

**RENAISSANCE**

RESIDENTIAL DESIGN, INC.  
4810 GLENHIST CT. | RALEIGH, NC 27612  
(919) 649-4128

WWW.RREDCAROLINA.COM  
"The art of transforming your vision into reality."

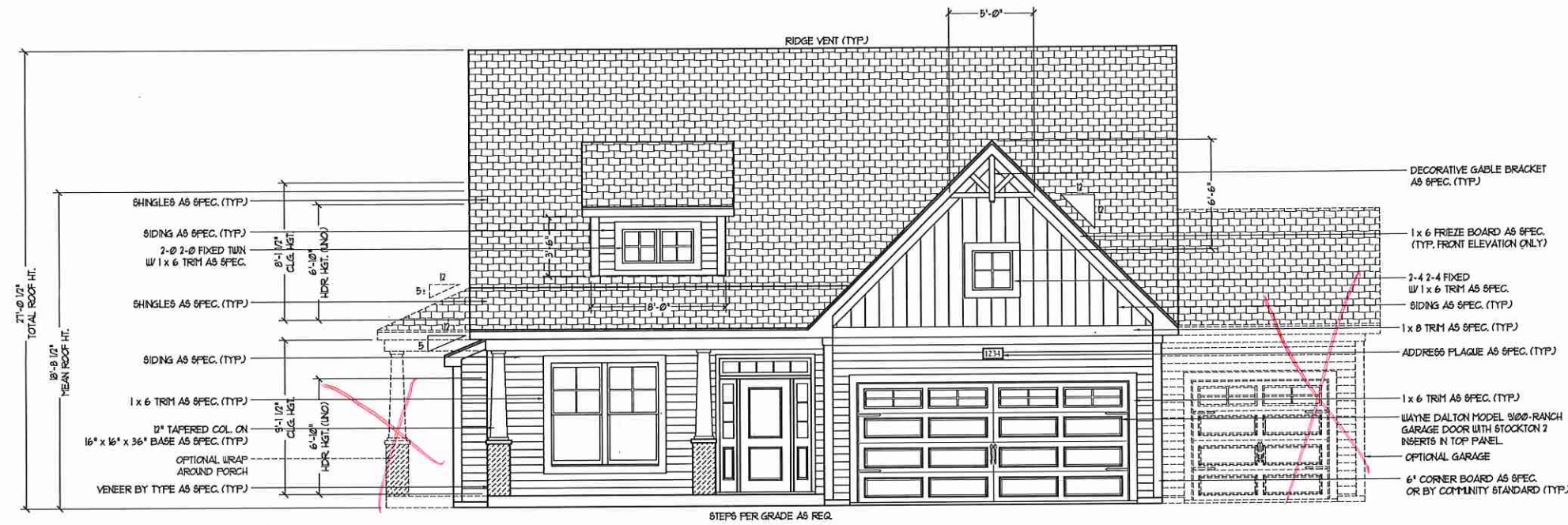
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**J.S. THOMPSON**  
**ENGINEERING, INC.**  
606 WADE AVE., SUITE 104  
RALEIGH, NC 27605  
PHONE: (919) 789-9199  
FAX: (919) 789-9921  
N.C. LICENSE NO. C-11733

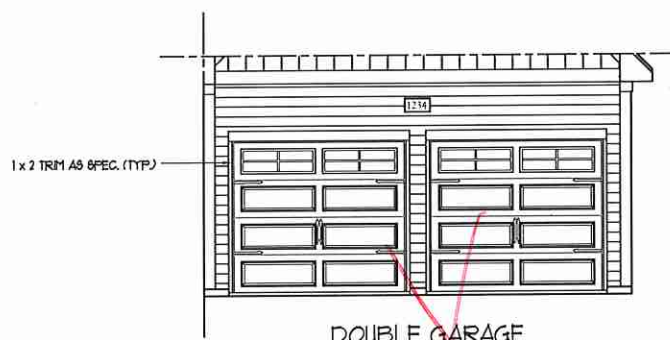


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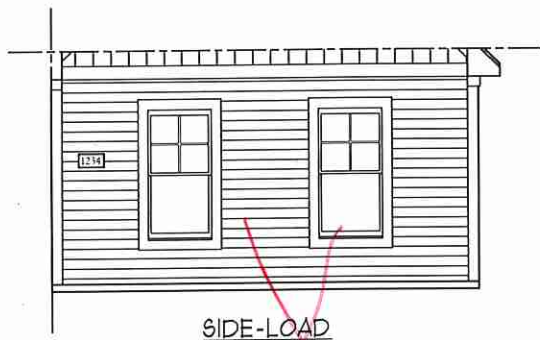


**FRONT ELEVATION-B**  
SCALE: 1/4" = 1'-0"

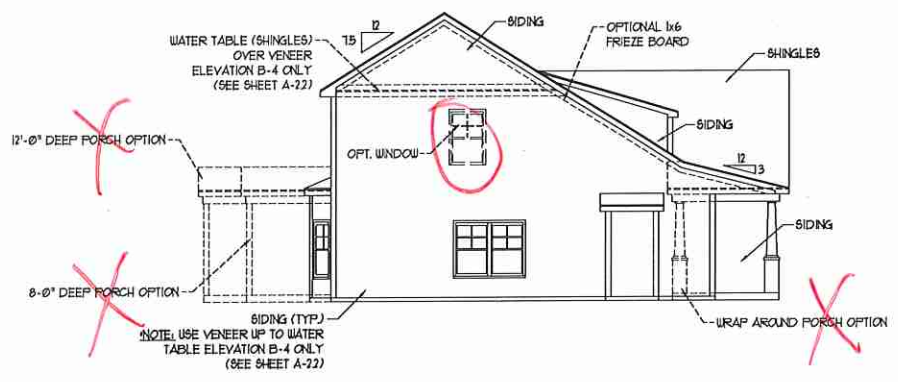
\*\*\* NOTE: SEE PAGE A-21 FOR SPECIFIC FRONT ELEVATION-B DETAILS. SEE PAGE A-22 FOR B-4 (ALL BRICK) ELEVATIONS



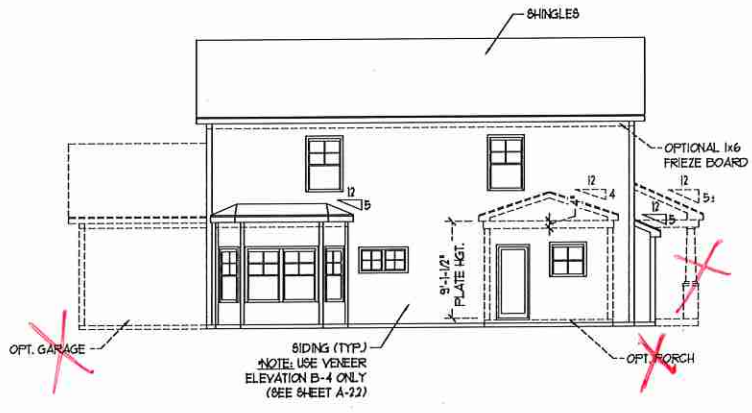
**DOUBLE GARAGE DOOR OPTION**  
SCALE: 1/4" = 1'-0"



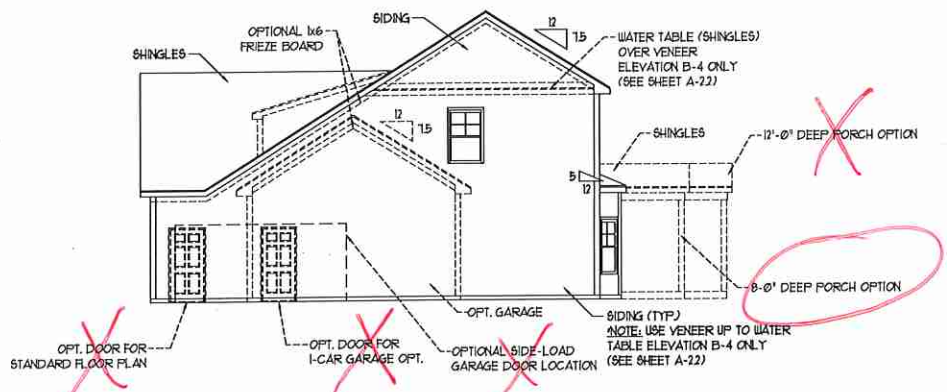
**SIDE-LOAD GARAGE OPTION**  
(NOT AVAILABLE WITH OPTIONAL ONE-CAR GARAGE)  
SCALE: 1/4" = 1'-0"



**LEFT ELEVATION**  
SCALE: 1/8" = 1'-0"



**REAR ELEVATION**  
SCALE: 1/8" = 1'-0"



**RIGHT ELEVATION**  
SCALE: 1/8" = 1'-0"

**MLP000645**  
**H&H HOMES, INC.**  
**CAROLINAS COLLECTION**  
**KENT**

*Inventory Marked*

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

B - ELEVATIONS  
**A-2**



FRONT ELEVATION-B-1  
SCALE: 1/4" = 1'-0"



FRONT ELEVATION-B-2  
SCALE: 1/4" = 1'-0"

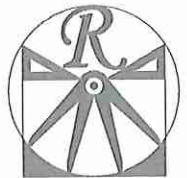


FRONT ELEVATION-B-3  
SCALE: 1/4" = 1'-0"



FRONT ELEVATION-B-4  
SCALE: 1/4" = 1'-0"

\*\* NOTE: B-4 (ALL SIDES BRICK) OPTION NOT AVAILABLE IN ALL MARKETS. IN AREAS WITH SEISMIC DESIGN REQUIREMENTS BRICK VENEER IS ONLY AVAILABLE ON THE FRONT ELEVATION AS SHOWN OR UNLESS NOTED OTHERWISE.



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REV.:

SCALE: AS NOTED

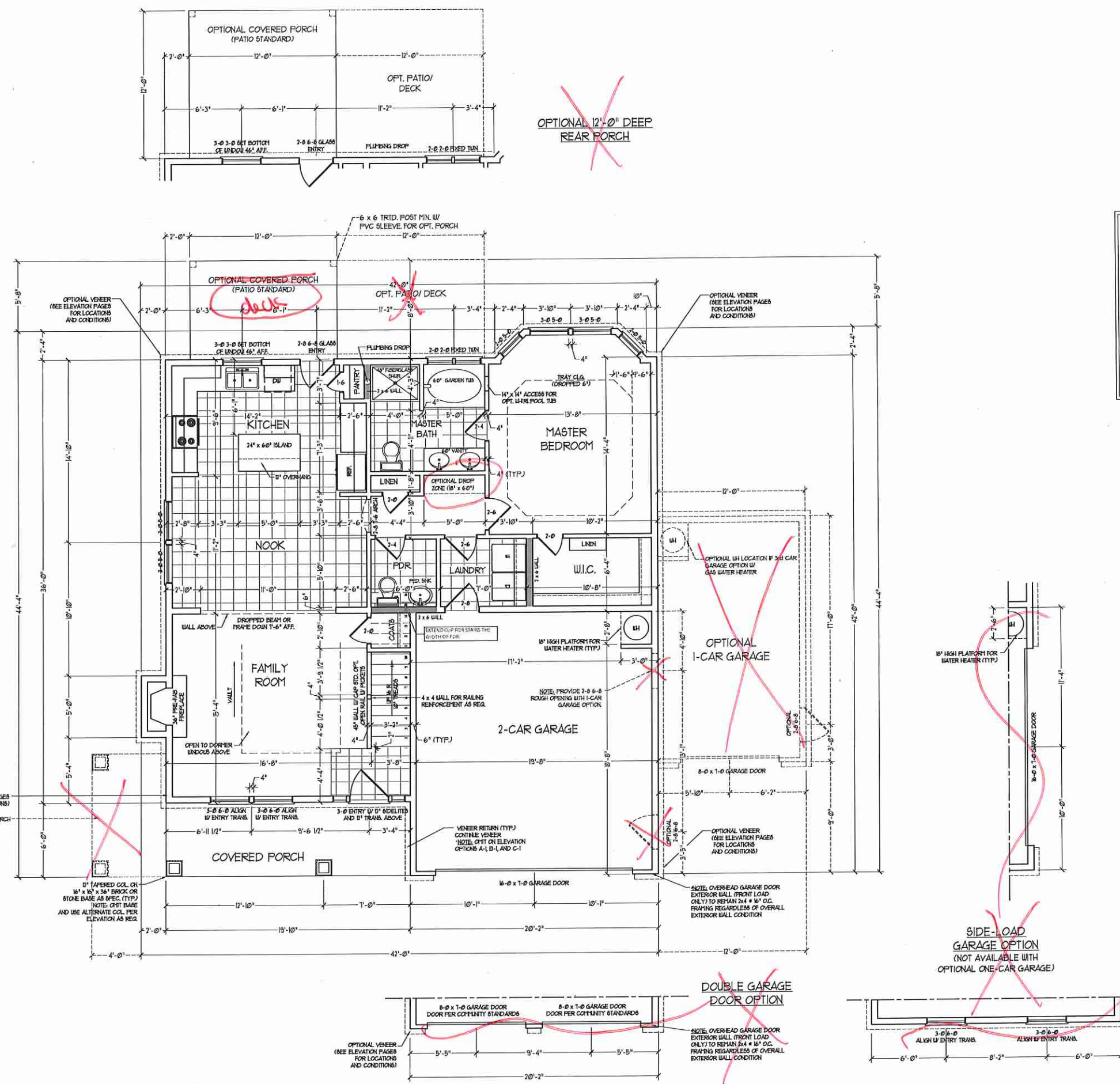
DRAWN BY: WG

ENGINEERED BY: WLF

REVIEWED BY: JES

B - ELEVATION  
OPTIONS

A-2.1



**SQUARE FOOTAGE (STUD)**

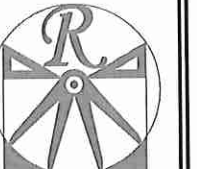
1st FLOOR:	1170 SQ. FT.
2nd FLOOR:	830 SQ. FT.
TOTAL:	2000 SQ. FT.
FRONT PORCH:	120 SQ. FT.
STD. REAR PATIO:	96 SQ. FT.
GARAGE:	423 SQ. FT.

**SQUARE FOOTAGE (OPTIONS)**

1ST FLOOR (BRICK):	1222 SQ. FT.
2ND FLOOR (BRICK):	860 SQ. FT.
TOTAL (BRICK):	2082 SQ. FT.
GARAGE (BRICK):	443 SQ. FT.
OPT. WRAP-AROUND PORCH:	60 SQ. FT.
REAR PORCH (8'-0" DEEP):	96 SQ. FT.
REAR PORCH (12'-0" DEEP):	144 SQ. FT.
OPT. PATIO/DECK (8'-0" DEEP):	96 SQ. FT.
OPT. PATIO/DECK (12'-0" DEEP):	144 SQ. FT.
1-CAR GARAGE (STUD):	240 SQ. FT.
1-CAR GARAGE (BRICK):	271 SQ. FT.

**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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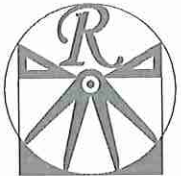


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 CAROLINAS COLLECTION  
 KENT

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

FIRST FLOOR PLAN  
**A-4**



**RENAISSANCE**

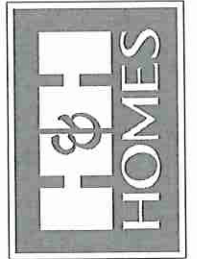
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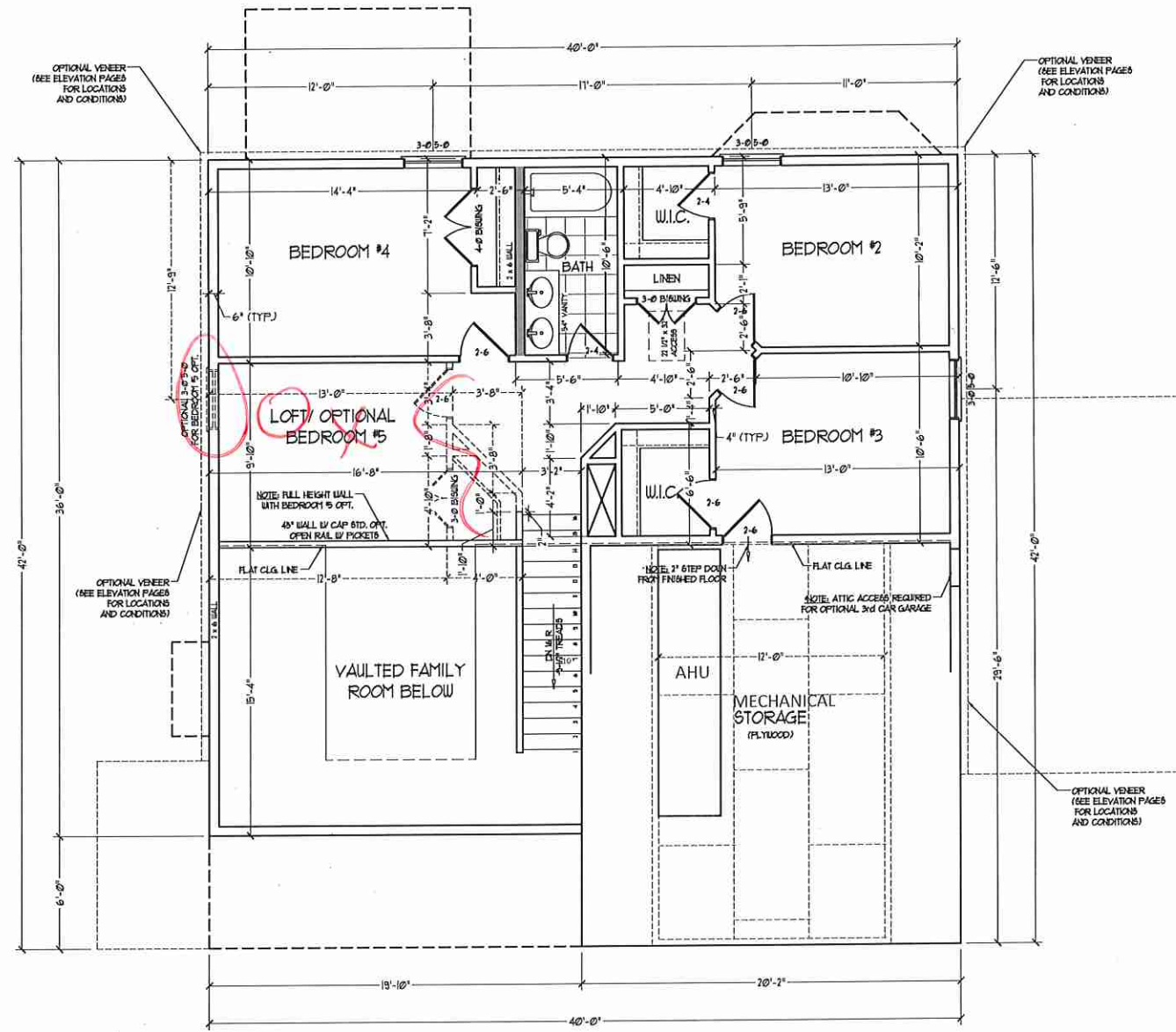
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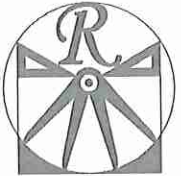
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2x6 WALL  
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H&H HOMES, INC.  
CAROLINAS COLLECTION  
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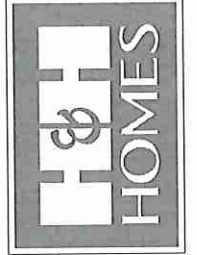
SECOND FLOOR  
PLAN  
A-5



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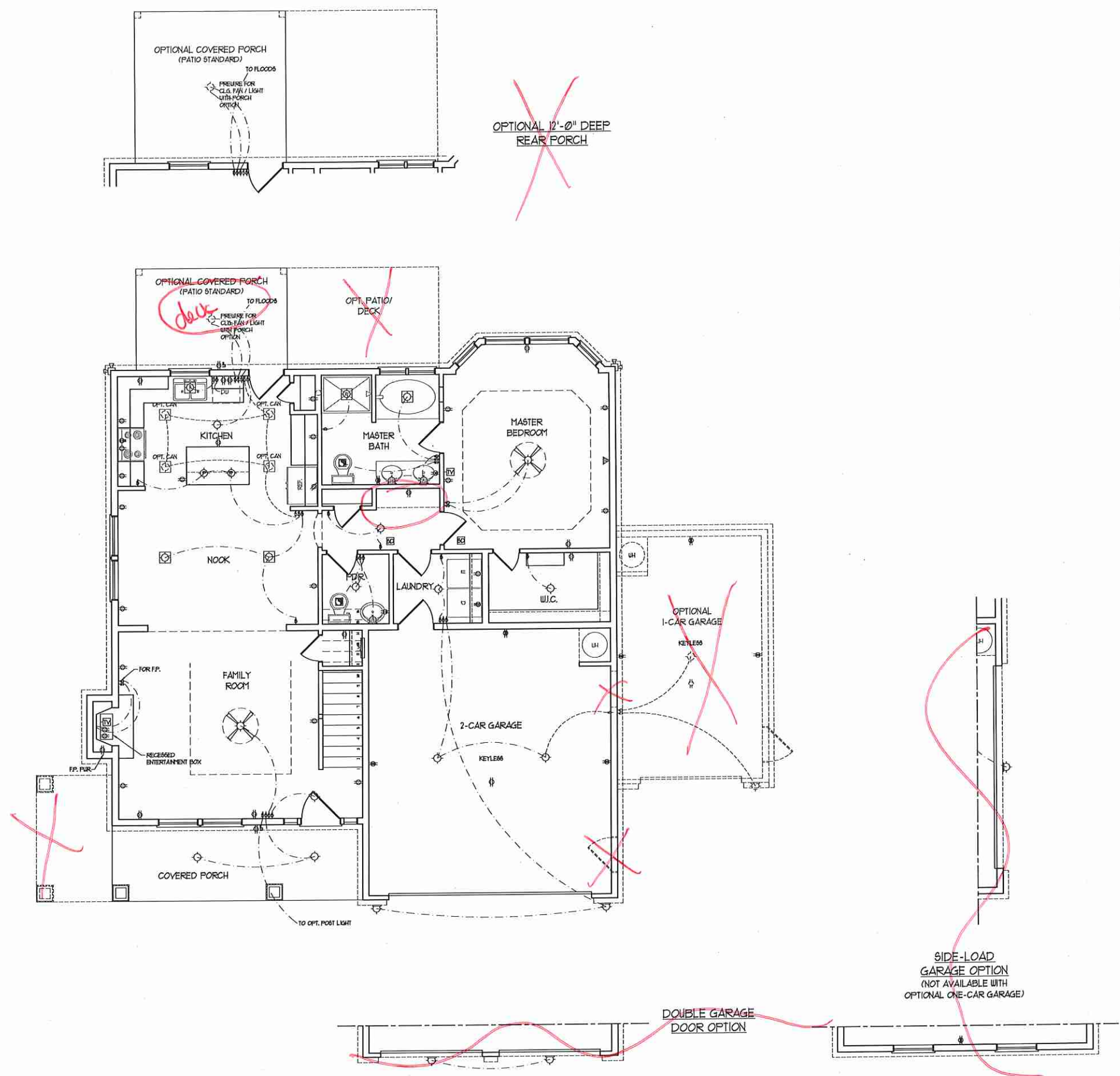
**J.S. THOMPSON**  
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SCALE: 1/4" = 1'-0"  
DRAWN BY: WG  
ENGINEERED BY: WLF  
REVIEWED BY: JES  
FIRST FLOOR ELECTRICAL PLAN  
E-1



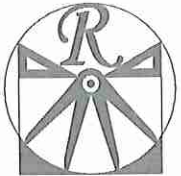
**ELECTRICAL LAYOUT NOTES:**

- 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 6" (MIN) FROM ROUGH OPENINGS.

- ELECTRICAL LEGEND**
- ⊕ 120 V OUTLET
  - ⊕ 120 V GFI OUTLET
  - ⊕ 120 V SWITCHED OUTLET
  - ⊕ 120 V BASEBOARD OUTLET
  - ⊕ 4-FLEX
  - ⊕ COUNTER OR FLOOR MOUNTED
  - ⊕ COUNTER OR FLOOR MOUNTED 120V GFI
  - ⊕ LEATHERPROOF
  - ⊕ 220 V OUTLET
  - ⊕ 120 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
  - ⊕ SWITCH
  - ⊕ 3-WAY SWITCH
  - ⊕ 4-WAY SWITCH
  - ⊕ DIMMER SWITCH
  - ⊕ TELEPHONE
  - ⊕ TV CONNECTION
  - ⊕ CONDUIT FOR COMPONENT WIRING
  - ⊕ BREAKER
  - ⊕ DOORBELL CHIME
  - ⊕ 120 V SMOKE DETECTOR
  - ⊕ EXHAUST FAN
  - ⊕ LOW VOLTAGE PANEL
  - ⊕ CEILING FAN
  - ⊕ CEILING FAN W/ LIGHT

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

DOUBLE GARAGE DOOR OPTION

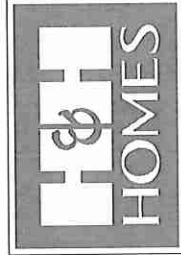


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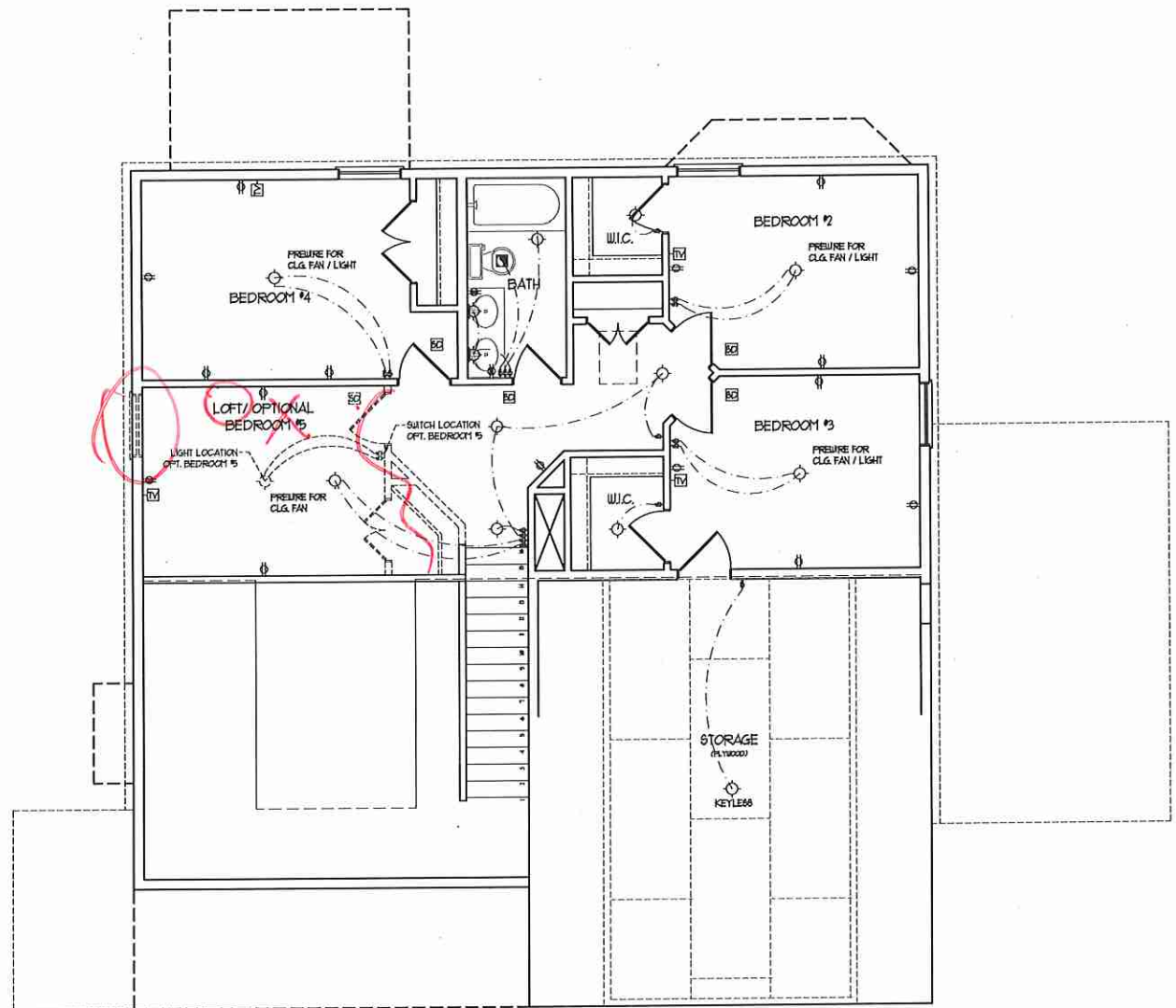
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SECOND FLOOR  
ELECTRICAL  
PLAN  
E-2

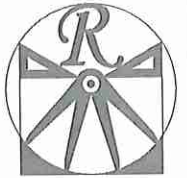
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- 1) BLOCK AND WIRE FOR ALL CEILING FANS PER PLAN.
- 2) VANITY LIGHTS TO BE SET @ 30" AFF. (TYP)
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- ⊕ NO V OUTLET
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- ⊕ NO V BASEBOARD OUTLET
- ⊕ 4-FLEX
- ⊕ COUNTER OR FLOOR MOUNTED
- ⊕ COUNTER OR FLOOR MOUNTED NOV GFI
- ⊕ LEATHERPROOF
- ⊕ 220 V OUTLET
- ⊕ NO V DEDICATED CIRCUIT
- ⊕ 220 V DEDICATED CIRCUIT
- ⊕ SPECIAL PURPOSE (240 V, ETC)
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- ⊕ EXHAUST FAN
- ⊕ LOW VOLTAGE PANEL
- ⊕ CEILING FAN
- ⊕ CEILING FAN W/ LIGHT

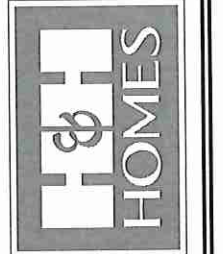




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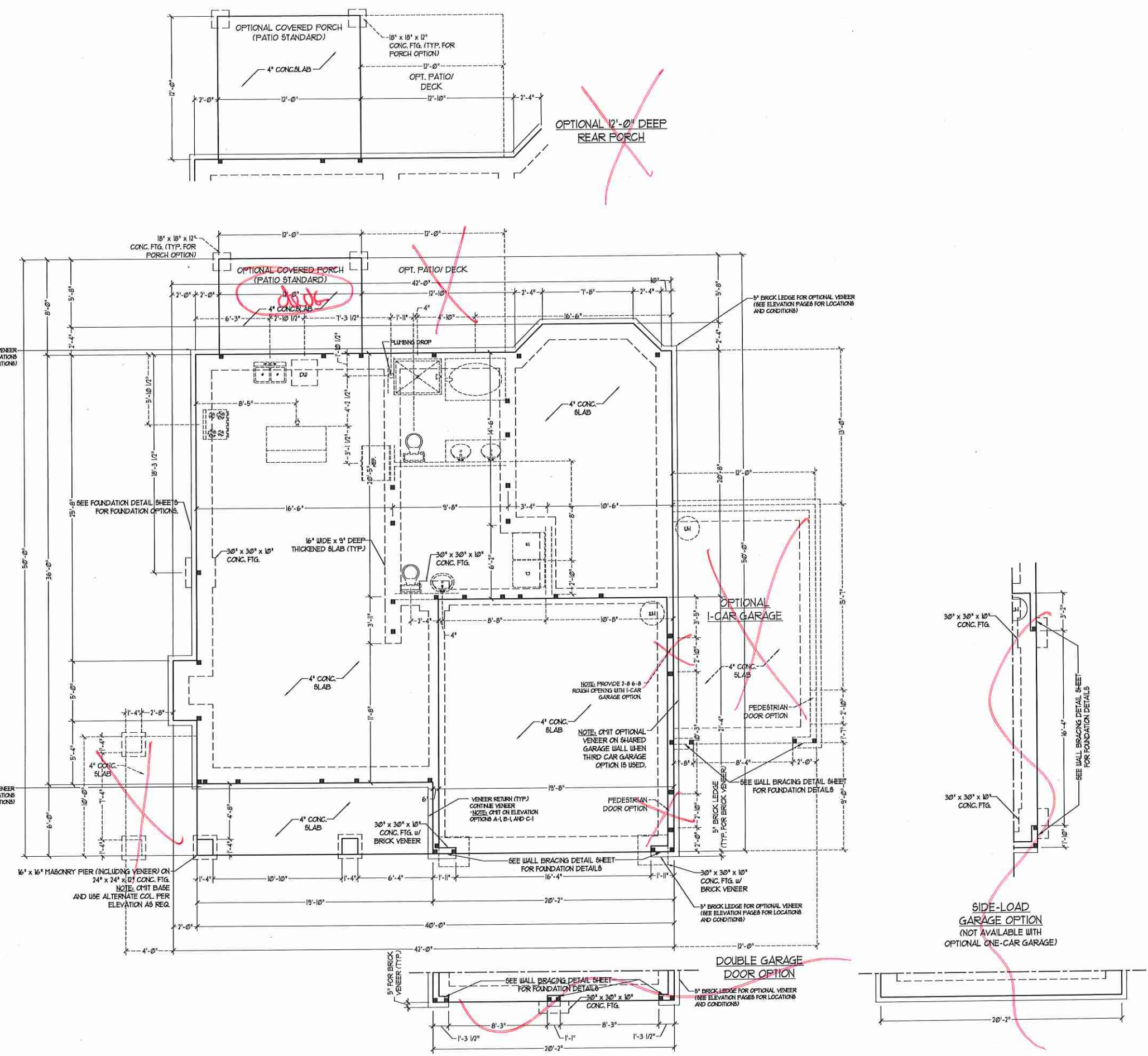
DATE: JUNE 1, 2015  
REV.:  
SCALE: 1/4"=1'-0"  
DRAWN BY: WG  
ENGINEERED BY: WLF  
REVIEWED BY: JES

MONO SLAB  
FOUNDATION  
PLAN

S-1

- 120-MPH WIND ZONE NOTES FOR LESS THAN 30' MEAN ROOF HEIGHT:**
- ENGINEER'S SEAL APPLIES ONLY TO STRUCTURAL COMPONENTS. ENGINEER'S SEAL DOES NOT CERTIFY DIMENSIONAL ACCURACY OR ARCHITECTURAL LAYOUT INCLUDING ROOF SYSTEM.
  - STRUCTURAL DESIGN PER NORTH CAROLINA RESIDENTIAL CODE, 2012 EDITION.
  - INSTALL 1/2" ANCHOR BOLTS 6'-0" O.C. AND WITHIN 1'-0" FROM END OF EACH CORNER. ANCHOR BOLTS MUST EXTEND A MINIMUM OF 1' INTO MASONRY OR CONCRETE.
  - MEAN ROOF HEIGHT IS LESS THAN 30 FEET.
  - EXTERIOR WALLS DESIGNED FOR 120 MPH WINDS.
  - WALL CLADDING DESIGNED FOR 241 PSF (POSITIVE AND NEGATIVE).
  - ROOF CLADDING DESIGNED FOR 210 PSF (POSITIVE AND NEGATIVE) FOR ROOF PITCHES 1/2 TO 12/12 AND 248 PSF (POSITIVE AND NEGATIVE) FOR ROOF PITCHES 225/12 TO 1/12.
  - INSTALL 1/6" OSB SHEATHING ON ALL EXTERIOR WALLS. WALLS TO BE BRACED IN ACCORDANCE WITH SECTION R6-02.10 OF THE CURRENT NORTH CAROLINA RESIDENTIAL CODE WALL BRACING CRITERIA.
  - ENERGY EFFICIENCY COMPLIANCE AND INSULATION VALUES OF THE BUILDING TO BE IN ACCORDANCE WITH CHAPTER 11 OF THE NRC, 2012 EDITION.
  - REFER TO NOTES AND DETAIL SHEETS FOR ADDITIONAL STRUCTURAL INFORMATION.

- 130-MPH WIND ZONE NOTES FOR LESS THAN 30' MEAN ROOF HEIGHT:**
- ENGINEER'S SEAL APPLIES ONLY TO STRUCTURAL COMPONENTS. ENGINEER'S SEAL DOES NOT CERTIFY DIMENSIONAL ACCURACY OR ARCHITECTURAL LAYOUT INCLUDING ROOF SYSTEM.
  - STRUCTURAL DESIGN PER NORTH CAROLINA RESIDENTIAL CODE, 2012 EDITION WITH SPECIAL CONSIDERATION TO CHAPTER 45 ("HIGH WIND ZONES" FOR 130 MPH WINDS).
  - 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.
  - FOUNDATION ANCHORAGE TO COMPLY WITH SECTION 4504 OF THE NORTH CAROLINA RESIDENTIAL CODE, 2012 EDITION.
  - MEAN ROOF HEIGHT IS LESS THAN 30 FEET.
  - WALL CLADDING DESIGNED FOR 40.1 PSF (POSITIVE AND NEGATIVE).
  - ROOF CLADDING DESIGNED FOR 35.6 PSF (POSITIVE AND NEGATIVE) FOR ROOF PITCHES 1/2 TO 12/12 AND 58.1 PSF (POSITIVE AND NEGATIVE) FOR ROOF PITCHES 225/12 TO 1/12.
  - 1/6" OSB SHEATHING IS REQUIRED ON ALL EXTERIOR WALLS.
  - WALLS TO BE BRACED IN ACCORDANCE WITH SECTION R6-02.10 OF THE CURRENT NORTH CAROLINA RESIDENTIAL CODE WALL BRACING CRITERIA.
  - ENERGY EFFICIENCY COMPLIANCE AND INSULATION VALUES OF THE BUILDING TO BE IN ACCORDANCE WITH CHAPTER 11 OF THE NRC, 2012 EDITION.



5" BRICK LEDGE FOR OPTIONAL VENEER (SEE ELEVATION PAGES FOR LOCATIONS AND CONDITIONS)

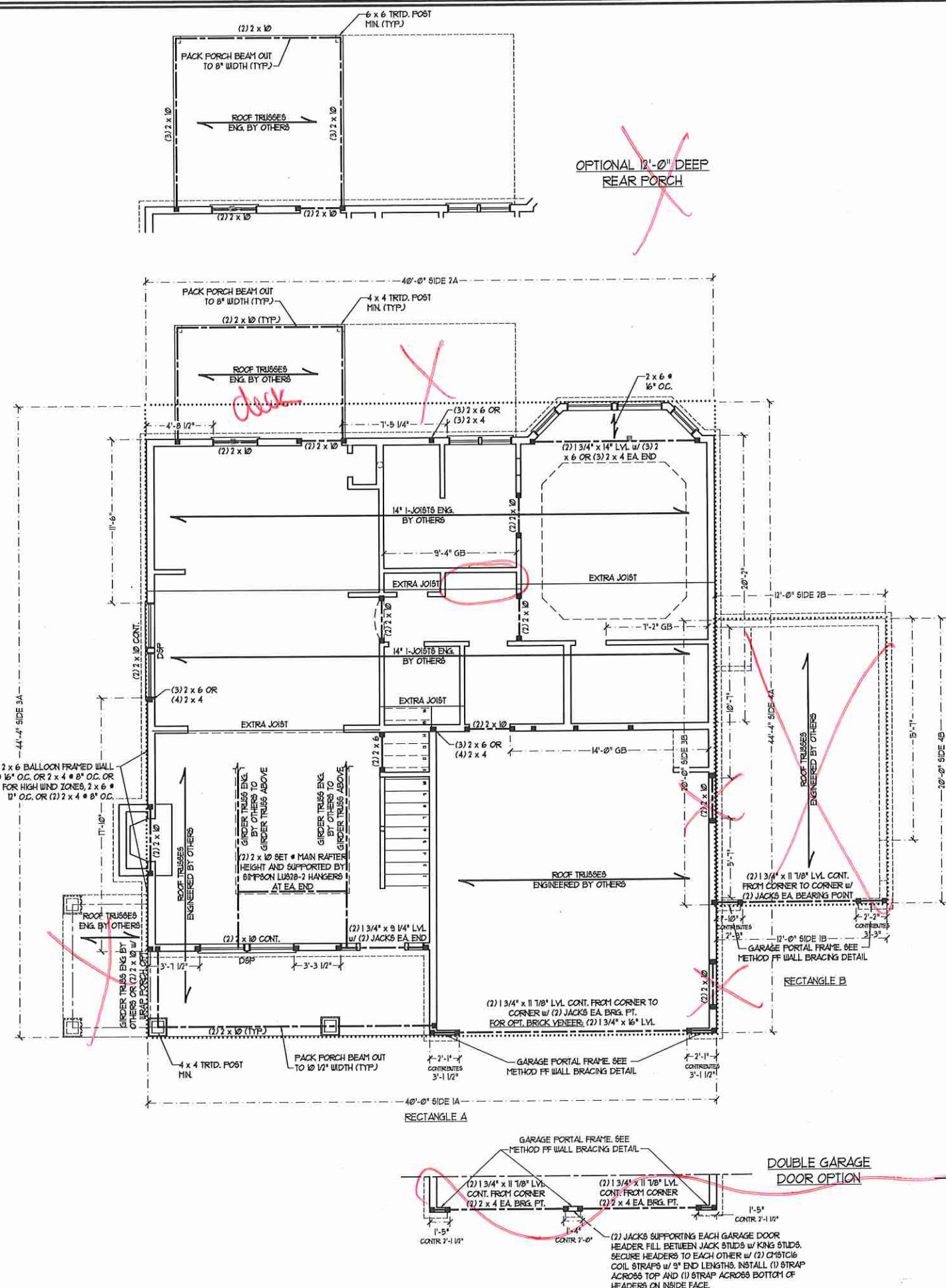
5" BRICK LEDGE FOR OPTIONAL VENEER (SEE ELEVATION PAGES FOR LOCATIONS AND CONDITIONS)

16" x 16" MASONRY PIER (INCLUDING VENEER) ON 24" x 24" x 12" CONC. FIG. NOTE: OMIT BASE AND USE ALTERNATE COL. PER ELEVATION AS REQ.

~~OPTIONAL 12'-0" DEEP REAR PORCH~~

~~DOUBLE GARAGE DOOR OPTION~~

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



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 LLY
8 AND GREATER	L 6 x 4 x 5/16 LLY

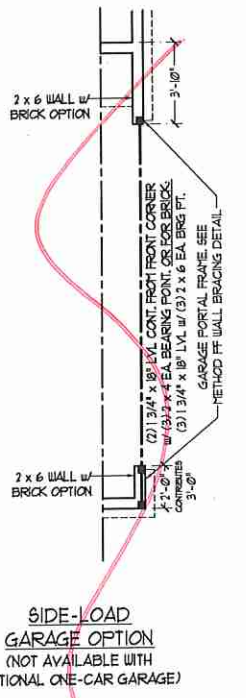
NOTES:  
 1. LINTEL SCHEDULE APPLIES TO ALL OPENINGS IN BRICK VENEER (UNO). SEE ARCH DRGS. FOR SIZE AND LOCATION OF OPENINGS.  
 2. (LLV) = LONG LEG VERTICAL  
 3. LENGTH = CLEAR OPENING  
 4. EMBED ALL ANGLE IRONS MIN. 4" EACH SIDE INTO VENEER TO PROVIDE BEARING.  
 5. FOR ALL HEADERS 6'-0" AND GREATER 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 R103.122 OF THE NORTH CAROLINA RESIDENTIAL CODE, 2010 EDITION.  
 7. PRECAST REINFORCED CONCRETE LINTELS ENGINEERED BY OTHERS MAY BE USED IN LIEU OF STEEL LINTELS.

**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-USP REFERS TO 'CONTINUOUS SHEATHING - WOOD STRUCTURAL PANELS' CONTRACTOR IS TO INSTALL 1/8" OSB ON ALL EXTERIOR WALLS ATTACHED W/ 8d NAILS SPACED 6" O.C. ALONG PANEL EDGES AND 12" O.C. IN THE FIELD.  
 3. 'GB' REFERS TO 'GYPSUM BOARD' CONTRACTOR IS TO INSTALL 1/2" (5/8") GYPSUM WALL BOARD WHERE NOTED ON THE PLANS. FASTEN GB WITH 1 1/4" SCREWS OR 1 5/8" NAILS SPACED 12" 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 NRC, 2012 EDITION.  
 5. SEE NOTES AND DETAIL SHEETS FOR ADDITIONAL BRACED WALL INFORMATION.

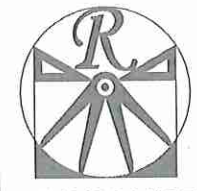
**BRACED WALL DESIGN**

RECTANGLE A		RECTANGLE B	
SIDE 1A (FRONT LOAD)	METHOD: CS-USP/GB/FF	SIDE 1B	METHOD: FF
TOTAL REQUIRED LENGTH: 15.36'	TOTAL PROVIDED LENGTH: 20.16'	TOTAL REQUIRED LENGTH: 2'	TOTAL PROVIDED LENGTH: 6'
SIDE 2A	METHOD: CS-USP/GB	SIDE 2B	METHOD: CS-USP
TOTAL REQUIRED LENGTH: 15.36'	TOTAL PROVIDED LENGTH: 20.4'	TOTAL REQUIRED LENGTH: 2'	TOTAL PROVIDED LENGTH: 12'
SIDE 3A	METHOD: CS-USP	SIDE 3B / 4A (SHARED)	METHOD: CS-USP
TOTAL REQUIRED LENGTH: 14.5'	TOTAL PROVIDED LENGTH: 19.33'	SIDE 4B	METHOD: CS-USP
SIDE 4A (SIDE LOAD)	METHOD: CS-USP/FF	TOTAL REQUIRED LENGTH: 23'	TOTAL PROVIDED LENGTH: 19.58'
TOTAL REQUIRED LENGTH: 14.5'	TOTAL PROVIDED LENGTH: 21'		



**STRUCTURAL NOTES:**  
 1. ALL FRAMING LUMBER TO BE #2 SFT (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 1000 LB CAPACITY UPLIFT CONNECTORS AT TOP (UNO).  
 8. REFER TO NOTES AND DETAIL SHEETS FOR ADDITIONAL STRUCTURAL INFORMATION.

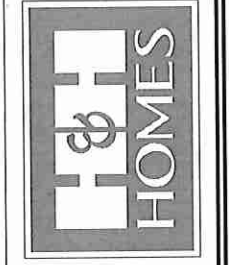
NOTE: DSP DENOTES DOUBLE STUD POCKET



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 PHONE: (919) 289-9919  
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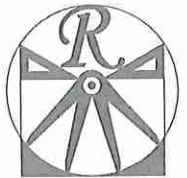
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DATE: JUNE 1, 2015  
 REV.:  
 SCALE: 1/4"=1'-0"  
 DRAWN BY: WG  
 ENGINEERED BY: WLF  
 REVIEWED BY: JES

SECOND FLOOR FRAMING PLAN  
 S-2





**RENAISSANCE**

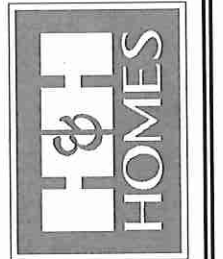
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DATE: JUNE 1, 2015

REV:

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

DRAWN BY: WG

ENGINEERED BY: WLF

REVIEWED BY: JES

ATTIC FLOOR  
FRAMING PLAN

S-3

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

**BRACED WALL DESIGN NOTES:**

- BRACED WALL DESIGN PER SECTION R602.10 OF THE SIMPLIFIED WALL BRACING CRITERIA EFFECTIVE SEPTEMBER 1, 2013.
- CS-OSB REFERS TO "CONTINUOUS SHEATHING - WOOD STRUCTURAL PANELS" CONTRACTOR IS TO INSTALL 1/2" OSB ON ALL EXTERIOR WALLS ATTACHED W/ 8d NAILS SPACED 6" O.C. ALONG PANEL EDGES AND 12" O.C. IN THE FIELD.
- GB REFERS TO "GYPSUM BOARD" CONTRACTOR IS TO INSTALL 1/2" (MIN) GYPSUM WALL BOARD WHERE NOTED ON THE PLANS. FASTEN GB WITH 1 1/4" SCREWS OR 1 5/8" NAILS SPACED 1" O.C. ALONG PANEL EDGES AND IN THE FIELD INCLUDING TOP AND BOTTOM FLATES.
- 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 NRC, 2012 EDITION. SEE NOTES AND DETAIL SHEETS FOR ADDITIONAL BRACED WALL INFORMATION.

**NOTE:**

- PER SECTION R602.10.3.2 OF THE 2012 NRC, 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.
- SHEATH ALL EXTERIOR WALLS WITH 1/2" OSB SHEATHING ATTACHED WITH 8d NAILS AT 6" O.C. ALONG PANEL EDGES AND 12" O.C. IN THE FIELD.

**LINTEL SCHEDULE FOR BRICK/NATURAL STONE SUPPORT**

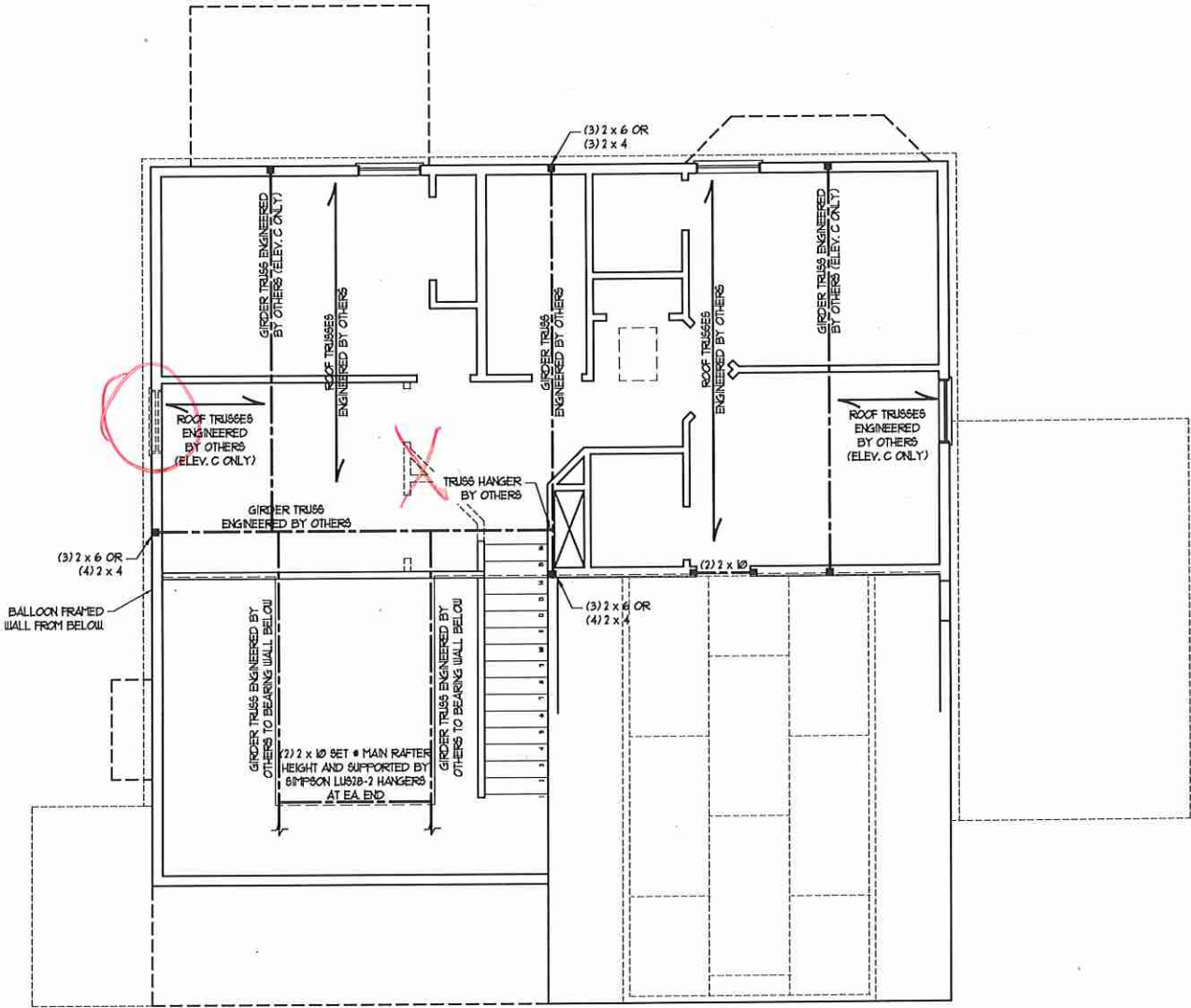
LENGTH (FT.)	SIZE OF LINTEL
UP TO 4 FT.	L 3 1/2 x 3 1/2 x 1/4
4-8	L 5 x 3 1/2 x 5/16 LLY
8 AND GREATER	L 6 x 4 x 5/16 LLY

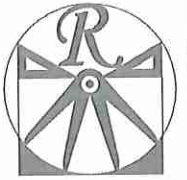
**NOTES:**

- LINTEL SCHEDULE APPLIES TO ALL OPENINGS IN BRICK VENEER (UNO). SEE ARCH DETAILS FOR SIZE AND LOCATION OF OPENINGS.
- (LLV) = LONG LEG VERTICAL
- LENGTH = CLEAR OPENING
- EMBED ALL ANGLE IRONS MIN. 4" EACH SIDE INTO VENEER TO PROVIDE BEARING.
- FOR ALL HEADERS 8"-Ø" AND GREATER IN LENGTH, ATTACH STEEL ANGLE TO HEADER W/ 1/2" LAG SCREWS @ 12" O.C. STAGGERED.
- 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 R103.1.2.2 OF THE NORTH CAROLINA RESIDENTIAL CODE, 2012 EDITION.
- PRECAST REINFORCED CONCRETE LINTELS ENGINEERED BY OTHERS MAY BE USED IN LIEU OF STEEL LINTELS.

**STRUCTURAL NOTES:**

- ALL FRAMING LUMBER TO BE #2 SFF (UNO).
- ALL LOAD BEARING HEADERS TO BE (2) 2 x 10 (UNO).
- ALL BEAMS ARE TO BE SUPPORTED WITH (2) 2 x 4 PER END (UNO).
- SQUARES DENOTE POINT LOADS WHICH REQUIRE SOLID BLOCKING TO GIRDER OR FOUNDATION.
- REFER TO NOTES AND DETAIL SHEETS FOR ADDITIONAL STRUCTURAL INFORMATION.





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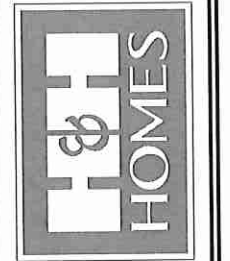
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DATE: JUNE 1, 2015  
REV:  
SCALE: 1/4"=1'-0"  
DRAWN BY: WG  
ENGINEERED BY: WLF  
REVIEWED BY: JES

ROOF PLAN  
ELEVATION - B

S-4

**ATTIC VENT CALCULATION:**  
1075 SQ. FT. OF ATTIC DIVIDED BY 50 REQUIRES 215 SQ. FT. OF NET FREE VENTILATING AREA (MIN.)

**ATTIC VENT CALCULATION:**  
286 SQ. FT. OF ATTIC DIVIDED BY 150 REQUIRES 191 SQ. FT. OF NET FREE VENTILATING AREA (MIN.)

**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 R103.122 OF THE NORTH CAROLINA RESIDENTIAL CODE, 2002 EDITION.  
2. WHERE ROOF SLOPES EXCEED 1/12, INSTALL 3" x 3" x 1/4" STEEL PLATE STOPS AT 24" O.C. PER SECTION R103.121 OF THE NORTH CAROLINA RESIDENTIAL CODE, 2002 EDITION.

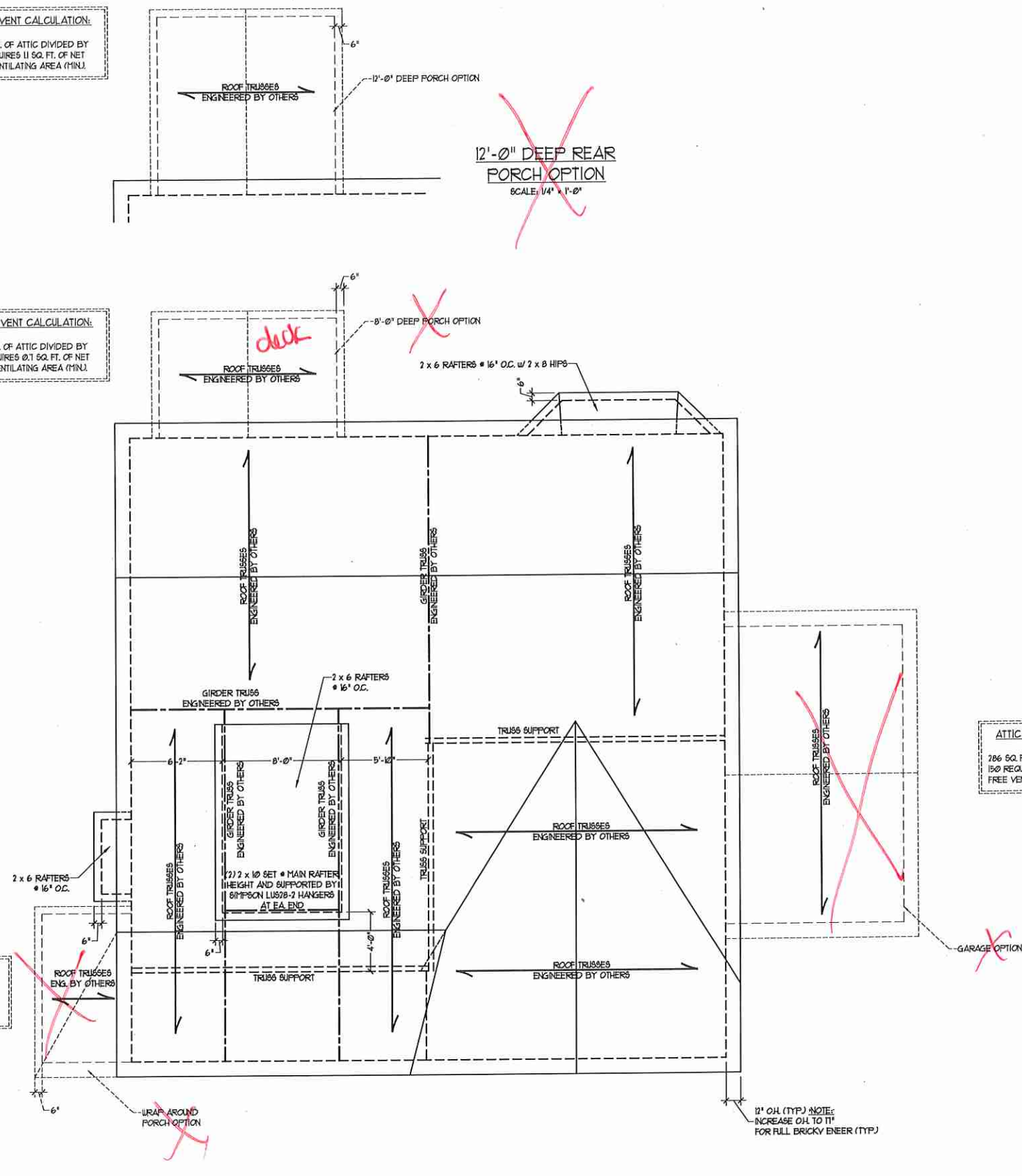
**STRUCTURAL NOTES:**  
1. ALL FRAMING LUMBER TO BE #2 GFF (NO).  
2. CIRCLES DENOTE (3) 2 x 4 POSTS FOR ROOF SUPPORT.  
3. FRAME DORMER WALLS ON TOP OF DOUBLE OR TRIPLE RAFTERS.  
4. HIP SPLICES ARE TO BE SPACED A MIN. OF 8'-0". FASTEN MEMBERS WITH THREE ROWS OF 12d NAILS • 16" O.C. (TYP.)  
5. STICK 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 HD5A 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 TOP NAILS.  
7. REFER TO NOTES AND DETAIL SHEETS FOR ADDITIONAL STRUCTURAL INFORMATION.



**ATTIC VENT CALCULATION:**  
163 SQ. FT. OF ATTIC DIVIDED BY 50 REQUIRES 11 SQ. FT. OF NET FREE VENTILATING AREA (MIN.)

**ATTIC VENT CALCULATION:**  
111 SQ. FT. OF ATTIC DIVIDED BY 50 REQUIRES 0.1 SQ. FT. OF NET FREE VENTILATING AREA (MIN.)

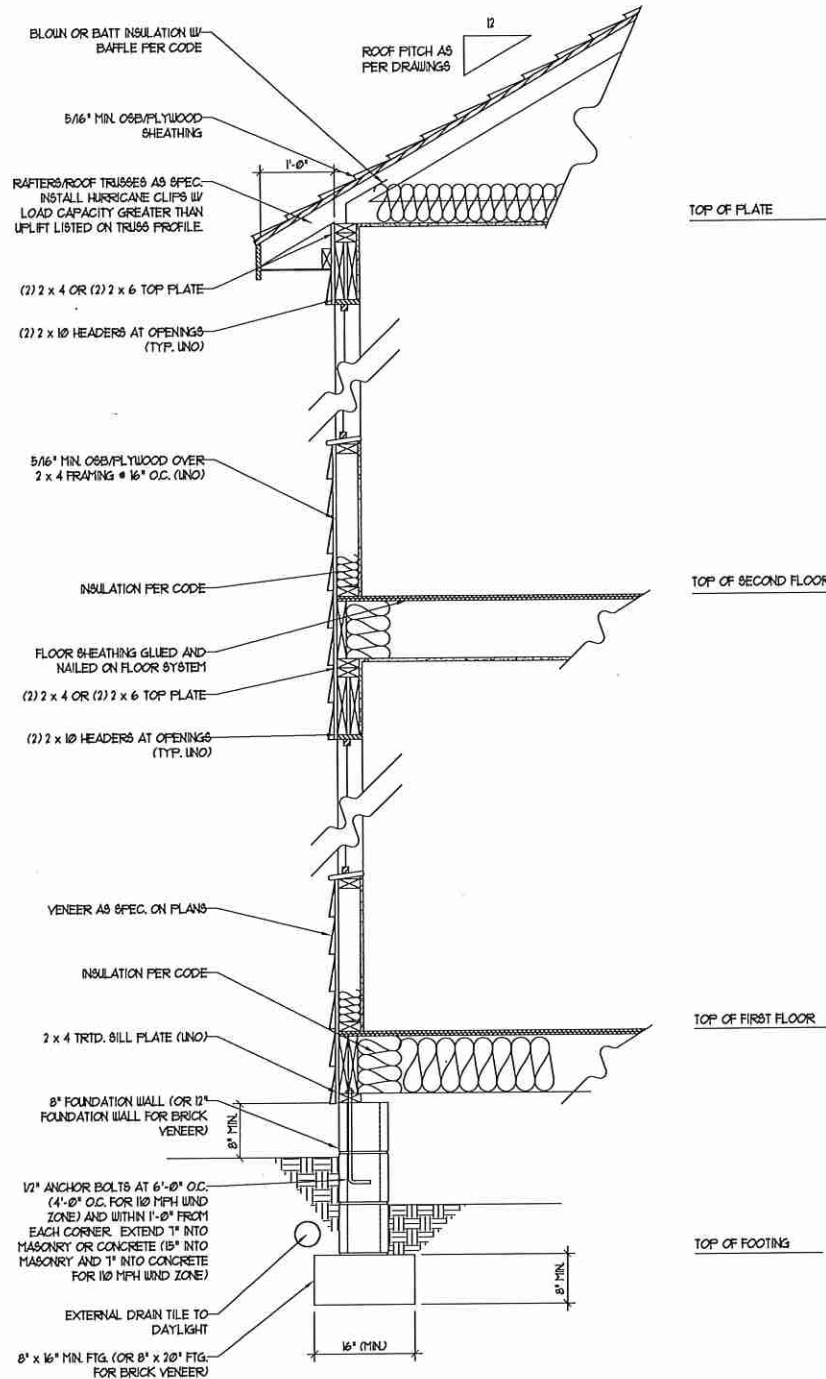
**ATTIC VENT CALCULATION:**  
63 SQ. FT. OF ATTIC DIVIDED BY 50 REQUIRES 0.4 SQ. FT. OF NET FREE VENTILATING AREA (MIN.)



12" OH (TYP) NOTE: INCREASE OH TO 11" FOR FULL BRICKY BEEER (TYP.)

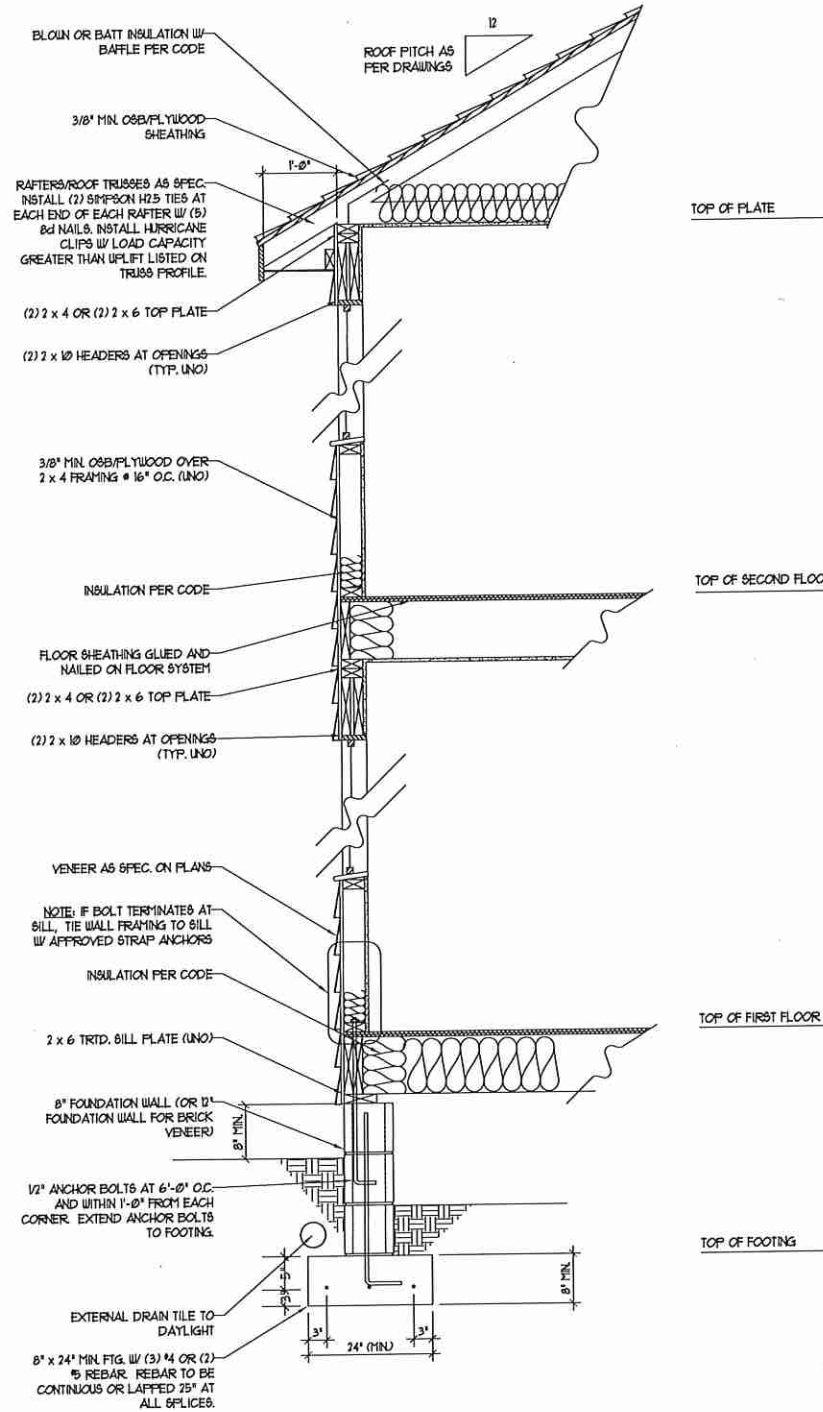
WRAP AROUND PORCH OPTION

# 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 120/130 MPH WINDS) AND CHAPTER 46 (COASTAL AND FLOOD PLAIN CONSTRUCTION STANDARDS) OF THE NORTH CAROLINA STATE BUILDING CODE, 2012 EDITION.



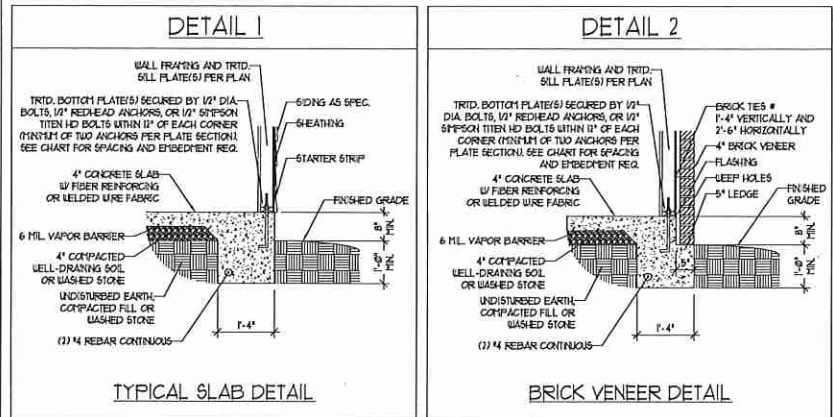
**J.S. THOMPSON  
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606 WADE AVE., SUITE 104 RALEIGH, NC 27605  
PHONE: (919) 789-9919 FAX: (919) 789-9921  
N.C. LICENSE NO.: C-1733

DETAILS

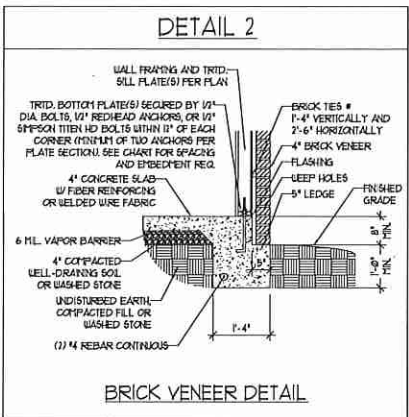
DATE: JULY 11, 2012  
SCALE: NTS  
DRAWN BY: JST  
ENGINEERED BY: JST  
REVIEWED BY: MCS

TYPICAL WALL SECTION

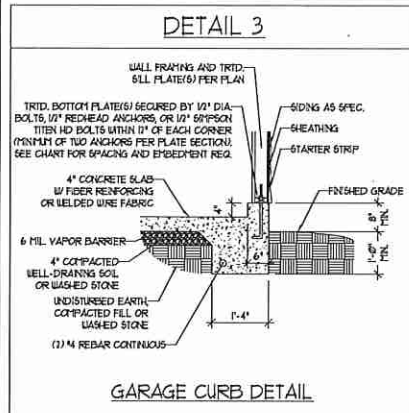
MONOLITHIC SLAB DETAILS



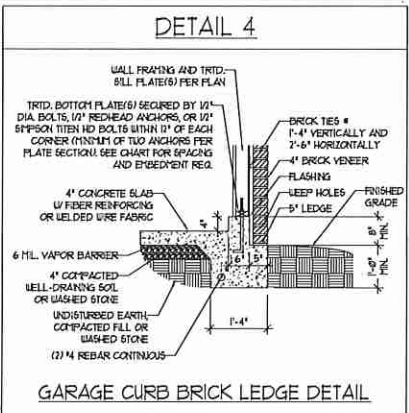
TYPICAL SLAB DETAIL



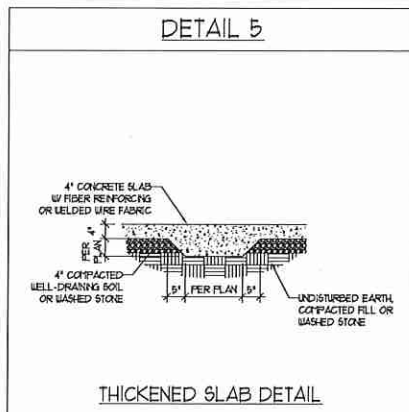
BRICK VENEER DETAIL



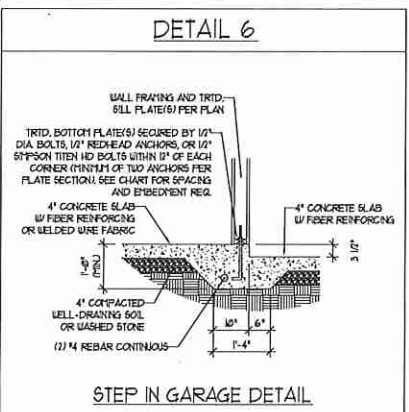
GARAGE CURB DETAIL



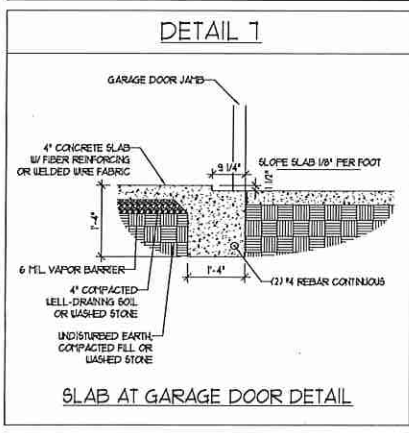
GARAGE CURB BRICK LEDGE DETAIL



THICKENED SLAB DETAIL

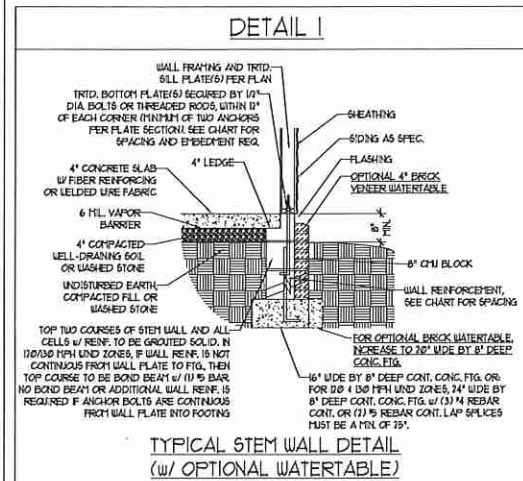


STEP IN GARAGE DETAIL

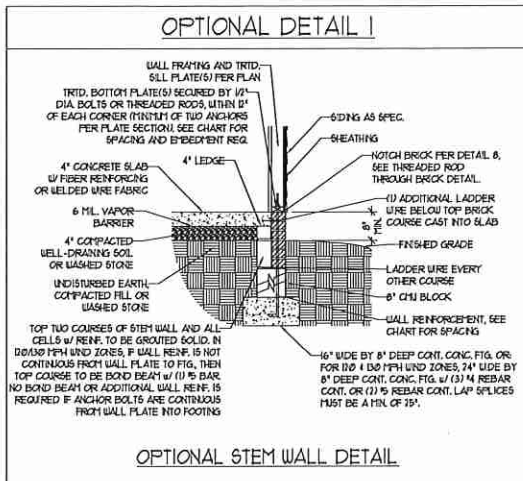


SLAB AT GARAGE DOOR DETAIL

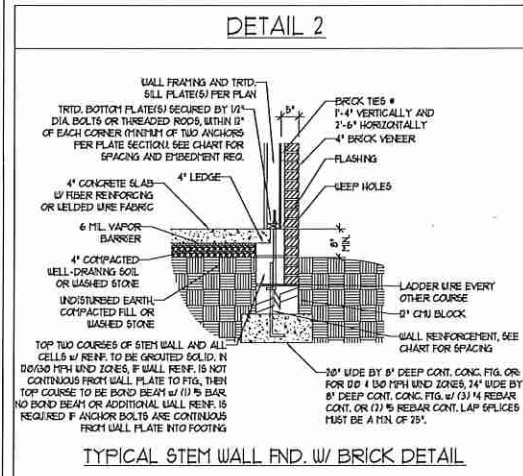
STEMWALL DETAILS



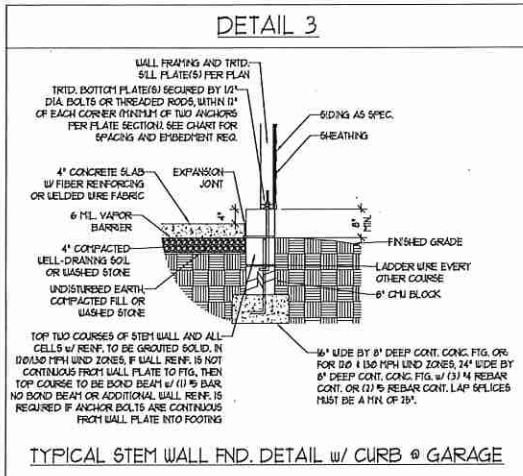
TYPICAL STEM WALL DETAIL (w/ OPTIONAL WATERTABLE)



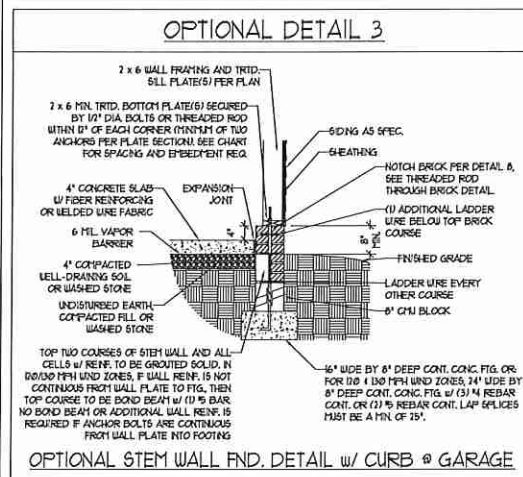
OPTIONAL STEM WALL DETAIL



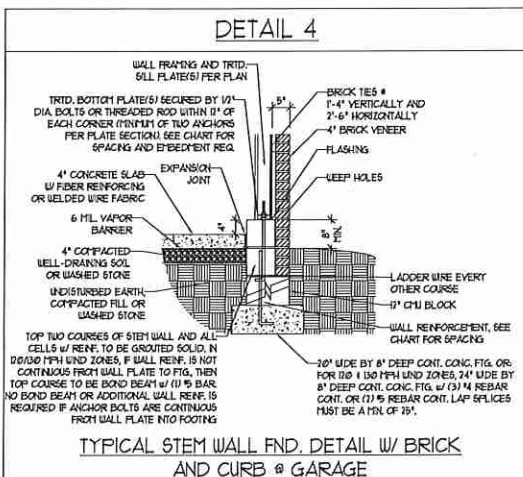
TYPICAL STEM WALL FND. w/ BRICK DETAIL



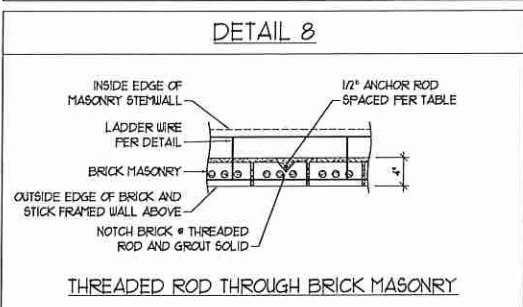
TYPICAL STEM WALL FND. DETAIL w/ CURB @ GARAGE



OPTIONAL STEM WALL FND. DETAIL w/ CURB @ GARAGE



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



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/ 1/4 REBAR @ 48" O.C.	GROUT SOLID	GROUT SOLID w/ 1/4 REBAR @ 64" O.C.
5	GROUT SOLID w/ 1/4 REBAR @ 36" O.C.	NOT APPLICABLE	GROUT SOLID w/ 1/4 REBAR @ 36" O.C.	GROUT SOLID w/ 1/4 REBAR @ 64" O.C.
6	GROUT SOLID w/ 1/4 REBAR @ 24" O.C.	NOT APPLICABLE	GROUT SOLID w/ 1/4 REBAR @ 24" O.C.	GROUT SOLID w/ 1/4 REBAR @ 64" O.C.
1 AND GREATER	ENGINEERED DESIGN BASED ON SITE CONDITIONS			

STRUCTURAL NOTES:

1. WALL HEIGHT MEASURED FROM TOP OF FOOTING TO TOP OF THE WALL.
2. THE 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 WELL DRAINED OR SAND - GRAVEL MIXTURE SOILS (45 PSF/FT BELOW GRADE) CLASSIFIED AS GROUP 1 ACCORDING TO UNIFIED SOILS CLASSIFICATION SYSTEM IN ACCORDANCE WITH TABLE 3-202 OF THE 2012 INTERNATIONAL RESIDENTIAL CODE ARE ALLOWABLE.
5. PREP SLAB PER RS0621 AND RS0622 BASE OF THE 2012 INTERNATIONAL RESIDENTIAL CODE. MINIMUM 24" LAP SPlice LENGTH.
6. LOCATE REBAR IN CENTER OF FOUNDATION WALL.
7. WHERE REQUIRED, FILL BLOCK SOLID WITH TYPE "B" 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	EMBEDMENT	SPACING	EMBEDMENT
100 MPH	6'-0" O.C.	1"	110 MPH	4'-0" O.C.
	3'-0" O.C. FOR STRAPS			7'-0" O.C. FOR STRAPS
120 MPH	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	15" INTO MASONRY 1" INTO CONCRETE	130 MPH	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
				15" INTO MASONRY 1" INTO CONCRETE

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

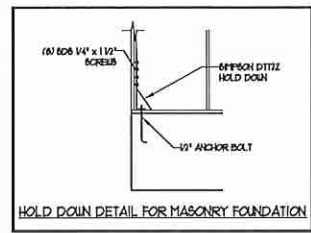
**J.S. THOMPSON ENGINEERING, INC.**  
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PHONE: (919) 789-9919 FAX: (919) 789-9921  
N.C. LICENSE NO.: C-1133

FOUNDATION DETAILS

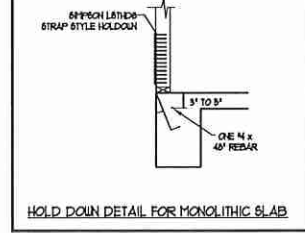
DATE: AUGUST 14, 2015  
SCALE: NTS  
DRAWN BY: JST  
ENGINEERED BY: JES



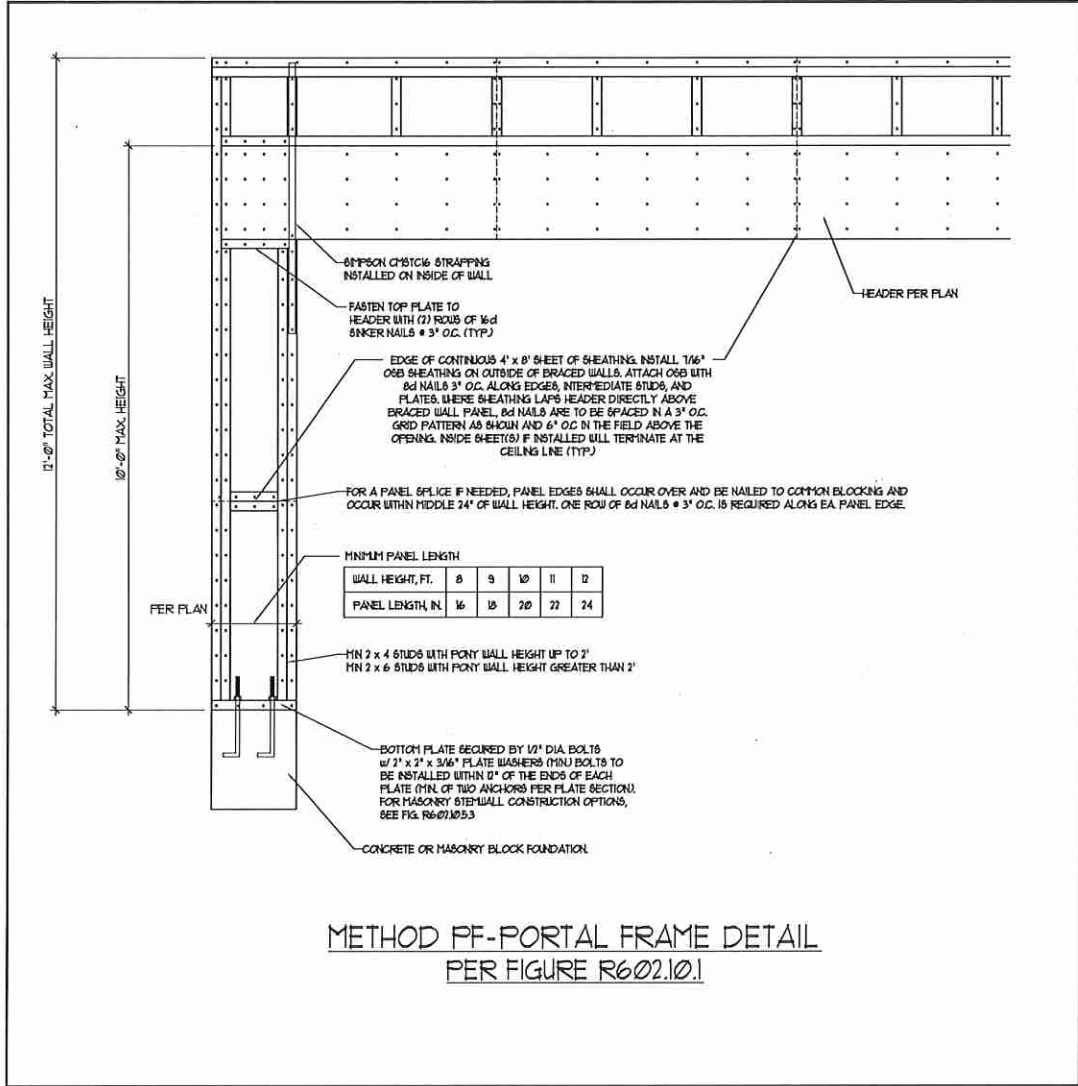
FOUNDATION DETAILS



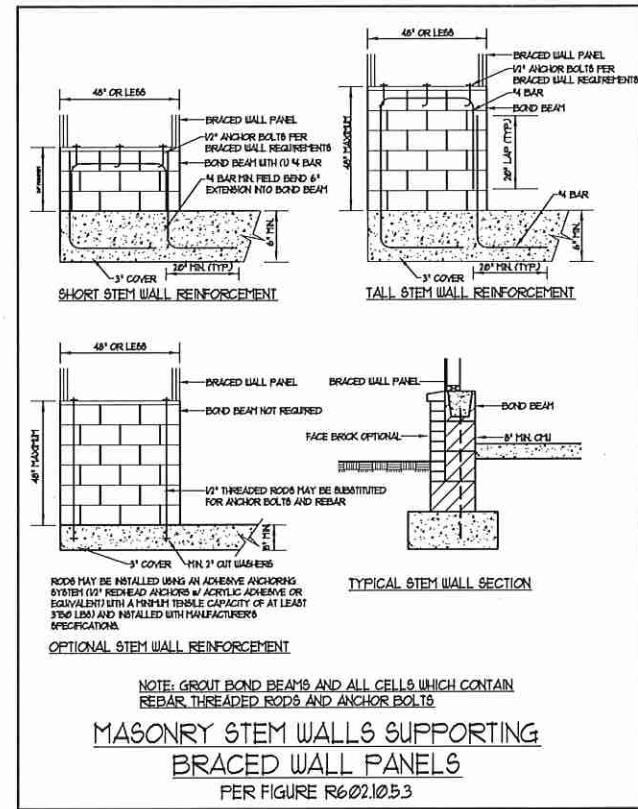
HOLD DOWN DETAIL, FOR MASONRY FOUNDATION



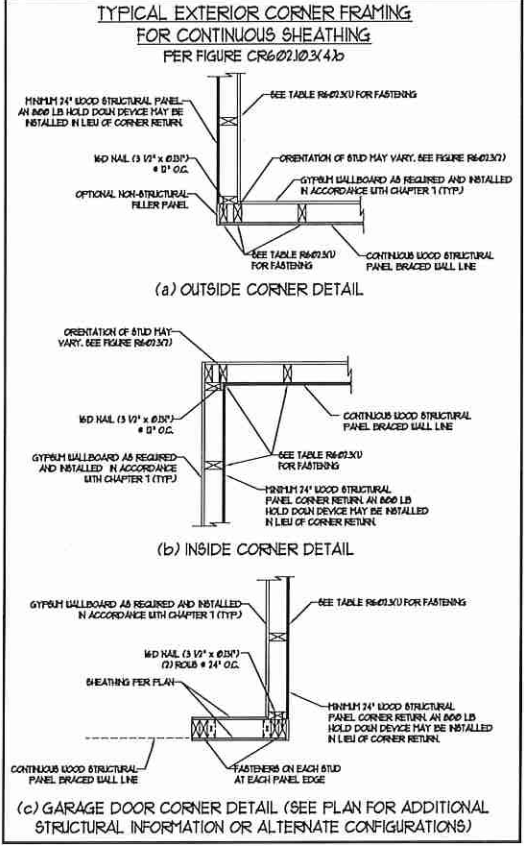
HOLD DOWN DETAIL, FOR MONOLITHIC SLAB



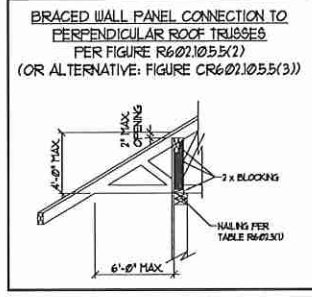
METHOD PF-PORTAL FRAME DETAIL  
PER FIGURE R602.10.1



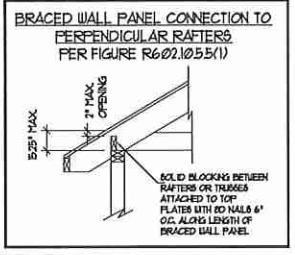
MASONRY STEM WALLS SUPPORTING  
BRACED WALL PANELS  
PER FIGURE R602.10.5.3



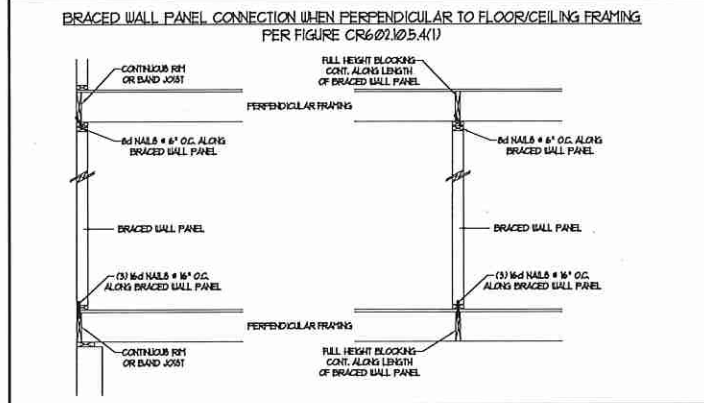
(c) GARAGE DOOR CORNER DETAIL (SEE PLAN FOR ADDITIONAL STRUCTURAL INFORMATION OR ALTERNATE CONFIGURATIONS)



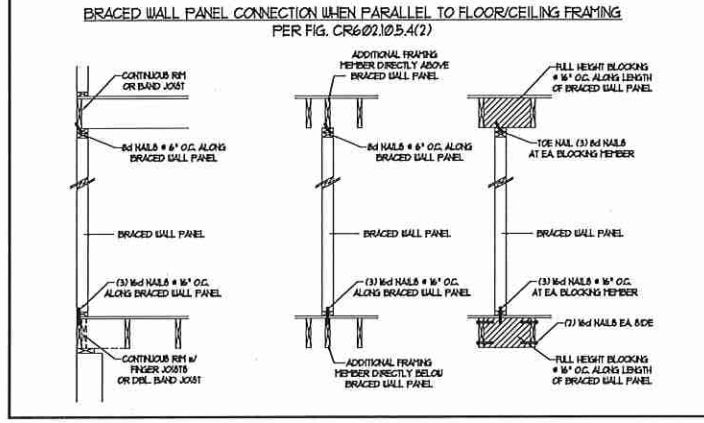
BRACED WALL PANEL CONNECTION TO  
PERPENDICULAR ROOF TRUSSES  
PER FIGURE R602.10.5.5(2)  
(OR ALTERNATIVE: FIGURE R602.10.5.5(3))



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 (NCRBC). TABLES AND FIGURES REFERENCED ARE FROM THE 2012 NCRBC.
  2. SEE THIS SHEET FOR GENERAL DETAILS. REFER TO THE 2012 NCRBC 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 C5-10SP 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 R102.3.5. METHOD GB TO BE FASTENED PER TABLE R602.10.3.
  6. C5-10SP REFERS TO THE "CONTINUOUS SHEATHING - WOOD STRUCTURAL PANEL 6\"/>



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WALL BRACING NOTES AND DETAILS

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

BRACED WALL  
NOTES AND DETAILS  
AND PF DETAIL

**GENERAL NOTES**

- ENGINEER'S SEAL APPLIES ONLY TO STRUCTURAL COMPONENTS INCLUDING ROOF RAFTERS, HIPS, VALLEYS, RIDGES, FLOORS, WALLS, BEAMS, HEADERS, COLUMNS, CANTILEVERS, OFFSET LOAD BEARING WALLS, PIERS, GIRDER SYSTEM AND FOOTINGS. ENGINEER'S SEAL DOES NOT CERTIFY DIMENSIONAL ACCURACY OF ARCHITECTURAL LAYOUT INCLUDING ROOF. ENGINEER'S SEAL DOES NOT APPLY TO I-JOIST OR FLOOR/ROOF TRUSS LAYOUT DESIGN AND ACCURACY.
- ALL CONSTRUCTION SHALL CONFORM TO THE LATEST REQUIREMENTS OF THE NORTH CAROLINA RESIDENTIAL CODE (NRC), 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 CONTRACTOR'S FAILURE TO CARRY OUT THE CONSTRUCTION WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
- STRUCTURAL DESIGN BASED ON THE PROVISIONS OF THE NRC, 2012 EDITION (R301.4 - R301.7)

DESIGN CRITERIA:	LIVE LOAD (PSF)	DEAD LOAD (PSF)	DEFLECTION (IN)
ATTIC WITH LIMITED STORAGE	20	10	L/140
ATTIC WITHOUT STORAGE	10	10	L/160
DECKS	40	10	L/160
EXTERIOR BALCONIES	40	10	L/160
FIRE ESCAPES	40	10	L/160
HANDRAIL & GUARDRAILS	700 LB OR 50 (PLF)	10	L/160
PASSENGER VEHICLE GARAGE	50	10	L/160
ROOMS OTHER THAN SLEEPING ROOM	40	10	L/160
SLEEPING ROOMS	30	10	L/160
STAIRS	40	10	L/160
WIND LOAD	(BASED ON FIGURE R301.1(4) WIND ZONE AND EXPOSURE)		
GROUND SNOW LOAD, P <sub>g</sub>	20 (PSF)		

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

- FOR 30 AND 100 MPH WIND ZONES, FOUNDATION ANCHORAGE IS TO COMPLY WITH SECTION R403.1.6 OF THE NRC, 2012 EDITION. FOR 110 MPH, 120 MPH, AND 130 MPH WIND ZONES, FOUNDATION ANCHORAGE IS TO COMPLY WITH SECTION 4504 OF THE NRC, 2012 EDITION.
- ENERGY EFFICIENCY COMPLIANCE AND INSULATION VALUES OF THE BUILDING TO BE IN ACCORDANCE WITH CHAPTER II OF THE NRC, 2012 EDITION.

**FOOTING AND FOUNDATION NOTES**

- FOUNDATION DESIGN BASED ON A MINIMUM ALLOWABLE BEARING CAPACITY OF 2000 PSF. CONTACT GEOTECHNICAL ENGINEER IF BEARING CAPACITY IS NOT ACHIEVED.
- FOR ALL CONCRETE SLABS AND FOOTINGS, THE AREA WITHIN THE PERIMETER OF THE BUILDING ENVELOPE SHALL HAVE ALL VEGETATION, TOP SOIL, AND FOREIGN MATERIAL REMOVED. FILL MATERIAL SHALL BE FREE OF VEGETATION AND FOREIGN MATERIAL. THE FILL SHALL BE COMPACTED TO ASSURE UNIFORM SUPPORT OF THE SLAB, AND EXCEPT WHERE APPROVED, THE FILL DEPTHS SHALL NOT EXCEED 24" FOR CLEAN SAND OR GRAVEL. A 4" THICK BASED COURSE CONSISTING OF CLEAN GRADED SAND OR GRAVEL SHALL BE PLACED. A BASE COURSE IS NOT REQUIRED WHERE A CONCRETE SLAB IS INSTALLED ON WELL-DRAINED OR SAND-GRAVEL MIXTURE SOILS CLASSIFIED AS GROUP 1, ACCORDING TO THE UNITED SOIL CLASSIFICATION SYSTEM IN ACCORDANCE WITH TABLE R409.1 OF THE NRC, 2012 EDITION.
- PROPERLY DEWATER EXCAVATION PRIOR TO POURING CONCRETE WHEN BOTTOM OF CONCRETE SLAB IS AT OR BELOW WATER TABLE. IF APPLICABLE, 3/4" - 1" DEEP CONTROL JOINTS ARE TO BE SALED WITHIN 4 TO 12 HOURS OF CONCRETE FINISHING AND WALL LOCATIONS HAVE BEEN MARKED. ADJUST WHERE NECESSARY.
- CONCRETE SHALL CONFORM TO SECTION R402.2 OF THE NRC, 2012 EDITION. CONCRETE REINFORCING STEEL TO BE ASTM A635 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.
- MASONRY UNITS TO CONFORM TO ACE 530/ASCE 5/11/15 402. MORTAR SHALL CONFORM TO ASTM C710.
- THE UNSUPPORTED HEIGHT OF MASONRY PIERS SHALL NOT EXCEED FOUR TIMES THEIR LEAST DIMENSION FOR UNFILLED HOLLOW CONCRETE MASONRY UNITS AND TEN TIMES THEIR LEAST DIMENSION FOR SOLID OR SOLID FILLED PIERS. PIERS MAY BE FILLED SOLID WITH CONCRETE OR TYPE M OR S MORTAR. PIERS AND WALLS SHALL BE CAPPED WITH 8" OF SOLID MASONRY.
- THE CENTER OF EACH OF THE PIERS SHALL BEAR IN THE MIDDLE THIRD OF ITS RESPECTIVE FOOTINGS. EACH GIRDER SHALL BEAR IN THE MIDDLE THIRD OF THE PIERS.
- ALL CONCRETE AND MASONRY FOUNDATION WALLS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH THE PROVISIONS OF SECTION R404 OF THE NRC, 2012 EDITION OR IN ACCORDANCE WITH ACI 318, ACI 332, NCHRP TR-55-A OR ACE 530/ASCE 5/11/15 402. MASONRY FOUNDATION WALLS ARE TO BE REINFORCED PER TABLE R404.1(1), R404.1(2), R404.1(3), OR R404.1(4) OF THE NRC, 2012 EDITION. CONCRETE FOUNDATION WALLS ARE TO BE REINFORCED PER TABLE R404.1(5) OF THE NRC, 2012 EDITION. STEP CONCRETE FOUNDATION WALLS TO 2 x 6 FRAMED WALLS AT 16" O.C. WHERE GRADE PERMITS (UNO).

**FRAMING NOTES**

- ALL FRAMING LUMBER SHALL BE 2" OFF MINIMUM (F<sub>b</sub> = 875 PSI, F<sub>v</sub> = 375 PSI, E = 16,000,000 PSI) UNLESS NOTED OTHERWISE (UNO). ALL TREATED LUMBER SHALL BE 2" GYP MINIMUM (F<sub>b</sub> = 975 PSI, F<sub>v</sub> = 475 PSI, E = 16,000,000 PSI) UNLESS NOTED OTHERWISE (UNO).
- LAMINATED VENEER LUMBER (LVL) SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES: F<sub>b</sub> = 2600 PSI, F<sub>v</sub> = 285 PSI, E = 13,000,000 PSI. LAMINATED STRAND LUMBER (LSL) SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES: F<sub>b</sub> = 2375 PSI, F<sub>v</sub> = 310 PSI, E = 15,500,000 PSI. PARALLEL STRAND LUMBER (PSL) UP TO 1" DEPTH SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES: F<sub>b</sub> = 2500 PSI, E = 16,000,000 PSI. PARALLEL STRAND LUMBER (PSL) MORE THAN 1" DEPTH SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES: F<sub>b</sub> = 2300 PSI, E = 16,000,000 PSI. INSTALL ALL CONNECTIONS PER MANUFACTURER'S SPECIFICATIONS.
- STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING ASTM SPECIFICATIONS
 

A. W AND WT SHAPES:	ASTM 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
- STEEL BEAMS SHALL BE SUPPORTED AT EACH END WITH A MINIMUM BEARING LENGTH OF 3 1/2" AND FULL FLANGE WIDTH (UNO). PROVIDE SOLID BEARING FROM BEAM SUPPORT TO FOUNDATION. BEAMS SHALL BE ATTACHED AT THE BOTTOM FLANGE TO EACH SUPPORT AS FOLLOWS (UNO):
 

A. WOOD FRAMING	(2) 1/2" DIA x 4" LONG LAG SCREWS
B. CONCRETE	(2) 1/2" DIA x 4" WEDGE ANCHORS
C. MASONRY (FULLY GROUTED)	(2) 1/2" DIA x 4" LONG SIMPSON TITEN HD ANCHORS

LATERAL SUPPORT IS CONSIDERED ADEQUATE PROVIDING THE JOISTS ARE TOE NAILED TO THE 2x NAILER ON TOP OF THE STEEL BEAM, AND THE 2x NAILER IS SECURED TO THE TOP OF THE STEEL BEAM w/ (2) ROWS OF SELF TAPPING SCREWS @ 16" O.C. OR (2) ROWS OF 1/2" DIAMETER BOLTS @ 16" O.C. IF 1/2" BOLTS ARE USED TO FASTEN THE NAILER, THE STEEL BEAM SHALL BE FABRICATED w/ (2) ROWS OF 3/16" DIAMETER HOLES @ 16" O.C.

- SQUARES DENOTE POINT LOADS WHICH REQUIRE SOLID BLOCKING TO GIRDER OR FOUNDATION. SHADED SQUARES DENOTE POINT LOADS FROM ABOVE WHICH REQUIRE SOLID BLOCKING TO SUPPORTING MEMBER BELOW.
- ALL LOAD BEARING HEADERS TO CONFORM TO TABLE R502.5(1) AND R502.5(2) OF THE NRC, 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).
- ALL BEAMS, HEADERS, OR GIRDER TRUSSES PARALLEL TO WALL ARE TO BEAR FULLY ON (1) JACK OR (2) STUDS MINIMUM OR THE NUMBER OF JACKS OR STUDS NOTED. ALL BEAMS OR GIRDER TRUSSES PERPENDICULAR TO WALL AND SUPPORTED BY (3) STUDS OR LESS ARE TO HAVE 1 1/2" MINIMUM BEARING (UNO). ALL BEAMS OR GIRDER TRUSSES PERPENDICULAR TO WALL AND SUPPORTED BY MORE THAN (3) STUDS OR OTHER NOTED COLUMN ARE TO BEAR FULLY ON SUPPORT COLUMN FOR ENTIRE WALL DEPTH (UNO). BEAM ENDS THAT BUTT INTO ONE ANOTHER ARE TO EACH BEAR EQUAL LENGTHS (UNO).
- FLITCH BEAMS SHALL BE BOLTED TOGETHER USING 1/2" DIAMETER BOLTS (ASTM A307) WITH WASHERS PLACED AT THREADED END OF BOLT. BOLTS SHALL BE SPACED AT 24" CENTERS (MAXIMUM), AND STAGGERED AT TOP AND BOTTOM OF BEAM (2" EDGE DISTANCE) WITH (2) BOLTS LOCATED AT 6" FROM EACH END (UNO).
- ALL I-JOIST OR TRUSS LAYOUTS ARE TO BE IN COMPLIANCE WITH THE OVERALL DESIGN SPECIFIED ON THE PLANS. ALL DEVIATIONS ARE TO BE BROUGHT TO THE ATTENTION OF THE ENGINEER OF RECORD PRIOR TO INSTALLATION.
- BRACED WALL PANELS SHALL BE CONSTRUCTED ACCORDING TO THE CURRENT NORTH CAROLINA RESIDENTIAL CODE WALL BRACING CRITERIA. THE AMOUNT, LENGTH, AND LOCATION OF BRACING SHALL COMPLY WITH ALL APPLICABLE TABLES IN SECTION R502.10.
- PROVIDE DOUBLE JOIST UNDER ALL WALLS PARALLEL TO FLOOR JOISTS. PROVIDE SUPPORT UNDER ALL WALLS PARALLEL TO FLOOR TRUSSES OR I-JOISTS PER MANUFACTURER'S SPECIFICATIONS. INSTALL BLOCKING BETWEEN JOISTS OR TRUSSES FOR POINT LOAD SUPPORT FOR ALL POINT LOADS ALONG OFFSET LOAD LINES.
- FOR ALL HEADERS SUPPORTING BRICK VENEER THAT ARE LESS THAN 8'-0" IN LENGTH, REST A 6" x 4" x 5/16" STEEL ANGLE WITH 6" MINIMUM EMBEDMENT AT SIDES FOR BRICK SUPPORT. 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 R103.122 OF THE NRC, 2012 EDITION.
- FOR STICK FRAMED ROOFS, CIRCLES DENOTE (3) 2 x 4 POSTS FOR ROOF MEMBER SUPPORT. HIP SPLICES ARE TO BE SPACED A MINIMUM OF 8'-0". FASTEN MEMBERS WITH THREE ROWS OF 12d NAILS AT 16" O.C. FRAME DORMER WALLS ON TOP OF DOUBLE OR TRIPLE RAFTERS AS SHOWN (UNO).
- FOR TRUSSED ROOFS, FRAME DORMER WALLS ON TOP OF 2 x 4 LADDER FRAMING AT 24" O.C. BETWEEN ADJACENT ROOF TRUSSES. STICK FRAME OVER-FRAMED ROOF SECTIONS WITH 2 x 8 RIDGES, 2 x 6 RAFTERS AT 16" O.C. AND FLAT 2 x 10 VALLEYS (UNO).
- ALL 4 x 4 AND 6 x 6 POSTS TO BE INSTALLED WITH 100 LB CAPACITY UPLIFT CONNECTORS TOP AND BOTTOM (UNO). POSTS MAY BE SECURED USING ONE SIMPSON L6 OR L182 UPLIFT CONNECTOR FASTENED TO THE BAND AT THE BOTTOM AND THE BEAM AT THE TOP OF EACH POST. ONE 1/2" 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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N.C. LICENSE NO.: C-1733

STANDARD STRUCTURAL NOTES

DATE: AUGUST 27, 2013
SCALE: N/A
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NOTES