- 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 FOOTAG		
FIRST FLOOR=	2089	<i>GARAGE=</i>	540	
SECOND FLOOR=	605	FRONT PORCH=	166	
THIRD FLOOR=	N/A	CVD. PORCH=	298	
BASEMENT=	N/A	<i>OPT. REC.</i> =	329	
		$OPT. 3^{RD} CAR =$	338	

CRAWL SPACE VENTILATION CALCULATIONS

TOTAL HEATED= 2694

-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.

TOTAL UNHEATED= 1671

-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 VENTIALTION PROVIDED BE EAVE VENTS.

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

3430 SQ. FT. OF ATTIC/300= 11.43

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 POSITVE 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

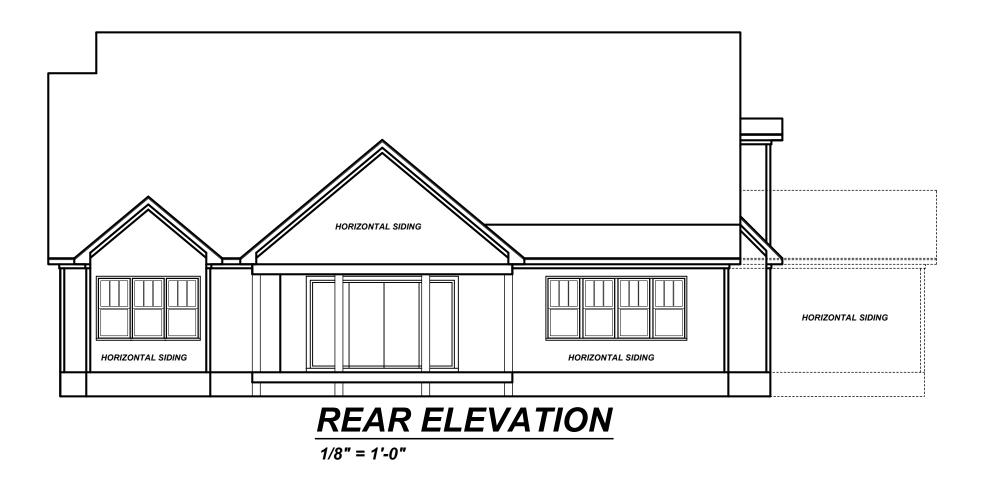
21 LBS. PER SQ. FT. FOR ROOF PITCHES OF 7/12 TO 12/12

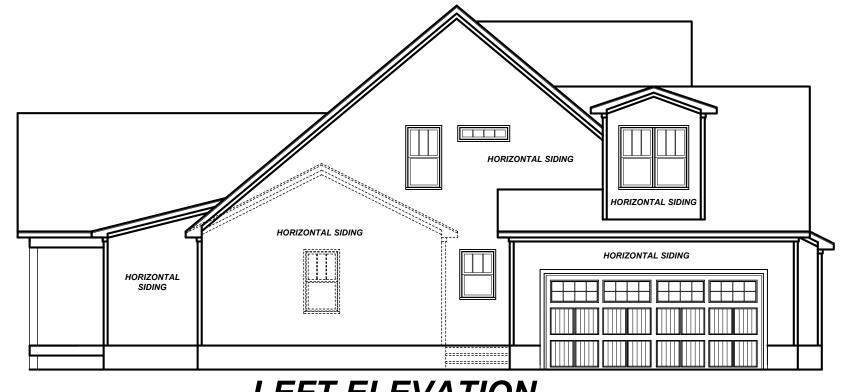
** MEAN ROOF HEIGHT 30' OR LESS



FRONT ELEVATION

1/4" = 1'-0"









RIGHT ELEVATION

1/8" = 1'-0"

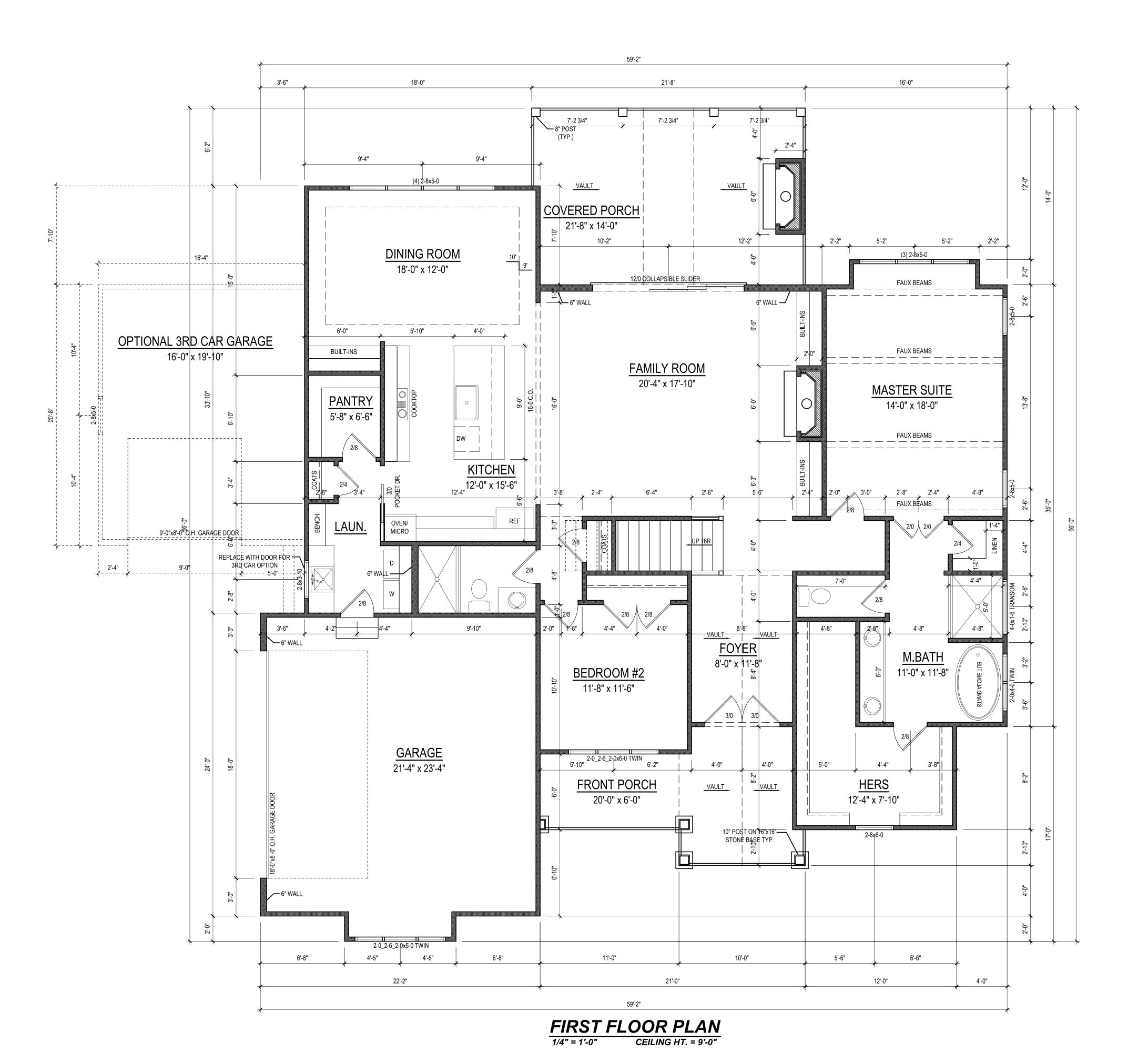
ELEVATIONS

sneet Numbe

Project #: 23-018

FIRST FLOOR

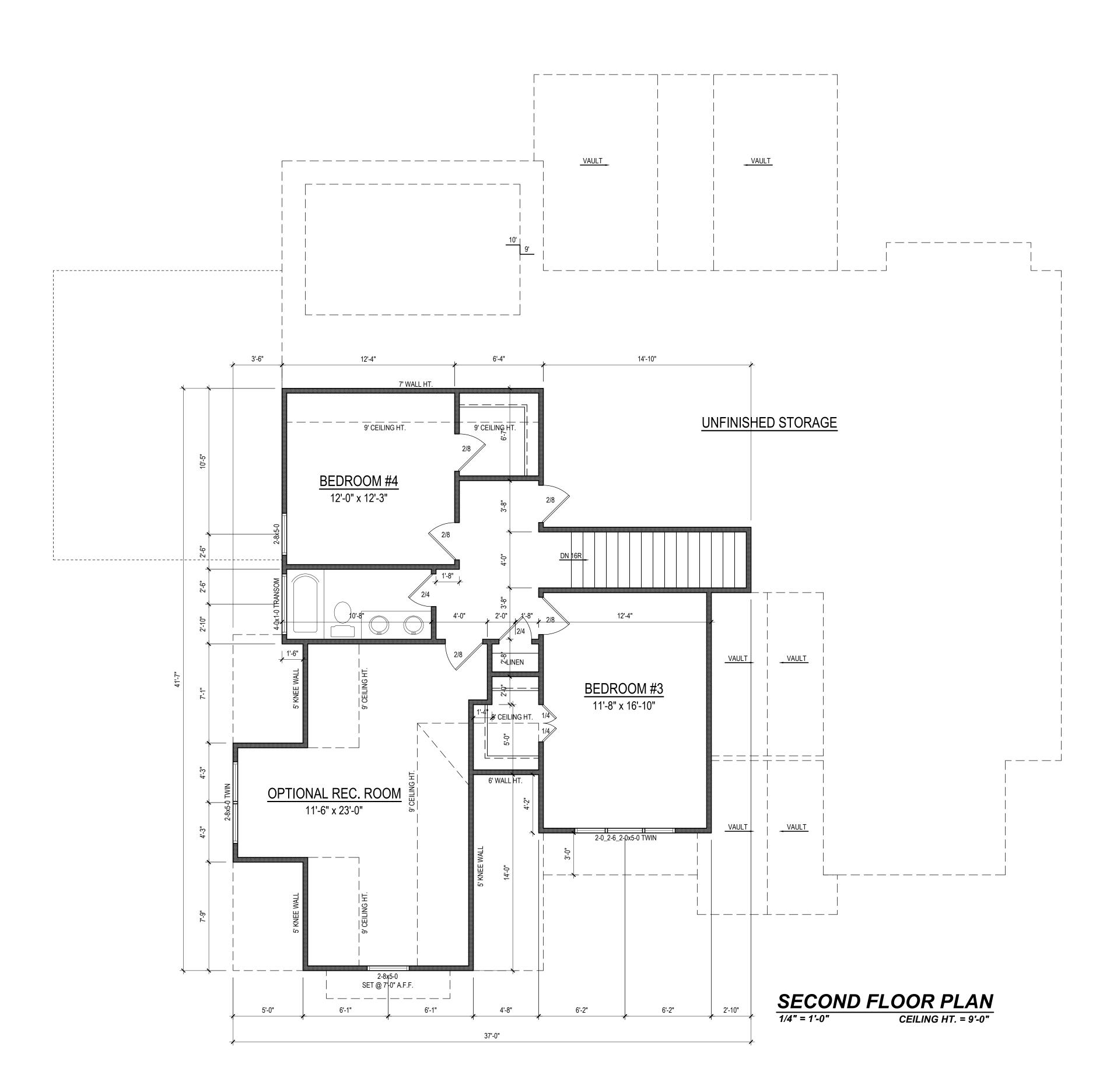
Sheet Number



Porter Built Homes
6121 Catandpolly Ln.
Raleigh, NC 27603

SECOND FLOOR

Sheet Numbe



PROJECT #

23-1414

.A 7609

Southern 3716 Benson D

uthern Engineers,
6 Benson Drive, Raleigh, NC
Phone: (919) 878-1617
License: C-4772
www.southernengineers.com

INC

DESIGN

HOME

Cotton Farm

43,

Lot

PORTER BUILT HOMES



FOUNDATION STRUCTURAL NOTES NC (2018 NCRC): Wind: 115-120 mph - CRAWL

59'-2"

7'-2 3/4"

82"X30"XI0"

@ 16" O.C.

24"x24"x10" CONC. FTG.

12'-0"

11'-0"

59'-2"

[122A]

SD

 \int CONC. FTG.

TRT'D

(2) 2xl0

SIMPSON_

LUS28-2

3'-6"

16'-4"

16'-4"

(907)

(907)

SOLID FILLED

MASONRY ON A

36"x36"x12"

CONG., FTG.

MASONRY ON A

30"x30"x10" CONC. FTG.

- SOLID FILLED MASONRY ON A 30"x30"x10"

CONC. FTG.

6'-8"

4" CONC. SLAB (TABLE R402.2) WITH FIBERMESH OR WIREMESH ON 6 MIL

VAPOR RETARDER (AS REQ'D) ON

BASE COURSE (R506.2.2). SEE R506.2.I FOR FILL REQUIREMENTS.

SD

16" WIDE

x 8" DEEP

CONC. FTG.

- -- -- -- +

8'-10"

22'-2"

_ — — — — +

6'-8"

18'-0"

18'-8"

LOCATE ACCESS

DOOR AS REQUIRED

______(2)2XIO

21'-8"

(TYP.) 7'-2 3/4"

24'-6"

- TRT'D BAND

PER APPENDIX

"M" OF CODE

(I22A) SD

30"x30"x10"

CONC. FTG.

7'-10"

SIMPSON

LUS28-3

7'-2 3/4" / | | |

7'-9"

8'-0"

4" CONC. SLAB ON COMPACTED

FILL/STONE

10'-0"

37'-0"

16" WIDE × 8" DEEP CONC. FTG. SD

12'-0"

4'-0"

16'-0"

6x6 P.T. POST ON 24"x24"x8"

CONCRETE FTG. (TYP). BRACE

POSTS PER APPENDIX M.

SIMPSON

_ LUS28-2

`_24"x24"xl0"-

CONC. FTG.

10'-4"

CONCRETE BLOCK PIER SIZE SHALL BE: UP TO 32" UP TO 5'-0" 8xl6 UP TO 48"

16" - I STORY

REQUIREMENTS, REFER TO CODE TABLE R404.I.I (I THRU 4) NOTE: ASSUMED SOIL BEARING CAPACITY = 2000 PSF. CONTRACTOR MUST VERIFY SITE CONDITIONS AND CONTACT SOILS ENGINEER IF MARGINAL OR UNSTABLE SOILS ARE ENCOUNTERED.

(5) (2) 1.75×9.25 LVL OR LSL GIRDER

(6) (3) 1.75x9.25 LVL OR LSL GIRDER

9. ADJUST SUBFLOOR THICKNESS OR JOIST SPACING

(3)2xIO SYP#2 OR SPF#2 GIRDER, TYPICAL UNO.

16x16 UP TO 64" UP TO 12'-0" UP TO 96" 24×24 • WITH 30" x 30" x 10" CONCRETE FOOTING, UNO.

③ WALL FOOTING AS FOLLOWS DEPTH: 8" - UP TO 2 STORY

10" - 3 STORY 16" - UP TO 2 STORY

20" - 3 STORY 20" - 2 STORY 24" - 3 STORY

FOR FOUNDATION WALL HEIGHT AND BACKFILL

(4) 2x10 SPF #2 OR SYP #2 GIRDER

7. "■" DESIGNATES A SIGNIFICANT POINT LOAD TO HAVE SOLID BLOCKING TO PIER. SOLID BLOCK ALL BEAM BEARING POINTS NOTED TO HAVE THREE OR MORE STUDS TO FND, TYPICAL.

8. ABBREVIATIONS: • "SJ" = SINGLE JOIST

• "DJ" = DOUBLE JOIST "TJ" = TRIPLE JOIST

AS REQ'D FOR FLOOR FINISH MATERIALS.

FRAMING NOTE: ALL DIMENSIONAL LUMBER ON THIS SHEET MAY BE SPF #2 OR SYP #2, UNLESS SPECIFICALLY NOTED OTHERWISE.

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SEALED CRAWLSPACE FOUNDATION STRUCTURAL PLAN

FRAMING NOTES

- 6"x6" TRT'D POST (OR EQUIV.) (TYP.) ATTACH RAFTERS AT PORCH WITH HURRICANE CONNECTORS (SIMPSON H2.5A OR EQUIV.) ATTACH HEADER TO POST AND POST TO BASE WITH A POST CAP

OR METAL STRAP(S) OR BRACKET(S),

AND/OR A POST BASE.

(2) 2x8

2x6 CJ

@ 16" O.C

WALL ABOVE

(2) 2x8

—(2) 1.75×11.875 LVL

- 6"x6" TRT'D POST (OR EQUIV.) (TYP.)

ATTACH RAFTERS AT PORCH WITH

HURRICANE CONNECTORS (SIMPSON H2.5A

OR EQUIV.) ATTACH HEADER TO POST AND POST TO BASE WITH A POST CAP

OR METAL STRAP(S) OR BRACKET(S), AND/OR A POST BASE.

- - - - - - - - - - - - - - - -

2x6 CJ | @ 16" O.C. |

(3) 1.75x14 LVL

LINE OF 495 PLI

WALL ABOVE

(2) 1.75x11.875 LVL

(2) 1.75x1İ.875 LVL

RAFTER 2x6 FALSE RAFTER

VAULT

RAFTER @ 16" O.C.

VAULT

VAULT

2x6 FALSE

SIMPSON

_L90

-(3) 2x10

(DROPPED)

(3) 2x10

/--(2) 1.75×11.875 LVL

CANTILEVER JOISTS

TO SINGLE

1.75XII.875 LVL BAND

11.875" I-JOISTS

@ 19.2" O.C.

2x6 CJ_ (2) 1.75x11.875 LVL

(2) 2x10

ATTACH PORCH BEAMS

AND HEADERS AT

WALL WITH ASIMPSON

MTSI2 STRAP (TYP)

@ 16" O.C.

VAULT

(2) 1.75x11.25 LVL

(2) 1.75×11.875 LVL

(3)2x12

(2) 1.75×9.25 LVL─\ **■** 2

IBW-WSP WITH -

GARAGE

- - - - - - - - - - - - - - - -

5.25"x7" PSL,

(3) 1.75x14 LVL

LINE OF 650 PLF WALL ABOVE

\LINE OF 300 PLF

WALL ABOVE

(2) 1.75×16 LVL

(2) 1.75x16 LVL

_ 2x6 CJ √ @ 16" O.C.

(BOTTOM FLUSH)

-2x6 WALL

'LVL, OR GLULAM SIMPSON— COLUMN HGUS 412

(2)2XIO

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

BRACING METHOD AND TYPE: CONTINUOUSLY SHEATHED WSP: CS-WSP. NOTE THAT THE WALL BRACING AMOUNT PROVIDED ON THE PLANS (DETAILS AND SPECIFICATIONS) IS GREATER THAN THE AMOUNT OF WALL BRACING REQUIRED BY SECTION R602.10 OF THE CODE. SEE NOTES BELOW FOR DETAILS AND SPECIFICATIONS FOR WALL

- **GROUND/FIRST FLOOR: USE "HD HOLD-DOWN DETAIL" ON SD SHEET (OR EQUIV.)
- **UPPER FLOORS: ATTACH BASE OF KING STUD WITH A SIMPSON STUD BELOW OR HEADER BELOW. EXTEND STRAP 7" MIN ALONG EACH STUD (OR HEADER) AND ATTACH EACH END W/ (7) 8d NAILS.
- INTERMEDIATE SUPPORTS.
- INTERIOR BRACED WALL-WOOD STRUCTURAL PANEL: (NOTED AS "IBW-WSP" ON PLANS). ATTACH ONE SIDE WITH %" WSP SHEATHING WITH 8d NAILS AT A 6"/12" NAILING PATTERN (6" OC AT PANEL EDGES AND 12" OC AT INTERMEDIATE SUPPORTS). INSTALL BLOCKING AT ALL PANEL EDGES. ATTACH GB OVER WSP AS REQUIRED. ATTACH OPPOSITE SIDE WITH 1/2" GB WITH A MIN. OF 5d COOLER NAILS OR #6 SCREWS @ 7" OC ALONG THE EDGES AND AT INTERMEDIATE SUPPORTS.

HEADER/BEAM & COLUMN NOTES

- ALL EXTERIOR AND LOAD BEARING HEADERS SHALL BE MIN. (2)2x6 (4" WALL) OR (3)2x6 (6" WALL) WITH (I) SUPPORT STUD, UNLESS NOTED OTHERWISE.
- THE NUMBER SHOWN AT BEAM AND HEADER SUPPORTS INDICATES THE NUMBER OF SUPPORT STUDS REQUIRED IN STUD POCKET OR COLUMN. THE NUMBER OF KING STUDS AT EACH END OF HEADERS IN EXTERIOR WALLS SHALL BE ACCORDING TO ITEM "d" IN TABLE R602.3(5) OR AS BELOW PER NCDOI COMMENTARY "KING
- •• OVER 9' UP TO 12' SPAN: (4) KING STUDS •• OVER 12' UP TO 15' SPAN: (5) KING STUDS

- (SHALL BE ONE OF THE FOLLOWING): TJI 210 BY TRUS JOIST
 LPI 20 PLUS BY LP

SPECIFICATIONS.

- ACCORDING TO MANUFACTURER'S
- INSTALL SQUASH BLOCKS, WEB STIFFENERS, ETC. AS REQUIRED BY AND ACCORDING TO THE I-JOIST MANUFACTURER'S SPECIFICATIONS

FRAMING NOTE: ALL DIMENSIONAL LUMBER ON THIS SHEET MAY BE SPF #2 OR SYP #2, UNLESS SPECIFICALLY NOTED OTHERWISE.

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

- BRACING AND WALL FRAMING.
- EXTERIOR WALL SHEATHING: WALLS SHALL BE BRACED BY SHEATHING WALLS ON ALL STORIES WITH WOOD STRUCTURAL PANEL SHEATHING (MSP) (EXPOSURE B: 1/16". EXPOSURE C: 15/32"). SHEATHING SHALL BE ATTACHED WITH 8d NAILS AT A 6"/I2" NAILING PATTERN (6" OC AT PANEL EDGES AND 12" OC AT INTERMEDIATE SUPPORTS). INSTALL BLOCKING AT ALL PANEL EDGES.
- WSP SHEATHING SHALL EXTEND TO THE UPPERMOST DOUBLE BEARING PLATE. BLOCK AT ROOF PER SECTION R602.10.4.5 AND ATTACH BRACED WALLS PER CODE. WSP SHEATHING BETWEEN FLOORS SHALL BE SPLICED ALONG CONTINUOUS BAND OR THE WSP SHEATHING MAY BE SPLICED ACROSS STUDS (CONTINUOUS ACROSS FLOOR SYSTEM) WITH BLOCKING AT PANEL EDGES. (MINIMUM 12" BEYOND FLOOR BREAK) OR OTHER APPROVED METHOD.
- "HD" = HOLDOWN: HOLD-DOWN DEVICE (NOTED AS "HD" ON PLANS) SHALL BE AN 800 POUND CAPACITY ASSEMBLY AS NOTED ON PLANS. SEE DETAILS FOR HD ASSEMBLY.
- CS20 OR CSHP20 STRAP DOWN ACROSS THE BAND AND DOWN TO A
- INTERIOR BRACED WALL: (NOTED AS "IBW" ON PLANS) ATTACH I/2" GYPSUM BOARD (GB) ON EACH SIDE OF WALL WITH A MIN. OF 5d COOLER NAILS OR #6 SCREWS @ 7" O.C. ALONG THE EDGES AND AT

- STUDS AT WALL OPENINGS" REVISED 1-9-2020:
- •• UP TO 3' SPAN: (I) KING STUD • OVER 3' UP TO 6' SPAN: (2) KING STUDS • OVER 6' UP TO 9' SPAN: (3) KING STUDS
- **MOOD I-JOISTS**
- BCI 5000s I.8 BY BC
- BLI 40 BY onCENTER ALL I-JOISTS SHALL BE INSTALLED
- AND INSTRUCTIONS.
- HANGERS FOR I-JOISTS ARE THE RESPONSIBILITY OF THE I-JOIST SUPPLIER.

THE STRUCTURAL DESIGN OF THIS PLAN IS THE PROPERTY OF SOUTHERN ENGINEERS, P.A. AND IS FOR ONE TIME USE FOR THE CLIENT AND LOCATION NOTED. SOUTHERN ENGINEERS, P.A. ASSUMES NO LIABILITY FOR THIS PLAN IF IT IS REPRODUCED AND/OR USED, IN WHOLE OR IN PART, FOR CONSTRUCTION AT ANY OTHER LOCATION WITHOUT WRITTEN PERMISSION FROM SOUTHERN ENGINEERS, PA. THESE PLANS SHALL BE REVIEWED BY DESIGNER, BUILDER, AND/OR OWNER FOR CONFORMANCE WITH THE ARCHITECTURAL DESIGN CONCEPT PROVIDED. ALL DIMENSIONS SHALL BE VERIFIED BY DESIGNER, BUILDER, AND/OR OWNER PRIOR TO CONSTRUCTION.

FIRST FLOOR STRUCTURAL PLAN

REFER TO "SD" SHEET(S) FOR STANDARD DETAILS AND STRUCTURAL NOTES

609

PROJECT #

23-1414

hern Engineers, enson Drive, Raleigh, NC Phone: (919) 878-1617 License: C-4772 ww.southernengineers.com outhern **Sou** 3716

Lot

(2) 2x10

THE STRUCTURAL DESIGN OF THIS PLAN IS THE PROPERTY OF SOUTHERN ENGINEERS, P.A. AND IS FOR ONE TIME USE FOR THE CLIENT AND LOCATION NOTED. SOUTHERN ENGINEERS, P.A. ASSUMES NO LIABILITY FOR THIS PLAN IF IT IS REPRODUCED AND/OR USED, IN WHOLE OR IN PART, FOR CONSTRUCTION AT ANY OTHER LOCATION WITHOUT WRITTEN PERMISSION FROM SOUTHERN ENGINEERS, PA. THESE PLANS SHALL BE REVIEWED BY DESIGNER, BUILDER, AND/OR OWNER FOR CONFORMANCE WITH THE ARCHITECTURAL DESIGN CONCEPT PROVIDED. ALL DIMENSIONS SHALL BE VERIFIED BY DESIGNER, BUILDER, AND/OR OWNER PRIOR TO CONSTRUCTION.



FRAMING NOTES

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

- BRACING METHOD AND TYPE: CONTINUOUSLY SHEATHED WSP: CS-WSP. NOTE THAT THE WALL BRACING AMOUNT PROVIDED ON THE PLANS (DETAILS AND SPECIFICATIONS) IS GREATER THAN THE AMOUNT OF WALL BRACING REQUIRED BY SECTION R602.10 OF THE CODE. SEE NOTES BELOW FOR DETAILS AND SPECIFICATIONS FOR WALL BRACING AND WALL FRAMING.
- WALLS ON ALL STORIES WITH WOOD STRUCTURAL PANEL SHEATHING ATTACHED WITH 8d NAILS AT A 6"/12" NAILING PATTERN (6" OC AT PANEL EDGES AND 12" OC AT INTERMEDIATE SUPPORTS). INSTALL BLOCKING AT ALL PANEL EDGES.
- WSP SHEATHING SHALL EXTEND TO THE UPPERMOST DOUBLE BEARING PLATE. BLOCK AT ROOF PER SECTION R602.10.4.5 AND ATTACH BRACED WALLS PER CODE. WSP SHEATHING BETWEEN FLOORS SHALL BE SPLICED ALONG CONTINUOUS BAND OR THE WSP SHEATHING MAY BE SPLICED ACROSS STUDS (CONTINUOUS ACROSS FLOOR SYSTEM) WITH BLOCKING AT PANEL EDGES. (MINIMUM 12" BEYOND FLOOR BREAK) OR OTHER APPROVED METHOD.
- SHALL BE AN 800 POUND CAPACITY ASSEMBLY AS NOTED ON PLANS. SEE DETAILS FOR HD ASSEMBLY.
- **GROUND/FIRST FLOOR: USE "HD HOLD-DOWN DETAIL" ON SD SHEET
- **UPPER FLOORS: ATTACH BASE OF KING STUD WITH A SIMPSON STUD (OR HEADER) AND ATTACH EACH END W/ (7) 8d NAILS.
- "IBW-WSP" ON PLANS). ATTACH ONE SIDE WITH %" WSP SHEATHING PANEL EDGES. ATTACH GB OVER WSP AS REQUIRED. ATTACH SCREWS @ 7" OC ALONG THE EDGES AND AT INTERMEDIATE SUPPORTS.

HEADER/BEAM & COLUMN NOTES

- SHALL BE MIN. (2)2x6 (4" WALL) OR (3)2x6 (6" WALL) WITH (I) SUPPORT STUD, UNLESS NOTED OTHERWISE.
- THE NUMBER SHOWN AT BEAM AND HEADER SUPPORTS INDICATES THE NUMBER OF SUPPORT STUDS REQUIRED IN STUD POCKET OR COLUMN. THE NUMBER OF KING STUDS AT EACH END OF HEADERS IN EXTERIOR WALLS SHALL BE ACCORDING TO ITEM "d" IN TABLE R602.3(5) OR AS BELOW PER NCDOI COMMENTARY "KING
- •• OVER 9' UP TO 12' SPAN: (4) KING STUDS •• OVER 12' UP TO 15' SPAN: (5) KING STUDS

UNLESS SPECIFICALLY NOTED OTHERWISE.

- EXTERIOR WALL SHEATHING: WALLS SHALL BE BRACED BY SHEATHING (WSP) (EXPOSURE B: 1/16". EXPOSURE C: 15/32"). SHEATHING SHALL BE
- "HD" = HOLDOWN: HOLD-DOWN DEVICE (NOTED AS "HD" ON PLANS)
- (OR EQUIV.)
- CS20 OR CSHP20 STRAP DOWN ACROSS THE BAND AND DOWN TO A STUD BELOW OR HEADER BELOW. EXTEND STRAP 7" MIN ALONG EACH
- INTERIOR BRACED WALL: (NOTED AS "IBW" ON PLANS) ATTACH I/2" GYPSUM BOARD (GB) ON EACH SIDE OF WALL WITH A MIN. OF 5d COOLER NAILS OR #6 SCREWS @ 7" O.C. ALONG THE EDGES AND AT INTERMEDIATE SUPPORTS.
- . INTERIOR BRACED WALL-WOOD STRUCTURAL PANEL: (NOTED AS WITH 8d NAILS AT A 6"/12" NAILING PATTERN (6" OC AT PANEL EDGES AND 12" OC AT INTERMEDIATE SUPPORTS). INSTALL BLOCKING AT ALL OPPOSITE SIDE WITH I/2" GB WITH A MIN. OF 5d COOLER NAILS OR #6

- ALL EXTERIOR AND LOAD BEARING HEADERS
- STUDS AT WALL OPENINGS" REVISED 1-9-2020:
- •• UP TO 3' SPAN: (I) KING STUD • OVER 3' UP TO 6' SPAN: (2) KING STUDS • OVER 6' UP TO 9' SPAN: (3) KING STUDS

FRAMING NOTE: ALL DIMENSIONAL LUMBER ON THIS SHEET MAY BE SPF #2 OR SYP #2, hern Engineers, enson Drive, Raleigh, NC Phone: (919) 878-1617 License: C-4772 ww.southernengineers.com

609

PROJECT #

23-1414

outhern **Sou** 3716

> INC DESIGN

Cotton Farm

Lot

SECOND FLOOR STRUCTURAL PLAN



ROOF FRAMING NOTES:

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

- (I.) 2x8 RAFTERS @ 16" O.C. WITH 2x10 RIDGE, UNO.

- (6) 2x6 RAFTERS @ 16" O.C. W/ 2x8 RIDGE, UNO.
- (8) EXTEND RIDGE 12" BEYOND INTERSECTION

FRAMING NOTE: ALL DIMENSIONAL LUMBER ON THIS SHEET MAY BE SPF #2 OR SYP #2, UNLESS SPECIFICALLY NOTED OTHERWISE.

- (2) 2xIO OR 1.75xII.875 LVL HIP. (2) 2xIO HIPS MAY BE SPLICED WITH A MIN. 6'-O" OVERLAP AT CENTER
- (3) (2) 2xIO OR I.75x9.25 LVL VALLEY. DO NOT SPLICE VALLEYS
- (4) 1.75x11.875 LVL OR (2)1.75x9.25 LVL VALLEY
- (5.) FALSE FRAME VALLEY ON 2x10 FLAT PLATE
- (7.) 2xIO RAFTERS @ I6" O.C. W/ 2xI2 RIDGE, UNO.
- "SR" = SINGLE RAFTER"DR" = DOUBLE RAFTER"TR" = TRIPLE RAFTER
- "RS" = ROOF SUPPORT
- "■" = (3) STUD OR 4x4 POST FOR ROOF SUPPORT (USE 2X6 STUDS OR 6X6 POST FOR SUPPORT OVER 10'-0" IN
- ATTACH VAULTED RAFTERS WITH HURRICANE CLIPS: SIMPSON "H-2.5A" OR EQUIVALENT. TIES TO BE INSTALLED ON THE OUTSIDE FACE OF FRAMING.
- INSTALL RAFTER TIES AND COLLAR TIES PER SECTION R802.3.1 OF THE 2018 NC RESIDENTIAL CODE.

DESIGN,

P.A. 27609

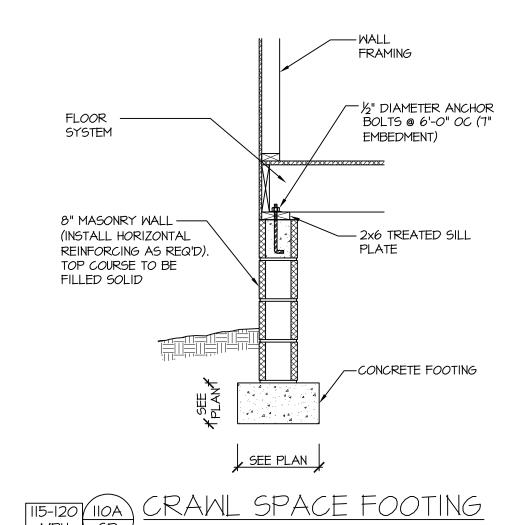
Southern Engineers, I 3716 Benson Drive, Raleigh, NC 2 Phone: (919) 878-1617
License: C-4772
www.southernengineers.com

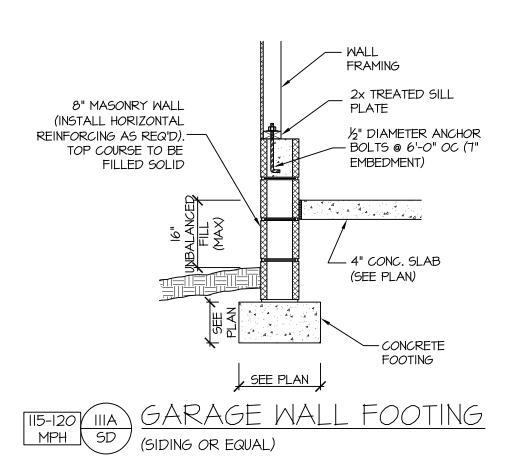
PROJECT #

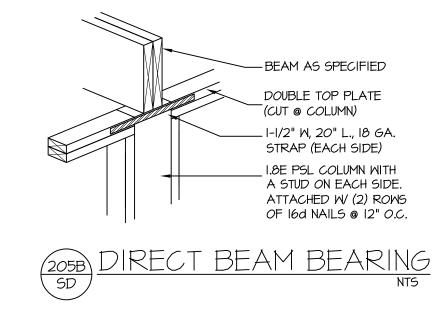
23-1414

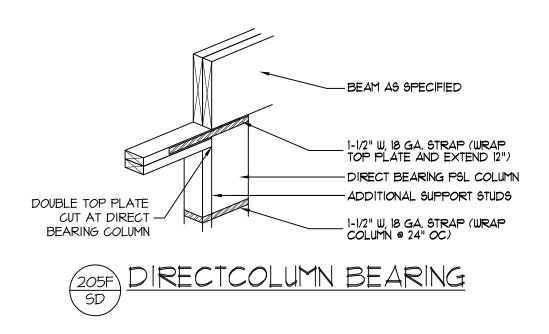
Cotton Farm Lot 43,

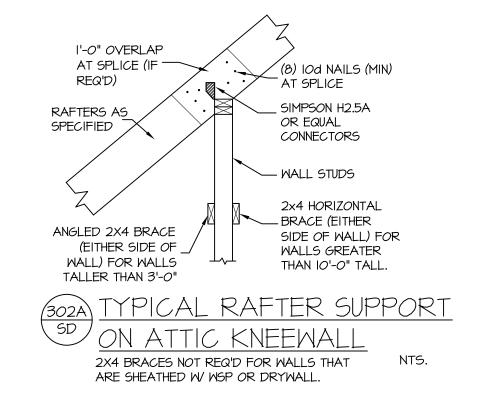
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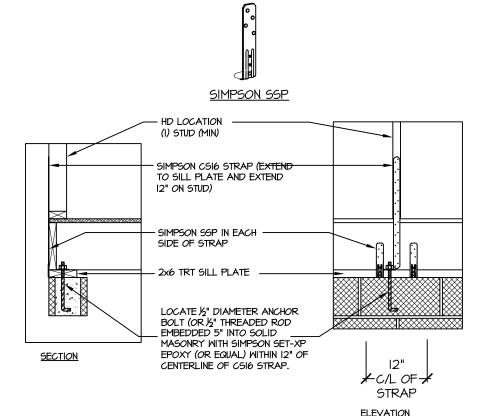






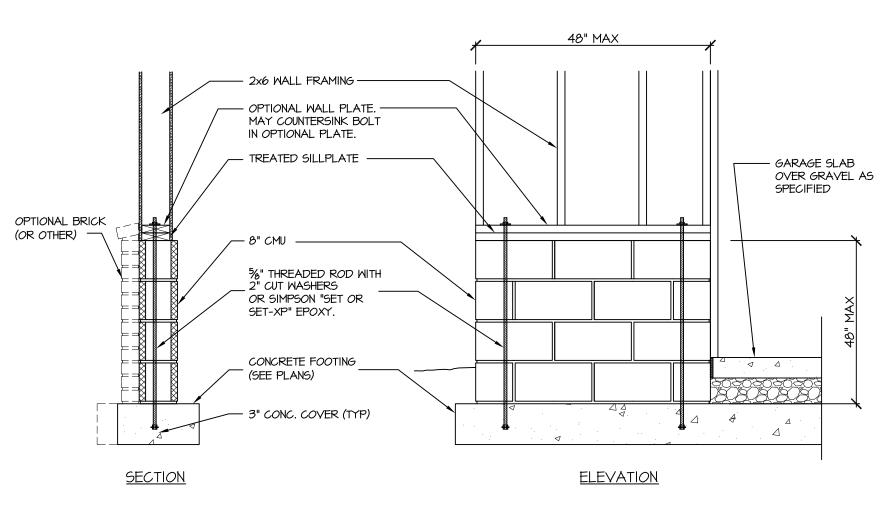






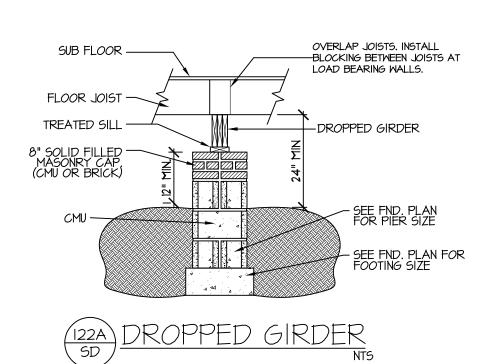
(904) BRACED WALL END CONDITION "HD" HOLD-DOWN DETAIL

NOTE: SIMPSON DTT-IZ IS ACCEPTABLE ALTERNATE NOTE: ALTERNATE HD HOLD-DOWN DEVICES OR SYSTEMS MAY BE USED TO MEET THE CODE REQUIRED 800 LB CAPACITY IN LIEU OF THE ABOVE DETAIL.



GARAGE 'WING WALL' REINFORCING





STRUCTURAL NOTES

NC (2018 NCRC): 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.

2. 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.

3. DESIGN LOADS (LISTED AS: LIVE LOAD, DEAD LOAD, DEFLECTION)

AS TO DRAIN SURFACE WATER AWAY FROM FOUNDATION WALLS.

 ROOMS OTHER THAN SLEEPING ROOMS: (40 PSF, IO PSF, L/360) SLEEPING ROOMS: (30 PSF, IO PSF, L/360)

 ATTIC WITH PERMANENT STAIR: (40 PSF, IO PSF, L/360) ATTIC WITHOUT PERMANENT STAIR: (20 PSF, IO PSF, L/360)

 ATTIC WITHOUT STORAGE: (IO PSF, IO PSF, L/240) STAIRS: (40 PSF, 10 PSF, L/360)

DECKS AND EXTERIOR BALCONIES: (40 PSF, 10 PSF, L/360)

PASSENGER VEHICLE GARAGES: (50 PSF, IO PSF, L/360)

SNOW: (20 PSF)

4. WALLS SHALL BE BRACED BY SHEATHING WALLS ON ALL STORIES WITH WOOD STRUCTURAL PANELS. SEE FRAMING NOTES FOR THICKNESS AND NAILING REQUIREMENTS.

5. SEE APPENDIX M (DCA6) FOR EXTERIOR DECK REQUIREMENTS INCLUDING ATTACHMENTS FOR LATERAL LOADS.

6. 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

HAVE 1/4" DEEP CONTROL JOINTS SAWCUT IN SLAB ON A +-10'-0" x +-10'-0" GRID). 7. 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

(D). CONTROL JOINTS SHALL BE SAWCUT TO A DEPTH OF I/D. (I.E. 4" CONCRETE SLABS SHALL

8. 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).

9. L.V.L. SHALL BE LAMINATED VENEER LUMBER: Fb=2600 PSI, Fv=285 PSI, E=I,9xI0 PSI. 9.I. P.S.L. SHALL BE PARALLEL STRAND LUMBER: Fb=2900 PSI, Fv=290 PSI, E=2.0xI0 PSI. 9.2. L.S.L. SHALL BE LAMINATED STRAND LUMBER: Fb=2250 PSI, Fv=400 PSI, E=1.55xIO PSI. INSTALL ALL CONNECTIONS PER MANUFACTURERS INSTRUCTIONS.

- IO. 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 MANUFACTURE'S SPECIFICATIONS. ANY CHANGE IN TRUSS OR I-JOIST LAYOUT SHALL BE COORDINATED WITH SOUTHERN ENGINEERS.
- II. 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 (I/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.
- 12. REBAR SHALL BE DEFORMED STEEL, ASTM615, GRADE 60. LAP ALL REBAR SPLICES 30 BAR
- 13. 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.
- 14. 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'-O". SEE ALSO SECTION R703.8.3 LINTELS.
- 15. METAL CONNECTORS REFERENCED ON PLANS CORRESPOND TO SIMPSON STRONG-TIE BRAND. CONNECTORS OF EQUAL OR BETTER CAPACITY ARE ACCEPTABLE. CORROSION RESISTANCE PER CODE AND AS RECOMMENDED BY MANUFACTURER.

PROJECT # 23-1414

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