

**RENAISSANCE DESIGN, INC.**  
RESIDENTIAL DESIGN, INC.

RALEIGH, NC 27612  
919-848-4728  
WWW.RRDCAROLINA.COM

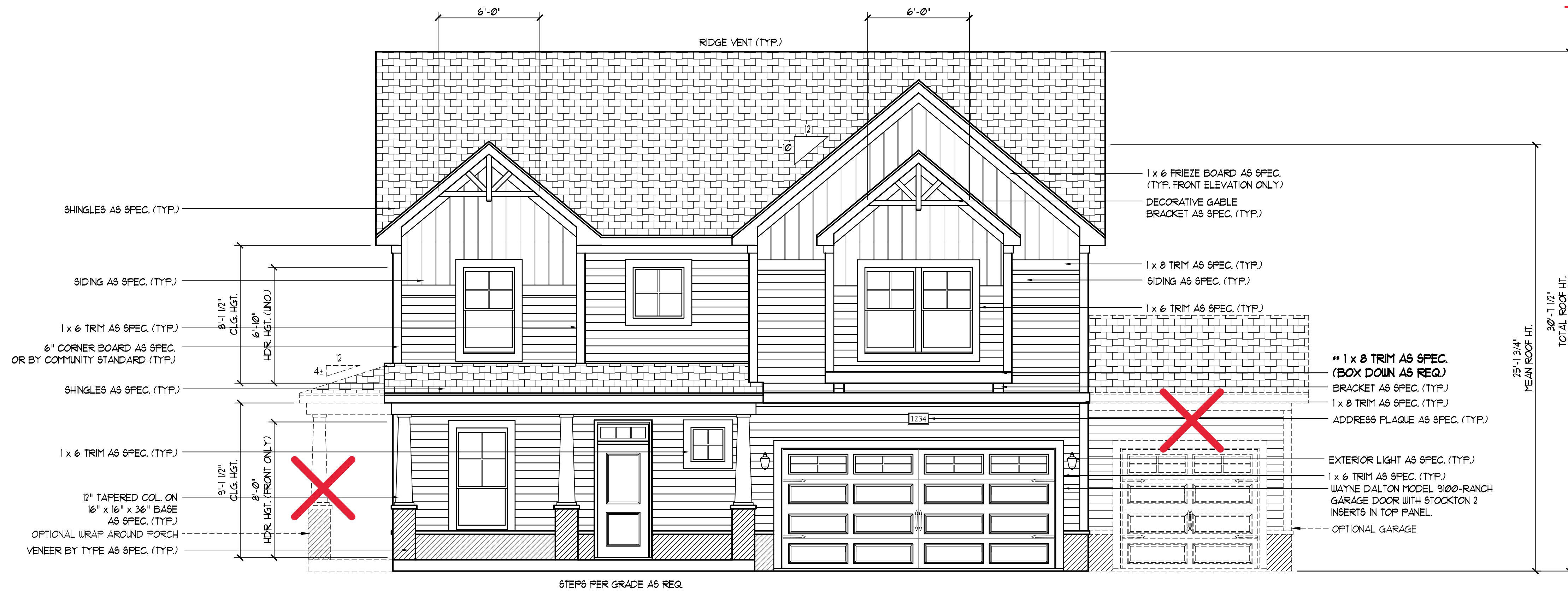
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**FRONT ELEVATION-B**  
SCALE: 1/4" = 1'-0"

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

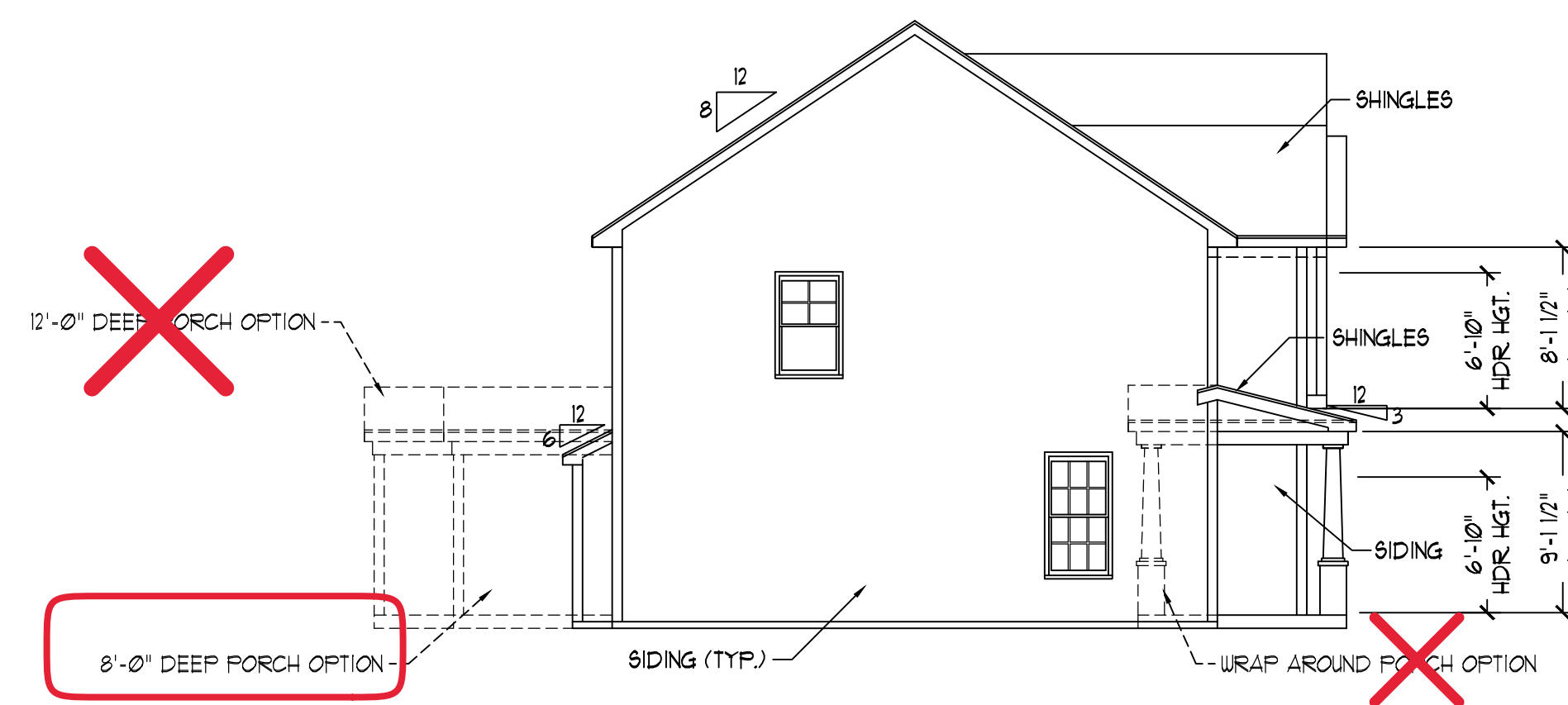
~~DOUBLE GARAGE DOOR OPTION~~  
SCALE: 1/4" = 1'-0"

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

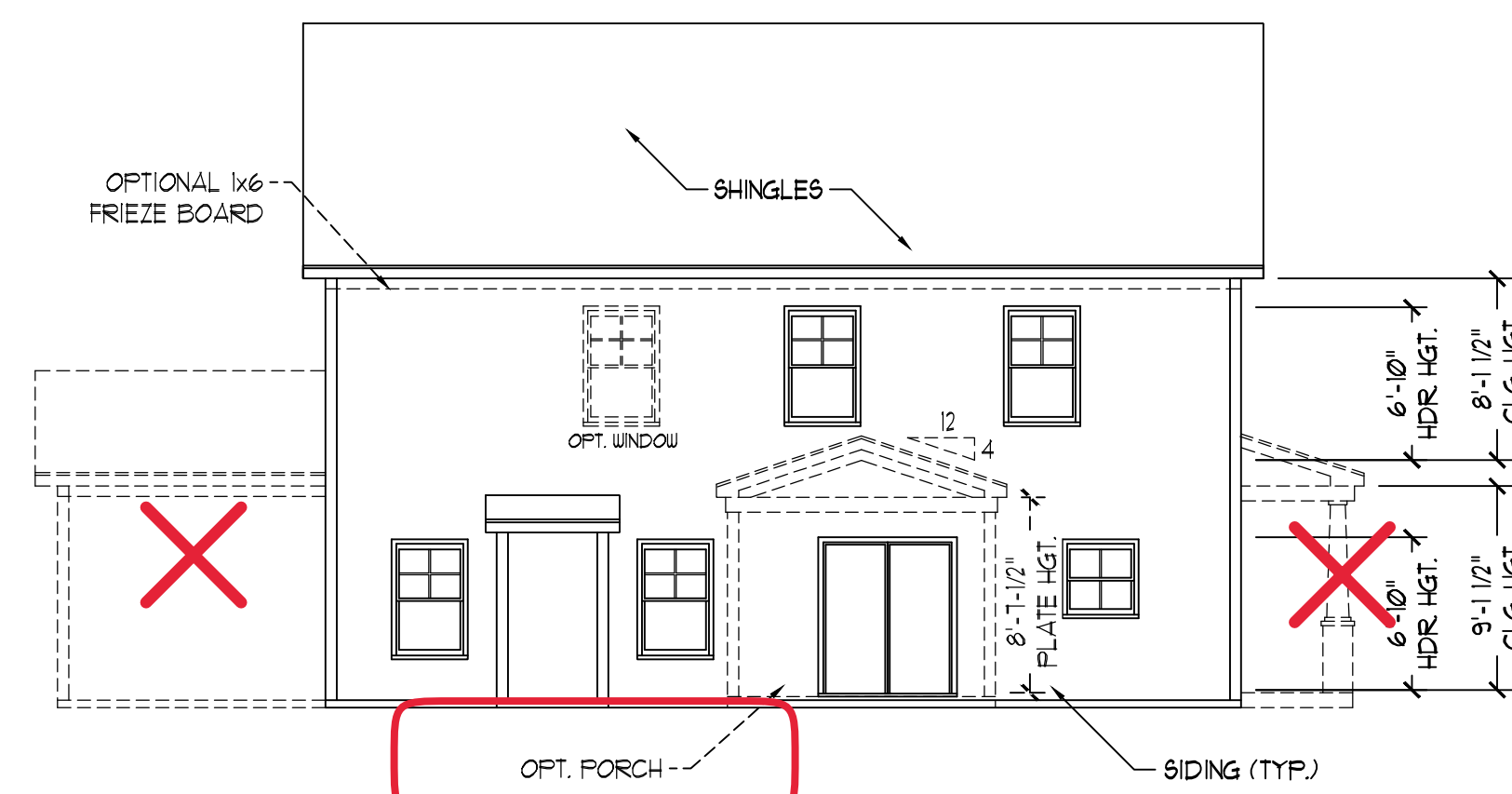
**NOTICE TO CONTRACTOR**  
All construction must comply with current NC Building Codes and is subject to field inspection and verification.

APPROVED  
Printed Name responsible for full compliance with this code.

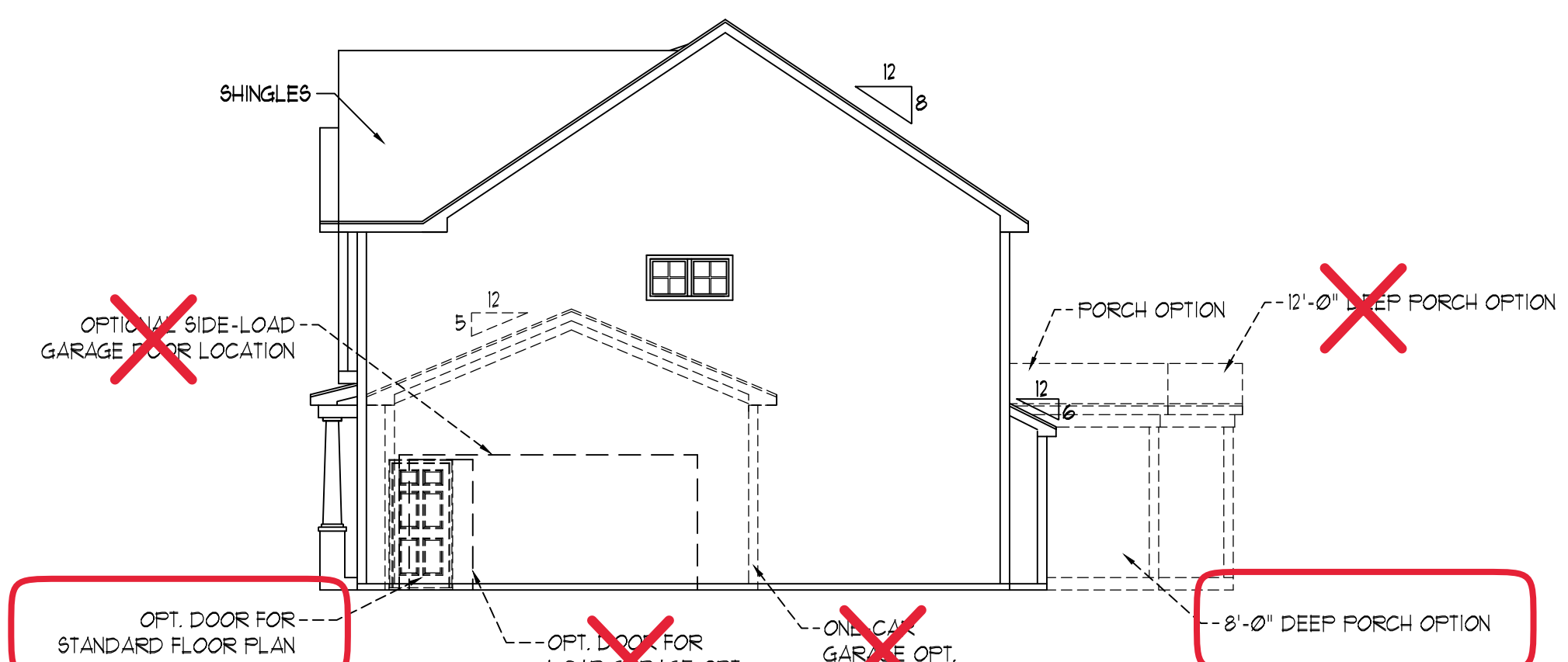
04/09/2024



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



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

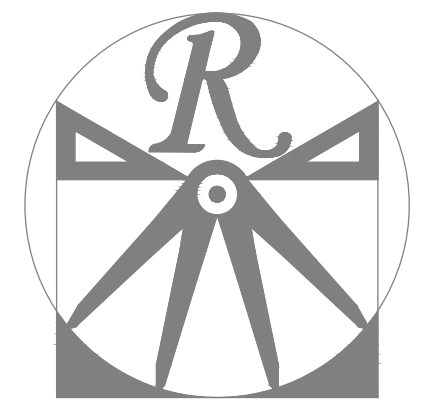


**RIGHT ELEVATION**  
SCALE: 1/8" = 1'-0"

ONSITE HOMES  
TRENTON  
DRIVE RIGHT

DATE: FEBRUARY 17, 2020  
REV.:  
SCALE: AS NOTED  
DRAWN BY: WG  
ENGINEERED BY:  
REVIEWED BY:

B - ELEVATIONS



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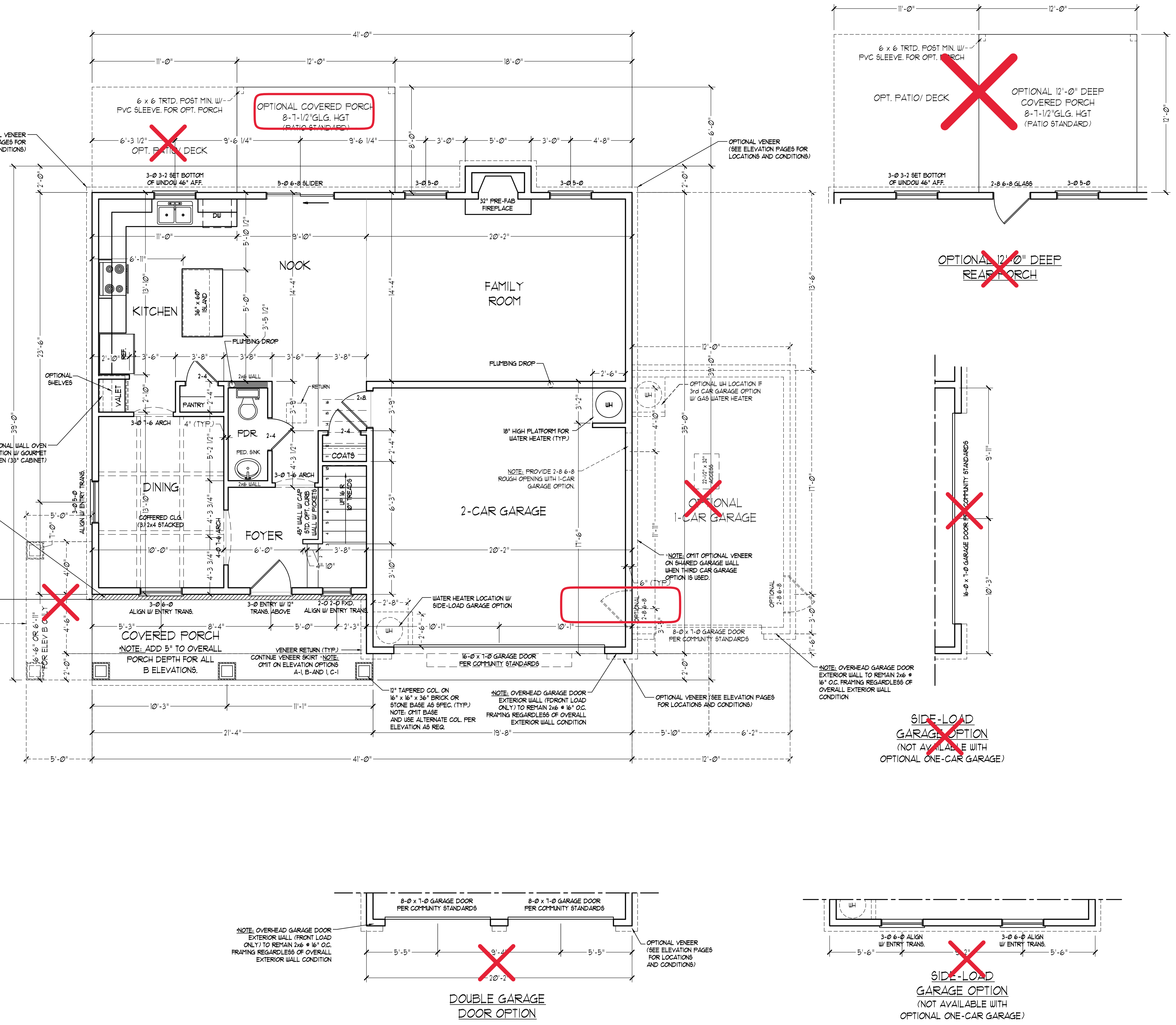
DRAWN BY: WG

ENGINEERED BY:

REVIEWED BY:

FIRST FLOOR PLAN

A-3



**\*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).**

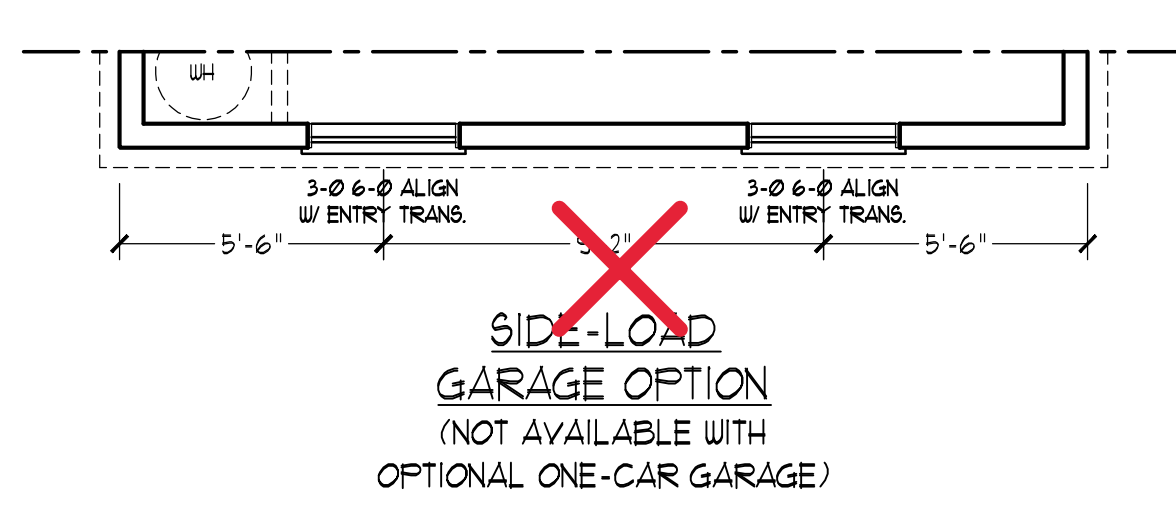
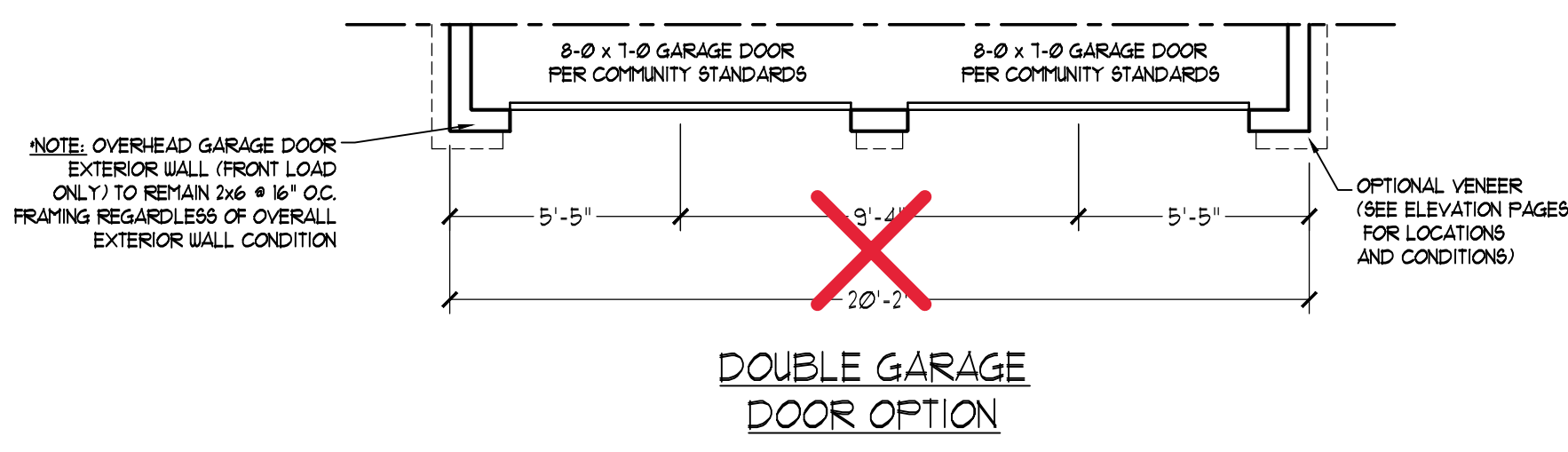
**2x6 WALL**  
\* SHADED WALLS ARE TO BE 2 x 6 @ 16" O.C. (LOAD BEARING) OR 2 x 6 @ 24" O.C. (NON-LOAD BEARING) REGARDLESS OF EXTERIOR WALL CONDITION

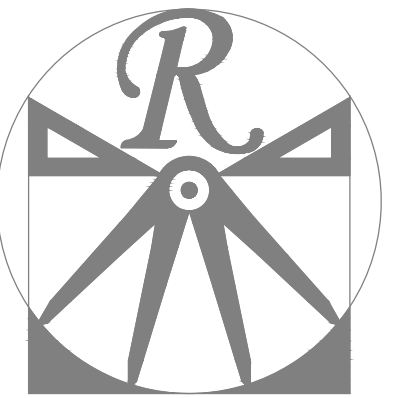
**SQUARE FOOTAGE**

1st FLOOR:	949 SQ. FT.
2nd FLOOR:	1351 SQ. FT.
TOTAL:	2300 SQ. FT.
FRONT PORCH:	131 SQ. FT.
STD. REAR PATIO:	96 SQ. FT.
GARAGE:	401 SQ. FT.

**SQUARE FOOTAGE (OPTIONS)**

FIRST FLOOR (BRICK):	999 SQ. FT.
SECOND FLOOR (BRICK):	1405 SQ. FT.
TOTAL (BRICK):	2404 SQ. FT.
GARAGE (BRICK):	418 SQ. FT.
FRONT PORCH (WRAP OPTION):	53 SQ. FT.
REAR PORCH (8'-0" DEEP):	96 SQ. FT.
REAR PORCH (12'-0" DEEP):	144 SQ. FT.
OPT. PATIO/ DECK (8'-0" DEEP):	88 SQ. FT.
OPT. PATIO/ DECK (12'-0" DEEP):	132 SQ. FT.
1-CAR GARAGE:	240 SQ. FT.





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REV.:

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

DRAWN BY: WG

ENGINEERED BY:

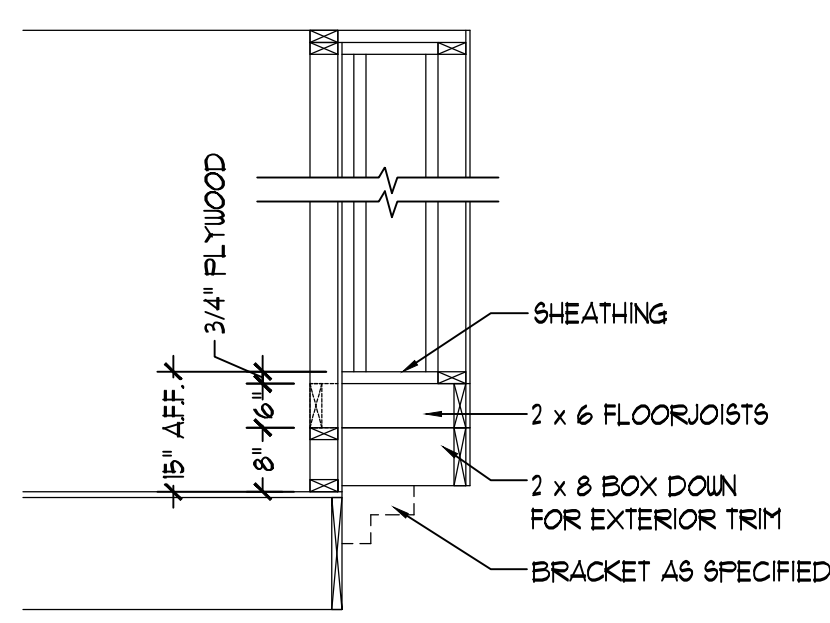
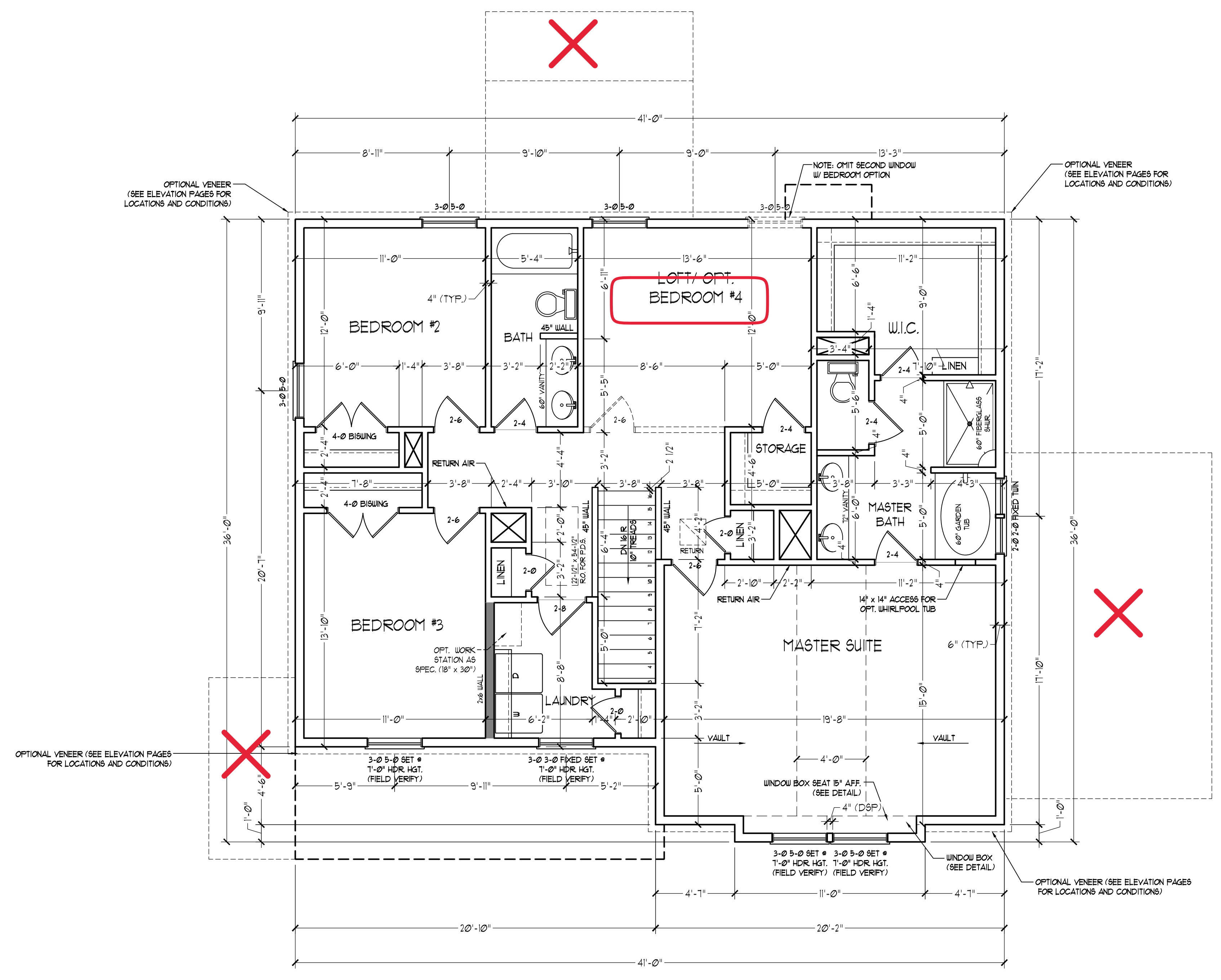
REVIEWED BY:

SECOND FLOOR  
PLAN

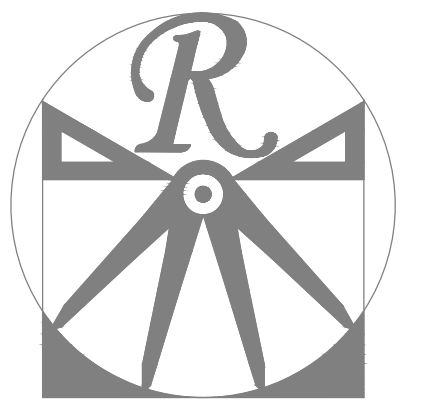
A-4

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2x6 WALL  
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WINDOW BOX DETAIL  
SCALE: NTS



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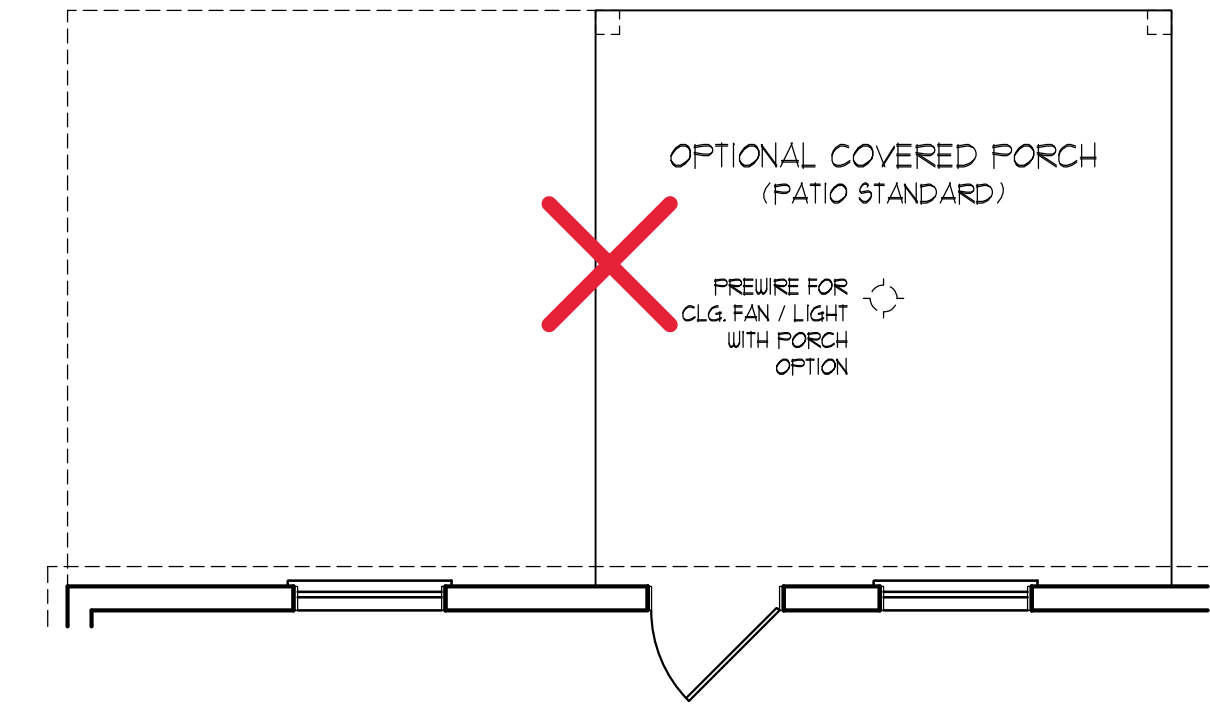
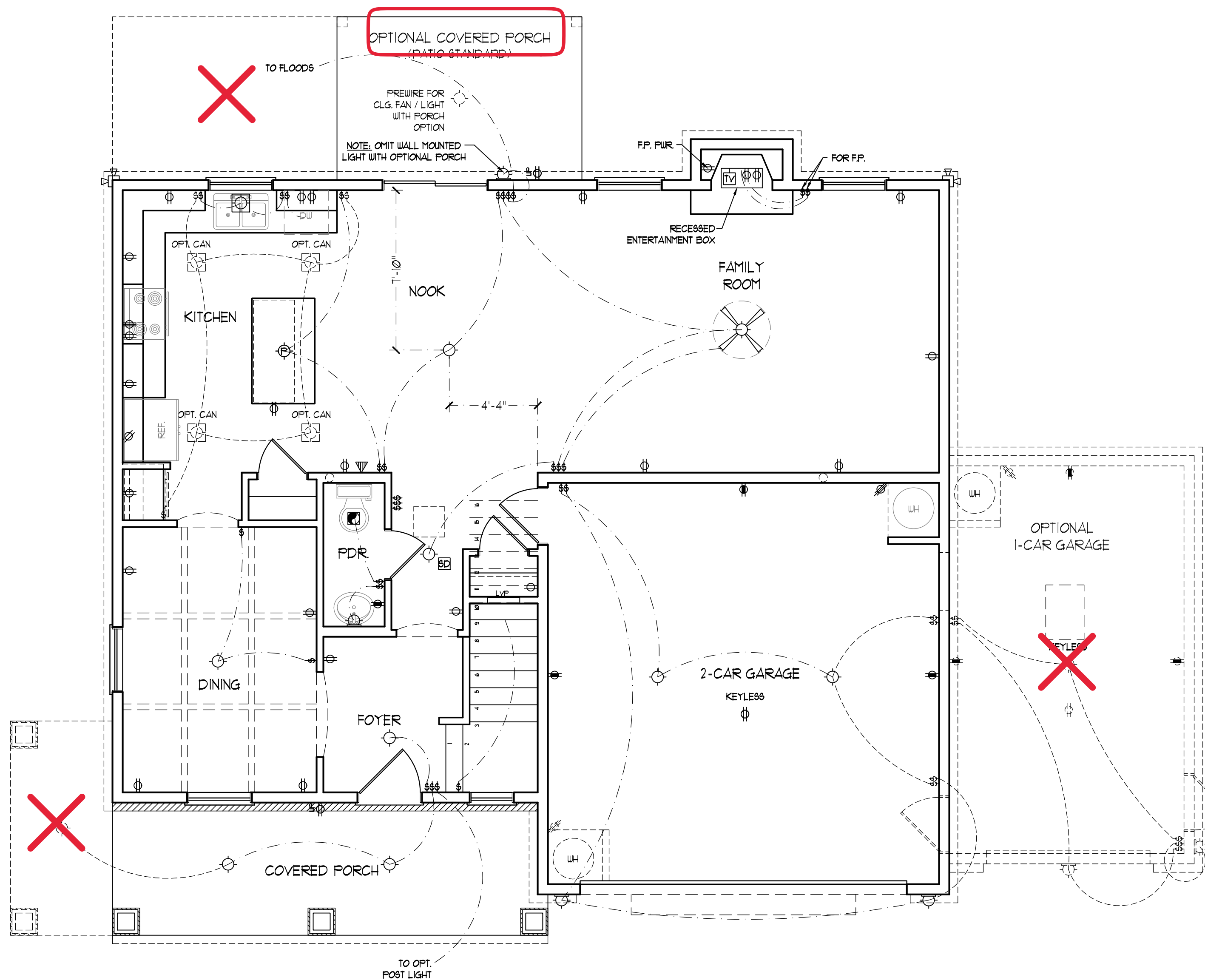
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**ELECTRICAL LAYOUT NOTES:**

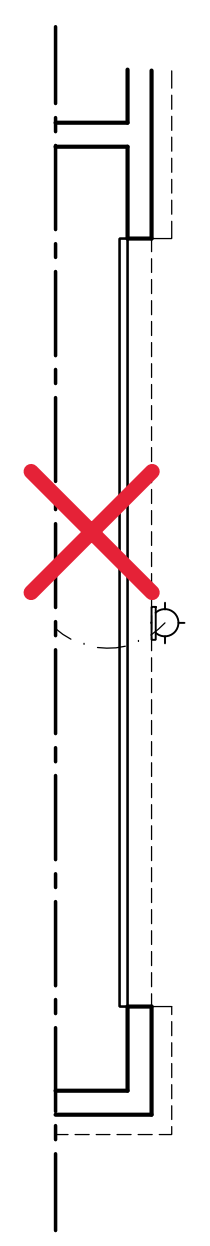
- 1) BLOCK AND WIRE FOR ALL CEILING FANS PER PLAN
- 2) WANTY LIGHTS TO BE SET @ 90° AFF. (TYP.)
- 3) ADDITIONAL EXTERIOR OUTLETS REQUIRED BY CODE TO BE LOCATED BY ELECTRICIAN.
- 4) PLACE SWITCHES 8" (MIN.) FROM ROUGH OPENINGS.

**ELECTRICAL LEGEND**

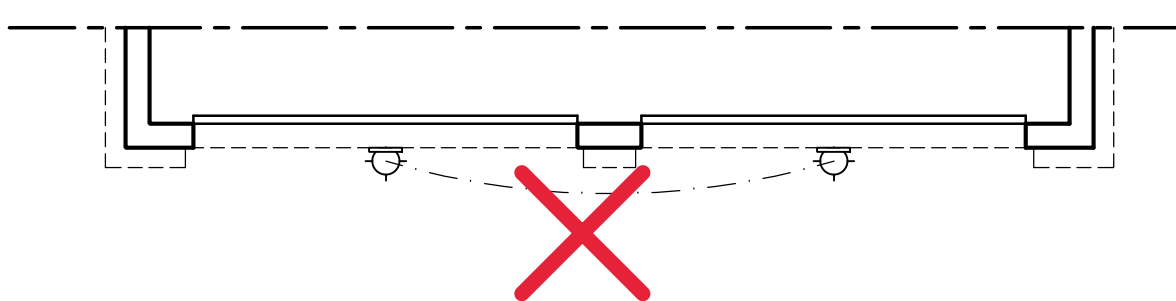
- ⊕ 110 V OUTLET
- ⊕ 110 V GFI OUTLET
- ⊕ 110 V SWITCHED OUTLET
- ⊕ 110 V BASEBOARD OUTLET
- ⊕ 4-PLEX
- ⊕ COUNTER OR FLOOR MOUNTED
- ⊕ COUNTER OR FLOOR MOUNTED 110V GFI
- ⊕ WEATHERPROOF
- ⊕ 220 V OUTLET
- ⊕ 110 V DEDICATED CIRCUIT
- ⊕ 220 V DEDICATED CIRCUIT
- ⊕ SPECIAL PURPOSE (240 V, ETC.)
- ⊕ WALL MOUNT LIGHT
- ⊕ CEILING MOUNT LIGHT
- ⊕ PENDANT LIGHT
- ⊕ RECESSED CAN LIGHT
- ⊕ MINI CAN LIGHT
- ⊕ EYEBALL LIGHT
- ⊕ FLUORESCENT LIGHT
- ⊕ UNDERCABINET LIGHT
- ⊕ FLOOD LIGHT
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- ⊕ 3-WAY SWITCH
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- ⊕ EXHAUST FAN
- ⊕ LOW VOLTAGE PANEL



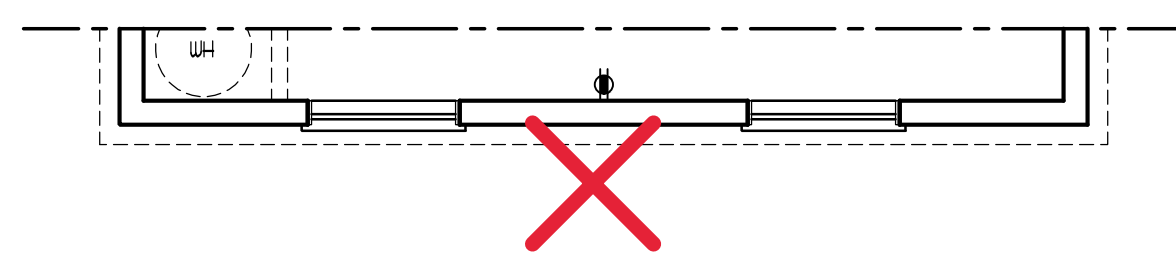
OPTIONAL 12'0" DEEP REAR PORCH



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



DOUBLE GARAGE DOOR OPTION



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



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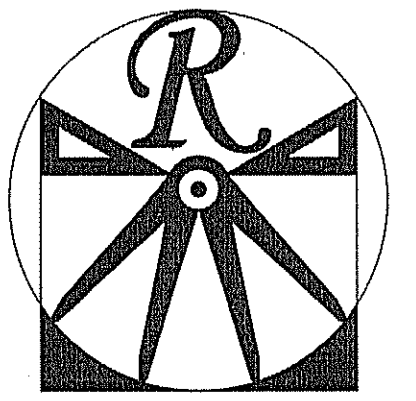
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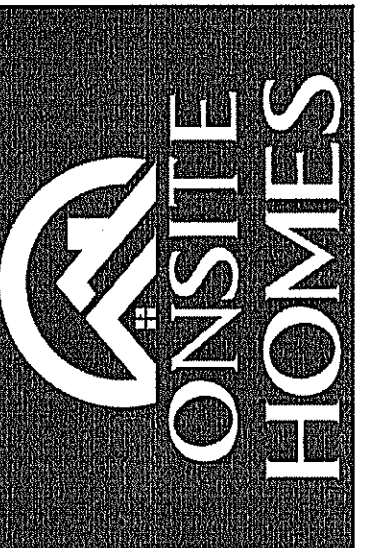
FIRST FLOOR  
ELECTRICAL  
PLAN

E-1



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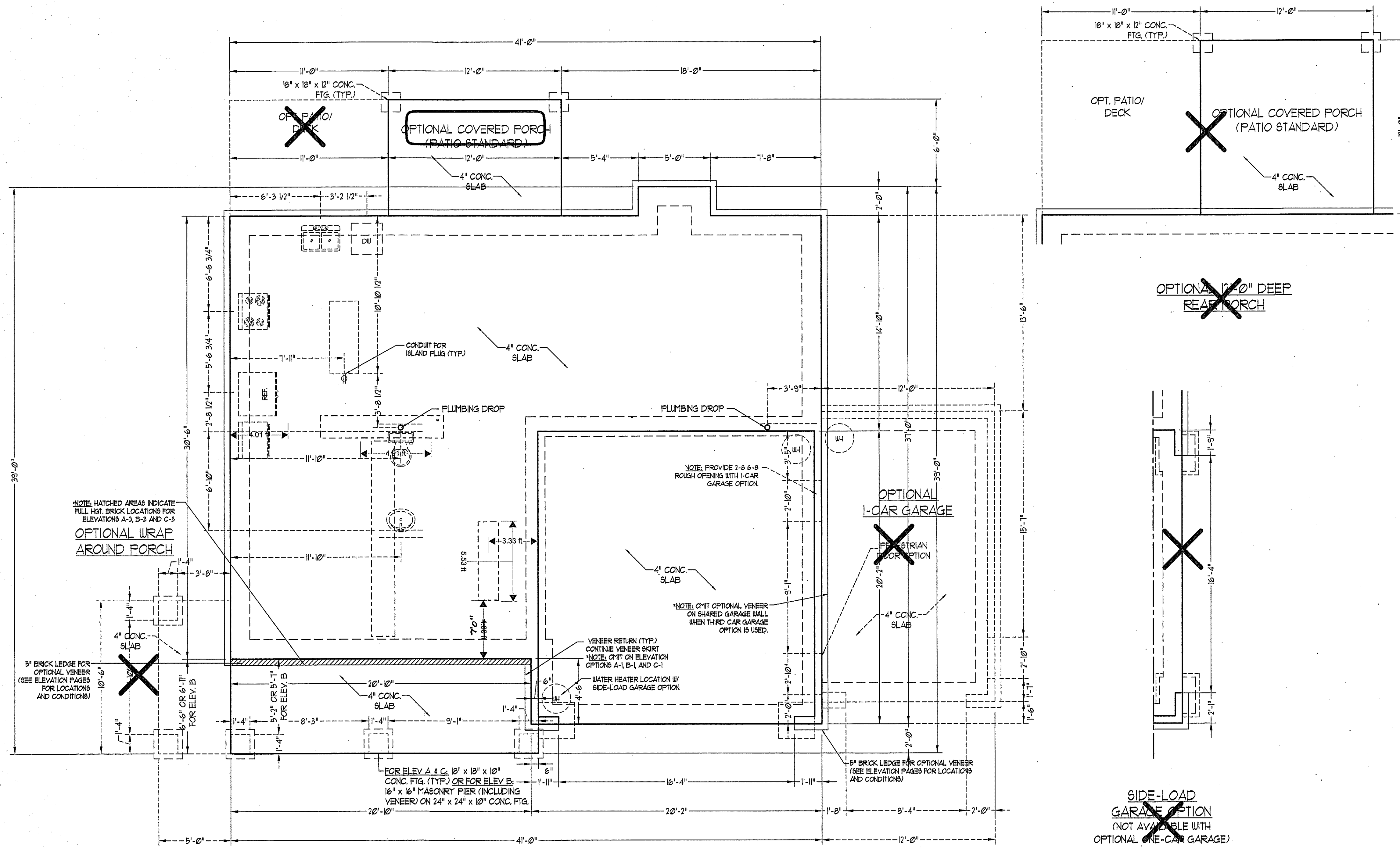
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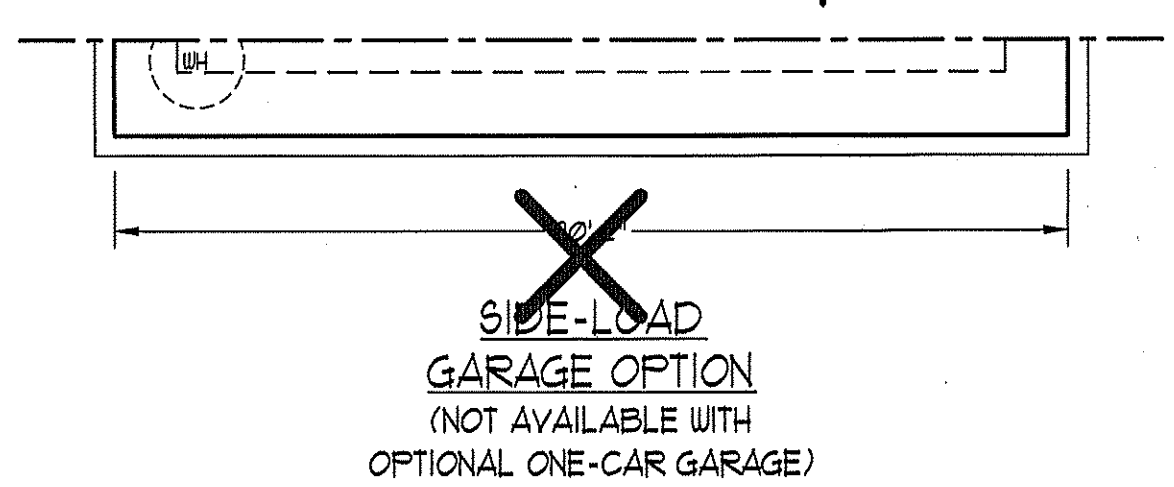
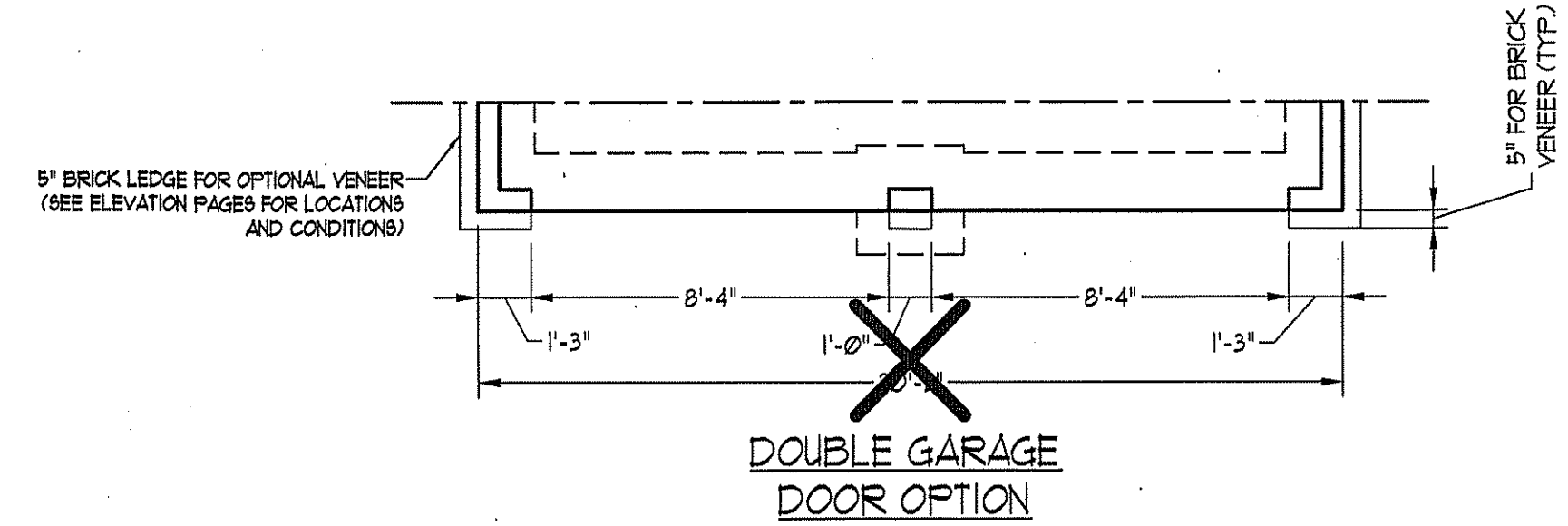
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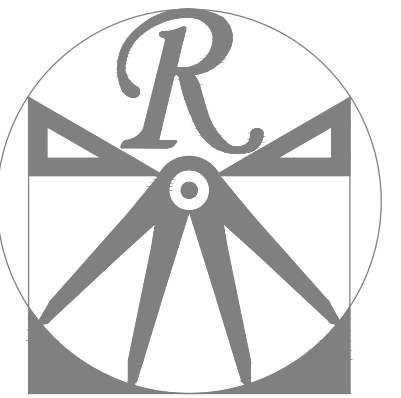
MONO SLAB  
FOUNDATION  
PLAN

S-1



Lot 5  
Removal Block





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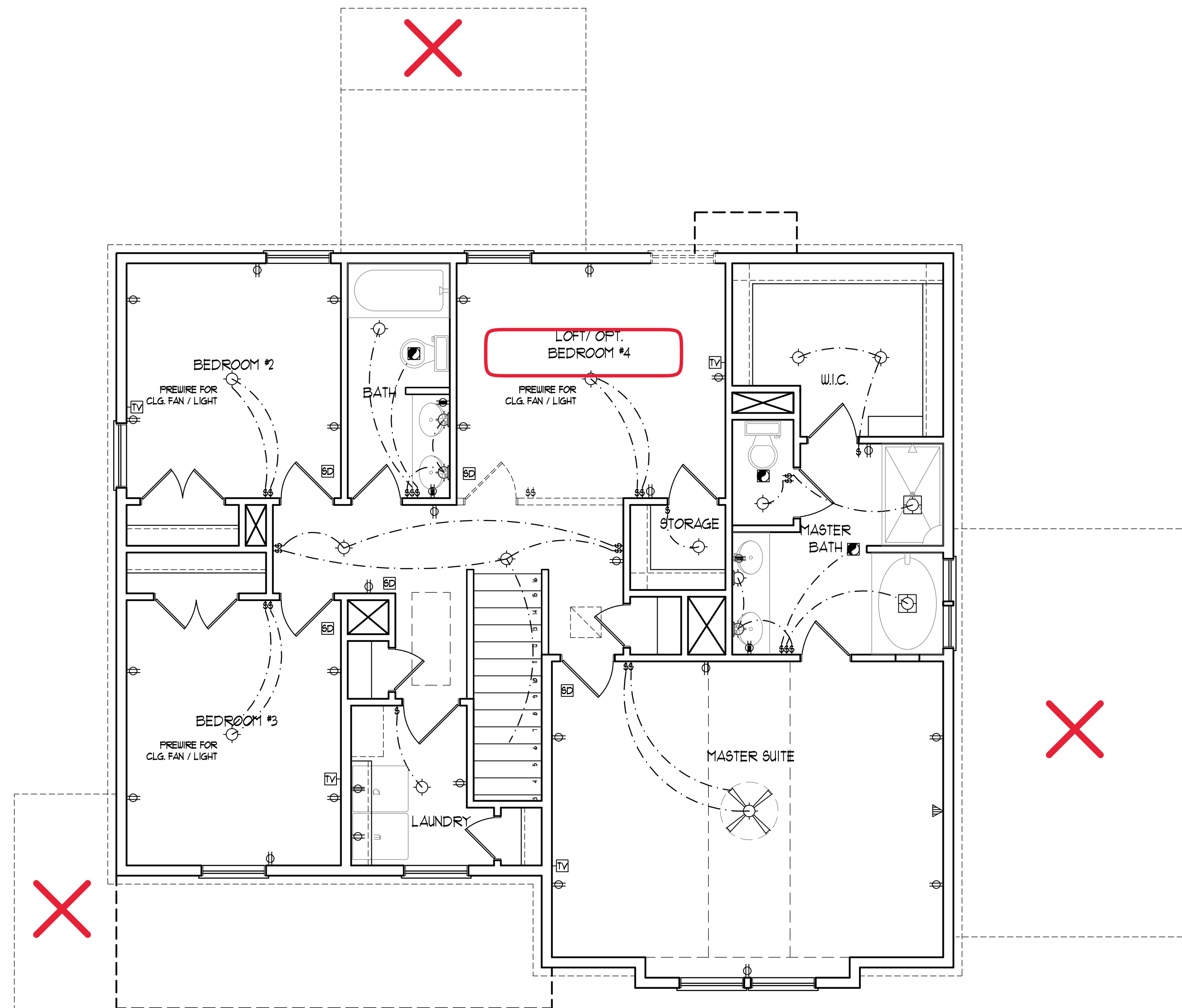
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**ELECTRICAL LEGEND**

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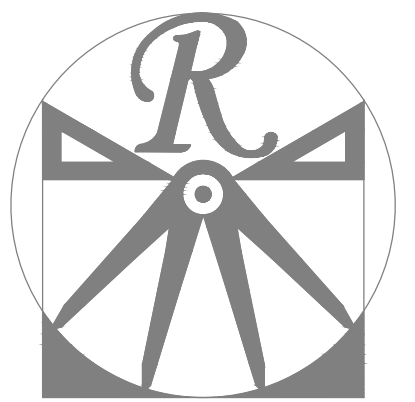
DRAWN BY: WG

ENGINEERED BY:

REVIEWED BY:

SECOND FLOOR  
ELECTRICAL  
PLAN

E-2



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DRAWN BY: WG

ENGINEERED BY:

REVIEWED BY:

ROOF PLAN  
ELEVATION - B

S-4

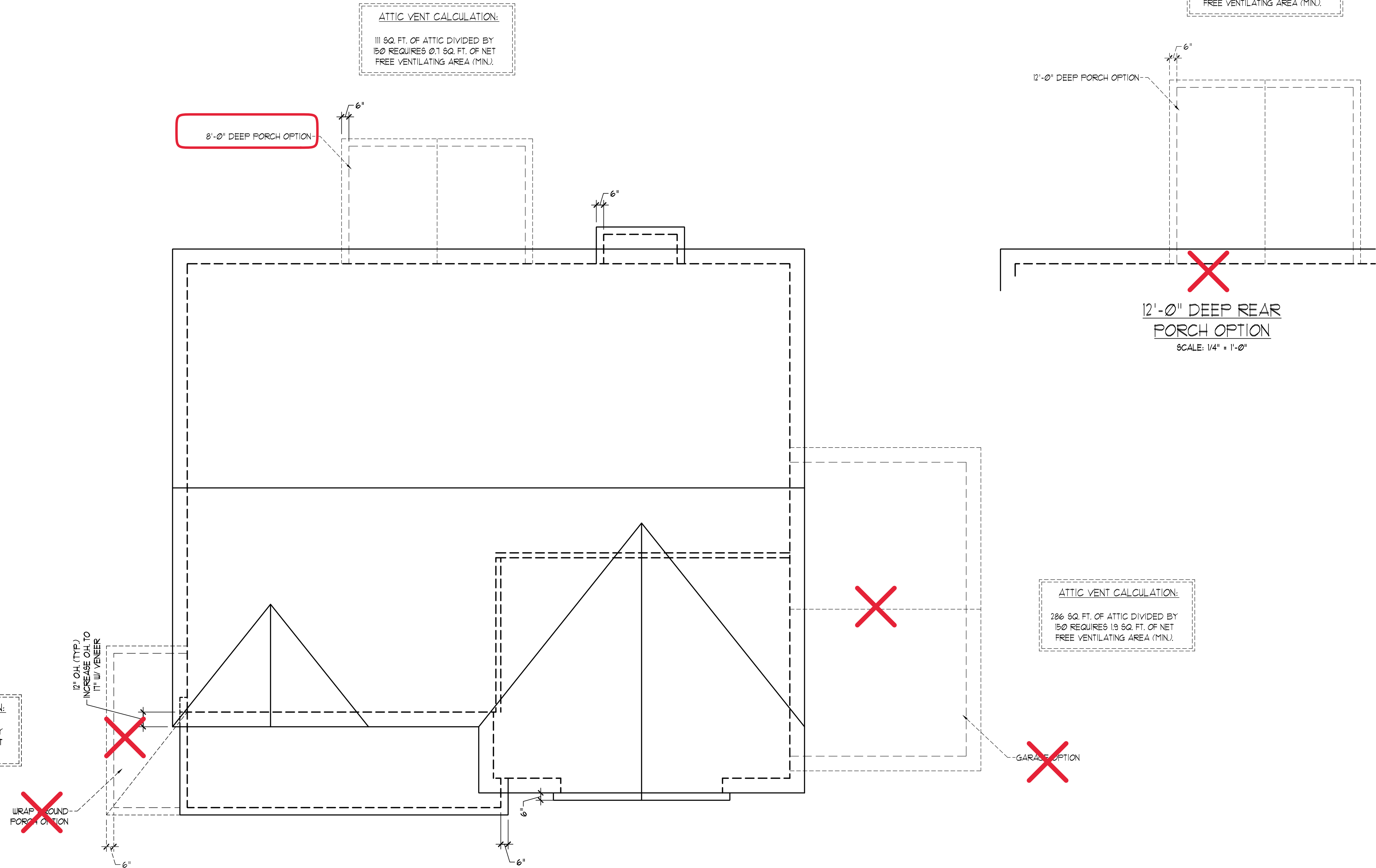
ATTIC VENT CALCULATION:  
1630 SQ. FT. OF ATTIC DIVIDED BY 150 REQUIRES 10.9 SQ. FT. OF NET FREE VENTILATING AREA (MIN.)

ATTIC VENT CALCULATION:  
111 SQ. FT. OF ATTIC DIVIDED BY 150 REQUIRES 0.7 SQ. FT. OF NET FREE VENTILATING AREA (MIN.)

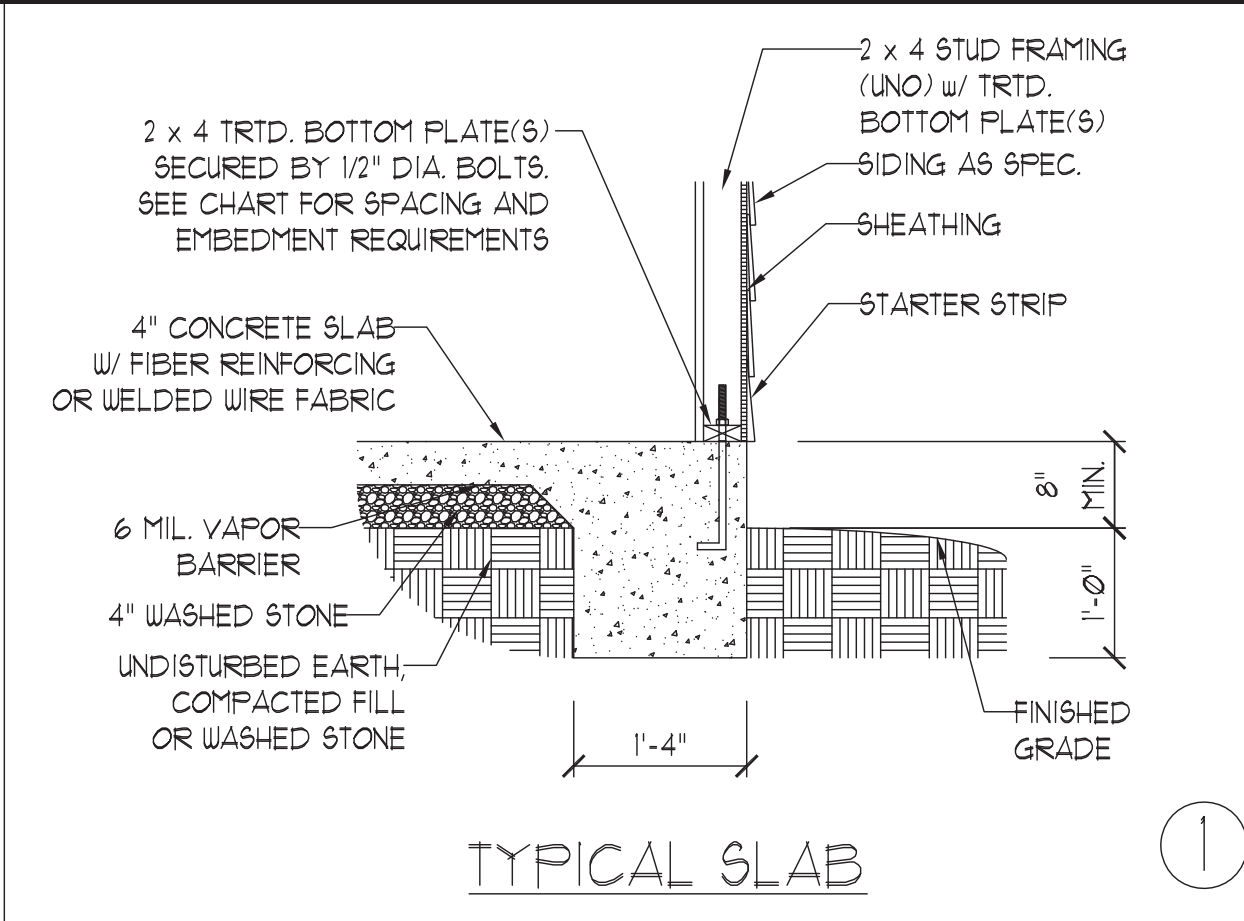
ATTIC VENT CALCULATION:  
163 SQ. FT. OF ATTIC DIVIDED BY 150 REQUIRES 1.1 SQ. FT. OF NET FREE VENTILATING AREA (MIN.)

ATTIC VENT CALCULATION:  
63 SQ. FT. OF ATTIC DIVIDED BY 150 REQUIRES 0.4 SQ. FT. OF NET FREE VENTILATING AREA (MIN.)

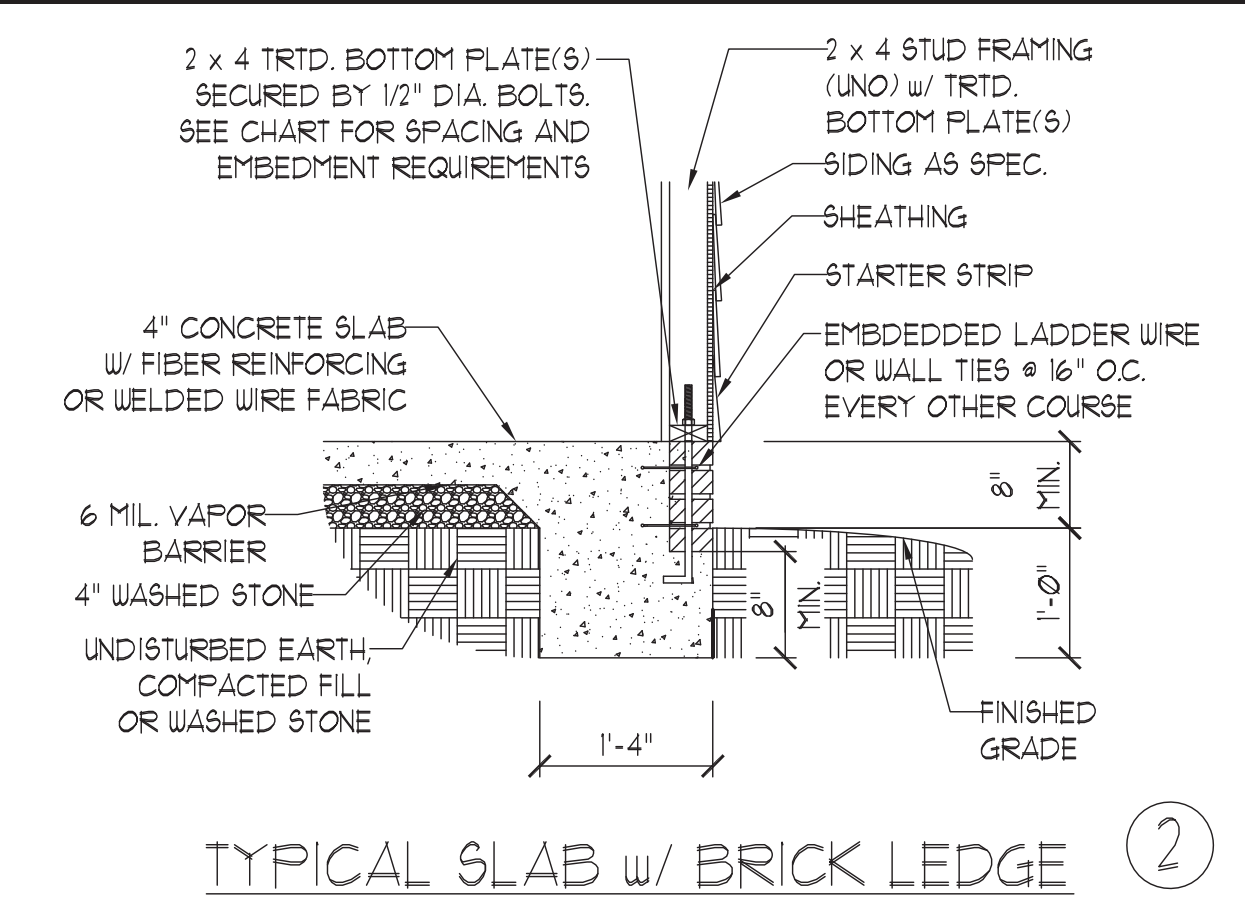
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286 SQ. FT. OF ATTIC DIVIDED BY 150 REQUIRES 1.9 SQ. FT. OF NET FREE VENTILATING AREA (MIN.)



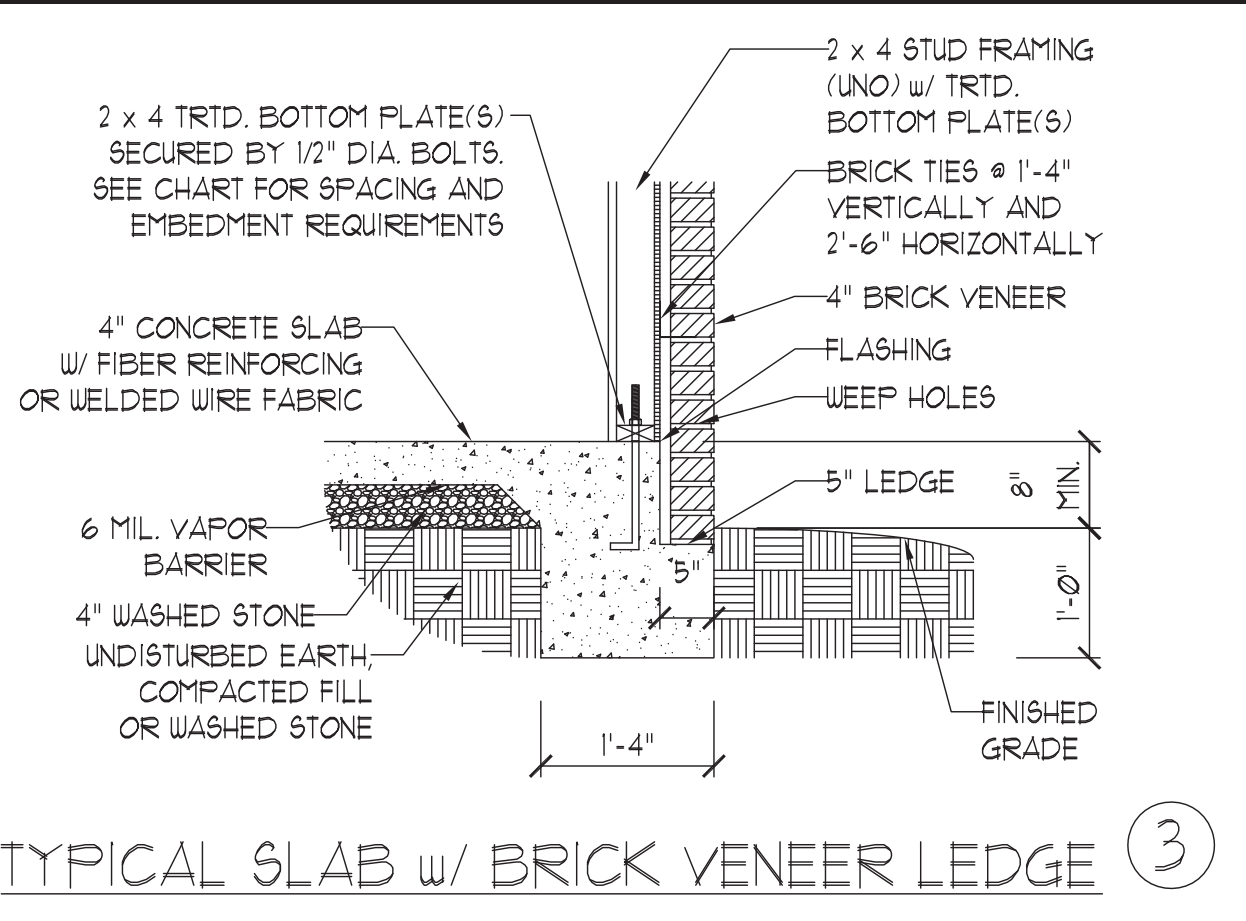
ELEVATION B



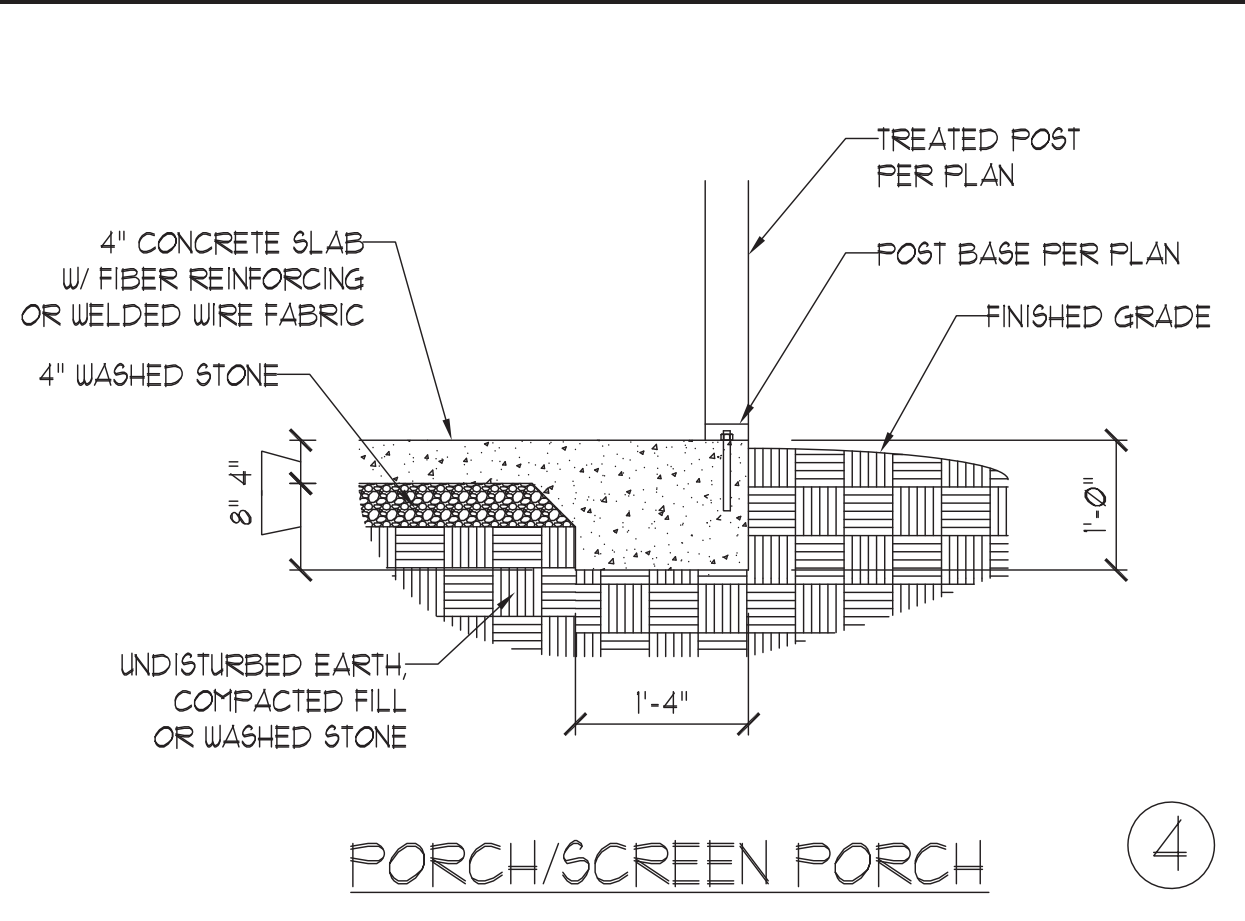
TYPICAL SLAB ①



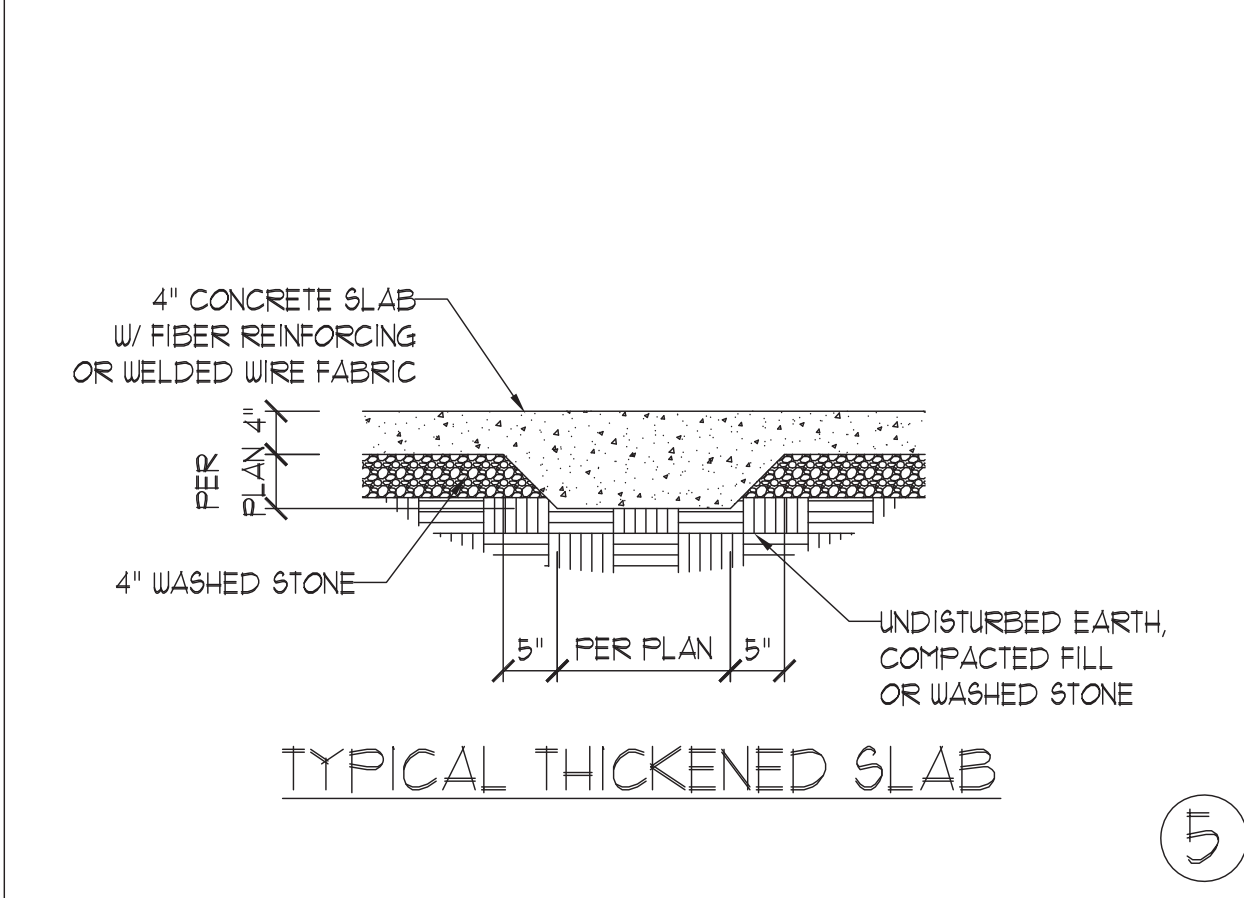
TYPICAL SLAB w/ BRICK LEDGE ②



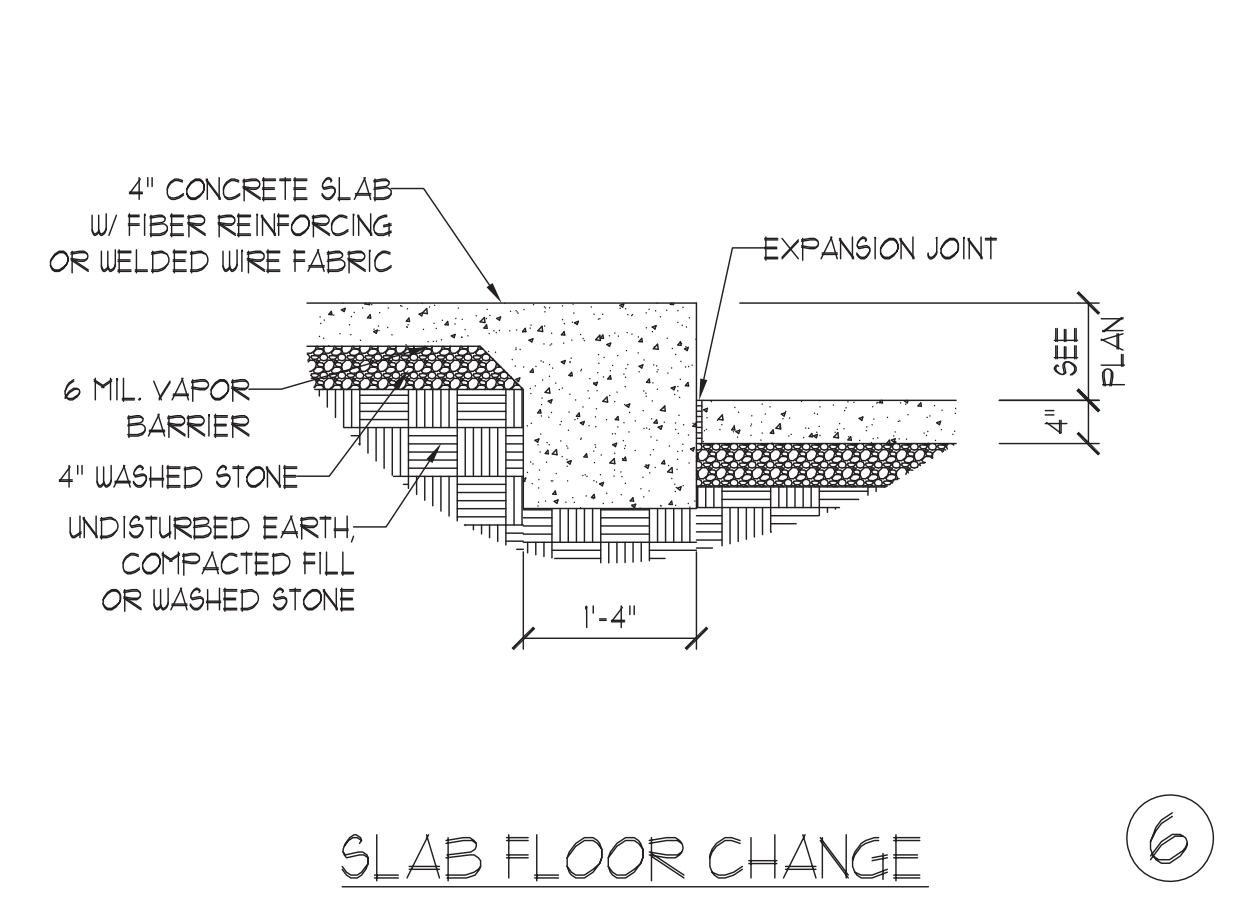
TYPICAL SLAB w/ BRICK VENEER LEDGE ③



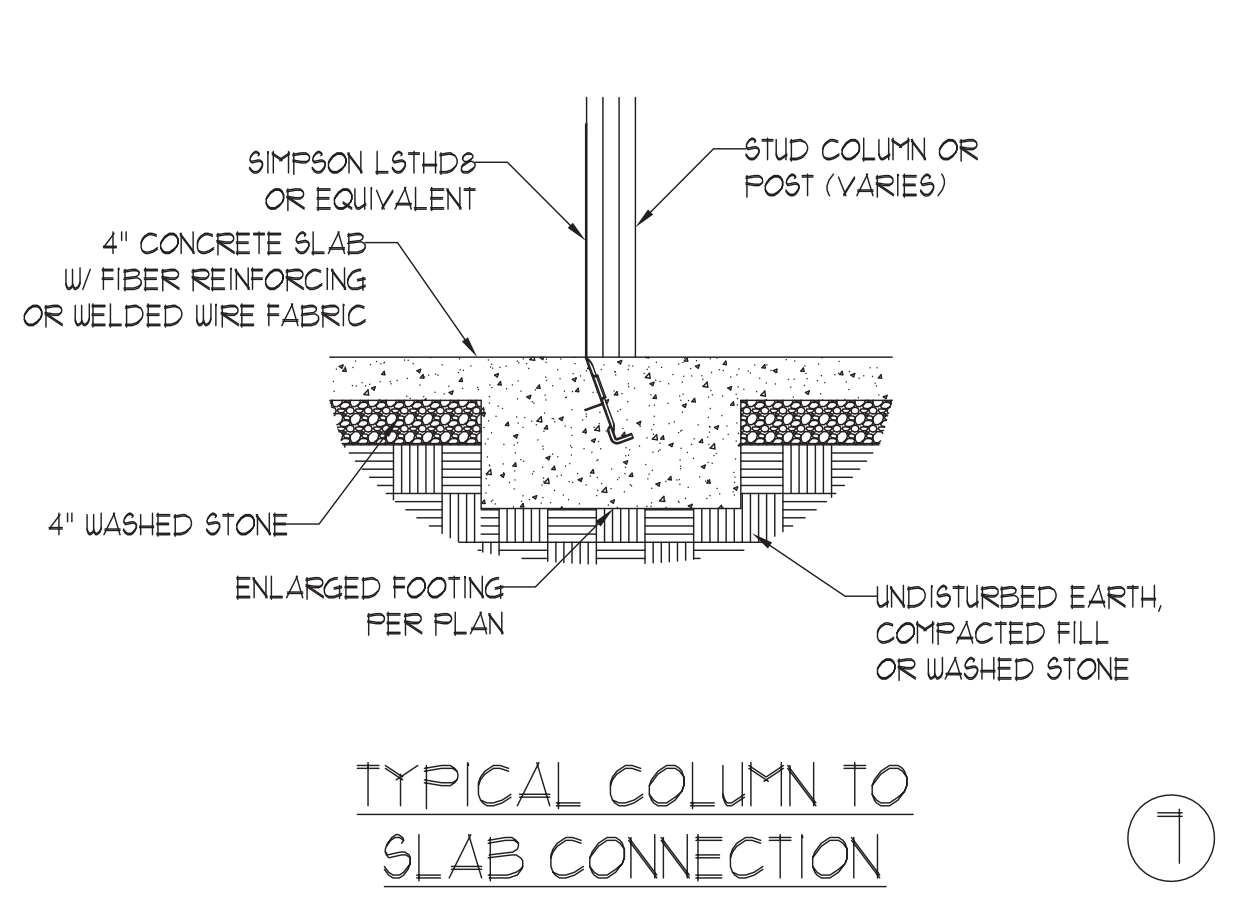
PORCH/SCREEN PORCH ④



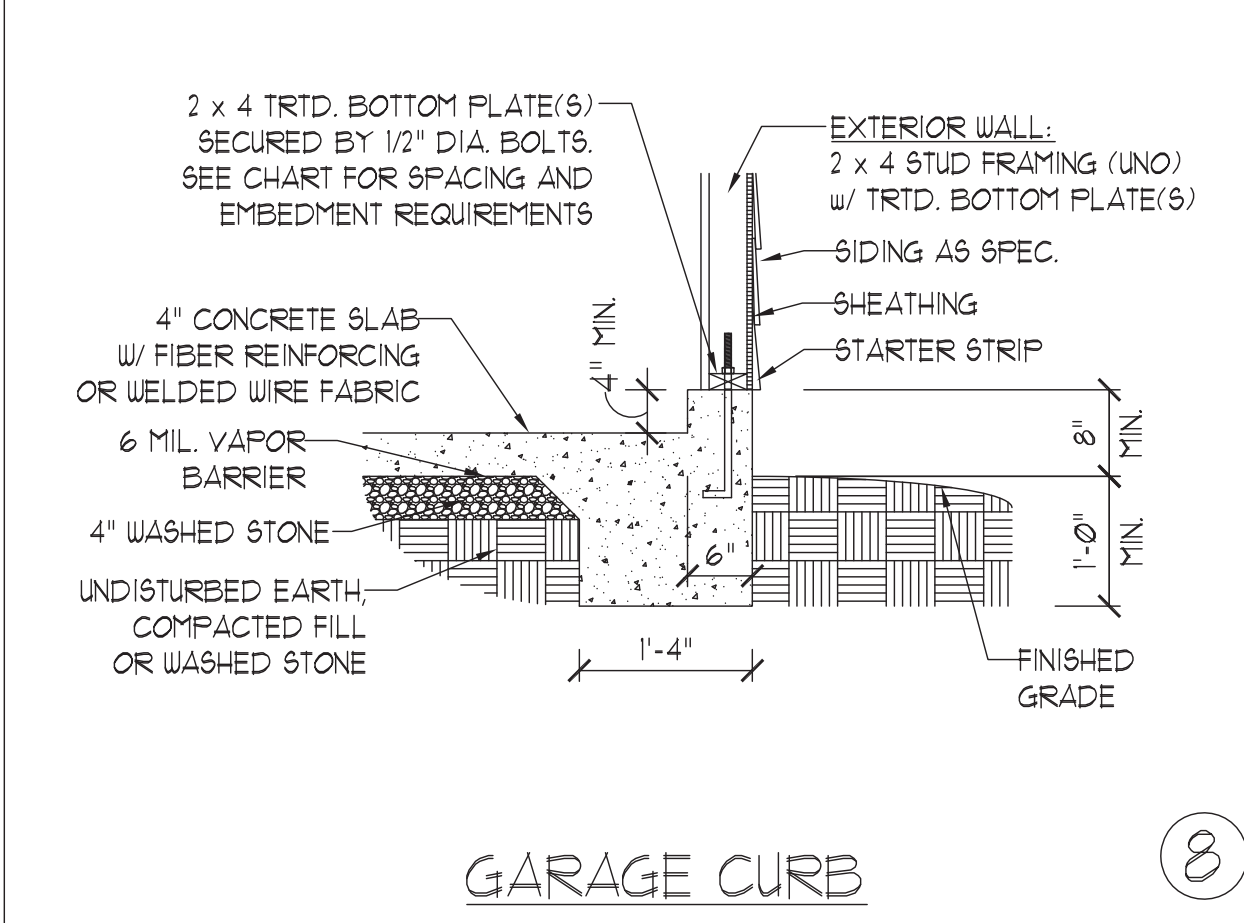
TYPICAL THICKENED SLAB ⑤



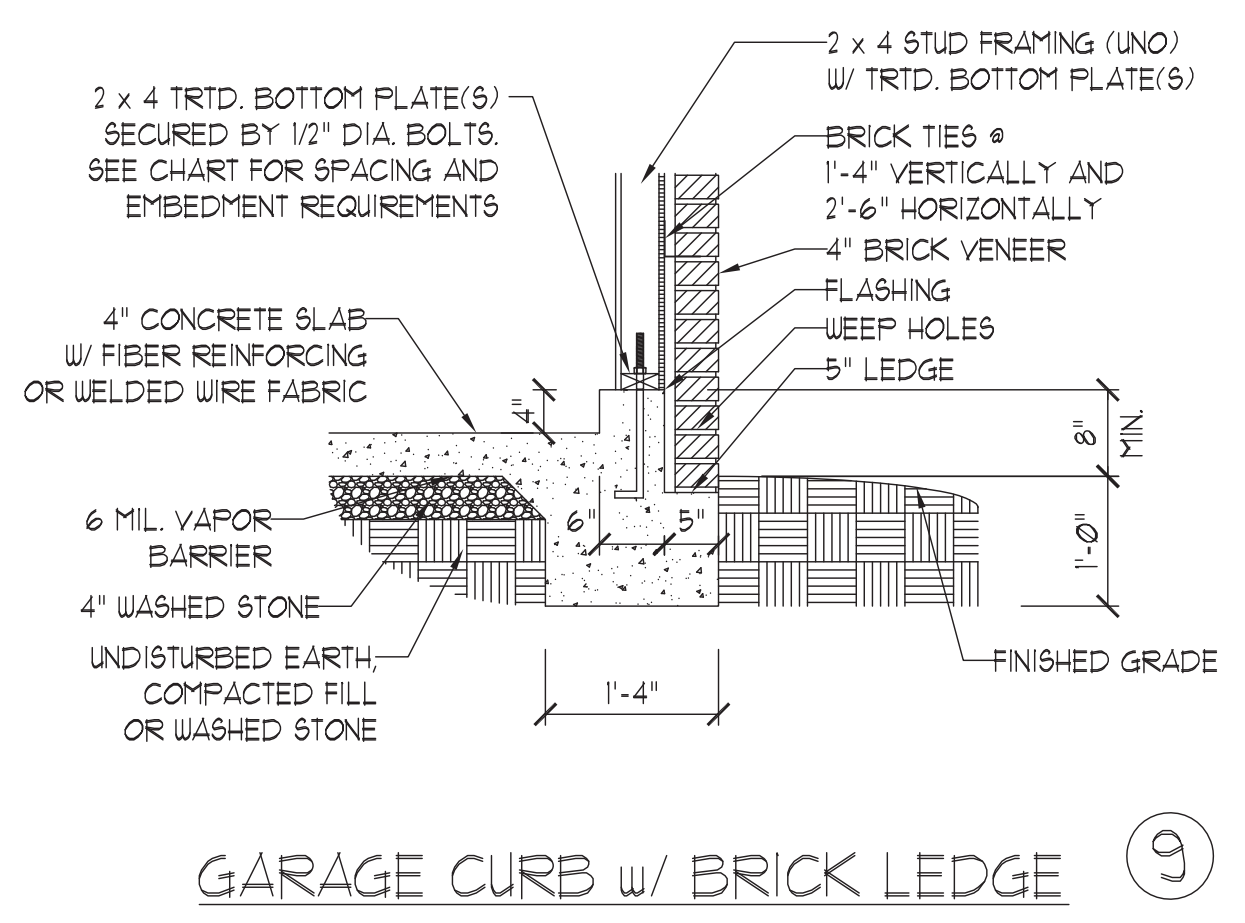
SLAB FLOOR CHANGE ⑥



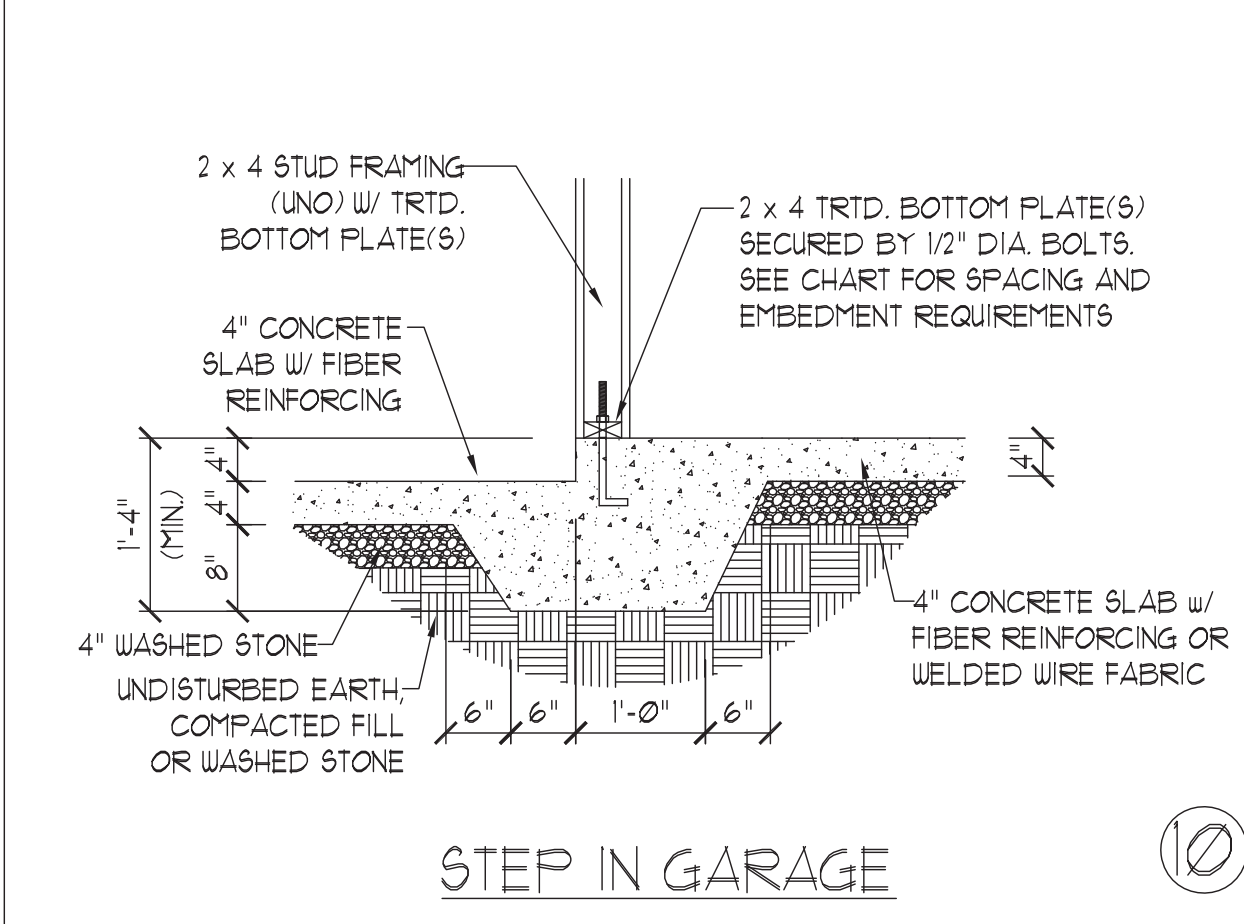
TYPICAL COLUMN TO SLAB CONNECTION ⑦



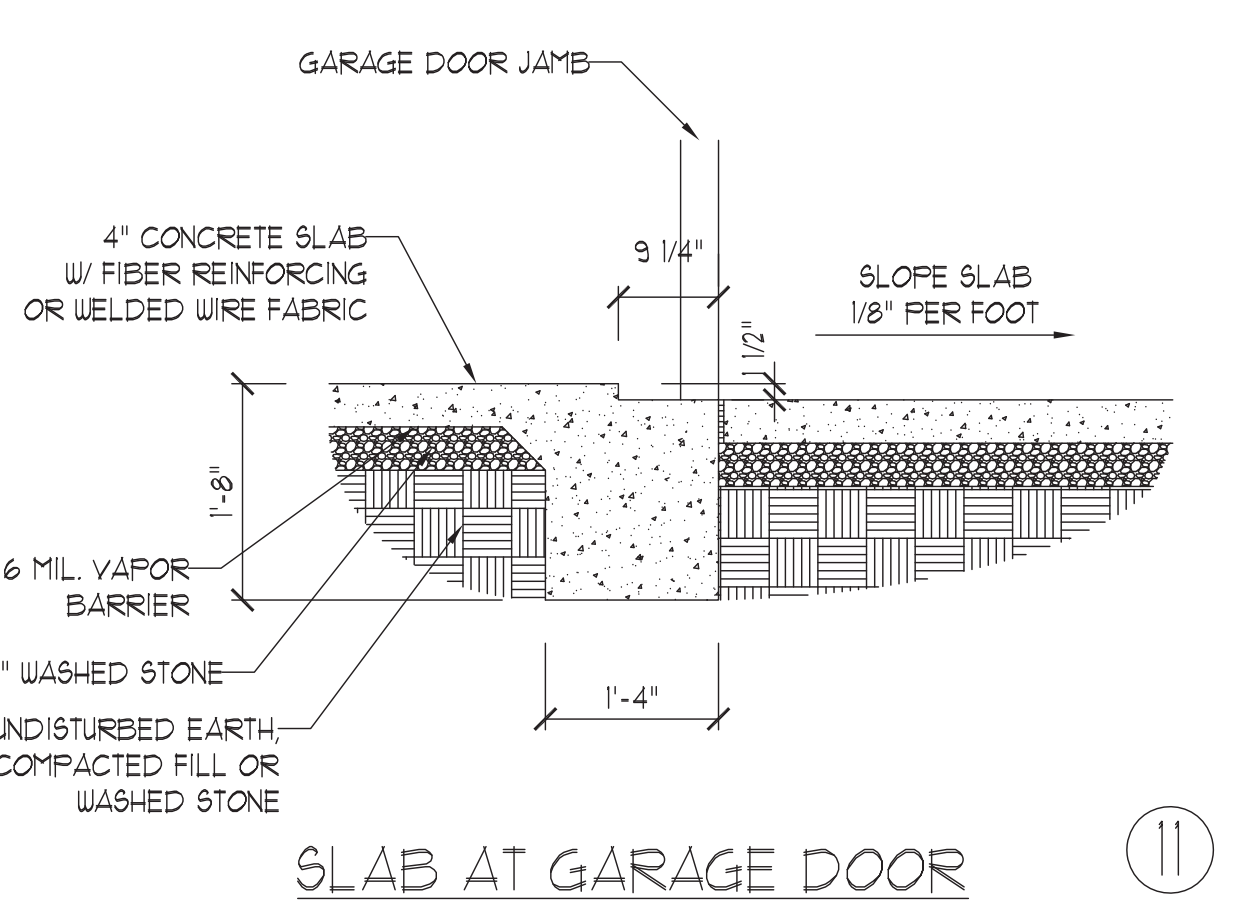
GARAGE CURB ⑧



GARAGE CURB w/ BRICK LEDGE ⑨



STEP IN GARAGE ⑩



SLAB AT GARAGE DOOR ⑪

ANCHOR SPACING AND EMBEDMENT		
WIND ZONE	120 MPH	130 MPH
SPACING	6'-0" O.C. INSTALL MIN. (2) ANCHORS PER PLATE SECTION AND (1) ANCHOR WITHIN 12" OF CORNERS	4'-0" O.C. INSTALL MIN. (2) ANCHORS PER PLATE SECTION AND (1) ANCHOR WITHIN 12" OF CORNERS
EMBEDMENT	7"	15" INTO MASONRY 7" INTO CONCRETE

**NOTE:**  
 THREADED ROD WITH EPOXY, SIMPSON TITEN HD, OR APPROVED ANCHORS SPACED AS REQUIRED TO PROVIDE EQUIVALENT ANCHORAGE TO 1/2" DIAMETER ANCHOR BOLTS MAY BE USED IN LIEU OF 1/2" ANCHOR BOLTS.

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 N.C. LICENSE NO.: C-1733

MONOLITHIC SLAB  
 FOUNDATION DETAILS

SEAL  
 33736  
 ENGINEER  
 MATTHEW G. STROTHER  
 9/28/2020

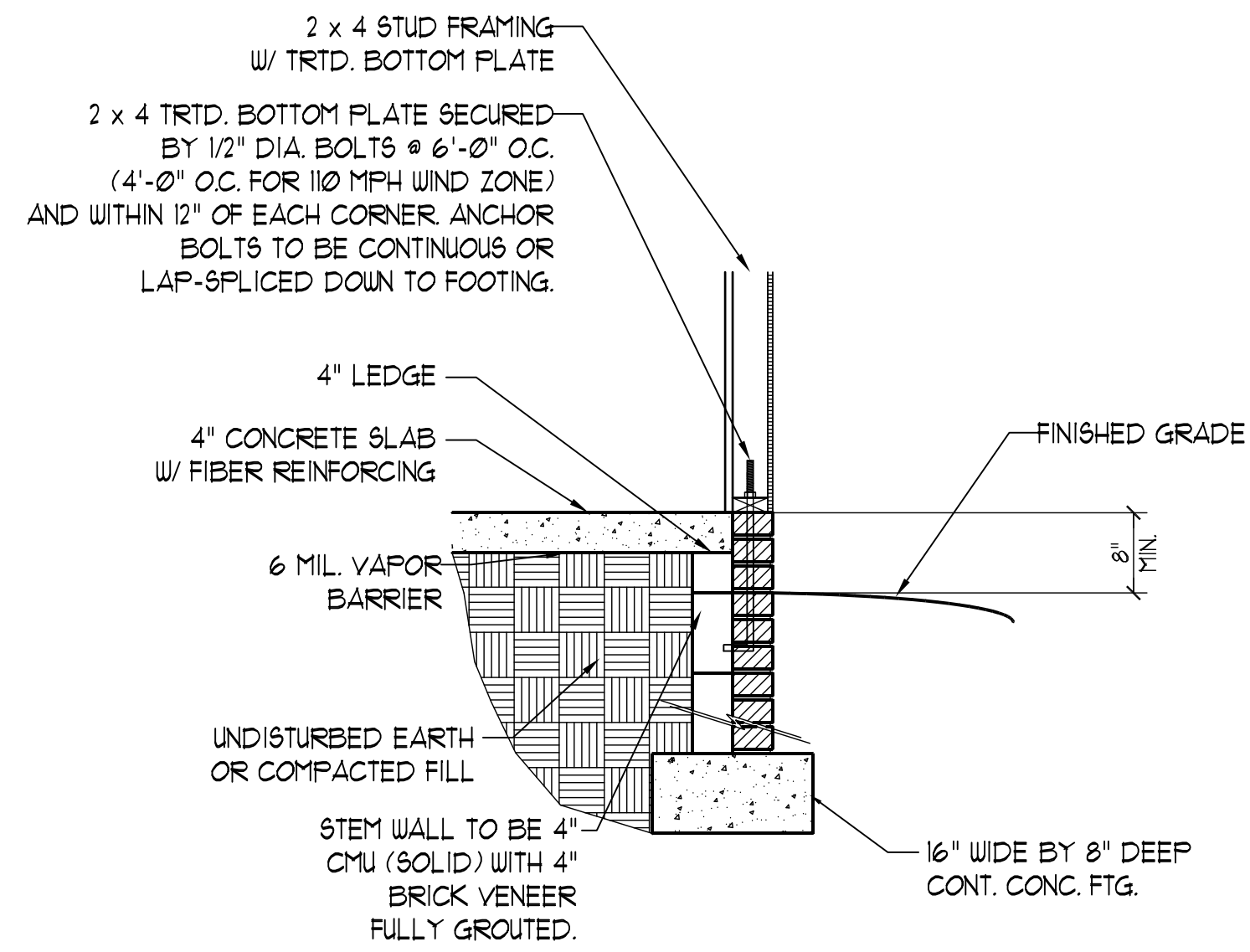
DATE: NOVEMBER 1, 2018  
 SCALE: NTS  
 DRAWN BY: JST  
 ENGINEERED BY: JST

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FOUNDATION  
 DETAILS

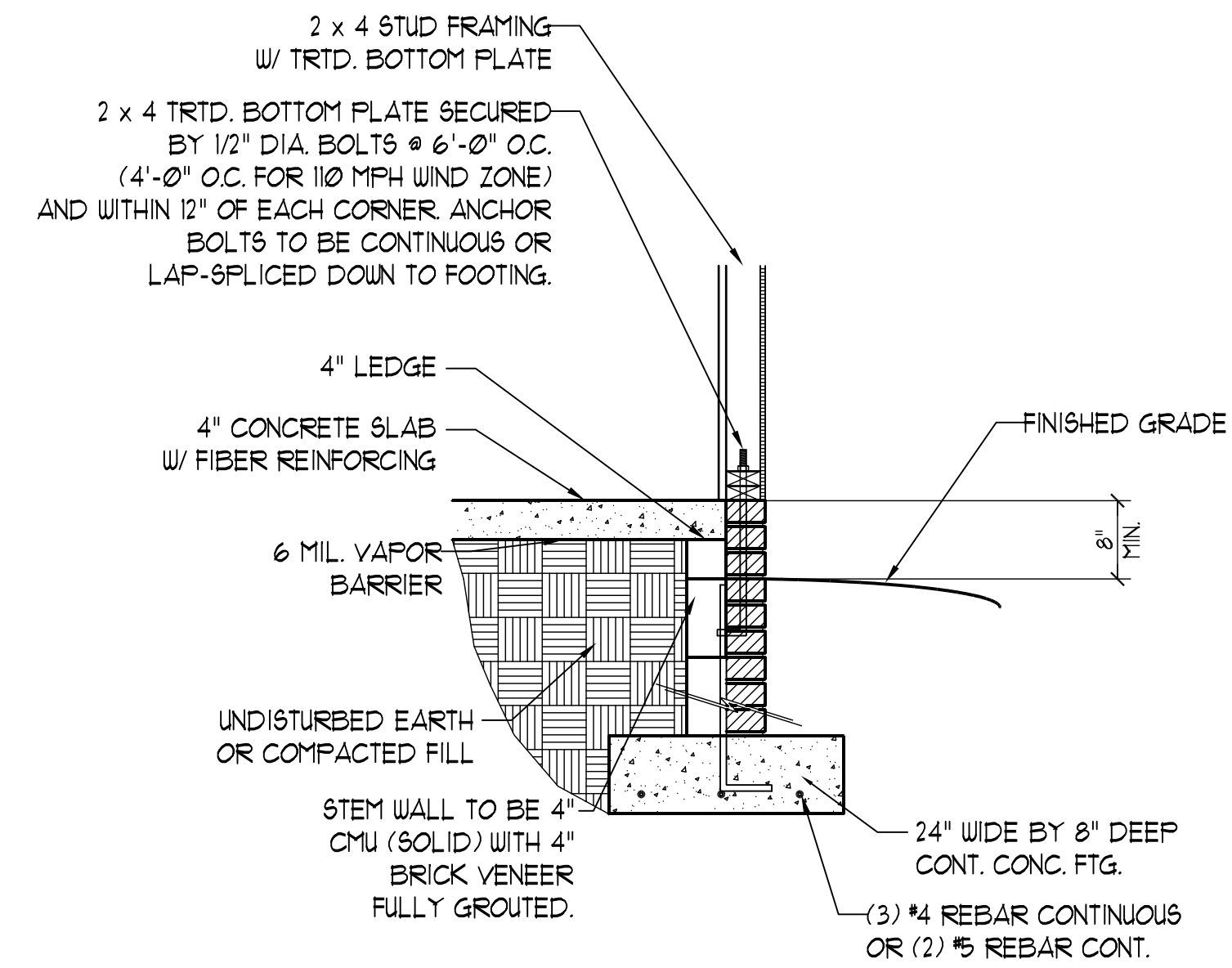


# 90-110 MPH WIND ZONE



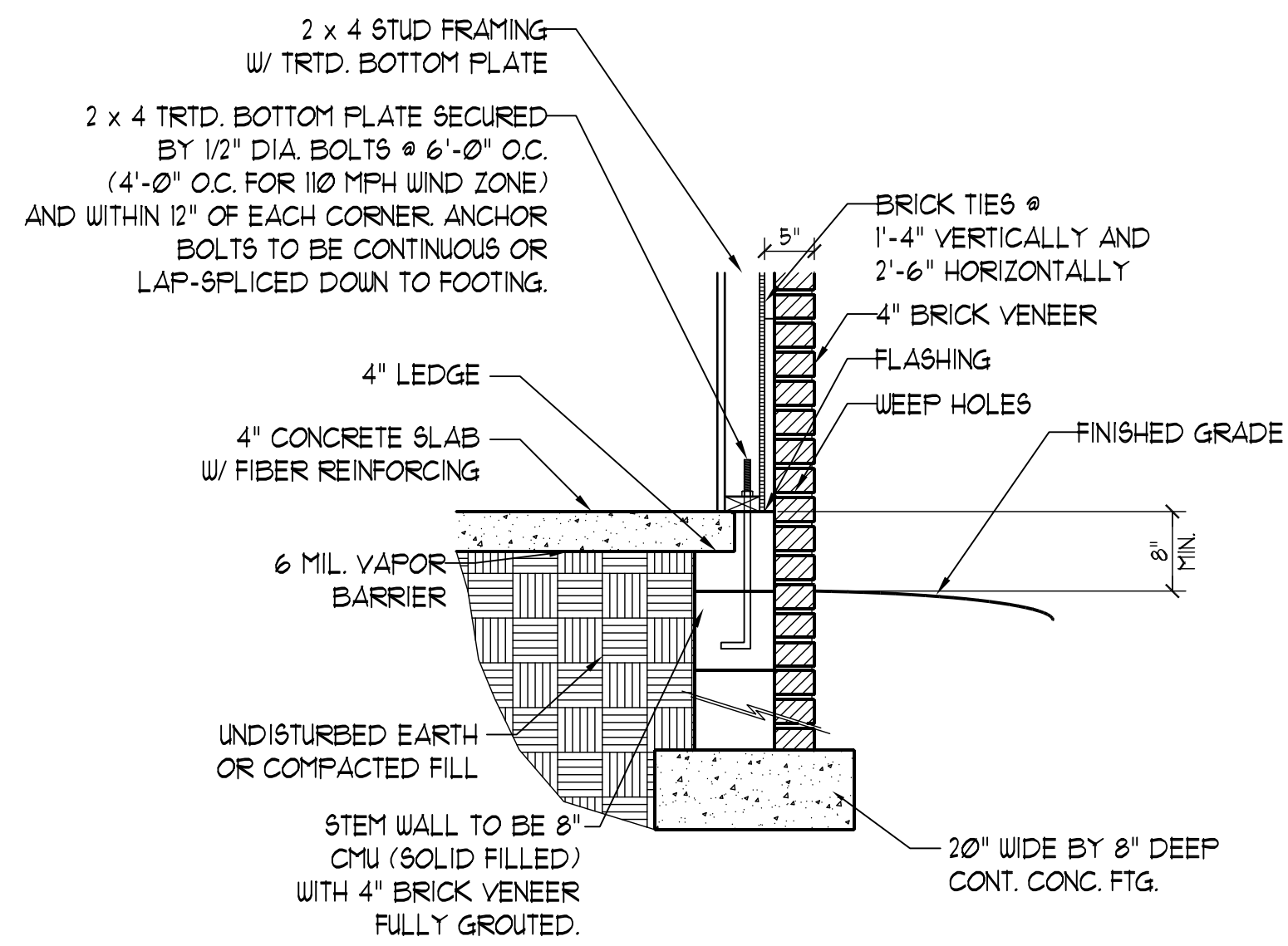
STEM WALL FDN. DETAIL  
w/ SIDING VENEER

# 120-130 MPH WIND ZONE

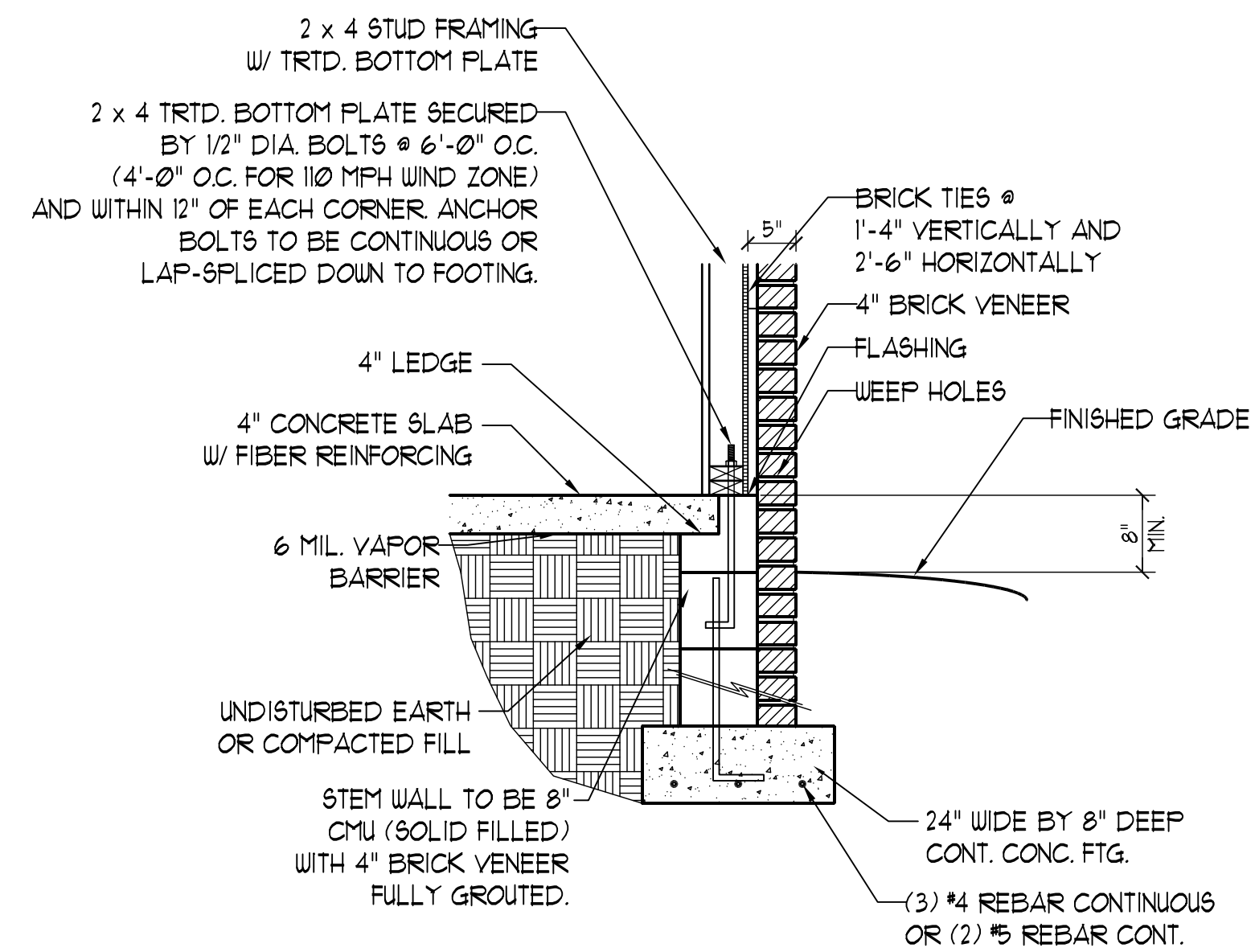


STEM WALL FDN. DETAIL  
w/ SIDING VENEER

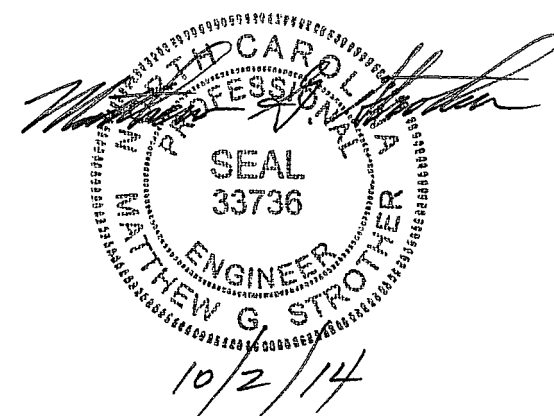
FOR 120-130 MPH WIND ZONES DOUBLE  
SILL PLATES MUST BE INSTALLED



STEM WALL FDN. DETAIL  
w/ BRICK VENEER



STEM WALL FDN. DETAIL  
w/ BRICK VENEER



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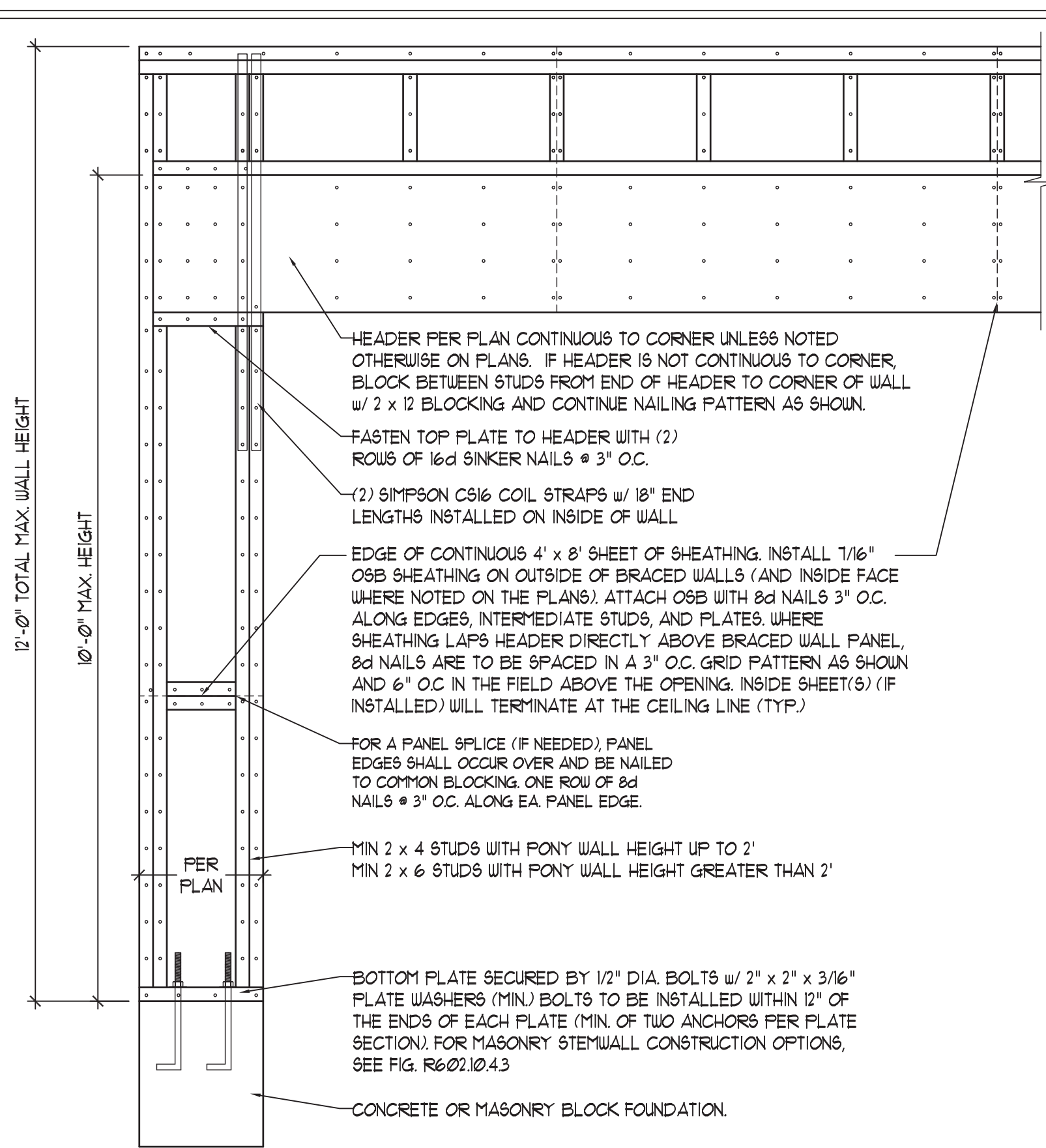
STANDARD STEM WALL DETAILS

DATE: APRIL 23, 2012  
DRAWN BY: JST  
ENGINEERED BY: JST  
REVIEWED BY: MGS

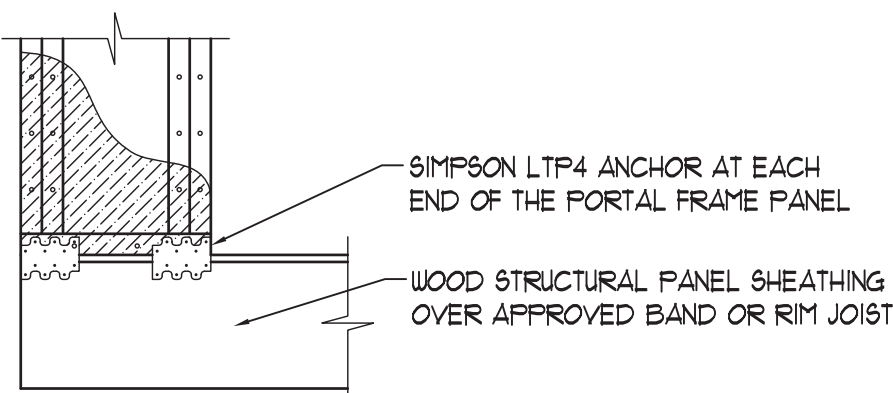
SHEET: DETAILS  
STEM WALL  
FDN. DETAILS

**GENERAL WALL BRACING NOTES:**

1. WALL BRACING DESIGNED IN ACCORDANCE WITH CHAPTER 6 OF THE 2018 NC RESIDENTIAL BUILDING CODE (NRC). TABLES AND FIGURES REFERENCED ARE FROM THE 2018 NRC.
2. SEE THIS SHEET FOR GENERAL DETAILS. REFER TO THE 2018 NRC FOR ADDITIONAL INFORMATION AS NEEDED.
3. BRACED EXTERIOR WALLS SUPPORTING ROOF TRUSSES AND RAFTERS, INCLUDING STORIES BELOW THE TOP FLOOR, HAVE BEEN DESIGNED PER R602.3.5 (3). WALL SHEATHING AND FASTENERS HAVE BEEN DESIGNED TO RESIST COMBINED UPLIFT AND SHEAR FORCES IN ACCORDANCE WITH ACCEPTED ENGINEERING PRACTICE.
4. SEE STRUCTURAL SHEETS FOR BRACED WALL LOCATIONS, DIMENSIONS, HOLD DOWN TYPE AND LOCATIONS, BRACED WALL LINE KEY WITH WALL DESIGN SUMMARY OF REQUIRED/PROVIDED TOTALS FOR EACH WALL LINE AND ANY SPECIAL NOTES OR REQUIREMENTS.
5. ALL EXTERIOR WALLS ARE TO BE SHEATHED WITH CS-USP IN ACCORDANCE WITH SECTION R602.10.3 UNLESS NOTED OTHERWISE.
6. ALL EXTERIOR AND INTERIOR WALLS TO HAVE 1/2" GYPSUM INSTALLED. WHEN NOT USING METHOD "GB", GYPSUM TO BE FASTENED PER TABLE R102.3.5. METHOD GB TO BE FASTENED PER TABLE R602.10.1.
7. CS-USP REFERS TO THE "CONTINUOUS SHEATHING - WOOD STRUCTURAL PANELS" WALL BRACING METHOD. 1/16" OSB SHEATHING IS TO BE INSTALLED ON ALL EXTERIOR WALLS ATTACHED w/ 6d COMMON NAILS OR 8d (2 1/2" LONG x 0.13" DIAMETER) NAILS SPACED 6" O.C. ALONG PANEL EDGES AND 12" O.C. IN THE FIELD (UNO.).
8. GB REFERS TO THE "GYPSUM BOARD" WALL BRACING METHOD. 1/2" (MIN.) GYPSUM WALL BOARD IS TO BE INSTALLED ON BOTH SIDES OF THE BRACED WALL FASTENED WITH 1 1/4" SCREWS OR 1 5/8" NAILS SPACED 1" O.C. ALONG PANEL EDGES INCLUDING TOP AND BOTTOM PLATES AND INTERMEDIATE SUPPORTS (UNO.). 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.
9. 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 ITS ACTUAL LENGTH, AND METHOD PF CONTRIBUTES 15 TIMES ITS ACTUAL LENGTH.

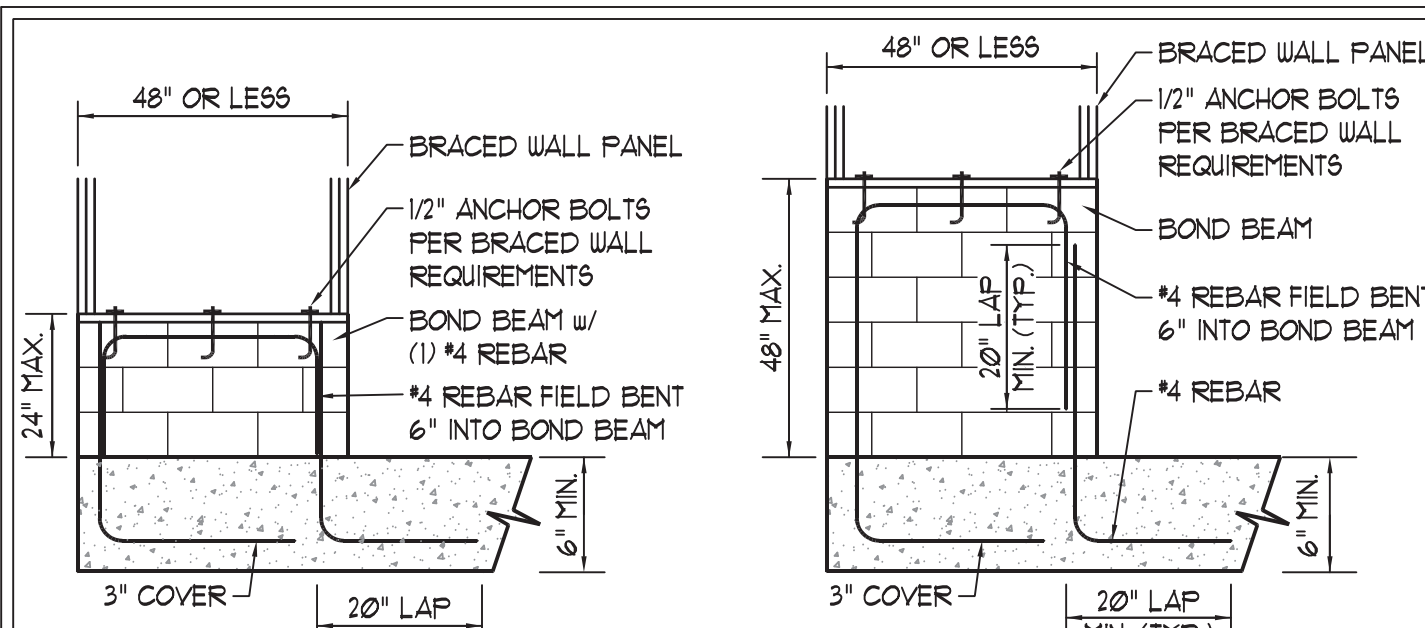


OVER CONCRETE OR MASONRY BLOCK FOUNDATION

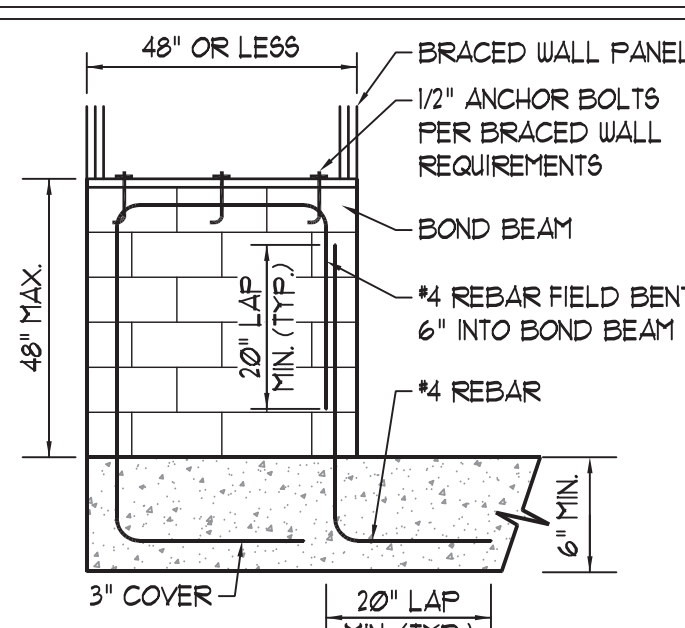


OVER RAISED WOOD FLOOR - FRAMING ANCHOR OPTION  
 \* APPLICABLE w/ GREATER THAN 12" KNEE WALL HEIGHTS  
 IN CRAWL SPACE AND ABOVE FRAMED BASEMENT WALLS \*

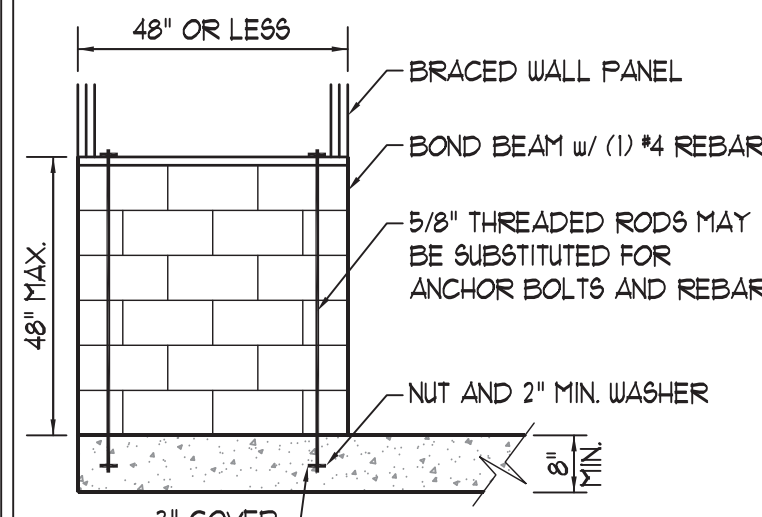
**METHOD PF-PORTAL FRAME DETAIL ①**



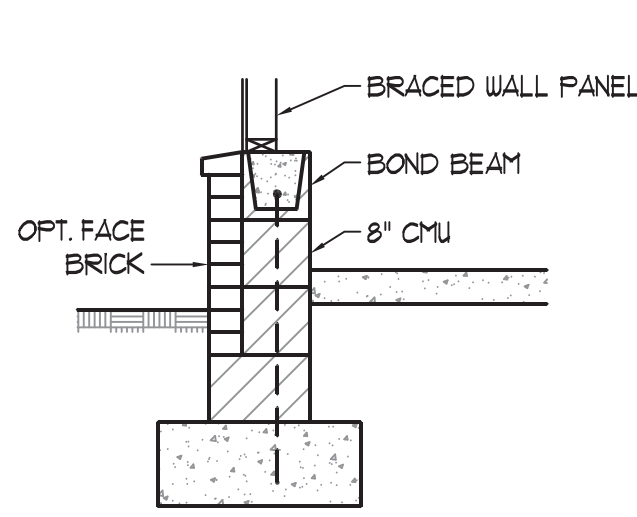
SHORT STEM WALL REINFORCEMENT



TALL STEM WALL REINFORCEMENT



OPTIONAL STEM WALL REINFORCEMENT

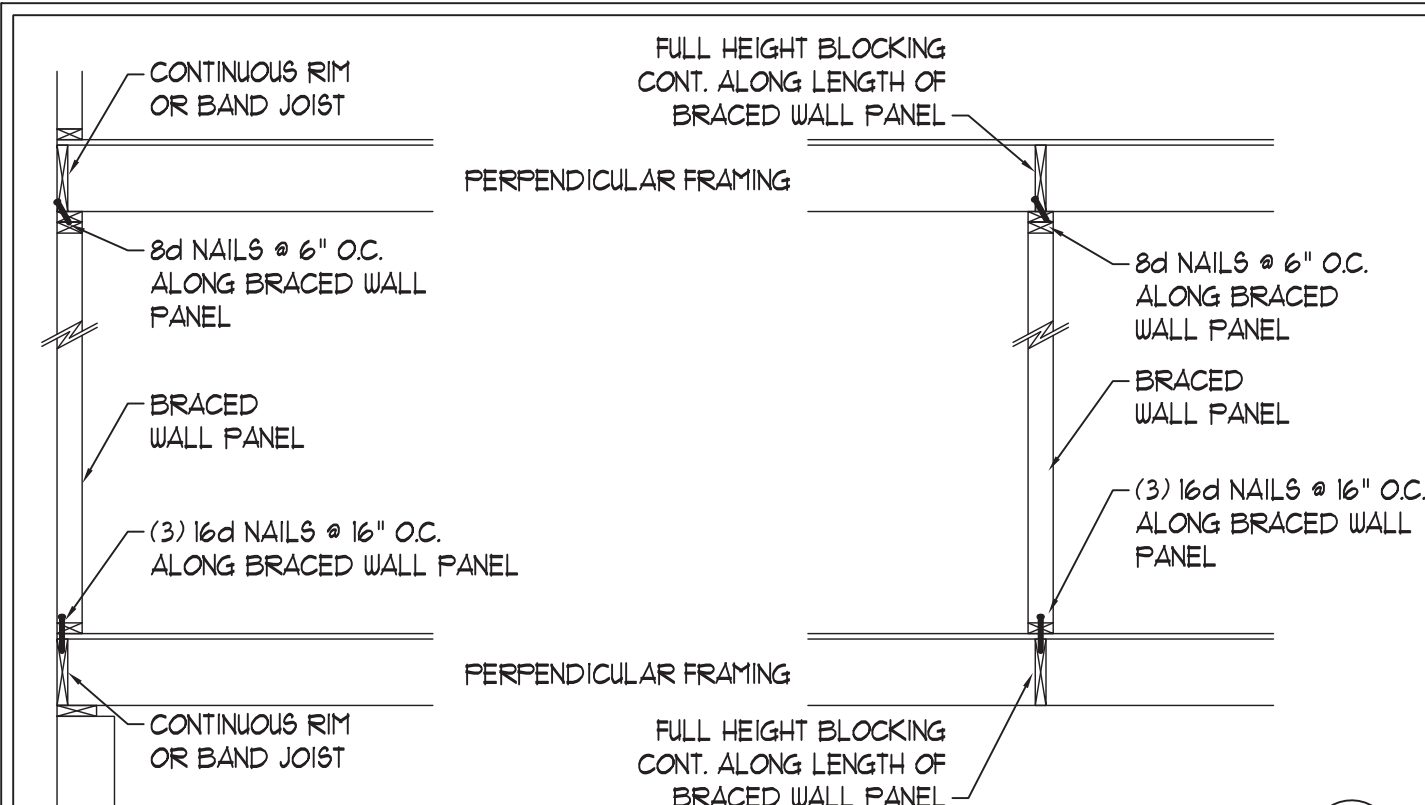


TYPICAL STEM WALL SECTION

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

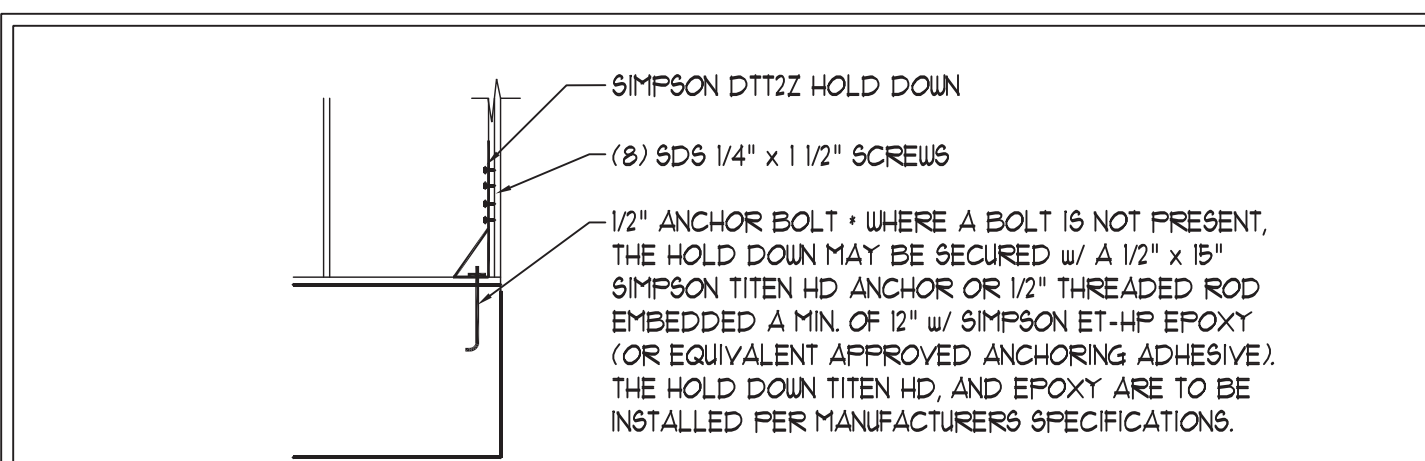
**MASONRY STEM WALLS SUPPORTING BRACED WALL PANELS ②**

PER FIGURE R602.10.4.3



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

PER FIGURE R602.10.4.4(1)

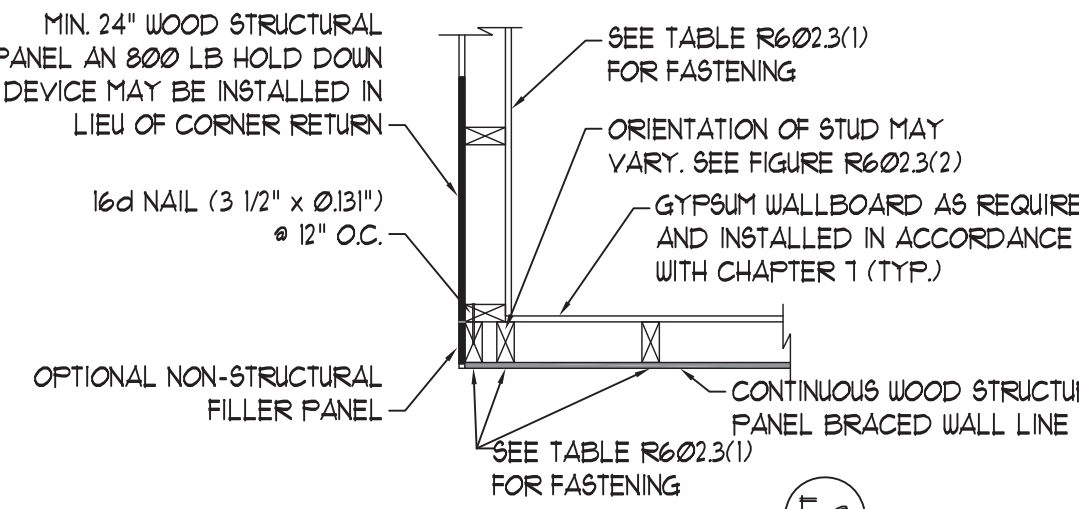


**HOLD DOWN DETAIL FOR MASONRY FOUNDATION OR MONOLITHIC SLAB ④**

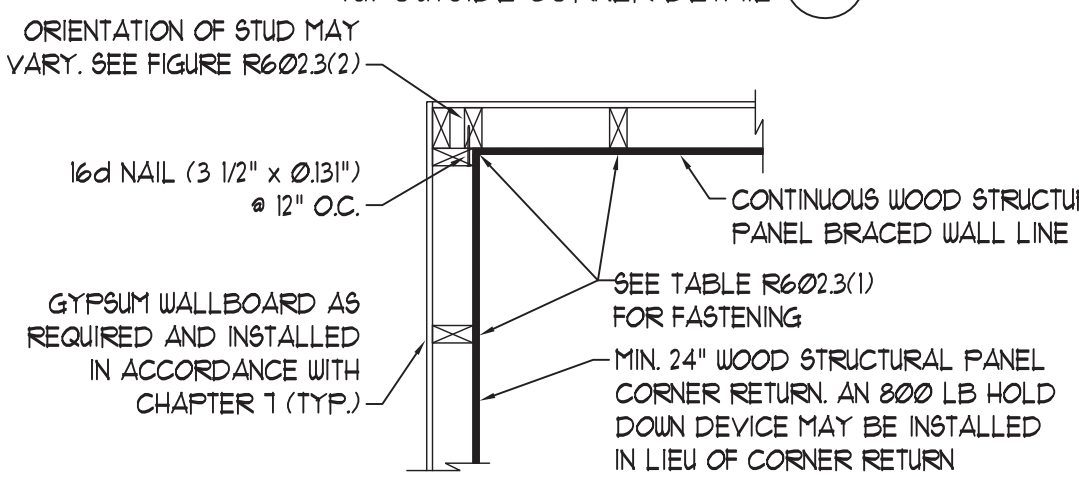
\* APPLICABLE ONLY WHERE SPECIFIED ON PLAN \*

**TYPICAL EXTERIOR CORNER FRAMING FOR CONTINUOUS SHEATHING ⑤**

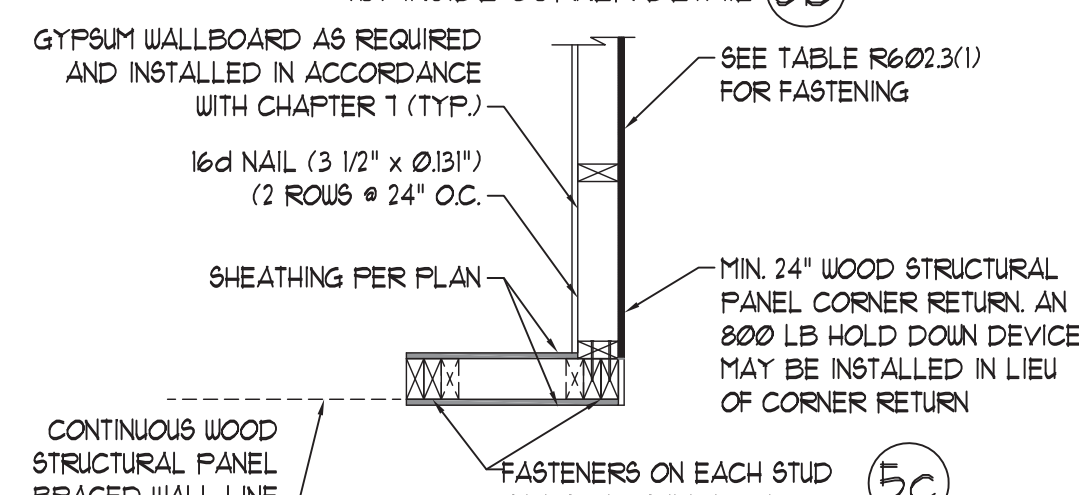
PER FIGURE R602.10.3(5)



(a) OUTSIDE CORNER DETAIL ⑤a



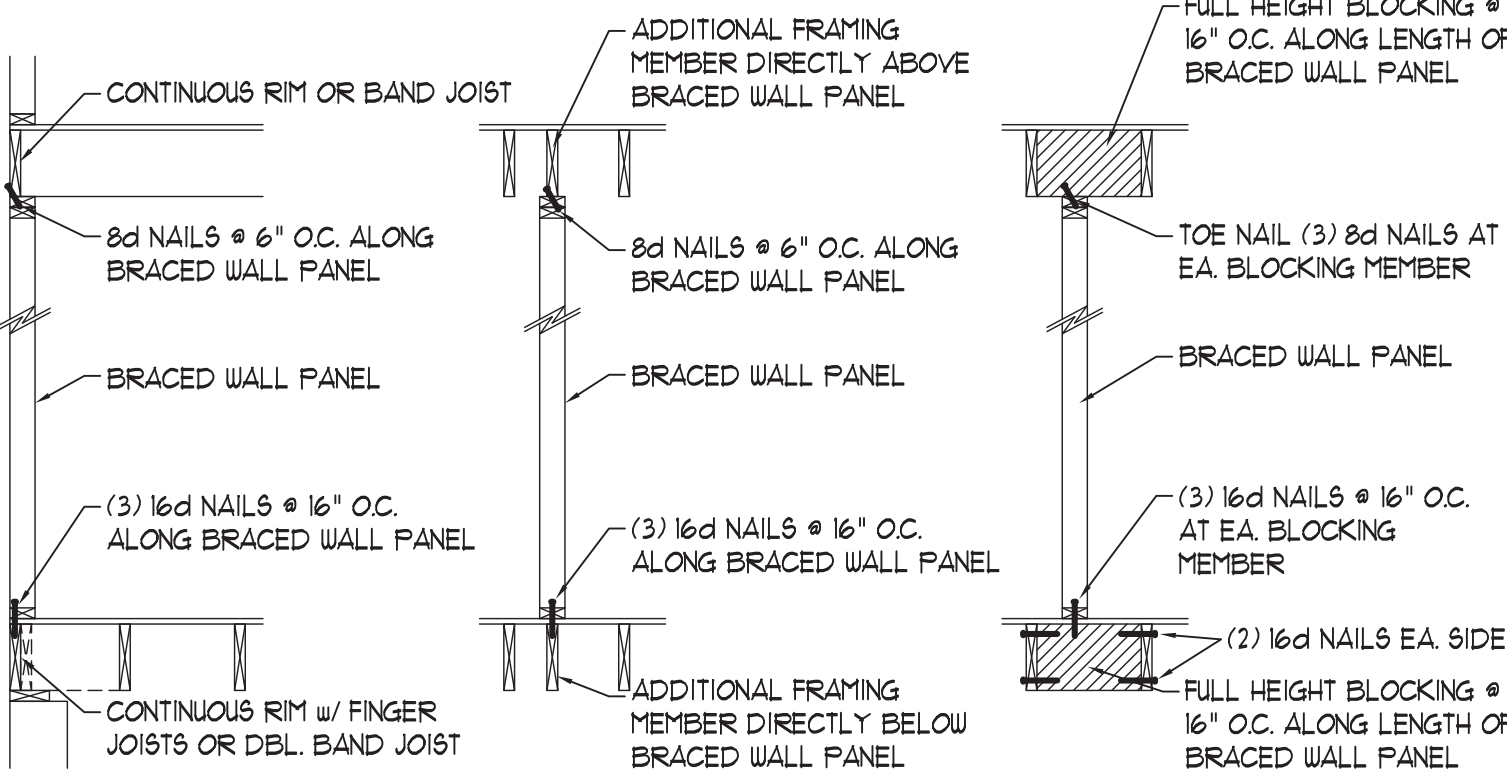
(b) INSIDE CORNER DETAIL ⑤b



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

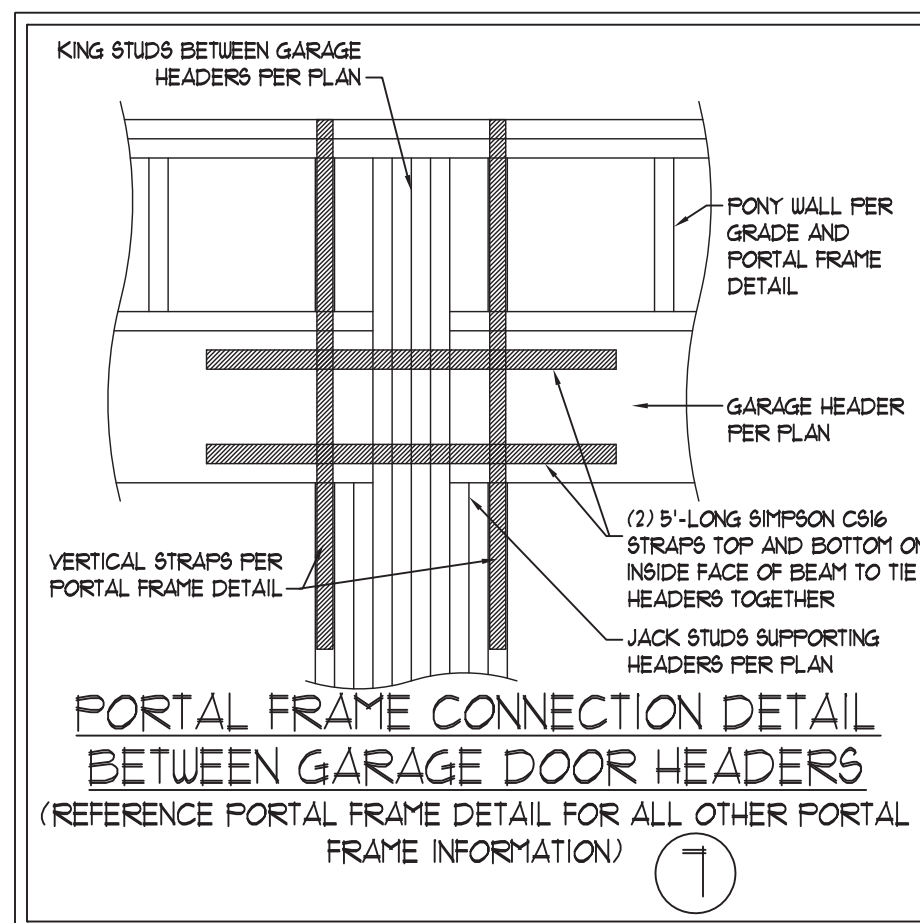
**BRACED WALL PANEL CONNECTION WHEN PARALLEL TO FLOOR/CEILING FRAMING ⑥**

PER FIG. R602.10.4.4(2)



**BRACED WALL PANEL CONNECTION TO PERPENDICULAR ROOF TRUSSES ⑨**

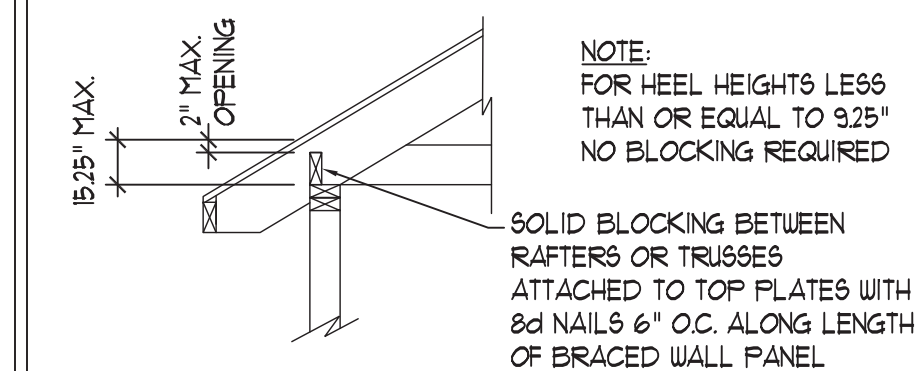
PER FIGURE R602.10.4.5(3) (OR ALTERNATIVE: FIGURE R602.10.4.5(2))



PORTAL FRAME CONNECTION DETAIL BETWEEN GARAGE DOOR HEADERS (REFERENCE PORTAL FRAME DETAIL FOR ALL OTHER PORTAL FRAME INFORMATION) ⑦

**BRACED WALL PANEL CONNECTION TO PERPENDICULAR RAFTERS ⑧**

PER FIGURE R602.10.4.5(1)



NOTE: FOR HEEL HEIGHTS LESS THAN OR EQUAL TO 3/8" NO BLOCKING REQUIRED  
 SOLID BLOCKING BETWEEN RAFTERS OR TRUSSES ATTACHED TO TOP PLATES WITH 8d NAILS 6" O.C. ALONG LENGTH OF BRACED WALL PANEL

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9/28/2020

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WALL BRACING NOTES AND DETAILS

DATE: MAY 18, 2020  
 SCALE: 1/4" = 1'-0"  
 DRAWN BY: JST  
 ENGINEERED BY: JST

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 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) 2018 EDITION, PLUS ALL LOCAL CODES AND REGULATIONS. THE STRUCTURAL ENGINEER IS NOT RESPONSIBLE FOR, AND WILL NOT HAVE CONTROL OF, CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES, OR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE CONSTRUCTION WORK. NOR WILL THE ENGINEER BE RESPONSIBLE FOR THE CONTRACTOR'S FAILURE TO CARRY OUT THE CONSTRUCTION WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
- STRUCTURAL DESIGN BASED ON THE PROVISIONS OF THE NRC, 2018 EDITION (R301.4 - R301.7)

DESIGN CRITERIA:	LIVE LOAD (PSF)	DEAD LOAD (PSF)	DEFLECTION (IN)
ATTIC WITH LIMITED STORAGE	20	10	L/240 (L/360 w/ BRITTLE FINISHES)
ATTIC WITHOUT STORAGE	10	10	L/360
DECKS	40	10	L/360
EXTERIOR BALCONIES	40	10	L/360
FIRE ESCAPES	40	10	L/360
HANDRAILS/GUARDRAILS	200 LB OR 50 (PLF)	10	L/360
PASSENGER VEHICLE GARAGE	50	10	L/360
ROOMS OTHER THAN SLEEPING ROOM	40	10	L/360
SLEEPING ROOMS	30	10	L/360
STAIRS	40	10	L/360
WIND LOAD	(BASED ON TABLE R301.2(4) WIND ZONE AND EXPOSURE)		
GROUND SNOW LOAD: P <sub>g</sub>	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 115 AND 120 MPH WIND ZONES, FOUNDATION ANCHORAGE IS TO COMPLY WITH SECTION R403.1.6 OF THE NRC, 2018 EDITION. FOR 130 MPH, 140 MPH, AND 150 MPH WIND ZONES, FOUNDATION ANCHORAGE IS TO COMPLY WITH SECTION 450.4 OF THE NRC, 2018 EDITION.
- ENERGY EFFICIENCY COMPLIANCE AND INSULATION VALUES OF THE BUILDING TO BE IN ACCORDANCE WITH CHAPTER 11 OF THE NRC, 2018 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 R405.1 OF THE NRC, 2018 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 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, 2018 EDITION. CONCRETE REINFORCING STEEL TO BE ASTM A615 GRADE 60. WELDED WIRE FABRIC TO BE ASTM A185. MAINTAIN A MINIMUM CONCRETE COVER AROUND REINFORCING STEEL OF 3" IN FOOTINGS AND 1 1/2" IN SLABS. FOR POURED CONCRETE WALLS, CONCRETE COVER FOR REINFORCING STEEL MEASURED FROM THE INSIDE FACE OF THE WALL SHALL NOT BE LESS THAN 3/4". CONCRETE COVER FOR REINFORCING STEEL MEASURED FROM THE OUTSIDE FACE OF THE WALL SHALL NOT BE LESS THAN 1 1/2" FOR #5 BARS OR SMALLER, AND NOT LESS THAN 2" FOR #6 BARS OR LARGER.
- MASONRY UNITS TO CONFORM TO ACE 530/ASCE 5/TMS 402. MORTAR SHALL CONFORM TO ASTM C270.
- THE UNSUPPORTED HEIGHT OF MASONRY PIERS SHALL NOT EXCEED FOUR TIMES THEIR LEAST DIMENSION FOR INFILLED 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 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, 2018 EDITION OR IN ACCORDANCE WITH ACI 318, ACI 332, NCHA TR68-A OR ACE 530/ASCE 5/TMS 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, 2018 EDITION. CONCRETE FOUNDATION WALLS ARE TO BE REINFORCED PER TABLE R404.1(5) OF THE NRC, 2018 EDITION. STEEP CONCRETE FOUNDATION WALLS TO 2 x 6 FRAMED WALLS AT 16" O.C. WHERE GRADE PERMITS (UNO).

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FRAMING NOTES

- ALL FRAMING LUMBER SHALL BE #2 SFF MINIMUM (F<sub>b</sub> = 875 PSF, F<sub>v</sub> = 375 PSF, E = 1600000 PSF) UNLESS NOTED OTHERWISE (UNO). ALL TREATED LUMBER SHALL BE #2 SYP MINIMUM (F<sub>b</sub> = 975 PSF, F<sub>v</sub> = 175 PSF, E = 1600000 PSF) UNLESS NOTED OTHERWISE (UNO).
- LAMINATED VENEER LUMBER (LVL) SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES: F<sub>b</sub> = 2600 PSF, F<sub>v</sub> = 285 PSF, E = 1900000 PSF. LAMINATED STRAND LUMBER (LSL) SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES: F<sub>b</sub> = 2375 PSF, F<sub>v</sub> = 310 PSF, E = 1550000 PSF. PARALLEL STRAND LUMBER (PSL) UP TO 1" DEPTH SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES: F<sub>c</sub> = 2500 PSF, E = 1800000 PSF. PARALLEL STRAND LUMBER (PSL) MORE THAN 1" DEPTH SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES: F<sub>c</sub> = 2900 PSF, E = 2000000 PSF. 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. FLATES 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 9/16" 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 R602.1(1) AND R602.1(2) OF THE NRC, 2018 EDITION OR BE (2) 2 x 6 WITH (1) JACK AND (1) KING STUD EACH END (UNO) WHICHEVER IS GREATER ALL HEADERS TO BE SECURED TO EACH JACK STUD WITH (4) 8d NAILS. ALL BEAMS TO BE SUPPORTED WITH (2) STUDS AT EACH BEARING POINT (UNO). INSTALL KING STUDS PER SECTION R602.15 OF THE NORTH CAROLINA RESIDENTIAL CODE, 2018 EDITION.
- 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 NORTH CAROLINA RESIDENTIAL CODE 2018 EDITION WALL BRACING CRITERIA. THE AMOUNT, LENGTH, AND LOCATION OF BRACING SHALL COMPLY WITH ALL APPLICABLE TABLES IN SECTION R602.10.
- 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 (UNO). FOR ALL HEADERS 8'-0" AND GREATER IN LENGTH, BOLT A 6" x 4" x 5/16" STEEL ANGLE TO HEADER WITH 1/2" LAG SCREWS AT 12" O.C. STAGGERED FOR BRICK SUPPORT. FOR ALL BRICK SUPPORT AT ROOF LINES, BOLT A 6" x 4" x 5/16" STEEL ANGLE TO (2) 2 x 10 BLOCKING INSTALLED w/ (4) 12d NAILS EA. FLY BETWEEN WALL STUDS WITH (2) ROWS OF 1/2" LAG SCREWS AT 12" O.C. STAGGERED AND IN ACCORDANCE WITH SECTION R103.2(2) OF THE NRC, 2018 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 I46 OR LT92 UPLIFT CONNECTOR FASTENED TO THE BAND AT THE BOTTOM AND THE BEAM AT THE TOP OF EACH POST. ONE 16" SECTION OF SIMPSON C916 COIL STRAPPING WITH (8) 8d HDG NAILS AT EACH END MAY BE USED IN LIEU OF EACH TWIN STRAP IF DESIRED. FOR MASONRY OR CONCRETE FOUNDATION USE SIMPSON POST BASE.

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

STANDARD STRUCTURAL NOTES

DATE: OCTOBER 29, 2018

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

DRAWN BY: JES

ENGINEERED BY: JST

SHEET:

STRUCTURAL  
NOTES



9/28/2020



**ROOF & FLOOR TRUSSES & BEAMS**

Reilly Road Industrial Park  
Fayetteville, N.C. 28309  
Phone: (910) 864-8787  
Fax: (910) 864-4444

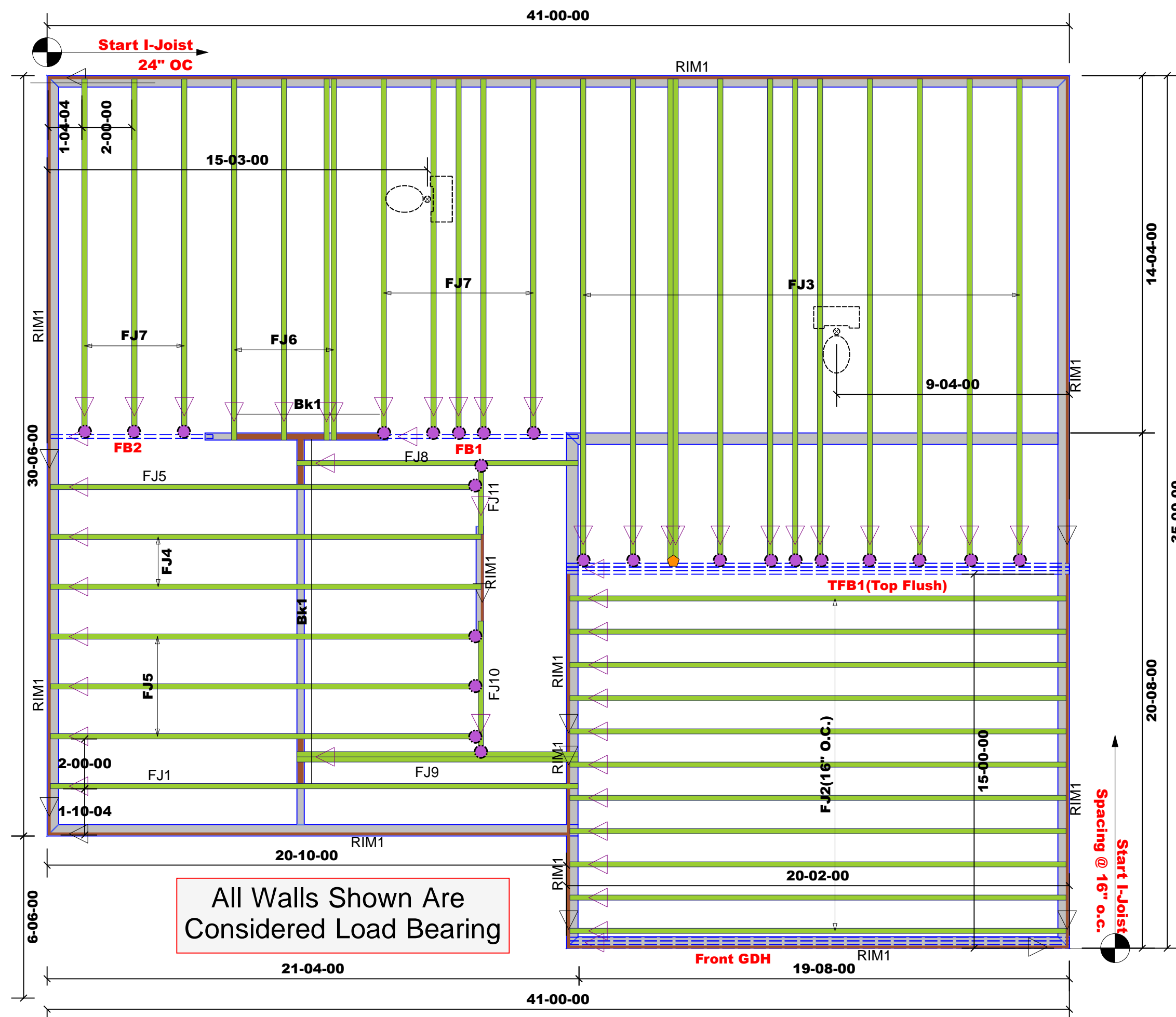
Bearing reactions less than or equal to 3000# are deemed to comply with the prescriptive Code requirements. The contractor shall refer to the attached Tables ( derived from the prescriptive Code requirements ) to determine the minimum foundation size and number of wood studs required to support reactions greater than 3000# but not greater than 15000#. A registered design professional shall be retained to design the support system for any reaction that exceeds those specified in the attached Tables. A registered design professional shall be retained to design the support system for all reactions that exceed 15000#.

Signature Marshall Naylor  
**Marshall Naylor**

**LOAD CHART FOR JACK STUDS**

(BASED ON TABLES R502.5(1) & (b))  
NUMBER OF JACK STUDS REQUIRED @ EA END OF HEADER/GIRDER

END REACTION (UP TO)	REQ. D. STUDS FOR (1) PLY HEADER	END REACTION (UP TO)	REQ. D. STUDS FOR (2) PLY HEADER	END REACTION (UP TO)	REQ. D. STUDS FOR (3) PLY HEADER
1700	1	2550	1	3400	1
3400	2	5100	2	6800	2
5100	3	7650	3	10200	3
6800	4	10200	4	13600	4
8500	5	12750	5	17000	5
10200	6	15300	6		
11900	7				
13600	8				
15300	9				



THF25140-2	USP	01	NA	10d/3"	10d/3"
THF25140	USP	24	NA	10d/3"	10d/3"

Products						
PlotID	Length	Product	Plies	Net Qty	Fab Type	
FJ1	21-01-14	14" NI-40x	1	1	FF	
FJ2	19-10-14	14" NI-40x	1	11	MFD	
FJ3	19-05-04	14" NI-40x	1	12	FF	
FJ4	17-03-06	14" NI-40x	1	2	FF	
FJ5	17-01-14	14" NI-40x	1	4	FF	
FJ6	14-06-00	14" NI-40x	1	4	FF	
FJ7	14-03-06	14" NI-40x	1	8	FF	
FJ8	11-03-06	14" NI-40x	1	1	FF	
FJ9	11-03-06	14" NI-40x	2	2	FF	
FJ10	5-03-00	14" NI-40x	1	1	FF	
FJ11	2-09-00	14" NI-40x	1	1	FF	
Front GDH	21-00-00	1-3/4"x 11-7/8" LVL Kerto-S	3	3	FF	
FB1	8-00-00	1-3/4"x 14" LVL Kerto-S	1	1	FF	
FB2	7-00-00	1-3/4"x 14" LVL Kerto-S	1	1	FF	
TFB1(Top Flush)	21-00-00	1-3/4"x 18" LVL Kerto-S	3	3	FF	
RIM1	12-00-00	1 1/8" x 14" Rim Board	1	14	FF	
Bk1	2-00-00	14" NI-40x	1	7	FF	

**Truss Placement Plan**  
SCALE: 3/8"=1'

**▲ = Indicates Left End of Truss**  
**( Reference Engineered Truss Drawing )**  
**Do NOT Erect Truss Backwards**

BUILDER	ON-SITE HOMES	CITY / CO.	RAEFORD / HOKE
JOB NAME	Lot 5 3M Tract	ADDRESS	Lemuel Black Rd.
PLAN	Trenton 2nd Floor I-Joist	MODEL	2nd Floor I-Joist
SEAL DATE	10/1/2020	DATE REV.	08/07/23
QUOTE #	B0319-1312	DRAWN BY	Marshall Naylor
JOB #	J0823-4191	SALES REP.	Marshall Naylor

THIS IS A TRUSS PLACEMENT DIAGRAM ONLY. These trusses are designed as individual building components to be incorporated into the building design at the specification of the building designer. See individual design sheets for each truss design identified on the placement drawing. The building designer is responsible for temporary and permanent bracing of the roof and floor system and for the overall structure. The design of the truss support structure including headers, beams, walls, and columns is the responsibility of the building designer. For general guidance regarding bracing, consult BCSI-B1 and BCSI-B3 provided with the truss delivery package or online @ sbcindustry.com



**ROOF & FLOOR TRUSSES & BEAMS**

Reilly Road Industrial Park  
 Fayetteville, N.C. 28309  
 Phone: (910) 864-8787  
 Fax: (910) 864-4444

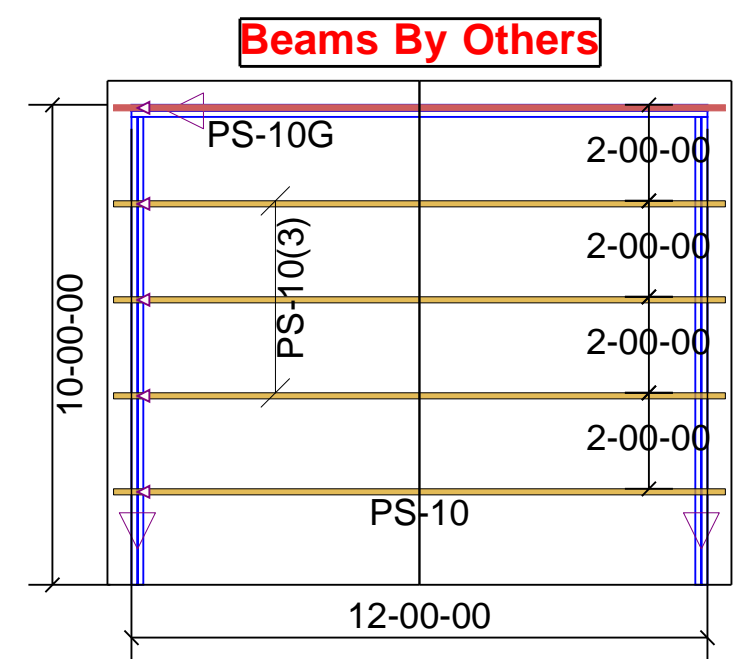
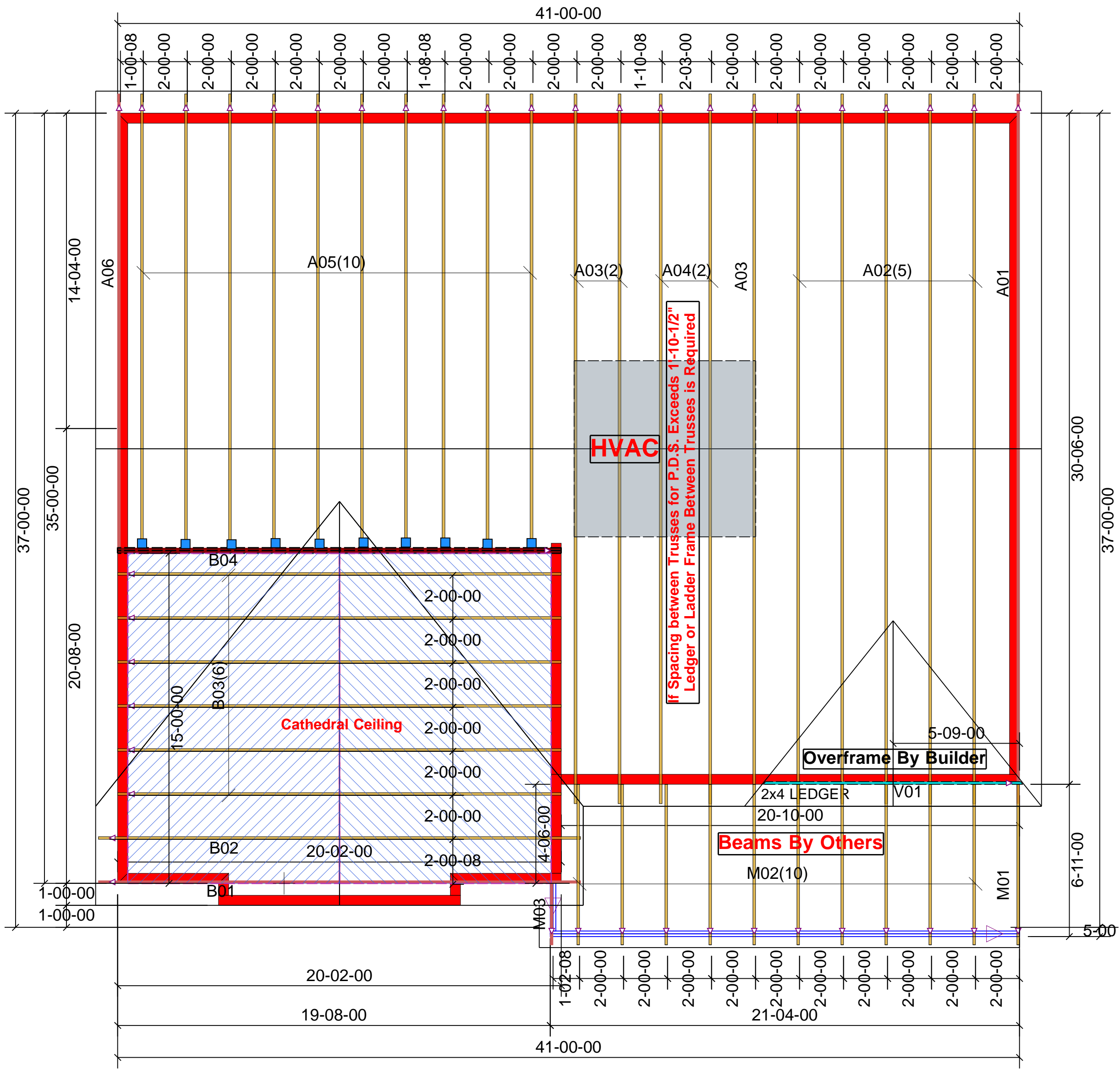
Bearing reactions less than or equal to 3000# are deemed to comply with the prescriptive Code requirements. The contractor shall refer to the attached Tables ( derived from the prescriptive Code requirements ) to determine the minimum foundation size and number of wood studs required to support reactions greater than 3000# but not greater than 15000#. A registered design professional shall be retained to design the support system for any reaction that exceeds those specified in the attached Tables. A registered design professional shall be retained to design the support system for all reactions that exceed 15000#.

Signature *Marshall Naylor*  
**Marshall Naylor**

**LOAD CHART FOR JACK STUDS**

(BASED ON TABLES R502.5(1) & (b))  
 NUMBER OF JACK STUDS REQUIRED @ EA END OF HEADER/GIRDER

END REACTION (UP TO)	REQ'D STUDS FOR (1) 1" X 1" HEADER	END REACTION (UP TO)	REQ'D STUDS FOR (1) 1" X 1" HEADER	END REACTION (UP TO)	REQ'D STUDS FOR (1) 1" X 1" HEADER
1700	1	2550	1	3400	1
3400	2	5100	2	6800	2
5100	3	7650	3	10200	3
6800	4	10200	4	13600	4
8500	5	12750	5	17000	5
10200	6	15300	6		
11900	7				
13600	8				
15300	9				



	HUS26	USP	10	NA	16d/3-1/2"	16d/3-1/2"
--	-------	-----	----	----	------------	------------

= 1st Level Wall

= 2nd Level Wall

Truss Placement Plan  
 SCALE: 1/4"=1'

= Indicates Left End of Truss  
 (Reference Engineered Truss Drawing)  
 Do NOT Erect Truss Backwards

BUILDER	ONSITE HOMES	CITY / CO.	RAEFORD / HOKE
JOB NAME	Lot 5 3M Tract	ADDRESS	Lemuel Black Rd.
PLAN	Trenton B F2 RP	MODEL	Roof
SEAL DATE	10/1/2020	DATE REV.	08/07/23
QUOTE #	B1020-5054	DRAWN BY	Marshall Naylor
JOB #	J0823-4190	SALES REP.	Marshall Naylor

THIS IS A TRUSS PLACEMENT DIAGRAM ONLY. These trusses are designed as individual building components to be incorporated into the building design at the specification of the building designer. See individual design sheets for each truss design identified on the placement drawing. The building designer is responsible for temporary and permanent bracing of the roof and floor system and for the overall structure. The design of the truss support structure including headers, beams, walls, and columns is the responsibility of the building designer. For general guidance regarding bracing, consult BCSI-B1 and BCSI-B3 provided with the truss delivery package or online @ sbcindustry.com

# North Carolina 2018 - R402.1.5 Total UA



SOUTHERN ENERGY  
MANAGEMENT  
ENERGY EFFICIENCY & SOLAR POWER

## Property

, NC 27546  
Model: Trenton  
Community: NA

## Organization

Southern Energy Management  
Justin Smith

## Inspection Status

Results are projected

## Builder

Template - Onsite Homes - Trenton 2300 l  
Trenton Plan Onsite Homes

**This report is based on a proposed design and does not confirm field enforcement of design elements.**

## Building UA

Elements	NC Reference	As Designed
Ceilings	40.5	35.7
Above-Grade Walls	173.0	133.7
Windows, Doors and Skylights	95.5	89.8
Slab Floor:	67.5	87.4
Framed Floors	18.9	20.5
Foundation Walls	0.0	0.0
Rim Joists	7.9	6.4
<b>Overall UA (Design must be equal or lower):</b>	<b>403.3</b>	<b>373.5</b>

## Requirements

✓	R402.1.5	Total UA alternative compliance passes by 7.4%.	The proposed home meets the UA requirement by 7.4%
✓	402.3.2	Average SHGC: 0.27 Max SHGC: 0.30	Average SHGC of 0.27 is greater than the maximum of 0.30.
✓	R402.4.2.2	Air Leakage Testing	Air sealing is 4.80 ACH at 50 Pa. It must not exceed 5.00 ACH at 50 Pa.
✓	R402.5	Area-weighted average fenestration SHGC	Area-weighted average fenestration SHGC is 0.27. The maximum allowed value is [No Limit].
✓	R402.5	Area-weighted average fenestration U-Factor	
✓	R404.1	Lighting Equipment	At least 75.0% of fixtures shall be high-efficacy lamps, currently 100.0% are high-efficacy.
✓	Mandatory Checklist	Mandatory code requirements that are not checked by Ekotrope must be met.	2015 IECC Mandatory Checklist must be checked as complete.
✓	R403.3.1	Duct Insulation	Duct insulation meets the requirements specified in North Carolina 2018 Code Section 403.3.1.
✓	403.3.3	Duct Testing	

**Design exceeds requirements for North Carolina 2018 Prescriptive compliance by 7.4%.**

Name: Justin Smith  
Organization: Southern Energy Management

Signature: Justin Smith  
Digitally signed: 1/19/24 at 11:04 AM

## Ekotrope RATER - Version 4.1.2.3320

North Carolina 2018 Prescriptive compliance results calculated using Ekotrope RATER's energy and code compliance algorithm, including appropriate amendments.  
Ekotrope RATER is a RESNET Accredited HERS Rating Tool. All results are based on data entered by Ekotrope users.  
Ekotrope disclaims all liability for the information shown on this report.

# Building Summary



**SOUTHERN ENERGY**  
MANAGEMENT  
ENERGY EFFICIENCY & SOLAR POWER

**Property**  
NC 27546  
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Community: NA

**Organization**  
Southern Energy Management  
Justin Smith

**Inspection Status**  
Results are projected

Template - Onsite Homes - Trenton 2300 base plan - CZ 4 sl:  
Trenton Plan

**Builder**  
Onsite Homes

## General Building Information

Number Of Bedrooms	4
Number Of Floors	2
Conditioned Floor Area [sq. ft.]	2,300
Has Electric Vehicle Ready Space	No
Unconditioned, attached garage?	Yes
Conditioned Volume [cu. ft.]	20,298
Total Units in Building	1
Residence Type	Single family detached
Number of Floors in Building	-
Floor Number	-
Model	Trenton
Community	NA
RESNET/IECC 2006-2018 Climate Zone	4A
IECC 2021 Climate Zone	3A

## Foundation Wall

None Present

## Foundation Wall Library List

None Present

## Slab

Name	Library Type	Perimeter	Floor Grade	Carpet R	Exposed Masonry Area	Surface Area	Location	Enclosing
slab	Uninsulated	143	On Grade	1	0	949.0 ft <sup>2</sup>	Exposed Exterior	Conditioned Space

## Slab Library List

Name	Wall Construction Type	Slab Completely Insulated?	Underslab Insulation Width [ft]	Perimeter Insulation Depth [ft]	Perimeter Insulation R Value	Perimeter Insulation Is Exterior	Thermal Break	Effective R-value
Uninsulated	Wood Frame / Other	No	0	0	0	Yes	No	0.00

# Building Summary



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Trenton Plan

**Builder**  
Onsite Homes

## Framed Floor

Name	Library Type	Carpet R	Floor Grade	Surface Area	Location
over ambient	R 19, 16"OC G1 Carpet	0	Above Grade	11.0 ft <sup>2</sup>	Exposed Exterior
over garage	R 19, 16"OC G1 Carpet	0	Above Grade	391.0 ft <sup>2</sup>	Unconditioned, attached garage

## Framed Floor Library List

Name	Effective R-value
R 19, 16"OC G1 Carpet	19.567

## Rim Joist

Name	Library Type	Surface Area	Location
1st floor ambient	R 19 G1, 16"OC	108.0 ft <sup>2</sup>	Exposed Exterior
1st floor garage	R 19 G1, 16"OC	35.0 ft <sup>2</sup>	Exposed Exterior

## Rim Joist Library List

Name	Effective Insulation R-value
R 19 G1, 16"OC	17.30

## Wall

Name	Library Type	Surface Color	Surface Area	Location
1st floor ambient	R 19 FG G1 16" O.C	Medium	969.0 ft <sup>2</sup>	Exposed Exterior
1st floor garage	R 19 FG G1 16" O.C	Medium	318.0 ft <sup>2</sup>	Unconditioned, attached garage
2nd floor ambient	R 19 FG G1 16" O.C	Medium	1,232.0 ft <sup>2</sup>	Exposed Exterior



# Building Summary



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 , NC 27546  
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 Justin Smith

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 Results are projected

**SOUTHERN ENERGY  
 MANAGEMENT**  
 ENERGY EFFICIENCY & SOLAR POWER

Template - Onsite Homes - Trenton 2300 base plan - CZ 4 sl:  
 Trenton Plan

**Builder**  
 Onsite Homes

## Wall Library List

Name	Effective R-value
R 19 FG G1 16" O.C.	16.805

## Glazing

Name	Library Type	Wall Assignment	Foundation Wall Assignment	Is Operable	Overhang Depth	Overhang Ft To Top	Overhang Ft To Bottom	Orientation	Surface Area
front 2nd unshaded	35/27	2nd floor ambient		Yes	0	0	0	West	54.0 ft <sup>2</sup>
front shaded	35/27	1st floor ambient		Yes	6	1	7	West	22.0 ft <sup>2</sup>
left 2nd unshaded	35/27	2nd floor ambient		Yes	0	0	0	North	15.0 ft <sup>2</sup>
left unshaded	35/27	1st floor ambient		Yes	0	0	0	North	18.0 ft <sup>2</sup>
rear 2nd unshaded	35/27	2nd floor ambient		Yes	0	0	0	East	45.0 ft <sup>2</sup>
rear unshaded	35/27	1st floor ambient		Yes	0	0	0	East	72.8 ft <sup>2</sup>
right 2nd unshaded	35/27	2nd floor ambient		Yes	0	0	0	South	8.0 ft <sup>2</sup>

## Glazing Library List

Name	Shgc	U-factor
35/27	0.27	0.350

## Skylight

None Present

## Skylight Library List

None Present

# Building Summary



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Template - Onsite Homes - Trenton 2300 base plan - CZ 4 sl:  
Trenton Plan

**Builder**  
Onsite Homes

## Opaque Door

Name	Library Type	Wall Assignment	Foundation Wall Assignment	Emittance	Solar Absorptance	Surface Color	Surface Area	Location
front entry	Fiberglass R-5	1st floor ambient		0.9	0.75	Medium	20.0 ft <sup>2</sup>	Exposed Exterior
garage entry	Fiberglass R-5	1st floor garage		0.9	0.75	Medium	18.0 ft <sup>2</sup>	Unconditioned, attached garage

## Opaque Door Library List

Name	Effective U-factor
Fiberglass R-5	0.200

## Roof Insulation

Name	Library Type	Attic Exterior Area [ft <sup>2</sup> ]	Clay or Concrete Roof Tiles	Surface Color	Surface Area	Location
Attic	R 38 Attic BLOWN FG G1 2x6 16"OC NO Radiant	1,985.97	No	Dark	1,351.0 ft <sup>2</sup>	Attic

## Roof Insulation Library List

Name	Has Radiant Barrier	Effective R-value
R 38 Attic BLOWN FG G1 2x6 16"OC NO Radiant	No	37.887

## Whole House Infiltration

Infiltration	Measurement Type	Shelter Class
1623 CFM at 50 Pa	Blower-door tested	4

## Mechanical Ventilation

None Present

# Building Summary



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**Inspection Status**  
Results are projected

Template - Onsite Homes - Trenton 2300 base plan - CZ 4 sl:  
Trenton Plan

**Builder**  
Onsite Homes

## Lighting

% Interior Fluorescent Lighting	% Interior LED Lighting	% Exterior Fluorescent Lighting	% Exterior LED Lighting	% Garage Fluorescent Lighting	% Garage LED Lighting
0	100	0	0	0	0

## Onsite Generation

None Present

## Onsite Generation Library List

None Present

## Solar Generation

None Present

## Dehumidifier

None Present

## Dehumidifier Library List

None Present

## Whole House Fan

None Present

# Building Summary



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Trenton Plan

**Builder**  
Onsite Homes

## Whole House Fan Library List

None Present

## Conditioning Equipment

Name	Library Type	Serial Number	Heating Percent Load	Cooling Percent Load	Hot Water Percent Load	Location
Water Heating	z 50 gal. 0.92 EF Elec		0%	0%	100%	Unspecified
whole house heat pump	z 36k 14.3 SEER2 7.5 HSPF2		100%	100%	0%	Unspecified

### Equipment Type: z 36k 14.3 SEER2 7.5 HSPF2

Equipment Type	Air Source Heat Pump
Fuel Type	Electric
Distribution Type	Forced Air
Motor Type	ECM (Variable Speed)
Heat Pump System Type	Split System
Heating Efficiency	7.5 HSPF2
Heating Capacity [kBtu/h]	36
Backup Fuel Type	Electric
Switchover Temperature [°F]	0
Backup Heating Efficiency	1 COP
Use default Supplemental Heat	Yes
Cooling Efficiency	14.3 SEER2
Cooling Capacity [kBtu/h]	36

### Equipment Type: z 50 gal. 0.92 EF Elec

Equipment Type	Residential Water Heater
Fuel Type	Electric
Distribution Type	Hydronic Delivery (Radiant)
Hot Water Efficiency	0.92 Energy Factor
Tank Capacity (gal.)	50
Hot Water Capacity [kBtu/h]	40
Recovery Efficiency	0.98

# Building Summary



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**Inspection Status**  
Results are projected

Template - Onsite Homes - Trenton 2300 base plan - CZ 4 sl:  
Trenton Plan

**Builder**  
Onsite Homes

## Distribution System

Distribution Type	Forced Air
Heating Equipment	whole house heat pump
Cooling Equipment	whole house heat pump
Sq. Feet Served	2,300
# Return Grilles	3
Supply Duct R Value	8
Return Duct R Value	8
Supply Duct Area [ft <sup>2</sup> ]	621
Return Duct Area [ft <sup>2</sup> ]	345
Leakage to Outdoors	92 CFM @ 25Pa (4 / 100 ft <sup>2</sup> )
Total Leakage	92 CFM25
Total Leakage Duct Test Conditions	Post-Construction
Use Default Flow Rate	Yes
Duct 1	
Duct Location	Attic (well vented)
Percent Supply Area	60
Percent Return Area	60
Duct 2	
Duct Location	Conditioned Space
Percent Supply Area	40
Percent Return Area	40
Duct 3	
Duct Location	Conditioned Space
Percent Supply Area	0
Percent Return Area	0
Duct 4	
Duct Location	Conditioned Space
Percent Supply Area	0
Percent Return Area	0
Duct 5	
Duct Location	Conditioned Space
Percent Supply Area	0
Percent Return Area	0
Duct 6	
Duct Location	Conditioned Space
Percent Supply Area	0
Percent Return Area	0

## HVAC Grading

HVAC Grading Not Conducted

## Ceiling Fan

Has Ceiling Fan	No
Cfm Per Watt	100

# Building Summary



**SOUTHERN ENERGY**  
MANAGEMENT  
ENERGY EFFICIENCY & SOLAR POWER

**Property**  
NC 27546  
Model: Trenton  
Community: NA

**Organization**  
Southern Energy Management  
Justin Smith

**Inspection Status**  
Results are projected

Template - Onsite Homes - Trenton 2300 base plan - CZ 4 sl:  
Trenton Plan

**Builder**  
Onsite Homes

## Water Distribution

Water Fixture Type	Standard
Use Default Hot Water Pipe Length	No
Hot Water Pipe Length [ft]	88
At Least R3 Pipe Insulation?	No
Hot Water Recirculation System?	No
Recirculation System Pipe Loop Length [ft]	20
Drain Water Heat Recovery?	No

## Clothes Dryer

Cef	3.01
Fuel Type	Electric
Field Utilization	Timer Controls
Is Outside Conditioned Space	No
Clothes Dryer Available	Yes
Defaults Type	HERS Reference

## Clothes Washer

Label Energy Rating	153 kWh/Year
Annual Gas Cost	\$12.00
Electric Rate	\$0.11/kWh
Gas Rate	\$1.22/Therm
Capacity	3.31
Imef	2.1547
Defaults Type	Custom
Load Type	Front-load
Loads Per Week	6
Is Outside Conditioned Space	No
Clothes Washer Available	Yes

## Dishwasher

Dishwasher Defaults Type	ENERGY STAR Standard
Dishwasher Size	Standard
Dishwasher Efficiency	270 kWh
Annual Gas Cost	\$22.23
Electric Rate	\$0.12/kWh
Gas Rate	\$1.09/Therm
Is Outside Conditioned Space	No
Dishwasher Available	Yes

# Building Summary



SOUTHERN ENERGY  
MANAGEMENT  
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## Property

, NC 27546  
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Trenton Plan

## Appliances and Controls

Thermostat Cooling Setpoint	*** 75.0
Thermostat Heating Setpoint	*** 72.0
Range/Oven Fuel	Electric
Convection Oven?	No
Induction Range?	No
Range/Oven Outside Conditioned Space?	No
Refrigerator Consumption	538 kWh/Year
Refrigerator Outside Conditioned Space?	No

## Notes

- initial form completed by JS 01/19/24
- confirm insulation values and hvac specs
- confirm cfl lighting %
- modeled to worst case orientation