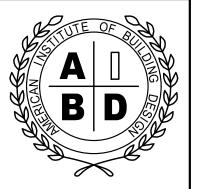
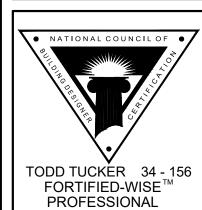


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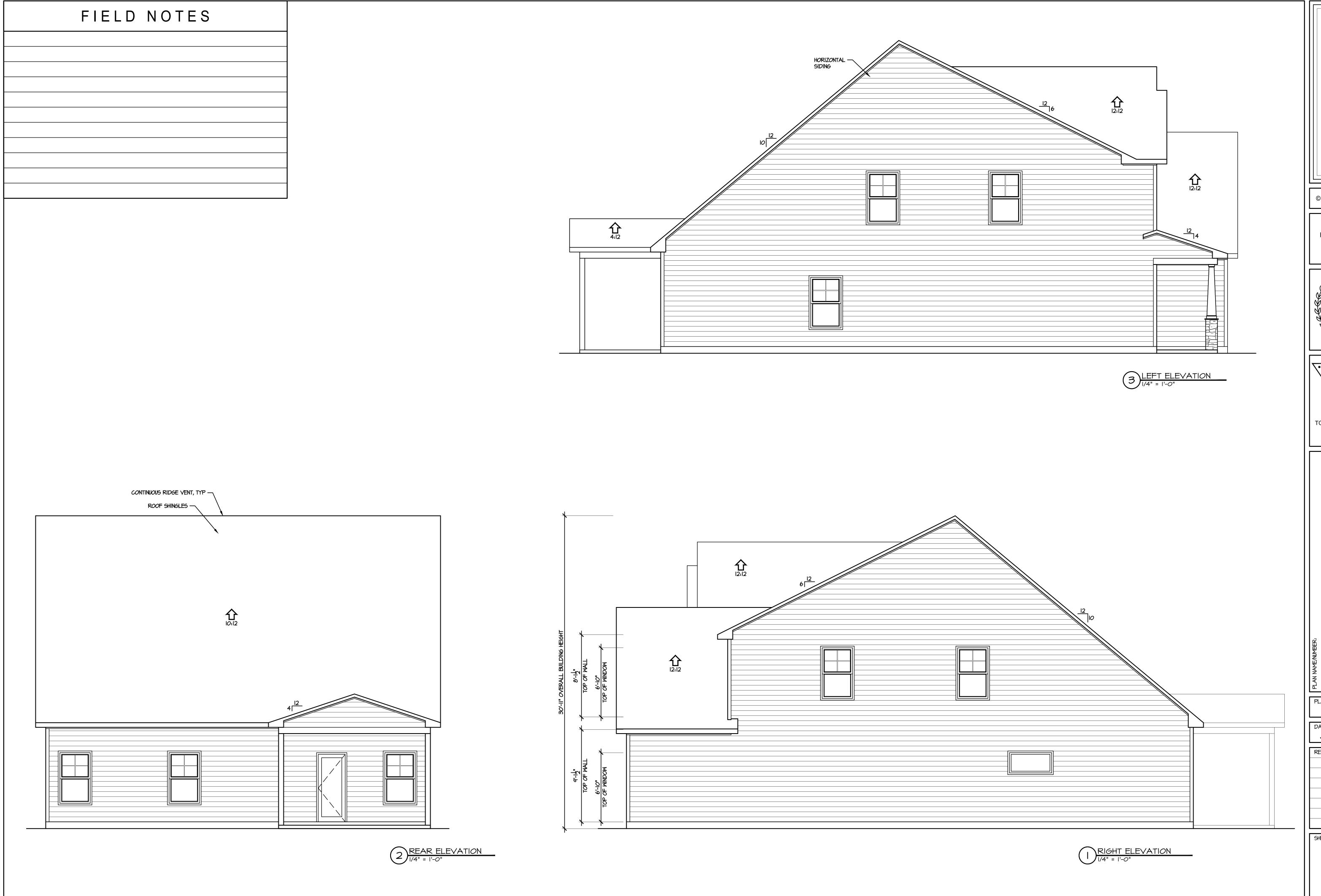
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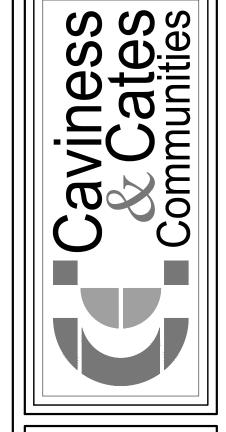
Fayetteville, NC 28305 Office: 910-481-0503 Sales: 910-240-4210 Fax: 910-481-0585





JANUARY 2019

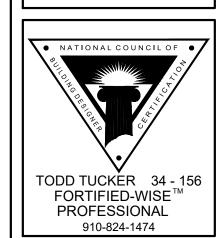




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910-824-1474

-AN NO:

CC 2695

PATE:

JANUARY 2019

REVISIONS:

SHEET NO:

LOT AC202

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

- I. ENGINEER'S SEAL APPLIES ONLY TO STRUCTURAL COMPONENTS. ENGINEER'S SEAL DOES NOT CERTIFY DIMENSIONAL ACCURACY OR ARCHITECTURAL LAYOUT INCLUDING ROOF SYSTEM.
- 2. STRUCTURAL DESIGN PER NORTH
  CAROLINA RESIDENTIAL CODE, 2018
  EDITION WITH SPECIAL CONSIDERATION TO
  CHAPTER 45 ("HIGH WIND ZONES" FOR 150
- MPH WINDS).

  3. BUILDER IS TO PROVIDE FRAMING.

  CONNECTIONS AS REQUIRED BY CHAPTER

  45 ("HIGH WIND ZONES" FOR 150 MPH

  WINDS) OF THE NORTH CAROLINA
- RESIDENTIAL CODE, 2018 EDITION.

  4. FOUNDATION ANCHORAGE TO COMPLY WITH SECTION 4504 OF THE NORTH CAROLINA RESIDENTIAL CODE, 2018 EDITION.
- MEAN ROOF HEIGHT IS LESS THAN 30 FEET.
   WALL CLADDING DESIGNED FOR +24.3 PSF AND -32 PSF (+/- INDICATE POSITIVE / NEGATIVE PRESSURE (TYP).
   PROSE CLADDING DESIGNED FOR +22.2 PSF
- 1. ROOF CLADDING DESIGNED FOR +222 PSF AND -28 PSF FOR ROOF PITCHES 1/12 TO 12/12 AND +14 PSF AND -51 PSF FOR ROOF PITCHED 2.25/12 TO 1/12.
- 8. 1/16" OSB SHEATHING IS REQUIRED ON ALL EXTERIOR WALLS.
- 9. WALLS TO BE BRACED IN ACCORDANCE
  WITH SECTION R602.10 OF THE NORTH
  CAROLINA RESIDENTIAL CODE, 2018
  EDITION AND AS NOTED ON PLANS.
- ID. ENERGY EFFICIENCY COMPLIANCE AND INSULATION VALUES OF THE BUILDING TO BE IN ACCORDANCE WITH CHAPTER II OF THE NCRC, 2018 EDITION.

### 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.

  2. STRUCTURAL DESIGN PER NORTH CAROLINA
- RESIDENTIAL CODE, 2018 EDITION.

  3. 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 T" INTO MASONRY OR CONCRETE. LOCATE BOLT WITHIN MIDDLE TURD OF DILATE WINDTILL
- BOLT WITHIN MIDDLE THIRD OF PLATE WIDTH.

  4. MEAN ROOF HEIGHT IS LESS THAN 30 FEET.

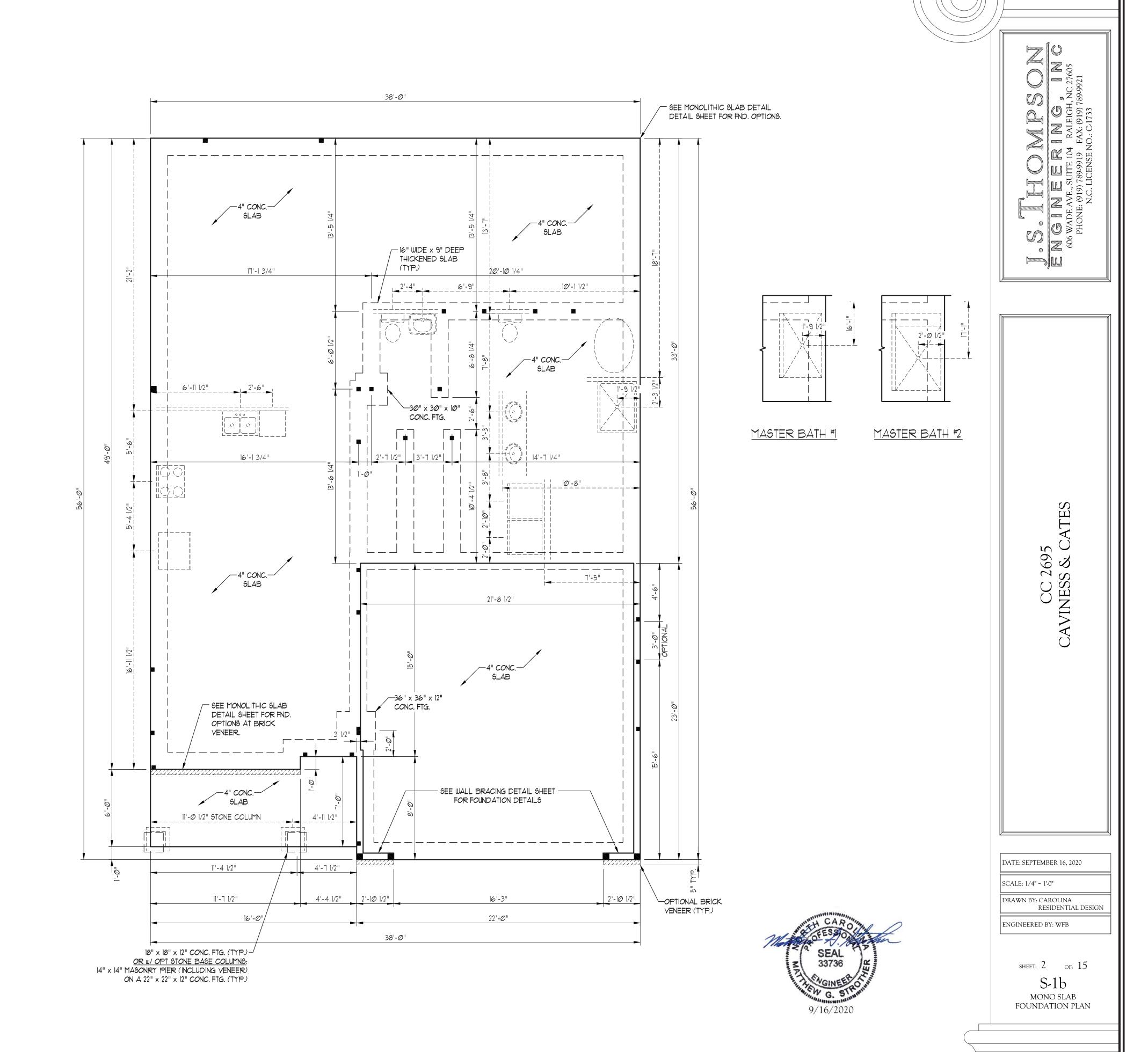
  5. EXTERIOR WALLS DESIGNED FOR 120 MPH
- 6. WALL CLADDING DESIGNED FOR +15.5 PSF AND -20 PSF (+/- INDICATE POSITIVE /
- NEGATIVE PRESSURE (TYP).

  1. ROOF CLADDING DESIGNED FOR +14.2 PSF AND -18 PSF FOR ROOF PITCHES 1/12 TO 12/12 AND +10 PSF AND -36 PSF FOR ROOF
- PITCHED 2.25/12 TO 1/12.

  8. INSTALL 1/16" OSB SHEATHING ON ALL EXTERIOR WALLS OF ALL STORIES IN ACCORDANCE WITH SECTION R602.10.3 OF THE NCRC, 2018 EDITION. SEE THE WALL BRACING NOTES AND DETAILS SHEET FOR
- MORE INFORMATION.

  9. ENERGY EFFICIENCY COMPLIANCE AND INSULATION VALUES OF THE BUILDING TO BE IN ACCORDANCE WITH CHAPTER II OF THE
- NCRC, 2018 EDITION.

  10. REFER TO NOTES AND DETAIL SHEETS FOR ADDITIONAL STRUCTURAL INFORMATION.



10'-9"

TRAY UP 5.5"

<u>GARAGE</u> 21/6x22/8

MASTER 16x13

3/0x5/0 SH

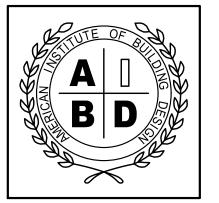
R#S

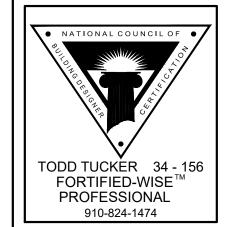
5'-10<sup>1</sup>



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SHEET NO:



### BRACED WALL DESIGN NOTES:

- I. BRACED WALL DESIGN PER SECTION R602.10 OF THE
- NCRC 2018 EDITION.

  CS-WSP REFERS TO "CONTINUOUS SHEATHING WOOD STRUCTURAL PANELS" CONTRACTOR IS TO INSTALL 1/16" 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 T" 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 NCRC 2018 EDITION.
   5. SEE NOTES AND DETAIL SHEETS FOR ADDITIONAL BRACED
- WALL INFORMATION.

# BRACED WALL DESIGN RECTANGLE A

METHOD: C5-W5P/GB/PF
TOTAL REQUIRED LENGTH: 17.3'
TOTAL PROVIDED LENGTH: 21.8'
SIDE 2A

METHOD: CS-WSP

TOTAL REQUIRED LENGTH: 17.3'
TOTAL PROVIDED LENGTH: 19.92'
SIDE 3A
METHOD: CS-WSP
TOTAL REQUIRED LENGTH: 12.1'
TOTAL PROVIDED LENGTH: 51'

METHOD: CS-WSP/PF TOTAL REQUIRED LENGTH: 12.1' TOTAL PROVIDED LENGTH: 29.4'

SIDE 4A (SIDE LOAD)

- 1			
		CHEDULE FOR AL STONE SUPPORT	RICK SUPPORT NOTES:  LINTEL SCHEDULE APPLIES TO ALL OPENINGS IN BRICK VENEER (UNO).  SEE ARCH DWGS. FOR SIZE AND LOCATION OF OPENINGS.
	LENGTH (FT.)	<u>SIZE OF LINTEL</u>	2. (LLV) = LONG LEG VERTICAL 3. LENGTH = CLEAR OPENING 4. EMBED ALL ANGLE IRONS MIN. 4" EACH SIDE INTO VENEER TO PROVIDE BEARING.
	UP TO 4 FT.	L 3 1/2 x 3 1/2 x 1/4	5. FOR ALL HEADERS 8'-0" AND GREATER IN LENGTH, ATTACH STEEL ANGL TO HEADER W/ 1/2" LAG SCREWS @ 12" O.C. STAGGERED. 6. FOR ALL BRICK SUPPORT @ ROOF LINES, FASTEN (2) 2 x 10 BLOCKING
	4-8	L 5 x 3 1/2 x 5/16 LLV	BETWEEN STUDS w/ (4) 12d NAILS PER PLY. FASTEN A 6" x 4" x 5/16" STEE ANGLE TO (2) 2 x 10 BLOCKING w/ (2) 1/2" LAG SCREWS @ 12" O.C. STAGGERED. SEE SECTION RT03.82.1 OF THE 2018 NCRC FOR ADDITIONAL
	8 AND GREATER	L 6 x 4 x 5/16 LLV	BRICK SUPPORT INFORMATION  1. PRECAST REINFORCED CONCRETE LINTELS ENGINEERED BY OTHERS MA BE USED IN LIEU OF STEEL LINTELS.

### STRUCTURAL NOTES:

- 1. ALL FRAMING LUMBER TO BE SPF \*2 (UNO).
  ALL TREATED LUMBER TO BE SYP \*2 (UNO.)
  2. ALL LOAD BEARING HEADERS TO BE (2) 2

  × 6 SPF \*2 OR SYP \*2 (KILN DRIED) (UNO).
  HEADERS HAVE BEEN DESIGNED BASED
  ON CALCULATED LOADS. CODE TABLES
  HAVE NOT BEEN USED.
- 3. INSTALL AN EXTRA JOIST UNDER 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 R602.1.5 FOR ADDITIONAL KING STUD REQUIREMENTS.
- 5. SQUARES DENOTE POINT LOADS WHICH REQUIRE SOLID BLOCKING TO GIRDER OR FOUNDATION. ALL SQUARES TO BE (2) STUDS (UNO.)
- 6. SPECIFIED SIMPSON STRONG-TIE
  PRODUCTS MAY BE SUBSTITUTED WITH
  THOSE MANUFACTURED BY USP
  STRUCTURAL CONNECTORS PROVIDED
  THAT THE LOAD CAPACITY AND FUNCTION
  IS EQUIVALENT.
- 1. ALL 4 x 4 POSTS SHALL BE ANCHORED TO SLABS W/ SIMPSON 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.)
- 8. 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.
- 9. REFER TO NOTES AND DETAIL SHEETS FOR ADDITIONAL STRUCTURAL INFORMATION.

TABLE R602.7.5

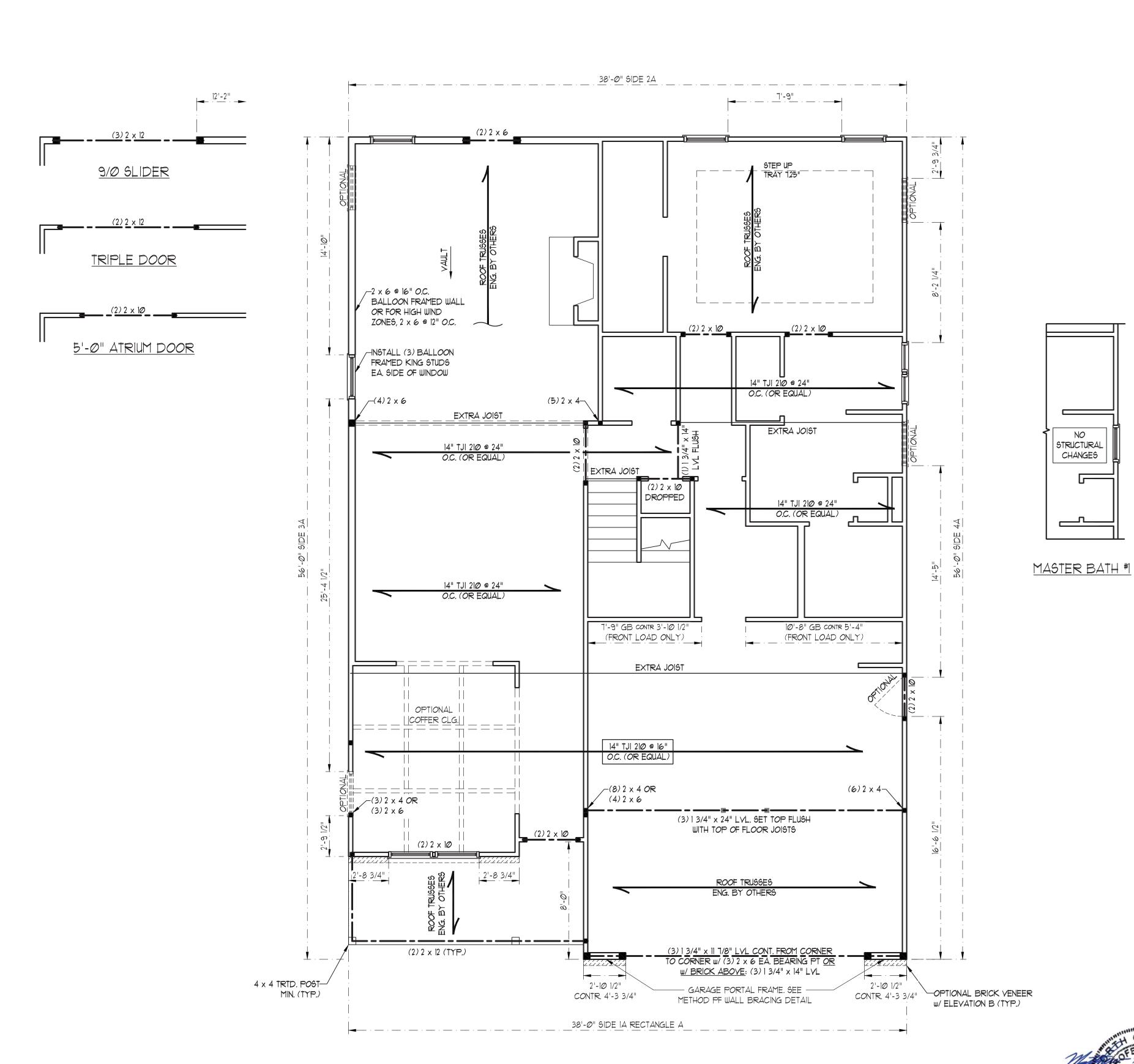
MINIMUM NUMBER OF FULL HEIGHT STUDS

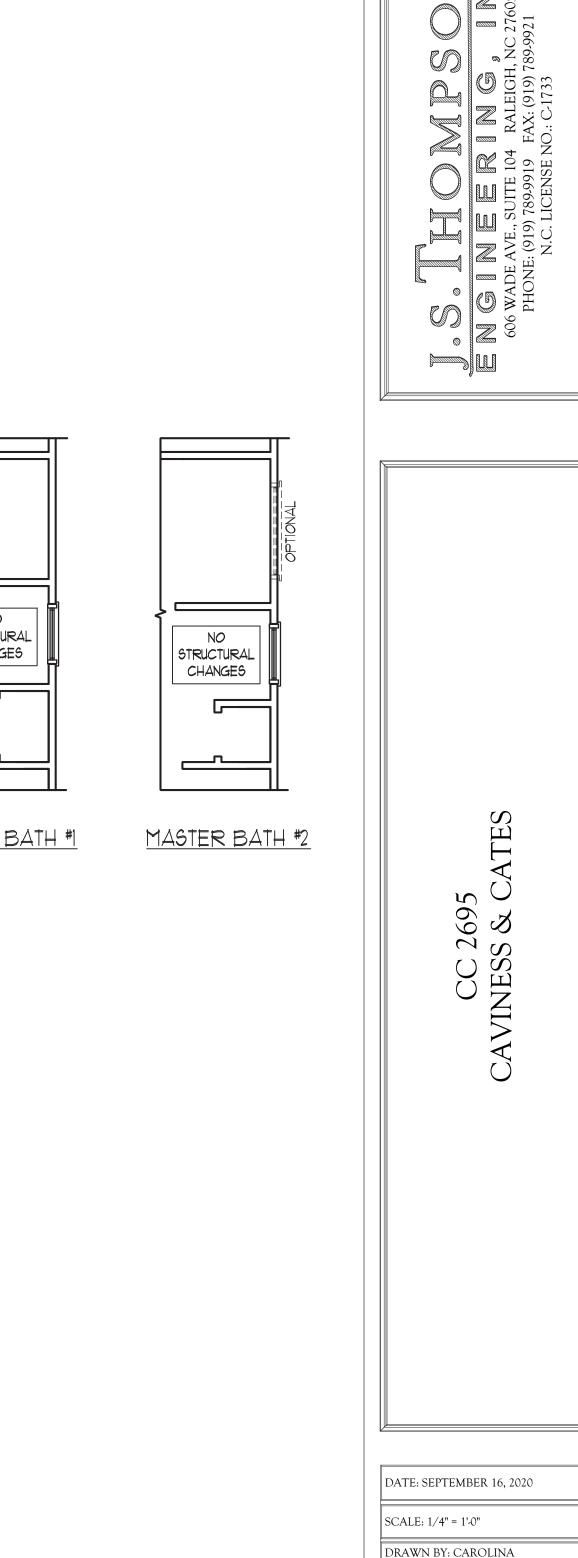
AT EACH END OF HEADERS IN EXTERIOR WALLS

	AT EACH END OF HEADERS IN EXTERIOR WAL				
	HEADER SPAN (FEET)	MAXIMUM STUD SPACING (INCHES) (PER TABLE R602.3(5)			
	(1 == 1)	16	24		
	UP TO 3'	1	1		
	4'	2	1		
	8'	3	2		
	12'	5	3		
١	16'	6	4		
			I		

\*NOTE: ALL EXTERIOR WALLS AND ATTIC WALLS ARE TO BE 2 x 4 @ 16" O.C. MIN. (UNO). 2 x 6 @ 24" O.C. EXTERIOR WALLS MAY BE CONSTRUCTED IN LIEU OF 2 x 4 WALLS (UNO). ALL INTERIOR LOAD BEARING WALLS ARE TO BE 2 x 4 @ 16" O.C. (UNO) AND NON-LOAD BEARING INTERIOR WALLS ARE TO BE 2 x 4 @ 24" O.C. (UNO).

NOTE: BCI 50005-1.8 JOISTS MAY
BE INSTALLED IN LIEU OF TJI 210
JOISTS AT THE DEPTH AND
SPACING INDICATED ON THE PLAN





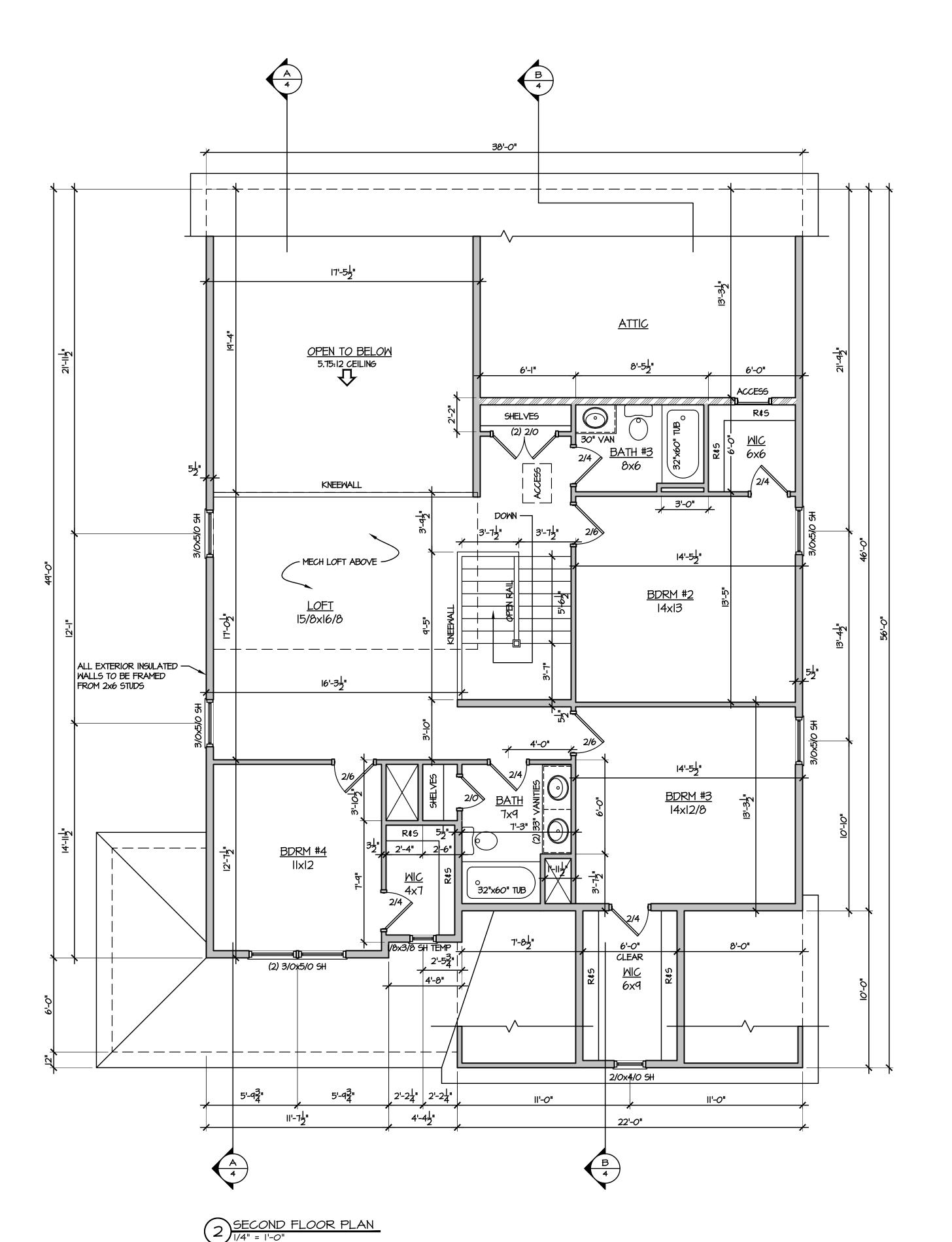
RESIDENTIAL DESIGN

sheet: 4 of: 15

SECOND FLOOR FRAMING PLAN

ENGINEERED BY: WFB

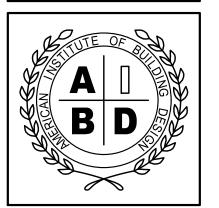
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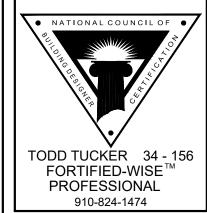




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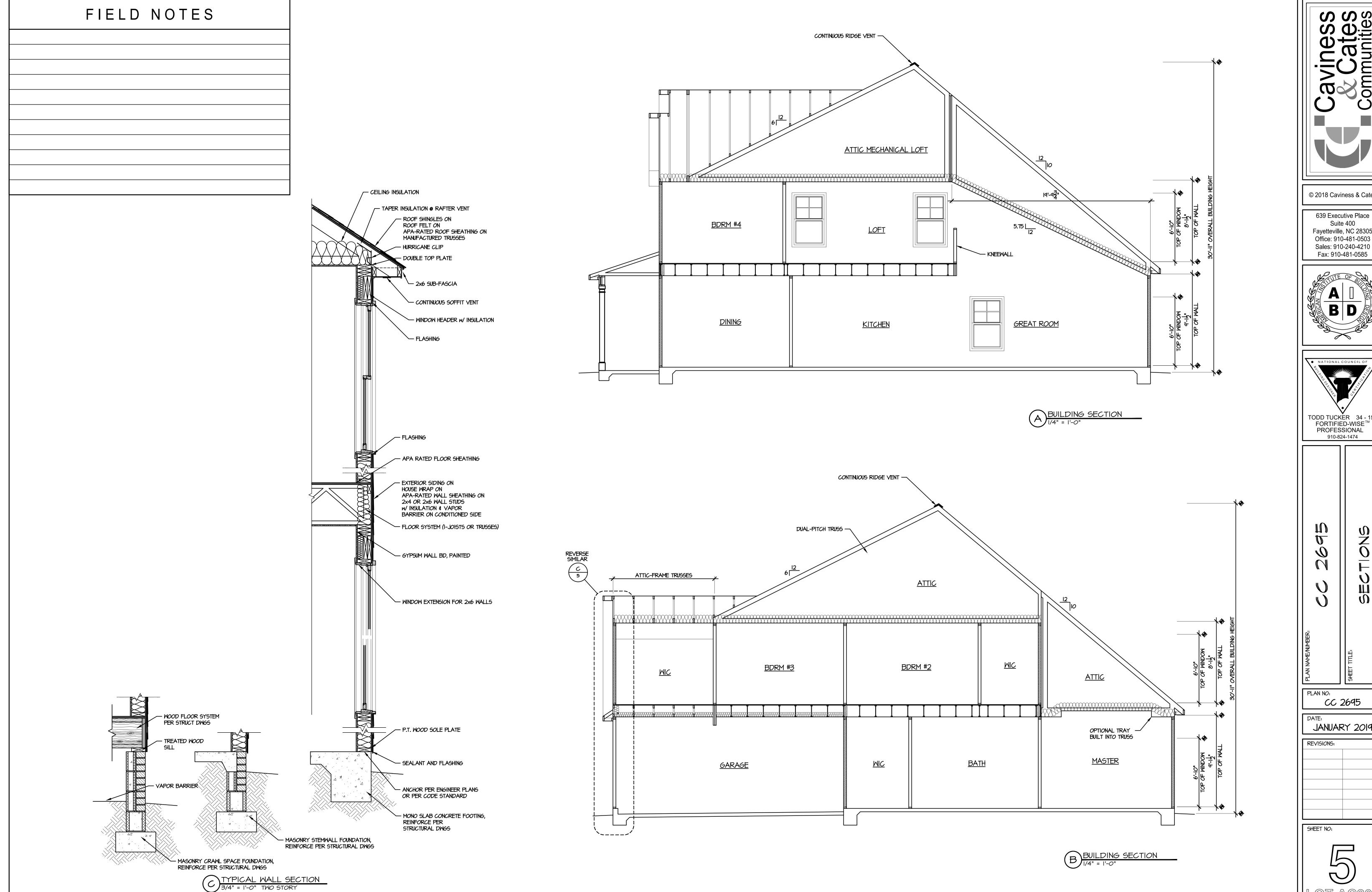
CC 2695

JANUARY 2019

REVISIONS:

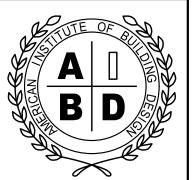
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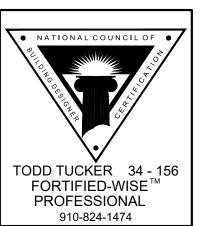




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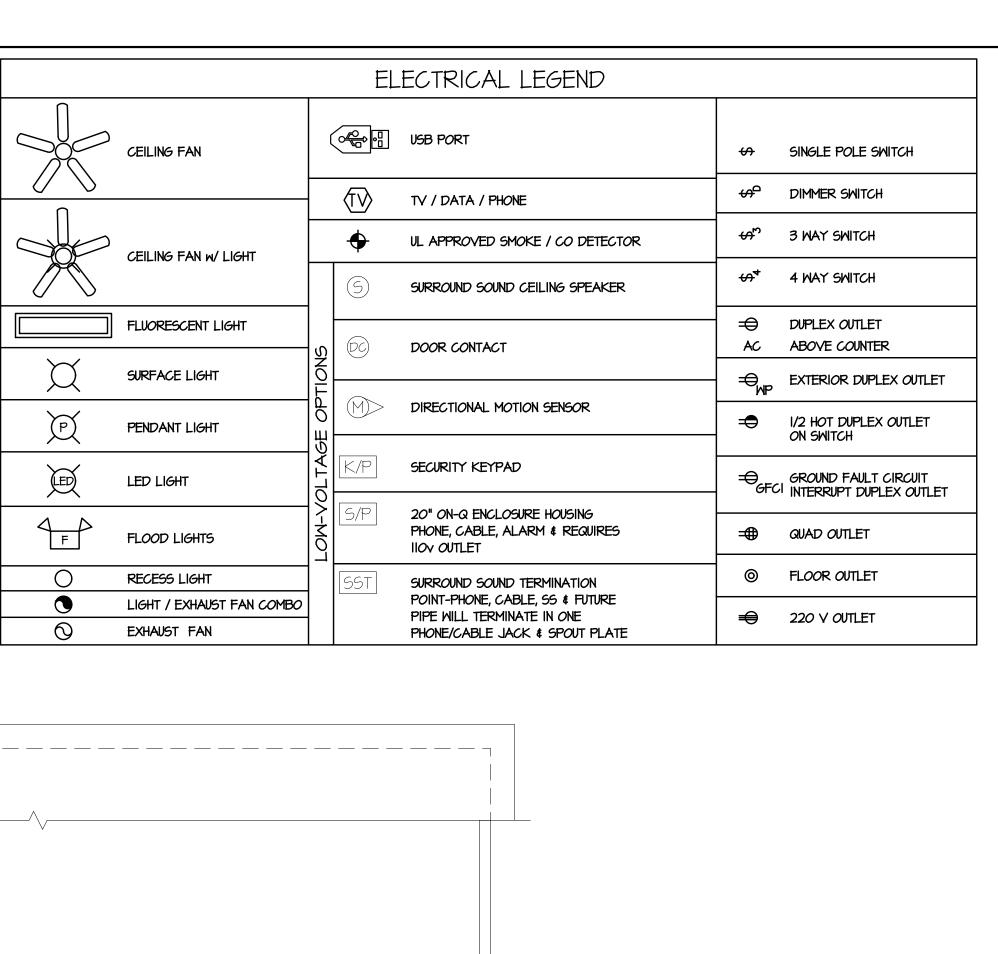


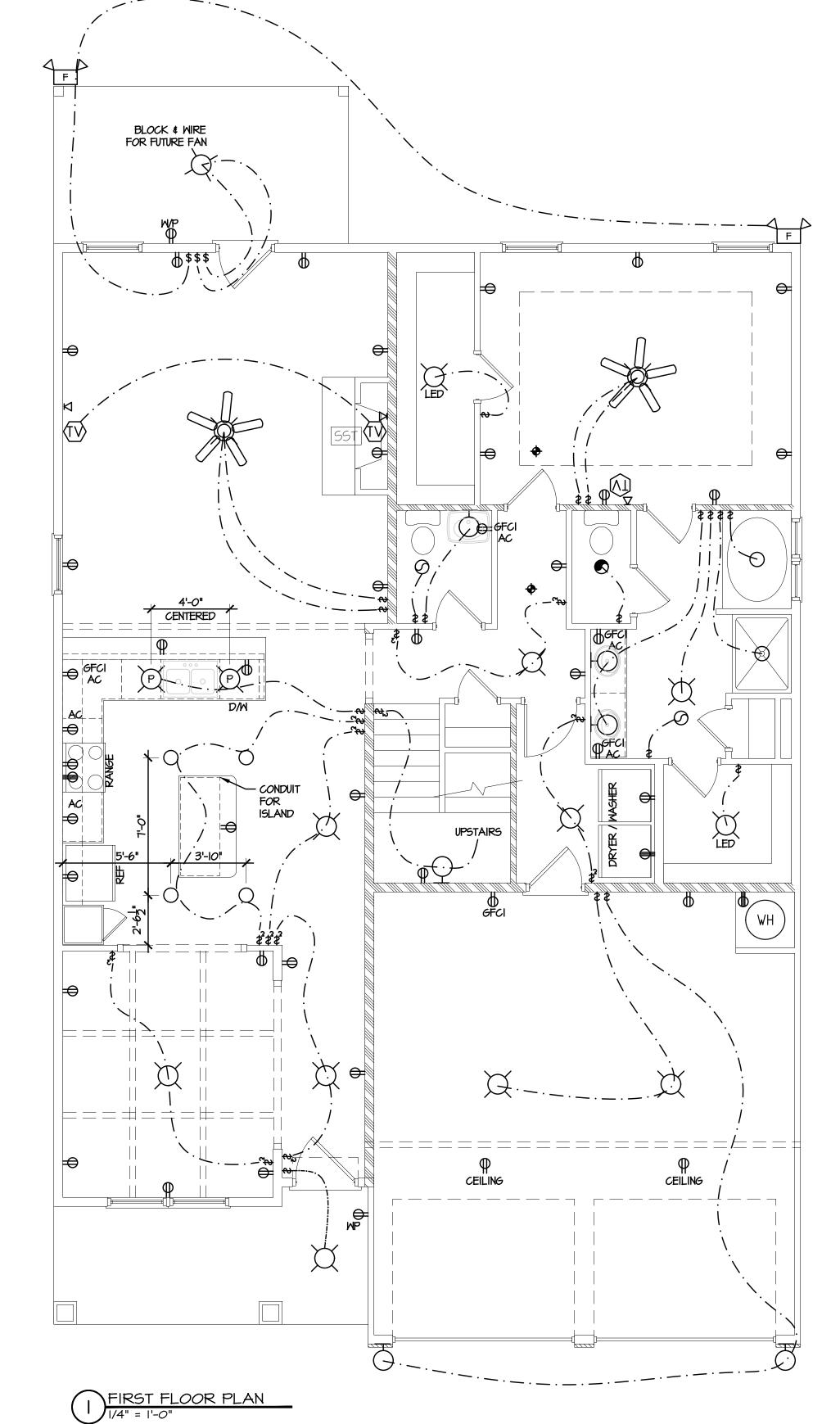
CC 2695

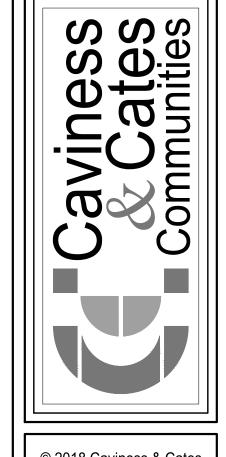
JANUARY 2019

SECOND FLOOR PLAN

1/4" = 1'-0"

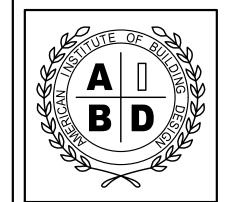


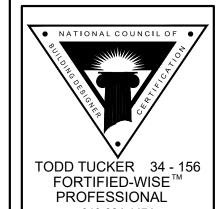




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JANUARY 2019

SHEET NO:



ELECTRICAL NOTES:
INSTALL LOW-WATTAGE LED LIGHTING IN SMALL
CLOSETS PER 2017 NEC ARTICLE 410.2 & ARTICLE
410.16

\*NOTE: ALL EXTERIOR WALLS AND ATTIC WALLS ARE TO BE 2 x 4 @ 16" O.C. MIN. (UNO). 2 x 6 @ 24" O.C. EXTERIOR WALLS MAY BE CONSTRUCTED IN LIEU OF 2 x 4 WALLS (UNO). ALL INTERIOR LOAD BEARING WALLS ARE TO BE 2 x 4 @ 16" O.C. (UNO) AND NON-LOAD BEARING INTERIOR WALLS ARE TO BE 2 x 4 @ 24" O.C. (UNO).

### BRACED WALL DESIGN NOTES:

- 1. BRACED WALL DESIGN PER SECTION R602.10 OF THE NCRC 2018 EDITION.
- 2. CS-WSP REFERS TO "CONTINUOUS SHEATHING WOOD STRUCTURAL PANELS" CONTRACTOR IS TO INSTALL 1/16" 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 TO O.C. ALONG PANEL EDGES AND IN THE FIELD INCLUDING TOP AND BOTTOM PLATES.
- 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 NCRC 2018 EDITION.
- 5. SEE NOTES AND DETAIL SHEETS FOR ADDITIONAL BRACED WALL INFORMATION.

### NOTE:

- 1. PER SECTION R602.10.3.2 OF THE 2018 NCRC, 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 1/16" OSB SHEATHING ATTACHED WITH 8d NAILS AT 6" O.C. ALONG PANEL EDGES AND 12" O.C. IN THE FIELD.

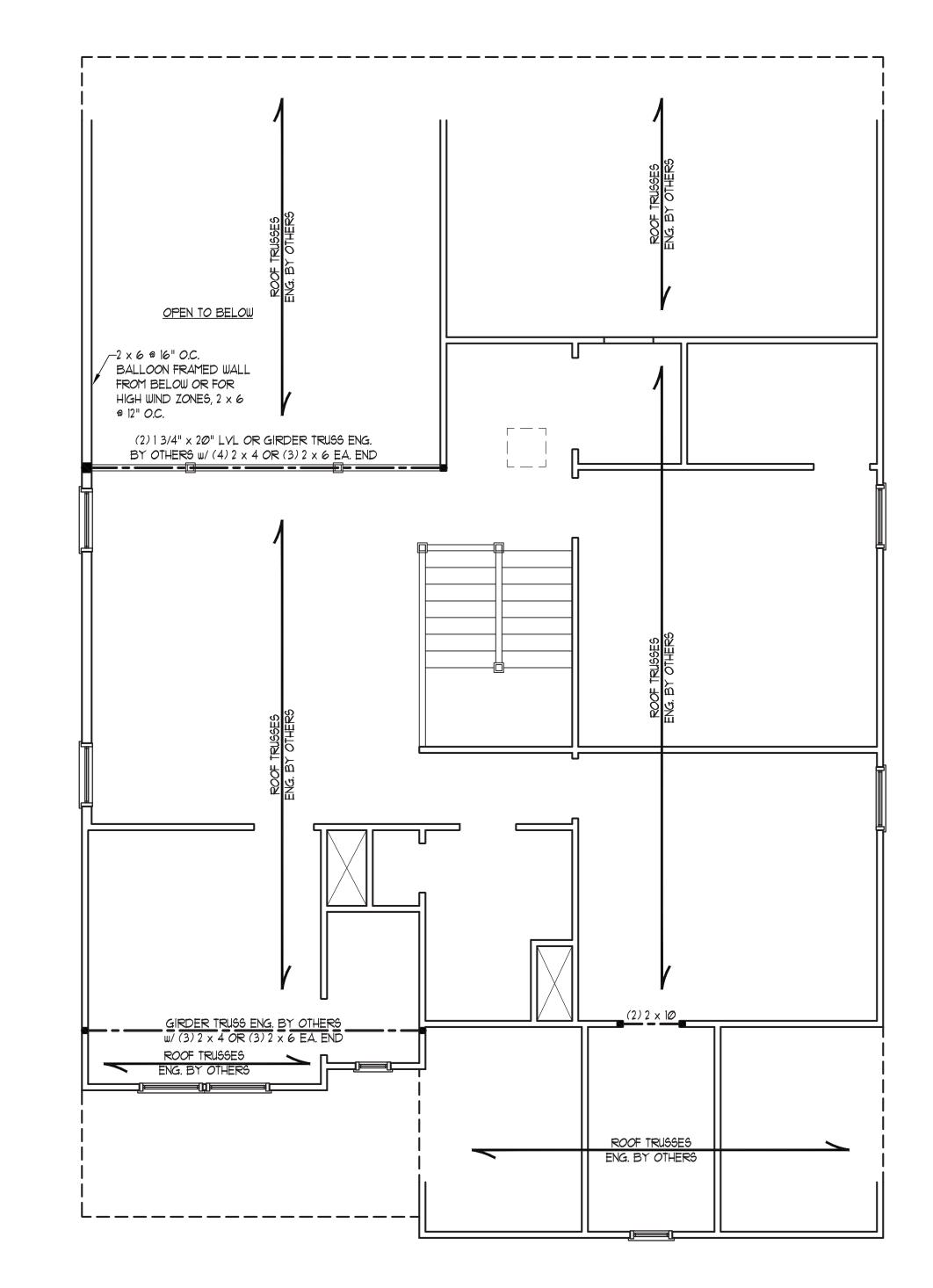
### STRUCTURAL NOTES:

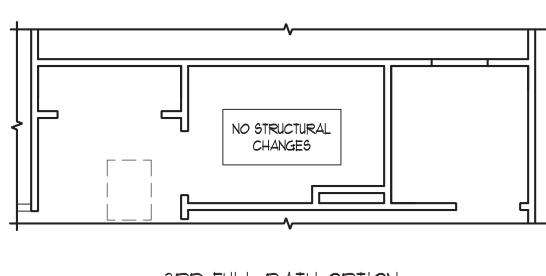
- 1. ALL FRAMING LUMBER TO BE #2 SPF
- 2. ALL LOAD BEARING HEADERS TO BE (2) 2 x 6 (UNO).
- 3. WINDOW AND DOOR HEADERS TO BE SUPPORTED w/ (1) JACK STUD AND (1) KING STUD EA. END (UNO.). SEE TABLE R602.7.5 FOR ADDITIONAL KING STUD REQUIREMENTS.
- 4. SQUARES DENOTE POINT LOADS
  WHICH REQUIRE SOLID BLOCKING TO
  GIRDER OR FOUNDATION. SQUARES
  TO BE (2) STUDS (UNO.)
- 5. SPECIFIED SIMPSON STRONG-TIE
  PRODUCTS MAY BE SUBSTITUTED WITH
  THOSE MANUFACTURED BY USP
  STRUCTURAL CONNECTORS PROVIDED
  THAT THE LOAD CAPACITY AND
- FUNCTION IS EQUIVALENT.

  6. REFER TO NOTES AND DETAIL SHEETS FOR ADDITIONAL STRUCTURAL INFORMATION.

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

MAXIMUM STUD SF (PER TABLE	HEADER SPAN	
24	16	(1 == 17
1	1	UP TO 3'
1	2	4'
2	3	8'
3	5	12'
4	6	16'





3RD FULL BATH OPTION

CAVINESS & CAT

DATE: SEPTEMBER 16, 2020

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

DRAWN BY: CAROLINA

ENGINEERED BY: WFB

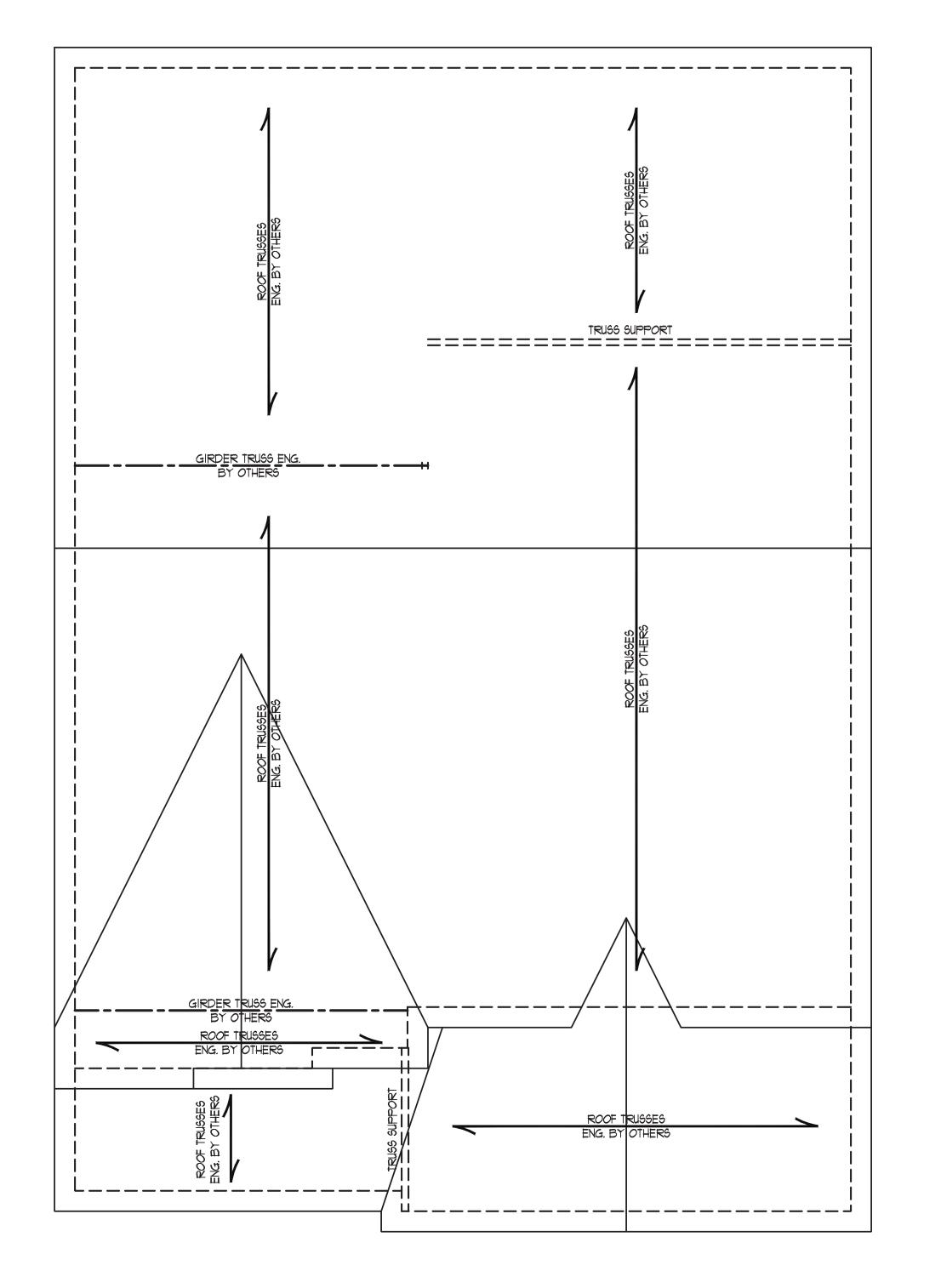
RESIDENTIAL DESIGN

SHEET: 5 OF: 15

S-3

ATTIC FLOOR
FRAMING PLAN







2282 SQ. FT. OF ATTIC DIVIDED BY 150 REQUIRES 15.21 SQ. FT. OF NET FREE VENTILATING AREA (MIN.).

### STRUCTURAL NOTES:

- 1. ALL FRAMING LUMBER TO BE \*2 SPF (UNO).
- 2. CIRCLES DENOTE (3) 2 x 4 POSTS FOR ROOF SUPPORT.
- FRAME DORMER WALLS ON TOP
   OF DOUBLE OR TRIPLE RAFTERS.
   HIP SPLICES ARE TO BE SPACED
   A MIN. OF 8'-O". 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
  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.
- 1. REFER TO SECTION R802.II OF THE 2018 NCRC FOR REQUIRED UPLIFT RESISTANCE AT RAFTERS AND TRUSSES.
- 8. REFER TO NOTES AND DETAIL SHEETS FOR ADDITIONAL STRUCTURAL INFORMATION.

CC 2695 CAVINESS & CATES

DATE: SEPTEMBER 16, 2020

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

DRAWN BY: CAROLINA RESIDENTIAL DESIGN

ENGINEERED BY: WFB

SHEET: 6 OF: 15

S-4 ROOF FRAMING PLAN



# 606 WADE AVE., SUITE 104 RALEIGH, NC 27605 PHONE: (919) 789-9919 FAX: (919) 789-9921 N.C. LICENSE NO.: C.1733

# 606 WADE AVE., PHONE: (919)

# CAVINESS & CATES

SEAL 33736

W.G. STRONG
9/16/2020

DATE: SEPTEMBER 16, 2020

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

DRAWN BY: CAROLINA

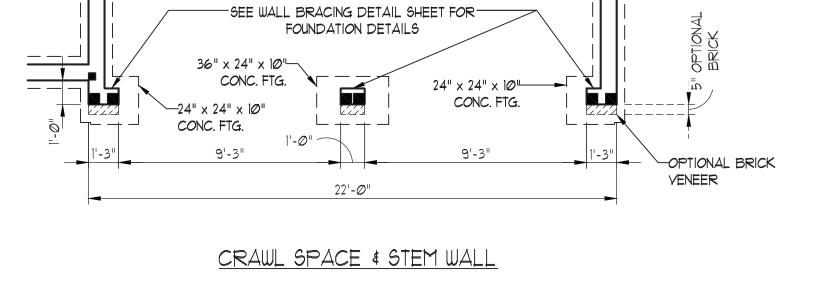
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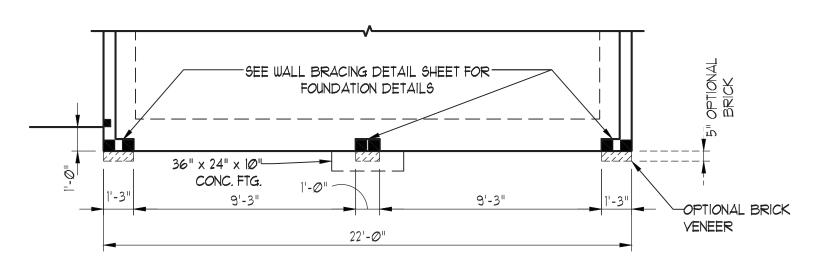
RESIDENTIAL DES

SHEET: 11 OF: 15

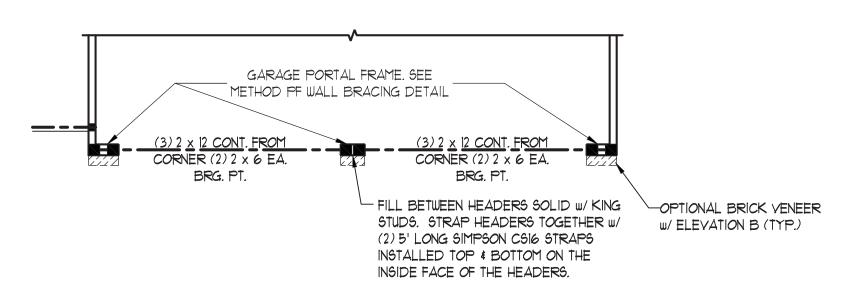
S-9 OPTIONAL FRONT LOAD GARAGE

SEE BASE PLAN FOR ADDITIONAL STRUCTURAL NOTES.

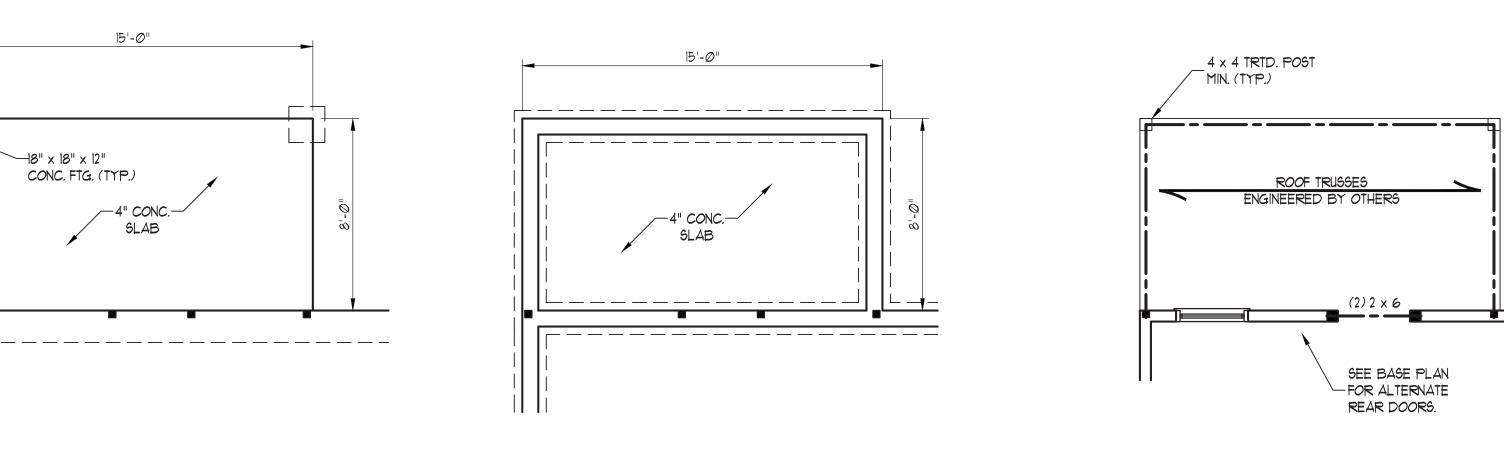




MONO SLAB



FRAMING PLAN



CRAWL SPACE/STEM WALL

MONO SLAB

(2) 2 x lØ

6 x 6 TRTD. POST MIN. ON 18" x 18" x 10" CONC. FTG. (TYP.)

WOOD FRAMED PORCH OPTION

ROOF TRUSSES

GINEERED BY OTHERS

SEE BASE PLAN
FOR ALTERNATE
REAR DOORS.

FRAMING PLAN

SEAL 33736

WGINEER OTHER STRUMBURGER OF THE STRUMB

DATE: JANUARY 28, 2021

ANDERSON CREEK COVERED PORCH CC 2695 CAVINESS & CATES

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

DRAWN BY: CAROLINA RESIDENTIAL DESIGN

ENGINEERED BY: JAG

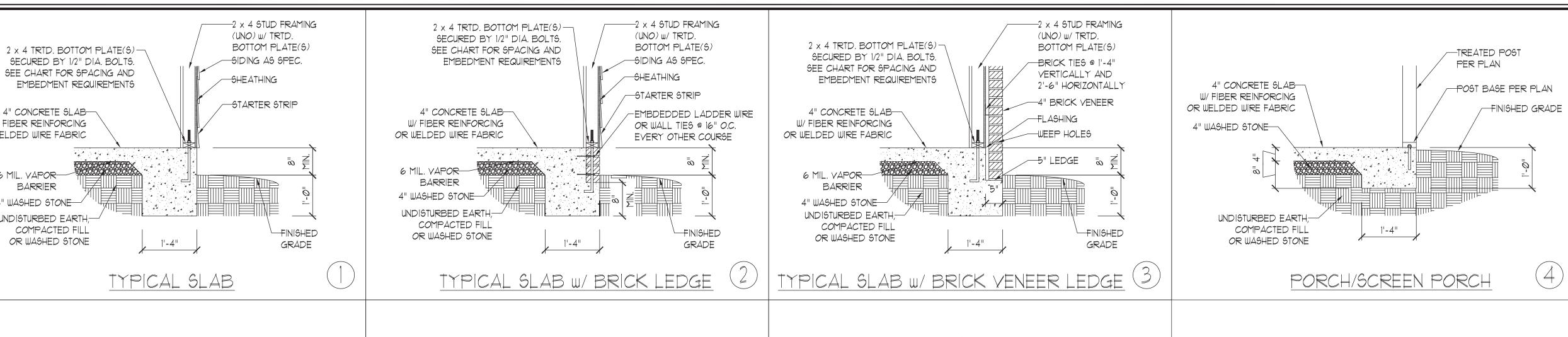
SHEET: 1 OF: 1

S-1

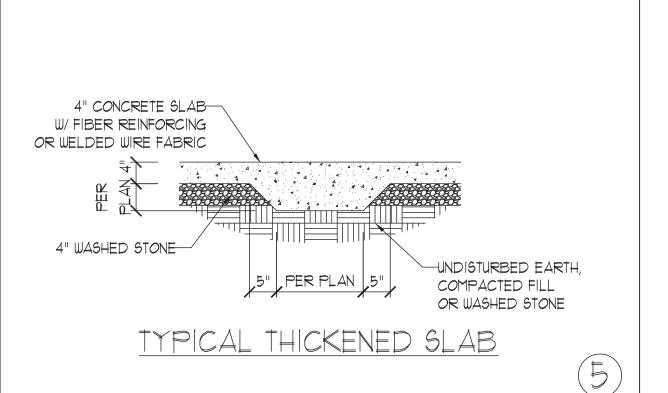
OPTIONAL 8'-0" x 15'-0"

COVERED PORCH

SEE BASE PLAN FOR ADDITIONAL STRUCTURAL NOTES.



-STUD COLUMN OR SIMPSON LSTHD8 POST (VARIES) OR EQUIVALENT 4" CONCRETE SLAB-W/ FIBER REINFORCING OR WELDED WIRE FABRIC 4" WASHED STONE ENLARGED FOOTING -UNDISTURBED EARTH, PER PLAN COMPACTED FILL OR WASHED STONE TYPICAL COLUMN TO (6)SLAB CONNECTION



1'-4"

-EXTERIOR WALL:

SIDING AS SPEC.

STARTER STRIP

SHEATHING

2 x 4 STUD FRAMING (UNO)

FINISHED GRADE

4" CONCRETE SLAB

W/ FIBER REINFORCING

OR WELDED WIRE FABRIC

6 MIL. VAPOR-

BARRIER

4" WASHED STONE

UNDISTURBED EARTH,

COMPACTED FILL

2 x 4 TRTD. BOTTOM PLATE(S)-

SECURED BY 1/2" DIA. BOLTS.

SEE CHART FOR SPACING AND

4" CONCRETE SLAB

W/ FIBER REINFORCING

OR WELDED WIRE FABRIC

6 MIL. VAPOR— BARRIER

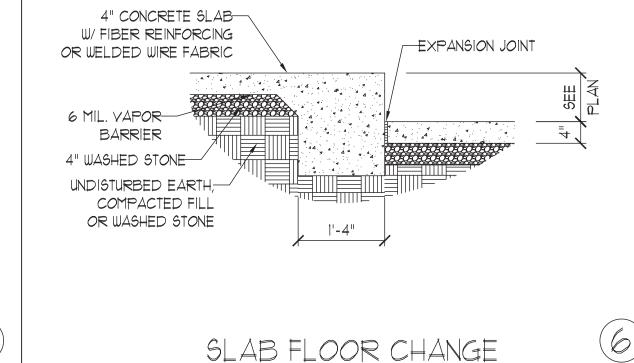
4" WASHED STONE-

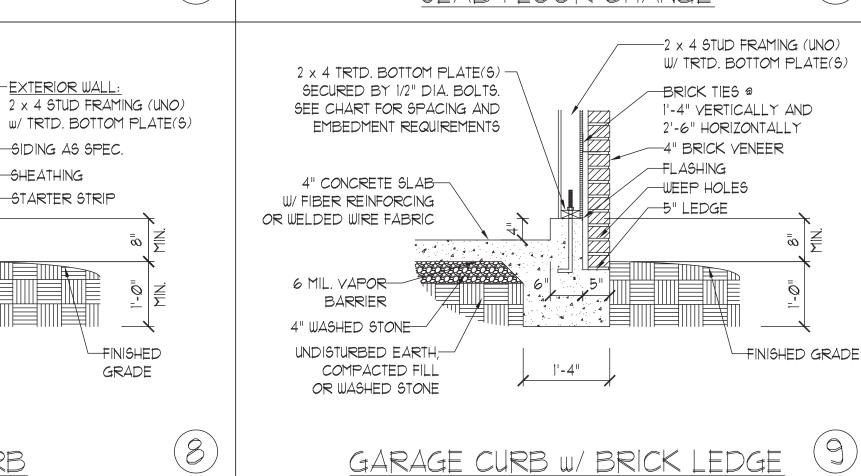
UNDISTURBED EARTH

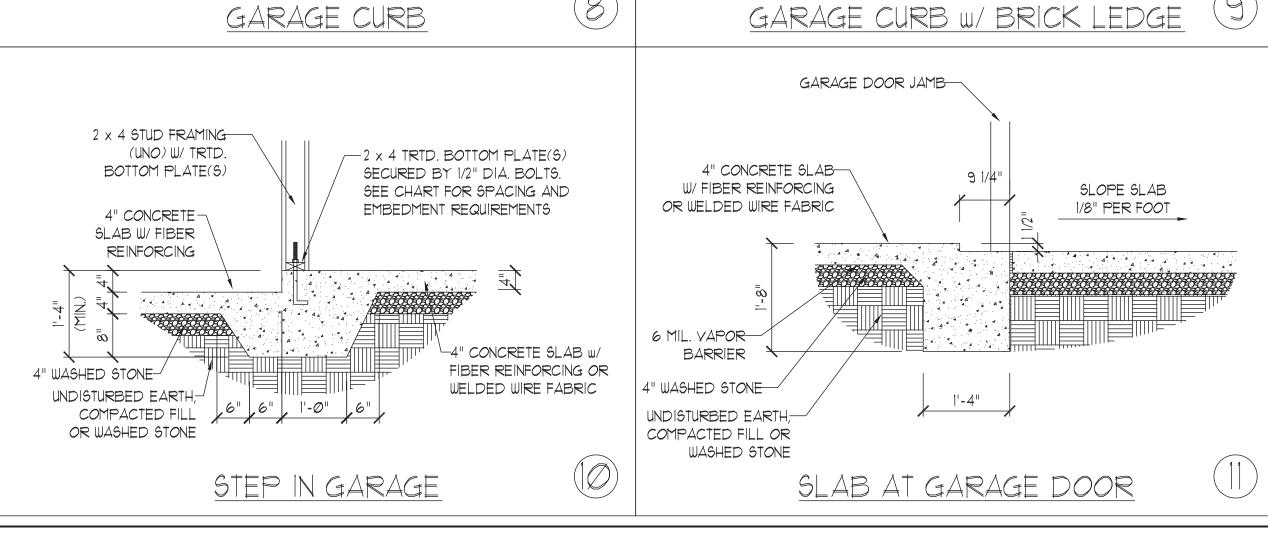
COMPACTED FILL OR WASHED STONE

EMBEDMENT REQUIREMENTS

OR WASHED STONE







	ANCHOR SPACING AND EMBEDMENT		
WIND ZONE	120 MPH	13Ø MPH	
SPACING	6'-0" O.C. INSTALL MIN. (2) ANCHORS PER PLATE SECTION AND (1) ANCHOR WITHIN 12" OF CORNERS	4'-Ø" O.C. INSTALL MIN. (2) ANCHORS PER PLATE SECTION AND (1) ANCHOR WITHIN 12" OF CORNERS	
EMBEDMENT	7"	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.



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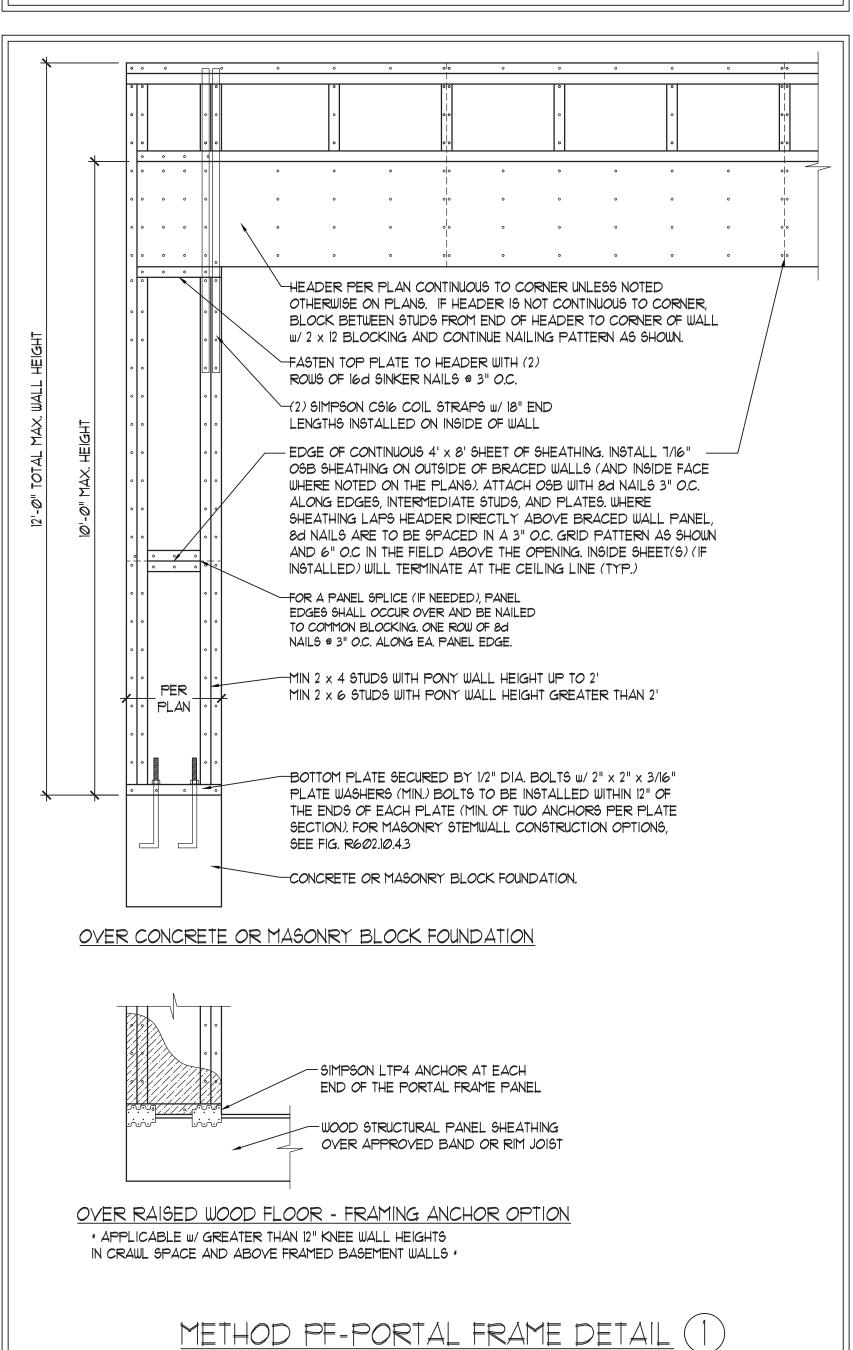
SLAB ETAIL MONOLITHIC FOUNDATION D

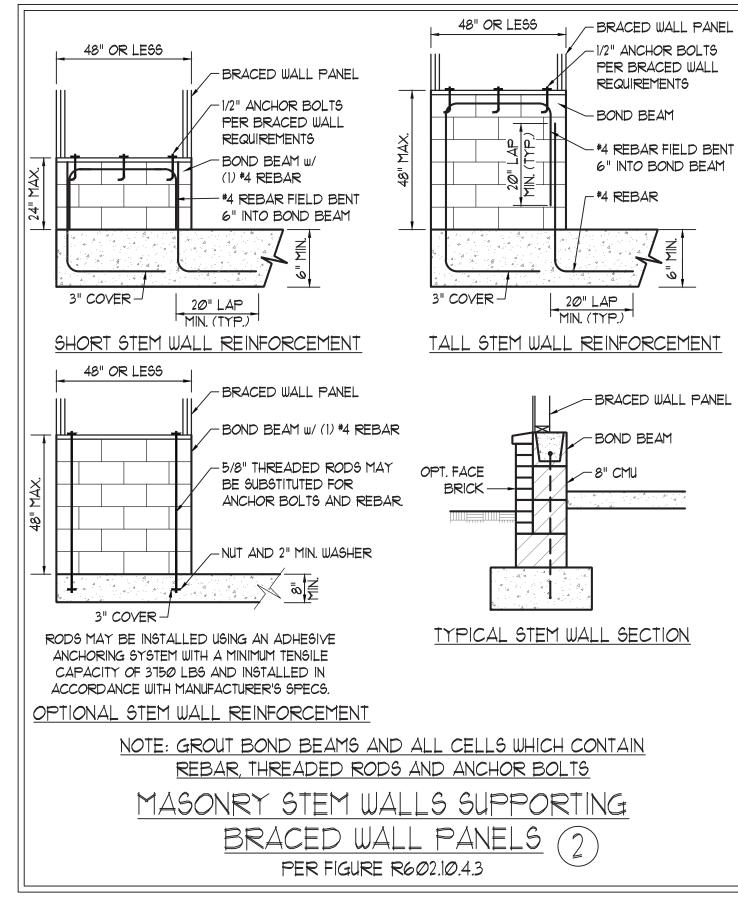
DATE: NOVEMBER 1, 2018 SCALE: NTS DRAWN BY: JST

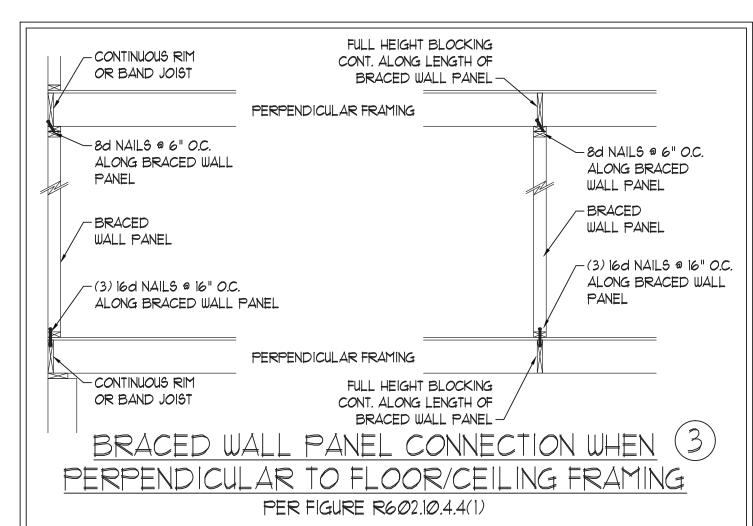
ENGINEERED BY: JST

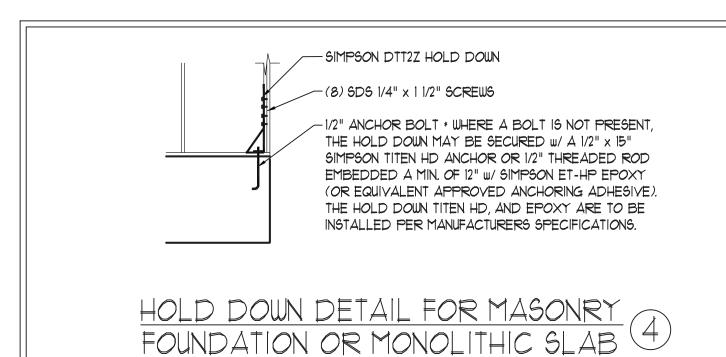
FOUNDATION DETAILS

- WALL BRACING DESIGNED IN ACCORDANCE WITH CHAPTER 6 OF THE 2018 NC RESIDENTIAL BUILDING CODE (NCRC). TABLES AND FIGURES REFERENCED ARE FROM THE 2018 NCRC.
- SEE THIS SHEET FOR GENERAL DETAILS. REFER TO THE 2018 NCRC FOR ADDITIONAL INFORMATION AS NEEDED 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
- 4. ALL EXTERIOR WALLS ARE TO BE SHEATHED WITH CS-WSP IN ACCORDANCE WITH SECTION R602.10.3 UNLESS NOTED OTHERWISE.
- ALL EXTERIOR AND INTERIOR WALLS TO HAVE 1/2" GYPSUM INSTALLED. WHEN NOT USING METHOD "GB", GYPSUM TO BE FASTENED PER TABLE R7/02.3.5. METHOD GB TO BE FASTENED PER TABLE R6/02.10.1
- 5. CS-WSP REFERS TO THE "CONTINUOUS SHEATHING WOOD STRUCTURAL PANELS" WALL BRACING METHOD. 7/16" OSB SHEATHING IS TO BE INSTALLED ON ALL EXTERIOR WALLS ATTACHED w/ 6d COMMON NAILS OR 8d (2 1/2" LONG x Ø.113" DIAMETER) NAILS SPACED 6" O.C. ALONG PANEL EDGES AND 12" O.C. IN THE FIELD (U.N.O.)
- GB REFERS TO THE "GYPSUM BOARD" WALL BRACING METHOD. 1/2" (MIN.) 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 T" O.C. ALONG PANEL EDGES INCLUDING TOP AND BOTTOM PLATES AND INTERMEDIATE SUPPORTS (U.N.O.). VERIFY ALL FASTENER OPTIONS FOR 1/2" AND 5/8" GYPSUM PRIOR TO CONSTRUCTION. FOR INTERIOR FASTENER OPTIONS SEE TABLE RT02.3.5. FOR EXTERIOR FASTENER OPTIONS SEE TABLE R602.3(1). EXTERIOR GB TO BE INSTALLED VERTICALLY.
- REQUIRED BRACED WALL LENGTH FOR EACH SIDE OF THE CIRCUMSCRIBED RECTANGLE ARE INTERPOLATED PER TABLE R602. 10.3. METHOD C5-WSP CONTRIBUTES ITS ACTUAL LENGTH, METHOD GB CONTRIBUTES .5 ITS ACTUAL LENGTH, AND METHOD PF CONTRIBUTES 1.5 TIMES ITS ACTUAL LENGTH.

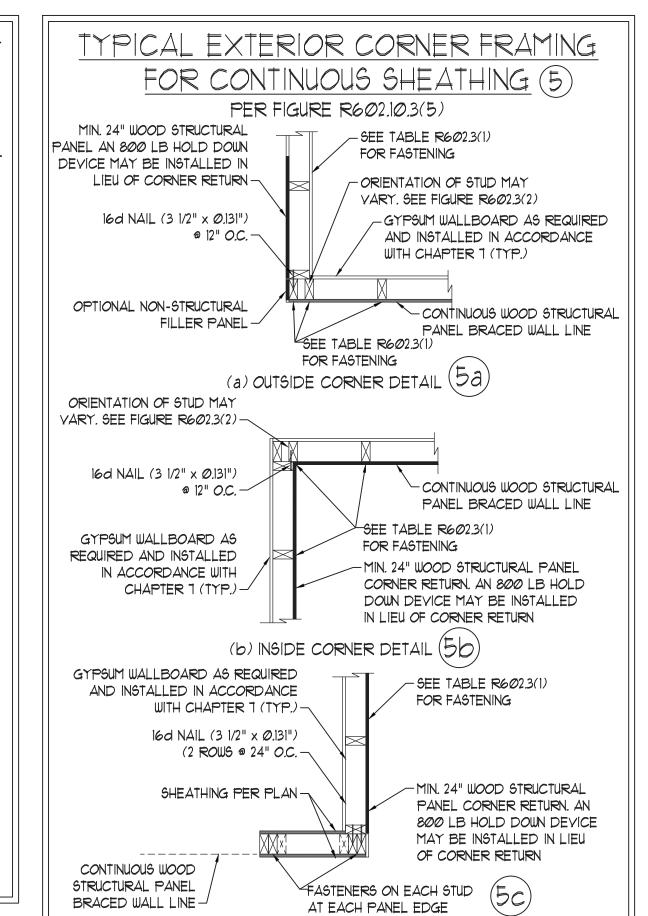








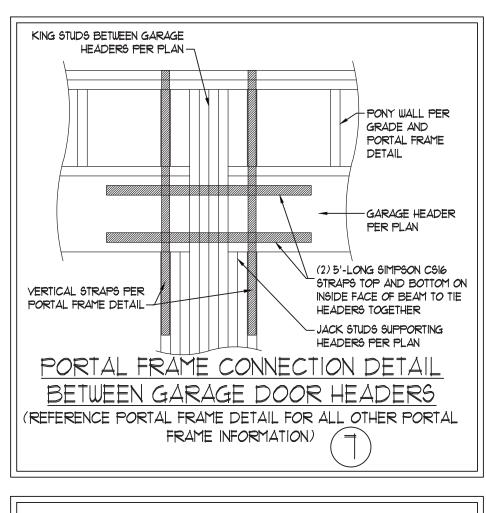
\* APPLICABLE ONLY WHERE SPECIFIED ON PLAN \*

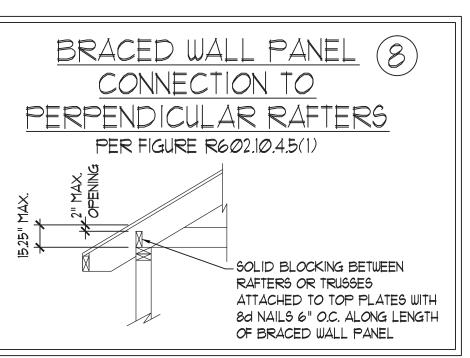


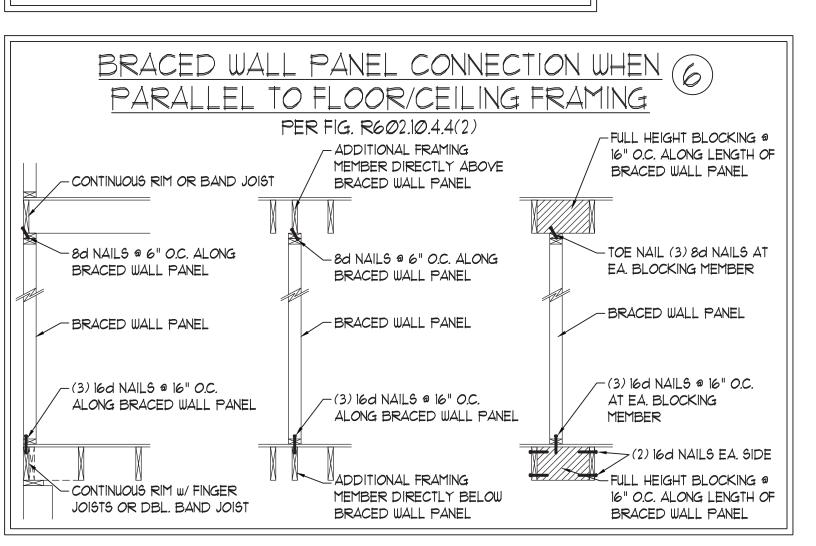
(c) GARAGE DOOR CORNER DETAIL (SEE PLAN FOR ADDITIONAL

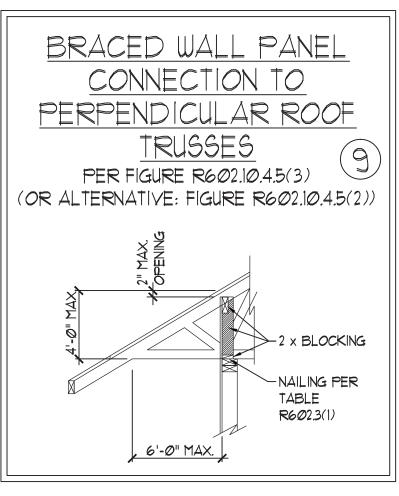
STRUCTURAL INFORMATION OR ALTERNATE CONFIGURATIONS)

BRACED WALL LINE -









33736

DATE: OCTOBER 30, 2018

SCALE: 1/4" = 1'-0" DRAWN BY: JST

ENGINEERED BY: JST

**BRACED WALL** NOTES AND DETAILS AND PF DETAIL

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## FRAMING 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 1-JOIST OR FLOOR/ROOF TRUSS LAYOUT DESIGN AND ACCURACY.
- 2. 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 CONTRACTORS FAILURE TO CARRY OUT THE CONSTRUCTION WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

GENERAL NOTES

3. STRUCTURAL DESIGN BASED ON THE PROVISIONS OF THE NCRC, 2018 EDITION (R301.4 - R301.1)

DESIGN CRITERIA:	LIVE LOAD (PSF)	DEAD LOAD (PSF)	DEFLECTION (IN)	
ATTIC WITH LIMITED STORAGE	2Ø	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/36Ø	
HANDRAILS/GUARDRAILS	200 LB OR 50 (PLF)	10	L/36Ø	
PASSENGER VEHICLE GARAGE	50	10	L/36Ø	
ROOMS OTHER THAN SLEEPING ROOM	40	10	L/360	
SLEEPING ROOMS	3Ø	10	L/36Ø	
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 15 TO COMPLY WITH SECTION R403.1.6 OF THE NCRC, 2018 EDITION. FOR 130 MPH, 140 MPH, AND 150 MPH WIND ZONES, FOUNDATION ANCHORAGE 15 TO COMPLY WITH SECTION 4504 OF THE NCRC, 2018 EDITION.
- 5. 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

- 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 I, ACCORDING TO THE UNITED SOIL CLASSIFICATION SYSTEM IN ACCORDANCE WITH TABLE R405.1 OF THE NCRC, 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 NCRC, 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.

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- 5. MASONRY UNITS TO CONFORM TO ACE 530/ASCE 5/TMS 402. MORTAR SHALL COMFORM 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.
- 1. 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 NCRC, 2018 EDITION OR IN ACCORDANCE WITH ACI 318, ACI 332, NCMA 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 NCRC, 2018 EDITION. CONCRETE FOUNDATION WALLS ARE TO BE REINFORCED PER TABLE R404.1.1(5) OF THE NCRC, 2018 EDITION. STEP CONCRETE FOUNDATION WALLS TO 2 x 6 FRAMED WALLS AT 16" O.C. WHERE GRADE PERMITS (UNO).

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 1" DEPTH SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES: Fc = 2500 PSI, E = 18000000 PSI.

PARALLEL STRAND LUMBER (PSL) MORE THAN 1" DEPTH SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES: Fc = 2900 PSI, E = 20000000 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:

B. CONCRETE

C. MASONRY (FULLY GROUTED)

(2) 1/2" DIA. x 4" WEDGE ANCHORS

(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 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 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 R602.7.5 OF THE NORTH CAROLINA RESIDENTIAL CODE, 2018 EDITION.
- 1. 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 I I/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 A3ØT) 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 1-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.
- IØ. 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 1-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 (UN.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 RT03.8.2.1 OF THE NCRC, 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'-Ø". 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 100 LB CAPACITY UPLIFT CONNECTORS TOP AND BOTTOM (UNO.) POSTS MAY BE SECURED USING ONE SIMPSON H6 OR LTG12 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.

SEAL 33736

SEAL 33736

G. STROMANN

9/16/2020

606 WADE AVE., SUITE 104 RALEIGH, NC 27605
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N.C. LICENSE NO.: C1733

STANDARD STRUCTURAL NOTES

DATE: OCTOBER 29, 2018

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

DRAWN BY: JES

ENGINEERED BY: JST

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STRUCTURAL NOTES