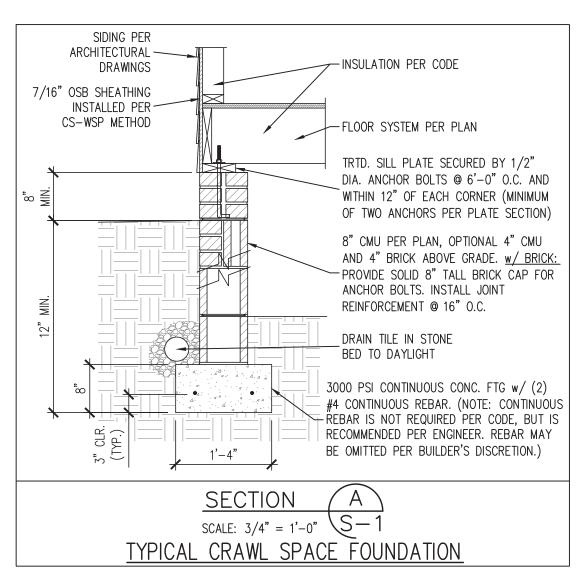
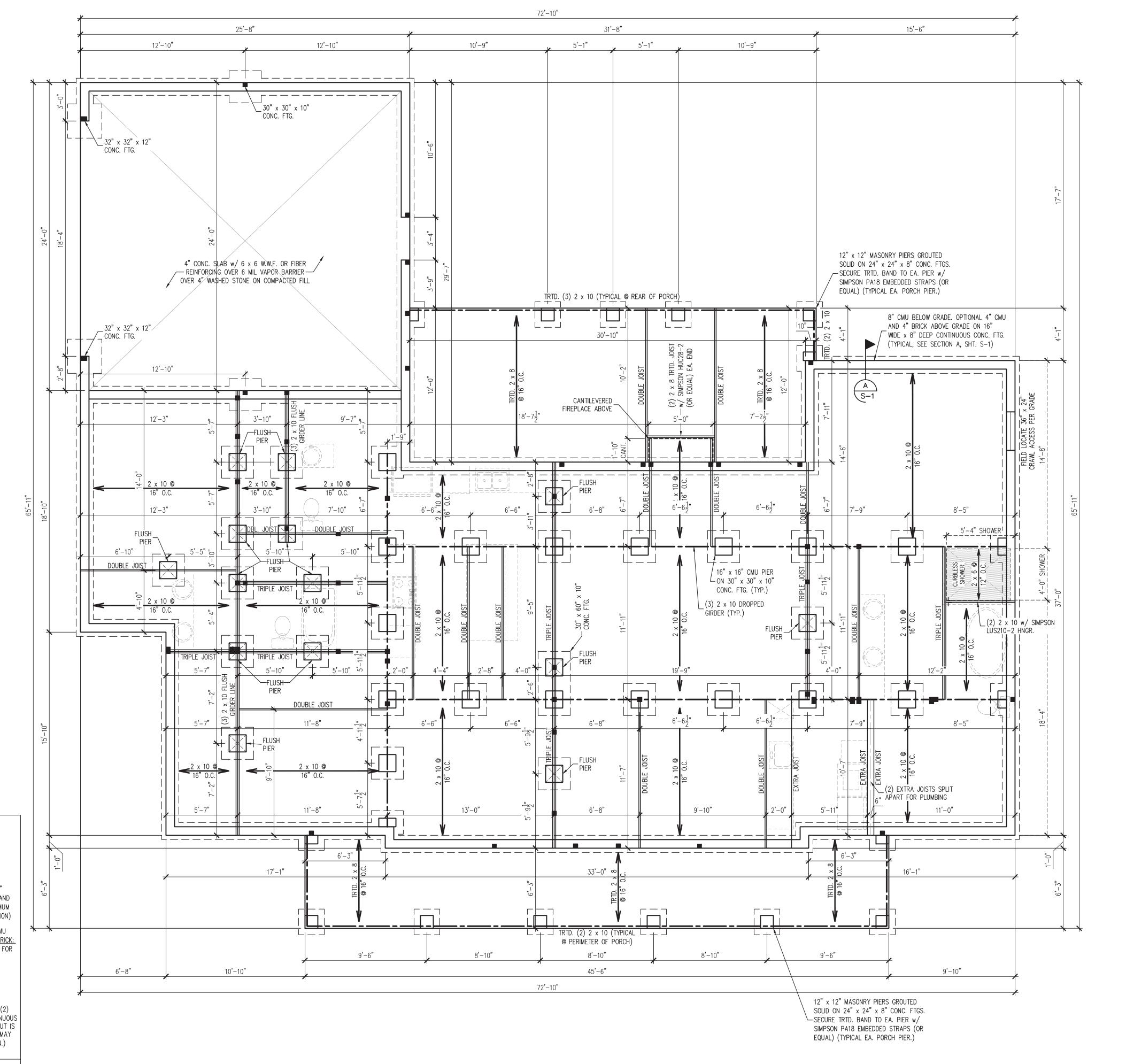
GENERAL STRUCTURAL NOTES

- 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.
- 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 LOAD DEAD LOAD DEFLECTION (PSF) (LL) ROOMS OTHER THAN SLEEPING ROOMS L/360 SLEEPING ROOMS L/360 ATTIC WITH LIMITED STORAGE L/240 ATTIC WITHOUT STORAGE L/360 L/360 L/360 200 LB OR 50 PLF HANDRAILS L/360 PASSENGER VEHICLE GARAGES L/360
- GROUND SNOW LOAD WIND LOAD PER SECTION R301.2. (MEAN ROOF HEIGHT <35 FEET, EXPOSURE B)
- 4. THE STRUCTURE IS DESIGNED FOR 120 MPH ULTIMATE DESIGN WIND SPEEDS.
- . WALL CLADDING DESIGNED FOR +15.5 PSF AND -20 PSF (+/- INDICATE POSITIVE /NEGATIVE PRESSURE (TYP).
- . 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.
- 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
- 1. 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.
- 2. MASONRY UNITS TO CONFORM TO ACE 530/ASCE 5/TMS 402. MORTAR SHALL CONFORM TO ASTM C270.
- 13. THE UNSUPPORTED HEIGHT OF MASONRY PIERS SHALL NOT EXCEED FOUR TIMES THEIR LEAST DIMENSION FOR UNFILLED HOLLOW CONCRETE MASONRY UNITS AND TEN TIMES THEIR LEAST DIMENSION FOR SOLID OR SOLID FILLED PIERS. PIERS MAY BE FILLED SOLID WITH CONCRETE OR TYPE M OR S MORTAR. PIERS AND WALLS SHALL BE CAPPED WITH 8" OF SOLID MASONRY.
- 14. THE CENTER OF EACH PIER SHALL BEAR IN THE MIDDLE THIRD OF ITS RESPECTIVE FOOTING. EACH GIRDER SHALL BEAR IN THE MIDDLE THIRD OF EA. PIER.
- 15. 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
- 16. ALL FRAMING LUMBER SHALL BE SPF #2 AND ALL TREATED LUMBER SHALL BE SYP #2 (UNO).
- 17. 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.
- 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).





CRAWL SPACE VENTILATION CALCULATION

2319 SQ. FT. OF CRAWL SPACE DIVIDED BY 150 EQUALS 15.46 SQ. FT. OF NET FREE AREA REQUIRED. SEE SECTION R408.1 OF THE 2018 NCRC (2015 IRC).

FREE VENT AREA MAY BE REDUCED TO 1/1500 IF AN APPROVED VAPOR BARRIER IS INSTALLED OVER 100% OF THE CRAWL FLOOR AND VENTS ARE INSTALLED TO PERMIT CROSS-VENTILATION OF CRAWL SPACE.

SEE SECTION R408.1.1 OF THE 2018 NCRC.

CRAWL SPACE STRUCTURAL NOTES

- ALL FRAMING LUMBER TO BE #2 SPF (UNO). ALL TREATED LUMBER TO BE #2 SYP (UNO).
- INSTALL AN EXTRA OR DOUBLE JOIST UNDER WALLS PARALLEL TO THE FLOOR JOISTS WHERE NOTED ON THE
- INSTALL 1/2" ANCHOR BOLTS 6'-0" O.C. AND WITHIN 1'-0" FROM END OF EACH CORNER. (MIN (2) ANCHORS PER PLATE SECTION.) ANCHOR BOLTS MUST EXTEND A MINIMUM OF 7" INTO MASONRY OR CONCRETE. LOCATE BOLT WITHIN MIDDLE THIRD OF PLATE WIDTH.
- INSTALL JOINT REINFORCEMENT @ 16" O.C. TO SECURE MULTIPLE WYTHE FOUNDATION WALLS TOGETHER. REFER TO NOTES AND DETAIL PAGES FOR ADDITIONAL

INFORMATION.

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DRAWN BY: HOMES UNIQUE

SCALE: 1/4" = 1'-0" (UNO)

ENGINEERED BY: J. SMITH

DATE: **7-12-2024**

SHEET: 1 OF: 5

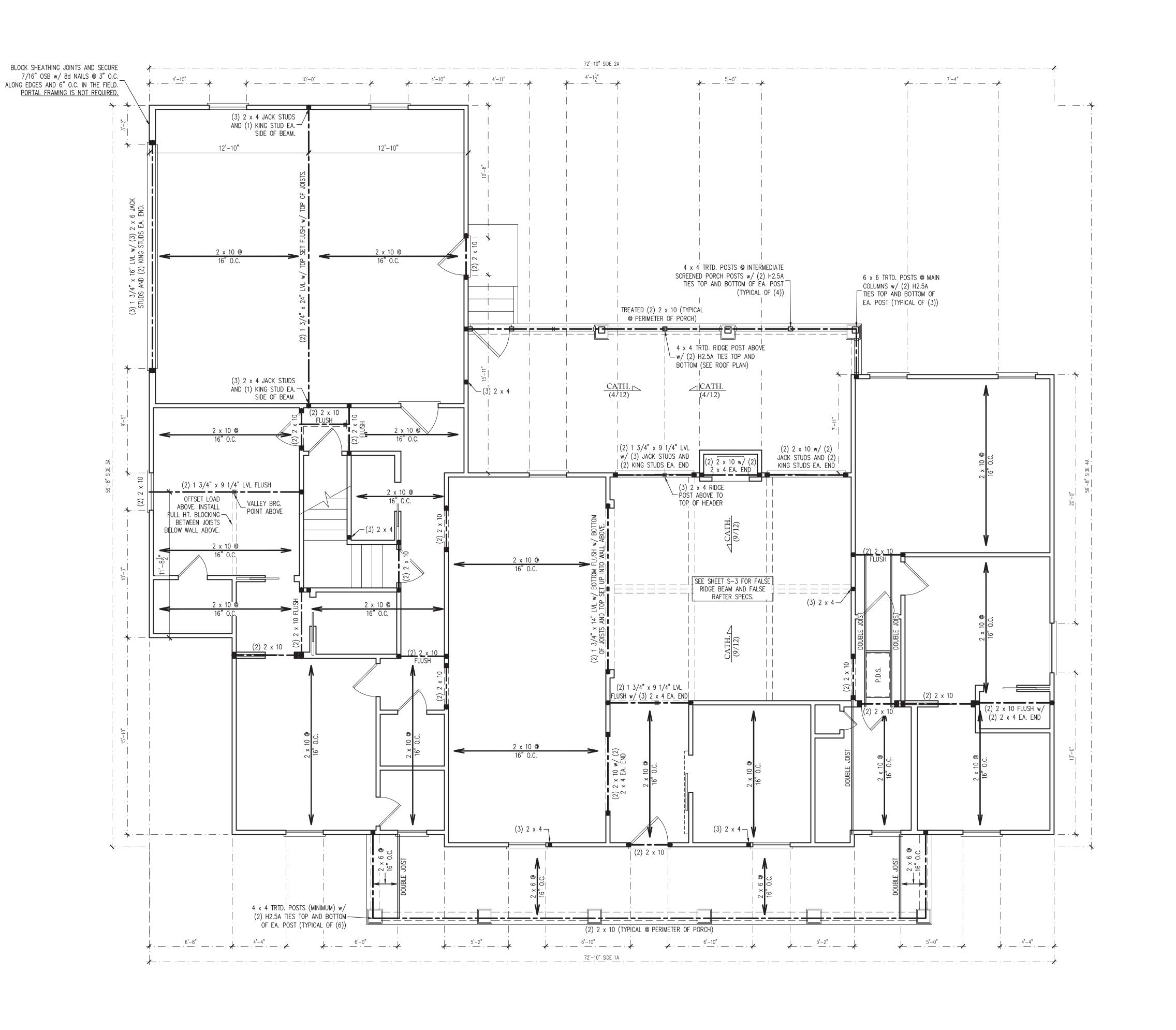
S-1 CRAWL SPACE FOUNDATION PLAN

<u>LEGEND</u>

STUD COLUMN ON FLOOR ABOVE THAT REQUIRE SOLID BLOCKING TO GIRDER OR FOUNDATION. PLUMBING OR APPLIANCES ON THE FLOOR ABOVE TO HELP ELIMINATE FRAMING CONFLICTS WITH UTILITIES. (FOR REFERENCE ONLY, SEE ARCHITECTURAL DRAWINGS)

NEW BEAM OR GIRDER AS NOTED

(UNO) UNLESS NOTED OTHERWISE



BRACED WALL DESIGN NOTES:

- BRACED WALL DESIGN PER SECTION R602.10 OF THE NCRC
- 2018 EDITION. 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 AND 12" O.C. IN THE FIELD (UNO).
- SEE NOTES AND DETAIL SHEÈTS FOR ADDITIONAL BRACED WALL INFORMATION.

BRACED WALL DESIGN SUMMARY:

<u>SIDE 3A</u> METHOD: CS—WSP/ENG. DESIGN METHOD: CS-WSP REQUIRED LENGTH: 8.76' REQUIRED LENGTH: 10.4' PROVIDED LENGTH: 49.3' PROVIDED LENGTH: 64.25' SIDE 2A METHOD: CS-WSP <u>SIDE 4A</u> METHOD: CS-WSP

REQUIRED LENGTH: 8.76' REQUIRED LENGTH: 10.4' PROVIDED LENGTH: 49.3' PROVIDED LENGTH: 40.9'

FIRST FLOOR CEILING FRAMING STRUCTURAL NOTES:

- 1. 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).
- 5. WINDOW AND DOOR HEADERS TO BE SUPPORTED w/ (1) JACK STUD AND (1) KING STUD EA. END (UNO.)
- . INSTALL AN EXTRÀ OR DOUBLE JOIST UNDÈR WALLS PARALLEL TO THE JOISTS WHERE NOTED ON THE PLANS. 5. REFER TO NOTES AND DETAIL SHEETS FOR ADDITIONAL

STRUCTURAL INFORMATION.



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320 A P (919) N.C.





DRAWN BY: HOMES UNIQUE

ENGINEERED BY: J. SMITH

<u>LEGEND</u>

■ AT DROPPED HEADERS: (1) JACK STUD AND (1)

SUPPORTED BY BEAM, JOIST, OR BLOCKING AS

BRACED WALL DIMENSIONS (FOR REFERENCE ONLY)

NOTED ON THE PLANS.

BEAM OR HEADER AS NOTED

(UNO) UNLESS NOTED OTHERWISE

STUD COLUMN AT POINT LOADS THAT REQUIRE SOLID BLOCKING TO GIRDER OR FOUNDATION.

KING STUD (UNO).

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

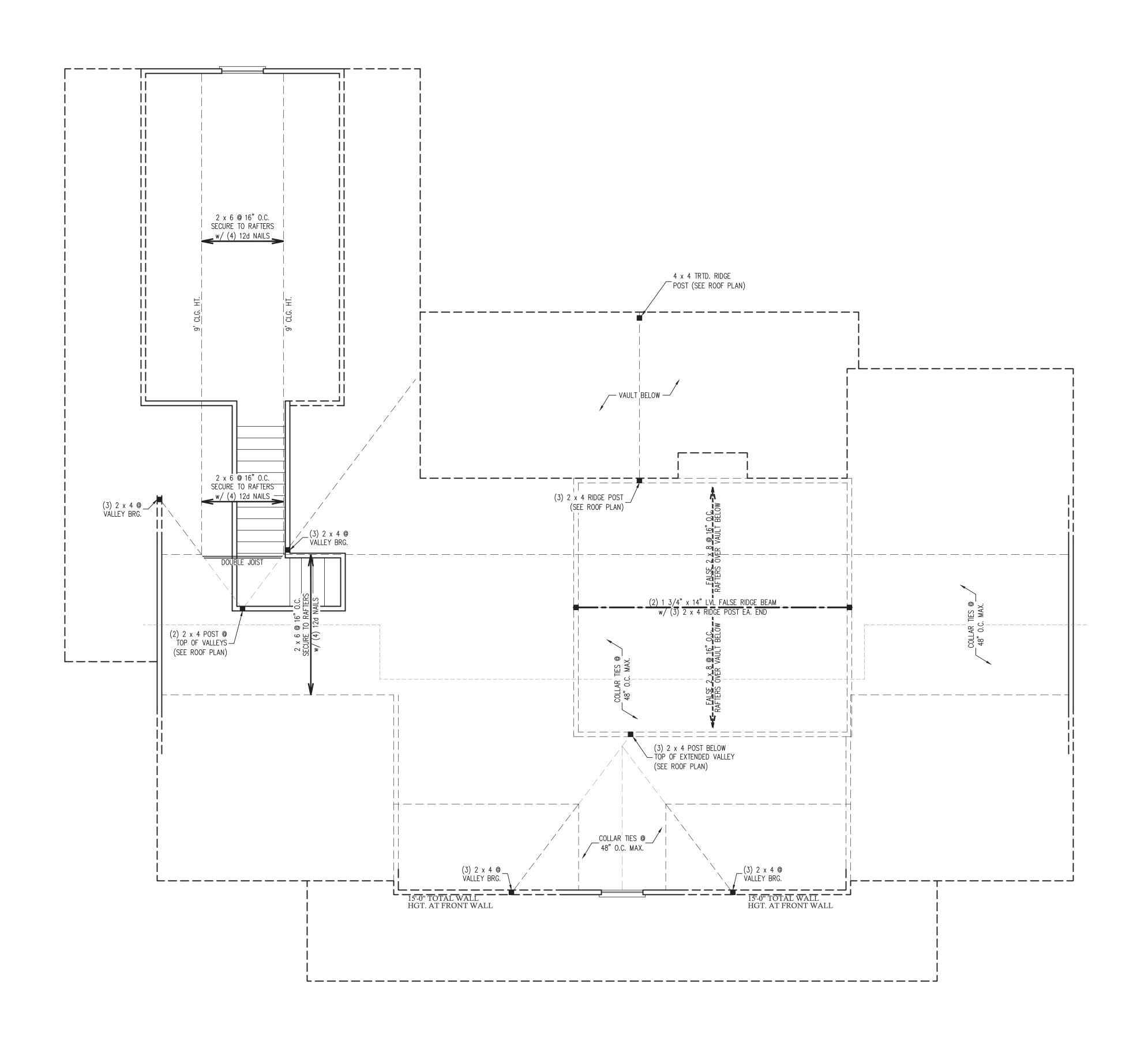
OFFSET POINT LOAD FROM FLOOR ABOVE. MUST BE

SCALE: 1/4" = 1'-0" (UNO)

DATE: **7-12-2024**

SHEET: **2** OF: **5 S-2**

FIRST FLOOR **CEILING FRAMING PLAN**



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 SHEÈTS FOR ADDITIONAL BRACED WALL INFORMATION.

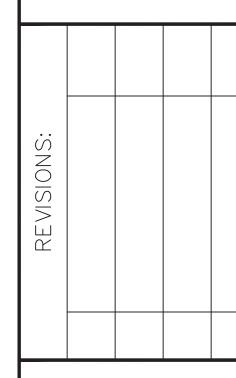
AND 12" O.C. IN THE FIELD (UNO).

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). 6. WINDOW AND DOOR HEADERS TO BE SUPPORTED w/ (1)
- JACK STUD AND (1) KING STUD EA. END (UNO.) 4. INSTALL 2 x 4 COLLAR TIES @ 48" O.C. MAX. IN ALL ATTIC SPACES.
- . REFER TO NOTES AND DETAIL SHEETS FOR ADDITIONAL STRUCTURAL INFORMATION.







DRAWN BY: HOMES UNIQUE

ENGINEERED BY: J. SMITH

SCALE: 1/4" = 1'-0" (UNO)

DATE: **7-12-2024**

<u>LEGEND</u>

■ AT DROPPED HEADERS: (1) JACK STUD AND (1)

KING STUD (UNO).

BEAM OR HEADER AS NOTED

(UNO) UNLESS NOTED OTHERWISE

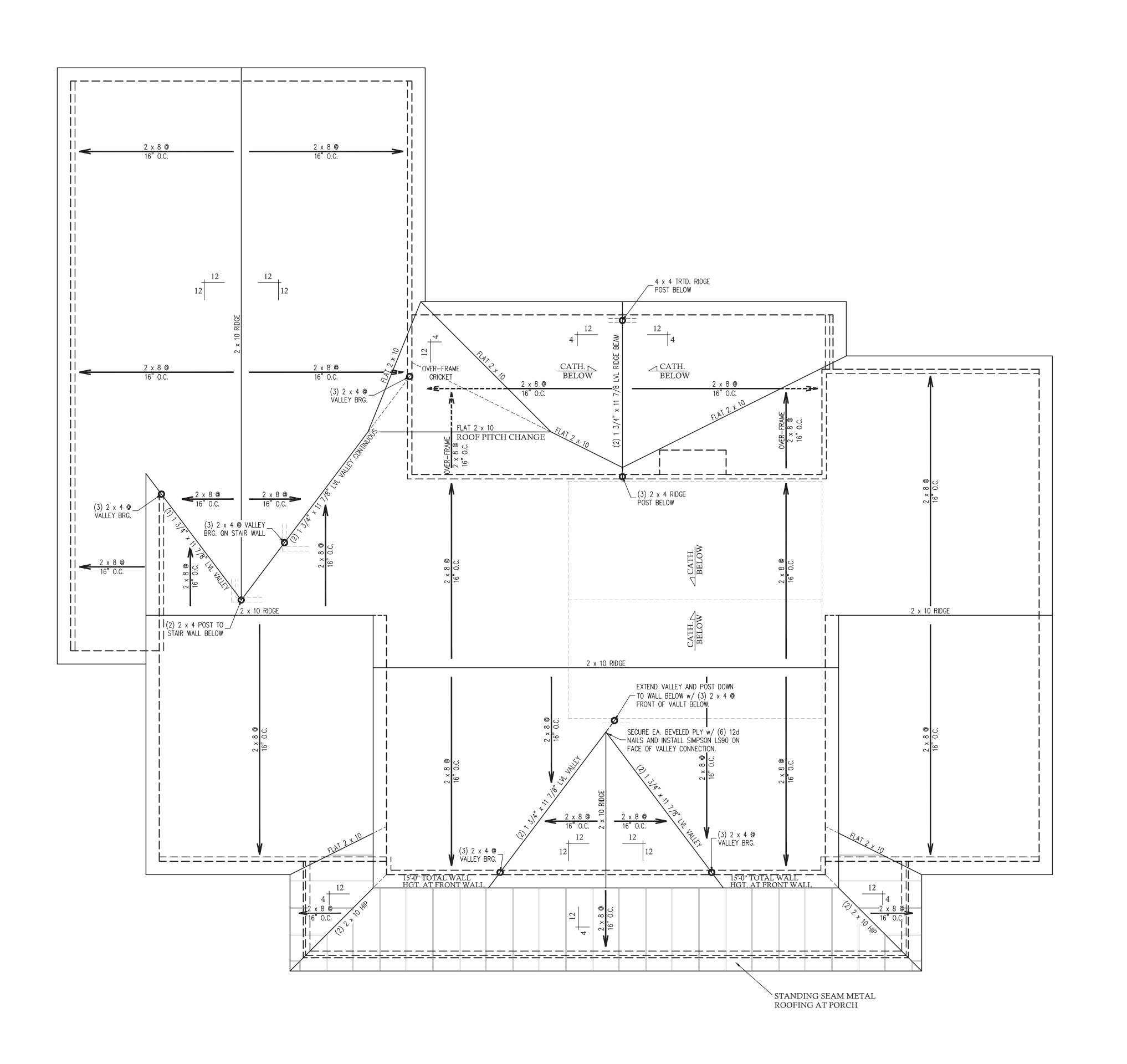
STUD COLUMN AT POINT LOADS THAT REQUIRE SOLID BLOCKING TO GIRDER OR FOUNDATION.

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

SHEET: **3** OF: **5**

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
- 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
 THROUGH NOTCH IN ROOF SHEATHING IF REQUIRED. SECURE
- RAFTERS TO FLAT VALLEYS WITH A MIN. OF (6) 12d TOE NAILS.

 '. INSTALL (1) SIMPSON H2.5A HURRICANE TIE (OR EQUAL) @
- EA. RAFTER BEARING.

 8. INSTALL (2) SIMPSON H2.5A HURRICANE TIES (OR EQUAL)
 TRUE VALLEY BEARING POINTS AND AT RIDGE BEAM (OVER EXTERIOR VAULTS) BEARING POINTS.
- 9. REFER TO NOTES AND DETAIL SHEETS FOR ADDITIONAL STRUCTURAL INFORMATION.



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UNIT 106 B
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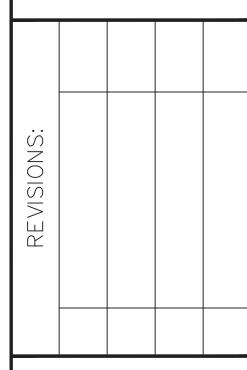
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320 N. S A P E X (919) 864-7 N.C. CER



NDERSEN RESIDENCE
LOT 6 HOBBY ROAD
IARNETT COUNTY, NC



DRAWN BY: HOMES UNIQUE

ENGINEERED BY: J. SMITH

DATE: **7-12-2024**

SHEET: **4** OF: **5**

SCALE: 1/4" = 1'-0" (UNO)

S-4
ROOF FRAMING
PLAN

ROOF FRAMING PLAN

NOTE 1 - ALL ROOF PITCHES TO BE 9/12 UNLESS NOTED OTHERWISE

NOTE 2 - ALL ROOF OVERHANGS TO BE 12" UNLESS NOTED OTHERWISE

