

GENERAL NOTES:

- IT IS THE CONTRACTORS RESPONSIBILITY TO VERIFY THAT ALL DIMENSIONS AND SQUARE FOOTAGE IS CORRECT PRIOR TO CONSTRUCTION. K&A HOME DESIGNS, INC. IS NOT RESPONSIBLE FOR ANY DIMENSIONING OR SQUARE FOOTAGE ERRORS ON CONSTRUCTION BEGINS.
- ALL WALL SHOWN ON THE FLOOR PLANS ARE DRAWN AT 4" UNLESS NOTED OTHERWISE.
- ALL ANGLED WALL SHOWN ON THE PLANS ARE 45 DEGREES UNLESS NOTED OTHERWISE.
- STUD WALL DESIGN SHALL CONFORM TO ALL NORTH CAROLINA STATE BUILDING CODE REQUIREMENTS.
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH NORTH CAROLINA STATE BUILDING CODE, 2018 EDITION.

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 1/500 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)

2211 SQ. FT. OF CRAWL SPACE/1500

1.47 SQ. FT. OF REQUIRED VENTILATION

PROVIDED BY: 4 VENTS AT 0.45 SQ. FT. NET FREE

VENTILATION EACH= 1.8 SQ. FT. OF VENTILATION

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

SQUARE FOOTAGE

HEATED SQUARE FOOTAGE

FIRST FLOOR= 2211
SECOND FLOOR= 864
THIRD FLOOR= N/A
BASEMENT= N/A

UNHEATED SQUARE FOOTAGE

GARAGE= 615
FRONT PORCH= 211
SCREEN PORCH= 204
OPT. STUDY= N/A
STORAGE= N/A

TOTAL HEATED= 3075

TOTAL UNHEATED= 1030

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 BE EAVE VENTS.

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

3240 SQ. FT. OF ATTIC/300= 10.8

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.

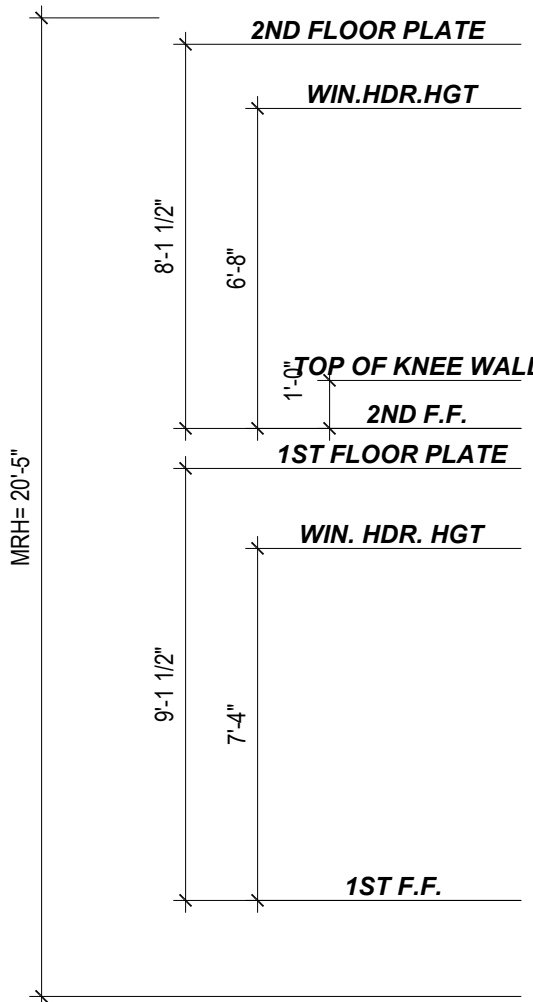
- ROOF VALUES BOTH POSITIVE AND NEGATIVE SHALL BE AS FOLLOWS:

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

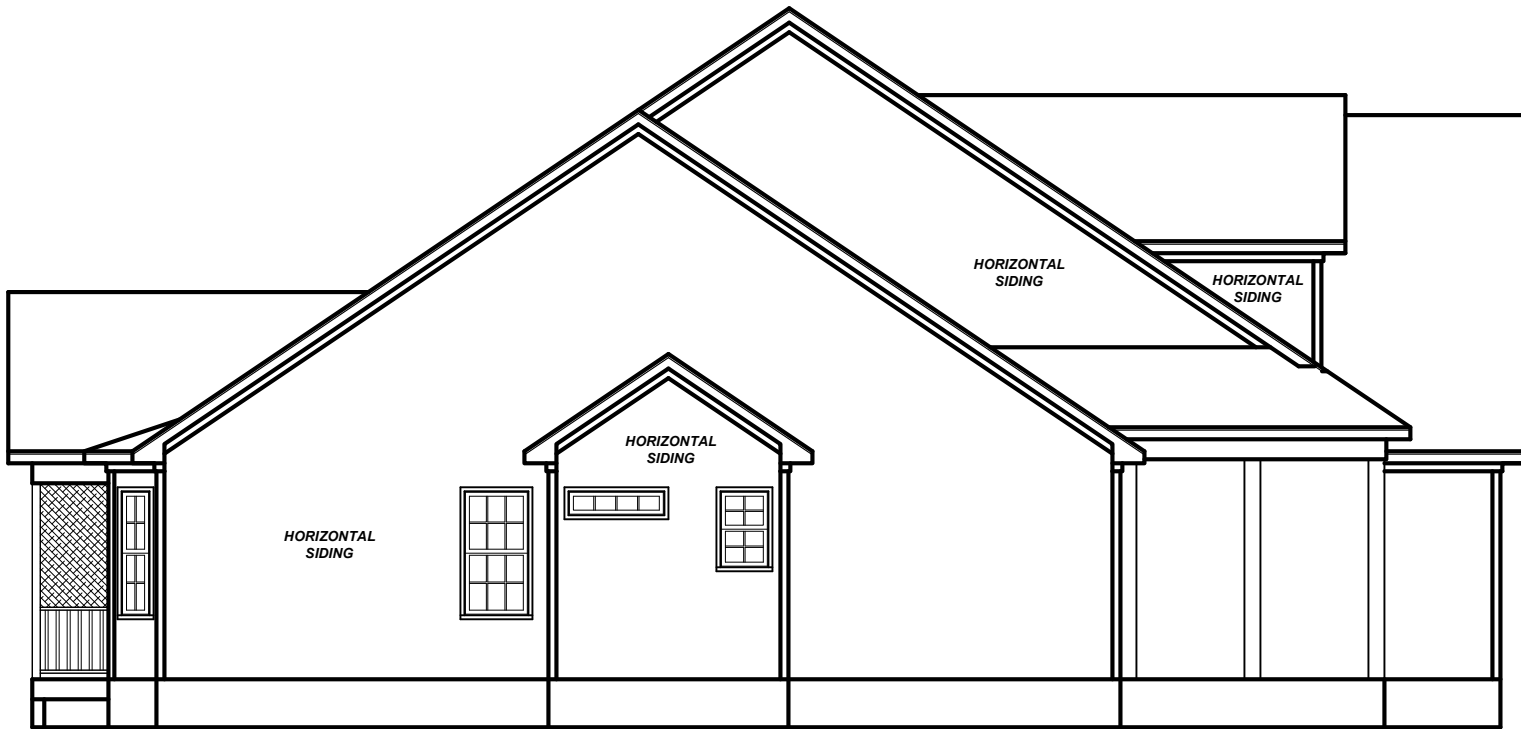
** MEAN ROOF HEIGHT 30' OR LESS



FRONT ELEVATION

1/4" = 1'-0" FOR 24"x36" PAPER

1/8" = 1'-0" FOR 11"x17" PAPER



LEFT ELEVATION

1/8" = 1'-0"



REAR ELEVATION

1/8" = 1'-0"



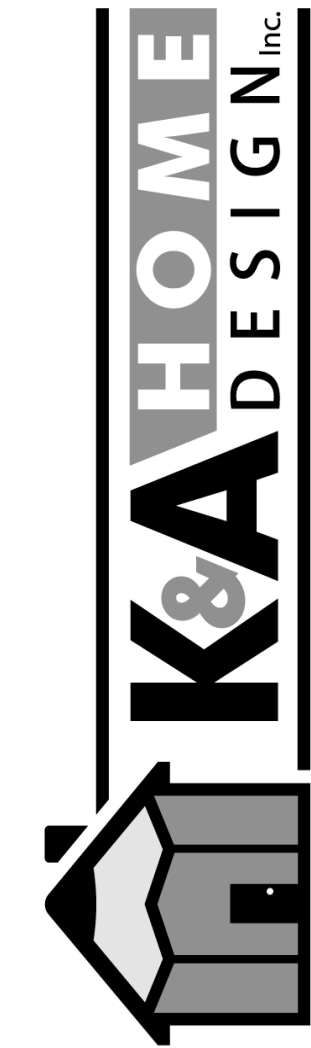
RIGHT ELEVATION

1/8" = 1'-0"

Project #:	16KB-247
Date:	6-15-23
Drawn/Design By:	KBB
Scale:	REFER TO ELEV.

REVISIONS		
No.	Date:	Remarks
1		
2		
3		
4		

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



Kay Ridge

Reese Construction
3720 Lucky Dr.
Apex, NC 27539

ELEVATIONS

Sheet Number
1
of 7

REVISIONS		
No.	Date:	Remarks

Email: Kent@KandAHomeDesigns.com

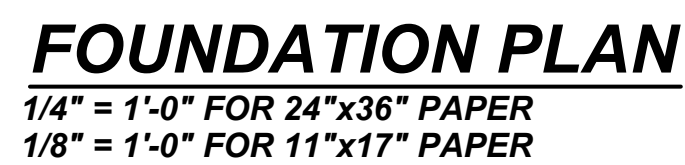
Kay Ridge

Reese Construction
3720 Lucky Dr.
Apex, NC 27539

FOUNDATION

Sheet Number

2
7



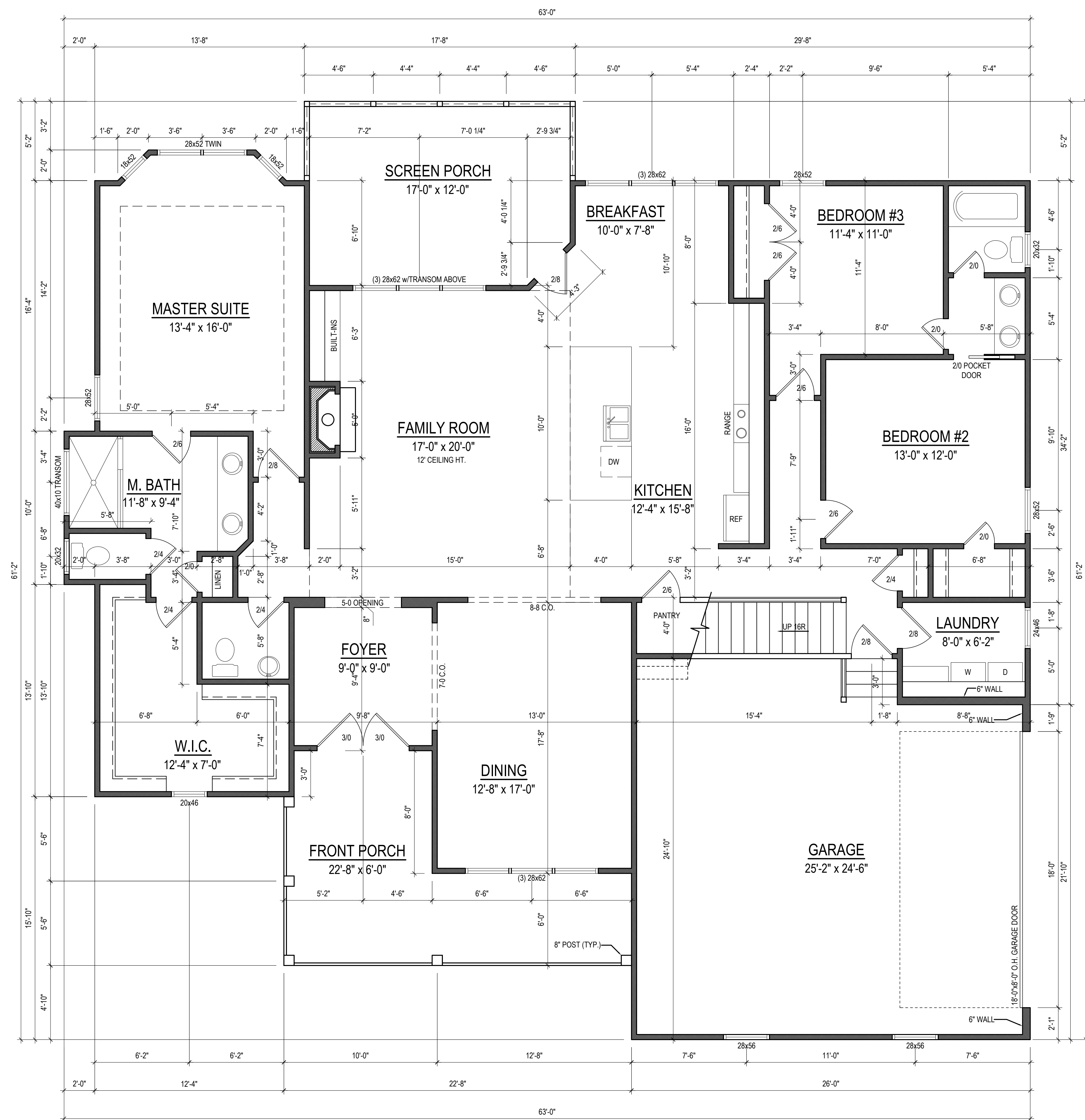
Structural Engineering by:
Mark E. Jones, PE
6425 Glen Dean Court
Raleigh, NC 27603
Phone: (919) 395-5618

*Engineers seal applies only to structural components on this document. Seal does not include construction means, methods, techniques, sequences, procure or safety precautions.

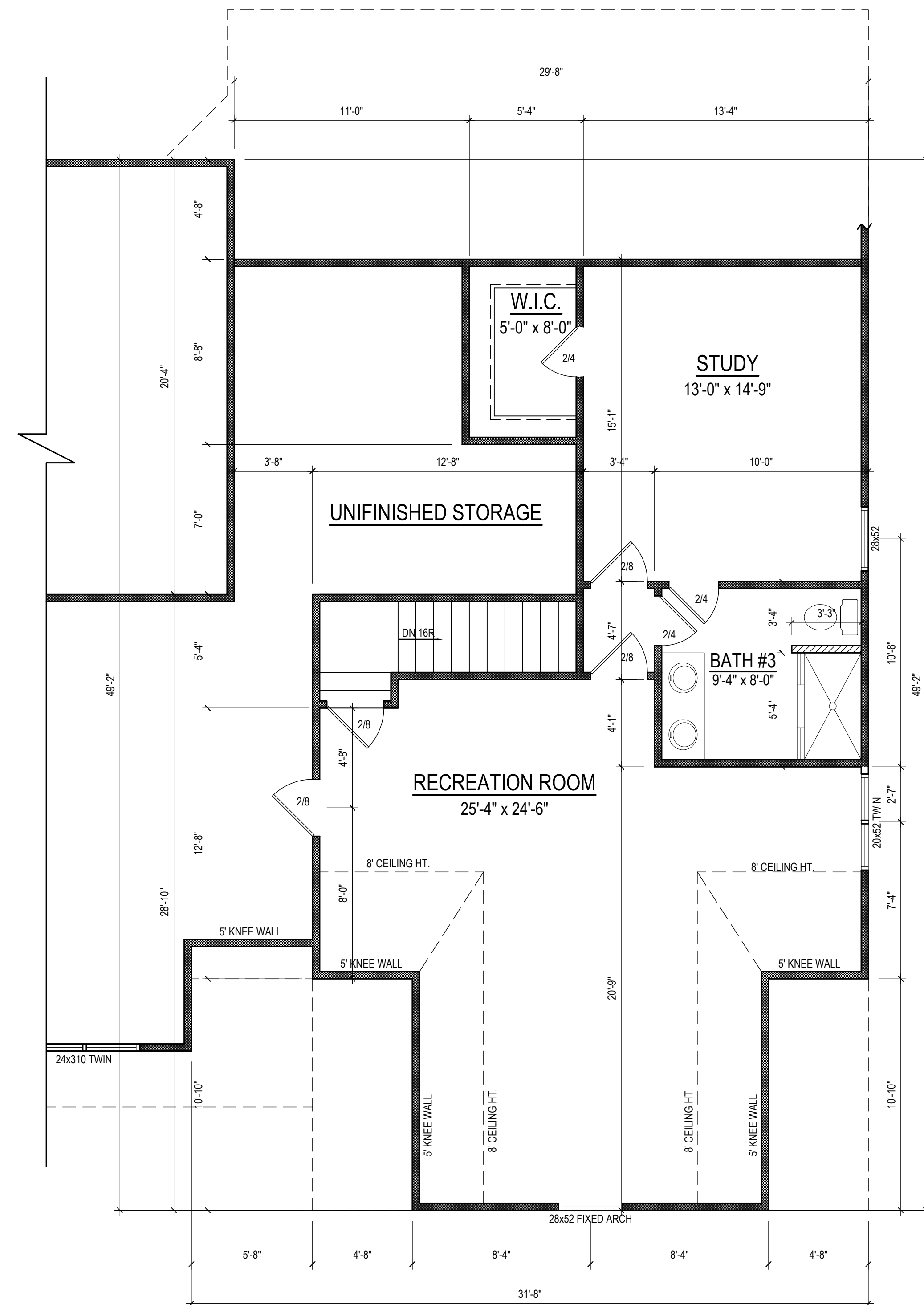
*Any deviations or discrepancies on plans are to be brought to the immediate attention of Mark E. Jones, PE. Failure to do so will void Mark E. Jones, PE liability.

Structural analysis based on NC Residential Building Code 2018.

Project No. 17-028



FIRST FLOOR PLAN
1/4" = 1'-0" FOR 24"x36" PAPER CEILING HT. = 9'-0"
1/8" = 1'-0" FOR 11"x17" PAPER



SECOND FLOOR PLAN
1/4" = 1'-0" FOR 24"x36" PAPER CEILING HT. = 8'-0"
1/8" = 1'-0" FOR 11"x17" PAPER

Project #:		
16KB-247		
Date:		
6-15-23		
Drawn/Design By:		
KBB		
Scale:		
1/4" = 1'-0"		

REVISIONS		
No.	Date	Remarks
1		
2		
3		
4		

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



Kay Ridge

Reese Construction
3720 Lucky Dr.
Apex, NC 27539

FIRST/SECOND FLOOR

Sheet Number
3
of 7

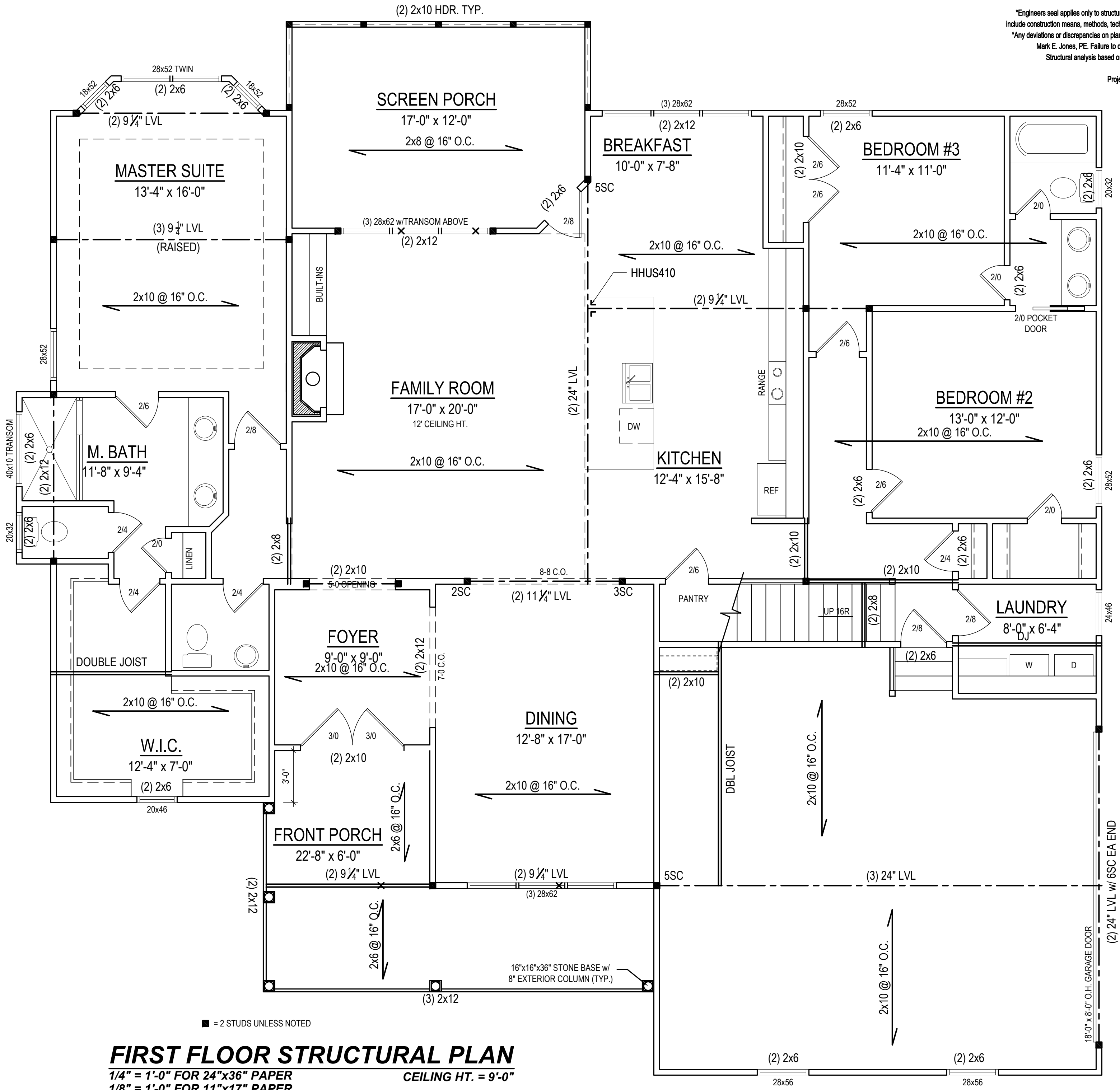
Email: Kent@KandAHomeDesigns.com Website: www.KandAHomeDesigns.com



Structural Engineering by:
Mark E. Jones, PE
8425 Glen Dean Court
Raleigh, NC 27603
Phone: (919) 365-9818

*Engineers seal applies only to structural components on this document. Seal does not include construction means, methods, techniques, sequences, or safety precautions.
*Any deviations or discrepancies on plans are to be brought to the immediate attention of Mark E. Jones, PE. Failure to do so will void Mark E. Jones, PE liability.
Structural analysis based on NC Residential Building Code 2018.

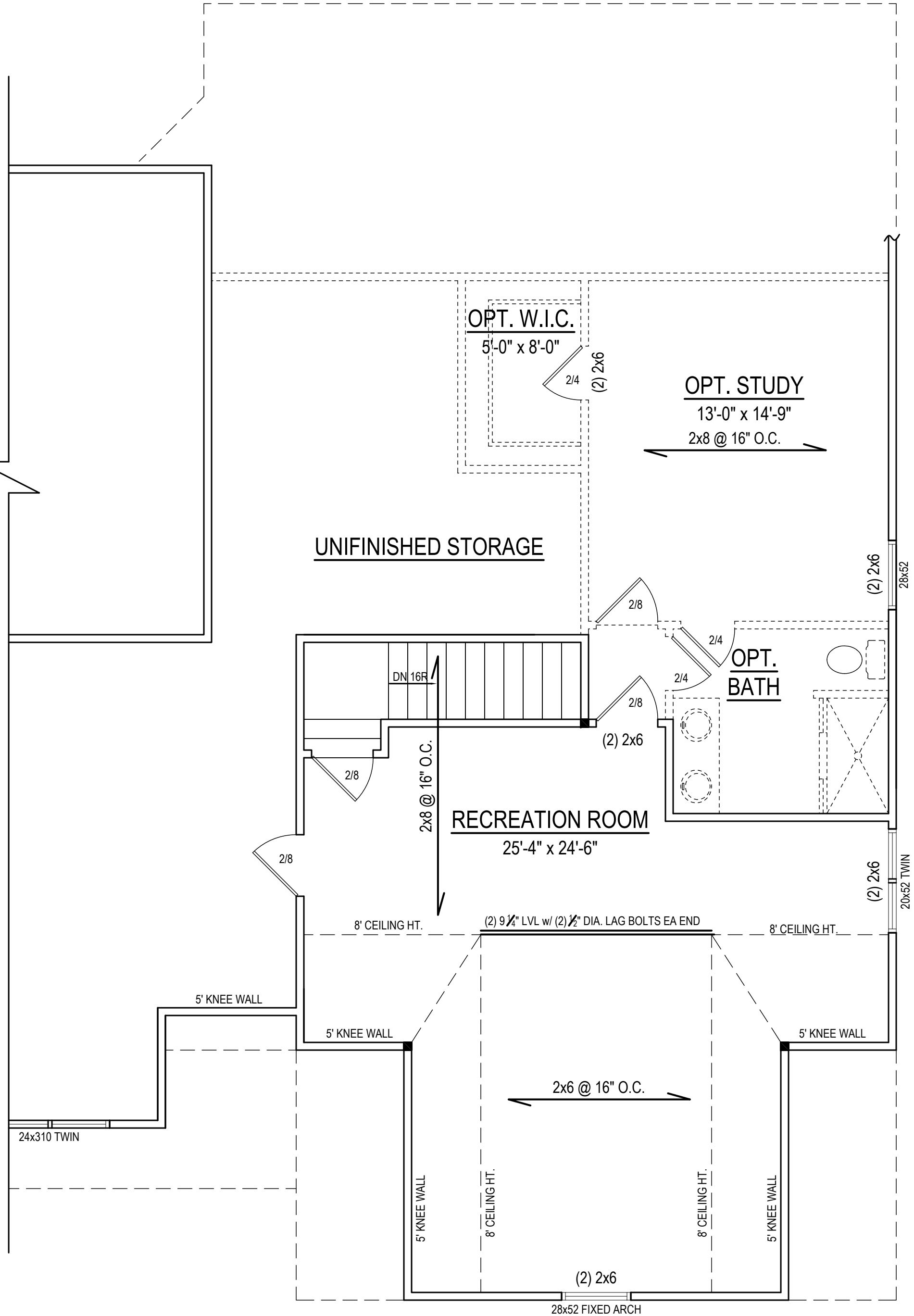
Project No. 17-028



FIRST FLOOR STRUCTURAL PLAN
1/4" = 1'-0" FOR 24"x36" PAPER
1/8" = 1'-0" FOR 11"x17" PAPER
CEILING HT. = 9'-0"

BRACED WALL NOTES

THIS PLAN SHALL BE CONTINUOUSLY BRACED WITH WOOD STRUCTURAL PANELS PER SECTION R602.10.3 OF THE NC RESIDENTIAL BUILDING CODE. NOTE ALL WALL BRACING LINES SATISFY THE MINIMUM AMOUNTS OF WALL BRACING PER CODE. GARAGE DOOR HEADER SHALL BE CONSTRUCTED PER FIGURE R602.10.1, METHOD PF.



SECOND FLOOR STRUCTURAL PLAN
1/4" = 1'-0" FOR 24"x36" PAPER
1/8" = 1'-0" FOR 11"x17" PAPER
CEILING HT. = 8'-0"

REVISIONS		
No.	Date	Remarks
1		
2		
3		
4		

Project Name: **Kay Ridge**
Client Name: **Reese Construction**
3720 Lucky Dr.
Apex, NC 27539



Project Name: **Kay Ridge**
Client Name: **Reese Construction**
3720 Lucky Dr.
Apex, NC 27539

Project Name: **Kay Ridge**
Client Name: **Reese Construction**
3720 Lucky Dr.
Apex, NC 27539

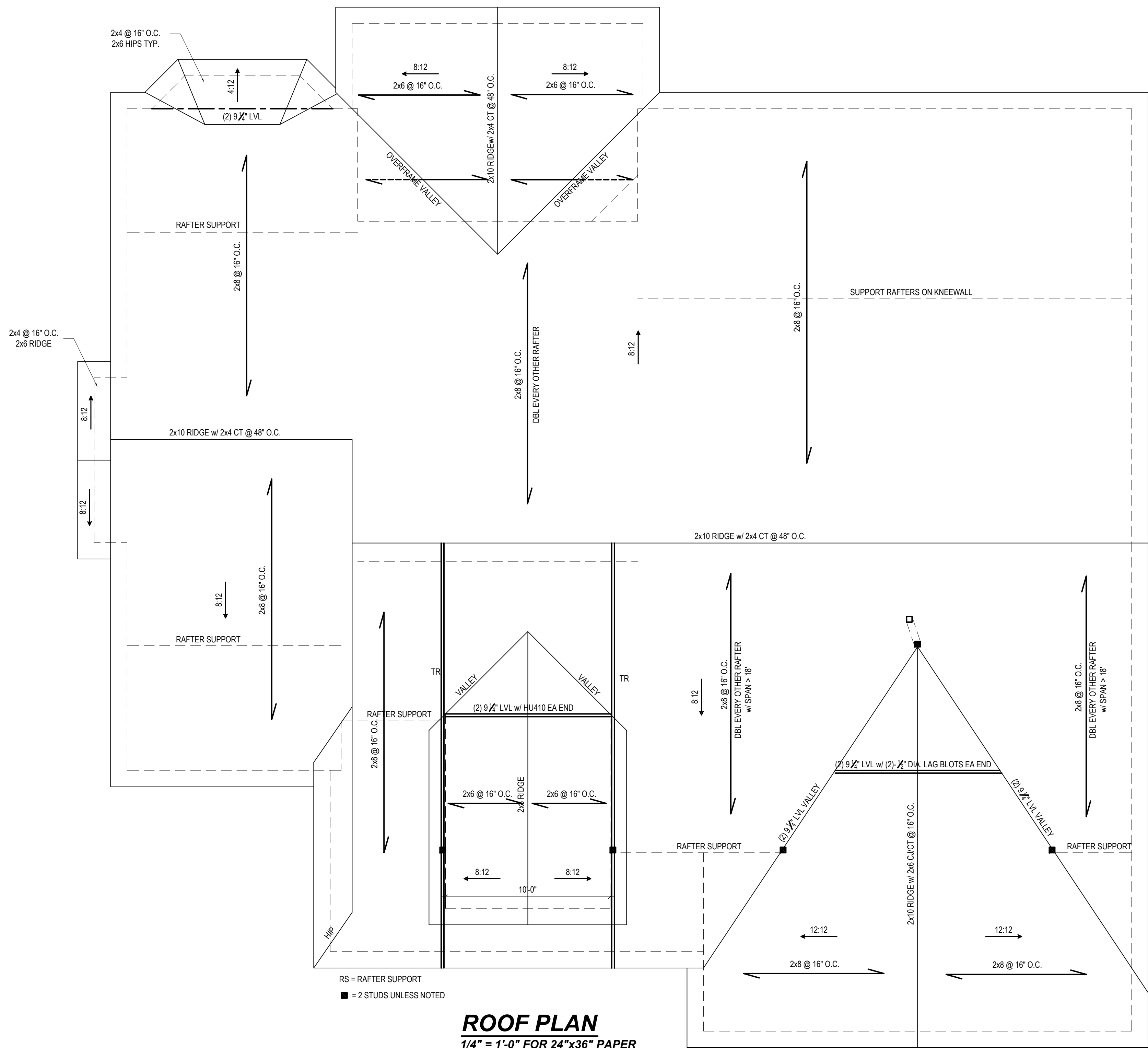
FIRST/SECOND FLOOR
STRUCTURAL

Sheet Number
4
of 7

Website: www.KandAHomeDesigns.com

Email: Kent@KandAHomeDesigns.com

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



Mark E. Jones
NORTH CAROLINA
PROFESSIONAL
ENGINEER
032702
11-14-25
MARK E. JONES

Structural Engineering by:
Mark E. Jones, PE
6425 Glen Dean Court
Raleigh, NC 27603
Phone: (919) 395-5618

*Engineers seal applies only to structural components on this document. Seal does not include construction means, methods, techniques, sequences, procures or safety precautions.
*Any deviations or discrepancies on plans are to be brought to the immediate attention of Mark E. Jones, PE. Failure to do so will void Mark E. Jones, PE liability.
Structural analysis based on NC Residential Building Code 2018.

Project No. 17-028

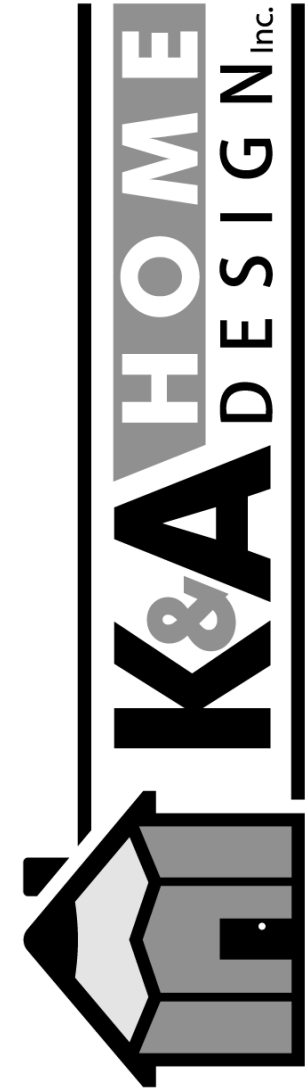
Project #:	16KB-247
Date:	6-15-23
Drawn/Design By:	KBB
Scale:	1/4" = 1'-0"

REVISIONS		
No.	Date	Remarks
1		
2		
3		
4		

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

K&A HOME DESIGN INC.

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



Project Name:
Kay Ridge

Client Name:
Reese Construction
3720 Lucky Dr.
Apex, NC 27539

ROOF LAYOUT

Sheet Number
5
of 7

STRUCTURAL NOTES

1) ALL CONSTRUCTION SHALL CONFORM TO THE LATEST REQUIREMENTS OF "NORTH CAROLINA STATE 2018 RESIDENTIAL BUILDING CODE", IN ADDITION TO ALL LOCAL CODES AND REGULATIONS.

2) DESIGN LOADS:

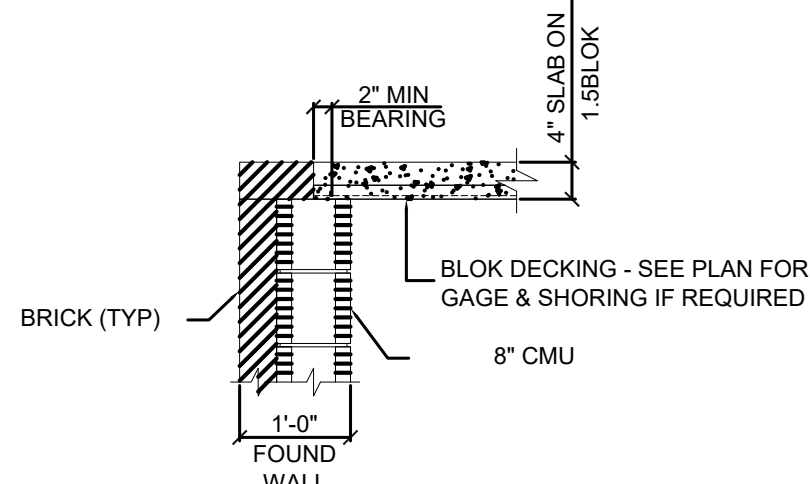
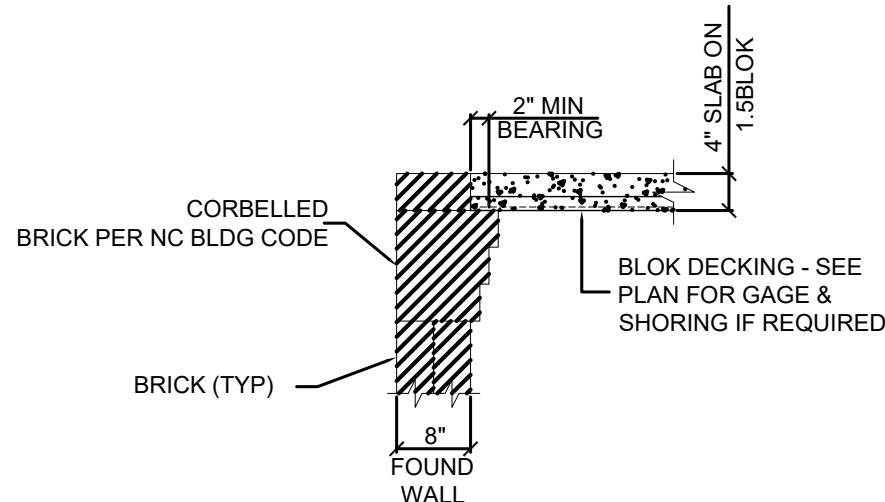
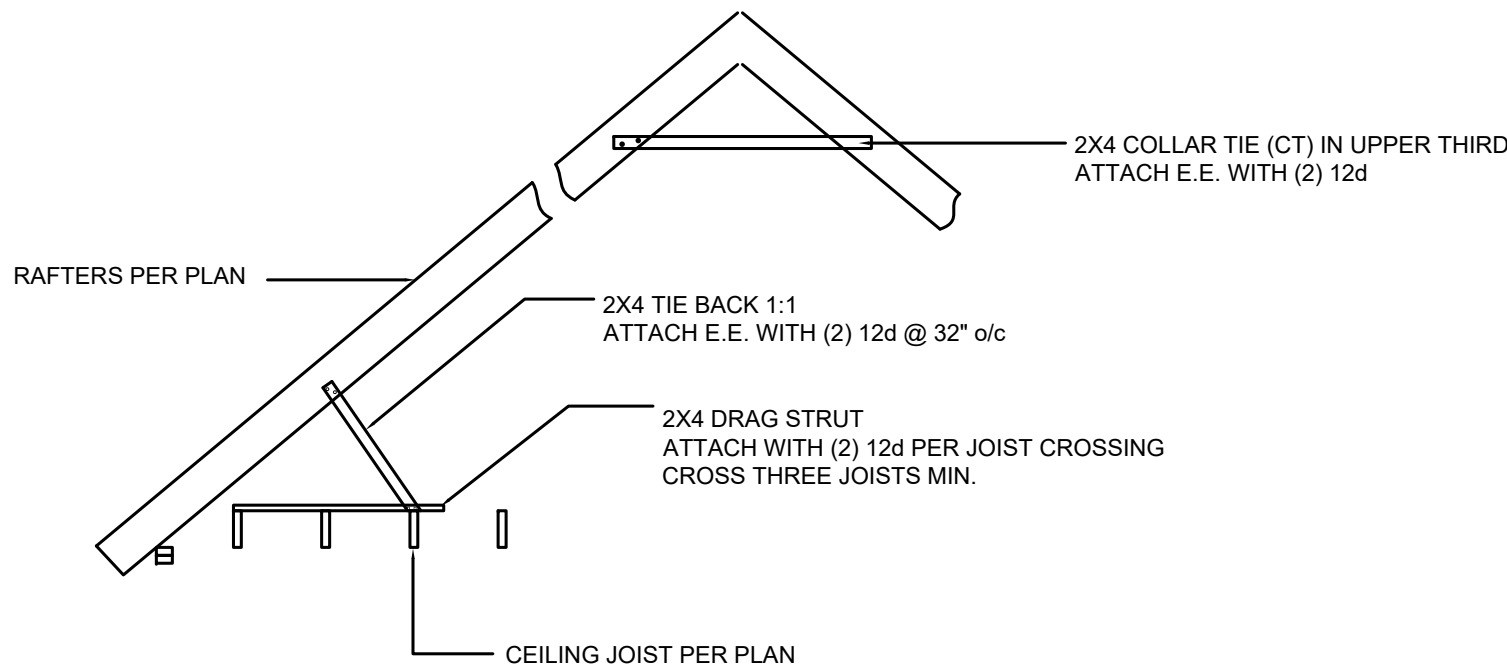
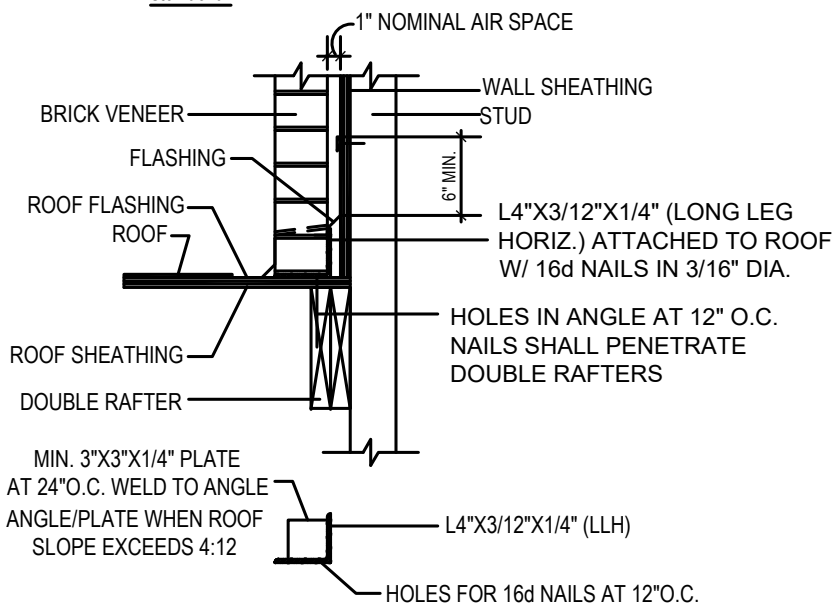
	LIVE LOAD (PSF)	DEAD LOAD (PSF)	DEFLECTION (DL & LL)
ALL FLOORS	40	10	L/360
ATTIC (pull down access)	20	10	L/240
ATTIC (no access)	10	5	L/240
EXTERNAL BALCONY	60	10	L/360
ROOF	20	10	L/180
ROOF TRUSS	20	20	L/240
WIND LOAD	[BASED ON 120 MPH (3-second gusts)]		

- 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 2018 NC 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 (F_b = 800 PSI) UNO.
- 7) ALL FRAMING LUMBER EXPOSED TO THE ELEMENTS SHALL BE TREATED MATERIAL.
- 8) 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.
- 9) 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 REQD, ALL PANELS SHALL BE FASTENED AT 3" O.C. AT EDGES AND 6" O.C. AT INT. SUPPORTS.
- 10) 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.
- 11) 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
- 12) FOUNDATION DRAINAGE-DAMP PROOFING OR WATERPROOFING PER SECTION 405 AND 406 OF 2018 NC BUILDING CODE
- 13) 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/SQFT FOR ROOF PITCHES OF 0/12 TO 2.25/12
34.8 LBS/SQFT FOR ROOF PITCHES OF 2.25/12 TO 7/12
21.0 LBS/SQFT FOR ROOF PITCHES OF 7/12 TO 12/12
** MEAN ROOF HEIGHT 30' OR LESS
- 14) FOR ROOF SLOPES FROM 2:12 THROUGH 4:12, BUILDER TO INSTALL 2 LAYERS OF 15# FELT PAPER
- 15) 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

ALLOWABLE SPANS FOR LINTELS
SUPPORTING MASONRY VENEER

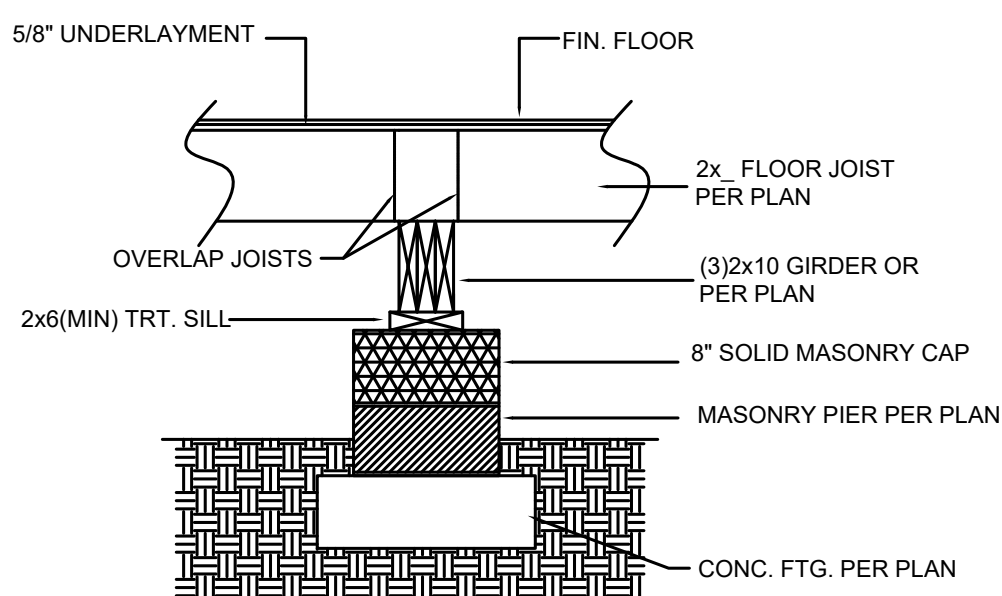
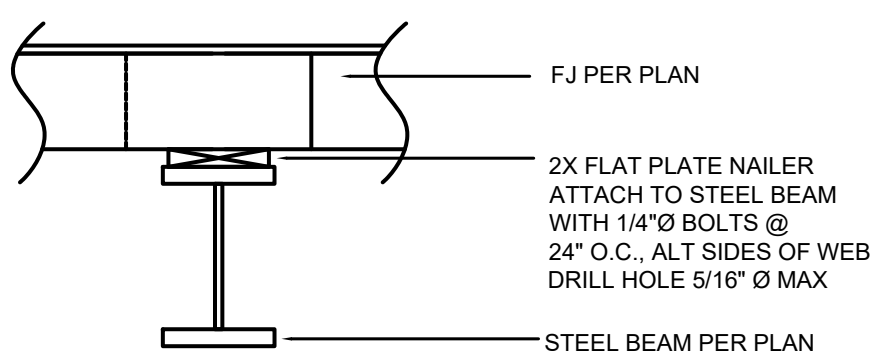
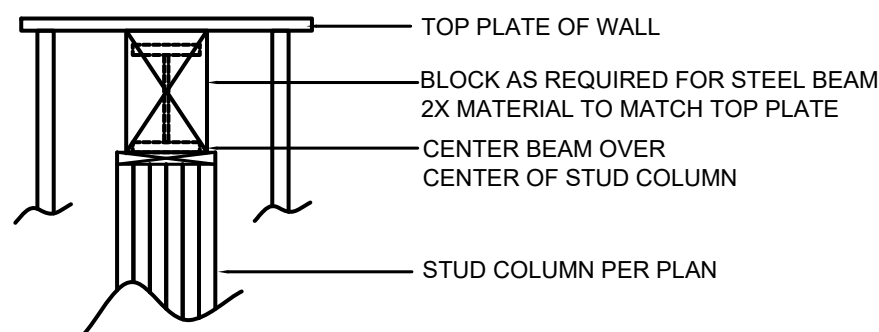
Size of Angles	(1,3) Maximum Span
3-1/2" x 3-1/2" x 1/4"	6'-0"
5" x 3-1/2" x 5/16"	10'-0"

1. Long leg of the angle shall be placed in a vertical position.
2. Spans over 4' shall be shored up until cured.
3. Steel members indicated are adequate typical examples; other steel members including light gauge steel meeting structural design requirements may be used.
4. Spans over 10'-0" shall be designed in accordance with approved standard.

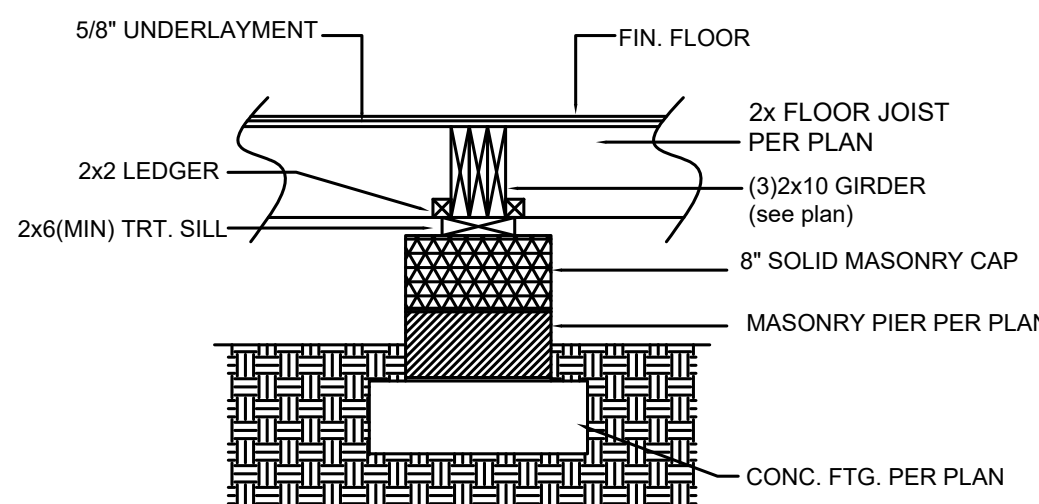
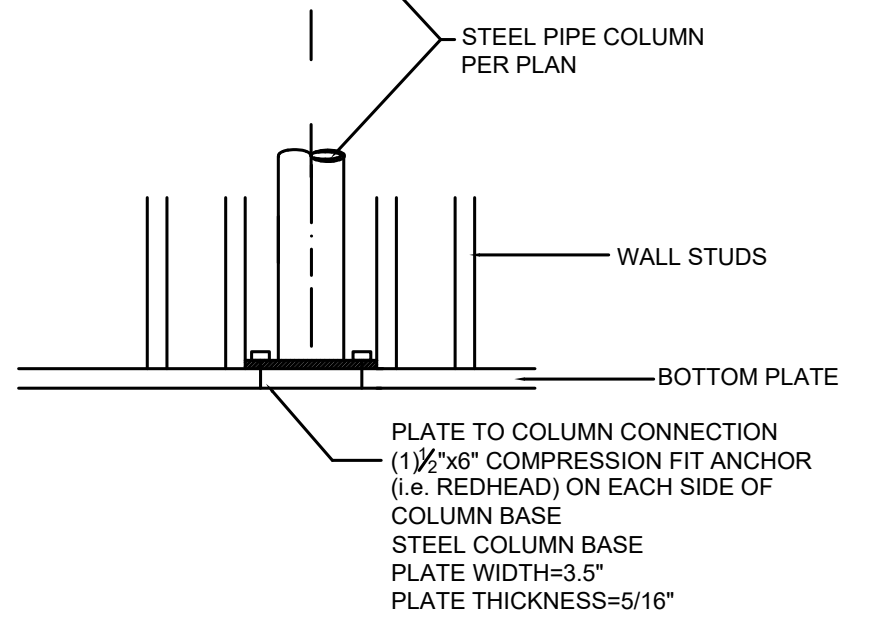
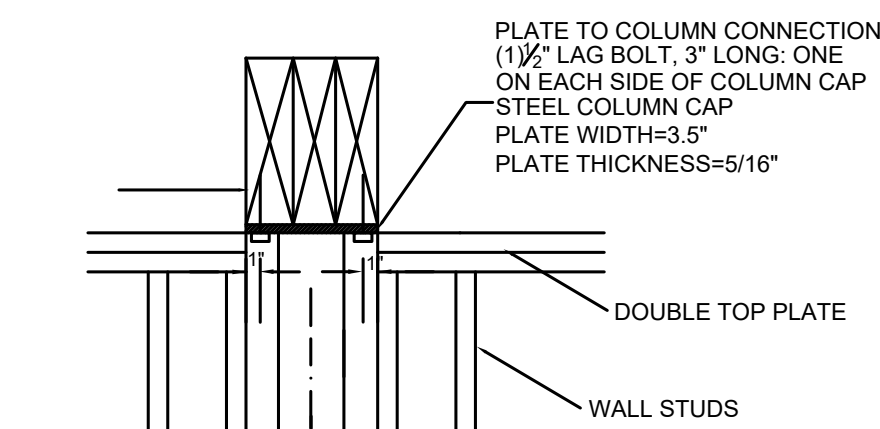
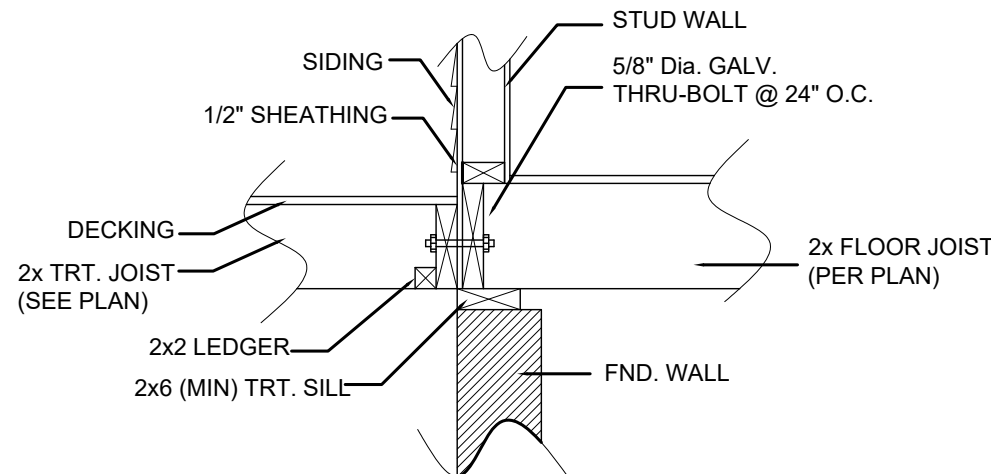
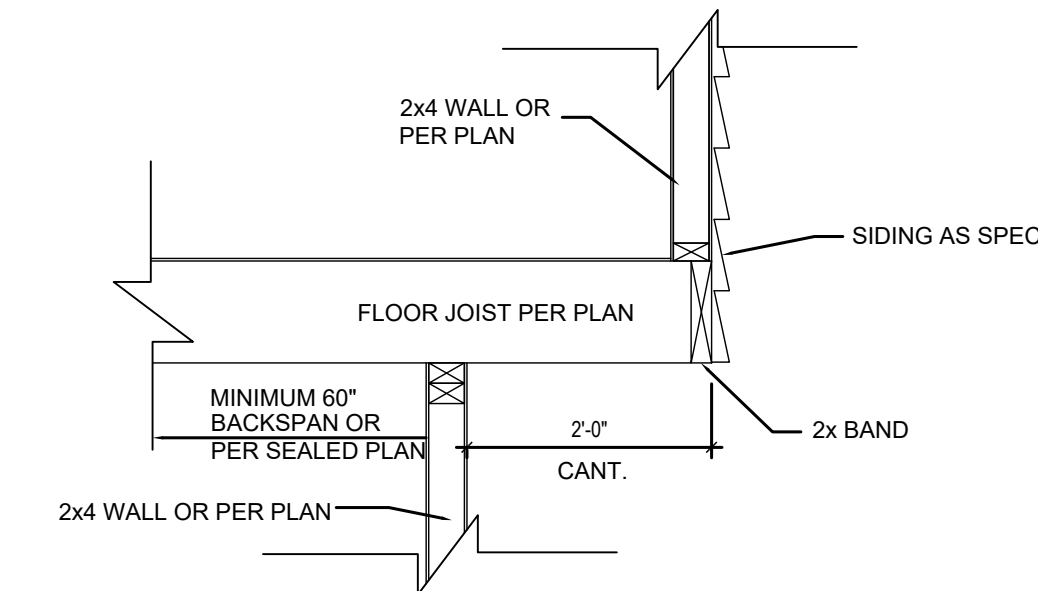


CONCRETE SLAB ON METAL DECKING DETAIL

CLIMATE ZONE	MAXIMUM GLAZING U-FACTOR	MINIMUM INSULATION R-VALUE					
		CEILING	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



DROPPED GIRDER DETAIL



FLUSH GIRDER DETAIL

1. MAXIMUM HEIGHT OF DECK SUPPORT POSTS AS FOLLOWS:

POST SIZE *	MAX POST HEIGHT **
4 X 4	8'-0"
6 X 6	20'-0"
***	OVER 20'-0"

- * THIS TABLE IS BASED ON NO. 2 TREATED SOUTHERN PINE POSTS.
** FROM TOP OF FOOTING TO BOTTOM OF GIRDER
*** DECKS WITH POST HEIGHTS OVER 20'-0" SHALL BE DESIGNED AND SEALED BY A PROFESSIONAL ENGINEER OR REGISTERED ARCHITECT.

2. DECKS SHALL BE BRACED TO PROVIDE LATERAL STABILITY BY ONE OF THE METHODS:

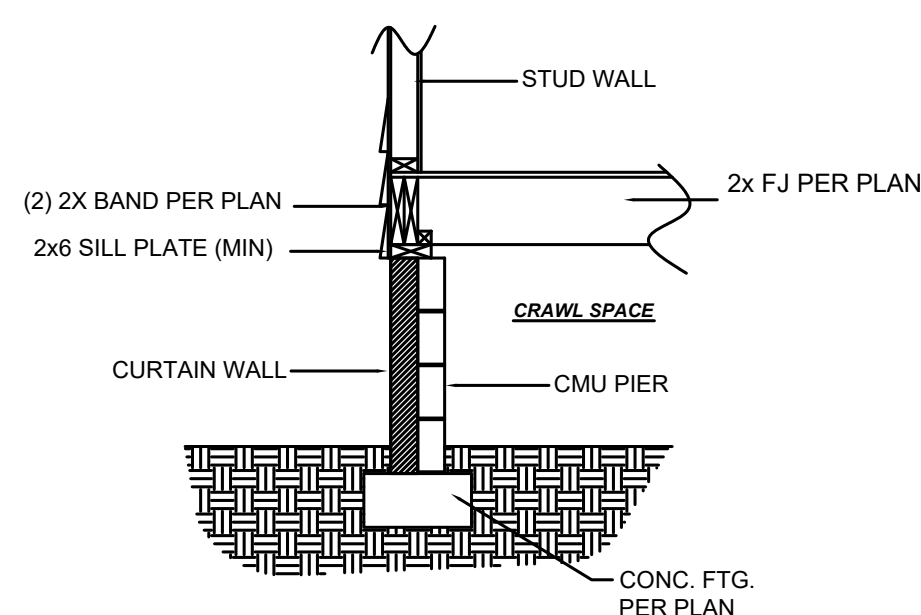
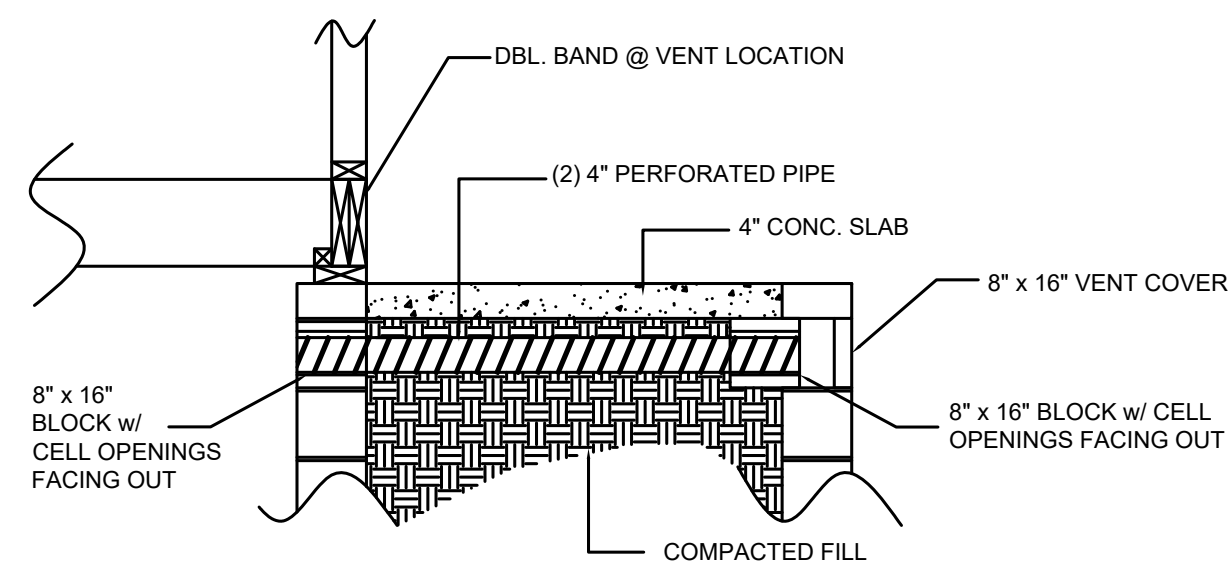
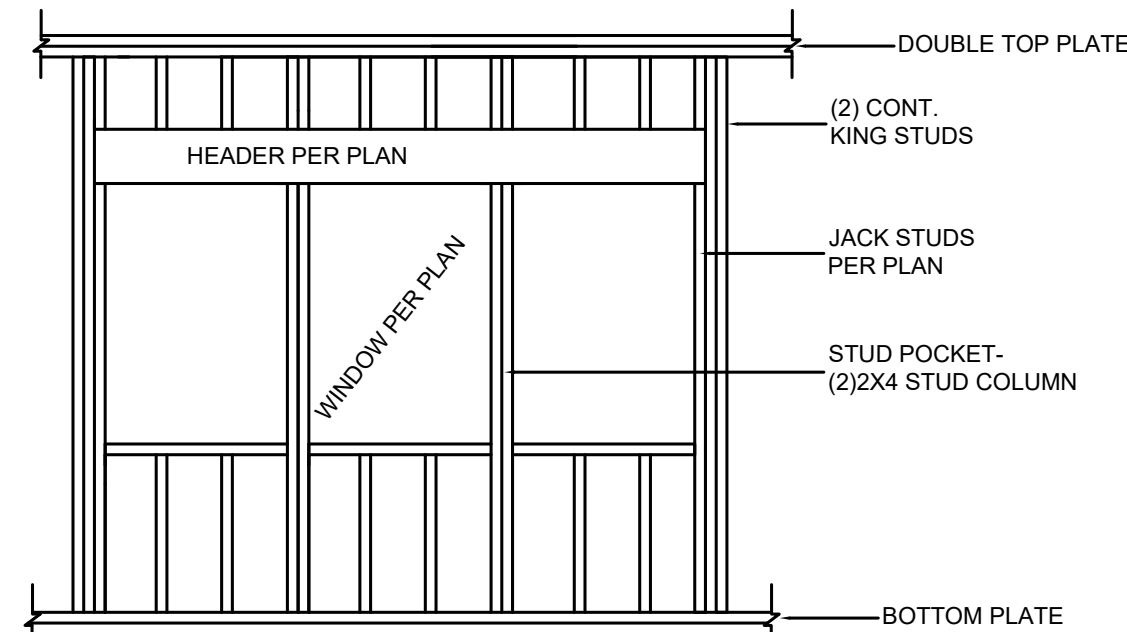
A. WHEN THE DECK FLOOR HEIGHT IS LESS THAN 4' AND THE DECK IS ATTACHED TO THE STRUCTURE IN ACCORDANCE WITH SECTION AM104, LATERAL BRACING IS NOT REQUIRED.

B. 4X4 WOOD KNEE BRACES MAY BE PROVIDED ON EACH COLUMN IN BOTH DIRECTIONS. THE KNEE BRACES SHALL ATTACH TO EACH POST AT A POINT NOT LESS THAN 1/4 OF THE POST LENGTH FROM THE TOP OF THE POST, AND THE BRACES SHALL BE ANGLED BETWEEN 45° AND 60° FROM THE HORIZONTAL. KNEE BRACES SHALL BE NAILED TO THE POST AND THE GIRDER OR BOLTED WITH ONE 5/8" HOT DIPPED GALVANIZED BOLT AT EACH END OF THE BRACE.

C. FOR FREESTANDING DECKS WITHOUT KNEE BRACES OR DIAGONAL BRACING, LATERAL STABILITY MAY BE PROVIDED BY EMBEDDING THE POSTS IN ACCORDANCE WITH THE FOLLOWING:

POST SIZE	MAX TRIBUTARY AREA	MAX POST HEIGHT	EMBEDMENT DEPTH	CONCRETE DIAMETER
4 X 4	48 SF	4'-0"	2'-6"	1'-0"
6 X 6	120 SF	6'-0"	3'-6"	1'-8"

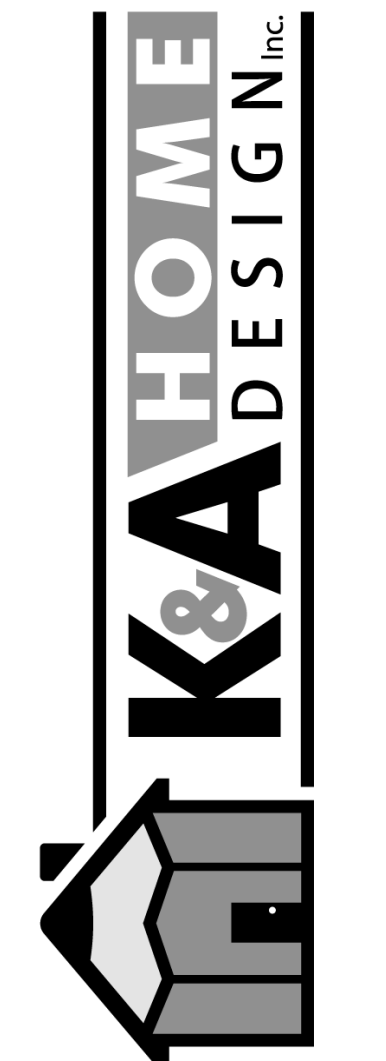
D. 2x6 DIAGONAL VERTICAL ROSS-BRACING MAY BE PROVIDED IN TWO PERPENDICULAR DIRECTIONS FOR FREESTANDING DECKS OR PARALLEL TO THE STRUCTURE AT THE EXTERIOR COLUMN LINE FOR ATTACHED DECKS.



Project #: 16KB-247
Date: 6-15-23
Drawn/Design By: KBB
Scale: NTS

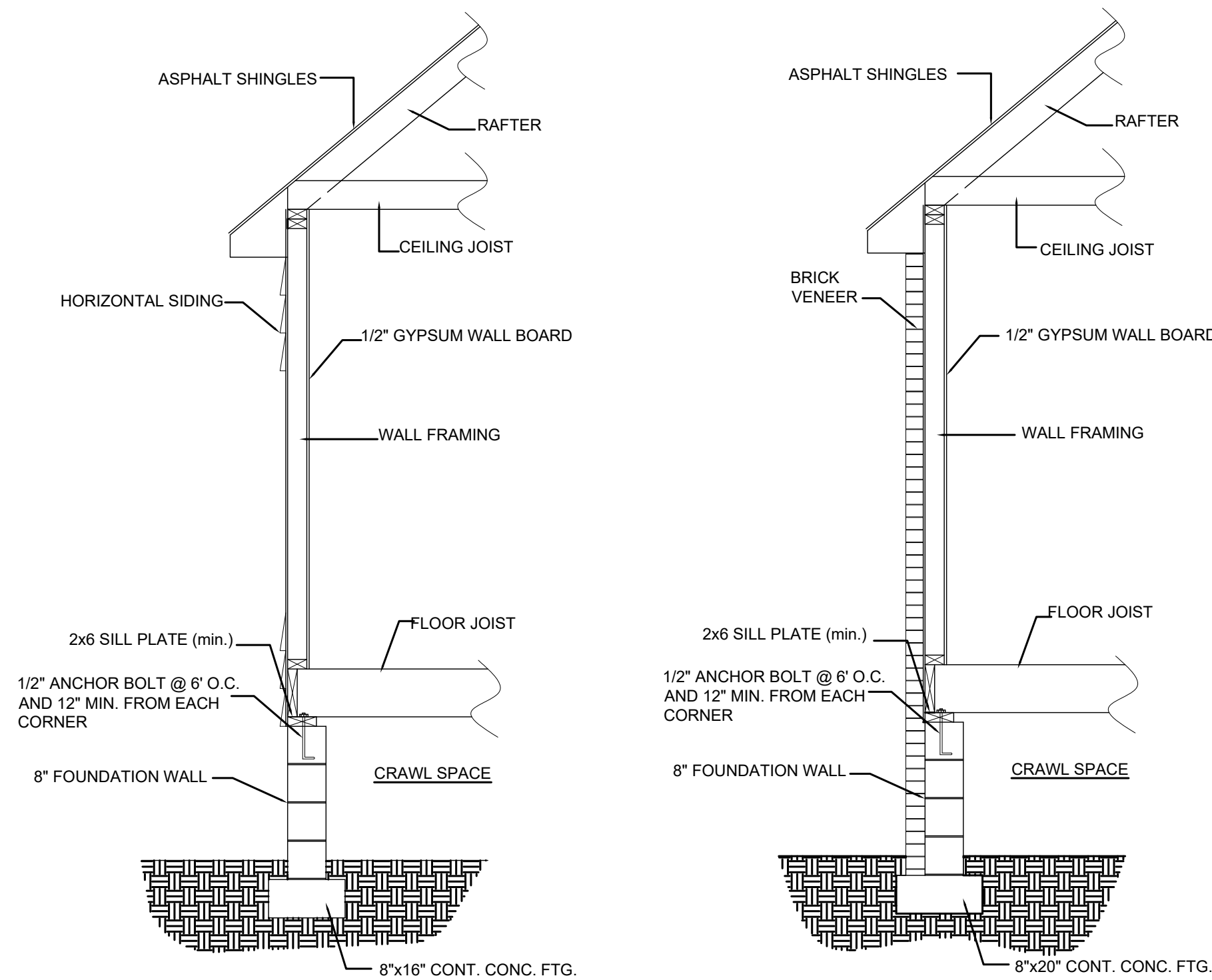
REVISIONS		
No.	Date	Remarks
1		
2		
3		
4		

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

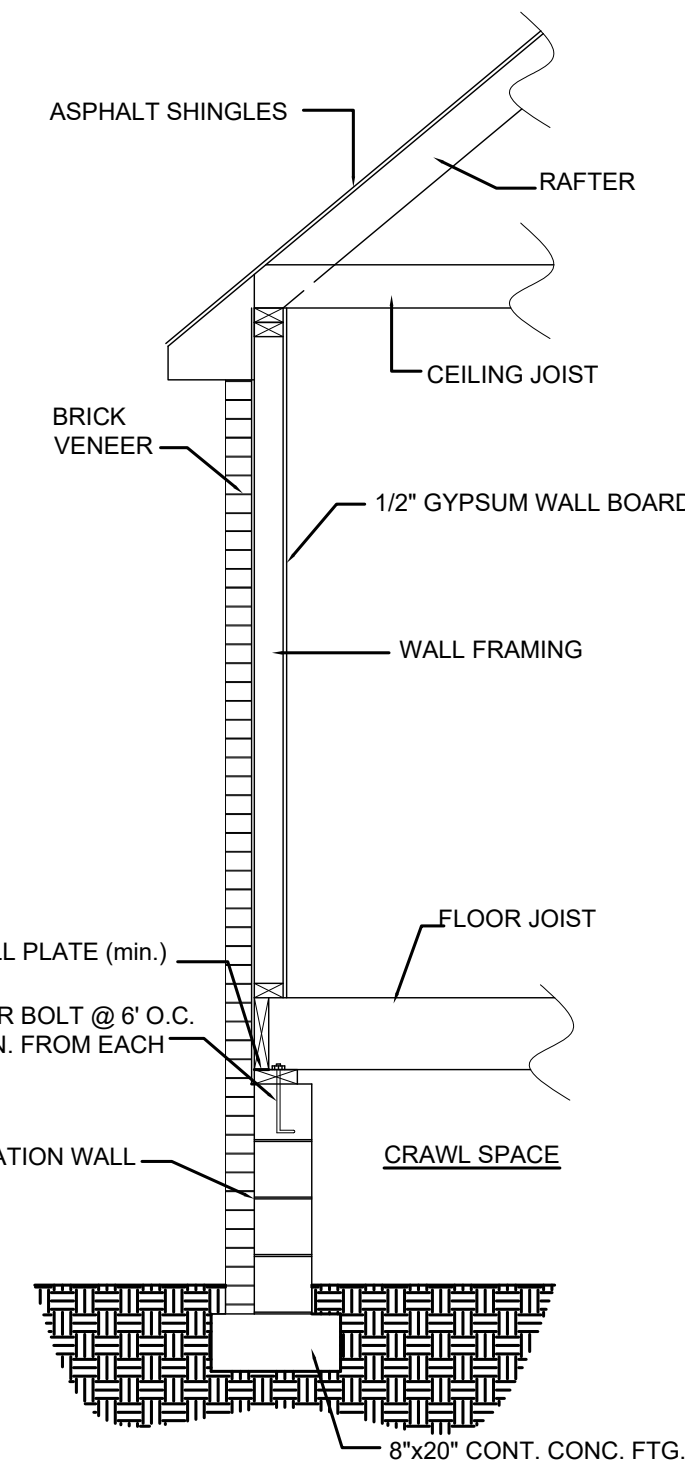


Kay Ridge

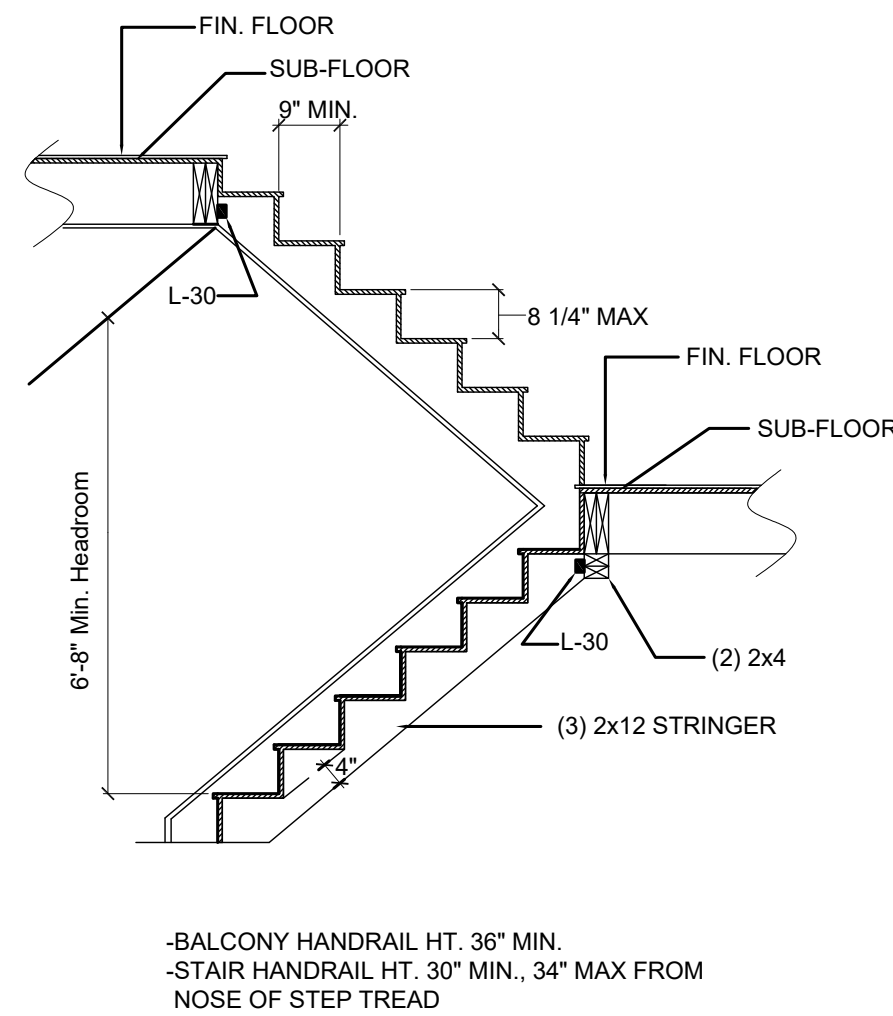
Reese Construction
3720 Lucky Dr.
Apex, NC 27539



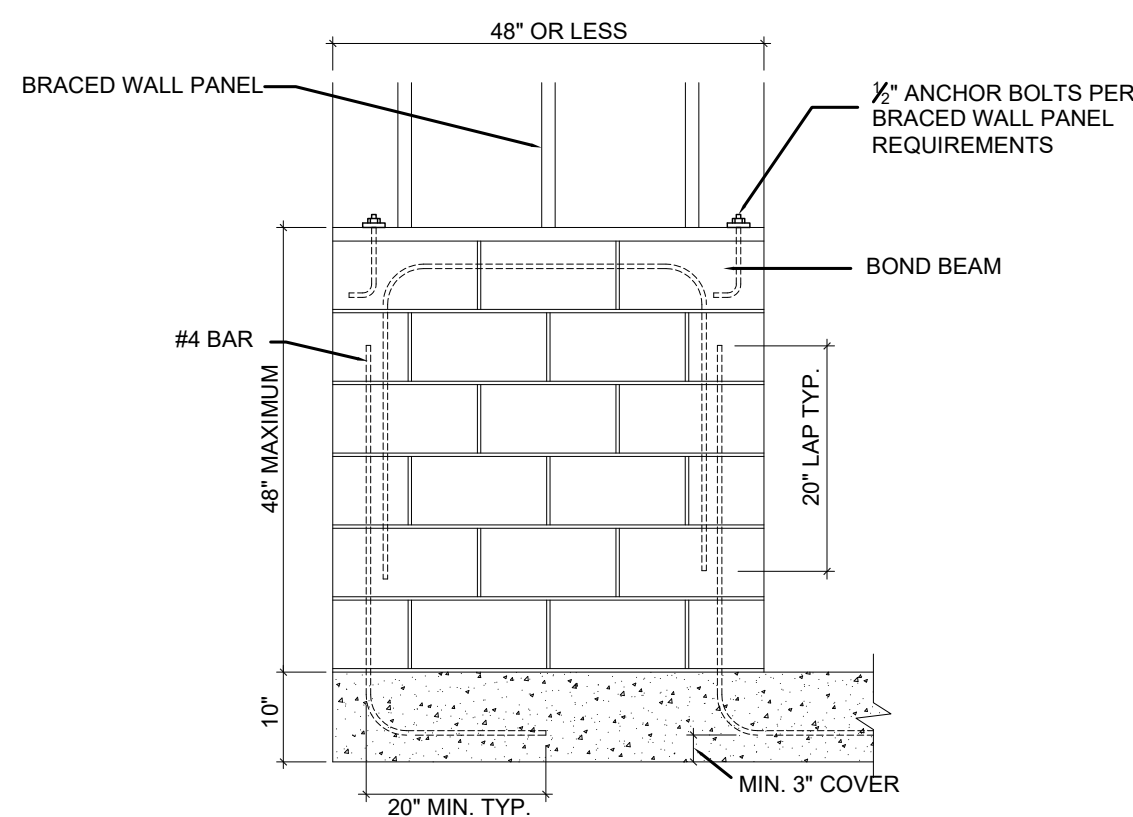
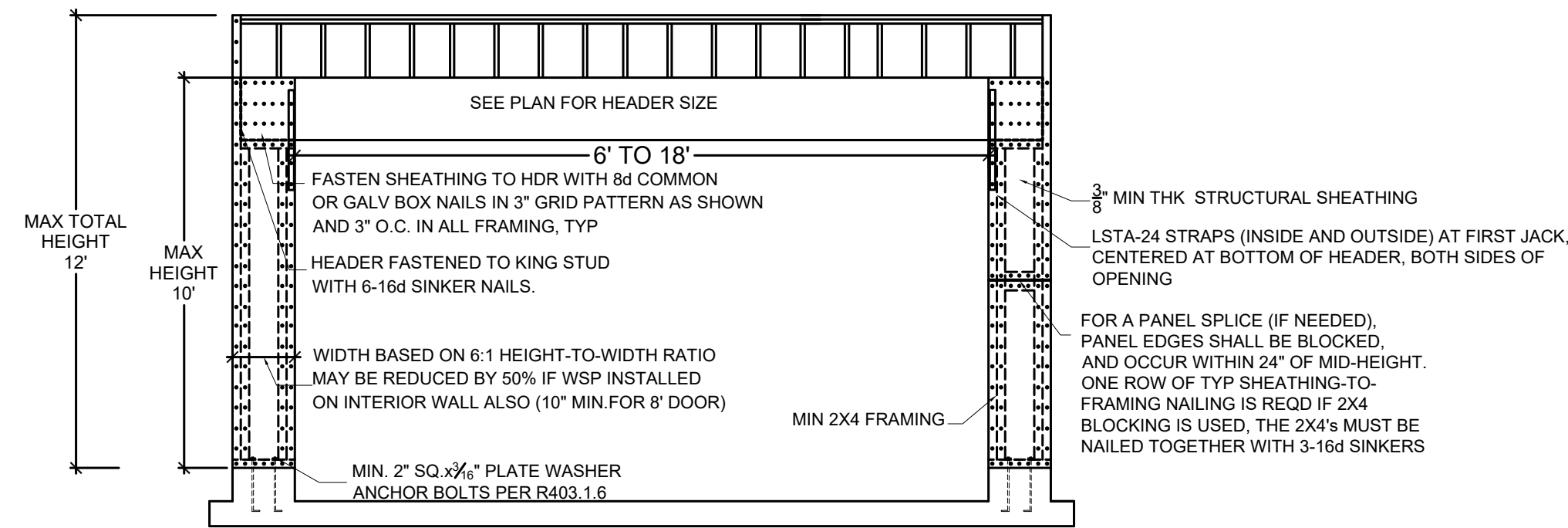
TYPICAL WALL DETAIL



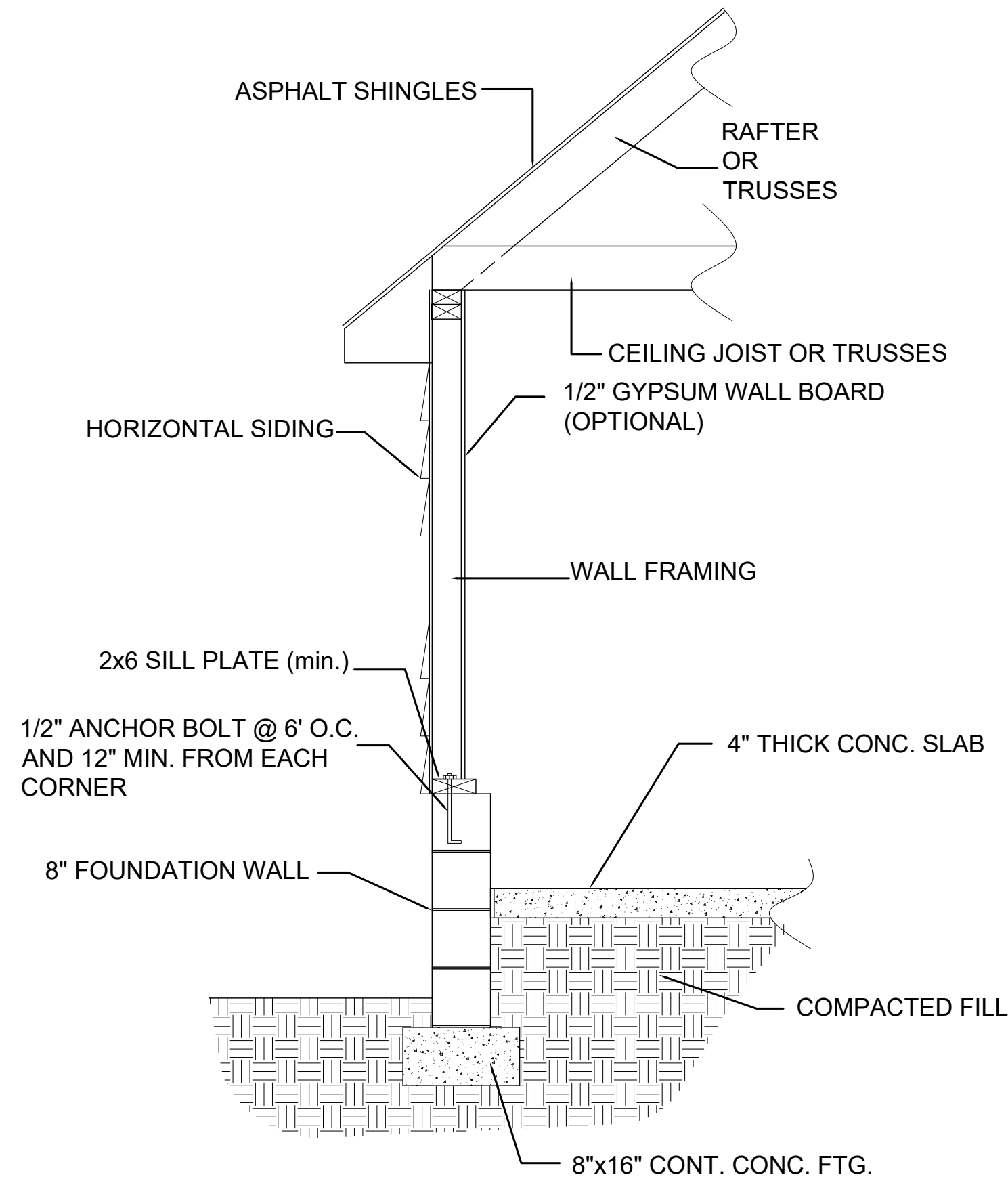
TYPICAL WALL DETAIL - BRICK VENEER



TYPICAL STAIRWAY DETAIL



BRACED WALL LINE STEMWALL DETAIL



TYPICAL GARAGE WALL DETAIL



Project #:	16KB-247
Date:	6-15-23
Drawn/Design By:	KBB
Scale:	NTS

REVISIONS		
No.	Date	Remarks
1		
2		
3		
4		

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



Kay Ridge

Reese Construction
3720 Lucky Dr.
Apex, NC 27539

DETAILS

Sheet Number

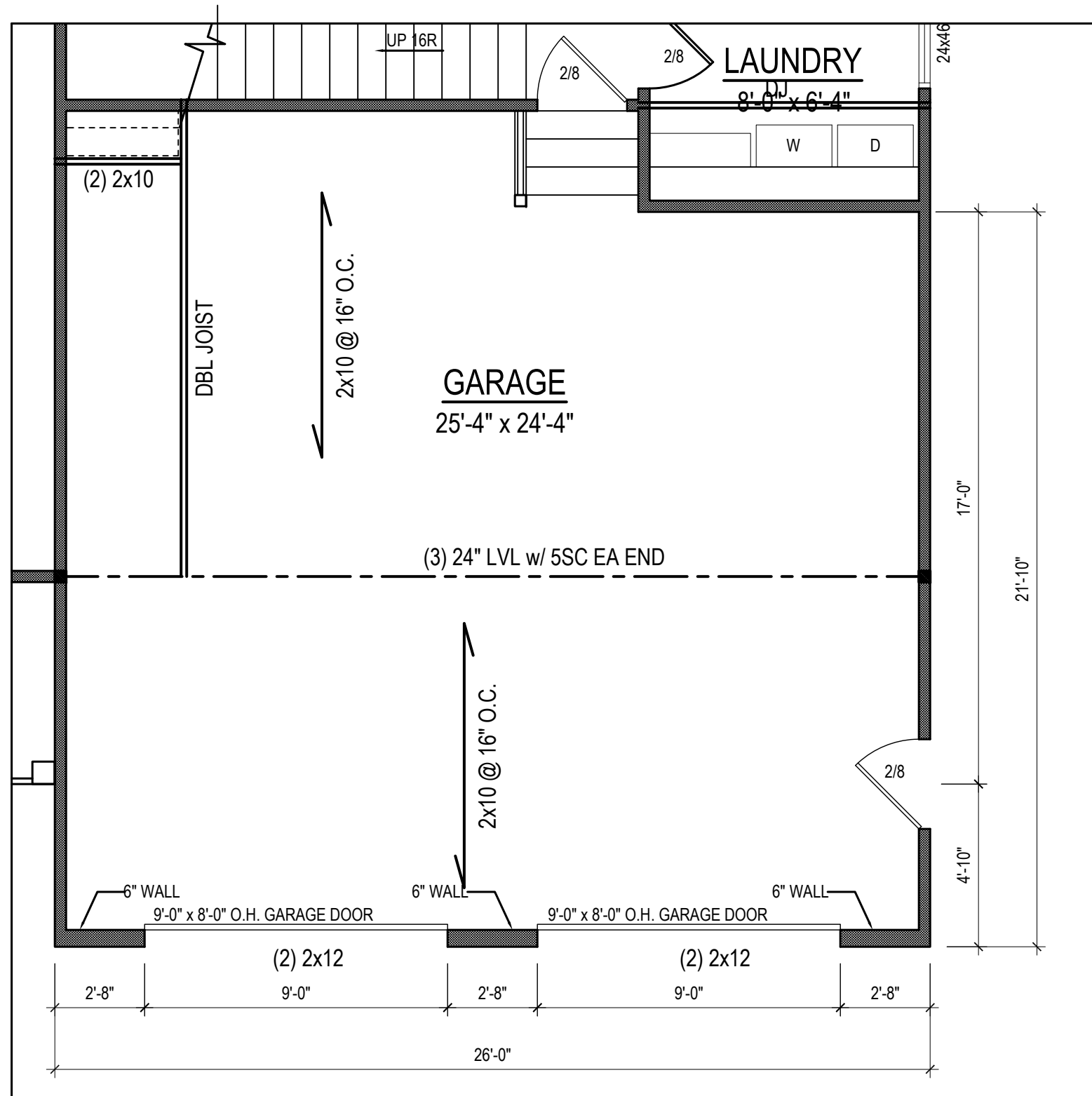
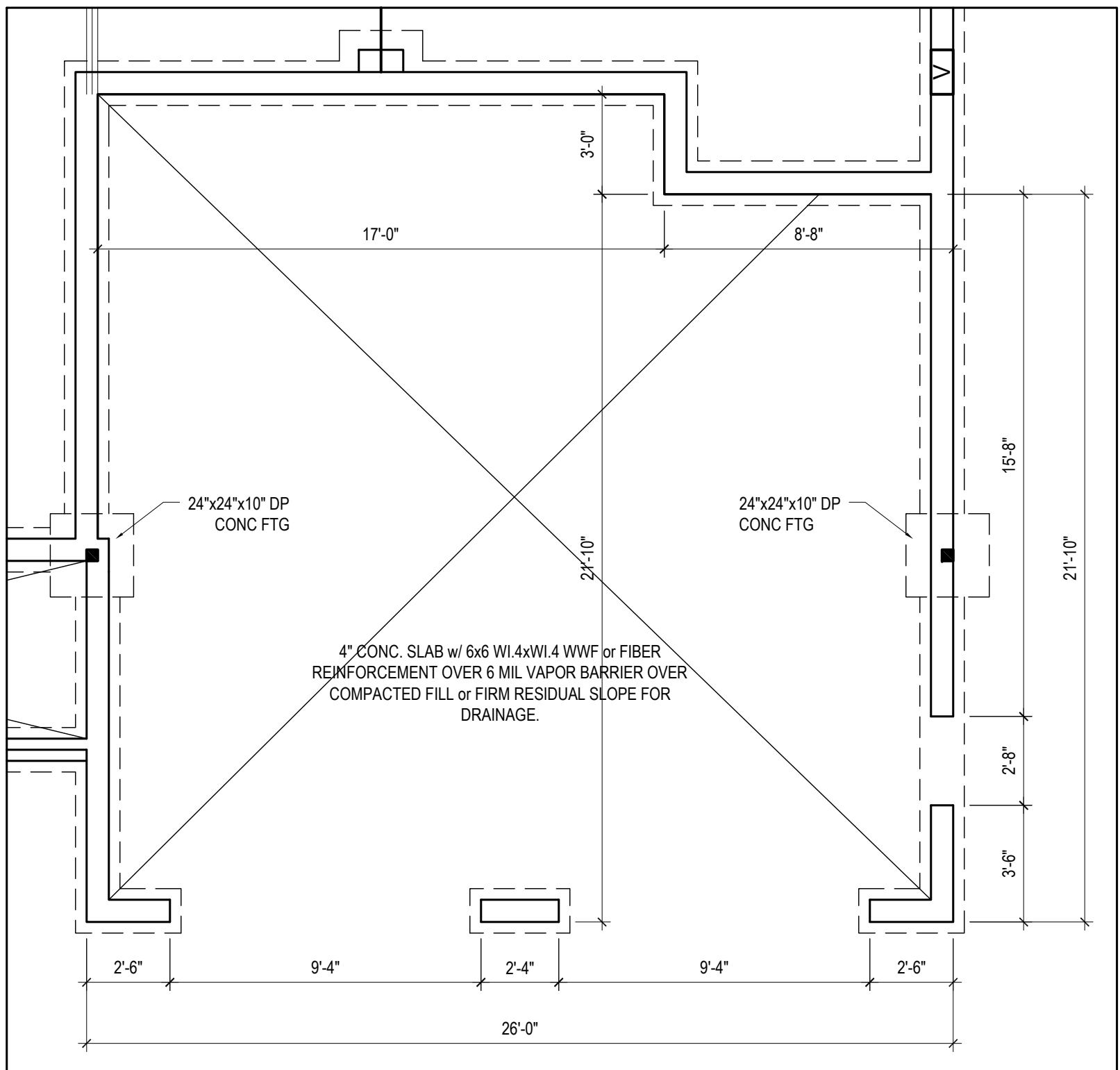
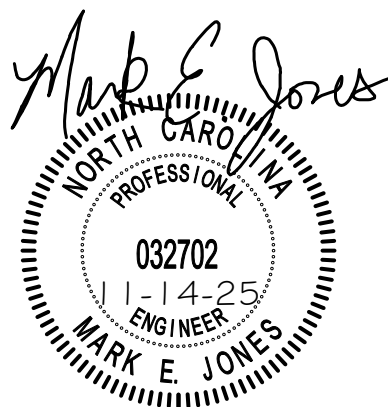
7

of 7



FRONT ELEVATION

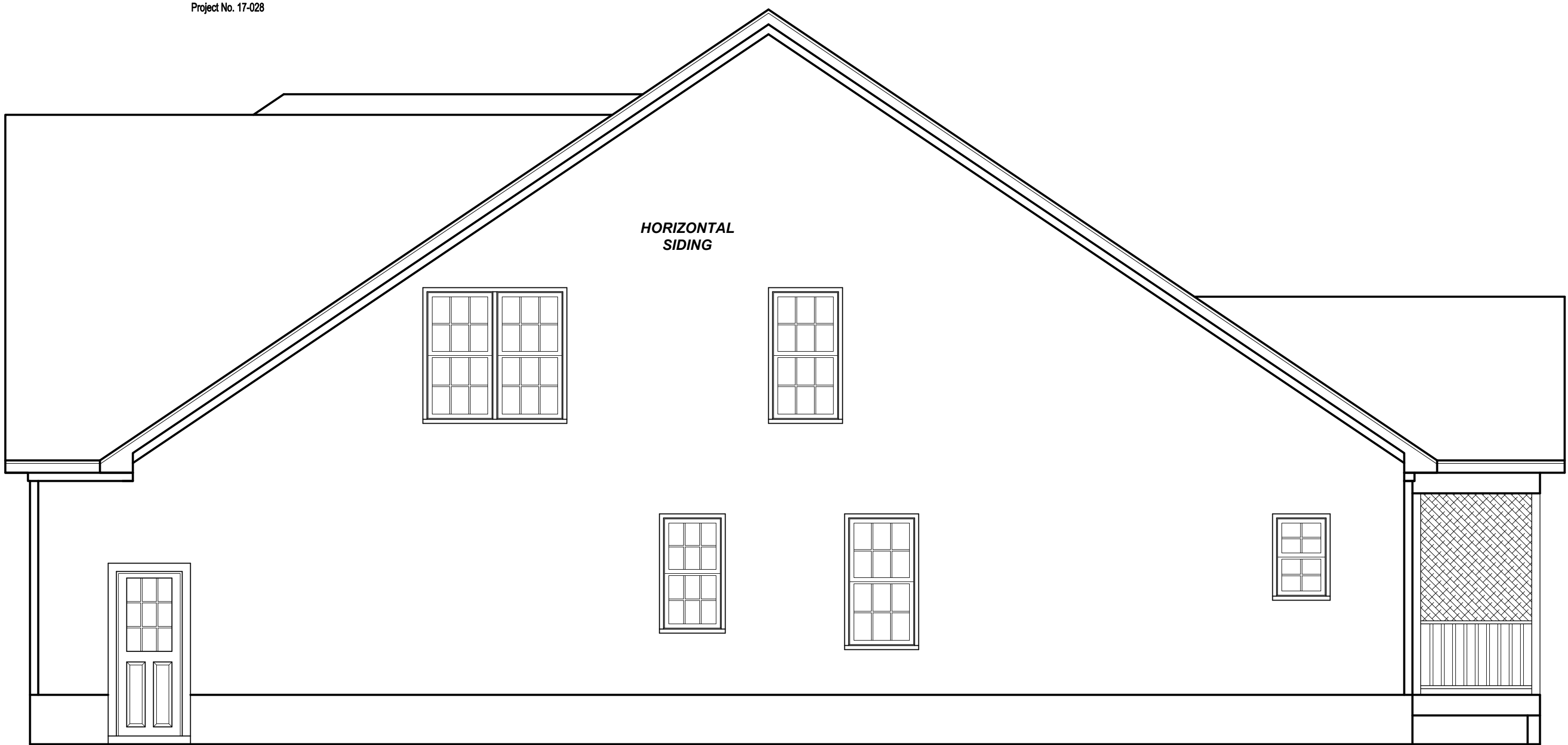
1/4" = 1'-0" FOR 24"x36" PAPER
1/8" = 1'-0" FOR 11"x17" PAPER



Structural Engineering by:
Mark E. Jones, PE
6425 Glen Dean Court
Raleigh, NC 27603
Phone: (919) 395-5618

*Engineers seal applies only to structural components on this document. Seal does not include construction means, methods, techniques, sequences, or safety precautions.
*Any deviations or discrepancies on plans are to be brought to the immediate attention of Mark E. Jones, PE. Failure to do so will void Mark E. Jones, PE liability.
Structural analysis based on NC Residential Building Code 2018.

Project No. 17-028



RIGHT ELEVATION

1/4" = 1'-0" FOR 24"x36" PAPER
1/8" = 1'-0" FOR 11"x17" PAPER

Project No.
16KB-247
Date
6-15-23
Drawn/Design By.
KBB
Scale:
1/4" = 1'-0"

REVISIONS

No.	Date	Remarks
1		
2		
3		
4		

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



Kay Ridge

Reese Construction
3720 Lucky Dr.
Apex, NC 27539

FRONT LOAD OPTION

Sheet Number

1
of 1