



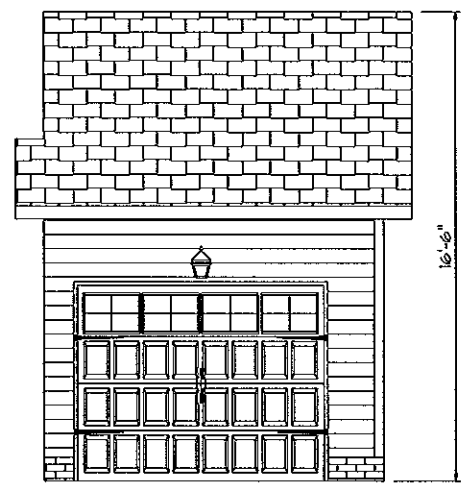
Front Elevation  
Scale: 1/4" = 1'0"

NOTICE TO CONTRACTOR  
All construction must comply with current NC Building Codes and is subject to field inspection and verification.

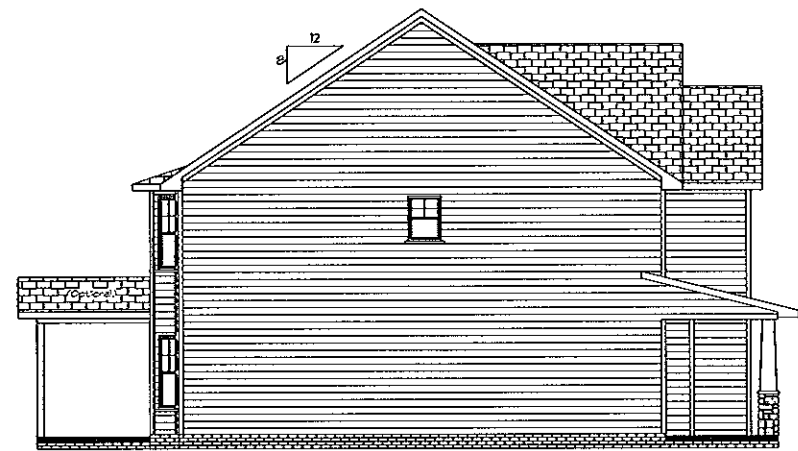
APPROVED  
Limited building only review  
Permit holder responsible for full compliance with the code

09/30/2021





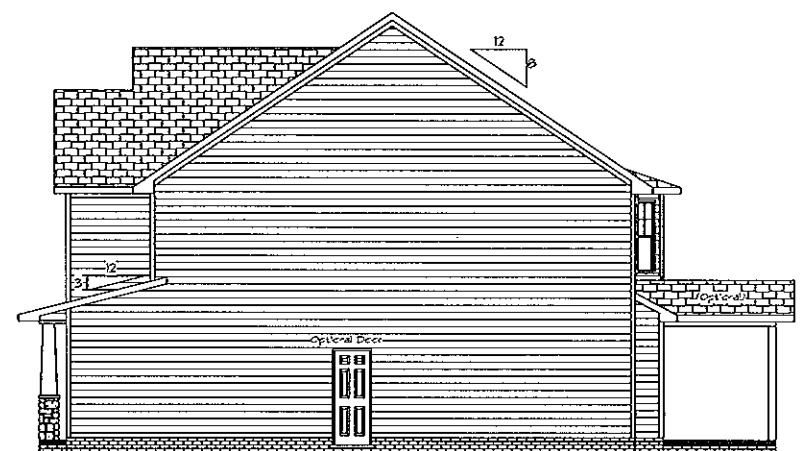
Optional Garage



Left Elevation  
Scale: 1/8" = 1'0"



Rear Elevation  
Scale: 1/8" = 1'0"



Right Elevation  
Scale: 1/8" = 1'0"

Sheet #1

1/14/2021

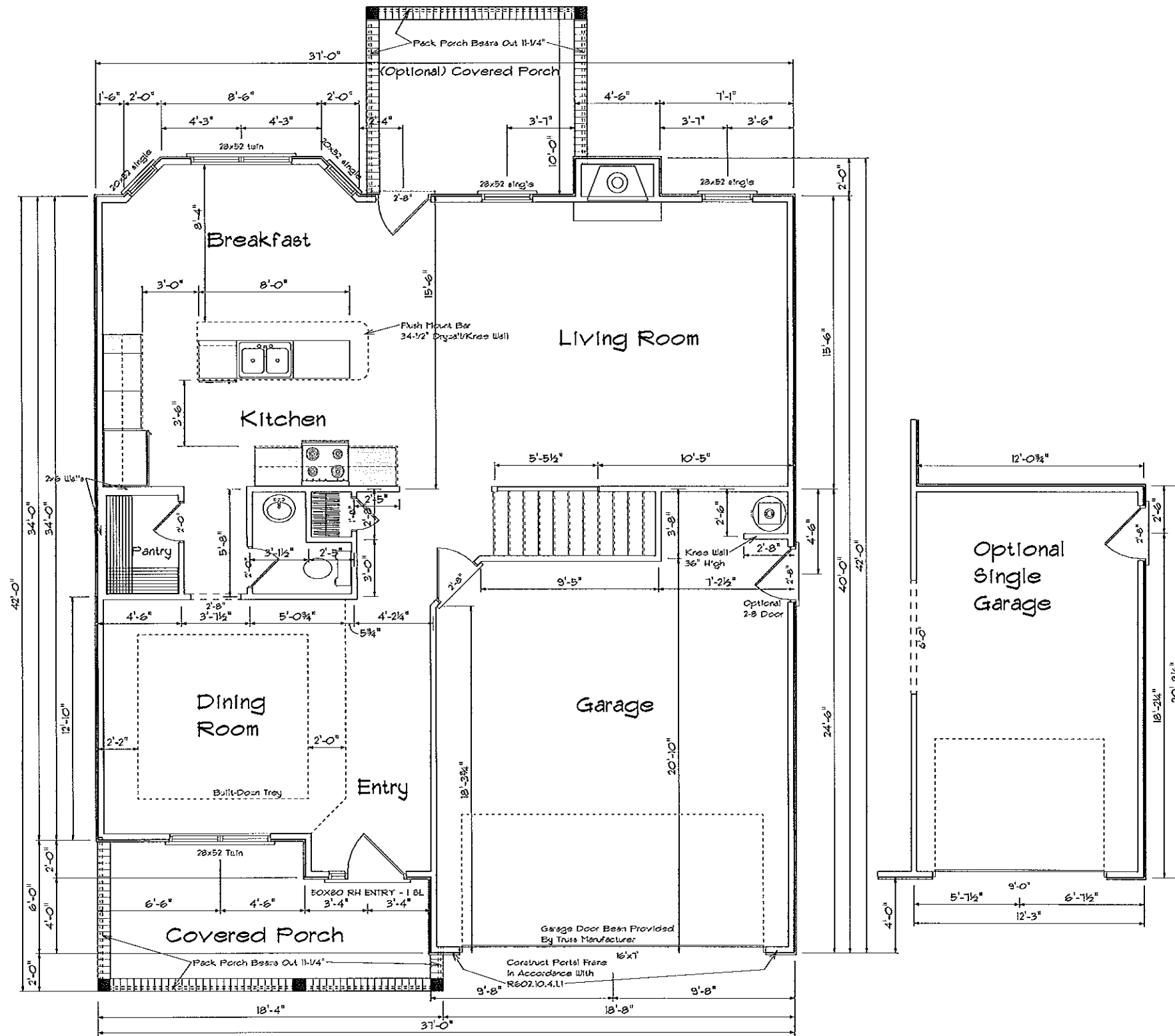
Elevations Plan

Elev. B

The Gavin II

JSJ Builders, Inc.  
1195 Robeson Street  
Fayetteville, NC 28305  
(910) 438-0196





**First Floor Plan**  
 Scale: 1/4" = 1'-0"

**ATTIC VENTILATION**

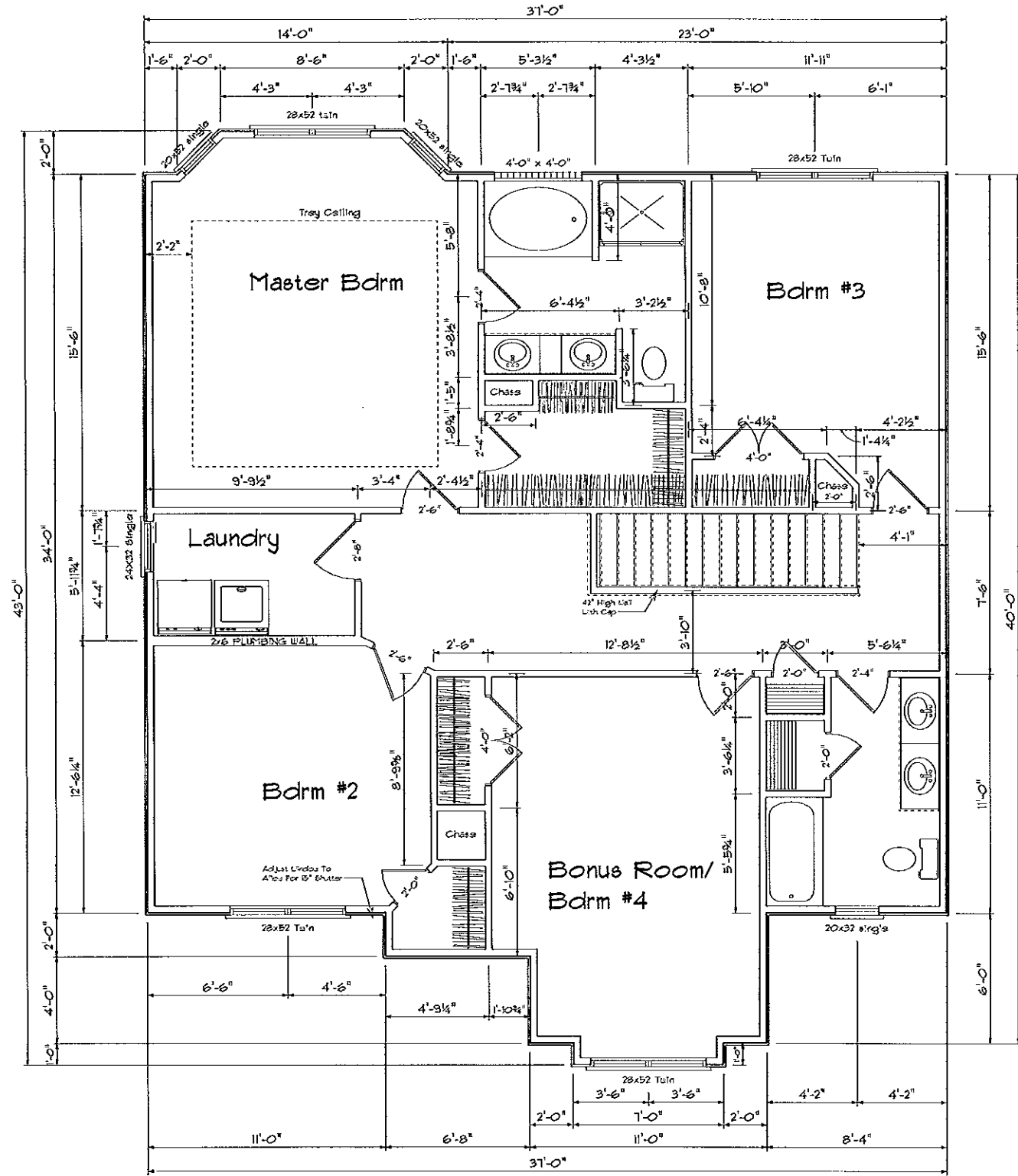
1266 SQ.FT. OF ATTIC / 150 = 8.44 SQ.FT.  
 TOTAL NET FREE VENTILATING AREA.

VENTILATION MAY BE REDUCED 50% PROVIDED AT LEAST 50 PERCENT AND NOT MORE THAN 80 PERCENT OF THE REQUIRED VENTILATING AREA IS PROVIDED BY VENTILATORS LOCATED IN THE UPPER PORTION OF THE SPACE TO BE VENTILATED AT LEAST 3'-0" ABOVE EAVE OR CORNICE VENTS WITH THE BALANCE OF THE REQUIRED VENTILATION PROVIDED BY EAVE OR CORNICE VENTS.

Areas

First Floor	1008
Second Floor	1378
	*****
Total Heated	2386
Garage	421
Front Porch	127
Opt. Garage	260
Opt. Rear Porch	116





**Second Floor Plan**  
 Scale: 1/4" = 1'-0"

Sheet #3  
 1/14/2021

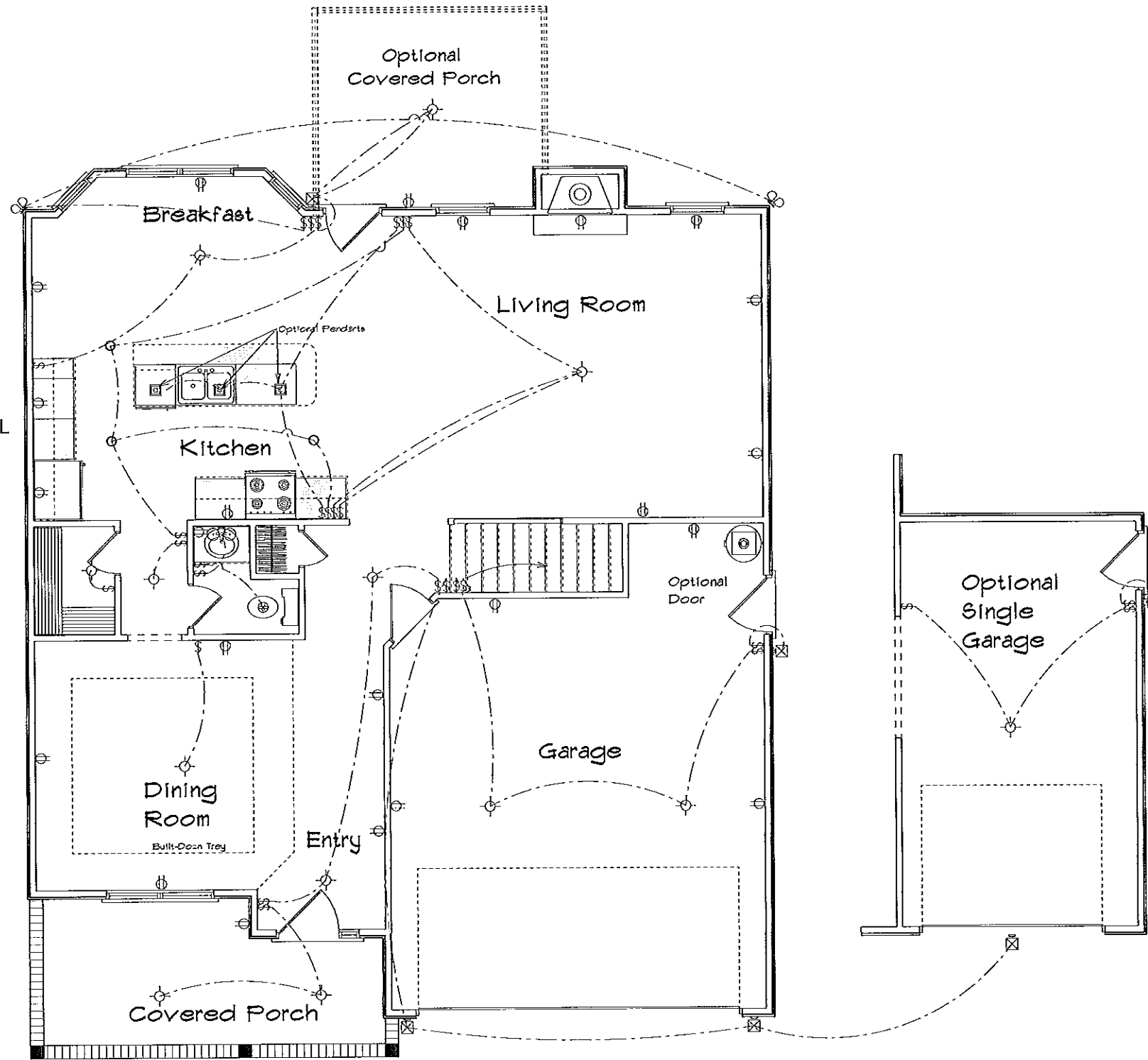
Second Floor Plan  
 2x4 Walls

**The Gavin II**

JSJ Builders, Inc.  
 1125 Robeson Street  
 Fayetteville, NC 28305  
 (910)438-0796



WIRE TO ISLAND NEEDS  
TO BE 84" FROM RANGE WALL



First Floor Electrical

Sheet #5

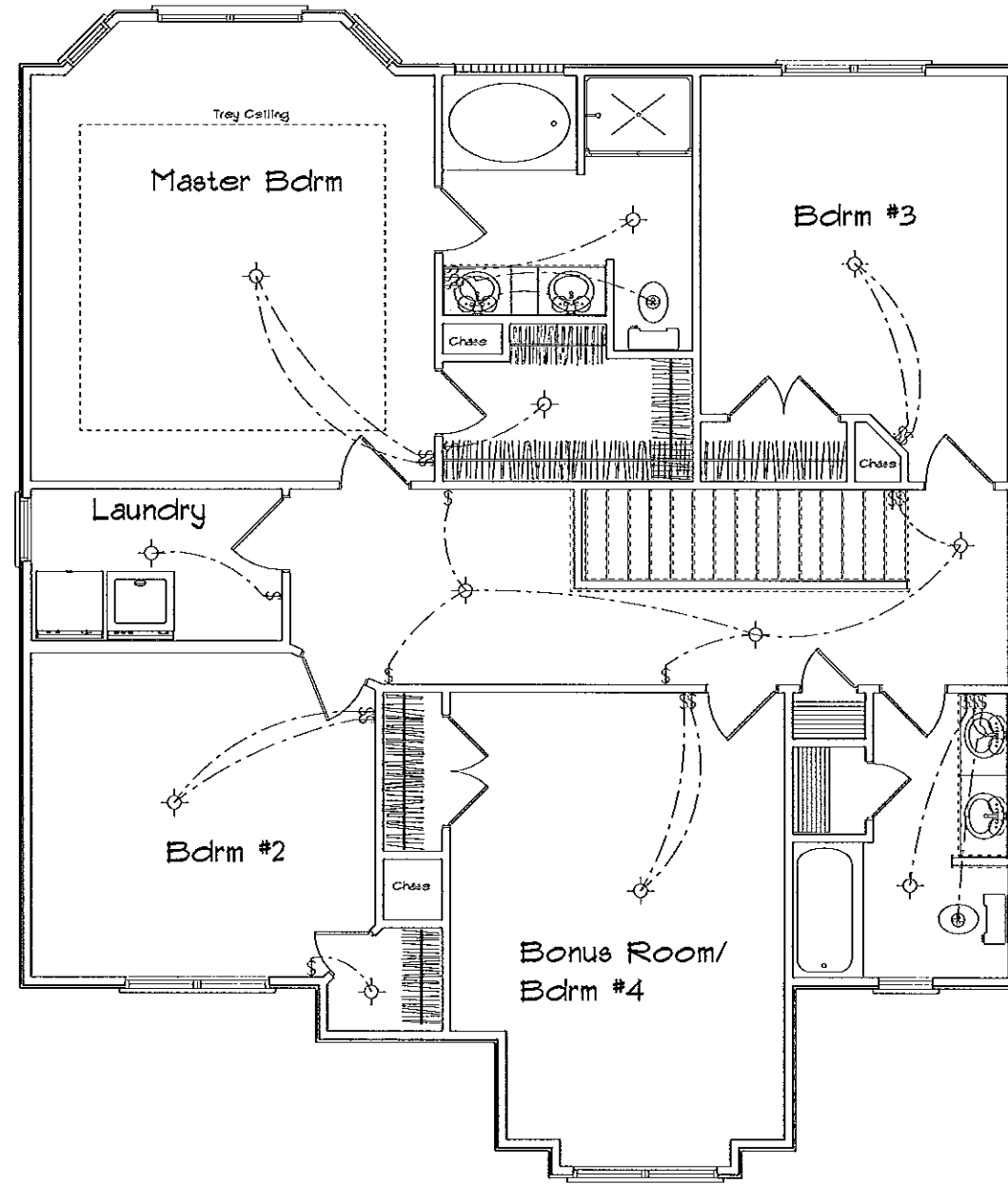
1/14/2021

First Floor Electrical  
Plan

The Gavin II

JSJ Builders, Inc.  
1135 Robeson Street  
Fayetteville, NC 28305  
(910)438-0796





Second Floor Electrical

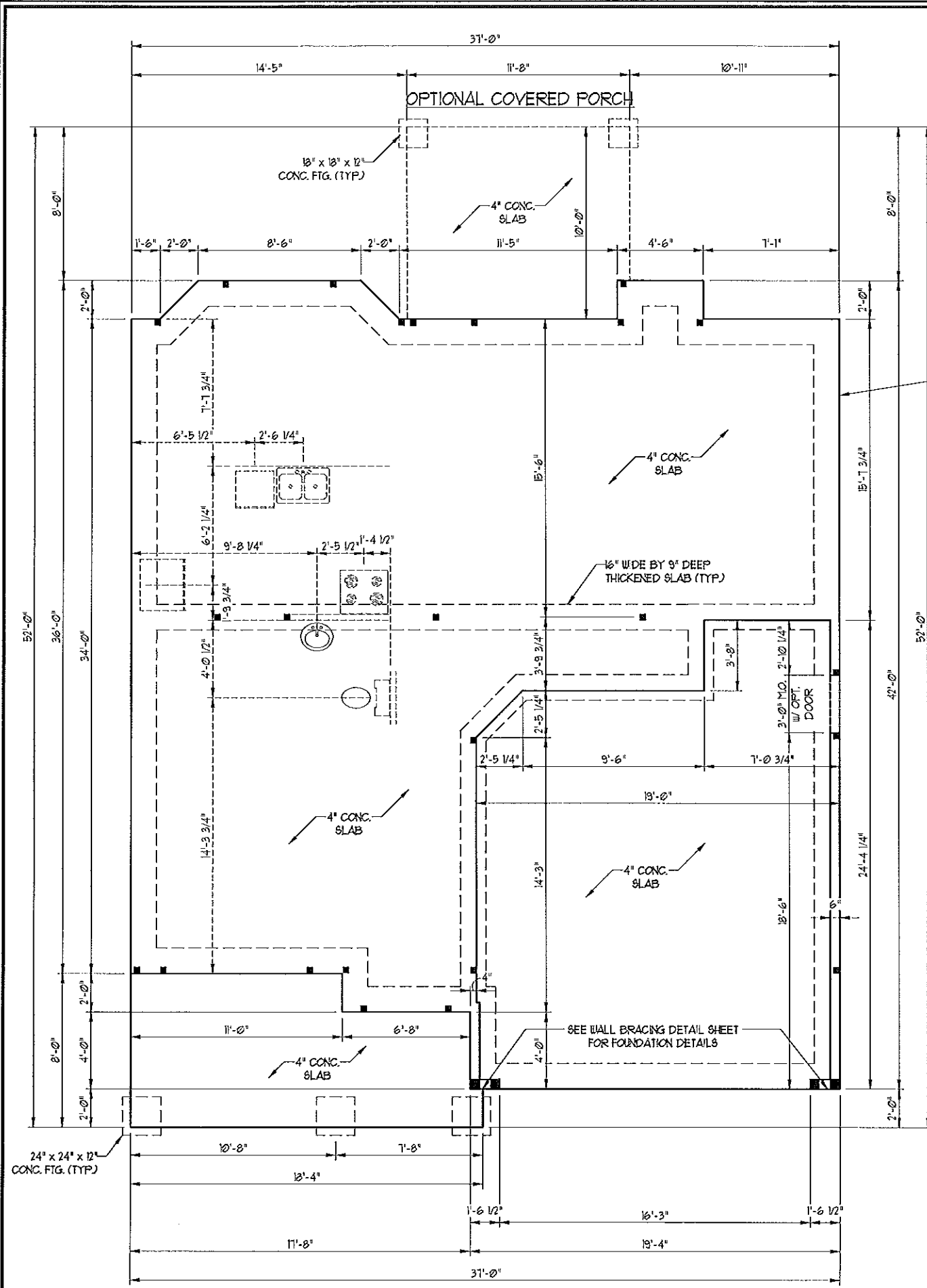


JSJ Builders, Inc.  
 1135 Rebechon Street  
 Fayetteville, NC 28305  
 (910) 438-0796

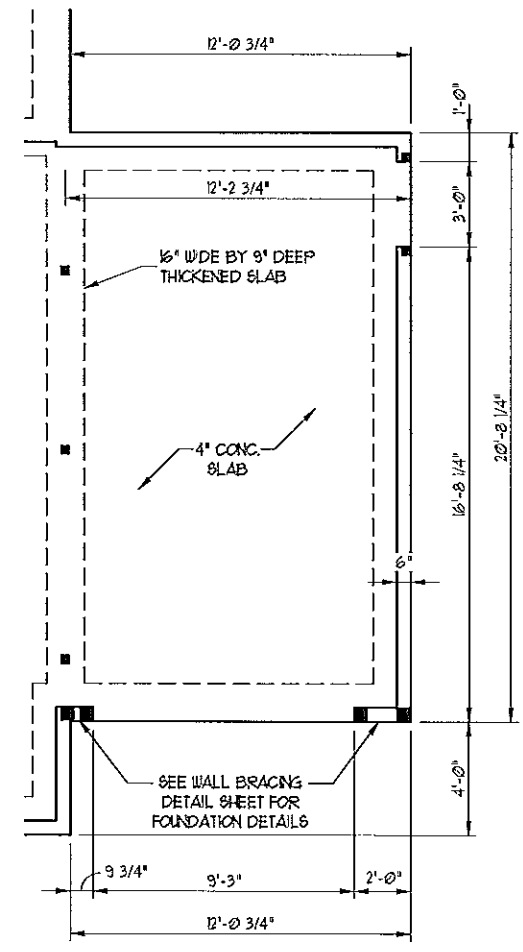
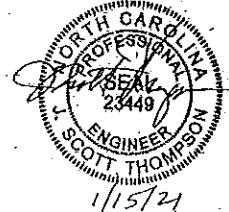
The Gavin II

Second Floor Electrical  
 Plan

Sheet #6  
 1/14/2021



SEE MONOLITHIC SLAB DETAIL SHEET FOR RFD. OPTIONS.



**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 2020 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 1" INTO MASONRY OR CONCRETE. LOCATE BOLT WITHIN MIDDLE THIRD OF FLATE WIDTH.
- MEAN ROOF HEIGHT IS LESS THAN 30 FEET.
- EXTERIOR WALLS DESIGNED FOR 120 MPH WINDS.
- WALL CLADDING DESIGNED FOR +82 PSF AND -24 PSF (4% INDICATE POSITIVE / NEGATIVE PRESSURE (TYP)).
- ROOF CLADDING DESIGNED FOR +6.1 PSF AND -21 PSF FOR ROOF PITCHES 1/4 TO 1/2 AND +25 PSF AND -43 PSF FOR ROOF PITCHED 2 1/2 TO 1/2.
- INSTALL 1/8" OSB SHEATHING ON ALL EXTERIOR WALLS OF ALL STORES IN ACCORDANCE WITH SECTION R602.103 OF THE NRC, 2020 EDITION. SEE THE WALL BRACING NOTES AND DETAIL SHEET FOR MORE INFORMATION.
- ENERGY EFFICIENCY COMPLIANCE AND INSULATION VALUES OF THE BUILDING TO BE IN ACCORDANCE WITH CHAPTER 1 OF THE NRC, 2020 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:**

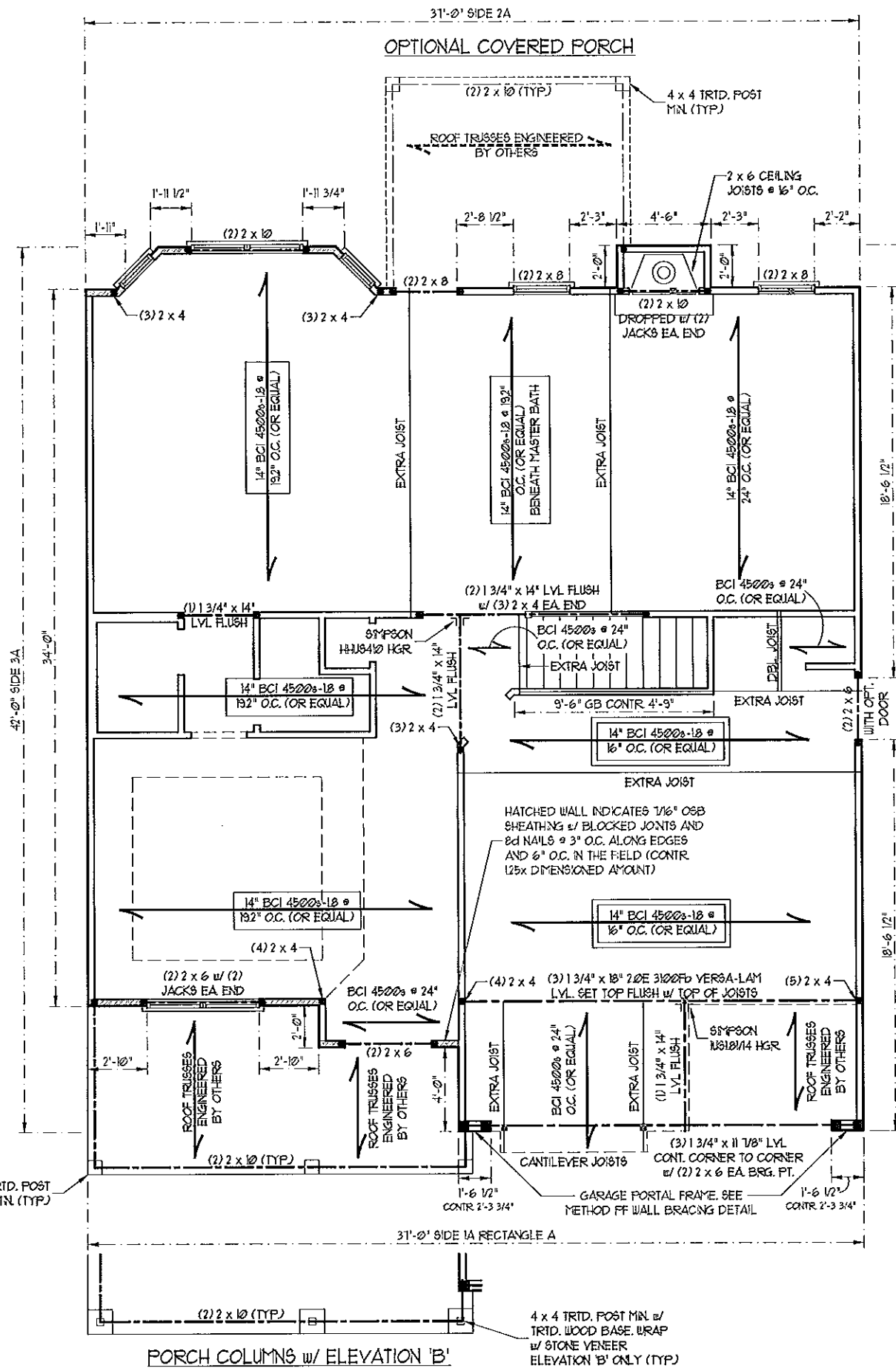
- ENGINEER'S SEAL APPLIES ONLY TO STRUCTURAL COMPONENTS. ENGINEER'S SEAL DOES NOT CERTIFY DIMENSIONAL ACCURACY OR ARCHITECTURAL LAYOUT INCLUDING ROOF SYSTEM.
- STRUCTURAL DESIGN PER NORTH CAROLINA RESIDENTIAL CODE 2020 EDITION.
- INSTALL 1/2" ANCHOR BOLTS 6"-0" O.C. AND WITHIN 1'-0" FROM END OF EACH CORNER. ANCHOR BOLTS MUST EXTEND A MINIMUM OF 1" INTO MASONRY OR CONCRETE. LOCATE BOLT WITHIN MIDDLE THIRD OF FLATE WIDTH.
- MEAN ROOF HEIGHT IS LESS THAN 30 FEET.
- EXTERIOR WALLS DESIGNED FOR 120 MPH WINDS.
- WALL CLADDING DESIGNED FOR +55 PSF AND -20 PSF (4% INDICATE POSITIVE / NEGATIVE PRESSURE (TYP)).
- ROOF CLADDING DESIGNED FOR 44.3 PSF AND -18 PSF FOR ROOF PITCHES 1/4 TO 1/2 AND +12 PSF AND -35 PSF FOR ROOF PITCHED 2 1/2 TO 1/2.
- INSTALL 1/8" OSB SHEATHING ON ALL EXTERIOR WALLS OF ALL STORES IN ACCORDANCE WITH SECTION R602.103 OF THE NRC, 2020 EDITION. SEE THE WALL BRACING NOTES AND DETAIL SHEET FOR MORE INFORMATION.
- ENERGY EFFICIENCY COMPLIANCE AND INSULATION VALUES OF THE BUILDING TO BE IN ACCORDANCE WITH CHAPTER 1 OF THE NRC, 2020 EDITION.
- REFER TO NOTES AND DETAIL SHEETS FOR ADDITIONAL STRUCTURAL INFORMATION.

**J.S. THOMPSON  
ENGINEERING, INC.**  
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N.C. LICENSE NO. C11733

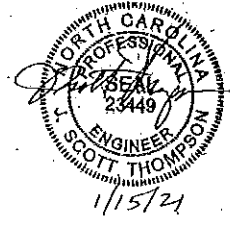
**THE GAVIN II  
JSJ BUILDERS, INC.**

DATE: JANUARY 14, 2021  
SCALE: 1/4" = 1'-0"  
DRAWN BY: JSJ BUILDERS, INC.  
ENGINEERED BY: JAG

SHEET 2 OF 6  
S-1b  
MONO SLAB  
FOUNDATION PLAN



**NOTE:**  
TJI 10 JOISTS MAY BE INSTALLED IN LIEU OF BCI 4500s-18 JOISTS AT THE DEPTH AND SPACING INDICATED ON THE PLANS.



**BRACED WALL DESIGN**

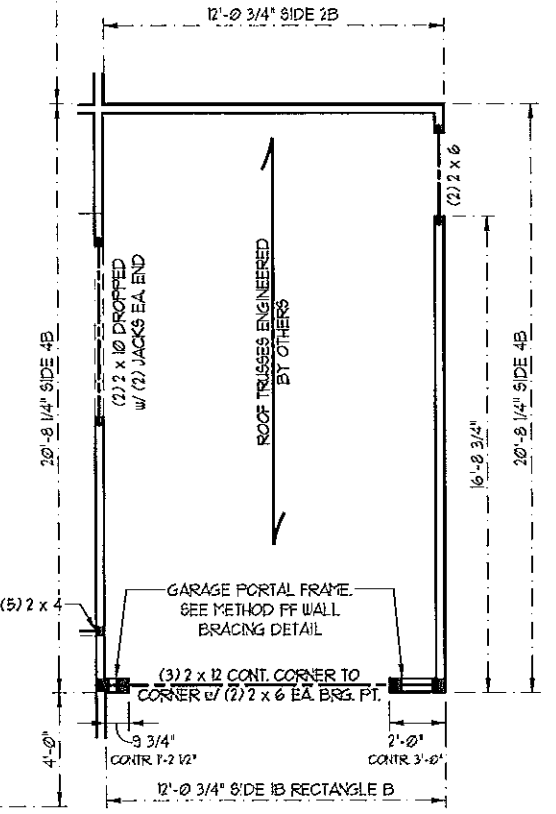
RECTANGLE A	RECTANGLE B
SIDE 1A METHOD: GB/ENG. DESIGN/FF/CS-USP TOTAL REQUIRED LENGTH: 12.06' TOTAL PROVIDED LENGTH: 16.46'	SIDE 1B METHOD: FF/CS-USP TOTAL REQUIRED LENGTH: 2.44' TOTAL PROVIDED LENGTH: 4.21'
SIDE 2A METHOD: CS-USP/ENG. DESIGN TOTAL REQUIRED LENGTH: 12.06' TOTAL PROVIDED LENGTH: 21.9'	SIDE 2B METHOD: CS-USP TOTAL REQUIRED LENGTH: 2.44' TOTAL PROVIDED LENGTH: 12.0'
SIDE 3A METHOD: CS-USP TOTAL REQUIRED LENGTH: 10.65' TOTAL PROVIDED LENGTH: 40.0'	SIDE 3B/4A COMBINED METHOD: CS-USP TOTAL REQUIRED LENGTH: 11.5' TOTAL PROVIDED LENGTH: 13.31'
SIDE 4A METHOD: CS-USP TOTAL REQUIRED LENGTH: 10.65' TOTAL PROVIDED LENGTH: 41.02'	SIDE 4B METHOD: CS-USP TOTAL REQUIRED LENGTH: 2.0' TOTAL PROVIDED LENGTH: 16.73'

- BRACED WALL DESIGN NOTES:**
- BRACED WALL DESIGN PER SECTION R602.10 OF THE NCRS 2018 EDITION.
  - CS-USP REFERS TO 'CONTINUOUS SHEATHING - WOOD STRUCTURAL PANELS'. CONTRACTOR IS TO INSTALL 1/8" OSB ON ALL EXTERIOR WALLS ATTACHED TO 8d NAILS SPACED 6" O.C. ALONG PANEL EDGES AND 12" O.C. IN THE FIELD.
  - GB REFERS TO 'GYPSUM BOARD'. CONTRACTOR IS TO INSTALL 1/2" (MNU) GYPSUM WALL BOARD WHERE NOTED ON THE PLANS. FASTEN GB WITH 1 1/4" SCREWS OR 1 5/8" NAILS SPACED 1" O.C. ALONG PANEL EDGES AND IN THE FIELD INCLUDING TOP AND BOTTOM PLATES.
  - BRACED WALL DESIGN APPLIED IN WIND ZONES UP TO 130 MPH. FOR HIGH WIND ZONES, BRACE WALLS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH CHAPTER 45 OF THE NCRS 2018 EDITION.
  - SEE NOTES AND DETAIL SHEETS FOR ADDITIONAL BRACED WALL INFORMATION.

- STRUCTURAL NOTES:**
- ALL FRAMING LUMBER TO BE SFF #2 (UNO). ALL TREATED LUMBER TO BE SYP #2 (UNO).
  - ALL LOAD BEARING HEADERS TO BE (2) 2 x 6 SFF #2 OR SYP #2 (KILN DRIED) (UNO). HEADERS HAVE BEEN DESIGNED BASED ON CALCULATED LOADS. CODE TABLES HAVE NOT BEEN USED.
  - INSTALL AN EXTRA JOIST UNDER WALLS PARALLEL TO FLOOR JOISTS WHERE NOTED ON THE PLANS.
  - WINDOW AND DOOR HEADERS TO BE SUPPORTED W/ (1) JACK STUD AND (1) KING STUD EA. END (UNO). SEE TABLE R602.15 FOR ADDITIONAL KING STUD REQUIREMENTS.
  - SQUARES DENOTE POINT LOADS WHICH REQUIRE SOLID BLOCKING TO GIRDER OR FOUNDATION. ALL SQUARES TO BE (2) STUDS (UNO).
  - ALL 4 x 4 POSTS SHALL BE ANCHORED TO SLABS W/ SYPSON ABU44 POST BASES (OR EQUAL) AND 6 x 6 POSTS W/ ABU66 POST BASES (OR EQUAL) (UNO). ALL 4 x 4 AND 6 x 6 POSTS TO BE INSTALLED WITH 100 LB CAPACITY UPLIFT CONNECTORS AT TOP (UNO).
  - FOR FIBERGLASS, ALUMINUM, OR COLUMN ENG. BY OTHERS, SECURE TO SLAB W/ (2) METAL ANGLES USING 2" CONC. SCREWS. FASTEN ANGLES TO COLUMNS W/ 1/4" THROUGH BOLTS W/ NUTS AND WASHERS. LOCATE ANGLES ON OPPOSITE SIDES OF COLUMN. THROUGH BOLTS MUST BE INSTALLED PRIOR TO SETTING COLUMN.
  - REFER TO NOTES AND DETAIL SHEETS FOR ADDITIONAL STRUCTURAL INFORMATION.

**TABLE R602.15**  
MINIMUM NUMBER OF FULL HEIGHT STUDS AT EACH END OF HEADERS IN EXTERIOR WALLS

HEADER SPAN (FEET)	MAXIMUM STUD SPACINGS (INCHES) (PER TABLE R602.3(5))	
	16	24
UP TO 3'	1	1
4'	2	1
8'	3	2
12'	5	3
16'	6	4



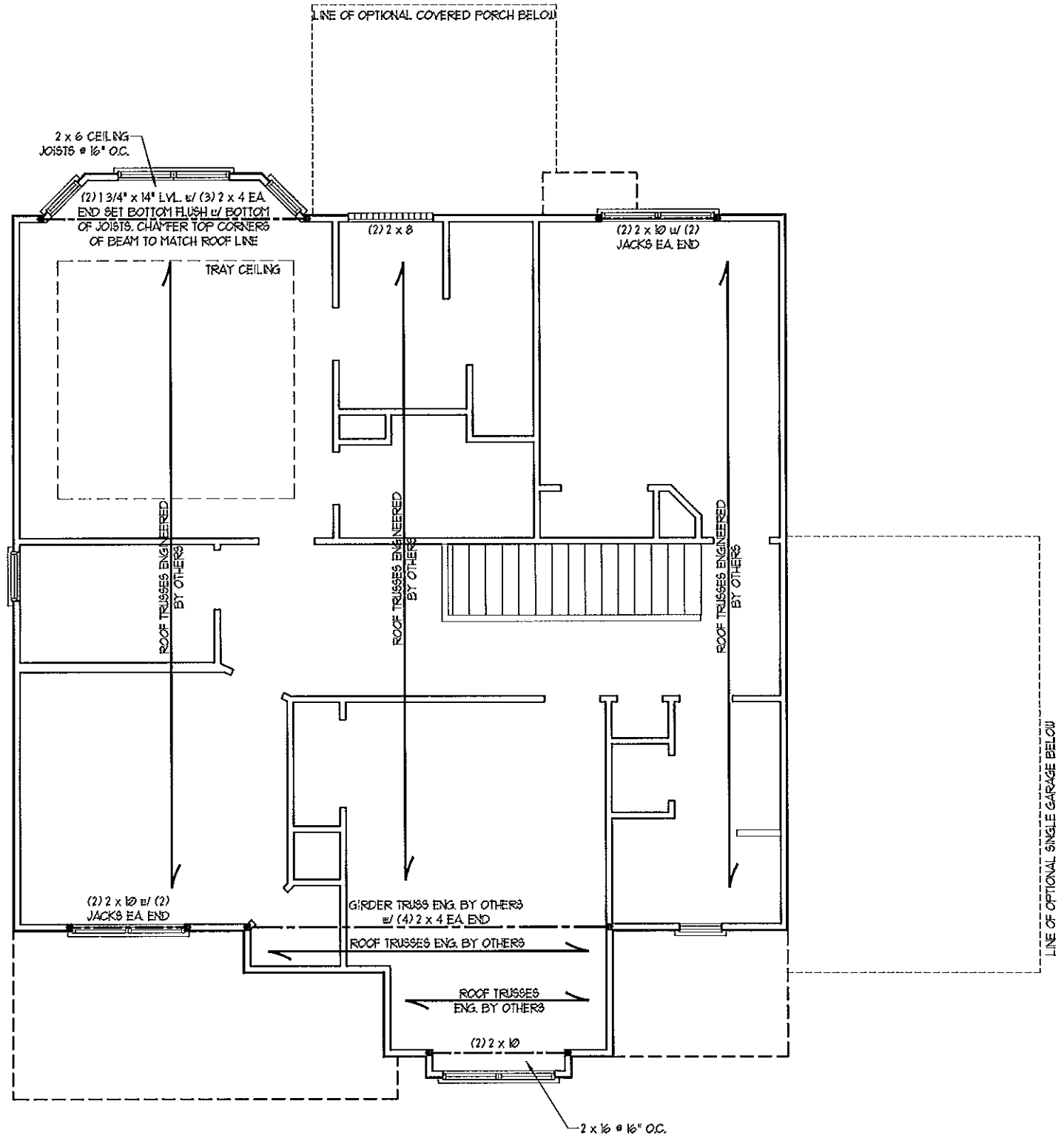
**OPTIONAL SINGLE CAR GARAGE**

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N.C. LICENSE NO. C11733

**THE GAVIN II JSJ BUILDERS, INC.**

DATE: JANUARY 14, 2021  
SCALE: 1/4" = 1'-0"  
DRAWN BY: JSJ BUILDERS, INC.  
ENGINEERED BY: JST

SHEET 4 OF 6  
S-2  
SECOND FLOOR FRAMING PLAN



**BRACED WALL DESIGN NOTES:**

1. BRACED WALL DESIGN PER SECTION R602.10 OF THE NCRS 2018 EDITION.
2. CS-WSP REFERS TO 'CONTINUOUS SHEATHING - WOOD STRUCTURAL PANELS' CONTRACTOR IS TO INSTALL 1/8" OSB ON ALL EXTERIOR WALLS ATTACHED W/ 8d NAILS SPACED 6" O.C. ALONG PANEL EDGES AND 12" O.C. IN THE FIELD.
3. 'GB' REFERS TO 'GYPSUM BOARD' CONTRACTOR IS TO INSTALL 1/2" (MIN) GYPSUM WALL BOARD WHERE NOTED ON THE PLANS. FASTEN GB WITH 1 1/4" SCREWS OR 1 5/8" NAILS SPACED 7" O.C. ALONG PANEL EDGES AND IN THE FIELD INCLUDING TOP AND BOTTOM PLATES.
4. BRACED WALL DESIGN APPLIED IN WIND ZONES UP TO 130 MPH. FOR HIGH WIND ZONES, BRACE WALLS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH CHAPTER 45 OF THE NCRS 2018 EDITION.
5. SEE NOTES AND DETAIL SHEETS FOR ADDITIONAL BRACED WALL INFORMATION.

**NOTE:**

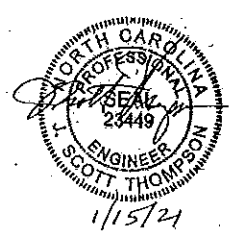
1. PER SECTION R602.10.3.2 OF THE 2018 NCRS, THE AMOUNT OF BRACING ON THE SECOND FLOOR EXCEEDS THE AMOUNT REQUIRED FOR THE FIRST FLOOR AND NO BRACED WALL ANALYSIS IS REQUIRED.
2. SHEATH ALL EXTERIOR WALLS WITH 1/8" OSB SHEATHING ATTACHED WITH 8d NAILS AT 6" O.C. ALONG PANEL EDGES AND 12" O.C. IN THE FIELD.

**STRUCTURAL NOTES:**

1. ALL FRAMING LUMBER TO BE #2 GFF (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 R602.15 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 R602.15  
MINIMUM NUMBER OF FULL HEIGHT STUDS  
AT EACH END OF HEADERS IN EXTERIOR WALLS

HEADER SPAN (FEET)	MAXIMUM STUD SPACING (INCHES) (PER TABLE R602.3(b))	
	16	24
UP TO 3'	1	1
4'	2	1
8'	3	2
12'	5	3
16'	6	4



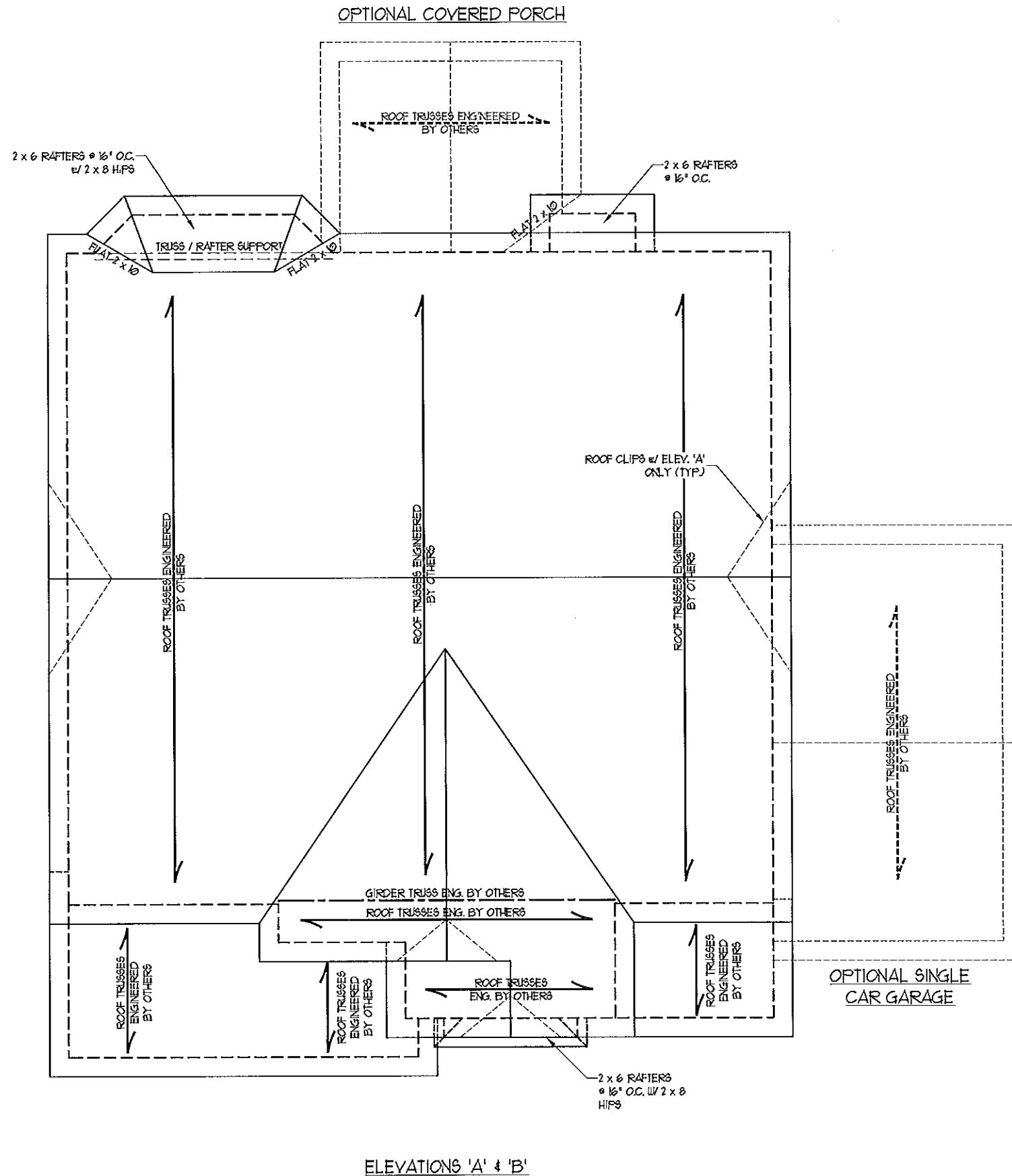
**J.S. THOMPSON ENGINEERING, INC.**  
656 WADE AVE., SUITE 104 - RALEIGH, NC 27605  
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N.C. LICENSE NO.: C17133

THE GAVIN II  
JSJ BUILDERS, INC.

DATE: JANUARY 14, 2021  
SCALE: 1/4" = 1'-0"  
DRAWN BY: JSJ BUILDERS, INC.  
ENGINEERED BY: JAG

SHEET 5 OF 6  
S-3  
CEILING FRAMING PLAN

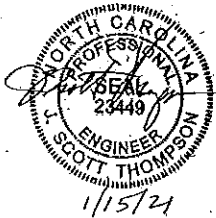




- STRUCTURAL NOTES:**
1. ALL FRAMING LUMBER TO BE #2 SFF (UNO).
  2. CIRCLES DENOTE (3) 2 x 4 POSTS FOR ROOF SUPPORT.
  3. FRAME DORMER WALLS ON TOP OF DOUBLE OR TRIPLE RAFTERS.
  4. HIP SPLICES ARE TO BE SPACED A MIN. OF 8'-0". FASTEN MEMBERS WITH THREE ROWS OF 12d NAILS @ 16" O.C. (TYP)
  5. STICK 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.
  6. FASTEN FLAT VALLEYS TO RAFTERS OR TRUSSES WITH SYMPSON H25A 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.
  7. REFER TO SECTION R20211 OF THE 2018 NCRS FOR REQUIRED UPLIFT RESISTANCE AT RAFTERS AND TRUSSES.
  8. REFER TO NOTES AND DETAIL SHEETS FOR ADDITIONAL STRUCTURAL INFORMATION.

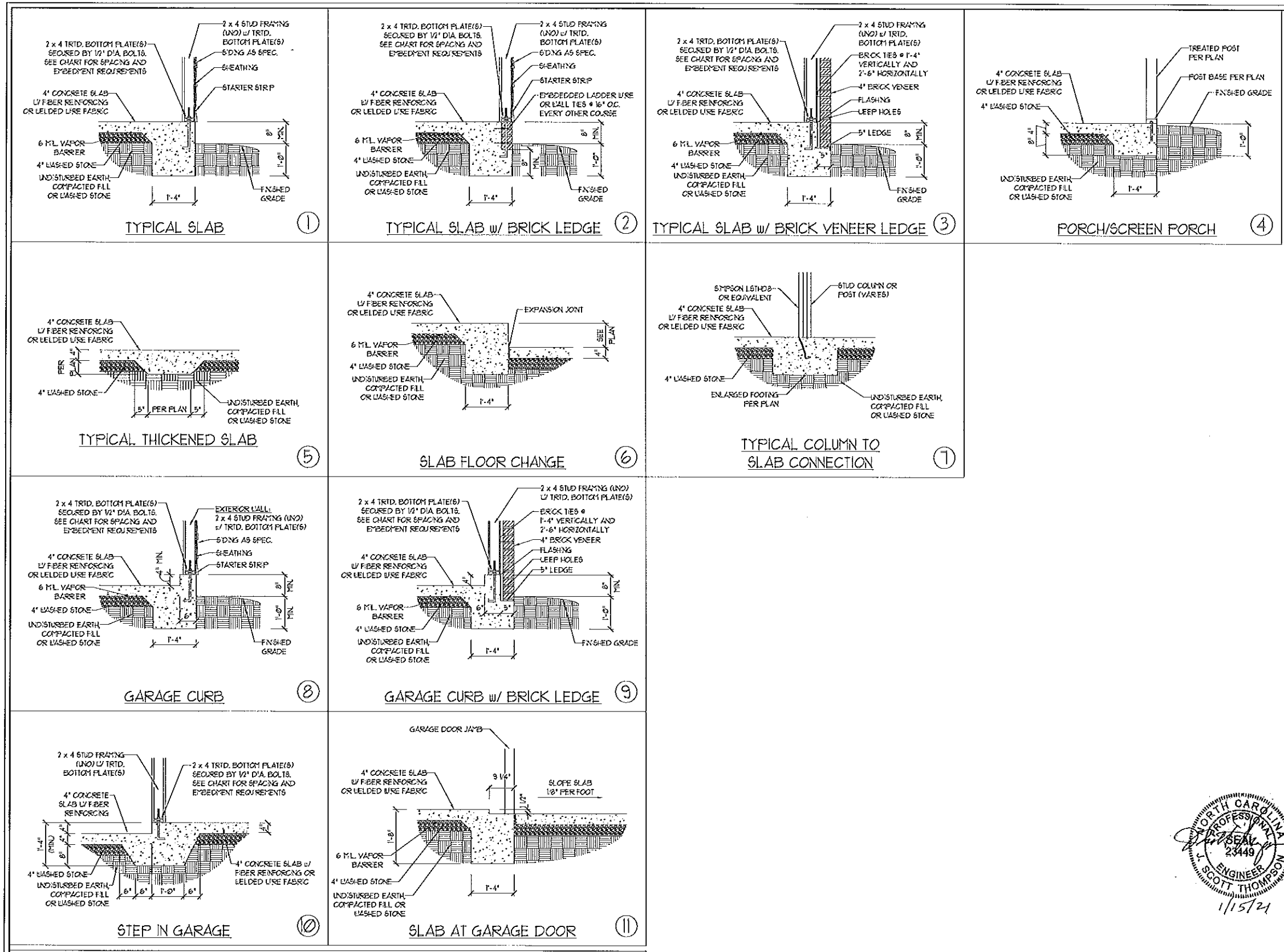
**J.S. THOMPSON  
ENGINEERING, INC.**  
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THE GAVIN II  
JSJ BUILDERS, INC.



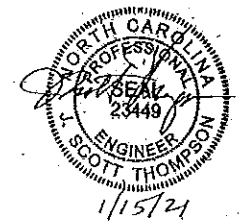
DATE: JANUARY 14, 2021  
SCALE: 1/4" = 1'-0"  
DRAWN BY: JSJ BUILDERS, INC.  
ENGINEERED BY: JAG

SHEET 6 OF 6  
S4  
ROOF FRAMING  
PLAN



**J.S. THOMPSON ENGINEERING, INC.**  
 600 WADSWORTH BLVD. #104 RALEIGH, NC 27603  
 PHONE: (919) 784-9911 FAX: (919) 784-9921  
 N.C. LICENSE NO. C-17173

MONOLITHIC SLAB FOUNDATION DETAILS



DATE: NOVEMBER 1, 2025  
 SCALE: NTS  
 DRAWN BY: JST  
 ENGINEERED BY: JST

FOUNDATION DETAILS

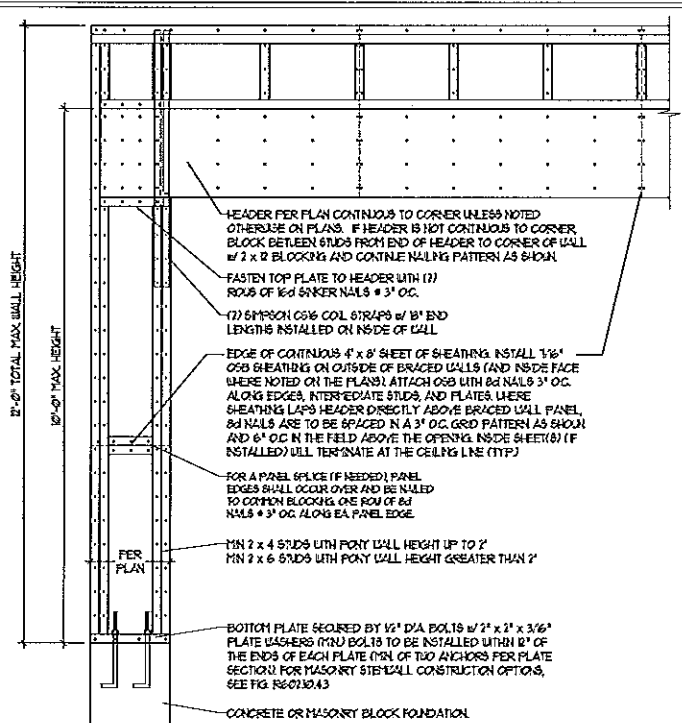
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ANCHOR SPACING AND EMBEDMENT		
WIND ZONE	120 MPH	130 MPH
SPACING	6'-0" O.C. INSTALL MIN. (2) ANCHORS PER PLATE SECTION AND (1) ANCHOR WITHIN 12" OF CORNERS	4'-0" O.C. INSTALL MIN. (2) ANCHORS PER PLATE SECTION AND (1) ANCHOR WITHIN 12" OF CORNERS
EMBEDMENT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

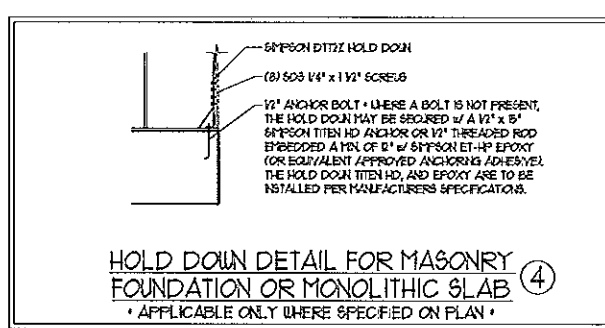
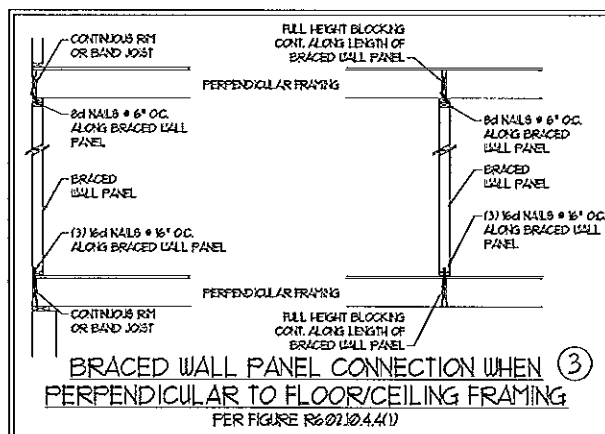
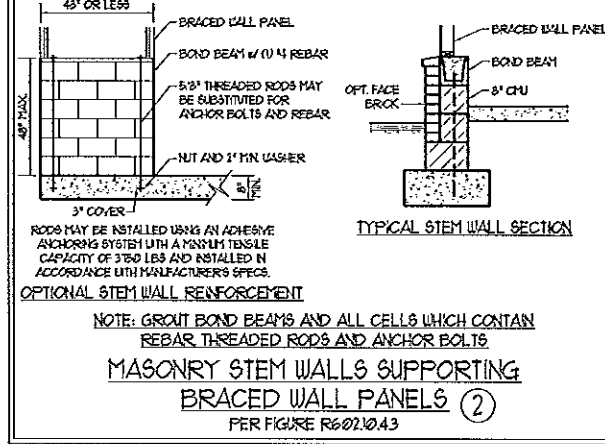
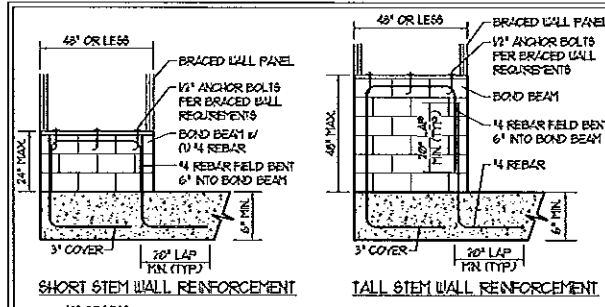
NOTE:  
 THREADED ROD WITH EPOXY, SIMPSON TITEN HD, OR APPROVED ANCHORS SPACED AS REQUIRED TO PROVIDE EQUIVALENT ANCHORAGE TO 1/2" DIAMETER ANCHOR BOLTS MAY BE USED IN LIEU OF 1/2" ANCHOR BOLTS.

**GENERAL WALL BRACING NOTES:**

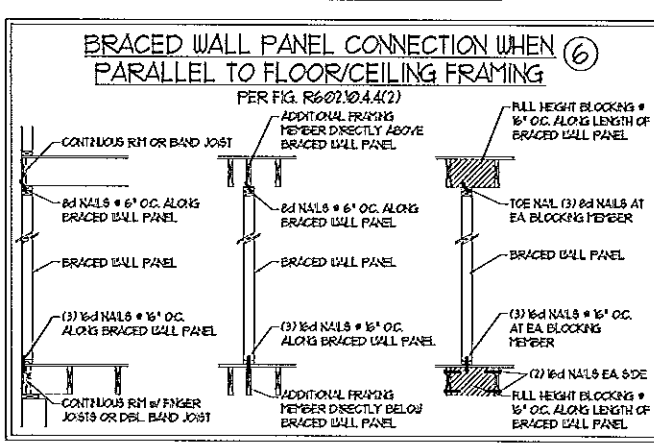
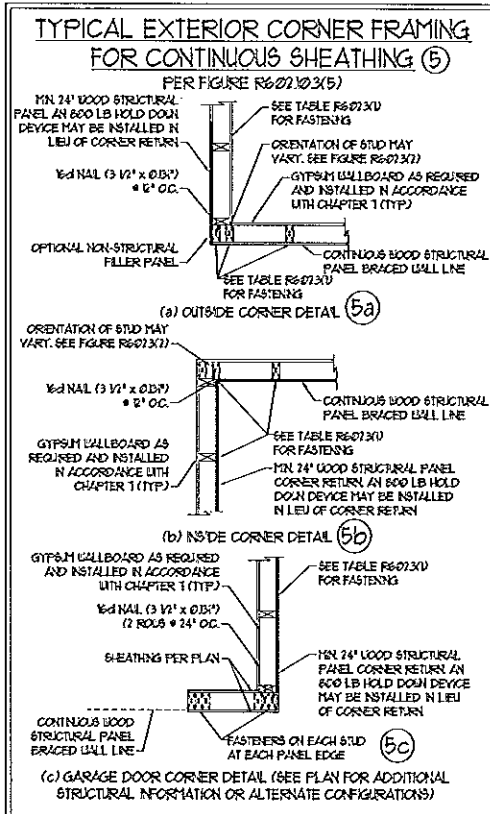
1. WALL BRACING DESIGNED IN ACCORDANCE WITH CHAPTER 6 OF THE 2008 NC RESIDENTIAL BUILDING CODE (NORC) TABLES AND FIGURES REFERENCED ARE FROM THE 2008 NORC.
2. SEE THIS SHEET FOR GENERAL DETAILS. REFER TO THE 2008 NORC FOR ADDITIONAL INFORMATION AS NEEDED.
3. BRACED EXTERIOR WALLS SUPPORTING ROOF TRUSSES AND RAFTERS, INCLUDING STORES BELOW THE TOP FLOOR, HAVE BEEN DESIGNED PER R602.3.5 (3) WALL SHEATHING AND FASTENERS HAVE BEEN DESIGNED TO RESIST COMBINED UPLIFT AND SHEAR FORCES IN ACCORDANCE WITH ACCEPTED ENGINEERING PRACTICE.
4. SEE STRUCTURAL SHEETS FOR BRACED WALL LOCATIONS, DIMENSIONS, HOLD DOWN TYPE AND LOCATIONS, BRACED WALL LINE KEY WITH WALL DESIGN SUMMARY OF REQUIRED/PROVIDED TOTALS FOR EACH WALL LINE AND ANY SPECIAL NOTES OR REQUIREMENTS.
5. ALL EXTERIOR WALLS ARE TO BE SHEATHED WITH CS-15P IN ACCORDANCE WITH SECTION R602.10.3 UNLESS NOTED OTHERWISE.
6. ALL EXTERIOR AND INTERIOR WALLS TO HAVE 1/2" GYPSUM INSTALLED. WHEN NOT USING METHOD 'GG', GYPSUM TO BE FASTENED PER TABLE R602.3.5. METHOD 'GG' TO BE FASTENED PER TABLE R602.10.1.
7. CS-15P REFERS TO THE 'CONTINUOUS SHEATHING - WOOD STRUCTURAL PANELS' WALL BRACING METHOD. 1/2" OSB SHEATHING IS TO BE INSTALLED ON ALL EXTERIOR WALLS ATTACHED w/ 6d COMMON NAILS OR 8d (1 1/2" LONG x 0.131" DIAMETER) NAILS SPACED 6" OC. ALONG PANEL EDGES AND 24" OC. IN THE FIELD (N.O.S.).
8. 'GG' REFERS TO THE 'GYPSUM BOARD' WALL BRACING METHOD. 1/2" (9.5mm) GYPSUM WALL BOARD IS TO BE INSTALLED ON BOTH SIDES OF THE BRACED WALL FASTENED WITH 1 1/4" SCREWS OR 1 5/8" NAILS SPACED 12" OC. ALONG PANEL EDGES INCLUDING TOP AND BOTTOM PLATES AND INTERMEDIATE SUPPORTS (N.O.S.). VERIFY ALL FASTENER OPTIONS FOR 1/2" AND 5/8" GYPSUM PRIOR TO CONSTRUCTION. FOR INTERIOR FASTENER OPTIONS SEE TABLE R602.3.5. FOR EXTERIOR FASTENER OPTIONS SEE TABLE R602.3.1. EXTERIOR 'GG' TO BE INSTALLED VERTICALLY.
9. REQUIRED BRACED WALL LENGTH FOR EACH SIDE OF THE CIRCUMSCRIBED RECTANGLE ARE INTERPOLATED PER TABLE R602.10.3. METHOD CS-15P CONTRIBUTES ITS ACTUAL LENGTH, METHOD 'GG' CONTRIBUTES 3 TIMES ITS ACTUAL LENGTH AND METHOD 'FF' CONTRIBUTES 12 TIMES ITS ACTUAL LENGTH.



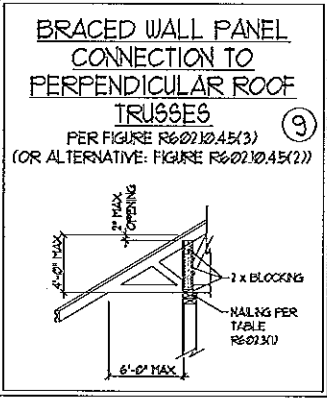
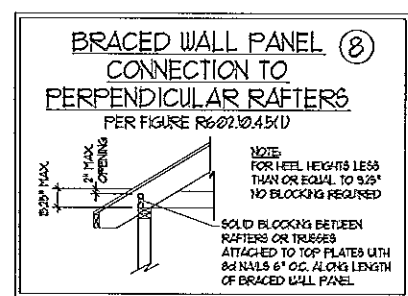
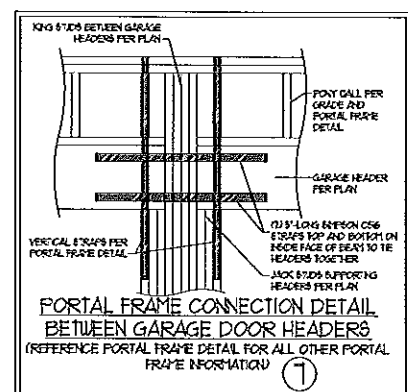
**METHOD FF-PORTAL FRAME DETAIL ①**



**HOLD DOWN DETAIL FOR MASONRY FOUNDATION OR MONOLITHIC SLAB ④**  
\* APPLICABLE ONLY WHERE SPECIFIED ON PLAN \*



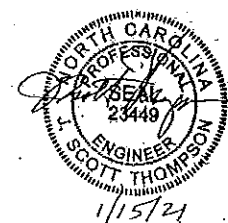
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WALL BRACING NOTES AND DETAILS

DATE: MAY 15, 2020  
SCALE: 1/4" = 1'-0"  
DRAWN BY: JST  
ENGINEERED BY: JST



BRACED WALL NOTES AND DETAILS AND FF DETAIL

**GENERAL NOTES**

- 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.
- ALL CONSTRUCTION SHALL CONFORM TO THE LATEST REQUIREMENTS OF THE NORTH CAROLINA RESIDENTIAL CODE (NCRC), 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 CONTRACTOR'S FAILURE TO CARRY OUT THE CONSTRUCTION WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
- STRUCTURAL DESIGN BASED ON THE PROVISIONS OF THE NCRC, 2018 EDITION (R3014 - R3017)

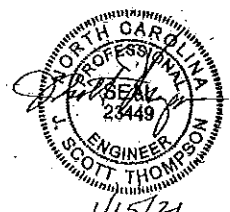
DESIGN CRITERIA:	LIVE LOAD (PSF)	DEAD LOAD (PSF)	DEFLECTION (IN)
ATTIC WITH LIMITED STORAGE	20	10	L/240 (L/360 w/ BRITTLE FINISHES)
ATTIC WITHOUT STORAGE	10	10	L/360
DECKS	40	10	L/360
EXTERIOR BALCONES	40	10	L/360
FIRE ESCAPES	40	10	L/360
HANDRAILS/GUARDRAILS	200 LB OR 50 (PLF)	10	L/360
PASSENGER VEHICLE 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 R3012(4) WIND ZONE AND EXPOSURE)		
GROUND SNOW LOAD: P <sub>g</sub>	20 (PSF)		

- I-JOIST SYSTEMS DESIGNED WITH 1/2 PSF DEAD LOAD AND DEFLECTION (IN) OF L/480
- FLOOR TRUSS SYSTEMS DESIGNED WITH 1/2 PSF DEAD LOAD

- FOR 15 AND 20 MPH WIND ZONES, FOUNDATION ANCHORAGE IS TO COMPLY WITH SECTION R403.16 OF THE NCRC, 2018 EDITION. FOR 120 MPH, 140 MPH, AND 150 MPH WIND ZONES, FOUNDATION ANCHORAGE IS TO COMPLY WITH SECTION 4504 OF THE NCRC, 2018 EDITION.
- ENERGY EFFICIENCY COMPLIANCE AND INSULATION VALUES OF THE BUILDING TO BE IN ACCORDANCE WITH CHAPTER II OF THE NCRC, 2018 EDITION.

**FOOTING AND FOUNDATION NOTES**

- FOUNDATION DESIGN BASED ON A MINIMUM ALLOWABLE BEARING CAPACITY OF 2000 PSF. CONTACT GEOTECHNICAL ENGINEER IF BEARING CAPACITY IS NOT ACHIEVED.
- 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 I, ACCORDING TO THE UNITED SOIL CLASSIFICATION SYSTEM IN ACCORDANCE WITH TABLE R403.1 OF THE NCRC, 2018 EDITION.
- 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 SAUED WITHIN 4 TO 12 HOURS OF CONCRETE FINISHING AND WALL LOCATIONS HAVE BEEN MARKED. ADJUST WHERE NECESSARY.
- CONCRETE SHALL CONFORM TO SECTION R402.2 OF THE NCRC, 2018 EDITION. CONCRETE REINFORCING STEEL TO BE ASTM A615 GRADE 60. WELDED WIRE FABRIC TO BE ASTM A105. 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.
- MASONRY UNITS TO CONFORM TO ACE 5301/ASCE 5/TMS 402. MORTAR SHALL CONFORM TO ASTM C712.
- 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. PIERS MAY BE FILLED SOLID WITH CONCRETE OR TYPE M OR S MORTAR. PIERS AND WALLS SHALL BE CAPPED WITH 8" OF SOLID MASONRY.
- 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.
- ALL CONCRETE AND MASONRY FOUNDATION WALLS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH THE PROVISIONS OF SECTION R404 OF THE NCRC, 2018 EDITION OR IN ACCORDANCE WITH ACI 318, ACI 332, NCM 1160-A OR ACE 5301/ASCE 5/TMS 402. MASONRY FOUNDATION WALLS ARE TO BE REINFORCED PER TABLE R404.1(1), R404.1(2), R404.1(3), OR R404.1(4) OF THE NCRC, 2018 EDITION. CONCRETE FOUNDATION WALLS ARE TO BE REINFORCED PER TABLE R404.1(5) OF THE NCRC, 2018 EDITION. STEP CONCRETE FOUNDATION WALLS TO 2 x 6 FRAMED WALLS AT 16" O.C. WHERE GRADE PERMITS (UNO).



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**FRAMING NOTES**

- ALL FRAMING LUMBER SHALL BE #2 SFF MINIMUM (F<sub>b</sub> = 875 PSI, F<sub>v</sub> = 375 PSI, E = 1,600,000 PSI) UNLESS NOTED OTHERWISE (UNO). ALL TREATED LUMBER SHALL BE #2 SFF MINIMUM (F<sub>b</sub> = 915 PSI, F<sub>v</sub> = 415 PSI, E = 1,600,000 PSI) UNLESS NOTED OTHERWISE (UNO).
- LAMINATED VENEER LUMBER (LVL) SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES: F<sub>b</sub> = 2600 PSI, F<sub>v</sub> = 285 PSI, E = 1,300,000 PSI. LAMINATED STRAND LUMBER (LSL) SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES: F<sub>b</sub> = 2375 PSI, F<sub>v</sub> = 310 PSI, E = 1,500,000 PSI. PARALLEL STRAND LUMBER (PSL) UP TO 1" DEPTH SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES: F<sub>c</sub> = 2500 PSI, E = 1,800,000 PSI. PARALLEL STRAND LUMBER (PSL) MORE THAN 1" DEPTH SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES: F<sub>c</sub> = 2900 PSI, E = 2,000,000 PSI. INSTALL ALL CONNECTIONS PER MANUFACTURER'S SPECIFICATIONS.
- STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING ASTM SPECIFICATIONS:
 

A. W AND WT SHAPES:	ASTM A332
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

- 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

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 3/16" DIAMETER HOLES @ 16" O.C.

- 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.
- ALL LOAD BEARING HEADERS TO CONFORM TO TABLE R602.1(1) AND R602.1(2) OF THE NCRC, 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 R602.15 OF THE NORTH CAROLINA RESIDENTIAL CODE, 2018 EDITION.
- 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).
- 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).
- 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.
- 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.
- 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.
- 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 (UNO). 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 R103.2(1) OF THE NCRC, 2018 EDITION.
- 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).
- 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).
- ALL 4 x 4 AND 6 x 6 POSTS TO BE INSTALLED WITH 100 LB CAPACITY UPLIFT CONNECTORS TOP AND BOTTOM (UNO). POSTS MAY BE SECURED USING ONE SIMPSON H6 OR L1912 UPLIFT CONNECTOR FASTENED TO THE BAND AT THE BOTTOM AND THE BEAM AT THE TOP OF EACH POST. ONE 1/2" SECTION OF SIMPSON C36 COIL STRAPPING WITH (8) 8d HDG NAILS AT EACH END MAY BE USED IN LIEU OF EACH TRUSS STRAP IF DESIRED. FOR MASONRY OR CONCRETE FOUNDATION USE SIMPSON POST BASE.

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STANDARD STRUCTURAL NOTES

DATE: OCTOBER 22, 2018  
 SCALE: 1/4" = 1'-0"  
 DRAWN BY: JES  
 ENGINEERED BY: JST

SHEET:  
 STRUCTURAL NOTES