

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

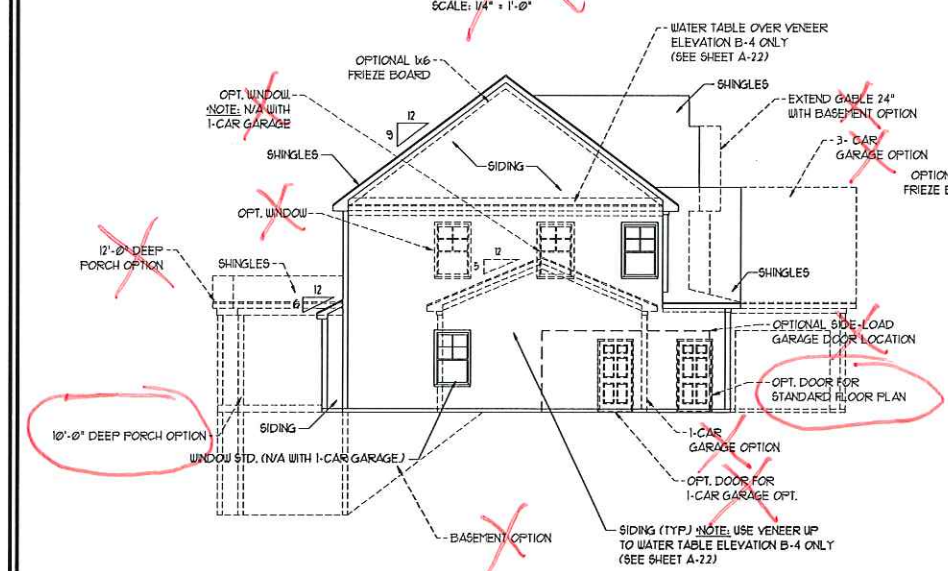
1 x 6 TRIM AS SPEC. (TYP.)
1 x 2 TRIM AS SPEC. (TYP.)

**** NOTE: SEE PAGE A-2.1 FOR SPECIFIC FRONT ELEVATION-B DETAILS. SEE PAGE A-2.2 FOR B-4 (ALL BRICK) ELEVATIONS**

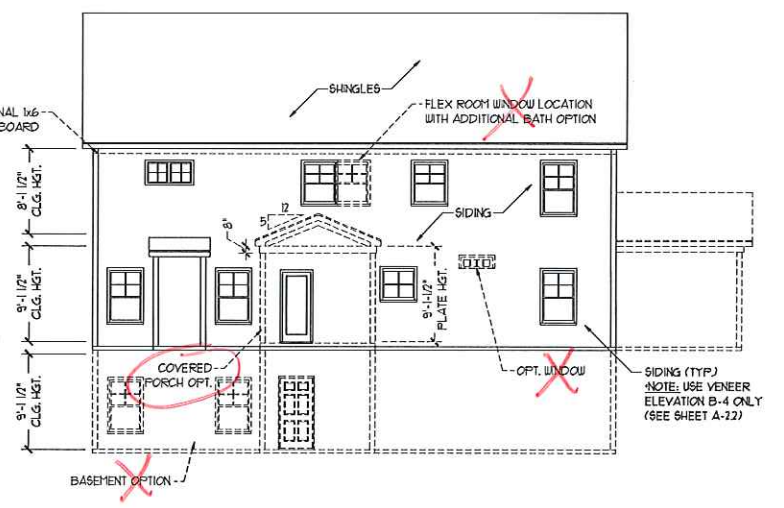


Approved

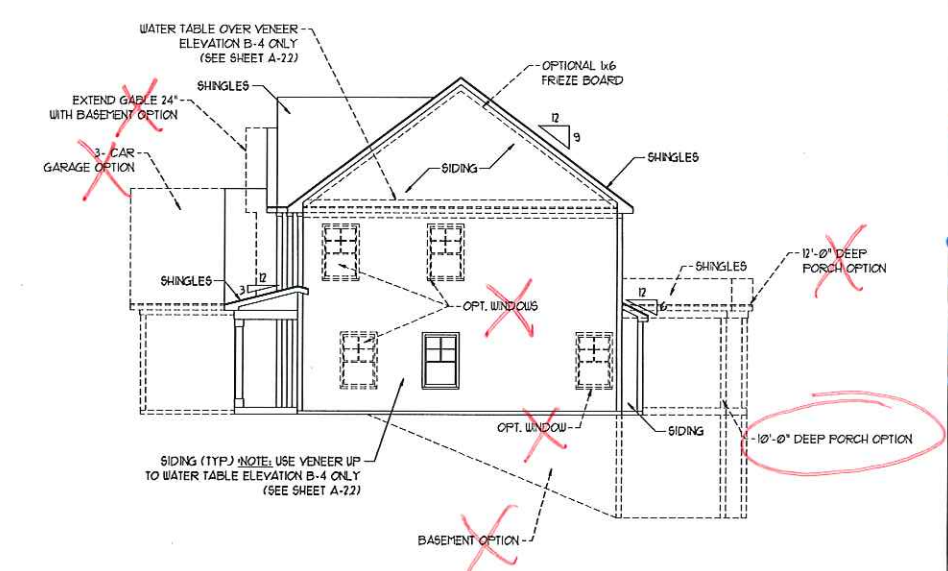
written 10/24/2018



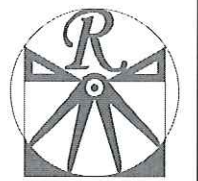
LEFT ELEVATION
SCALE: 1/8" = 1'-0"



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



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

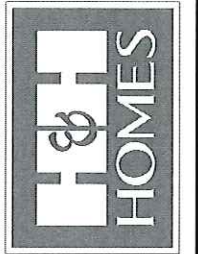


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CPC000098

Inventory Marked

DATE: FEBRUARY 12, 2018
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"

Stone



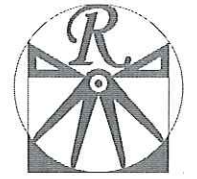
~~FRONT ELEVATION-B-3~~
SCALE: 1/4" = 1'-0"

BRICK OR STONE
LEDGE AS SPEC. (TYP.)



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

BRICK LEDGE
AS SPEC. (TYP.)

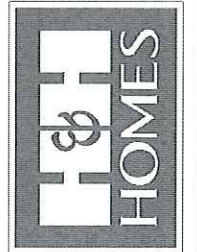


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WILMINGTON
DRIVE LEFT

DATE: FEBRUARY 12, 2018
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SCALE: AS NOTED
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ENGINEERED BY: WLF
REVIEWED BY: JES

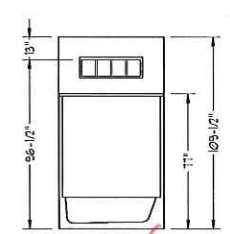
B - ELEVATION
OPTIONS
A-2.1

| SQUARE FOOTAGE | |
|------------------|--------------|
| 1st FLOOR: | 1283 SQ. FT. |
| 2nd FLOOR: | 1582 SQ. FT. |
| TOTAL: | 2865 SQ. FT. |
| FRONT PORCH: | 125 SQ. FT. |
| STD. REAR PATIO: | 110 SQ. FT. |
| GARAGE: | 428 SQ. FT. |

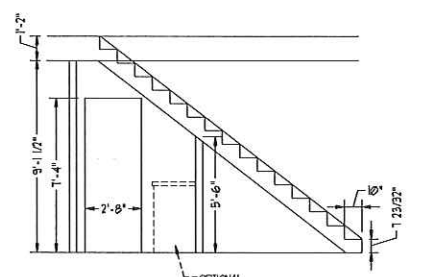
NOTE: ALL EXTERIOR WALLS AND ATTIC WALLS ARE TO BE 2 x 6 @ 16" O.C. (UNO). 2 x 4 @ 16" O.C. EXTERIOR WALLS MAY BE CONSTRUCTED IN LIEU OF 2 x 6 WALLS (UNO). ALL INTERIOR LOAD BEARING WALLS ARE TO BE 2 x 4 @ 16" O.C. (UNO) AND NON-LOAD BEARING INTERIOR WALLS ARE TO BE 2 x 4 @ 24" O.C. (UNO).

| SQUARE FOOTAGE (OPTIONS) | |
|------------------------------------|--------------|
| UNFINISHED BASEMENT: | 1300 SQ. FT. |
| 1st FLOOR (W/ BASEMENT): | 1308 SQ. FT. |
| 2nd FLOOR (W/ BASEMENT): | 1601 SQ. FT. |
| 1st FLOOR (ALL BRICK): | 1336 SQ. FT. |
| 2nd FLOOR (ALL BRICK): | 1643 SQ. FT. |
| GARAGE (ALL BRICK): | 449 SQ. FT. |
| 1-CAR GARAGE: | 240 SQ. FT. |
| 1-CAR GARAGE (ALL BRICK): | 250 SQ. FT. |
| 2-CAR GARAGE: | 601 SQ. FT. |
| 2-CAR GARAGE (ALL BRICK): | 633 SQ. FT. |
| 3-CAR GARAGE: | 1350 SQ. FT. |
| 3-CAR GARAGE (ALL BRICK): | 1361 SQ. FT. |
| UNFINISHED BASEMENT (ALL BRICK): | 1350 SQ. FT. |
| 1st FLOOR (ALL BRICK W/ BASEMENT): | 1361 SQ. FT. |
| 2nd FLOOR (ALL BRICK W/ BASEMENT): | 1668 SQ. FT. |
| REAR PORCH (10'-0" DEEP): | 110 SQ. FT. |
| REAR PORCH (12'-0" DEEP): | 132 SQ. FT. |
| OPT. PATIO/ DECK: (10'-0" DEEP): | 120 SQ. FT. |
| OPT. PATIO/ DECK: (12'-0" DEEP): | 144 SQ. FT. |

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

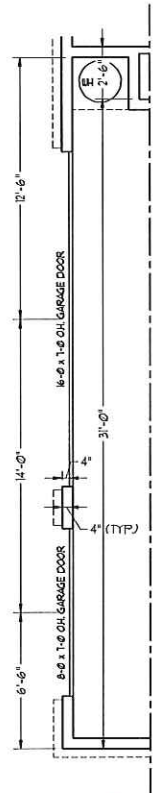
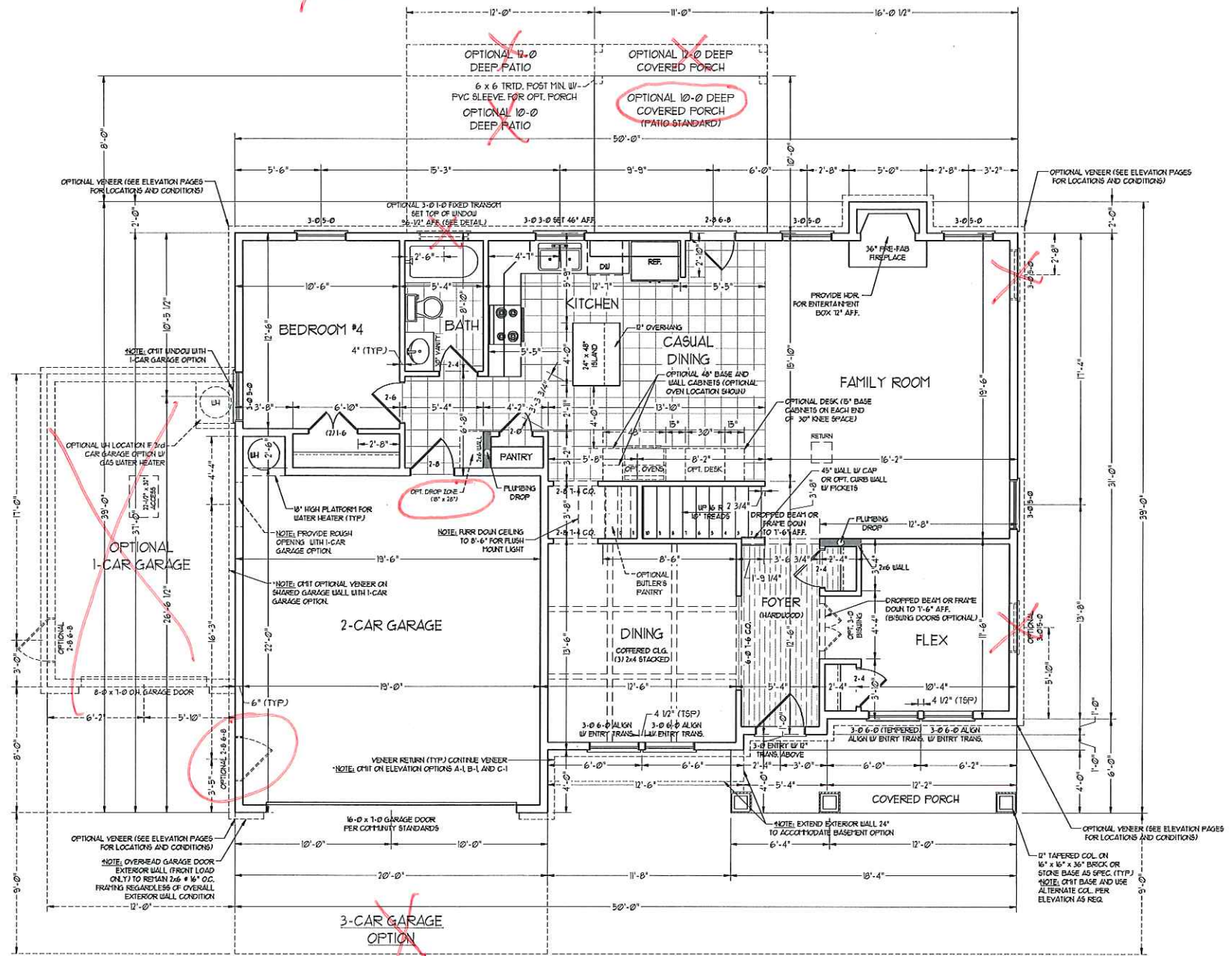


STAIR PROFILE
(FROM DINING ROOM)
STANDRD STAIRS SHOWN

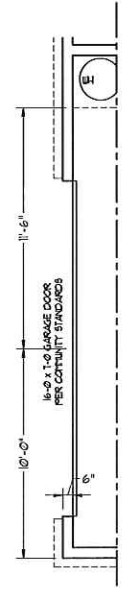


OPTIONAL BUTLERS PANTRY

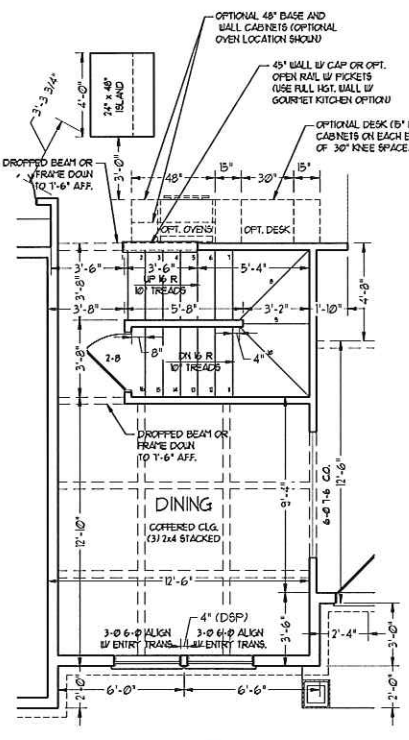
OPTIONAL BATHROOM TRANSOM WINDOW OVER TUB DETAIL



3-CAR GARAGE OPTION
(NOT AVAILABLE WITH OPTIONAL ONE-CAR GARAGE)

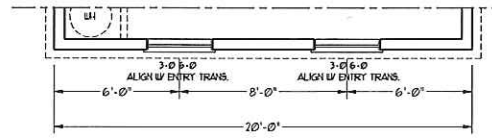


SIDE-LOAD GARAGE OPTION
(NOT AVAILABLE WITH OPTIONAL ONE-CAR GARAGE)

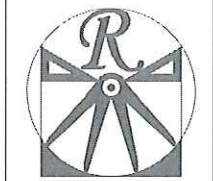


FF STAIRS W/ BASEMENT OPTION

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



DOUBLE GARAGE DOOR OPTION

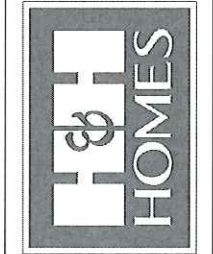


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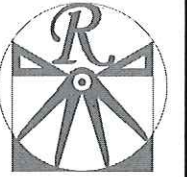


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SCALE: 1/4"=1'-0"
DRAWN BY: WVG
ENGINEERED BY: WLF
REVIEWED BY: JES

FIRST FLOOR PLAN
A-5



RENAISSANCE

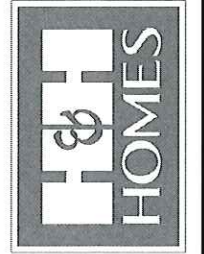
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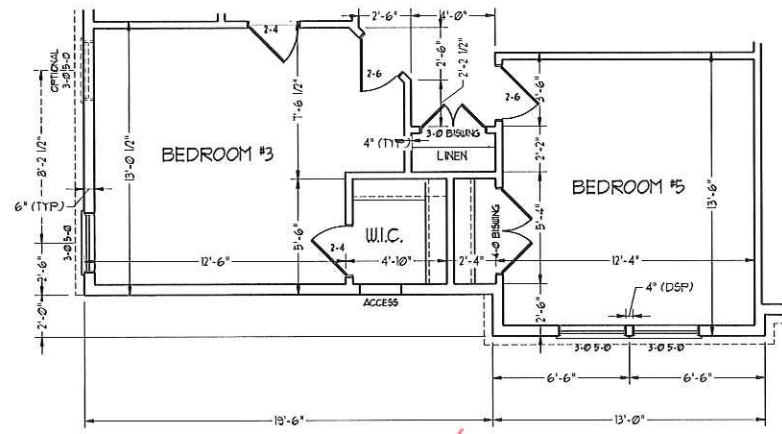
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SCALE: 1/4"=1'-0"
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ENGINEERED BY: WLF
REVIEWED BY: JES

SECOND FLOOR PLAN

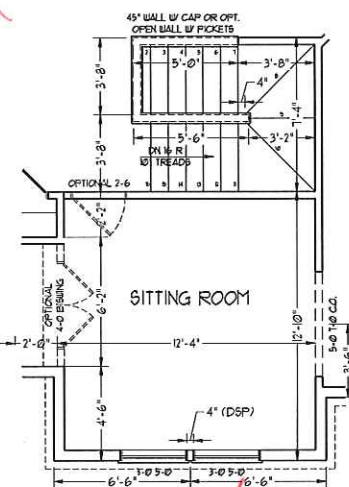
A-6



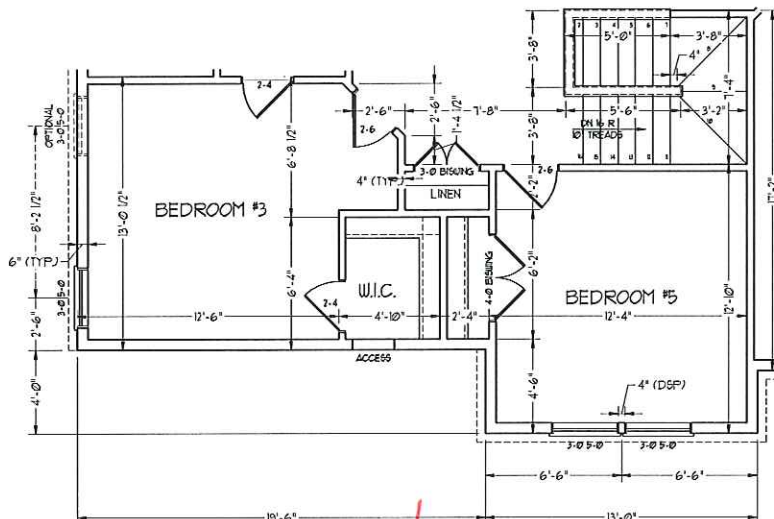
BEDROOM #3 OPTION

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

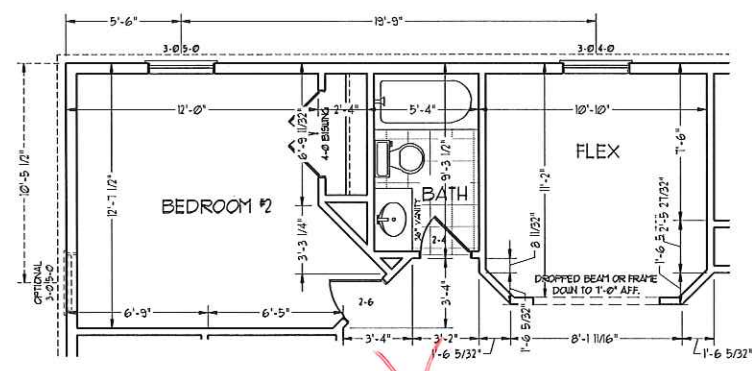
2x6 WALL
* SHADED WALLS ARE TO BE 2 x 6 @ 16" O.C. (LOAD BEARING) OR 2 x 4 @ 24" O.C. (NON-LOAD BEARING) REGARDLESS OF EXTERIOR WALL CONDITION



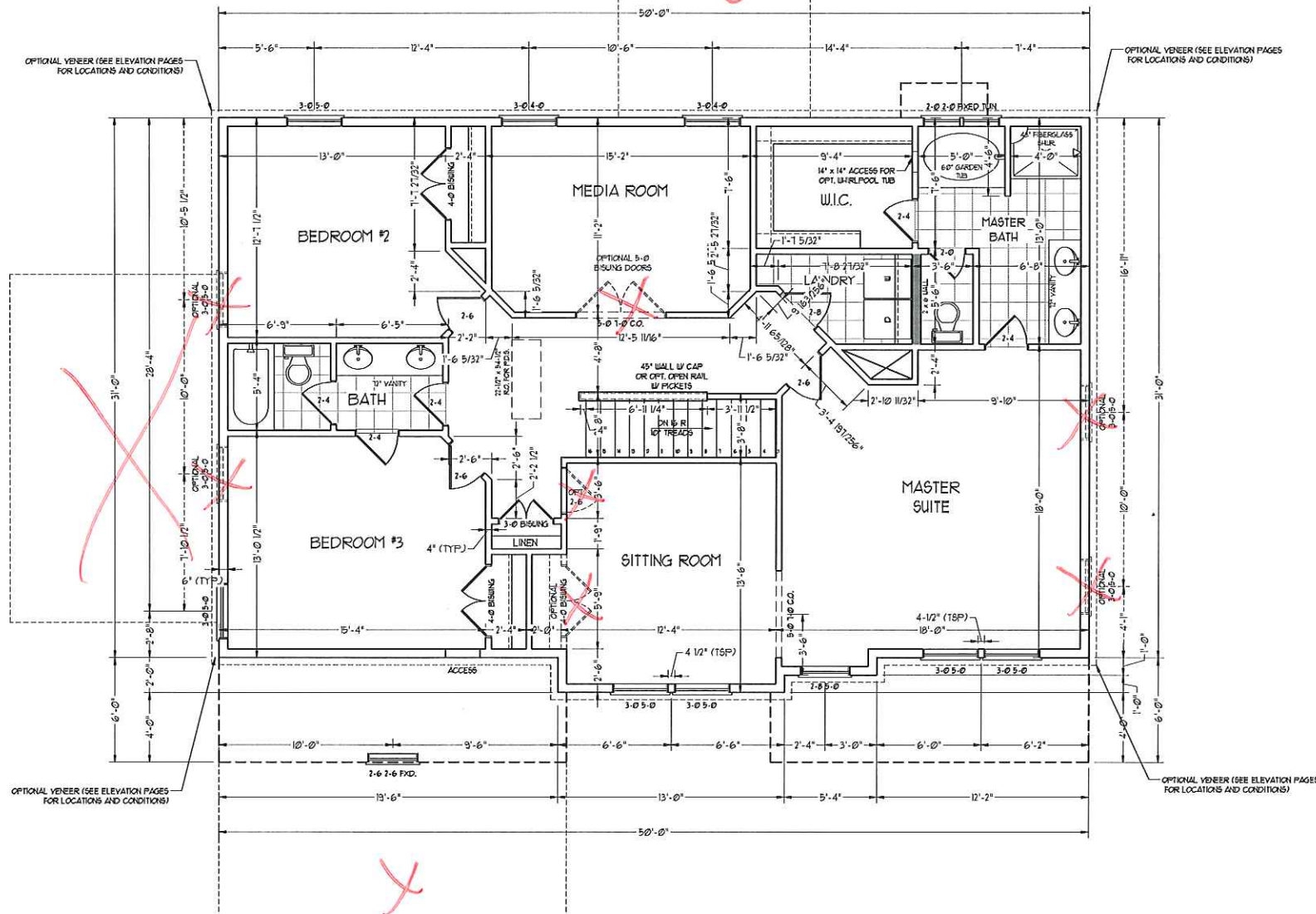
SF STAIRS W/ BASEMENT OPTION



BEDROOM #3 OPTION (WITH OPTIONAL BASEMENT)

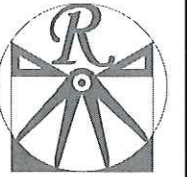


BATHROOM #4 OPTION



OPTIONAL VENEER (SEE ELEVATION PAGES FOR LOCATIONS AND CONDITIONS)

OPTIONAL VENEER (SEE ELEVATION PAGES FOR LOCATIONS AND CONDITIONS)



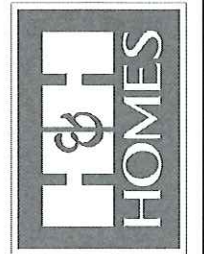
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DATE: FEBRUARY 12, 2018

REV.:

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

DRAWN BY: W/G

ENGINEERED BY: W/LF

REVIEWED BY: JES

FIRST FLOOR
ELECTRICAL
PLAN

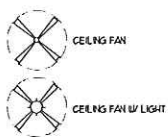
E-1

ELECTRICAL LAYOUT NOTES:

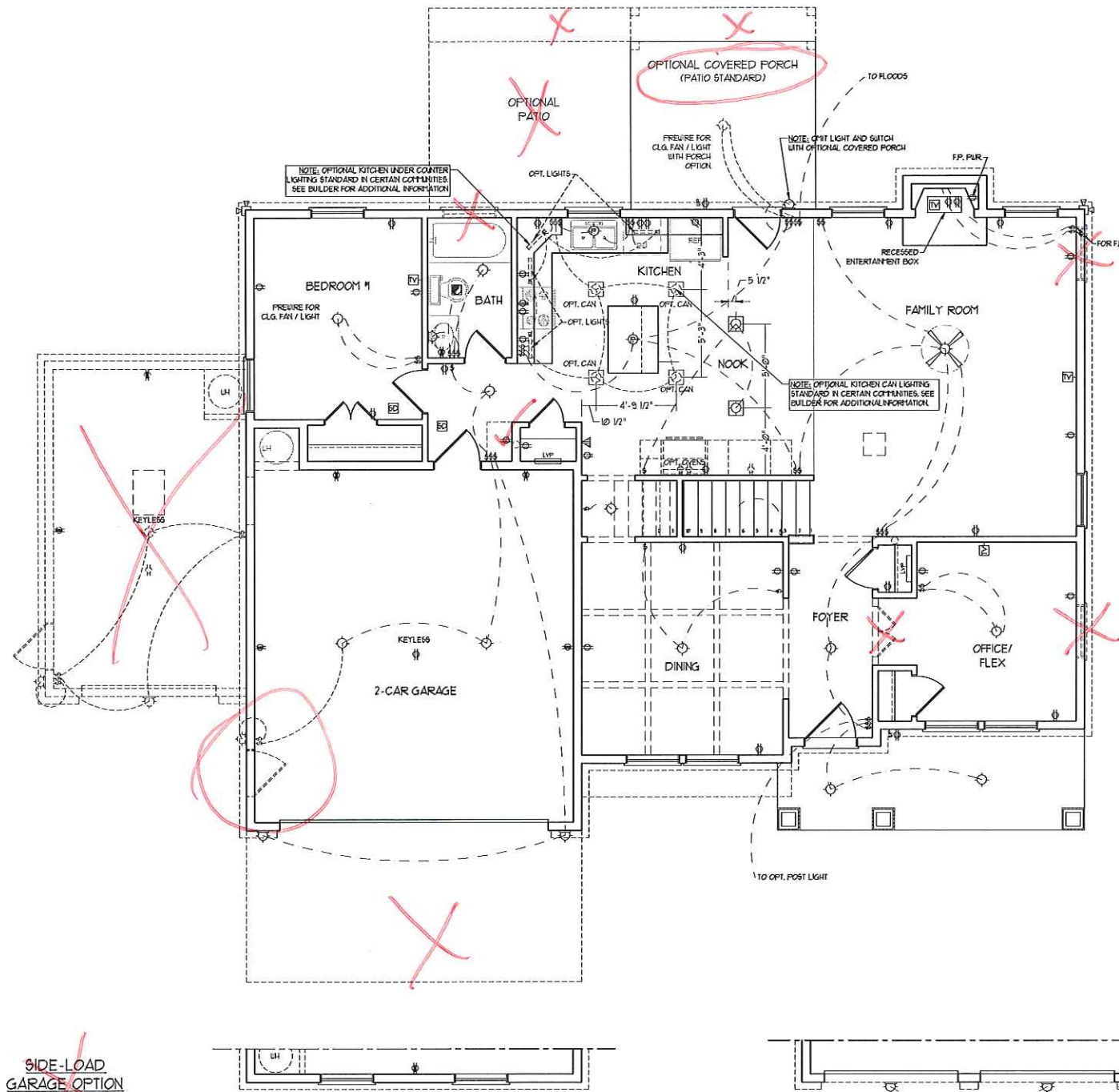
- 1) BLOCK AND WIRE FOR ALL CEILING FANS PER PLAN.
- 2) VANITY LIGHTS TO BE SET @ 30" AFF. (TYP)
- 3) ADDITIONAL EXTERIOR OUTLETS REQUIRED BY CODE TO BE LOCATED BY ELECTRICIAN.
- 4) PLACE SWITCHES 6" MIN FROM ROUGH OPENINGS.

ELECTRICAL LEGEND

- ⊖ 10 V OUTLET
- ⊖ 10 V GFI OUTLET
- ⊖ 10 V SWITCHED OUTLET
- ⊖ 10 V BASEBOARD OUTLET
- 4-FLEX
- COUNTER OR FLOOR MOUNTED
- COUNTER OR FLOOR MOUNTED 10V GFI
- LEATHERPROOF
- 720 V OUTLET
- 10 V DEDICATED CIRCUIT
- 720 V DEDICATED CIRCUIT
- SPECIAL PURPOSE (740 V, ETC.)
- WALL MOUNT LIGHT
- CEILING MOUNT LIGHT
- PENDANT LIGHT
- RECESSED CAN LIGHT
- HIN CAN LIGHT
- EYEBALL LIGHT
- FLUORESCENT LIGHT
- UNDERCABINET LIGHT
- FLOOD LIGHT
- SWITCH
- 3-WAY SWITCH
- 4-WAY SWITCH
- DIFFER SWITCH
- TELEPHONE
- TV CONNECTION
- CONDUIT FOR COMPONENT WIRING
- SPEAKER
- DOORBELL CHIME
- 10 V SMOKE DETECTOR
- EXHAUST FAN
- LOW VOLTAGE PANEL



~~DOUBLE GARAGE DOOR OPTION~~



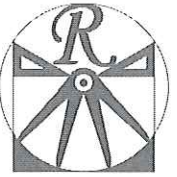
NOTE: OPTIONAL KITCHEN UNDER COUNTER LIGHTING STANDARD IN CERTAIN COMMUNITIES. SEE BUILDER FOR ADDITIONAL INFORMATION.

NOTE: OPTIONAL KITCHEN CAN LIGHTING STANDARD IN CERTAIN COMMUNITIES. SEE BUILDER FOR ADDITIONAL INFORMATION.

~~3-CAR GARAGE OPTION~~
(NOT AVAILABLE WITH OPTIONAL ONE-CAR GARAGE)

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

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



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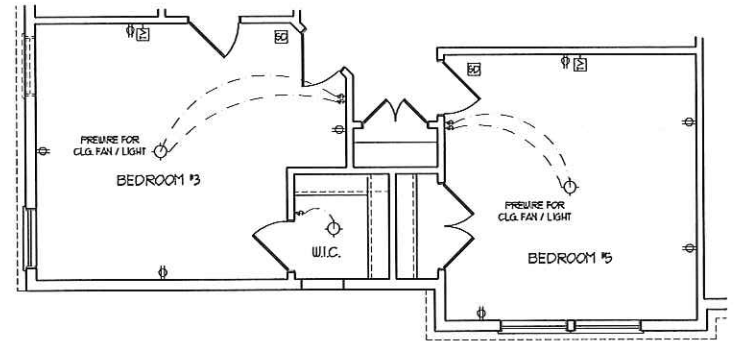
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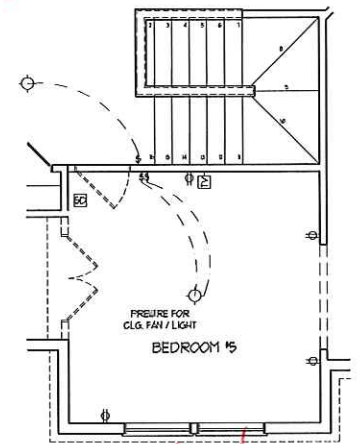
DATE: FEBRUARY 12, 2018
REV.:
SCALE: 1/4"=1'-0"
DRAWN BY: WJC
ENGINEERED BY: WLF
REVIEWED BY: JES

SECOND FLOOR
ELECTRICAL
PLAN

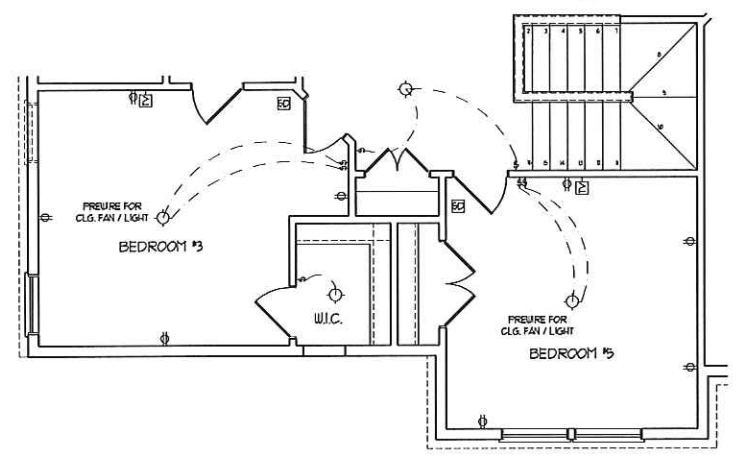
E-2



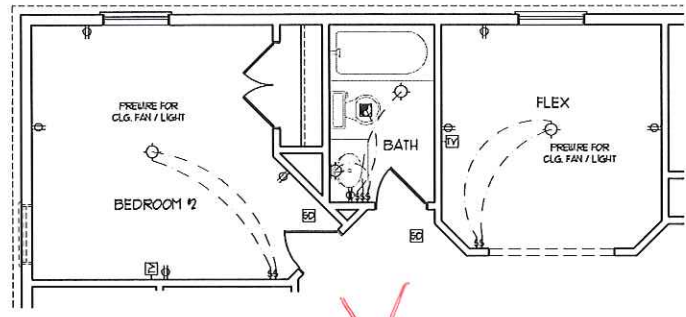
~~BEDROOM #5 OPTION~~



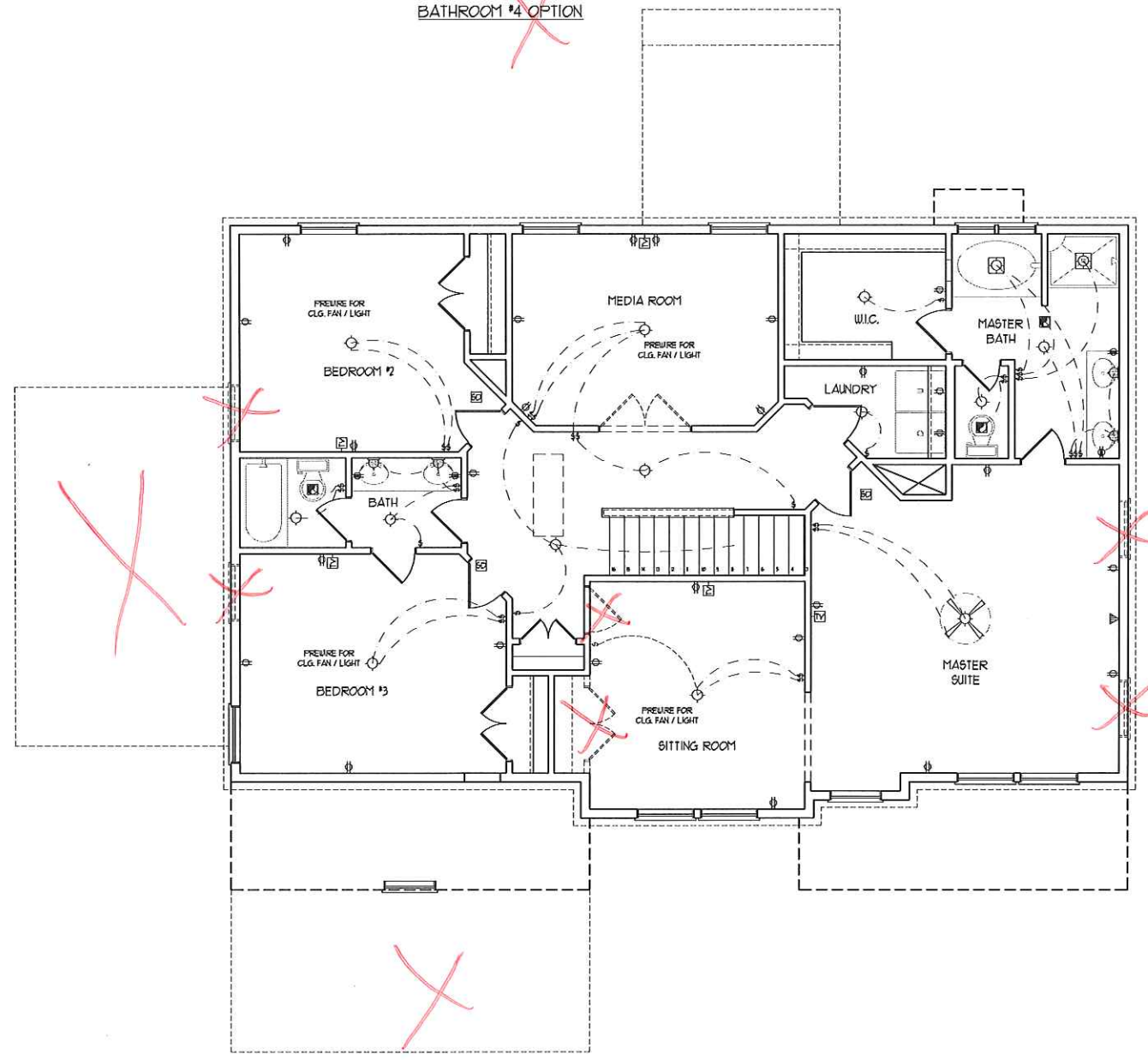
~~SF STAIRS
W/ BASEMENT OPTION~~



~~BEDROOM #5 OPTION
(WITH OPTIONAL BASEMENT)~~



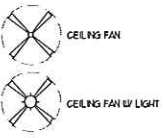
~~BATHROOM #4 OPTION~~

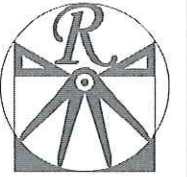


- ELECTRICAL LAYOUT NOTES:**
- 1/ BLOCK AND WIRE FOR ALL CEILING FANS PER PLAN
 - 2/ VANITY LIGHTS TO BE SET @ 30" AFF. (TYP)
 - 3/ ADDITIONAL EXTERIOR OUTLETS REQUIRED BY CODE TO BE LOCATED BY ELECTRICIAN
 - 4/ PLACE SWITCHES 6" MIN FROM ROUGH OPENINGS.

ELECTRICAL LEGEND

- ⊕ 120 V OUTLET
- ⊕ 120 V GFI OUTLET
- ⊕ 120 V SWITCHED OUTLET
- ⊕ 120 V BASEBOARD OUTLET
- ⊕ 4-PLEX
- ⊕ COUNTER OR FLOOR MOUNTED
- ⊕ COUNTER OR FLOOR MOUNTED 100V 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
- ⊕ 120V 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
- ⊕ SPEAKER
- ⊕ DOORBELL CHIME
- ⊕ 120 V SMOKE DETECTOR
- ⊕ EXHAUST FAN
- ⊕ LOW VOLTAGE PANEL





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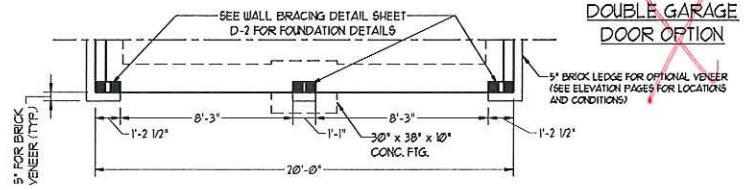
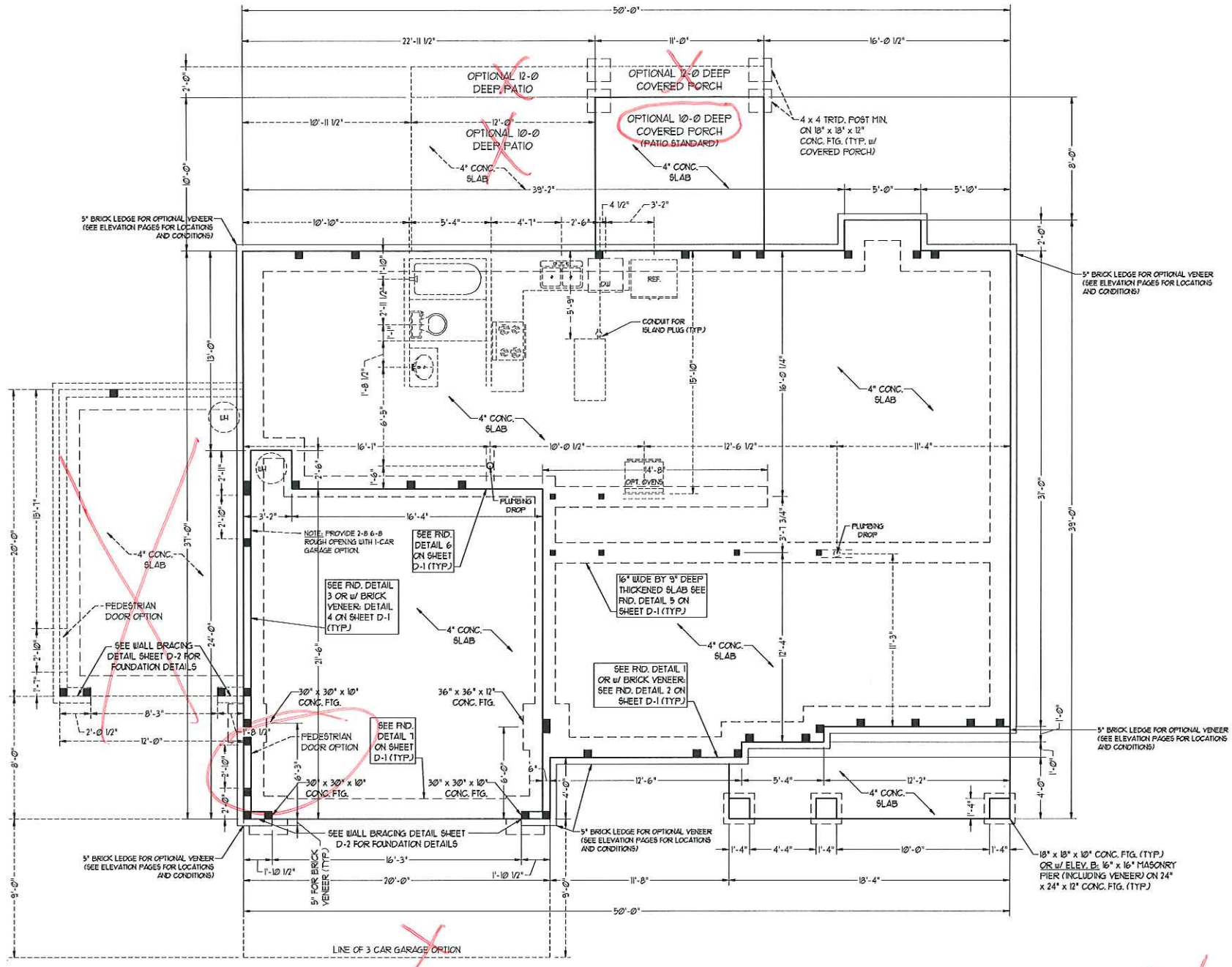
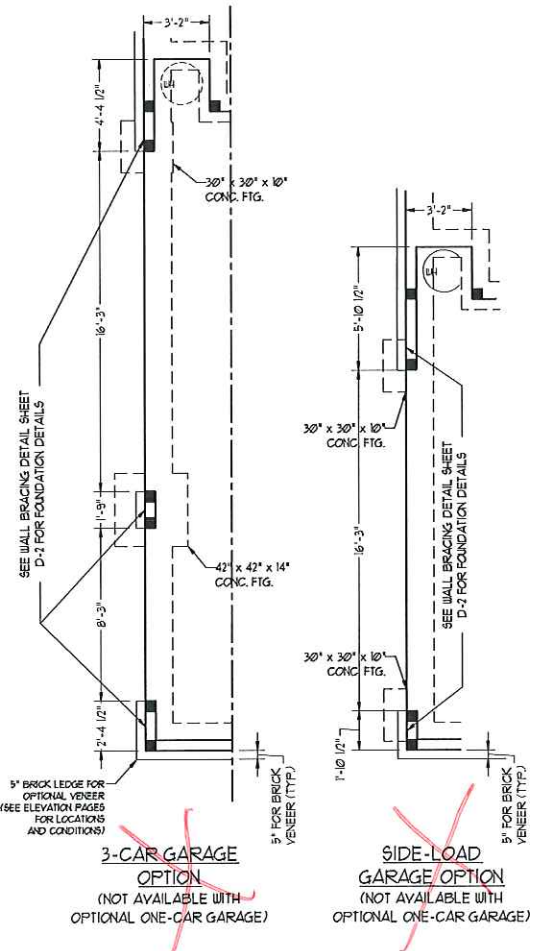
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REV.:
SCALE: 1/4"=1'-0"
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ENGINEERED BY: WLF
REVIEWED BY: JES

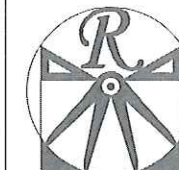
MONO SLAB
FOUNDATION
PLAN

S-1

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, 2002 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 1" 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 241 PSF (POSITIVE AND NEGATIVE).
7) ROOF CLADDING DESIGNED FOR 210 PSF (POSITIVE AND NEGATIVE) FOR ROOF PITCHES 1/2 TO 1/12 AND 348 PSF (POSITIVE AND NEGATIVE) FOR ROOF PITCHES 1/2 TO 1/12.
8) INSTALL 1/4" OSB SHEATHING ON ALL EXTERIOR WALLS OF ALL STORES IN ACCORDANCE WITH SECTION R602.3 OF THE NRC, 2002 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 NRC, 2002 EDITION.
10) REFER TO NOTES AND DETAIL SHEETS FOR ADDITIONAL STRUCTURAL INFORMATION.

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, 2002 EDITION WITH SPECIAL CONSIDERATION TO CHAPTER 45 ("HIGH WIND ZONES" FOR 130 MPH WINDS).
3) FLENDER IS TO PROVIDE TRUSS CONNECTIONS AS REQUIRED BY CHAPTER 45 ("HIGH WIND ZONES" FOR 130 MPH WINDS) OF THE NORTH CAROLINA RESIDENTIAL CODE, 2002 EDITION.
4) FOUNDATION ANCHORAGE TO COMPLY WITH SECTION 4504 OF THE NORTH CAROLINA RESIDENTIAL CODE, 2002 EDITION.
5) MEAN ROOF HEIGHT IS LESS THAN 30 FEET.
6) WALL CLADDING DESIGNED FOR 401 PSF (POSITIVE AND NEGATIVE).
7) ROOF CLADDING DESIGNED FOR 356 PSF (POSITIVE AND NEGATIVE) FOR ROOF PITCHES 1/2 TO 1/12 AND 581 PSF (POSITIVE AND NEGATIVE) FOR ROOF PITCHES 1/2 TO 1/12.
8) 1/4" OSB SHEATHING IS REQUIRED ON ALL EXTERIOR WALLS.
9) WALLS TO BE BRACED IN ACCORDANCE WITH SECTION R602.3 OF THE NORTH CAROLINA RESIDENTIAL CODE, 2002 EDITION.
10) ENERGY EFFICIENCY COMPLIANCE AND INSULATION VALUES OF THE BUILDING TO BE IN ACCORDANCE WITH CHAPTER 11 OF THE NRC, 2002 EDITION.



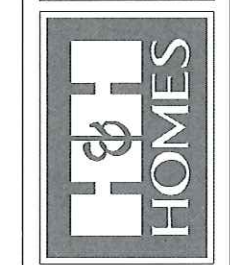


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DATE: FEBRUARY 12, 2018
REV.
SCALE: 1/4"=1'-0"
DRAWN BY: WG
ENGINEERED BY: WLF
REVIEWED BY: JES

SECOND FLOOR
FRAMING PLAN
S-2



BRACED WALL DESIGN NOTES:

- BRACED WALL DESIGN PER SECTION R602.10 OF THE SIMPLIFIED WALL BRACING CRITERIA EFFECTIVE SEPTEMBER 1, 2013.
- CS-105P REFERS TO "CONTINUOUS SHEATHING - WOOD STRUCTURAL PANELS" CONTRACTOR IS TO INSTALL 1/2" O.SB 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 120 MPH. FOR HIGH WIND ZONES, BRACE WALLS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH CHAPTER 45 OF THE NRCR, 2002 EDITION. SEE NOTES AND DETAIL SHEETS FOR ADDITIONAL BRACED WALL INFORMATION.

BRACED WALL DESIGN

| RECTANGLE A | RECTANGLE B |
|---|---|
| SIDE 1A (FRONT LOAD) METHOD: CS-105P/FF TOTAL REQUIRED LENGTH: 112' TOTAL PROVIDED LENGTH: 1135' | SIDE 1B METHOD: FF TOTAL REQUIRED LENGTH: 456' TOTAL PROVIDED LENGTH: 6' |
| SIDE 2A METHOD: CS-105P TOTAL REQUIRED LENGTH: 112' TOTAL PROVIDED LENGTH: 2458' | SIDE 2B METHOD: CS-105P TOTAL REQUIRED LENGTH: 456' TOTAL PROVIDED LENGTH: 2183' |
| SIDE 3A METHOD: CS-105P TOTAL REQUIRED LENGTH: 1064' TOTAL PROVIDED LENGTH: 2041' | SIDE 3B / SIDE 4A CUMULATIVE METHOD: CS-105P/GB TOTAL REQUIRED LENGTH: 2023' TOTAL PROVIDED LENGTH: 222' |
| SIDE 4A (SIDE LOAD) METHOD: CS-105P/FF TOTAL REQUIRED LENGTH: 1064' TOTAL PROVIDED LENGTH: 2283' | SIDE 4B METHOD: CS-105P TOTAL REQUIRED LENGTH: 339' TOTAL PROVIDED LENGTH: 1558' |

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

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 |

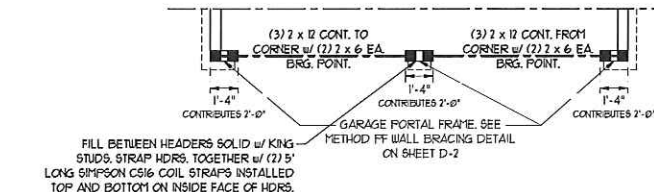
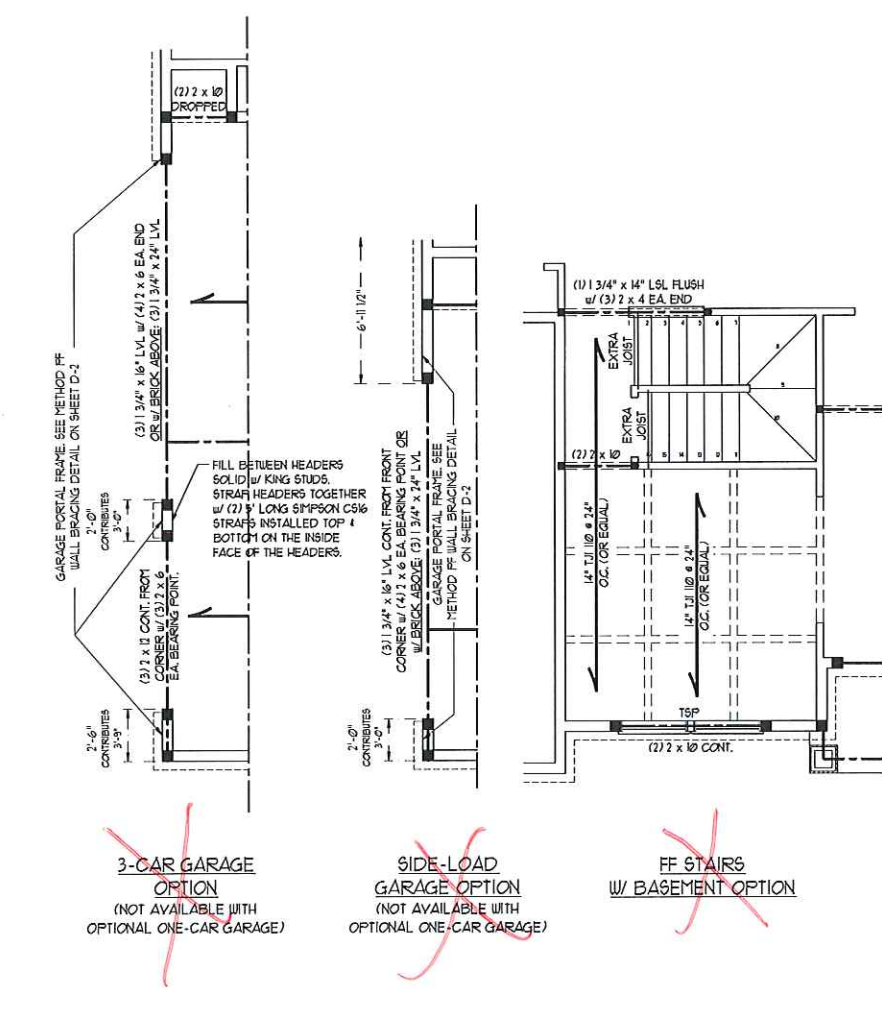
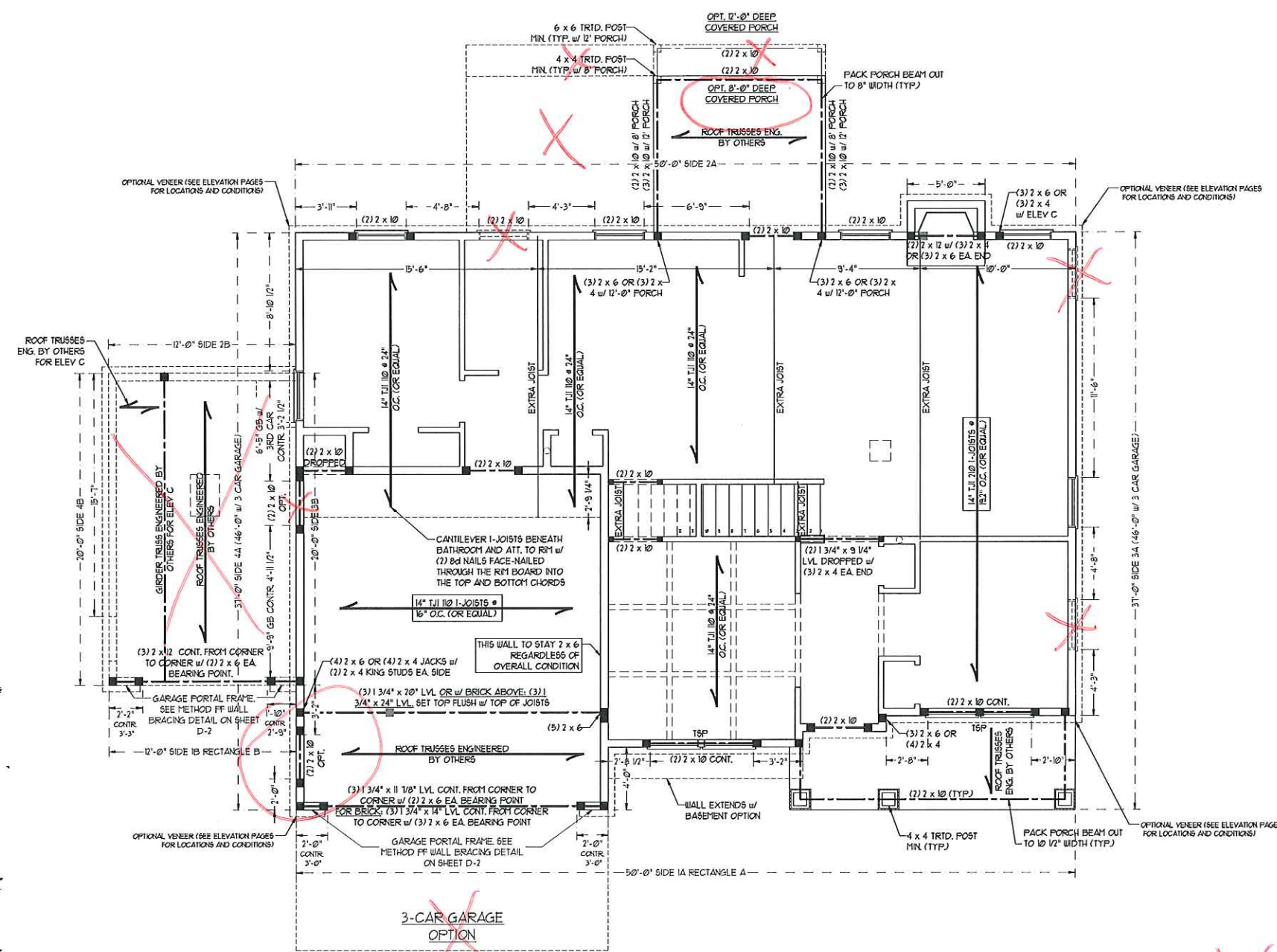
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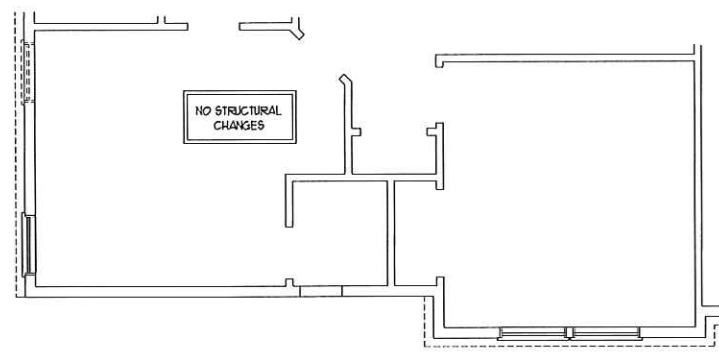
- LINTEL SCHEDULE APPLIES TO ALL OPENINGS IN BRICK VENEER (UNO). SEE ARCH DIAGS. FOR SIZE AND LOCATION OF OPENINGS.
- (LLV) = LONG LEG VERTICAL
- LENGTH = CLEAR OPENING
- EMBED ALL ANGLE IRONS MIN. 4" EACH SIDE INTO VENEER TO PROVIDE BEARING.
- FOR ALL HEADERS 8" AND GREATER IN LENGTH, ATTACH STEEL ANGLE 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 R103.122 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:

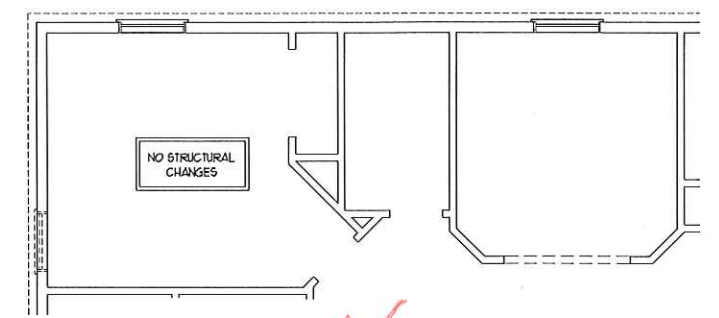
- ALL FRAMING LUMBER TO BE #2 SPF (UNO). ALL TREATED LUMBER TO BE #2 SYP (UNO).
- ALL LOAD BEARING HEADERS TO BE (2) 2 x 6 (UNO).
- ALL BEAMS ARE TO BE SUPPORTED WITH (2) JACK STUDS EA. END (UNO). WINDOW AND DOOR HEADERS TO BE SUPPORTED W/ (1) JACK STUD AND (1) KING STUD EA. END (UNO).
- FOR HIGH WIND ZONES, PROVIDE (2) KING STUDS EA. SIDE OF EXTERIOR WINDOW AND DOOR HEADERS W/ CLEAR OPENINGS LESS THAN 6'-0" AND (3) KING STUDS EA. SIDE OF HEADERS W/ CLEAR OPENINGS GREATER THAN 6'-0".
- FOR HIGH WIND ZONES, ALL EXTERIOR WALLS TO BE SHEATHED WITH 1/2" OSB SHEATHING WITH JOINTS BLOCKED AND SECURED WITH 8d NAILS AT 3" O.C. ALONG EDGES AND 6" O.C. IN THE FIELD.
- FOR HIGH WIND ZONES, SECURE ALL EXTERIOR WALL SHEATHING PANELS TO DOUBLE TOP FLATES, BANDS, JOISTS, AND GIRDERS WITH (2) ROWS OF 8d NAILS STAGGERED AT 3" O.C. PANELS SHALL EXTEND 12" BEYOND CONSTRUCTION JOINTS AND SHALL OVERLAP GIRDERS AND DOUBLE SILL PLATES THEIR FULL DEPTH.
- SQUARES DENOTE POINT LOADS WHICH REQUIRE SOLID BLOCKING TO GIRDER OR FOUNDATION. ALL SQUARES TO BE (2) STUDS (UNO).
- ALL 4 x 4 POSTS SHALL BE ANCHORED TO SLABS W/ SIMPSON AB44 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) FOR FIBERGLASS, ALUMINUM, OR COLUMN ENG. BY OTHERS, SECURE TO SLAB W/ (2) METAL ANGLES USING 2" CONC. SCREWS. FASTEN ANGLES TO COLUMN W/ 1/4" THROUGH BOLTS W/ NUTS AND WASHERS. LOCATE ANGLES ON OPPOSITE SIDES OF COLUMN. THROUGH BOLTS MUST BE INSTALLED PRIOR TO SETTING COLUMN.
- REFER TO NOTES AND DETAIL SHEETS FOR ADDITIONAL STRUCTURAL INFORMATION.

NOTE: TSP DENOTES TRIPLE STUD POCKET





BEDROOM #5 OPTION



BATHROOM #4 OPTION

BRACED WALL DESIGN NOTES:

- BRACED WALL DESIGN PER SECTION R602.10 OF THE SIMPLIFIED WALL BRACING CRITERIA EFFECTIVE SEPTEMBER 1, 2013.
- CS-WSP REFERS TO "CONTINUOUS SHEATHING - WOOD STRUCTURAL PANELS" CONTRACTOR IS TO INSTALL 1/8" OSB ON ALL EXTERIOR WALLS ATTACHED w/ 8d NAILS SPACED 6" O.C. ALONG PANEL EDGES AND 12" O.C. IN THE FIELD.
- 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 PLATES.
- 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 NRCR, 2012 EDITION. SEE NOTES AND DETAIL SHEETS FOR ADDITIONAL BRACED WALL INFORMATION.

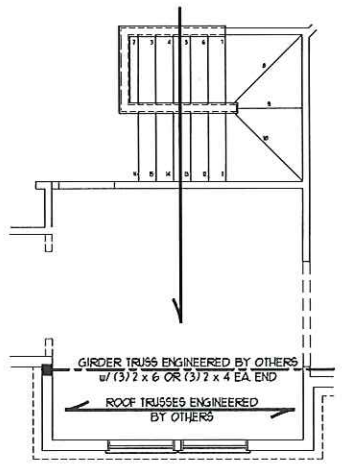
NOTE:

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

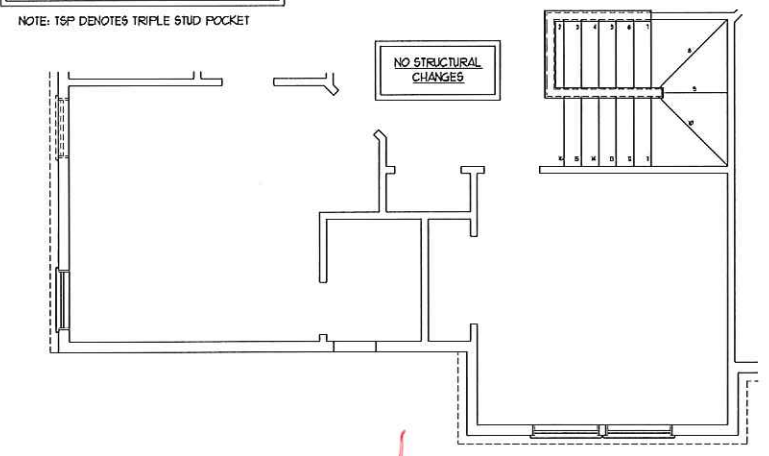
STRUCTURAL NOTES:

- ALL FRAMING LUMBER TO BE #2 SFF (UNO).
- ALL LOAD BEARING HEADERS TO BE (2) 2 x 6 (UNO).
- ALL BEAMS ARE TO BE SUPPORTED WITH (2) JACK STUDS EA. END (UNO) WINDOW AND DOOR HEADERS TO BE SUPPORTED w/ (1) JACK STUD AND (1) KING STUD EA. END (UNO).
- FOR HIGH WIND ZONES, PROVIDE (2) KING STUDS EA. SIDE OF EXTERIOR WINDOW AND DOOR HEADERS w/ CLEAR OPENINGS LESS THAN 6'-0" AND (3) KING STUDS EA. SIDE OF HEADERS w/ CLEAR OPENINGS GREATER THAN 6'-0".
- FOR HIGH WIND ZONES, ALL EXTERIOR WALLS TO BE SHEATHED WITH 1/8" OSB SHEATHING WITH JOINTS BLOCKED AND SECURED WITH 8d NAILS AT 3" O.C. ALONG EDGES AND 6" O.C. IN THE FIELD.
- FOR HIGH WIND ZONES, SECURE ALL EXTERIOR WALL SHEATHING PANELS TO DOUBLE TOP PLATES, BANDS, JOISTS, AND GIRDERS WITH (7) ROWS OF 8d NAILS STAGGERED AT 3" O.C. PANELS SHALL EXTEND 1" BEYOND CONSTRUCTION JOINTS AND SHALL OVERLAP GIRDERS AND DOUBLE SILL PLATES THEIR FULL DEPTH.
- SQUARES DENOTE POINT LOADS WHICH REQUIRE SOLID BLOCKING TO GIRDER OR FOUNDATION. ALL SQUARES TO BE (2) STUDS (UNO).
- REFER TO NOTES AND DETAIL SHEETS FOR ADDITIONAL STRUCTURAL INFORMATION.

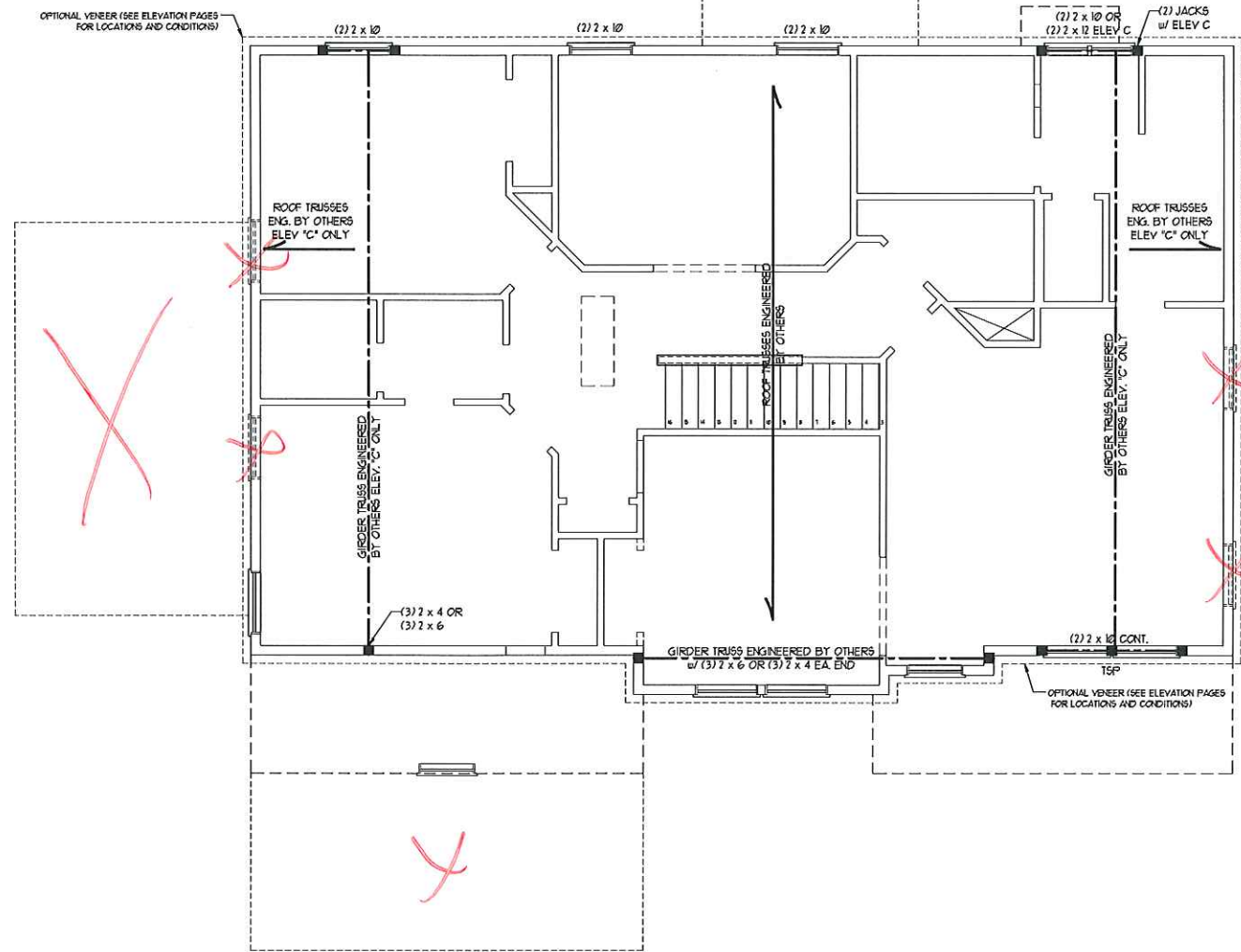
NOTE: T&P DENOTES TRIPLE STUD POCKET



SF STAIRS W/ BASEMENT OPTION



BEDROOM #5 OPTION (WITH OPTIONAL BASEMENT)



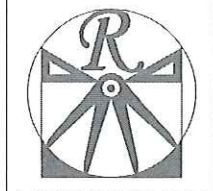
LINTEL SCHEDULE FOR BRICK/NATURAL STONE SUPPORT

| 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:

- LINTEL SCHEDULE APPLIES TO ALL OPENINGS IN BRICK VENEER (UNO). SEE ARCH DWGS. FOR SIZE AND LOCATION OF OPENINGS.
- (LLV) = LONG LEG VERTICAL
- LENGTH x CLEAR OPENING
- EMBED ALL ANGLE IRONS MIN. 4" EACH SIDE INTO VENEER TO PROVIDE BEARING.
- FOR ALL HEADERS 8'-0" 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 R103.122 OF THE NORTH CAROLINA RESIDENTIAL CODE, 2012 EDITION.
- PRECAST REINFORCED CONCRETE LINTELS ENGINEERED BY OTHERS MAY BE USED IN LIEU OF STEEL LINTELS.

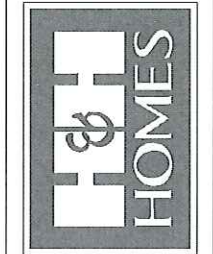
NOTE: ALL EXTERIOR WALLS AND ATTIC WALLS ARE TO BE 2 x 6 @ 16" O.C. (UNO). 2 x 4 @ 16" O.C. EXTERIOR WALLS MAY BE CONSTRUCTED IN LIEU OF 2 x 6 WALLS (UNO). ALL INTERIOR LOAD BEARING WALLS ARE TO BE 2 x 4 @ 16" O.C. (UNO) AND NON-LOAD BEARING INTERIOR WALLS ARE TO BE 2 x 4 @ 24" O.C. (UNO).



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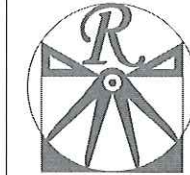
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WILMINGTON
DRIVE LEFT

DATE: FEBRUARY 12, 2018
REV:
SCALE: 1/4"=1'-0"
DRAWN BY: WG
ENGINEERED BY: WLF
REVIEWED BY: JES

CEILING
FRAMING PLAN
S-3





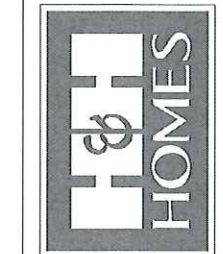
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WILMINGTON
DRIVE LEFT

DATE: FEBRUARY 12, 2018
REV:
SCALE: 1/4"=1'-0"
DRAWN BY: WG
ENGINEERED BY: WLF
REVIEWED BY: JES

ROOF PLAN
ELEVATIONS
A & B

S-4

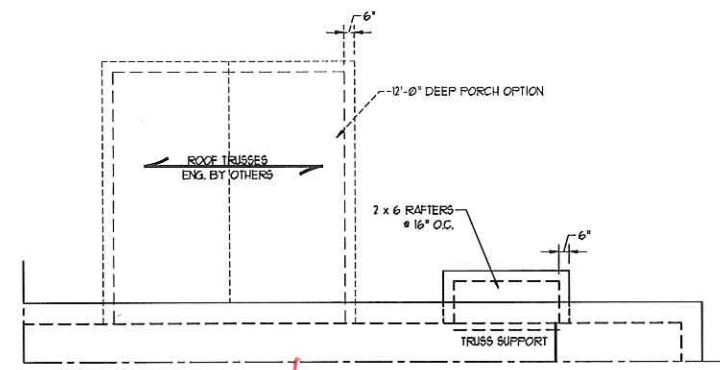


ATTIC VENT CALCULATION:
1934 SQ. FT. OF ATTIC DIVIDED BY 150 REQUIRES 13.3 SQ. FT. OF NET FREE VENTILATING AREA (MIN).

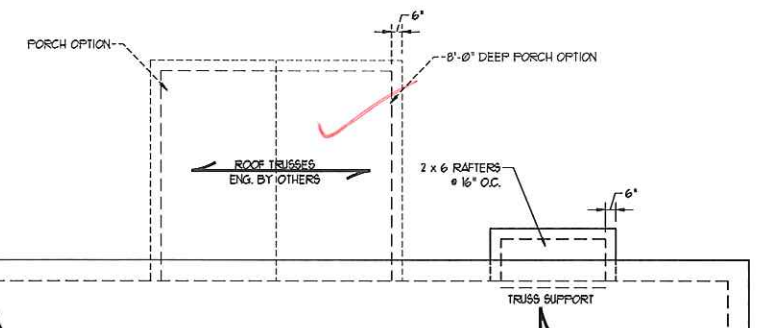
- STRUCTURAL NOTES:**
- ALL FRAMING LUMBER TO BE #2 SFF (INO).
 - CIRCLES DENOTE (3) 2 x 4 POSTS FOR ROOF SUPPORT.
 - FRAME DORMER WALLS ON TOP OF DOUBLE OR TRIPLE RAFTERS.
 - HIP SPLICES ARE TO BE SPACED A MIN. OF 8'-0". FASTEN HENDERS WITH THREE ROWS OF 12d NAILS @ 16" O.C. (TYP).
 - STICK FRAME OVER-FRAMED ROOF SECTIONS W/ 2 x 8 RIDGES, 2 x 6 RAFTERS @ 16" O.C. AND FLAT 2 x 10 VALLEYS OR USE VALLEY TRUSSES.
 - FASTEN FLAT VALLEYS TO RAFTERS OR TRUSSES WITH SIMPSON H15A HURRICANE TIES @ 3' 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.
 - REFER TO NOTES AND DETAIL SHEETS FOR ADDITIONAL STRUCTURAL INFORMATION.

- BRICK SUPPORT NOTE:**
- 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, 2012 EDITION.
 - 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, 2012 EDITION.

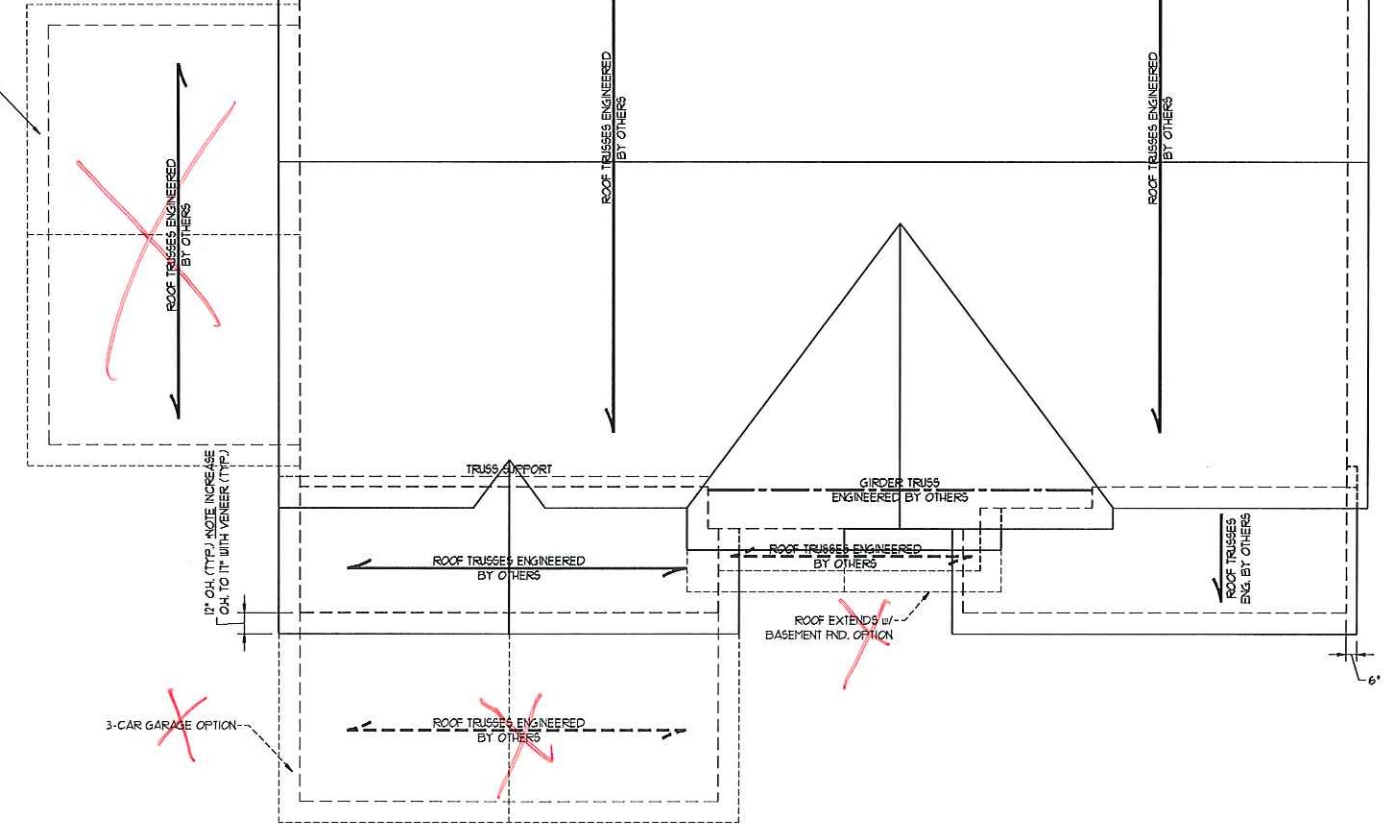
ATTIC VENT CALCULATION:
150 SQ. FT. OF ATTIC DIVIDED BY 150 REQUIRES 1.0 SQ. FT. OF NET FREE VENTILATING AREA (MIN).



ATTIC VENT CALCULATION:
126 SQ. FT. OF ATTIC DIVIDED BY 150 REQUIRES 0.8 SQ. FT. OF NET FREE VENTILATING AREA (MIN).

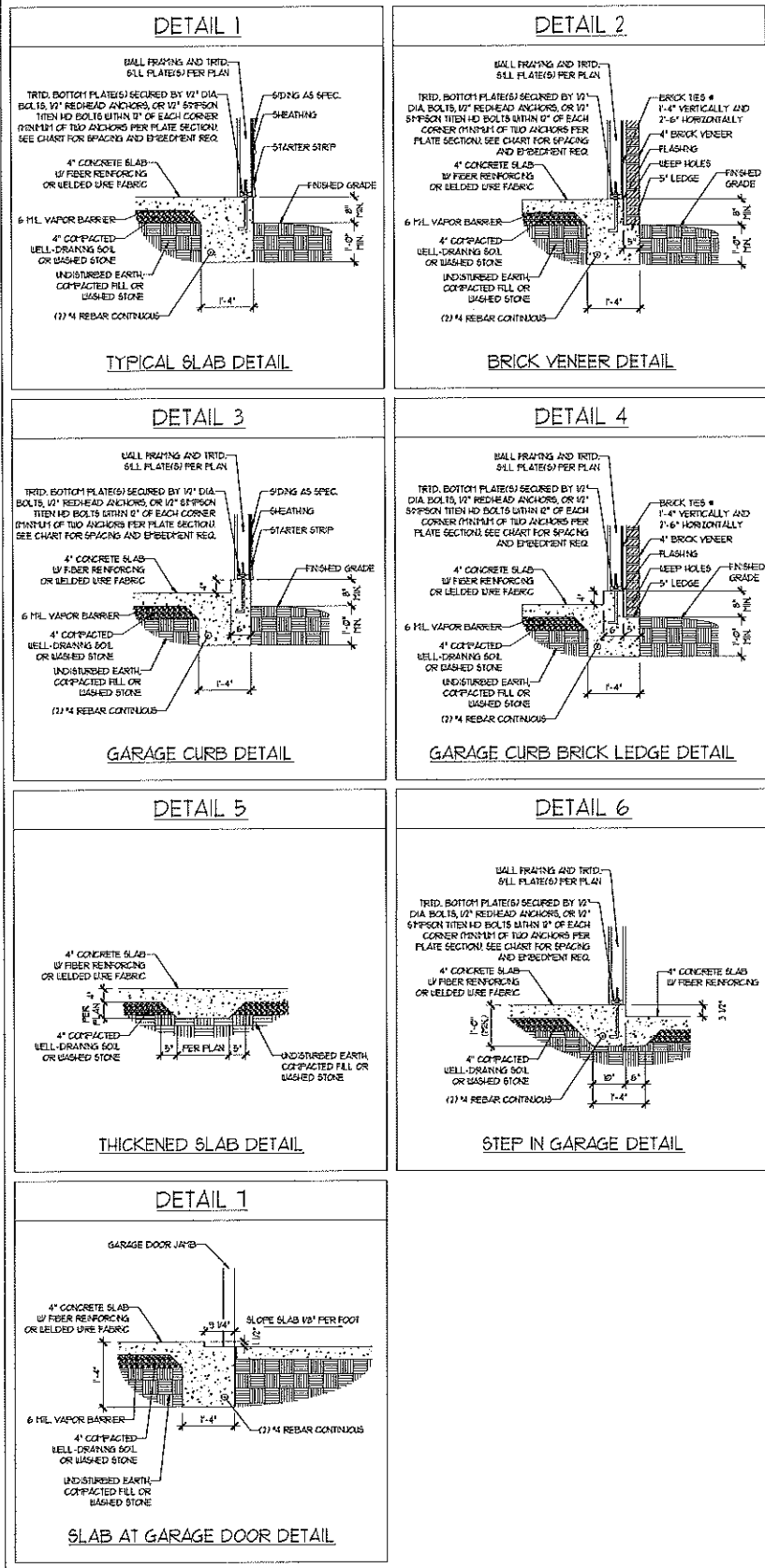


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294 SQ. FT. OF ATTIC DIVIDED BY 150 REQUIRES 2.0 SQ. FT. OF NET FREE VENTILATING AREA (MIN).

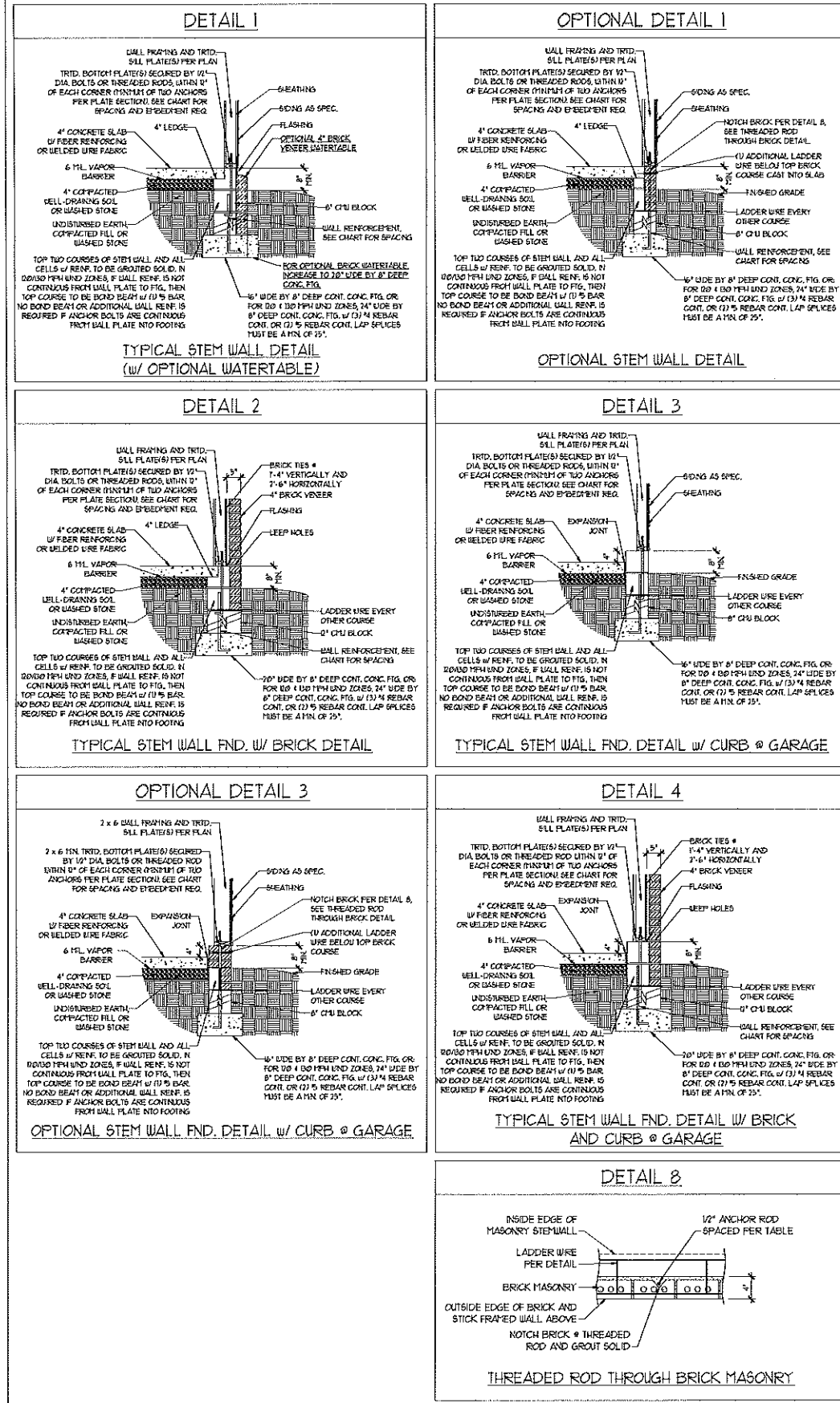


ELEVATION A & B

MONOLITHIC SLAB DETAILS



STEMWALL DETAILS



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 | UNGRAOUTED | GRAOUT SOLID | INGRAOUTED | INGRAOUTED |
| 3 | UNGRAOUTED | GRAOUT SOLID | INGRAOUTED | INGRAOUTED |
| 4 | GRAOUT SOLID | GRAOUT SOLID w/ #4 REBAR @ 48" O.C. | GRAOUT SOLID | GRAOUT SOLID w/ #4 REBAR @ 64" O.C. |
| 5 | GRAOUT SOLID w/ #4 REBAR @ 36" O.C. | NOT APPLICABLE | GRAOUT SOLID w/ #4 REBAR @ 36" O.C. | GRAOUT SOLID w/ #4 REBAR @ 64" O.C. |
| 6 | GRAOUT SOLID w/ #4 REBAR @ 24" O.C. | NOT APPLICABLE | GRAOUT SOLID w/ #4 REBAR @ 24" O.C. | GRAOUT SOLID w/ #4 REBAR @ 64" O.C. |
| 7 AND GREATER | ENGINEERED DESIGN BASED ON SITE CONDITIONS | | | |

STRUCTURAL NOTES:

- WALL HEIGHT MEASURED FROM TOP OF FOOTING TO TOP OF THE WALL.
- THE MULTIPLE WYTHES TOGETHER WITH LADDER WIRE AT 16" O.C. VERTICALLY.
- CHART APPLICABLE FOR HOUSE FOUNDATION ONLY. CONSULT ENGINEER FOR DESIGN OF GARAGE FOUNDATION NOT COMMON TO HOUSE.
- BACKFILL OF CLEAN #1 / #1 BASHED STONE IS ALLOWABLE.
- BACKFILL OF WELL DRAINED OR SAND - GRAVEL MIXTURE SOILS (45 PFCFT BELOW GRADE) CLASSIFIED AS GROUP 1 ACCORDING TO UNIFIED SOILS CLASSIFICATION SYSTEM IN ACCORDANCE WITH TABLE 4.02 OF THE 2012 INTERNATIONAL RESIDENTIAL CODE ARE ALLOWABLE.
- FRP SLAB PER 1506.21 AND 1506.22 BASE OF THE 2012 INTERNATIONAL RESIDENTIAL CODE. MINIMUM 24" LAP SPICE LENGTH.
- LOCATE REBAR IN CENTER OF FOUNDATION WALL.
- WHERE REQUIRED, FILL BLOCK SOLID WITH TYPE "S" MORTAR OR 3000 PSI GROUT. USE OF "LOW LIFT GROUTING" METHOD REQUIRED WHEN FILLING WALLS WITH GROUT AT HEIGHTS OF 5' AND GREATER.

ANCHOR SPACING AND EMBEDMENT

| WIND ZONE | 120 MPH | | 130 MPH | |
|-----------|---|-------------------------------------|-------------------------------------|---|
| | SPACING | EMBEDMENT | SPACING | EMBEDMENT |
| 120 MPH | 6'-0" O.C. 3'-0" O.C. FOR STRAPS | 1" | 4'-0" O.C. 2'-0" O.C. FOR STRAPS | 5" 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 | 5" 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 |

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

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FOUNDATION DETAILS

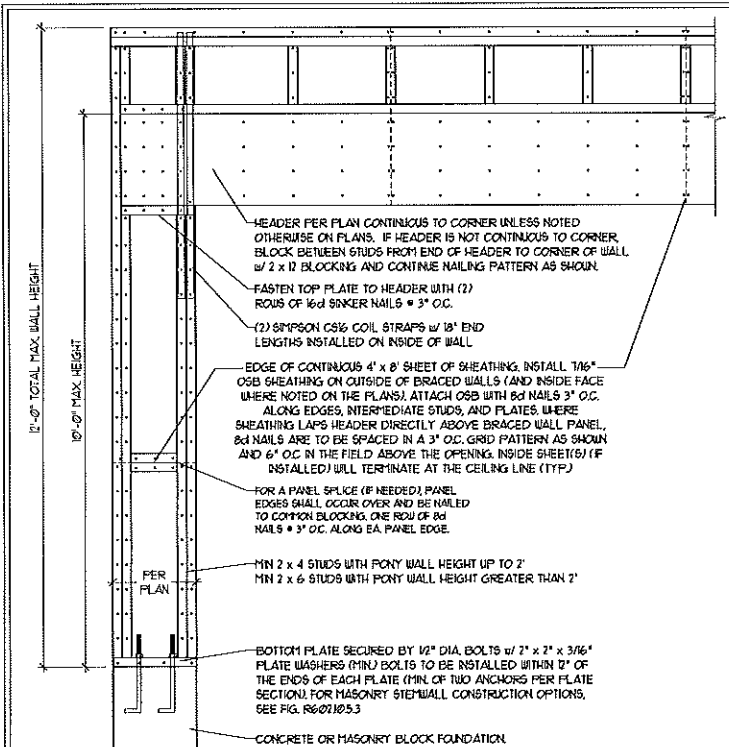
DATE: DECEMBER 22, 2017
SCALE: NTS
DRAWN BY: JST
ENGINEERED BY: JES



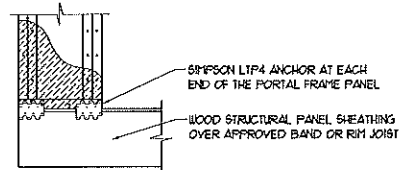
D-1
FOUNDATION DETAILS

GENERAL WALL BRACING NOTES:

1. WALL BRACING DESIGNED IN ACCORDANCE WITH CHAPTER 6 OF THE 2012 NC RESIDENTIAL BUILDING CODE (NRC). TABLES AND FIGURES REFERENCED ARE FROM THE 2012 NRC.
2. SEE THIS SHEET FOR GENERAL DETAILS. REFER TO THE 2012 NRC 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-USP 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 IS TO BE FASTENED PER TABLE R102.3.5. METHOD GB TO BE FASTENED PER TABLE R602.10.2.
6. CS-USP REFERS TO THE 'CONTINUOUS SHEATHING - WOOD STRUCTURAL PANELS' WALL BRACING METHOD. 1/8" OSB SHEATHING IS TO BE INSTALLED ON ALL EXTERIOR WALLS ATTACHED w/ 6d COMMON NAILS OR 8d (7 1/2" LONG x Ø13") DIAMETER NAILS SPACED 6" O.C. ALONG PANEL EDGES AND 12" O.C. IN THE FIELD (UNCL).
7. GB REFERS TO THE 'GYPSUM BOARD' WALL BRACING METHOD. 1/2" (184) GYPSUM WALL BOARD IS TO BE INSTALLED ON BOTH SIDES OF THE BRACED WALL FASTENED WITH 1 1/4" SCREWS OR 1 5/8" NAILS SPACED 12" O.C. ALONG PANEL EDGES INCLUDING TOP AND BOTTOM PLATES AND INTERMEDIATE SUPPORTS (UNCL). VERIFY ALL FASTENER OPTIONS FOR 1/2" AND 5/8" GYPSUM PRIOR TO CONSTRUCTION. FOR INTERIOR FASTENER OPTIONS SEE TABLE R102.3.5. 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-USP CONTRIBUTES ITS ACTUAL LENGTH. METHOD GB CONTRIBUTES 5/8 ITS ACTUAL LENGTH. AND METHOD PF CONTRIBUTES 15 TIMES ITS ACTUAL LENGTH.

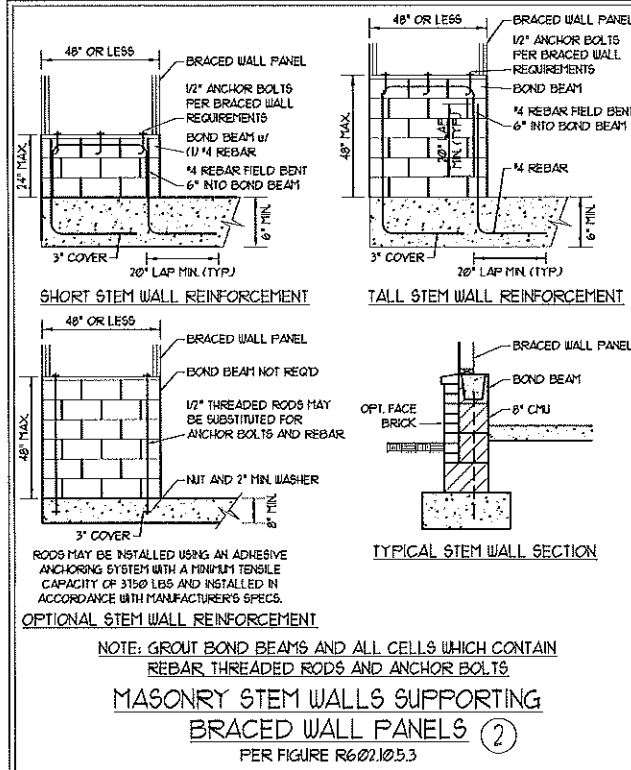


OVER CONCRETE OR MASONRY BLOCK FOUNDATION

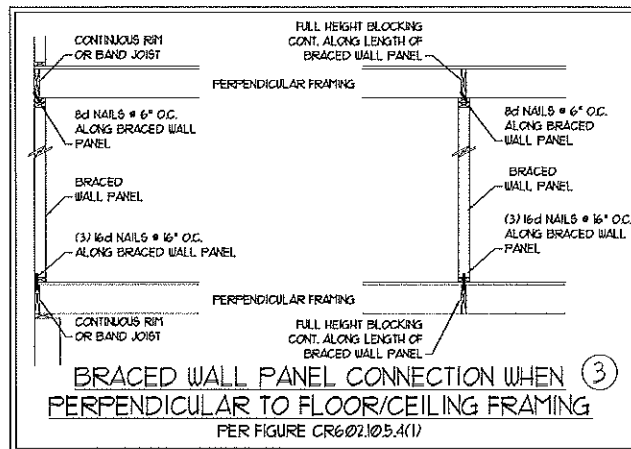


OVER RAISED WOOD FLOOR - FRAMING ANCHOR OPTION
* APPLICABLE w/ GREATER THAN 12" KNEE WALL HEIGHTS IN CRAWL SPACE AND ABOVE FRAMED BASEMENT WALLS *

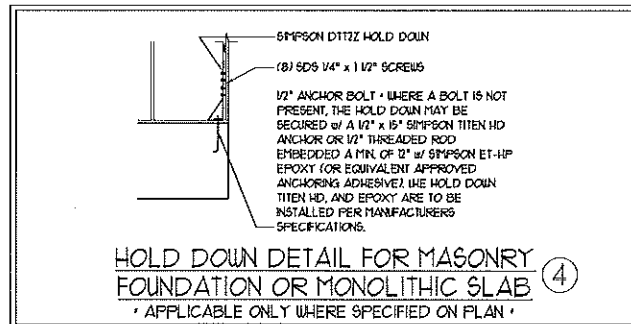
METHOD PF-PORTAL FRAME DETAIL ①



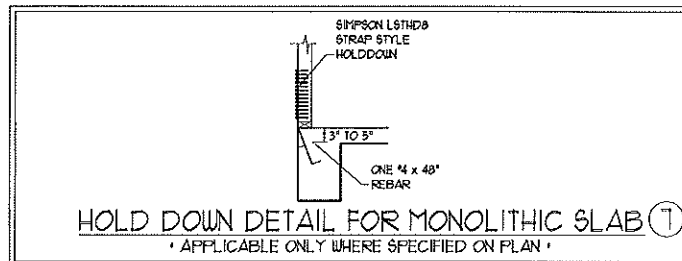
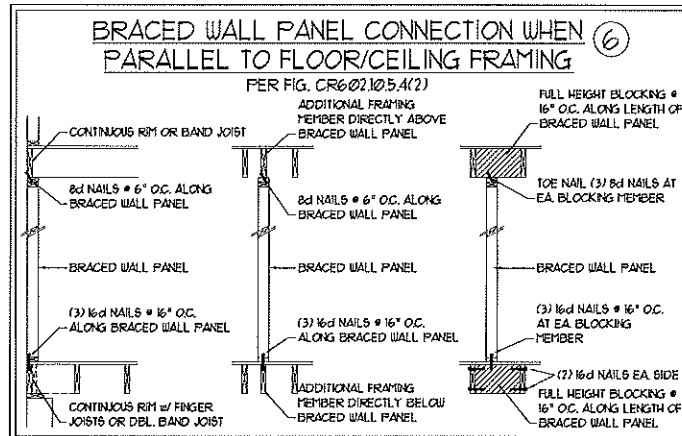
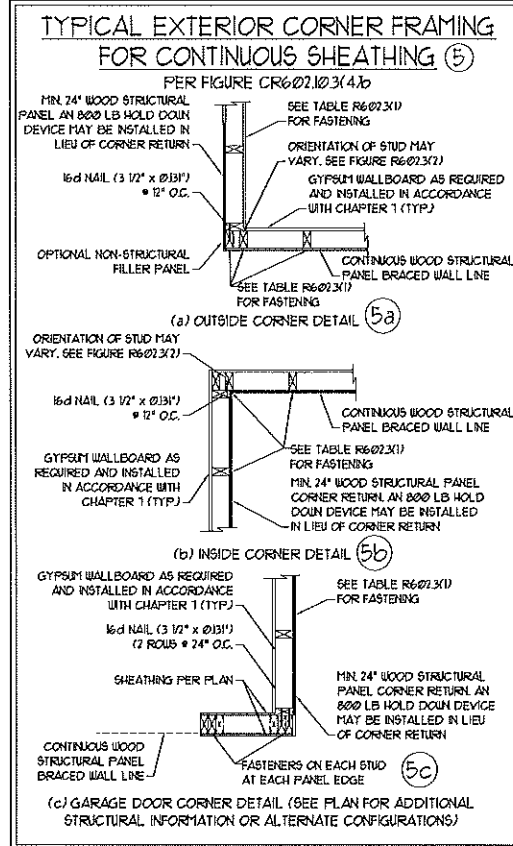
NOTE: GROUT BOND BEAMS AND ALL CELLS WHICH CONTAIN REBAR, THREADED RODS AND ANCHOR BOLTS
MASONRY STEM WALLS SUPPORTING BRACED WALL PANELS ②
PER FIGURE R602.10.5.3



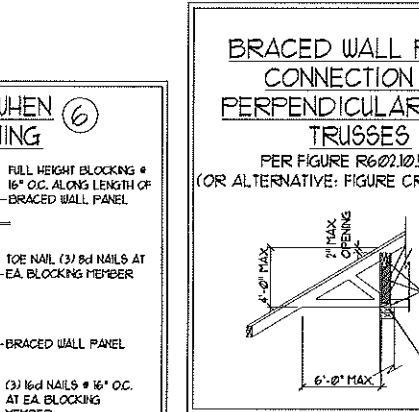
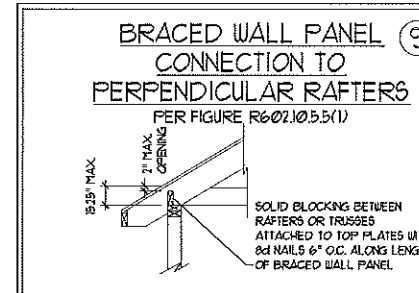
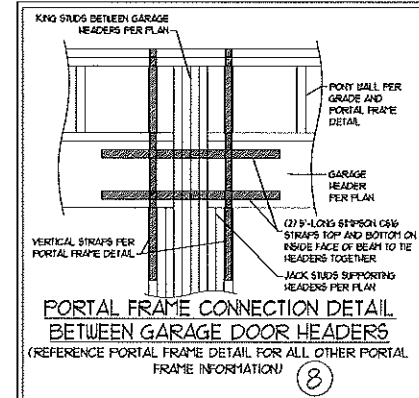
BRACED WALL PANEL CONNECTION WHEN PERPENDICULAR TO FLOOR/CEILING FRAMING ③
PER FIGURE CR602.10.5.4(1)



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



HOLD DOWN DETAIL FOR MONOLITHIC SLAB ⑦
* APPLICABLE ONLY WHERE SPECIFIED ON PLAN *



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WALL BRACING NOTES AND DETAILS

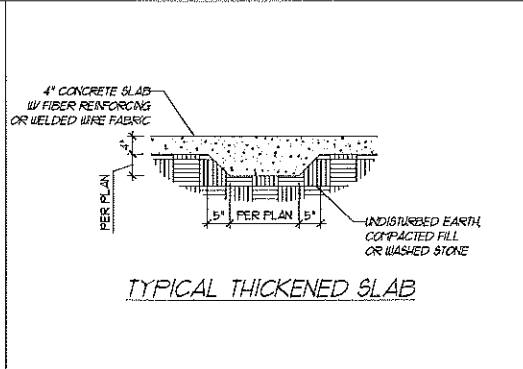
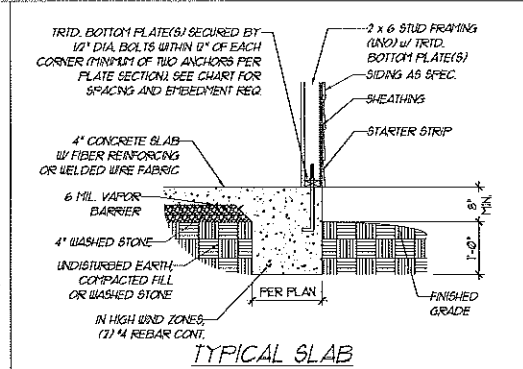
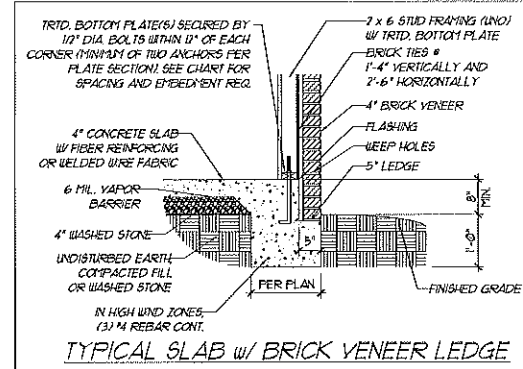
DATE: MARCH 19, 2018
SCALE: NONE
DRAWN BY: JST
ENGINEERED BY: JST
REVIEWED BY: JES

D-2
BRACED WALL AND PORTAL FRAME DETAILS

NOTE: LOCATE REBAR MIN 3" ABOVE BOTTOM OF FOOTING w/ MIN 75% LAP SPlice LENGTH.

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| ANCHOR SPACING AND EMBEDMENT | | | | |
|------------------------------|-------------------------------------|-------------------------------------|--|--|
| WIND ZONE | 100 MPH | 110 MPH | 120 MPH | 130 MPH |
| SPACING | 6'-0" O.C. 3'-0" O.C. FOR STRAPS | 4'-0" O.C. 2'-0" O.C. FOR STRAPS | 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 | 1' | 1' | 1' | 1' |



GENERAL NOTES

- ENGINEER'S SEAL APPLIES ONLY TO STRUCTURAL COMPONENTS INCLUDING ROOF RAFTERS, HIPS, VALLEYS, RIDGES, FLOORS, WALLS, BEAMS, HEADERS, COLUMNS, CANTILEVERS, OFFSET LOAD BEARING WALLS, PIERS, GIRDER SYSTEM AND FOOTING. ENGINEER'S SEAL DOES NOT CERTIFY DIMENSIONAL ACCURACY OF ARCHITECTURAL LAYOUT INCLUDING ROOF. ENGINEER'S SEAL DOES NOT APPLY TO 1-JOIST OR FLOOR/ROOF TRUSS LAYOUT DESIGN AND ACCURACY.
 - 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 CONTRACTOR'S FAILURE TO CARRY OUT THE CONSTRUCTION WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
 - STRUCTURAL DESIGN BASED ON THE PROVISIONS OF THE NCRC, 2012 EDITION (R3014 - R3017)
- | 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 | 700 LB OR 50 (PLF) | 10 | L/360 |
| PASSENGER VEHICLE GARAGE | 50 | 10 | L/360 |
| ROOFS 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(4) WIND ZONE AND EXPOSURE) | | |
| GROUND SNOW LOAD: P _g | 20 (PSF) | | |
- 1-JOIST SYSTEMS DESIGNED WITH 12 PSF DEAD LOAD AND DEFLECTION (IN) OF L/480
 - FLOOR TRUSS SYSTEMS DESIGNED WITH 8 PSF DEAD LOAD
- FOR 90 AND 100 MPH WIND ZONES, FOUNDATION ANCHORAGE IS TO COMPLY WITH SECTION R403.16 OF THE NCRC, 2012 EDITION. FOR 110 MPH, 120 MPH, AND 130 MPH WIND ZONES, FOUNDATION ANCHORAGE IS TO COMPLY WITH SECTION 4304 OF THE NCRC, 2012 EDITION.
 - ENERGY EFFICIENCY COMPLIANCE AND INSULATION VALUES OF THE BUILDING TO BE IN ACCORDANCE WITH CHAPTER 11 OF THE NCRC, 2012 EDITION.

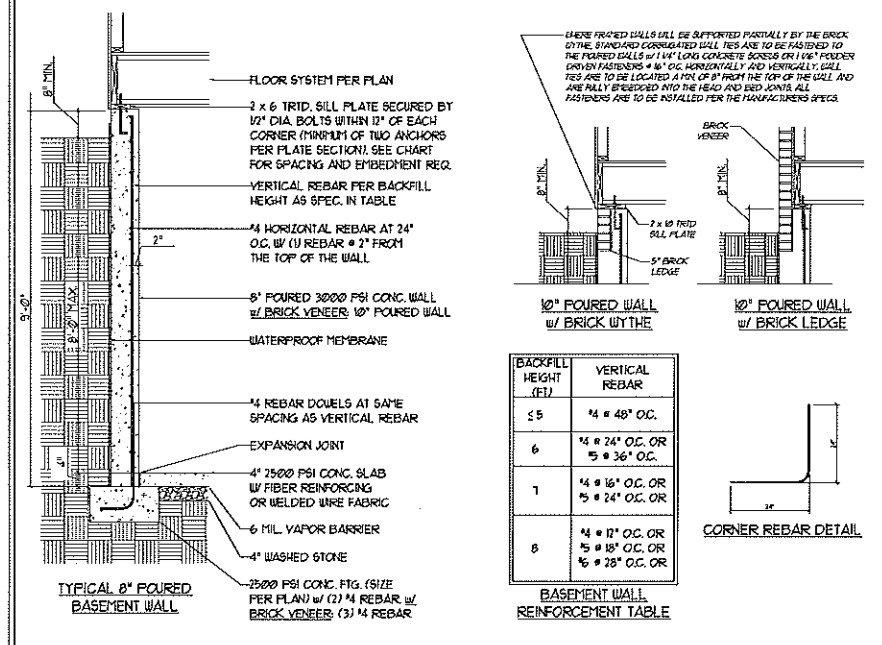
FOOTING AND FOUNDATION NOTES

- 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 DEPTH SHALL NOT EXCEED 24" FOR CLEAN SAND OR GRAVEL. A 4" THICK BASED COURSE CONSISTING OF CLEAN GRADED SAND OR GRAVEL SHALL BE PLACED. A BASE COURSE IS NOT REQUIRED WHERE A CONCRETE SLAB IS INSTALLED ON WELL-DRAINED OR SAND-GRAVEL MIXTURE SOILS CLASSIFIED AS GROUP I, ACCORDING TO THE UNITED SOIL CLASSIFICATION SYSTEM IN ACCORDANCE WITH TABLE R405 OF THE NCRC, 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 JOISTS ARE TO BE SAIED WITHIN 4 TO 12 HOURS OF CONCRETE FINISHING AND WALL LOCATIONS HAVE BEEN MARKED. ADJUST WHERE NECESSARY.
- CONCRETE SHALL CONFORM TO SECTION R402.2 OF THE NCRC, 2012 EDITION. CONCRETE REINFORCING STEEL TO BE ASTM A615 GRADE 60. WELDED WIRE FABRIC TO BE ASTM A95. 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 5/1115 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 CARPPED WITH 8" OF SOLID MASONRY.
- THE CENTER OF EACH OF THE PIERS SHALL BEAR IN THE MIDDLE THIRD OF ITS RESPECTIVE FOOTING. EACH GIRDER SHALL BEAR IN THE MIDDLE THIRD OF THE PIERS.
- ALL CONCRETE AND MASONRY FOUNDATION WALLS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH THE PROVISIONS OF SECTION R404 OF THE NCRC, 2012 EDITION OR IN ACCORDANCE WITH ACI 318, ACI 332, NCMA TR608-A OR ACE 530/ASCE 5/1115 402. MASONRY FOUNDATION WALLS ARE TO BE REINFORCED PER TABLE R404.1X(1), R404.1X(2), R404.1X(3), OR R404.1X(4) OF THE NCRC, 2012 EDITION. CONCRETE FOUNDATION WALLS ARE TO BE REINFORCED PER TABLE R404.1X(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

- ALL FRAMING LUMBER SHALL BE 12 SFF MINIMUM (Fb = 975 PSI, Fv = 375 PSI, E = 16000000 PSI) UNLESS NOTED OTHERWISE (UNO). ALL TREATED LUMBER SHALL BE 2 SFF MINIMUM (Fb = 975 PSI, Fv = 375 PSI, E = 16000000 PSI) UNLESS NOTED OTHERWISE (UNO).
- LAMINATED VENEER LUMBER (LVL) SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES: Fb = 2600 PSI, Fv = 285 PSI, E = 18000000 PSI. LAMINATED STRAND LUMBER (LSL) SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES: Fb = 2375 PSI, Fv = 310 PSI, E = 15500000 PSI. PARALLEL STRAND LUMBER (PSL) UP TO 1" DEPTH SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES: Fc = 2500 PSI, E = 18000000 PSI. PARALLEL STRAND LUMBER (PSL) MORE THAN 1" DEPTH SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES: Fc = 2900 PSI, E = 20000000 PSI. INSTALL ALL CONNECTIONS PER MANUFACTURER'S SPECIFICATIONS.
- 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 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).
- 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 (7" EDGE DISTANCE) WITH (7) BOLTS LOCATED AT 6" FROM EACH END (UNO).
- ALL 1-JOIST OR TRUSS LAYOUTS ARE TO BE IN COMPLIANCE WITH THE OVERALL DESIGN SPECIFIED ON THE PLANS. ALL DEVIATIONS ARE TO BE BROUGHT TO THE ATTENTION OF THE ENGINEER OF RECORD PRIOR TO INSTALLATION.
- 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.
- PROVIDE DOUBLE JOIST UNDER ALL WALLS PARALLEL TO FLOOR JOISTS. PROVIDE SUPPORT UNDER ALL WALLS PARALLEL TO FLOOR TRUSSES OR 1-JOISTS PER MANUFACTURER'S SPECIFICATIONS. INSTALL BLOCKING BETWEEN JOISTS OR TRUSSES FOR POINT LOAD SUPPORT FOR ALL POINT LOADS ALONG OFFSET LOAD LINES.
- 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 R103.12.2 OF THE NCRC, 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 10d 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 1000 LB CAPACITY UPLIFT CONNECTORS TOP AND BOTTOM (UNO). POSTS MAY BE SECURED USING ONE SIMPSON H6 OR L102 UPLIFT CONNECTOR FASTENED TO THE BAND AT THE BOTTOM AND THE BEAM AT THE TOP OF EACH POST. ONE 1/2" SECTION OF SIMPSON CS6 COIL STRAPPING WITH (8) 8d HDG NAILS AT EACH END MAY BE USED IN LIEU OF EACH TIGHT STRAP IF DESIRED. FOR MASONRY OR CONCRETE FOUNDATION USE SIMPSON POST BASE.

BASEMENT WALL DETAILS



| BACKFILL HEIGHT (FT) | VERTICAL REBAR |
|----------------------|--|
| ≤ 5 | #4 @ 48" O.C. |
| 6 | #4 @ 24" O.C. OR #5 @ 36" O.C. |
| 7 | #4 @ 16" O.C. OR #5 @ 24" O.C. OR |
| 8 | #4 @ 12" O.C. OR #5 @ 18" O.C. OR #6 @ 28" O.C. OR |



STRUCTURAL NOTES:

- FOR 4 REBAR 24" MINIMUM REBAR LAP SPlice LENGTH. FOR 5 REBAR 32" MINIMUM REBAR LAP SPlice LENGTH. FOR 6 REBAR 38" MINIMUM REBAR LAP SPlice LENGTH. REBAR TO MAINTAIN A MINIMUM CONCRETE COVER TO SOILS OF 3" AND TO FORMWORK OR AIR OF 2" (UNO).
- REBAR TO BE ASTM A615 GRADE 60.
- SOIL BEARING CAPACITY IS REQUIRED TO BE 2000 PSF MIN.
- INSTALL #4 L-BARS AT ALL WALL CORNERS AT SAME SPACING AS HORIZ STEEL. SEE DETAIL.
- THE FLOOR FRAMING IS TO BE INSTALLED AND A MIN. OF SEVEN DAYS IS REQUIRED TO ALLOW THE CONCRETE TO CURE BEFORE THE BACKFILL CAN BE INSTALLED. THE BACKFILL IS RECOMMENDED TO BE PLACED IN 12" LIFTS AND CAREFULLY TAMPED.
- A 4" LEDGE IS TO BE PROVIDED FOR THE PORCH SLAB. THE WALLS ARE REQUIRED TO BE BONDED TO THE SLAB USING #4 x 36" REBAR DOUELS 32" O.C. EMBEDDED 4" INTO THE CONC. USING EPOXY.
- WHERE THE FLOOR JOISTS ARE PARALLEL TO THE WALLS, 2 x 4 BLOCKING IS TO BE INSTALLED 24" O.C. BETWEEN THE BOTTOM FLANGES OF THE FLOOR SYSTEM FOR A MIN. OF 6'-0" AWAY FROM THE WALL OR DIAGONAL 2 x 6 BLOCKS MAY BE INSTALLED 24" O.C. FROM THE EDGE OF THE SILL PLATE TO THE TOP FLANGE AND SUBFLOORING ATTACHED W/ (3) 10d NAILS EACH END.

NOTE TO FOUNDATION CONTRACTOR:
ALTERNATE REINFORCED CONCRETE POURED WALL DESIGNS ENGINEERED BY OTHERS MAY BE CONSTRUCTED. NO CONTINUOUS FOOTINGS OR LUG FOOTINGS MAY BE REDUCED IN SIZE.

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FOUNDATION DETAILS AND
STRUCTURAL NOTES

DATE: DECEMBER 22, 2017
SCALE: NTS
DRAWN BY: WLF
ENGINEERED BY: JES

D-3
FOUNDATION DETAILS AND
STRUCTURAL NOTES



GENERAL NOTES

- ENGINEER'S SEAL APPLIES ONLY TO STRUCTURAL COMPONENTS INCLUDING ROOF RAFTERS, HIPS, VALLEYS, RIDGES, FLOORS, WALLS, BEAMS, HEADERS, COLUMNS, CANTILEVERS, OFFSET LOAD BEARING WALLS, PIERS, GIRDER SYSTEM AND FOOTING. ENGINEER'S SEAL DOES NOT CERTIFY DIMENSIONAL ACCURACY OF ARCHITECTURAL LAYOUT INCLUDING ROOF. ENGINEER'S SEAL DOES NOT APPLY TO I-JOIST OR FLOOR/ROOF TRUSS LAYOUT DESIGN AND ACCURACY.
- ALL CONSTRUCTION SHALL CONFORM TO THE LATEST REQUIREMENTS OF THE NORTH CAROLINA RESIDENTIAL CODE (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/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 (FLF) | 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 AND DEFLECTION (IN) OF L/480
 - FLOOR TRUSS SYSTEMS DESIGNED WITH 15 PSF DEAD LOAD
- FOR 50 AND 100 MPH WIND ZONES, FOUNDATION ANCHORAGE IS TO COMPLY WITH SECTION R403.6 OF THE NRC, 2012 EDITION. FOR 10 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 11 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 BASE 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 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 JOISTS ARE TO BE SAUED WITHIN 4 TO 12 HOURS OF CONCRETE FINISHING AND WALL LOCATIONS HAVE BEEN MARKED. ADJUST WHERE NECESSARY.
- CONCRETE SHALL CONFORM TO SECTION R402.2 OF THE NRC, 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.
- MASONRY UNITS TO CONFORM TO ACE 530/ASCE 5/THS 402. MORTAR SHALL CONFORM TO ASTM C710.
- THE UNSUPPORTED HEIGHT OF MASONRY PIERS SHALL NOT EXCEED FOUR TIMES THEIR LEAST DIMENSION FOR SOLID OR SOLID FILLED PIERS. PIERS MAY BE FILLED SOLID WITH CONCRETE OR TYPE M OR S MORTAR. PIERS AND WALLS SHALL BE CAPPED WITH 8" OF SOLID MASONRY.
- THE CENTER OF EACH OF THE PIERS SHALL BEAR IN THE MIDDLE THIRD OF ITS RESPECTIVE FOOTING. EACH GIRDER SHALL BEAR IN THE MIDDLE THIRD OF THE PIERS.
- ALL CONCRETE AND MASONRY FOUNDATION WALLS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH THE PROVISIONS OF SECTION R404 OF THE NRC, 2012 EDITION OR IN ACCORDANCE WITH ACI 318, ACI 332, NCHA TR68-A OR ACE 530/ASCE 5/THS 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 7 x 6 FRAMED WALLS AT 6' O.C. WHERE GRADE PERMITS (NO).

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FRAMING NOTES

- ALL FRAMING LUMBER SHALL BE 2" SEF MINIMUM (Fb = 815 PSI, Fv = 315 PSI, E = 1600000 PSI) UNLESS NOTED OTHERWISE (NO). ALL TREATED LUMBER SHALL BE 2" 5YP MINIMUM (Fb = 915 PSI, Fv = 115 PSI, E = 1600000 PSI) UNLESS NOTED OTHERWISE (NO).
- LAMINATED VENEER LUMBER (LVL) SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES: Fb = 7600 PSI, Fv = 285 PSI, E = 1900000 PSI. LAMINATED STRAND LUMBER (LSL) SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES: Fb = 2375 PSI, Fv = 310 PSI, E = 1950000 PSI. PARALLEL STRAND LUMBER (PSL) UP TO 1" DEPTH SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES: Fc = 7500 PSI, E = 1800000 PSI. PARALLEL STRAND LUMBER (PSL) MORE THAN 1" DEPTH SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES: Fc = 2900 PSI, E = 2000000 PSI. INSTALL ALL CONNECTIONS PER MANUFACTURER'S SPECIFICATIONS.
- STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING ASTM SPECIFICATIONS

| | |
|--------------------------------|--------------------------------|
| A. I AND UT 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 (NO). PROVIDE SOLID BEARINGS FROM BEAM SUPPORT TO FOUNDATION. BEAMS SHALL BE ATTACHED AT THE BOTTOM FLANGE TO EACH SUPPORT AS FOLLOWS (NO):

| | |
|----------------------------|--|
| 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 10E 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) ROUS OF SELF TAPPING SCREWS # 16' O.C. OR (2) ROUS 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) ROUS 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 (NO), 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 (NO).
- 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 (NO). 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 (NO). BEAM ENDS THAT BUTT INTO ONE ANOTHER ARE TO EACH BEAR EQUAL LENGTHS (NO).
- 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 (NO).
- 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 R602.10.
- PROVIDE DOUBLE JOIST UNDER ALL WALLS PARALLEL TO FLOOR JOISTS. PROVIDE SUPPORT UNDER ALL WALLS PARALLEL TO FLOOR TRUSSES OR I-JOISTS PER MANUFACTURER'S SPECIFICATIONS. INSTALL BLOCKING BETWEEN JOISTS OR TRUSSES FOR POINT LOAD SUPPORT FOR ALL POINT LOADS ALONG OFFSET LOAD LINES.
- FOR ALL HEADERS SUPPORTING BRICK VENEER THAT ARE LESS THAN 8'-0" IN LENGTH, REST A 6" x 4" x 5/16" STEEL ANGLE WITH 6" MINIMUM EMBEDMENT AT SIDES FOR BRICK SUPPORT. 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 ROUS OF 1/2" NAILS AT 16" O.C. FRAME DORMER WALLS ON TOP OF DOUBLE OR TRIPLE RAFTERS AS SHOWN (NO).
- 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 (NO).
- ALL 4 x 4 AND 6 x 6 POSTS TO BE INSTALLED WITH 1000 LB CAPACITY UPLIFT CONNECTORS TOP AND BOTTOM (NO). POSTS MAY BE SECURED USING ONE SIMPSON H6 OR L150 UPLIFT CONNECTOR FASTENED TO THE BAND AT THE BOTTOM AND THE BEAM AT THE TOP OF EACH POST. ONE 16' SECTION OF SIMPSON CS16 COL STRAPPING WITH (8) 8d HDG NAILS AT EACH END MAY BE USED IN LIEU OF EACH TRUSS STRAP IF DESIRED. FOR MASONRY OR CONCRETE FOUNDATION USE SIMPSON POST BASE.

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STANDARD STRUCTURAL NOTES

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|-------------------------|
| DATE: DECEMBER 21, 2017 |
| SCALE: N/A |
| DRAWN BY: JES |
| ENGINEERED BY: JES |
| REVIEWED BY: JST |



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STRUCTURAL NOTES