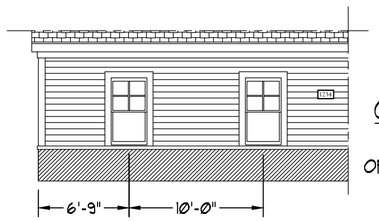
FRONT ELEVATION-A

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

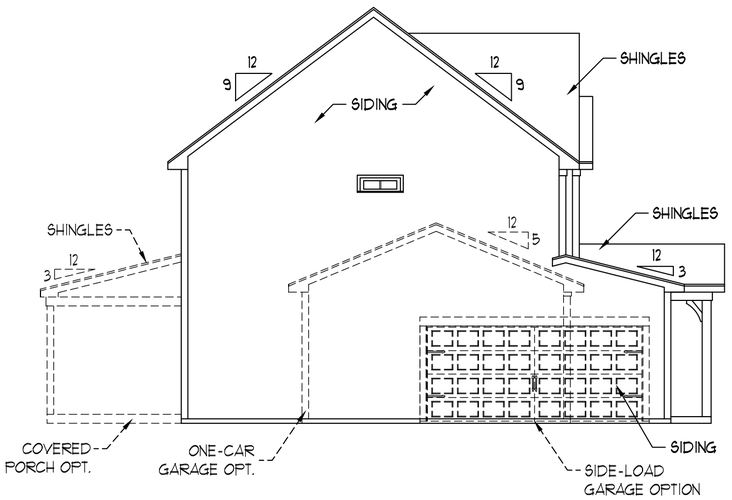


SIDE LOAD GARAGE OPTION

(NOT AVAILABLE WITH OPTIONAL ONE-CAR GARAGE)

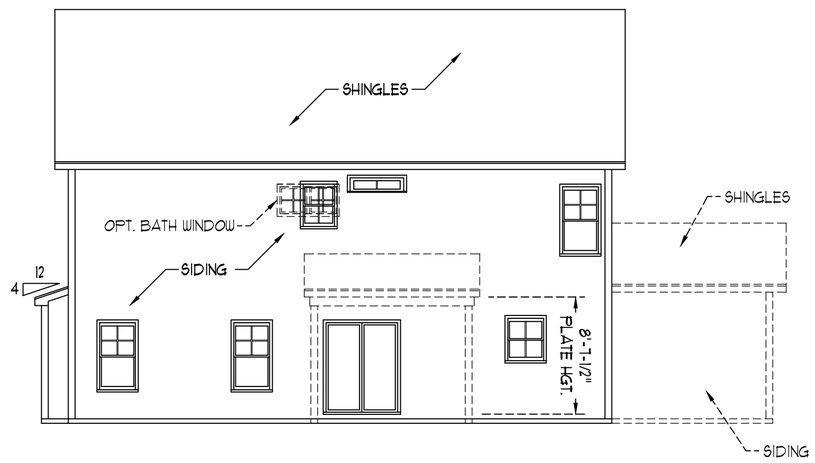
SCALE: 1/8" = 1'-0"

REVERSE PLAN



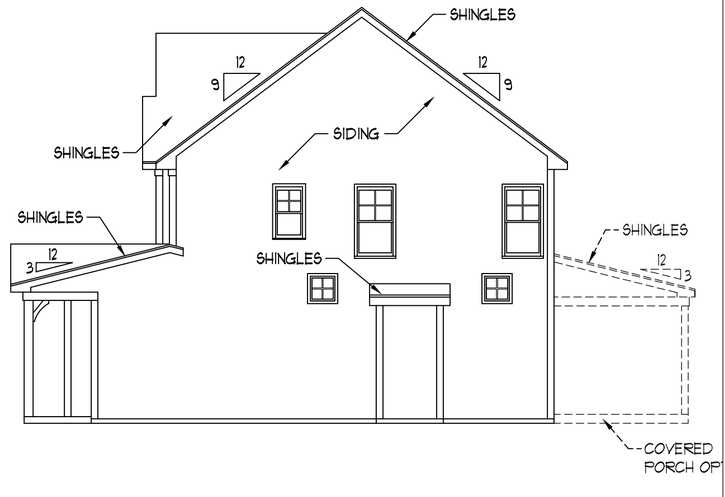
LEFT ELEVATION

SCALE: 1/8" = 1'-0"



REAR ELEVATION

SCALE: 1/8" = 1'-0"



RIGHT ELEVATION

SCALE: 1/8" = 1'-0"

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PHONE: (919) 789-9919
FAX: (919) 789-9921
N.C. LICENSE NO.: C-1733

Westan HOMES

WESTAN HOMES
ELIZABETH-II

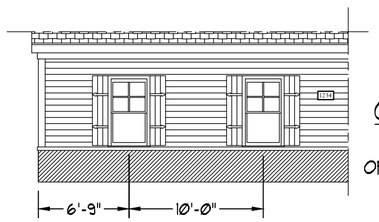
DATE: JUNE 21, 2019
REV.:
SCALE: AS NOTED
DRAWN BY: WG
ENGINEERED BY: WFB
REVIEWED BY:

A - ELEVATIONS

A-1

FRONT ELEVATION-B

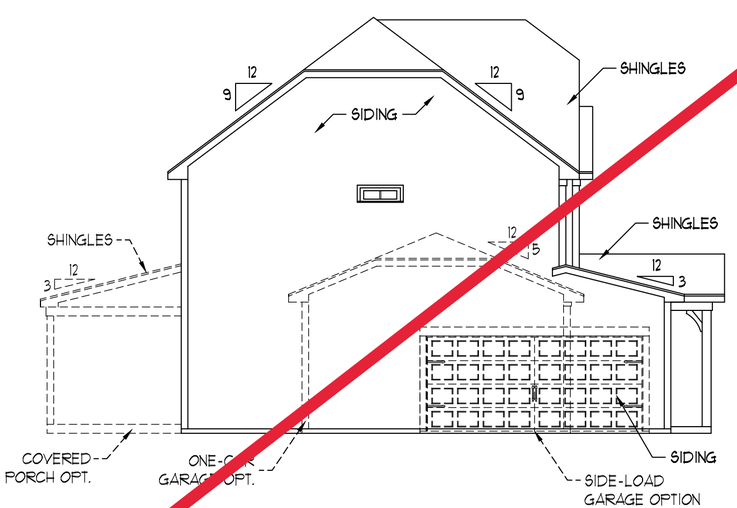
SCALE: 1/8" = 1'-Ø"



SIDE LOAD GARAGE OPTION

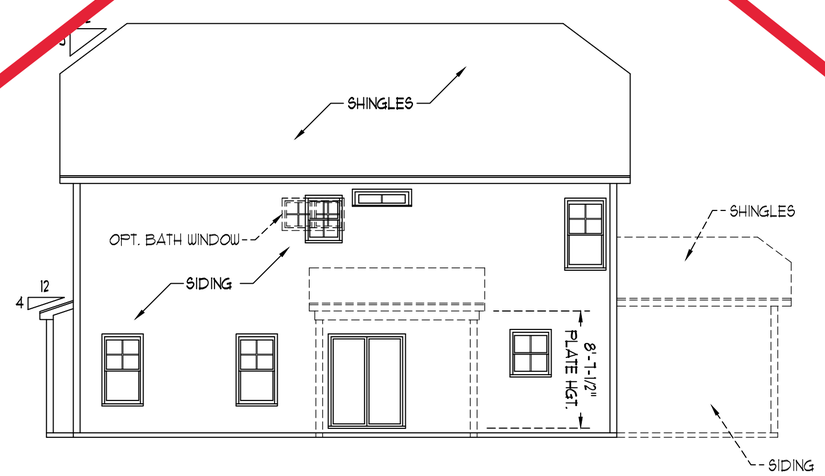
(NOT AVAILABLE WITH OPTIONAL ONE-CAR GARAGE)

SCALE: 1/8" = 1'-Ø"



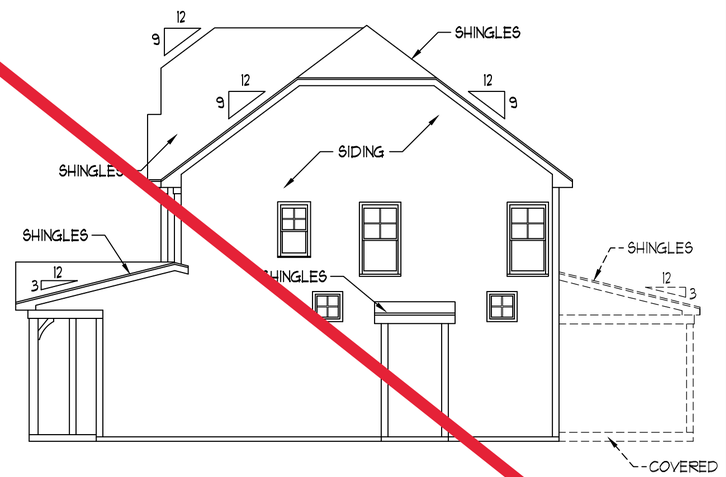
LEFT ELEVATION

SCALE: 1/8" = 1'-Ø"



REAR ELEVATION

SCALE: 1/8" = 1'-Ø"



RIGHT ELEVATION

SCALE: 1/8" = 1'-Ø"

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Westan HOMES

WESTAN HOMES
ELIZABETH-II

DATE: JUNE 21, 2019

REV.:

SCALE: AS NOTED

DRAWN BY: WG

ENGINEERED BY: WFB

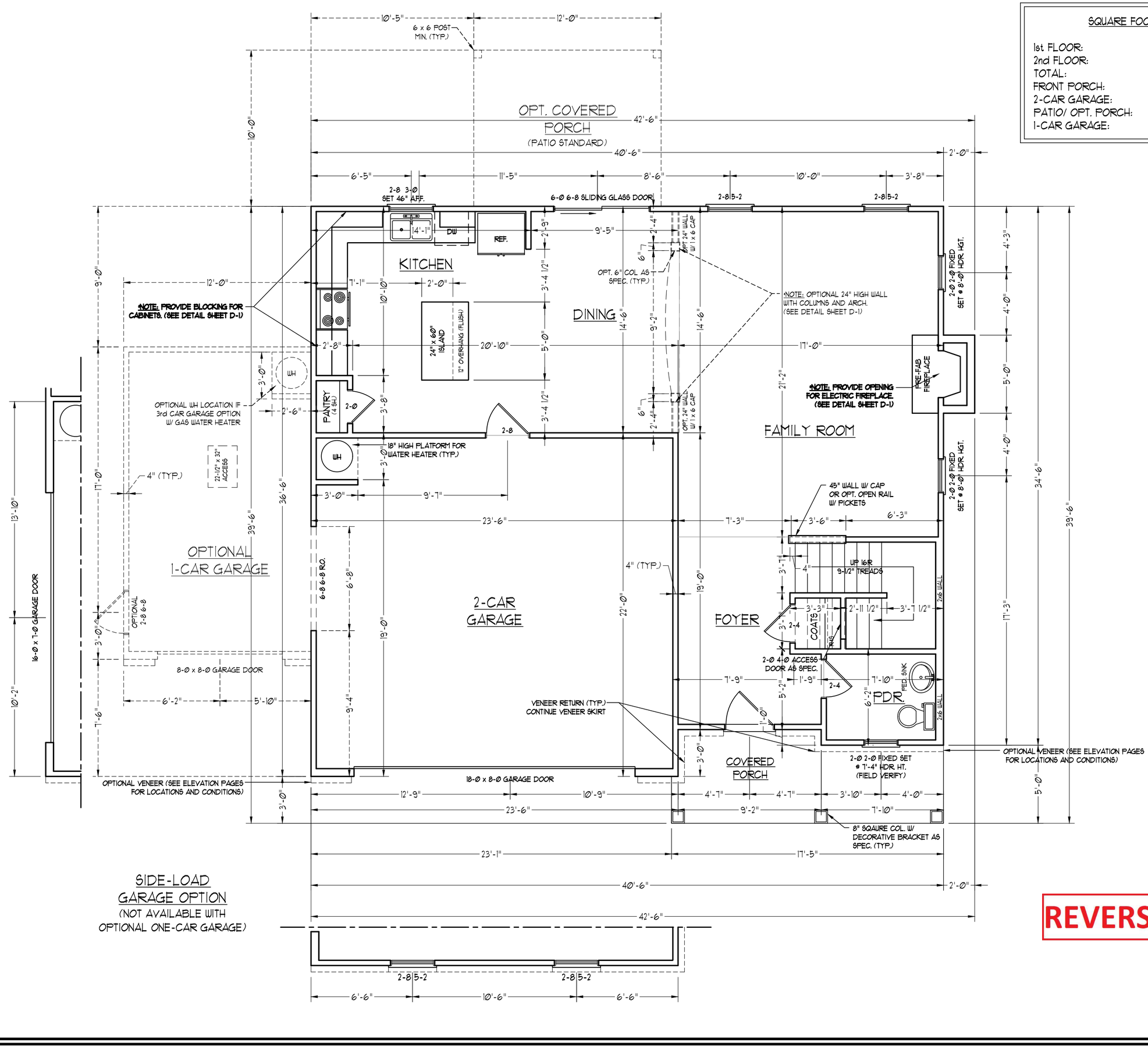
REVIEWED BY:

B - ELEVATIONS

A-2

SQUARE FOOTAGE

1st FLOOR:	932 SQ. FT.
2nd FLOOR:	1137 SQ. FT.
TOTAL:	2069 SQ. FT.
FRONT PORCH:	95 SQ. FT.
2-CAR GARAGE:	503 SQ. FT.
PATIO/ OPT. PORCH:	120 SQ. FT.
1-CAR GARAGE:	240 SQ. FT.



REVERSE PLAN

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Westan HOMES

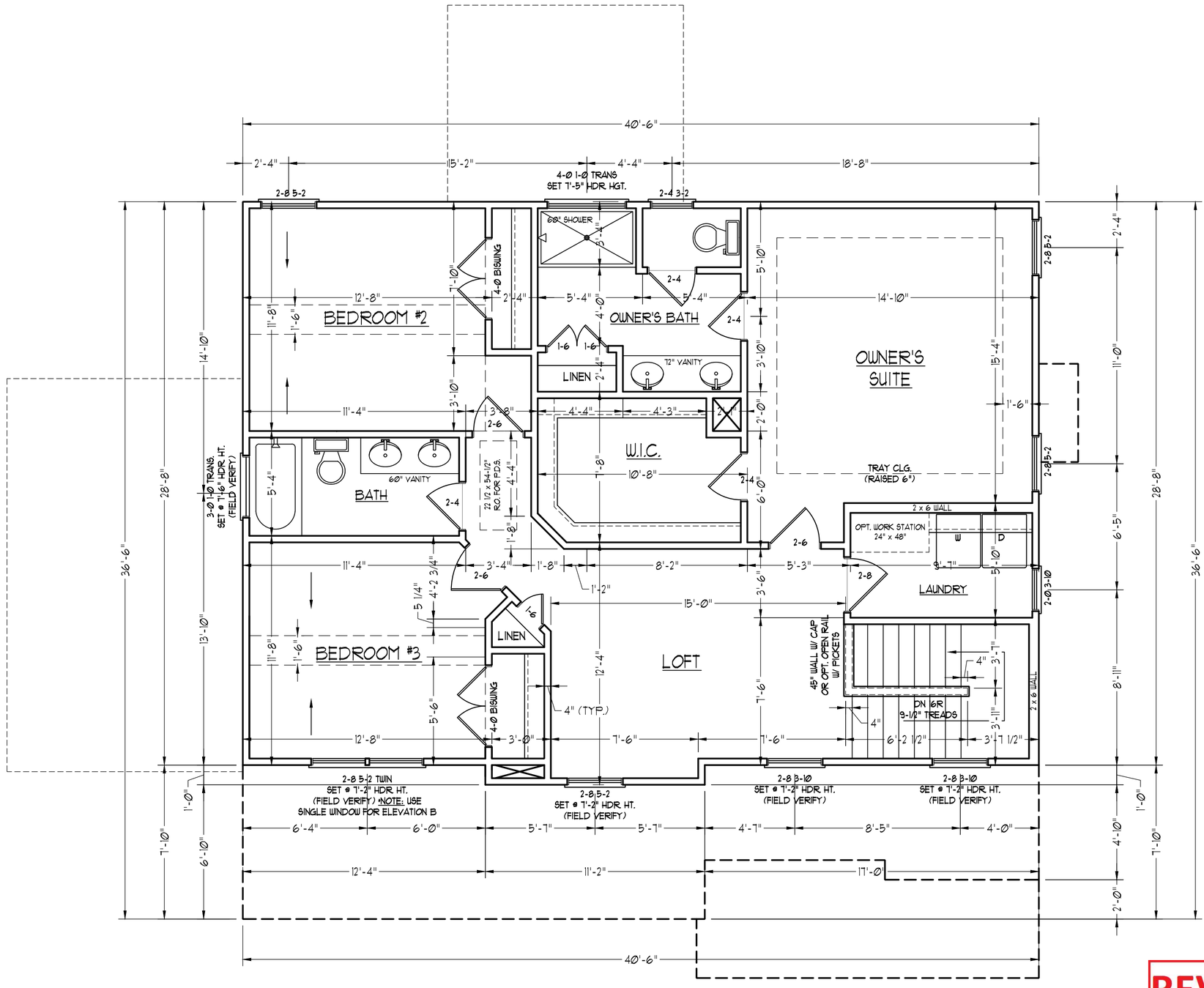
WESTAN HOMES
ELIZABETH-II

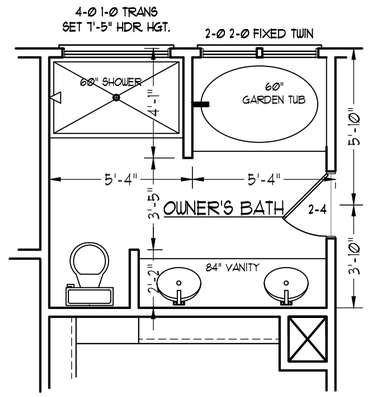
DATE: JUNE 21, 2019
REV.:
SCALE: 1/4" = 1'-0"
DRAWN BY: WG
ENGINEERED BY: WFB
REVIEWED BY:

FIRST FLOOR PLAN

A-3

C:\Users\Wade\Documents\Projects\Westan Homes\Elizabeth\Elizabeth_GO\Elizabeth_II_5-30-19.dwg, 7/23/2019 4:43:25 PM





OPTIONAL
OWNER'S BATH

REVERSE PLAN

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ELIZABETH-II

DATE: JUNE 21, 2019
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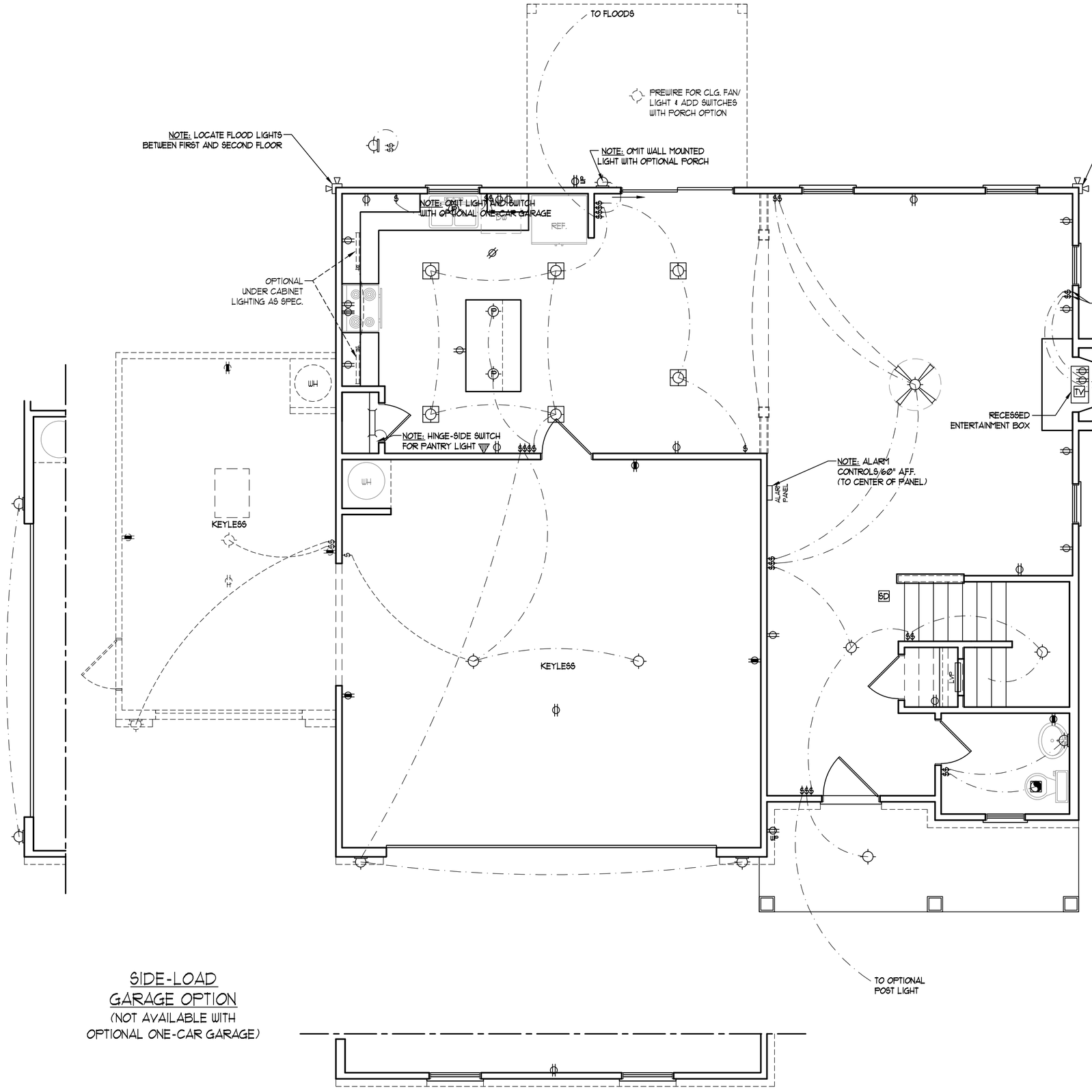
SCALE: 1/4" = 1'-0"
DRAWN BY: WG
ENGINEERED BY: WFB
REVIEWED BY:

SECOND FLOOR PLAN
A-4

C:\Users\Wade\Documents\Projects\Westan Homes\Elizabeth\Elizabeth_GO\Elizabeth_II_5-30-19.dwg, 7/23/2019 4:43:25 PM



SIDE-LOAD GARAGE OPTION
(NOT AVAILABLE WITH OPTIONAL ONE-CAR GARAGE)

ELECTRICAL LAYOUT NOTES:

1.) BLOCK AND WIRE FOR ALL CELING FANS PER PLAN.

2.) VANITY LIGHTS TO BE SET @ 90" A.F.F. (TYP.)

3.) ADDITIONAL EXTERIOR OUTLETS REQUIRED BY CODE TO BE LOCATED BY ELECTRICIAN.

4.) PLACE SWITCHES 8" (MIN.) FROM ROUGH OPENINGS.

ELECTRICAL LEGEND

- 110 V OUTLET
- 110 V GFI OUTLET
- 110 V SWITCHED OUTLET
- BB 110 V BASEBOARD OUTLET
- 4-PLEX
- COUNTER OR FLOOR MOUNTED
- COUNTER OR FLOOR MOUNTED 110V GFI
- WP WEATHERPROOF
- 220 V OUTLET
- 110 V DEDICATED CIRCUIT
- 220 V DEDICATED CIRCUIT
- SPECIAL PURPOSE (240 V, ETC.)
- WALL MOUNT LIGHT
- CEILING MOUNT LIGHT
- P PENDANT LIGHT
- RECESSED CAN LIGHT
- MINI CAN LIGHT
- EYEBALL LIGHT
- FLUORESCENT LIGHT
- UNDERCABINET LIGHT
- FLOOD LIGHT
- $ SWITCH
- $3 3-WAY SWITCH
- $4 4-WAY SWITCH
- $D DIMMER SWITCH
- TELEPHONE
- TV TV CONNECTION
- CD CONDUIT FOR COMPONENT WIRING
- SP SPEAKER
- D DOORBELL CHIME
- SD 110 V SMOKE DETECTOR
- EXHAUST FAN
- LVP LOW VOLTAGE PANEL
- CEILING FAN
- CEILING FAN W/ LIGHT

REVERSE PLAN

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Westan HOMES

WESTAN HOMES
ELIZABETH-II

DATE: JUNE 21, 2019
REV.:
SCALE: 1/4" = 1'-0"
DRAWN BY: WG
ENGINEERED BY: WFB
REVIEWED BY:

FIRST FLOOR ELECTRICAL PLAN

E-1

ELECTRICAL LAYOUT NOTES:

1.) BLOCK AND WIRE FOR ALL CELING FANS PER PLAN.

2.) VANITY LIGHTS TO BE SET @ 90" A.F.F. (TYP.)

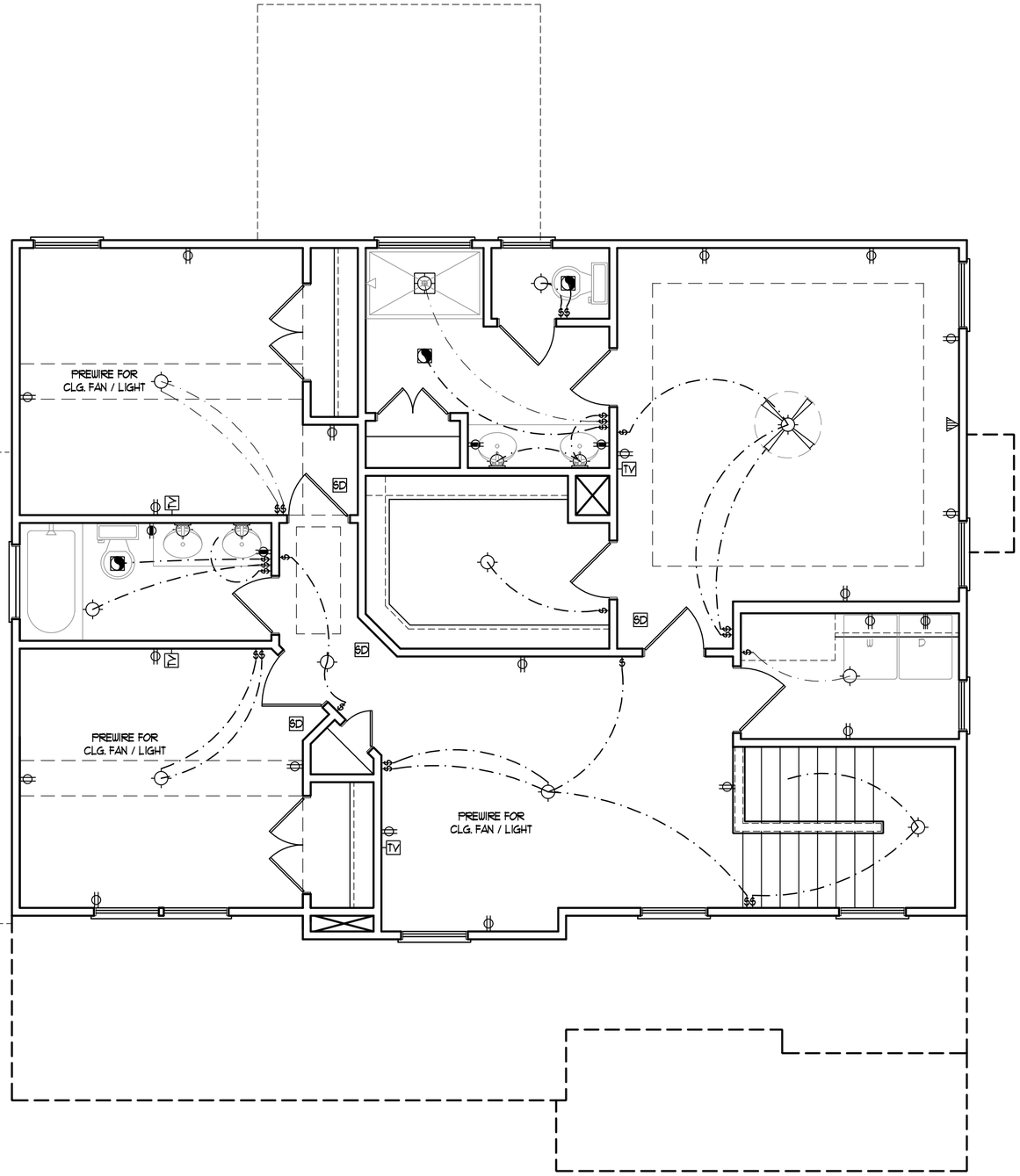
3.) ADDITIONAL EXTERIOR OUTLETS REQUIRED BY CODE TO BE LOCATED BY ELECTRICIAN.

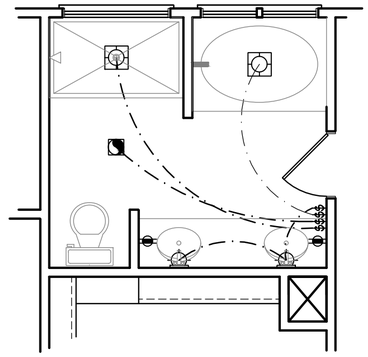
4.) PLACE SWITCHES 8" (MIN.) FROM ROUGH OPENINGS.

ELECTRICAL LEGEND

- 110 V OUTLET
- 110 V GFI OUTLET
- 110 V SWITCHED OUTLET
- BB 110 V BASEBOARD OUTLET
- 4-PLEX
- COUNTER OR FLOOR MOUNTED
- COUNTER OR FLOOR MOUNTED 110V GFI
- WEATHERPROOF
- 220 V OUTLET
- 110 V DEDICATED CIRCUIT
- 220 V DEDICATED CIRCUIT
- SPECIAL PURPOSE (240 V, ETC.)
- WALL MOUNT LIGHT
- CEILING MOUNT LIGHT
- (P) PENDANT LIGHT
- RECESSED CAN LIGHT
- MINI CAN LIGHT
- EYEBALL LIGHT
- FLUORESCENT LIGHT
- UNDERCABINET LIGHT
- FLOOD LIGHT
- $ SWITCH
- $3 3-WAY SWITCH
- $4 4-WAY SWITCH
- $D DIMMER SWITCH
- TELEPHONE
- TV TV CONNECTION
- CD CONDUIT FOR COMPONENT WIRING
- SP SPEAKER
- D DOORBELL CHIME
- SD 110 V SMOKE DETECTOR
- EXHAUST FAN
- LVP LOW VOLTAGE PANEL

- CEILING FAN
- CEILING FAN W/ LIGHT





OPTIONAL
OWNER'S BATH

REVERSE PLAN

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Westan HOMES

WESTAN HOMES
ELIZABETH-II

DATE: JUNE 21, 2019

REV.:

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

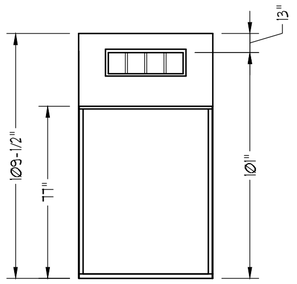
DRAWN BY: WG

ENGINEERED BY: WFB

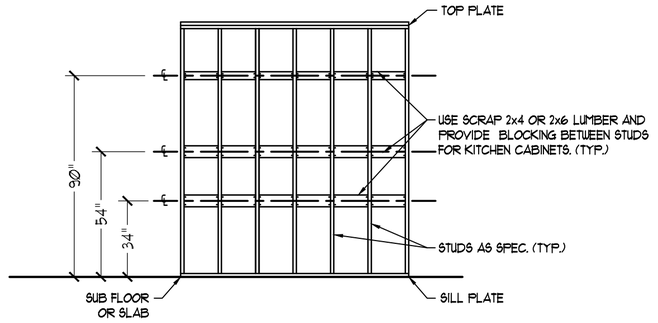
REVIEWED BY:

SECOND FLOOR
ELCTRICAL
PLAN

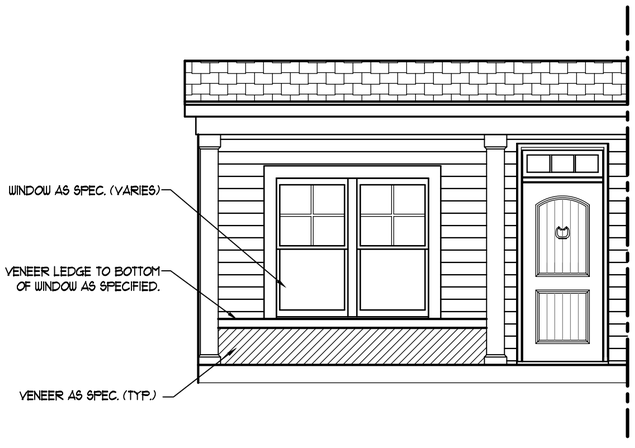
E-2



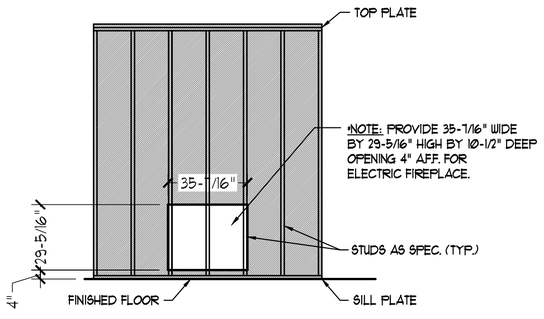
BATHROOM TRANSOM WINDOW
OVER SHOWER DETAIL WITH 9-0 CEILING
SCALE: 1/4" = 1'-0"



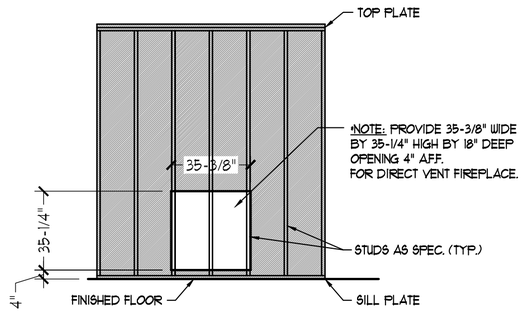
KITCHEN WALL CABINET
BLOCKING DETAIL
SCALE: 1/4" = 1'-0"



TYPICAL VENEER LEDGE
UNDER FRONT WINDOW DETAIL
SCALE: 1/4" = 1'-0"



33" ELECTRIC FIREPLACE
OPENING DETAIL
SCALE: 1/4" = 1'-0"



35" DIRECT VENT FIREPLACE
OPENING DETAIL
SCALE: 1/4" = 1'-0"

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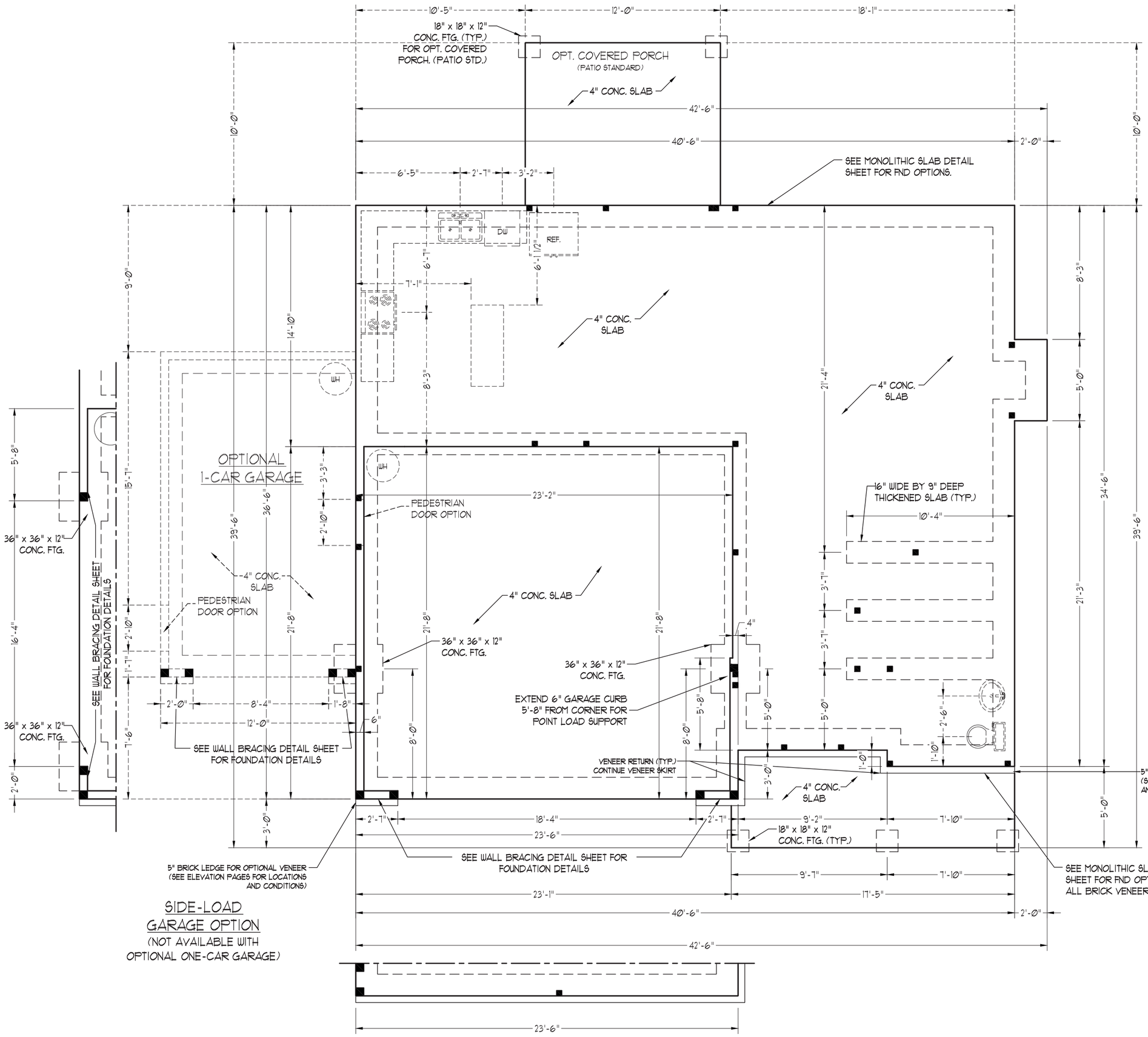
Westan HOMES

WESTAN HOMES
ELIZABETH-II

DATE: JUNE 21, 2019
REV.:
SCALE: 1/4" = 1'-0"
DRAWN BY: WG
ENGINEERED BY: WFB
REVIEWED BY:

STANDARD DETAILS
D-1



SIDE-LOAD GARAGE OPTION
(NOT AVAILABLE WITH OPTIONAL ONE-CAR GARAGE)

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

1. ENGINEER'S SEAL AFFLIES 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 4'-0" O.C. AND WITHIN 1'-0" FROM END OF EACH CORNER. ANCHOR BOLTS MUST EXTEND A MINIMUM OF 7" INTO MASONRY OR CONCRETE. LOCATE BOLT WITHIN MIDDLE THIRD OF PLATE WIDTH.
4. MEAN ROOF HEIGHT IS LESS THAN 30 FEET.
5. EXTERIOR WALLS DESIGNED FOR 130 MPH WINDS.
6. WALL CLADDING DESIGNED FOR +18.2 PSF AND -24 PSF (+/- INDICATE POSITIVE / NEGATIVE PRESSURE (TYP.).
7. ROOF CLADDING DESIGNED FOR +16.1 PSF AND -21 PSF FOR ROOF PITCHES 1/12 TO 12/12 AND +10.5 PSF AND -43 PSF FOR ROOF PITCHED 2.25/12 TO 7/12.
8. INSTALL 7/16" 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 11 OF THE NCRC, 2018 EDITION.
10. REFER TO NOTES AND DETAIL SHEETS FOR ADDITIONAL STRUCTURAL INFORMATION.

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Westan HOMES

WESTAN HOMES
ELIZABETH-II

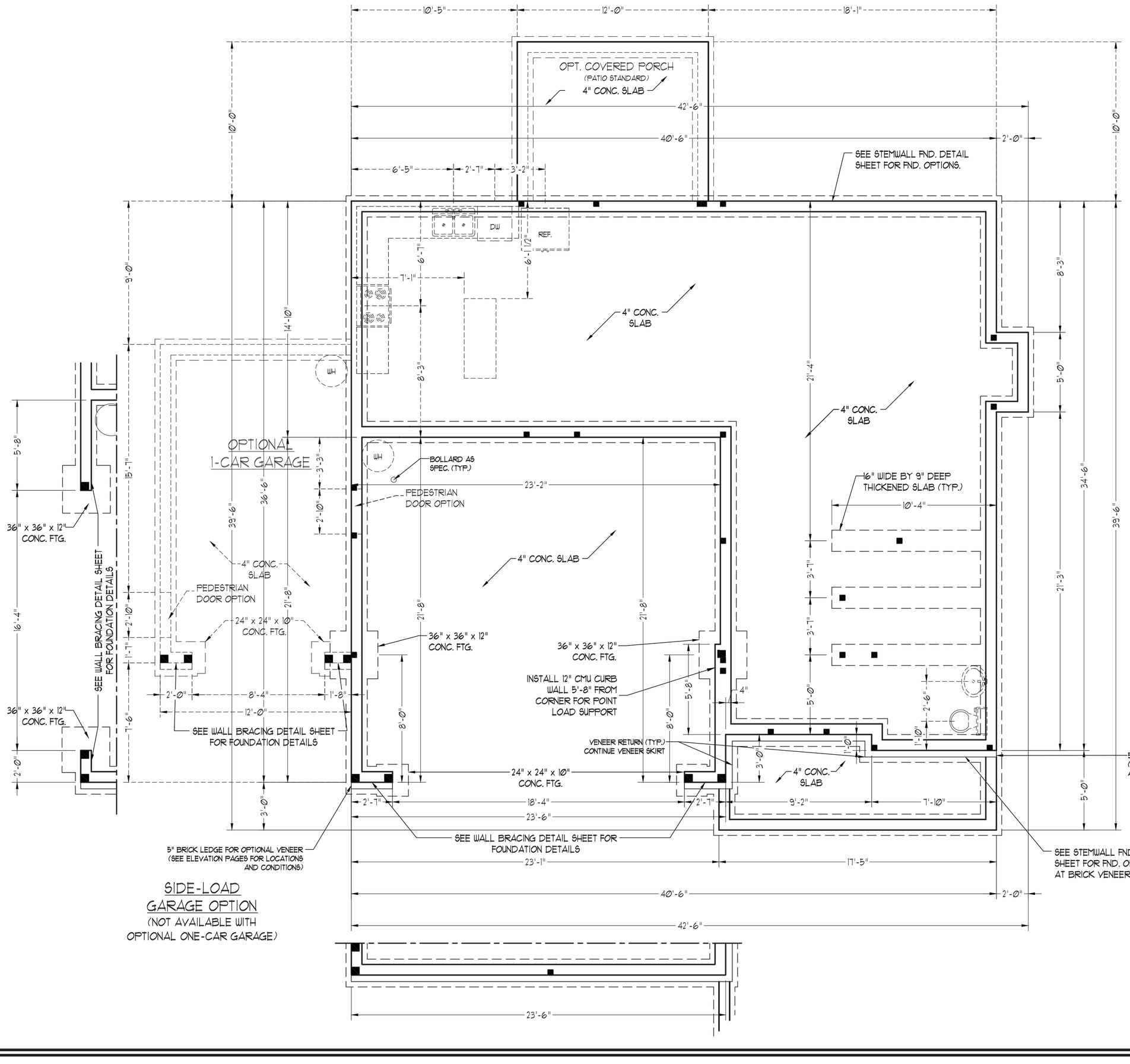
DATE: JUNE 21, 2019
REV.:
SCALE: 1/4" = 1'-0"
DRAWN BY: WG
ENGINEERED BY: WFB
REVIEWED BY:

MONO SLAB FOUNDATION PLAN

S-1

NORTH CAROLINA PROFESSIONAL SEAL 33736 ENGINEER MATTHEW G. STROTHER

6/26/19



SIDE-LOAD GARAGE OPTION
(NOT AVAILABLE WITH OPTIONAL ONE-CAR GARAGE)

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

1. 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 4'-0" O.C. AND WITHIN 1'-0" FROM END OF EACH CORNER. ANCHOR BOLTS MUST EXTEND A MINIMUM OF 7" INTO MASONRY OR CONCRETE. LOCATE BOLT WITHIN MIDDLE THIRD OF PLATE WIDTH.
4. MEAN ROOF HEIGHT IS LESS THAN 30 FEET.
5. EXTERIOR WALLS DESIGNED FOR 130 MPH WINDS.
6. WALL CLADDING DESIGNED FOR +18.2 PSF AND -24 PSF (+/- INDICATE POSITIVE / NEGATIVE PRESSURE (TYP.).
7. ROOF CLADDING DESIGNED FOR +16.7 PSF AND -21 PSF FOR ROOF PITCHES 1/12 TO 12/12 AND +10.5 PSF AND -43 PSF FOR ROOF PITCHED 2.25/12 TO 7/12.
8. INSTALL 7/16" 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 11 OF THE NCRC, 2018 EDITION.
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REVERSE PLAN

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Westan HOMES

WESTAN HOMES
ELIZABETH-II

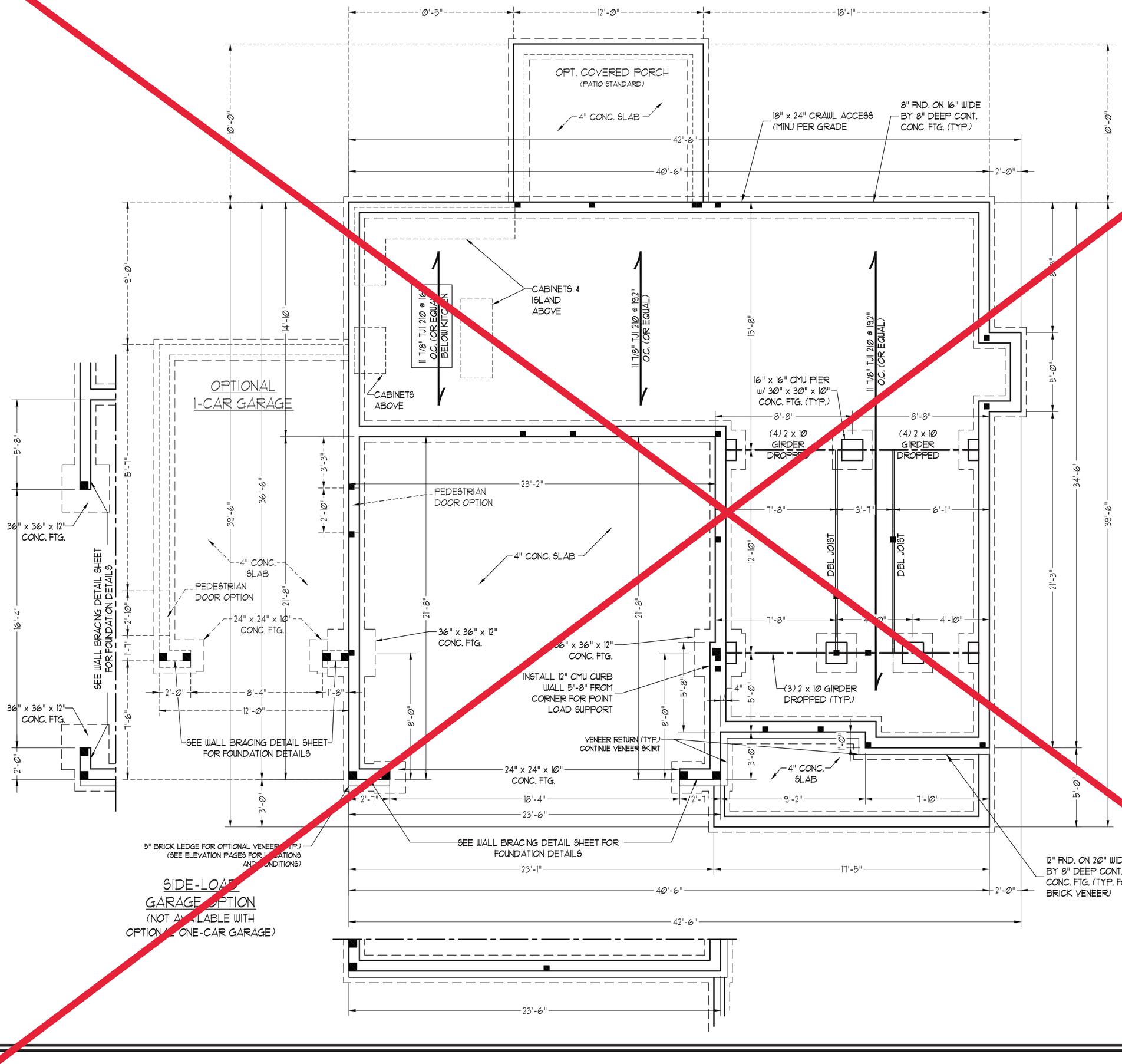
DATE: JUNE 21, 2019
REV.:
SCALE: 1/4" = 1'-0"
DRAWN BY: WG
ENGINEERED BY: WFB
REVIEWED BY:

STEMWALL SLAB FOUNDATION PLAN

S-1

NORTH CAROLINA PROFESSIONAL SEAL 33736 ENGINEER MATTHEW G. STROTHER

6/26/19



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

1. ENGINEER'S SEAL APPLIES ONLY TO STRUCTURAL COMPONENTS. ENGINEER'S SEAL DOES NOT CERTIFY DIMENSIONAL ACCURACY OR ARCHITECTURAL LAYOUT INCLUDING ROOF STYLE.
2. STRUCTURAL DESIGN PER NORTH CAROLINA RESIDENTIAL CODE, 2018 EDITION.
3. INSTALL 1/2" ANCHOR BOLTS 4'-0" O.C. AND WITHIN 12" FROM END OF EACH CORNER. ANCHOR BOLTS MUST EXTEND A MINIMUM OF 7" INTO MASONRY OR CONCRETE. LOCATE BOLT WITHIN MIDDLE THIRD OF PLATE WIDTH.
4. MEAN ROOF HEIGHT IS LESS THAN 30 FEET.
5. EXTERIOR WALLS DESIGNED FOR 130 MPH WINDS.
6. WALL CLADDING DESIGNED FOR +18.2 PSF AND -24 PSF (+/- INDICATE POSITIVE / NEGATIVE PRESSURE (TYP.).
7. ROOF CLADDING DESIGNED FOR +16.7 PSF AND -21 PSF FOR ROOF PITCHES 1/12 TO 12/12 AND +10.5 PSF AND -43 PSF FOR ROOF PITCHED 2.25/12 TO 7/12.
8. INSTALL 7/16" 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 11 OF THE NCRC, 2018 EDITION.
10. REFER TO NOTES AND DETAIL SHEETS FOR ADDITIONAL STRUCTURAL INFORMATION.

STRUCTURAL NOTES:

1. ALL FRAMING LUMBER TO BE #2 SPF (UNO). ALL TREATED LUMBER TO BE #2 SYP (UNO.)
2. INSTALL AN EXTRA OR DOUBLE JOIST UNDER WALLS PARALLEL TO FLOOR JOISTS WHERE NOTED ON THE PLANS.
3. SQUARES DENOTE POINT LOADS WHICH REQUIRE SOLID BLOCKING TO GIRDER OR FOUNDATION.
4. SHADED PIERS TO BE FILLED SOLID.
5. INSTALL LADDER WIRE @ 16" O.C. TO SECURE MULTIPLE WYTHE FOUNDATION WALLS TOGETHER.
6. REFER TO NOTES AND DETAIL SHEETS FOR ADDITIONAL STRUCTURAL INFORMATION.

FOUNDATION VENTILATION CALCULATION

809 SQ. FT. OF CRAWL SPACE DIVIDED BY 1500 EQUALS .54 SQ. FT. OF NET FREE AREA REQUIRED. INSTALL 6 MIL POLY TO COVER ENTIRE CRAWL SPACE. LOCATE VENTS WITHIN 3'-0" OF EACH CORNER OF THE BUILDING TO PROVIDE CROSS-VENTILATION.

REVERSE PLAN

NORTH CAROLINA PROFESSIONAL SEAL 33736 ENGINEER MATTHEW G. STROTHER

6/26/19

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PHONE: (919) 789-9919
FAX: (919) 789-9921
N.C. LICENSE NO.: C-1733

Westan HOMES

WESTAN HOMES
ELIZABETH-II

DATE: JUNE 21, 2019
REV.:
SCALE: 1/4" = 1'-0"
DRAWN BY: WG
ENGINEERED BY: WFB
REVIEWED BY:

CRAWL FOUNDATION PLAN

S-1

BRACED WALL DESIGN

RECTANGLE B

SIDE 1B
METHOD: CS-WSP/FF
TOTAL REQUIRED LENGTH: 3.8'
TOTAL PROVIDED LENGTH: 6'
SIDE 2B
METHOD: CS-WSP
TOTAL REQUIRED LENGTH: 3.8'
TOTAL PROVIDED LENGTH: 12'
SIDE 3B
METHOD: CS-WSP
TOTAL REQUIRED LENGTH: 2.66'
TOTAL PROVIDED LENGTH: 15.58'
SIDE 4B/3A
METHOD: CS-WSP/GB
TOTAL REQUIRED LENGTH: 17.1'
TOTAL PROVIDED LENGTH: 24.75'

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 7/16" 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 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 NCRC 2018 EDITION.
5. SEE NOTES AND DETAIL SHEETS FOR ADDITIONAL BRACED WALL INFORMATION.

BRACED WALL DESIGN

RECTANGLE A

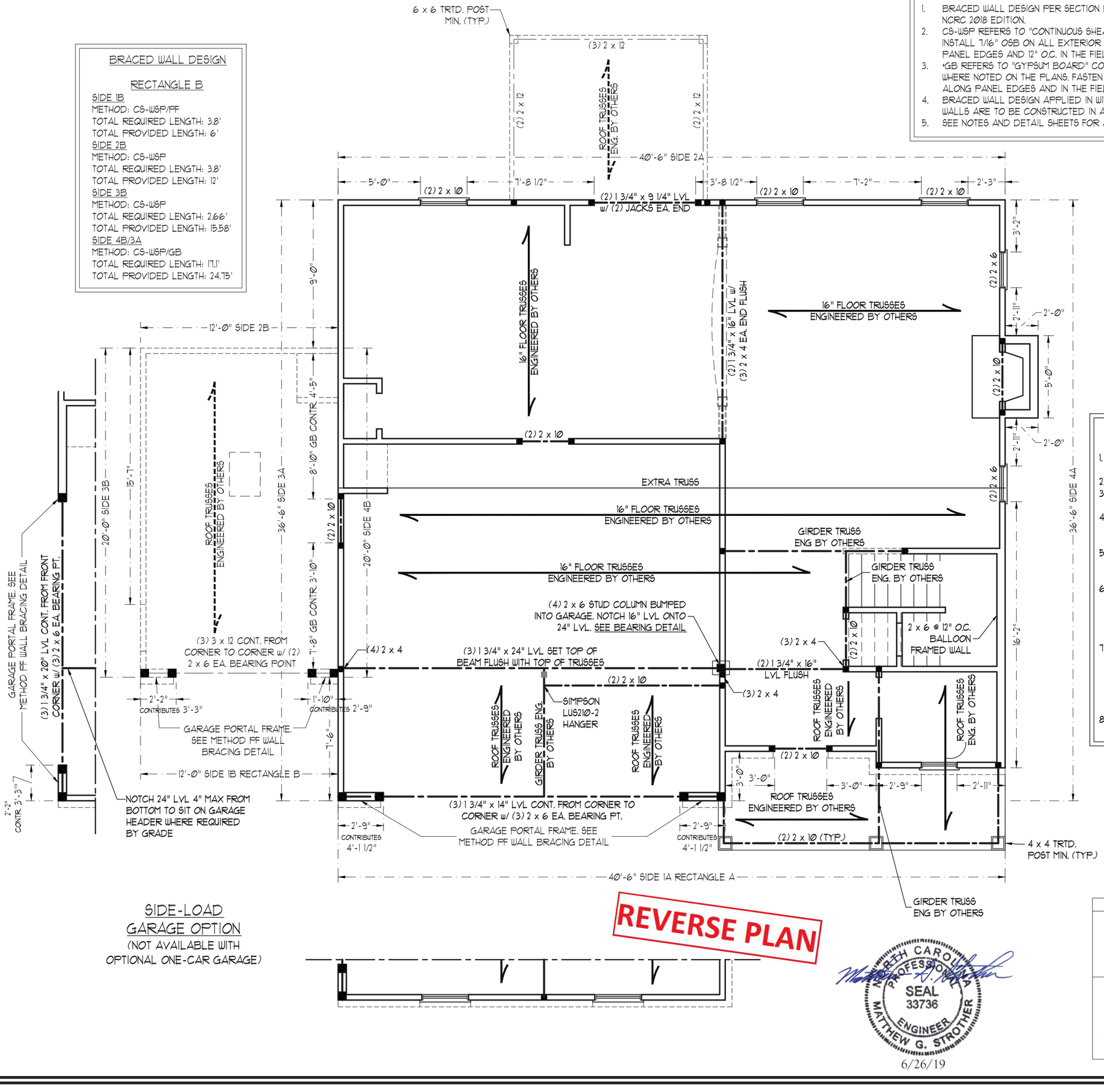
SIDE 1A (FRONT LOAD)
METHOD: CS-WSP/FF
TOTAL REQUIRED LENGTH: 13.2'
TOTAL PROVIDED LENGTH: 19.92'
SIDE 2A
METHOD: CS-WSP
TOTAL REQUIRED LENGTH: 13.2'
TOTAL PROVIDED LENGTH: 29.83'
SIDE 3A (SIDE LOAD)
METHOD: CS-WSP/FF
TOTAL REQUIRED LENGTH: 14.4'
TOTAL PROVIDED LENGTH: 21.6'
SIDE 4A
METHOD: CS-WSP
TOTAL REQUIRED LENGTH: 14.4'
TOTAL PROVIDED LENGTH: 33.11'

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 x 6 (UNO).
3. INSTALL AN EXTRA TRUSS UNDER WALLS PARALLEL TO FLOOR TRUSSES 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 R602.7.5 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. 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 700 LB CAPACITY UPLIFT CONNECTORS AT TOP (UNO.)
7. 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.
8. 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

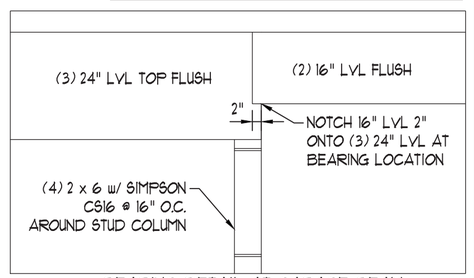
HEADER SPAN (FEET)	MAXIMUM STUD SPACING (INCHES) (PER TABLE R602.3(5))	
	16	24
UP TO 3'	1	1
4'	2	1
8'	3	2
12'	5	3
16'	6	4



SIDE-LOAD GARAGE OPTION
(NOT AVAILABLE WITH OPTIONAL ONE-CAR GARAGE)

REVERSE PLAN

6/26/19



BEARING DETAIL AT GARAGE BEAM

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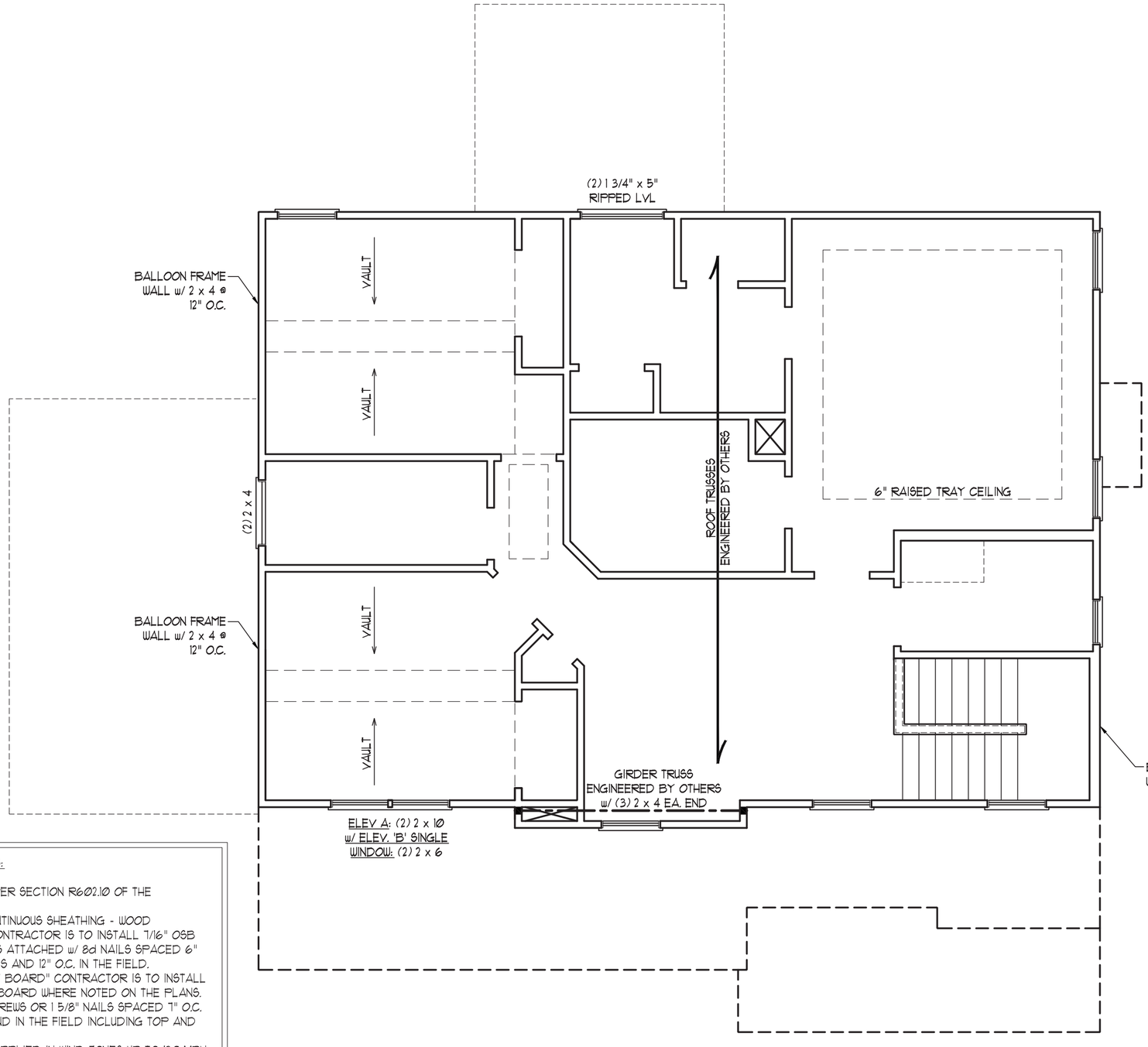
Westan HOMES

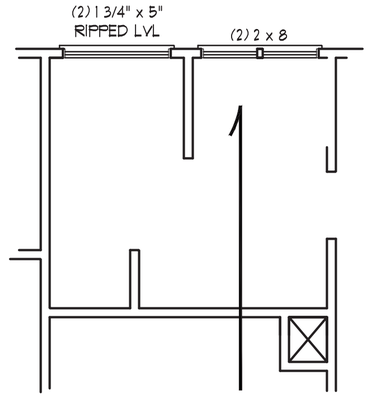
WESTAN HOMES
ELIZABETH-II

DATE: JUNE 21, 2019
REV.:
SCALE: 1/4" = 1'-0"
DRAWN BY: WG
ENGINEERED BY: WFB
REVIEWED BY:

SECOND FLOOR FRAMING PLAN

S-2





OPTIONAL
OWNER'S BATH

STRUCTURAL NOTES:

1. ALL FRAMING LUMBER TO BE #2 SPF (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 R602.7.5 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. REFER TO NOTES AND DETAIL SHEETS FOR ADDITIONAL STRUCTURAL INFORMATION.

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 7/16" 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 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 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 7/16" OSB SHEATHING ATTACHED WITH 8d NAILS AT 6" O.C. ALONG PANEL EDGES AND 12" O.C. IN THE FIELD.

NORTH CAROLINA PROFESSIONAL SEAL 33736 ENGINEER MATTHEW G. STROTHER

6/26/19

TABLE R602.7.5
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(5))	
	16	24
UP TO 3'	1	1
4'	2	1
8'	3	2
12'	5	3
16'	6	4

REVERSE PLAN

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N.C. LICENSE NO.: C-1733

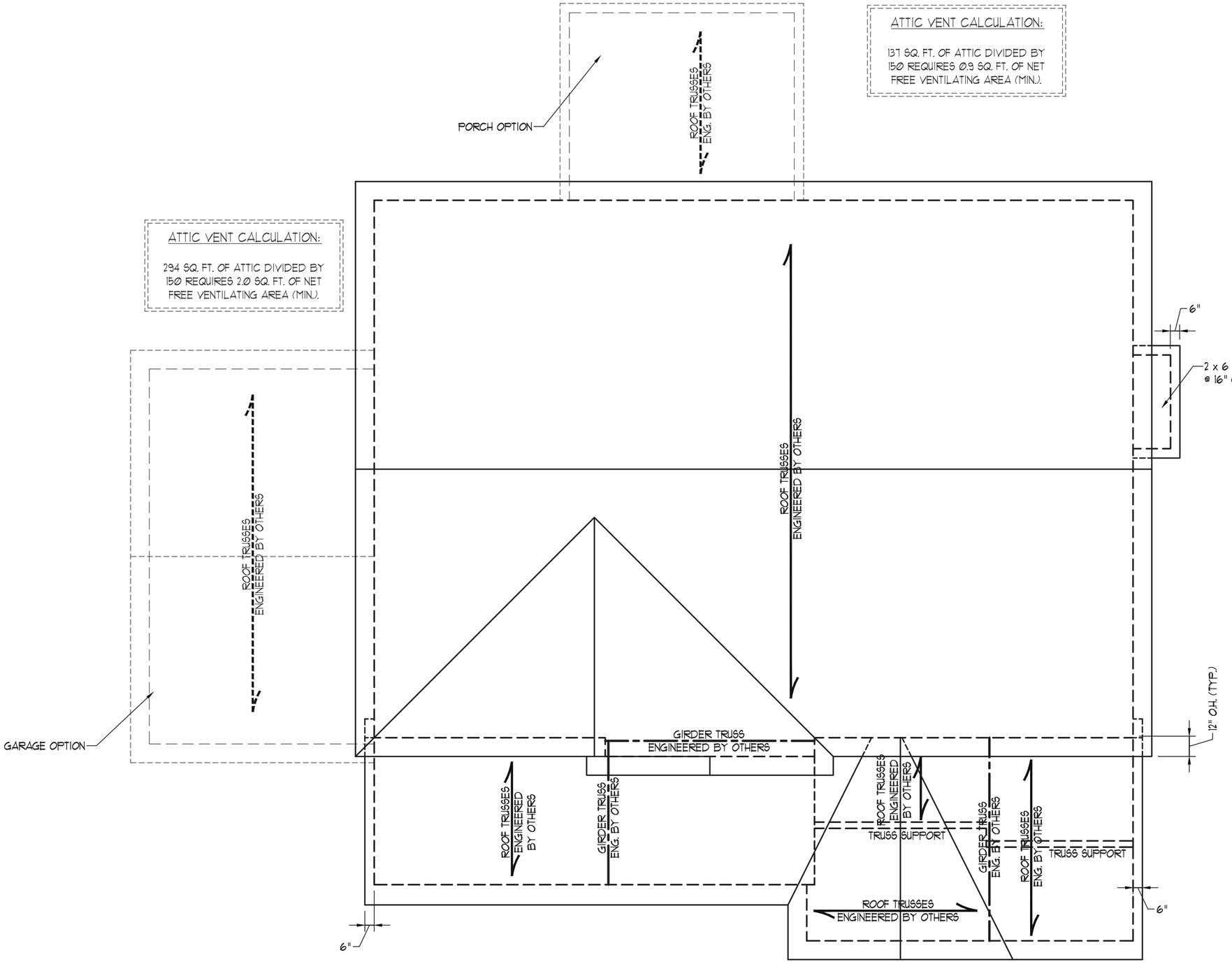
Westan HOMES

WESTAN HOMES
ELIZABETH-II

DATE: JUNE 21, 2019
REV.:
SCALE: 1/4" = 1'-0"
DRAWN BY: WG
ENGINEERED BY: WFB
REVIEWED BY:

ATTIC FLOOR FRAMING PLAN

S-3



REVERSE PLAN

ATTIC VENT CALCULATION:

1696 SQ. FT. OF ATTIC DIVIDED BY 150 REQUIRES 11.3 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.
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 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.
7. REFER TO SECTION R802.11 OF THE 2018 NCRC FOR REQUIRED UPLIFT RESISTANCE AT RAFTERS AND TRUSSES.
8. REFER TO NOTES AND DETAIL SHEETS FOR ADDITIONAL STRUCTURAL INFORMATION.

NORTH CAROLINA PROFESSIONAL SEAL 33736 ENGINEER MATTHEW G. STROTHER

6/26/19

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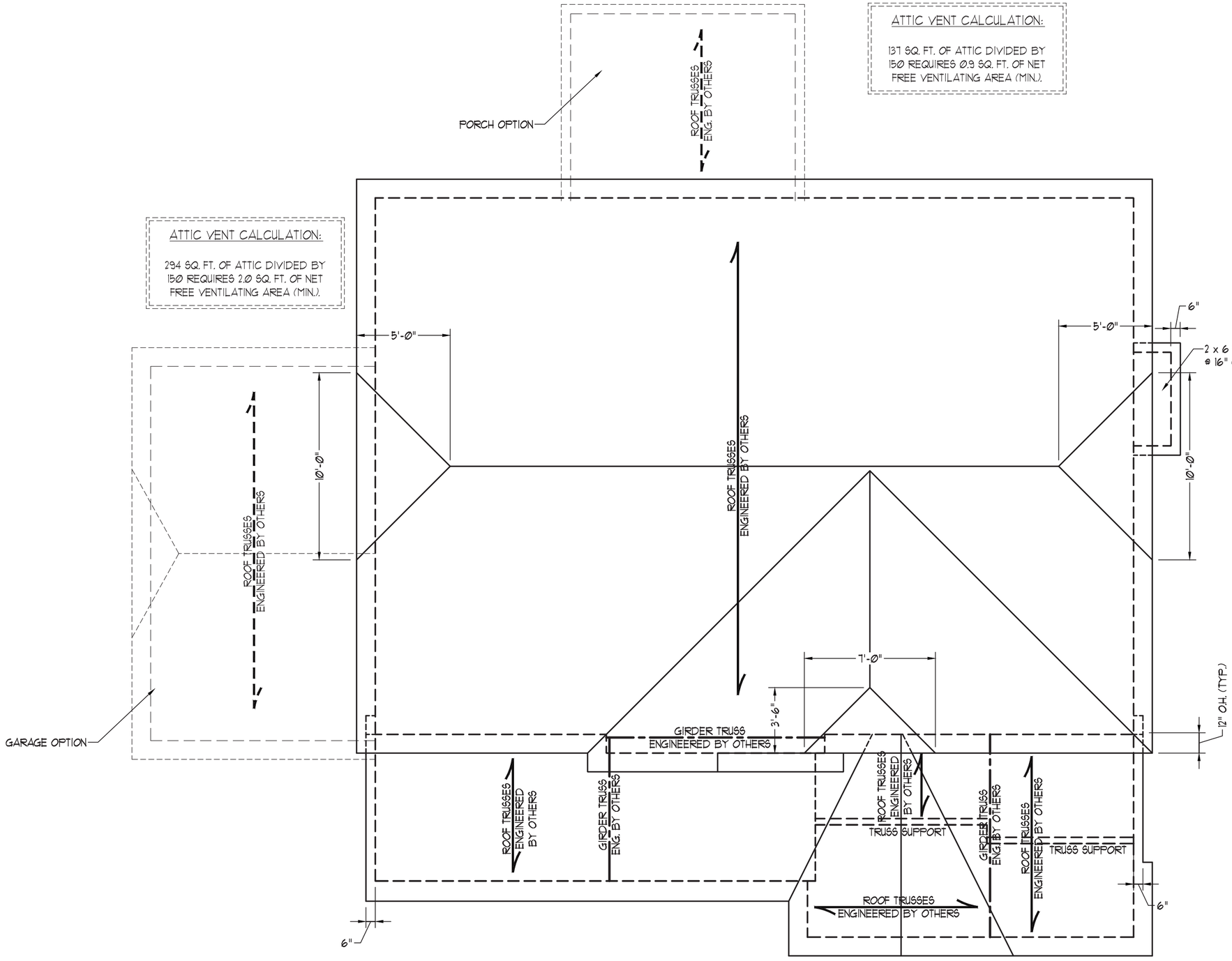
ELIZABETH-II

DATE: JUNE 21, 2019
REV.:
SCALE: 1/4" = 1'-0"
DRAWN BY: WG
ENGINEERED BY: WFB
REVIEWED BY:

ROOF PLAN
ELEVATION - A

S-4



REVERSE PLAN

ATTIC VENT CALCULATION:

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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.
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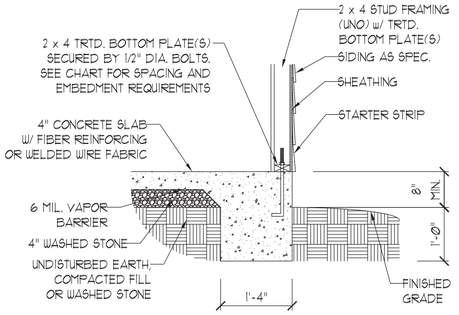
ELIZABETH-II

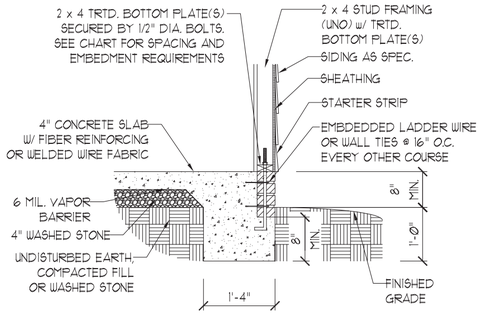
DATE: JUNE 21, 2019
REV.:
SCALE: 1/4" = 1'-0"
DRAWN BY: WG
ENGINEERED BY: WFB
REVIEWED BY:

ROOF PLAN
ELEVATION - B

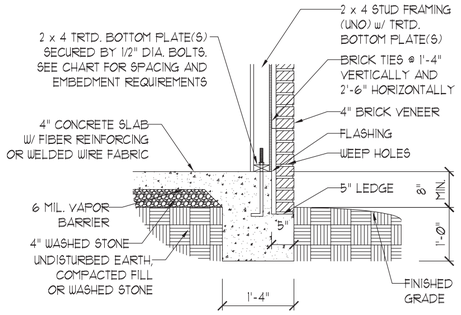
S-4



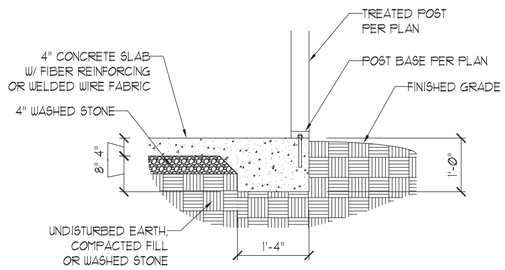
TYPICAL SLAB (1)



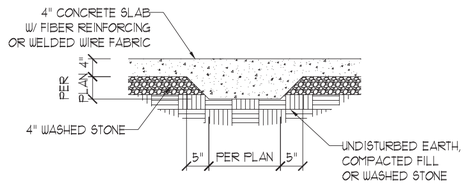
TYPICAL SLAB w/ BRICK LEDGE (2)



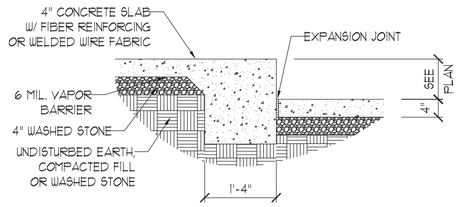
TYPICAL SLAB w/ BRICK VENEER LEDGE (3)



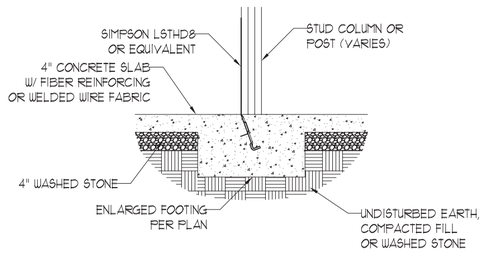
PORCH/SCREEN PORCH (4)



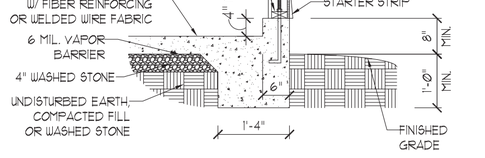
TYPICAL THICKENED SLAB (5)



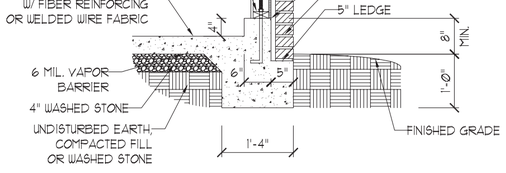
SLAB FLOOR CHANGE (6)



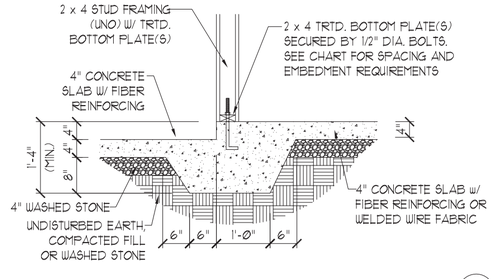
TYPICAL COLUMN TO SLAB CONNECTION (7)



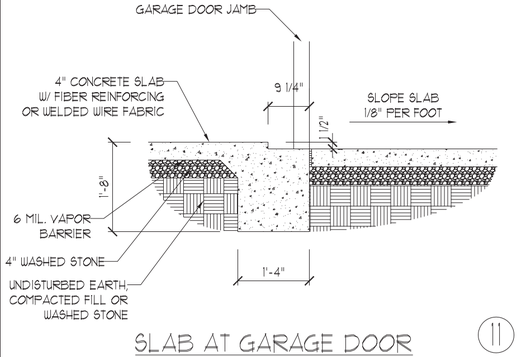
GARAGE CURB (8)



GARAGE CURB w/ BRICK LEDGE (9)



STEP IN GARAGE (10)



SLAB AT GARAGE DOOR (11)

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	7"	15" INTO MASONRY 7" 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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N.C. LICENSE NO.: C-1733

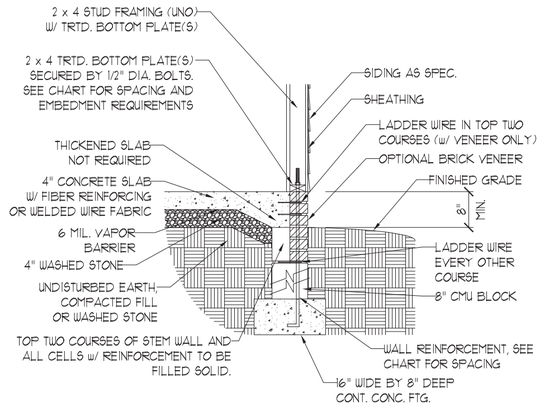
MONOLITHIC SLAB FOUNDATION DETAILS

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

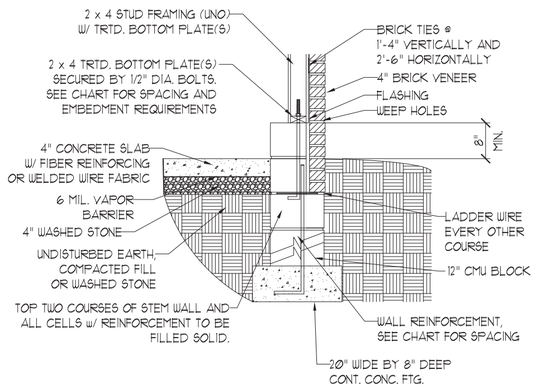
FOUNDATION DETAILS

NORTH CAROLINA PROFESSIONAL SEAL 33736 ENGINEER MATTHEW G. STROTHER

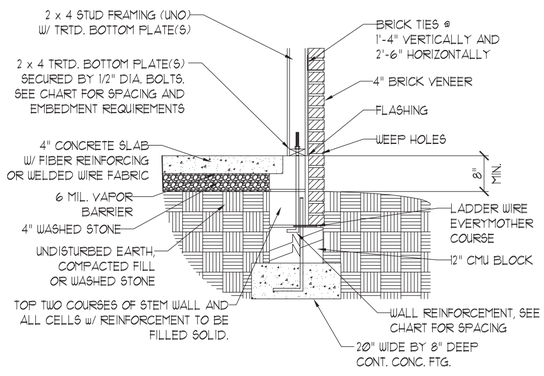
6/26/19



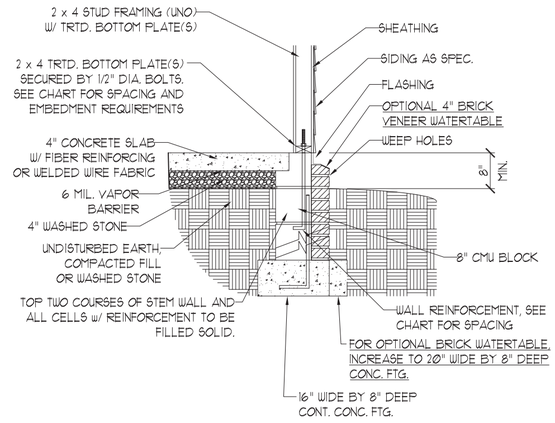
STEM WALL FDN. DETAIL (1)



STEM WALL FDN. W/ BRICK AND CURB (2)



STEM WALL FDN. W/ BRICK DETAIL (3)



STEM WALL FDN. W/ OPTIONAL BRICK WATERTABLE DETAIL (4)

MASONRY STEMWALL SPECIFICATIONS

WALL HEIGHT (FEET)	MASONRY WALL TYPE			
	8" CMU	4" BRICK AND 4" CMU	4" BRICK AND 8" CMU	12" CMU
2 AND BELOW	UNGROUTED	GROUT SOLID	UNGROUTED	UNGROUTED
3	UNGROUTED	GROUT SOLID	UNGROUTED	UNGROUTED
4	GROUT SOLID	GROUT SOLID w/ #4 REBAR @ 48" O.C.	GROUT SOLID	GROUT SOLID w/ #4 REBAR @ 64" O.C.
5	GROUT SOLID w/ #4 REBAR @ 36" O.C.	NOT APPLICABLE	GROUT SOLID w/ #4 REBAR @ 36" O.C.	GROUT SOLID w/ #4 REBAR @ 64" O.C.
6	GROUT SOLID w/ #4 REBAR @ 24" O.C.	NOT APPLICABLE	GROUT SOLID w/ #4 REBAR @ 24" O.C.	GROUT SOLID w/ #4 REBAR @ 64" O.C.
7 AND GREATER	ENGINEERED DESIGN BASED ON SITE CONDITIONS			

STRUCTURAL NOTES:

1) WALL HEIGHT MEASURED FROM TOP OF FOOTING TO TOP OF THE WALL.
2) TIE MULTIPLE WYTHES TOGETHER WITH LADDER WIRE AT 16" O.C. VERTICALLY.
3) CHART APPLICABLE FOR HOUSE FOUNDATION ONLY. CONSULT ENGINEER FOR DESIGN OF GARAGE FOUNDATION NOT COMMON TO HOUSE.
4) BACKFILL OF CLEAN #57 / #67 WASHED STONE IS ALLOWABLE.
5) BACKFILL OF WELL DRAINED OR SAND - GRAVEL MIXTURE SOILS (45 PSF/FT BELOW GRADE) CLASSIFIED AS GROUP I ACCORDING TO UNIFIED SOILS CLASSIFICATION SYSTEM IN ACCORDANCE WITH TABLE R405.1 OF THE 2018 NORTH CAROLINA RESIDENTIAL CODE ARE ALLOWABLE.
6) PREP SLAB PER R506.2.1 AND R506.2.2 BASE AND EXCEPTION OF 2018 NORTH CAROLINA RESIDENTIAL CODE.
7) MINIMUM 24" LAP SPLICE LENGTH.
8) LOCATE REBAR IN CENTER OF FOUNDATION WALL.
9) WHERE REQUIRED, FILL BLOCK SOLID WITH TYPE "S" MORTAR OR 3000 PSI GROUT. USE OF "LOW LIFT GROUTING" METHOD REQUIRED WHEN FILLING WALLS WITH GROUT AT HEIGHTS OF 5' AND GREATER.

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	7"	15" INTO MASONRY 7" 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.

6/26/19

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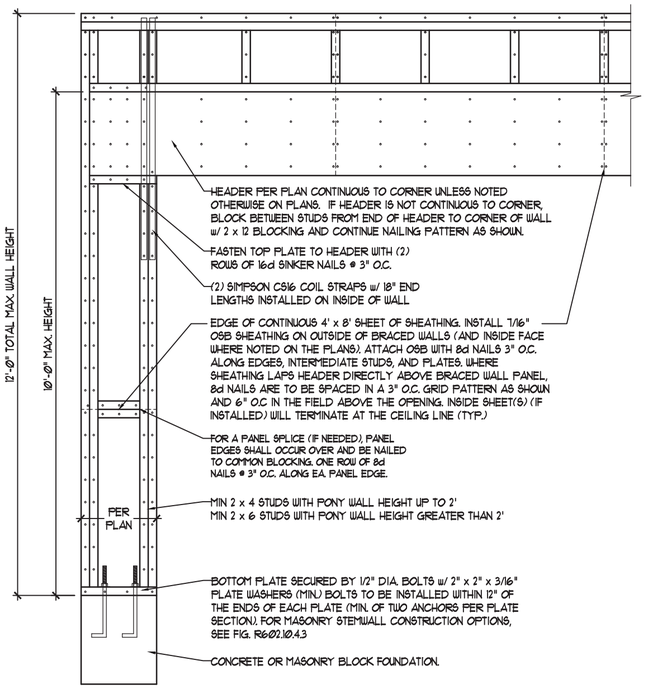
STEM WALL FOUNDATION DETAILS

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

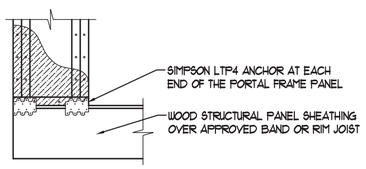
FOUNDATION DETAILS

GENERAL WALL BRACING NOTES:

1. 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.
2. SEE THIS SHEET FOR GENERAL DETAILS. REFER TO THE 2018 NCRC FOR ADDITIONAL INFORMATION AS NEEDED.
3. BRACED EXTERIOR WALLS SUPPORTING ROOF TRUSSES AND RAFTERS, INCLUDING STORIES 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 ENGINEERED 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-WSP 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 "GB", GYPSUM TO BE FASTENED PER TABLE R702.3.5. METHOD GB TO BE FASTENED PER TABLE R602.10.1
7. 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.).
8. 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 7" 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 R702.3.5. FOR EXTERIOR FASTENER OPTIONS SEE TABLE R602.3(1). EXTERIOR GB 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-WSP CONTRIBUTES ITS ACTUAL LENGTH, METHOD GB CONTRIBUTES .5 ITS ACTUAL LENGTH, AND METHOD PF CONTRIBUTES 1.5 TIMES ITS ACTUAL LENGTH.



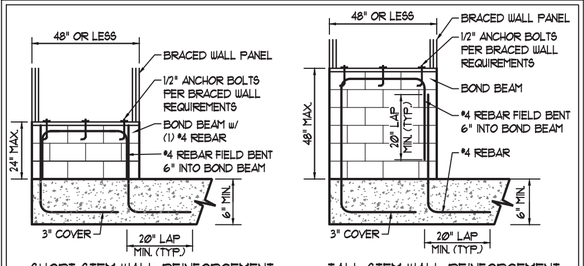
OVER CONCRETE OR MASONRY BLOCK FOUNDATION



OVER RAISED WOOD FLOOR - FRAMING ANCHOR OPTION

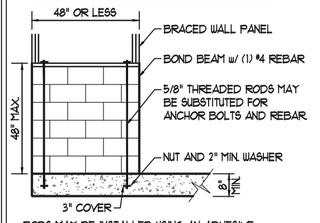
* APPLICABLE W/ GREATER THAN 12" KNEE WALL HEIGHTS IN CRAWL SPACE AND ABOVE FRAMED BASEMENT WALLS *

METHOD PF-PORTAL FRAME DETAIL (1)



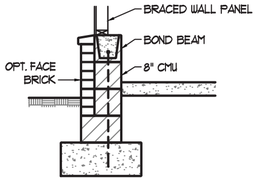
SHORT STEM WALL REINFORCEMENT

TALL STEM WALL REINFORCEMENT



RODS MAY BE INSTALLED USING AN ADHESIVE ANCHORING SYSTEM WITH A MINIMUM TENSILE CAPACITY OF 3750 LBS AND INSTALLED IN ACCORDANCE WITH MANUFACTURER'S SPECS.

OPTIONAL STEM WALL REINFORCEMENT

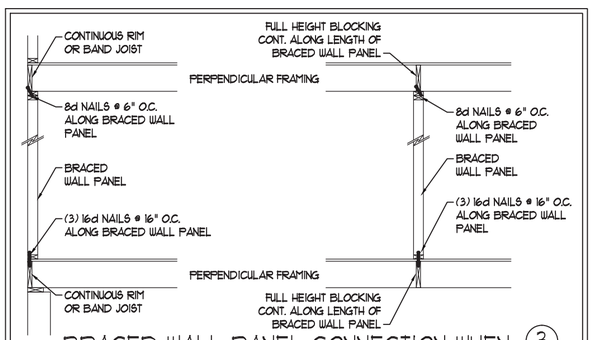


TYPICAL STEM WALL SECTION

NOTE: GROUT BOND BEAMS AND ALL CELLS WHICH CONTAIN REBAR, THREADED RODS AND ANCHOR BOLTS

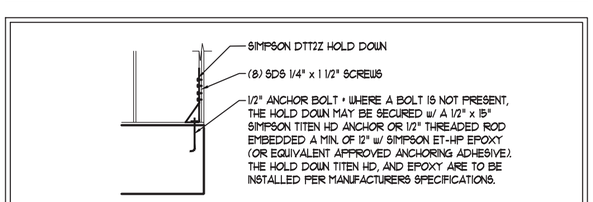
MASONRY STEM WALLS SUPPORTING BRACED WALL PANELS (2)

PER FIGURE R602.10.4.3



BRACED WALL PANEL CONNECTION WHEN PERPENDICULAR TO FLOOR/CEILING FRAMING (3)

PER FIGURE R602.10.4.4(1)

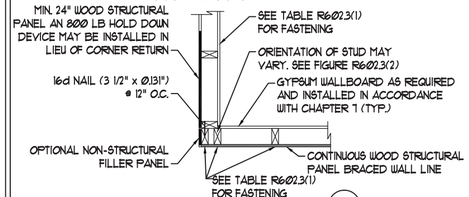


HOLD DOWN DETAIL FOR MASONRY FOUNDATION OR MONOLITHIC SLAB (4)

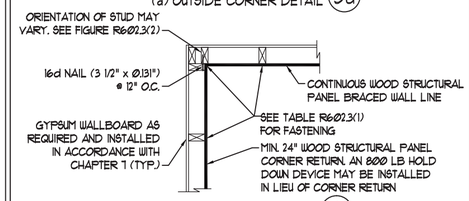
* APPLICABLE ONLY WHERE SPECIFIED ON PLAN *

TYPICAL EXTERIOR CORNER FRAMING FOR CONTINUOUS SHEATHING (5)

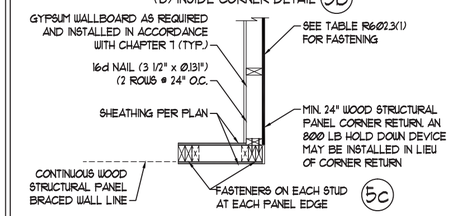
PER FIGURE R602.10.3(5)



(a) OUTSIDE CORNER DETAIL (5a)



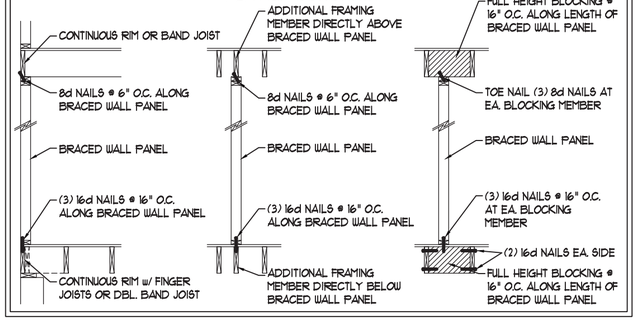
(b) INSIDE CORNER DETAIL (5b)

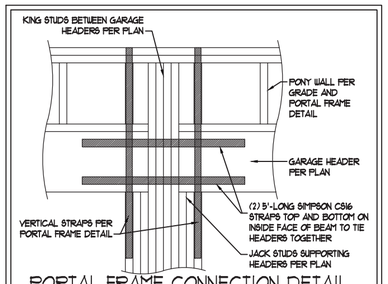


(c) GARAGE DOOR CORNER DETAIL (SEE PLAN FOR ADDITIONAL STRUCTURAL INFORMATION OR ALTERNATE CONFIGURATIONS) (5c)

BRACED WALL PANEL CONNECTION WHEN PARALLEL TO FLOOR/CEILING FRAMING (6)

PER FIG. R602.10.4.4(2)



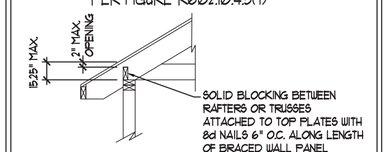


PORTAL FRAME CONNECTION DETAIL BETWEEN GARAGE DOOR HEADERS

(REFERENCE PORTAL FRAME DETAIL FOR ALL OTHER PORTAL FRAME INFORMATION) (7)

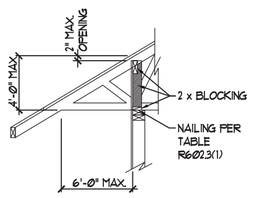
BRACED WALL PANEL CONNECTION TO PERPENDICULAR RAFTERS (8)

PER FIGURE R602.10.4.5(1)



BRACED WALL PANEL CONNECTION TO PERPENDICULAR ROOF TRUSSES (9)

PER FIGURE R602.10.4.5(3)
(OR ALTERNATIVE: FIGURE R602.10.4.5(2))



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NORTH CAROLINA PROFESSIONAL SEAL 33736 ENGINEER MATTHEW G. STROTHER

6/26/19

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N.C. LICENSE NO.: C-1733

WALL BRACING NOTES AND DETAILS

DATE: OCTOBER 30, 2018
SCALE: 1/4" = 1'-0"
DRAWN BY: JST
ENGINEERED BY: JST

BRACED WALL NOTES AND DETAILS AND PF DETAIL

GENERAL NOTES

1. 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.

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.

3. STRUCTURAL DESIGN BASED ON THE PROVISIONS OF THE NCRC, 2018 EDITION (R301.4 - R301.7)

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 BALCONIES	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 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 IS TO COMPLY WITH SECTION R403.1.6 OF THE NCRC, 2018 EDITION. FOR 130 MPH, 140 MPH, AND 150 MPH WIND ZONES, FOUNDATION ANCHORAGE IS 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 11 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 1, 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.

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.

7. 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).

NORTH CAROLINA PROFESSIONAL SEAL 33736 ENGINEER MATTHEW G. STROTHER

6/26/19

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FRAMING NOTES

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 7" DEPTH SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES: Fc = 2500 PSI, E =1800000 PSI. PARALLEL STRAND LUMBER (PSL) MORE THAN 7" DEPTH SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES: Fc = 2900 PSI, E = 2000000 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 — (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 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.

7. 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).

8. 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).

9. 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.

10. 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 I-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 (U.N.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 R703.8.2.1 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'-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).

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 700 LB CAPACITY UPLIFT CONNECTORS TOP AND BOTTOM (UNO.) POSTS MAY BE SECURED USING ONE SIMPSON H6 OR LTS12 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.

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STANDARD STRUCTURAL NOTES

DATE: OCTOBER 29, 2018
SCALE: 1/4" = 1'-0"
DRAWN BY: JES
ENGINEERED BY: JST

SHEET:

STRUCTURAL NOTES