FRONT ELEVATION

SCALE 1/4"=1'-0"

Digitally signed by Kim Brennan
Reason: Release for Construction
Date: 2022.02.22 07:29:25-06'00'

Kim Brennan

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
Development Services
LEE'S SUMMIT, MISSOURI

Residential Area:			
Residential, Decks		391	
Residential, Finished basements		1944	
Residential, garage		673	
Residential, Living Area (Not Finished Basement)		3082	
Residential, Un-Finished basements		701	
Roofing Material		Number of Bathrooms	5
Number of Bedrooms	6	Number of Stories	2
Number of Living Units	1	Total Living Area	5026

SHEET SIZE: 24" x 36"

STATE OF MISSOURI
PAUL WESLEY SPEARS
NUMBER PE-2009003624
PROFESSIONAL ENGINEER

02/17/2022

SEALED FOR STRUCTURAL REVIEW

Signature BUILDERS KC, LLC

Signature Builders KC, LLC
2751 NE Douglas St. - Suite R
Lee's Summit, Missouri 64064
Phone: (816) 215-0891

Website:
www.sb-kc.net

The Hardin Residence

2330 SE RANSON RD
LEES SUMMIT, MO 64082

CAD Construction Documents
Voice / Text : 913.638.3241
mgspencer@sbcglobal.net

Residential AutoCAD Drafting and Design Services

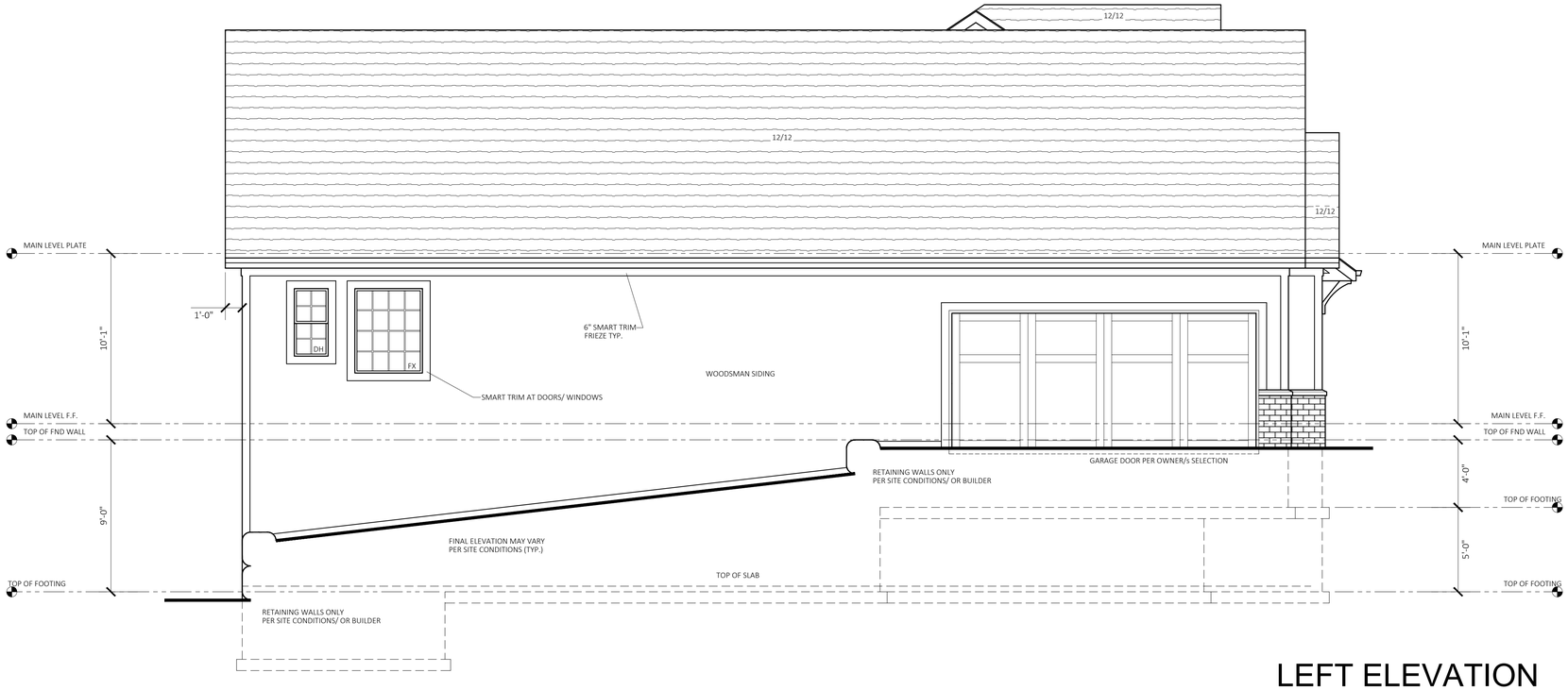
No.	Description	Date

CONSTRUCTION DOCUMENTS

Project Number	2021.04
Date	2021 Jun 01
Drawn By	CCD
Checked By	SBKC

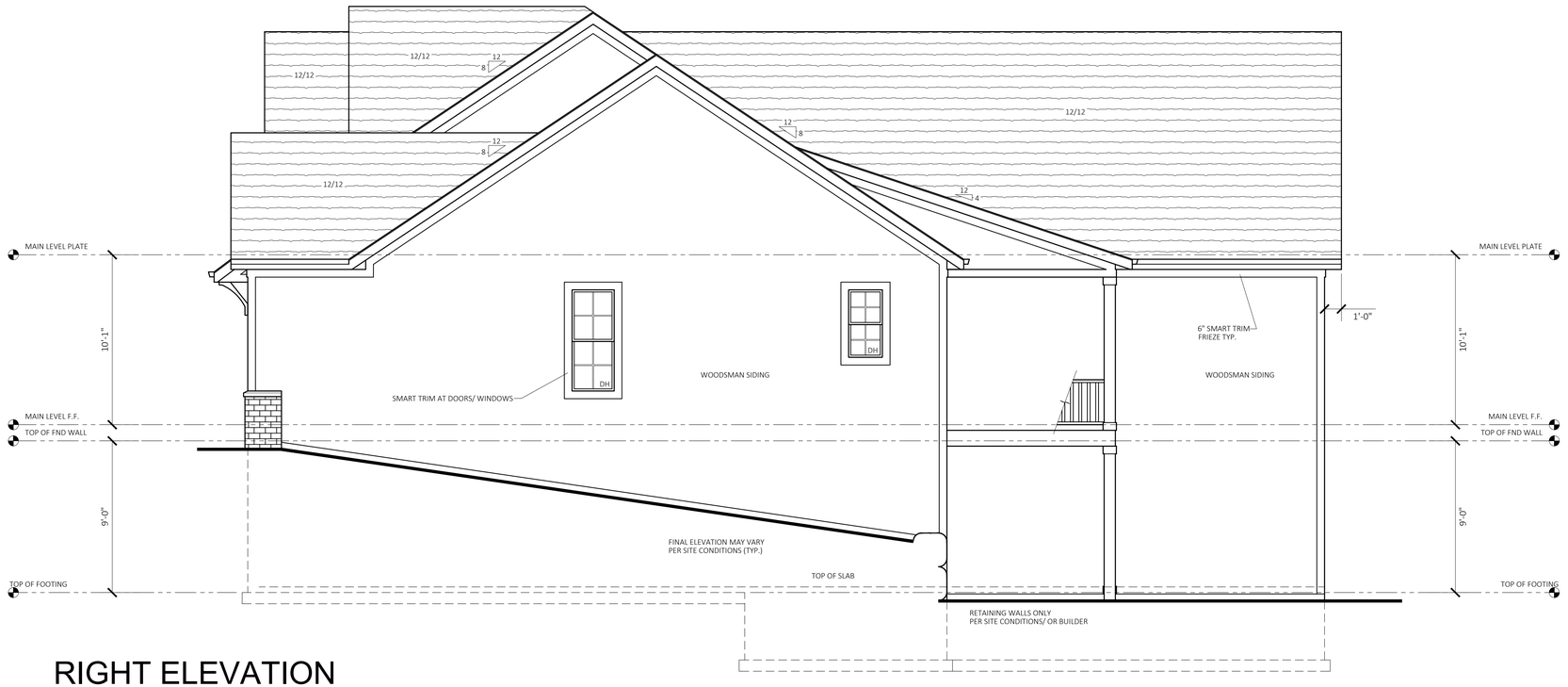
A 101

Scale 1/4" = 1'-0"



LEFT ELEVATION

SCALE 1/4"=1'-0"



RIGHT ELEVATION

SCALE 1/4"=1'-0"

SHEET SIZE: 24" x 36"

STATE OF MISSOURI
PAUL WESLEY SPEARS
NUMBER PE-2009003624
PROFESSIONAL ENGINEER

06/02/2021

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and Design Services

No.	Description	Date

CONSTRUCTION DOCUMENTS

Project Number	2021.04
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Checked By	SBKC

A 102

PERMIT SET FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
Development Services
LEE'S SUMMIT, MISSOURI

Scale 1/4" = 1'-0"

REAR ELEVATION

SCALE 1/4"=1'-0"

SHEET SIZE: 24" x 36"

PAUL WESLEY SPEARS
NUMBER PE-2009003624
PROFESSIONAL ENGINEER
STATE OF MISSOURI

06/02/2021

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Residential AutoCAD Drafting and Design Services

No.	Description	Date

CONSTRUCTION DOCUMENTS

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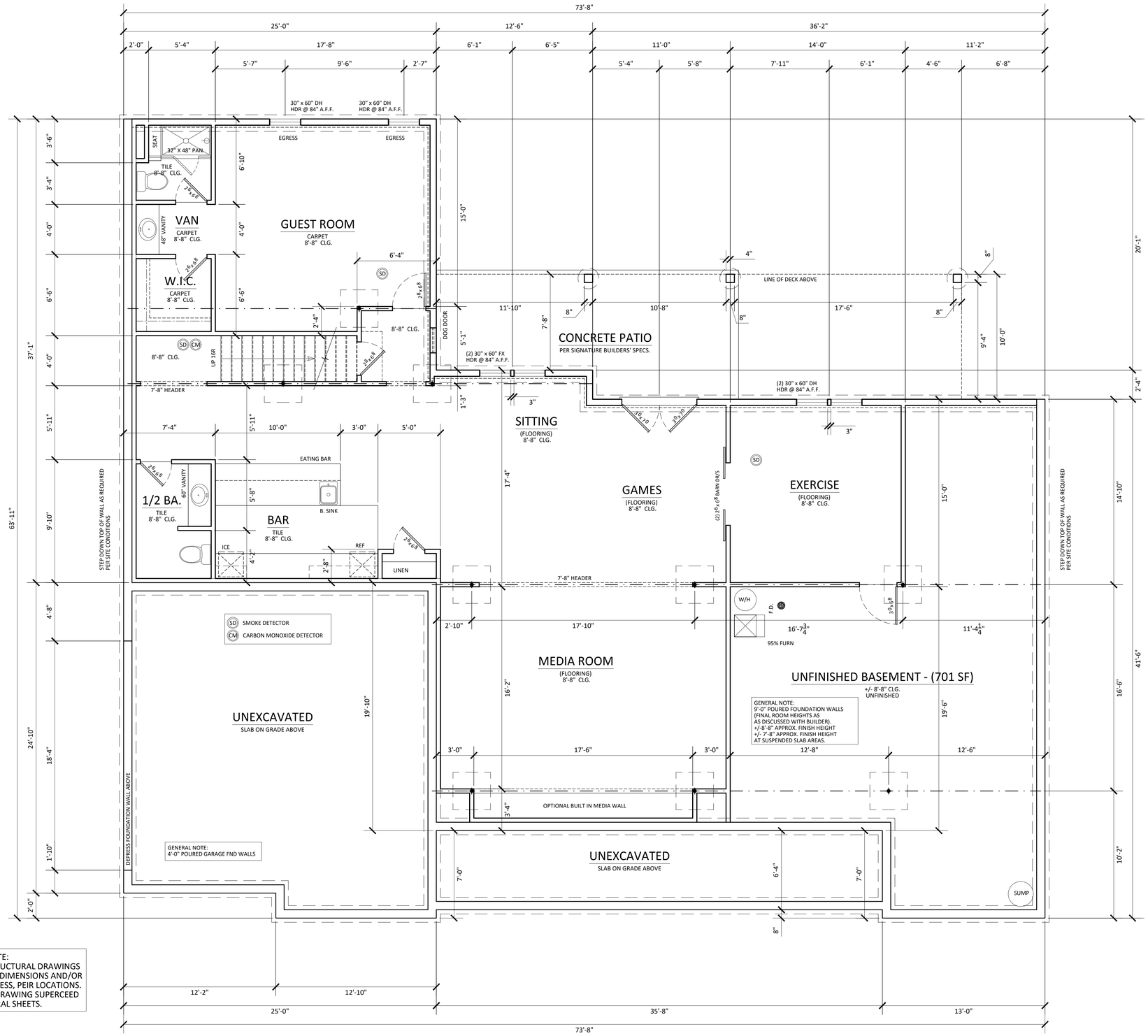
Checked By	SBKC

A 103

RELEASED FOR CONSTRUCTION
AS NOTED ON PLANS PREPARED
Development Services
LEE'S SUMMIT, MISSOURI

Scale 1/4" = 1'-0"



GENERAL NOTE:
REFER TO STRUCTURAL DRAWINGS TO CONFIRM DIMENSIONS AND/OR WALL THICKNESS, PEIR LOCATIONS. STRUCTUAL DRAWING SUPERCEED ARCHITECTURAL SHEETS.

LOWER LEVEL FOUNDATION PLAN - (1,944 SF FINISHED)

SCALE 1/4"=1'-0"

SHEET SIZE: 24" x 36"

STATE OF MISSOURI
PAUL WESLEY SPEARS
NUMBER PE-2009003624
PROFESSIONAL ENGINEER
06/02/2021

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Residential AutoCAD Drafting and Design Services

No.	Description	Date

CONSTRUCTION DOCUMENTS

Project Number	2021.04
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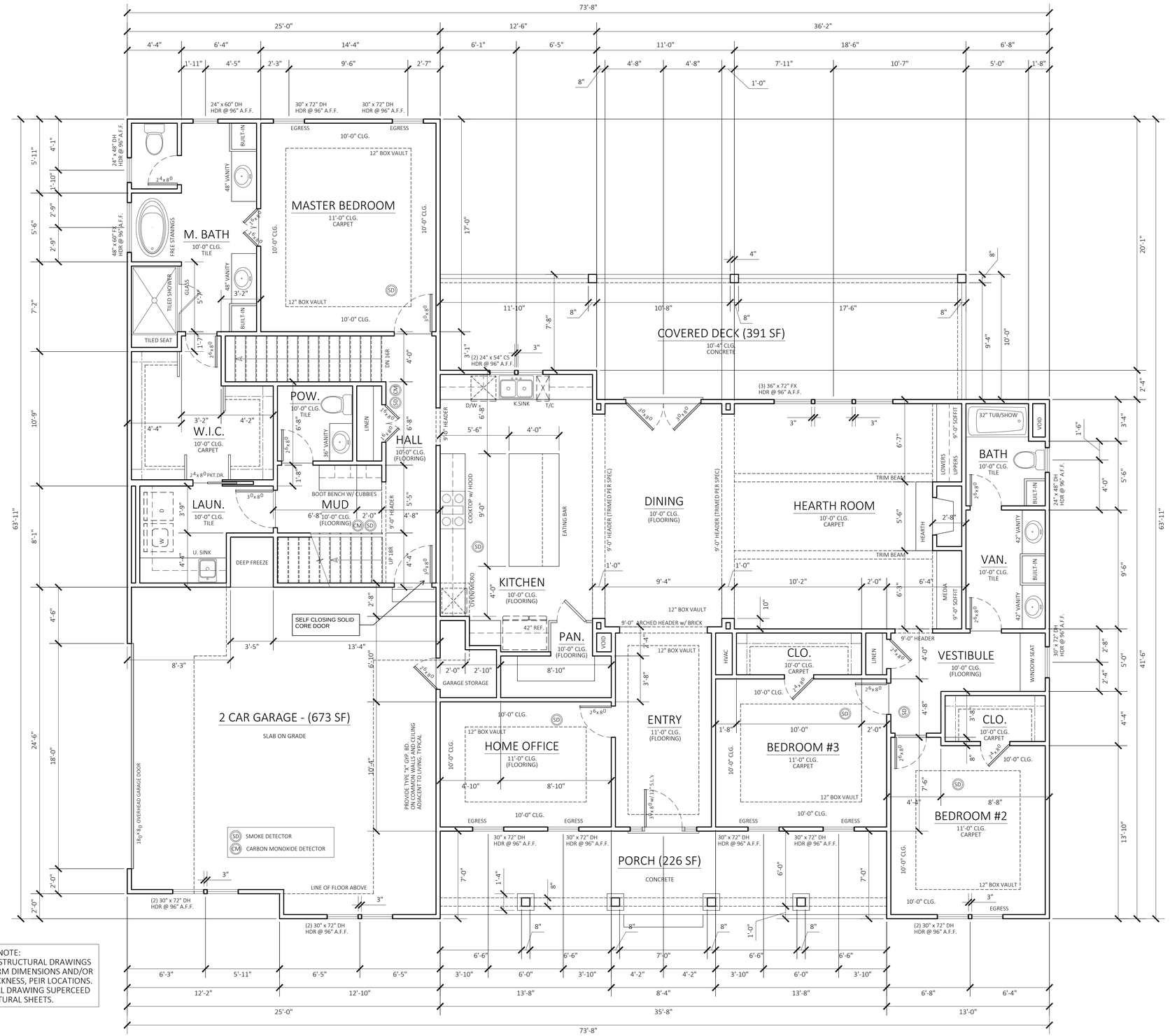
Drawn By	CCD
Checked By	SBKC
Scale	1/4" = 1'-0"

A 104

RELEASED FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
Development Services
LEE'S SUMMIT, MISSOURI



GENERAL NOTE:
REFER TO STRUCTURAL DRAWINGS TO CONFIRM DIMENSIONS AND/OR WALL THICKNESS, PEIR LOCATIONS. STRUCTUAL DRAWING SUPERCEED ARCHITECTURAL SHEETS.

MAIN LEVEL - (2,694 FINISHED SF)

SCALE 1/4"=1'-0"

SHEET SIZE: 24" x 36"

STATE OF MISSOURI
PAUL WESLEY SPEARS
NUMBER PE-2009003624
PROFESSIONAL ENGINEER
06/02/2021

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Residential AutoCAD Drafting and Design Services

No.	Description	Date

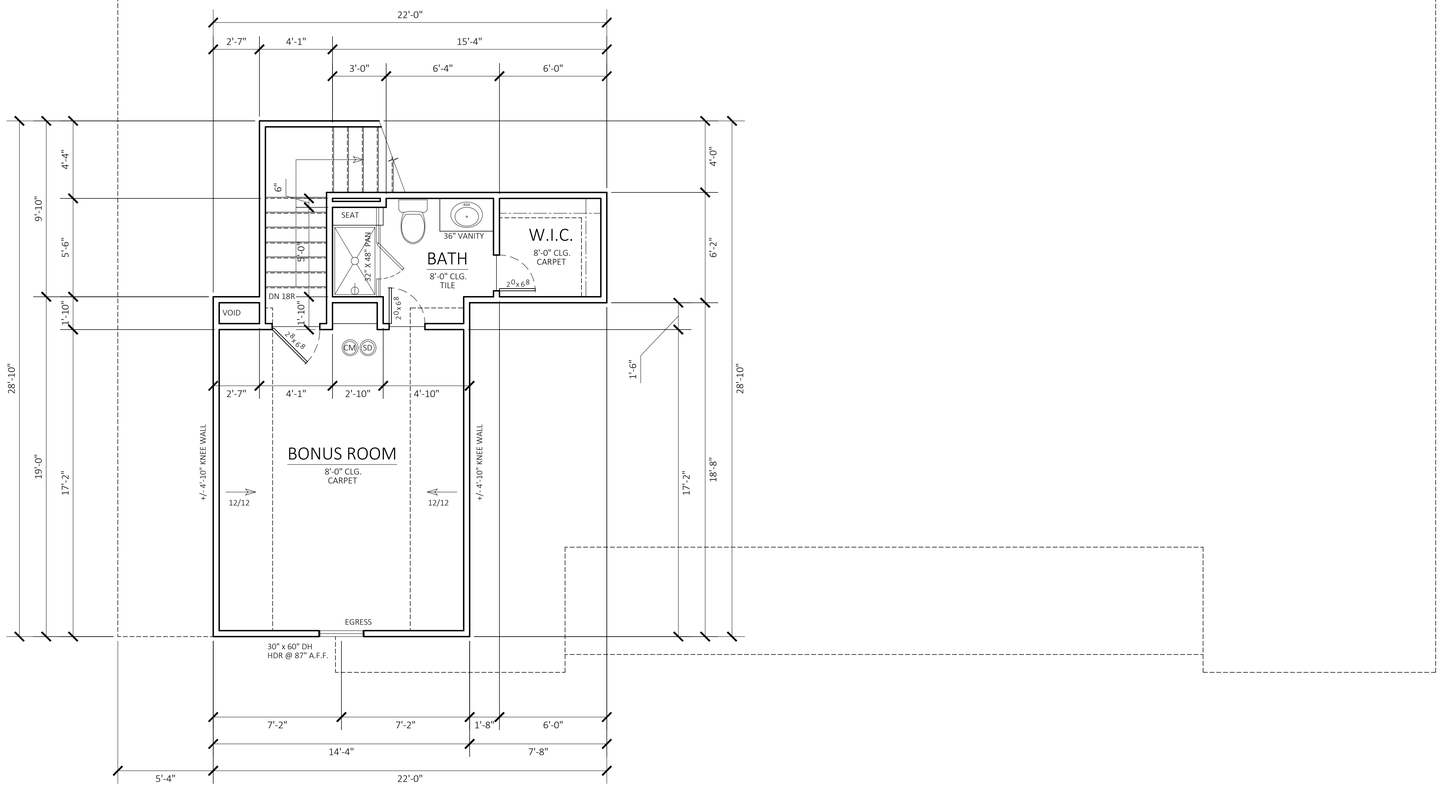
CONSTRUCTION DOCUMENTS

Project Number	2021.04
Date	2021 Jun 01
Drawn By	CCD
Checked By	SBKC

A 105

RELEASE FOR CONSTRUCTION
AS NOTED ON DRAWINGS
Development Services
LEE'S SUMMIT, MISSOURI

Scale 1/4" = 1'-0"



BONUS ROOM - (388 FINISHED SF)

SCALE 1/4"=1'-0"

SHEET SIZE: 24" x 36"

STATE OF MISSOURI
PAUL WESLEY SPEARS
NUMBER PE-2009003624
PROFESSIONAL ENGINEER

06/02/2021

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Residential AutoCAD Drafting and Design Services

No.	Description	Date

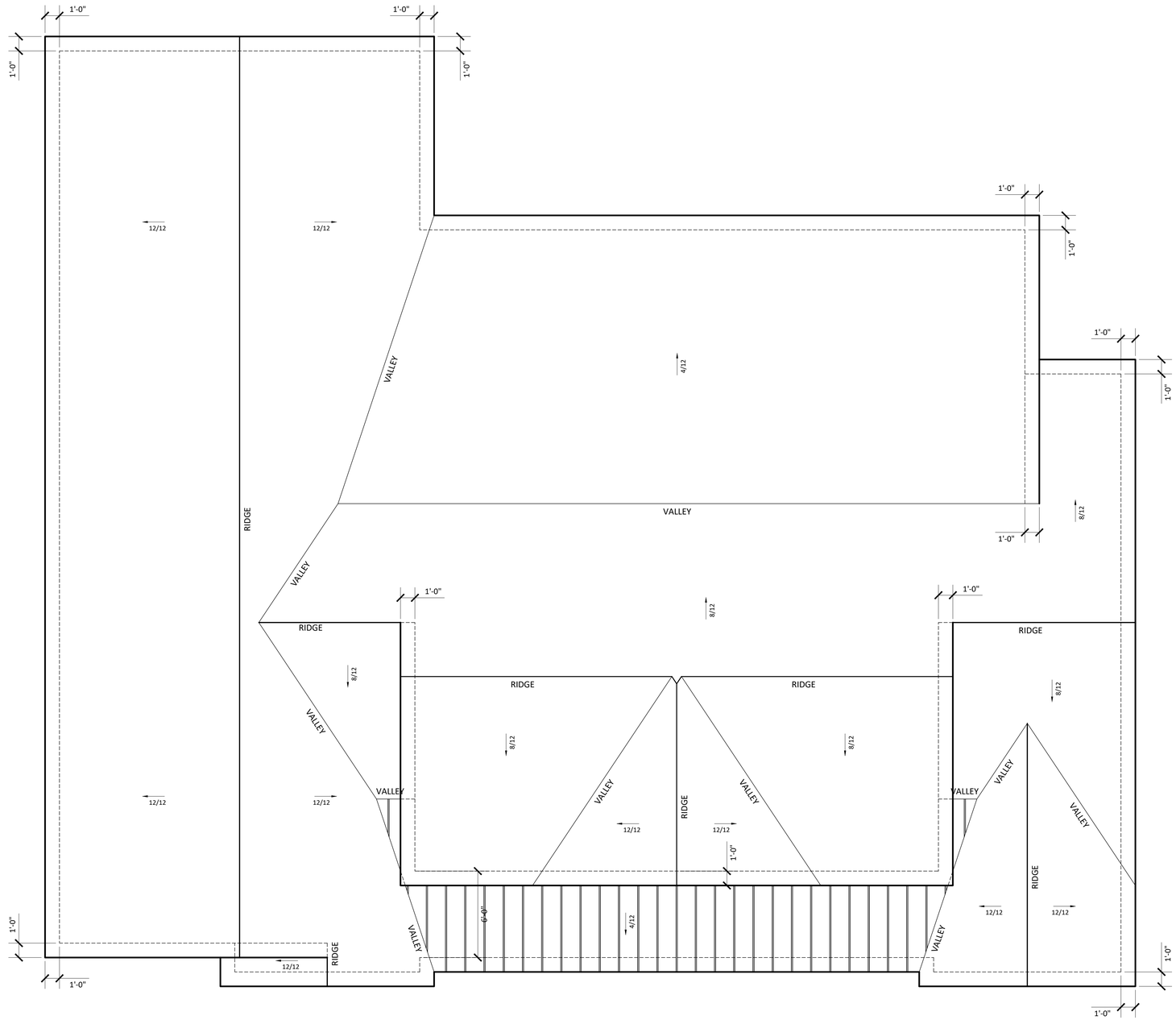
CONSTRUCTION DOCUMENTS

Project Number	2021.04
Date	2021 Jun 01
Drawn By	CCD
Checked By	SBKC

A 106

RELEASED FOR CONSTRUCTION
AS NOTED ON LAND DISTURBANCE/ Development Services
LEE'S SUMMIT, MISSOURI

Scale 1/4" = 1'-0"



ROOF PLAN

SCALE 1/4"=1'-0"

SHEET SIZE: 24" x 36"

STATE OF MISSOURI
PAUL WESLEY SPEARS
NUMBER PE-2009003624
PROFESSIONAL ENGINEER

06/02/2021

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Residential AutoCAD Drafting and Design Services

No.	Description	Date

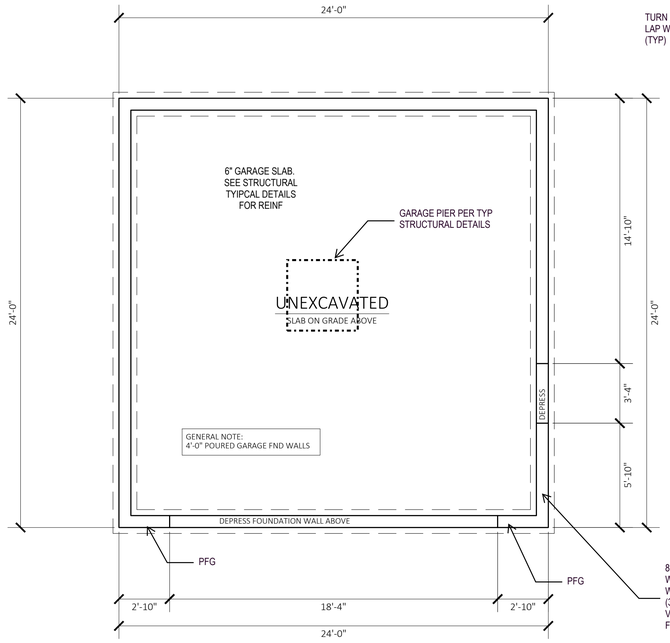
CONSTRUCTION DOCUMENTS

Project Number	2021.04
Date	2021 Jun 01
Drawn By	CCD
Checked By	SBKC

A 107

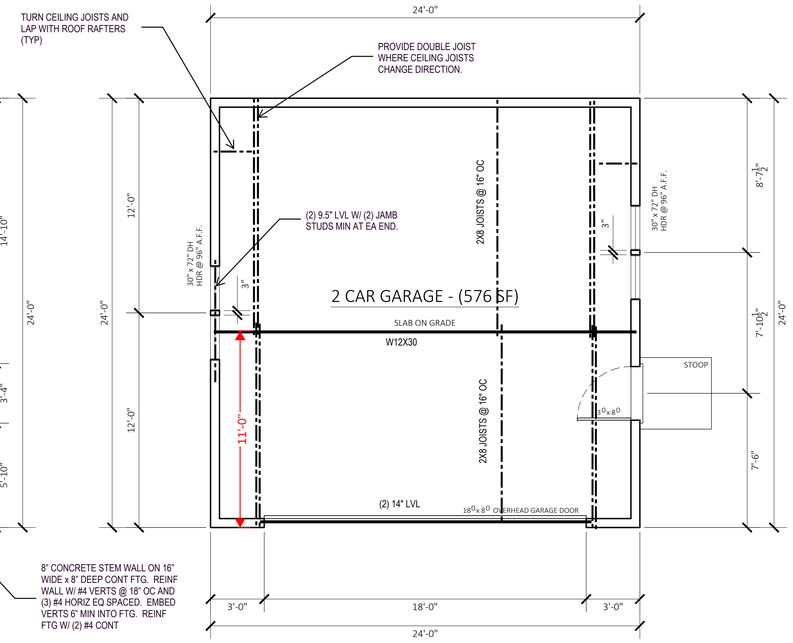
RELEASED FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
Development Services
LEE'S SUMMIT, MISSOURI

Scale 1/4" = 1'-0"



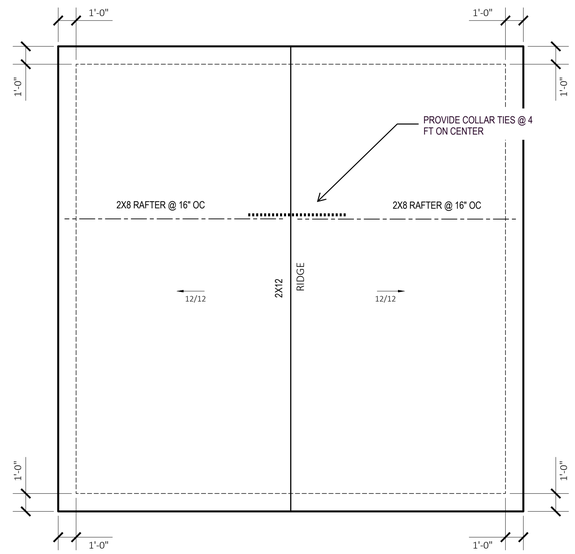
FOUNDATION PLAN

SCALE 1/4"=1'-0"



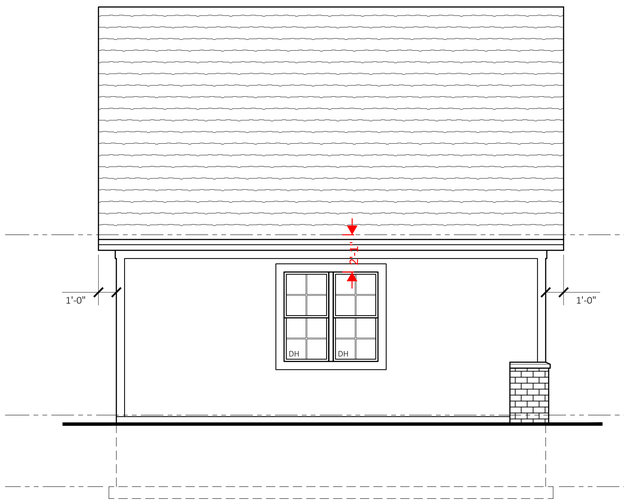
MAIN FLOORPLAN

SCALE 1/4"=1'-0"



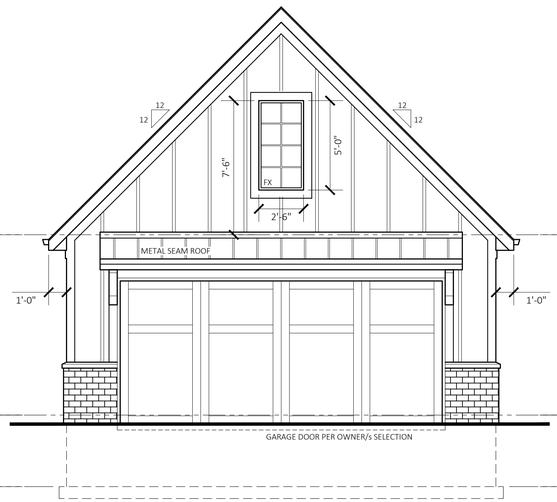
ROOF PLAN

SCALE 1/4"=1'-0"



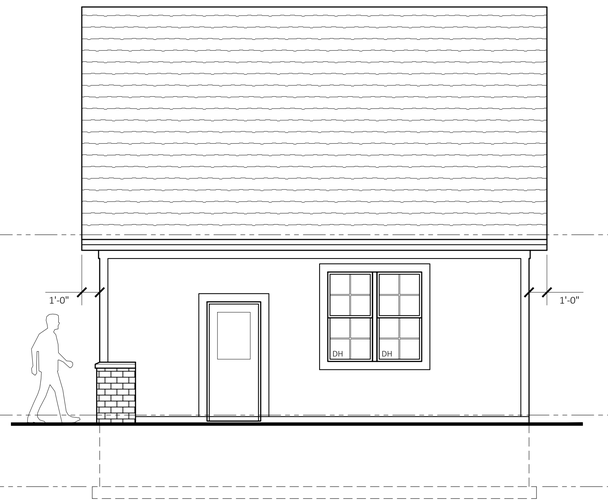
LEFT ELEVATION

SCALE 1/4"=1'-0"



FRONT ELEVATION

SCALE 1/4"=1'-0"



RIGHT ELEVATION

SCALE 1/4"=1'-0"

SHEET NOTES

A. REFER TO SHEET S001 FOR STRUCTURAL GENERAL NOTES.

B. REFER TO S010-S012 FOR TYPICAL STRUCTURAL DETAILS.

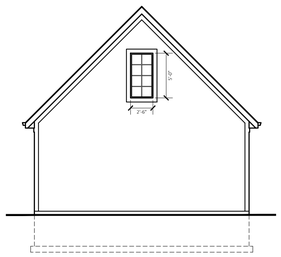
C. ALL WOOD HEADERS IN PERIMETER WALLS AND INTERIOR LOAD BEARING WALLS NOT SPECIFICALLY CALLED OUT SHALL BE SELECTED FROM THE HEADER SCHEDULE ON TYPICAL DETAIL SHEETS.

D. ALL WOOD BEAMS SHALL BEAR ON A MINIMUM OF (3) 2x4 STUDS OR SHALL ATTACH TO INTERSECTING WOOD BEAMS WITH A SIMPSON HUGS410 OR BETTER UNO.

E. ALL MULTI-PLY ENGINEERING LUMBER BEAMS ARE DESIGNATED BY NUMBER OF PLYS AND DEPTH [EX: (3) 14" LVL]. THE PLYS SHALL BE 1.75" WIDTH UNLESS NOTED OTHERWISE AND STRENGTH SHALL BE PER THE GENERAL NOTES. BEAMS SHALL BE FASTENED TOGETHER PER THE TYPICAL DETAILS.

F. ALL WALLS SHALL BE 2x4 @ 16" OC, UNLESS NOTED OTHERWISE. ALL EXTERIOR WALLS ARE LOAD BEARING. USE 2X6 @ 16" OC FOR LOWER LEVEL WALKOUT WALLS

G. ANCHOR RODS SHALL BE PLACED IN TO THE TOP OF THE FOUNDATION WALLS PER THE GENERAL NOTES.



REAR ELEVATION

SCALE 1/8"=1'-0"

SHEET SIZE: 24" x 36"

STATE OF MISSOURI
PAUL WESLEY SEDARS
NUMBER PE-2009003624
PROFESSIONAL ENGINEER
02/17/2022

SEALED FOR STRUCTURAL REVIEW

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Residential AutoCAD Drafting
and Design Services

No.	Description	Date

CONSTRUCTION DOCUMENTS

Project Number	2021.04
Date	2021 Jun 01
Drawn By	CCD
Checked By	SBKC

A 108

RELEASED FOR CONSTRUCTION
AS NOTED ON BLD and PLANNING Development Services
LEE'S SUMMIT, MISSOURI

Scale 1/4" = 1'-0"

03_Abbreviation Schedule	
Abbreviation	Abbreviation Name
+/-	PLUS OR MINUS
ADDNL	ADDITIONAL
ADJ	ADJACENT
AESS	ARCHITECTURALLY EXPOSED STRUCTURAL STEEL
AFF	ABOVE FINISHED FLOOR
ALT	ALTERNATE
AR	ANCHOR ROD
ARCH	ARCHITECT OR ARCHITECTURAL
B/	BOTTOM OF
B/W	BETWEEN
BLDG	BUILDING
BLKG	BLOCKING
BM	BEAM
BOT	BOTTOM
BRG	BEARING
BWP	BRACED WALL PANEL
CFS	COLD FORMED STEEL
CHKD	CHECKED
CIP	CAST IN PLACE
CJ	CONTROL JOINT
CJP	COMPLETE JOINT PENETRATION
CL	CENTERLINE
CLR	CLEAR
COL	COLUMN
CONC	CONCRETE
CONN	CONNECTION
CONT	CONTINUOUS
CTR	CENTER
db	DIA OF REINF BAR, DIA OF BOLT
DBA	DEFORMED BAR ANCHOR
DIA or Ø	DIAMETER
DIAG	DIAGONAL
DIR	DIRECTION
DWL	DOWEL
EA	EACH
EE	EXTENDED END
EJ	EXPANSION JOINT
ELEV	ELEVATION
ENGR	ENGINEER
EOD	EDGE OF DECK
EOS	EDGE OF SLAB
EQ	EQUAL
EW	EACH WAY
EXIST	EXISTING
EXT	EXTERIOR
FDN	FOUNDATION
FLG	FLANGE
FLR	FLOOR
FS	FAR SIDE
FTG	FOOTING
FV	FIELD VERIFY
GA	GAUGE
GALV	GALVANIZED
GB	GRADE BEAM
GC	GENERAL CONTRACTOR
HORIZ	HORIZONTAL
HSA	HEADED STUD ANCHOR
HSS	HOLLOW STRUCTURAL SECTION
IF	INSIDE FACE
INT	INTERIOR
JST	JOIST
K	KIPS (1000 LBS)
LCE	COMPRESSION EMBEDMENT LENGTH
LCS	COMPRESSION LAP SPLICE LENGTH
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LTE	TENSION EMBEDMENT LENGTH
LTS	TENSION LAP SLICE LENGTH
LW	LIGHTWEIGHT
MFCR	MANUFACTURER
MTL	METAL
NIC	NOT IN CONTRACT
NS	NEAR SIDE
NTS	NOT TO SCALE
OC	ON CENTER
OF	OUTSIDE FACE
OPP	OPPOSITE
OVS	OVERSIZED
P/C	PRECAST
PAF	POWDER ACTUATED FASTENER
PAR	PARALLEL
PEMB	PRE-ENGINEERED METAL BUILDING
PEN	PENETRATION
PERP	PERPENDICULAR
PL	PLATE
PLF	POUNDS PER LINEAR FOOT
PREFAB	PREFABRICATED
PRELIM	PRELIMINARY
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
RC	REINFORCED CONCRETE
RE:	REFER TO
REINF	REINFORCING
REQD	REQUIRED
RF	RIGID FRAME
SC	SLIP CRITICAL
SDS	SELF DRILLING SCREW
SIM	SIMILAR
SLV	SHORT LEG VERTICAL
SOG	SLAB ON GRADE
SQ	SQUARE
SS	STAINLESS STEEL
STD	STANDARD
STIR	STIRRUPS
STL	STEEL
SW	SHEAR WALL
SYM	SYMMETRIC
T&B	TOP AND BOTTOM
T/	TOP OF
TRANS	TRANSVERSE
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
VERT	VERTICAL
W/	WITH
W/O	WITHOUT
WF	WIDE FLANGE
WP	WORK POINT
WWR	WELDED WIRE REINFORCEMENT

STRUCTURAL GENERAL NOTES

DESIGN CRITERIA:

1. LIVE LOADS [UNIFORM (PSF) / POINT LOADS (KIPS)]:
   - -- ROOF:………………………………………... 20 PSF / 1.0 K
   - -- ELEVATED FLOORS.................................... 40 PSF / 1.0 K
   - -- ELEVATED GARAGE FLOORS................... 50 PSF / 2.0 K
2. GROUND SNOW LOAD (Pg):………………... 20 PSF
3. BASIC WIND SPEED (3 SEC GUST):……….. 109 MPH
4. DECK GUARD RAIL LOAD:............................. 200# CONCENTRATED LOAD APPLIED IN ANY DIRECTION

AREA	MIN DEAD LOAD	MIN LIVE LOAD
BALCONIES (EXTERIOR) AND DECKS	10	40
CEILING JOISTS W/O STORAGE (SCUTTLE ACCESS ONLY)	10	10
CEILING JOISTS - ATTICS W/ STORAGE (DOOR OR PULL DOWN LADDER ACCESS)	10	20
ROOMS - NON SLEEPING	15	40
SLEEPING ROOMS	15	30
ROOF - LIGHT ROOF COVERING	15	20
ROOF - HEAVY ROOF COVERING (CONCRETE/TILE/SLATE)	20	20

STRUCTURAL GENERAL NOTES:

1. DESIGN AND CONSTRUCTION SHALL CONFORM TO THE "INTERNATIONAL RESIDENTIAL CODE, 2018 EDITION". CONSULT WITH THE LOCAL JURISDICTION FOR INSPECTION REQUIREMENTS

2. CONTRACTOR TO VERIFY ALL DIMENSIONS, ELEVATIONS AND EXISTING CONDITIONS AND REPORT ANY DISCREPANCIES TO THE ARCHITECT IMMEDIATELY.

3. IF DISCREPANCIES EXIST BETWEEN STRUCTURAL PLANS, ARCHITECTURAL PLANS, OTHER PLANS, OR SPECIFICATIONS, THE CONTRACTOR OR SUBCONTRACTOR SHALL PROVIDE A WRITTEN REQUEST FOR CLARIFICATION FROM THE ARCHITECT AND/OR ENGINEER PRIOR TO PROCEEDING WITH THE WORK

4. THE STRUCTURE IS DESIGNED TO BE SELF-SUPPORTING AND STABLE AFTER THE BUILDING IS FULLY COMPLETED. IT IS SOLELY THE CONTRACTOR'S RESPONSIBILITY TO EXECUTE AND DETERMINE FINAL ERECTION PROCEDURES, SEQUENCING AND TO ENSURE THE SAFETY OF THE BUILDING AND ITS COMPONENT PARTS DURING ERECTION.

5. FABRICATORS AND SUPPLIERS SHALL CLEARLY NOTE AND HIGHLIGHT CHANGES MADE IN SHOP DRAWINGS, WHICH DO NOT COMPLY WITH THE CONTRACT DOCUMENTS.

6. BEAMS, COLUMNS, WALLS, AND FOOTING CENTERS SHALL BE CENTERED UNDER SUPPORTING MEMBERS (TYPICAL UNLESS NOTED OTHERWISE).

EARTHWORK AND FOUNDATIONS:

1. PRESUMPTIVE ALLOWABLE BEARING PRESSURE = 1,500 PSF (PER THE IRC). ALL FOOTINGS AND FOUNDATIONS SHALL BEAR ON NATIVE UNDISTURBED SOIL. NOTIFY ENGINEER IF FILL IS ENCOUNTERED BELOW FOOTING BEARING LOCATIONS.

2. ALL PERIMETER AND EXTERIOR FOOTINGS SHALL EXTEND AT LEAST 3'-0" BELOW FINAL ADJACENT GRADE. DEEPEN FOOTINGS AS REQUIRED TO PROVIDE THIS MINIMUM BOTTOM OF FOOTING.

3. SURFACE WATER SHALL NOT BE ALLOWED TO STAND ADJACENT TO OR DRAIN TOWARDS THE FOUNDATION UNDER ANY CIRCUMSTANCES. PAVEMENTS OR GRADED SOILS AT THE PERIMETER OF THE BUILDING, EXCEPT AS REQUIRED AT EXITS OR AS NOTED, SHALL BE SLOPED AWAY AT 5% OR 6" MIN FOR THE FIRST TEN FEET.

4. FOOTINGS MAY BE POURED TO NEAT LINES OF EXCAVATIONS PROVIDING VERTICAL LINES OF EXCAVATIONS CAN BE MAINTAINED DURING CONCRETE PLACEMENT.

5. FOUNDATION CONTRACTOR TO ENSURE PROPER ANCHOR ROD PROJECTION AND THAT ANCHOR RODS ARE HELD SECURELY IN POSITION PRIOR TO CONCRETE PLACEMENT. STRUCTURAL STEEL COLUMN ANCHOR RODS SHALL BE SET WITH A TEMPLATE.

6. FOUNDATION WALL BACKFILL SHALL NOT BE UNBALANCED BY MORE THAN TWO FEET ON EITHER SIDE AT ANY TIME. BASEMENT WALL AND RESTRAINED RETAINING WALL BACKFILL SHALL NOT BE PLACED, UNLESS THE WALL IS ADEQUATELY BRACED. RETAINING WALL AND BASEMENT WALL BACKFILL SHALL BE FREE DRAINING GRANULAR BACKFILL.

7. SOIL CONDITIONS AT THE TIME OF CONSTRUCTION SHOULD BE EVALUATED BY THE CONTRACTOR. SOIL THAT IS TOO DRY OR TOO WET MAY BE SUBJECT TO EXCESSIVE SHRINKING OR SWELLING. IN ADDITION, SOME ON-SITE SOILS MAY BE UNSUITABLE FOR BACK FILL.

CONCRETE AND MASONRY REINFORCING STEEL:

1. ALL REINFORCING BARS SHALL MEET ASTM A615 GRADE 40.

2. ALL MESH SHALL MEET ASTM A-185: LAP A MINIMUM OF 8" OR ONE FULL MESH, WHICHEVER IS GREATER.

3. CONCRETE PROTECTION FOR REINFORCEMENT SHALL BE ¾" CLEAR FOR SLABS, 2" CLEAR FOR FORMED SURFACES AND 3" CLEAR FOR FOOTINGS (TYPICAL UNLESS NOTED OTHERWISE).

4. CONTRACTOR SHALL VERIFY THAT ALL REINFORCEMENT, SLAB DOWELS, INSERTS, SLEEVES AND EMBEDDED ITEMS ARE PROPERLY LOCATED AND RIGIDLY SECURED PRIOR TO CONCRETE PLACEMENT, "WET STICKING" DOWELS WILL NOT BE ALLOWED.

CAST IN PLACE CONCRETE:

1. CONCRETE CONSTRUCTION SHALL ADHERE TO THE RECOMMENDATIONS AND REQUIREMENTS OF ACI 332 - "REQUIREMENTS FOR RESIDENTIAL CONCRETE CONSTRUCTION" (UNLESS NOTED OTHERWISE)

2. REQUIRED MINIMUM CONCRETE COMPRESSIVE STRENGTHS AT 28 DAYS:

   a. FOOTING AND GRADEBEAM CONCRETE……………….............3,500 PSI
   b. BASEMENT / FOUNDATION WALL CONCRETE……….............4,000 PSI
   c. INTERIOR SOG & STRUC SLAB ABOVE GRADE......................3,500 PSI
   d. EXTERIOR SLAB ON GRADE AND GARAGE FLOOR SLABS...4,000 PSI

3. EXTERIOR CONCRETE (FLOOR SLABS, WALLS, ETC) INCLUDING GARAGE FLOORS SHALL HAVE 6% (PLUS/MINUS 1%) ENTRAINED AIR.

4. CHAMFER ALL EXPOSED CONCRETE EDGES 3/4" (VERIFY WITH ARCHITECT).

5. NO ALUMINUM SHALL BE EMBEDDED IN ANY CONCRETE.

6. NO CALCIUM CHLORIDE SHALL BE USED IN CONCRETE.

7. THE DESIGN, CONSTRUCTION, AND SAFETY OF ALL FORMWORK IS THE RESPONSIBILITY OF THE CONTRACTOR.

8. ALL CONCRETE IS REINFORCED UNLESS SPECIFICALLY NOTED AS UNREINFORCED. REINFORCE ALL CONCRETE NOT OTHERWISE SHOWN WITH THE SAME REINFORCING AS SIMILAR SECTIONS OR AREAS.

9. CONSTRUCTION JOINTS IN GRADE BEAMS, CONTINUOUS FOOTINGS, AND WALLS THAT DO NOT CHANGE DIRECTION SHALL BE SPACED NO GREATER THAN 60'-0". INTERMEDIATE CONTROL JOINTS SHALL BE SPACED AT 25'-0" MAX FOR WALLS. CONTROL JOINTS IN WALLS SHALL ALSO BE LOCATED 15'-0" FROM CORNERS AND AT CHANGES IN WALL THICKNESS.

10. WHERE FRESH CONCRETE IS DEPOSITED AGAINST HARDENED CONCRETE (GREATER THAN 8 HRS OLD), CLEAN EXISTING SURFACE OF LAITANCE AND FOREIGN MATERIAL AND DAMPEN THE EXISTING SURFACE. IF REQUIRED, ROUGHEN EXISTING CONCRETE TO ¼" AMPLITUDE.

11. SLABS ON GRADE SHALL BE 4" THICK MIN ON 6" OF GRANULAR FILL. REINF SLAB WITH 6 x 6-W2.1xW2.1 WWR, #3 BARS AT 18" OC, OR #4 BARS AT 24" OC (UNLESS NOTED OTHERWISE). ALL REINF SHALL BE PLACED IN UPPER 1/3 OF SLAB THICKNESS. AT INTERIOR SLABS, AN 8 MIL VAPOR BARRIER SHALL BE PLACED BETWEEN THE CONCRETE AND GRANULAR BASE AND CARE SHOULD BE TAKEN DURING CURING TO PREVENT SLAB CURLING. THIS NOTE SHALL BE TYPICAL UNLESS NOTED OTHERWISE.

12. SAW CUT JOINTS OR KEYED CONSTRUCTION JOINTS IN SLABS ON GRADE SHALL BE SPACED TO DIVIDE THE SLAB INTO PANELS NOT TO EXCEED 225 SQUARE FEET. THE LONGER DIMENSION OF EACH PANEL SHALL NOT EXCEED THE SHORTER DIMENSIONS BY MORE THAN 40%. JOINTS SHALL BE LOCATED AT COLUMN CENTERLINES WHERE POSSIBLE. SPACING BETWEEN JOINTS SHALL NOT EXCEED 15 FEET. CONTRACTOR SHALL SUBMIT JOINT LAYOUT TO ARCHITECT FOR APPROVAL.

13. REINFORCEMENT SHALL BE CONTINUOUS AND LAPPED 53 BAR DIAMETERS (2' -6" MIN) EXCEPT AS NOTED AND PROVIDE CORNER BARS OF SAME SIZE AND SPACING.

14. MINIMUM REINFORCING AROUND CONCRETE WALL OPENINGS 2'-0" OR GREATER (TYPICAL UNLESS NOTED OTHERWISE): (2) #5, EXTEND REINF 2'-0" PAST OPENINGS. PROVIDE (2) #5 x 4'-0" DIAGONAL BARS AT CORNERS.

15. MINIMUM REINFORCING IN PERIMETER STEM WALL SHALL BE #4 VERTS @ 16" OC WITH STD HOOKS INTO FOOTING AND #4 HORIZ @ 16" OC MAX. IN FOOTING PROVIDE (2) #4 CONTINUOUS W/ #4 TRANSVERSE @ 16" OC MAX.

16. MINIMUM REINFORCING IN ROUND PIERS SHALL BE (5) #3 VERTS W/ #3 TIES AT 16" OC MAX.

STRUCTURAL STEEL:

1. STRUCTURAL STEEL SHAPES AND PLATE MATERIAL REQUIREMENTS (TYPICAL UNLESS NOTED OTHERWISE):

   a. WIDE FLANGE SHAPES – ASTM A992 (FY = 50 KSI MIN.)
   b. CHANNELS, ANGLES, AND PLATES: - ASTM A36 (FY = 36 KSI MIN)
   c. RECTANGULAR HSS – ASTM A500, GR B (FY = 46 KSI)
   d. ANCHOR RODS – ASTM F1554 (FY = 36 KSI MIN)
   e. ROUND PIPE - ASTM A53, GRB (FY=35 KSI MIN)

2. STRUCTURAL STEEL SHALL BE NEW AND MEET THE 15TH EDITION AISC "SPECIFICATIONS FOR STRUCTURAL STEEL BUILDINGS AND BRIDGES", AND THE "CODE OF STANDARD PRACTICES FOR STEEL BUILDINGS AND BRIDGES", EXCLUDING SECTION 4.4.1.B.

3. WELDING SHALL CONFORM TO THE CURRENT AND APPLICABLE AWS STANDARDS AND BE COMPLETED BY AN AWS CERTIFIED WELDER.

   a. AWS D1.1 – STRUCTURAL WELDING CODE – STEEL
   b. AWS D1.3 – STRUCTURAL WELDING CODE – SHEET STEEL
   c. AWS D1.6 – STRUCTURAL WELDING CODE – STAINLESS STEEL

4. WELD SIZES SHALL BE INCREASED TO MEET THE REQUIRED EFFECTIVE THROAT WIDTH IF GAPS EXIST AT THE FAYING SURFACE.

5. NO COLUMN OR BEAM SPLICES, UNLESS CLEARLY INDICATED ON THE STRUCTURAL DRAWINGS, WILL BE ALLOWED WITHOUT WRITTEN APPROVAL OF THE STRUCTURAL ENGINEER.

6. GROUT WHERE INDICATED ON PLANS AT BASE PLATES SHALL BE NON-METALLIC NON-SHRINK WITH A MINIMUM COMPRESSIVE STRENGTH OF 6,000 PSI AT 28 DAYS CONFORMING TO ASTM C1107.

7. ALL POST INSTALLED ANCHORS WHERE NOTED SHALL BE MANUFACTURED BY HILTI, INC. OR SIMPSON STRONG TIE AND BE INSTALLED PER THE MANUFACTURERS SPECIFICATIONS. SUBSTITUTIONS SHALL BE SUBMITTED FOR REVIEW AND APPROVAL WITH APPROPRIATE ICBO EVALUATION REPORTS.

GARAGE

1. THE GARAGE FLOOR SHALL SLOPE TOWARD THE GARAGE DOOR.

2. NEW GARAGE DOOR SHALL BE A 20 MINUTE OR 1-3/8" SOLID WOOD DOOR BETWEEN THE HOUSE AND GARAGE.

3. 1/2" GYP BOARD SHALL BE USED ON WALLS BETWEEN GARAGE AND HOUSE. 5/8" TYPE-X GYP BOARD SHALL BE USED ON THE GARAGE CEILING.

WOOD:

1. FRAMING MATERIAL:
A. NOMINAL STRUCTURAL LUMBER -- NO.2 OR BETTER, KD D. FIR, MIN Fb = 900 PSI, MIN E = 1,400 KSI.
B. EXPOSED NOMINAL STRUCT LUMBER -- PRESS TREATED NO.2 OR BETTER, MIN Fb = 1,000 PSI, MIN E = 1,300 KSI
C. MICROLLAM LVL (LAMINATED VENEER LUMBER) BEAMS SHALL MEET TRUS JOIST SPECIFICATIONS: MINIMUM Fb = 2,600 PSI AND MINIMUM E = 1,900 KSI.
D. TIMBERSTRAND LSL (LAMINATED STRAND LUMBER) BEAMS SHALL MEET TRUS JOIST SPECIFICATIONS: MINIMUM Fb = 2,600 PSI AND MINIMUM E = 1,700 KSI.
E. GLULAM FRAMING: 24F-V4 DOUGLAS FIR, ARCHITECTURAL FINISH (COORDINATE WITH ARCH).

2. SUBSTITUTIONS OF SPECIFIED WOOD MEMBERS SHALL NOT BE MADE WITHOUT REVIEW OF THE ARCHITECT/ENGINEER.

3. WOOD SHEATHING:
A. ROOF SHEATHING SHALL BE 15/32" OR 1/2" WITH AN APA SPAN RATING OF 32/16, EXPOSURE 1, MINIMUM 2 SPAN, FASTEN PER THE CHART ON THIS PAGE. IF ROOF RAFTER SPACING IS 24" OR GREATER THEN USE PLYCLIPS AT MIDSPAN.
B. FLOOR SHEATHING SHALL BE TONGUE AND GROOVE, EXPOSURE 1, MINIMUM 2 SPAN, FASTENED WITH APA APPROVED ADHESIVE AND PER THE CHART ON THIS PAGE.
   --WHEN CLEAR DISTANCE BETWEEN FLOOR JOISTS OR FLOOR TRUSSES IS 16" OR LESS USE 3/4" SHEATHING WITH AN APA SPAN RATING OF 48/24.
   --WHEN CLEAR DISTANCE BETWEEN FLOOR JOISTS OR FLOOR TRUSSES IS GREATER THAN 16" USE 7/8" SHEATHING WITH AN APA SPAN RATING OF 60/32.
C. WALL SHEATHING FOR EXTERIOR WALLS SHALL BE 7/16" WITH AN APA SPAN RATING OF 24/16, UNLESS NOTED OTHERWISE. ALL PANEL EDGES SHALL BE BACKED WITH 2 INCH NOMINAL OR WIDER FRAMING. FASTEN WITH 8d COMMON NAILS AT 6" OC MAXIMUM AT ALL TOP PLATES, BLOCKING, BOUNDARIES AND 10" OC MAXIMUM IN THE FIELD.

4. ALL WOOD SHEATHING TO BE STAGGERED 4'x8' SHEETS ORIENTED PERPENDICULAR TO SUPPORTING MEMBERS.

5. PROVIDE 1/8" GAP AT ALL SHEATHING PANEL EDGES AND END JOINTS UNLESS OTHERWISE SPECIFIED BY THE MANUFACTURER. DUE TO CONSTRUCTION CONDITIONS, TEMPORARY EXPANSION JOINTS MAY BE REQUIRED IN FLOOR/ROOF SHEATHING.

6. ALL HEADERS IN EXTERIOR OR INTERIOR BEARING WALLS SPANNING MORE THAN 3'-8" SHALL BE SUPPORTED ON DOUBLE STUDS UNLESS NOTED OTHERWISE.

7. PROVIDE SOLID BLOCKING IN FLOOR FRAMING BELOW LOAD BEARING WALLS AND POINT LOADS ABOVE. BELOW POINT LOADS BLOCKING AREA SHOULD MATCH SIZE OF POST ABOVE.

7. LIGHT GAUGE WOOD FRAMING CONNECTORS AS NOTED ON THE PLANS FOR WOOD JOISTS, COLUMNS, BEAMS AND TRUSSES SHALL BE "STRONG – TIE" CONNECTORS BY THE SIMPSON CO. OR REVIEWED EQUIVALENT. CONNECTORS IN DIRECT CONTACT WITH PRESSURE TREATED LUMBER SHALL HAVE "ZMAX" G185 HOT DIP GALVANIZED COATING OR REVIEWED EQUIVALENT.

8. STAINLESS STEEL FASTENERS, ANCHOR BOLTS, LIGHT GAUGE CONNECTORS, ETC. MAY BE SUBSTITUTED FOR HOT DIP GALVANIZED MATERIALS AT THE CONTRACTORS OPTION.

9. ALL RAFTER AND CEILING JOIST CONNECTIONS SHALL COMPLY WITH IRC SECTION 802.3. PROVIDE UPLIFT CONNECTORS AT ROOF TO WALL CONNECTIONS PER IRC SECTION 802.11.

10. STUDS SHALL BE CONTINUOUS FROM FLOOR TO ROOF DIAPHRAGM PER IRC SECTION 602.3. WALL STUDS SHOULD NOT BE INTERRUPTED AT GABLE WALLS UNLESS BRACED BY A CEILING. WALLS EXTENDING HIGHER THAN TYPICAL SINGLE FLOOR PLATFORM FRAMING, SHALL BE CONTINUOUS (NOT INTERRUPTED) TO NEXT FLOOR ELEVATION OR ROOF.

11. SILL ANCHOR RODS SHALL BE 1/2" DIAMETER EMBEDDED 7" MIN INTO CONCRETE, SPACED NO FURTHER THAN 3'-0" OC, AND SHALL OCCUR WITHIN 12" OF THE ENDS OF A SILL PLATE. EACH SILL PLATE SHALL HAVE A MINIMUM OF 2 ANCHOR RODS. PROVIDE 2" SQ PLATE WASHERS AND NUTS.

12. PROVIDE FULL DEPTH 2x BLOCKING BETWEEN JOISTS OVER ALL INTERIOR LOAD BEARING WALLS AND AT DOWNSET GIRDERS

13. PROVIDE SOLID BLOCKING IN FLOOR FRAMING BELOW LOAD BEARING WALLS AND POINT LOADS ABOVE. BELOW POINT LOADS BLOCKING AREA SHOULD MATCH SIZE OF POST ABOVE

GENERAL NOTES:

1. THE DRAWING SET IS CONSIDERED TO BE "BUILDERS PLANS" WHEREBY SOME ASPECTS OF THE PROJECT'S REQUIREMENTS ARE LEFT TO THE CONTRACTOR TO UNDERSTAND AND IMPLEMENT. AS SUCH, IT IS A REQUIREMENT THAT THE CONTRACTOR (BUILDER) BE COMPETENT IN RESIDENTIAL CONSTRUCTION AND HAVE A THOROUGH UNDERSTANDING OF THE APPLICABLE INTERNATIONAL RESIDENTIAL CODES (IRC). THE CONTRACTOR IS RESPONSIBLE FOR MEETING THE REQUIREMENTS OF THE BUILDING CODE WHETHER EXPLICITLY STATED OR NOT. IF ADDITIONAL DETAIL OR GUIDANCE IS NEEDED BY THE CONTRACTOR OR HOMEOWNER, A WRITTEN REQUEST FOR SUCH GUIDANCE MAY BE SUBMITTED TO THE ENGINEER.

2. REFER TO THE IRC FOR ALL REQUIREMENTS NOT SPECIFICALLY STATED IN THE PLANS. THIS INCLUDES FIRE RATINGS, LIGHTING AND VENTILATION, SANITATION, GLAZING, GARAGES, SMOKE ALARMS AND CARBON MONOXIDE ALARMS, MEANS OF EGRESS, AND PROTECTION AGAINST DECAY AND TERMITES.

3. CONTRACTOR SHALL ENSURE THAT ALL MECHANICAL, ELECTRICAL, AND PLUMBING IS DESIGNED AND INSTALLED TO MEET THE REQUIREMENTS OF THE APPLICABLE IRC.

4. EGRESS WINDOWS SHALL COMPLY WITH SECTION 310 OF THE IRC.

5. WALL COVERINGS SHALL BE WATER-RESISTANT AND COMPLY WITH SECTION 703.2 OF THE IRC.

6. WINDOWS SHALL HAVE FALL PROTECTION PER IRC 312.2.

7. PROVIDE CARBON MONOXIDE DETECTORS PER IRC SECTION R315.

8. ALL NEW CONSTRUCTION SHALL COMPLY WITH THE ENERGY CONSERVATION CODE AS LISTED IN CHAPTER 11 OF THE IRC. THIS INCLUDES:
-- WALLS - INSULATE WITH R-13 MIN
-- ATTICS - INSULATE WITH R-49 MIN (EXCEPTION: R-38 FOR VAULTED CEILINGS); USE 8" OF RIGID INSULATION (R40) IN VAULTED CEILINGS
-- FLOORS OVER UNCONDITIONED SPACE - INSULATE WITH R-19 MIN
-- CRAWL SPACE WALLS - INSULATE WITH R-10 MIN
-- BASEMENT WALLS - R-13 CAVITY OR R-10 CONTINUOUS
-- SLABS SHALL BE R-10 FOR A DEPTH OF 2'-0"
-- DUCTWORK OUTSIDE OF CONDITIONED SPACES - R-8 MIN
-- WINDOWS SHALL HAVE A "U" VALUE OF 0.35 OR BETTER

9. ALL EXTERIOR DOORS INCLUDING THE DOOR LEADING FROM THE GARAGE TO THE DWELLING UNIT SHALL INCORPORATE THE PHYSICAL SECURITY REQUIREMENTS OF THE LOCAL JURISDICTION AS REQUIRED.

10. THE THERMAL ENVELOPE OF THE BUILDING IS REQUIRED TO BE SEALED PER IRC SECTION N1102.4.1 AND TABLE N1102.4.1.1.

11. ALL DUCTS, AIR HANDLERS, FILTER BOXES, AND BUILDING CAVITIES USED AS DUCTS SHALL BE SEALED PER IRC SECTION N1103.2.2.

GLAZING

1. GLAZING IN HAZARDOUS LOCATIONS SHALL BE APPROVED SAFETY GLAZING MATERIALS PER IRC SECTION R308.

FASTENER SCHEDULE FOR ROOF, WALL, AND FLOOR STRUCTURAL MEMBERS		
		FASTENER REQUIREMENTS
ITEM	DESCRIPTION OF BUILDING ELEMENT	LOCATION, NUMBER AND TYP OF FASTENER, AND SPACING
	ROOF ⓐⓑⓒ	
1	BLOCKING B/W JOISTS OR RAFTERS TO TOP PLATE.	TOE NAIL: (4) 8d BOX(2 1/2" x 0.113") OR (3) 8d COMMON (2.5" x 0.131") OR (3) 10d BOX (3" x 0.128") OR (3) 3" x 0.131" NAILS
2	CEILING JOISTS TO PLATE, PER JOIST	TOE NAIL: (4) 8d BOX(2 1/2" x 0.113") OR (3) 8d COMMON (2.5" x 0.131") OR (3) 10d BOX (3" x 0.128") OR (3) 3" x 0.131" NAILS
3	CEILING JOISTS NOT ATTACHED TO PARALLEL RAFTER, LAPS OVER PARTITIONS.	FACE NAIL: (4) 10d BOX (3" x 0.128") OR (3) 16d COMMON (3.5" x 0.162") OR (4) 3" x 0.131" NAILS
4	CEILING JSTS ATTACHED TO PARALLEL RAFTER (HEEL JNT). SEE IRC SECT R802.5.2	SEE TABLE R802.5.2
5	COLLAR TIE TO RAFTER, FACE NAIL OR 1.25" X 20 GA RIDGE STRAP; AT EACH RAFTER	FACE NAIL: (4) 10d BOX (3" x 0.128") OR (3) 10d COMMON (3" x 0.148") OR (4) 3" x 0.131" NAILS
6	RAFTER OR ROOF TRUSS TO PLATE;	2 TOE NAILS ON 1 SIDE AND 1 TOE NAIL ON OPP SIDE OF EA RAFTER OR TRUSS; (3) 16d BOX(3.5" x 0.135") OR (3) 10d COMMON (3" x 0.148") OR (4) 10d BOX (3" x 0.128") OR (4) 3" x 0.131" NAILS
7	ROOF RAFTERS TO RIDGE, VALLEY OR HIP RAFTERS OR ROOF RAFTER TO MIN 2" RIDGE BEAM	TOE NAIL: (4) 16d BOX(3.5" x 0.135") OR (3) 10d COMMON (3" x 0.148") OR (4) 10d BOX (3" x 0.128") OR (4) 3" x 0.131" NAILS END NAIL: (3) 16d BOX(3.5" x 0.135") OR (2) 10d COMMON (3" x 0.148") OR (3) 10d BOX (3" x 0.128") OR (3) 3" x 0.131" NAILS
	WALL ⓐⓑⓒ	
8	STUD TO STUD (NOT AT BRACED WALL PANEL)	16d COMMON (3.5"x 0.162") @ 24" OC FACE NAIL; 10d BOX (3" x 0.128") @ 16" oc FACE NAIL; OR 3" x 0.131" @ 16" OC FACE NAIL
9	STUD TO STUD AND ABUTTING STUDS AT INTERSECTING WALL CORNERS (AT BRACED WALL PANELS)	16d COMMON (3.5"x 0.162") @ 16" OC FACE NAIL; 16d BOX (3.5" x 0.135") @ 12" oc FACE NAIL; OR 3" x 0.131" @ 12" OC FACE NAIL
10	BUILT-UP HEADER, TWO PIECES W/ 1/2" SPACER	ALONG EA EDGE (TYP); 16d COMMON (3.5"x 0.162") @ 16" OC FACE NAIL ; 16d BOX (3.5" x 0.135") @ 12" oc FACE NAIL
11	CONTINUOUS HEADER TO STUD	TOE NAIL: (5) 8d BOX(2 1/2" x 0.113") OR (4) 8d COMMON (2.5" x 0.131") OR (4) 10d BOX (3" x 0.128") OR (4) 3" x 0.131" NAILS
12	TOP PLATE TO TOP PLATE	10d BOX (3" x 0.128") @ 12" oc FACE NAIL; OR 3" x 0.131" @ 12" OC FACE NAIL
13	DOUBLE TOP PLATE SPLICE	FACE NAIL ON EA SIDE OF END JOINT, 24" LAP SPLICE. (TYP) (8) 16d COMMON (3.5"x 0.162"), OR (12) 16d BOX (3.5" x 0.135"); OR (12) 10d BOX (3" x 0.128"); OR (12) 3" x 0.131"
14	BOTTOM PLATE TO JST, RIM JST, BAND JST, OR BLOCKING (NOT AT A BRACED WALL LINE)	16d COMMON (3.5"x 0.162") @ 16" OC FACE NAIL; 16d BOX (3.5" x 0.135") @ 12" oc FACE NAIL; OR 3" x 0.131" @ 12" OC FACE NAIL
15	BOTTOM PLATE TO JST, RIM JST, BAND JST, OR BLOCKING (AT A BRACED WALL LINE)	(2) 16d COMMON (3.5"x 0.162") @ 16" OC FACE NAIL; (3) 16d BOX (3.5" x 0.135") @ 16" oc FACE NAIL; OR (4) 3" x 0.131" @ 16" OC FACE NAIL
16	TOP OR BOTTOM PL TO STUD	TOE NAIL: (4) 8d BOX (2.5" x 0.113"), OR (3) 16d BOX (3.5" x 0.135") OR (4) 8d COMMON (2.5" x 0.131") OR (4) 10d BOX (3" x 0.128") OR (4) 3" x 0.131" NAILS END NAIL: (3) 16d BOX(3.5" x 0.135") OR (2) 16d COMMON (3.5" x 0.162") OR (3) 10d BOX (3" x 0.128") OR (3) 3" x 0.131" NAILS
17	TOP PLATES, LAPS AT CORNERS AND INTERSECTIONS	FACE NAIL: (3) 10d BOX (3" x 0.128") OR (2) 16d COMMON (3.5" x 0.162") OR (3) 3" x 0.131" NAILS
18	1" BRACE TO EA STUD AND PLATE	FACE NAIL: (3) 8d BOX (2.5" x 0.113"), OR (2) 8d COMMON (2.5" x 0.131") OR (2) 10d BOX (3" x 0.128")
19	1" X 6" SHEATHING TO EACH BEARING	FACE NAIL: (3) 8d BOX (2.5" x 0.113"), OR (2) 8d COMMON (2.5" x 0.131") OR (2) 10d BOX (3" x 0.128")
20A	1" x 8" SHEATHING TO EACH BEARING	FACE NAIL: (3) 8d BOX (2.5" x 0.113"), OR (3) 8d COMMON (2.5" x 0.131") OR (3) 10d BOX (3" x 0.128")
20B	WIDER THAN 1" X 8" SHEATHING TO EA BRG	FACE NAIL: (4) 8d BOX (2.5" x 0.113"), OR (3) 8d COMMON (2.5" x 0.131") OR (3) 10d BOX (3" x 0.128")
	FLOOR ⓐⓑⓒ	
21	JOIST TO SILL, TOP PLATE OR GIRDER	TOE NAIL: (4) 8d BOX (2.5" x 0.113"), OR (3) 8d COMMON (2.5" x 0.131") OR (3) 10d BOX (3" x 0.128") OR (3) 3" x 0.131" NAILS
22	RIM JOIST, BAND JST, OR BLOCKING TO SILL OR TOP PLATE. (ROOF APPLICATIONS ALSO)	TOE NAIL: 8d BOX (2.5" x 0.113") @ 4" oc, OR 8d COMMON (2.5" x 0.131") @ 6" oc, OR 10d BOX (3" x 0.128") @ 6" oc, OR 3" x 0.131" NAILS @ 6" oc
23	1"X6" SUBFLOOR OR LESS TO EACH JOIST	FACE NAIL: (3) 8d BOX (2.5" x 0.113"), OR (2) 8d COMMON (2.5" x 0.131") OR (3) 10d BOX (3" x 0.128")
24	2" SUBFLOOR TO JOIST OR GIRDER	BLIND AND FACE NAIL; (2) 16d COMMON (3.5"x 0.162"); (3) 16d BOX (3.5" x 0.135")
25	2" PLANKS (PLANK & BEAM - FLOOR AND ROOF)	AT EA BRG, FACE NAIL; (2) 16d COMMON (3.5"x 0.162"); (3) 16d BOX (3.5" x 0.135")
26	BAND OR RIM TO JOIST	END NAIL; (3) 16d COMMON (3.5"x 0.162"), OR (4) 10d BOX (3" x 0.128"); OR (4) 3" x 0.131"
27	BUILT-UP GIRDERS AND BEAMS, 2" LUMBER LAYERS	20d COMMON (4"x0.192") @ 32" oc STAGGERED TOP AND BOT (2 NAILS @ EA END AND AT SPLICES). (3) 3"x0.131" @ 24" oc STAGGERED TOP AND BOT FROM EA SIDE (3 NAILS @ EA END AND AT SPLICES).
28	LEDGER STRIP SUPPORTING JOISTS OR RAFTERS	AT EACH JST OR RAFTER, FACE NAIL: (4) 16d BOX (3.5"x0.135"), OR (4) 10d BOX (3" x 0.128") OR (3) 16d COMMON (3.5" x 0.162") OR (4) 3" x 0.131" NAILS
29	BRIDGING OR BLOCKING TO JST	EA END, TOE NAIL; (2) 10d BOX (3" x 0.128") OR (2) 8d COMMON (2.5"x0.131") OR (2) 3" x 0.131" NAILS
	WOOD STRUCTURAL PANELS, SUBFLOOR, ROOF AND INTERIOR WALL SHEATHING TO FRAMING ⓐⓑⓒⓔⓗ	
30	3/8" TO 1/2"	6d COMMON (2" X 0.113") NAIL (SUBFLOOR, WALL) 8d COMMON (2 1/2" X 0.131") NAIL (ROOF) OR RSRS-01 (2.375"x0.113") (ROOF) SPACING: 6" OC EDGES, 12" OC FIELD ⓕⓘ
31	19/32" TO 1"	8d COMMON (2 1/2" X 0.131") NAIL OR RSRS-01 (2.375"x0.113") (ROOF) SPACING: 6" oc EDGES, 12" oc FIELD ⓕⓘ
32	1 1/8" TO 1 1/4"	10d COMMON (3" X 0.148") NAIL OR 8d (2 1/2" X 0.131") DEFORMED NAIL SPACING: 6" oc EDGES, 12" oc FIELD
	OTHER WALL SHEATHING ⓖ	
33	1/2" STRUC CELLULOSIC FIBERBOARD SHEATHING	1 1/2" GALV ROOFING NAIL -- 3" AT EDGES, 6" IN FIELD
34	25/32" STRUC CELLULOSIC FIBERBOARD SHEATHING	1 3/4" GALV ROOFING NAIL -- 3" AT EDGES, 6" IN FIELD
35	1/2" GYP SHEATHING ⓓ	1 1/2" GALV ROOFING NAIL OR 1 1/4" SCREWS (TYP W OR S) -- 7" AT EDGES, 7" IN FIELD
36	5/8" GYP SHEATHING ⓓ	1 3/4" GALV ROOFING NAIL OR 1 5/8" SCREWS (TYP W OR S) -- 7" AT EDGES, 7" IN FIELD
	WOOD STRUCTURAL PANELS, COMBINATION SUBFLOOR UNDERLAYMENT TO FRAMING	
37	3/4" AND LESS	6d DEFORMED (2" X 0.120") NAIL OR 8d COMMON (2 1/2" X 0.131") NAIL SPACING: 6" OC EDGES, 12" OC FIELD
38	7/8" TO 1"	8d COMMON (2 1/2" X 0.131") NAIL OR 8d DEFORMED (2 1/2" X 0.120") NAIL SPACING: 6" OC EDGES, 12" OC FIELD
39	1 1/8" TO 1 1/4"	10d COMMON (3" X 0.148") NAIL OR 8d DEFORMED (2 1/2" X 0.120") NAIL SPACING: 6" OC EDGES, 12" OC FIELD

FASTENER SCHEDULE NOTES:

ⓐ ALL NAILS ARE SMOOTH-COMMON, BOX OR DEFORMED SHANKS EXCEPT WHERE OTHERWISE STATED. NAILS USED FOR FRAMING AND SHEATHING CONN SHALL HAVE MIN AVERAGE BENDING YIELD STRENGTHS AS SHOWN: 80 KSI FOR SHANK DIAMETER OF 0.192 IN (20d COMMON NAIL), 90 KSI FOR SHANK DIAMETERS LARGER THAN 0.142 INCH BUT NOT LARGER THAN 0.177 INCH, AND 100 KSI FOR SHANK DIAMETERS OF 0.142 INCH OR LESS.

ⓑ NOT USED

ⓒ NAILS SHALL BE SPACED @ NOT MORE THAN 6" OC AT ALL SUPPORTS WHERE SPANS ARE 48" OR GREATER

ⓓ 4'x8' OR 4'x9' PANELS SHALL BE APPLIED VERTICALLY

ⓔ SPACING OF FASTENERS NOT INCLUDED IN THIS TABLE SHALL BE BASED ON TABLE R602.3(2).

ⓕ FOR WOOD STRUCTURAL PANEL ROOF SHEATHING ATTACHED TO GABLE END ROOF FRAMING AND TO INTERMEDIATE SUPPORTS WITHIN 48" OF ROOF EDGES AND RIDGES. NAILS SHALL BE SPACED AT 6" ON CENTER WHERE THE ULTIMATE DESIGN WIND SPEED IS LESS THAN 130 MPH AND SHALL BE SPACED 4" ON CENTER WHERE THE ULTIMATE DESIGN WIND SPEED IS 130 MPH OR GREATER BUT LESS THAN 140 MPH

ⓖ GYP SHEATHING SHALL CONFORM TO ASTM C1396 AND SHALL BE INSTALLED IN ACCORDANCE TO GA 253. FIBERBOARD SHEATHING SHALL CONFORM TO ASTM C208.

ⓗ SPACING OF FASTENERS ON FLOOR SHEATHING PANEL EDGES APPLIES TO PANEL EDGES SUPPORTED BY FRAMING MEMBERS AND REQD BLOCKING. BLOCKING OF ROOF OR FLOOR SHEATHING PANEL EDGES PERP TO THE FRAMING MEMBERS NEED NOT BE PROVIDED EXCEPT AS REQD BY OTHER PROVISIONS OF THE IRC. FLOOR PERIMETER MEMBERS SHALL BE SUPPORTED BY FRAMING MEMBERS OR SOLID BLOCKING.

ⓘ WHERE RAFTER IS FASTENED TO AN ADJACENT PARALLEL CEILING JOIST IN ACCORDANCE WITH THIS SCHEDULE, PROVIDE (2) TOE NAILS ON ONE SIDE OF THE RAFTER AND TOE NAILS FROM THE CEILING JOIST TO TOP PLATE IN ACCORDANCE WITH THIS SCHEDULE. THE TOE NAIL ON THE OPPOSITE SIDE OF THE RAFTER SHALL NOT BE REQUIRED.

ⓙ RSRS-01 IS A ROOF SHEATHING RING SHANK NAIL MEETING SPECIFICATION IN ASTM F1667

PAUL WESLEY SPEARS
NUMBER PE-2009003624
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06/02/2021

SEALED FOR STRUCTURAL REVIEW

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The Hardin Residence

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CERTIFICATE OF AUTHORIZATION:
KS: E-1897
MO: 2015008897

No.	DESCRIPTION	DATE

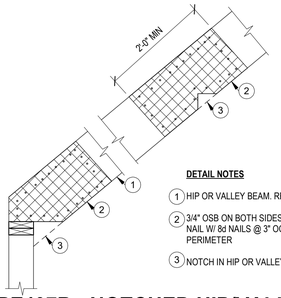
STRUCTURAL GENERAL NOTES

Project Number	21133
Date	06/01/2021
Drawn By	Author
Checked By	Checker

S001

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
Development Services
LEE'S SUMMIT, MISSOURI

Scale As indicated

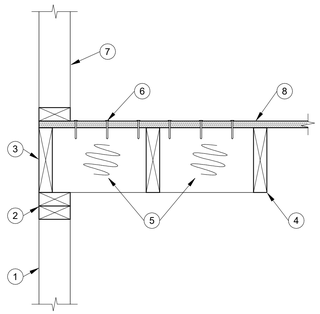


DETAIL NOTES

1. HIP OR VALLEY BEAM. RE: PLAN
2. 3/4" OSB ON BOTH SIDES OF MEMBER. NAIL W/ 8d NAILS @ 3" OC AROUND THE PERIMETER
3. NOTCH IN HIP OR VALLEY MEMBER

1 RZ407B - NOTCHED HIP/VALLEY OSB REINF

3/4" = 1'-0"

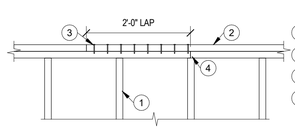


DETAIL NOTES:

1. STUD WALLS, RE: PLAN AND GENERAL NOTES
2. DOUBLE TOP PLATE
3. 2x RIM JOIST
4. FLOOR JOISTS PARALLEL TO WALL, RE: PLAN FOR SIZE AND SPACING
5. PROVIDE BLOCKING IN THE FIRST TWO JOIST SPACES NEXT TO RIM JOIST. MATCH FLOOR JOISTS SIZE & SPACE @ 4'-0" OC MAX
6. NAIL SHEATHING TO BLOCKING
7. STUD WALL ABOVE
8. WOOD FLOOR SHEATHING, RE: GENERAL NOTES

10 EDGE FRAMING DETAIL

1 1/2" = 1'-0"

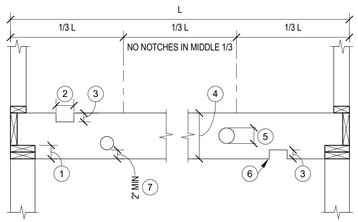


DETAIL NOTES:

1. WALL STUDS
2. DOUBLE TOP PLATE
3. 8 ROWS OF (2)16d NAILS AT SPLICE
4. JOINT IN LOWER PLATE MEMBERS SHALL OCCUR OVER A STUD

9 TOP PLATE SPLICE

3/4" = 1'-0"

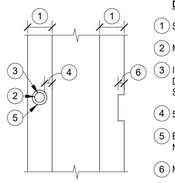


DETAIL NOTES:

1. MAX DIMENSION = JOIST DEPTH / 4
2. MAX DIMENSION = JOIST DEPTH / 3
3. MAX DIMENSION = JOIST DEPTH / 6
4. JOIST DEPTH
5. MAX DIMENSION = JOIST DEPTH / 3
6. SQUARE HOLES AND NOTCHES NOT RECOMMENDED
7. HOLES MAY BE ANYWHERE ALONG THE LENGTH OF THE SPAN MINUS 1'-0" ON EA END. HOLE EDGES SHALL BE 2" FROM TOP OF JOIST OR BOTTOM OF JOIST. THEY SHALL ALSO BE 2" FROM ANY OTHER HOLE OR NOTCH

8 BORED HOLE & NOTCHES - HORIZ FRAMING

3/4" = 1'-0"

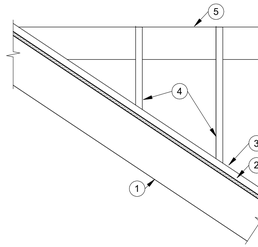


DETAIL NOTES:

1. STUD DEPTH
2. MAX DIAMETER OF BORED HOLE = STUD DEPTH / 2 1/2
3. IF BORED HOLE IS GREATER THAN STUD DEPTH / 21/2 & LESS THAN 3 " STUD DEPTH / 5, THEN STUD MUST BE DOUBLED & NO MORE THAN TWO SUCCESSIVE STUDS ARE DOUBLED & BORED
4. 5/8" MIN TO EDGE
5. BORED HOLES SHALL NOT BE LOCATED IN THE SAME CROSS SECTION OF CUT OR NOTCH IN STUD
6. MAX NOTCH = STUD DEPTH / 4

7 BORED HOLE & NOTCHES - VERT FRAMING

3/4" = 1'-0"

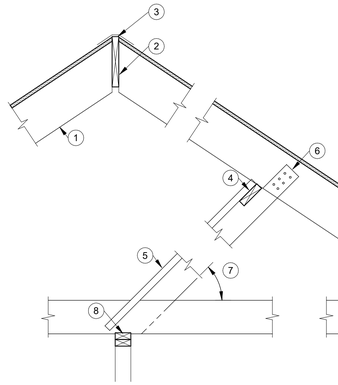


DETAIL NOTES:

1. WOOD RAFTERS, RE: PLAN
2. WOOD ROOF SHEATHING, RE: GENERAL NOTES
3. 2x SLEEPER WITH LONG SIDE HORIZ. WIDTH AS REQD FOR JOIST BEARING. NAIL TO ROOF RAFTERS BELOW
4. OVERBUILT ROOF RAFTERS, RE: PLAN FOR SIZE AND SPACING
5. RIDGE BEAM, RE: PLAN

2 RZ402A - OVERBUILT FRAMING - TYP

3/4" = 1'-0"



ROOF PURIN OPTIONS	
SIZE	MAX SPAN**
2x6	4'-0"
2x8	5'-0"
2x10	6'-0"
2x12	7'-0"

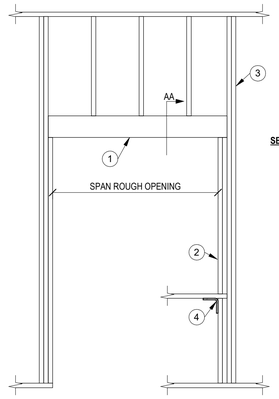
***ASSUMED (3) SPANS MIN*

DETAIL NOTES:

1. RAFTER, RE: PLAN
2. RIDGE BEAM, RE: PLAN
3. SIMPSON LSTA18 STRAP AT 4'-0" OC MAX
4. PURLIN, RE: CHART FOR SIZE
5. (2) 2x6 ROOF BRACE. MEMBERS SHALL BE CONNECTED TOGETHER TO FORM A "T" SHAPE W/ 3" LONG WOOD SCREWS @ 16" OC, OR 10d NAILS @ 6" OC
6. CONNECT BRACE TO RAFTER W/ (6) 10d NAILS
7. 45 DEGREE ANGLE OR GREATER
8. BEARING WALL OR BEAM BELOW. IF ATTACHING TO WALL PROVIDE (2) STUDS MIN IN WALL DIRECTLY BELOW BRACE. IF ATTACHING TO BEAM PROVIDE BLOCKING TO EACH ADJACENT JOIST AT THE BRACE LOCATION

3 RZ404 - RIDGE BM & ROOF PURLIN

3/4" = 1'-0"



EXTERIOR WALL - WOOD HEADER SCHEDULE*			
MARK	MEMBERS	MAX SPAN	JAMB MEMBERS
H206	(2) 2x6	3'-6"	2x4 1 KING 1 TRIMMER
H208	(2) 2x8	4'-6"	2x4 1 KING 1 TRIMMER
H210	(2) 2x10	5'-9"	2x4 2 KING 2 TRIMMER
H212	(2) 2x12	6'-9"	2x4 2 KING 2 TRIMMER
HLVL	(2) 1.75"x11.875" LVL	13'-0"	2x4 3 KING 2 TRIMMER

INTERIOR WALL - WOOD HEADER SCHEDULE			
MARK	MEMBERS	MAX SPAN	JAMB MEMBERS
H206	(2)2X6 NON LD BRG	4'-0"	2x4 1 KING 1 TRIMMER
H208	(2) 2x8	3'-6"	2x4 1 KING 2 TRIMMER
H210	(2) 2x10	4'-3"	2x4 2 KING 2 TRIMMER
H212	(2) 2x12	5'-0"	2x4 2 KING 2 TRIMMER
HLVL	(2) 1.75"x11.875" LVL	10'-0"	2x4 3 KING 2 TRIMMER

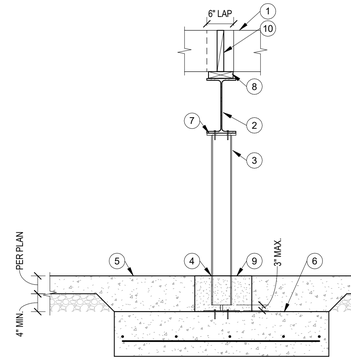
* IF THERE IS A DECK @ THE EXTERIOR WALL USE THE INTERIOR WALL SCHEDULE

DETAIL NOTES:

1. WOOD HEADER, RE: SCHEDULE. FOR EXTERIOR WALLS W/ DECK ON THE OUTSIDE USE THE INTERIOR WALL CHART. ALL HEADERS SHALL BE NAILED TOGETHER AT 16" OC MAX. PROVIDE PLYWOOD FILLER AS REQD TO MATCH STUD THICKNESS
2. TRIMMER STUDS, RE: SCHEDULE
3. KING STUDS, RE: SCHEDULE
4. PROVIDE STUD UNDER SILL END OR SIMPSON A35 CLIP ANGLE

4 HEADER SCHEDULE

1/2" = 1'-0"

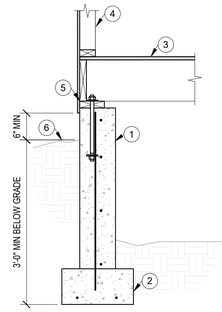


DETAIL NOTES:

1. WOOD FLOOR JOISTS, RE: PLAN FOR SIZE AND SPACING
2. WF BEAM, RE: PLAN
3. STANDARD PIPE COL (SCH 40), RE: TO PLAN FOR DIA
4. FASTEN TO CONC FTG WITH (4) 3/16" ø TAP CON SCREWS
5. SLAB ON GRADE, RE: PLAN
6. SPREAD FOOTING, RE: FOUNDATION PLAN NOTES FOR SIZE AND REINF
7. PROVIDE ATTACHMENT FROM STEEL POST TO STEEL BEAM. USE EITHER SELF-DRILLING SCREWS OR H-PLATE WITH EARS BENT AROUND BOT FLANGE OF BEAM
8. 2x6 WOOD SLEEPER. FASTEN TO STEEL BEAM FROM TOP W/ SELF DRILLING SCREWS OR PAF AT 16" OC
9. PROVIDE BLOCKOUT IN SLAB FOR STEEL POST
10. 2x BLOCKING B/W JOISTS

6 RZ116A - STL COLUMN & SPREAD FTG

3/4" = 1'-0"

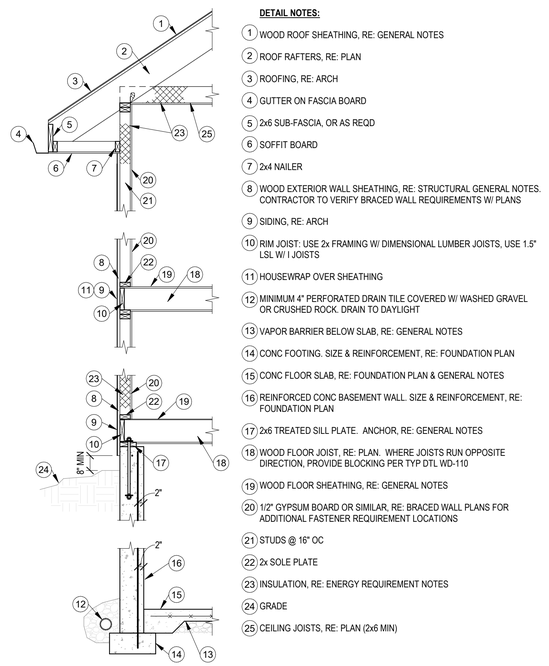


DETAIL NOTES:

1. 8" FOUNDATION WALL. REINF W/ (3) #4 HORIZ EQ SPACED & #4 VERT @ 18" OC W/ 6" EMBED INTO FOOTING
2. 16" x 8" THICK FOOTING. REINF W/ (2)#4 CONT
3. FLOOR FRAMING, RE: TO PLAN
4. WALL FRAMING, RE: TO PLAN & GENERAL NOTES
5. TREATED 2x6 SILL PLATE. PROVIDE 1/2"ø ANCHOR RODS @ 3'-0" OC MAX (EMBED 7" MIN). PROVIDE ANCHOR RODS EA SIDE OF DOOR OPENINGS, @ ENDS OF WALLS, & @ CORNERS
6. GRADE

5 RZ103A - FDN STEM WALL TYP

3/4" = 1'-0"



DETAIL NOTES:

1. WOOD ROOF SHEATHING, RE: GENERAL NOTES
2. ROOF RAFTERS, RE: PLAN
3. ROOFING, RE: ARCH
4. GUTTER ON FASCIA BOARD
5. 2x6 SUB-FASCIA, OR AS REQD
6. SOFFIT BOARD
7. 2x4 NAILER
8. WOOD EXTERIOR WALL SHEATHING, RE: STRUCTURAL GENERAL NOTES. CONTRACTOR TO VERIFY BRACED WALL REQUIREMENTS W/ PLANS
9. SIDING, RE: ARCH
10. RIM JOIST: USE 2x FRAMING W/ DIMENSIONAL LUMBER JOISTS, USE 1.5" LSL W/ I JOISTS
11. HOUSEWRAP OVER SHEATHING
12. MINIMUM 4" PERFORATED DRAIN TILE COVERED W/ WASHED GRAVEL OR CRUSHED ROCK. DRAIN TO DAYLIGHT
13. VAPOR BARRIER BELOW SLAB, RE: GENERAL NOTES
14. CONC FOOTING. SIZE & REINFORCEMENT, RE: FOUNDATION PLAN
15. CONC FLOOR SLAB, RE: FOUNDATION PLAN & GENERAL NOTES
16. REINFORCED CONC BASEMENT WALL. SIZE & REINFORCEMENT, RE: FOUNDATION PLAN
17. 2x6 TREATED SILL PLATE. ANCHOR, RE: GENERAL NOTES
18. WOOD FLOOR JOIST, RE: PLAN. WHERE JOISTS RUN OPPOSITE DIRECTION, PROVIDE BLOCKING PER TYP DTL WD-110
19. WOOD FLOOR SHEATHING, RE: GENERAL NOTES
20. 1/2" GYPSUM BOARD OR SIMILAR. RE: BRACED WALL PLANS FOR ADDITIONAL FASTENER REQUIREMENT LOCATIONS
21. STUDS @ 16" OC
22. 2x SOLE PLATE
23. INSULATION, RE: ENERGY REQUIREMENT NOTES
24. GRADE
25. CEILING JOISTS, RE: PLAN (2x6 MIN)

11 WD-102 TYPICAL WALL SECTION

1/2" = 1'-0"

STATE OF MISSOURI
PAUL WESLEY SEARS
NUMBER PE-2009003624
PROFESSIONAL ENGINEER

06/02/2021

SEALED FOR STRUCTURAL REVIEW

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CERTIFICATE OF AUTHORIZATION:
KS: E-1897
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No.	DESCRIPTION	DATE

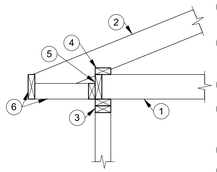
STRUCTURAL TYPICAL DETAILS

Project Number	21133
Date	06/01/2021
Drawn By	Author
Checked By	Checker

S010

RELEASE FOR CONSTRUCTION AS NOTED ON PLANS REVIEW
Development Services
LEE'S SUMMIT, MISSOURI

Scale 3" = 1'-0"

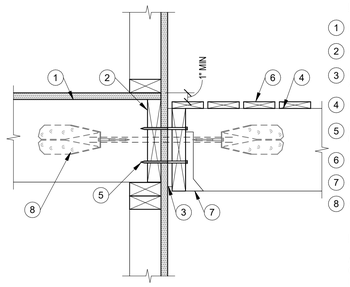


DETAIL NOTES:

1. CEILING JOISTS, RE: PLAN FOR SIZE AND SPACING
2. ROOF RAFTER, RE: PLAN FOR SIZE AND SPACING. BIRDSMOUTH AND TOE-NAIL TO PLATE W/ (4)10d NAILS (2 EACH DIRECTION)
3. DOUBLE TOP PLATE
4. ADDITIONAL PLATE ON TOP OF CEILING JOIST. NAIL TO RIM JOIST AND CEILING JOIST
5. CONT 2x RIM JOIST
6. FASCIA AND SOFFIT FRAMING

12 RZ412 - RAFTER CONN @ LOW PITCH ROOF

3/4" = 1'-0"



DETAIL NOTES

1. FLOOR JOIST, RE:PLAN
2. RIM JOIST OR EDGE JOIST
3. PLASTIC SHIMS (2" WIDE x 8" LONG x 1/2" THICK)
4. DECK FLOOR JOISTS, RE: PLAN
5. (2) 3 1/2" FASTENMASTER LEDGERLOK SCREWS @ 16" OC.
6. DECK FLOORING MATERIAL
7. JOIST HANGAR (LUS210 MIN)
8. AS REQD, SEE NOTE

NOTE:

AT DECK'S INSTALLED WITH ONLY ONE SIDE SUPPORTED @ HOUSE, INSTALL SIMPSON DTTZZ ANCHORS @ ENDS OF LEDGER. INSTALL PER MANUFACTURER DIRECTION.

10 RZ211 - LEDGER CONNECTION

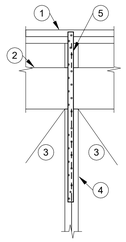
1 1/2" = 1'-0"

DETAIL NOTES:

1. WOOD FLOOR SHEATHING, RE:GENERAL NOTES
2. W8 STEEL BEAM PER PLAN
3. 2x10 FLOOR JOISTS PER PLAN
4. SIMPSON JOIST HANGERS (LUS28-2 AT DOUBLE 2x10, LUS28 @ SINGLE 2x10)
5. 1/2" ø THRU BOLTS @ 16" OC STAGGER AND SPACE AS SHOWN IN ELEVATION. COORDINATE BOLT LOCATIONS TO AVOID INTERFERANCE WITH JOIST HANGERS
6. PACK WEB WITH 2x8'S EA SIDE OF BEAM WEB. PLANE 2x8'S AS REQD TO FIT INTO BEAM WEB

11 RZ305 - UPSET W8 STL BM

1" = 1'-0"

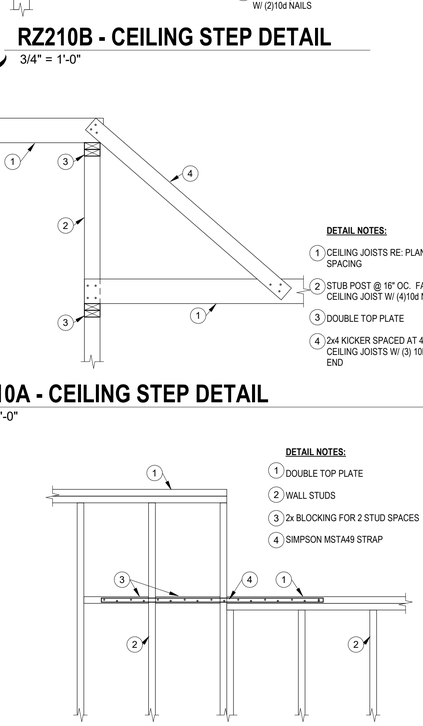


DETAIL NOTES:

1. DOUBLE TOP PLATE
2. HEADER, RE: PLAN FOR SIZE. RUN CONT OVER TOP OF CENTER STUDS
3. WINDOW OR DOOR OPENING
4. MIN (2) STUDS BTWN OPENINGS
5. LSTA36 STRAP ON BOTH SIDES OF THE WALL

8 STRAP BETWEEN OPENINGS

3/4" = 1'-0"

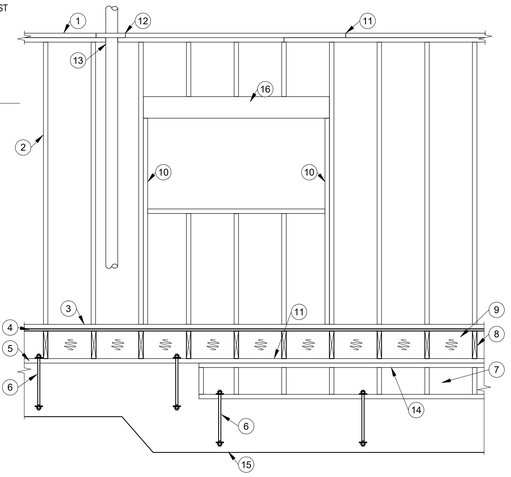


DETAIL NOTES:

1. DOUBLE TOP PLATE
2. WALL STUDS
3. 2x BLOCKING FOR 2 STUD SPACES
4. SIMPSON MSTA49 STRAP

5 RZ203B - STEPPED TOP PLATE

3/4" = 1'-0"

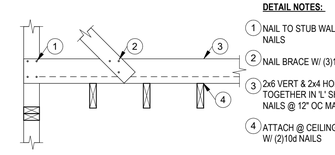


DETAIL NOTES:

1. SINGLE OR DOUBLE TOP PLATE
2. WALL STUDS
3. BOTTOM PLATE
4. WOOD FLOOR SHEATHING, RE: GENERAL NOTES
5. TREATED SILL PLATE
6. 1/2"ø ANCHOR RODS, RE: GENERAL NOTES
7. FOUNDATION WALL CRIPPLE STUDS
8. FLOOR JOISTS
9. SOLID BLOCKING OR CONT RIM JOIST
10. JACK STUDS OR TRIMMERS
11. STAGGER JOINTS 24" OC OR USE SPLICE PLATES
12. CUT PLATE TIED WITH 16 GA STEEL STRAP
13. FIREBLOCK AROUND PIPE
14. (2) 2x PLATE
15. CONCRETE STEPPED WALL
16. HEADER, RE: PLAN OR HEADER SCHEDULE

4 STEPPED WALL FRAMING ELEVATION

1/2" = 1'-0"



DETAIL NOTES:

1. NAIL TO STUB WALL W/ (4)10d NAILS
2. NAIL BRACE W/ (3)10d NAILS
3. 2x6 VERT & 2x4 HORIZ NAILED TOGETHER IN 'L' SHAPE. 10d NAILS @ 12" OC MAX
4. ATTACH @ CEILING JOISTS W/ (2)10d NAILS

9 RZ210B - CEILING STEP DETAIL

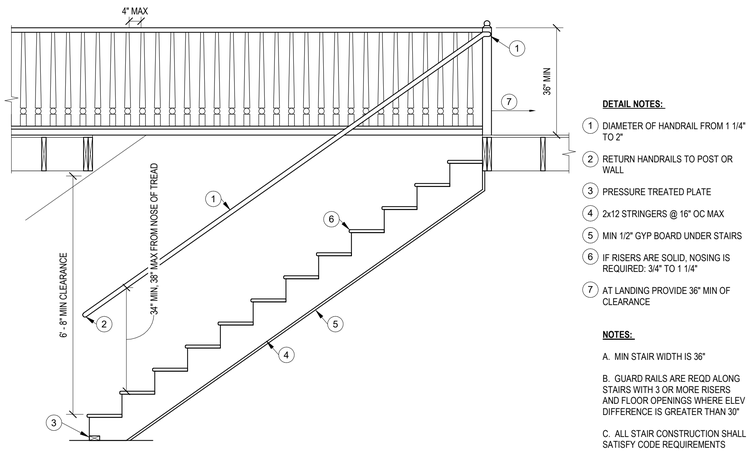
3/4" = 1'-0"

DETAIL NOTES:

1. CEILING JOISTS RE: PLAN FOR SIZE AND SPACING
2. STUB POST @ 16" OC. FASTEN TO LOWER CEILING JOIST W/ (4)10d NAILS
3. DOUBLE TOP PLATE
4. 2x4 KICKER SPACED AT 4' OC. ATTACH TO CEILING JOISTS W/ (3) 10D NAILS ON EA END

7 RZ210A - CEILING STEP DETAIL

3/4" = 1'-0"



DETAIL NOTES:

1. DIAMETER OF HANDRAIL FROM 1 1/4" TO 2"
2. RETURN HANDRAILS TO POST OR WALL
3. PRESSURE TREATED PLATE
4. 2x12 STRINGERS @ 16" OC MAX
5. MIN 1/2" GYP BOARD UNDER STAIRS
6. IF RISERS ARE SOLID, NOSING IS REQUIRED: 3/4" TO 1 1/4"
7. AT LANDING PROVIDE 36" MIN OF CLEARANCE

NOTES:

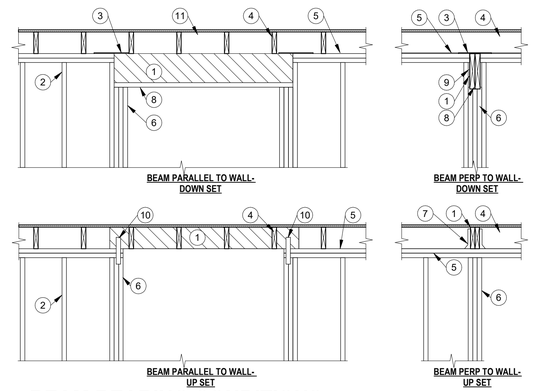
A. MIN STAIR WIDTH IS 36"

B. GUARD RAILS ARE REQD ALONG STAIRS WITH 3 OR MORE RISERS AND FLOOR OPENINGS WHERE ELEV DIFFERENCE IS GREATER THAN 30"

C. ALL STAIR CONSTRUCTION SHALL SATISFY CODE REQUIREMENTS

3 WOOD STAIRS

1/2" = 1'-0"

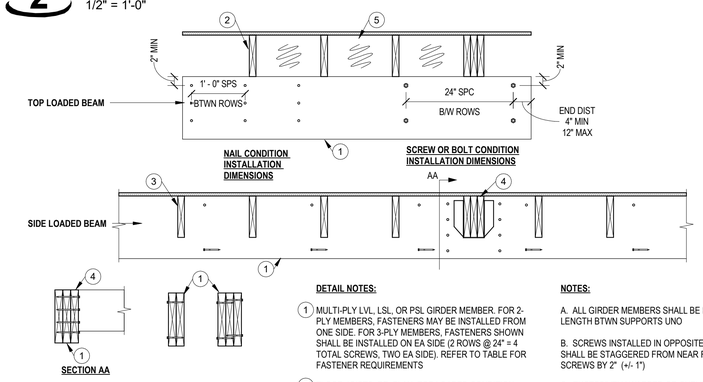


DETAIL NOTES:

1. WOOD BEAM, PER PLAN
2. WALL STUDS
3. IF TOP PLATE IS INTERRUPTED USE SIMPSON LSTA9 STRAP OR EQUIVALENT
4. WOOD JOISTS, RE: PLAN
5. DOUBLE 2x TOP PLATE
6. MIN 3 STUDS TO SUPPORT BEAM UNO ON PLAN
7. FACE MOUNT JOIST HANGER
8. COORD BOT OF BEAM ELEV W/ ARCH REQUIREMENTS
9. 1/2" OSB SPACERS AS REQD
10. SIMPSON LSTA9 STRAP EA SIDE
11. WHEN BEAM IS DOWNSET PROVIDE 2x FULL HT BLOCKING BTWN FLOOR JOISTS

2 BEAM BEARING CONDITIONS

1/2" = 1'-0"



FASTENER OPTIONS				
FASTENER	BM DEPTH	2-PLY	3-PLY	4-PLY
10d (0.128"x3") NAILS	7.25" TO 14"	3 @ 12" OC	3 @ 12" OC EA SIDE	NOT ALLOWED
10d (0.128"x3") NAILS	14" OR GREATER	4 @ 12" OC	4 @ 12" OC EA SIDE	NOT ALLOWED
1/2" DIA THRU BOLTS	7.25" OR GREATER	2 @ 24" OC	2 @ 24" OC	2 @ 16" OC
STRUCTURAL SCREW	7.25" OR GREATER	2 @ 24" OC	2 @ 24" OC EA SIDE	2 @ 16" OC EA SIDE

DETAIL NOTES:

1. MULTI-PLY LVL, LSL, OR PSL GIRDER MEMBER. FOR 2-PLY MEMBERS, FASTENERS MAY BE INSTALLED FROM ONE SIDE. FOR 3-PLY MEMBERS, FASTENERS SHOWN SHALL BE INSTALLED ON EA SIDE (2 ROWS @ 24" = 4 TOTAL SCREWS, TWO EA SIDE). REFER TO TABLE FOR FASTENER REQUIREMENTS
2. FLOOR JOISTS, RE: PLAN. TOP LOADED CONDITION
3. FLOOR JOISTS, RE: PLAN. SIDE LOADED CONDITION. PROVIDE FACE MOUNTED OR TOP FLANGE MOUNTED HANGERS ATTACHED TO GIRDER PER MFCR REQUIREMENTS
4. AT HEAVY LOADED BEAM HANGER LOCATIONS, PROVIDE (4) STRUCTURAL SCREWS EA SIDE OF HANGER. SCREWS SHALL PENETRATE ALL PLYS (3.25" MIN FOR 2 PLY, 5" MIN FOR 3 PLY). THIS SHALL BE TYP UNO
5. WHEN BEAM IS DOWNSET PROVIDE 2x FULL HEIGHT BLOCKING BTWN FLOOR JOISTS

NOTES:

A. ALL GIRDER MEMBERS SHALL BE FULL LENGTH BTWN SUPPORTS UNO

B. SCREWS INSTALLED IN OPPOSITE FACE SHALL BE STAGGERED FROM NEAR FACE SCREWS BY 2" (+/- 1")

C. EXCESSIVELY WARPED OR CURVED LVL SHOULD NEVER BE FORCED INTO ALIGNMENT BY USE OF CLAMPS, SCREWS OR BOLTS AS SPLITTING MAY OCCUR

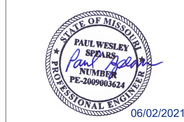
D. IF COUNTERSINKING SCREWS OR BOLTS IS REQUIRED, USE A SPADE BIT TO CREATE THE COUNTERSINK PRIOR TO INSTALLING THE FASTENER

E. BOLTS SHALL MEET OR EXCEED ASTM A307

F. STRUCTURAL SCREWS MAY BE ONE OF THE FOLLOWING PRODUCTS: 1/4"ø SIMPSON STRONG TIE SDS, WS SCREWS BY USP, OR TRUSSLOK SCREWS BY FASTENMASTER

1 BUILT-UP ENGR LUMBER BEAM

3/4" = 1'-0"



06/02/2021

SEALED FOR STRUCTURAL REVIEW

Signature BUILDERS KC, LLC

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Phone: (816) 215-0891

Website:
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STAND STRUCTURAL ENGINEERING INC
8234 Robinson Street
Overland Park, KS 66204
913-214-2569
stand-sei.com

CERTIFICATE OF AUTHORIZATION:
KS: E-1897
MO: 2015008897

No.	DESCRIPTION	DATE

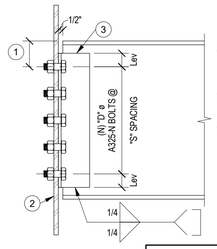
STRUCTURAL TYPICAL DETAILS

Project Number	21133
Date	06/01/2021
Drawn By	Author
Checked By	Checker

S011

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
Development Services
LEE'S SUMMIT, MISSOURI

Scale Not to Scale



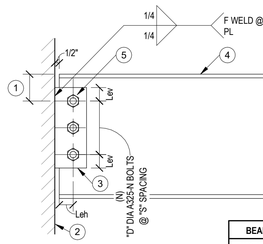
DETAIL NOTES:

1. 3" TYP EXCEPT AS RECOMMENDED BY AISC FOR W8 & SMALLER BEAMS OR FOR LARGER BEAMS
2. FACE OF: BEAM WEB, COL FLG, OR COL WEB
3. L 3 1/2 x 3 1/2 x 5/16 DBL ANGLE CONN (GA = 4 1/2" MIN)

BEAM	N	V-ALLOW (K)	VARIABLES
W8, W10	2	25.8	Lev = 1 1/2" D = 3/4" N = PER TABLE S = 3"
W12, W14	3	38.4	
W16	4	55.0	
W18	5	76.5	
W21, W24	6	97.0	

10 DOUBLE ANGLE CONN

1 1/2" = 1'-0"



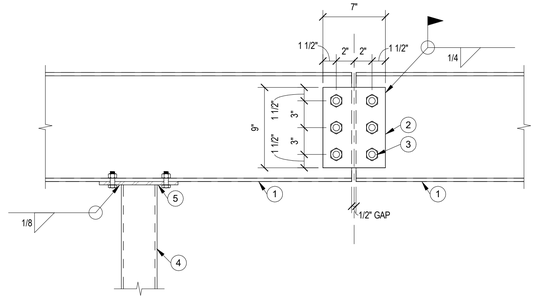
DETAIL NOTES:

1. 3" TYP EXCEPT AS RECOMMENDED BY AISC FOR W8 & SMALLER BEAMS OR FOR LARGER BEAMS
2. FACE OF BEAM WEB, COL FLG, COL WEB, OR EMBED PLATE
3. 5/16" TAB PL WIDTH = 2 x Leh+1/2" DEPTH AS REQD
4. STEEL BEAM, RE: PLAN
5. HOLES MAY BE HORIZ SHORT SLOTS AS REQD

BEAM	N	V-ALLOW (K)	VARIABLES
W8, W10	2	12.6	Lev = 1 1/2" Leh = 1 1/2" D = 3/4" N = PER TABLE S = 3"
W12, W14	3	22.4	
W16	4	33.0	
W18	5	41.3	
W21, W24	6	52.8	

9 SHEAR TAB CONN

1 1/2" = 1'-0"

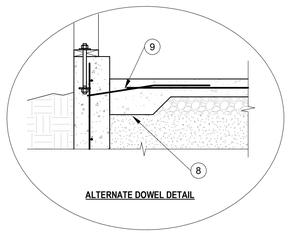


DETAIL NOTES

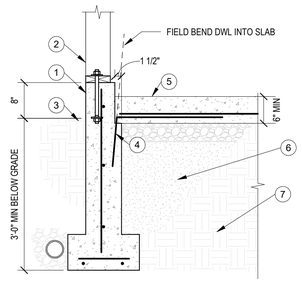
1. STEEL BEAM, RE: PLAN
2. 3/8" x 7" x 9" PLATE
3. ATTACH BEAMS TOGETHER W/ (6) 3/4" DIA A325 BOLTS. ALTERNATIVELY THE PLATES CAN BE WELDED ALL AROUND
4. STEEL COLUM, RE: PLAN
5. 5/16" x 8" x 8" CAP PLATE. CONNECT BEAM TO PL W/ (4) 1/2" DIA BOLTS, OR 1/8" WELD ALL AROUND

6 ST003 - BOLTED-SINGLE PLATE SHEAR SPLICE

1 1/2" = 1'-0"



ALTERNATE DOWEL DETAIL

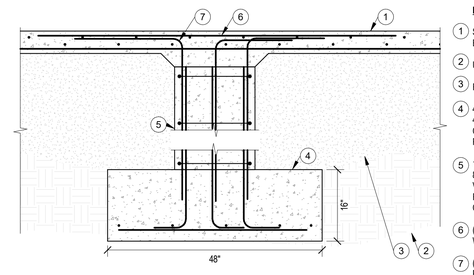


DETAIL NOTES:

1. BASEMENT WALL OR STEM WALL, RE: PLAN
2. WALL FRAMING. REFER TO PLAN & GENERAL NOTES. SIMILAR CONDITION @ FLOOR FRAMING
3. GRADE
4. #4 DWLS @ 12" OC x 3'-0" LONG. EMBED IN WALL 12". FIELD BEND INTO FLOOR SLAB. ALTERNATIVELY, DRILL & EPOXY DWLS 4" MIN INTO LEDGE
5. STRUCTURAL GARAGE SLAB. REINF PER DETAIL RZ136
6. COMPACTED FILL OR GRAVEL @ OVERDIG
7. NATIVE UNDISTURBED SOIL
8. 8" x 8" THICKENED SLAB
9. #4 DWLS @ 12" OC x 2'-0" LONG. DRILL & EPOXY 5" MIN INTO WALL

3 RZ139 - GARAGE SLAB EDGE

3/4" = 1'-0"

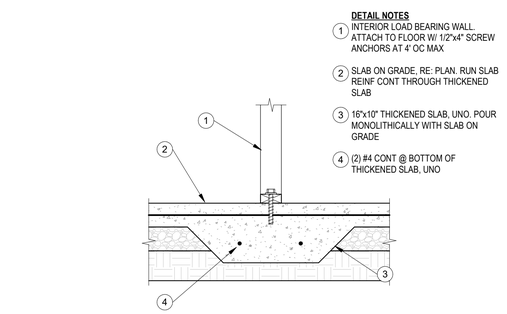


DETAIL NOTES:

1. SLAB ON GRADE. REINF W/ #4 BOT BARS EA WAY
2. UNDISTURBED NATIVE SOIL
3. FILL MATERIAL
4. 4'-0" SQ x 16" CONC FTG. REINF W/ (8) # 4 EA WAY BOT. BOT OF FTG TO BEAR ON UNDISTURBED SOIL, DEPTH AS REQD
5. 1'-0" SQ CONC PIER. HOLD TOP DOWN 8" BELOW TOP OF SLAB. REINF W/ (8) #4 VERTS (EMBED W/ STD HOOK INTO FTG). PROVIDE #3 CLOSED TIES @ 12" OC
6. (8) #4 TOP BARS x 6'-8" @ 8" OC. EA WAY. 1 1/2" CLEAR TO TOP OF SLAB
7. (8) #4 DWLS (1'-6" x 1'-6") 3 EA SIDE OF PIER

2 RZ137 - GARAGE PIER

3/4" = 1'-0"

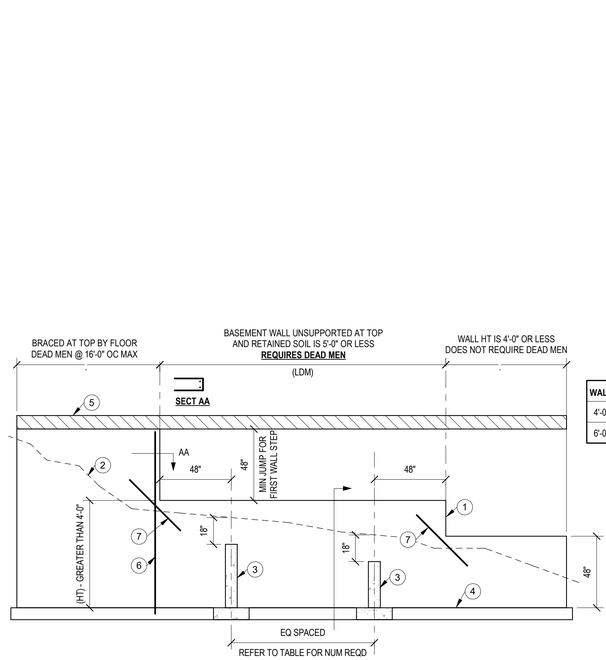


DETAIL NOTES:

1. BASEMENT WALL, RE: PLAN FOR SIZE & REINF
2. WALL FTG, RE: PLAN FOR SIZE & REINF
3. DEAD MAN FTG. 2'-0" WIDE x 2'-8". REINF W/ #4 @ 12" OC MAX. EXTEND BAR 12" INTO WALL FTG
4. #4 VERTS @ 12" OC W/ STD HOOK INTO FTG
5. #4 HORIZ @ 16" OC W/ STD HOOK INTO WALL

7 RZ138 - DEAD MAN SECTION

1/2" = 1'-0"



	NUM DEAD MEN REQD		
	1	2	3
WALL HT (HT)	LENGTH OF WALL REQUIRING DEAD MEN (LDM)		
4'-0" TO 6'-0"	10'-0" OR LESS	B/W 10'-0" & 18'-0"	B/W 18'-0" & 28'-0"
6'-0" TO 8'-0"	8'-0" OR LESS	B/W 8'-0" & 16'-0"	B/W 16'-0" & 24'-0"

DETAIL NOTES:

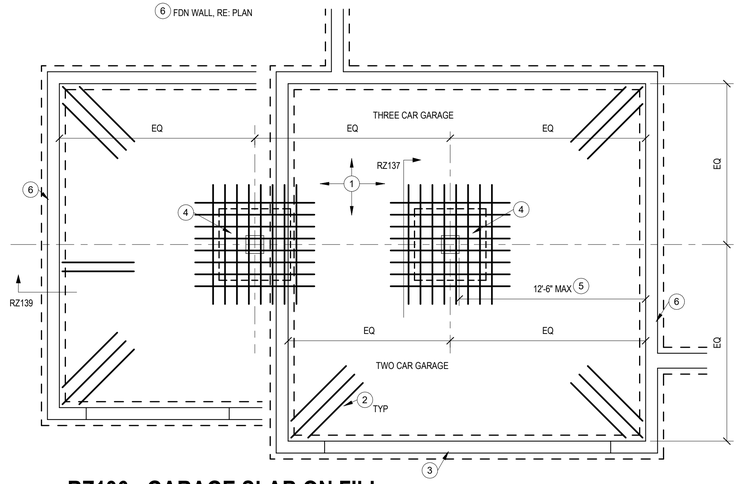
1. BASEMENT FOUNDATION WALL
2. GRADE
3. DEAD MAN, RE: RZ138
4. WALL FTG
5. WOOD FLOOR SYSTEM, RE: PLAN
6. PROVIDE (2) #4 VERTS AT TRANSITION FROM FULL HT WALL TO STEPPED WALL. 1 BAR EA FACE
7. (2) #4 x 4'-0" DIAG BARS AT CONC WALL STEP

4 RZ140 - BASEMENT WALL STEP

1/4" = 1'-0"

DETAIL NOTES:

1. 6" THICK CONC GARAGE SLAB. REINF W/ #4 @ 12" OC EA WAY. PROVIDE HOOKED DWLS INTO WALLS PER TYP DTL RZ139
2. (3) #4 CORNER BARS. SPACED 8" OC MAX
3. HOLD DOWN SLAB AT GARAGE DOORS AND MAN DOORS. PROVIDE HOOKED DWLS INTO FDN WALL
4. CONC PEDESTAL AND FTG PER TYP DTL RZ137. (1) PIER REQD FOR 2 CAR GARAGE, (2) PIERS REQD FOR 3 CAR GARAGE
5. MAX DIST FROM FACE OF PIER TO ANY CONC WALL OR ADDITIONAL PIER SHALL BE 12'-6" OR LESS
6. FDN WALL, RE: PLAN



1 RZ136 - GARAGE SLAB ON FILL

1/4" = 1'-0"

PAUL WESLEY SEARS
NUMBER PE-2009003624
PROFESSIONAL ENGINEER
STATE OF MISSOURI
06/02/2021

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CERTIFICATE OF AUTHORIZATION:
KS: E-1897
MO: 2015008897

No.	DESCRIPTION	DATE

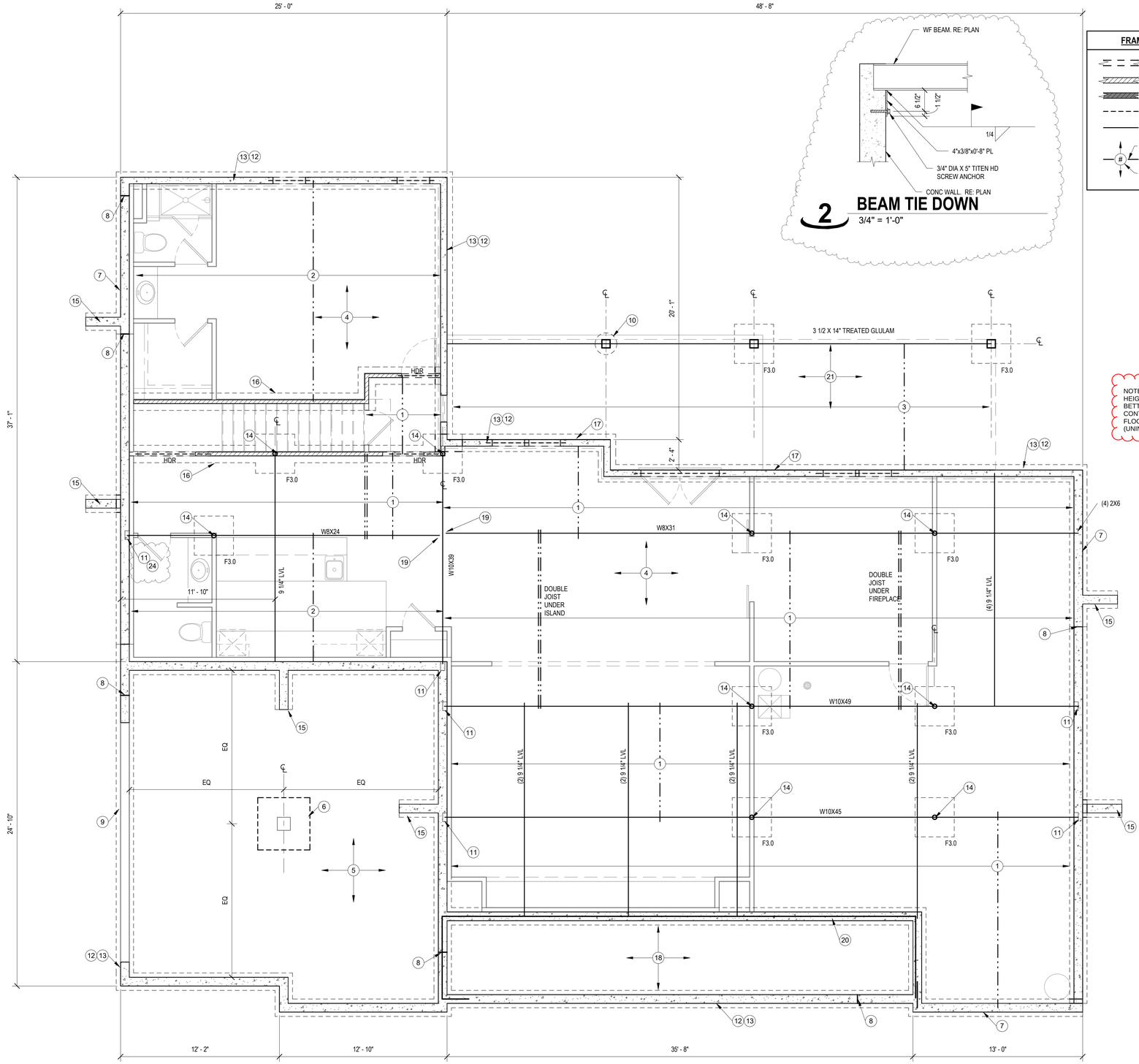
STRUCTURAL TYPICAL DETAILS

Project Number	21133
Date	06/01/2021
Drawn By	Author
Checked By	Checker

S012

RELEASED FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
Development Services
LEE'S SUMMIT, MISSOURI

Scale As Indicated



2 BEAM TIE DOWN

3/4" = 1'-0"

FRAMING LEGEND

- FOUNDATION
- LOAD BEARING WALL
- SHEAR WALL
- HEADER
- BEAM
- SPAN DIRECTION
- JOIST / TRUSS
- EXTENTS OF JOIST TYPE

NOTE: ALL WALLS OVER 10FT IN HEIGHT SHALL BE 2X4 SPF #2 OR BETTER @ 16" OC AND SHALL BE CONTINUOUS FROM FLOOR TO FLOOR OR FLOOR TO ROOF (UNINTERUPTED)

SHEET NOTES

A. REFER TO SHEET S001 FOR STRUCTURAL GENERAL NOTES.

B. REFER TO S010-S012 FOR TYPICAL STRUCTURAL DETAILS.

C. ALL WOOD HEADERS IN PERIMETER WALLS AND INTERIOR LOAD BEARING WALLS NOT SPECIFICALLY CALLED OUT SHALL BE SELECTED FROM THE HEADER SCHEDULE ON TYPICAL DETAIL SHEETS.

D. ALL WOOD BEAMS SHALL BEAR ON A MINIMUM OF (3) 2x4 STUDS OR SHALL ATTACH TO INTERSECTING WOOD BEAMS WITH A SIMPSON HUGS410 OR BETTER UNO.

E. ALL MULTI-PLY ENGINEERING LUMBER BEAMS ARE DESIGNATED BY NUMBER OF PLYS AND DEPTH [EX: (3) 14" LVL]. THE PLYS SHALL BE 1.75" WIDTH UNLESS NOTED OTHERWISE AND STRENGTH SHALL BE PER THE GENERAL NOTES. BEAMS SHALL BE FASTENED TOGETHER PER THE TYPICAL DETAILS.

F. REFER TO ARCHITECTURAL SHEETS FOR ALL DIMENSIONS.

G. ALL STEEL BEAMS IN 1ST FLOOR FRAMING SHALL BE DOWNSET UNLESS NOTED OTHERWISE. ALL OTHER BEAMS IN 1ST FLOOR FRAMING SHALL BE UPSET, UNLESS NOTED OTHERWISE.

H. ALL WALLS SHALL BE 2x4 @ 16" OC, UNLESS NOTED OTHERWISE. ALL EXTERIOR WALLS ARE LOAD BEARING. USE 2X6 @ 16" OC FOR LOWER LEVEL WALKOUT WALLS

I. REFER TO SHEET S104 FOR BRACED WALL INFORMATION.

J. BEAM HANGERS ARE DENOTED ON PLANS AS "HXX". REFER TO SCHEDULE ON S101 FOR REQUIREMENTS. WHERE NOT CALLED OUT, CONTACT ENGINEER OR USED HEAVIEST HANGER FOR NUMBER OF PLYS IN BEAM BEING SUPPORTED.

K. SPECIFIC BEAMS CALLED OUT ON PLANS SHALL BE LOCATED UNDER THE LOAD BEARING ELEMENTS ABOVE.

L. PROVIDE DOUBLE FLOOR JOIST UNDER ALL WALLS PARALLEL W/ JOIST.

M. SPREAD FOOTINGS ARE DENOTED AS "F.X.X". REFER TO SPREAD FOOTING SCHEDULE ON THIS SHEET FOR FOOTING SIZES AND REINFORCING.

N. ANCHOR RODS SHALL BE PLACED IN TO THE TOP OF THE FOUNDATION WALLS PER THE GENERAL NOTES.

O. PROVIDE PERIMETER FOUNDATION DRAINS.

FDN PLAN NOTES:

1. 2x10 FLOOR JOISTS @ 16" OC
2. FLOOR JOIST OPTIONS: A) 2x10 @ 12" OC OR B) 2x10 @ 16" W/ EVERY OTHER JOIST DOUBLED. FOR IMPROVED DEFLECTION CONTROL, USE (2) 2x10 @ 19.2" OC
3. 2x10 TREATED FLOOR JOISTS @ 16" OC
4. 4" THICK BASEMENT SLAB, RE: GENERAL NOTES FOR REINF AND JOINTING REQUIREMENTS
5. GARAGE SLAB, RE: TYP DETAIL RZ136 FOR GARAGE SLAB ON FILL REQUIREMENTS
6. GARAGE PIER, RE: TYPICAL DETAILS
7. 8" CONCRETE BASEMENT WALL ON 16" WIDE x 8" DEEP CONT FTG. REINF WALL W/ #4 VERTS @ 12" OC MAX ON THE INSIDE FACE W/ (5) #4 HORIZ EQUALLY SPACED, UNO. EMBED VERTS 6" MIN INTO FTG. REINF FTG W/ (2) #4 CONT
8. STEP IN FOOTING. BOTTOM OF FOOTINGS TO BE 3'-0" MIN BELOW GRADE FOR FROST DEPTH
9. RECESS STEM WALL AT GARAGE DOOR
10. 18" DIAMETER CONCRETE PIER. REINF W/ (4) #4 VERTS AND #3 TIES @ 12" OC. BOTTOM OF PIER TO BE 3'-0" MIN BELOW GRADE. PROVIDE SIMPSON ABU66Z POST BASE ANCHORED W/ 5/8" DIA TITEN HD SCREW ANCHOR x 4" MIN EMBED
11. BLOCK OUT FOR BEAM POCKET IN CONCRETE WALL. PROVIDE 4" MIN OF BEARING
12. STUD WALL ON TO OF STEM WALL FOR WALKOUT BASEMENT
13. 8" CONCRETE STEM WALL ON 16" WIDE x 8" DEEP CONT FTG. REINF WALL W/ #4 VERTS @ 18" OC AND (3) #4 HORIZ EQ SPACED. EMBED VERTS 6" MIN INTO FTG. REINF FTG W/ (2) # 4 CONT
14. 3 1/2" DIA STD PIPE COL (SCH 40), RE: TYPICAL DETAILS FOR TOP AND BOT CONDITIONS
15. DEAD MEN, RE: TYPICAL DETAIL RZ138 AND RZ140
16. PROVIDE THICKENED SLAB BELOW LOAD BRG WALL. 16" WIDE x 10" THICK MIN. REINF W/ (2) #4 CONT BOT BARS
17. 2x10 TREATED LEDGER BOARD. PROVIDE DECAY RESISTANT SHIMS AND FASTEN TO RIM JOIST W/ (2) FASTENMASTER LEDGERLOK SCREWS @ 16" OC
18. 6" THICK PORCH SLAB. REINF W/ #4 @ 12" OC EA WAY BOT BARS. PROVIDE WATERSTOP AT INTERSECTION WITH WALL CONCRETE. PROVIDE #4 DOWELS (2'-0" x 2'-0") AT PERIMETER AT 18" OC
19. PROVIDE BOLTED CONNECTION BETWEEN STEEL BEAMS. (2) 5/8" DIA. BOLTS MIN AND 5/16" CONN PLATE. ALT, THE CONNECTION CAN BE WELDED W/ A 3/16" WELD ALL AROUND
20. PROVIDE 1 1/2" LEDGE FOR PORCH SLAB SUPPORT
21. 6" THICK PATIO SLAB. REINF W/ #4 @ 12" OC EA WAY BOT BARS. PROVIDE 12"x12" THICKENED SLAB AT EDGE. REINF W/ (2) #4 CONT. PROVIDE #4 DOWELS (2'-0" LONG W/ STD HOOK) AT PERIMETER AT 18" OC
22. WHERE TILE IS TO BE INSTALLED, CONSIDER USING DECOUPLING MEMBRANE TO PREVENT CRACKING
23. AT CONTRACTOR OPTION, BEAM SPLICE MAY BE INSTALLED AT THIS LOCATION. EITHER PROVIDE (2) BOLT SHEAR SPLICE CONN (3/4" DIA BOLTS, 5/16" PLATE), OR DOUBLE COLUMNS AS SHOWN IF BEAM IS SPLICED. ALT, THE CONNECTION CAN BE WELDED W/ A 3/16" WELD ALL AROUND
24. PROVIDE BEAM TIE DOWN PER 2/S100

SCHEDULE - SPREAD FOOTING (BASED ON 1,500 PSF ALLOWABLE BEARING PRESSURE)

MARK	LENGTH	WIDTH	THICKNESS	REINFORCEMENT	MINIMUM RATED COLUMN CAPACITY [ASD]	COLUMN SIZE (STD / SCHEDULE 40 PIPE) 9'-0" LONG MAX	MIN COLUMN INSIDE DIAMETER [ID]	MIN COLUMN OUTSIDE DIAMETER [OD]
F2.5	2' - 6"	2' - 6"	1' - 0"	(4) #4 EA WAY, BOT	9.4 Kips	3"	3"	3 1/2"
F3.0	3' - 0"	3' - 0"	1' - 0"		13.5 Kips	3"	3"	3 1/2"
F3.5	3' - 6"	3' - 6"	1' - 2"	(7) #4 EA WAY, BOT	18.4 Kips	3"	3"	3 1/2"
F4.0	4' - 0"	4' - 0"	1' - 4"	(8) #4 EA WAY BOT	24.0 Kips	3"	3"	3 1/2"
F4.5	4' - 6"	4' - 6"	1' - 4"	(9) #4 EA WAY, BOT	30.4 Kips	3 1/2"	3 1/2"	4"
F5.0	5' - 0"	5' - 0"	1' - 6"	(10) #4 EA WAY, BOT	37.5 Kips	3 1/2"	3 1/2"	4"

1 FOUNDATION PLAN

1/4" = 1'-0"

NORTH

PAUL WESLEY SPEARS NUMBER PE-2009003424 STATE OF MISSOURI PROFESSIONAL ENGINEER

02/17/2022

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CERTIFICATE OF AUTHORIZATION:
KS: E-1897
MO: 2015008897

No.	DESCRIPTION	DATE
1	REVISIONS	02/17/2022

FOUNDATION AND 1ST FLOOR FRAMING PLAN

Project Number	21133
Date	06/01/2021
Drawn By	NH
Checked By	PWS

S100

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
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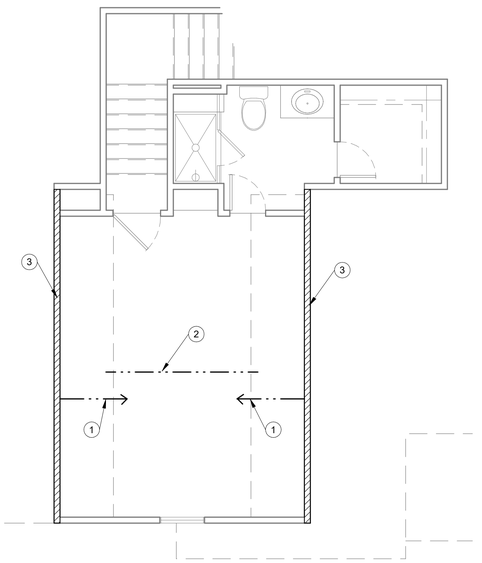
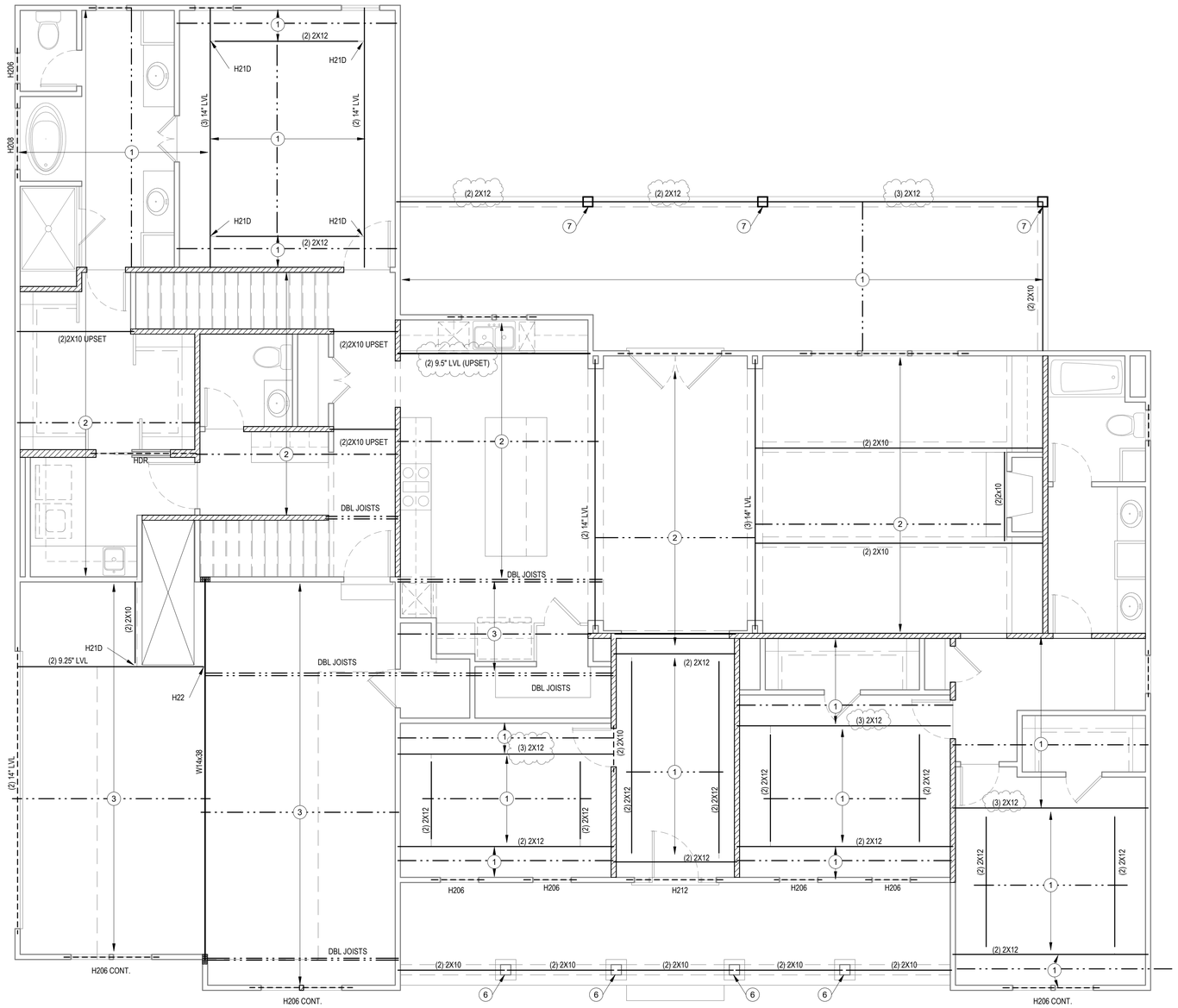
LEE'S SUMMIT, Missouri



2 BONUS ROOM
1/4" = 1'-0"

BONUS ROOM FRAMING PLAN NOTES:

1. ROOF RAFTER EXTENDS UP TO RIDGE BEAM, BUT ALSO FORMS PART OF VAULTED CEILING
2. 2x6 CEILING JOISTS @ 16" OC. NOTE: AREAS ABOVE CEILING ARE NOT DESIGNED FOR STORAGE, EXCEPT IN THE GARAGE PROVIDE (6) 10d NAILS @ INTERFACE W/ ROOF RAFTERS
3. LOAD BEARING STUD WALL



NORTH

1 CEILING FRAMING PLAN
1/4" = 1'-0"

FRAMING LEGEND

- FOUNDATION
- LOAD BEARING WALL
- SHEAR WALL
- HEADER
- BEAM
- SPAN DIRECTION
- JOIST / TRUSS
- EXTENTS OF JOIST TYPE

SHEET NOTES

A. REFER TO SHEET S001 FOR STRUCTURAL GENERAL NOTES.

B. REFER TO S010-S012 FOR TYPICAL STRUCTURAL DETAILS.

C. ALL WOOD HEADERS IN PERIMETER WALLS AND INTERIOR LOAD BEARING WALLS NOT SPECIFICALLY CALLED OUT SHALL BE SELECTED FROM THE HEADER SCHEDULE ON TYPICAL DETAIL SHEETS.

D. ALL WOOD BEAMS SHALL BEAR ON A MINIMUM OF (3) 2x4 STUDS OR SHALL ATTACH TO INTERSECTING WOOD BEAMS WITH A SIMPSON HUGS410 OR BETTER UNO.

E. ALL MULTI-PLY ENGINEERING LUMBER BEAMS ARE DESIGNATED BY NUMBER OF PLYS AND DEPTH [EX: (3) 14" LVL]. THE PLYS SHALL BE 1.75" WIDTH UNLESS NOTED OTHERWISE AND STRENGTH SHALL BE PER THE GENERAL NOTES. BEAMS SHALL BE FASTENED TOGETHER PER THE TYPICAL DETAILS.

F. REFER TO ARCHITECTURAL SHEETS FOR ALL DIMENSIONS.

G. ALL BEAMS IN CEILING FRAMING SHALL BE UPSET, UNLESS NOTED AS DOWNSET OR HDR. IF HEADER SIZE IS NOT GIVEN PICK THE SIZE FROM THE CHART ON THE TYP DETAIL SHEETS.

H. ALL WALLS SHALL BE 2x4 @ 16" OC, UNLESS NOTED OTHERWISE. ALL EXTERIOR WALLS ARE LOAD BEARING.

I. REFER TO SHEET S104 FOR BRACED WALL INFORMATION.

J. BEAM HANGERS ARE DENOTED ON PLANS AS "HXX". REFER TO SCHEDULE ON S101 FOR REQUIREMENTS. WHERE NOT CALLED OUT, CONTACT ENGINEER OR USED HEAVIEST HANGER FOR NUMBER OF PLYS IN BEAM BEING SUPPORTED.

K. SPECIFIC BEAMS CALLED OUT ON PLANS SHALL BE LOCATED UNDER THE LOAD BEARING ELEMENTS ABOVE.

L. PROVIDE DOUBLE FLOOR JOIST UNDER ALL WALLS PARALLEL W/ JOIST.

CEILING FRAMING PLAN NOTES:

1. 2x6 CEILING JOISTS @ 16" OC. NOTE: AREAS ABOVE CEILING ARE NOT DESIGNED FOR STORAGE, EXCEPT IN THE GARAGE
2. 2x8 CEILING JOISTS @ 16" OC. NOTE: AREAS ABOVE CEILING ARE NOT DESIGNED FOR STORAGE, EXCEPT IN THE GARAGE
3. 2x10 @ 16" OC
4. (5) STUDS MIN FOR BRG
5. 2x10 TREATED FLOOR JOISTS @ 16" OC
6. 6x6 TREATED WOOD POST (MIN) NOTCH TOP FOR BEAM SEAT & PROVIDE (2) 1/2" THRU BOLTS
7. 6x6 TREATED WOOD POST (MIN) NOTCH TOP FOR BEAM SEAT & PROVIDE (2) 1/2" THRU BOLTS

NOTE: ALL WALLS OVER 10FT IN HEIGHT SHALL BE 2X4 SPF #2 OR BETTER @ 16" OC AND SHALL BE CONTINUOUS FROM FLOOR TO FLOOR OR FLOOR TO ROOF (UNINTERUPTED)

STATE OF MISSOURI
PAUL WESLEY SPEARS
NUMBER PE-2009003624
PROFESSIONAL ENGINEER
02/17/2022

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STAND STRUCTURAL ENGINEERING INC
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Overland Park, KS 66204
913-214-2169
stand-sei.com

CERTIFICATE OF AUTHORIZATION:
KS: E-1897
MO: 2015008897

No.	DESCRIPTION	DATE
1	REVISIONS	02/17/2022

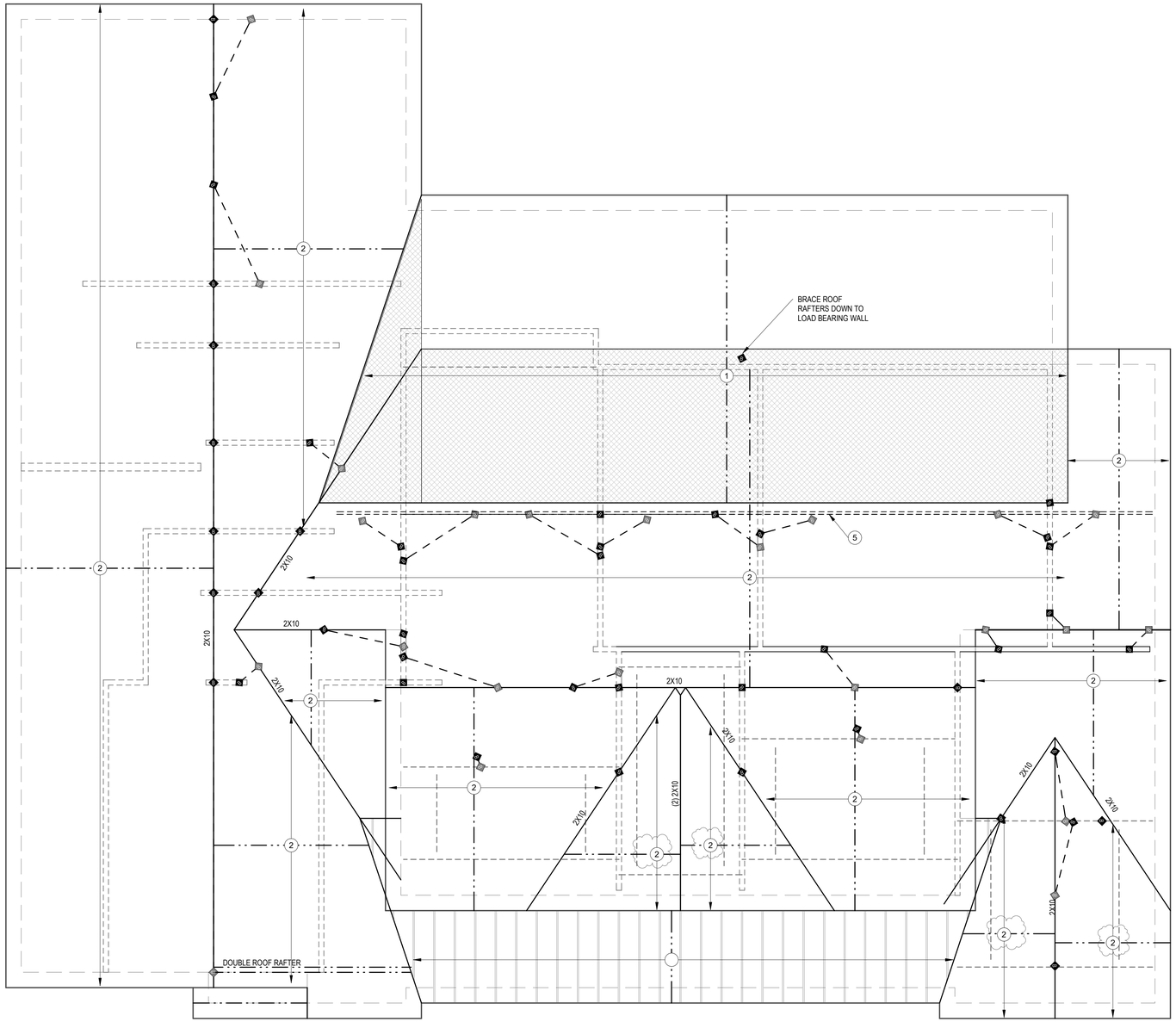
2ND FLOOR CEILING FRAMING PLAN

Project Number	21133
Date	06/01/2021
Drawn By	MM
Checked By	PWS
Scale	1/4"

S101

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
Development Services
LEE'S SUMMIT, MISSOURI

ROOF RAFTERS PER SCHEDULE ON THIS SHEET. RAFTERS IN VAULTED AREAS SHALL BE 2X10 MIN. OR FURRED DOWN AS REQUIRED TO ALLOW FOR INSULATION.



FOUNDATION PLAN

1/4" = 1'-0"

NORTH

SHEET NOTES

A. REFER TO SHEET S001 FOR STRUCTURAL GENERAL NOTES.

B. REFER TO S010-S012 FOR TYPICAL STRUCTURAL DETAILS.

C. ALL WOOD HEADERS IN PERIMETER WALLS AND INTERIOR LOAD BEARING WALLS NOT SPECIFICALLY CALLED OUT SHALL BE SELECTED FROM THE HEADER SCHEDULE ON TYPICAL DETAIL SHEETS.

D. ALL WOOD BEAMS SHALL BEAR ON A MINIMUM OF (3) 2x4 STUDS OR SHALL ATTACH TO INTERSECTING WOOD BEAMS WITH A SIMPSON HUGS410 OR BETTER UNO.

E. ALL MULTI-PLY ENGINEERING LUMBER BEAMS ARE DESIGNATED BY NUMBER OF PLYS AND DEPTH (EX: (3) 14" LVL) THE PLYS SHALL BE 1.75" WIDTH UNLESS NOTED OTHERWISE AND STRENGTH SHALL BE PER THE GENERAL NOTES. BEAMS SHALL BE FASTENED TOGETHER PER THE TYPICAL DETAILS.

F. REFER TO ARCHITECTURAL SHEETS FOR ALL DIMENSIONS.

G. ALL BEAMS IN CEILING FRAMING SHALL BE UPSET, UNLESS NOTED AS DOWNSET OR HDR. IF HEADER SIZE IS NOT GIVEN PICK THE SIZE FROM THE CHART ON THE TYP DETAIL SHEETS.

H. ALL WALLS SHALL BE 2x4 @ 16" OC, UNLESS NOTED OTHERWISE. ALL EXTERIOR WALLS ARE LOAD BEARING.

I. REFER TO SHEET S104 FOR BRACED WALL INFORMATION.

J. BEAM HANGERS ARE DENOTED ON PLANS AS "HXX". REFER TO SCHEDULE ON S101 FOR REQUIREMENTS. WHERE NOT CALLED OUT, CONTACT ENGINEER OR USED HEAVIEST HANGER FOR NUMBER OF PLYS IN BEAM BEING SUPPORTED.

K. SPECIFIC BEAMS CALLED OUT ON PLANS SHALL BE LOCATED UNDER THE LOAD BEARING ELEMENTS ABOVE.

L. PROVIDE DOUBLE FLOOR JOIST UNDER ALL WALLS PARALLEL W/ JOIST.

ROOF FRAMING PLAN NOTES:

1. 2X6 ROOF RAFTERS @ 16" OC
2. 2X8 ROOF RAFFTERS @ 16" OC
3. 2X10 ROOF RAFFTERS @ 16" OC
4. VALLEY RAFTER STOPS AT THIS LOCATION
5. ROOF PURLIN, RE: TYPICAL DETAIL RZ404
6. RIDGE BEAM IS GENERALLY NON STRUCTURAL CEILING JOISTS TO LAP ROOF RAFTERS AND CREATE COLLAR TIE CONDITION AT THE CEILING ELEVATION
7. 2x4 OUTLOOKERS @ 2'-0" OC. BACK SPAN ON OUTLOOKERS = 1.5 x OVERHANG DISTANCE (MIN). IF PROVIDING GABLE TRUSS, HOLD TOP CHORD DOWN FOR OUTLOOKERS

ROOF FRAMING LEGEND

- (#) SPAN DIRECTION / EXTENTS OF JOIST TYPE — JOIST OR RAFTER
- BEAM, RIDGE, HIP RAFTER, OR VALLEY RAFTER
- OVER BUILD FRAMING
- HEADER
- LEDGER
- HIGH SIDE / LOW SIDE — ROOF BRACE (ANGLED)
- LOAD BEARING WALL BELOW

ROOF RAFTER SPAN TABLE

MEMBER	SPACING	SLOPE	SPANS (H/S)) **
2x6	16"	4	12'-0" (13'-5")
		6	12'-0" (14'-4")
		8	11'-6" (14'-10")
		10	11'-0" (15'-5")
		12	10'-6" (16'-1")
2x6	24"	4	10'-6" (11'-8")
		6	10'-0" (12'-1")
		8	10'-0" (13'-0")
		10	9'-6" (13'-6")
		12	9'-0" (14'-0")
2x8	16"	4	16'-0" (17'-8")
		6	15'-6" (18'-3")
		8	15'-0" (19'-2")
		10	14'-6" (20'-2")
		12	14'-0" (21'-2")
2x8	24"	4	14'-0" (15'-7")
		6	13'-6" (16'-1")
		8	13'-0" (16'-9")
		10	12'-6" (17'-0")
		12	12'-0" (18'-5")
2x10	16"	4	20'-6" (22'-6")
		6	20'-0" (23'-5")
		8	19'-0" (24'-1")
		10	18'-6" (25'-6")
		12	18'-0" (27'-1")
2x10	24"	4	17'-6" (19'-4")
		6	17'-0" (19'-8")
		8	16'-6" (21'-1")
		10	16'-0" (22'-3")
		12	15'-6" (23'-6")

** H=HORIZ SPAN S=SLOPED SPAN

NOTES:

1. MINIMUM GRADES OF WOOD SHALL BE PER THE GENERAL NOTES.

2. SPANS ARE BASED ON LIGHT ROOF COVERING (15 PSF DL + 20 PSF LL), AND DEFLECTION LIMITS OF L/240 FOR LIVE LOAD & L/180 FOR TOTAL LOAD

ROOF BRACING POST	
POST	MAX LENGTH
(2) 2x4	8'-0"
(2) 2x6	12'-0"

MEMBERS SHALL BE CONNECTED TOGETHER TO FORM A "I" SHAPE W/ 3" LONG WOOD SCREWS @ 16" OC, OR 10d NAILS @ 6" OC

STATE OF MISSOURI
PAUL WESLEY SPEARS
NUMBER PE-2009003624
PROFESSIONAL ENGINEER
02/17/2022

SEALED FOR STRUCTURAL REVIEW

Signature BUILDERS KC,LLC

Signature Builders KC, LLC
2751 NE Douglas St. - Suite R
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Phone: (816) 215-0891

Website:
www.sb-kc.net

The Hardin Residence

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ROOF FRAMING PLAN

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S102

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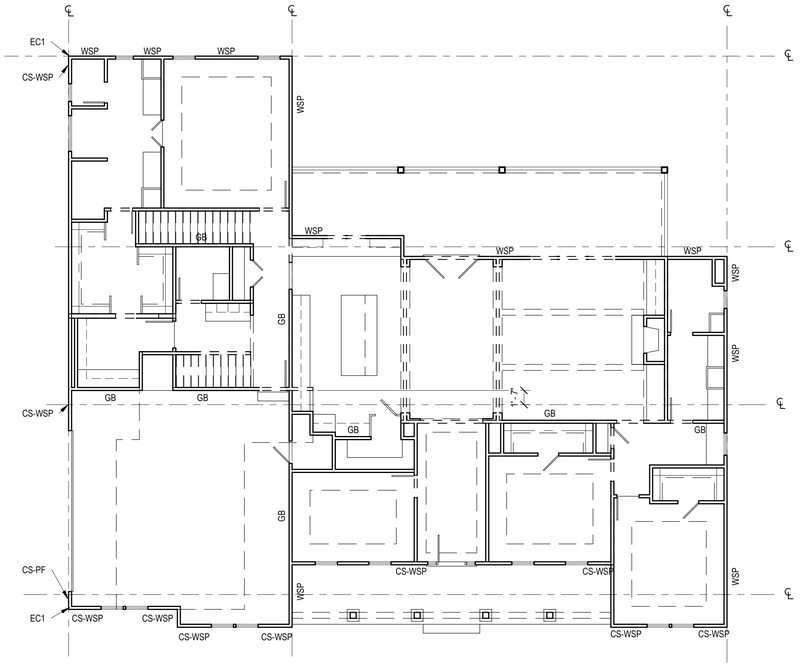
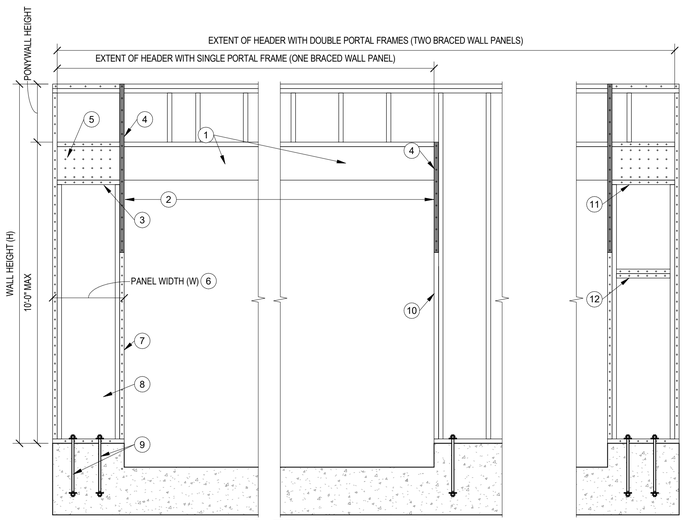
Scale 1/4" = 1'-0"



2 BRACED WALL PLAN (MAIN LEVEL)

1/8" = 1'-0"



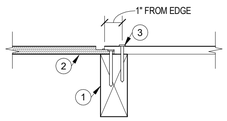
MINIMUM PANEL WIDTH	
"H"	"W"
8'-0"	16"
9'-0"	18"
10'-0"	20"

DETAIL NOTES:

1. MINIMUM 3" x 11.25" NET HEADER
2. SPAN = 6'-0" TO 18'-0"
3. FASTEN TOP PLATE TO HEADER WITH TWO ROWS OF 16d SINKER NAILS AT 3" OC TYP
4. 1000# STRAP OPPOSITE SHEATHING
5. FASTEN SHEATHING TO HEADER WITH 8d COMMON OR GALVANIZED BOX NAILS IN 3" GRID PATTERN AS SHOWN AND 3" OC IN ALL FRAMING (STUDS, BLOCKING, AND SILLS) TYP
6. REFER TO PANEL WIDTH SCHEDULE
7. MIN 2x4 FRAMING
8. MIN 7/16" THICKNESS WOOD STRUCTURAL PANEL SHEATHING
9. MIN (2) 1/2" ANCHOR RODS WITH 2" x 2" x 3/16" PLATE WASHER
10. MIN DOUBLE 2x4 DOUBLE POST
11. TYPICAL PORTAL FRAME CONSTRUCTION
12. FOR A PANEL SPLICE (IF NEEDED), PANEL EDGES SHALL BE BLOCKED AND OCCUR WITHIN 24" OF MID-HEIGHT. ONE ROW OF TYP SHEATHING-TO-FRAMING NAILING IS REQUIRED. IF 2x4 BLOCKING IS USED, THE 2x4S MUST BE NAILED TOGETHER WITH (3) 16d SINKERS

6 RZ206A - PORTAL FRAME @ GARAGE

1/2" = 1'-0"



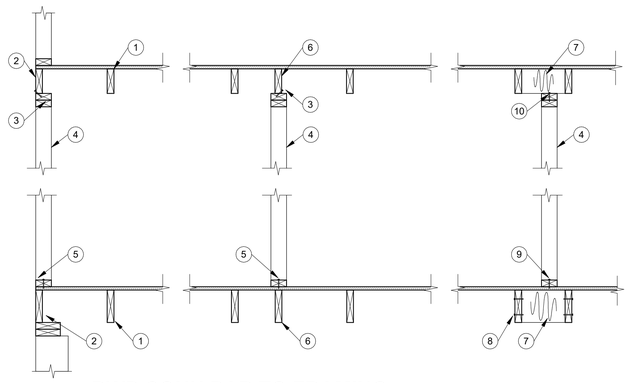
DETAIL NOTES:

1. STUD
2. SMART SIDING
3. (2) 6d NAILS MIN

BRACED WALL DOUBLE NAILING REQUIREMENT AT PANEL LAPS FOR LP SMARTSIDE PANEL OR SIM TYPE WALL SHEATHING

4 RZ214 - BRACED WALL NAILING

3" = 1'-0"

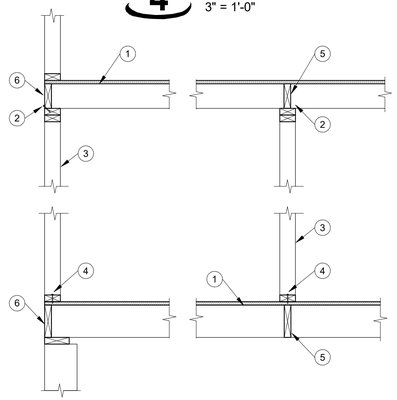


DETAIL NOTES:

1. FRAMING ORIENTED PARALLEL TO BRACED WALL PANEL
2. CONT RIM OR END JOIST
3. 8d @ 6" OC ALONG BRACED WALL PANEL
4. BRACED WALL PANEL
5. (3)16d @ 16" OC ALONG BRACED WALL PANEL
6. ADDITIONAL FRAMING MEMBER DIRECTLY BELOW BRACED WALL PANEL
7. FULL HEIGHT BLOCKING @ 16" OC ALONG BRACED WALL
8. (2) 16d NAILS @ EA BLOCKING MEMBER
9. (3)16d NAILS @ EA BLOCKING MEMBER
10. TOE NAIL (3) 8d NAILS @ EA BLOCKING MEMBER

5 BWP CONN PAR TO FRAMING

3/4" = 1'-0"



DETAIL NOTES:

1. PERPENDICULAR FRAMING
2. 8d @ 6" OC ALONG BRACED WALL PANEL
3. BRACED WALL PANEL
4. (3)16d @ 16" OC ALONG BRACED WALL PANEL
5. FULL HT BLOCKING CONT ALONG LENGTH OF BRACED WALL PANEL
6. CONT RIM OR BAND JOIST

3 BWP CONN PERP TO FRAMING

3/4" = 1'-0"

BRACED WALL PANEL LEGEND:

WSP: WOOD STRUCTURAL PANEL. PANEL THICKNESS AND NAILING REQUIREMENTS IN GENERAL NOTES MEET BRACED WALL REQUIREMENTS.

GB: GYP BOARD. 1/2" GYP BOARD EA SIDE OF WALL. NAILS OR SCREWS PER GENERAL NOTES MAY BE USED. MAX FASTENER SPACING = 7" FOR BOTH EDGE AND FIELD FASTENERS.

PFG: PORTAL FRAME GARAGE, RE: TYP DETAIL RZ-206A FOR REQUIREMENTS.

CS-PF: CONTINUOUSLY SHEATHED PORTAL FRAME. CONSTRUCT SIMILAR TO TYP DETAIL RZ-206A EXCEPT THAT ALL SURFACES SHALL BE CONTINUOUSLY SHEATHED.

CS-WSP: CONTINUOUSLY SHEATHED WOOD STRUCTURAL PANEL.

EC-#: END CONDITION FOR CONTINUOUSLY SHEATH WALL PANEL.

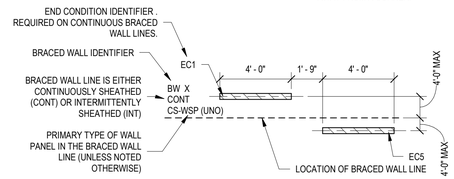
END CONDITIONS (CONTINUOUSLY SHEATHED)

EC1: PROVIDE RETURN PANEL AT THE END OF THE WALL. MIN RETURN PANEL LENGTH = 24".

EC2: PROVIDE SIMPSON DTT2Z HOLDDOWN AT CORNER. FASTEN TO STUDS W/ (8) SIMPSON SDS SCREWS AND ANCHOR TO CONCRETE W/ 1/2" DIA SIMPSON TITEN HD SCREW ANCHOR x 4" MIN EMBED (6" OVERALL LENGTH). WHERE HOLDDOWN IS REQUIRED BETWEEN FLOORS, PROVIDE DTT2Z ABOVE AND BELOW FLOOR AND FASTEN TO WALL STUDS. CONNECT TOGETHER WITH 1/2" DIAMETER THREADED ROD.

EC3: 48" WIDE BRACED WALL PANEL AT THE END OF THE WALL. NO RETURN PANEL IS REQUIRED.

EC5: SIMILAR TO EC2, EXCEPT HOLDDOWN DOES NOT OCCUR AT CORNER, BUT MAY BE UPTO 10'-0" AWAY FROM A CORNER.



1 BRACED WALL PANEL LEGEND

1/4" = 1'-0"

PAUL WESLEY SEDLAK NUMBER PE-2009003624 STATE OF MISSOURI PROFESSIONAL ENGINEER

06/02/2021

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Scale