RIVERBIRCH

RIVERBIRCH
Revision List

1) Eliminate decorative vent in Elevation A (09-13-13)
2) Eliminate2 columns in Elevation B and modified the porch. The dormer will be an option (09-13-13)
3) Eliminate the decorative vent and brackets in Elevation C (09-13-13)
4) All windows have been updated. (11-04-13)
5) The side lights in the front door were eliminated(09-13-13)
6) 6-0 bi-fold door in laundry room (01--9-14)
7) Seismic zone requirements were added to the structural pages. (6-1-15)
8) Footing Details updated to the structural pages. (11-9-15)
9) Corrected LVL notes on Sheet S-2 in Garage area. (11-9-15)
10) Clarified Master Bathroom Shower Size as 42 x 36 (3-9-16)

COVER SHEET

RIVERBIRCH

DATE:

REV.:

SCALE:

DRAWN BY: GV

ENGINEERED BY:

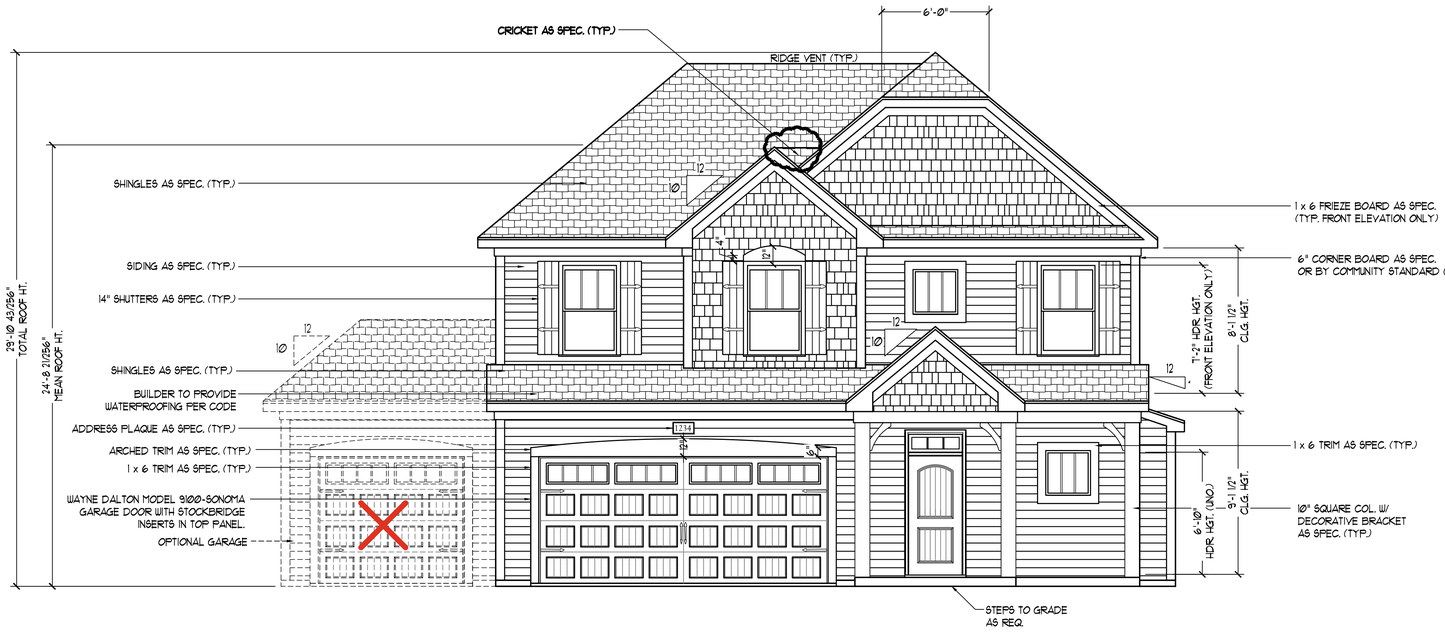
REVIEWED BY:

CS

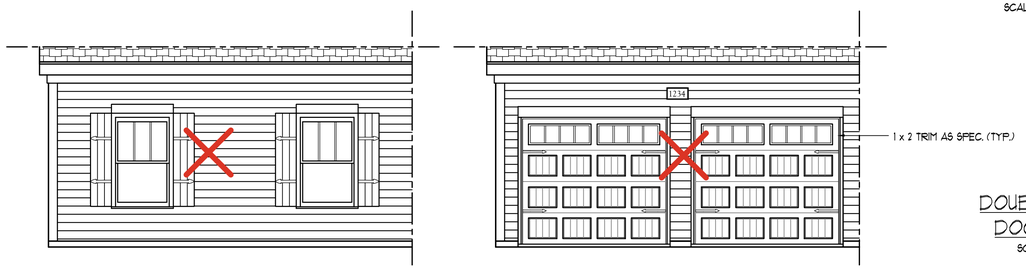
No arch in family
Closet redraw
Half wall up
curb wall down w/picket (3thread)

leave buffer at side & rear
keep wooded

Lot 2
268 Dove Rd



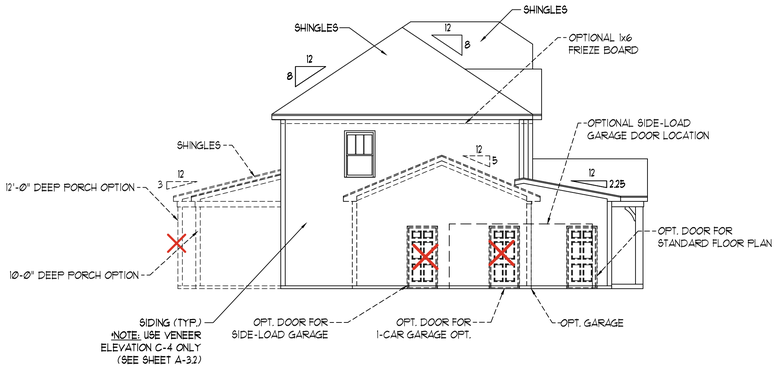
FRONT ELEVATION-C
SCALE: 1/4" = 1'-Ø"



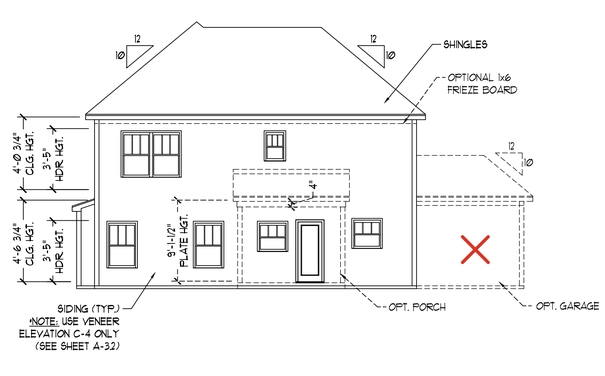
SIDE LOAD GARAGE OPTION
(NOT AVAILABLE WITH OPTIONAL ONE-CAR GARAGE)
SCALE: 1/4" = 1'-Ø"

DOUBLE GARAGE DOOR OPTION
SCALE: 1/4" = 1'-Ø"

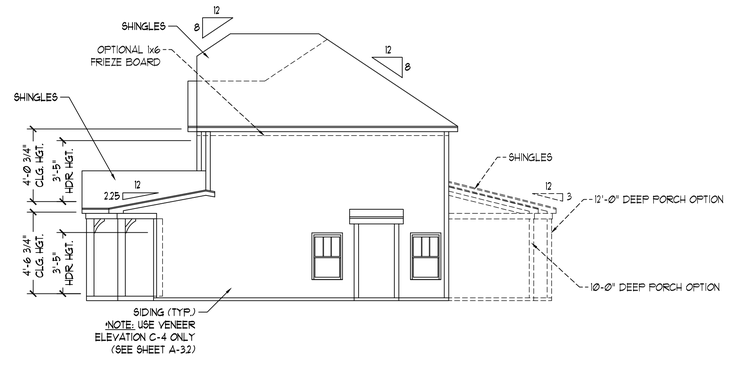
** NOTE: SEE PAGE A-3.1 FOR SPECIFIC FRONT ELEVATION-C DETAILS. SEE PAGE A-3.2 FOR C-4 (ALL BRICK) ELEVATIONS



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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N.C. LICENSE NO.: C-1733

RIVERBIRCH

DATE: JUNE 1, 2015
REV.:
SCALE: AS NOTED
DRAWN BY: WG
ENGINEERED BY: WLF
REVIEWED BY: JES

C - ELEVATIONS
A-3

FRONT ELEVATION-C-1

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

FRONT ELEVATION-C-2

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

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RIVERBIRCH

DATE: JUNE 1, 2015

REV.:

SCALE: AS NOTED

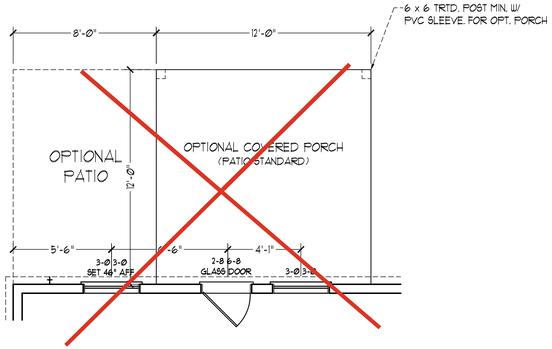
DRAWN BY: WG

ENGINEERED BY: WLF

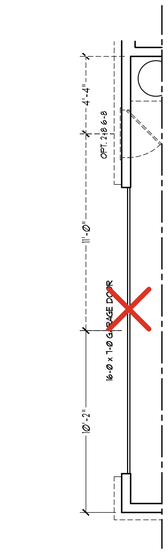
REVIEWED BY: JES

C - ELEVATION OPTIONS

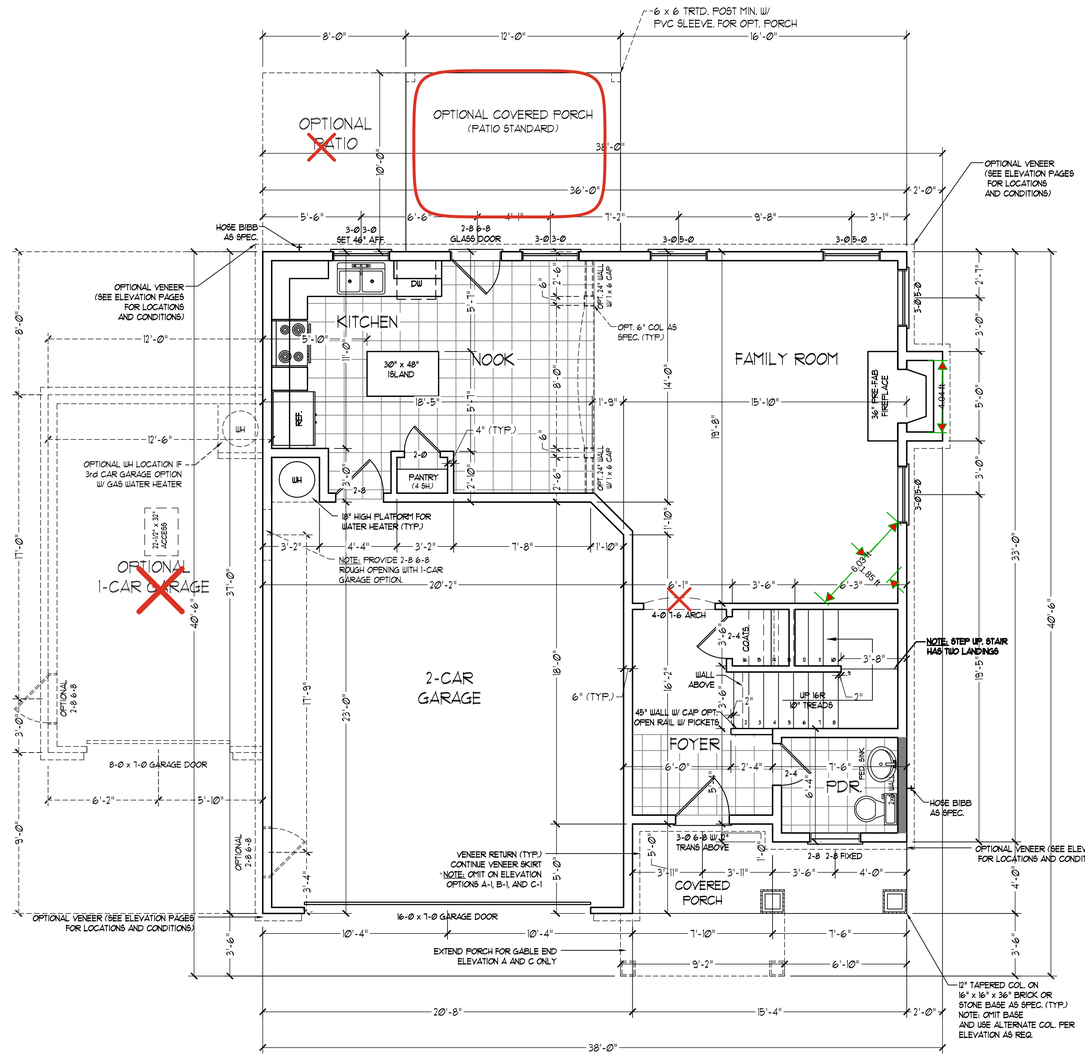
A-3.1

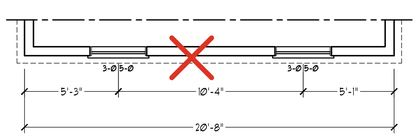


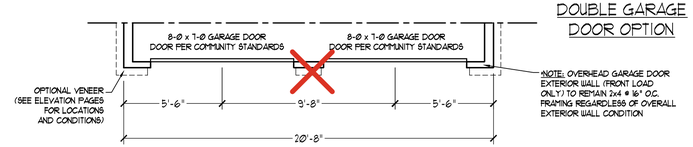
OPTIONAL 12'-Ø" DEEP REAR PORCH



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



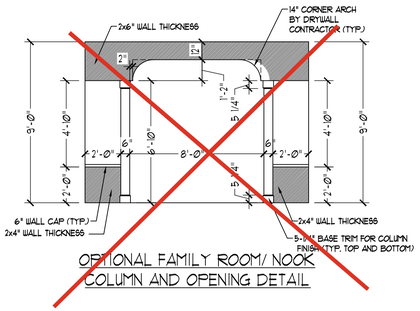




DOUBLE GARAGE DOOR OPTION

SQUARE FOOTAGE (STUD)	
1st FLOOR:	808 SQ. FT.
2nd FLOOR:	928 SQ. FT.
TOTAL:	1736 SQ. FT.
FRONT PORCH:	70 SQ. FT.
STD. REAR PATIO:	120 SQ. FT.
GARAGE:	464 SQ. FT.

SQUARE FOOTAGE (OPTIONS)	
FRONT PORCH (ELEV A4C):	101 SQ. FT.
REAR PORCH (10-Ø DEEP):	120 SQ. FT.
1-CAR GARAGE (STUD):	240 SQ. FT.
~~1-CAR GARAGE (BRICK):~~	~~277 SQ. FT.~~



OPTIONAL FAMILY ROOM/ NOOK COLUMN AND OPENING DETAIL

NOTE: ALL EXTERIOR WALLS AND ATTIC WALLS ARE TO BE 2 x 4 @ 16" O.C. MIN. (UNO). 2 x 6 @ 16" O.C. EXTERIOR WALLS MAY BE CONSTRUCTED IN LIEU OF 2 x 4 WALLS. 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).

2x6 WALL

* SHADED WALLS ARE TO BE 2 x 6 @ 16" O.C. (LOAD BEARING) OR 2 x 6 @ 24" O.C. (NON-LOAD BEARING) REGARDLESS OF EXTERIOR WALL CONDITION

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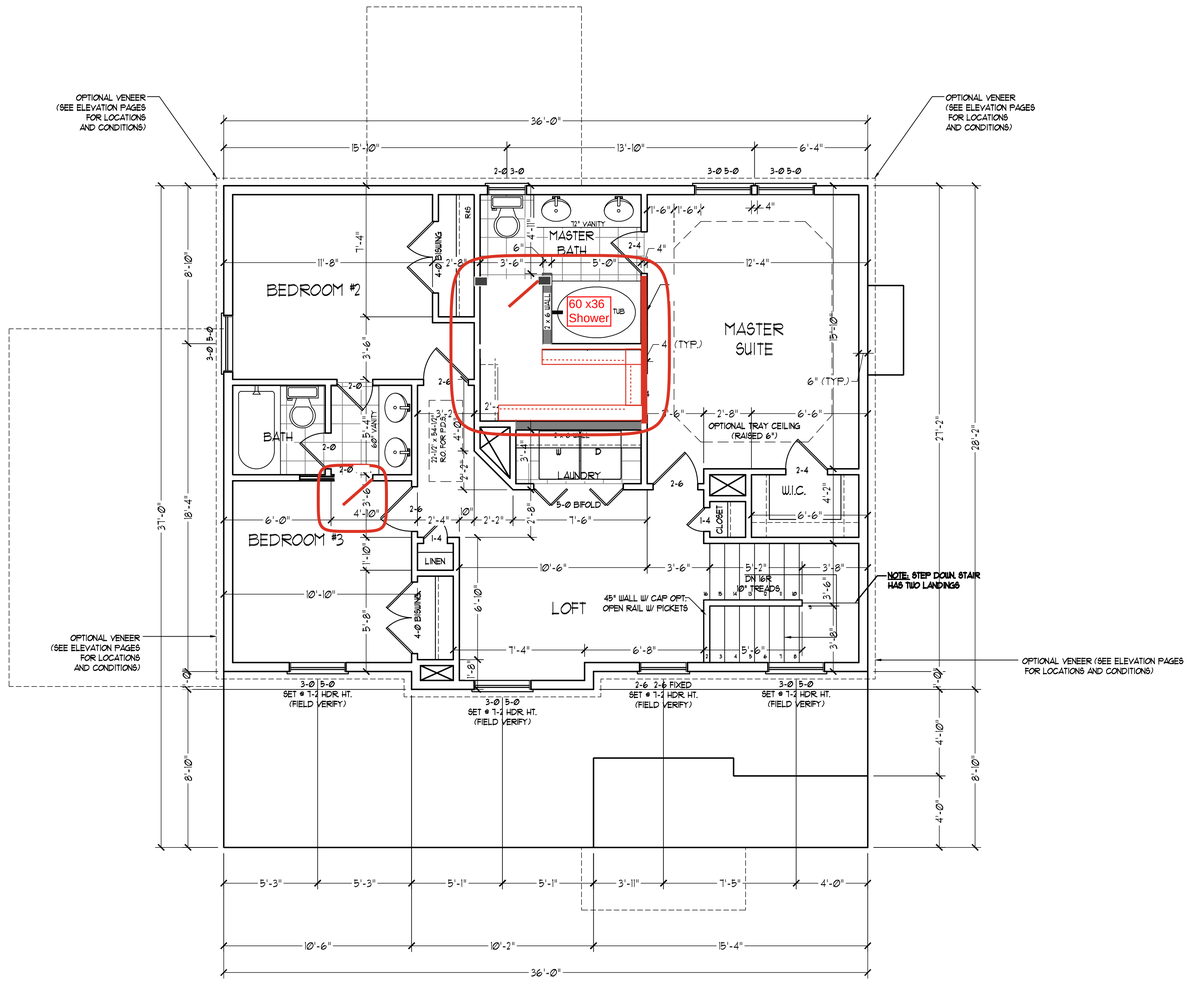
RIVERBIRCH

DATE: JUNE 1, 2015
REV.:
SCALE: 1/4"=1'-0"
DRAWN BY: WG
ENGINEERED BY: WLF
REVIEWED BY: JES

FIRST FLOOR PLAN

A-4



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2x6 WALL

* SHADED WALLS ARE TO BE 2 x 6 @ 16" O.C. (LOAD BEARING) OR 2 x 6 @ 24" O.C. (NON-LOAD BEARING) REGARDLESS OF EXTERIOR WALL CONDITION

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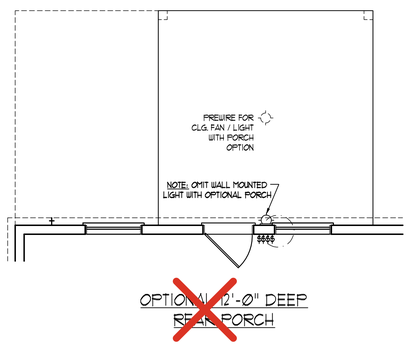
DRAWN BY: WG
ENGINEERED BY: WLF
REVIEWED BY: JES

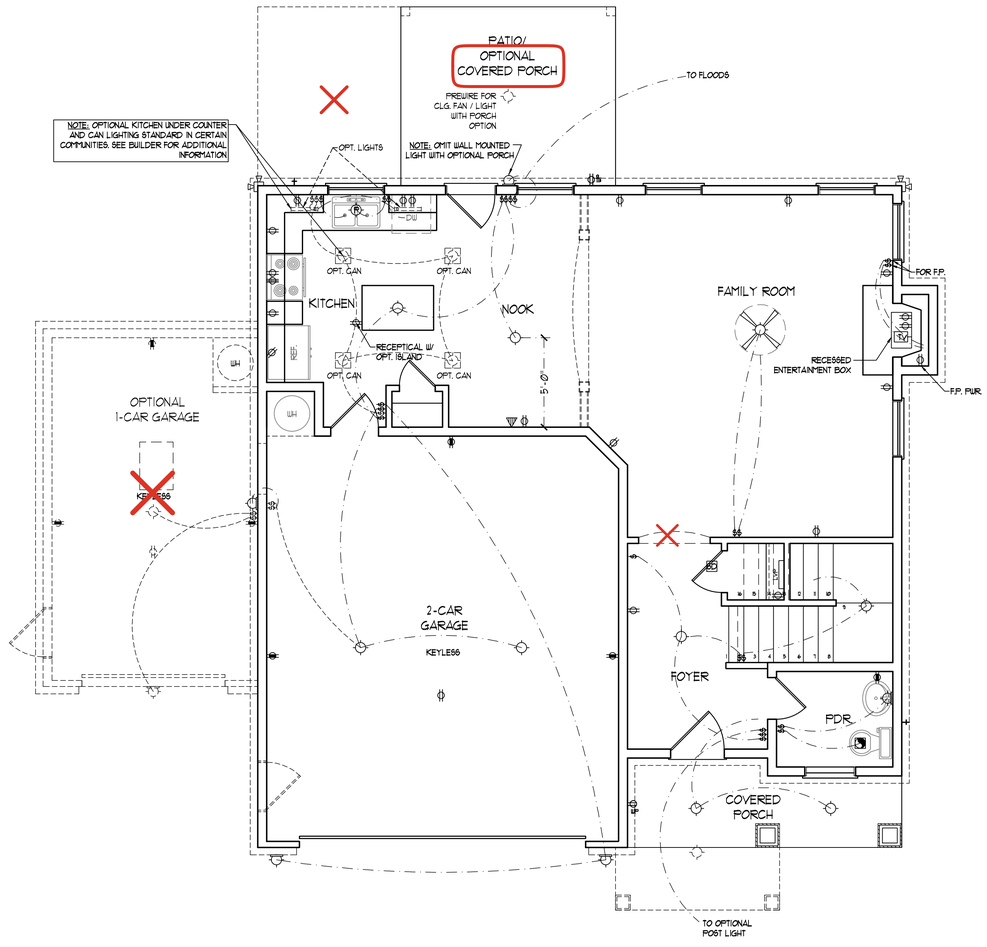
SECOND FLOOR PLAN

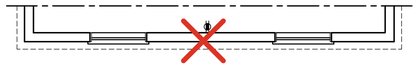
A-5

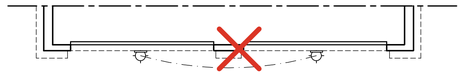


OPTIONAL 12'-0" DEEP REAR PORCH

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







DOUBLE GARAGE DOOR OPTION

ELECTRICAL LAYOUT NOTES:

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

2.) VANITY LIGHTS TO BE SET @ 80" AFF. (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
- PENDANT LIGHT
- RECESSED CAN LIGHT
- MINI CAN LIGHT
- EYEBALL LIGHT
- FLUORESCENT LIGHT
- UNDERCABINET LIGHT
- FLOOD LIGHT
- S SWITCH
- S_3 3-WAY SWITCH
- S_4 4-WAY SWITCH
- S_D DIMMER SWITCH
- TELEPHONE
- TV TV CONNECTION
- CONDUIT FOR COMPONENT WIRING
- SPK SPEAKER
- DB DOORBELL CHIME
- SD 110 V SMOKE DETECTOR
- EXHAUST FAN
- LVP LOW VOLTAGE PANEL
- CEILING FAN
- CEILING FAN W/ LIGHT

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RIVERBIRCH

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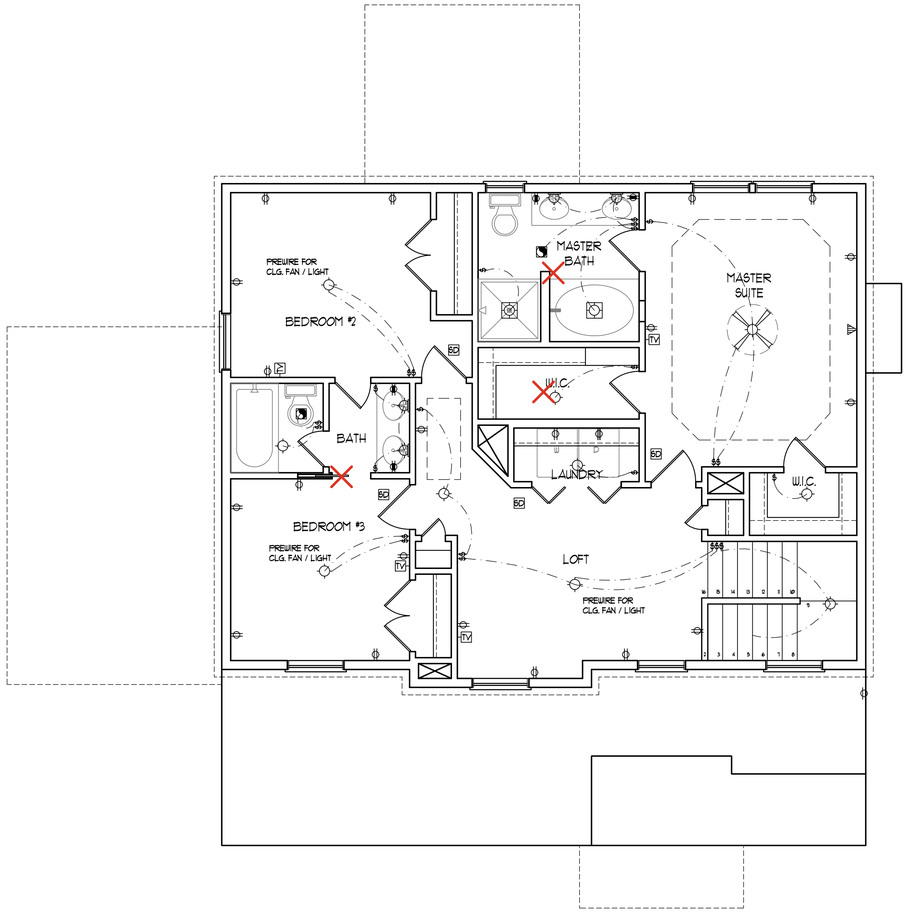
REV.:
SCALE: 1/4"=1'-0"
DRAWN BY: WG
ENGINEERED BY: WLF
REVIEWED BY: JES

FIRST FLOOR ELECTRICAL PLAN

E-1



ELECTRICAL LAYOUT NOTES:

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

2.) VANITY LIGHTS TO BE SET @ 80" AFF. (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
- GFI 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
- PENDANT LIGHT
- RECESSED CAN LIGHT
- MINI CAN LIGHT
- EYEBALL LIGHT
- FLUORESCENT LIGHT
- UNDERCABINET LIGHT
- FLOOD LIGHT
- S SWITCH
- S_3 3-WAY SWITCH
- S_4 4-WAY SWITCH
- S_D DIMMER SWITCH
- T TELEPHONE
- TV TV CONNECTION
- CC 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

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ENGINEERED BY: WLF
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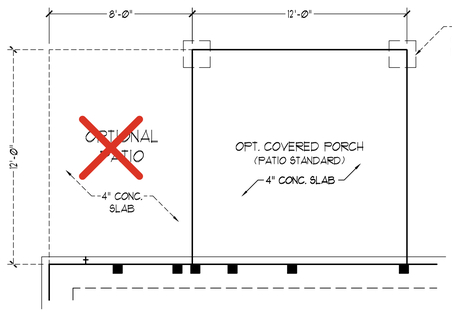
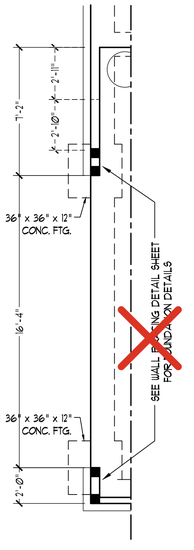
SECOND FLOOR ELECTRICAL PLAN

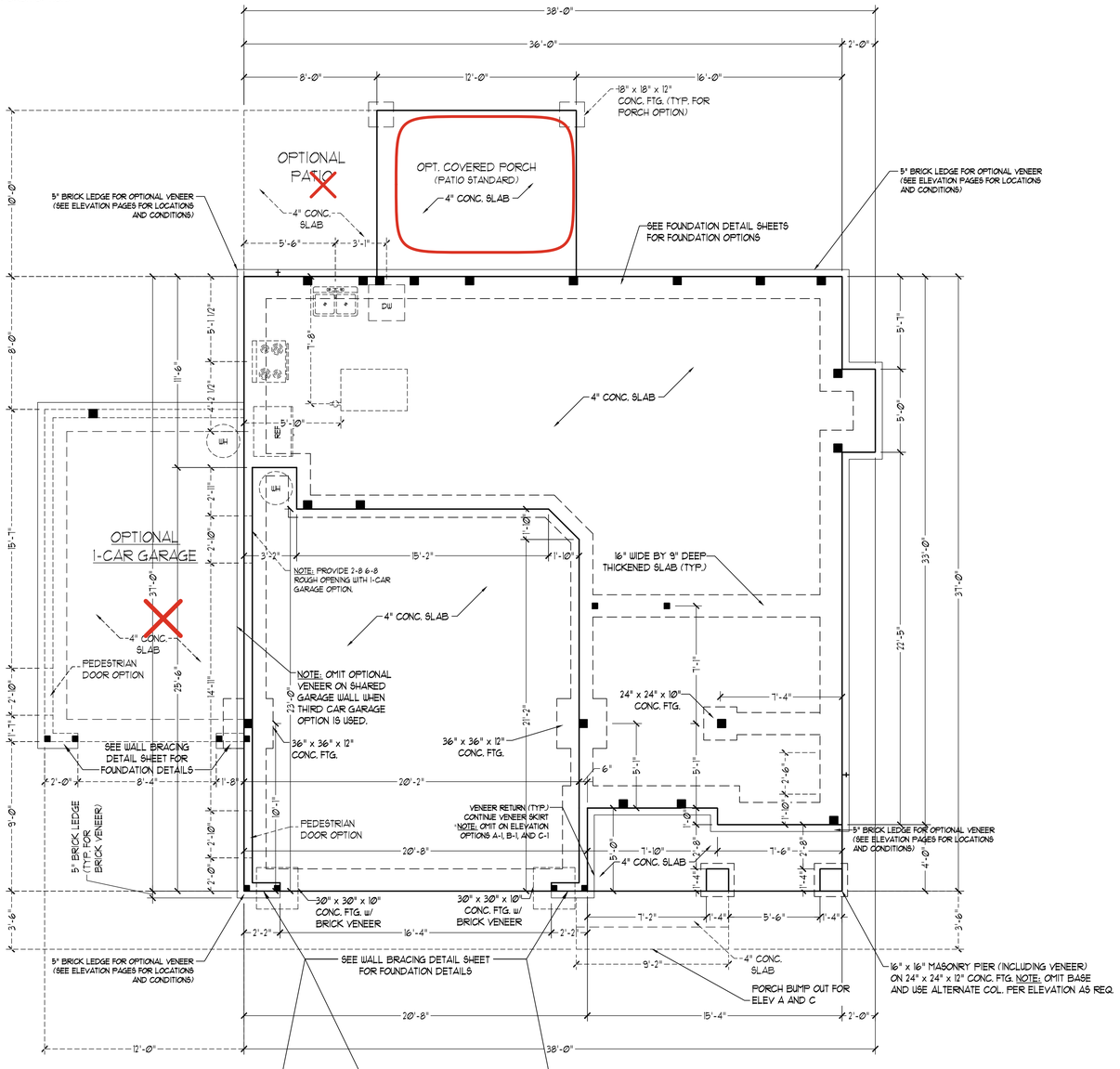
E-2

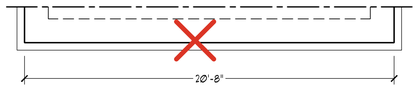


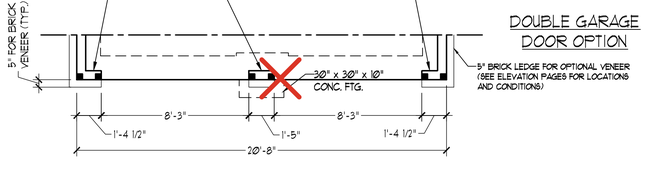
OPTIONAL ~~12'-Ø" DEEP~~ REAR PORCH



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







DOUBLE GARAGE DOOR OPTION

130-MPH WIND ZONE 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, 2012 EDITION WITH SPECIAL CONSIDERATION TO CHAPTER 45 ("HIGH WIND ZONES" FOR 130 MPH WINDS).
3) BUILDER IS TO PROVIDE FRAMING CONNECTIONS AS REQUIRED BY CHAPTER 45 ("HIGH WIND ZONES" FOR 130 MPH WINDS) OF THE NORTH CAROLINA RESIDENTIAL CODE, 2012 EDITION.
4) FOUNDATION ANCHORAGE TO COMPLY WITH SECTION 4504 OF THE NORTH CAROLINA RESIDENTIAL CODE, 2012 EDITION.
5) MEAN ROOF HEIGHT IS LESS THAN 30 FEET.
6) WALL CLADDING DESIGNED FOR 40.1 PSF (POSITIVE AND NEGATIVE).
7) ROOF CLADDING DESIGNED FOR 35.6 PSF (POSITIVE AND NEGATIVE) FOR ROOF PITCHES 1/12 TO 12/12 AND 41 PSF (POSITIVE AND NEGATIVE) FOR ROOF PITCHES 225/12 TO 1/12.
8) 7/16" 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, 2012 EDITION.
10) ENERGY EFFICIENCY COMPLIANCE AND INSULATION VALUES OF THE BUILDING TO BE IN ACCORDANCE WITH CHAPTER 11 OF THE NCRC, 2012 EDITION.

100-MPH WIND ZONE 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, 2012 EDITION.
3) INSTALL 1/2" ANCHOR BOLTS 6'-0" O.C. AND WITHIN 1'-0" FROM END OF EACH PLATE. ANCHOR BOLTS MUST EXTEND A MINIMUM OF 7" INTO MASONRY OR CONCRETE.
4) MEAN ROOF HEIGHT IS LESS THAN 30 FEET.
5) EXTERIOR WALLS DESIGNED FOR 100 MPH WINDS.
6) WALL CLADDING DESIGNED FOR 24.1 PSF (POSITIVE AND NEGATIVE).
7) ROOF CLADDING DESIGNED FOR 21.0 PSF (POSITIVE AND NEGATIVE) FOR ROOF PITCHES 7/12 TO 12/12 AND 34.8 PSF (POSITIVE AND NEGATIVE) FOR ROOF PITCHES 225/12 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, 2012 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, 2012 EDITION.
10) REFER TO NOTES AND DETAIL SHEETS FOR ADDITIONAL STRUCTURAL INFORMATION.

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 038485 11/9/15 JACOB ERNEST SMITH

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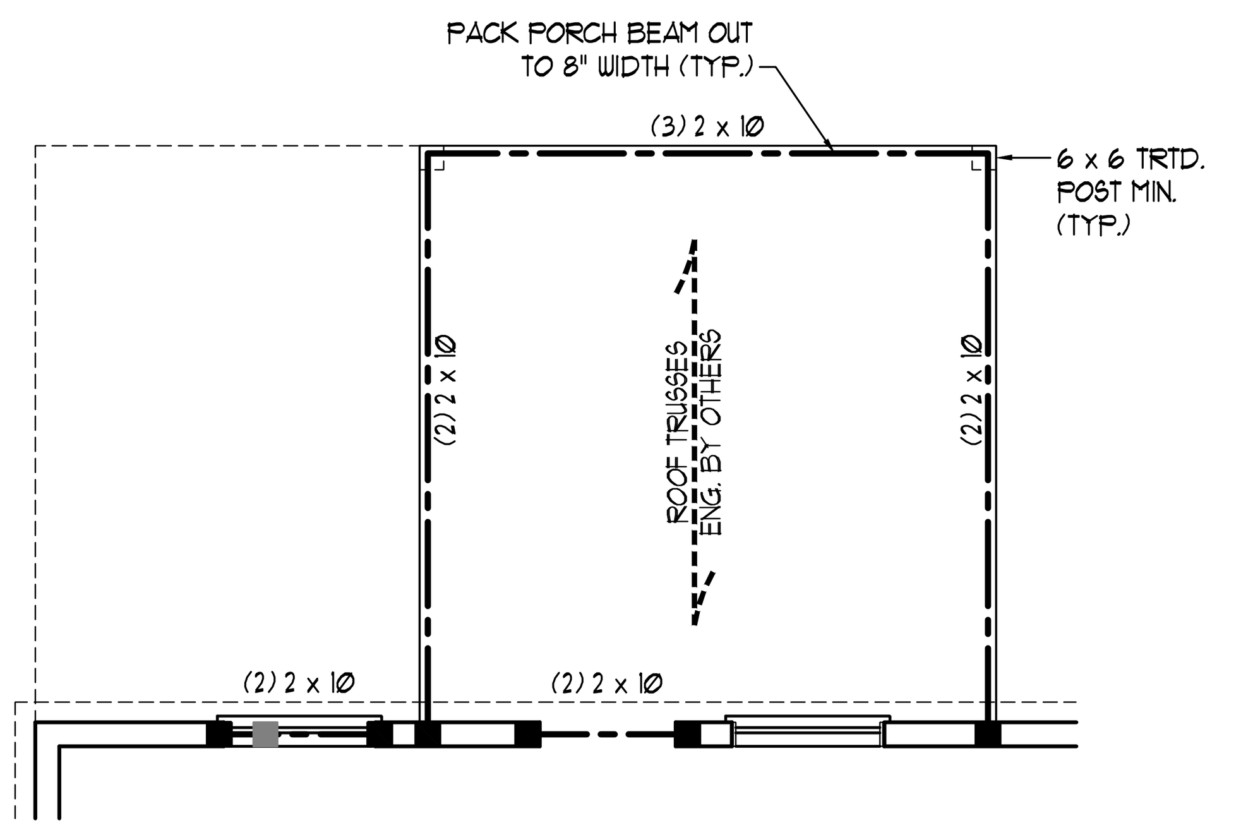
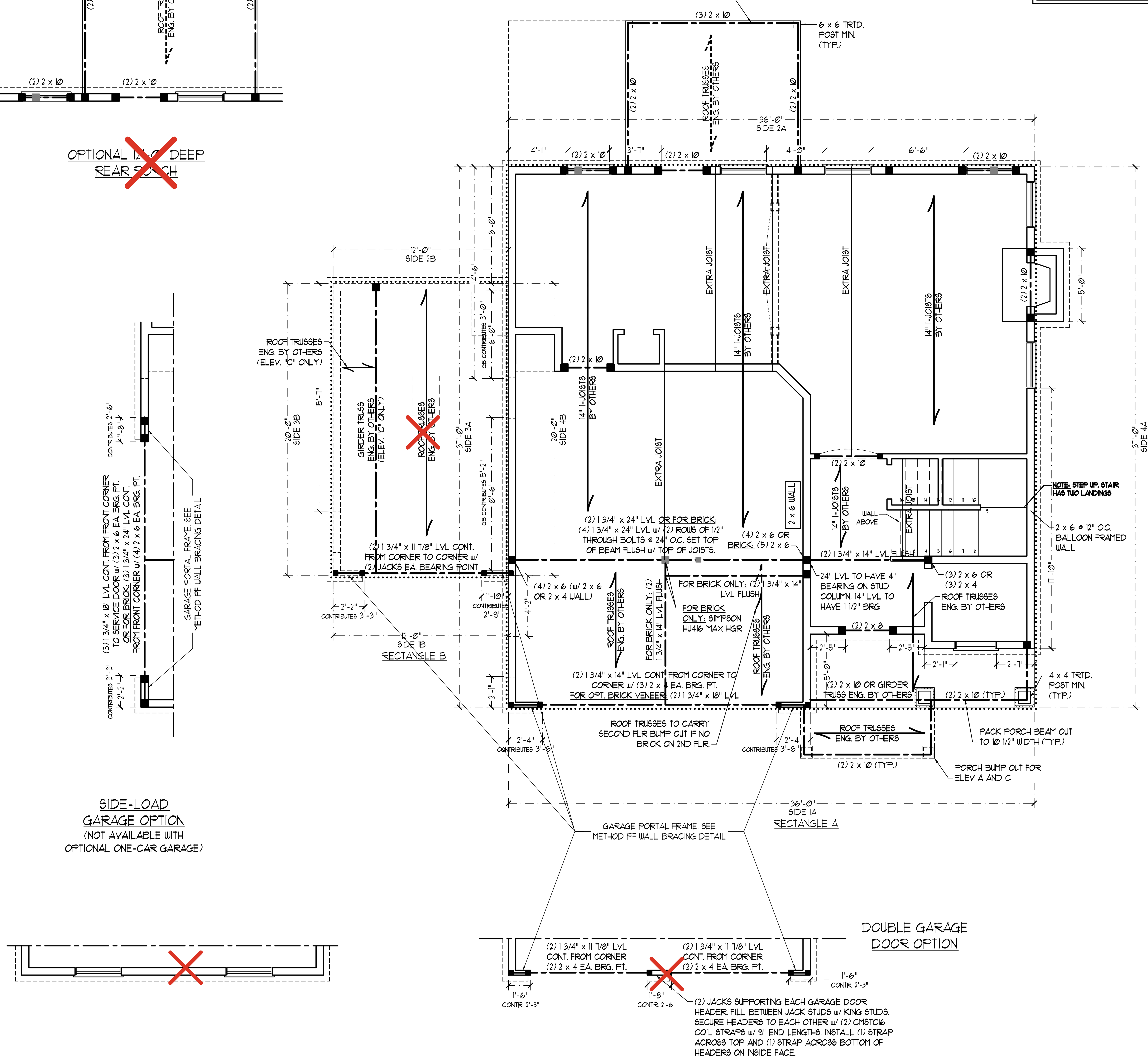
DATE: JUNE 1, 2015
REV.:
SCALE: 1/4"=1'-0"
DRAWN BY: WG
ENGINEERED BY: WLF
REVIEWED BY: JES

MONO SLAB FOUNDATION PLAN

S-1




PACK PORCH BEAM OUT TO 8" WIDTH (TYP.)
(3) 2 x 10
6 x 6 TRTD. POST MIN. (TYP.)
36'-0" SIDE 2A
12'-0" SIDE 2B
EXTRA JOIST
14" I-JOISTS BY OTHERS
ROOF TRUSSES ENG. BY OTHERS (ELEV. "C" ONLY)
GIRDER TRUSS ENG. BY OTHERS (ELEV. "C" ONLY)
(2) 1 3/4" x 11 7/8" LVL CONT. FROM CORNER TO CORNER w/ (2) JACKS EA. BEARING POINT
(2) 1 3/4" x 24" LVL OR FOR BRICK: (4) 1 3/4" x 24" LVL w/ (2) ROWS OF 1/2" THROUGH BOLTS @ 24" O.C. SET TOP OF BEAM FLUSH w/ TOP OF JOISTS.
(4) 2 x 6 OR BRICK: (5) 2 x 6
2 x 6 WALL
(2) 1 3/4" x 14" LVL FLUSH
NOTE: STEP UP, STAIR HAS TWO LANDINGS
2 x 6 @ 12" O.C. BALLOON FRAMED WALL
24" LVL TO HAVE 4" BEARING ON STUD COLUMN. 14" LVL TO HAVE 1 1/2" BRG
(3) 2 x 6 OR (3) 2 x 4
FOR BRICK ONLY: (2) 1 3/4" x 14" LVL FLUSH
FOR BRICK ONLY: SIMPSON HU416 MAX HGR
(2) 1 3/4" x 14" LVL CONT. FROM CORNER TO CORNER w/ (3) 2 x 4 EA. BRG. PT. FOR OPT. BRICK VENEER
(2) 1 3/4" x 18" LVL
(2) 2 x 10 OR GIRDER TRUSS ENG. BY OTHERS
4 x 4 TRTD. POST MIN. (TYP.)
ROOF TRUSSES TO CARRY SECOND FLR BUMP OUT IF NO BRICK ON 2ND FLR.
PACK PORCH BEAM OUT TO 10 1/2" WIDTH (TYP.)
PORCH BUMP OUT FOR ELEV A AND C
37'-0" SIDE 4A
36'-0" SIDE 1A RECTANGLE A
12'-0" SIDE 1B RECTANGLE B
20'-0" SIDE 3B
37'-0" SIDE 3A
20'-0" SIDE 4B
GARAGE PORTAL FRAME. SEE METHOD PF WALL BRACING DETAIL
SIDE-LOAD GARAGE OPTION
(NOT AVAILABLE WITH OPTIONAL ONE-CAR GARAGE)
(3) 1 3/4" x 18" LVL CONT. FROM FRONT CORNER TO SERVICE DOOR w/ (3) 2 x 6 EA. BRG. PT. OR FOR BRICK: (3) 1 3/4" x 24" LVL CONT. FROM FRONT CORNER w/ (4) 2 x 6 EA. BRG. PT.
GARAGE PORTAL FRAME SEE METHOD PF WALL BRACING DETAIL
DOUBLE GARAGE DOOR OPTION
(2) 1 3/4" x 11 7/8" LVL CONT. FROM CORNER (2) 2 x 4 EA. BRG. PT.
(2) JACKS SUPPORTING EACH GARAGE DOOR HEADER. FILL BETWEEN JACK STUDS w/ KING STUDS. SECURE HEADERS TO EACH OTHER w/ (2) CMSTC16 COIL STRAPS w/ 9" END LENGTHS. INSTALL (1) STRAP ACROSS TOP AND (1) STRAP ACROSS BOTTOM OF HEADERS ON INSIDE FACE.

***NOTE**: ALL EXTERIOR WALLS AND ATTIC WALLS ARE TO BE 2 x 4 @ 16" O.C. MIN. (UNO). 2 x 6 @ 16" O.C. EXTERIOR WALLS MAY BE CONSTRUCTED IN LIEU OF 2 x 4 WALLS. 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 SIMPLIFIED WALL BRACING CRITERIA EFFECTIVE SEPTEMBER 1, 2013.
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 APPLIES IN WIND ZONES UP TO 110 MPH. FOR HIGH WIND ZONES, BRACE WALLS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH CHAPTER 45 OF THE NCRC, 2012 EDITION.
5. SEE NOTES AND DETAIL SHEETS FOR ADDITIONAL BRACED WALL INFORMATION.

BRACED WALL DESIGN

RECTANGLE A	RECTANGLE B
SIDE 1A (FRONT LOAD)	SIDE 1B
METHOD: CS-WSP/PF	METHOD: CS-WSP/PF
TOTAL REQUIRED LENGTH: 15.43'	TOTAL REQUIRED LENGTH: 4.56'
TOTAL PROVIDED LENGTH: 16.49'	TOTAL PROVIDED LENGTH: 6'
SIDE 2A	SIDE 2B
METHOD: CS-WSP	METHOD: CS-WSP
TOTAL REQUIRED LENGTH: 15.43'	TOTAL REQUIRED LENGTH: 4.56'
TOTAL PROVIDED LENGTH: 18.16'	TOTAL PROVIDED LENGTH: 12'
SIDE 3A (SIDE LOAD)	SIDE 3B
METHOD: CS-WSP/PF	METHOD: CS-WSP
TOTAL REQUIRED LENGTH: 15.03'	TOTAL REQUIRED LENGTH: 3.19'
TOTAL PROVIDED LENGTH: 20.25'	TOTAL PROVIDED LENGTH: 15.58'
SIDE 4A	SIDE 4B / SIDE 3A SHARED
METHOD: CS-WSP	METHOD: CS-WSP/GB
TOTAL REQUIRED LENGTH: 15.03'	TOTAL REQUIRED LENGTH: 18.22'
TOTAL PROVIDED LENGTH: 27.83'	TOTAL PROVIDED LENGTH: 22.41'

LINTEL SCHEDULE FOR BRICK/NATURAL STONE SUPPORT

LENGTH (FT.)	SIZE OF LINTEL
UP TO 4 FT.	L 3 1/2 x 3 1/2 x 1/4
4-8	L 5 x 3 1/2 x 5/16 LLV
8 AND GREATER	L 6 x 4 x 5/16 LLV

NOTES:
1. LINTEL SCHEDULE APPLIES TO ALL OPENINGS IN BRICK VENEER (UNO). SEE ARCH DWGS. FOR SIZE AND LOCATION OF OPENINGS.
2. (LLV) = LONG LEG VERTICAL
3. LENGTH = CLEAR OPENING
4. EMBED ALL ANGLE IRONS MIN. 4" EACH SIDE INTO VENEER TO PROVIDE BEARING.
5. FOR ALL HEADERS 8'-0" AND GREATER IN LENGTH, ATTACH STEEL ANGLE TO HEADER W/ 1/2" LAG SCREWS @ 12" O.C. STAGGERED.
6. FOR ALL BRICK SUPPORT @ ROOF LINES, FASTEN A 5" x 3 1/2" x 5/16" STEEL ANGLE TO 2 x 10 BLOCKING INSTALLED BETWEEN WALL STUDS W/ 1/2" LAG SCREWS 12" O.C. STAGGERED AND IN ACCORDANCE TO SECTION R703.7.2.2 OF THE NORTH CAROLINA RESIDENTIAL CODE, 2012 EDITION.
7. PRECAST REINFORCED CONCRETE LINTELS ENGINEERED BY OTHERS MAY BE USED IN LIEU OF STEEL LINTELS.

STRUCTURAL NOTES:

1. ALL FRAMING LUMBER TO BE #2 SPF (UNO).
2. ALL LOAD BEARING HEADERS TO BE (2) 2 x 10 (UNO).
3. PROVIDE EXTRA JOIST UNDER ALL WALLS PARALLEL TO FLOOR JOISTS.
4. ALL BEAMS ARE TO BE SUPPORTED WITH (2) 2 x 4 PER END (UNO).
5. SQUARES DENOTE POINT LOADS WHICH REQUIRE SOLID BLOCKING TO GIRDER OR FOUNDATION.
6. FOR HIGH WIND ZONES, PROVIDE (2) 2 x 6 KING STUDS EA. SIDE OF EXTERIOR WINDOW AND DOOR HEADERS w/ CLEAR OPENINGS LESS THAN 6'-0" AND (3) 2 x 6 KING STUDS EA. SIDE OF HEADERS w/ CLEAR OPENINGS GREATER THAN 6'-0".
7. ALL 4 x 4 POSTS SHALL BE ANCHORED TO SLABS w/ WITH 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.)
8. REFER TO NOTES AND DETAIL SHEETS FOR ADDITIONAL STRUCTURAL INFORMATION.

NOTE: DSP DENOTES DOUBLE STUD POCKET

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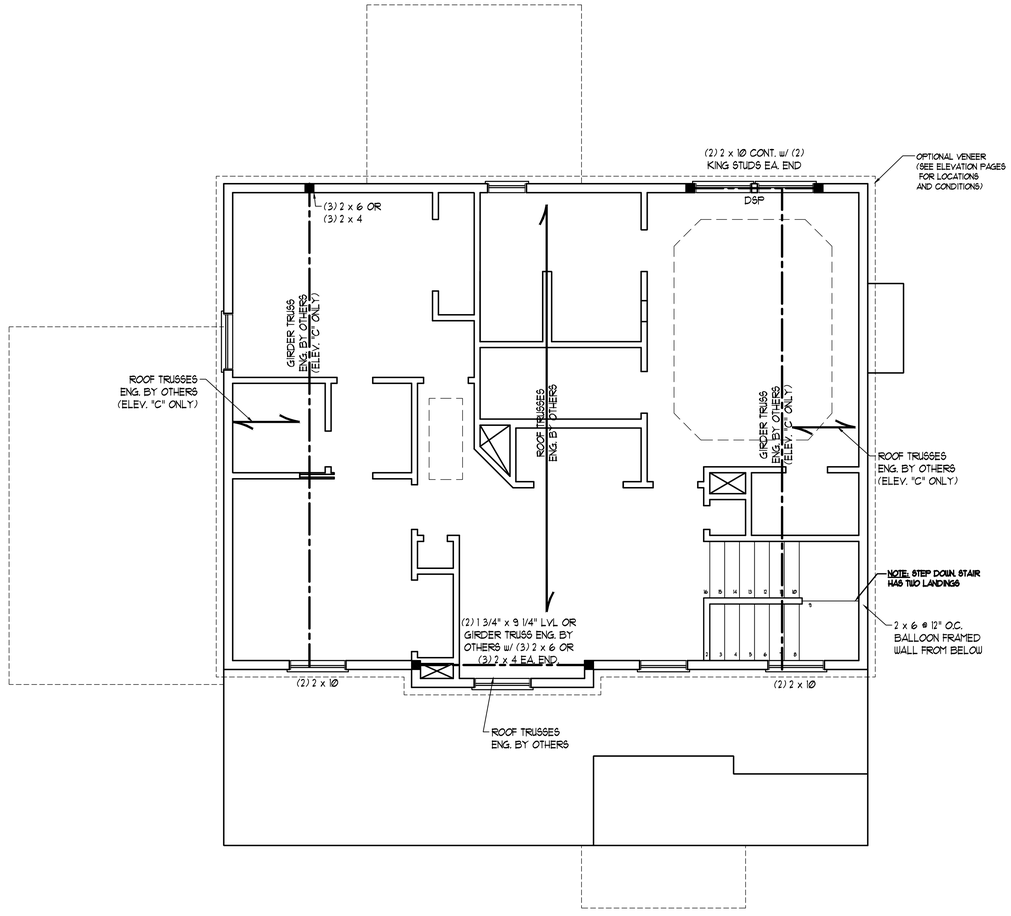
N.C. LICENSE NO.: C-1733

RIVERBIRCH

DATE: JUNE 1, 2015
REV.:
SCALE: 1/4"=1'-0"
DRAWN BY: WG
ENGINEERED BY: WLF
REVIEWED BY: JES

SECOND FLOOR FRAMING PLAN

S-2



NOTE: ALL EXTERIOR WALLS AND ATTIC WALLS ARE TO BE 2 x 4 @ 16" O.C. MIN. (UNO). 2 x 6 @ 16" O.C. EXTERIOR WALLS MAY BE CONSTRUCTED IN LIEU OF 2 x 4 WALLS. 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).

LINTEL SCHEDULE FOR BRICK/NATURAL STONE SUPPORT

LENGTH (FT.)	SIZE OF LINTEL
UP TO 4 FT.	L 3 1/2 x 3 1/2 x 1/4
4-8	L 5 x 3 1/2 x 5/16 LLV
8 AND GREATER	L 6 x 4 x 5/16 LLV

NOTES:
1. LINTEL SCHEDULE APPLIES TO ALL OPENINGS IN BRICK VENEER (UNO). SEE ARCH DWGS. FOR SIZE AND LOCATION OF OPENINGS.
2. (LLV) = LONG LEG VERTICAL
3. LENGTH = CLEAR OPENING
4. EMBED ALL ANGLE IRONS MIN. 4" EACH SIDE INTO VENEER TO PROVIDE BEARING.
5. FOR ALL HEADERS 8'-0" AND GREATER IN LENGTH, ATTACH STEEL ANGLE TO HEADER W/ 1/2" LAG SCREWS @ 12" O.C. STAGGERED.
6. FOR ALL BRICK SUPPORT @ ROOF LINES, FASTEN A 5" x 3 1/2" x 5/16" STEEL ANGLE TO 2 x 10 BLOCKING INSTALLED BETWEEN WALL STUDS W/ 1/2" LAG SCREWS 12" O.C. STAGGERED AND IN ACCORDANCE TO SECTION R1013.1.2.2 OF THE NORTH CAROLINA RESIDENTIAL CODE, 2012 EDITION.
7. PRECAST REINFORCED CONCRETE LINTELS ENGINEERED BY OTHERS MAY BE USED IN LIEU OF STEEL LINTELS.

BRACED WALL DESIGN NOTES:

1. BRACED WALL DESIGN PER SECTION R602.10 OF THE SIMPLIFIED WALL BRACING CRITERIA EFFECTIVE SEPTEMBER 1, 2013.
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 APPLIES IN WIND ZONES UP TO 110 MPH. FOR HIGH WIND ZONES, BRACE WALLS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH CHAPTER 45 OF THE NCRC, 2012 EDITION.
5. SEE NOTES AND DETAIL SHEETS FOR ADDITIONAL BRACED WALL INFORMATION.

NOTE:

1. PER SECTION R602.10.3.2 OF THE 2012 NCRC, 2012 EDITION, 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.

STRUCTURAL NOTES:

1. ALL FRAMING LUMBER TO BE #2 SPF (UNO).
2. ALL LOAD BEARING HEADERS TO BE (2) 2 x 10 (UNO).
3. ALL BEAMS ARE TO BE SUPPORTED WITH (2) 2 x 4 PER END (UNO).
4. FOR HIGH WIND ZONES, PROVIDE (2) 2 x 6 KING STUDS EA. SIDE OF EXTERIOR WINDOW AND DOOR HEADERS w/ CLEAR OPENINGS LESS THAN 6'-0" AND (3) 2 x 6 KING STUDS EA. SIDE OF HEADERS w/ CLEAR OPENINGS GREATER THAN 6'-0".
5. SQUARES DENOTE POINT LOADS WHICH REQUIRE SOLID BLOCKING TO GIRDER OR FOUNDATION.
6. REFER TO NOTES AND DETAIL SHEETS FOR ADDITIONAL STRUCTURAL INFORMATION.

NOTE: DSP DENOTES DOUBLE STUD POCKET

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N.C. LICENSE NO.: C-1733

RIVERBIRCH

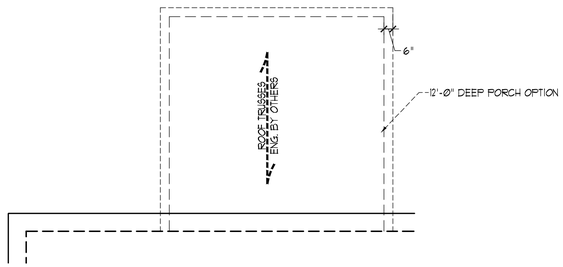
DATE: JUNE 1, 2015
REV.:
SCALE: 1/4"=1'-0"
DRAWN BY: WG
ENGINEERED BY: WLF
REVIEWED BY: JES

ATTIC FLOOR FRAMING PLAN

S-3

ATTIC VENT CALCULATION:

162 SQ. FT. OF ATTIC DIVIDED BY 150 REQUIRES 1.1 SQ. FT. OF NET FREE VENTILATING AREA (MIN.).



12'-0" DEEP REAR PORCH OPTION

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

ATTIC VENT CALCULATION:

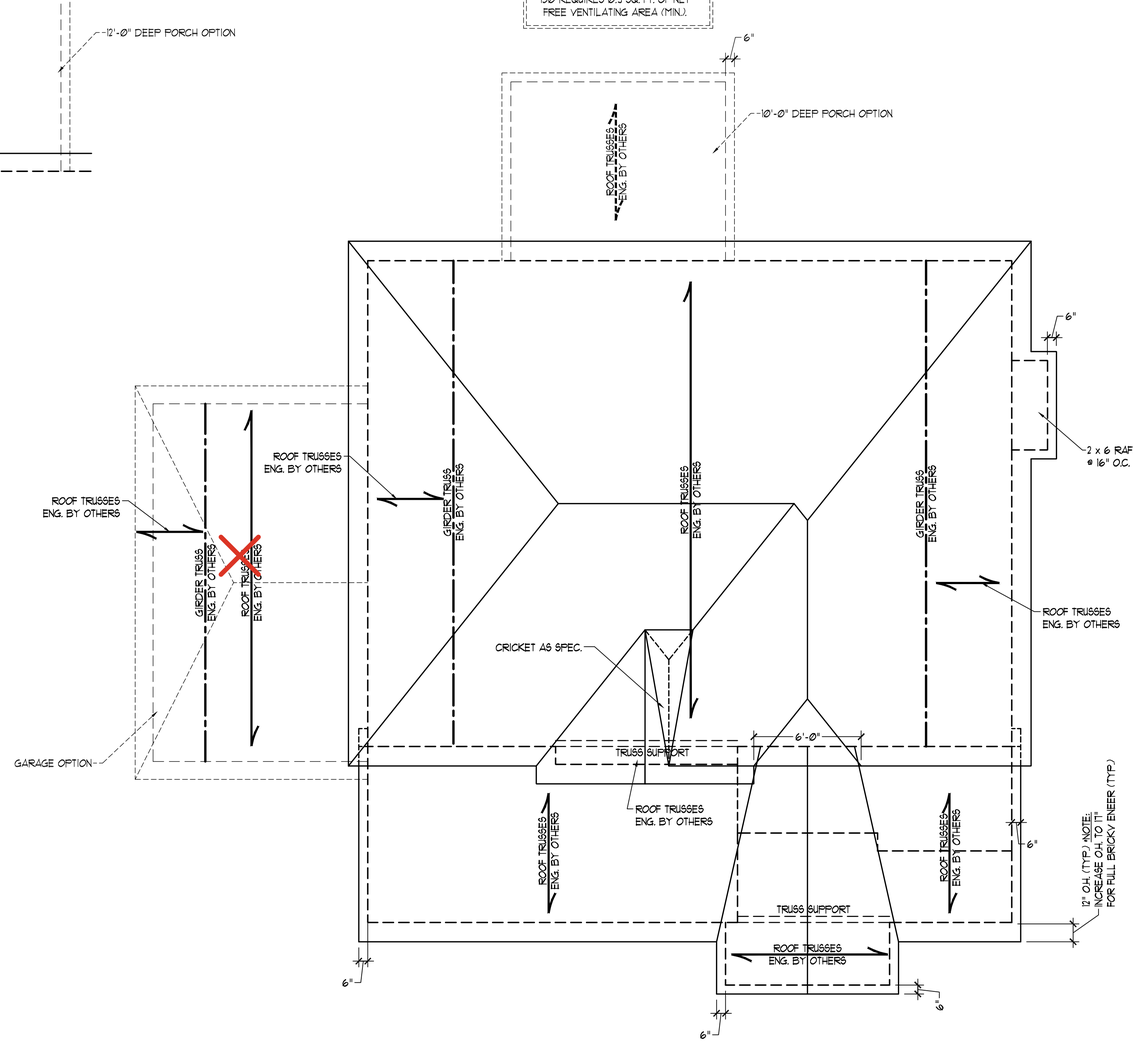
137 SQ. FT. OF ATTIC DIVIDED BY 150 REQUIRES 0.9 SQ. FT. OF NET FREE VENTILATING AREA (MIN.).

ATTIC VENT CALCULATION:

152.2 SQ. FT. OF ATTIC DIVIDED BY 150 REQUIRES 1.02 SQ. FT. OF NET FREE VENTILATING AREA (MIN.).

ATTIC VENT CALCULATION:

286 SQ. FT. OF ATTIC DIVIDED BY 150 REQUIRES 1.9 SQ. FT. OF NET FREE VENTILATING AREA (MIN.).



ROOF PLAN ELEVATION-C

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

BRICK SUPPORT NOTE:

1. FOR BRICK SUPPORT @ ROOF LINES, BOLT A 5" x 3 1/2" x 5/16" STEEL ANGLE TO 2 x 10 BLOCKING INSTALLED BETWEEN WALL STUDS W/ 1/2" LAG SCREWS 12" O.C. STAGGERED AND IN ACCORDANCE WITH SECTION R703.7.2.2 OF THE NORTH CAROLINA RESIDENTIAL CODE, 2012 EDITION.
2. WHERE ROOF SLOPES EXCEED 7:12, INSTALL 3" x 3" x 1/4" STEEL PLATE STOPS AT 24" O.C. PER SECTION R703.7.2.1 OF THE NORTH CAROLINA RESIDENTIAL CODE, 2012 EDITION.

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 NOTES AND DETAIL SHEETS FOR ADDITIONAL STRUCTURAL INFORMATION.

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RIVERBIRCH

DATE: JUNE 1, 2015

REV.:

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

DRAWN BY: WG

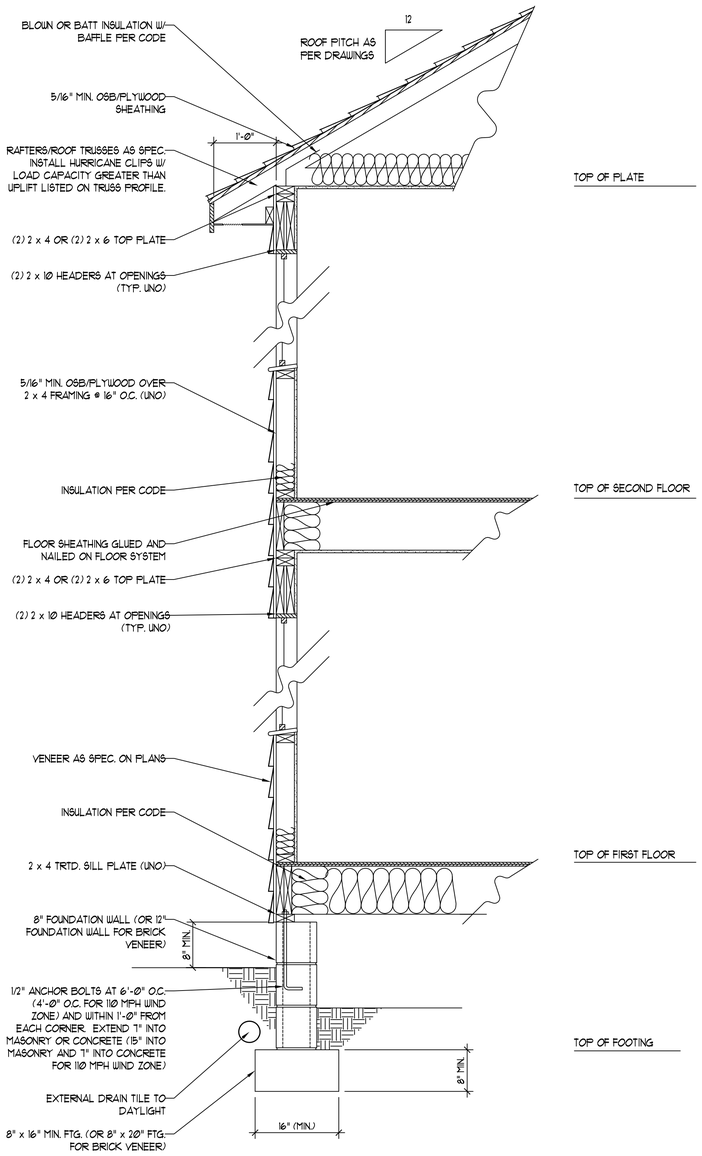
ENGINEERED BY: WLF

REVIEWED BY: JES

ROOF PLAN ELEVATION - C

S-4

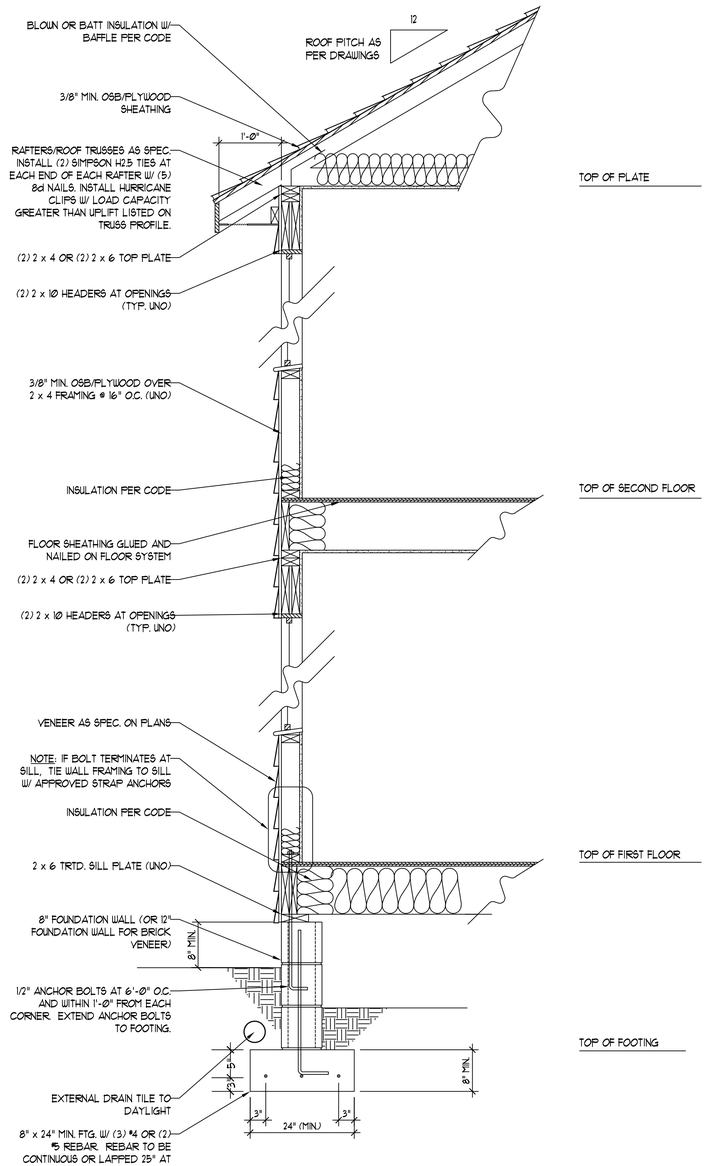
100/110 MPH WIND ZONE



WALL SECTION W/ CRAWL SPACE

W/ STD. SIDING SHOWN (NTS)

120/130 MPH WIND ZONE



WALL SECTION W/ CRAWL SPACE

W/ STD. SIDING SHOWN (NTS)

NOTE:

- BUILDER IS TO PROVIDE FRAMING CONNECTIONS AS REQUIRED BY CHAPTER 45 ("HIGH WIND ZONES" FOR 110/120/130 MPH WINDS) AND CHAPTER 46 (COASTAL AND FLOOD PLAIN CONSTRUCTION STANDARDS) OF THE NORTH CAROLINA STATE BUILDING CODE, 2012 EDITION.

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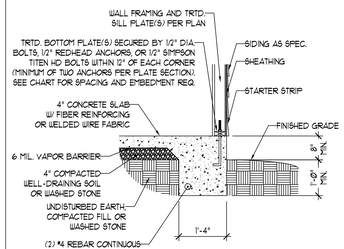
DETAILS

DATE: JULY 12, 2012
SCALE: NTS
DRAWN BY: JST
ENGINEERED BY: JST
REVIEWED BY: MGS

TYPICAL WALL SECTION

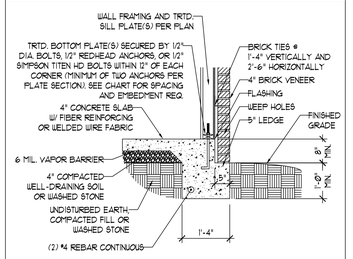
MONOLITHIC SLAB DETAILS

DETAIL 1



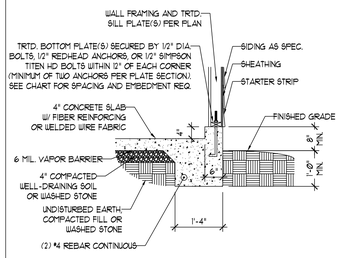
TYPICAL SLAB DETAIL

DETAIL 2



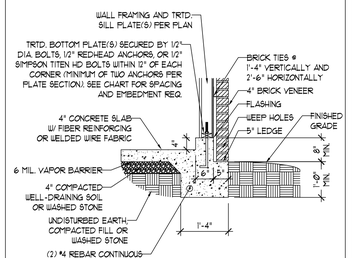
BRICK VENEER DETAIL

DETAIL 3



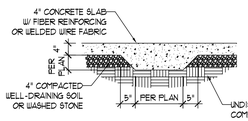
GARAGE CURB DETAIL

DETAIL 4



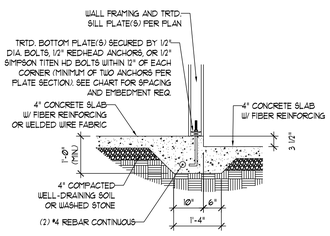
GARAGE CURB BRICK LEDGE DETAIL

DETAIL 5



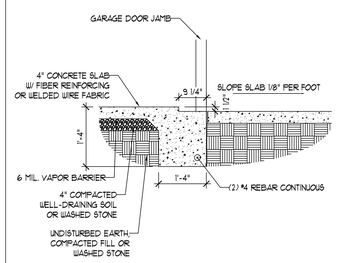
THICKENED SLAB DETAIL

DETAIL 6



STEP IN GARAGE DETAIL

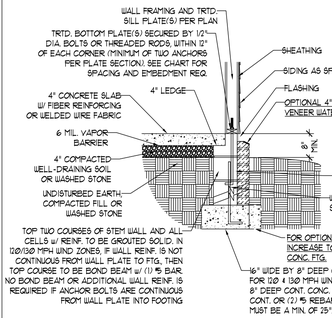
DETAIL 7



SLAB AT GARAGE DOOR DETAIL

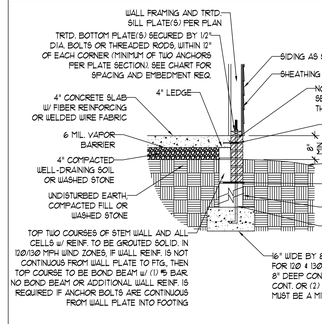
STEMWALL DETAILS

DETAIL 1



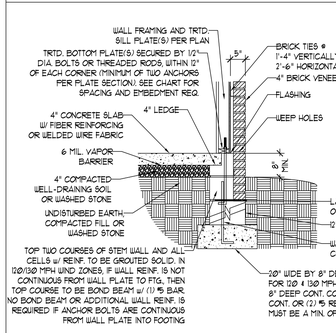
TYPICAL STEM WALL DETAIL
(w/ OPTIONAL WATERTABLE)

OPTIONAL DETAIL 1



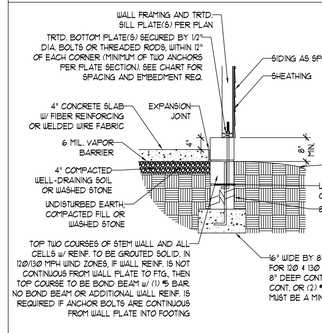
OPTIONAL STEM WALL DETAIL

DETAIL 2



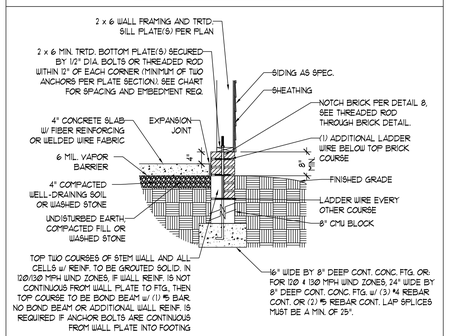
TYPICAL STEM WALL FND. W/ BRICK DETAIL

DETAIL 3



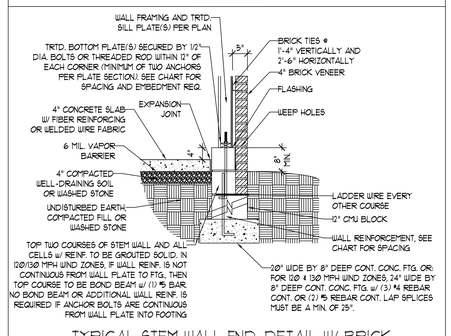
TYPICAL STEM WALL FND. DETAIL w/ CURB @ GARAGE

OPTIONAL DETAIL 3



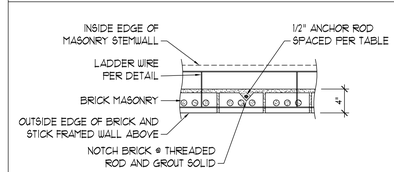
OPTIONAL STEM WALL FND. DETAIL w/ CURB @ GARAGE

DETAIL 4



TYPICAL STEM WALL FND. DETAIL W/ BRICK AND CURB @ GARAGE

DETAIL 8



THREADED ROD THROUGH BRICK MASONRY

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 2012 INTERNATIONAL RESIDENTIAL CODE ARE ALLOWABLE.
6. PREP SLAB PER R506.2.1 AND R506.2.2 BASE OF THE 2012 INTERNATIONAL RESIDENTIAL CODE. MINIMUM 24" LAP SPLICE LENGTH.
7. LOCATE REBAR IN CENTER OF FOUNDATION WALL.
8. 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	100 MPH	110 MPH
SPACING	6'-0" O.C. 3'-0" O.C. FOR STRAPS	4'-0" O.C. 2'-0" O.C. FOR STRAPS
EMBEDMENT	7"	15" INTO MASONRY 7" INTO CONCRETE
WIND ZONE	120 MPH	130 MPH
SPACING	6'-0" O.C. w/ DBL. SILL PLATE OR 4'-0" O.C w/ SINGLE SILL PLATE w/ 2" x 2" x 1/8" WASHERS	6'-0" O.C. w/ DBL. SILL PLATE OR 4'-0" O.C w/ SINGLE SILL PLATE w/ 2" x 2" x 1/8" WASHERS
EMBEDMENT	15" INTO MASONRY 7" INTO CONCRETE	15" INTO MASONRY 7" INTO CONCRETE

NOTE: HORIZONTAL FOOTING REBAR REQUIRED IN HIGH WIND ZONES ONLY (120 MPH - 130 MPH)

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FOUNDATION DETAILS

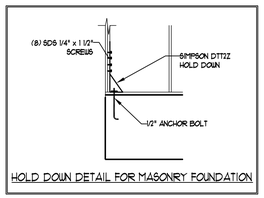
DATE: AUGUST 14, 2015

SCALE: NTS

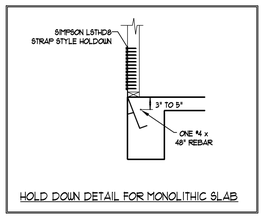
DRAWN BY: JST

ENGINEERED BY: JES

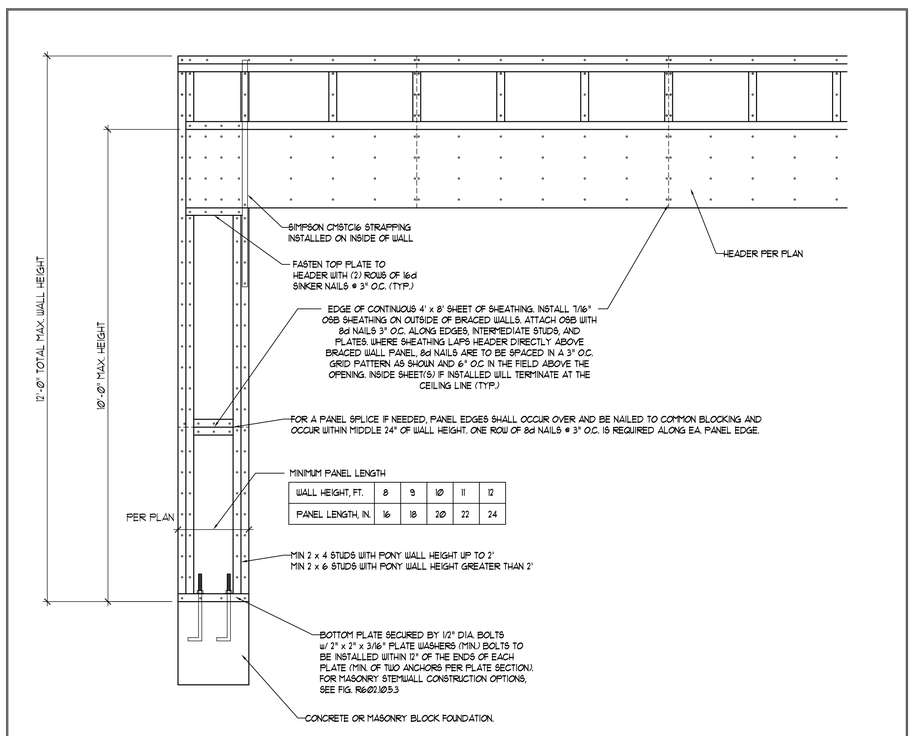
FOUNDATION DETAILS



HOLD DOWN DETAIL FOR MASONRY FOUNDATION

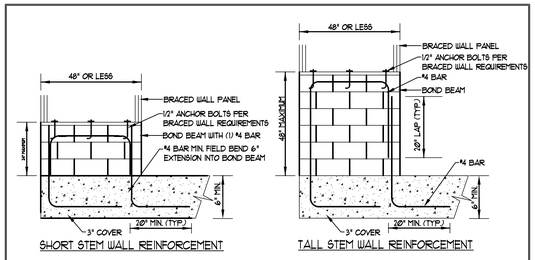


HOLD DOWN DETAIL FOR MONOLITHIC SLAB



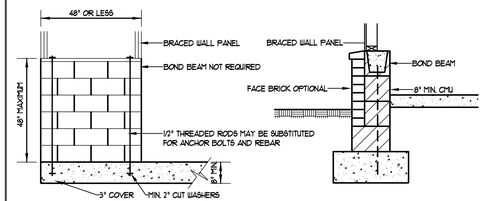
WALL HEIGHT, FT.	8	9	10	11	12
PANEL LENGTH, IN.	16	18	20	22	24

METHOD PF-PORTAL FRAME DETAIL
PER FIGURE R602.10.1



SHORT STEM WALL REINFORCEMENT

TALL STEM WALL REINFORCEMENT



RODS MAY BE INSTALLED USING AN ADHESIVE ANCHORING SYSTEM (1/2" REDHEAD ANCHORS w/ ACRYLIC ADHESIVE OR EQUIVALENT) WITH A MINIMUM TENSILE CAPACITY OF AT LEAST 3750 LBS) AND INSTALLED WITH MANUFACTURER'S SPECIFICATIONS.

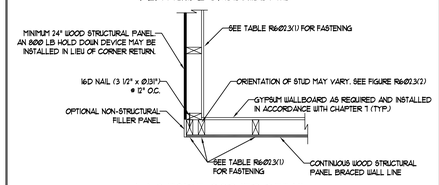
OPTIONAL STEM WALL REINFORCEMENT

TYPICAL STEM WALL SECTION

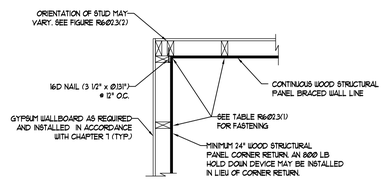
NOTE: GROUT BOND BEAMS AND ALL CELLS WHICH CONTAIN REBAR, THREADED RODS AND ANCHOR BOLTS

MASONRY STEM WALLS SUPPORTING BRACED WALL PANELS
PER FIGURE R602.10.5.3

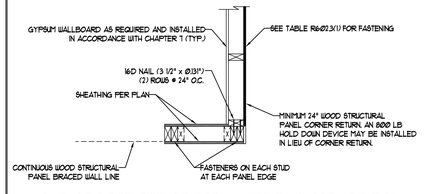
TYPICAL EXTERIOR CORNER FRAMING FOR CONTINUOUS SHEATHING
PER FIGURE CR602.10.3(4)b



(a) OUTSIDE CORNER DETAIL

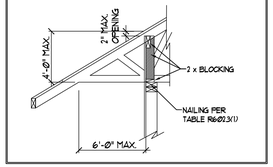


(b) INSIDE CORNER DETAIL

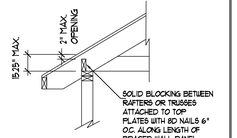


(c) GARAGE DOOR CORNER DETAIL (SEE PLAN FOR ADDITIONAL STRUCTURAL INFORMATION OR ALTERNATE CONFIGURATIONS)

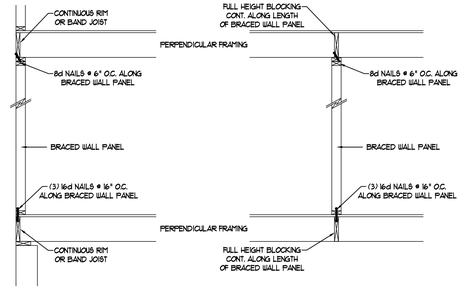
BRACED WALL PANEL CONNECTION TO PERPENDICULAR ROOF TRUSSES
PER FIGURE R602.10.5.5(2)
(OR ALTERNATIVE: FIGURE CR602.10.5.5(3))



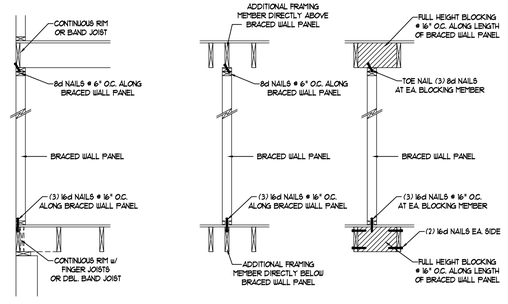
BRACED WALL PANEL CONNECTION TO PERPENDICULAR RAFTERS
PER FIGURE R602.10.5.5(1)



BRACED WALL PANEL CONNECTION WHEN PERPENDICULAR TO FLOOR/CEILING FRAMING
PER FIGURE CR602.10.5.4(1)



BRACED WALL PANEL CONNECTION WHEN PARALLEL TO FLOOR/CEILING FRAMING
PER FIG. CR602.10.5.4(2)



GENERAL WALL BRACING NOTES:

1. WALL BRACING DESIGNED IN ACCORDANCE WITH CHAPTER 6 OF THE 2012 NC RESIDENTIAL BUILDING CODE (NCRC). TABLES AND FIGURES REFERENCED ARE FROM THE 2012 NCRC.
2. SEE THIS SHEET FOR GENERAL DETAILS. REFER TO THE 2012 NCRC FOR ADDITIONAL INFORMATION AS NEEDED.
3. 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.
4. ALL EXTERIOR WALLS ARE TO BE SHEATHED WITH CS-WSP IN ACCORDANCE WITH SECTION R602.10.3 UNLESS NOTED OTHERWISE.
5. 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
6. 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.).
7. 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.
8. 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.

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WALL BRACING NOTES AND DETAILS

DATE: JULY 25, 2013
SCALE: NONE
DRAWN BY: JST
ENGINEERED BY: JST
REVIEWED BY: JES

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), 2012 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 CONSTRUCITON WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

3. STRUCTURAL DESIGN BASED ON THE PROVISIONS OF THE NCRC, 2012 EDITION (R301.4 - R301.7)

DESIGN CRITERIA:	LIVE LOAD (PSF)	DEAD LOAD (PSF)	DEFLECTION (IN)
ATTIC WITH LIMITED STORAGE	20	10	L/240
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 ROO	40	10	L/360
SLEEPING ROOMS	30	10	L/360
STAIRS	40	10	L/360
WIND LOAD	(BASED ON FIGURE R301.2(4) WIND ZONE AND EXPOSURE)		
GROUND SNOW LOAD: Pg	20 (PSF)		

- I-JOIST SYSTEMS DESIGNED WITH 12 PSF DEAD LOAD
- FLOOR TRUSS SYSTEMS DESIGNED WITH 15 PSF DEAD LOAD

4. FOR 90 AND 100 MPH WIND ZONES, FOUNDATION ANCHORAGE IS TO COMPLY WITH SECTION R403.1.6 OF THE NCRC, 2012 EDITION. FOR 110 MPH, 120 MPH, AND 130 MPH WIND ZONES, FOUNDATION ANCHORAGE IS TO COMPLY WITH SECTION 4504 OF THE NCRC, 2012 EDITION.

5. ENERGY EFFICIENCY COMPLIANCE AND INSULATION VALUES OF THE BUILDING TO BE IN ACCORDANCE WITH CHAPTER 11 OF THE NCRC, 2012 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, 2012 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, 2012 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. PIERS 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, 2012 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, 2012 EDITION. CONCRETE FOUNDATION WALLS ARE TO BE REINFORCED PER TABLE R404.1.1(5) OF THE NCRC, 2012 EDITION. STEP CONCRETE FOUNDATION WALLS TO 2 x 6 FRAMED WALLS AT 16" O.C. WHERE GRADE PERMITS (UNO).

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 = 2300 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 R502.5(1) AND R502.5(2) OF THE NCRC, 2012 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).

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 CURRENT NORTH CAROLINA RESIDENTIAL CODE 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. 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 x 10 BLOCKING INSTALLED BETWEEN WALL STUDS WITH 1/2" LAG SCREWS AT 12" O.C. STAGGERED AND IN ACCORDANCE WITH SECTION R703.7.2.2 OF THE NCRC, 2012 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 7000 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.

NORTH CAROLINA PROFESSIONAL SEAL 038485 ENGINEER JACOB ERNEST SMITH 11/9/15

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N.C. LICENSE NO.: C-1733

STANDARD STRUCTURAL NOTES

DATE: AUGUST 27, 2013
SCALE: N/A
DRAWN BY: JES
ENGINEERED BY: JES
REVIEWED BY: JST

SHEET:
STRUCTURAL NOTES