

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, 2018 EDITION.

SQUARE FOOTAGE

HEATED SQUARE FOOTAGE		UNHEATED SQUARE FOOTAGE	
FIRST FLOOR=	1650	GARAGE=	576
SECOND FLOOR=	N/A	FRONT PORCH=	421
THIRD FLOOR=	N/A	COVERED PORCH=	688
BASEMENT=	N/A	OUTDOOR SHOWER=	25
		STORAGE=	N/A

TOTAL HEATED= 1650 TOTAL UNHEATED= 1710

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 CRAWLSPACE/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.

3335 SQ. FT. OF ATTIC/300= 11.12

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

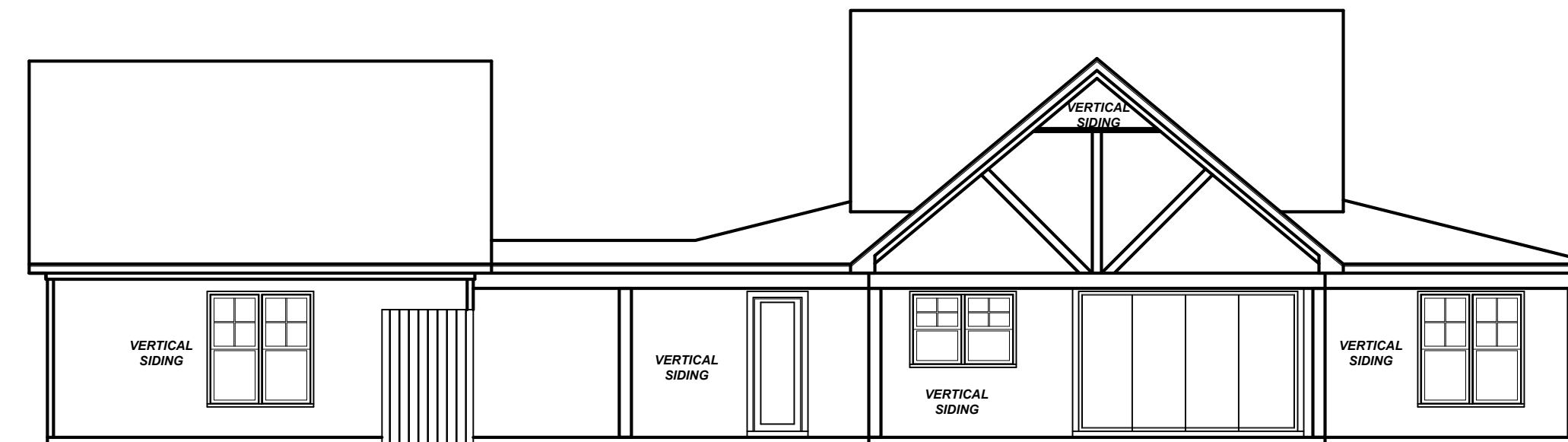
21 LBS. PER SQ. FT. FOR ROOF PITCHES OF 7/12 TO 12/12

**** MEAN ROOF HEIGHT 30' OR LESS**



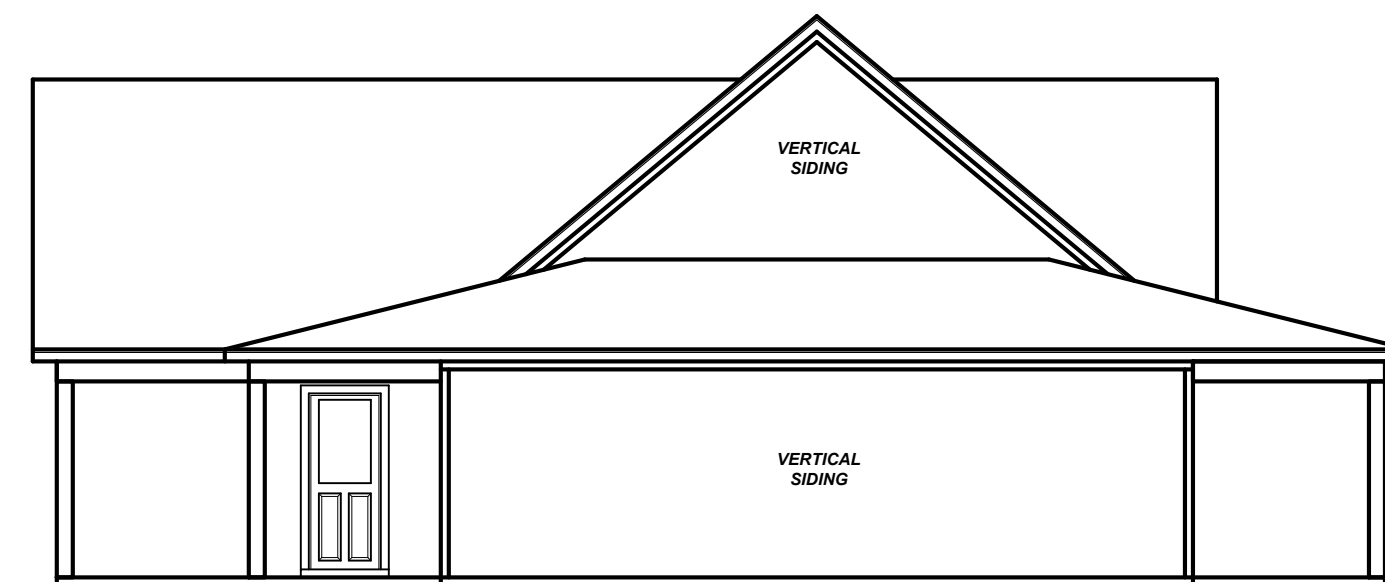
FRONT ELEVATION

1/4" = 1'-0"



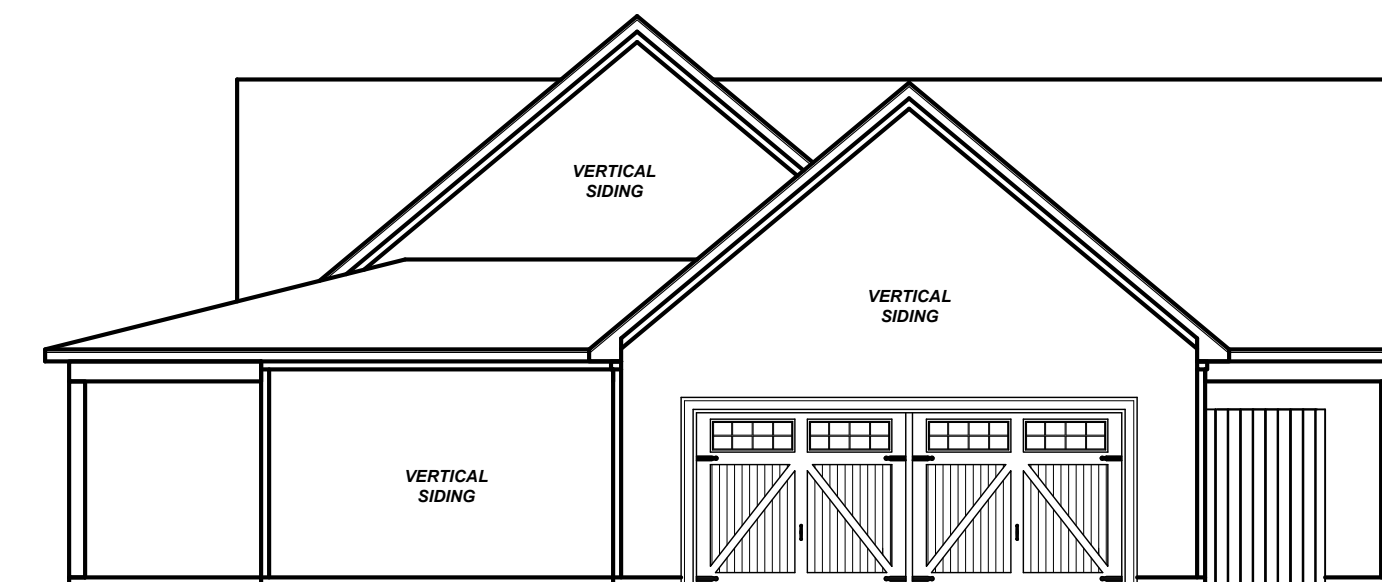
REAR ELEVATION

1/8" = 1'-0"



LEFT ELEVATION

1/8" = 1'-0"



RIGHT ELEVATION

1/8" = 1'-0"

Project #:	22-281
Date:	10-5-22
Drawn/Design By:	KBB
Scale:	REFER TO ELEV.

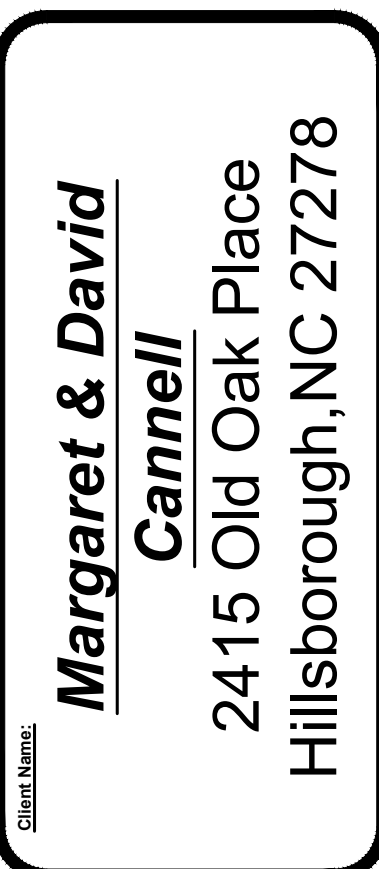
REVISIONS		
No.	Date	Remarks
1		
2		
3		
4		

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



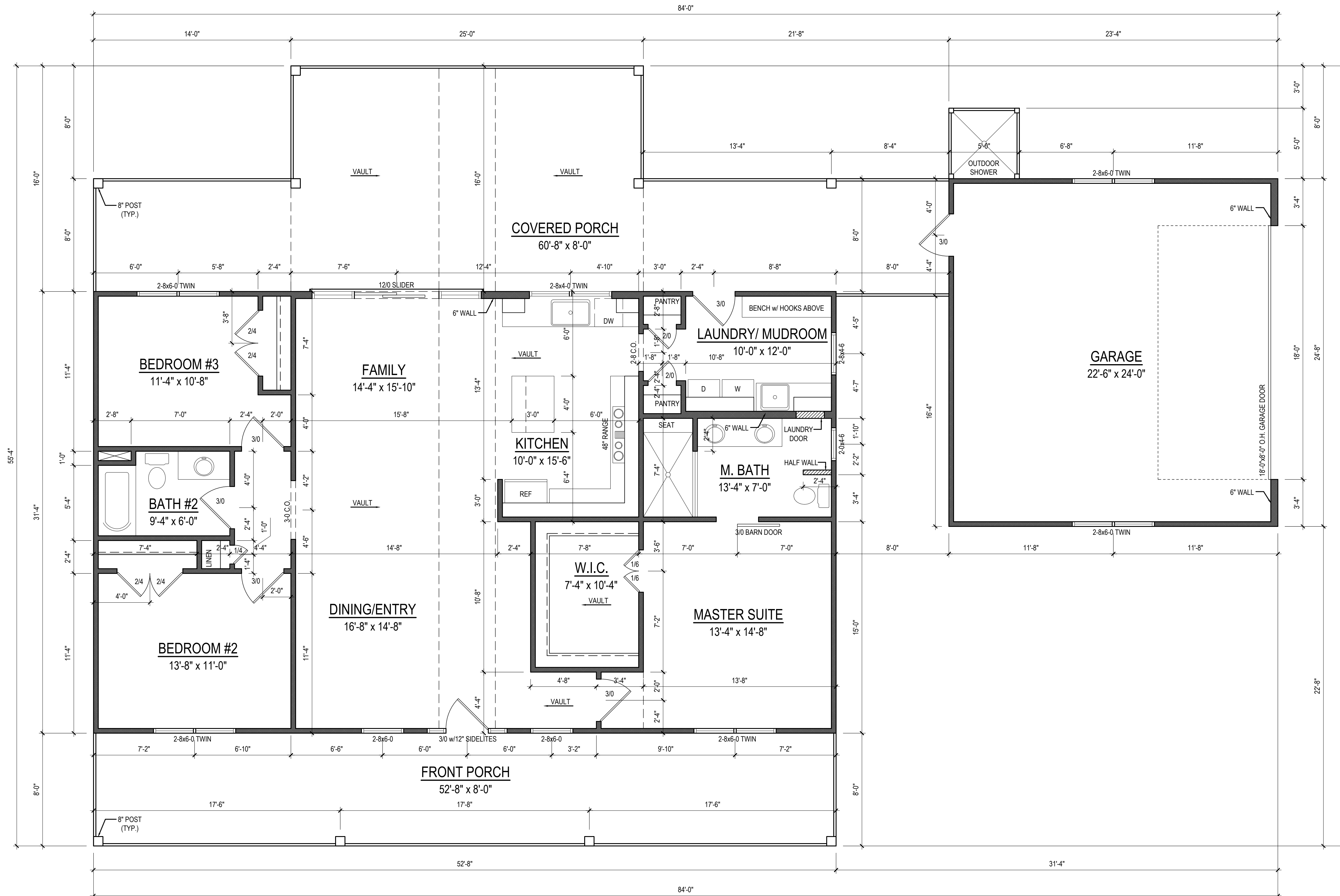
Website: www.KandAHomeDesigns.com

Email: Kent@KandAHomeDesigns.com



ELEVATIONS

Sheet Number
1
of 2



FIRST FLOOR PLAN
 1/4" = 1'-0" CEILING HT. = 9'-0"

Project No.	22-281
Date	10-5-22
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



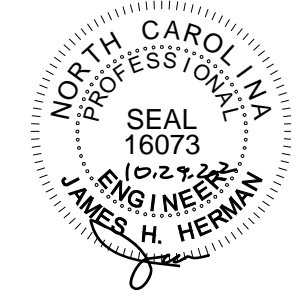
Email: Kent@KandAHomeDesigns.com Website: www.KandAHomeDesigns.com

**Cannell
 Residence**

**Margaret & David
 Cannell**
 2415 Old Oak Place
 Hillsborough, NC 27278

FIRST FLOOR

Sheet Number
2
 of 2

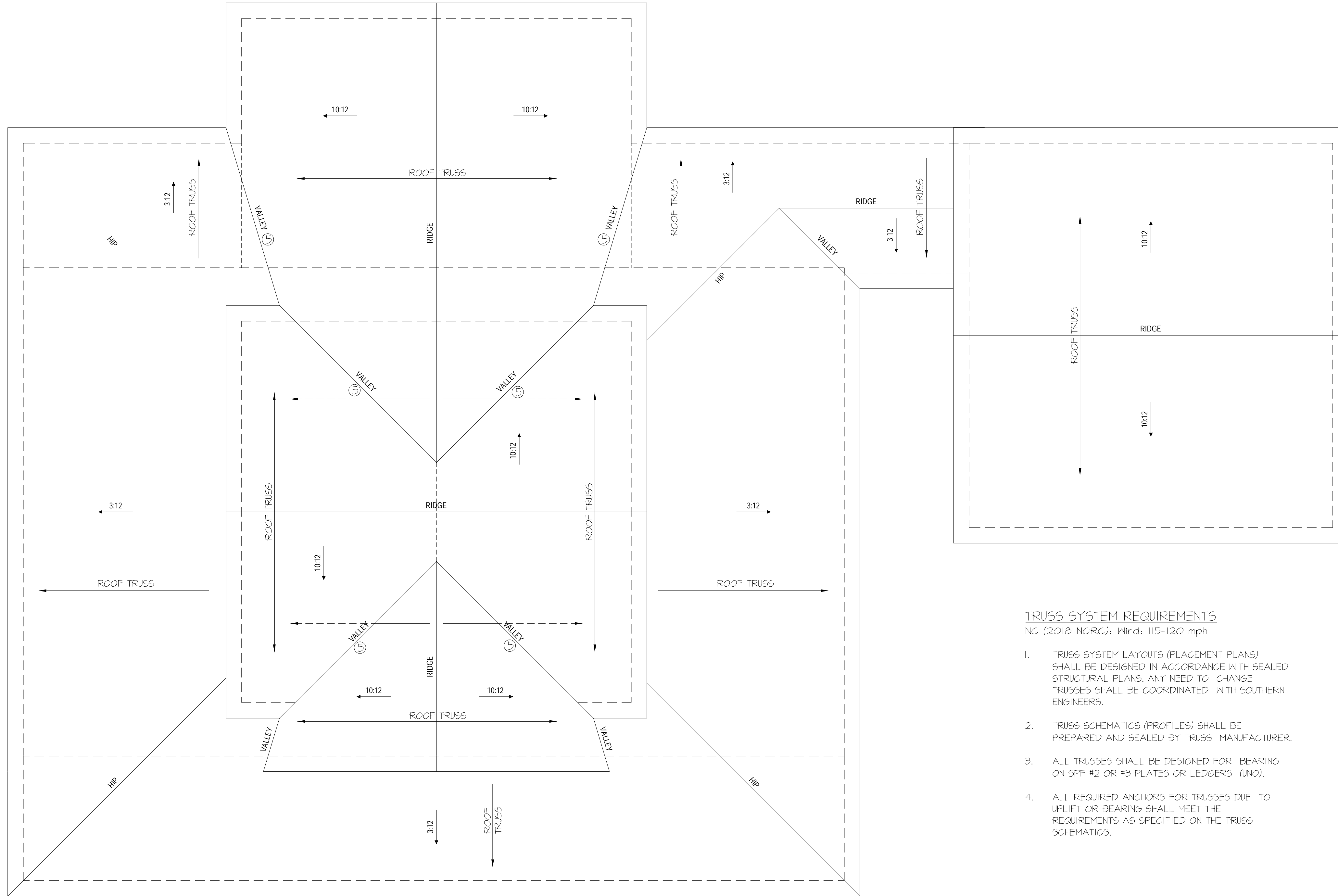


Engineers seal applies only to structural components on this document.
Seal does not include construction means, methods, techniques, sequences, procedures or safety precautions.
Any deviations or discrepancies on plans are to be brought to the immediate attention of Southern Engineers. Failure to do so will void Southern Engineers' liability.
Seal is valid for projects permitted one year from date of seal.
Use of these plans constitutes approval of terms & conditions as defined in the customer agreement.

Southern Engineers, P.A.
3716 Benson Drive, Raleigh, NC 27609
Phone: (919) 878-1617
License: C-4772
www.southernengineers.com

**K&A HOME
DESIGN, INC.**

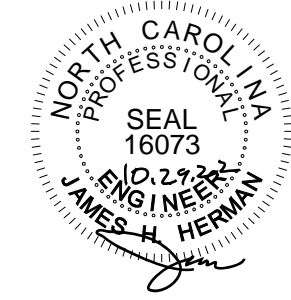
Cannell Residence



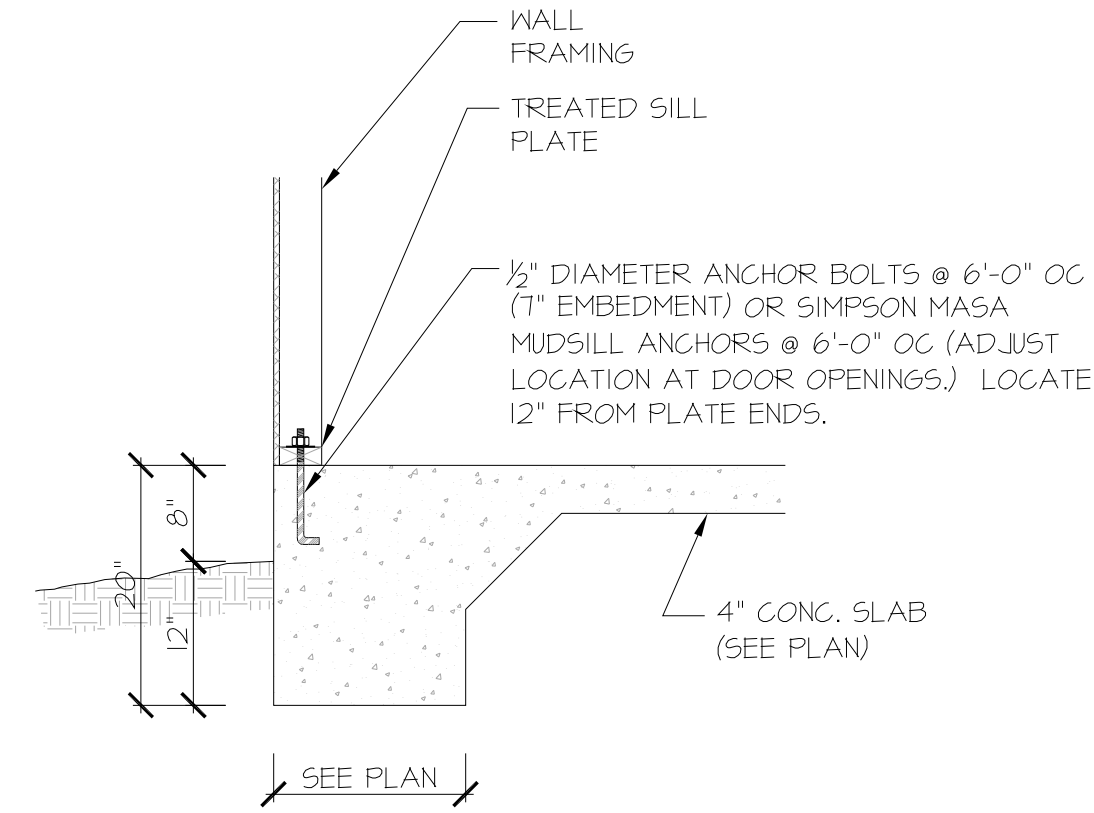
TRUSS SYSTEM REQUIREMENTS

NC (2018 NCRS): Wind: 115-120 mph

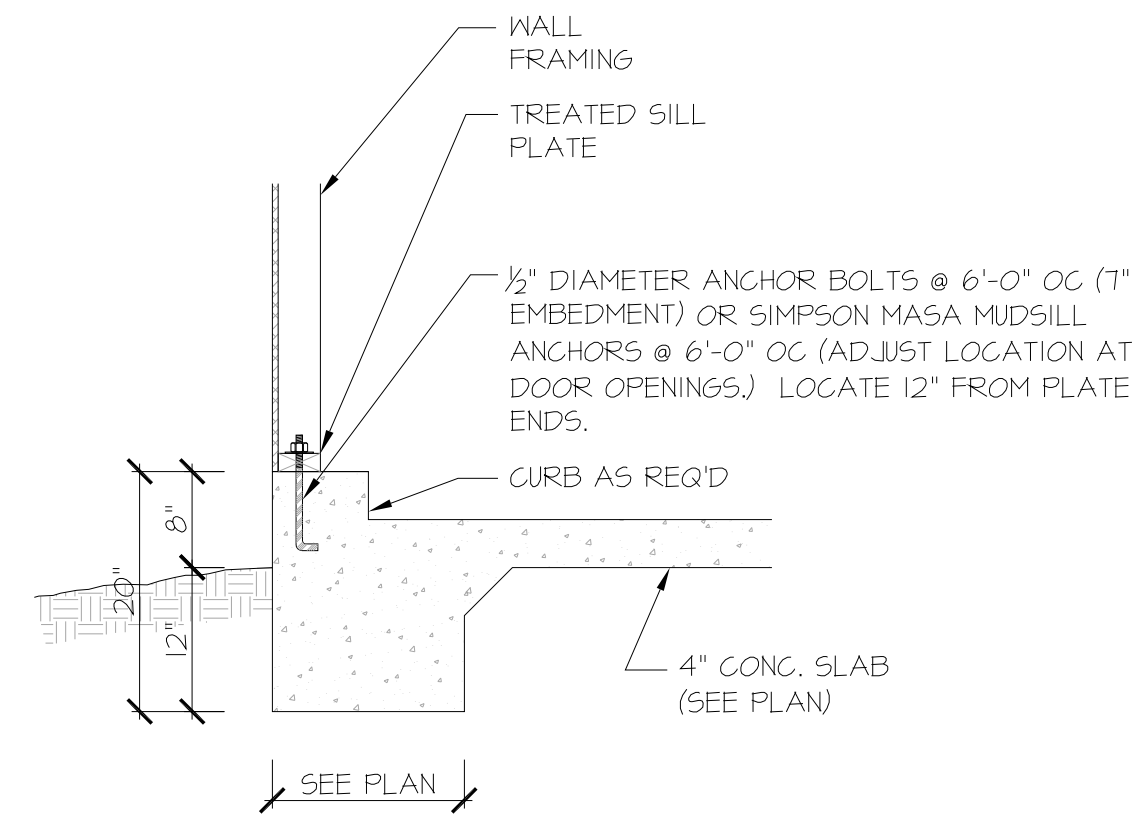
1. TRUSS SYSTEM LAYOUTS (PLACEMENT PLANS) SHALL BE DESIGNED IN ACCORDANCE WITH SEALED STRUCTURAL PLANS. ANY NEED TO CHANGE TRUSSES SHALL BE COORDINATED WITH SOUTHERN ENGINEERS.
2. TRUSS SCHEMATICS (PROFILES) SHALL BE PREPARED AND SEALED BY TRUSS MANUFACTURER.
3. ALL TRUSSES SHALL BE DESIGNED FOR BEARING ON SPF #2 OR #3 PLATES OR LEDGERS (LNO).
4. ALL REQUIRED ANCHORS FOR TRUSSES DUE TO UPLIFT OR BEARING SHALL MEET THE REQUIREMENTS AS SPECIFIED ON THE TRUSS SCHEMATICS.



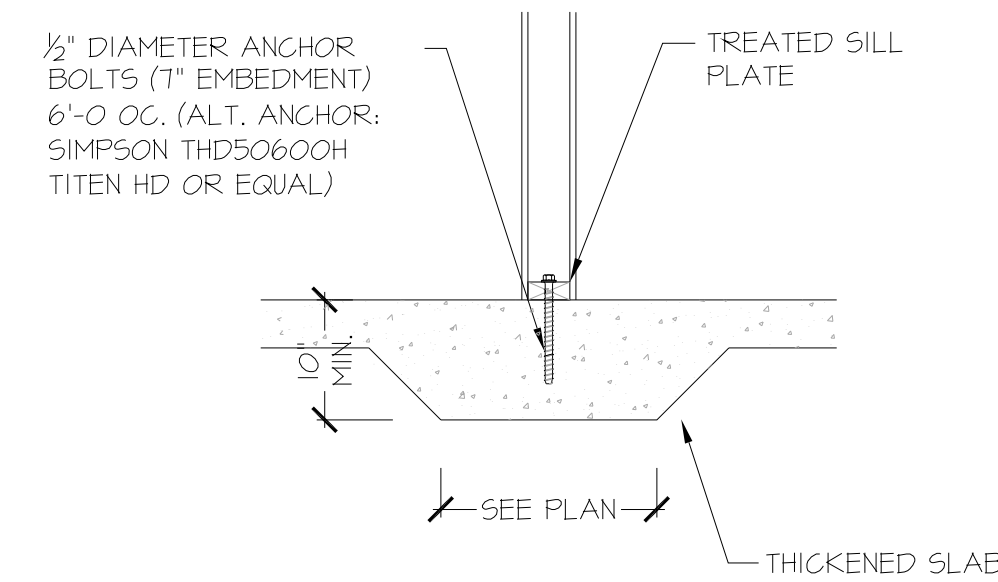
Engineers seal applies only to structural components on this document.
Seal does not include construction means, methods, techniques, sequences, procedures or safety precautions.
Any deviations or discrepancies on plans are to be brought to the immediate attention of Southern Engineers. Failure to do so will void Southern Engineers' liability.
Seal is valid for projects permitted one year from date of seal.
Use of these plans constitutes approval of terms & conditions as defined in the customer agreement.



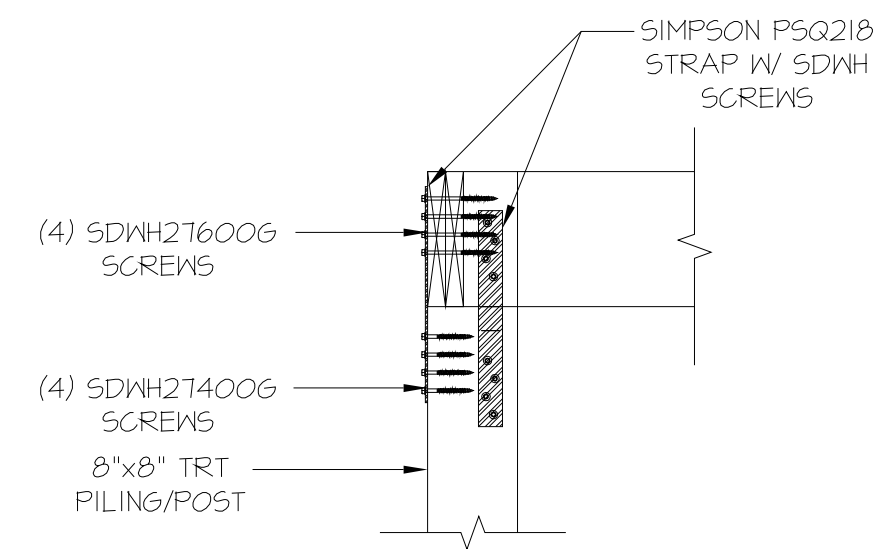
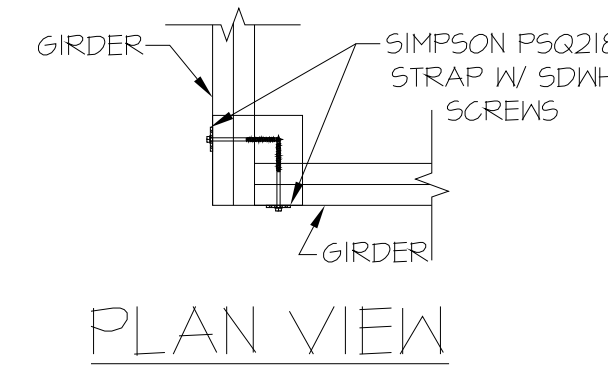
115-120 MPH 100A SD **MONOLITHIC SLAB FOOTING**
(SIDING OR EQUAL)



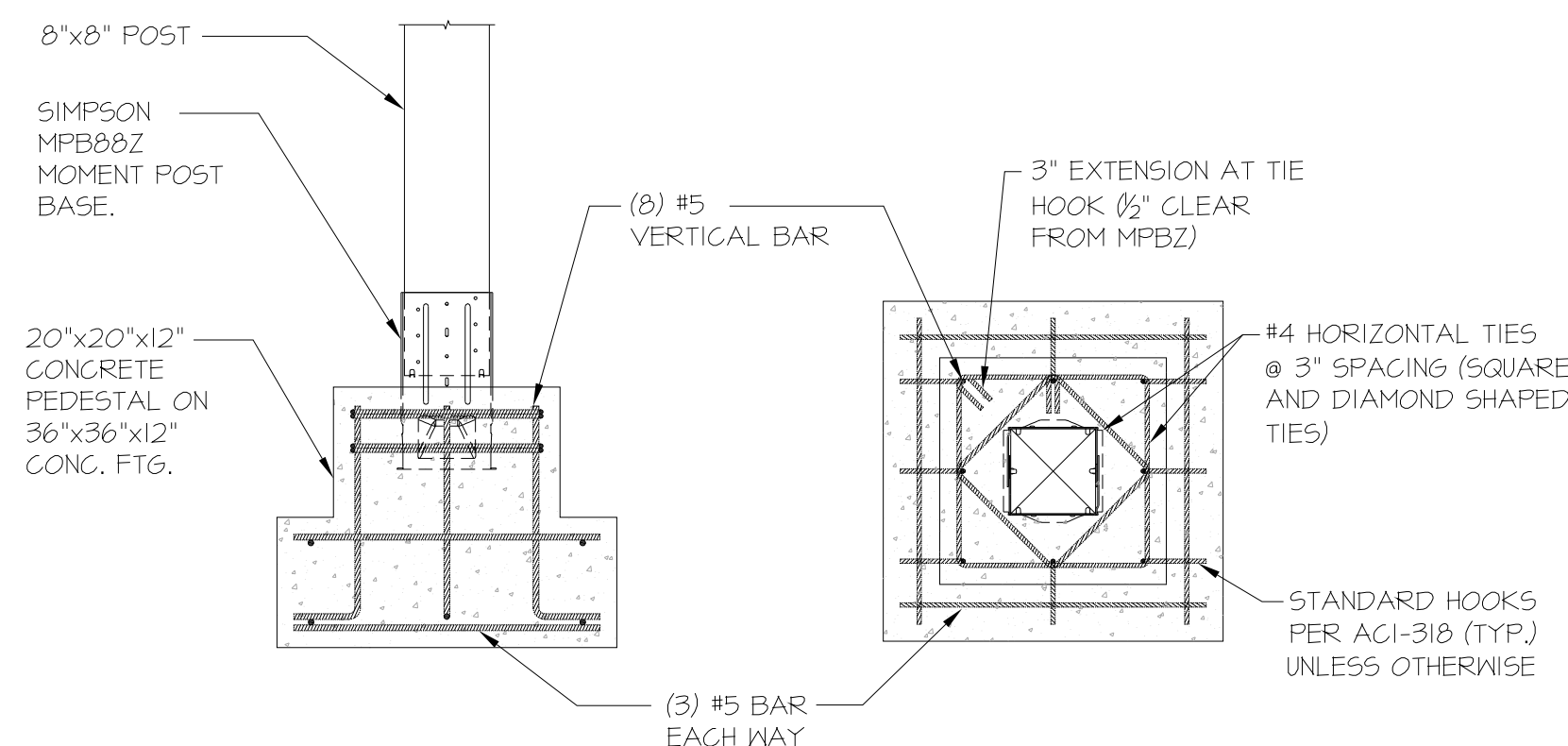
115-120 MPH 101A SD **MONOLITHIC SLAB @ GARAGE**
(SIDING OR EQUAL)



115-120 MPH 104A SD **THICKENED SLAB**
(INTERIOR BEARING WALL)



802C SD **PILE/PILE CONNECTION AT CORNER**



810A SD **MPB88Z - REINFORCED CONCRETE FOOTING**

STRUCTURAL NOTES

NC (2018 NCRG); Wind: 115-120 mph

- ENGINEER'S SEAL APPLIES ONLY TO STRUCTURAL COMPONENTS INCLUDING ROOF RAFTERS, HIPs, VALLEYS, RIDGES, FLOORS, WALLS, BEAMS AND HEADERS, COLUMNS, CANTILEVERS, OFFSET LOAD BEARING WALLS, PIER & GIRDER SYSTEM, FOOTING, AND PILING SYSTEM. ENGINEER'S SEAL DOES NOT CERTIFY DIMENSIONAL ACCURACY OR ARCHITECTURAL LAYOUT INCLUDING ROOF SYSTEM. ALL REQUIREMENTS FOR PROFESSIONAL CERTIFICATION SHALL BE PROVIDED BY THE APPROPRIATE PROFESSIONAL. SOUTHERN ENGINEERS, P.A. CERTIFIES ONLY THE STRUCTURAL COMPONENTS AS SPECIFICALLY STATED.
- ALL CONSTRUCTION SHALL CONFORM TO THE LATEST REQUIREMENTS OF THE 2018 NC RESIDENTIAL CODE, 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 FOR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE CONSTRUCTION WORK, NOR WILL THE ENGINEER BE RESPONSIBLE FOR THE CONTRACTOR'S FAILURE TO CARRY OUT THE CONSTRUCTION WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. "CONSTRUCTION REVIEW" SERVICES ARE NOT PART OF OUR CONTRACT. ALL MEMBERS SHALL BE FRAMED ANCHORED, TIED AND BRACED IN ACCORDANCE WITH GOOD CONSTRUCTION PRACTICE AND THE BUILDING CODE.
- DESIGN LOADS (LISTED AS: LIVE LOAD, DEAD LOAD, DEFLECTION)
 - ROOMS OTHER THAN SLEEPING ROOMS: (40 PSF, 10 PSF, L/360)
 - SLEEPING ROOMS: (30 PSF, 10 PSF, L/360)
 - ATTIC WITH PERMANENT STAIR: (40 PSF, 10 PSF, L/360)
 - ATTIC WITHOUT PERMANENT STAIR: (20 PSF, 10 PSF, L/360)
 - ATTIC WITHOUT STORAGE: (10 PSF, 10 PSF, L/240)
 - STAIRS: (40 PSF, 10 PSF, L/360)
 - EXTERIOR BALCONIES: (60 PSF, 10 PSF, L/360)
 - DECKS: (40 PSF, 10 PSF, L/360)
 - GUARDRAILS AND HANDRAILS: (200 LBS)
 - PASSENGER VEHICLE GARAGES: (50 PSF, 10 PSF, L/360)
 - FIRE ESCAPES: (40 PSF, 10 PSF, L/360)
 - SNOW: (20 PSF)
- WALLS SHALL BE BRACED BY SHEATHING WALLS ON ALL STORIES WITH WOOD STRUCTURAL PANELS. SEE FRAMING NOTES FOR THICKNESS AND NAILING REQUIREMENTS.
- SEE APPENDIX M (DCA6) FOR EXTERIOR DECK REQUIREMENTS INCLUDING ATTACHMENTS FOR LATERAL LOADS.
- CONCRETE SHALL HAVE A MINIMUM 28 DAY STRENGTH OF 3000 PSI AND A MAXIMUM SLUMP OF 5 INCHES UNLESS NOTED OTHERWISE (UNO). AIR ENTRAINED PER TABLE 402.2. ALL CONCRETE SHALL BE PROPORTIONED, MIXED, HANDLED, SAMPLED, TESTED, AND PLACED IN ACCORDANCE WITH ACI STANDARDS. ALL SAMPLES FOR PUMPING SHALL BE TAKEN FROM THE EXIT END OF THE PUMP. CONTROL JOINTS IN SLABS SHALL BE SPACED ON A GRID OF +30 TIMES THE DEPTH (D). CONTROL JOINTS SHALL BE SAWCUT TO A DEPTH OF 1/D. (I.E. 4" CONCRETE SLABS SHALL HAVE 1/4" DEEP CONTROL JOINTS SAWCUT IN SLAB ON A +10'-0" x +10'-0" GRID).
- ALLOWABLE SOIL BEARING PRESSURE ASSUMED TO BE 2000 PSF. THE CONTRACTOR MUST CONTACT A GEOTECHNICAL ENGINEER AND THE STRUCTURAL ENGINEER IF UNSATISFACTORY SUBSURFACE CONDITIONS ARE ENCOUNTERED. THE SURFACE AREA ADJACENT TO THE FOUNDATION WALL SHALL BE PROVIDED WITH ADEQUATE DRAINAGE, AND SHALL BE GRADED SO AS TO DRAIN SURFACE WATER AWAY FROM FOUNDATION WALLS.
- ALL FRAMING LUMBER SHALL BE SPF #2 (Fb = 875 PSI) UNLESS NOTED OTHERWISE (UNO). ALL TREATED LUMBER SHALL BE SYP #2. PLATE MATERIAL MAY BE SPF #3 OR SYP #3 (Fc(perp) = 425 PSI - MIN).
 - L.V.L. SHALL BE LAMINATED VENEER LUMBER: Fb=2600 PSI, Fv=285 PSI, E=1.9x10⁶ PSI.
 - P.S.L. SHALL BE PARALLEL STRAND LUMBER: Fb=2400 PSI, Fv=240 PSI, E=2.0x10⁶ PSI.
 - L.S.L. SHALL BE LAMINATED STRAND LUMBER: Fb=2250 PSI, Fv=400 PSI, E=1.55x10⁶ PSI. INSTALL ALL CONNECTIONS PER MANUFACTURER'S INSTRUCTIONS.
- ALL ROOF TRUSS AND I-JOIST LAYOUTS SHALL BE PREPARED IN ACCORDANCE WITH THE SEALED STRUCTURAL DRAWINGS. TRUSSES AND I-JOISTS SHALL BE INSTALLED ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS. ANY CHANGE IN TRUSS OR I-JOIST LAYOUT SHALL BE COORDINATED WITH SOUTHERN ENGINEERS.
- ALL STRUCTURAL STEEL SHALL BE 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 x 4" LONG). LATERAL SUPPORT IS CONSIDERED ADEQUATE PROVIDING THE JOIST ARE TOE NAILED TO THE SOLE PLATE, AND SOLE PLATE IS NAILED OR BOLTED TO THE BEAM FLANGE @ 48" O.C. ALL STEEL TUBING SHALL BE ASTM A500.
- REBAR SHALL BE DEFORMED STEEL, ASTM615, GRADE 60. LAP ALL REBAR SPLICES 30 BAR DIAMETERS.
- FLITCH BEAMS SHALL BE BOLTED TOGETHER USING (2) ROWS OF 1/2" DIAMETER BOLTS (ASTM A325) WITH WASHERS PLACED UNDER THE THREADED END OF BOLT. BOLTS SHALL BE SPACED AT 24" O.C. (MAX), AND STAGGERED AT THE TOP AND BOTTOM OF BEAM (2" EDGE DISTANCE), WITH 2 BOLTS LOCATED AT 6" FROM EACH END.
- BRICK LINTELS (WHEN REQUIRED) SHALL BE 3 1/2"x3 1/2"x1/4" STEEL ANGLE FOR UP TO 6'-0" SPAN AND 6"x4"x5/16" STEEL ANGLE WITH 6" LEG VERTICAL FOR SPANS UP TO 9'-0". SEE PLANS FOR SPANS OVER 9'-0". SEE ALSO SECTION R103.3 LINTELS.

Southern Engineers, P.A.
3716 Benson Drive, Raleigh, NC 27609
Phone: (919) 878-1617
License: C-4772
www.southernengineers.com

**K&A HOME
DESIGN, INC.**

Cannell Residence

SD