- HOUSE DESIGNED FOR 115 MPH 3 SECOND GUST (89 FASTEST WIND), EXPOSURE B

- ANCHOR BOLTS SHALL BE MIN. 1/2" DIAMETER & SHALL EXTEND A MINIMUM 7" INTO MASONRY OR CONCRETE

- ANCHOR BOLTS TO BE NO MORE THAN 6' O.C. AND WITHIN 12" OF THE CORNER

- WALL BRACING IS REQUIRED . DESIGNER MUST SPECIFY METHOD OF BRACING PER SECTION R602 (NC 2018 RESIDENTIAL BUILDING CODE) AND PROVIDE DETAIL

MEAN ROOF HEIGHT = < 30'-0"

COMPONENT	& CLADDING	DESIGNED FO	OR THE FOLLOV	WING LOADS
MEAN ROOF HEIGHT	UP TO 30'	30'-1" - 35'	35'-1" - 40'	40'-1" - 45'
ZONE 1	16.5, -18.0	17.3, -18.9	18.0, -19.6	18.5, -20.2
ZONE 2	16.5, -21.0	17.3, -22.1	18.0, -22.9	18.5, -23.5
ZONE 3	16.5, -21.0	17.3, -22.1	18.0, -22.9	18.5, -23.5
ZONE 4	18.0, -19.5	18.9, -20.5	19.6, -21.3	20.2, -21.8
ZONE 5	18.0, -24.1	18.9, -25.3	19.6, -26.3	20.2, -27.0

MINIMUM VALUES FOR ENERGY COMPLIANCE:

MAX GLAZING U-FACTOR = 0.35 CEILING R-38 WALLS R-15 FLOORS R-19



FRONT ELEVATION

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

LIST OF ABBREVIATIONS ABV.: ABOVE CLG.: CEILING HGT.: HEIGHT C.O.: CASED OPENING D.O.: DOUBLE OVEN REFG.: REFRIGERATOR WD.: WOOD D.W.: DISHWASHER CONT.:CONTINUOUS T.B.D.: TO BE DETERMINED CONC.: CONCRETE W.I.C.: WALK IN CLOSET COL.: COLUMN W: WASHER ELLIP.: ELLIPSE D: DRYER W/: WITH SHWR.: SHOWER TRANS.: TRANSOM DN.: DOWN CANT.: CANTILEVER K.S.: KNEE SPACE M.O.: MASONRY OPENING

1R/1S = 1 ROD AND 1 SHELF 2R/2S = 2 RODS AND 2 SHELVES SD= SMOKE DETECTOR CMD= CARBON MONOXIDE DETECTOR

5S= 5 SHELVES

TYP.: TYPICAL

4.) ALL HABITABLE ROOMS SHALL MEET LIGHT/VENTILATION & EGRESS AS REQUIRED IN 2018 NCRC SECTIONS R303.1 AND R310

PER TABLE 302.6 OF 2018 NCRC.

1.) SEE CHAPTER 6 OF 2018 NCRC FOR WALL

CONSTRUCTION.

GENERAL PLAN NOTES

OTHERWISE.

2.) TEMPERED GLASS TO BE USED AT ALL SAFETY 6.) VERIFY ALL WINDOW SIZES, RADIUS, AND REQUIRED LOCATIONS ACCORDING TO 2018 DETAILS WITH CHOSEN MANUFACTURE. NCRC SECTION R308.4.

3.) DWELLING/GARAGE FIRE SEPARATION SHALL 7.) LOCATE DORMER FACE TO ALLOW 4" MIN. BELOW WINDOW FRAME.

> 8.) FLOOR PLAN NOTATIONS GOVERN OVER ELEVATION SCALE.

5.) ALL ANGLED WALLS ARE 45° UNLESS NOTED 9.) ALL CABINET DESIGNS/LAYOUTS TO BE VERIFIED WITH OWNER VIA SHOP DRAWINGS FROM CABINET MANUF.

> 10.) ALL FLOOR COVERINGS AND FINISHES BY OWNER/ BLDR. COORDINATE HEIGHTS DUE TO THICKNESS CHANGES.

> > 11.) ALL WINDOW GLAZING TO HAVE 0.32 U-FACTOR 14.) FINISHES OF ALL INTERIOR BASE BOARD, CLG. MIN. SEE TABLE E-4A, E-4B

12.) FINISHES OF SCREEN PORCH COLUMNS, RAILS, FLOORS, CEILINGS; SCREEN DOOR SYSTEM, AND DOOR TO PORCH BY BLDR. & OWNER, PER CONTRACT SPECIFICATIONS

13.) FINISHES FOR CLOSET SHELVING AND ROD BY BLDR. & OWNER, PER CONTRACT **SPECIFICATIONS**

DETAIL / MOLDING ,OPENING DETAILS ,PASS-THRUS, WAINSCOTTING DETAILS BY BLDR. & OWNER, PER CONTRACT **SPECIFICATIONS**

ACCESSORIES LEGEND

PROVIDE BLOCKING FOR: TB = TOWEL BARMR = MAGAZINE RACK MC = MEDICINE CABINET TP = TOILET PAPERTR = TOWEL RINGSELECTION BY OWNER PER

BUILDER CONTRACT SPECIFICATIONS

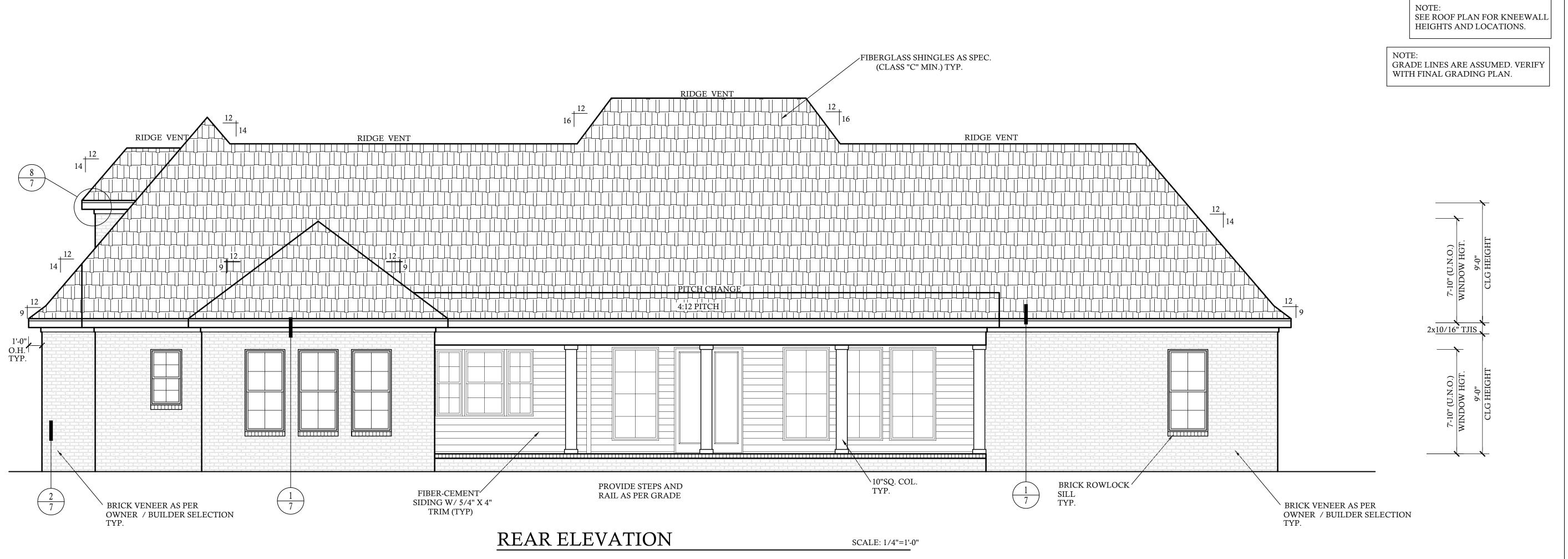
-SEE ROOF PLAN FOR KNEEWALL HEIGHTS AND LOCATIONS.

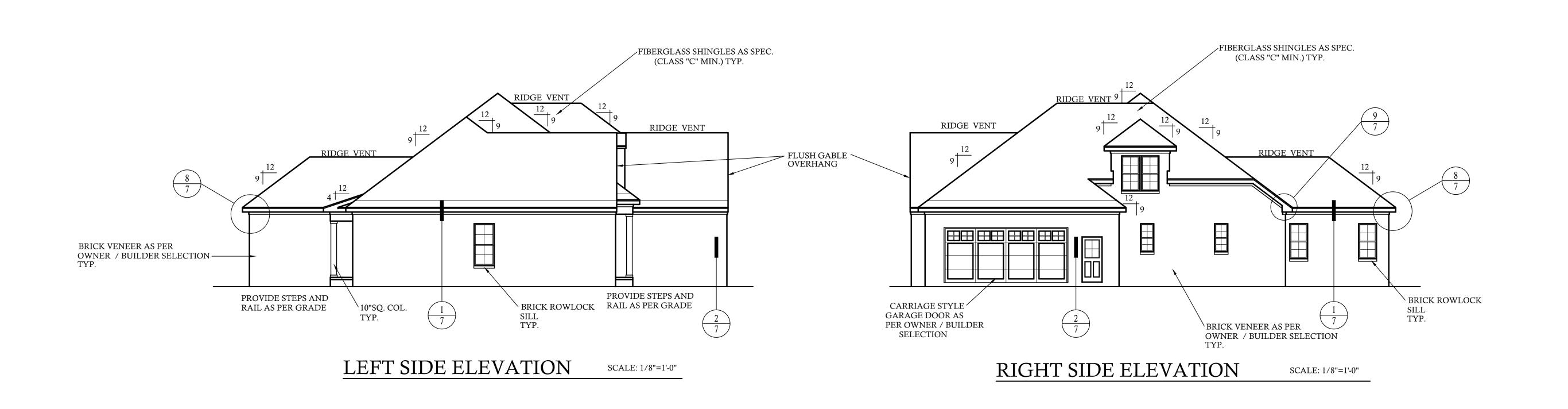
-GRADE LINES ARE ASSUMED. VERIFY WITH FINAL GRADING PLAN.

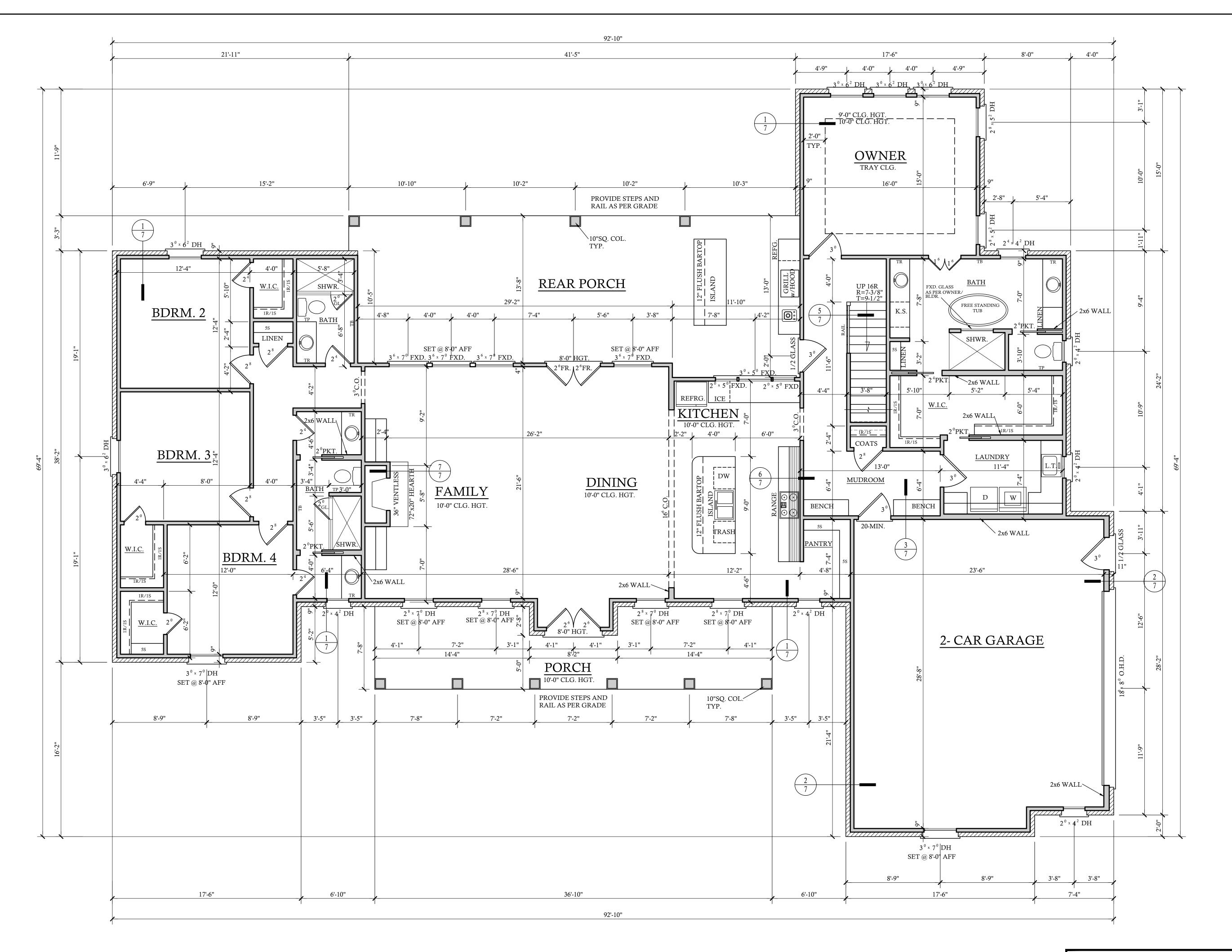
AREA CALCULATIONS				
HEATED (SQ. FT.)	UNHEATED (SQ. FT.)			
1ST FLOOR: 2610	GARAGE: 680 REAR PORCH: 579 PORCH: 261 BRICK: 123			
TOTAL: 2610 (HEATED)	TOTAL: 1643 (UNHEATED)			
OVERALL DIMENSION WIDTH: 92'-10" DEPTH: 69'-4"	UNFINISHED (SQ. FT.) STORAGE: 830			

NOTE: PLANS DESIGNED UNDER 2018 NORTH CAROLINA

RESIDENTIAL CODE.

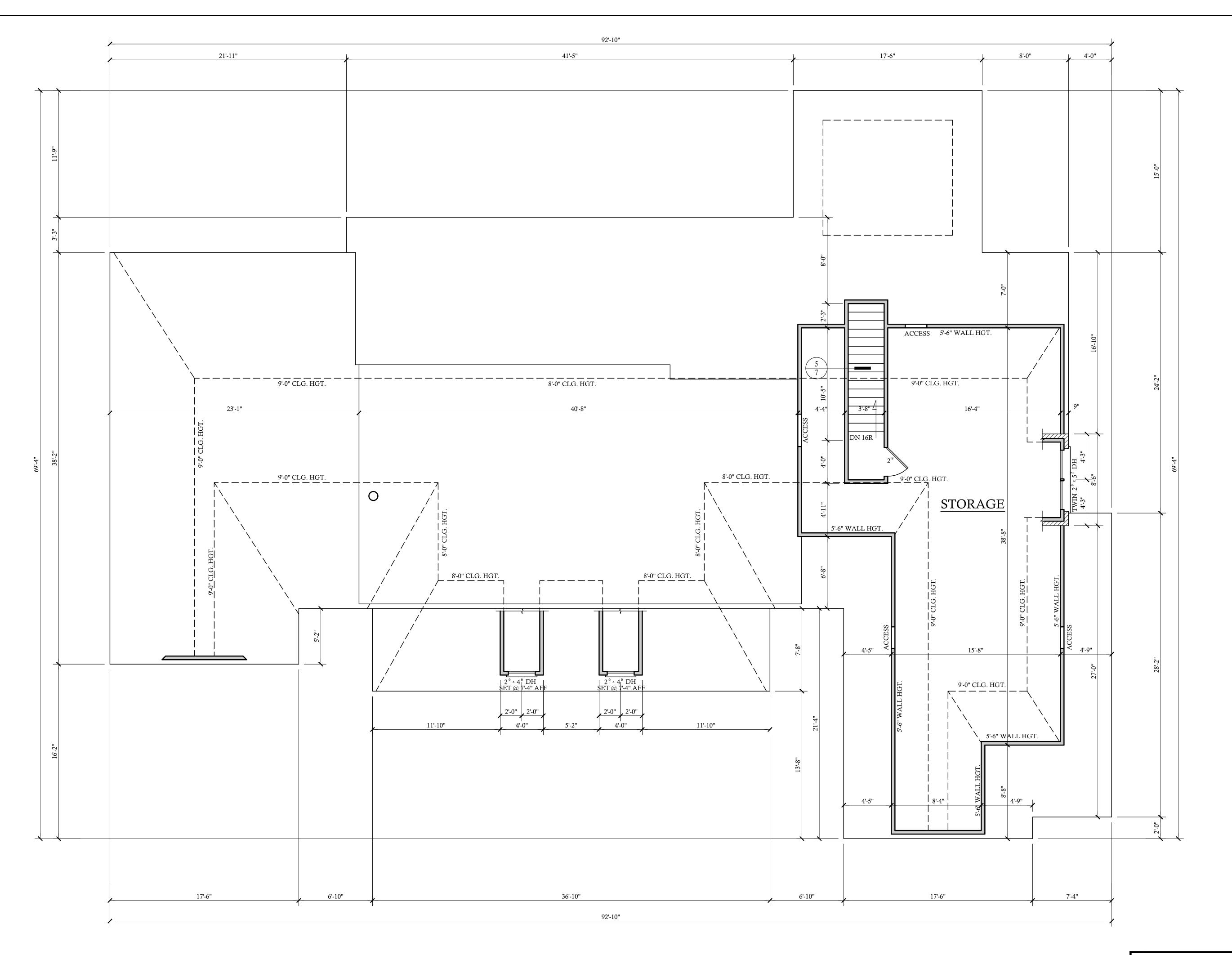






FIRST FLOOR PLAN

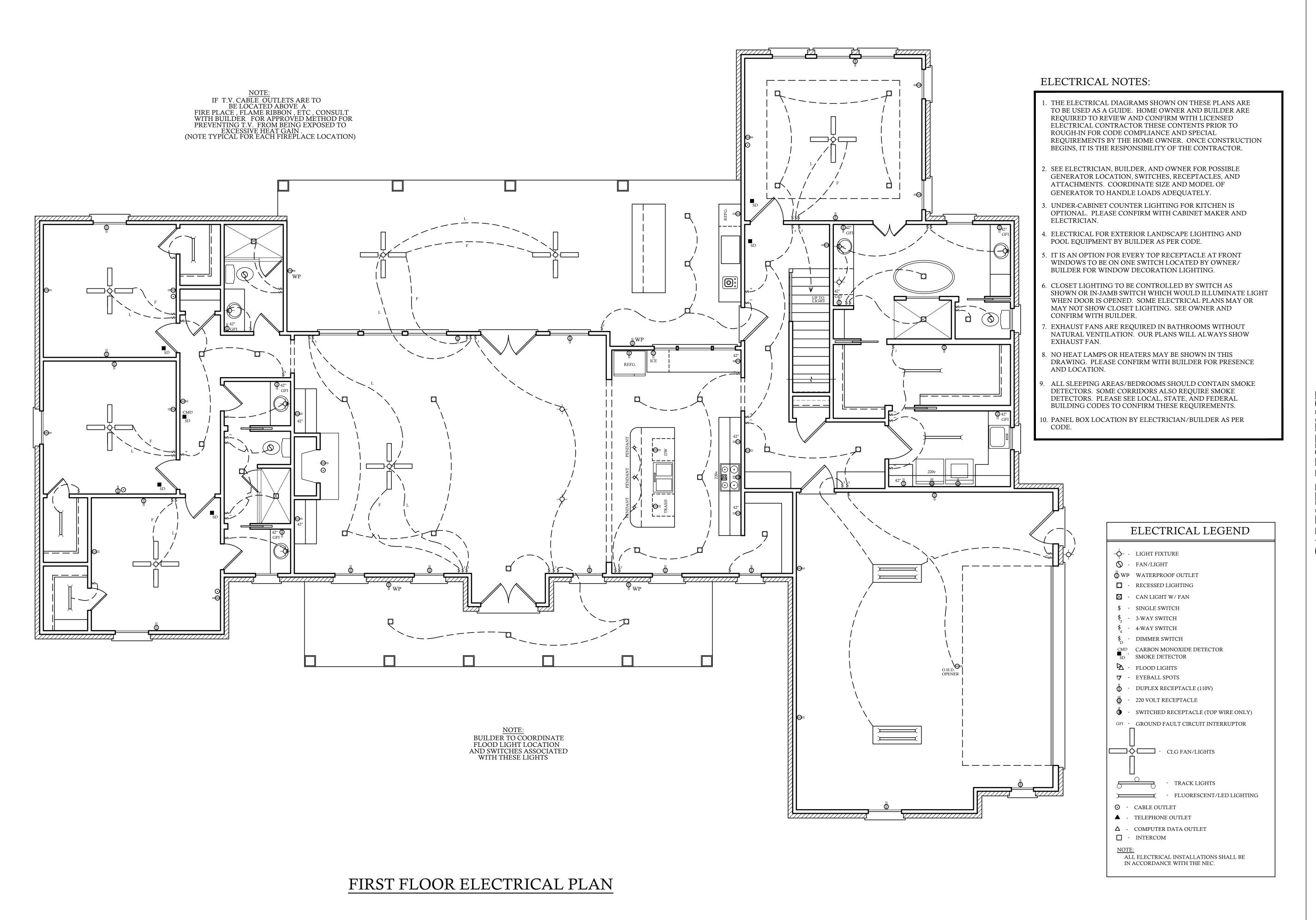
9'-0" CLG. HGT. U.N.O.
SET WINDOWS @ 7'-10" U.N.O.

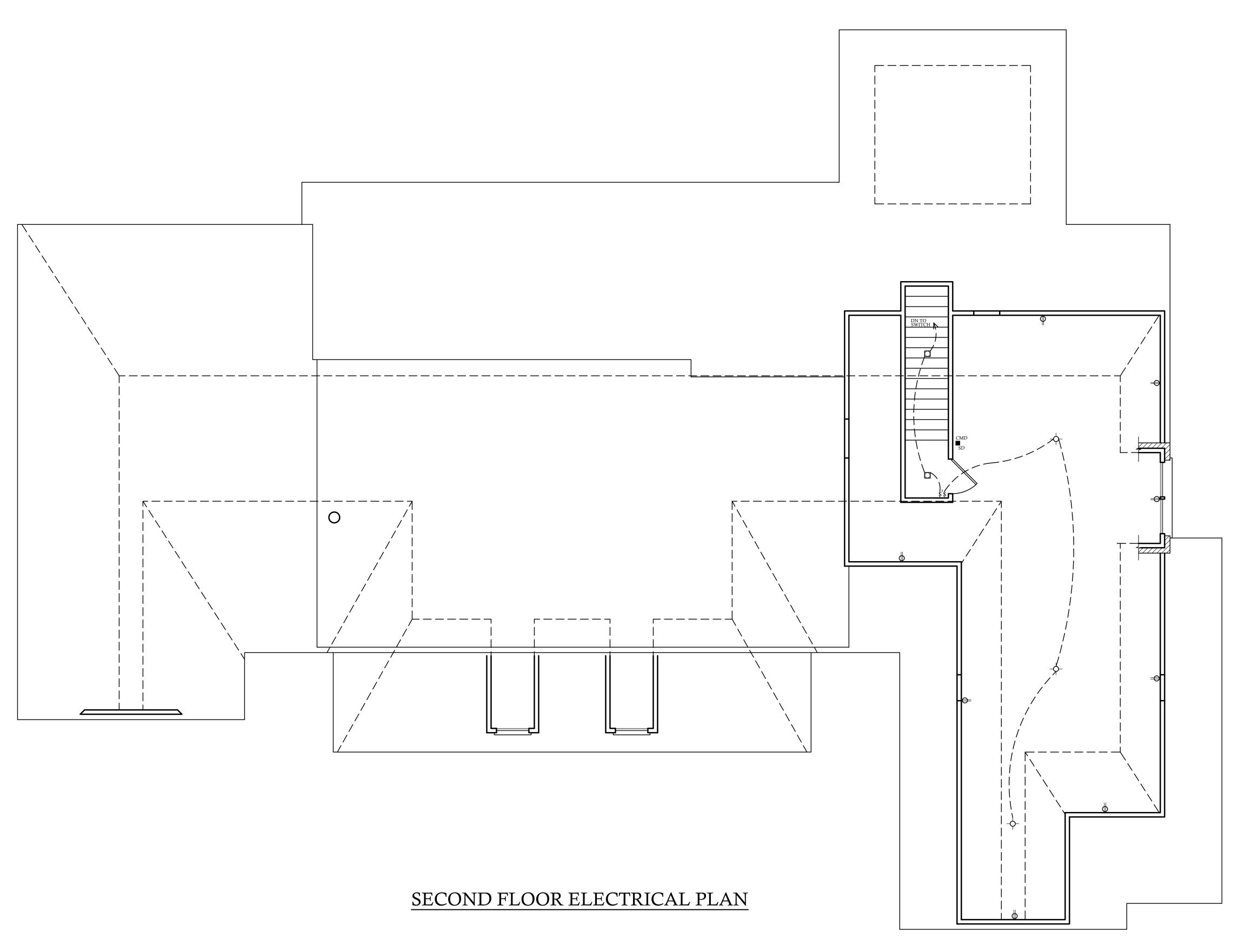


SECOND FLOOR PLAN

9'-0" CLG. HGT. U.N.O.
SET WINDOWS @ 7'-10" U.N.O.

4





ELECTRICAL NOTES:

- . THE ELECTRICAL DIAGRAMS SHOWN ON THESE PLANS ARE TO BE USED AS A GUIDE. HOME OWNER AND BUILDER ARE REQUIRED TO REVIEW AND CONFIRM WITH LICENSED ELECTRICAL CONTRACTOR THESE CONTENTS PRIOR TO ROUGH-IN FOR CODE COMPLIANCE AND SPECIAL REQUIREMENTS BY THE HOME OWNER. ONCE CONSTRUCTION BEGINS, IT IS THE RESPONSIBILITY OF THE CONTRACTOR.
- 2. SEE ELECTRICIAN, BUILDER, AND OWNER FOR POSSIBLE GENERATOR LOCATION, SWITCHES, RECEPTACLES, AND ATTACHMENTS. COORDINATE SIZE AND MODEL OF GENERATOR TO HANDLE LOADS ADEQUATELY.
- 3. UNDER-CABINET COUNTER LIGHTING FOR KITCHEN IS OPTIONAL. PLEASE CONFIRM WITH CABINET MAKER AND ELECTRICIAN.
- 4. ELECTRICAL FOR EXTERIOR LANDSCAPE LIGHTING AND POOL EQUIPMENT BY BUILDER AS PER CODE.
- 5. IT IS AN OPTION FOR EVERY TOP RECEPTACLE AT FRONT WINDOWS TO BE ON ONE SWITCH LOCATED BY OWNER/ BUILDER FOR WINDOW DECORATION LIGHTING.
- 6. CLOSET LIGHTING TO BE CONTROLLED BY SWITCH AS SHOWN OR IN-JAMB SWITCH WHICH WOULD ILLUMINATE LIGHT WHEN DOOR IS OPENED. SOME ELECTRICAL PLANS MAY OR MAY NOT SHOW CLOSET LIGHTING. SEE OWNER AND CONFIRM WITH BUILDER.
- EXHAUST FANS ARE REQUIRED IN BATHROOMS WITHOUT NATURAL VENTILATION. OUR PLANS WILL ALWAYS SHOW EXHAUST FAN.
- 3. NO HEAT LAMPS OR HEATERS MAY BE SHOWN IN THIS DRAWING. PLEASE CONFIRM WITH BUILDER FOR PRESENCE AND LOCATION.
- ALL SLEEPING AREAS/BEDROOMS SHOULD CONTAIN SMOKE DETECTORS. SOME CORRIDORS ALSO REQUIRE SMOKE DETECTORS. PLEASE SEE LOCAL, STATE, AND FEDERAL BUILDING CODES TO CONFIRM THESE REQUIREMENTS.
- 10. PANEL BOX LOCATION BY ELECTRICIAN/BUILDER AS PER

ELECTRICAL LEGEND

-**♦**- - LIGHT FIXTURE

S - FAN/LIGHT

₩P WATERPROOF OUTLET

- RECESSED LIGHTING

CAN LIGHT W/ FAN

\$ - SINGLE SWITCH \$₃ - 3-WAY SWITCH

\$ - 4-WAY SWITCH

\$ - DIMMER SWITCH

CARBON MONOXIDE DETECTOR
SD SMOKE DETECTOR

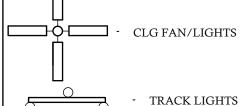
- FLOOD LIGHTS

🗸 - EYEBALL SPOTS • DUPLEX RECEPTACLE (110V)

- 220 VOLT RECEPTACLE

• - SWITCHED RECEPTACLE (TOP WIRE ONLY)

GFI - GROUND FAULT CIRCUIT INTERRUPTOR



- TRACK LIGHTS - FLUORESCENT/LED LIGHTING

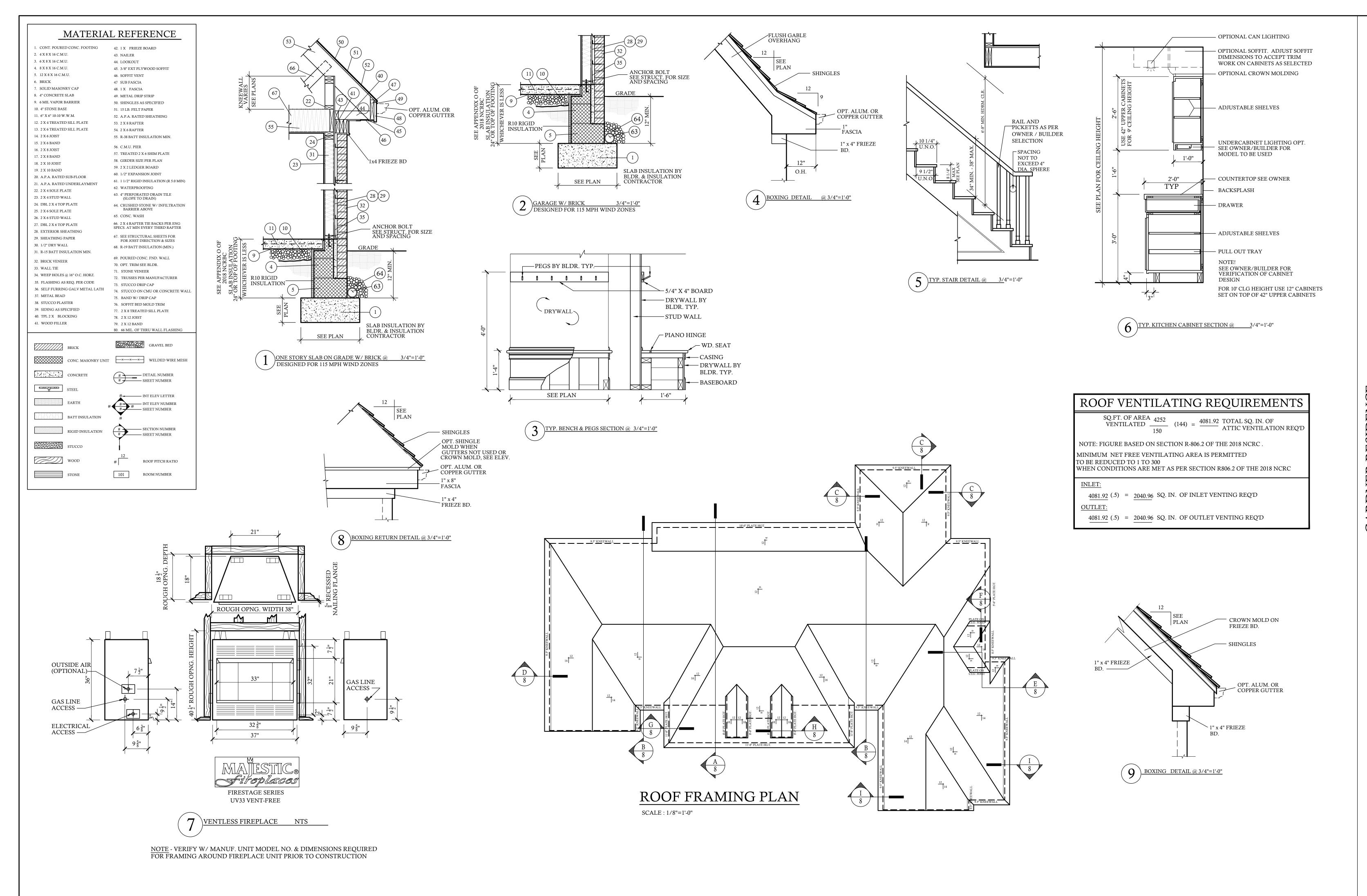
CABLE OUTLET

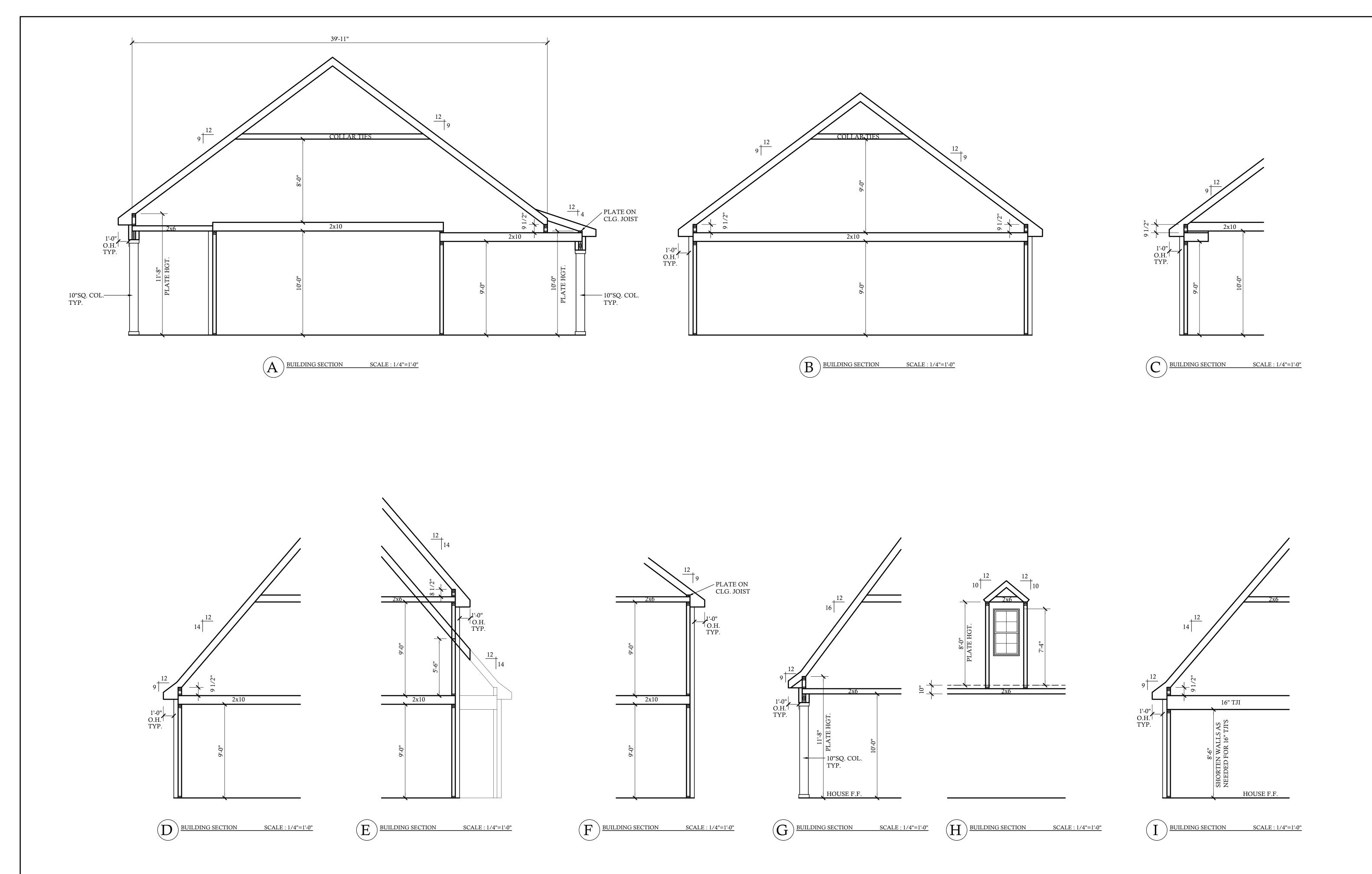
TELEPHONE OUTLET

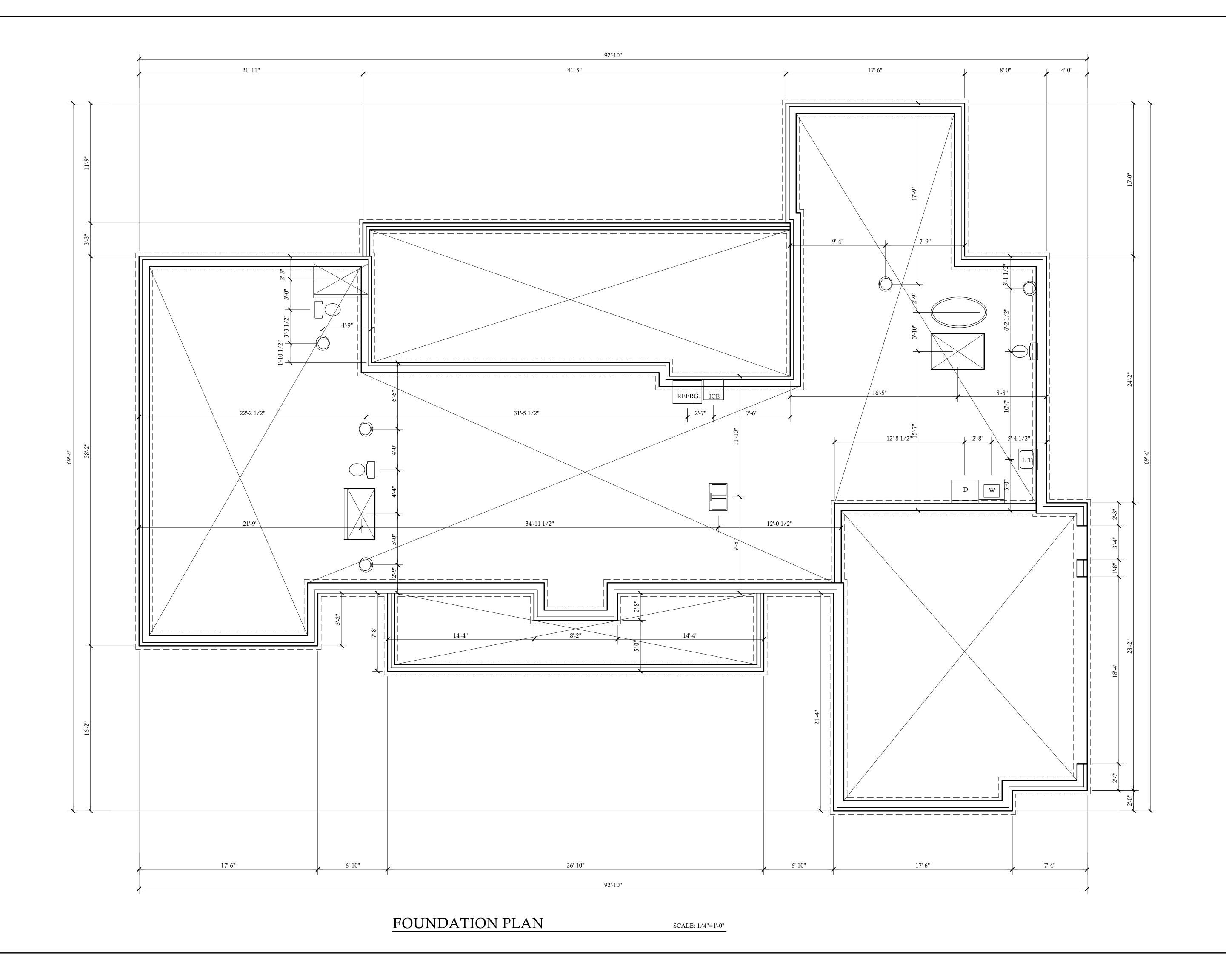
 Δ - COMPUTER DATA OUTLET

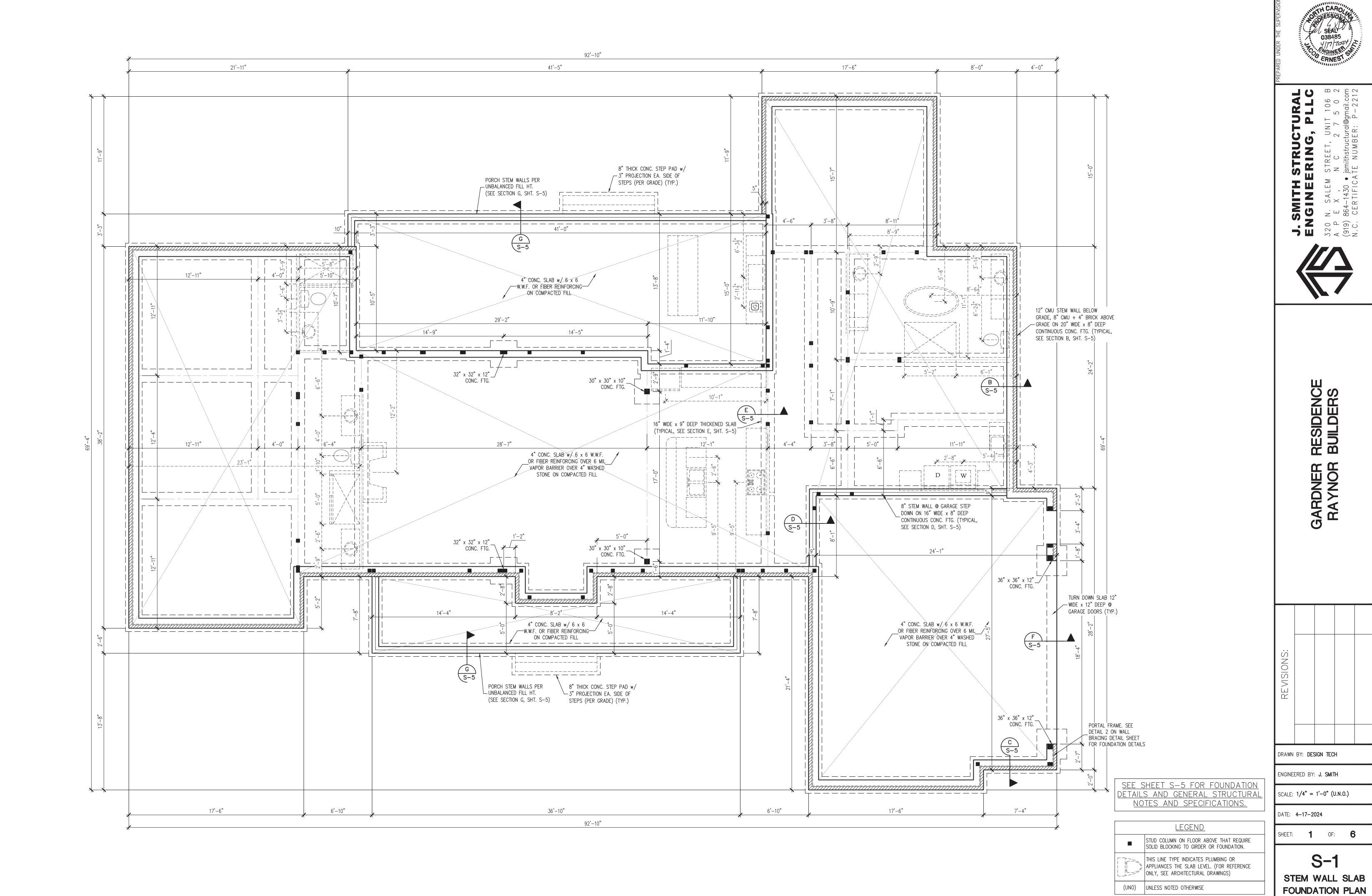
☐ - INTERCOM

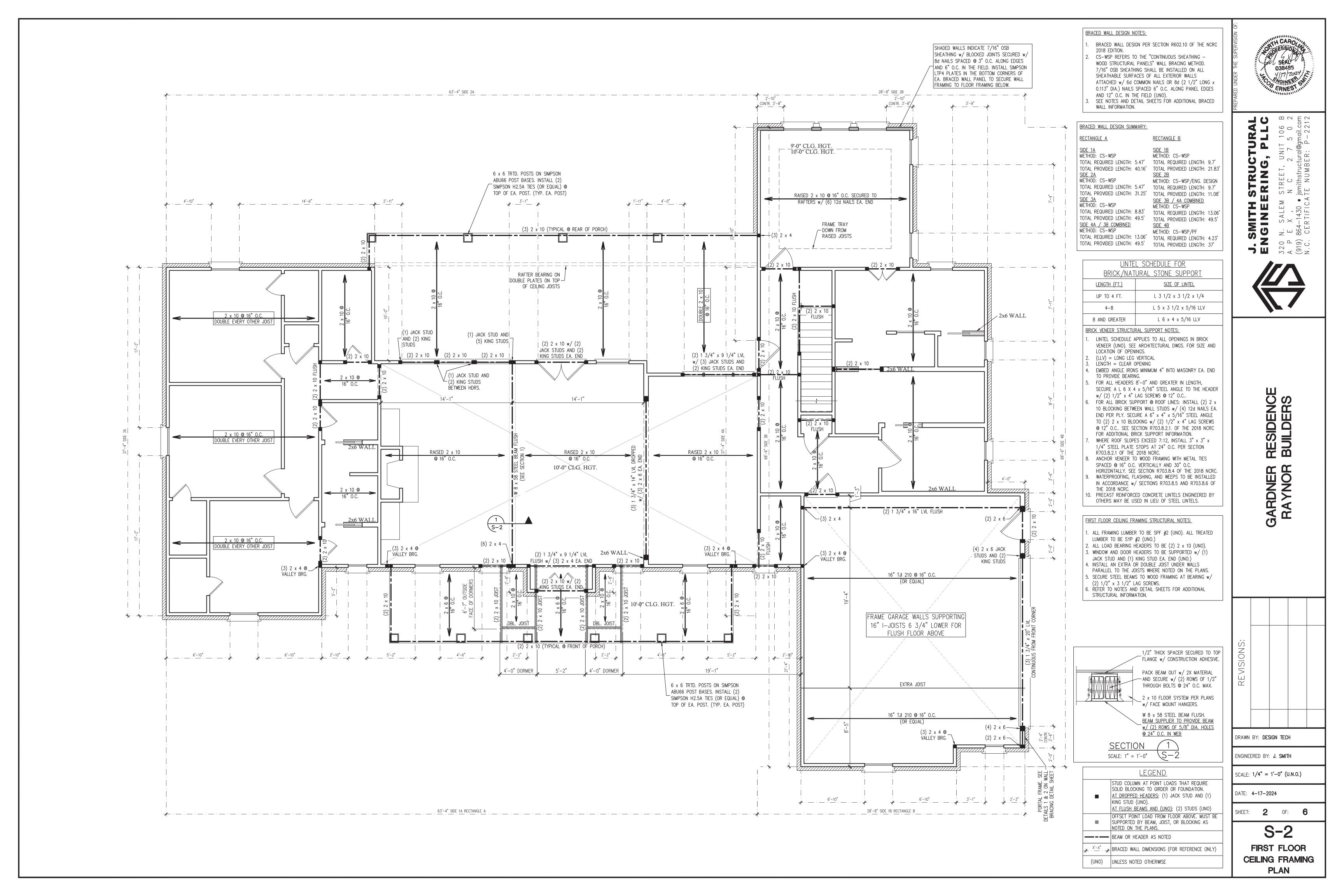
NOTE:
ALL ELECTRICAL INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE NEC.

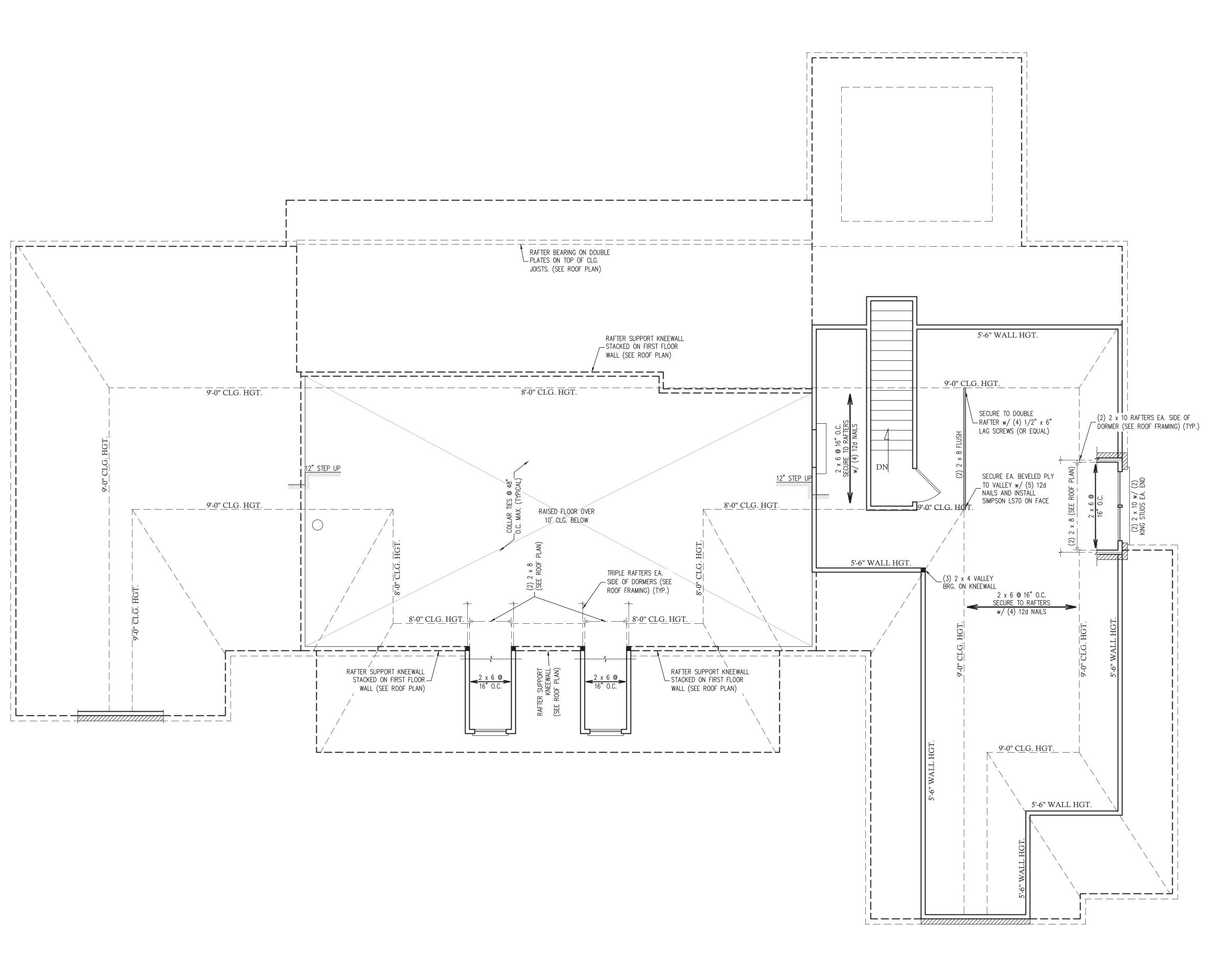












BRACED WALL DESIGN NOTES:

- BRACED WALL DESIGN PER SECTION R602.10 OF THE NCRC 2018 EDITION. PER TABLE R602.10.3 OF THE 2018 NCRC, THE 2ND FLOOR IS CONTAINED WHOLLY WITHIN THE ROOF SYSTEM AND WALL BRACING ANALYSIS IS NOT REQUIRED ON THE 2ND FLOOR. IN ADDITION, THE 2ND FLOOR NEED NOT BE CONSIDERED A STORY IN THE FIRST FLOOR WALL BRACING
- ANALYSIS. CS-WSP REFERS TO THE "CONTINUOUS SHEATHING -WOOD STRUCTURAL PANELS" WALL BRACING METHOD. 7/16" OSB SHEATHING SHALL BE INSTALLED ON ALL SHEATHABLE SURFACES OF ALL EXTERIOR WALLS ATTACHED w/ 6d COMMON NAILS OR 8d (2 1/2" LONG x 0.113" DIA.) NAILS SPACED 6" O.C. ALONG PANEL EDGES
- SEE NOTES AND DETAIL SHEETS FOR ADDITIONAL BRACED WALL INFORMATION.

AND 12" O.C. IN THE FIELD (UNO).

LINTEL SCHEDULE FOR		
BRICK/NATURAL STONE SUPPORT		
LENGTH (FT.)	<u>SIZE OF LINTEL</u>	
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	
	·	

BRICK VENEER STRUCTURAL SUPPORT NOTES: LINTEL SCHEDULE APPLIES TO ALL OPENINGS IN BRICK

LOCATION OF OPENINGS. (LLV) = LONG LEG VERTICAL

VENEER (UNO). SEE ARCHITECTURAL DWGS. FOR SIZE AND

- LENGTH = CLEAR OPENING
- EMBED ANGLE IRONS MINIMUM 4" INTO MASONRY EA. END TO PROVIDE BEARING.
- FOR ALL HEADERS 8'-0" AND GREATER IN LENGTH,
- SECURE A L 6 X 4 x 5/16" STEEL ANGLE TO THE HEADER w/ (2) 1/2" x 4" LAG SCREWS @ 12" O.C..
- FOR ALL BRICK SUPPORT @ ROOF LINES: INSTALL (2) 2 : 10 BLOCKING BETWEEN WALL STUDS w/ (4) 12d NAILS EA. END PER PLY. SECURE A 6" x 4" x 5/16" STEEL ANGLE TO (2) 2 x 10 BLOCKING $w/(2) 1/2" \times 4"$ LAG SCREWS @ 12" O.C.. SEE SECTION R703.8.2.1. OF THE 2018 NCRC FOR ADDITIONAL BRICK SUPPORT INFORMATION. WHERE ROOF SLOPES EXCEED 7:12, INSTALL 3" x 3" x
- 1/4" STEEL PLATE STOPS AT 24" O.C. PER SECTION R703.8.2.1 OF THE 2018 NCRC. ANCHOR VENEER TO WOOD FRAMING WITH METAL TIES SPACED @ 16" O.C. VERTICALLY AND 30" O.C. HORIZONTALLY. SEE SECTION R703.8.4 OF THE 2018 NCRC.
- WATERPROOFING, FLASHING, AND WEEPS TO BE INSTALLED IN ACCORDANCE w/ SECTIONS R703.8.5 AND R703.8.6 OF THE 2018 NCRC. D. PRECAST REINFORCED CONCRETE LINTELS ENGINEERED BY
- OTHERS MAY BE USED IN LIEU OF STEEL LINTELS.

SECOND FLOOR CEILING FRAMING STRUCTURAL NOTES:

- ALL FRAMING LUMBER TO BE SPF #2 (UNO). ALL TREATED LUMBER TO BE SYP #2 (UNO.) 2. ALL LOAD BEARING HEADERS TO BE (2) 2 x 10 (UNO). 3. WINDOW AND DOOR HEADERS TO BE SUPPORTED w/ (1) JACK STUD AND (1) KING STUD EA. END (UNO.)
- 5. REFER TO NOTES AND DETAIL SHEETS FOR ADDITIONAL STRUCTURAL INFORMATION.

4. INSTALL 2 x 4 COLLAR TIES @ 48" O.C. MAX. IN ALL ATTIC

<u>LEGEND</u>

KING STUD (UNO).

BEAM OR HEADER AS NOTED

(UNO) UNLESS NOTED OTHERWISE

NOTED ON THE PLANS.

STUD COLUMN AT POINT LOADS THAT REQUIRE SOLID BLOCKING TO GIRDER OR FOUNDATION. ■ AT DROPPED HEADERS: (1) JACK STUD AND (1)

AT FLUSH BEAMS AND (UNO): (2) STUDS (UNO)

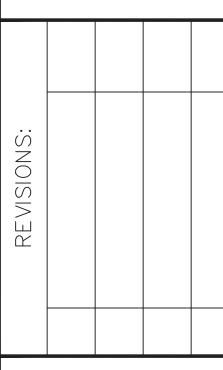
OFFSET POINT LOAD FROM FLOOR ABOVE. MUST BE SUPPORTED BY BEAM, JOIST, OR BLOCKING AS



90



RESIDENCE BUILDERS GARDNER
RAYNOR



DRAWN BY: **DESIGN TECH**

ENGINEERED BY: J. SMITH

SCALE: 1/4" = 1'-0" (U.N.O.)

DATE: **4-17-2024**

SHEET: **3** OF: **6**

S-3 SECOND FLOOR **CEILING FRAMING PLAN**

ROOF FRAMING STRUCTURAL NOTES:

- ALL FRAMING LUMBER TO BE #2 SPF (UNO).
 SHEATH ROOF w/ 7/16" OSB SHEATHING SECURED w/ 8d NAILS @ 6" O.C. ALONG EDGES AND 12" O.C. IN THE FIELD.
 CIRCLES DENOTE POSTS FOR ROOF SUPPORT AS NOTED.
 STICK FRAME OVER-FRAMED ROOF SECTIONS W/ 2 x 8 RIDGES, 2 x 6 RAFTERS @ 16" O.C. AND FLAT 2 x 10
- 4. STICK FRAME OVER—FRAMED ROOF SECTIONS W/ 2 x 8
 RIDGES, 2 x 6 RAFTERS @ 16" O.C. AND FLAT 2 x 10
 VALLEYS.

 5. HIP SPLICES ARE TO BE SPACED 8'-0" O.C. MINIMUM.
 FASTEN MEMBERS WITH (3) ROWS OF 12d NAILS @ 16" O.C.

 6. FASTEN FLAT VALLEYS TO RAFTERS WITH SIMPSON H2.5A
 HURRICANE TIES @ 32" O.C. MAX PASS HURRICANE TIES
- HURRICANE TIES @ 32" O.C. MAX. PASS HURRICANE TIES THROUGH NOTCH IN ROOF SHEATHING IF REQUIRED. SECURE RAFTERS TO FLAT VALLEYS WITH A MIN. OF (6) 12d TOE NAILS.
 7. INSTALL (1) SIMPSON H2.5A HURRICANE TIE (OR EQUAL) @
- EA. RAFTER BEARING.

 8. REFER TO NOTES AND DETAIL SHEETS FOR ADDITIONAL STRUCTURAL INFORMATION.

BRICK VENEER STRUCTURAL SUPPORT NOTES:

- 1. INSTALL (2) 2 x 10 BLOCKING BETWEEN WALL STUDS w/
 (4) 12d NAILS EA. END PER PLY. SECURE A 6" x 4" x
 5/16" STEEL ANGLE TO (2) 2 x 10 BLOCKING w/ (2) 1/2"
 x 4" LAG SCREWS @ 12" O.C.. SEE SECTION R703.8.2.1. OF
 THE 2018 NCRC FOR ADDITIONAL BRICK SUPPORT
- 2. WHERE ROOF SLOPES EXCEED 7:12, INSTALL 3" x 3" x 1/4" STEEL PLATE STOPS AT 24" O.C. PER SECTION R703.8.2.1 OF THE 2018 NCRC.
- 3. ANCHOR VENEER TO WOOD FRAMING WITH METAL TIES SPACED @ 16" O.C. VERTICALLY AND 30" O.C. HORIZONTALLY. SEE SECTION R703.8.4 OF THE 2018 NCRC.
 4. WATERPROOFING, FLASHING, AND WEEPS TO BE INSTALLED
- . WATERPROOFING, FLASHING, AND WEEPS TO BE INSTALLED IN ACCORDANCE w/ SECTIONS R703.8.5 AND R703.8.6 OF THE 2018 NCRC.



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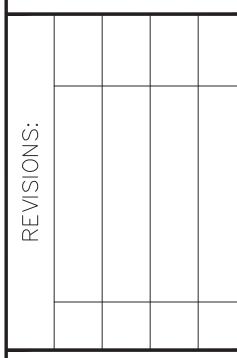
• jsmithstructural@gmail

CATE NUMBER: P-2

10 N. SALEM S P E X , P 19) 864-1430 • js C. CERTIFICAT



GARDNER RESIDENCE RAYNOR BUILDERS



DRAWN BY: **DESIGN TECH**

ENGINEERED BY: J. SMITH

SCALE: 1/4" = 1'-0" (U.N.O.)

DATE: **4-17-2024**

SHEET: **4** OF: **6**

S-4
ROOF FRAMING
PLAN

GENERAL STRUCTURAL NOTES

- ENGINEER'S SEAL APPLIES ONLY TO STRUCTURAL COMPONENTS. ENGINEER'S SEAL DOES NOT CERTIFY DIMENSIONAL ACCURACY OR ARCHITECTURAL LAYOUT INCLUDING ROOF SYSTEM. ENGINEER'S SEAL DOES NOT APPLY TO I—JOIST OR FLOOR/ROOF TRUSS LAYOUT DESIGN AND ACCURACY.
- 2. ALL CONSTRUCTION SHALL CONFORM TO THE LATEST REQUIREMENTS OF THE NORTH CAROLINA RESIDENTIAL CODE (NCRC), 2018 EDITION AND 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 FOR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE CONSTRUCTION WORK.

3.	DESIGN LOADS (R301)		LIVE LO	AD DEAD LOAD	DEFLECTION
	, ,		(PSF)	(PSF)	(LL)
	ROOMS OTHER THAN SLEEPING	ROOMS	40	10	L/360
	SLEEPING ROOMS		30	10	L/360
	ATTIC WITH LIMITED STORAGE		20	10	L/240
	ATTIC WITHOUT STORAGE		10	10	L/360
	STAIRS		40	10	L/360
	EXTERIOR BALCONIES		40	10	L/360
	DECKS		40	10	L/360
	HANDRAILS	200 LB OR	50 PLF	10	L/360
	PASSENGER VEHICLE GARAGES		50	10	L/360
	GROUND SNOW LOAD		20		
ı	THE LATE OF STATE OF	7040 /115	N DOOF 1	ICIOUT 475 CCCT	EVENOUEE D

- WIND LOAD PER SECTION R301.2. (MEAN ROOF HEIGHT <35 FEET, EXPOSURE B)
- I-JOIST FLR. SYSTEMS DESIGNED WITH 12 PSF DL AND L/480 DEFLECTION.
- 4. THE STRUCTURE IS DESIGNED FOR 120 MPH ULTIMATE DESIGN WIND SPEEDS.
- 5. WALL CLADDING DESIGNED FOR +15.5 PSF AND -20 PSF (+/- INDICATE POSITIVE / NEGATIVE PRESSURE (TYP).
- 6. ROOF CLADDING DESIGNED FOR +14.2 PSF AND -18 PSF FOR ROOF PITCHES 7/12
 TO 12/12 AND +10 PSF AND -36 PSF FOR ROOF PITCHED 2.25/12 TO 7/12.
- 7. THE POSITIVE AND NEGATIVE DESIGN PRESSURE FOR DOORS AND WINDOWS FOR A MEAN ROOF HEIGHT OF 35 FEET OR LESS IS 25 PSF.
- 8. FOUNDATION DESIGN BASED ON A MINIMUM ALLOWABLE BEARING CAPACITY OF 2000 PSF. CONTACT ENGINEER IF ALLOWABLE BEARING CAPACITY CAN NOT BE ACHIEVED.
- 9. FOUNDATION ANCHORAGE TO COMPLY WITH SECTION R403.1.6 OF THE 2018 NCRC.
- 10. 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 95% TO ASSURE UNIFORM SUPPORT OF THE SLAB, AND EXCEPT WHERE APPROVED, THE FILL DEPTHS SHALL NOT EXCEED 24" FOR CLEAN SAND OR GRAVEL. A 4" THICK BASED COURSE CONSISTING OF CLEAN GRADED SAND OR GRAVEL SHALL BE PLACED. A BASE COURSE IS NOT REQUIRED WHERE A CONCRETE SLAB IS INSTALLED ON WELL—DRAINED OR SAND—GRAVEL MIXTURE SOILS CLASSIFIED AS GROUP 1, ACCORDING TO THE UNITED SOIL CLASSIFICATION SYSTEM IN ACCORDANCE WITH TABLE R405.1 OF THE NCRC, 2018 EDITION.
- 11. CONCRETE SHALL CONFORM TO SECTION R402.2 OF THE NCRC, 2018 EDITION. CONCRETE SHALL HAVE A MINIMUM 28 DAY STRENGTH OF 3000 PSI. CONCRETE REINFORCING STEEL SHALL BE ASTM A615 GRADE 60. WELDED WIRE FABRIC SHALL BE ASTM A185. MAINTAIN A MINIMUM CONCRETE COVER AROUND REINFORCING STEEL OF 3" IN FOOTINGS AND 1 1/2" IN SLABS.
- 12. MASONRY UNITS TO CONFORM TO ACE 530/ASCE 5/TMS 402. MORTAR SHALL CONFORM TO ASTM C270.
- 13. ALL CONCRETE AND MASONRY FOUNDATION WALLS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE PROVISIONS OF SECTION R404 OF THE 2018 NCRC, OR IN ACCORDANCE WITH ACI 318, ACI 332, NCMA TR68—A OR ACE 530/ASCE 5/TMS 402. MASONRY FOUNDATION WALLS SHALL BE REINFORCED PER TABLE R404.1.1(1), R404.1.1(2), R404.1.1(3), OR R404.1.1(4) OF THE 2018 NCRC. CONCRETE FOUNDATION WALLS SHALL BE REINFORCED PER TABLE R404.1.1(5) OF THE NCRC, 2018 EDITION. STEP FOUNDATION WALLS TO 2 x 6 FRAMED WALLS AT 16" O.C. WHERE GRADE PERMITS (UNO).
- 14. ALL FRAMING LUMBER SHALL BE SPF #2 AND ALL TREATED LUMBER SHALL BE SYP #2 (UNO).
- 15. LAMINATED VENEER LUMBER (LVL) SHALL HAVE THE FOLLOWING MIN. PROPERTIES: Fb = 2600 PSI, Fv = 285 PSI, E = 1900000 PSI. INSTALL ALL CONNECTIONS PER MANUFACTURER'S SPECIFICATIONS.
- 16. STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING ASTM SPECIFICATIONS:

 A. W AND WT SHAPES:

 B. CHANNELS, ANGLES, PLATES, AND BARS:

 ASTM A36
- 17. STEEL BEAMS SHALL BEAR FULLY ON THE NUMBER OF JACK STUDS NOTED ON THE PLANS OR ON CONCRETE/MASONRY MIN. 4" (UNO). ANCHOR STEEL BEAMS AT BEARING AS FOLLOWS:
- A. WOOD FRAMING: (2) 1/2" DIA. x 4" LAG SCREWS
- 18. ALL LOAD BEARING HEADERS SHALL CONFORM TO TABLES R602.7(1) AND R602.7(2) OF THE 2018 NCRC UNLESS NOTED OTHERWISE ON THE PLANS. ALL HEADERS SHALL BE SUPPORTED WITH (1) JACK STUD AND (1) KING STUD EACH END (UNO). SECURE THE FIRST KING STUD EACH SIDE OF THE HEADER TO THE HEADER WITH (4) 16d END-NAILS. INSTALL KING STUDS PER SECTION R602.7.5 OF THE 2018 NCRC (UNO).
- 19. ALL I—JOIST AND TRUSS LAYOUTS SHALL BE IN COMPLIANCE WITH THE OVERALL DESIGN SPECIFIED ON THE PLANS. IF ALTERNATE I—JOISTS ARE USED, THE JOISTS MUST HAVE EQUIVALENT STRUCTURAL PROPERTIES TO THOSE SPECIFIED ON THE PLANS. ALL DEVIATIONS TO I—JOIST OR TRUSS LAYOUTS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER OF RECORD PRIOR TO CONSTRUCTION.

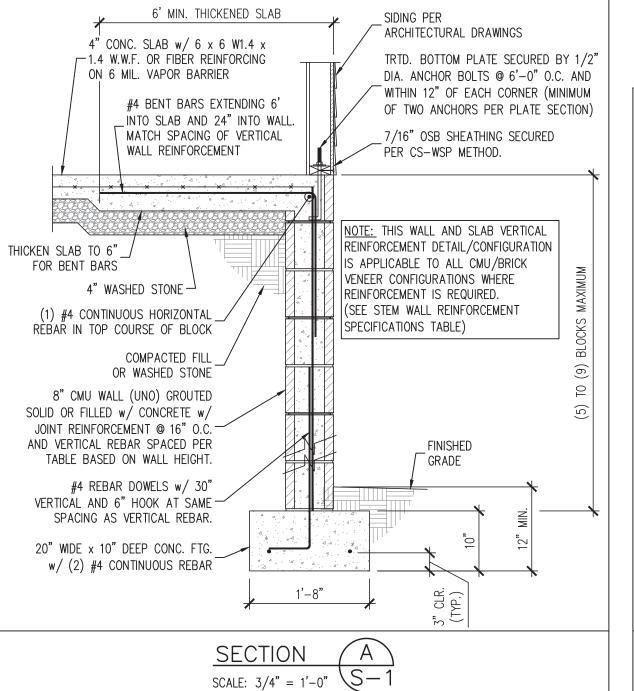
MASONRY STEM WALL REINFORCEMENT SPECIFICATIONS

MAX WALL HGT. (# OF BLOCKS)	MASONRY STEM WALL TYPE				
	4" CMU AND 4" BRICK WYTHE	8" CMU	10" CMU	12" CMU	
24" OR LESS	GROUTED SOLID	UNGROUTED	UNGROUTED	UNGROUTED	
32" (4 BLOCK)	GROUTED SOLID w/ #4 REBAR @ 48" O.C.	GROUTED SOLID	UNGROUTED	UNGROUTED	
40" (5 BLOCK)	NOT APPLICABLE	GROUTED SOLID w/ #4 REBAR @ 48" O.C.	GROUTED SOLID w/ #4 REBAR @ 64" O.C.	GROUTED SOLID w/ #4 REBAR @ 64" O.C.	
48" (6 BLOCK)	NOT APPLICABLE	GROUTED SOLID w/ #4 REBAR @ 48" O.C.	GROUTED SOLID w/ #4 REBAR @ 56" O.C.	GROUTED SOLID w/ #4 REBAR @ 64" O.C.	
56" (7 BLOCK)	NOT APPLICABLE	GROUTED SOLID w/ #4 REBAR @ 48" O.C.	GROUTED SOLID w/ #4 REBAR @ 48" O.C.	GROUTED SOLID w/ #4 REBAR @ 64" O.C.	
64" (8 BLOCK)	NOT APPLICABLE	GROUTED SOLID w/ #4 REBAR @ 32" O.C.	GROUTED SOLID w/ #4 REBAR @ 48" O.C.	GROUTED SOLID w/ #4 REBAR @ 48" O.C.	
72" (9 BLOCK)	NOT APPLICABLE	GROUTED SOLID w/ #4 REBAR @ 24" O.C.	GROUTED SOLID w/ #4 REBAR @ 32" O.C.		
GREATER THAN	CONTACT ENGINEER FOR DESIGN PER SITE AND PLAN CONDITIONS				

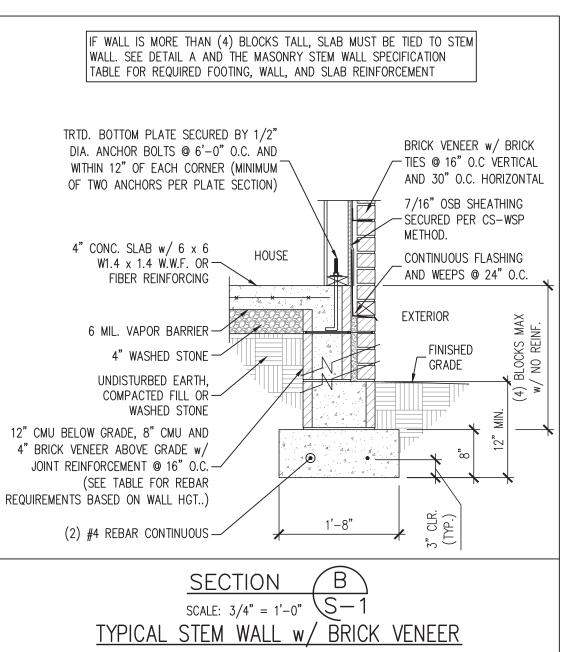
STEM WALL SLAB FOUNDATION NOTES:

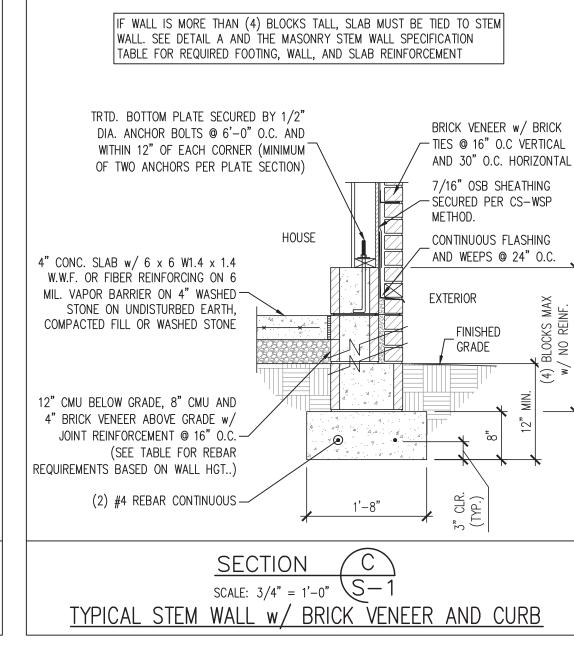
- "BRICK WYTHE" INDICATES STUD WALL BEARING PARTIALLY ON BRICK ON TOP OF STEM WALL.
 PREPARE AREA WITHIN LIMITS OF FOUNDATION OR SLAB PER SECTION R506 OF THE 2018 NCRC.
 FILL ALL CELLS WITH REINFORCEMENT OR ANCHOR RODS SOLID WITH TYPE "S" MORTAR OR 3000 PSI
- 4. WHERE VERTICAL WALL REINFORCEMENT IS REQUIRED IN THE TABLE ABOVE, THE TOP OF THE MASONRY
- STEM WALL MUST BE TIED TO THE SLAB WITH BENT "L" BARS PER DETAIL A.
- 5. HORIZONTAL JOINT REINFORCEMENT SHALL BE IN INSTALLED @ 16" O.C. VERTICALLY. WHERE MULTIPLE
- WYTHE WALLS ARE CONSTRUCTED, JOINT REINFORCEMENT MUST TIE WYTHES TOGETHER.

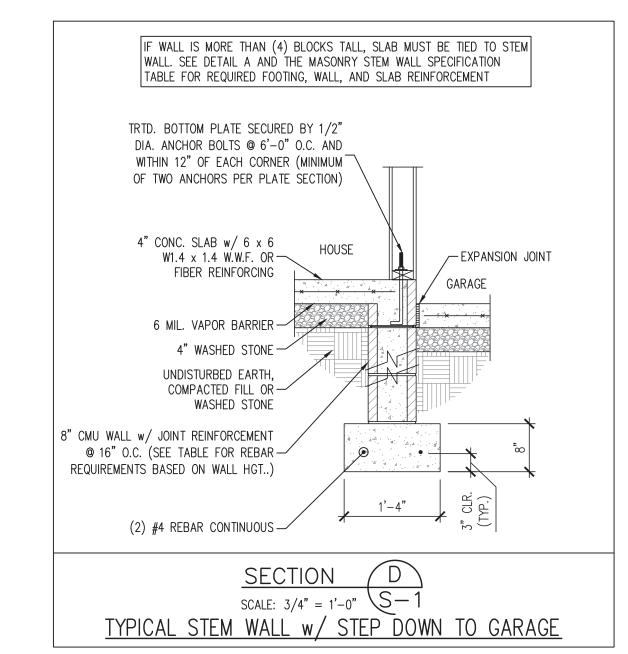
 6. REBAR LAP SPLICES SHALL BE 24" FOR #4 REBAR AND 32" FOR #5 REBAR.

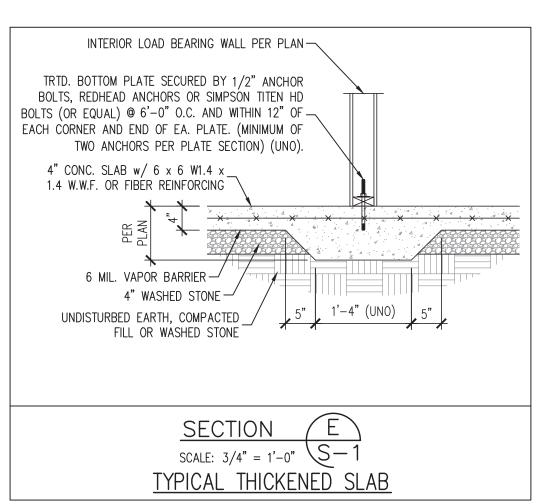


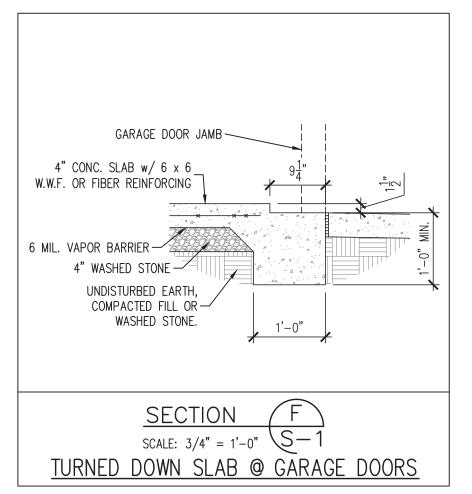
TALL STEM WALL SLAB REINFORCEMENT & FOOTING DETAIL

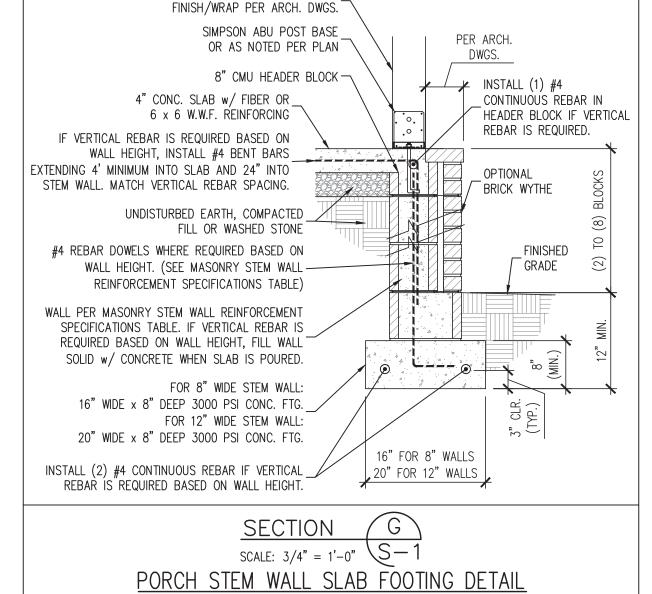




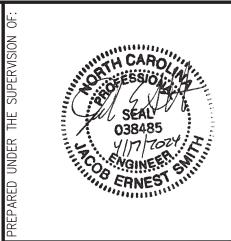








TRTD. POSTS PER PLAN.



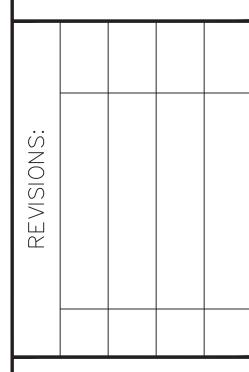
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ENGINEER

320 N. SALEM STRE
A P E X , N C
(919) 864-1430 • jsmiths
N.C. CERTIFICATE N



GARDNER RESIDENCE RAYNOR BUILDERS



DRAWN BY: **DESIGN TECH**

SCALE: 1/4" = 1'-0" (U.N.O.)

ENGINEERED BY: J. SMITH

DATE: **4–17–2024**

S-5
FOUNDATION

SHEET: 5 OF: 6

DETAILS AND
STRUCTURAL NOTES

