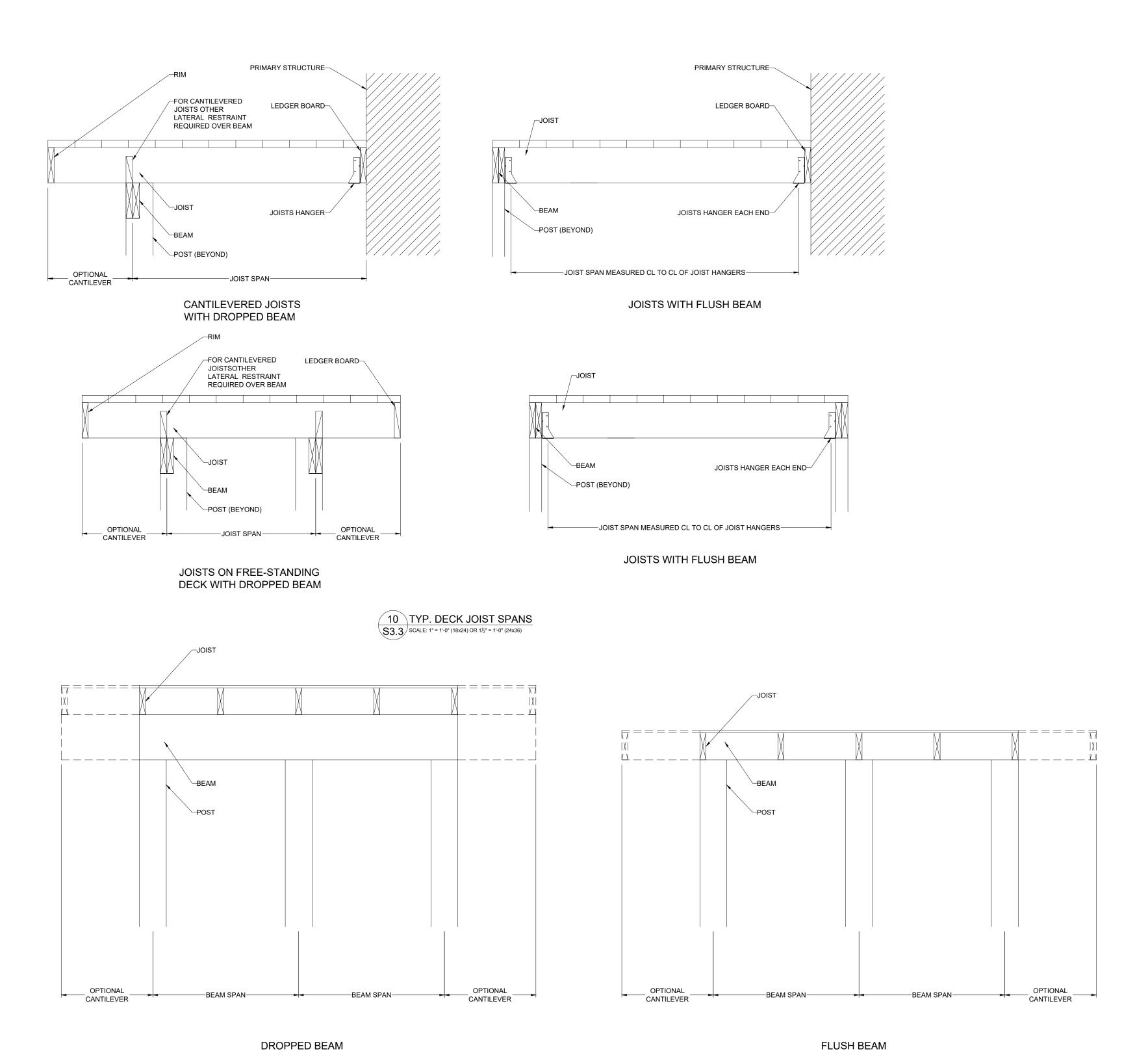


9 STAIR STRINGER DETAIL (MAX. 5' STAIR WIDTH) S3.3 SCALE:  $\frac{1}{2}$ " = 1'-0" (18x24) OR  $\frac{3}{4}$ " = 1'-0" (24x36)







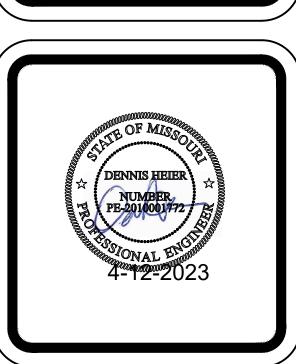






ER CUSTOM HOMES, LLC

IOB TITLE: HKF114 SPEC LOT 114, HOOP



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