

ILA-023
RH GARAGE

REVIEWER'S SEAL

Project #:	25-211
Date:	7-3-25
Drawn/Design By:	KBB
Scale:	REFER TO ELEV.



9101 Ten-Ten Rd.
Raleigh, NC 27603
O: (919) 302-0693



Email: Kent@KandAHomeDesigns.com Website: www.KandAHomeDesigns.com

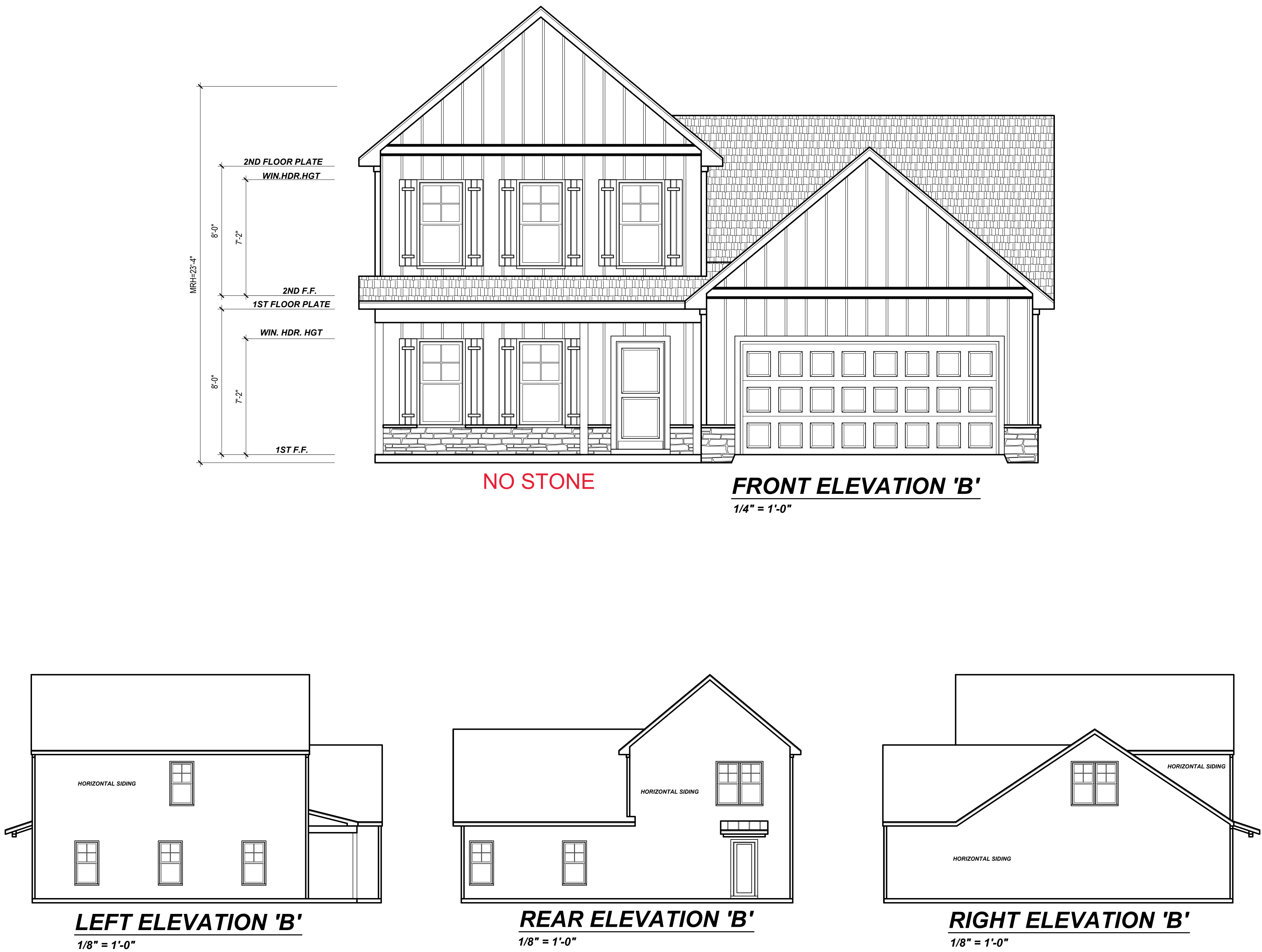


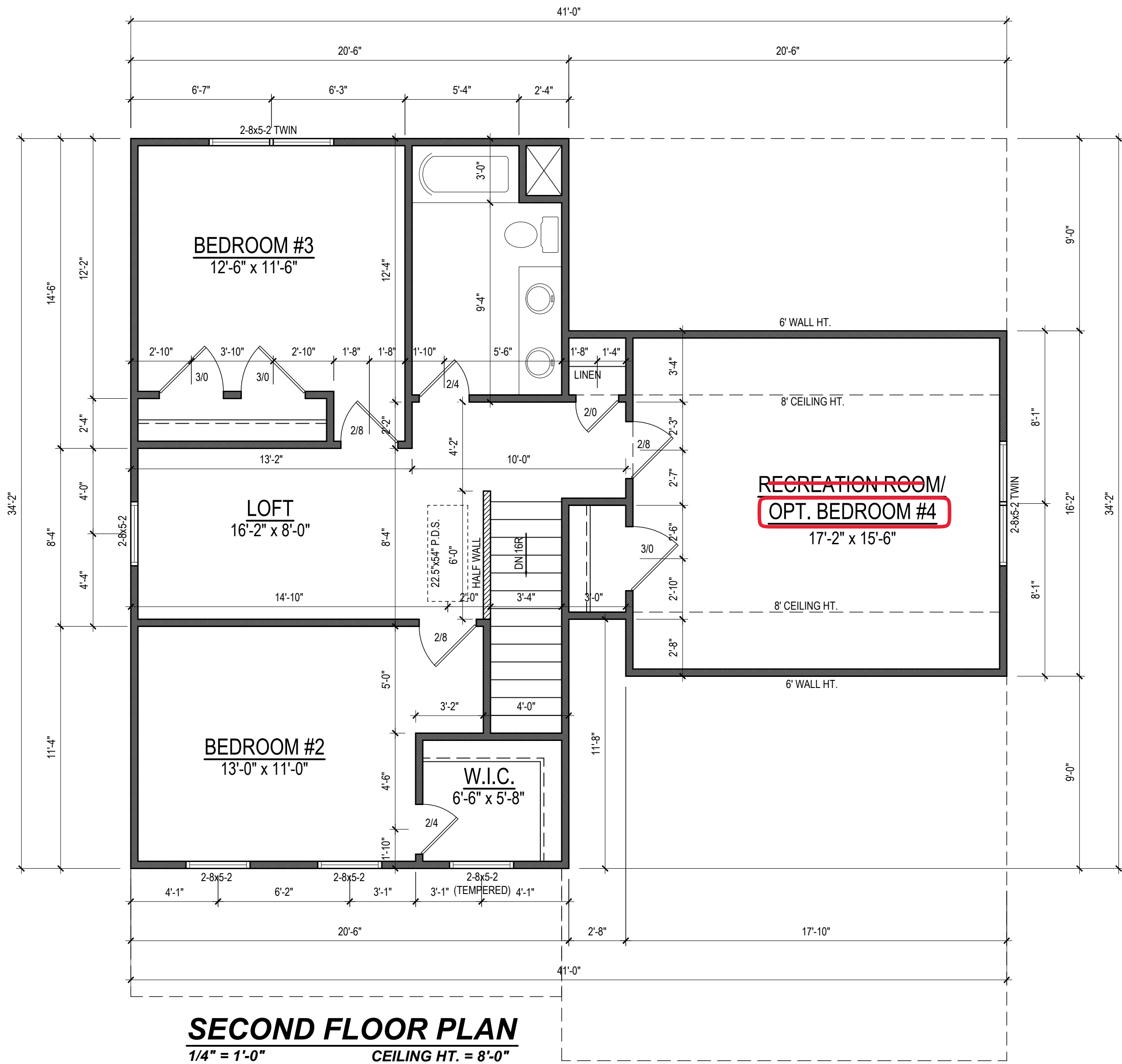
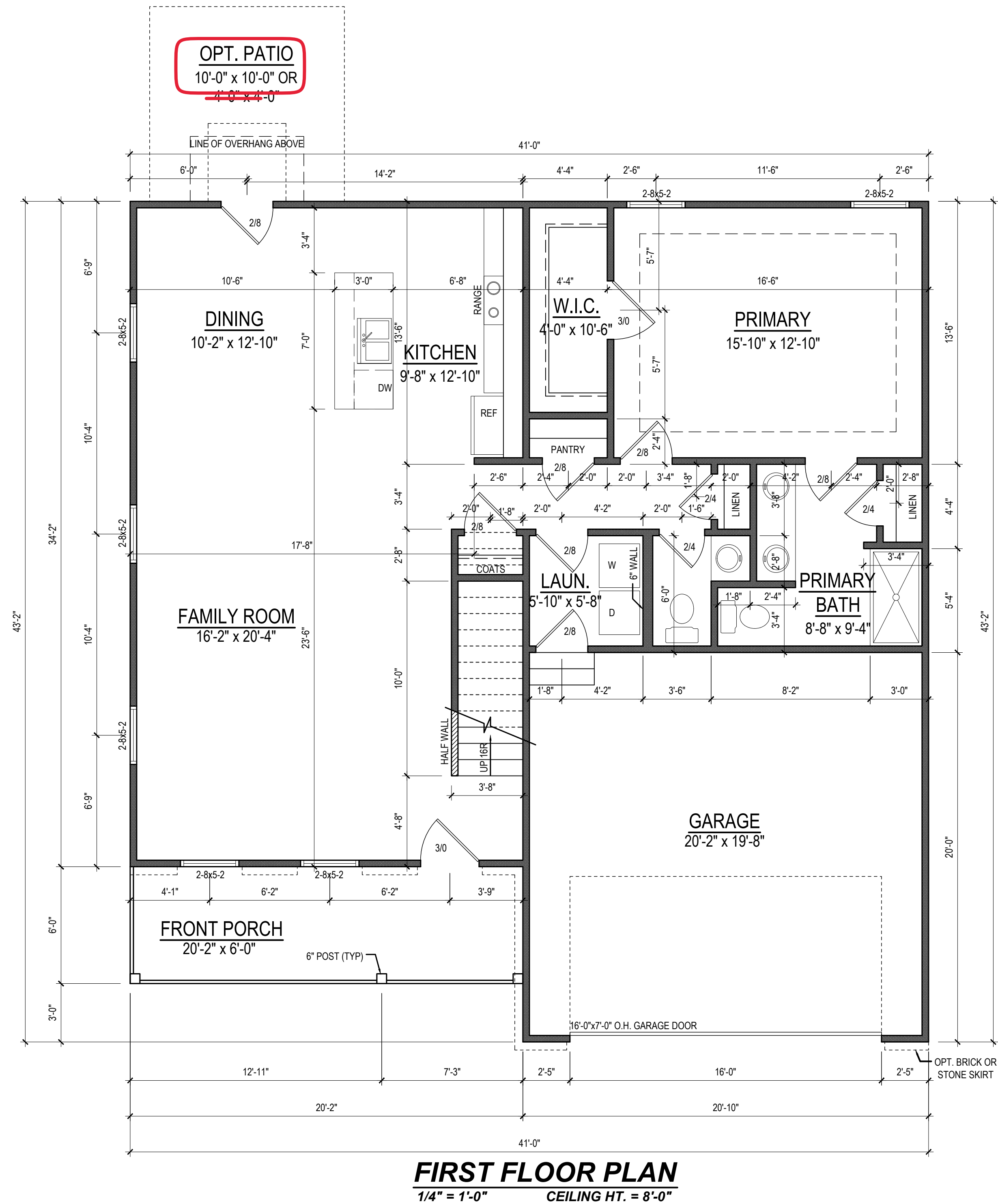
Ben Stout Construction
1786 Metro Medical Dr.
Fayetteville, NC 28304

ELEVATION 'B'

Sheet Number

1
of 3





Project #:	25-211
Date:	7-3-25
Drawn/Design By:	KBB
Scale:	1/4"=1'-0"



9101 Ten-Ten Rd.
Raleigh, NC 27603
O: (919) 302-0693



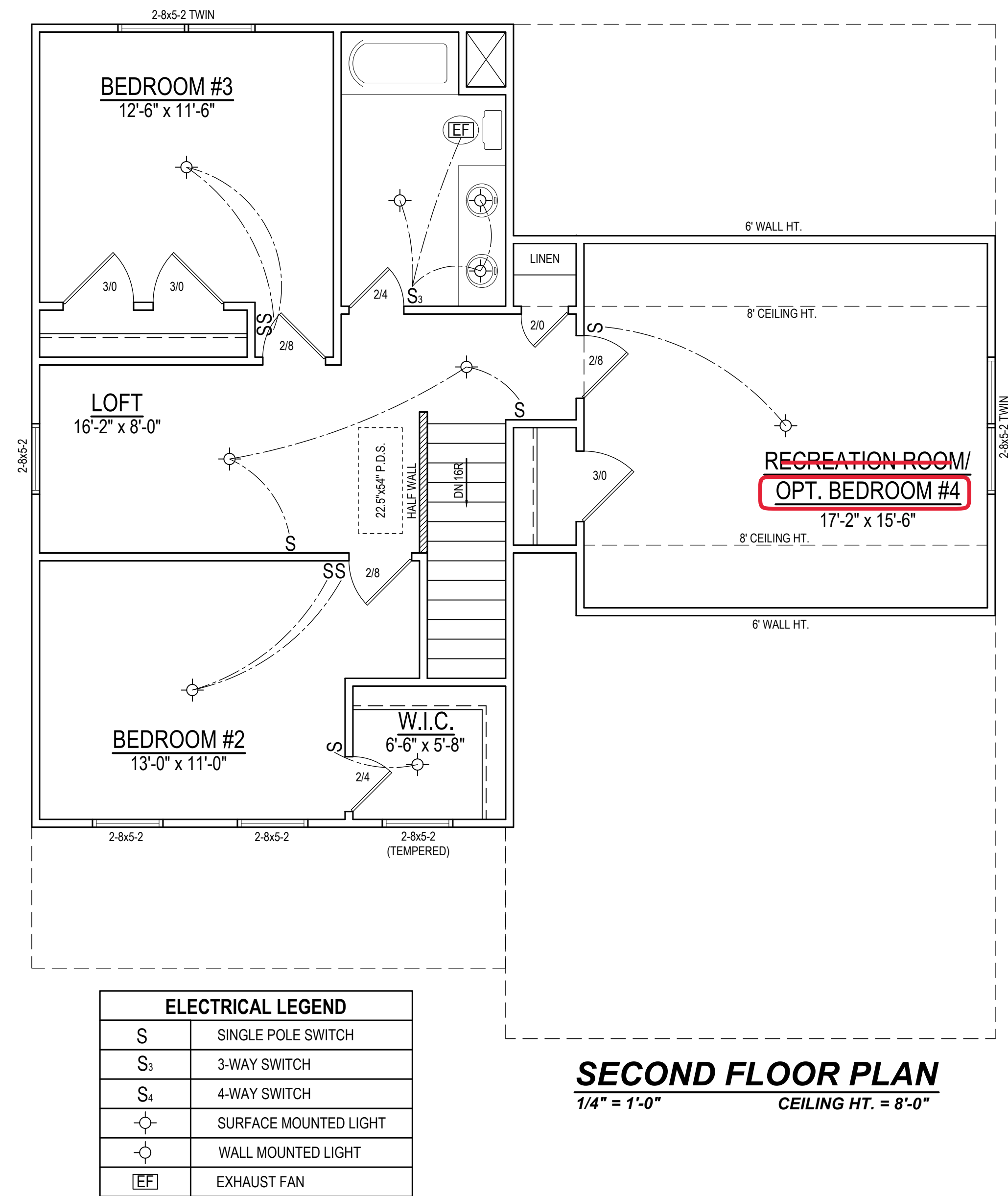
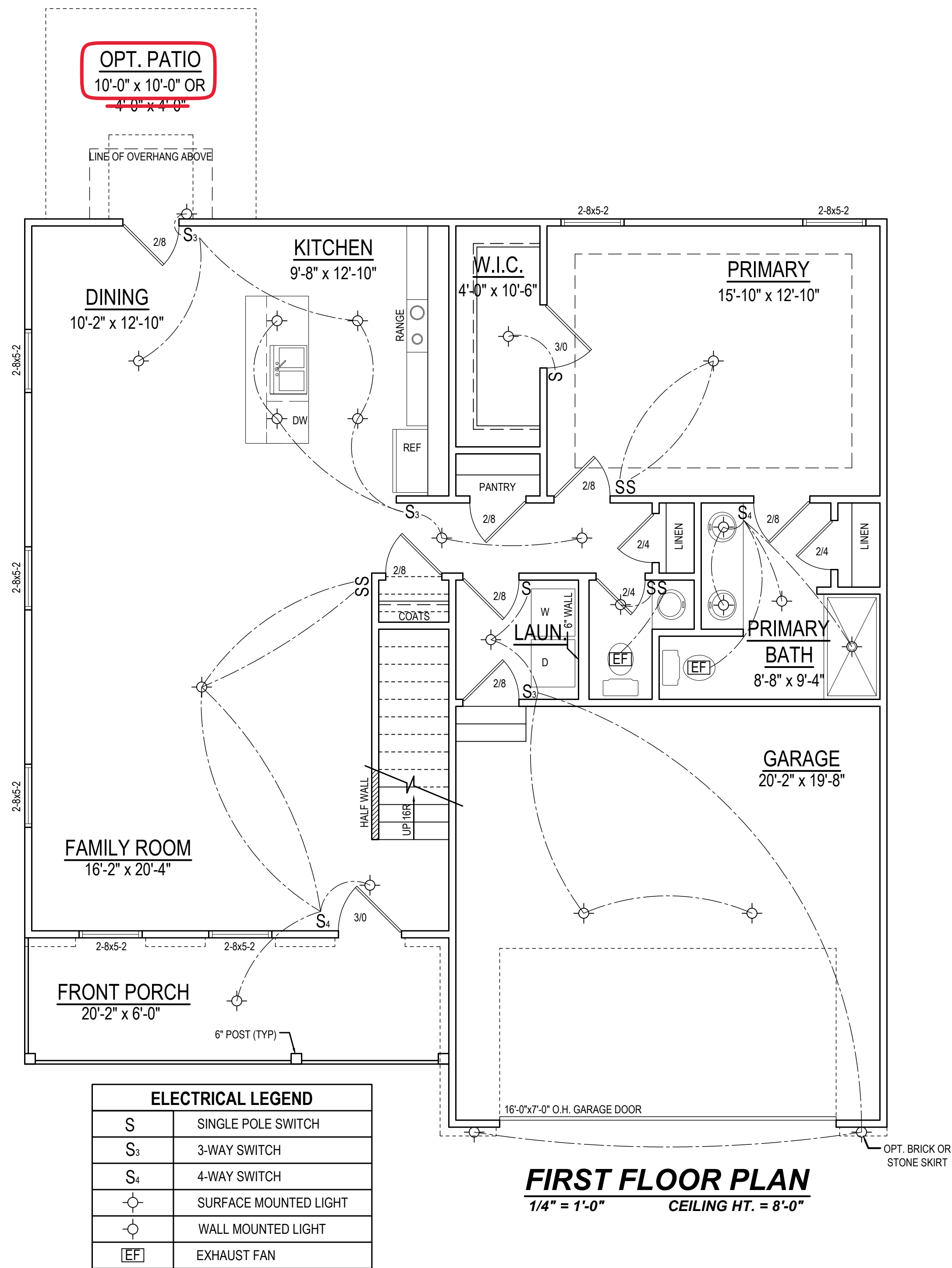
Ben Stout Construction
1786 Metro Medical Dr.
Fayetteville, NC 28304

FLOOR PLAN

Sheet Number

2

of 3



REVIEWER'S SEAL

Project #:
25-211
Date:
7-3-25
Drawn/Design By:
KBB
Scale:
1/4"=1'-0"



9101 Ten-Ten Rd.
Raleigh, NC 27603
O: (919) 302-0693



Website: www.KandAHomeDesigns.com

Email: Kent@KandAHomeDesigns.com

Magnolia
GR

Ben Stout Construction
1786 Metro Medical Dr.
Fayetteville, NC 28304

ELECTRICAL PLANS

Sheet Number

3

of 3

GENERAL NOTES:

1. IT IS THE CONTRACTORS RESPONSIBILITY TO VERIFY THAT ALL DIMENSIONS, ROOF PITCHES, AND SQUARE FOOTAGE ARE CORRECT PRIOR TO CONSTRUCTION. K&A HOME DESIGNS, INC. IS NOT RESPONSIBLE FOR ANY DIMENSIONING, ROOF PITCH, OR SQUARE FOOTAGE ERRORS ONCE CONSTRUCTION BEGINS.
2. ALL WALLS SHOWN ON THE FLOOR PLANS ARE DRAWN AT 4" UNLESS NOTED OTHERWISE.
3. ALL ANGLED WALL SHOWN ON THE PLANS ARE 45 DEGREES UNLESS NOTED OTHERWISE.
4. STUD WALL DESIGN SHALL CONFORM TO ALL NORTH CAROLINA STATE BUILDING CODE REQUIREMENTS.
5. DO NOT SCALE PLANS. DRAWING SCALE MAY BE DISTORTED DUE TO COPIER IMPERFECTIONS.
6. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH NORTH CAROLINA RESIDENTIAL STATE BUILDING CODE, 2024 EDITION.

SQUARE FOOTAGE

HEATED SQUARE FOOTAGE

FIRST FLOOR=	1175	GARAGE=	413
SECOND FLOOR=	987	FRONT PORCH=	121
THIRD FLOOR=	N/A	CVD. PORCH=	N/A
BASEMENT=	N/A	DECK=	N/A
		STORAGE=	N/A

UNHEATED SQUARE FOOTAGE

TOTAL HEATED= 2162 TOTAL UNHEATED= 534

CRAWL SPACE VENTILATION CALCULATIONS

-VENT LOCATIONS MAY VARY FROM THOSE SHOWN ON THE PLAN BUT SHOULD BE PLACED TO PROVIDE ADEQUATE VENTILATION AT ALL POINTS TO PREVENT DEAD AIR POCKETS.

-100% VAPOR BARRIER MUST BE PROVIDED WITH 12" MIN. LAP JOINTS.

-THE TOTAL AREA OF VENTILATION OPENINGS MAY BE REDUCED TO 1/1500 AS LONG AS REQUIRED OPENINGS ARE PLACED SO AS TO PROVIDE CROSS-VENTILATION OF THE SPACE. THE INSTALLATION OF OPERABLE LOUVERS SHALL NOT BE PROHIBITED. (COMPLY WITH NC CODE MIN. WITH REGARD TO VENT PLACEMENT FROM CORNERS)

N/A SQ. FT. OF CRAWL SPACE/1500

N/A SQ. FT. OF REQUIRED VENTILATION

PROVIDED BY: N/A VENTS AT 0.45 SQ. FT. NET FREE

VENTILATION EACH= N/A SQ. FT. OF VENTILATION

**FOUNDATION DRAINAGE- WATERPROOFING PER SECTIONS 405 & 406.

ATTIC VENTILATION CALCULATIONS

- CALCULATIONS SHOWN BELOW ARE BASED ON VENTILATORS USED AT LEAST 3 FT. ABOVE THE CORNICE VENTS WITH THE BALANCE OF VENTILATION PROVIDED BY EAVE VENTS.

- CATHEDRAL CEILINGS SHALL HAVE A MIN. 1" CLEARANCE BETWEEN THE BOTTOM OF THE ROOF DECK AND THE INSULATION.

1718 SQ. FT. OF ATTIC/300= 5.73

EACH OF INLET AND OUTLET REQUIRED.

*WALL AND ROOF CLADDING DESIGN VALUES

- WALL CLADDING IS DESIGNED FOR A 24.1 SQ. FT. OR GREATER POSITIVE AND NEGATIVE PRESSURE.

- ROOF VALUES BOTH POSITIVE AND NEGATIVE SHALL BE AS FOLLOWS:

45.5 LBS. PER SQ. FT. FOR ROOF PITCHES OF 0/12 TO 2.25/12

34.8 LBS. PER SQ. FT. FOR ROOF PITCHES OF 2.25/12 TO 7/12

21 LBS. PER SQ. FT. FOR ROOF PITCHES OF 7/12 TO 12/12

** MEAN ROOF HEIGHT 30' OR LESS

STRUCTURAL NOTES

- 1) ALL CONSTRUCTION SHALL CONFORM TO THE LATEST REQUIREMENTS OF "NORTH CAROLINA STATE 2024 RESIDENTIAL BUILDING CODE", IN ADDITION TO ALL LOCAL CODES AND REGULATIONS.
- 2) DESIGN LOADS:

	LIVE LOAD (PSF)	DEAD LOAD (PSF)	DEFLECTION (DL & LL)
ALL FLOORS	40	10	L/360
ATTIC (pull down access)	20	10	L/240
ATTIC (no access)	10	5	L/240
EXTERNAL BALCONY	60	10	L/360
ROOF	20	10	L/180
ROOF TRUSS	20	20	L/240
WIND LOAD	[BASED ON 120 MPH (3-second gusts)]		

- 3) MINIMUM ALLOWABLE SOIL BEARING PRESSURE = 2000 PSF
- 4) CONCRETE SHALL HAVE A MINIMUM 28 DAY STRENGTH OF 3000 PSI AND A MAXIMUM SLUMP OF FIVE INCHES UNLESS NOTED OTHERWISE (UNO).
- 5) MAXIMUM DEPTH OF UNBALANCED FILL AGAINST FOUNDATION WALLS TO BE LESS THAN 4'-0" WITHOUT USING SUFFICIENT WALL BRACING. REFER TO SECTION R404 OF 2024 NC RESIDENTIAL BUILDING CODE FOR BACKFILL LIMITATIONS BASED ON WALL HEIGHT, WALL THICKNESS, SOIL TYPE, AND UNBALANCED BACKFILL HEIGHT
- 6) ALL FRAMING LUMBER SHALL BE SYP #2 (Fb = 800 PSI) UNO.
- ALL FRAMING LUMBER EXPOSED TO THE ELEMENTS SHALL BE TREATED MATERIAL.
- 7) ALL LOAD BEARING HEADERS SHALL BE (2)x10 (UNO). ALL WINDOW AND DOOR HEADERS SHALL BE SUPPORTED BY
- (1) JACK STUD AND (1) KING STUD AT EACH END UNLESS NOTED. ALL OTHER BEAMS SHALL BE SUPPORTED BY 2 STUDS OR THE AMOUNT OF STUDS REQUIRED FOR FULL BEARING AT EACH END UNLESS NOTED. POINT LOADS (STIFF KNEES, ETC.) SHALL CONSIST OF 2 STUDS UNLESS NOTED. ALL SUPPORTS OF 2 STUDS OR MORE SHALL BE TRANSFERRED THROUGH EACH FLOOR TO THE FOUNDATION.
- 8) ALL EXTERIOR WALLS TO BE SHEATHED WITH MIN. 7/16" WOOD STRUCTURAL PANELS FASTENED WITH 8D NAILS 6" O.C. AT EDGES AND 12" O.C. AT INT. SUPPORTS. BLOCKING SHALL BE INSTALLED IF LESS THAN 50 PERCENT OF THE WALL LENGTH IS SHEATHED. WHERE BLOCKING IS REQUIRED, ALL PANELS SHALL BE FASTENED AT 3" O.C. AT EDGES AND 6" O.C. AT INT. SUPPORTS.
- 9) ALL STRUCTURAL STEEL SHALL ASTM A-36. STEEL BEAMS SHALL BE SUPPORTED AT EACH END WITH A MINIMUM BEARING LENGTH OF 3-1/2" INCHES AND FULL FLANGE WIDTH. PROVIDE SOLID BEARING FROM BEAM SUPPORT TO FOUNDATION. BEAMS SHALL BE ATTACHED TO EACH SUPPORT WITH TWO LAG SCREWS (1/2" DIAMETER AND 4" LONG). LATERAL SUPPORT IS CONSIDERED ADEQUATE PROVIDING THE JOISTS ARE TOE NAILED TO THE SOLE PLATES, AND THE SOLE PLATES ARE NAILED OR BOLTED TO THE BEAM FLANGES @ 48" O.C.
- 10) ANCHOR BOLT PLACEMENT PER SECTION R403.1.6. 1/2" DIAMETER ANCHOR BOLTS SPACED AT 6'-0" O/C AND PLACED 12" FROM THE END OF EACH PLATE SECTION
- 11) FOUNDATION DRAINAGE-DAMP PROOFING OR WATERPROOFING PER SECTION 405 AND 406 OF 2024 NC RESIDENTIAL BUILDING CODE
- 12) WALL AND ROOF CLADDING VALUES:
WALL CLADDING SHALL BE DESIGNED FOR A 24.1 SQ. FT. OR GREATER POSITIVE AND NEGATIVE PRESSURE
ROOF VALUES BOTH POSITIVE AND NEGATIVE SHALL BE AS FOLLOWS:
45.5 LBS/SQ. FT. FOR ROOF PITCHES OF 0/12 TO 2.25/12
34.8 LBS/SQ. FT. FOR ROOF PITCHES OF 2.25/12 TO 7/12
21.0 LBS/SQ. FT. FOR ROOF PITCHES OF 7/12 TO 12/12
** MEAN ROOF HEIGHT 30' OR LESS
- 13) FOR ROOF SLOPES FROM 2:12 THROUGH 4:12, BUILDER TO INSTALL 2 LAYERS OF 15# FELT PAPER
- 14) IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL DIMENSIONS AND SQ. FTG. ARE CORRECT PRIOR TO CONSTRUCTION. DESIGNER IS NOT RESPONSIBLE FOR DIMENSIONING OR SQ. FTG. ERRORS ONCE CONSTRUCTION BEGINS

SUMMARY OF REQUIREMENTS FOR MASONRY FIREPLACES AND CHIMNEYS

ITEM	LETTER	REQUIREMENTS
HEARTH SLAB THICKNESS	A	4"
HEARTH EXTENSION (EACH SIDE OF OPENING)	B	8" FIREPLACE OPENING < 6 SQUARE FOOT 12" FIREPLACE OPENING < 6 SQUARE FOOT
HEARTH EXTENSION (FRONT OF OPENING)	C	16" FIREPLACE OPENING < 6 SQUARE FOOT 20" FIREPLACE OPENING < 6 SQUARE FOOT
HEARTH REINFORCING	D	REINFORCED TO CARRY ITS OWN WEIGHT AND ALL IMPOSED LOADS
THICKNESS OF WALL OF FIREBOX	E	10" SOLID BRICK OR 8" WHERE A FIREBRICK LINING IS USED JOINTS IN FIREBRICK 1/4" MAXIMUM
DISTANCE FROM TOP OF OPENING TO THROAT	F	8"
SMOKE CHAMBER WALL THICKNESS UNLINED WALLS	G	6" 8"
CHIMNEY VERTICAL REINFORCING	H	FOUR NO. 4 FULL-LENGTH BARS FOR CHIMNEY UP TO 40" WIDE ADD TWO NO. 4 BARS FOR EACH ADDITIONAL 40" OR FRACTION OF WIDTH OR EACH ADDITIONAL FLUE.
HORIZONTAL REINFORCING	J	1/4" TIES AT 18" AND TWO TIES AT EACH BEND IN VERTICAL STEEL
BOND BEAMS	K	NO SPECIFIED REQUIREMENTS
FIREPLACE LINTEL	L	NONCOMBUSTIBLE MATERIAL
CHIMNEY WALLS WITH FLUE LINING	M	SOLID MASONRY UNITS OR HOLLOW MASONRY UNITS GROUTED SOLID WITH NOT LESS THAN 4-INCH NOMINAL THICKNESS
DISTANCE BETWEEN ADJACENT FLUES	--	SEE SECTION R1003.13
EFFECTIVE FLUE AREA (BASED ON AREA OF FIREPLACE OPENING)	P	SEE SECTION R1003.15
CLEARANCES COMBUSTIBLE MATERIAL MANTEL AND TRIM ABOVE ROOF	R	SEE SECTION R1001.11 AND R1003.18 SEE SECTION R1001.11, EXCEPTION 4 3' AT ROOFLINE AND 2' AT 10'
ANCHORAGE STRAP NUMBER EMBEDMENT INTO CHIMNEY FASTEN TO BOLTS	S	3/16" x 1" TWO 12" HOOKED AROUND OUTER BAR WITH 6" EXTENSION 4 JOISTS THREE 1/2" DIAMETER
FOOTING THICKNESS WIDTH	T	12" MIN 12" EACH SIDE OF FIREPLACE WALL

NOTE: THIS TABLE PROVIDES A SUMMARY OF MAJOR REQUIREMENTS FOR THE CONSTRUCTION OF MASONRY CHIMNEYS AND FIREPLACES. LETTER REFERENCES ARE TO FIGURE R1001.1 (NORTH CAROLINA STATE 2024 RESIDENTIAL BUILDING CODE) WHICH SHOWS EXAMPLES OF TYPICAL CONSTRUCTION. THIS TABLE DOES NOT COVER ALL REQUIREMENTS, NOR DOES IT COVER ALL ASPECTS OF THE INDICATED REQUIREMENTS. FOR THE ACTUAL MANDATORY REQUIREMENTS OF THE CODE, SEE THE INDICATED SECTION OF TEXT.

- 1) THE LETTERS REFER TO FIGURE R1001.1 OF THE NORTH CAROLINA STATE 2024 RESIDENTIAL BUILDING CODE
- 2) NOT REQUIRED IN SEISMIC DESIGN CATEGORY A, B, OR C

R308.4.5 GLAZING & WET SURFACES:

GLAZING IN WALLS, ENCLOSURES OR FENCES CONTAINING OR FACING HOT TUBS, SPAS, WHIRLPOOLS, SAUNAS, STEAM ROOMS, BATHTUBS, SHOWERS AND INDOOR OR OUTDOOR SWIMMING POOLS WHERE THE BOTTOM EXPOSED EDGE OF THE GLAZING IS LESS THAN 60 INCHES, MEASURED VERTICALLY ABOVE ANY STANDING OR WALKING SURFACE SHALL BE CONSIDERED TO BE A HAZARDOUS LOCATION. THIS SHALL APPLY TO SINGLE GLAZING AND EACH PANE IN MULTIPLE GLAZING.

EXCEPTION: GLAZING THAT IS MORE THAN 60 INCHES, MEASURED HORIZONTALLY AND IN A STRAIGHT LINE, FROM THE WATER'S EDGE OF A BATHTUB, HOT TUB, SPA, WHIRLPOOL OR SWIMMING POOL OR FROM THE EDGE OF A SHOWER, SAUNA OR STEAM ROOM

R807.1 ATTIC ACCESS:

AN ATTIC ACCESS OPENING SHALL BE PROVIDED TO ATTIC AREAS THAT EXCEED 400 SQUARE FEET (37.16 M²) AND HAVE A VERTICAL HEIGHT OF 60 INCHES (1524 MM) OR GREATER. THE NET CLEAR OPENING SHALL NOT BE LESS THAN 20 INCHES (508 MM BY 762 MM) AND SHALL BE LOCATED IN A HALLWAY OR OTHER READILY ACCESSIBLE LOCATION. A 30-INCH (762 MM) MINIMUM UNOBSTRUCTED HEADROOM IN THE ATTIC SPACE SHALL BE PROVIDED AT SOME POINT ABOVE THE ACCESS OPENING. SEE SECTION M1305.1.3 FOR ACCESS REQUIREMENTS WHERE MECHANICAL EQUIPMENT IS LOCATED IN ATTICS.

EXCEPTION:

- 1) CONCEALED AREAS NOT LOCATED OVER THE MAIN STRUCTURE INCLUDING PORCHES, AREAS BEHIND KNEE WALLS, DORMERS, BAY WINDOWS, ETC. ARE NOT REQUIRED TO HAVE ACCESS.
- 2) PULL DOWN STAIR TREADS, STRINGERS, HANDRAILS, AND HARDWARE MAY PROTRUDE INTO THE NET CLEAR OPENING.

DWELLING / GARAGE SEPARATION (SECTION R302.5, R302.6 and R302.7):

WALLS - A MINIMUM 1/2" GYPSUM BOARD MUST BE INSTALLED ON ALL WALLS SUPPORTING FLOOR/CEILING ASSEMBLIES USED FOR SEPARATION REQUIRED BY THIS SECTION.

OPENING PROTECTION - OPENINGS FROM A PRIVATE GARAGE DIRECTLY INTO A ROOM USED FOR SLEEPING PURPOSES SHALL NOT BE PERMITTED. OTHER OPENINGS BETWEEN THE GARAGE AND RESIDENCE SHALL BE EQUIPPED WITH SOLID WOOD DOORS NOT LESS THAN 1 3/4 INCHES (38MM) IN THICKNESS, SOLID OR HONEYCOMB-CORE STEEL DOORS NOT LESS THAN 1 3/4 INCHES (38MM) THICK, OR 20-MINUTE FIRE-RATED DOORS.

DUCT PENETRATION - DUCTS IN THE GARAGE AND DUCTS PENETRATING THE WALLS OR CEILINGS SEPARATING THE DWELLING FROM THE GARAGE SHALL BE CONSTRUCTED OF A MINIMUM NO. 26 GAUGE (0.48MM) SHEET STEEL OR OTHER APPROVED MATERIAL AND SHALL NOT HAVE OPENINGS INTO THE GARAGE.

CEILINGS - GARAGE TO BE SEPARATED FROM HABITABLE ROOMS ABOVE BY NOT LESS THAN 5/8-INCH TYPE X GYPSUM BOARD OR EQUIVALENT PER NCRC SECTION R302.6N

STAIRS - ENCLOSED ACCESSIBLE SPACE UNDER STAIRS SHALL HAVE WALLS, UNDER-STAIR SURFACE AND ANY SOFFITS PROTECTED ON THE ENCLOSED SIDE WITH 1/2 INCH (12.7MM) GYPSUM BOARD.

OTHER PENETRATIONS - PENETRATIONS THROUGH THE SEPARATION REQUIRED IN SECTION R302.8 SHALL BE PROTECTED AS REQUIRED BY SECTION R302.11, ITEM 4.

R609.1 EXTERIOR WINDOWS & DOORS:

THIS SECTION PRESCRIBES PERFORMANCE AND CONSTRUCTION REQUIREMENTS FOR EXTERIOR WINDOWS AND DOORS INSTALLED IN WALLS. WINDOWS AND DOORS SHALL BE INSTALLED AND FLASHED IN ACCORDANCE WITH THE FENESTRATION MANUFACTURER'S WRITTEN INSTRUCTIONS. WINDOW AND DOOR OPENINGS SHALL BE FLASHED IN ACCORDANCE WITH SECTION R703.4. WRITTEN INSTALLATION INSTRUCTIONS SHALL BE PROVIDED BY THE FENESTRATION MANUFACTURER FOR EACH WINDOW OR DOOR.

R905.2 references TABLE R905.1.1(2) which states that "For roof slopes from two units vertical in 12 units horizontal (2:12), up to four units vertical in 12 units horizontal (4:12), underlayment shall be two layers applied in the following manner: apply a 19-inch strip of underlayment felt parallel to and starting at the eaves. Starting at the eave, apply 36-inch-wide sheets of underlayment, overlapping successive sheets 19 inches. Distortions in the underlayment shall not interfere with the ability of the shingles to seal.

R301.5 is a table titled "MINIMUM UNIFORMLY DISTRIBUTED LIVE LOADS (in pounds per square foot)". It states that the LIVE LOAD for Stairs is 40, with a note that states "Individual stair treads shall be designed for the uniformly distributed live load or a 300-pound concentrated load acting over an area of 4 square inches, whichever produces the greatest stress".

ALL DOORS LEADING TO DWELLING FROM THE GARAGE TO BE 20-MINUTE FIRE RATED DOOR PER NCRC R302.5.1

GARAGE TO BE SEPARATED FROM HABITABLE ROOMS ABOVE BY NOT LESS THAN 5/8-INCH TYPE X GYPSUM BOARD OR EQUIVALENT PER NCRC SECTION R302.6N

WINDOW FALL PROTECTION, PER NCRC SECTION R312.2

CARBON MONOXIDE ALARMS ARE REQUIRED TO BE INSTALLED OUTSIDE ALL SLEEPING AREAS PER NCRC SECTION R315

EMERGENCY ESCAPE AND RESCUE OPENINGS AS PER NCRC SECTION R310

PENETRATION SEALING: SEAL ALL PENETRATIONS IN FIRE-RATED WALLS, CEILINGS, OR FLOORS WITH UL-RATED FIRESTOP MATERIALS.

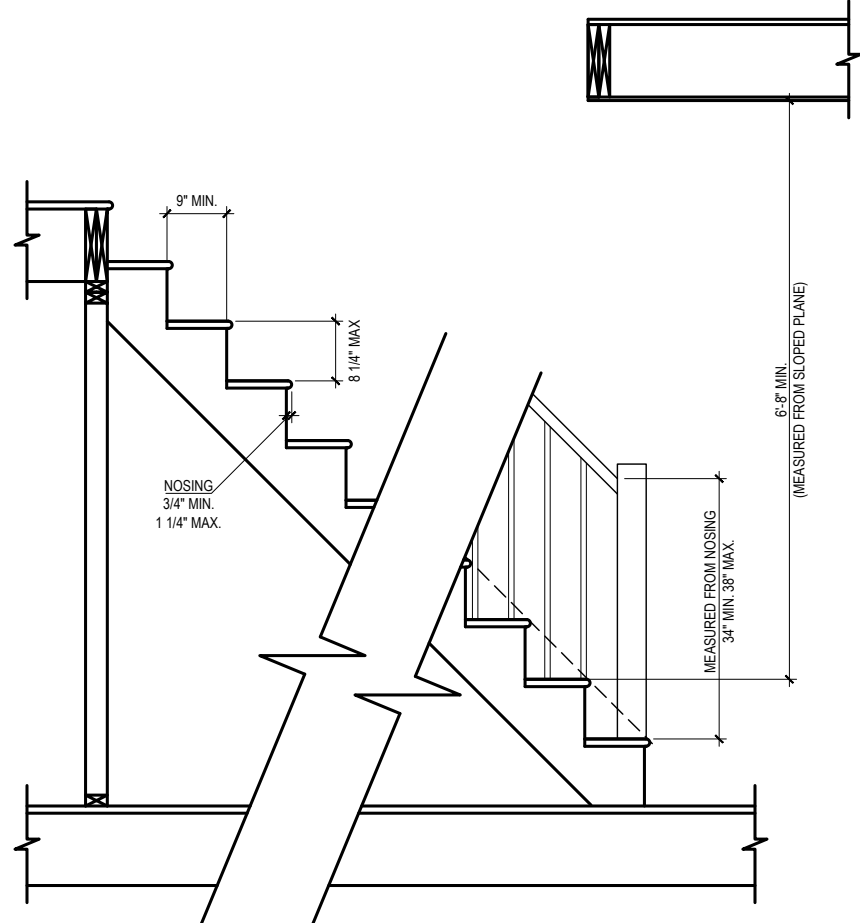
UL FIRESTOP SYSTEMS: UL-L-1001: FOR SMALL PIPE PENETRATIONS IN WOOD-STUD WALLS. C-AJ-1202: FOR PENETRATIONS THROUGH CEILINGS AND FLOOR ASSEMBLIES.

EXTERIOR WALL CAVITY INSULATION SHALL BE ENCLOSED ON ALL SIDES WITH RIGID OR AN AIR BARRIER MATERIAL, BEHIND TUBS, SHOWERS, STAIRS, FIRE PLACES AND KNEE WALLS. PER NCRC SECTION N1102.2.12

CRAWLSPACE ACCESS NEEDS TO BE A MINIMUM OPENING MEASURING 18 INCHES BY 24 INCHES PER NCRC SECTION R408.8

TABLE N1102.1 INSULATION AND FENESTRATION REQUIREMENTS BY COMPONENT

CLIMATE	ZONE	MAXIMUM GLAZING U-FACTOR	MINIMUM INSULATION R-VALUE					
			CEILINGS	WALLS	FLOORS	BASEMENT WALLS	SLAB PERIMETER	CRAWL SPACE WALLS
3		.35	R-38 or R-30	R-15	R-19	R-5/13	R-0	R-5/13
4		.35	R-38 or R-30	R-15	R-19	R-10/15	R-10	R-10/15



STAIRWAYS & GAURDS REQUIREMENTS PER 311.7 & R312

EACH TREAD AND RISER MUST BE UNIFORM. THE GREATEST RISER HEIGHT SHALL NOT EXCEED THE SMALLEST BY MORE THAN 3/8". THE GREATEST TREAD DEPTH SHALL NOT EXCEED THE SMALLEST BY MORE THAN 3/8". THE TOP AND BOTTOM RISER OF INTERIOR STAIRS SHALL NOT EXCEED THE SMALLEST RISER BY MORE THAN 3/4".

REVIEWER'S SEAL

Project #: 25-211
Date: 7-3-25
Scale: NTS



9101 Ten-Ten Rd.
Raleigh, NC 27603
O: (919) 302-0693



Magnolia GR

Ben Stout Construction
1786 Metro Medical Dr.
Fayetteville, NC 28304

GENERAL NOTES

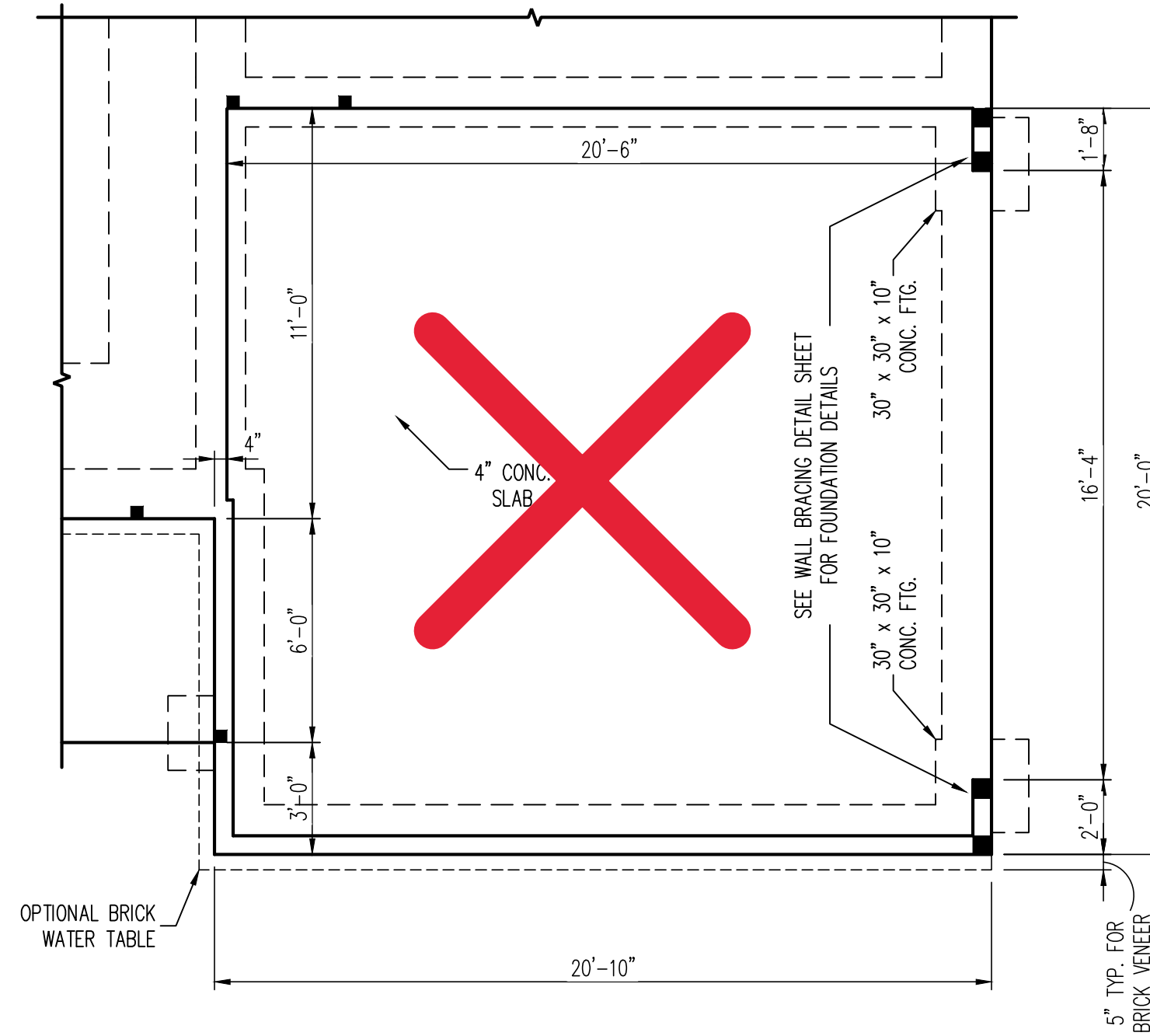
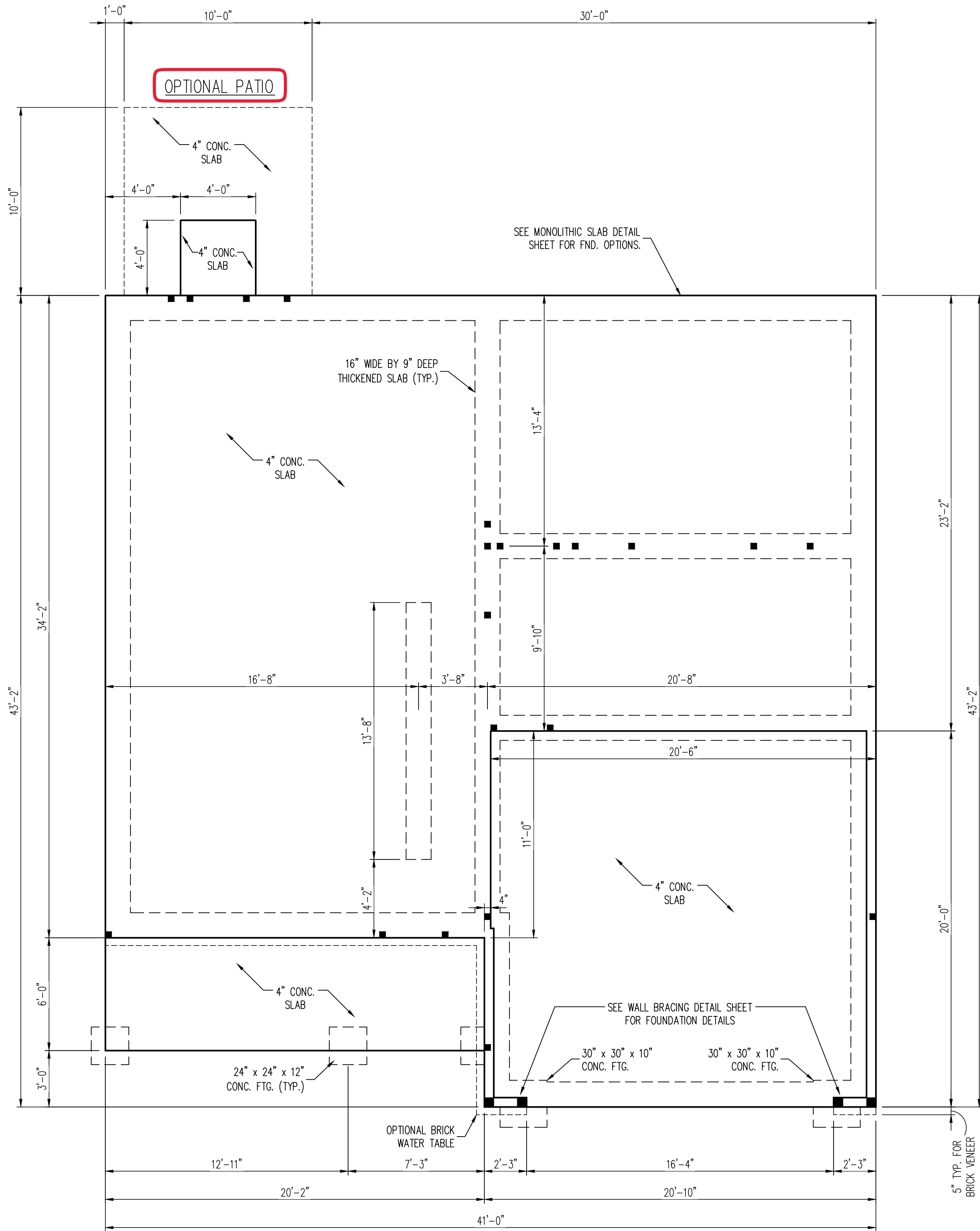
Sheet Number

1

of 1

Website: www.KandAHomeDesigns.com

Email: Kent@KandAHomeDesigns.com



OPTIONAL SIDE LOAD GARAGE

130 MPH ULTIMATE DESIGN WIND SPEED
NOTES FOR LESS THAN 30' MEAN
ROOF HEIGHT:

- ENGINEER'S SEAL APPLIES ONLY TO STRUCTURAL COMPONENTS. ENGINEER'S SEAL DOES NOT CERTIFY DIMENSIONAL ACCURACY OR ARCHITECTURAL LAYOUT INCLUDING ROOF SYSTEM.
- STRUCTURAL DESIGN PER NORTH CAROLINA RESIDENTIAL CODE, 2018 EDITION.
- INSTALL 1/2" ANCHOR BOLTS 4'-0" O.C. AND WITHIN 1'-0" FROM END OF EACH CORNER. ANCHOR BOLTS MUST EXTEND A MINIMUM OF 15" INTO MASONRY OR 7" INTO CONCRETE. LOCATE BOLT WITHIN MIDDLE THIRD OF PLATE WIDTH.
- MEAN ROOF HEIGHT IS LESS THAN 30 FEET.
- EXTERIOR WALLS DESIGNED FOR 130 MPH WINDS.
- WALL CLADDING DESIGNED FOR +18.2 PSF AND -24 PSF (+/- INDICATE POSITIVE / NEGATIVE PRESSURE (TYP)).
- ROOF CLADDING DESIGNED FOR +16.7 PSF AND -21 PSF FOR ROOF PITCHES 7/12 TO 12/12 AND +10.5 PSF AND -43 PSF FOR ROOF PITCHED 2.25/12 TO 7/12.
- INSTALL 7/16" OSB SHEATHING ON ALL EXTERIOR WALLS OF ALL STORIES IN ACCORDANCE WITH SECTION R602.10.3 OF THE NRC, 2018 EDITION. SEE THE WALL BRACING NOTES AND DETAILS SHEET FOR MORE INFORMATION.
- ENERGY EFFICIENCY COMPLIANCE AND INSULATION VALUES OF THE BUILDING TO BE IN ACCORDANCE WITH CHAPTER 11 OF THE NRC, 2018 EDITION.
- REFER TO NOTES AND DETAIL SHEETS FOR ADDITIONAL STRUCTURAL INFORMATION.

120 MPH ULTIMATE DESIGN WIND SPEED
NOTES FOR LESS THAN 30' MEAN ROOF HEIGHT:

- ENGINEER'S SEAL APPLIES ONLY TO STRUCTURAL COMPONENTS. ENGINEER'S SEAL DOES NOT CERTIFY DIMENSIONAL ACCURACY OR ARCHITECTURAL LAYOUT INCLUDING ROOF SYSTEM.
- STRUCTURAL DESIGN PER NORTH CAROLINA RESIDENTIAL CODE, 2018 EDITION.
- INSTALL 1/2" ANCHOR BOLTS 6'-0" O.C. AND WITHIN 1'-0" FROM END OF EACH CORNER. ANCHOR BOLTS MUST EXTEND A MINIMUM OF 7" INTO MASONRY OR CONCRETE. LOCATE BOLT WITHIN MIDDLE THIRD OF PLATE WIDTH.
- MEAN ROOF HEIGHT IS LESS THAN 30 FEET.
- EXTERIOR WALLS DESIGNED FOR 120 MPH WINDS.
- WALL CLADDING DESIGNED FOR +15.5 PSF AND -20 PSF (+/- INDICATE POSITIVE / NEGATIVE PRESSURE (TYP)).
- ROOF CLADDING DESIGNED FOR +14.2 PSF AND -18 PSF FOR ROOF PITCHES 7/12 TO 12/12 AND +10 PSF AND -36 PSF FOR ROOF PITCHED 2.25/12 TO 7/12.
- INSTALL 7/16" OSB SHEATHING ON ALL EXTERIOR WALLS OF ALL STORIES IN ACCORDANCE WITH SECTION R602.10.3 OF THE NRC, 2018 EDITION. SEE THE WALL BRACING NOTES AND DETAILS SHEET FOR MORE INFORMATION.
- ENERGY EFFICIENCY COMPLIANCE AND INSULATION VALUES OF THE BUILDING TO BE IN ACCORDANCE WITH CHAPTER 11 OF THE NRC, 2018 EDITION.
- REFER TO NOTES AND DETAIL SHEETS FOR ADDITIONAL STRUCTURAL INFORMATION.

LEGEND

CONT	CONTINUOUS
XJ	EXTRA JOIST
DJ	DOUBLE JOIST
TJ	TRIPLE JOIST
EA	EACH
FDN	FOUNDATION
FTG	FOOTING
OC	ON CENTER
SPF	SPRUCE PINE FIR
SYP	SOUTHERN YELLOW PINE
TRTD	PRESSURE TREATED
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE

J.S. THOMPSON
ENGINEERING, INC.
333 EAST SIX FORKS ROAD, SUITE 180 RALEIGH, NC 27609
PHONE: (919) 7899919 FAX: (919) 7899921
N.C. LICENSE NO.: C-1733

MAGNOLIA
BEN STOUT CONSTRUCTION



DATE: AUGUST 1, 2025

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

DRAWN BY: K&A HOME DESIGNS

ENGINEERED BY: JAG

S-1b
MONO SLAB
FOUNDATION PLAN

HEADER SPAN (FEET)	MINIMUM NUMBER OF FULL HEIGHT STUDS (KINGS)
UP TO 3'	1
> 3' TO 6'	2
> 6' TO 9'	3
> 9' TO 12'	4
> 12' TO 15'	5

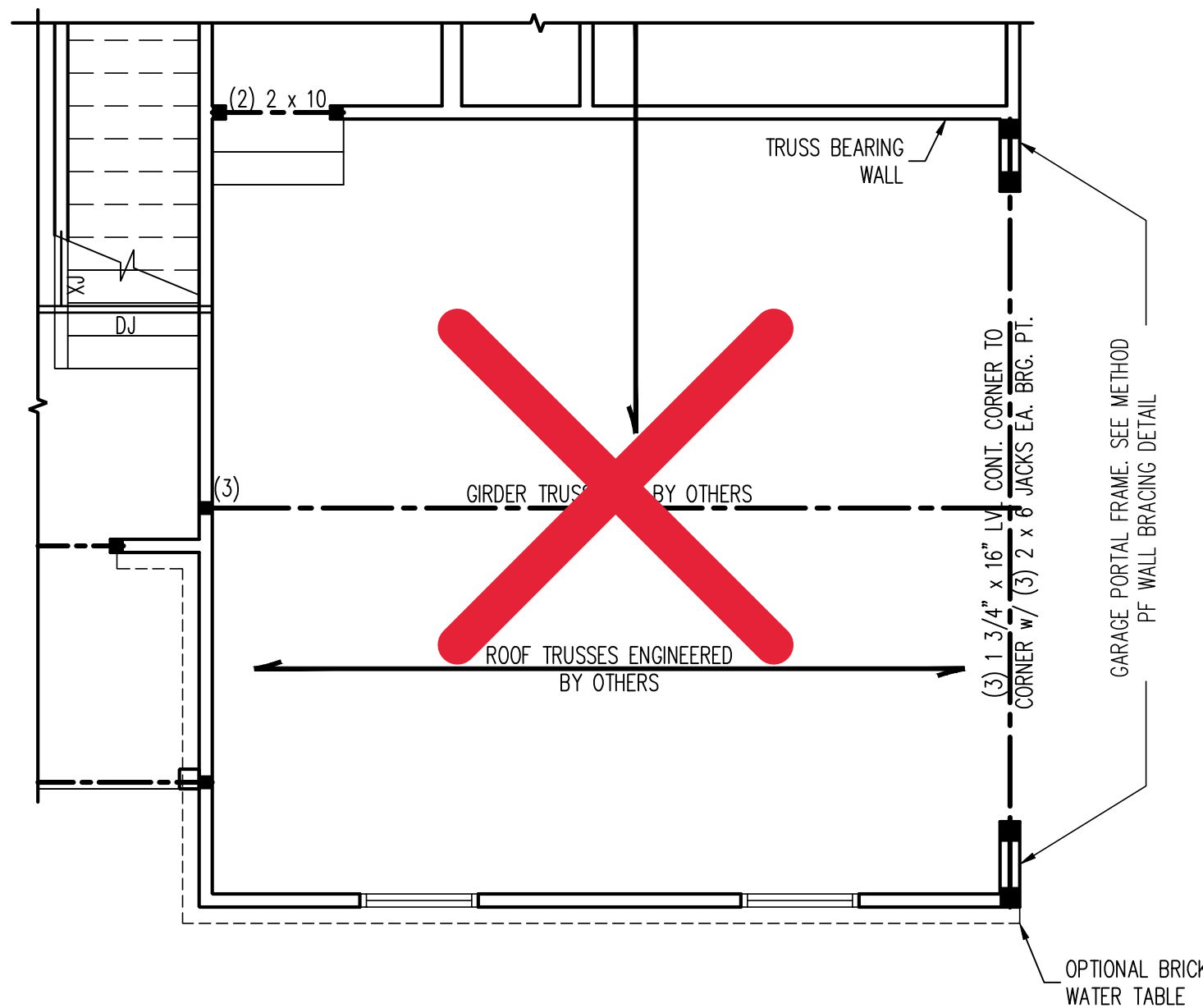
1. BRACED WALL DESIGN PER SECTION R602.10.5 "WALL BRACING BY ENGINEERED DESIGN" OF THE NCRC 2018 EDITION USING BRACING MATERIALS AND METHODS LISTED IN TABLE R602.10.1 ALONG WITH ALTERNATIVE MATERIALS AND METHODS THAT COMPLY WITH ACCEPTED ENGINEERING PRACTICE. BRACED WALL DESIGN IS NOT PRESCRIPTIVE.
2. SHEATH ALL EXTERIOR WALLS w/ 7/16" OSB TO PROVIDE CS-WSP WALL BRACING THAT WILL BRACE THE STRUCTURE FOR ALL LATERAL LOADS AS REQUIRED BY THE NCRC 2018 EDITION.
3. CS-WSP REFERS TO "CONTINUOUSLY SHEATHED WOOD STRUCTURAL PANELS." CONTRACTOR IS TO INSTALL 7/16" OSB ON ALL EXTERIOR WALLS ATTACHED w/ 8d NAILS SPACED 6" O.C. ALONG PANEL EDGES AND 12" O.C. IN THE FIELD.
4. GB REFERS TO "GYPSUM BOARD." CONTRACTOR IS TO INSTALL 1/2" (MIN.) GYPSUM BOARD ON BOTH SIDES OF WALL WHERE NOTED ON THE PLANS ATTACHED WITH 1 1/4" LONG #8 SCREWS OR 1 5/8" LONG 5d COOLER NAILS SPACED 7" O.C. ALONG PANEL EDGES AND IN THE FIELD.
5. BRACED WALL DESIGN APPLIED IN WALLS IS TO BE CONSTRUCTED TO 130 MPH. FOR HIGH WIND ZONES, BRACED WALLS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH CHAPTER 4.5 OF THE NCRC 2018 EDITION.
6. SEE NOTES AND DETAIL SHEETS FOR ADDITIONAL BRACED WALL INFORMATION.

1. ALL FRAMING LUMBER TO BE SPF #2 (UNO). ALL TREATED LUMBER TO BE SYP #2 (UNO).
2. ALL LOAD BEARING JOISTS TO BE (2) 2 x 6 PARALLEL.
3. PROVIDE AN EXTRA JOIST UNDER ALL WALLS PARALLEL TO FLOOR JOISTS WHERE NOTED ON THE PLANS.
4. WINDOW AND DOOR HEADERS TO BE SUPPORTED w/ (1) JACK STUD AND (1) KING STUD EA. END (UNO). SEE TABLE R602.7.5 FOR ADDITIONAL KING STUD REQUIREMENTS.
5. SQUARES DENOTE POINT LOADS WHICH REQUIRE SLOD BLOCKING TO GIRDERS OR FOUNDATION. ALL SQUARES TO BE (2) STUDS (UNO).
6. ALL 4 x 4 POSTS SHALL BE ANCHORED TO SLABS w/ SIMPSON ABL44 POST BASES (OR EQUAL) AND 6 x 6 POSTS w/ ABUS6 POST BASES (OR EQUAL) (UNO). ALL 4 x 4 AND 6 x 6 POSTS TO BE INSTALLED WITH 70 LB CAPACITY UPLIFT CONNECTORS AT TOP (UNO).
7. FOR FIBERGLASS, ALUMINUM, OR COLUMN EGG. SCORERS, SECURE TO STUDS w/ (2) 1/4" METAL ANCHS USING 2" CONC. SCREWS. FASTEN ANCHS TO STUDS w/ 1/4" THROUGH BOLTS w/ NUTS AND WASHERS. LOCATE ANCHS ON OPPOSITE SIDES OF COLUMN. THROUGH BOLTS MUST BE INSTALLED PRIOR TO SETTING COLUMN.
8. REFER TO NOTES AND DETAIL SHEETS FOR ADDITIONAL STRUCTURAL INFORMATION.

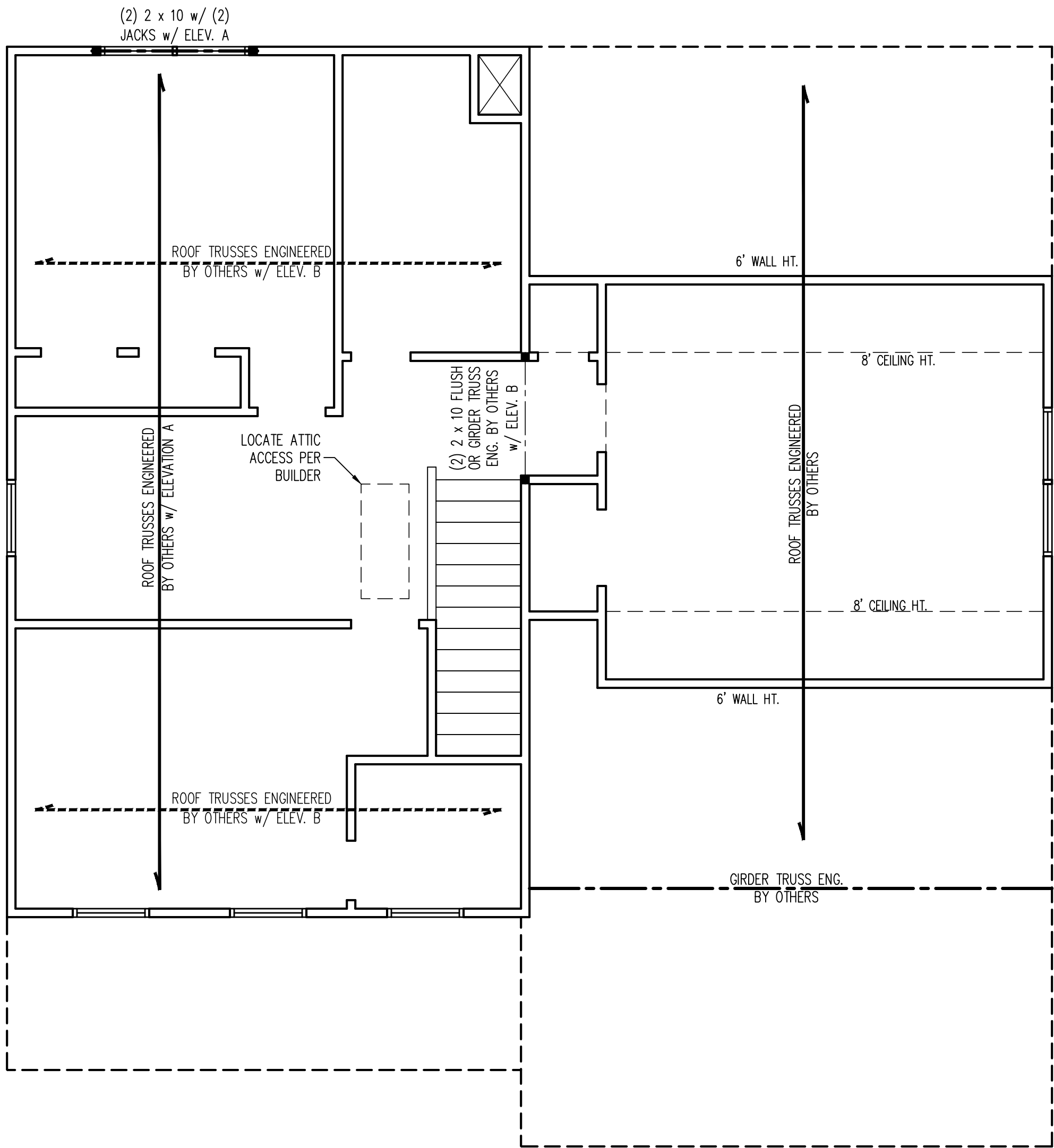
NOTE: BCI 5000s-1.8 JOISTS MAY
BE INSTALLED IN LIEU OF TJI 210
JOISTS AT THE DEPTH AND SPACING
INDICATED ON THE PLAN

MAGNOLIA
BEN STOUT CONSTRUCTION

S-2
SECOND FLOOR
FRAMING PLAN



OPTIONAL SIDE LOAD GARAGE



BRACED WALL DESIGN NOTES:

1. BRACED WALL DESIGN PER SECTION R602.10.5 "WALL BRACING BY ENGINEERED DESIGN" OF THE NCRC 2018 EDITION USING BRACING MATERIALS AND METHODS LISTED IN TABLE R602.10.1 ALONG WITH ALTERNATIVE MATERIALS AND METHODS THAT COMPLY WITH ACCEPTED ENGINEERING PRACTICE. BRACED WALL DESIGN IS NOT PRESCRIPTIVE.
2. SHEATH ALL EXTERIOR WALLS w/ 7/16" OSB TO PROVIDE CS-WSP WALL BRACING THAT WILL BRACE THE STRUCTURE FOR ALL LATERAL LOADS AS REQUIRED BY THE NCRC 2018 EDITION.
3. CS-WSP REFERS TO "CONTINUOUSLY SHEATHED WOOD STRUCTURAL PANELS." CONTRACTOR IS TO INSTALL 7/16" OSB ON ALL EXTERIOR WALLS ATTACHED w/ 8d NAILS SPACED 6" O.C. ALONG PANEL EDGES AND 12" O.C. IN THE FIELD.
4. GB REFERS TO "GYPSUM BOARD." CONTRACTOR IS TO INSTALL 1/2" (MIN.) GYPSUM BOARD ON BOTH SIDES OF WALL WHERE NOTED ON THE PLANS ATTACHED WITH 1 1/4" LONG #6 SCREWS OR 1 5/8" LONG 5d COOLER NAILS SPACED 7" O.C. ALONG PANEL EDGES AND IN THE FIELD.
5. BRACED WALL DESIGN APPLIED IN WIND ZONES UP TO 130 MPH. FOR HIGH WIND ZONES, BRACED WALLS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH CHAPTER 45 OF THE NCRC 2018 EDITION.
6. SEE NOTES AND DETAIL SHEETS FOR ADDITIONAL BRACED WALL INFORMATION.

STRUCTURAL NOTES:

1. ALL FRAMING LUMBER TO BE #2 SPF (UNO).
2. ALL LOAD BEARING HEADERS TO BE (2) 2 x 6 (UNO).
3. WINDOW AND DOOR HEADERS TO BE SUPPORTED w/ (1) JACK STUD AND (1) KING STUD EA. END (UNO). SEE TABLE R602.7.5 FOR ADDITIONAL KING STUD REQUIREMENTS.
4. SQUARES DENOTE POINT LOADS WHICH REQUIRE SOLID BLOCKING TO GIRDER OR FOUNDATION. SQUARES TO BE (2) STUDS (UNO.)
5. REFER TO NOTES AND DETAIL SHEETS FOR ADDITIONAL STRUCTURAL INFORMATION.

TABLE R602.7.5
MINIMUM NUMBER OF FULL HEIGHT KING STUDS
AT EACH END OF HEADERS IN EXTERIOR WALLS

HEADER SPAN (FEET)	MINIMUM NUMBER OF FULL HEIGHT STUDS (KINGS)
UP TO 3'	1
> 3' TO 6'	2
> 6' TO 9'	3
> 9' TO 12'	4
> 12' TO 15'	5

LEGEND

CONT	CONTINUOUS
XT	EXTRA TRUSS
XJ	EXTRA JOIST
DJ	DOUBLE JOIST
TJ	TRIPLE JOIST
EA	EACH
()	NUMBER OF STUDS
DSP	DOUBLE STUD POCKET
TSP	TRIPLE STUD POCKET
OC	ON CENTER
SPF	SPRUCE PINE FIR
SYP	SOUTHERN YELLOW PINE
TRTD	PRESSURE TREATED
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE



7/31/2025

DATE: AUGUST 1, 2025

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

DRAWN BY: K&A HOME DESIGNS

ENGINEERED BY: JAG

MAGNOLIA
BEN STOUT CONSTRUCTION

J.S. THOMPSON
ENGINEERING, INC
333 EAST SIX FORKS ROAD, SUITE 180 RALEIGH, NC 27609
PHONE: (919) 789-9919 FAX: (919) 789-9921
N.C. LICENSE NO.: C-1733

S-3
ATTIC FLOOR
FRAMING PLAN

STRUCTURAL NOTES:

1. ALL FRAMING LUMBER TO BE #2 SPF (UNO).
2. STICK FRAME, OVER-FRAMED ROOF SECTIONS W/ 2 x 8 RIDGES, 2 x 6 RAFTERS @ 16" O.C. AND FLAT 2 x 10 VALLEYS OR USE VALLEY TRUSSES.
3. FASTEN FLAT VALLEYS TO RAFTERS OR TRUSSES WITH SIMPSON H2.5A HURRICANE TIES @ 32" O.C. MAX. PASS HURRICANE TIES THROUGH NOTCH IN ROOF SHEATHING. EACH RAFTER IS TO BE FASTENED TO THE FLAT VALLEY WITH A MIN. OF (6) 12d TOE NAILS.
4. REFER TO SECTION R802.11 OF THE 2018 NRC FOR REQUIRED UPLIFT RESISTANCE AT RAFTERS AND TRUSSES.
5. REFER TO NOTES AND DETAIL SHEETS FOR ADDITIONAL STRUCTURAL INFORMATION.

NOTE: REFER TO ARCHITECTURAL DRAWINGS FOR ROOF PITCHES, PLATE HEIGHTS, DIMENSIONS, OVERHANG WIDTHS, AND ATTIC VENT CALCS.

LEGEND

XT	EXTRA TRUSS
TS	TRUSS SUPPORT
XR	EXTRA RAFTER
RS	RAFTER SUPPORT
CONT	CONTINUOUS
EA	EACH
OC	ON CENTER
SPF	SPRUCE PINE FIR
SYP	SOUTHERN YELLOW PINE
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE

INSTALL 2 x 10 BLOCKING AS REQUIRED. FASTEN w/ (4) 12d NAILS EA. END (TYP.)

ATTACH 2 x 10 BAND TO BLOCKING w/ 1/2" DIA. x 3 1/2" LONG LAG SCREWS @ 16" O.C.

ATTACH 2 x 10 BAND TO BLOCKING w/ 1/2" DIA. x 3 1/2" LONG LAG SCREWS @ 16" O.C.

INSTALL 2 x 10 BLOCKING AS REQUIRED. FASTEN w/ (4) 12d NAILS EA. END (TYP.)

SIMPSON L50 ANGLE
EA. SIDE OF RAFTER
2 x 6 RAFTER
ATTACH RAFTER TO CEILING JOIST w/ (6) 12d NAILS
2 x 8 CEILING JOIST
SIMPSON LUS28

SHED CANOPY DETAIL
NTS



J.S. THOMPSON
ENGINEERING, INC
333 EAST SIX FORKS ROAD, SUITE 180 RALEIGH, NC 27609
PHONE: (919) 7899919 FAX: (919) 7899921
N.C. LICENSE NO.: C-1733

MAGNOLIA
BEN STOUT CONSTRUCTION

DATE: AUGUST 1, 2025

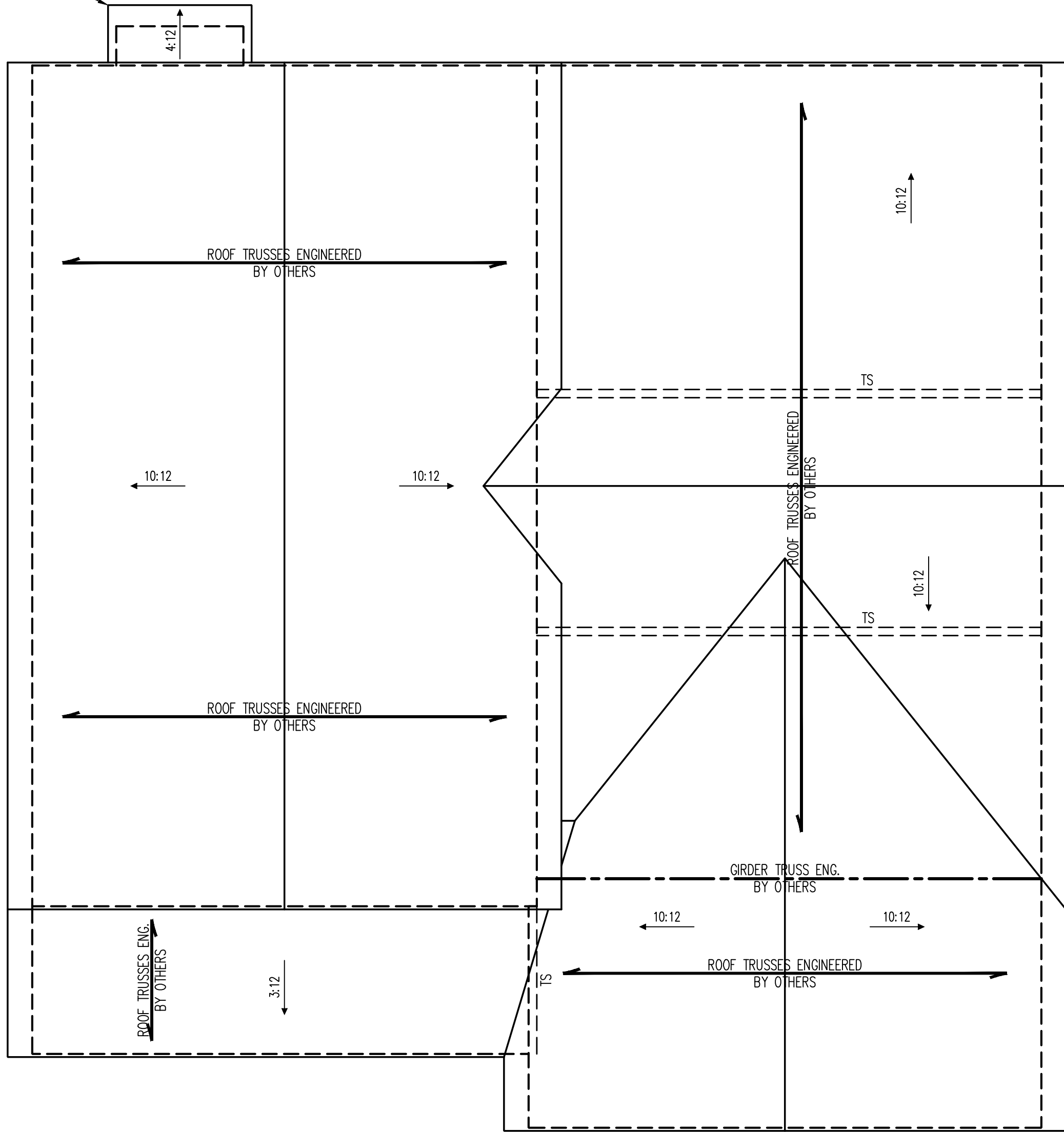
SCALE: 1/4" = 1'-0"

DRAWN BY: K&A HOME DESIGNS

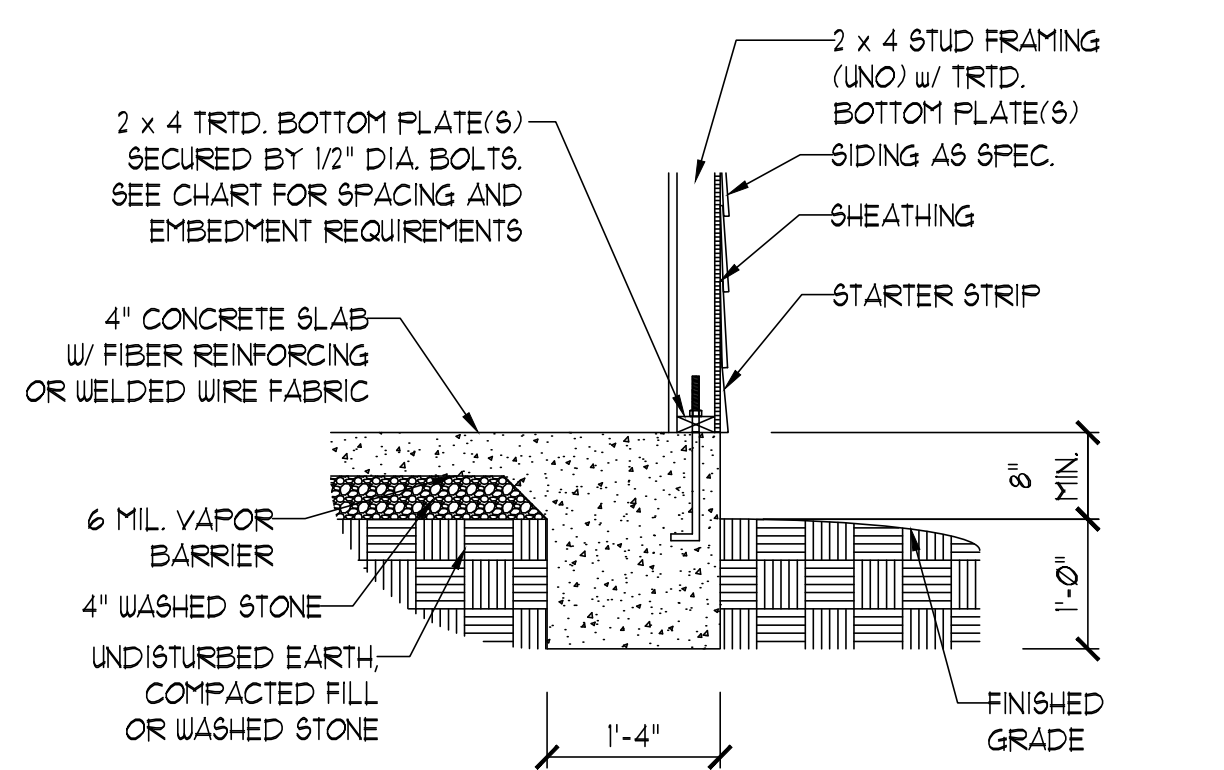
ENGINEERED BY: JAG

S4b
ROOF FRAMING
PLAN

SEE SHED CANOPY
DETAIL THIS SHEET

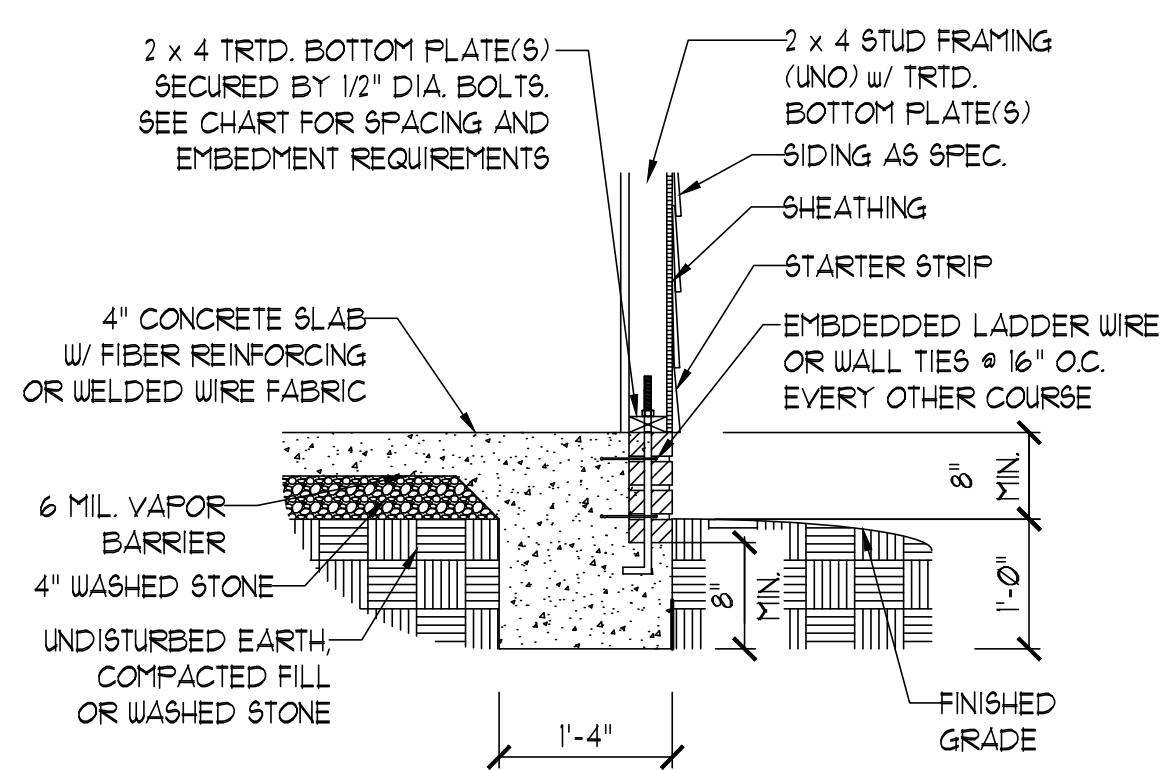


ELEVATION B



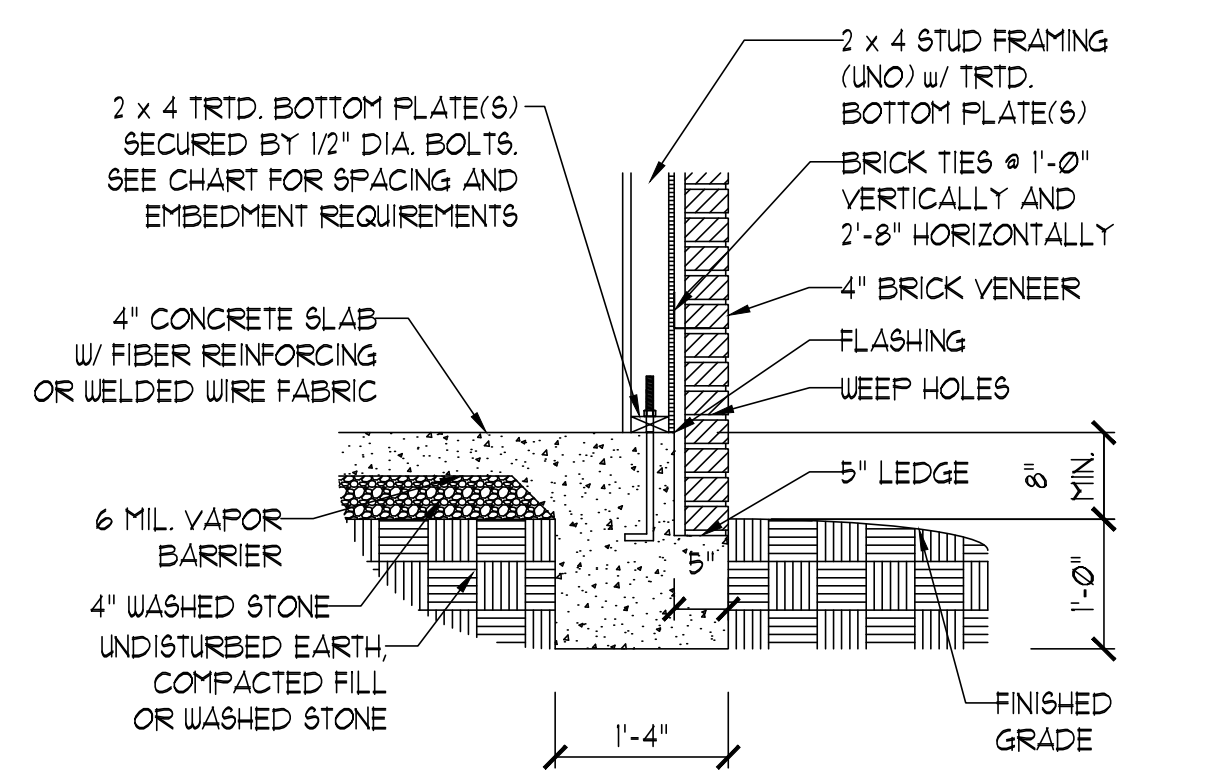
TYPICAL SLAB

①



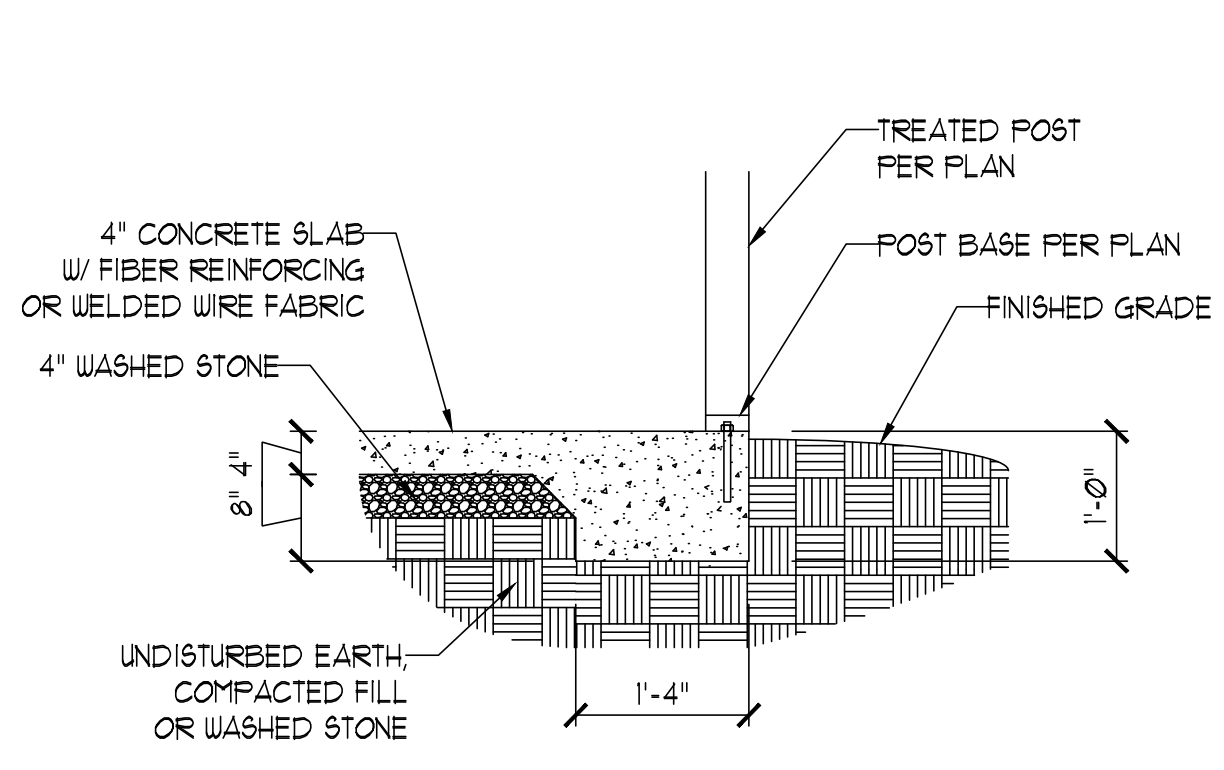
TYPICAL SLAB w/ BRICK LEDGE

②



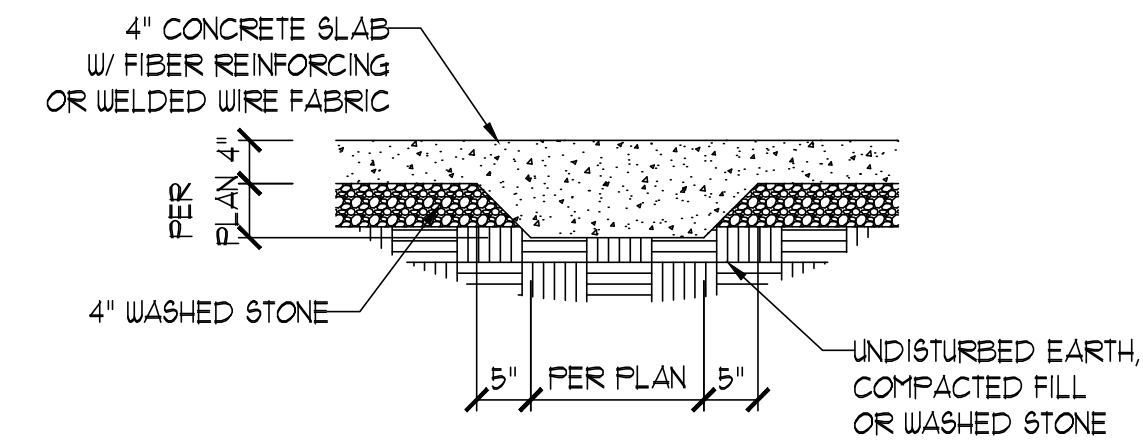
TYPICAL SLAB w/ BRICK VENEER LEDGE

③



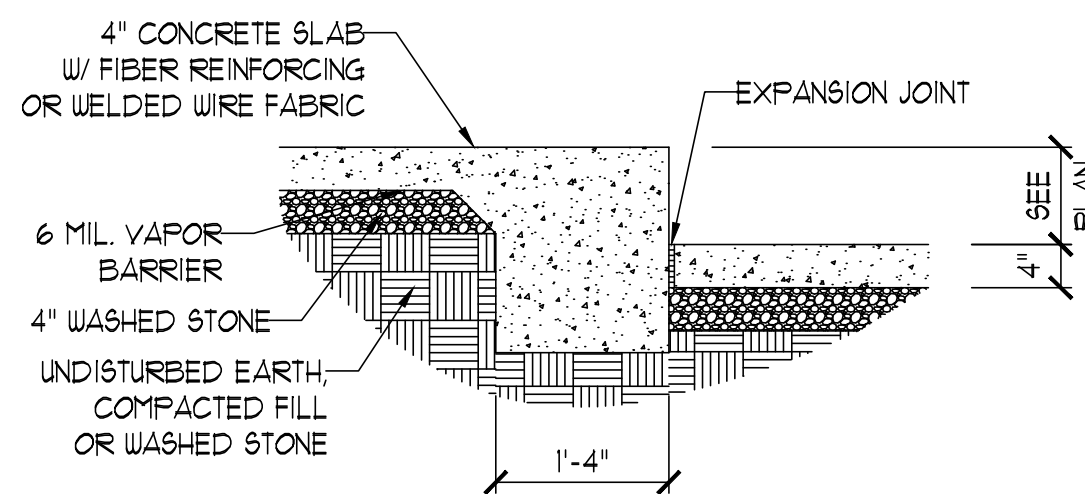
PORCH/SCREEN PORCH

④



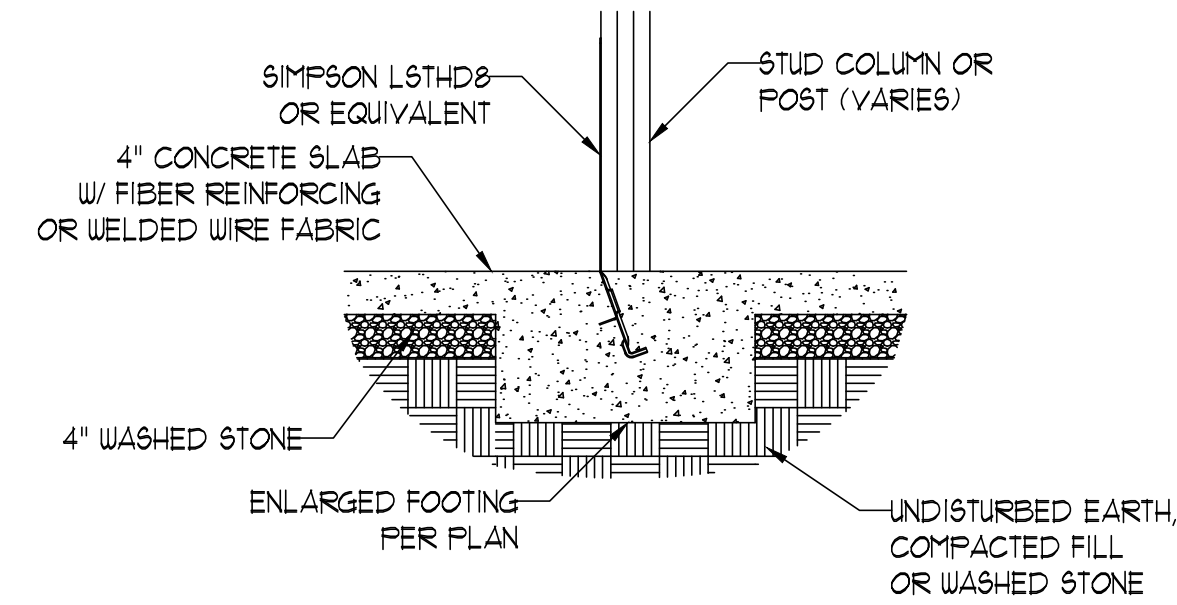
TYPICAL THICKENED SLAB

⑤



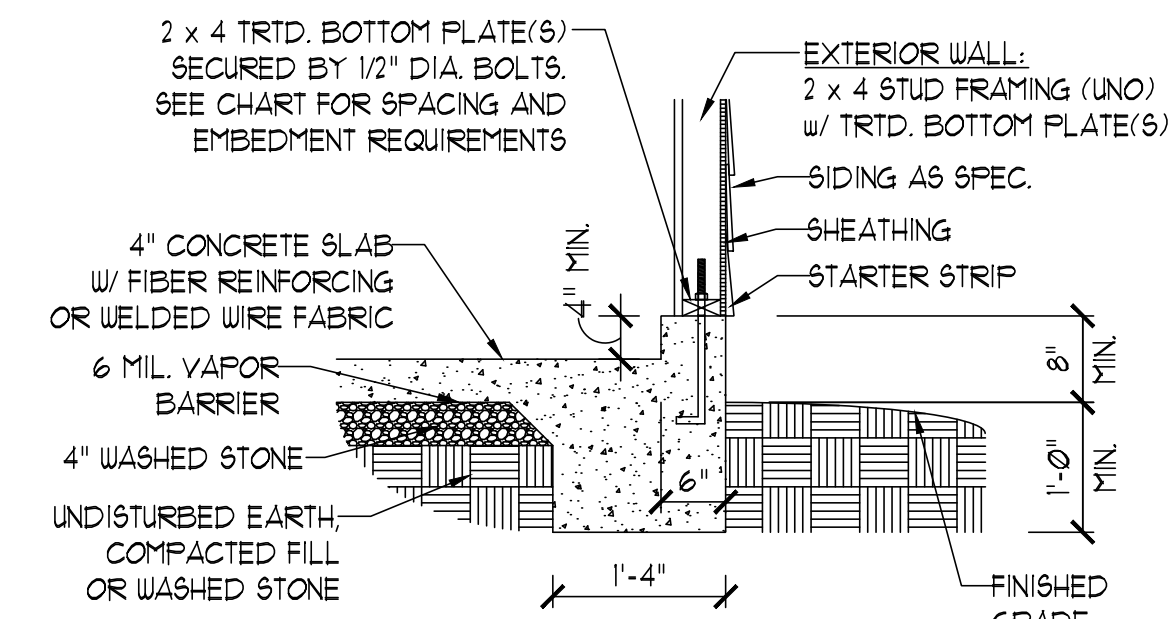
SLAB FLOOR CHANGE

⑥



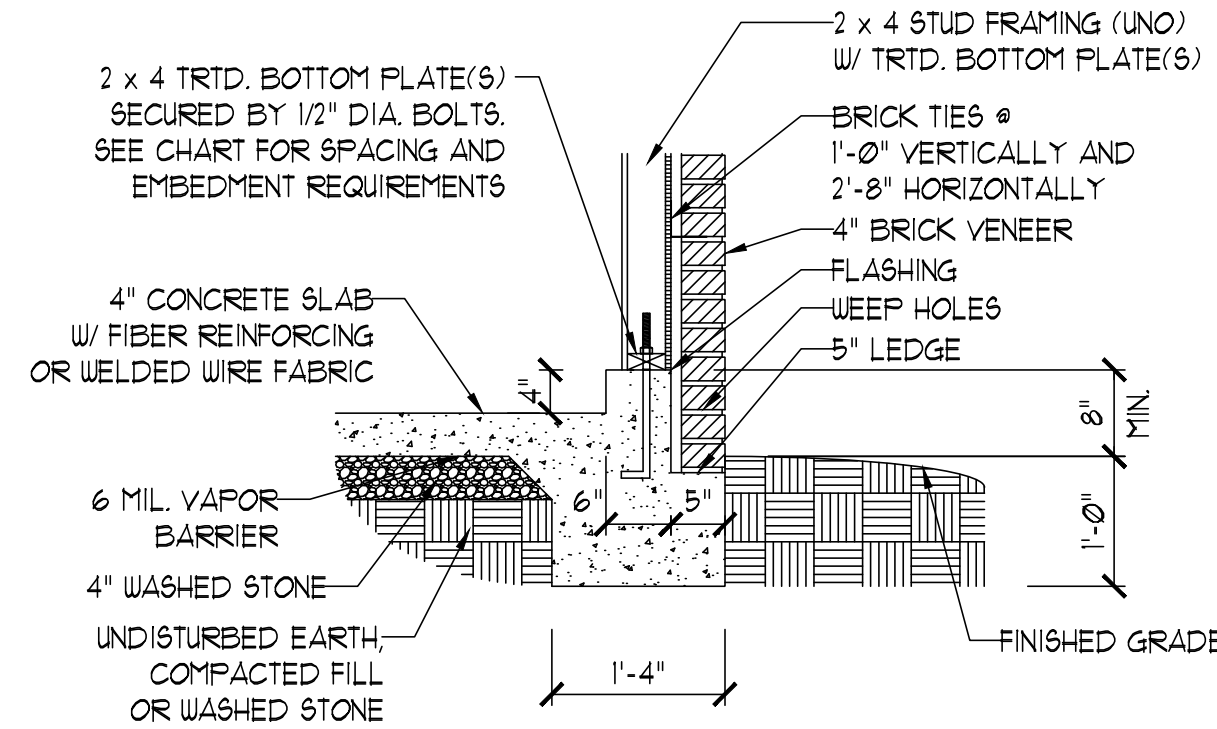
TYPICAL COLUMN TO
SLAB CONNECTION

⑦



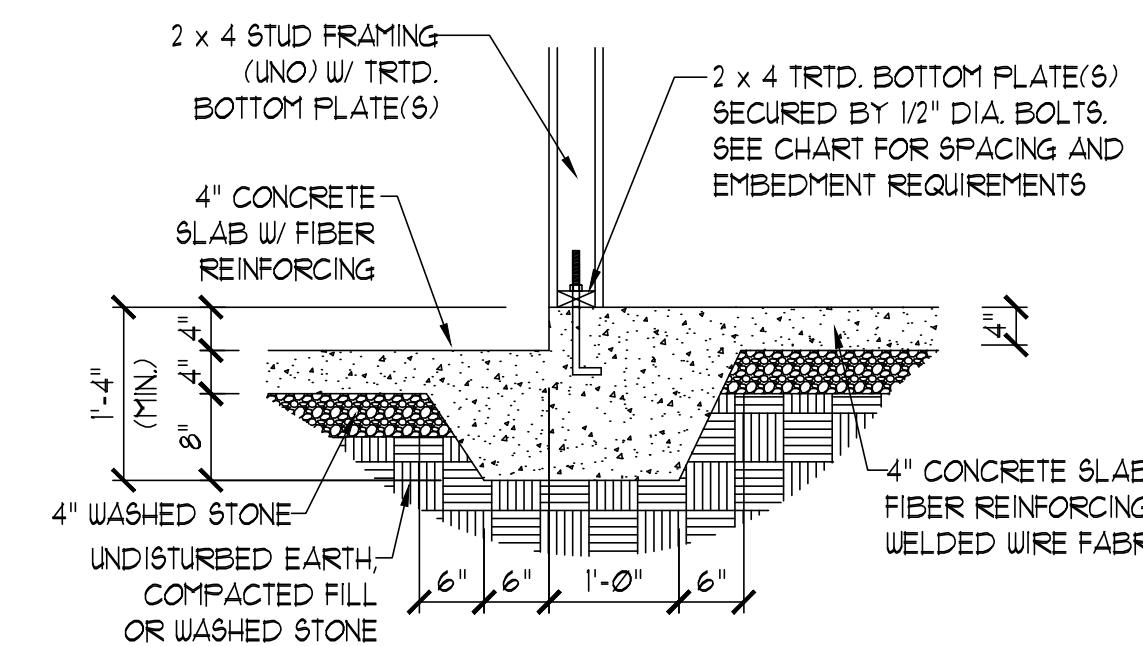
GARAGE CURB

⑧



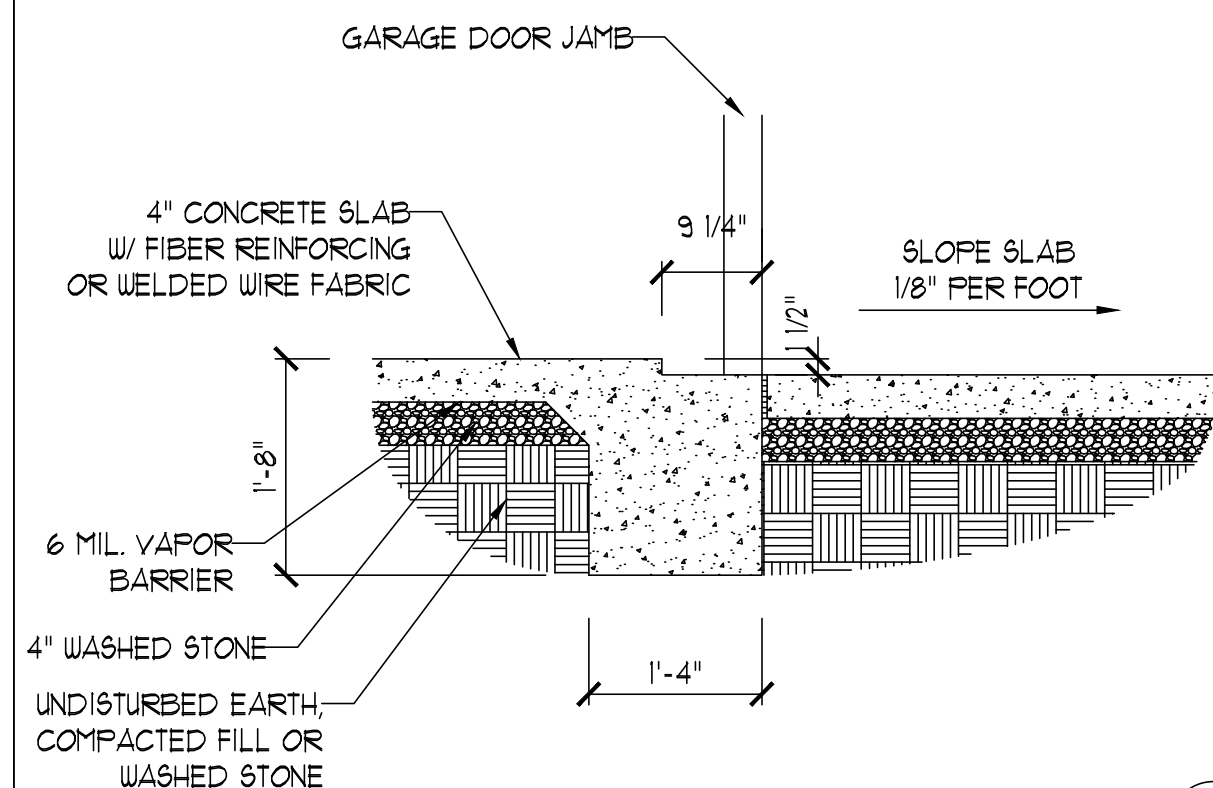
GARAGE CURB w/ BRICK LEDGE

⑨



STEP IN GARAGE

⑩



SLAB AT GARAGE DOOR

⑪

ANCHOR SPACING AND EMBEDMENT

WIND ZONE	120 MPH	130 MPH
SPACING	6'-0" O.C. INSTALL MIN. (2) ANCHORS PER PLATE SECTION AND (1) ANCHOR WITHIN 12" OF CORNERS	4'-0" O.C. INSTALL MIN. (2) ANCHORS PER PLATE SECTION AND (1) ANCHOR WITHIN 12" OF CORNERS
EMBEDMENT	7"	15" INTO MASONRY 7" INTO CONCRETE

NOTE:

THREADED ROD WITH EPOXY,
SIMPSON TITEN HD, OR APPROVED
ANCHORS SPACED AS REQUIRED
TO PROVIDE EQUIVALENT
ANCHORAGE TO 1/2" DIAMETER
ANCHOR BOLTS MAY BE USED IN
LIEU OF 1/2" ANCHOR BOLTS.



7/31/2025

This sealed page is to be used in conjunction with a full plan set engineered by J.S. Thompson Engineering, Inc. only. Use of this individual sealed page within architectural pages or shop drawings by others is a punishable offense under N.C. Statute § 89C-23

**J.S. THOMPSON
ENGINEERING, INC.**
333 EAST SIX FORKS ROAD, SUITE 180 RALEIGH, NC 27609
PHONE: (919) 789-9919 FAX: (919) 789-9921
N.C. LICENSE NO.: C-1733

MONOLITHIC SLAB
FOUNDATION DETAILS

DATE: AUGUST 30, 2022

SCALE: NTS

DRAWN BY: JST

ENGINEERED BY: JST

FOUNDATION
DETAILS

GENERAL NOTES

1. ENGINEER'S SEAL APPLIES ONLY TO STRUCTURAL COMPONENTS INCLUDING ROOF RAFTERS, HIPs, VALLEYS, RIDGES, FLOORS, WALLS, BEAMS, HEADERS, COLUMNS, CANTILEVERS, OFFSET LOAD BEARING WALLS, PIERS, GIRDER SYSTEM AND FOOTING. ENGINEER'S SEAL DOES NOT CERTIFY DIMENSIONAL ACCURACY OF ARCHITECTURAL LAYOUT INCLUDING ROOF. ENGINEER'S SEAL DOES NOT APPLY TO I-JOIST OR FLOOR/ROOF TRUSS LAYOUT DESIGN AND ACCURACY.
2. ALL CONSTRUCTION SHALL CONFORM TO THE LATEST REQUIREMENTS OF THE NORTH CAROLINA RESIDENTIAL CODE (NRCR), 2018 EDITION, PLUS ALL LOCAL CODES AND REGULATIONS. THE STRUCTURAL ENGINEER IS NOT RESPONSIBLE FOR, AND WILL NOT HAVE CONTROL OF, CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES, OR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE CONSTRUCTION WORK. NOR WILL THE ENGINEER BE RESPONSIBLE FOR THE CONTRACTORS FAILURE TO CARRY OUT THE CONSTRUCTION WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

DESIGN CRITERIA:	LIVE LOAD (PSF)	DEAD LOAD (PSF)	DEFLECTION (IN)
ATTIC WITH LIMITED STORAGE	20	10	L/240 (L/360 w/ BRITTLE FINISHES)
ATTIC WITHOUT STORAGE	10	10	L/360
DECKS	40	10	L/360
EXTERIOR BALCONIES	40	10	L/360
FIRE ESCAPES	40	10	L/360
HANDRAILS/GUARDRAILS	200	10	L/360
PASSENGER VEHICLE GARAGE	50	10	L/360
ROOMS OTHER THAN SLEEPING ROOM	40	10	L/360
SLEEPING ROOMS	30	10	L/360
STAIRS	40	10	L/360
WIND LOAD	(BASED ON TABLE R301.2(4) WIND ZONE AND EXPOSURE)		
GROUND SNOW LOAD: Pg	20 (PSF)		
- I-JOIST SYSTEMS DESIGNED WITH 12 PSF DEAD LOAD AND DEFLECTION (IN) OF L/480			
- FLOOR TRUSS SYSTEMS DESIGNED WITH 15 PSF DEAD LOAD			

4. FOR 115 AND 120 MPH WIND ZONES, FOUNDATION ANCHORAGE IS TO COMPLY WITH SECTION R403.1.6 OF THE NRCR, 2018 EDITION. FOR 130 MPH, 140 MPH, AND 150 MPH WIND ZONES, FOUNDATION ANCHORAGE IS TO COMPLY WITH SECTION 4504 OF THE NRCR, 2018 EDITION.
5. ENERGY EFFICIENCY COMPLIANCE AND INSULATION VALUES OF THE BUILDING TO BE IN ACCORDANCE WITH CHAPTER 11 OF THE NRCR, 2018 EDITION.

FOOTING AND FOUNDATION NOTES

1. FOUNDATION DESIGN BASED ON A MINIMUM ALLOWABLE BEARING CAPACITY OF 2000 PSF. CONTACT GEOTECHNICAL ENGINEER IF BEARING CAPACITY IS NOT ACHIEVED.
2. FOR ALL CONCRETE SLABS AND FOOTINGS, THE AREA WITHIN THE PERIMETER OF THE BUILDING ENVELOPE SHALL HAVE ALL VEGETATION, TOP SOIL AND FOREIGN MATERIAL REMOVED. FILL MATERIAL SHALL BE FREE OF VEGETATION AND FOREIGN MATERIAL. THE FILL SHALL BE COMPACTED TO ASSURE UNIFORM SUPPORT OF THE SLAB, AND EXCEPT WHERE APPROVED, THE FILL DEPTHS SHALL NOT EXCEED 24" FOR CLEAN SAND OR GRAVEL. A 4" THICK BASED COURSE CONSISTING OF CLEAN GRADED SAND OR GRAVEL SHALL BE PLACED. A BASE COURSE IS NOT REQUIRED WHERE A CONCRETE SLAB IS INSTALLED ON WELL-DRAINED OR SAND-GRAVEL MIXTURE SOILS CLASSIFIED AS GROUP 1, ACCORDING TO THE UNITED SOIL CLASSIFICATION SYSTEM IN ACCORDANCE WITH TABLE R405.1 OF THE NRCR, 2018 EDITION.
3. PROPERLY DEWATER EXCAVATION PRIOR TO POURING CONCRETE WHEN BOTTOM OF CONCRETE SLAB IS AT OR BELOW WATER TABLE. IF APPLICABLE, 3/4" - 1" DEEP CONTROL JOINTS ARE TO BE SAWED WITHIN 4 TO 12 HOURS OF CONCRETE FINISHING AND WALL LOCATIONS HAVE BEEN MARKED. ADJUST WHERE NECESSARY.
4. CONCRETE SHALL CONFORM TO SECTION R402.2 OF THE NRCR, 2018 EDITION. CONCRETE REINFORCING STEEL TO BE ASTM A615 GRADE 60. WELDED WIRE FABRIC TO BE ASTM A185. MAINTAIN A MINIMUM CONCRETE COVER AROUND REINFORCING STEEL OF 3" IN FOOTINGS AND 1 1/2" IN SLABS. FOR POURED CONCRETE WALLS, CONCRETE COVER FOR REINFORCING STEEL MEASURED FROM THE INSIDE FACE OF THE WALL SHALL NOT BE LESS THAN 3/4". CONCRETE COVER FOR REINFORCING STEEL MEASURED FROM THE OUTSIDE FACE OF THE WALL SHALL NOT BE LESS THAN 1 1/2" FOR #5 BARS OR SMALLER, AND NOT LESS THAN 2" FOR #6 BARS OR LARGER.
5. MASONRY UNITS TO CONFORM TO ACE 530/ASCE 5/TMS 402. MORTAR SHALL CONFORM TO ASTM C270.
6. THE UNSUPPORTED HEIGHT OF MASONRY PIERS SHALL NOT EXCEED FOUR TIMES THEIR LEAST DIMENSION FOR UNFILLED HOLLOW CONCRETE MASONRY UNITS AND TEN TIMES THEIR LEAST DIMENSION FOR SOLID OR SOLID FILLED PIERS. PERS MAY BE FILLED SOLID WITH CONCRETE OR TYPE M OR S MORTAR. PIERS AND WALLS SHALL BE CAPPED WITH 8" OF SOLID MASONRY.
7. THE CENTER OF EACH OF THE PIERS SHALL BEAR IN THE MIDDLE THIRD OF ITS RESPECTIVE FOOTING. EACH GIRDER SHALL BEAR IN THE MIDDLE THIRD OF THE PIERS.
8. ALL CONCRETE AND MASONRY FOUNDATION WALLS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH THE PROVISIONS OF SECTION R404 OF THE NRCR, 2018 EDITION OR IN ACCORDANCE WITH ACI 318, ACI 332, NOMA TR68-A OR ACE 530/ASCE 5/TMS 402. MASONRY FOUNDATION WALLS ARE TO BE REINFORCED PER TABLE R404.1.1(1), R404.1.1(2), R404.1.1(3), OR R404.1.1(4) OF THE NRCR, 2018 EDITION. CONCRETE FOUNDATION WALLS ARE TO BE REINFORCED PER TABLE R404.1.1(5) OF THE NRCR, 2018 EDITION. STEP CONCRETE FOUNDATION WALLS TO 2 x 6 FRAMED WALLS AT 16" O.C. WHERE GRADE PERMITS (UNO).

This sealed page is to be used in conjunction with a full plan set engineered by J.S. Thompson Engineering, Inc. only. Use of this individual sealed page within architectural pages or shop drawings by others is a punishable offense under N.C. Statute § 89C-23

FRAMING NOTES

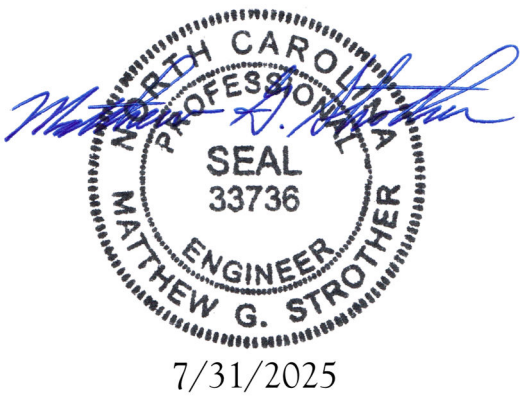
1. ALL FRAMING LUMBER SHALL BE #2 SPF MINIMUM (Fb = 875 PSI, Fv = 375 PSI, E = 1600000 PSI) UNLESS NOTED OTHERWISE (UNO). ALL TREATED LUMBER SHALL BE #2 SYP MINIMUM (Fb = 975 PSI, Fv =175 PSI, E = 1600000 PSI) UNLESS NOTED OTHERWISE (UNO).
2. LAMINATED VENEER LUMBER (LVL) SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES: Fb =2600 PSI, Fv = 285 PSI, E = 1900000 PSI. LAMINATED STRAND LUMBER (LSL) SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES: Fb = 2325 PSI, Fv = 310 PSI, E = 1550000 PSI. PARALLEL STRAND LUMBER (PSL) UP TO 7" DEPTH SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES: Fc = 2500 PSI, E =1800000 PSI. PARALLEL STRAND LUMBER (PSL) MORE THAN 7" DEPTH SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES: Fc = 2900 PSI, E = 2000000 PSI. INSTALL ALL CONNECTIONS PER MANUFACTURER'S SPECIFICATIONS.
3. STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING ASTM SPECIFICATIONS
- | | |
|--------------------------------|--------------------------------|
| A. W AND WT SHAPES: | ASTM A992 |
| B. CHANNELS AND ANGLES: | ASTM A36 |
| C. PLATES AND BARS: | ASTM A36 |
| D. HOLLOW STRUCTURAL SECTIONS: | ASTM A500 GRADE B |
| E. STEEL PIPE: | ASTM A53, GRADE B, TYPE E OR S |

4. STEEL BEAMS SHALL BE SUPPORTED AT EACH END WITH A MINIMUM BEARING LENGTH OF 3 1/2" AND FULL FLANGE WIDTH (UNO). PROVIDE SOLID BEARING FROM BEAM SUPPORT TO FOUNDATION. BEAMS SHALL BE ATTACHED AT THE BOTTOM FLANGE TO EACH SUPPORT AS FOLLOWS (UNO):

A. WOOD FRAMING	(2) 1/2" DIA. x 4" LONG LAG SCREWS
B. CONCRETE	(2) 1/2" DIA. x 4" WEDGE ANCHORS
C. MASONRY (FULLY GROUTED)	(2) 1/2" DIA. x 4" LONG SIMPSON TITEN HD ANCHORS
D. STEEL PIPE COLUMN	(4) 3/4" DIA. A325 BOLTS OR 3/16" FILLET WELD

LATERAL SUPPORT IS CONSIDERED ADEQUATE PROVIDING THE JOISTS ARE TOE NAILED TO THE 2x NAILER ON TOP OF THE STEEL BEAM, AND THE 2x NAILER IS SECURED TO THE TOP OF THE STEEL BEAM w/ (2) ROWS OF SELF TAPPING SCREWS @ 16" O.C. OR (2) ROWS OF 1/2" DIAMETER BOLTS @ 16" O.C. IF 1/2" BOLTS ARE USED TO FASTEN THE NAILER, THE STEEL BEAM SHALL BE FABRICATED w/ (2) ROWS OF 9/16" DIAMETER HOLES @ 16" O.C.

5. SQUARES DENOTE POINT LOADS WHICH REQUIRE SOLID BLOCKING TO GIRDER OR FOUNDATION. SHADED SQUARES DENOTE POINT LOADS FROM ABOVE WHICH REQUIRE SOLID BLOCKING TO SUPPORTING MEMBER BELOW.
6. ALL LOAD BEARING HEADERS TO CONFORM TO TABLE R602.7(1) AND R602.7(2) OF THE NRCR, 2018 EDITION OR BE (2) 2 x 6 WITH (1) JACK AND (1) KING STUD EACH END (UNO), WHICHEVER IS GREATER ALL HEADERS TO BE SECURED TO EACH JACK STUD WITH (4) 8d NAILS. ALL BEAMS TO BE SUPPORTED WITH (2) STUDS AT EACH BEARING POINT (UNO). INSTALL KING STUDS PER SECTION R602.7.5 OF THE NORTH CAROLINA RESIDENTIAL CODE, 2018 EDITION.
7. ALL BEAMS, HEADERS, OR GIRDER TRUSSES PARALLEL TO WALL ARE TO BEAR FULLY ON (1) JACK OR (2) STUDS MINIMUM OR THE NUMBER OF JACKS OR STUDS NOTED. ALL BEAMS OR GIRDER TRUSSES PERPENDICULAR TO WALL AND SUPPORTED BY (3) STUDS OR LESS ARE TO HAVE 1 1/2" MINIMUM BEARING (UNO). ALL BEAMS OR GIRDER TRUSSES PERPENDICULAR TO WALL AND SUPPORTED BY MORE THAN (3) STUDS OR OTHER NOTED COLUMN ARE TO BEAR FULLY ON SUPPORT COLUMN FOR ENTIRE WALL DEPTH (UNO). BEAM ENDS THAT BUTT INTO ONE ANOTHER ARE TO EACH BEAR EQUAL LENGTHS (UNO).
8. FLITCH BEAMS SHALL BE BOLTED TOGETHER USING 1/2" DIAMETER BOLTS (ASTM A307) WITH WASHERS PLACED AT THREADED END OF BOLT. BOLTS SHALL BE SPACED AT 24" CENTERS (MAXIMUM), AND STAGGERED AT TOP AND BOTTOM OF BEAM (2" EDGE DISTANCE), WITH (2) BOLTS LOCATED AT 6" FROM EACH END (UNO).
9. ALL I-JOIST OR TRUSS LAYOUTS ARE TO BE IN COMPLIANCE WITH THE OVERALL DESIGN SPECIFIED ON THE PLANS. ALL DEVIATIONS ARE TO BE BROUGHT TO THE ATTENTION OF THE ENGINEER OF RECORD PRIOR TO INSTALLATION.
10. BRACED WALL PANELS SHALL BE CONSTRUCTED ACCORDING TO THE NORTH CAROLINA RESIDENTIAL CODE 2018 EDITION WALL BRACING CRITERIA. THE AMOUNT, LENGTH, AND LOCATION OF BRACING SHALL COMPLY WITH ALL APPLICABLE TABLES IN SECTION R602.10.
11. PROVIDE DOUBLE JOIST UNDER ALL WALLS PARALLEL TO FLOOR JOISTS. PROVIDE SUPPORT UNDER ALL WALLS PARALLEL TO FLOOR TRUSSES OR I-JOISTS PER MANUFACTURER'S SPECIFICATIONS. INSTALL BLOCKING BETWEEN JOISTS OR TRUSSES FOR POINT LOAD SUPPORT FOR ALL POINT LOADS ALONG OFFSET LOAD LINES.
12. FOR ALL HEADERS SUPPORTING BRICK VENEER THAT ARE LESS THAN 8'-0" IN LENGTH, REST A 6" x 4" x 5/16" STEEL ANGLE WITH 6" MINIMUM EMBEDMENT AT SIDES FOR BRICK SUPPORT (U.N.O.). FOR ALL HEADERS 8'-0" AND GREATER IN LENGTH, BOLT A 6" x 4" x 5/16" STEEL ANGLE TO HEADER WITH 1/2" LAG SCREWS AT 12" O.C. STAGGERED FOR BRICK SUPPORT. FOR ALL BRICK SUPPORT AT ROOF LINES, BOLT A 6" x 4" x 5/16" STEEL ANGLE TO (2) 2 x 10 BLOCKING INSTALLED w/ (4) 12d NAILS EA. PLY BETWEEN WALL STUDS WITH (2) ROWS OF 1/2" LAG SCREWS AT 12" O.C. STAGGERED AND IN ACCORDANCE WITH SECTION R703.8.2.1 OF THE NRCR, 2018 EDITION.
13. FOR STICK FRAMED ROOFS: CIRCLES DENOTE (3) 2 x 4 POSTS FOR ROOF MEMBER SUPPORT. HIP SPLICES ARE TO BE SPACED A MINIMUM OF 8'-0". FASTEN MEMBERS WITH THREE ROWS OF 12d NAILS AT 16" O.C. FRAME DORMER WALLS ON TOP OF DOUBLE OR TRIPLE RAFTERS AS SHOWN (UNO).
14. FOR TRUSSED ROOFS: FRAME DORMER WALLS ON TOP OF 2 x 4 LADDER FRAMING AT 24" O.C. BETWEEN ADJACENT ROOF TRUSSES. STICK FRAME OVER-FRAMED ROOF SECTIONS WITH 2 x 8 RIDGES, 2 x 6 RAFTERS AT 16" O.C. AND FLAT 2 x 10 VALLEYS (UNO).
15. ALL 4 x 4 AND 6 x 6 POSTS TO BE INSTALLED WITH 700 LB CAPACITY UPLIFT CONNECTORS TOP AND BOTTOM (UNO). POSTS MAY BE SECURED USING ONE SIMPSON H6 OR LTS12 UPLIFT CONNECTOR FASTENED TO THE BAND AT THE BOTTOM AND THE BEAM AT THE TOP OF EACH POST. ONE 16" SECTION OF SIMPSON CS16 COIL STRAPPING WITH (8) 8d HDG NAILS AT EACH END MAY BE USED IN LIEU OF EACH TWIST STRAP IF DESIRED. FOR MASONRY OR CONCRETE FOUNDATION USE SIMPSON POST BASE.



J.S. THOMPSON
ENGINEERING, INC
333 EAST SIX FORKS ROAD, SUITE 180 RALEIGH, NC 27609
PHONE: (919) 7899919 FAX: (919) 7899921
N.C. LICENSE NO.: C-1733

STANDARD STRUCTURAL NOTES

DATE: AUGUST 30, 2022
DRAWN BY: JST
ENGINEERED BY: JST

STRUCTURAL
NOTES