DRAWING INDEX

Andrea Sessler

Digitally signed by Andrea Sessler
DN: CN=Andrea Sessler, OU=Development, OU=LS Users, DC=COLS, DC=LOC
Date: 2026.03.06 09:46:30-06'00'

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
03/06/2026 9:46:03

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PERGOLA PARK LOT 139
1108 SW CORINTHIAN LN
LEE's SUMMIT, MO. 64801

LANDROCK SIGNATURE HOMES L.L.C.
4335 McGEE ST. • 816-863-5588
KANSAS CITY, MO 64111

STATE OF MISSOURI
DANIEL J. WEBSTER
NUMBER A-5400
12/19/2025

DRAWN BY:	MP
DATE:	12-18-25
REVISION DATE:	
PROJECT NO:	25-042-01

SHEET NO.
A0

FLOOR PLAN - SYMBOL LEGEND

DESCRIPTION	SYMBOL
INTERIOR LOAD BEARING WALL	
STONE OR BRICK VENEER	
JOIST SIZE AND DIRECTION	FJ-XX
HEADER/ BEAM — SIZE OF MEMBER PER HEADER/ BEAM SCHEDULE; NUMBER OF PLYS; "U" IF UPSET	A 2 U
CENTERLINE	
POINT LOAD	
APPROX. WINDOW FRAME SIZE FEET & INCHES	3050
SMOKE ALARM	S
SMOKE & CARBON MONOXIDE ALARM	SC

HEADER / BEAM SCHEDULE

MARK	LUMBER SIZE	JACK STUDS	KING STUDS
A	2 x 6	1	1
B	2 x 8	1	1
C	2 x 10	1	1
D	2 x 12	2	1
E	1¾" x 11¼" L.V.L.	2	1
F	1¾" x 9½" L.V.L.	2	1
G	1¾" x 11⅞" L.V.L.	2	1
H	1¾" x 14" L.V.L.	2	1
J	1¾" x 16" L.V.L.	3	1
K	1¾" x 18" L.V.L.	3	1
L	1¾" x 9½" L.S.L.	1	1
M	1¾" x 11⅞" L.S.L.	2	1

1. BEAMS SHALL HAVE TOTAL NUMBER OF CRIPPLES AND TRIMMERS UNDER EACH END. SOLID BLOCK BELOW.

2. FOR L.V.L. BEAMS IN 2x10 FLOORS, USE 9 1/4" L.V.L.

FLOOR JOIST SCHEDULE

MARK	TYPE	SUB-TYPE	SIZE	SPACING	MAX SPAN
FJ-1	"I" JOIST (SEE NOTE)		9 1/2"	PER MANUFACTURER	
FJ-2	"I" JOIST (SEE NOTE)		11 7/8"	PER MANUFACTURER	
FJ-3	"I" JOIST (SEE NOTE)		14"	PER MANUFACTURER	
FJ-4	OPEN WEB TRUSSES		14"	PER MANUFACTURER	
FJ-5	OPEN WEB TRUSSES		16"	PER MANUFACTURER	
FJ-20	LUMBER	ACQ. TREATED	2x10	12" O.C.	16'-2"
FJ-21	LUMBER	ACQ. TREATED	2x10	16" O.C.	14'
FJ-22	LUMBER		2x8	12" O.C.	14'-2"
FJ-23	LUMBER		2x8	16" O.C.	12'-7"
FJ-24	LUMBER		2x10	12" O.C.	17'-9"
FJ-25	LUMBER		2x10	16" O.C.	15'-5"
FJ-26	LUMBER		2-2x10	16" O.C.	

NOTE: DESIGN I-JOISTS (LOADED W/ TOTAL LIVE AND DEAD LOAD) WITH A MAX. DEFLECTION OF L/360, EXCEPT BELOW BATHROOMS AND TILED AREAS WHERE THE DEFLECTION SHALL BE L/480 MAX.

CONCRETE WALL SCHEDULE

MARK	CONCRETE WALL		REINFORCING GRADE 40	
	THICKNESS	HEIGHT	VERTICAL	HORIZONTAL
A	8"	4' OR LESS	#4's AT 36" O.C.	2 - #4's
B	8"	4' TO 6'	#4's AT 36" O.C.	3 - #4's
C	8"	6' TO 8'	#4's AT 16" O.C.	4 - #4's
D	8"	8'	#4's AT 16" O.C.	4 - #4's
E	8"	9'	#4's AT 12" O.C.	5 - #4's
F	10"	4'	#4's AT 36"O.C.	2 - #4's
G	10"	8'	#4's AT 36" O.C.	4 - #4's
H	10"	9'	#4's AT 16" O.C.	5 - #4's
J	10"	10'	#4's AT 12" O.C.	6 - #4's

COLUMN & PAD SCHEDULE

MARK	PAD SIZE	#4 BARS REQ'D EACH WAY	COLUMN SIZE (SCHEDULE 40)	MAX. LOAD
A	36"x36"x12"	6	3"	13.5 K.
B	48"x48"x16"	8	3"	24.0 K.
C	60"x60"x18"	10	3.5"	37.5 K.
D	72"x72"x18"	12	5"	54.0 K.

PIER SCHEDULE

MARK	PIER DIAMETER	POST (ACQ OR CEDAR U.N.O.)	MAX. LOAD
F	12"	6x6 U.N.O.	11 K.
G	18"	6x6 U.N.O.	26 K.
H	24"	6x6 U.N.O.	47 K.

1. PAD AND PIER SIZES ASSUME 1500 P.S.F. SOIL BEARING CAPACITY.
2. 10' MAX. STEEL COLUMN HEIGHT FROM BASE PLATE TO TOP OF COLUMN. CONSULT ARCHITECT IF SITE CONDITIONS REQUIRE TALLER COLUMNS.

GENERAL NOTES:

A. EXTERIOR FRAMED WALLS ARE 2x4 STUDS AT 16" O.C. UNLESS NOTED OTHERWISE.

B. FURNACE IS DIRECT VENT AND USES OUTSIDE AIR FOR COMBUSTION

C. FOR COVERED PORCH FRAMING - SEE DETAIL 1/G3

D. SEE G4 SHEET FOR LOCATION OF HOLD-DOWN TIES FOR BRACED WALL PANELS

FOUNDATION PLAN NOTES

1. SEE DETAIL 3/G2 FOR GARAGE SLAB CONSTRUCTION.

2. SILL PLATE SET BACK - SEE DETAILS 4&5/G2

3. CONCRETE PIER AND PAD - SEE DETAIL 3/G2

4. RECESS TOP OF FOUNDATION WALL FOR GARAGE AND WALK-OUT DOOR

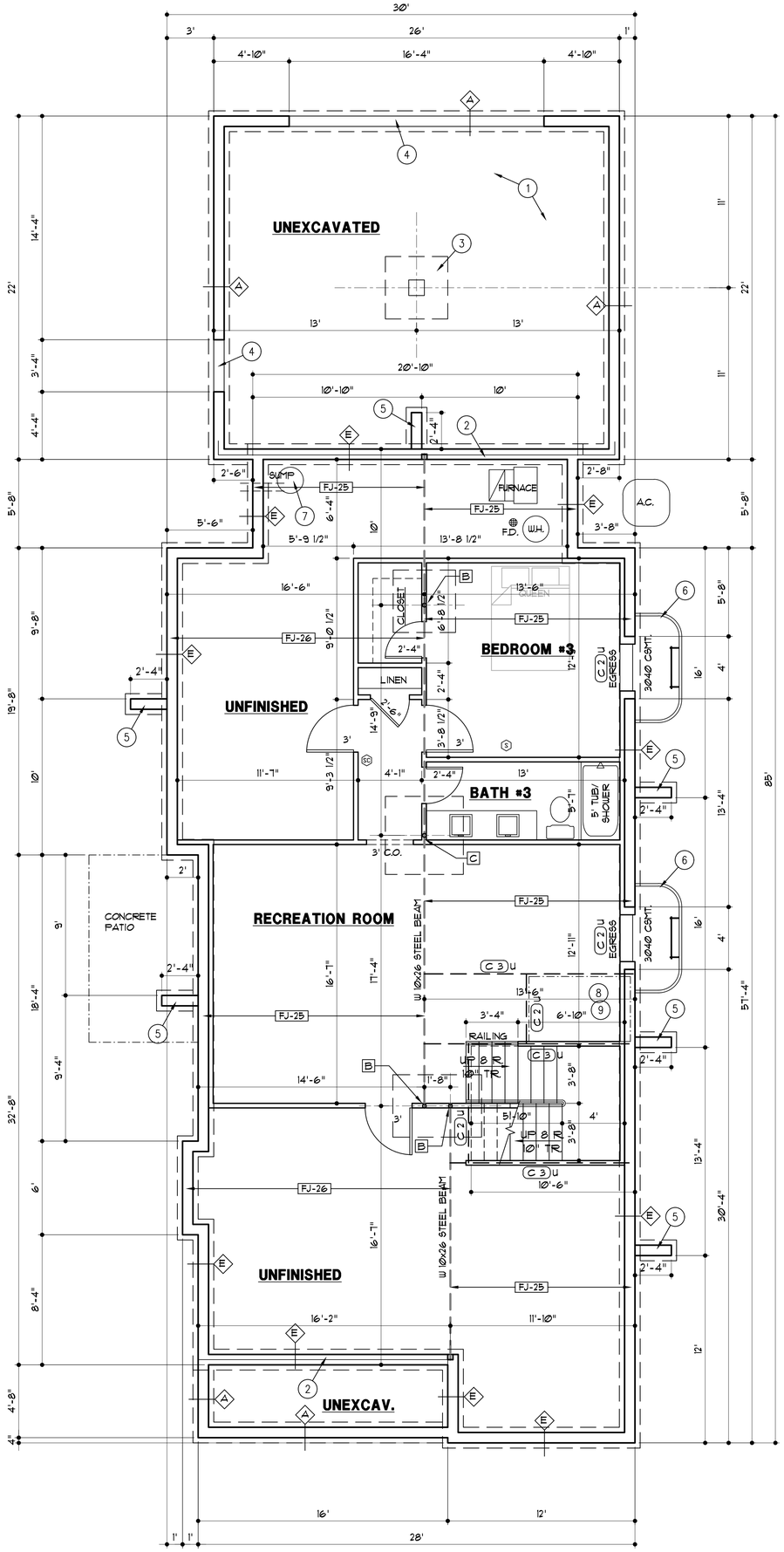
5. RETURN WALL - SEE DETAIL 8/G2

6. CORRUGATED METAL WINDOW WELL

7. SUMP PIT & PUMP. PROVIDE ELECTRICAL RECEPTACLE WITH GFCI PROTECTION. PROVIDE SLEEVE THROUGH FOOTING

8. RECESS FLOOR FRAMING 2" FOR SHOWER ABOVE

9. 2x8 FLOOR JOISTS @ 16" O.C



FOUNDATION PLAN

1/4" = 1'-0"

THESE DRAWINGS TO BE USED FOR THIS ADDRESS ONLY AND THEY SHALL NOT BE USED AS MASTER PLAN

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DANIEL J. WEBSTER
NUMBER A-5400
PROFESSIONAL ARCHITECT
12/19/2025

DRAWN BY:	MP
DATE:	12-18-25
REVISION DATE:	
PROJECT NO:	25-042-01

SHEET NO. A11

RELEASED FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
PERFORMED BY
LEE'S SUMMIT, MISSOURI
03/06/2026 9:46:03

FLOOR PLAN - SYMBOL LEGEND

DESCRIPTION	SYMBOL
INTERIOR LOAD BEARING WALL	
STONE OR BRICK VENEER	
JOIST SIZE AND DIRECTION	FJ-XX
HEADER/ BEAM — SIZE OF MEMBER PER HEADER/ BEAM SCHEDULE; NUMBER OF PLYS; "U" IF UPSET	A 2 U
CENTERLINE	
POINT LOAD	
APPROX. WINDOW FRAME SIZE FEET & INCHES	3050
SMOKE ALARM	S
SMOKE & CARBON MONOXIDE ALARM	SC

HEADER / BEAM SCHEDULE

MARK	LUMBER SIZE	JACK STUDS	KING STUDS
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C	2 x 10	1	1
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E	1¾" x 7¼" L.V.L.	2	1
F	1¾" x 9½" L.V.L.	2	1
G	1¾" x 11⅞" L.V.L.	2	1
H	1¾" x 14" L.V.L.	2	1
J	1¾" x 16" L.V.L.	3	1
K	1¾" x 18" L.V.L.	3	1
L	1¾" x 9½" L.S.L.	1	1
M	1¾" x 11⅞" L.S.L.	2	1

1. BEAMS SHALL HAVE TOTAL NUMBER OF CRIPPLES AND TRIMMERS UNDER EACH END. SOLID BLOCK BELOW.

2. FOR L.V.L. BEAMS IN 2x10 FLOORS, USE 9 1/4" L.V.L.

CEILING JOISTS SCHEDULE - LIVE LOAD 10 P.S.F.

MARK	SIZE	SPACING	MAXIMUM SPAN - DOUGLAS FIR #2
CJ-1	2x6	12"	19'-6"
CJ-2	2x6	16"	17'-8"
CJ-3	2x8	12"	25'-8"
CJ-4	2x8	16"	23'-0"
CJ-5	2x10	12"	26'-0"
CJ-6	2x10	16"	26'-0"
CJ-7	2x4	24"	9'-10"
CJ-8	2x6	24"	14'-10"
CJ-9	2x8	24"	18'-9"
CJ-10	2x10	24"	22'-11"

SQUARE FOOTAGE TABLE

LOCATION	AREA (S.F.)
FIRST FLOOR	1606
BASEMENT (FINISHED)	807
TOTAL	2413
GARAGE	566
BASEMENT (UNFINISHED)	890
FRONT PORCH	80

GENERAL NOTES:

A. EXTERIOR WALLS ARE 2x4 STUDS AT 16" O.C. UNLESS OTHERWISE NOTED.

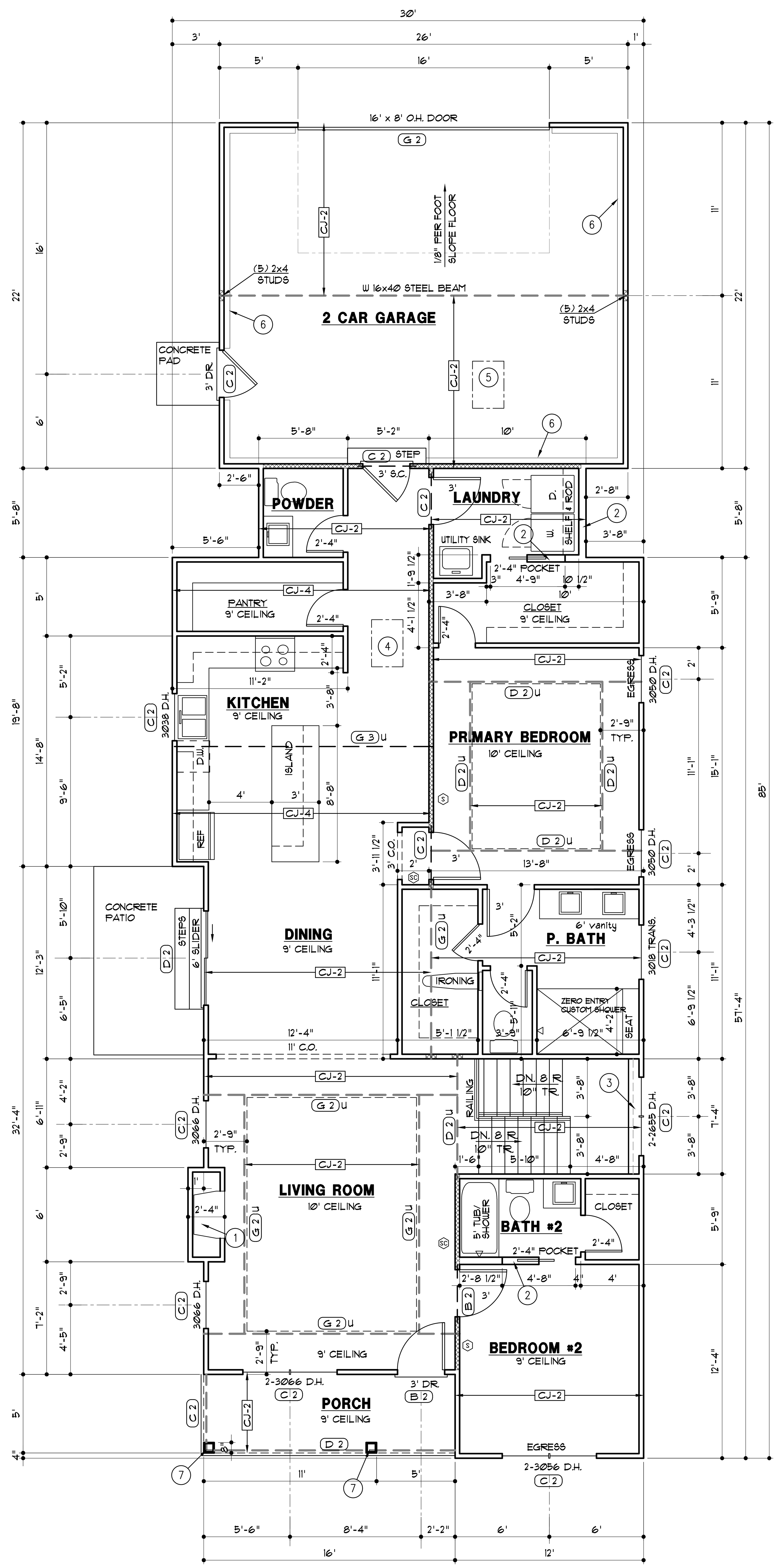
B. SOLID BLOCK BELOW STUDS SUPPORTING BEAMS AND HEADERS.

C. FOR COVERED PORCH FRAMING - SEE DETAIL 1/G3

D. SEE G4 SHEET FOR LOCATION OF HOLD-DOWN TIES FOR BRACED WALL CONSTRUCTION

FLOOR PLAN NOTES

1. 36" DIRECT VENT FIREPLACE
2. 2x6 STUDS AT 16" O.C.
3. 2x4 FINISH WALL
4. 2'-6" x 3' ATTIC FAN W/ 2x10 CURB
5. 1'-10"x3' ATTIC ACCESS
6. EXPOSED FOUNDATION WALL
7. 6x6 TREATED POST WRAPPED WITH SMART TRIM



THESE DRAWINGS TO BE USED FOR THIS ADDRESS ONLY AND THEY SHALL NOT BE USED AS MASTER PLAN

FIRST FLOOR PLAN

1/4" = 1'-0"

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STATE OF MISSOURI
DANIEL J. WEBSTER
NUMBER A-5400
REGISTERED ARCHITECT
12/19/2025

DRAWN BY: MP
DATE: 12-18-25
REVISION DATE:
PROJECT NO.: 25-042-01

SHEET NO.
A2.1

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
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ROOF PLAN LEGEND	
DESCRIPTION	SYMBOL
RIDGES AND HIPS	
VALLEYS	
EAVES, RAKE & GABLE	
HOUSE WALLS	
PURLIN	
PURLIN STRUT LOCATION	o
STRUT BEARING LOCATION	
JOIST SIZE AND SPACING	RJ-X

ROOF RAFTER SCHEDULE				
MARK	SIZE	SPACING	MAXIMUM SPAN	
			COMPOSITION SHINGLES	
			FLAT CEILING	VAULTED CEILING
RJ-1	2x6	12"	16'-7"	14'-9"
RJ-2	2x6	16"	14'-4"	12'-9"
RJ-3	2x6	24"	11'-9"	10'-5"
RJ-4	2x8	12"	21'-0"	18'-8"
RJ-5	2x8	16"	18'-2"	16'-2"
RJ-6	2x8	24"	14'-10	13'-2"
RJ-7	2x10	12"	25'-8"	22'-9"
RJ-8	2x10	16"	22'-3"	19'-9"
RJ-9	2x10	24"	18'-2"	16'-1"
RJ-10	2x12	16"	25'-9"	26'-5"
RJ-11	2x12	24"	18'-2"	22'-10"

GENERAL NOTES:

A. ROOFING TO BE COMPOSITION-40 YR. ON 30# FELT ON 7/16" O.S.B. SHEATHING check elevation note

B. STRUTS TO BEAR ON WALLS AS INDICATED. CONTACT ARCHITECT WITH ANY PROPOSED CHANGE TO STRUT BEARING LOCATIONS. ARCHITECT MAY NEED TO VERIFY THAT BEAMS BELOW NEW STRUT LOCATION CAN SUPPORT ADDED LOADS.

C. SEE SHEET G1 FOR LOAD AND DEFLECTION LIMITATIONS

D. SEE SHEET G3 FOR ROOF FRAMING DETAILS 3&4/G3

ROOF PLAN NOTES

1. BEARING WALL OR BEAM BELOW

2. BRACE RIDGE DOWN TO BEARING WALL OR BEAM BELOW WITH 2x6 "T" BRACES AT 4' O.C.

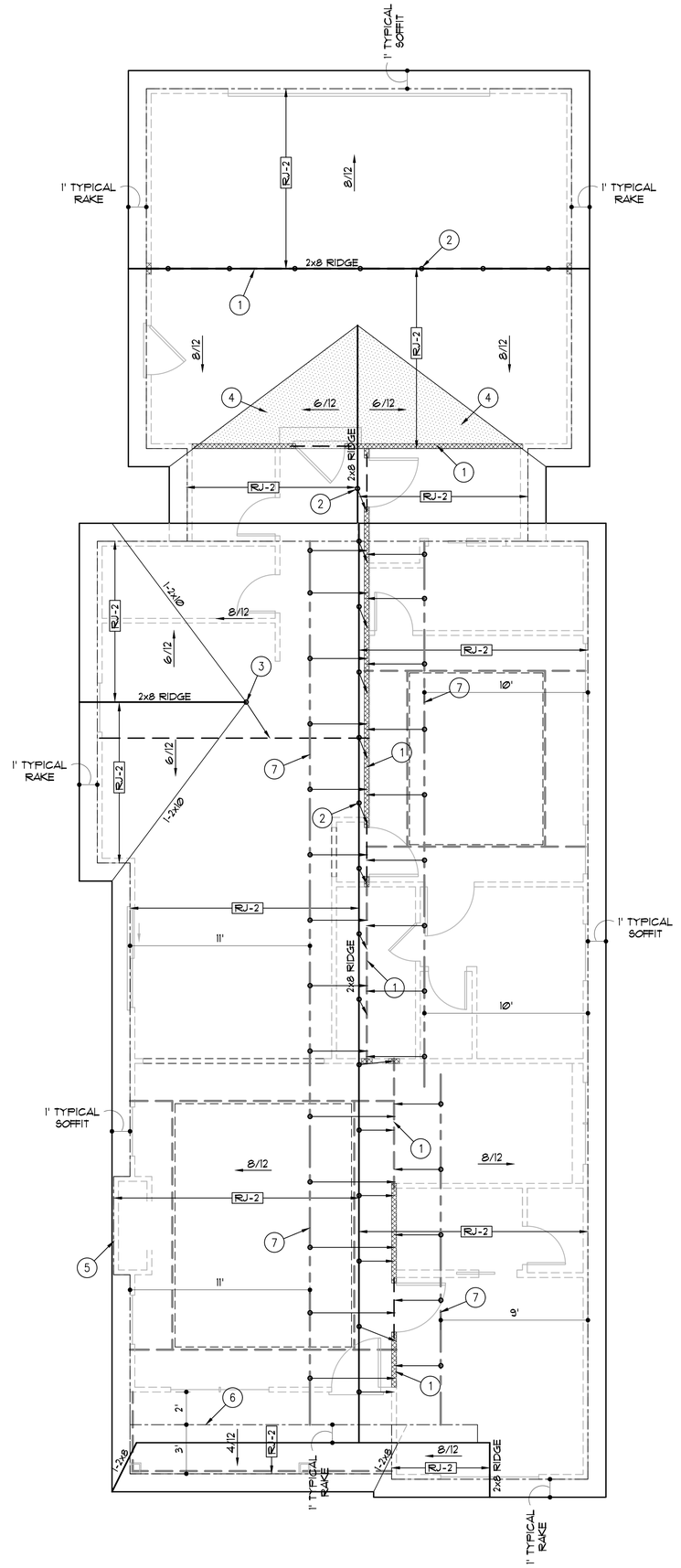
3. 2x6 "T" BRACE TO BEARING WALL OR BEAM BELOW. BRACE SHALL BE CONNECTED TO STRUCTURE AT ROOF AND CEILING WITH MINIMUM (5) 16d NAILS.

4. OVER FRAME THIS AREA

5. TIGHT BARGE SOFFIT

6. GABLE WALL LOCATION

7. 2x8 PURLIN WITH 2x6 "T" BRACES AT 4' O.C. TO BEARING WALL/ BEAM BELOW



ROOF PLAN

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SHEET NO. A4.1

RELEASED FOR CONSTRUCTION AS NOTED ON PLANS REVIEW
BUILDING SERVICES
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GENERAL NOTES

A. ROOFING TO BE COMPOSITION-40 YR. ON 30# FELT ON 7/16" O.S.B. SHEATHING

B. PROVIDE WINDOW OPENING LIMITING DEVICE

ELEVATION NOTES

1. SMART LAP SIDING WITH 8" EXPOSURE AND 5/4x4 SMART TRIM AT CORNERS, DOORS AND WINDOWS

2. SMART LAP SHAKE SHINGLE SIDING WITH 5/4x4 SMART TRIM AT CORNERS AND WINDOWS

3. 5/4x8 SMART TRIM

4. 6x6 TREATED POST WRAPPED WITH SMART TRIM, WITH CAP AND BASE TRIM

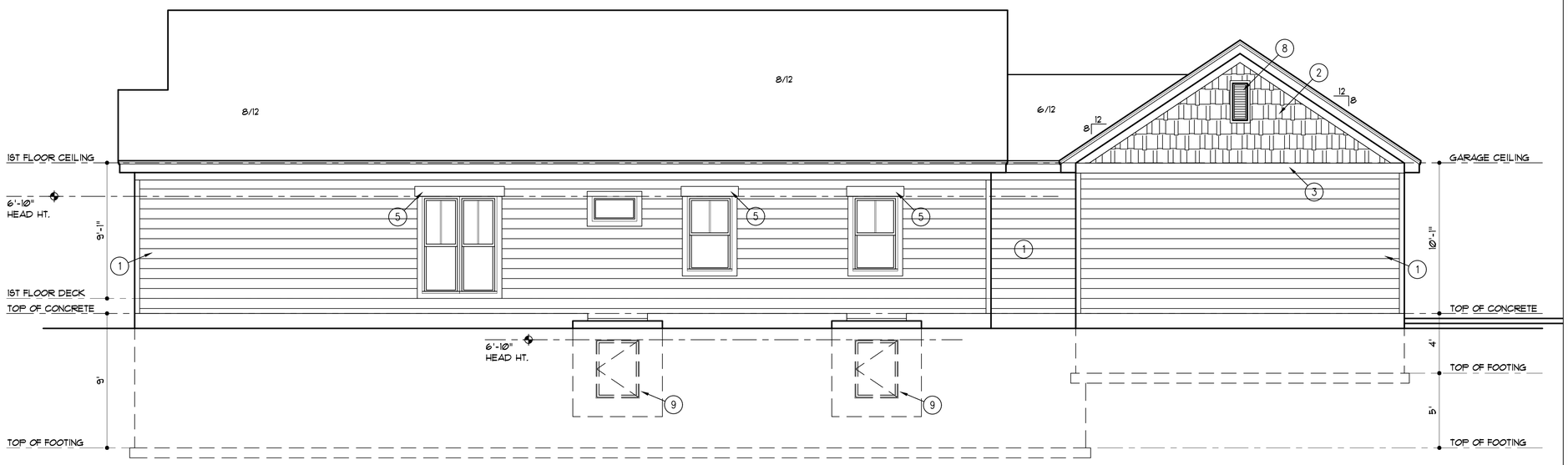
5. 5/4x8 SMATR TRIM, EXTEND 6" PAST WINDOW/DOOR

6. 6x12 OUTLOOKER

7. 1830 D.H GABLE WINDOW

8. 12"x30" GABLE VENT

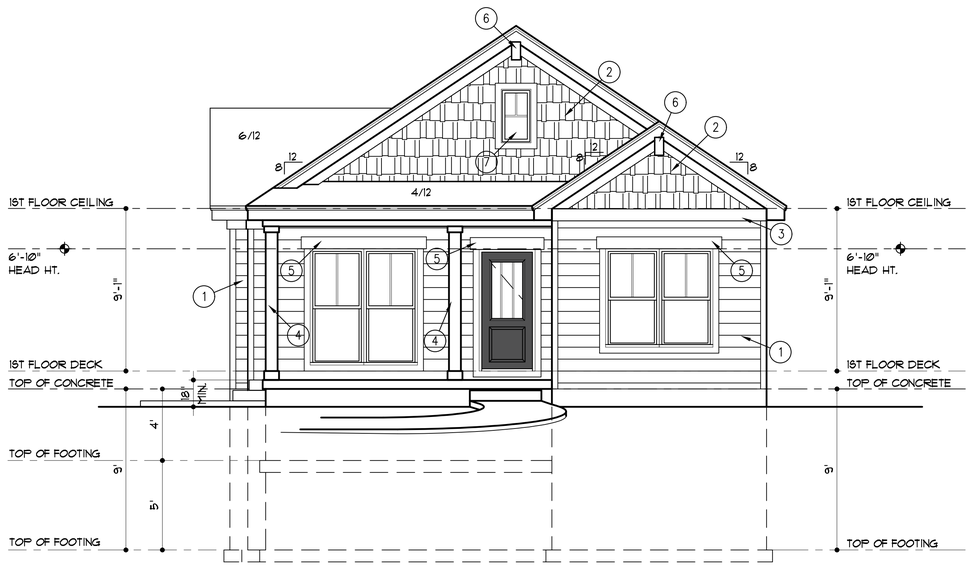
9. CORRIGATED METAL WINDOW WELL. WINDOW SET AT MAX. 44" FROM FINISH FLOOR TO SILL



RIGHT SIDE ELEVATION

1/4" = 1'-0"

PASSIVE SIDE



FRONT ELEVATION

1/4" = 1'-0"

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SHEET NO. A5.1

GENERAL NOTES

A. ROOFING TO BE COMPOSITION-40 YR. ON 30# FELT ON 7/16" O.S.B. SHEATHING

B. PROVIDE WINDOW OPENING LIMITING DEVICE

ELEVATION NOTES

1. SMART LAP SIDING WITH 8" EXPOSURE AND 5/4x4 SMART TRIM AT CORNERS, DOORS AND WINDOWS

2. SMART LAP SHAKE SHINGLE SIDING WITH 5/4x4 SMART TRIM AT CORNERS AND WINDOWS

3. 5/4x8 SMART TRIM

4. 6x6 TREATED POST WRAPPED WITH SMART TRIM, WITH CAP AND BASR TRIM

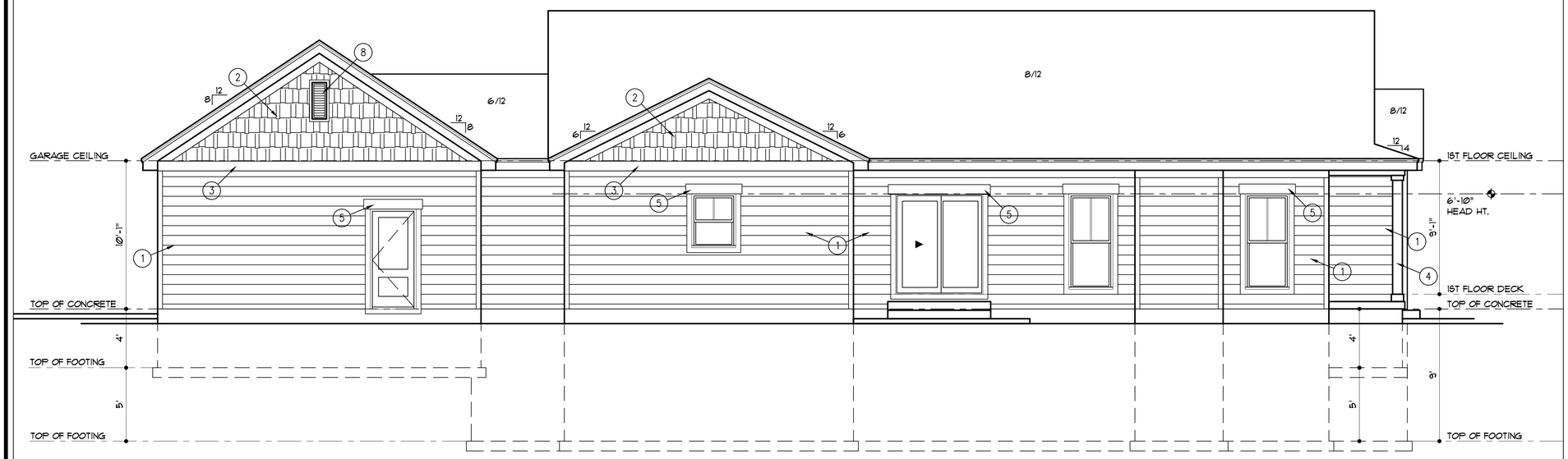
5. 5/4x8 SMATR TRIM, EXTEND 6" PAST WINDOW/DOOR

6. 6x12 OUTLOOKER

7. 1830 D.H GABLE WINDOW

8. 12"x30" GABLE VENT

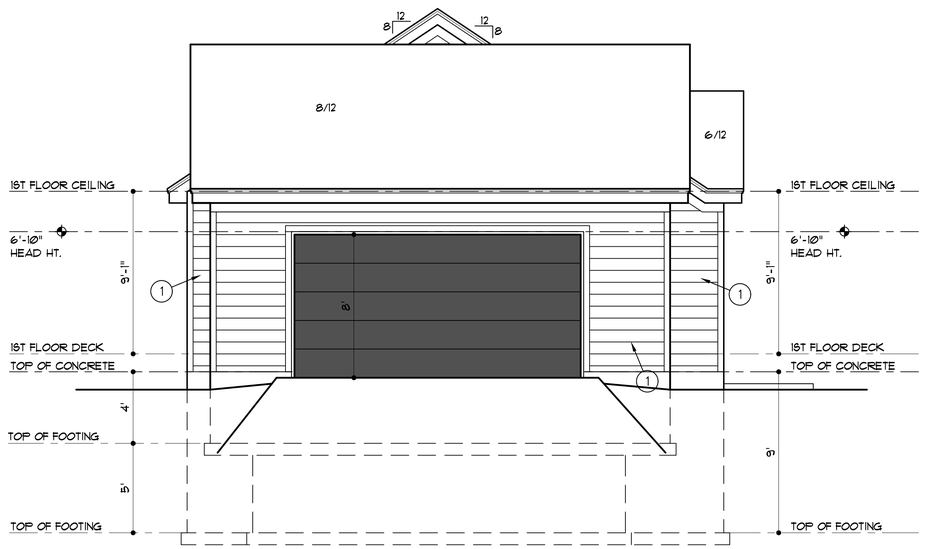
9. CORRIGATED METAL WINDOW WELL. WINDOW SET AT MAX. 44" FROM FINISH FLOOR TO SILL



LEFT SIDE ELEVATION

1/4" = 1'-0"

ACTIVE SIDE



REAR ELEVATION

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DISCLAIMER

THESE DRAWINGS ARE CONSIDERED A "BUILDER'S SET" AND BY BEGINNING CONSTRUCTION THE CONTRACTOR WARRANTS TO THE ARCHITECT, THAT HE HAS THE COMPETENCE AND SKILL IN CONSTRUCTION NECESSARY TO BUILD THE PROJECT WITHOUT FULL ENGINEERING AND DESIGN SERVICES. THE CONTRACTOR WILL BE REQUIRED TO ADAPT THE DRAWINGS TO ACTUAL FIELD CONDITIONS AND MAKE LOGICAL ADJUSTMENTS IN FIT, FORM, DIMENSION AND QUANTITY. IN THE EVENT, ADDITIONAL DETAIL OR GUIDANCE IS NEEDED, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY WEBSTER ARCHITECTS. FAILURE TO GIVE NOTICE SHALL RELIEVE WEBSTER ARCHITECTS OF THE ALL RESPONSIBILITY FOR THE CONSEQUENCES. ALTHOUGH WEBSTER ARCHITECTS HAVE PERFORMED THEIR SERVICES WITH DUE CARE AND DILIGENCE, PERFECTION CAN'T BE GUARANTEED. IT IS UNDERSTOOD AND AGREED THAT IF WEBSTER ARCHITECTS IS NOT HIRED TO DO PROJECT OBSERVATION OR ANY OTHER CONSTRUCTION PHASE SERVICES, THAT THE CLIENT WILL PERFORM SUCH SERVICES. THE CLIENT ASSUMES ALL RESPONSIBILITY FOR INTERPRETATION OF THE CONTRACT DOCUMENTS AND FOR CONSTRUCTION OBSERVATION, AND THE CLIENT WAIVES ANY CLAIMS AGAINST WEBSTER ARCHITECTS THAT MAY BE IN ANY WAY CONNECTED THERETO. THESE DRAWINGS ARE NOT TO BE SCALED. IF A CRITICAL DIMENSION IS MISSING THE ARCHITECT SHOULD BE CONSULTED.

ABBREVIATIONS

A.F.F.	ABOVE FINISH FLOOR
C.C.A.	CHROMATED COPPER ARSENATE
C.J.	CONTROL JOINT
CLG.	CEILING
C.O.	CASED OPENING
D.	DRYER
D.H.	DOUBLE HUNG
DIA.	DIAMETER
DN.	DOWN
D.W.	DISHWASHER
E.J.	EXPANSION JOINT
EQ.	EQUAL
F.D.	FLOOR DRAIN
GA.	GAUGE OR GAGE
GFI	GROUND FAULT CIRCUIT INTERRUPTER
H.B.	HOSE BIB
HT.	HEIGHT
K.S.	KNEE SPACE
LB. (#)	POUND
L.V.L.	LAMINATED VENEER LUMBER
MAX.	MAXIMUM
MIN.	MINIMUM
MICRO.	MICROWAVE OVEN
O.C.	ON CENTER
O.H.	OVERHEAD/ OVERHANG
PR.	PAIR
R.	RISER
REF.	REFRIGERATOR
RM.	ROOM
R.O.	ROUGH OPENING
S.F.	SQUARE FEET
SIM.	SIMILAR
SQ.	SQUARE
T.	TREAD
T.C.	TRASH COMPACTOR
T.V.	TELEVISION
TYP.	TYPICAL
W.	WASHER
W/	WITH
W.I.C.	WALK IN CLOSET
W.H.	WATER HEATER
W.W.F.	WELDED WIRE FABRIC

LOAD AND DEFLECTION LIMITATIONS

AREA	CONDITION	MIN. LOADS (P.S.F.) LIVE	DEAD
DECKS	-	40	10
CEILING JOISTS	NO STORAGE	10	10
CEILING JOISTS	STORAGE ALLOWED	20	10
FLOORS	NON-SLEEPING	40	10 (20 FOR TILED FLRS *)
	SLEEPING AREAS	30	10 (20 FOR TILED FLRS *)
ROOFS	WOOD OR COMPOSITE	20	10 (20 IN LEAWOOD)
	TILE OR CONCRETE	20	20
STAIRS	-	40	10
HANDRAIL/ GUARDRAIL		200# IN ANY DIRECTION	

NOTE:
- WIND SPEED 115 MPH (CATEGORY AS DEFINED BY R301.2.1.4)
* TILE FLOOR LOAD BASED ON THINSET METHOD.

BUILDING INSULATION SCHEDULE

OPENING MAXIMUM U-VALUE		
WINDOWS		.32
OPAQUE DOORS		.20
GLASS DOORS		.35
SKYLIGHT		.55
GLAZED FENESTRATION SHGC		.40
BUILDING COMPONENT MINIMUM R-VALUE		
CEILING		
	WITH ATTIC	49
	CATHEDRAL	30
WALL		
	EXTERIOR (CAVITY or CAVITY / CONTINUOUS)	20 or 13 + 5
	BASEMENT (CAVITY or EXTERIOR)	13 or 10
	CRAWL SPACE	10 / 13
FLOORS		
	SLABS FOR 2' DEPTH ON FOUNDATION)	10
	TRENCH FOOTINGS - HEATED SLAB	15
	TRENCH FOOTINGS	10
	OVER UNHEATED SPACES	19
	OVER OUTSIDE AIR	30
DUCTS IN UNHEATED SPACES - SUPPLY AND RETURN		8
DUCTS IN UNHEATED SPACES - IN FLOOR AND CEILING ASSEMBLY		6
HOT WATER SYSTEM PIPING		3
FURNACE (AFUE)		80% MINIMUM
AIR CONDITIONING (SEER)		13 MINIMUM

CODE COMPLIANCE

A. BUILDING CONSTRUCTION: REGARDLESS OF WHAT IS SHOWN ON THE PLANS, THE BUILDING SHALL COMPLY WITH THE 2018 INTERNATIONAL RESIDENTIAL CODE AND ANY OTHER CITY REQUIREMENTS.

B. FOUNDATION WALLS ARE DESIGNED TO COMPLY WITH THE JOHNSON COUNTY FOUNDATION GUIDELINES.

C. BUILDING DESIGNED FOR SEVERE CLIMATIC AND GEOGRAPHIC DESIGN CRITERIA OF WEATHERING CONDITIONS, MODERATE TO SEVERE TERMITE CONDITIONS, MODERATE DECAY CONDITIONS, 6 DEGREES FAHRENHEIT AND 5,333 HEATING DEGREE DAYS WINTER DESIGN TEMPERATURE CONDITIONS, 36 INCHES FROST LINE DEPTH CONDITIONS AND FLOOD HAZARDS BASED UPON THE LATEST ADOPTED F.I.R.M. AND F.B.F.M. DOCUMENTS IN ACCORDANCE WITH L.B.C. ARTICLE 4-905.

GENERAL NOTES

A. GLASS: PROVIDE SAFETY GLAZING WHERE REQUIRED BY IRC R308 AND IN THE FOLLOWING LOCATIONS: 1. STORM DOORS, 2. INDIVIDUAL FIXED OR OPERABLE PANELS ADJACENT TO A DOOR WHERE THE NEAREST VERTICAL EDGE IS WITHIN A 24" ARC OF THE DOOR IN A CLOSED POSITION AND WHOSE BOTTOM EDGE IS WITHIN 60" OF THE FLOOR, 3. WALLS ENCLOSING STAIRWAYS AND LANDINGS WHERE THE GLAZING IS WITHIN 60" OF THE TOP OR BOTTOM OF THE STAIR, 4. ENCLOSURES FOR HOT TUBS, SAUNAS, STEAM ROOMS, SPAS, BATH TUBS, SHOWERS AND WHIRLPOOLS, 5. FIXED OR OPERABLE PANELS EXCEEDING 9 SQUARE FOOT AND WHOSE BOTTOM EDGE IS LESS THAN 18" ABOVE THE FLOOR AND WALKING SURFACE WITHIN 36"

B. EXTERIOR WINDOWS AND DOORS, INCLUDING GARAGE DOORS, SHALL BE DESIGNED TO RESIST WIND LOADS SPECIFIED IN IRC TABLE R301.2(4)A. EXTERIOR OVERHEAD DOORS SHALL MEET D.A.S.M.A. 115 MPH REQUIREMENTS.

C. BEDROOM EGRESS: AT LEAST ONE WINDOW FROM EACH BEDROOM AND FROM THE BASEMENT SHALL HAVE AN OPERABLE AREA OF 5.7 SQUARE FEET WITH A MINIMUM OPERABLE HEIGHT OF 24" AND A WIDTH OF 21" AND WITH THE BOTTOM OF THE OPERABLE PORTION NO MORE THAN 44" A.F.F. WINDOWS WHOSE SILL IS 72" OR MORE ABOVE FINISHED GRADE AND WHOSE SILL IS LESS THAN 24" ABOVE FINISHED FLOOR SHALL HAVE WINDOW GUARDS OR OPENING CONTROL DEVICES WHICH RESTRICT A 4" SPHERE FROM PASSING THRU, PER IRC 312.2.

D. STAIRWAYS: MAXIMUM RISE 7¾", MINIMUM RUN 10", MINIMUM HEADROOM 6'-8", MINIMUM WIDTH 36". HANDRAILS ARE REQUIRED WHEN STAIRS HAVE 4 OR MORE RISERS. HANDRAIL TO HAVE ENDS RETURNED OR TERMINATED IN A NEWEL POST OR SAFETY TERMINAL AND PLACED MINIMUM 34", MAXIMUM 38" ABOVE TREAD NOSING. THE HAND GRIP PORTION OF HANDRAIL SHALL BE NOT LESS THAN 1-1/4" NOR MORE THAN 2 5/8" IN CROSS SECTION DIMENSION. HANDRAILS PROJECTING FROM A WALL SHALL HAVE A SPACE OF NOT LESS THAN 1-1/2" BETWEEN THE WALL AND THE HANDRAIL. INSTALL FIRE BLOCKING AT TOP AND BOTTOM OF STAIR RUN. THE CEILING AND WALLS OF USEABLE SPACE UNDER STAIRS SHALL BE SURFACED WITH 1/2" GYPSUM BOARD, TAPED AND FINISHED.

E. GUARDRAILS: ALL UNENCLOSED FLOOR AREAS, STAIRS AND EXTERIOR DECKS OVER 30" ABOVE GRADE SHALL HAVE 36" HIGH GUARDRAILS WITH A MAXIMUM OPENING OF 4" BETWEEN BALUSTERS. BALUSTERS SHALL NOT CREATE A LADDER.

F. DOOR BETWEEN THE GARAGE AND DWELLING SHALL BE 1 3/8" THICK SOLID WOOD, 1 3/8" THICK MINIMUM SOLID CORE OR HONEY COMBED STEEL DOOR OR 20-MINUTE FIRE RATED, EQUIPPED WITH AUTOMATIC OR SELF-CLOSING DEVICE.

G. ATTACHED GARAGE: WALLS AND CEILING TO BE NOT LESS THAN 1/2" GYPSUM BOARD. CEILINGS AND BEAMS WITHIN THE GARAGE WILL BE COVERED WITH 5/8" TYPE "X" GYPSUM BOARD, IF SPACE ABOVE GARAGE IS LIVING SPACE.

H. BUILDER TO PROVIDE DECK OR LANDING PRIOR TO OWNER OCCUPANCY.

J. CRAWL SPACE: THE MINIMUM NET AREA OF VENTILATION OPENINGS WILL NOT BE LESS THAN 1 SQUARE FOOT FOR EACH 150 SQUARE FEET OF UNDER-FLOOR AREA. ONE SUCH VENTILATING OPENING WILL BE WITHIN 3 FEET OF EACH CORNER. AN 18"x24" MINIMUM ACCESS OPENING SHALL BE PROVIDED TO CRAWL SPACE.

K. ALL EXTERIOR DOORS, INCLUDING THE DOOR BETWEEN THE GARAGE AND THE HOUSE, SHALL INCORPORATE THE PHYSICAL SECURITY PROVISIONS OF SECTION MUNICIPAL CODE OF THE CITY IN WHICH THIS PROJECT IS LOCATED. FOR CITY OF RAYMORE SEE SECTION R324 "PHYSICAL SECURITY" OF MUNICIPAL CODE.

MECHANICAL, ELECTRICAL NOTES

A. SMOKE DETECTORS: INSTALL ONE IN EACH BEDROOM, OUTSIDE OF EACH BEDROOM AREA, AT LEAST ONE ON EACH STORY INCLUDING THE BASEMENT. ALL ALARMS ARE TO BE INTERCONNECTED SO THAT ACTIVATING ONE ALARM ACTIVATES THEM ALL.

B. CARBON MONOXIDE ALARMS: IN DWELLING UNITS USING FUEL-FIRED APPLIANCES OR IN DWELLING UNITS WITH ATTACHED GARAGES, INSTALL CARBON MONOXIDE ALARMS OUTSIDE EACH SEPARATE SLEEPING AREA IN THE IMMEDIATE VICINITY OF THE BEDROOMS .

C. GROUND FAULT CIRCUIT INTERRUPTER PROTECTION (GFCI) SHALL BE INSTALLED IN RECEPTACLES IN BATHROOMS, KITCHENS, GARAGES, UNFINISHED BASEMENTS, OUTDOORS, CRAWL SPACES, AND WITHIN 6' OF ANY SINK. BATHROOM RECEPTACLES REQUIRE SEPARATE 20-AMP CIRCUIT. PROVIDE ARC-FAULT CIRCUIT INTERRUPTERS AS REQUIRED BY IRC E3902.12 OR AS REQUIRED BY MUNICIPALITY.

D. FIREPLACE: FACTORY-BUILT FIREPLACE WILL BE EQUIPPED WITH LISTED COMPONENT FOR OUTSIDE COMBUSTION AIR PER IRC 1005 AND SHALL BE INSTALLED ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS

E. ALL BATHROOMS TO RECEIVE EXHAUST FANS-- 50 CFM DIRECTLY TO OUTSIDE. POINT OF DISCHARGE MIN. 3' FROM ANY OPENING.

MECHANICAL, ELECTRICAL NOTES CONT.

F. HEAT PUMP THERMOSTATS MUST PREVENT BACK-UP ELECTRIC RESISTANCE HEAT WHEN THE HEAT PUMP CAN MEET THE LOAD.

G. DUCT SEALING MUST MEET THE REQUIREMENTS OF M 1601.3.1

H. ELECTRICAL CONDUCTORS SHALL BE COPPER AND THE PANEL BOX SHOULD BE 200 AMP

I. ANY DUCT PENETRATIONS OF THE WALLS OR CEILING SEPARATING THE DWELLING FROM THE GARAGE SHALL BE CONSTRUCTED OF 26 GAUGE SHEET METAL WITH NO OPENINGS IN THE GARAGE.

CONCRETE NOTES

A. CONCRETE: ALL CONCRETE SHALL BE 5-7% AIR-ENTRAINED AND HAVE A MINIMUM COMPRESSIVE STRENGTH AS LISTED BELOW AT 28 DAYS:
1. BASEMENT AND INTERIOR FLOOR SLABS: 3,000 PSI (2,500 IN LENEXA)
2. BASEMENT AND FOUNDATION WALLS: 3,000 PSI
3. PORCHES, CARPORT AND GARAGE FLOOR SLABS: 3,500 PSI

B. REINFORCING SHALL BE GRADE 40. SPLICES SHALL LAP 24" MIN. UNLESS NOTED OTHERWISE.

C. FOOTINGS: FOOTINGS SHALL BEAR ON UNDISTURBED SOIL AND EXTEND A MINIMUM OF 36" BELOW FINISHED GRADE. FOOTINGS UNDER FOUNDATION WALLS SHALL HAVE A MINIMUM WIDTH OF 16" AND A MINIMUM DEPTH OF 8" AND SHALL HAVE 2 #4 BARS CONTINUOUS. TRENCH FOOTINGS SUPPORTING MORE THAN ONE FLOOR SHALL BE A MINIMUM OF 16" WIDE. FOOTINGS SHALL BE CONTINUOUS AROUND THE STRUCTURE AND FROM ONE LEVEL TO THE NEXT. MAXIMUM HORIZONTAL JUMPS FOR FOOTINGS SHALL BE 1'.

D. WALLS: HORIZONTAL BARS SHALL BE PLACED WITH THE TOP BAR WITHIN 8 INCHES OF THE TOP OF THE WALL AND OTHER BARS EQUALLY SPACED. BARS SHALL LAP A MINIMUM 18 INCHES AT ENDS, SPLICES AND AROUND CORNERS, REINFORCEMENT SHALL BE CONTINUOUS AROUND WINDOWS, DOORS AND OTHER OPENINGS WITH SPLICES AS NOTED ABOVE TO MINIMIZE CRACKING AT CORNERS OF THE OPENINGS. BARS SHALL BE PLACED 2" FROM THE INSIDE FACE OF THE WALL.

E. DAMPPROOFING: "BONESEAL" ASPHALT EMULSION DAMPPROOFING REQUIRED FOR WALLS ENCLOSING BASEMENTS OR OTHER HABITABLE SPACE. A MINIMUM OF ONE COAT OF DAMPPROOFING SHALL BE APPLIED TO EXTERIOR WALL SURFACES BELOW GRADE. SEAL TIE HOLES, VOIDS AND HONEYCOMBED AREAS WITH SEALANT BEFORE DAMPPROOFING.

F. WATERPROOFING: WATERPROOFING REQUIRED IN LIEU OF DAMPPROOFING WHERE A HIGH WATER TABLE OR OTHER SEVERE WATER CONDITIONS EXIST.

G. DRAIN TILE: INSTALL CONTINUOUS 4" DRAIN TILE AROUND THE PERIMETER OF ALL FOUNDATIONS ENCLOSING HABITABLE SPACES LOCATED BELOW GRADE. INSTALL VERTICAL DRAINS TO THE PERIMETER DRAIN TILE AT ALL WINDOW WELLS. SET DRAIN TILE ON A 2" DEEP BY 12" WIDE GRAVEL BED AND COVER TILE WITH AT LEAST 6" OF COARSE, CLEAN ROCK AND A FILTER MEMBRANE MATERIAL. CONNECT THE DRAINS TO A 20-GALLON SUMP PIT OR DRAIN BY GRAVITY TO AN OUTLET WELL AWAY FROM THE HOUSE.

H. FOUNDATION ANCHORAGE: BASEMENT FOUNDATION SILL PLATES SHALL BE BOLTED TO THE FOUNDATION WITH 1/2" ANCHOR BOLTS EMBEDDED AT LEAST 7 INCHES INTO THE CONCRETE AND SPACED NOT MORE THAN 3 FEET ON CENTER AND WITHIN 12 INCHES OF THE END OF EACH PIECE.

I. BEAM POCKETS: RECESSED 4" INTO THE WALL. THE DEPTH AND WIDTH SHALL BE SIZED TO ACCOMMODATE THE DESIGNATED BEAM.

J. FLOOR SLABS: BASEMENT FLOOR SLABS SHALL BE A MINIMUM 4 INCHES THICK AND PLACED ON A 4-INCH GRAVEL BASE. THE BASEMENT FLOOR SHALL BE ISOLATED FROM COLUMN PADS, INTERIOR COLUMNS AND INTERIOR BEARING WALLS. INTERIOR COLUMNS AND BEARING WALLS SHALL BE SUPPORTED ON A SEPARATE INTERIOR FOOTING (NOT ON TOP OF THE FLOOR SLAB). THE GARAGE FLOOR SHALL SLOPE TOWARDS THE GARAGE DOORWAYS OR SLOPE TO A TRENCH OR UN-TRAPPED DRAIN THAT DISCHARGES DIRECTLY TO THE EXTERIOR ABOVE GRADE. OPTIONAL (EXCEPT IN LEAWOOD) 6 MIL. POLY VAPOR BARRIER SHOULD BE INSTALLED UNDER THE FLOOR SLAB.

GENERAL FRAMING NOTES

A. LUMBER: LUMBER IS #2 OR BETTER DOUGLAS FIR LARCH, EXCEPT FOR DECAY RESISTANT LUMBER WHICH IS SOUTHERN YELLOW PINE #2.

B. ALL EXTERIOR FRAMING LUMBER OR LUMBER IN CONTACT WITH CONCRETE OR MASONRY SHALL BE DECAY RESISTANT

C. L.V.L. HEADERS & BEAMS ARE TO HAVE A MIN. MODULUS OF ELASTICITY OF 1.9 x 10 PSI.

D. FLOOR, CEILING AND ROOF OPENINGS: TRIMMER JOISTS SHALL BE DOUBLED WHEN THE HEADER IS SUPPORTED MORE THAN 3 FEET FROM THE TRIMMER JOIST BEARING. TRIMMER AND HEADER JOISTS SHALL BE DOUBLED WHEN THE SPAN OF THE HEADER EXCEEDS 4 FEET. THE ENDS OF HEADER RAFTERS MORE THAN 6 FEET LONG SHALL BE SUPPORTED BY FRAMING ANCHORS OR RAFTER HANGERS UNLESS BEARING ON A BEAM, PARTITION OR WALL.

E. FRAMING AROUND OPENINGS: TRIMMER AND HEADER JOISTS SHALL BE DOUBLED WHEN THE SPAN OF THE HEADER EXCEEDS 4' THE ENDS OF HEADER JOISTS MORE THAN 6 FEET LONG SHALL BE SUPPORTED BY FRAMING ANCHORS OR JOIST HANGERS UNLESS BEARING ON A BEAM, PARTITION, OR WALL.

FRAMING NOTES- FLOORS

A. BEARING: THE ENDS OF EACH JOIST SHALL NOT HAVE LESS THAN 1-1/2 INCHES OF BEARING ON WOOD OR METAL. JOISTS FRAMING INTO BEAMS SHALL BE SUPPORTED BY METAL JOIST HANGERS. JOIST FRAMING FROM OPPOSITE SIDES OF A BEAM, GIRDER OR PARTITION SHALL BE LAPPED AT LEAST 3 INCHES OR STRAPPED TOGETHER. JOISTS UNDER AND PARALLEL TO BEARING PARTITIONS SHALL BE DOUBLED.

B. LATERAL SUPPORT: JOISTS AT SUPPORTS SHALL BE SUPPORTED LATERALLY AT THE ENDS BY FULL-DEPTH SOLID BLOCKING NOT LESS THAN 2" NOMINAL THICKNESS OR BY ATTACHMENT TO A HEADER, BAND OR RIM JOIST OR TO AN ADJOINING STUD OR OTHERWISE PROVIDED WITH LATERAL SUPPORT TO PREVENT ROTATION. WHERE JOISTS ARE PERPENDICULAR TO BRACED WALL LINES, PROVIDE BLOCKING UNDER AND IN-LINE WITH THE BRACED WALL PANEL.

C. DECKING TO BE ¾" (MIN.) PLYWOOD OR ORIENTED STRAND BOARD INSTALLED PERPENDICULAR TO JOISTS.

D. TOP OF WALL SUPPORT CONNECTIONS: WHERE JOISTS RUN PARALLEL TO FOUNDATION WALLS, SOLID BLOCKING FOR A MINIMUM OF 2 JOIST SPACES SHALL BE PROVIDED AT A MAXIMUM OF 4 FEET CENTERS, AND SHALL BE SECURELY NAILED TO THE JOISTS AND FLOORING. IF DUCTS ARE INSTALLED IN THE FIRST JOIST SPACE(S), NAIL 2 BY 4'S FLAT AT 4-FOOT CENTERS WITHIN THE JOIST SPACE(S) AND THEN PROVIDE THE SOLID BLOCKING. SECURE EACH 2 BY 4 TO THE SILL PLATE WITH FOUR 10D NAILS.

E. "I" JOISTS (IF USED) SHALL BE INSTALLED PER MANUFACTURER'S REQUIREMENTS.

F. PROVIDE BLOCKING OR BRIDGING AT CANTILEVERS.

G. PROVIDE 1/2" DRYWALL ON CEILING OF UNFINISHED SPACES FOR FLOOR FRAMING USING "I" JOISTS OR TRUSSES.

FRAMING NOTES - WALLS

A. SIZE, HEIGHT AND SPACING: UNLESS OTHERWISE NOTED, STUDS SHALL BE 2x4 DF#2's SPACED AT 16" O.C.

FOR EXTERIOR WALLS SUPPORTING A ROOF ONLY, 2 x 6 STUDS SPACED 16" O.C SHOULD BE USED FOR ALL WALLS 14' TO 18' TALL AND 2 x 6 STUDS SPACED 12" O.C SHOULD BE USED FOR WALLS 18' TO 20' TALL.

FOR WALLS SUPPORTING A ROOF AND A FLOOR 2 x 6 STUDS SPACED 16" O.C SHOULD BE USED FOR WALLS 12' TO 18' TALL

STUDS SHALL BE CONTINUOUS FROM SOLE PLATE TO TOP PLATE OR CEILING DIAPHRAGM, EXCEPT FOR JACK STUDS,TRIMMER OR CRIPPLE STUDS. PER IRC 602.3.

B. ANGLES: ANGLED WALLS ARE ASSUMED TO BE 45° UNLESS OTHERWISE NOTED.

C. FRAMING DETAILS: BEARING AND EXTERIOR WALL STUDS SHALL BE CAPPED WITH DOUBLE TOP PLATES INSTALLED TO PROVIDE OVER-LAPPING AT CORNERS AND AT INTERSECTIONS WITH OTHER PARTITIONS. END JOINTS IN DOUBLE TOP PLATES SHALL BE OFFSET AT LEAST 48 INCHES.

D. OPENINGS: UNLESS OTHERWISE NOTED, ALL HEADERS ARE TO BE TYPE "A" PER THE HEADER SCHEDULE. EACH END OF A HEADER SHALL HAVE A BEARING LENGTH OF NOT LESS THAN 1-1/2 INCHES FOR THE FULL WIDTH OF THE LINTEL. PROVIDE SOLID BLOCKING BELOW ALL STUDS SUPPORTING HEADERS AND BEAMS.

- UNLESS OTHERWISE DIMENSIONED, INTERIOR DOORS AND CASED OPENINGS ARE TO BE CENTERED IN THE WALL OR 3" FROM CORNERS AS INDICATED ON THE DRAWINGS.

E. FIRE BLOCKING OF NON-COMBUSTIBLE MATERIAL SHALL BE PROVIDED IN OPENINGS AROUND VENTS, PIPES, DUCTS, CHIMNEYS, FIREPLACES, AND LAUNDRY CHUTES AT CEILING AND FLOOR LEVEL.

F. CRIPPLE WALLS: FOUNDATION CRIPPLE WALLS SHALL BE FRAMED WITH 2 X 4 STUDS WITH A MINIMUM LENGTH OF 14" OR SHALL BE FRAMED OF SOLID BLOCKING. WHEN EXCEEDING 4' IN HEIGHT ON 2 STORY STRUCTURES, WALLS SHALL BE 2 X 6 STUDS AT 16" O.C.

G. BASEMENT NONBEARING WALLS: NON-LOAD BEARING STUD WALLS EXTENDING FROM THE FLOOR SLAB TO THE STRUCTURE ABOVE SHALL BE PROVIDED WITH A MINIMUM 1-INCH EXPANSION JOINT.

H. GARAGE DOORS AND FRAMES SHALL BE DESIGNED AND INSTALLED TO MEET A 115 mph WIND LOAD. THE H-FRAME FOR ATTACHMENT OF TRACK AND COUNTER BALANCE SHALL CONSIST OF THE FOLLOWING: 2x6 VERTICAL JAMBS RUNNING FROM FLOOR TO CEILING ATTACHES WITH 3-1/4"x120 NAILS @ 7" O.C. STAGGERED WITH 7) 3-1/4"x120 NAILS THRU JAMB INTO HEADER, MINIMUM 2x8 HEADER FOR ATTACHMENT OF COUNTER BALANCE SYSTEM.

FRAMING NOTES- DECKS

A. FOR DECK LEDGER ATTACHMENT AND DECK CONSTRUCTION REFER TO IRC SECTION 507.

FRAMING NOTES- CEILING

A. BLOCKING: ROOF RAFTERS AND CEILING JOISTS SHALL BE SUPPORTED LATERALLY TO PREVENT ROTATION AND LATERAL DISPLACEMENT.

B. JOISTS FRAMING INTO BEAMS SHALL BE SUPPORTED BY METAL JOIST HANGERS.

FRAMING NOTES- ROOF

A. FRAMING: RAFTERS SHALL BE FRAMED DIRECTLY OPPOSITE EACH OTHER AT THE RIDGE. THERE SHALL BE A RIDGE BOARD AT LEAST 1-INCH NOMINAL THICKNESS AT ALL RIDGES AND NOT LESS IN DEPTH THAN THE CUT END OF THE RAFTER. AT ALL VALLEYS AND HIPS THERE SHALL BE A SINGLE VALLEY OR HIP RAFTER NOT LESS THAN 2-INCH NOMINAL THICKNESS AND NOT LESS IN DEPTH THAN THE CUT END OF THE RAFTER.

B. BRACING: ALL PURLINS AND HIPS, RIDGES, AND VALLEYS SHOWN TO BE SUPPORTED SHALL BE BRACED WITH A STRUT DOWN TO A BEARING WALL (WALLS LOCATED DIRECTLY ABOVE A BEAM LINE OR CONTINUOUS FOOTING). THE MINIMUM SLOPE OF THE STRUTS SHALL NOT BE LESS THAN 45° FROM THE HORIZONTAL.

C. RAFTER TIES: RAFTERS SHALL BE NAILED TO ADJACENT CEILING JOISTS TO FORM A CONTINUOUS TIE BETWEEN EXTERIOR WALLS WHEN SUCH JOISTS ARE PARALLEL TO THE RAFTERS. WHERE NOT PARALLEL, RAFTERS SHALL BE TIED TO 2"x4" MINIMUM CROSSTIES AT EACH RAFTER AND LOCATED AS CLOSE TO THE CEILING JOISTS AS POSSIBLE (RE: DETAIL 3 & 4/G3).

D. RAFTER COLLAR TIES: PROVIDE 1x4 MIN. COLLAR TIES AT 48" O.C. (RE: DETAIL 3 & 4/G3). AT CATHEDRAL CEILINGS PROVIDE RIDGE STRAPS.

E. VAULTED CEILINGS: FOR RAFTERS SMALLER THAN A 2 x 10, FURRING MUST BE ADDED TO THE BOTTOM OF THE RAFTER TO OBTAIN A 9 1/4" MINIMUM DEPTH.

F. FLASH AND COUNTERFLASH ROOF RIDGES AND VALLEYS, ROOF PENETRATIONS, CHANGES IN ROOF PITCHES, RAKES, CHIMNEY BASES, WINDOW AND DOOR HEADS, ETC. TO PROVIDE WATER TIGHT CLOSURES. ALL EXPOSED FLASHING TO BE 26 GAUGE ALUMINUM. COUNTERFLASHING SHALL BE FABRICATED FROM 40# TERNE METAL.

G. ATTIC VENTILATION: THE NET FREE VENTILATION AREA SHALL BE NOT LESS THAN 1/150 OF THE AREA OF THE SPACE VENTILATED, EXCEPT THAT THE AREA MAY BE 1/300, PROVIDED AT LEAST 50 PERCENT OF THE REQUIRED VENTILATING AREA IS PROVIDED BY VENTILATOR LOCATED IN THE UPPER PORTION OF THE SPACE TO BE VENTILATED, AT LEAST 3 FEET ABOVE EAVES OR CORNICE VENTS, WITH THE BALANCE OF THE REQUIRED VENTILATION PROVIDED BY EAVE OR CORNICE VENTS. RAFTERS SPACES ENCLOSED BY CEILINGS DIRECTLY APPLIED TO UNDERSIDE OF RAFTERS SHALL BE SIZED TO ALLOW A MINIMUM 1 INCH CLEAR VENTED AIR SPACE ABOVE THE INSULATION AND EACH SPACE BETWEEN JOISTS SHALL BE VENTED.

H. ROOF SHEATHING: SHALL BE INSTALLED PERPENDICULAR TO THE ROOF JOISTS AND THE ENDS SHALL BE STAGGERED.

PREFABRICATED WOOD TRUSSES (IF USED)

A. ROOF AND FLOOR TRUSSES SHALL BE DESIGNED IN ACCORDANCE WITH TRUSS PLATE INSTITUTE (TPI) DESIGN SPECIFICATION FOR METAL PLATE CONNECTED WOOD TRUSSES AND THE NATIONAL DESIGN SPECIFICATION FOR ANSI/NFOPA WOOD CONSTRUCTION. PROVIDE TEMPORARY AND PERMANENT BRACING ON ALL TRUSSES, AS REQUIRED TO PROVIDE MEMBER AND TRUSS STABILITY.

B. ROOF TRUSSES SHALL BE DESIGNED AND CONSTRUCTED FOR A MAXIMUM TOTAL LOAD DEFLECTION OF L/240, AND TO SAFELY SUPPORT THE FOLLOWING LOADS:
1. TOP CHORD:
a. LIVE LOAD . . . . SEE GENERAL NOTES
b. DEAD LOAD . . . . 15 PSF
2. BOTTOM CHORD:
a. LIVE LOAD . . . . 10 PSF
b. DEAD LOAD . . . . 10 PSF
3. WIND LOADS IN ACCORDANCE WITH THE APPROPRIATE BUILDING CODE. GABLED END TRUSSES SHALL HAVE VERTICAL MEMBERS SPACED AT 16" ON CENTER MAXIMUM.
4. TRUSSES SHALL ALSO BE DESIGNED TO SUPPORT ADDITIONAL OVERBUILD FRAMING TO FORM VALLEYS AND HIPS ON ROOFS.
5. TRUSSES SHALL BE DESIGNED TO SUPPORT DRIFTED SNOW LOADS IN ACCORDANCE WITH THE APPROPRIATE BUILDING CODE.
6. TRUSSES SHALL BE ATTACHED TO WALL ASSEMBLIES BY CONNECTIONS CAPABLE OF RESISTING UPLIFT FORCES AS SPECIFIED ON THE TRUSS DESIGN DRAWINGS PER IRC TABLE R802.11.

ENERGY REQUIREMENTS

A. THE BUILDING THERMAL ENVELOPE IS REQUIRED TO BE SEALED (IRC N1102.4.1)

B. RECESSED LIGHTING SHALL BE SEALED TO PREVENT LEAKAGE BETWEEN CONDITIONED AND UNCONDITIONED SPACES

C. DUCTS, AIR HANDLERS, FILTER BOXES AND BUILDING CAVITIES USED AS DUCTS SHALL BE SEALED (IRC SECTION N1103.2)

D. PENETRATIONS IN AIR BARRIERS (HOUSE WRAP) SHALL BE TAPED AND SEALED AS REQUIRED BY AIR BARRIER MANUFACTURER, WINDOW/ DOOR MANUFACTURER AND ENERGY CODE.

FASTENING SCHEDULE

CONNECTION	NAILS	LOCATION
JOIST TO SILL OR GIRDER	3-8d 3 - 3" x 0.131"	TOENAIL
BRIDGING TO JOIST	2-8d 2 - 3" x 0.131"	TOENAIL
SOLE PLATE TO JOIST OR BLOCKING	16d at 16" o.c. 3-3" x 0.131 at 8" o.c.	FACE NAIL
SOLE PLATE TO JOIST / BLOCKING AT BRACED WALL PANELS	3-16d at 16" o.c. 4 -3" x 0.131 at 16" o.c.	FACE NAIL
TOP PLATE TO STUD	2-16d 3 - 3" x 0.131"	END NAIL
STUD TO SOLE PLATE	4-8d 4 - 3" x 0.131"	TOENAIL
	2-16d 3 - 3" x 0.131"	FACE NAIL
DOUBLE STUDS	16d at 24" o.c. 3" x 0.131 at 8" o.c.	FACE NAIL
DOUBLE TOP PLATES	16d at 24" o.c. 3" x 0.131 at 12" o.c.	FACE NAIL
	8-16d 12-3" x 0.131	LAP SPLICE
BLOCKING BETWEEN JOISTS AND RAFTERS TO TOP PLATE	3-8d 3-3" x 0.131 at 12" o.c.	TOENAIL
RIM JOIST TO TOP PLATE	8d at 6" o.c. 3" x 0.131 at 6" o.c.	TOENAIL
TOP PLATE, LAPS AND INTERSECTIONS	2 - 16d 3 - 3" x 0.131"	FACE NAIL
CONTINUOUS HEADER, 2 PIECES.	16d at 16" o.c. 3" x 0.131 at 12" o.c.	FACE NAIL
CEILING JOISTS TO TOP PLATE	3-8d 5 - 3" x 0.131	TOENAIL
CONTINUOUS HEADER TO STUD	4-8d 6 - 3" x 0.131	TOENAIL
CEILING JOISTS, LAPS OVER PARTITIONS	3-16d 4 - 3" x 0.131	FACE NAIL
CEILING JOISTS TO PARALLEL RAFTERS/ RAFTER TIES TO RAFTERS	RE: IRC TABLE R802.5.1 (9)	FACE NAIL
RAFTER TO PLATE	3-8d 3 - 3" x 0.131"	TOENAIL
1" DIAGONAL BRACE TO EACH STUD AND PLATE	2-8d 2 - 3" x 0.131"	FACE NAIL
BUILT UP CORNER STUDS	16d at 24" o.c. 3" x 0.131" at 16" o.c.	FACE NAIL
BUILT UP BEAMS. STAGGER NAILS ON OPPOSITE SIDES	20d at 32" o.c. 3" x 0.131" at 24" o.c.	FACE NAIL
BUILT UP BEAMS AT ENDS AND SPLICES	2-20d 3 - 3" x 0.131"	FACE NAIL
COLLAR TIE TO RAFTER	3-10d 4 - 3" x 0.131"	FACE NAIL
JACK RAFTER TO HIP	3-10d 4 - 3" x 0.131"	TOE NAIL
	2-16d 3 - 3" x 0.131"	FACE NAIL
ROOF RAFTER TO 2 x RIDGE BEAM	2-16d 3 - 3" x 0.131"	TOE NAIL & FACE NAIL
JOIST TO BAND JOIST	3-16d 4 - 3" x 0.131"	FACE NAIL
LEDGER STRIP	3-16d 4 - 3" x 0.131"	FACE NAIL
3/4" OR LESS WOOD STRUCTURAL PANEL WALL, SUBFLOOR, & ROOF SHEATHING	6d at 12" o.c.	INTERMEDIATE
	6d at 6" o.c.	EDGES
	2 3/8" x 0.113 AT 8" o.c.	INTERMEDIATE
	2 3/8" x 0.113 AT 4" o.c.	EDGES
7/8" TO 1" WOOD STRUCTURAL PANEL WALL, SUBFLOOR, & ROOF SHEATHING	10d at 12" o.c.	INTERMEDIATE
	8d at 6" o.c.	EDGES
	2 1/2" x 0.131 AT 8" o.c.	INTERMEDIATE
	2 3/8" x 0.131 AT 4" o.c.	EDGES
1 1/8" TO 1 1/4" WOOD STRUCTURAL PANEL WALL, SUBFLOOR, & ROOF SHEATHING	8d at 12" o.c.	INTERMEDIATE
	10d at 6" o.c.	EDGES
	3" x 0.148 AT 8" o.c.	INTERMEDIATE
	3" x 0.148 AT 4" o.c.	EDGES
HARDBOARD SIDING	8d at 6" o.c.	INTERMEDIATE
	8d at 12" o.c.	EDGES
1/2" GYPSUM SHEATHING	6d at 8" o.c.	INTERMEDIATE
	6d at 4" o.c.	EDGES
5/8" GYPSUM SHEATHING	8d at 8" o.c.	INTERMEDIATE
	8d at 4" o.c.	EDGES
WOOD I JOISTS AT EACH END AND BEARING POINT	8d each side	FACE NAIL

NOTE:
1. ON ½" GYPSUM SHEATHING, 1¼" TYPE W OR S SCREWS MAY BE USED IN LIEU OF NAILS. ON ⅝" SHEATHING, THE SCREWS ARE TO BE 1 ⅝" LONG. THE SPACING IS THE SAME AS THE NAILS.

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LANDROCK SIGNATURE HOMES L.L.C.
4335 McGEE ST.· 816-863-5588
KANSAS CITY, MO 64111

STATE OF MISSOURI
DANIEL J. WEBSTER
NUMBER A-5400
REGISTERED ARCHITECT
12/19/2025

DRAWN BY: MP
DATE: 12-18-25
REVISION DATE:
PROJECT NO: 25-042-01

SHEET NO.
G1

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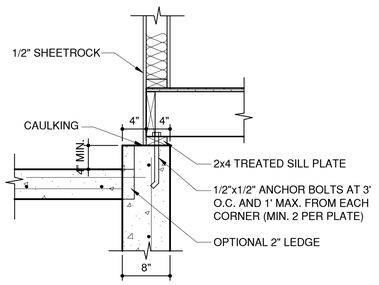

5 HOUSE GARAGE WALL SETBACK
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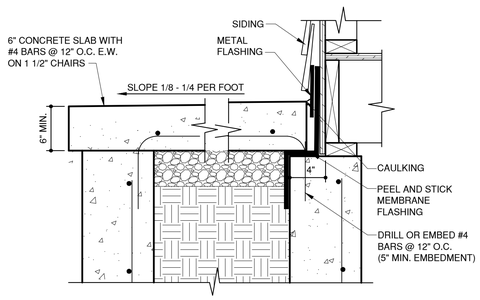
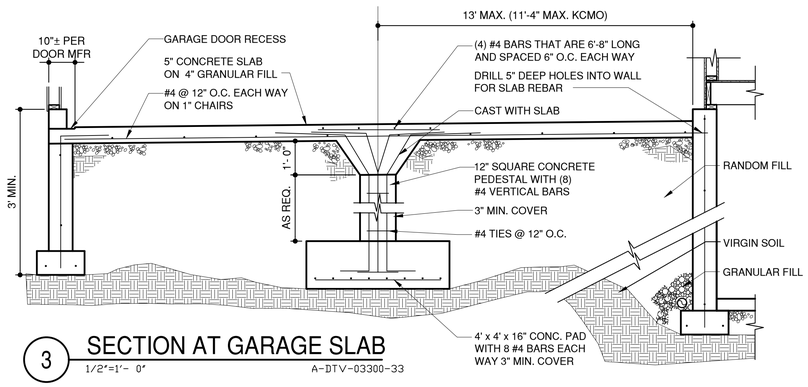
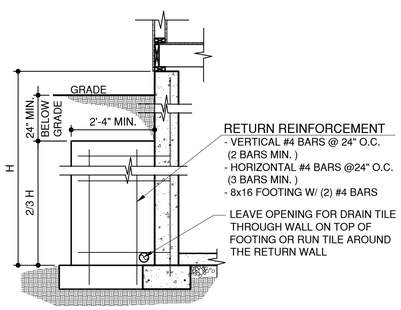


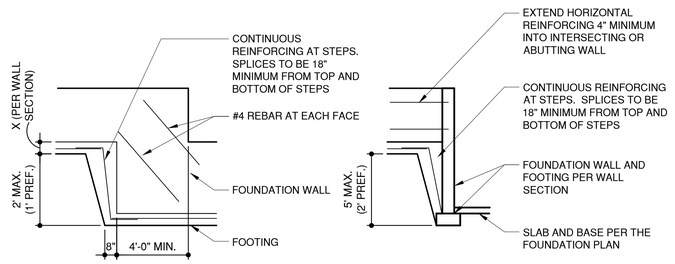
4 STOOP DETAIL
1 1/2"=1'-0" A-DTV-03300-35B



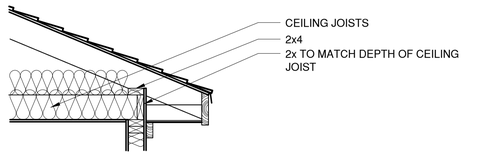
3 SECTION AT GARAGE SLAB
1/2"=1'- 0" A-DTV-03300-33



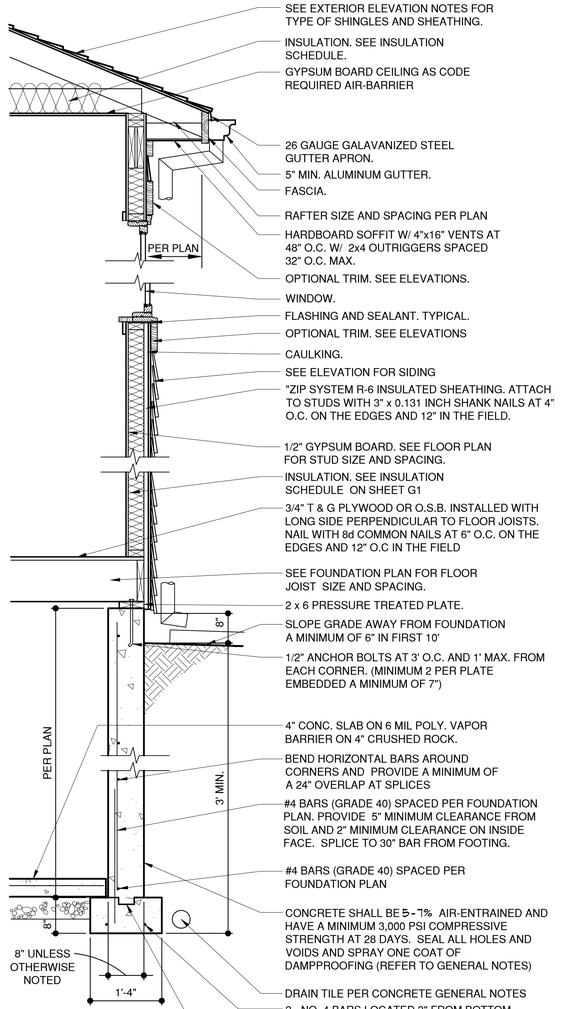
8 RETURN WALL DETAIL
1/2"=1'- 0" A-DTV-03300-34



2 ELEVATION AT FOUNDATION STEP
1/4"=1'-0" A-DTE-03300-01



ALTERNATE ENERGY CONDITION
(AS REQUIRED BY CITY)



1 WALL SECTION
3/4"=1'-0" A-DTW-06062-19 E

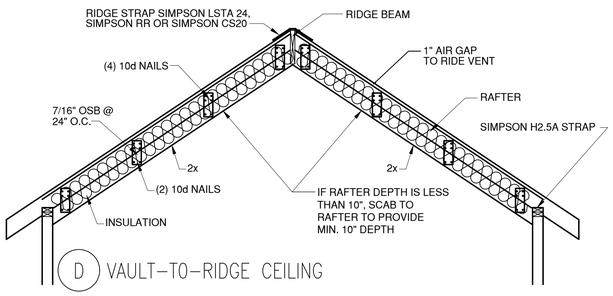
STATE OF MISSOURI
DANIEL J. WEBSTER
NUMBER A-5400
12/19/2025

DRAWN BY: MP
DATE: 12-18-25
REVISION DATE:
PROJECT NO: 25-042-01

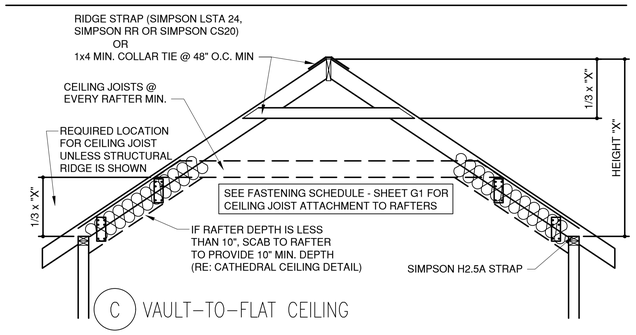
SHEET NO. G2

RELEASED FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
BUILDING SERVICES
LEE'S SUMMIT, MISSOURI
03/06/2026 9:46:03

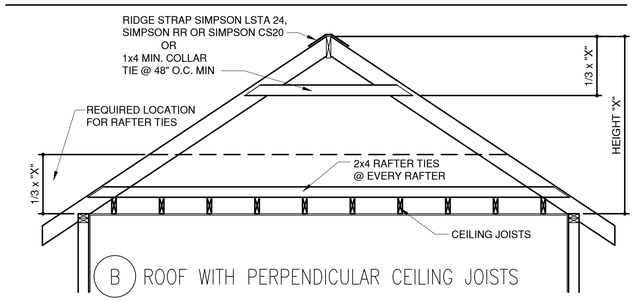
1-5-2022



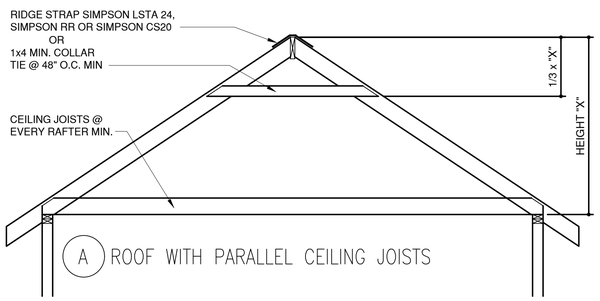
D VAULT–TO–RIDGE CEILING



C VAULT–TO–FLAT CEILING



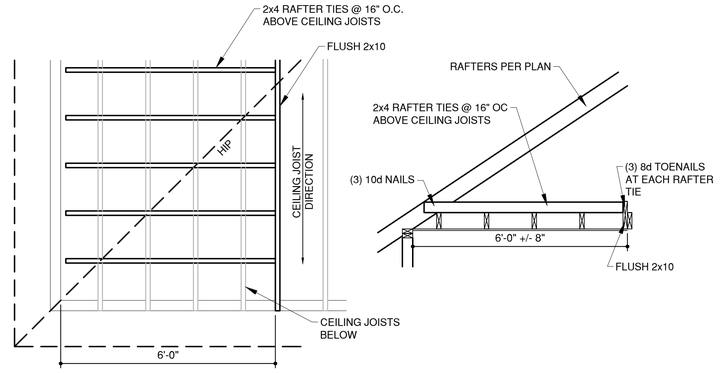
B ROOF WITH PERPENDICULAR CEILING JOISTS



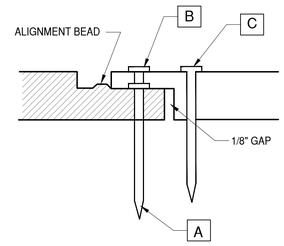
A ROOF WITH PARALLEL CEILING JOISTS

3 ROOF FRAMING DETAIL
1/2"=1'-0" A-DTV-06100-04

NOTE:
ROOF FRAMING TO COMPLY WITH SECTIONS R802, R802.3, R802.3.1 AND R802.11



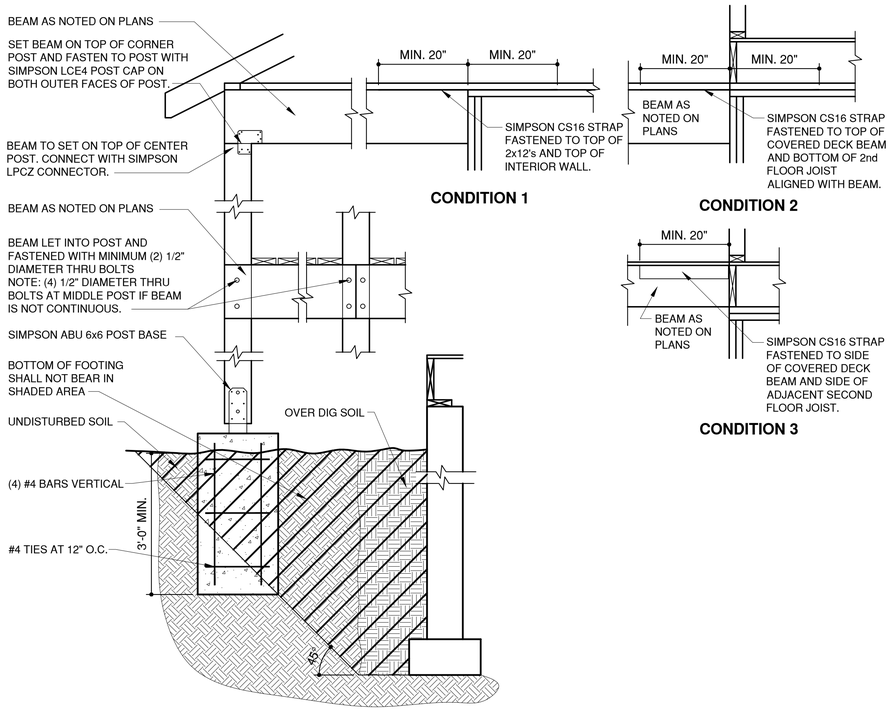
4 ROOF W/ PERPENDICULAR CEILING JOISTS
1/2"=1'-0" A-DTV-06100-09



REQUIRED NAILING PATTERN FOR SHIPLAP PANEL SHEATHING

NAILING WITH SPACING AS SPECIFIED PER PLAN. FOR EXAMPLE, IF REQUIRED SPACING IS 4" O.C., BOTTOM LAP SHALL FIRST BE NAILED AT 4" O.C. (NAIL "A"), THEN OVERLAP SHALL BE NAILED @ 4" O.C. STAGGERED BETWEEN BOTTOM LAP NAILING (NAIL "B"), THEN FULL DEPTH SECTION OF OVERLAP PANEL SHALL BE NAILED @ 4" O.C. (NAIL "C")

2 SHEATHING NAILING DETAIL
1/2"=1'-0" A-DTW-06062-28



1 COVERED PORCH DETAIL
3/4"=1'-0" A-DTV-06100-07 A

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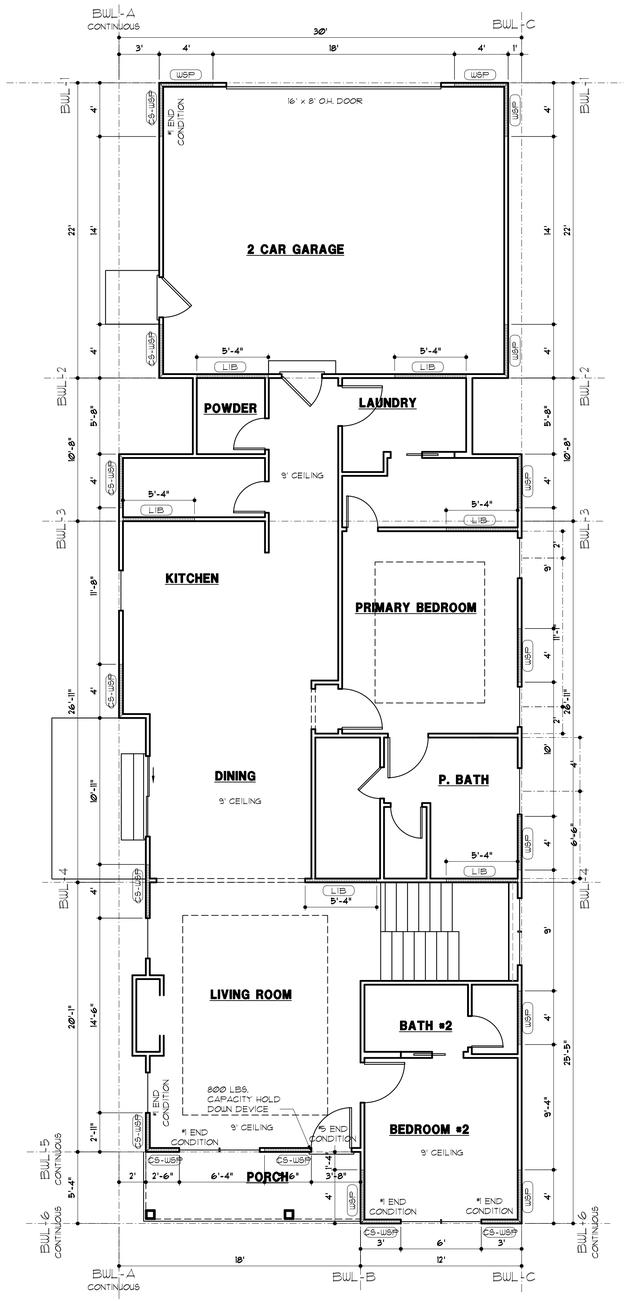


FIRST FLOOR DIAGRAM

3/16" = 1'-0"

IRC TABLE 602.10.7

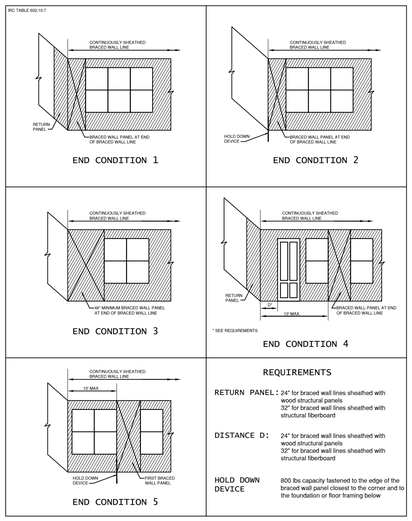


TABLE R602.10.6.4
TENSION STRAP CAPACITY REQUIRED FOR RESISTING WIND PRESSURES
PERPENDICUALR TO METHOD PFH,PFG, AND CS-PF BRACED WALL PANELS

2-9-21

MINIMUM WALL STUD FRAMING NORMAL SIZE AND GRADE	MAXIMUM PONY WALL HEIGHT (feet)	MAXIMUM TOTAL WALL HEIGHT (feet)	MAXIMUM OPENING WIDTH (feet)	TENSION STRAP CAPACITY REQUIRED (pounds) a,b					
				ULTIMATE DESIGN WIND SPEED (mph)					
				110	115	130	110	115	130
				EXPOSURE B			EXPOSURE C		
2 x 4 NO. 2 GRADE	0	10	18	1,000	1,000	1,000	1,000	1,000	1,050
	1	10	9	1,000	1,000	1,000	1,000	1,000	1,750
			16	1,000	1,025	2,050	2,075	2,500	3,950
			18	1,200	1,275	2,375	2,400	2,850	DR
	2	10	9	1,000	1,000	1,475	1,500	1.875	3,125
			16	1,775	2,175	3,525	3,550	4,125	DR
			18	2,075	2,500	3,950	3,975	DR	DR
	2	12	9	1,150	1,500	2,650	2,675	3,175	DR
			16	2,875	3,375	DR	DR	DR	DR
			18	3,425	3,975	DR	DR	DR	DR
	4	12	9	2,275	2,750	DR	DR	DR	DR
			12	3,225	3,775	DR	DR	DR	DR
2 x 6 STUD GRADE	2	12	9	1,000	1,000	1,700	1,700	2,025	3,050
			16	1,825	2,150	3,225	3,225	3,675	DR
			18	2,200	2,550	3,725	3,750	DR	DR
	4	12	9	1,450	1,750	2,700	2,725	3,125	DR
			16	2,050	2,400	DR	DR	DR	DR
			18	3,50	3,800	DR	DR	DR	DR

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

FOR 24x36 SHEET — BRACED WALL SCHEDULE — 4-5-22

METHOD NUMBER	DESCRIPTION	MINIMUM LENGTH	FASTENERS
LIB	LET-IN-BRACING: METAL STRAPS TO FORM "X" OR "V" INSTALLED PER MANUFACTURED (SIMPSON: WB126C, TWB12, WB143C) (USP: RWB114, WBT12)	AS REQUIRED TO ALLOW BRACE TO BE CONTINUOUS FROM PLATE TO PLATE AND AT AN ANGLE BETWEEN 45° TO 60° FROM HORIZONTAL	PER MANUFACTURER'S REQUIREMENTS
WSP	WOOD STRUCTURAL PANEL- 3/8" THICK (MIN.) FOR STUDS AT 16" O.C. (APA EXP. I- PLYWOOD/ O.S.B./ ETC.)	MIN. 48"	6d COMMON NAILS, 6" O.C. AT EDGES AND 12" O.C. AT INTERMEDIATES
CS-WSP	CONTINUOUS SHEATHING- WOOD STRUCTURAL PANEL: 3/8" THICK (MIN.) (APA EXP. I- PLYWOOD/ O.S.B.)	CONTINUOUS ON ALL EXTERIOR WALLS	6d COMMON NAILS, 8d COMMON NAILS - 6" O.C. AT EDGES AND 12" O.C. AT INTERMEDIATES
GB	GYPSUM BOARD: 1/2" THICK MIN.	96" IF GYP. BOARD 1 SIDE 48" IF GYP. BOARD 2 SIDES (STUDS AT 16" O.C. MAX. FOR 48" LONG PANELS)	6d NAILS OR 1-1/4" SCREWS (TYPE W OR S)- 7" O.C. AT EDGES AND 7" O.C. AT INTERMEDIATES (CAN SUBSTITUTE COOLER NAILS)
PFH/PFG	PORTAL FRAME GARAGE: WITH HOLD-DOWNS PFG MIN. 7/16" PFH MIN. 3/8"	REFER TO DETAIL TITLED 'METHOD CS-PF BRACED WALL' FOR MIN. WALL LENGTH	PER DETAIL TITLED 'METHOD CS-PF BRACED WALL'
CS-PF	CONTINUOUS SHEATHING- PORTAL FRAME	REFER TO DETAIL TITLED 'METHOD CS-PF BRACED WALL' FOR MIN. WALL LENGTH	PER DETAIL TITLED 'METHOD CS-PF BRACED WALL'

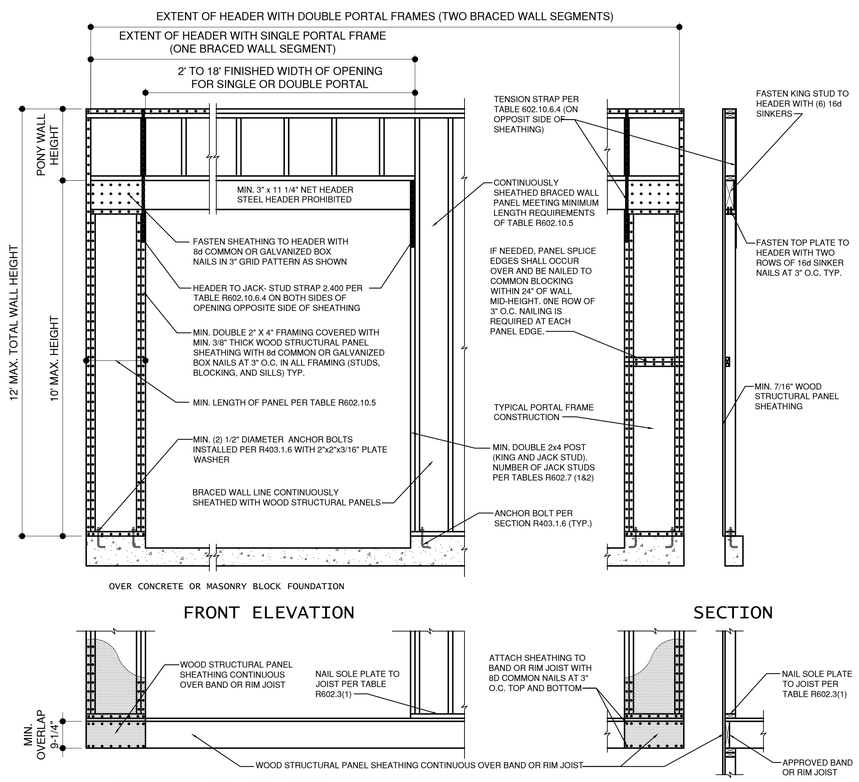
NOTES:
A. SEE (XXX) ON BRACED WALL PLAN FOR BRACED WALL METHOD.

BRACED WALL DESIGN:

A. THE CONTINUOUSLY SHEATHED (CS-WSP) BRACED WALL METHOD HAS BEEN USED ON ALL EXTERIOR WALLS PER THE I.R.C.

B. AT EXTERIOR WALLS AND AT THE WALL BETWEEN THE GARAGE AND THE LIVING SPACE, ATTACH WALL SOLE PLATE TO ALL RIM JOISTS (THROUGH SUB-FLOOR) WITH 16d COMMON (0.162"x3 1/2") NAILS @ 12" O.C.

C. ALL EXTERIOR WALLS SHALL BE SHEATHED PER ONE OF THE FOLLOWING OPTIONS:
- 7/16" APA-RATED PLYWOOD/OSB WITH 8d NAILS @ 4" O.C. AT EDGES AND @ 12" O.C. IN THE FIELD
- 7/16" SHIPLAP PANEL SHEATHING (I.E. LP SMARTSIDE OR EQUIVALENT) WITH 8d NAILS @ 4" O.C. AT EDGES AND @ 12" O.C. IN THE FIELD PER DETAIL 2/G3
- 3/8" SHIPLAP PANEL SHEATHING (I.E. LP SMARTSIDE OR EQUIVALENT) WITH 6d NAILS @ 3" O.C. AT EDGES AND @ 12" O.C. IN THE FIELD PER DETAIL 2/G3



1 METHOD CS-PF BRACED WALL
1/2" = 1'-0" A-DTE-06100-25 PF

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SHEET NO. G4

ONLINE CERTIFICATIONS DIRECTORY

Design No. U305
BXUV.U305
Fire Resistance Ratings - ANSI/UL 263

Page Bottom

Design/System/Construction/Assembly Usage Disclaimer

- Authorities Having Jurisdiction should be consulted in all cases as to the particular requirements covering the installation and use of UL Certified products, equipment, system, devices, and materials.
- Authorities Having Jurisdiction should be consulted before construction.
- Fire resistance assemblies and products are developed by the design submitter and have been investigated by UL for compliance with applicable requirements. The published information cannot always address every construction nuance encountered in the field.
- When field issues arise, it is recommended the first contact for assistance be the technical service staff provided by the product manufacturer noted for the design. Users of fire resistance assemblies are advised to consult the general Guide Information for each product category and each group of assemblies. The Guide Information includes specifics concerning alternate materials and alternate methods of construction.
- Only products which bear UL's Mark are considered Certified.

BXUV - Fire Resistance Ratings - ANSI/UL 263

BXUV7 - Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

See General Information for Fire-resistance Ratings - ANSI/UL 263

See General Information for Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

Design No. U305

February 02, 2018

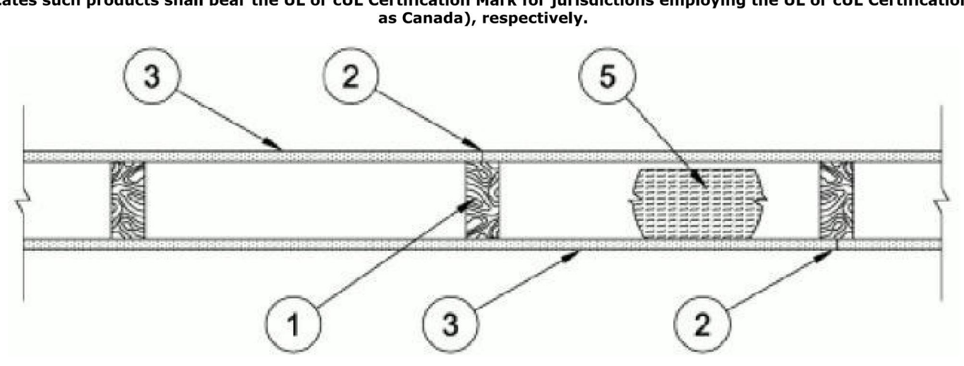
Bearing Wall Rating — 1 Hr

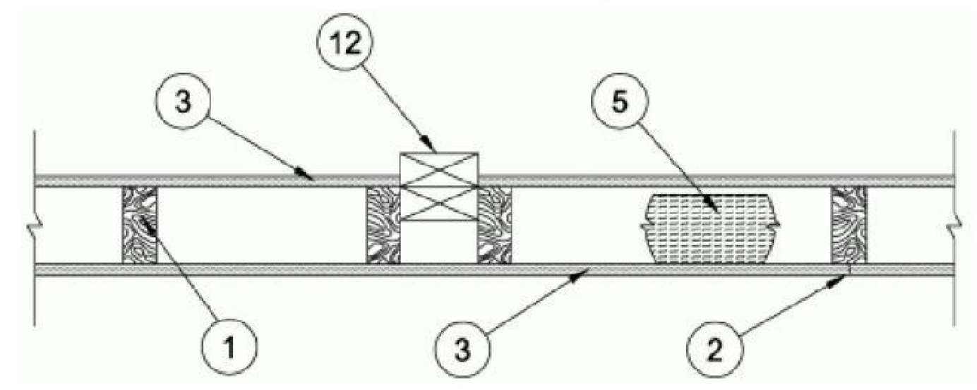
Finish Rating — See Items 3, 3A, 3D, 3E, 3F, 3G, 3H, 3J and 3L.

STC Rating - 56 (See Item 9)

This design was evaluated using a load design method other than the Limit States Design Method (e.g., Working Stress Design Method). For jurisdictions employing the Limit States Design Method, such as Canada, a load restriction factor shall be used — See Guide BXUV or BXUV7

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**





1. **Wood Studs —** Nom 2 by 4 in. spaced 16 in. OC max, effectively firestopped.

2. **Joints and Nail-Heads —** Joints covered with joint compound and paper tape. Joint compound and paper tape may be omitted when square edge boards are used. As an alternate, nom 3/32 in. thick gypsum veneer plaster may be applied to the entire surface of Classified veneer baseboard with the joints reinforced with paper tape. Nailheads exposed or covered with joint compound.

3. **Gypsum Board* —** 5/8 in. thick paper or vinyl surfaced, with beveled, square, or tapered edges, applied either horizontally or vertically. Gypsum panels nailed 7 in. OC with 6d cement coated nails 1-7/8 in. long, 0.0915 in. shank diam and 15/64 in. diam heads. When used in widths other than 48 in., gypsum panels are to be installed horizontally. For an alternate method of attachment of gypsum panels, refer to Items 6, 6A or 6B, **Steel Framing Members***.

When Items 6, 6B, or 6C **Steel Framing Members***, are used, gypsum panels attached to furring channels with 1 in. long Type S bugle-head steel screws spaced 12 in. OC.

When Item 6A, **Steel Framing Members***, is used, two layers of gypsum panels attached to furring channels. Base layer attached to furring channels with 1 in. long Type S bugle-head steel screws spaced 12 in. OC. Face layer attached to furring channels with 1-5/8 in. long Type S bugle-head steel screws spaced 12 in. OC. All joints in face layers staggered with joints in base layers. One layer of gypsum board attached to opposite side of wood stud without furring channels as described in Item 3.

When Item 7, resilient channels are used, 5/8 in. thick, 4 ft wide gypsum panels applied vertically. Screw attached furring channels with 1 in. long, self-drilling, self-tapping Type S or S-12 steel screws spaced 8 in. OC, vertical joints located midway between studs.

ACADIA DRYWALL SUPPLIES LTD — Type X (finish rating 22 min), 5/8 Type X, Moisture Resistant Type X, Gypsum Sheathing Type X, Mold & Mildew Resistant Type X and Mold & Mildew Resistant AR Type X, Type Blueglass Exterior Sheathing

AMERICAN GYPSUM CO — Types AGX-1(finish rating 23 min.), M-Glass (finish rating 23 min.), Type AGX-11 (finish rating 26 min), Type AGX-12 (finish rating 22 min), Type LightRoc (finish rating 23 min.) or Type AG-C

BEIJING NEW BUILDING MATERIALS PUBLIC LTD CO — Type DBX-1 (finish rating 24 min)

CERTAINTEED GYPSUM INC — Type 1, Type SF3 (finish rating 20 min) or FRPC; Type C, Type X or Type X-1 (finish rating 26 min); Type EGRG or GlasRoc (finish rating 23 min), GlasRoc-2, Type Habito (finish rating 26 min).

CGC INC — Type AR (finish rating 24 min), Type C (finish rating 24 min), Type IP-AR (finish rating 24 min), Type IPC-AR (finish rating 24 min), Type IP-X1 (finish rating 24 min), Type IP-X2 (finish rating 24 min), Type SCX (finish rating 24 min), Type SHX (finish rating 24 min), Type ULX (finish rating 22 min), Type WRC (finish rating 24 min), Type WRX (finish rating 24 min)

CONTINENTAL BUILDING PRODUCTS OPERATING CO, L L C — Type LGFC6A (finish rating 34 min), Type LGFC2A, Type LGFC-C/A, Type LGFC-WD, Type LGLLX (finish rating 21 min)

GEORGIA-PACIFIC GYPSUM L L C — Type 5 (finish rating 26 min), Type 6 (finish rating 23 min), Type 9 (finish rating 26 min), Type C (finish rating 26 min), Type DGG (finish rating 20 min), Type GPFS1 (finish rating 20 min), Type GPFS2 (finish rating 20 min), Type GPFS6 (finish

rating 26 min), Type DS, Type DAP, Type DD (finish rating 20 min), Type DA, Type DAPC, Type LS (finish rating 23 min), Type X, Veneer Plaster Base - Type X, Water Rated - Type X, Sheathing - Type X, Soffit - Type X, Type LWX (finish rating 22 min), Veneer Plaster Base-Type LWX (finish rating 22 min), Water Rated-Type LWX (finish rating 22 min), Sheathing Type-LWX (finish rating 22 min), Soffit-Type LWX (finish rating 22 min), Type DGLW (finish rating 22 min), Water Rated-Type DGLW (finish rating 22 min), Sheathing Type- DGLW (finish rating 22 min), Soffit-Type DGLW (finish rating 22 min), Type LWX (finish rating 22 min), Type LW2X (finish rating 22 min), Veneer Plaster Base - Type LW2X (finish rating 22 min), Water Rated - Type LW2X (finish rating 22 min), Sheathing - Type LW2X (finish rating 22 min), Soffit - Type LW2X (finish rating 22 min), Type DGL2W (finish rating 22 min), Water Rated - Type DGL2W (finish rating 22 min), Sheathing - Type DGL2W (finish rating 22 min)

NATIONAL GYPSUM CO — Type FSK (finish rating 20 min), Type FSK-G (finish rating 20 min), Type FSW (finish rating 20 min), Type FSW-2 (finish rating 24 min), Type FSW-3 (finish rating 20 min), Type FSW-5 (finish rating 22 min), Type FSW-G (finish rating 20 min), Type FSK-C (finish rating 20 min), Type FSW-C (finish rating 20 min), Type FSMR-C, Type FSW-6 (finish rating 20 min), Type FSL (finish rating 24 min), Type FSW-8

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Types C, PG-2 (finish rating 20 min), PG-3 (finish rating 20 min), Types PG-3W, PG-5W (finish rating 20 min), Type PG-4 (finish rating 20 min), Type PG-6 (finish rating 23 min), Types PG-3WS, PG-5WS, PGS-WRS (finish rating 20 min), Types PG-5, PG-9 (finish rating 26 min), PG-11 PG-13 (Nails increased to 2 in.), or Type PG-C

PANEL REY S A — Type GREX, PRX, PRC, PRC2; Types RHX, MDX, ETX (finish rating 22 min)

SIAM GYPSUM INDUSTRY (SARABURI) CO LTD — Type EX-1 (finish rating 26 min)

THAI GYPSUM PRODUCTS PCL — Type C, Type X (finish rating 26 min)

UNITED STATES GYPSUM CO — Type AR (finish rating 24 min), Type C (finish rating 24 min), Type FRX-G (finish rating 29 min), Type IP-AR (finish rating 24 min), Type IPC-AR (finish rating 24 min), Type IP-X1 (finish rating 24 min), Type IP-X2 (finish rating 24 min), Type SHX (finish rating 24 min), Type SCX (finish rating 24 min), Type SGX (finish rating 24 min), Type ULX (finish rating 22 min), Type WRX (finish rating 24 min), Type WRC (finish rating 24 min), Type ULIX (finish rating 20 min)

USG BORAL DRYWALL SFZ LLC — Type SGX (finish rating 24 min).

USG MEXICO S A DE C V — Type AR (finish rating 24 min), Type C (finish rating 24 min), Type WRX (finish rating 24 min), Type WRC (finish rating 24 min), Type IP-X1 (finish rating 24 min), Type IP-X2 (finish rating 24 min), Type SHX (finish rating 24 min), SCX (finish rating 24 min), Type IP-AR (finish rating 24 min), Type IPC-AR (finish rating 24 min), Type ULX (finish rating 22 min)

3A. **Gypsum Board* —** (As an alternate to Item 3) — 5/8 in. thick gypsum panels, with beveled, square, or tapered edges, applied either horizontally or vertically. Gypsum panels fastened to framing with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a max 8 in. OC, with last screw 1 in. from edge of board. When used in widths of other than 48 in., gypsum boards are to be installed horizontally.

AMERICAN GYPSUM CO — Types AGX-1 (finish rating 25 min.), M-Glass (finish rating 25 min.), AG-C (finish rating 25 min.), LighttRoc (finish rating 25 min.)

CERTAINTEED GYPSUM INC — Type C, Type X or Type X-1 (finish rating 26 min)

CGC INC — Type AR (finish rating 24 min), Type C (finish rating 24 min), Type IP-AR (finish rating 24 min), Type IPC-AR (finish rating 24 min), Type IP-X1 (finish rating 24 min), Type IP-X2 (finish rating 24 min), Type SCX (finish rating 24 min), Type SHX (finish rating 24 min), Type WRC (finish rating 24 min), Type WRX (finish rating 24 min)

NATIONAL GYPSUM CO — Type FSW (finish rating 24 min)

UNITED STATES GYPSUM CO — Type AR (finish rating 24 min), Type SCX (finish rating 24 min), Type SGX (finish rating 24 min), Type C (finish rating 24 min), Type WRX (finish rating 24 min), Type WRC (finish rating 24 min), Type IP-X1 (finish rating 24 min), Type IP-X2 (finish rating 24 min), Type SHX (finish rating 24 min), Type FRX-G (finish rating 24 min), Type IP-AR (finish rating 24 min), Type IPC-AR (finish rating 24 min)

USG BORAL DRYWALL SFZ LLC — Types C, SCX, SGX (finish rating 24 min).

USG MEXICO S A DE C V — Type AR (finish rating 24 min), Type C (finish rating 24 min), Type WRX (finish rating 24 min), Type WRC (finish rating 24 min), Type IP-X1 (finish rating 24 min), Type IP-X2 (finish rating 24 min), Type SHX (finish rating 24 min), Type SCX, Type IP-AR (finish rating 24 min), Type IPC-AR (finish rating 24 min)

3B. **Gypsum Board* —** (As an alternate to Item 3) — Nom 3/4 in. thick, installed with 1-7/8 in. long cement coated nails as described in Item 3 or 1-3/8 in. long Type W coarse thread gypsum panel steel screws as described in Item 3A.

CGC INC — Types AR, IP-AR

UNITED STATES GYPSUM CO — Types AR, IP-AR

USG MEXICO S A DE C V — Types AR, IP-AR

3C. **Gypsum Board* —** (As an alternate to Items 3, 3A and 3B) — 5/8 in. thick, 2 ft wide, tongue and groove edge, applied horizontally to one side of the assembly. Installed with 1-7/8 in. long cement coated nails as described in Item 3 or 1-1/4 in. long Type W coarse thread gypsum panel steel screws as described in Item 3A. Joint covering (Item 2) not required.

CGC INC — Type SHX

UNITED STATES GYPSUM CO — Type SHX

USG MEXICO S A DE C V — Type SHX

3D. **Gypsum Board* —** (As an alternate to Items 3, 3A, 3B, or 3C — Not Shown) — For Direct Application to Studs Only- Nom 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-5/8 in. long Type W coarse thread gypsum panel steel screws spaced 8 in. OC at perimeter and in the field. Lead batten strips required behind vertical joints of lead backed gypsum wallboard and optional at remaining stud locations. Lead batten strips, min 1-1/2 in. wide, max 10 ft long with a max thickness of 0.125 in. placed on the face of studs and attached to the stud with two 1 in. long Type S-12 pan head steel screws, one at the top of the strip and one at the bottom of the strip. Lead discs or tabs may be used in lieu of or in addition to the lead batten strips or optional at other locations. Max 3/4 in. diam by max 0.125 in. thick lead discs compression fitted or adhered over steel screw heads or max 1/2 in. by 1-1/4 in. by max 0.125 in. thick lead tabs placed on gypsum boards underneath screw locations prior to the installation of the screws. Lead batten strips to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C".

RAY-BAR ENGINEERING CORP — Type RB-LBG (finish rating 24 min)

3E. **Gypsum Board* —** (As an alternate to Items 3, 3A, 3B, 3C, and 3D) — 5/8 in. thick gypsum panels, with square edges, applied either horizontally or vertically. Gypsum panels fastened to framing with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a max 8 in. OC, with last 2 screws 1 and 4 in. from edge of board or nailed 7 in. OC with 6d cement coated nails 1-7/8 in. long, 0.0915 in. shank diam and 15/64 in. diam heads. When used in widths of other than 48 in., gypsum boards are to be installed horizontally.

GEORGIA-PACIFIC GYPSUM L L C — Type DGG (finish rating 20 min), GreenGlass Type X (finish rating 23 min)

3F. **Gypsum Board* —** (As an alternate to Items 3, 3A, 3B, 3C, 3D, and 3E) — 5/8 in. glass-mat faced with square edges, applied either horizontally or vertically. Gypsum panels nailed 7 in. OC around the perimeter and in the field with 6d cement coated nails 1-7/8 in. long, 0.0915 in. shank diam and 15/64 in. diam heads. Nails shall be placed 1 inch and 3 inch from horizontal joints and 7 inch OC thereafter.

CGC INC — Type USGX (finish rating 22 min)

UNITED STATES GYPSUM CO — Type USGX (finish rating 22 min.)

USG BORAL DRYWALL SFZ LLC — , Type USGX (finish rating 22 min.)

USG MEXICO S A DE C V — Type USGX (finish rating 22 min.)

3G. **Gypsum Board* —** (As an alternate to Items 3 through 3F) — 5/8 in. thick paper surfaced applied vertically. Gypsum panels nailed 7 in. OC with 6d cement coated nails 1-7/8 in. long, 0.0915 in. shank diam and 15/64 in. diam heads.

GEORGIA-PACIFIC GYPSUM L L C — Type X ComfortGuard Sound Deadening Gypsum Board (finish rating 27 min)

3H. **Gypsum Board* —** (As an alternate to Items 3) — Not to be used with items 6 or 7. 5/8 in. thick paper surfaced applied vertically only. Gypsum panels nailed 7 in. OC with 6d cement coated nails 1-7/8 in. long, 0.0915 in. shank diam and 15/64 in. diam heads.

NATIONAL GYPSUM CO — SoundBreak XP Type X Gypsum Board

3I. **Gypsum Board* —** (As an alternate to Items 3 through 3H, Not Shown) — Nominal 5/8 in. thick, 4 ft wide panels, applied vertically. Panels nailed 7 in. OC with 6d cement coated nails 1-7/8 in. long, 0.0915 in. shank diam and 15/64 in. diam heads. Panel joints covered with paper tape and two layers of joint compound. Nailheads covered with two layers of joint compound.

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type QuietRock ES (finish rating 20 min)

3J. **Gypsum Board* —** (As an alternate to Item 3) — Not to be used with items 6 or 7. 5/8 in. thick paper surfaced applied vertically or horizontally. Gypsum panels secured per item 3 or 3A.

CERTAINTEED GYPSUM INC — Type SilentFX

3K. **Gypsum Board* —** (As an alternate to Item 3) — 5/8 in. thick gypsum panels, with beveled, square, or tapered edges, applied either horizontally or vertically. Gypsum panels fastened to framing with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a maximum 8 in. OC with the last screw 1 in. from the edge of the board. When used in widths other than 48 in., gypsum panels are to be installed horizontally.

NATIONAL GYPSUM CO — Type FSK (finish rating 20 min), Type FSK-G (finish rating 20 min), Type FSW (finish rating 20 min), Type FSW-2 (finish rating 24 min), Type FSW-3 (finish rating 20 min), Type FSW-5 (finish rating 22 min), Type FSW-G (finish rating 20 min), Type FSK-C (finish rating 20 min), Type FSW-C (finish rating 20 min), Type FSMR-C, Type FSW-6 (finish rating 20 min), Type FSL (finish rating 24 min).

3L. **Gypsum Board* —** (As an alternate to Item 3) — For Direct Application to Studs Only — Nom 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-5/8 in. long Type W coarse thread gypsum panel steel screws spaced 8 in. OC at perimeter and in the field. Lead batten strips required behind vertical joints of lead backed gypsum wallboard and optional at remaining stud locations. Lead batten strips, min 2 in. wide, max 10 ft long with a max thickness of 0.140 in. placed on the face of studs and attached to the stud with two 1 in. long Type S-8 pan head steel screws, one at the top of the strip and one at the bottom of the strip. Lead discs, max 5/16 in. diam by max 0.140 in. thick. compression fitted or adhered over the screw heads. Lead batten strips to have a purity of 99.5% meeting the Federal specification QQ-L-201f, Grades "B, C or D".

MAYCO INDUSTRIES INC — "X-Ray Shielded Gypsum"

3M. **Gypsum Board* —** (As an alternate to Items 3) — For Direct Application to Studs Only — For use as the base layer or as the face layer. Nom 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-5/8 in. long Type W coarse thread gypsum panel steel screws spaced 8 in. OC at perimeter and in the field when applied as the base layer. When applied as the face layer screw length to be increased to 2-1/2 in. Lead batten strips required behind vertical joints of lead backed gypsum wallboard and optional at remaining stud locations. Lead batten strips, min 2 in. wide, max 8 ft long with a max thickness of 0.14 in. placed on the face of studs and attached to the stud with construction adhesive and two 1 in. long Type S-12 pan head steel screws, one at the top of the strip and one at the bottom of the strip. Lead discs, nominal 3/8 in. diam by max 0.085 in. thick. Compression fitted or adhered over the screw heads. Lead batten strips and discs to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C". Fasteners for face layer gypsum panels (Items 4, 4A or 4B) when installed over lead backed board to be min 2-1/2 in. Type S-12 bugle head steel screws spaced as described in Item 4.

RADIATION PROTECTION PRODUCTS INC — Type RPP - Lead Lined Drywall

3N. **Gypsum Board* —** (As an alternate to Item 3) — 5/8 in. thick, 4 ft. wide, applied horizontally or vertically with vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Secured as described in Item 3 or 3A.

CERTAINTEED GYPSUM INC — Easi-Lite Type X (finish rating 24 min), Easi-Lite Type X-2 (finish rating 24 min)

3O. **Wall and Partition Facings and Accessories* —** (As an alternate to Item 3, Not Shown) — Nominal 5/8 in. thick, 4 ft wide panels, applied vertically. Panels nailed 7 in. OC with 6d cement coated nails 1-7/8 in. long, 0.0915 in. shank diam and 15/64 in. diam heads. Panel joints covered with paper tape and two layers of joint compound. Nailheads covered with two layers of joint compound.

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type QuietRock 527 (finish rating 24 min).

3P. **Gypsum Board* —** (As an alternate to Item 3, Not Shown) — Two layers nom. 5/16 in. thick gypsum panels applied vertically or horizontally. Horizontal edge joints and horizontal butt joints on opposite sides of studs need not be staggered or backed by wood studs. Horizontal joints on the same side between face and base layers need not be staggered. Base layer gypsum panels fastened to studs with 1-1/4 in. long drywall nails spaced 8 in. OC. Face layer gypsum panels fastened to studs with 1-7/8 in. long drywall nails spaced 8 in. OC starting with a 4" stagger.

NATIONAL GYPSUM CO — Type FSW (finish rating 25 min)

3Q. **Gypsum Board* —** (As an alternate to Item 3) — 5/8 in. thick gypsum panels, with beveled, square, or tapered edges, applied either horizontally or vertically. Gypsum panels fastened to framing with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a maximum 10 in. OC with the last two screws 4 and 1 in. from the edges of the board. When used in widths other than 48 in., gypsum panels are to be installed horizontally.

CONTINENTAL BUILDING PRODUCTS OPERATING CO, L L C — Type LGFC6A (finish rating 21 min), Type LGFC2A, Type LGFC-C/A, Type LGFC-WD, Type LGLLX

3R. **Gypsum Board* —** (As an alternate to Item 3. For use with Item 5H) — Any 5/8 in. thick, 4 ft. wide, Gypsum Board listed in Item 3 above. Applied either horizontally or vertically, and screwed to panels with 1-5/8 in. long Type W coarse thread steel screws at 8 in. OC at perimeter and in the field with the last two screws 4 and 3/4 in. from the edges of the board when applied as the base layer. When used in widths other than 48 in., gypsum panels are to be installed horizontally.

3S. **Gypsum Board* —** 3/4 in. thick paper or vinyl surfaced, with beveled, square, or tapered edges, applied either horizontally or vertically. Gypsum panels secured as described in Item 3 with nail length increased to 2 in.

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type PG-13

4. **Steel Corner Fasteners —** (Optional) — For use at wall corners. Channel shaped, 2 in. long by 1 in. high on the back side with two 1/8 in. wide cleats protruding into the 5/8 in. wide channel, fabricated from 24 gauge galv steel. Fasteners applied only to the end or cut edge (not along tapered edges) of the gypsum board, no greater than 2 in. from corner of gypsum board, max spacing 16 in. OC. Nailed to adjacent stud through tab using one No. 6d cement coated nail per fastener. Corners of wall board shall be nailed to top and bottom plate using No. 6d cement coated nails.

5. **Batts and Blankets* —** (Optional — Required when Item 6A is used (RC-1)) — Glass fiber or mineral wool insulation. Placed to completely or partially fill the stud cavities. When Item 6A is used, glass fiber or mineral wool insulation shall be friction-fitted to completely fill the stud cavities.

CERTAINTEED CORP

JOHNS MANVILLE

KNAUF INSULATION LLC

MANSON INSULATION INC

OWENS CORNING HT INC, DIV OF OWENS CORNING — Corning Fiberglas Corp

ROCK WOOL MANUFACTURING CO — Delta Board

ROCKWOOL — Acoustical Fire Batts

THERMAFIBER INC — Type SAFB, SAFB FF

5A. **Fiber, Sprayed* —** (Not Shown — Not for use with Item 6) — As an alternate to Batts and Blankets (Item 5) — Spray applied cellulose material. The fiber is applied with water to completely fill the enclosed cavity in accordance with the application instructions supplied with the product with a nominal dry density of 2.7 lb/ft³. Alternate Application

Method: The fiber is applied without water or adhesive at a nominal dry density of 3.5 lb/ft³, in accordance with the application instructions supplied with the product. When Item 6B is used, Fiber, Sprayed shall be INS735, INS745, INS765LD or INS770LD.

U S GREENFIBER L L C — INS735 & INS745 for use with wet or dry application. INS510LD, INS515LD, INS541LD, INS735, INS745, INS765LD, and INS770LD are to be used for dry application only

5B. **Fiber, Sprayed* —** (Not Shown - Not for use with Item 6) — As an alternate to Batts and Blankets (Item 5) and Item 5A - Spray applied cellulose insulation material. The fiber is applied with water to interior surfaces in accordance with the application instructions supplied with the product. Applied to completely fill the enclosed cavity. Minimum dry density of 4.3 pounds per cubic ft.

NU-WOOL CO INC — Cellulose Insulation

5C. **Batts and Blankets* —** Required for use with resilient channels, Item 7, 3 in. thick mineral wool batts, friction-fitted to fill interior of wall.

THERMAFIBER INC — Type SAFB, SAFB FF

5D. **Glass Fiber Insulation —** (As an alternate to Item 5C) — 3 in. thick glass fiber batts bearing the UL Classification Marking as to Surface Burning and/or Fire Resistance, friction-fitted to fill the interior of the wall. See **Batts and Blankets** (BKNV or BZJZ) Categories for names of Classified companies.

5E. **Batts and Blankets* —** (Required for use with Wall and Partition Facings and Accessories, Item 3D) — Glass fiber insulation, nom 3-1/2 in. thick, min. density of 0.80 pcf, with a flame spread of 25 or less and a smoke developed of 50 or less, friction-fitted to completely fill the stud cavities. See Batts and Blankets Category (BKNV) for names of manufacturers.

5F. **Fiber, Sprayed* —** (Optional, Not Shown — Not for use with Items 6, 6A or 6B) — As an alternate to Batts and Blankets (Item 5) and Item 5A - Spray applied granulated mineral fiber material. The fiber is applied with adhesive, at a minimum density of 4.0 pcf, to completely fill the enclosed cavity in accordance with the application instructions supplied with the product. See **Fiber, Sprayed** (CCAZ).

AMERICAN ROCKWOOL MANUFACTURING, LLC — Type Rockwool Premium Plus

5G. **Fiber, Sprayed* —** (Optional, Not Shown — Not for use with Items 6, 6A or 6B). — As an alternate to Batts and Blankets (Item 5) and Item 5A - Brown Colored Spray applied cellulose fiber. The fiber is applied with water to completely fill the enclosed stud cavity in accordance with the application instructions supplied with the product. The minimum dry density shall be 4.30 lbs/ft³.

INTERNATIONAL CELLULOSE CORP — Celbar-RL

5H. **Foamed Plastic* —** (Optional -For use with Item 3R) — Spray applied, foamed plastic insulation, at any thickness from partial fill to completely filling stud cavity.

SES FOAM INC — SES 2 lb. Spray Foam and Sucraseal 0.5 lb. Spray Foam.

6. **Steel Framing Members* —** (Optional, Not Shown) — Furring channels and Steel Framing Members as described below:

a. **Furring Channels —** Formed of No. 25 MSG galv steel. 2-9/16 in. or 2-23/32 in. wide by 7/8 in. deep, spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels are overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire near each end of overlap. As an alternate, ends of adjoining channels may be overlapped 6 in. and secured together with two self-tapping #6 framing screws, min. 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel. Gypsum board attached to furring channels as described in Item 3.

b. **Steel Framing Members* —** Used to attach furring channels (Item 6a) to studs. Clips spaced 48 in. OC. RSIC-1 and RSIC-1 (2.75) clips secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center grommet. RSIC-V and RSIC-V (2.75) clips secured to studs with No. 8 x 1-1/2 in. coarse drywall screw through the center hole. Furring channels are friction fitted into clips. RSIC-1 and RSIC-V clips for use with 2-9/16 in. wide furring channels. RSIC-1 (2.75) and RSIC-V (2.75) clips for use with 2-23/32 in. wide furring channels.

PAC INTERNATIONAL L L C — Types RSIC-1, RSIC-V, RSIC-1 (2.75), RSIC-V (2.75)

6A. **Steel Framing Members* —** (Optional, Not Shown) — Furring channels and Steel Framing Members on one side of studs as described below:

a. **Furring Channels —** Formed of No. 25 MSG galv steel, spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels are

overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire near each end of overlap. Batts and Blankets placed in stud cavity as described in Item 5. Two layers of gypsum board attached to furring channels as described in Item 3.

b. **Steel Framing Members* —** Used to attach furring channels (Item 6Aa) to one side of studs only. Clips spaced 48 in. OC., and secured to studs with two No. 8 x 2-1/2 in. coarse drywall screws, one through the hole at each end of the clip. Furring channels are friction fitted into clips.

KINETICS NOISE CONTROL INC — Type Isomax

6B. **Steel Framing Members* —** (Optional, Not Shown) — Furring channels and Steel Framing Members as described below:

a. **Furring Channels —** Formed of No. 25 MSG galv steel. 2-3/8 in. wide by 7/8 in. deep, spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels are overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire near each end of overlap. As an alternate, ends of adjoining channels may be overlapped 6 in. and secured together with two self-tapping #6 framing screws, min. 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel. Gypsum board attached to furring channels as described in Item 3.

b. **Steel Framing Members* —** Used to attach furring channels (Item 6Ba) to studs. Clips spaced 48 in. OC. Genie clips secured to studs with No. 8 x 1-1/2 in. coarse drywall screw through the center hole. Furring channels are friction fitted into clips.

PLITEQ INC — Type Genie Clip

6C. **Steel Framing Members* —** (Optional, Not Shown) — Furring channels and Steel Framing Members as described below:

a. **Furring Channels —** Formed of No. 25 MSG galv steel. Spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 AWG galvanized steel wire. Gypsum board attached to furring channels as described in Item 3.

b. **Steel Framing Members* —** Used to attach furring channels (Item 6Ca) to studs. Clips spaced 48 in. OC., and secured to studs with No. 2 in. coarse drywall screw with 1 in. diam washer through the center hole. Furring channels are friction fitted into clips.

STUDCO BUILDING SYSTEMS — RESILMOUNT Sound Isolation Clips - Type A237 or A237R

7. **Furring Channel —** Optional — Not Shown — For use on one side of the wall - Resilient channels, 25 MSG galv steel, spaced vertically 24 in. OC, flange portion screw attached to one side of studs with 1-1/4 in. long diamond shaped point, double lead Phillips head steel screws. When resilient channels are used, insulation, Items 5C or 5D is required.

8. **Caulking and Sealants —** (Not Shown, Optional) — A bead of acoustical sealant applied around the partition perimeter for sound control.

9. **STC Rating —** The STC Rating of the wall assembly is 56 when it is constructed as described by Items 1 through 6, except:

A. Item 2, above — Nailheads Shall be covered with joint compound.

B. Item 2, above — Joints As described, shall be covered with fiber tape and joint compound.

C. Item 5, above — Batts and Blankets* The cavities formed by the studs shall be friction fit with R-19 unfaced fiberglass insulation batts measuring 6-1/4 in. thick and 15-1/4 in. wide.

D. Item 6, above — Steel Framing Members* Type RSIC-1 clips shall be used to attach gypsum board to studs on either side of the wall assembly.

E. Item 8, above — Caulking and Sealants (Not Shown) A bead of acoustical sealant shall be applied around the partition perimeter for sound control.

F. Steel Corner Fasteners (Item 4), Fiber, Sprayed (Items 5A and 5B) and Steel Framing Members (Item 6A), not evaluated as alternatives for obtaining STC rating.

10. **Wall and Partition Facings and Accessories* —** (Optional, Not Shown) — Nominal 1/2 in. thick, 4 ft wide panels, for optional use as an additional layer on one or both sides of the assembly. Panels attached in accordance with manufacturer's recommendations. When the QR-500 or QR-510 panel is installed between the wood framing and the UL Classified gypsum board, the required UL Classified gypsum board layer(s) is/are to be installed as indicated as to fastener type and spacing, except that the required fastener length shall be increased by a minimum of 1/2 in. Not evaluated or intended as a substitute for the required layer(s) of UL Classified Gypsum Board.

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type QuietRock QR-500 and QR-510

11. **Cementitious Backer Units* —** (Optional Item Not Shown — For Use On Face Of 1 Hr Systems With All Standard Items Required) - 7/16 in., 1/2 in., 5/8 in., 3/4 in. or 1 in. thick, min. 32 in. wide. Applied vertically or horizontally with vertical joints centered over studs. Fastened to studs and runners with cement board screws of adequate length to penetrate stud by a minimum of 3/8 in. for steel framing members, and a minimum of 3/4 in. for wood framing members spaced a max of 8 in. OC. When 4 ft. wide boards are used, horizontal joints need not be backed by framing.

NATIONAL GYPSUM CO — Type DuraBacker, PermaBase, DuraBacker Plus, or PermaBase Plus

12. **Non-Bearing Wall Partition Intersection —** (Optional) —Two nominal 2 by 4 in. studs or nominal 2 by 6 in. studs nailed together with two 3 in. long 10d nails spaced a max. 16 in. OC. vertically and fastened to one side of the minimum 2 by 4 in. stud with 3 in. long 10d nails spaced a max. 16 in. OC. vertically. Intersection between partition wood studs to be flush with the 2 by 4 in. studs. The wall partition wood studs are to be framed by with a second 2 by 4 in. wood stud fastened with 3 in. long 10d nails spaced a max. 16 in. OC. vertically. Maximum one non-bearing wall partition intersection per stud cavity. Non-bearing wall partition stud depth shall be at a minimum equal to the depth of the bearing wall.

13. **Mesh Netting —** (Not Shown) — Any thin, woven or non-woven fibrous netting material attached with staples to the outer face of one row of studs to facilitate the installation of the sprayed fiber from the opposite row.

14. **Mineral and Fiber Board* —** (Optional, Not Shown) — For optional use as an additional layer on one side of wall. Nom 1/2 in. thick, 4 ft wide with long dimension parallel and centered over studs. Attached to framing with 2 in. long Type W steel screws, spaced 12 in. OC. The required UL Classified gypsum board layer(s) is/are to be installed as indicated as to fastener type and spacing, except that the required fastener length shall be increased by a minimum of 1/2 in. Not evaluated or intended as a substitute for the required layer(s) of UL Classified Gypsum Board.

HOMASOTE CO — Homasote Type 440-32

14A. **Mineral and Fiber Board* —** (Optional, Not Shown) — For use with Items 14B-14E) — For optional use as an additional layer on one side of wall. Nom 1/2 in. thick, 4 ft wide with long dimension parallel and centered over studs. Attached to framing with minimum 1-3/8 in. long ring shanked nails or 1-1/4 in. long Type W steel screws, spaced 12 in. OC along board edges and 24 in. OC in field of board along intermediate framing. Not evaluated or intended as a substitute for the required layer(s) of UL Classified Gypsum Board.

HOMASOTE CO — Homasote Type 440-32

14B. **Glass Fiber Insulation —** (For use with Item 14A) — 3-1/2 in. thick glass fiber batts bearing the UL Classification Marking as to Surface Burning and/or Fire Resistance, placed to fill the interior of the wall. See Batts and Blankets (BKNV or BZJZ) categories for names of Classified companies.

14C. **Batts and Blankets* —** (As an alternate to Item 14B, For use with Item 14A), 3 in. thick mineral wool batts, placed to fill interior of wall, attached to the 3-1/2 in. face of the studs with staples placed 24 in. OC.

THERMAFIBER INC — Type SAFB, SAFB FF

14D. **Adhesive —** (For use with Item 14A) — Construction grade adhesive applied in vertical, serpentine, nominal 3/8 in. wide beads down the length of both vertical edges of Mineral and Fiber Board (Item 14A).

14E. **Gypsum Board* —** (For use with Item 14A) — 5/8 in. thick, 4 ft wide, applied vertically over Mineral and Fiber Board (Item 14A) with vertical joints located anywhere over stud cavities. Secured to mineral and fiber boards with 1-1/2 in. Type G Screws spaced 8 in. OC along edges of each vertical joint and 12 in. OC in intermediate field of the Mineral and Fiber Board (Item 14A). Secured to outermost studs and bearing plates with 2 in. long Type S screws spaced 8 in. OC. Gypsum Board joints covered with paper tape and joint compound. Screw heads covered with joint compound. Finish Rating 30 Min.

AMERICAN GYPSUM CO — Type AG-C

CERTAINTEED GYPSUM INC — Type FRPC, Type C

CGC INC — Types C, IP-X2, IPC-AR

CONTINENTAL BUILDING PRODUCTS OPERATING CO, L L C — Type LGFC-C/A

GEORGIA-PACIFIC GYPSUM L L C — Types 5, DAPC, TG-C

NATIONAL GYPSUM CO — Types FSK-C, FSW-C

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type PG-C

PANEL REY S A — Type PRC

THAI GYPSUM PRODUCTS PCL — Type C

UNITED STATES GYPSUM CO — Types C, IP-X2, IPC-AR

USG BORAL DRYWALL SFZ LLC — Type C

USG MEXICO S A DE C V — Types C, IP-X2, IPC-AR

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

Last Updated on 2018-02-02

Questions? Print this page Terms of Use Page Top

2-25-2026 ADDITIONAL FIRE RATING INFORMATION

Webster architects
11060 SOUTH GREEN ROAD - OLATHE, KS 66061
P. 913-390-4663 WWW.WebsterArchitects.com

PERGOLA PARK LOT 139
1108 SW CORINTHIAN LN
LEE's SUMMIT, MO. 64801

LANDROCK SIGNATURE HOMES L.L.C.
4335 McGEE ST. · 816-863-5588
KANSAS CITY, MO 64111

STATE OF MISSOURI
DANIEL J. WEBSTER
NUMBER A-5400
REGISTERED ARCHITECT
02/26/2026

DRAWN BY: MP
DATE: 12-18-25
REVISION DATE:
PROJECT NO: 25-042-01

SHEET NO.
G5

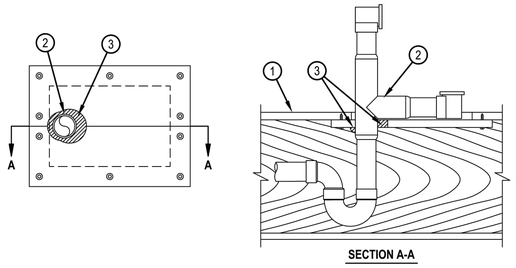
RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
03/06/2026 9:46:04

System No. F-C-2204

F Rating — 1 Hr
T Rating — 1/2 Hr

FC 2204

Classified by Underwriters Laboratories, Inc. to UL 1479



SECTION A-A

1. Floor — Ceiling Assembly — The 1 hr fire-rated solid or trussed lumber joist floor-ceiling assembly shall be constructed of the materials and in the manner specified in the individual L500 Series Floor-Ceiling Designs in theUL Fire Resistance Directory. The general construction features of the floor-ceiling assembly are summarized below:
   A. Flooring System — Lumber or plywood subfloor with finish floor of lumber, plywood or Floor Topping Mixture* as specified in the individual Floor-Ceiling Design. Rectangular cutout in flooring to accommodate the bathtub drain piping (Item 2) to be max 8 in. by 12 in. Cutout to be patched on underside of subfloor using one layer of min 3/4 in. thick plywood or min 5/8 in. thick gypsum board (Item 1C) sized to lap min 2 in. beyond each edge of rectangular cutout. Patch split into two pieces at opening and hole-sawed for bathtub drain piping. Diam of opening hole sawed through patch to accommodate drain piping (Item 2) to be 1 in. larger than outside diam of drain piping and positioned such that the annular space between drain piping and periphery of opening is min 0 in. (point contact) to max 1 in. Two pieces positioned around drain piping, with cut edges tightly butted, and screw-attached to underside of subfloor with 1-1/4 in. long steel screws spaced max 6 in. OC.
   B. Wood Joists* — Nom 10 in. deep (or deeper) lumber, steel or combination lumber and steel joists, trusses or Structural Wood Members* with bridging as required and with ends firestopped.
   C. Gypsum Board* — Nom 5/8 in. thick, 4 ft wide as specified in the individual Floor-Ceiling Design.
2. Drain Piping — Nom 1-1/2 in. (or smaller) diam Schedule 40 acrylonitrile butadiene styrene (ABS) or polyvinyl chloride (PVC) pipe and drain fittings cemented together and provided with ABS or PVC bathtub waste/overflow fittings. Annular space shall be min 0 in. (point contact) to max 1 in.
3. Fill Void or Cavity Materials* — Min 5/8 in. depth or fill material applied within the annulus, flush with both surfaces of plywood or gypsum board patch.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-ONE Sealant

*Bearing the UL Classification Mark

Hilti Firestop Systems

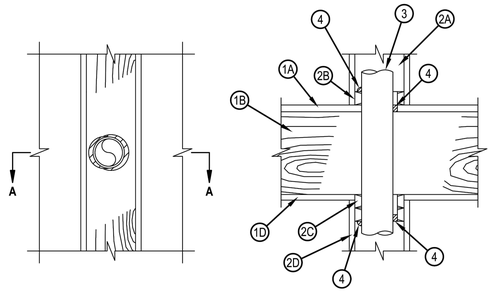
Reproduced by HILTI, Inc. Courtesy of Underwriters Laboratories, Inc.
December 07, 2001

System No. F-C-2389

F Rating — 1 Hr
T Ratings — 3/4 and 1 Hr (See Item 3)

FC 2389

Classified by Underwriters Laboratories, Inc. to UL 1479



1. Floor-Ceiling Assembly — The fire-rated solid or trussed lumber joist floor-ceiling assembly shall be constructed of the materials and in the manner specified in individual L500 Series Floor-Ceiling Designs in the UL Fire Resistance Directory. The general construction details of the floor-ceiling assembly are summarized below:
   A. Flooring System — Lumber or plywood subfloor with finish floor of lumber, plywood or Floor Topping Mixture* as specified in the individual Floor-Ceiling Design. Max diam of floor opening is 4 in. (102 mm).
   B. Wood Joists — Nom 2 by 10 in. (51 by 254 mm) lumber joists spaced 16 in. (406 mm) OC with nom 1 by 3 in. (25 by 76 mm) lumber bridging and with ends firestopped. As an alternate to lumber joists, nom 10 in. (254 mm) deep (or deeper) lumber, steel or combination lumber and steel joists, trusses or Structural Wood Members* with bridging as required with ends firestopped.
   C. Furring Channels — (Not shown) — Resilient galv steel furring installed perpendicular to wood joists (Item 1B) between wallboard (Item 1D) and wood joists as required in the individual Floor-Ceiling Design.
   D. Gypsum Board* — Nom 4 ft (122 cm) wide by 5/8 in. (16 mm) thick as specified in the individual Floor-Ceiling Design.

Hilti Firestop Systems

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July 18, 2011

Page: 1 of 2

System No. F-C-2389

F Rating — 1 Hr
T Ratings — 3/4 and 1 Hr (See Item 3)

FC 2389

Classified by Underwriters Laboratories, Inc. to UL 1479

2. Chase Wall — The through penetrant (Item No. 3) shall be routed through a single, double or staggered wood studs/gypsum board chase wall and shall include the following construction features:
   A. Studs — Nom 2 by 4 in. (51 by 102 mm) or nom 2 by 6 in. (51 by 152 mm) lumber studs.
   B. Sole Plate — Nom 2 by 4 in. (51 by 102 mm) or 2 by 6 in. (51 by 152 mm) lumber plates. Max diam of opening is 4 in. (102 mm) when nom 3 in. (76 mm) diam penetrants are used. Max diam of opening is 3 in. (76 mm) when nom 2 in. (51 mm) or smaller diam penetrants are used.
   C. Top Plate — The double top plate shall consist of two nom 2 by 4 in. (51 by 102 mm) or 2 by 6 in. (51 by 152 mm) lumber plates. Max diam of opening is 4 in. (102 mm) when nom 3 in. (76 mm) diam penetrants are used. Max diam of opening is 3 in. (76 mm) when nom 2 in. diam penetrants are used.
   C. Gypsum Board — Min 1/2 in. (13 mm) rated or non-rated gypsum board.
   E. Steel Straps — (Not shown) — Steel straps to be used when top and sole plates are discontinuous and shall meet the structural requirements of the wall. Min 1-1/2 in. (38 mm) wide by 20 gauge (or heavier) galvanized steel straps used to bridge opening on both sides of wall at sole plate when sole plate is discontinuous at opening in plywood floor. Steel straps to be cut to overlap a min of 2 in. (51 mm) onto sole plate on each side of opening and secured to sole plate with a min of two nails or screws on each side of opening on both sides of wall. Min 3 in. (76 mm) wide by 20 gauge (or heavier) galvanized steel straps used to bridge opening on both sides of wall at double top plate when top plate is discontinuous at opening. Steel straps to be cut to overlap a min of 2 in. (51 mm) onto top plate on each side of opening and secured to top plates with a min of two nails or screws on each side of opening on both sides of wall.
3. Through Penetrants — One nonmetallic pipe to be installed either eccentrically or concentrically within the firestop system. The annular space between the through penetrant and the periphery of the opening shall be a min 0 in. (point contact) to a max of 5/8 in.(16 mm) Pipe to be rigidly supported on both sides of the floor-ceiling assembly. The following types and sizes of nonmetallic pipes may be used.
   A. Polyvinyl Chloride (PVC) Pipe — Nom 3 in. (76 mm) diam (or smaller) Schedule 40 solid or cellular core PVC for use in closed (process or supply) or vented (drain, waste or vent) piping systems. When PVC pipe is used the T rating is ¾ hour.
   B. Chlorinated Polyvinyl Chloride (CPVC) Pipe — Nom 3 in. (76 mm) diam (or smaller) SDR13.5 CPVC for use in closed (process or supply) piping systems. When CPVC pipe is used the T rating is ¾ hour.
   C. Acrylonitrile Butadiene Styrene (ABS) Pipe — Nom 3 in. (76 mm) diam (or smaller) Schedule 40 solid-core or cellular-core ABS pipe for use in closed (process or supply) or vented (drain, waste or vent) piping system. When ABS pipe is used the T rating is 1 hour.
   D. Electrical Nonmetallic Tubing (ENT+) — Nom 2 in. (51 mm) diam (or smaller) corrugated-wall electrical nonmetallic tubing (ENT) constructed of polyvinyl chloride (PVC) and installed in accordance with the National Electrical Code (NFPA No. 70). When ENT is used the T rating is 1 hour.
   See Electrical Nonmetallic Tubing (FKHU) category in the Electrical Construction Materials Directory for names of manufacturers.
4. Fill, Void or Cavity Material* - Sealant — Min 3/4 in. (19 mm) thickness of fill material applied within the annulus, flush with top surface of floor or sole plate. Min 3/4 in. (19 mm) thickness of fill material applied within the annulus, flush with bottom surface of lower top plate. At point contact location, a min 1/2 in. (13 mm) diam bead of fill material shall be applied at bottom surface of lower top plate. In addition, at top of floor, a min 1/2 in. (13 mm) diam bead of fill material shall be applied at the point contact location at top of sole plate or subfloor.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-ONE Sealant

*Bearing the UL Classification Mark

Hilti Firestop Systems

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July 18, 2011

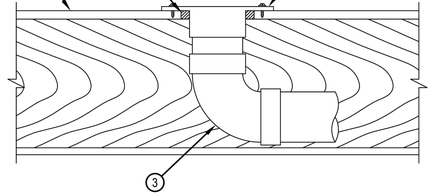
Page: 2 of 2

System No. F-C-2203

F Rating — 1 Hr
T Rating — 1 Hr

FC 2203

Classified by Underwriters Laboratories, Inc. to UL 1479



1. Floor-Ceiling Assembly — The 1 hr fire-rated solid or trussed lumber joist floor-ceiling assembly shall be constructed of the materials and in the manner specified in the individual L500 Series Floor-Ceiling Designs in the UL Fire Resistance Directory. The general construction features of the floor-ceiling assembly are summarized below:
   A. Flooring System — Lumber or plywood subfloor with finish floor of lumber, plywood or Floor Topping Mixture* as specified in the individual Floor-Ceiling Design. Max diam of opening shall be 5 in. (127 mm).
   B. Wood Joist* — Nom 10 in. (254 mm) deep (or deeper) lumber, steel or combination lumber and steel joists, trusses or Structural Wood Members* with bridging as required and with ends firestopped.
   C. Gypsum Board* — Nom 5/8 in. (16 mm) thick, 4 ft (1.2 m) wide as specified in the individual Floor-Ceiling Design.
2. Closet Flange — Acrylonitrile butadiene styrene (ABS) or polyvinyl chloride (PVC) closet stub sized to accommodate drain pipe. Closet flange installed over drain piping within floor opening with flange secured to plywood floor with steel screws. Diam of circular opening through flooring (Item 1A) to be max 1/2 in. (13 mm) larger than outside diam of closet flange.
3. Drain Piping — Nom 4 in. (102 mm) diam (on smaller) Schedule 40 acrylonitrile butadiene styrene (ABS) or polyvinyl chloride (PVC) drain pipe and 90 degree elbow for use in vented (drain, waste or vent) piping systems. Pipe installed concentrically within firestop system.
4. Fill, Void or Cavity Materials*—Sealant — Min 3/4 in. (19 mm) thickness of fill material applied within the annulus, flush with the bottom surface of floor.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-ONE Sealant
5. Water Closet — (Not Shown)—Floor mounted vitreous china water closet.

*Bearing the UL Classification Mark

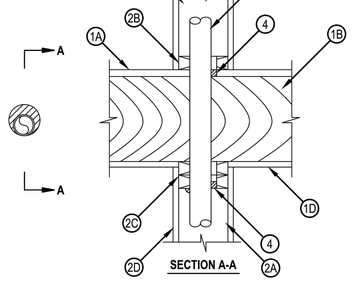
Hilti Firestop Systems

Reproduced by HILTI, Inc. Courtesy of Underwriters Laboratories, Inc.
April 09, 2009

System No. F-C-2142

F Rating — 1 Hr
T Rating — 0 Hr

FC 2142



SECTION A-A

1. Floor-Ceiling Assembly — The fire-rated solid or trussed lumber joist floor-ceiling assembly shall be constructed of the materials and in the manner specified in individual L500 Series Floor-Ceiling Designs in the UL Fire Resistance Directory. The general construction details of the floor-ceiling assembly are summarized below:
   A. Flooring System — Lumber or plywood subfloor with finish floor of lumber, plywood or Floor Topping Mixture* as specified in the individual Floor-Ceiling Design. Diam of opening shall be 1 in. (25 mm) larger than the nom diam of through-penetrant (Item 3).
   B. Wood Joists — Nom 2 by 10 in. (51 by 254 mm) lumber joists spaced 16 in. (406 mm) OC with nom 1 by 3 in. (25 by 76 mm) lumber bridging and with ends firestopped. As an alternate to lumber joists, nom 10 in. (254 mm) deep (or deeper) lumber, steel or combination lumber and steel joists, trusses or Structural Wood Members* with bridging as required with ends firestopped.
   C. Furring Channels — (Not shown) — Resilient galv steel furring installed perpendicular to wood joists (Item 1B) between wallboard (Item 1D) and wood joists as required in the individual Floor-Ceiling Design.
   D. Gypsum Board* — Nom 4 ft (1.2 m) wide by 5/8 in. (16 mm) thick as specified in the individual Floor-Ceiling Design. Diam of opening shall be 1 in. (25 mm) larger than the nom diam of through-penetrant (Item 3).
2. Chase Wall — (Optional) - The through penetrant (Item 3) may be routed through a 1 hr fire-rated single, double or staggered wood stud/gypsum wallboard chase wall constructed of the materials and in the manner specified in the individual U300 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
   A. Studs — Nom 2 by 4 in. (51 by 102 mm) lumber studs.
   B. Sole Plate — Nom 2 by 4 in. (51 by 102 mm) lumber plates. Diam of opening shall be 1 in. (25 mm) larger than the nom diam of through-penetrant (Item 3).
   C. Top Plate — The double top plate shall consist of two nom 2 by 4 in. (51 by 102 mm) lumber plates. Diam of opening shall be 1 in. (25 mm) larger than the nom diam of through-penetrant (Item 3).
   D. Gypsum Board* — Thickness, type, number of layers and fasteners shall be as specified in individual Wall and Partition Design.

Hilti Firestop Systems

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May 23, 2008

Page: 1 of 2

System No. F-C-2142

F Rating — 1 Hr
T Rating — 0 Hr

FC 2142

3. Through — Penetrants — One nonmetallic pipe to be installed either eccentrically or concentrically within the firestop system. The annular space between the through penetrant and the periphery of the opening shall be a min 0 in. (point contact) to a max of 5/8 in. (16 mm). Pipe to be rigidly supported on both sides of the floor-ceiling assembly. The following types and sizes of nonmetallic pipes may be used.
   A. Polyvinyl Chloride (PVC) Pipe — Nom 2 in. (51 mm) diam (or smaller) Schedule 40 cellular or solid core PVC pipe for use in closed (process or supply) or vented (drain, waste, or vent) piping systems.
   B. Acrylonitrile Butadine Styrene (ABS) Pipe — Nom 2 in. (51 mm) diam (or smaller) Schedule 40 cellular or solid core ABS pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.
   C. Chlorinated Polyvinyl Chloride (CPVC) Pipe — Nom 2 in. (51 mm) diam (or smaller) SDR17 CPVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.
4. Fill, Void or Cavity Material* — Sealant — Min 3/4 in. (19 mm) thickness of fill material applied within the annulus, flush with top surface of floor or sole plate. Min 5/8 in. (16 mm) thickness of fill material applied within the annulus, flush with and flush with bottom surface of ceiling or of lower top plate.
   HILTI CONSTRUCTION CHEMICALS, DIV OF
   HILTI INC — FS — ONE Sealant

*Bearing the UL Classification Mark

Hilti Firestop Systems

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May 23, 2008

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02/26/2026

DRAWN BY: MP
DATE: 12-18-25
REVISION DATE:
PROJECT NO: 25-042-01

SHEET NO.
G6

2-25-2026 ADDITIONAL FIRE RATING INFORMATION