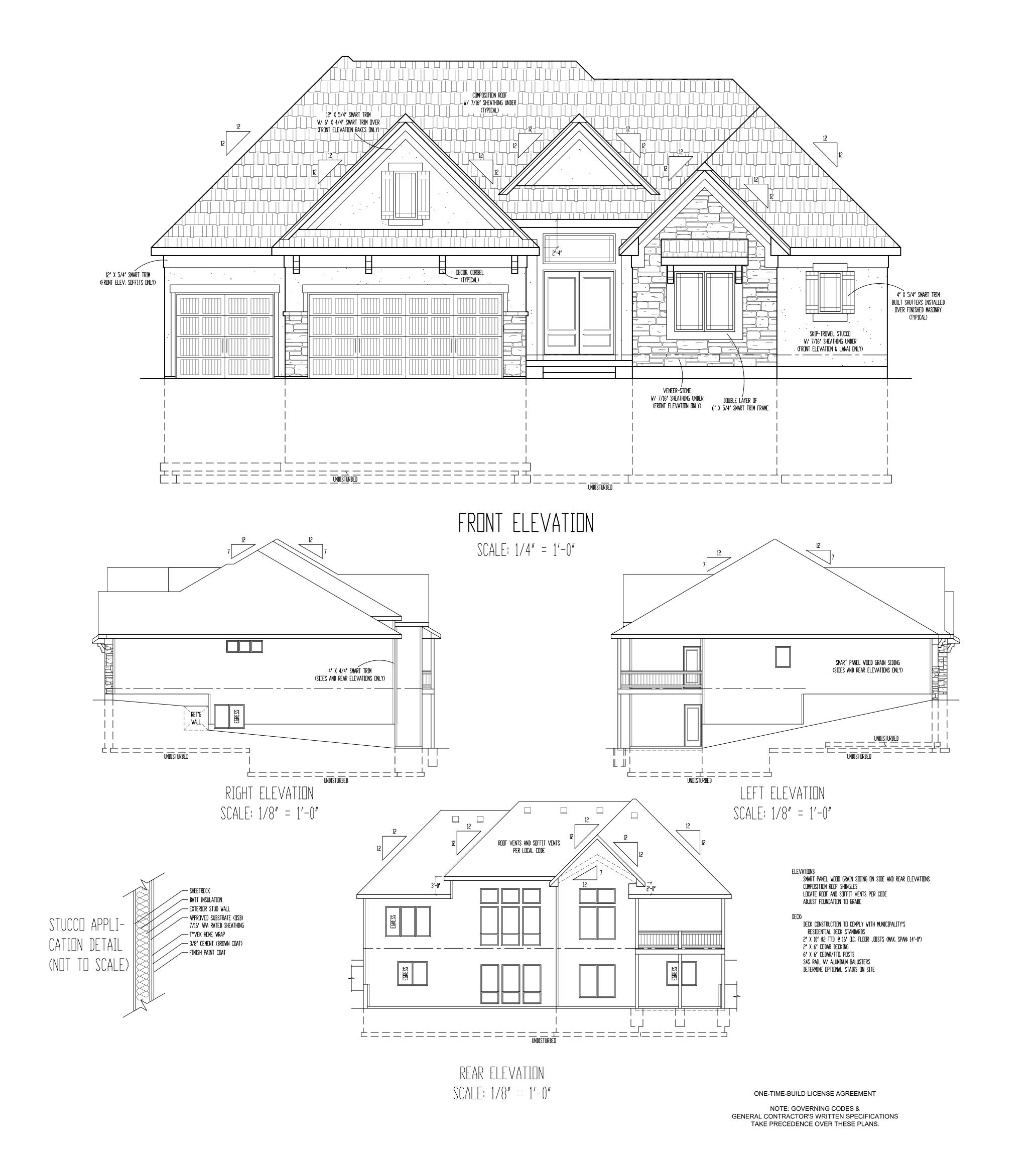
RELEASE FOR CONSTRUCTION AS NOTED ON PLANS REVIEW DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI 09/15/2021 12:56:02



Site Description:

100, Woodside Ridge 1
Street Address:

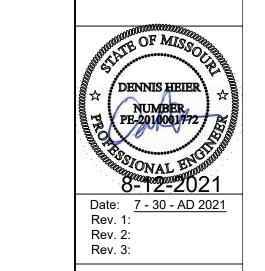
130 NW Ambersham Lee's Summit, Missou

Drawing Name:

The CYPRESS

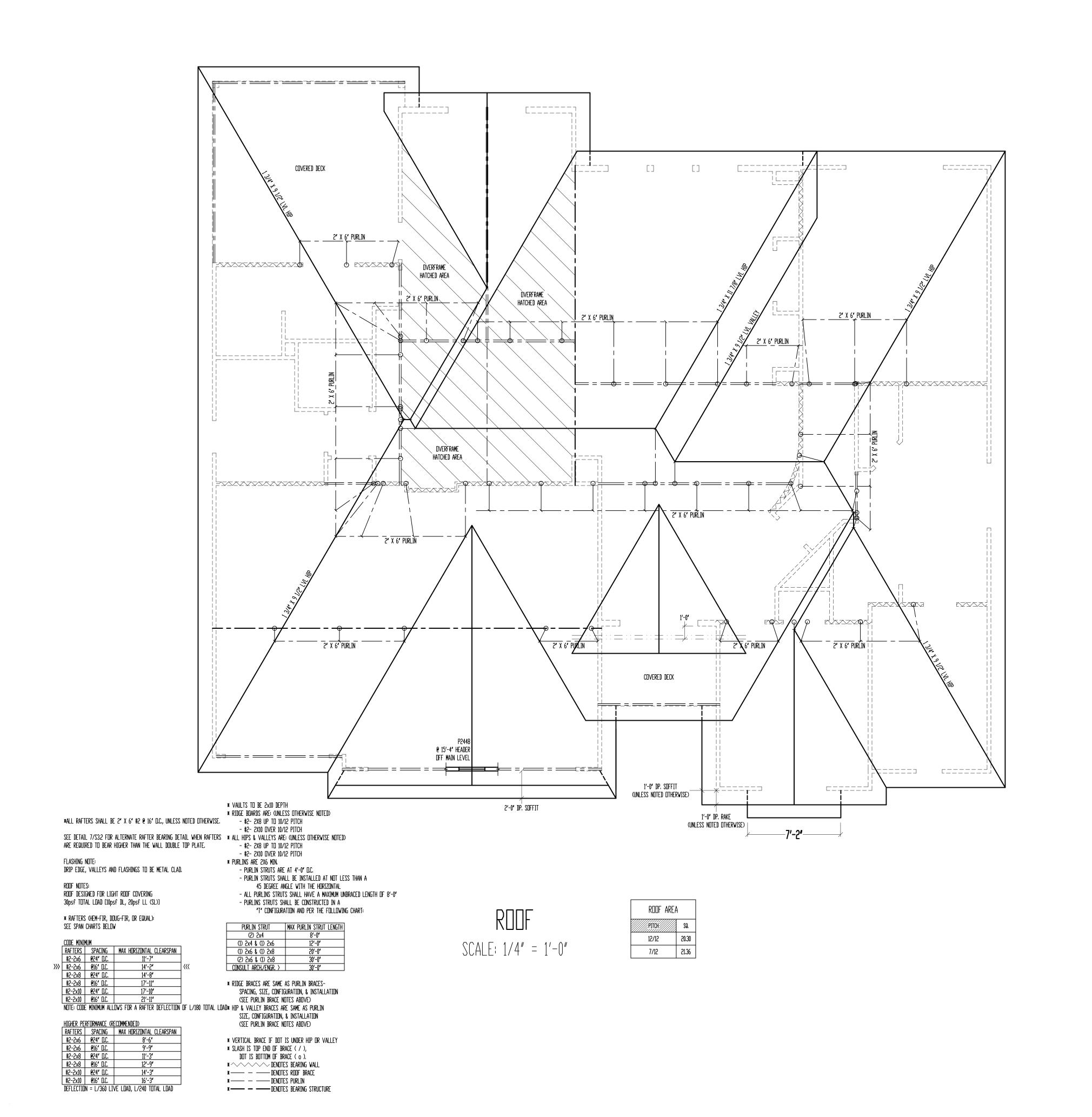
General Contractor:

Pfeifer Homes, Inc.



Sheet Title: **ELEVATIONS**





Site Description:

of 100, Woodside Ridge 1st Plans Street Address:

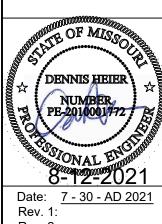
130 NW Ambersham Dr.,
Lee's Summit, Missouri

Drawing Name:

The CYPRESS

General Contractor:

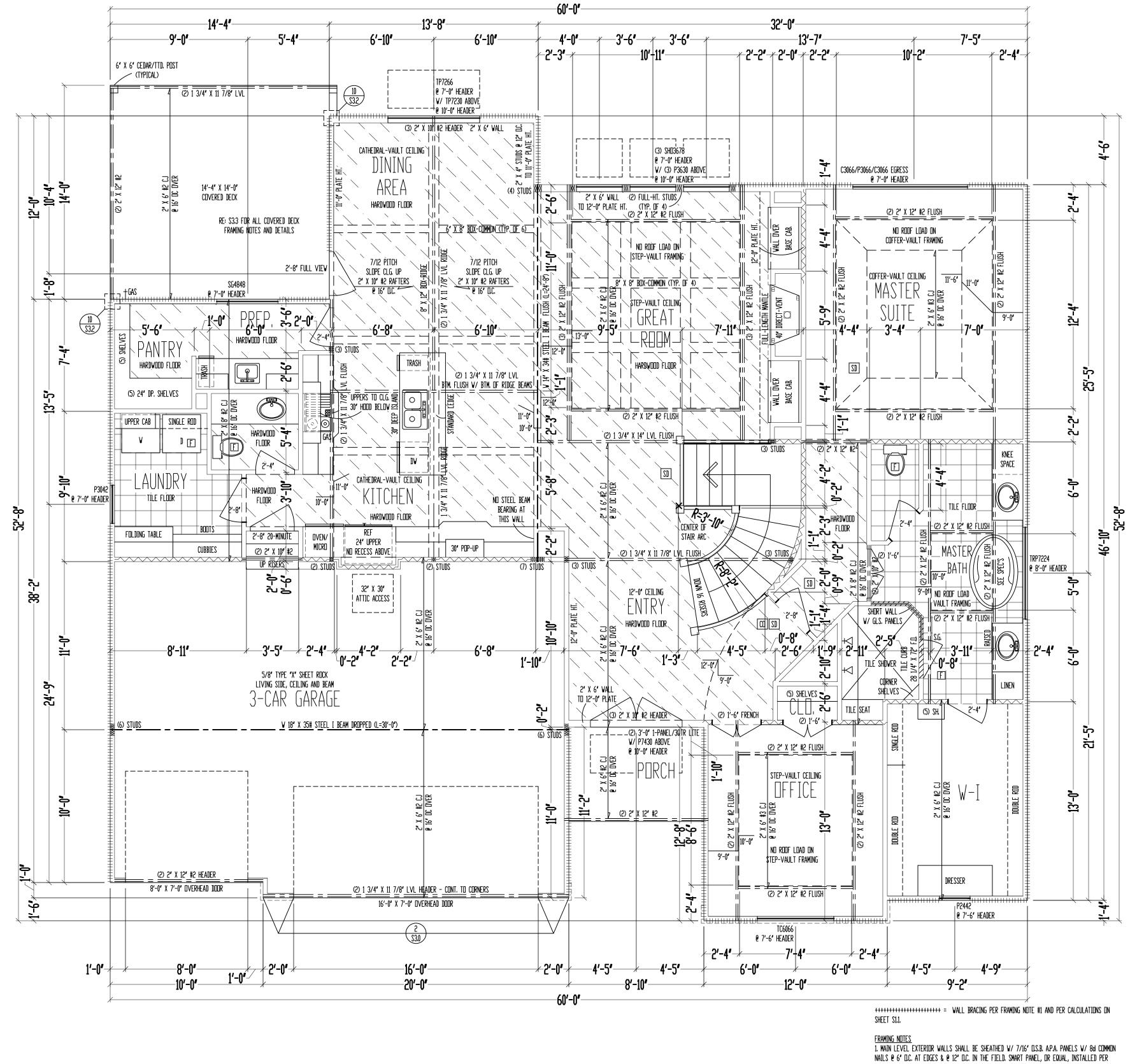
Pfeifer Homes, Inc.



Rev. 2: Rev. 3:

Sheet Title: **ROOF PLAN**

Sheet No.:



9'-0" CEILING MAIN LEVEL SCALE: 1/4" = 1'-0"

MAIN LEVEL: 2038 SQ. FT. LOWER LEVEL: 1472 SQ. FT. TOTAL: 3510 SQ. FT.

> GARAGE: 652 SQ. FT. COV. OUT/LIV: 202 SQ. FT. UNFIN. BASEMENT: 375 SQ. FT.

TILE FLOOR AREA			WOOD FLOOR AREA	
LOCATION	LOCATION SQ. FT.		LOCATION	SQ. FT.
MASTER BATH	127		HARDWOOD	1058
LAUNDRY	LAUNDRY 64		DECK	202
LL WET BAR	74			
LL 3/4 BATH	30			
LL HOLLYWOOD BATH	52			

LL WET BAR 23

MANUFACTURER'S SPECIFICATIONS. 2. \ \ \ \ \ \ \ \ = G.B; 1/2' MIN. GYPSUM BOARD OVER STUDS SPACED 24' MAX FASTENED W/ NO. 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

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 @ 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.

— =	
/ EWPOII RESIDENTIAL DESIGN	
 	
> ~	
at	

Site Description:

100, Woodside Ridges.
Street Address:
130 NW Ambersha
Lee's Summit, Mis

Date: <u>7 - 30 - AD 2021</u> Rev. 1: Rev. 2:

SS.

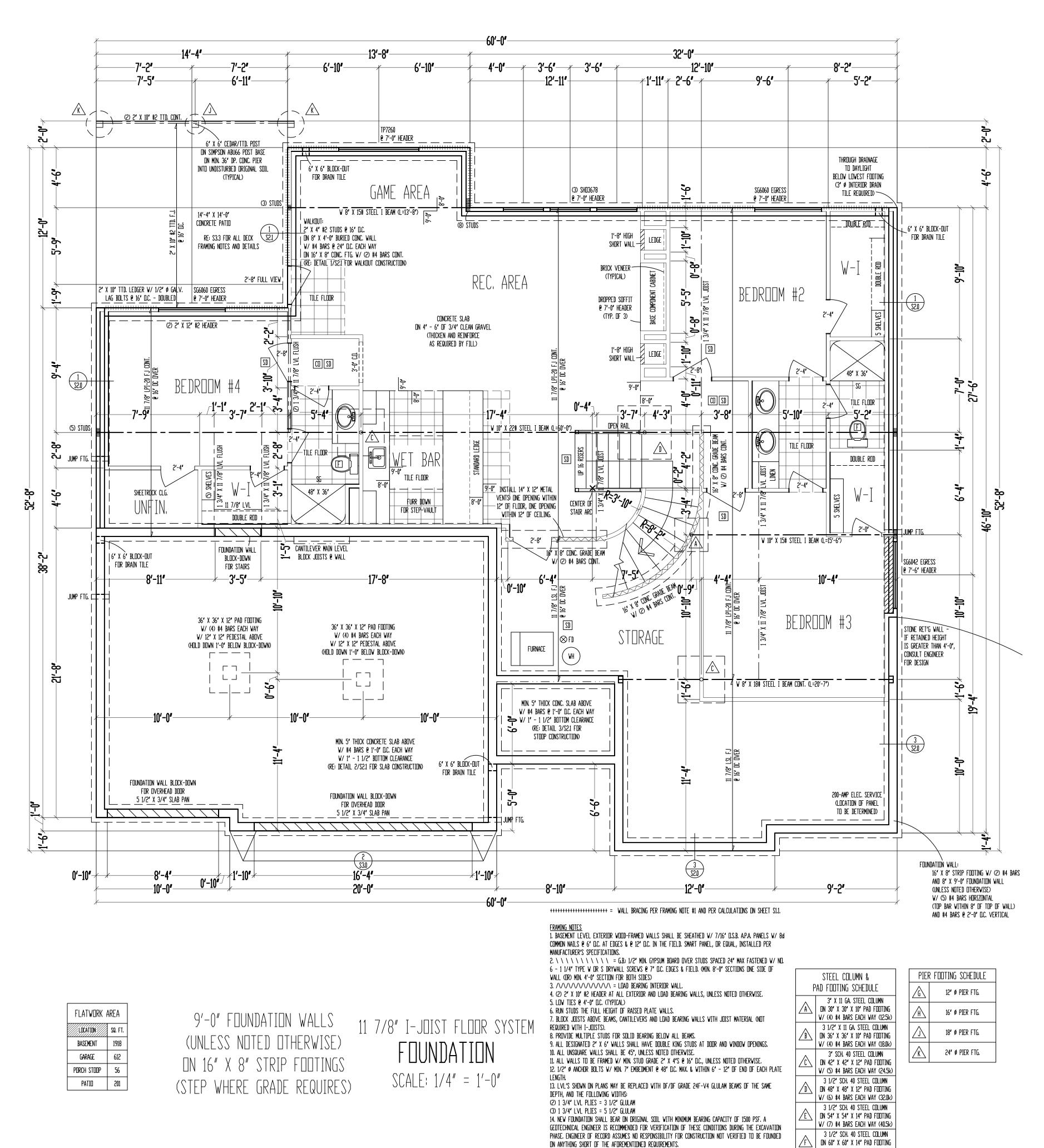
Drawing Name:

The CYPRES

Rev. 3: Sheet Title:

Sheet No.:

MAIN LEVEL PLAN



15. CONTRACTOR SHALL NOTIFY ENGINEER OF RECORD BEFORE CONSTRUCTION OF ANY DEFLECTION LIMITATIONS

MORE STRINGENT THAN CODE MINIMUMS ABOVE ANY OPENINGS.

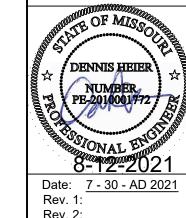
W/ (8) #4 BARS EACH WAY (50.0k)

dge

Site Description:

100, Woodside Ridges.
Street Address:
130 NW Ambersha
Lee's Summit, Mis

Drawing Name: The CYPRES Date: <u>7 - 30 - AD 2021</u> Rev. 1: Rev. 2:



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Rev. 3: Sheet Title:

FOUNDATION PLAN

Sheet No.:

RELEASE FOR CONSTRUCTION **AS NOTED ON PLANS REVIEW DEVELOPMENT SI**

vices souri 56:04	FASTENER SCHEDULE FOR STRUCTURAL MEMBERS		
DESCRIPTION OF BUILDING ELEMENTS	NUMBER AND TYPE OF FASTENER	SPACING AND LOCATION	
	ROOF ¹		
BLOCKING BETWEEN JOISTS OR RAFTERS TO TOP PLATE, TOE NAIL	4-8d (2½" x 0.113")	TOENAIL	
CEILING JOISTS TO PLATE, TOE NAIL	4-8d (2½" x 0.113")	PER JOIST, TOENAIL	
CEILING JOISTS NOT ATTACHED TO PARALLEL RAFTER, 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 ¼ x 20 GA RIDGE STRAP TO RAFTER	4-10d (3" x 0.128")	FACE NAIL, EACH RAFTER	
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	
ROOF RAFTERS TO RIDGE, VALLEY, OR HIP RAFTERS 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 TO STUD (NOT AT BRACED WALL PANELS)	10d (3" x 0.128")	16" O.C. FACE NAIL	
STUD TO STUD AND ABUTTING STUDS AT NTERSECTING WALL CORNERS (AT BRACED WALL PANELS)	16d (3½" x 0.135")	12" O.C. FACE NAIL	
BUILT-UP HEADER, TWO PIECES WITH ½" SPACER	16d (3½" 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	
BOTTOM PLATE TO JOIST, RIM JOIST, BAND JOIST, OR BLOCKING (AT BRACED WALL PANEL)	3-16d BOX (3 ½" x 0.135")	3 EACH 16" O.C. FACE NAIL	
TOP 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)	
TOP 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		
JOIST TO SILL, TOP PLATE, OR GIRDER	4-8d BOX (2 ½" x 0.113")	TOE NAIL	
RIM JOIST, BAND JOIST, OR BLOCKING TO SILL OR TOP PLATE (ROOF APPLICATIONS ALSO)	8d BOX (2 ½" x 0.113")	4" O.C. TOE NAIL	
1" x 6" SUBFLOOR OR LESS TO EACH JOIST	3-8d BOX (2 ½" x 0.113")	FACE NAIL	
2" SUBFLOOR TO JOIST OR GIRDER	3-16d BOX (3 ½" x 0.135")	BLIND AND FACE NAIL	
2" PLANKS (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-UP 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	
LEDGER STRIP SUPPORTING JOISTS OR RAFTERS	4-16d BOX (3 ½" x 0.135")	AT EACH JOIST OR RAFTER, FACE NAIL	
BRIDGING OR BLOCKING TO JOIST	2-10d BOX (3" x 0.128")	EACH END, TOENAIL	

RIPTION OF BUILDING MATERIAL	·		INTERMEDIATE SUPPOR	
WOOD STRUCTURAL PANELS, SU	IBFLOOR, ROOF AND INTERIOR WALL SHEA	THING TO FRAMING AND PARTICLEBO	ARD WALL SHEATHING TO F	
3/8" - 1/2"	6d COMMON (2" x 0.113") NAIL (SUBFLOOR, WALL) 8d COMMON NAIL (ROOF)	6	12	
¹⁹ / ₃₂ " - 1"	8d COMMON NAIL (2½" x 0.131")	6	12	
1½" - 1½"	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	
5 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	
½" GYPSUM SHEATHING	1½" GALVANIZED ROOFING NAIL; STAPLE GALVANIZED, 1½" LONG; 1¼" SCREWS, TYPE W OR S	7	7	
⁵ %" GYPSUM SHEATHING	1¾" GALVANIZED ROOFING NAIL; STAPLE GALVANIZED, 1½" LONG; 1½" SCREWS, TYPE W OR S	7	7	
W	OOD STRUCTURAL PANELS, COMBINATION	SUBFLOOR UNDERLAYMENT TO FRA	MING	
¾" AND LESS	6d DEFORMED (2" x 0.120") NAIL OR 8d COMMON (2½" x 0.131") NAIL	6	12	
7∕8" - 1"	8d COMMON (2½" x 0.131") NAIL OR 8d DEFORMED (2½" x 0.120") NAIL	6	12	
1½" - 1½"	10d COMMON (3" x 0.148") NAIL OR 8d	6	12	

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

FOUNDATION NOTES

MINIMUM 20 GALLON SUMP PIT.

- 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
- 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.
- 6. 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 ½" 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
- 13. FOUNDATION WINDOW WELLS SHALL BE PROVIDED WITH MINIMUM DIMENSIONS AS SHOWN IN DETAIL ON SHEET
- 14. THE GARAGE FLOOR SHALL SLOPE TOWARD THE VEHICLE DOORS OR TO A TRENCH OR UNTRAPPED DRAIN THAT DISCHARGES TO THE EXTERIOR, ABOVE GRADE

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
- 24. 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 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

ALL RAFTERS AND COLLAR TIES SHALL COMPLY WITH IRC SECTION R802.3.

- 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. ½" 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

- 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.

- 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 $\frac{7}{8}$ "

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.

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

GARAGE NOTES

- 44. 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 DISTRIB		
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 ^d
FIRE ESCAPES	40	10
GUARDRAILS AND HANDRAILS a	200 ^c	-
GUARDRAIL IN-FILL COMPONENTS ^b	50 ^c	-
PASSENGER VEHICLE GARAGES	50	DEPENDENT UPON SLAB CONSTRUCTION
ROOMS OTHER THAN SLEEPING ROOM	40	10 ^d
SLEEPING ROOM	30	10 ^d
STAIRS	40	10 ^d

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

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

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 REQUIRE	MENTS 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	CY
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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NO.	DATE	REVISION	BY			
DRAV	VING TITLE		<u> </u>			
STRUCTURAL						
NOTES						
		1				

JOB NO. 3783 DRAWN BY: DMH DATE: 08-12-21 SHEET NUMBER

ENGINEER: DMH | CHECKED BY:DMH

RESIDENTIAL SEISMIC & WIND ANALYSIS

				INPUT
DETERMINE WEIGHT OF HOUSE:				CALCULATED VALUE
LOCATION		DEAD LOAD (psf)	AREA (ft ²)	WEIGHT (lbs.)
ROOF		10	2892	28920
CEILING		10	2892	28920
FIRST FLOOR		10	2892	28920
	WALL LENGTH (ft)	WALL HEIGHT (ft)	WALL UNIT WT. (psf)	WEIGHT (lbs)
FIRST FLOOR EXT. WALL DL	225.34	10	10	22534
		DEAD LOAD (psf)	AREA (ft2)	WEIGHT (lbs)
FIRST FLOOR INT. PARTITION WALL DL		6	2892	17352

	:						
	PRO	JECTED AREAS (WIND I	DESIGN PER 115 MPH 3	3-SECOND GUST, EXPOSU	JRE C AND MEAN ROOF HEIGHT <= 30	FT ASSUMED)	
FRONT-TO-BACK				SIDE-TO-SIDE			
	AREA	LOAD			AREA	LOAD	
SLOPED ROOF	475	3997		SLOPED ROOF	626	5326	
VERT. ROOF	231	2839	CUMULATIVE	VERT. ROOF	0	0	CUMULATIVE
1ST	660	8112	15020	1ST	579.37	7203	12601
BSMT ^a	0	0	0	BSMT ^a	129	1827	8127
PRESSURE (PSF) - PE		F) - PER ASCE CH. 6					
	SLOPED ROOF	ZONE B	9.7		ZONE C	11.3	2a (FIG. 28.6-1, ASCE7)
	WALL/VERT. ROOF	ZONE A	-	14.2	ZONE D	7.7	10.534
MEAN ROOF HT., h 23.5			· · · · · · · · · · · · · · · · · · ·				

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} =0.00256K_zK_{zt}K_dV² (ASCE7-10 Velocity Pressure) q_{z10_ASD} =0.6q_{z10} (Design Velocity Pressure for ASD analysis under ASCE7-10 and IRC/IBC 2012)

1ST FLOOR TRIBUTARY WEIGHT BASEMENT TRIBUTARY WEIGHT

S_S(SITE GROUND MOTION - %g - FROM ASCE7 SEISMIC MAP)

F_a (from ASCE7 Table 11.4-1)

 S_{DS} (= 2/3 * S_S * F_a) R (from ASCE7 Table 12.2-1) 69107 12.0% 1.6 0.128 6.5

	SEISMIC SHEAR	
LOCATION	From ASCE7 (Eq. 12.8-1):	V (= 1.2 * S _{DS} * W / R) (lbs.)
1ST FLOOR		1633
BASEMENT		1633

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 18" stud spacing	155	per IBC, Table 2306.3(1)
Exterior (Option #2)	7/16" APA Rated Plywood/OSB	1-1/2" 16ga. Staples w/ 1" penetration@ 4" OC Edges, 6" OC Field For 24" stud spacing, 12" OC Field For 16" stud spacing	230	per IBC, Table 2306.3(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 2306.3(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 (<i>Option #5)</i>	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 pane 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 ¹ / ₄ " 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 manufacture specifications - see detail on sheet S3)	325	

EXTERIOR SHEATHING OPTION FOR FIRST FLOOR 4

EXTERIOR SHEATHING OPTION FOR BASEMENT WALLS 6

WIDTH OF 1ST STORY (FT.) 60

DEPTH OF 1ST STORY (FT.) 52.67

BACK WALL OF GARAGE (FT.) 30

GAR. WALL: 1=F-B, 2=S-S 2

WIDTH OF 2ND STORY (FT.)
DEPTH OF 2ND STORY (FT.)

			EXTER	IOR STRUCTURAL WALL I	ENGTHS (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.)
1ST FLOOR	77	21560	47	13160	77	30184	47	18424
BASEMENT	0	0	30	14100	0	0	30	19740
	1			_				
		ADDITIONAL RESIS	TANCE REQUIRED		Anchor Bolt Spacing	(in.)	16d Nail Spacing req'd at	bottom plate (in.)
		SEISMIC	WIND		diameter (in.)	0.5	1st Floor F-B	19
1ST FLOOR FRONT-T	O-BACK	0	0		Shear value (per NDS)	944	1st Floor S-S	26
1ST FLOOR SIDE-TO-	SIDE	0	0		Spacing F-B (inches)	127.1		
BASEMENT FRONT-T	O-BACK	0	0		spacing S-S (inches)	172.6		

							
		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?
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: 4) SEE ATTACHED CALCUL ATION	IC FOR BORTAL FRAME	OD DEDEODATED OUE	AD MALL DEGICEANCE OF	ADACITICO (IC ADDI IOADI E)			

**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 LONGER

ALL LATERAL BRACING ACHIEVED AT EXTERIOR WALLS AND WALLS DIRECTLY ON FOUNDATIONS: THEREFORE, NO INTERIOR BRACING PER 2012 IRC SECTION R502.2.1 IS REQUIRED.

ALL LATERAL BRACE	NG ACHIEVED AT EXT	ERIOR WALLS AND WA	ALLS DIRECTLY ON FO	UNDATIONS, THEREFORE	, NO INTERIOR BRACING PER 2012 I	IRC SECTION RS02.2.1 IS	KEQUIKEL
				WIND UPLIFT	ANALYSIS		
	X/12	DEGREES			_	,	
ROOF PITCH (MAX)	12	45.0	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	-1.08	227.34	-1.08			
	TOTAL AREA (FT ²)	ZONE E AREA (FT ²)	ZONE G AREA (FT ²)	PRESSURE ZN. E (PSF)	PRESSURE ZN. G (PSF)	TOTAL FORCE (LBS)	FORCE PER LINEAL FT @ PERIMETER (LBS)
MAIN ROOF**	3160.2	-401.724624	3561.924624	-1.08	-0.36	-848	-3.8
*ALONG PERIMETER		TOTAL UPLIFT PER LINEAL I	FOOT ALONG EXTERIOR (PO	UNDS)	-4.8	UPLIFT OK	
**INSIDE EXTERIOR V	VALLS	RESISTANCE DUE TO DEAD	WEIGHT & (3) 10d TOENAILS		251.6		
						•	1

NOTE FOR CONSTRUCTION:

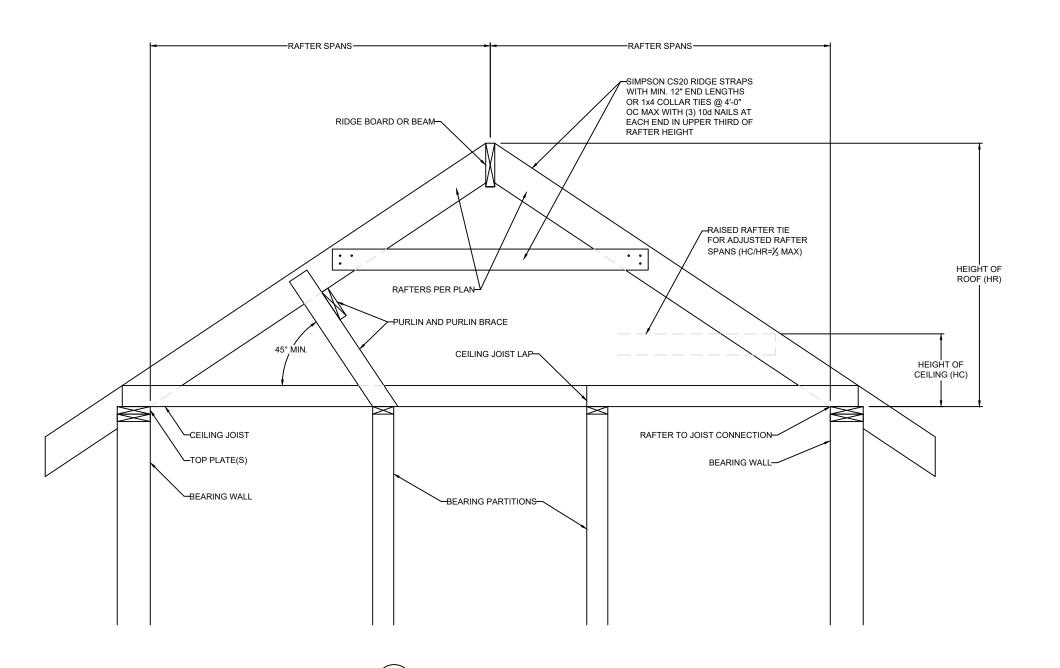
BASEMENT SIDE-TO-SIDE

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 ARE DETERMINED TO BE CLASS E OR F, CONSULT ENGINEER BEFORE PROCEEDING WITH CONSTRUCTION



Combustion Air Calculation

Per 2012 IRC Section G2407.5
Appliance #1

Appliance #1 Furnace 100000 BTU/h
Appliance #2 BTU/h
Appliance #3 Water Heater 50000 BTU/h

Total BTU/hr 150000 BTU/h

Area of Combined Space (floor where appliances are located)
Ceiling Height in Usable Space

1055 ft² 8.5 ft

Note: Per 2012 IRC Section G2407.5.3.2, The volumes of spaces in different stories shall be considered as communicating spaces where such spaces are connected by one or more openings in doors or floors having a total minimum free area of 2 square inches per 1,000 BTU/h of total input rating of all appliances

Is floor where appliances are located open to adjacent level?

If Yes, what is the area of open space adjacent to appliance area?

Yes 0

Per 2012 IRC Section G2407.5.1 (Standard Method), the minimum required volume shall be 50 cubic feet per 1,000 BTU/hr

(Total BTU/hr / 1,000 BTU/hr x 50 ft³)

Required air space in combined areas: 7500 ft³

Required combined area: 882 ft²

Area of Combined Space > Required combined area?

OK

Per Section G2407.5.3.1, each opening shall have a minimum free area of 1 square inch per 1,000 BTU/hr of the total input rating of all appliances in the space, but not less than 100 square inches. One opening shall commence within 12 inches of the top and one opening shall commence within 12 inches of the bottom of the enclosure. The minimum dimension of air openings shall be not less than 3 inches.

Minmum required opening area:

Minimum grill size:

150 in²
(inches)

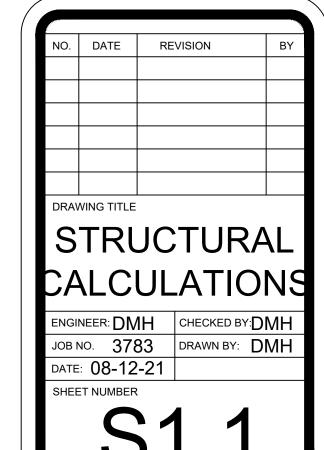
Note: two grills required - one within 12" of floor, one within 12" of clg.



LOCATION: LEE'S SUMMIT, MISSOURI

PFEIF





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

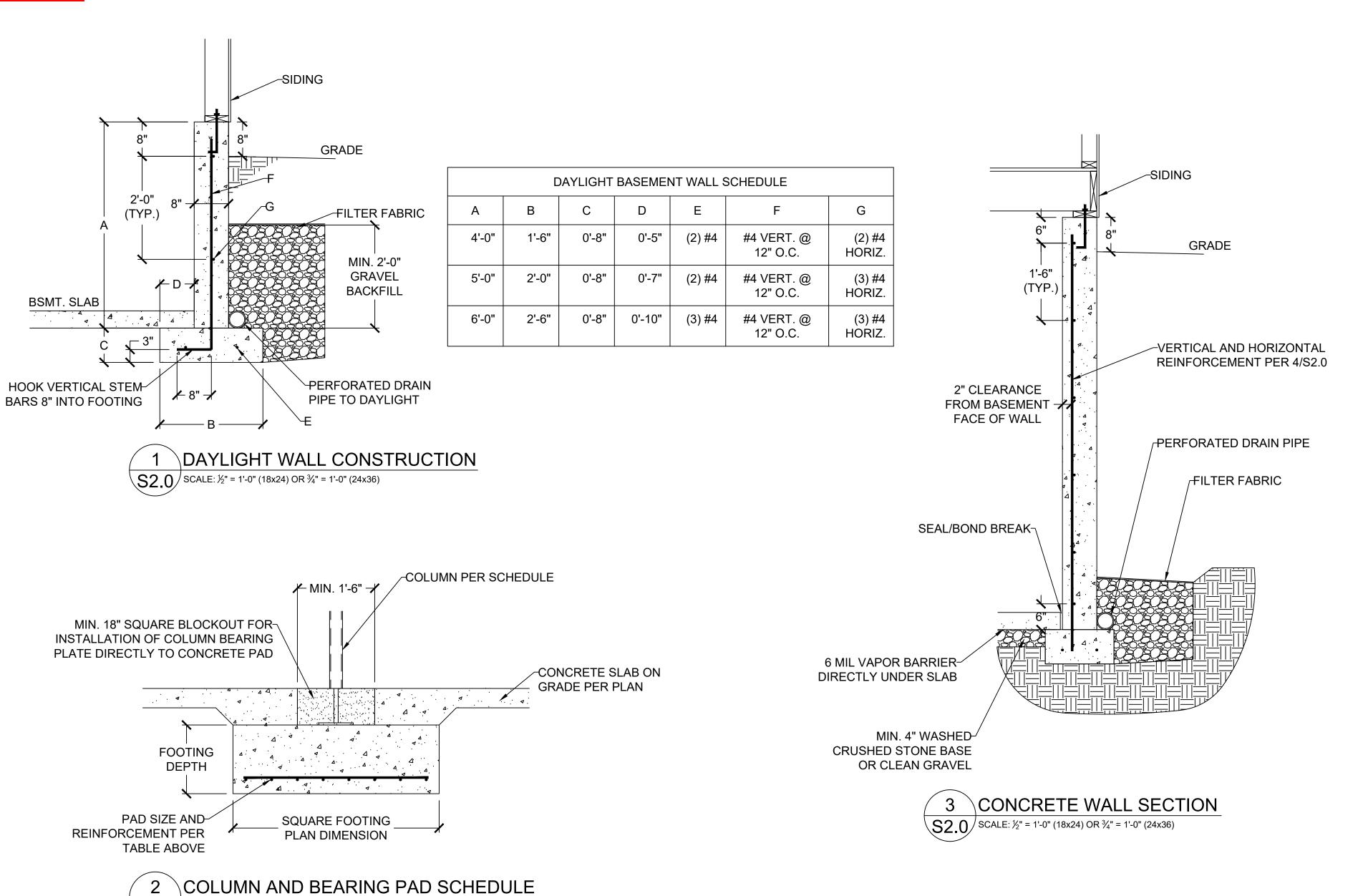
MAX. 12" BLOCKOUT FOR

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 24 18 24 24 3,500 PSI/ GRADE 40 16 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:

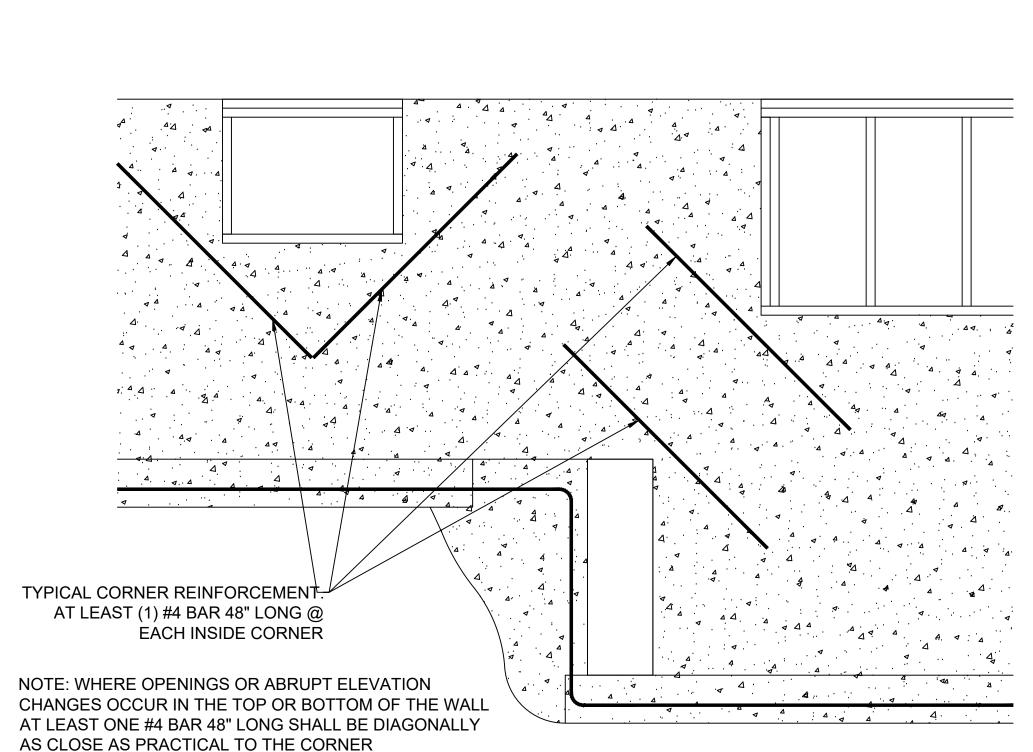
1) WALL HEIGHT IS MEASURED FROM THE TOP OF THE WALL TO THE TOP OF THE FLOOR SLAB 2) VERTICAL REINFORCEMENT FOR CONCRETE WALLS THAT ARE NOT FULL HEIGHT, AND FOR REINFORCEMENT SPACING 24" OC, REINFORCEMENT MAY BE PLACED IN THE MIDDLE OF THE WALL. OTHER WALLS SHALL HAVE VERTICAL REINFORCEMENT AS FOLLOWS:

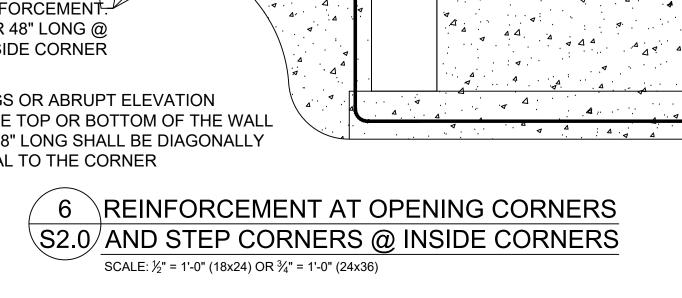
- A) 8" WALL MINIMUM 5" FROM THE OUTSIDE FACE
- B) 10" WALL MINIMUM 63/4" FROM THE OUTSIDE FACE
- C) EXTEND BARS TO WITHIN 8" OF THE TOP OF THE WALL

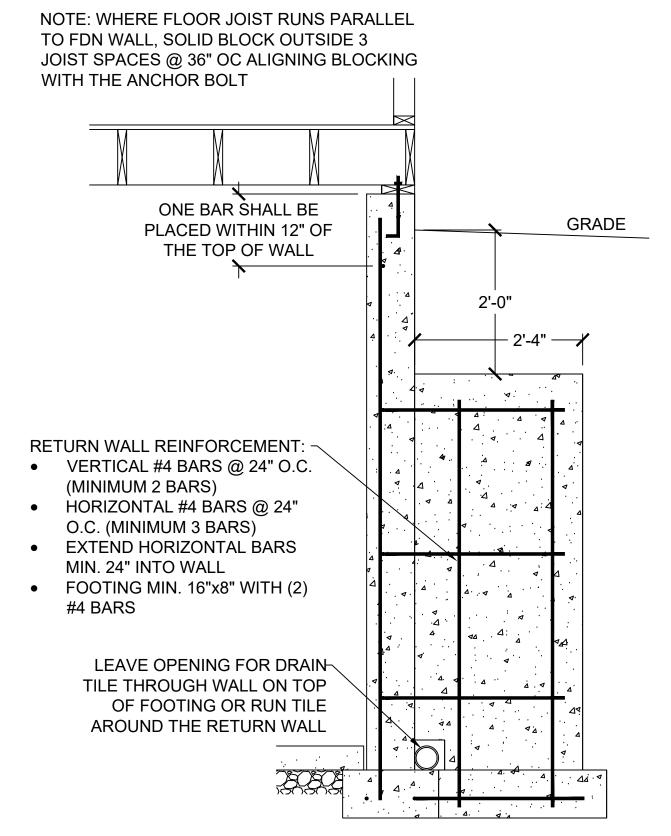
3) REINFORCEMENT CLEARANCES:

- 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
- 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
- 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
- WALL SHALL NOT BE BACKFILLED UNTIL FLOOR SYSTEM AND DIAPHRAGM ARE IN PLACE

4 \FOUNDATION WALL REINFORCEMENT TABLE S2.0 NO SCALE



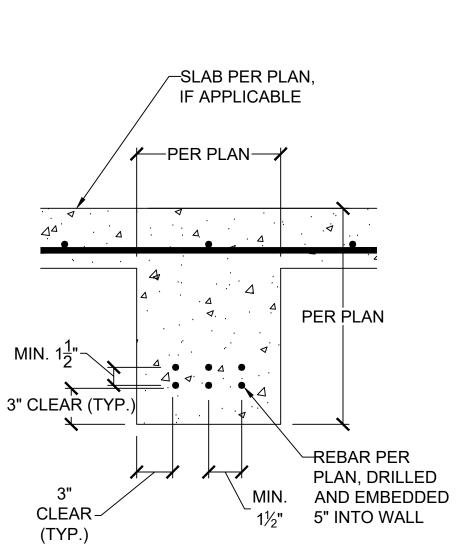




RETURN WALL DETAIL

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

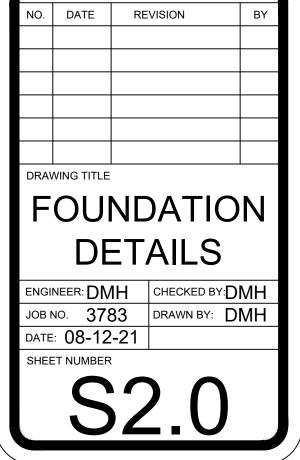




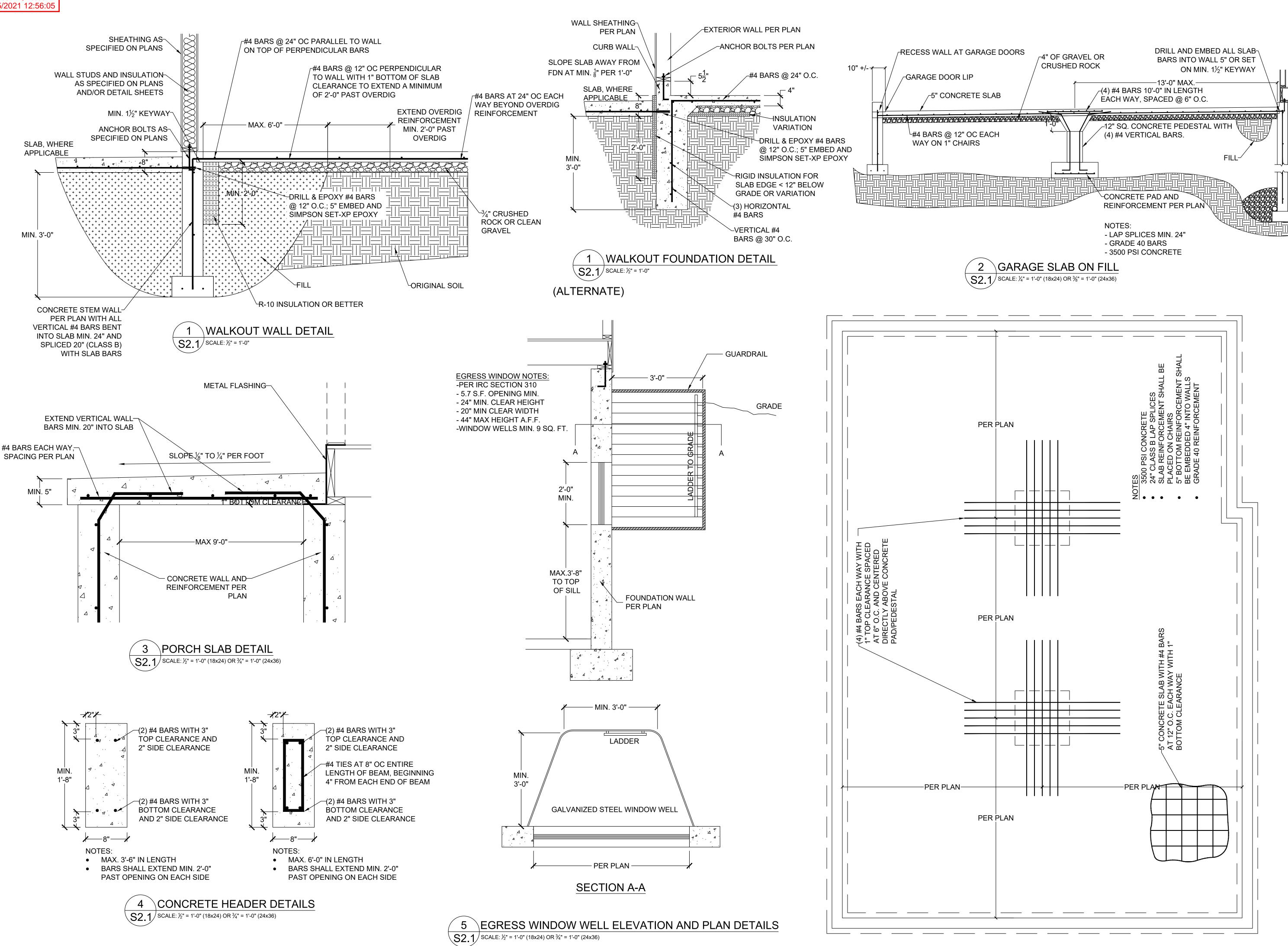
LOCATION:

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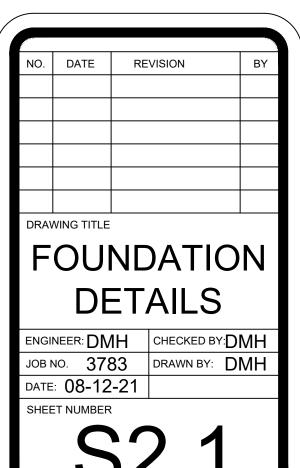
RELEASE FOR CONSTRUCTION AS NOTED ON PLANS REVIEW DEVELOPMENT SERVICES LEE'S SUMMIT, MISSOURI 09/15/2021 12:56:05

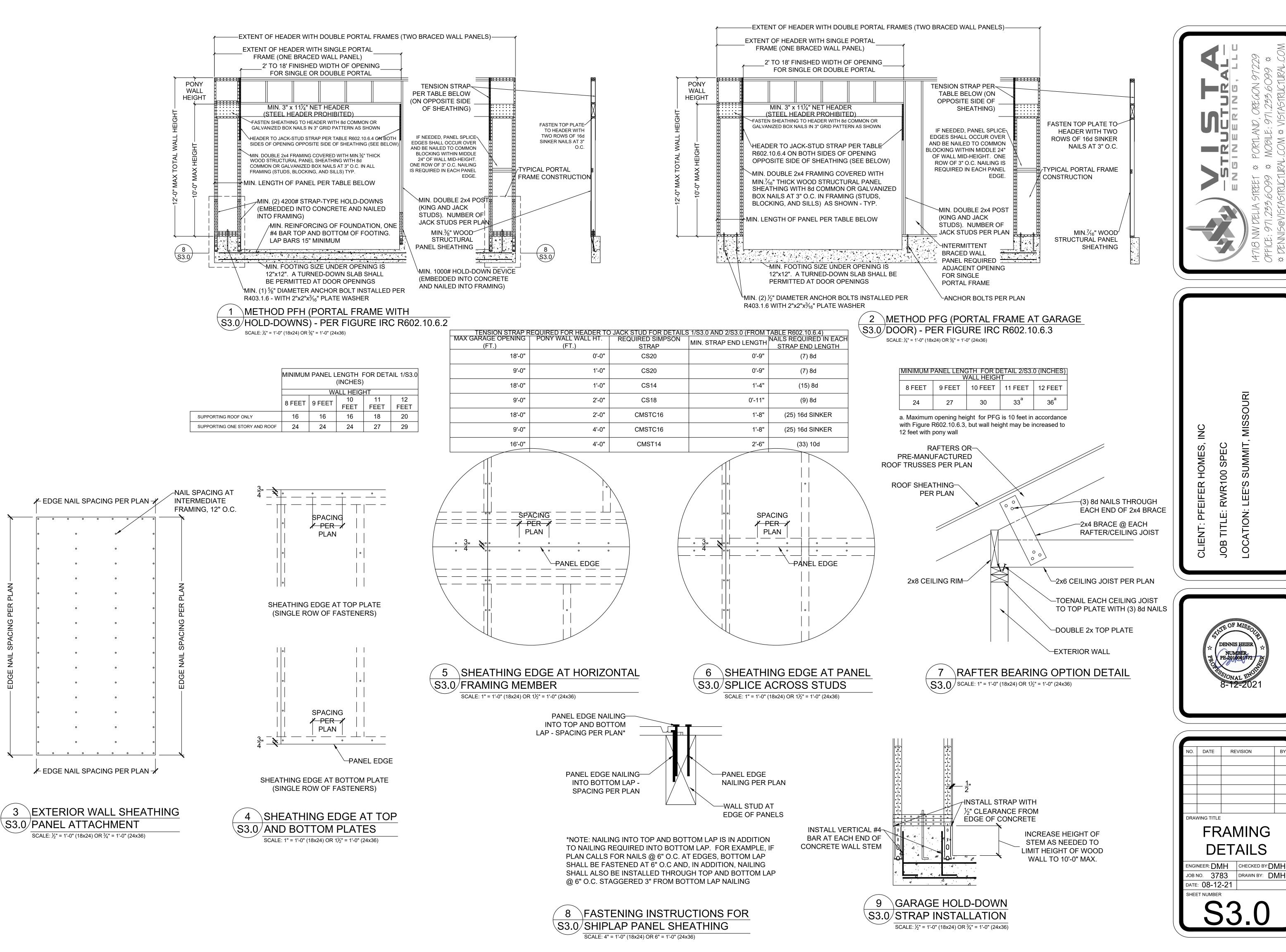


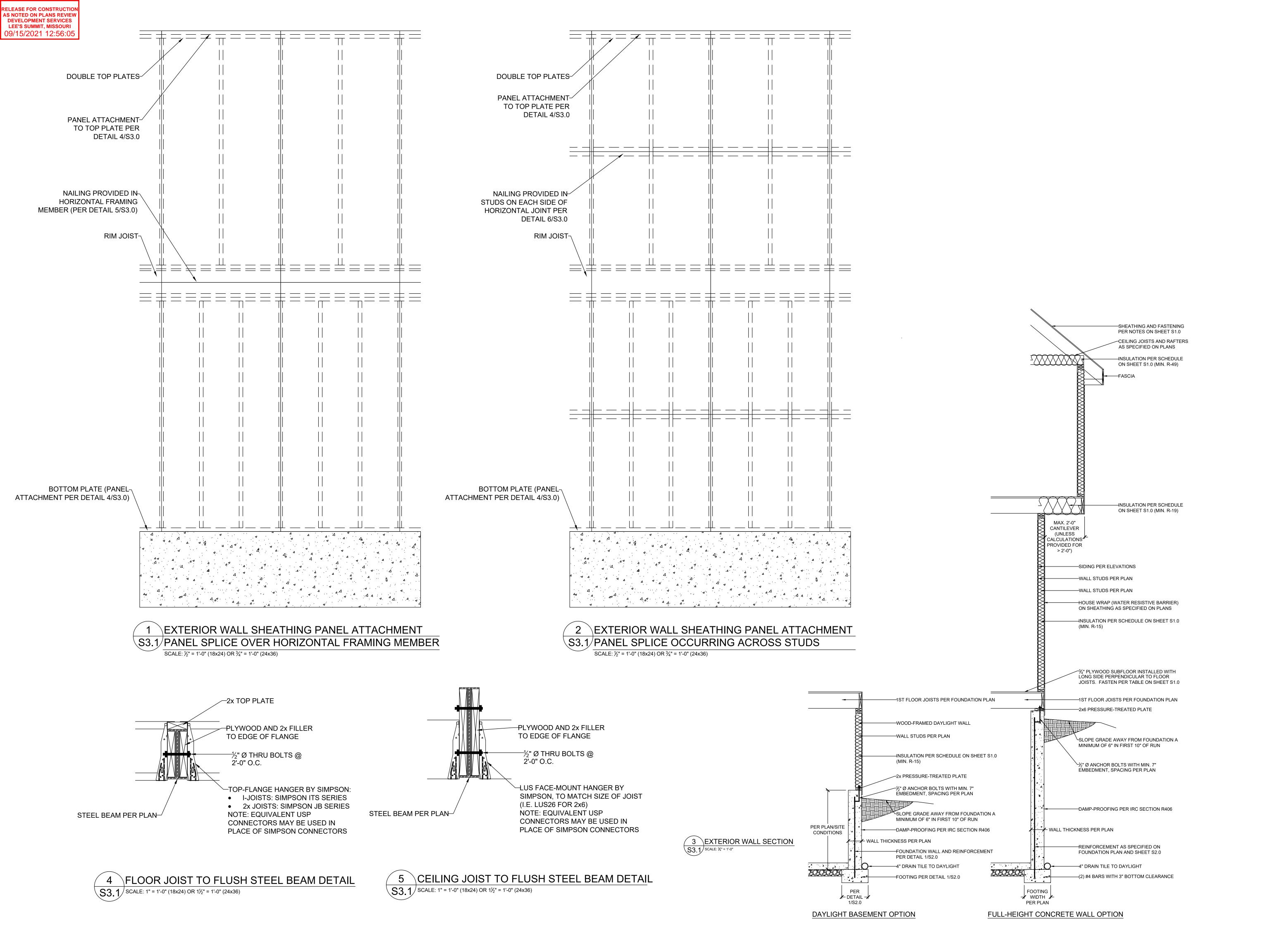


CLIENT: PFEIFER HOMES, INC JOB TITLE: RWR100 SPEC LOCATION: LEE'S SUMMIT, MISSOURI





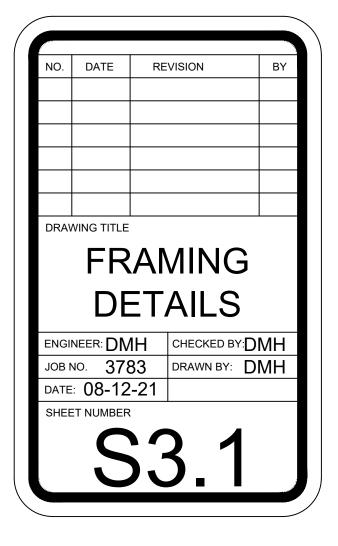




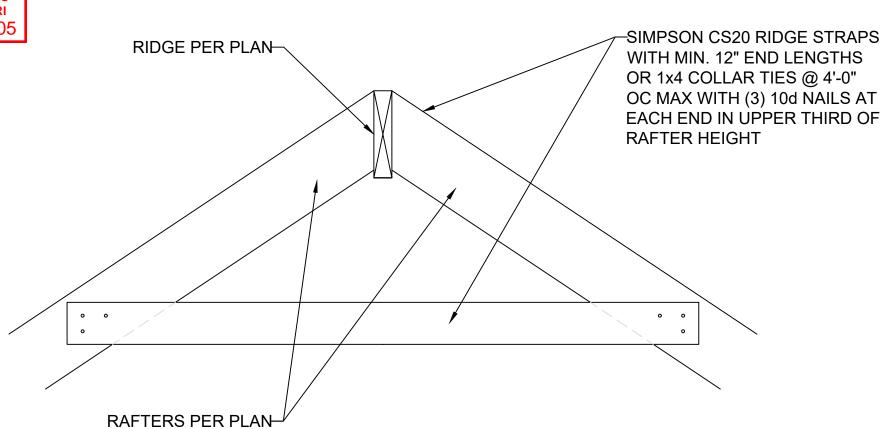


CLIENT: PFEIFER HOMES, INC JOB TITLE: RWR100 SPEC LOCATION: LEE'S SUMMIT, MISSOURI

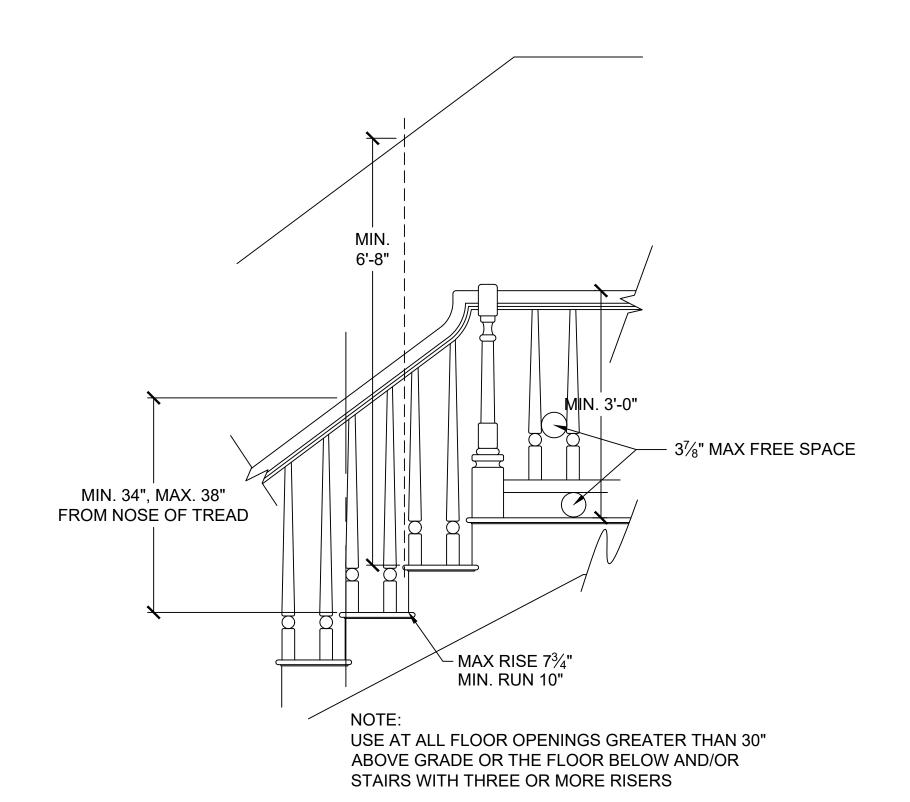




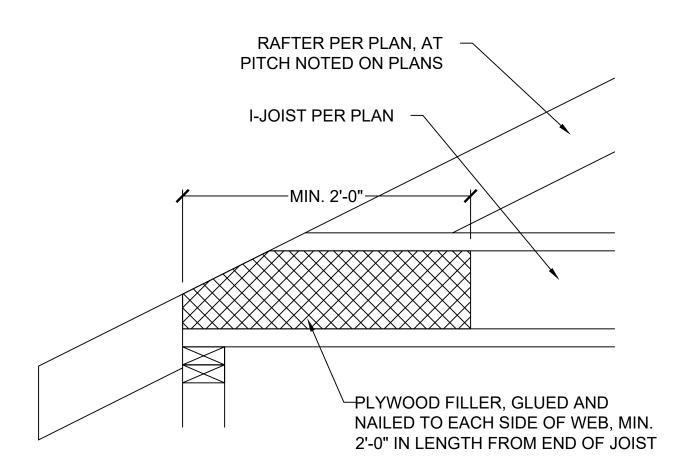
RELEASE FOR CONSTRUCTION AS NOTED ON PLANS REVIEW **DEVELOPMENT SERVICES** LEE'S SUMMIT, MISSOURI 09/15/2021 12:56:05



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

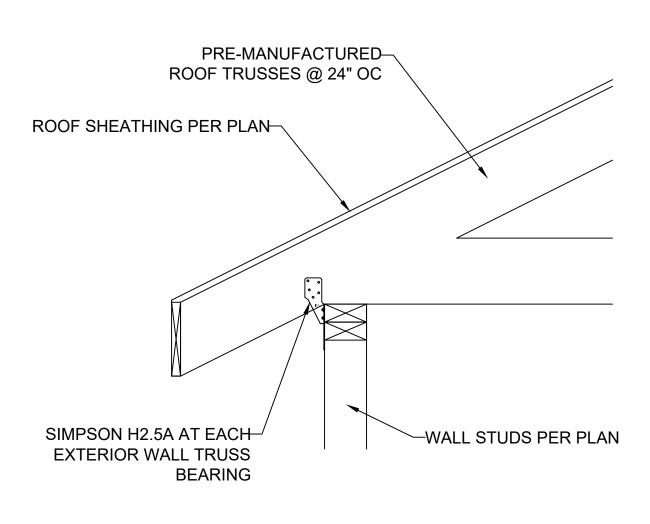


4 \STAIR AND HANDRAIL/GUARDRAIL DETAIL SCALE: ½" = 1'-0" (18x24) OR ¾" = 1'-0" (24x36)

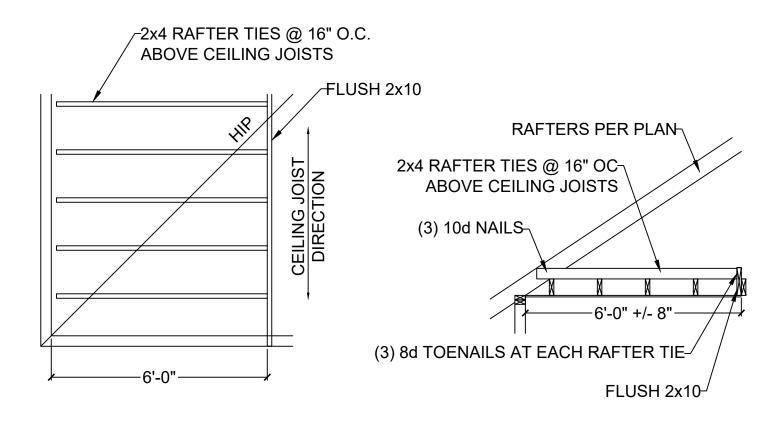


9 \COPED I-JOIST REINFORCEMENT

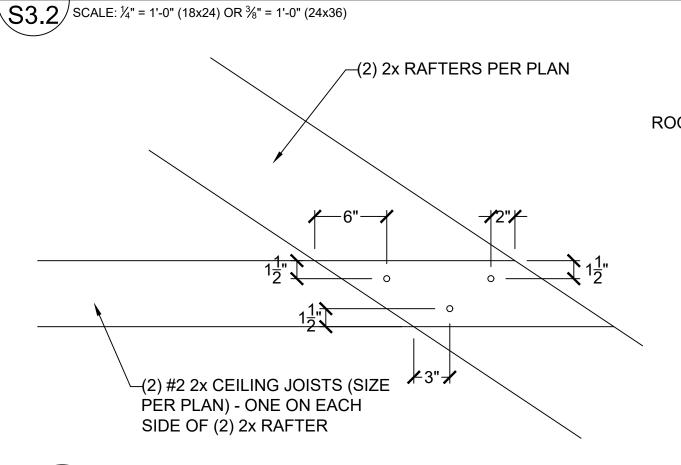
 $\sqrt{S3.2}$ SCALE: 1" = 1'-0" (18x24) OR $1\frac{1}{2}$ " = 1'-0" (24x36)



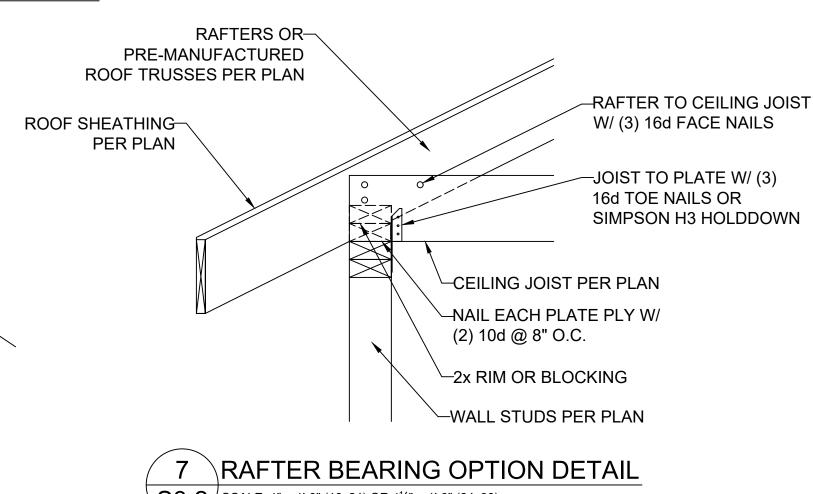
TRUSS CONNECTION TO EXT. WALL BEARING SCALE: 1" = 1'-0" (18x24) OR $1\frac{1}{2}$ " = 1'-0" (24x36)



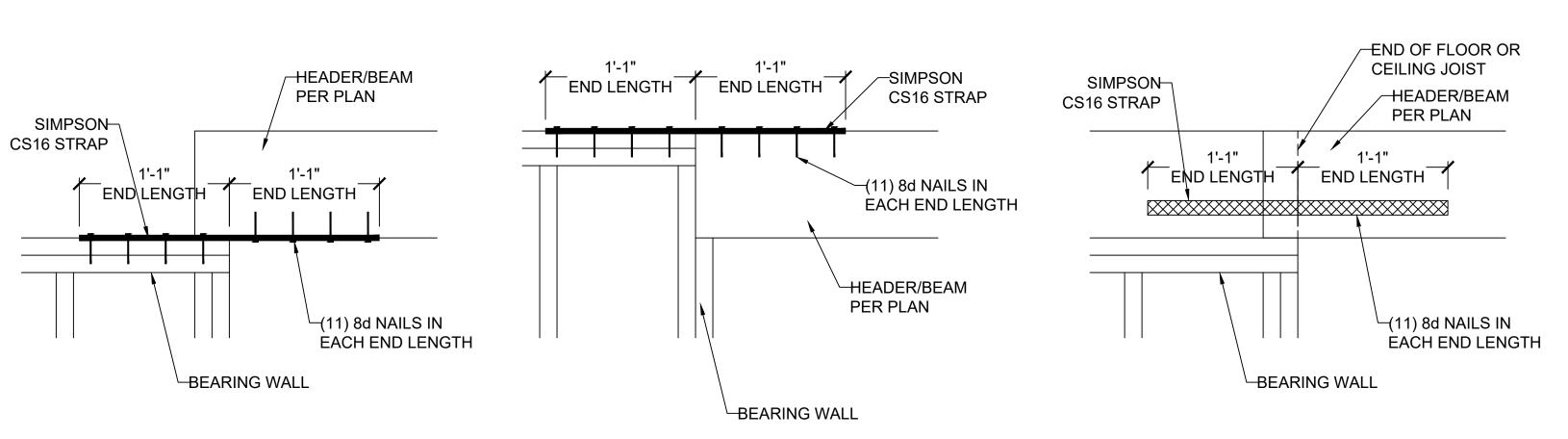
5 RAFTER TIES AT CEILING JOISTS PERP. TO RAFTERS



6 \FIELD-CONSTRUCTED A-FRAME DETAIL S3.2 SCALE: 1" = 1'-0" (18x24) OR $1\frac{1}{2}$ " = 1'-0" (24x36)



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



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

ROOFING ON FELT -2x8 RAFTER ON SHEATHING -1" AIR SPACE -1" AIR SPACE BETWEEN **INSULATION AND ROOF** SHEATHING EAVE VENT FURRING STRIP AS-/ VAPOR RETARDER-**REQUIRED FOR 11" DEPTH** CEILING FINISH CONNECT FURRING STRIP TO 2x8 WITH 3/8" Ø x-/ MIN. 6"-LONG LEDGER-LOK SCREWS @ 36" OC HIGH-DENSITY R-38-/ OR WITH 2x4 ON BOTH SIDES @ 48" OC, **INSULATION BATTS** FASTENED WITH (2) 10d NAILS TO RAFTER (APPROXIMATELY 10" THICK) AND (2) 10d NAILS TO FURRING STRIP **VAULTED RAFTER INSULATION INSTALLATION AND OPTIONAL CONNECTION DETAILS** -2x10 RAFTER -2x6 RAFTER -1" AIR SPACE I" AIR SPACE FURRING STRIP AS-**REQUIRED FOR 11" DEPTH** FURRING STRIP AS-**REQUIRED FOR 11" DEPTH** 16d COMMON NAILS (0.162" x 3½") @ 8" OC-CONNECT FURRING STRIP TO 2x6 WITH-2x4 ON BOTH SIDES @ 48" OC, FASTENED WITH (2) 10d NAILS TO RAFTER AND (2) 10d NAILS TO FURRING STRIP 3 VAULTED RAFTER INSULATION DETAILS S3.2 | SCALE: 3/4" = 1'-0"

_2x12 RAFTERS (SHORTER

SPACE REQUIREMENTS)

RAFTERS MAY BE FURRED DOWN

TO MEET INSULATION AND AIR

LIEIGUT (ET.)		SPACING (I	NCHES O.C	.)
HEIGHT (FT.) ├	24	16	12	8
	SUPPORT	ING A ROOF	ONLY	
10 OR LESS	2x4	2x4	2x4	2x4
12	2x6	2x4	2x4	2x4
14	2x6	2x6	2x6	2x4
16	2x6	2x6	2x6	2x4
18	DR	2x6	2x6	2x6
20	DR	DR	2x6	2x6
SUPP	ORTING O	NE FLOOR	AND A ROOF	=
10 OR LESS	2x6	2x4	2x4	2x4
12	2x6	2x6	2x6	2x4
14	2x6	2x6	2x6	2x6
16	DR	2x6	2x6	2x6
18	DR	2x6	2x6	2x6
20	DR	DR	2x6	2x6
SUPPO	ORTING TV	VO FLOORS	AND A ROC	F
10 OR LESS	2x6	2x6	2x4	2x4
12	2x6	2x6	2x6	2x6
14	2x6	2x6	2x6	2x6
16	DR	2x6	2x6	2x6
18	DR	DR	2x6	2x6
20	DR	DR	DR	2x6

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)



PFEIF LOCATION:

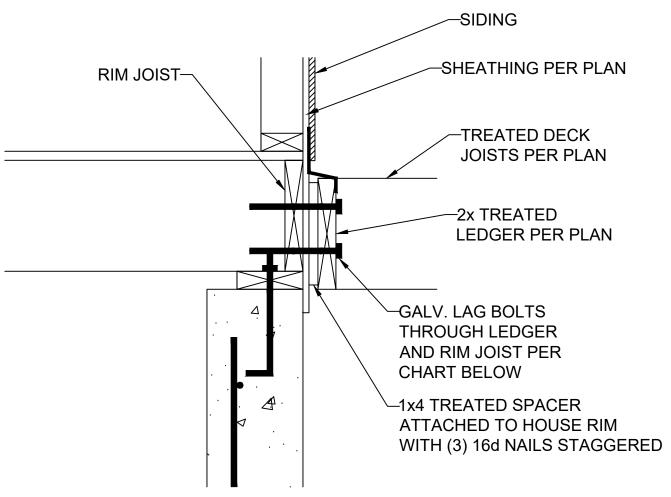


NO.	DATE	REVISION	ВУ
NO.	DATE	REVISION	
DRA	VING TITLE		
	FR	AMIN	3
	DE	ETAILS	3

JOB NO. 3783 DRAWN BY: DMH DATE: 08-12-21

SHEET NUMBER

RELEASE FOR CONSTRUCTION AS NOTED ON PLANS REVIEW DEVELOPMENT SERVICES LEE'S SUMMIT, MISSOURI 09/15/2021 12:56:05



SIMPSON H2.5A AT EACH-

CANTILEVERED JOIST

WHICH SUPPORTS DECK

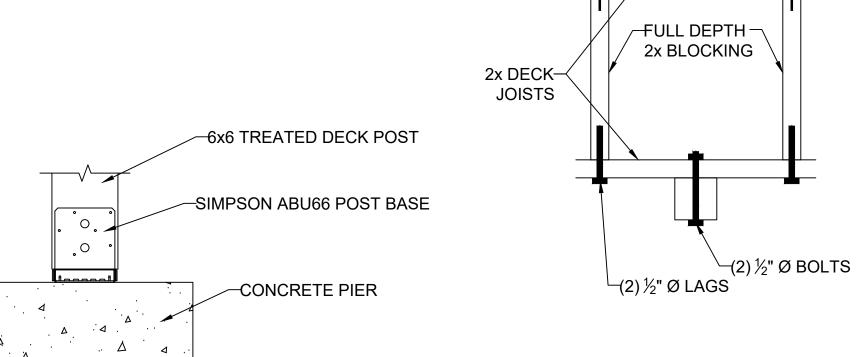
SIMPSON LS90 GUSSET ANGLES, NAILED TO BOTH-SIDES OF DOUBLED JOISTS W/ (12) N10 NAILS -SIDING FLOOR JOISTS PER PLAN. IF JOISTS ARE-NOT DOUBLED, INSTALL ADDITIONAL PLY SHEATHING PER PLAN TO EACH JOIST, MIN. 6'-0" IN LENGTH TREATED DECK JOISTS PER PLAN (MAX. SPAN = 16'-0") —2x TREATED LEDGER PER PLAN FASTEN DECK JOISTS TO LEDGER WITH SIMPSON LUS210 HANGERS GALV. LAG BOLTS CANTILEVER LENGTH THROUGH LEDGER AND RIM PER PLAN JOIST PER CHART BELOW

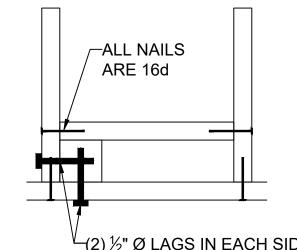
-1x4 TREATED SPACER

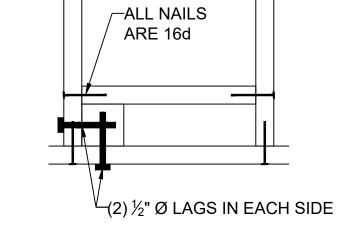
ATTACHED TO HOUSE RIM

WITH (3) 16d NAILS STAGGERED

RIM JOIST-





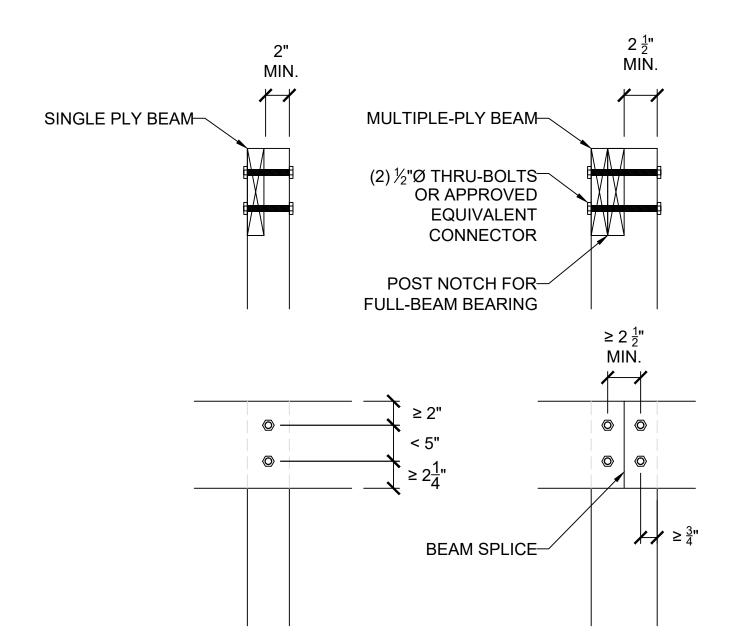


REINF. POST CONNECTIONS S3.3 SCALE: 1" = 1'-0" (18x24) OR $1\frac{1}{2}$ " = 1'-0" (24x36)

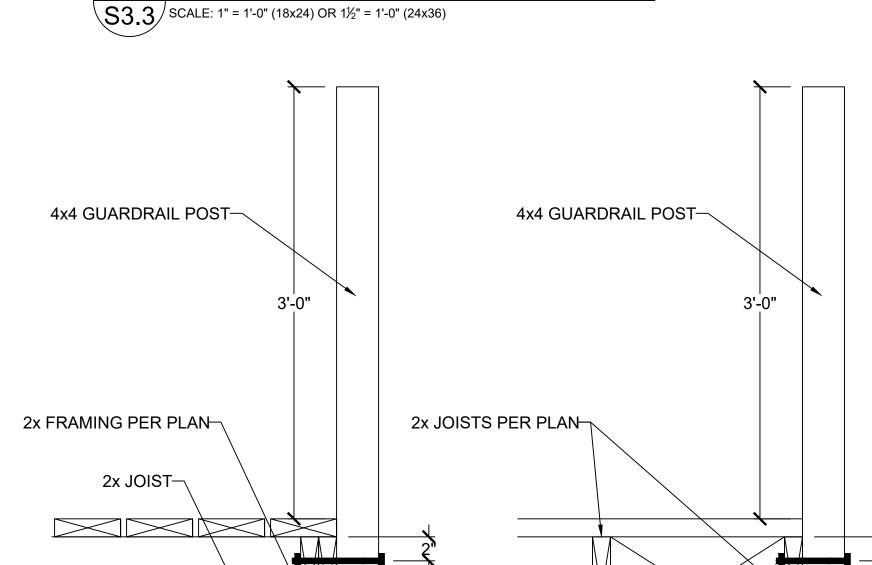
DECK LEDGER ATTACHMENT GUIDE

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





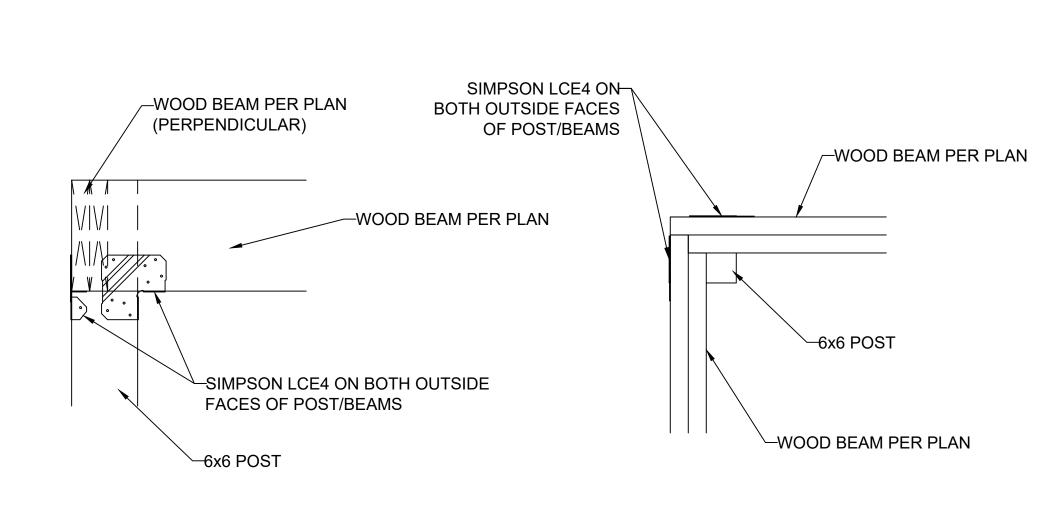
5 \LET-IN (COVERED) DECK BEAM CONNECTION S3.3 SCALE: 1" = 1'-0" (18x24) OR 1½" = 1'-0" (24x36)



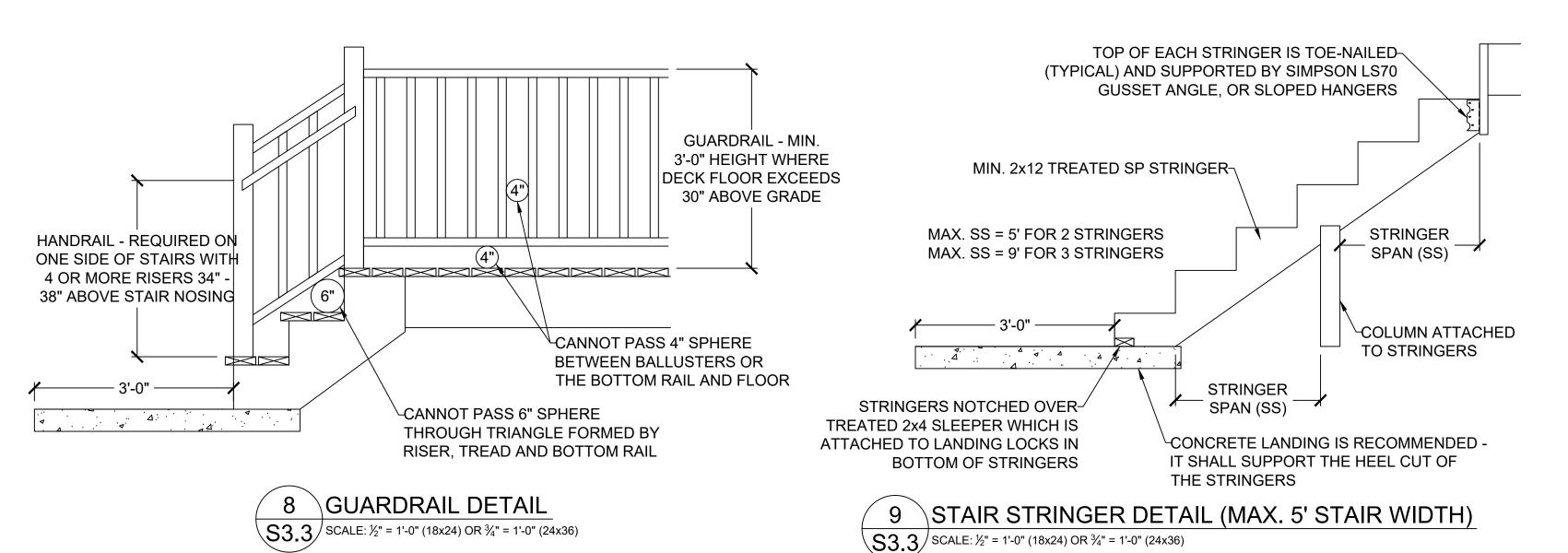
2 \CANTILEVER WITH DECK ATTACHMENT

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

2x BLOCKING-



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



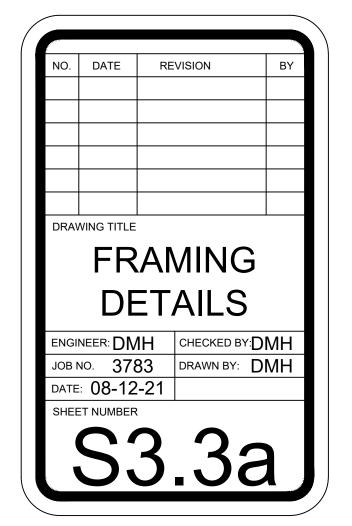
DECK POST BASE

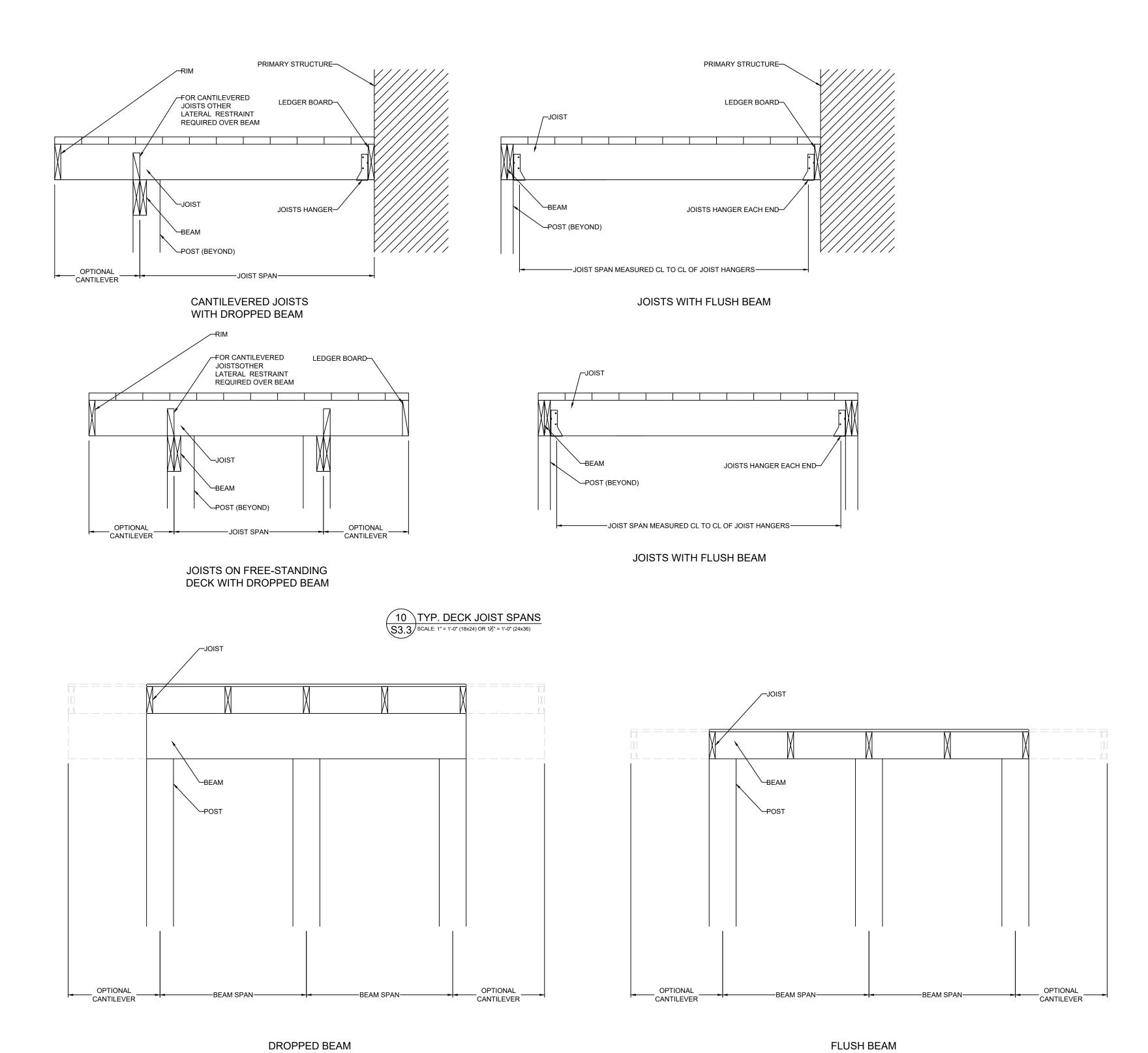
\$3.3 SCALE: 1" = 1'-0" (18x24) OR 1½" = 1'-0" (24x36)









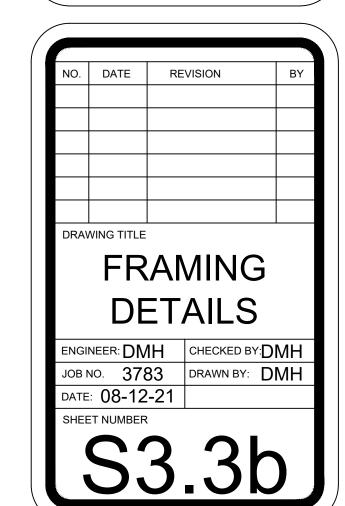


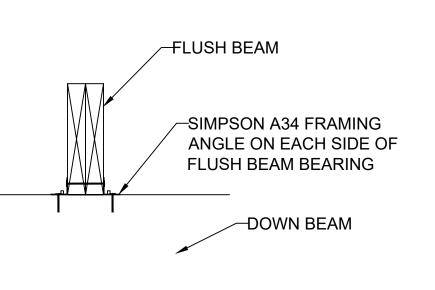


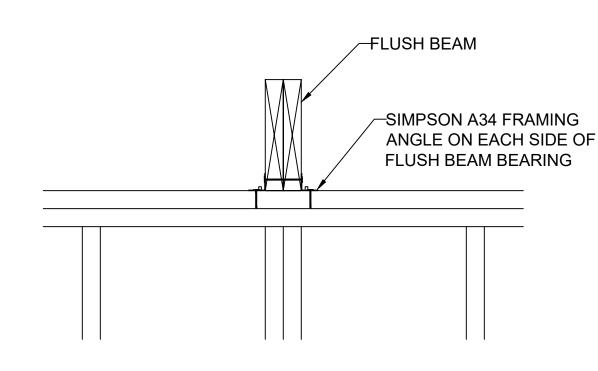


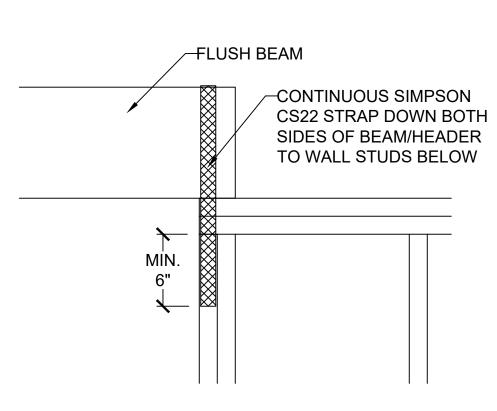
CLIENT: PFEIFER HOMES, INC JOB TITLE: RWR100 SPEC LOCATION: LEE'S SUMMIT, MISSOURI

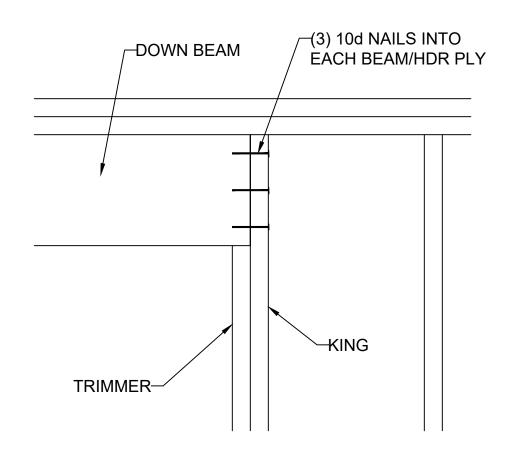












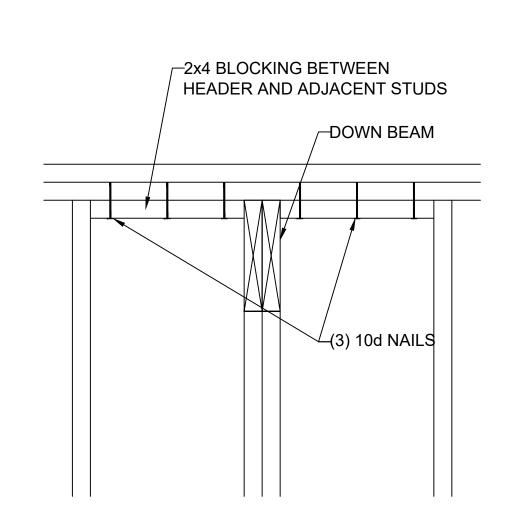


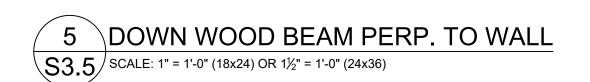
1 WOOD BEAM ON TOP OF OTHER S3.5 SCALE: 1" = 1'-0" (18x24) OR 1½" = 1'-0" (24x36)

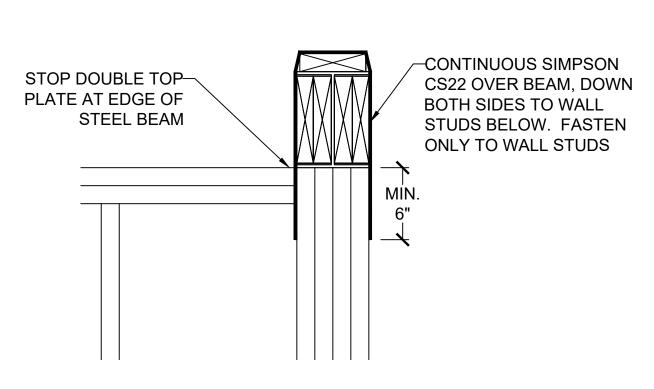
2 UPSET WOOD BEAM PERP. TO WALL S3.5 SCALE: 1" = 1'-0" (18x24) OR 1½" = 1'-0" (24x36)

3 UPSET WOOD/STEEL BEAM PARALLEL TO WALL S3.5 SCALE: 1" = 1'-0" (18x24) OR 1½" = 1'-0" (24x36)

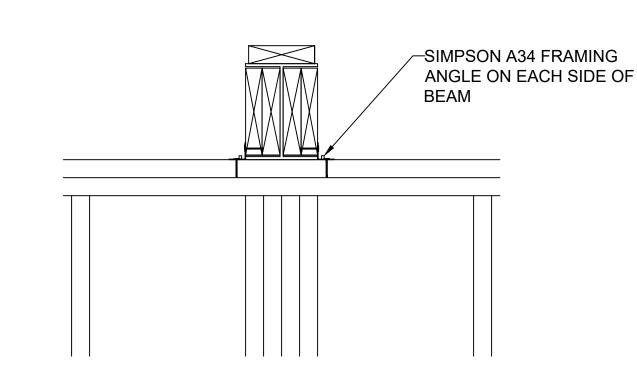
4 DOWN WOOD BEAM PARALLEL TO WALL S3.5 SCALE: 1" = 1'-0" (18x24) OR 1½" = 1'-0" (24x36)

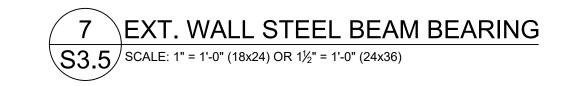


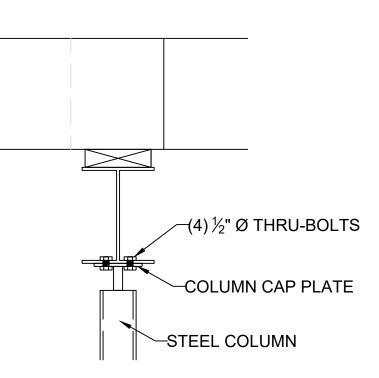




6 INTERIOR STEEL BEAM BRG. AT EDGE OF WALL S3.5 SCALE: 1" = 1'-0" (18x24) OR 1½" = 1'-0" (24x36)





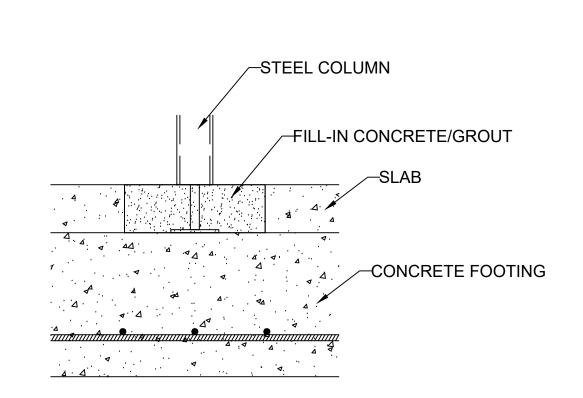


ALTERNATE CONNECTIONS:

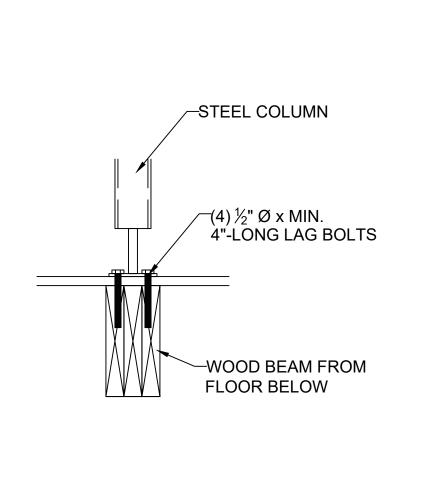
A) CLIP POST CAP WITH ALL FOUR TAB EARS BENT AROUND THE BOTTOM FLANGE OF THE BEAM

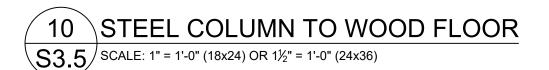
B) POST CAP WELDED TO THE STEEL BEAM IN ACCORDANCE WITH AWS D1.1-92 (WOULD NEED TO BE INSPECTED BY AN AWS-CERTIFIED INSPECTOR)

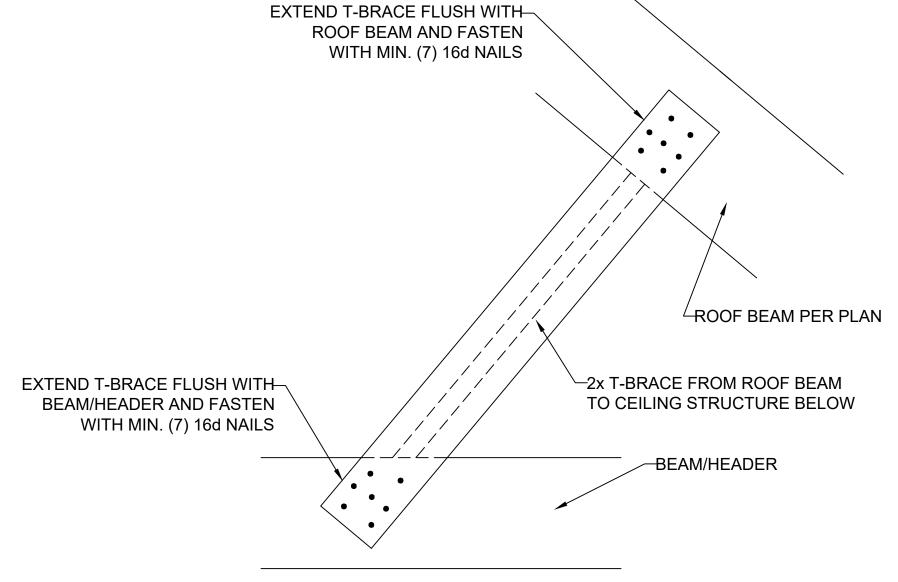
8 STEEL BEAM TO STEEL COLUMN S3.5 SCALE: 1" = 1'-0" (18x24) OR 1½" = 1'-0" (24x36)



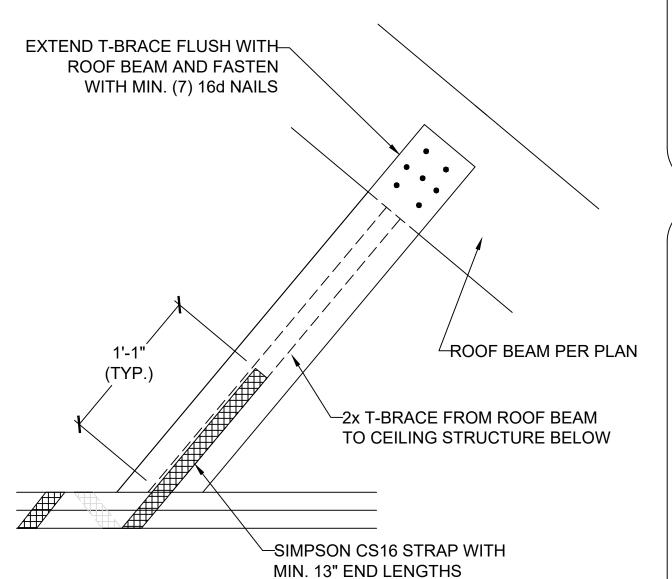








11 ROOF BEAM TO BEAM/HEADER CONNECTION S3.5 SCALE: 1" = 1'-0" (18x24) OR 1½" = 1'-0" (24x36)

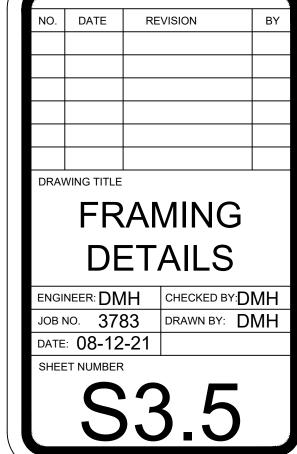


12 ROOF BEAM TO WALL CONNECTION S3.5 SCALE: 1" = 1'-0" (18x24) OR 1½" = 1'-0" (24x36)



LOCATION:

PFEIF



RELEASE FOR CONSTRUCTION AS NOTED ON PLANS REVIEW DEVELOPMENT SERVICES
DESCRIPTION OF BUILDING ELLE MENTS FASTENER SCHEDULE FOR STRUCTURAL MEMBERS NUMBER AND TYPE OF FASTENER SPACING AND LOCATION LEE'S SUMMIT, MISSOURI ROOF 09/15/20 PLOCKING BENETS 6:10 GAF ERS TO TOP 4-8d (21/3" x 0.113")

PLATE, TOE NAIL	4-8d (2½" x 0.113")	TOENAIL
CEILING JOISTS TO PLATE, TOE NAIL	4-8d (2½" x 0.113")	PER JOIST, TOENAIL
CEILING JOISTS NOT ATTACHED TO PARALLEL RAFTER, 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 ¼" x 20 GA. RIDGE STRAP TO RAFTER	4-10d (3" x 0.128")	FACE NAIL, EACH RAFTER
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
ROOF RAFTERS TO RIDGE, VALLEY, OR HIP RAFTERS 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 TO STUD (NOT AT BRACED WALL PANELS)	10d (3" x 0.128")	16" O.C. FACE NAIL
STUD TO STUD AND ABUTTING STUDS AT INTERSECTING WALL CORNERS (AT BRACED WALL PANELS)	16d (3½" x 0.135")	12" O.C. FACE NAIL
BUILT-UP HEADER, TWO PIECES WITH ½" SPACER	16d (3½" x 0.135")	12" O.C. EACH EDGE FACE NAIL
CONTINUOUS HEADER TO STUD	4-8d (2 火 " 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
BOTTOM PLATE TO JOIST, RIM JOIST, BAND JOIST, OR BLOCKING (AT BRACED WALL PANEL)	3-16d BOX (3 ½" x 0.135")	3 EACH 16" O.C. FACE NAIL
TOP OR SOLE PLATE TO STUD, END NAIL	4-8d BOX (2 ½" x 0.113") - TOENAIL; 3-16d BOX (3 ½" x 0.135") - END NAIL	TOENAIL, END NAIL (SEE LEFT)
TOP 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	
JOIST TO SILL, TOP PLATE, OR GIRDER	4-8d BOX (2 ½" x 0.113")	TOE NAIL
RIM JOIST, BAND JOIST, OR BLOCKING TO SILL OR TOP PLATE (ROOF APPLICATIONS ALSO)	8d BOX (2 ½" x 0.113")	4" O.C. TOE NAIL
1" x 6" SUBFLOOR OR LESS TO EACH JOIST	3-8d BOX (2 ½" x 0.113")	FACE NAIL
2" SUBFLOOR TO JOIST OR GIRDER	3-16d BOX (3 ½" x 0.135")	BLIND AND FACE NAIL
2" PLANKS (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-UP 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
LEDGER STRIP SUPPORTING JOISTS OR RAFTERS	4-16d BOX (3 ½" x 0.135")	AT EACH JOIST OR RAFTER, FACE NAIL
BRIDGING OR BLOCKING TO JOIST	2-10d BOX (3" x 0.128")	EACH END, TOENAIL

CRIPTION OF BUILDING MATERIAL	SI DESCRIPTION OF FASTENER	STRUCTURAL MEMBERS EDGE SPACING (INCHES)	INTERMEDIATE SUPPORTS (INCHES
WOOD STRUCTURAL PANELS, SU	JBFLOOR, ROOF AND INTERIOR WALL SHE		ARD WALL SHEATHING TO FRAMING
%" - ½"	6d COMMON (2" x 0.113") NAIL (SUBFLOOR, WALL) 8d COMMON NAIL (ROOF)	6	12
¹9 ½ 32" - 1"	8d COMMON NAIL (2½" x 0.131")	6	12
11/2" - 11/4"	10d COMMON (3" x 0.148") NAIL OR 8d (2½" x 0.131") DEFORMED NAIL	6	12
	OTHER WALL	. SHEATHING	
2" STRUCTURAL CELLULOSIC FIBERBOARD SHEATHING	1½" GALVANIZED ROOFING NAIL, ½" HEAD DIAMETER, OR 1½" LONG 16 GA. STAPLE WITH ½" OR 1" CROWN	3	6
STRUCTURAL CELLULOSIC FIBERBOARD SHEATHING	1 ½" GALVANIZED ROOFING NAIL, 7/6" HEAD DIAMETER, OR 1 ½" LONG 16 GA. STAPLE WITH 7/6" OR 1" CROWN	3	6
½" GYPSUM SHEATHING	1½" GALVANIZED ROOFING NAIL; STAPLE GALVANIZED, 1½" LONG; 1½" SCREWS, TYPE W OR S	7	7
%" GYPSUM SHEATHING	1¾" GALVANIZED ROOFING NAIL; STAPLE GALVANIZED, 1¾" LONG; 1¾" SCREWS, TYPE W OR S	7	7
v	VOOD STRUCTURAL PANELS, COMBINATION	N SUBFLOOR UNDERLAYMENT TO FRAI	MING
¾" AND LESS	6d DEFORMED (2" x 0.120") NAIL OR 8d COMMON (2½" x 0.131") NAIL	6	12
%" - 1"	8d COMMON (2½" x 0.131") NAIL OR 8d DEFORMED (2½" x 0.120") NAIL	6	12
1 ½ " - 1½"	10d COMMON (3" x 0.148") NAIL OR 8d	6	12

FOUNDATION NOTES

TOENAII

- R-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
- HE FOUNDATION DESIGN SHALL COMPLY WITH THE ENFORCING JURISDICTION'S RESIDENTIAL FOUNDATION
- 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 MINIMI OF 6" OF GRAVEL OR CRUSHED ROCK. THE DRAIN SHALL DAYLIGHT BELOW FOOTING LEVEL OR TERMINATE IN A
- 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
- ENGINEER OF RECORD ASSOMES AN RESPONDICT FOR COST RUCTION 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 ## BARS WITH 3" BOTTOM CLERANCE. BOTTOM OF FOOTING SHALL BE LOCATED A MINIMUM OF 3"-0" BELOW GRADE
- CONCRETE PADS SUPOPORTING 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 6" 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 \$2.0
- 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

 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
- SILL PLATES SHALL BE ANCHORED TO THE FOUNDATION WALL WITH X O ANCHOR BOLTS EMBEDDED A MINIMUM OF 7" INTO CENTER OF WALL STEM AND SHALL BE INSTALLED ATA MAXIMUM OF 6-0" O.C. (OR AS NOTEO ON PLANS) AND SHALL BE INSTALLED ATA MAXIMUM OF 6-0" O.C. (OR AS NOTEO ON PLANS) AND SHALL BE INSTALLED MITHIN 0" TO 12" OF EACH END OF EACH SILL PLATE LENDETH, PER IRC SECTION R403 1.6 FOUNDATION WINDOW WELLS SHALL BE PROVIDED WITH MINIMUM DIMENSIONS AS SHOWN IN DETAIL ON SHEET
- THE GARAGE FLOOR SHALL SLOPE TOWARD THE VEHICLE DOORS OR TO A TRENCH OR UNTRAPPED DRAIN THAT

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 - 2×10'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 MINIMUM OF X"
- 19. ALL HEADERS/BEAMS SHALL BEAR ON A MINIMUM OF (2) 2x4 POSTS (KING AND JACK STUDS), UNLESS NOTED
- WHERE JOISTS SPAN PARALLEL TO FOLINDATION 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 FOUNDATIC 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.0 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 NAII S
- 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. 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. 1½" 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 χ OF VERTICAL DISTANCE BETWEEN CEILING AND
- ROUP
 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)
 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 F6 = 2600 psi, E = 2000 ksi, AND FV=200 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. 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 NSPECTED BY AN AWS-CERTIFIED INSPECTOR.
- INSPECTIED BY AN AWS-GERTHIED INSPECTION. WHEN INCENDING THERE SHALL BE (2) 14"x12" VENTS 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. 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

- DOUS 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 WHERE THE NEAREST VERTICAL EDGE IS WITHIN 2-0" ARC OF THE DUOR IN A CLOSED POSITION AND FOR WITHE BOTTOM EDGE IS WITHIN 5-0" OF THE FLOOR, WALLS ENCLOSING STARWAYS AND LANDINGS WHERE THE GLAZING IS WITHIN 5-0" OF THE TOP OR BOTTOM OF THE STAIR, ENCLOSURES FOR SPAS, TUBS, SHOWERS, AND WHIRL POOLS, 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"
- ALL OPERABLE WINDOWS SHALL HAVE FALL PROTECTION PER IRC SECTION R612.2

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 X" TO X" OPENINGS. THE TOTAL FREE VENTIL ATING AREA SHALL NOT BE LESS THAN χ_{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.

- 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
- PEET WITH A MINIMUM O'PENABLE HEIGHT OF 2-2 AND A MINIMUM WIDTH O'T-9-1 IN AUDITION, THE O'PENABLE PORTION OF EGRESS WINDOWS SHALL NOT EXCEED 3-8 ABOVE THE ADJOINING FLOOR OR PERMANENT STEP. PROVIDE SMOKE ALARMS IN EACH SLEEPING AROOM, OUTSIDE OF EACH SLEEPING AREA AND ON EACH FLOOR, INCLUDING BASEMENT (IF APPLICABLE). ALARMS SHALL BE HARDWIRED TOGETHER SO THAT THE ACTIVATION ONE SMOKE ALARM WILL ACTIVATE ALL SMOKE ALARMS IN THE DWELLING, PROVIDE CARBON MONOXIDE DETECTORS OUTSIDE EACH SLEEPING AREA.

- MASONRY VENEER SHALL BE ANCHORED TO THE SUPPORTING WALL STUDS WITH CORROSION-RESISTANT METAL EDDED IN MORTAR OR GROUT AND EXTENDING INTO THE VENEER A MINIMUM OF 1½", WITH NOT LESS THAN **MORTAR OR GROUT COVER TO OUTSIDE FACE.
 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 🦹
- 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

GARAGE NOTES

- DOOR(S) BETWEEN THE GARAGE AND DWELLING SHALL BE MINIMUM 1¾" SOLID CORE OR HONEY-COMBED STEEL DOOR WITH 20-MINUTE FIRE RATING EQUIPPED WITH A SELF-CLOSING DEVICE 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)

- HE GARAGE SHALL BE SEPARATED FROM THE DWELLING AND ITS ATTIC AREAS BY INIMUM ¾" GYP. BOARD APPLIED TO THE GARAGE SIDE OF FRAMING. WHERE ABITABLE SPACE OCCURS ABOVE THE GARAGE, THE GARAGE CEILING ASSEMBLY SHALL BE PROTECTED WITH A MINIMUM % 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 \$\frac{1}{2}\$ CYP. 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 21/2"" x 0.120" NAILS AT 7" O.C. STAGGERED WITH (7) 3X" 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 DISTRIE		
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 ^d
FIRE ESCAPES	40	10
GUARDRAILS AND HANDRAILS ^a	200°	-
GUARDRAIL IN-FILL COMPONENTS ^b	50 ^c	-
PASSENGER VEHICLE GARAGES	50	DEPENDENT UPON SLAB CONSTRUCTION
ROOMS OTHER THAN SLEEPING ROOM	40	10 ^d
SLEEPING ROOM	30	10 ^d
STAIRS	40	10 ^d

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

 b. Guard in-fill components (all those except the handrail), ballusters and panel fillers shall be designed to withstand a horizontally applied normal load of 50 pounds on an area equal to none square bot. This load need not be assumed to act concurrently with any other live load requirement.

 c. Glazing be assumed to act concurrently with any other live load requirement.

 c. Glazing the 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 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

- LOPE 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
- 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 REQUIRE	MENTS BY COMPONENT (TABLE N1102.1.1) 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

- ITIONS: 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.
- OR OTHERWISE SEALED DURING THE LEST.

 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 MANUFACTURERS 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		N SYSTEM FAN EFFICA	
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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