

# STRUCTURAL NOTES

- ENGINEER'S SEAL APPLIES ONLY TO STRUCTURAL COMPONENTS INCLUDING ROOF RAFTERS, HIPS, VALLEYS, RIDGES, FLOORS, WALLS, BEAMS AND HEADERS, COLUMNS, CANTILEVERS, OFFSET LOAD BEARING WALLS, PIER & GIRDER SYSTEM AND FOOTING. ENGINEER'S SEAL DOES NOT CERTIFY DIMENSIONAL ACCURACY OR ARCHITECTURAL LAYOUT INCLUDING ROOF SYSTEM.
- ALL CONSTRUCTION SHALL CONFORM TO THE LATEST REQUIREMENTS OF THE NORTH CAROLINA STATE RESIDENTIAL CODE - 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 FOR 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.
- DESIGN LOADS (R301.4)

	LIVE LOAD (PSF)	DEAD LOAD (PSF)	DEFLECTION (LL)
ROOMS (other than sleeping)	40	10	L/360
SLEEPING ROOMS	30	--	L/360
ATTIC WITH STORAGE	20	10	L/240
ATTIC WITHOUT STORAGE	10	10	L/240
STAIRS	40	10	L/240
EXTERIOR BALCONIES	60	10	L/360
DECKS	40	10	L/360
GUARDRAILS & HANDRAILS	200	--	--
PASSENGER VEHICLE GARAGES	50	10	L/360
FIRE ESCAPES	40	10	L/360
SNOW	15	--	--
WIND LOAD	(BASED ON 115 MPH WIND VELOCITY)		
- FOR WALL BRACING REQUIREMENTS, REFER TO SECTION R602.10 OF THE NORTH CAROLINA STATE RESIDENTIAL CODE - 2018 EDITION
- CONCRETE SHALL HAVE A MINIMUM 28 DAY STRENGTH OF 3000 PSI AND A MAXIMUM SLUMP OF 5 INCHES UNLESS NOTED OTHERWISE (UNO).
- ALL FRAMING LUMBER SHALL BE SPF #2 (Fb = 1000 PSI) UNLESS NOTED OTHERWISE (UNO).
- ALL WOODEN BEAMS AND HEADERS SHALL HAVE THE FOLLOWING END SUPPORTS: (1) 2x4 STUD COLUMN FOR 6'-0" MAX. BEAM SPAN, (2) STUDS FOR BEAM SPAN GREATER THAN 6'-0" (UNO). ALL BEARING HEADERS AND HEADERS OVER 6'-0" IN LENGTH SHALL BE (2) 2x10's (UNO).
- L.V.L. SHALL BE LAMINATED VENEER LUMBER OR PARRALLEL STRAND LUMBER (PSL) WITH THE FOLLOWING PROPERTIES: Fb = 2800 PSI, Fv = 285 PSI, E = 1,900,000 PSI. INSTALL ALL CONNECTIONS PER MANUFACTURERS INSTRUCTIONS.
- ALL STRUCTURAL STEEL SHALL BE ASTM A-36. STEEL BEAMS SHALL BE SUPPORTED AT EACH END WITH A MINIMUM BEARING LENGTH OF 3 1/2" INCHES AND FULL FLANGE WIDTH. PROVIDE SOLID BEARING FROM BEAM SUPPORT TO FOUNDATION. BEAMS SHALL BE ATTACHED TO EACH SUPPORT WITH TWO LAG SCREWS (1/2" DIAMETER x 4" LONG). LATERAL SUPPORT IS CONSIDERED ADEQUATE PROVIDING THE JOIST ARE TOE NAILED TO THE SOLE PLATE, AND SOLE PLATE IS NAILED OR BOLTED TO THE BEAM FLANGE @ 48" O.C.
- FLITCH BEAMS SHALL BE BOLTED TOGETHER USING 1/2" DIAMETER BOLTS (ASTM A307) WITH WASHERS PLACED UNDER THREADED END OF BOLT. BOLTS SHALL BE SPACED AT 24" CENTERS (MAXIMUM), AND STAGGERED TOP AND AT BOTTOM OF BEAM (2" EDGE DISTANCE), WITH 2 BOLTS LOCATED AT 6" FROM EACH END.
- BRICK LINTELS SHALL BE 3 1/2"x3 1/2"x1/4" STEEL ANGLE FOR UP TO 6'-0" SPAN AND 6"x4"x5/16" STEEL ANGLE WITH 6" LEG VERTICAL FOR SPANS GREATER THAN 6'-0" (UNO).

STRUCTURAL EVALUATION BY:  
**HOWERTON SERVICES, PLLC**  
 3513 CATHEDRAL BELL ROAD  
 RALEIGH, NC 27614  
 LICENSE P-1716

\* ENGINEER'S SEAL APPLIES ONLY TO STRUCTURAL COMPONENTS ON THIS DOCUMENT. SEAL DOES NOT INCLUDE CONSTRUCTION REVIEW, MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES OR SAFETY PRECAUTIONS.  
 \* ANY DEVIATIONS OR DISCREPANCIES ON PLANS ARE TO BE BROUGHT TO IMMEDIATE ATTENTION OF THE ENGINEER. FAILURE TO DO SO WILL VOID ENGINEER'S LIABILITY.

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## FOUNDATION STRUCTURAL NOTES:

(115 MPH WIND ZONE)

- (3) 2 x 10 SPF #2 GIRDER, TYPICAL UNO.
- CONCRETE BLOCK PIER SIZE SHALL BE:  

SIZE	HOLLOW MASONRY	SOLID MASONRY
8 x 16	UP TO 32" HIGH	UP TO 5'-0" HIGH
12 x 16	UP TO 48" HIGH	UP TO 9'-0" HIGH
16 x 16	UP TO 64" HIGH	UP TO 12'-0" HIGH
24 x 24	UP TO 96" HIGH	

 WITH 30" x 30" x 10" CONCRETE FOOTING, UNO.
- WALL FOOTING AS FOLLOWS:  
 DEPTH: 8" - UP TO 2-1/2 STORY  
 10" - 3 STORY  
 WIDTH: SIDING (OR EQUAL)  
 - 16" - UP TO 2-1/2 STORY  
 - 18" - 3 STORY  
 BRICK VENEER  
 - 16" - 1 STORY  
 - 20" - 2 STORY  
 - 24" - 3 STORY

FOR FOUNDATION WALL HEIGHT AND BACKFILL REQUIREMENTS, REFER TO NORTH CAROLINA RESIDENTIAL CODE TABLE R404.1.1 (1 THRU 4)  
 NOTE: ASSUMED SOIL BEARING CAPACITY = 2000 PSF.  
 CONTRACTOR MUST VERIFY SITE CONDITIONS AND CONTACT SOILS ENGINEER IF MARGINAL OR UNSTABLE SOILS ARE ENCOUNTERED.

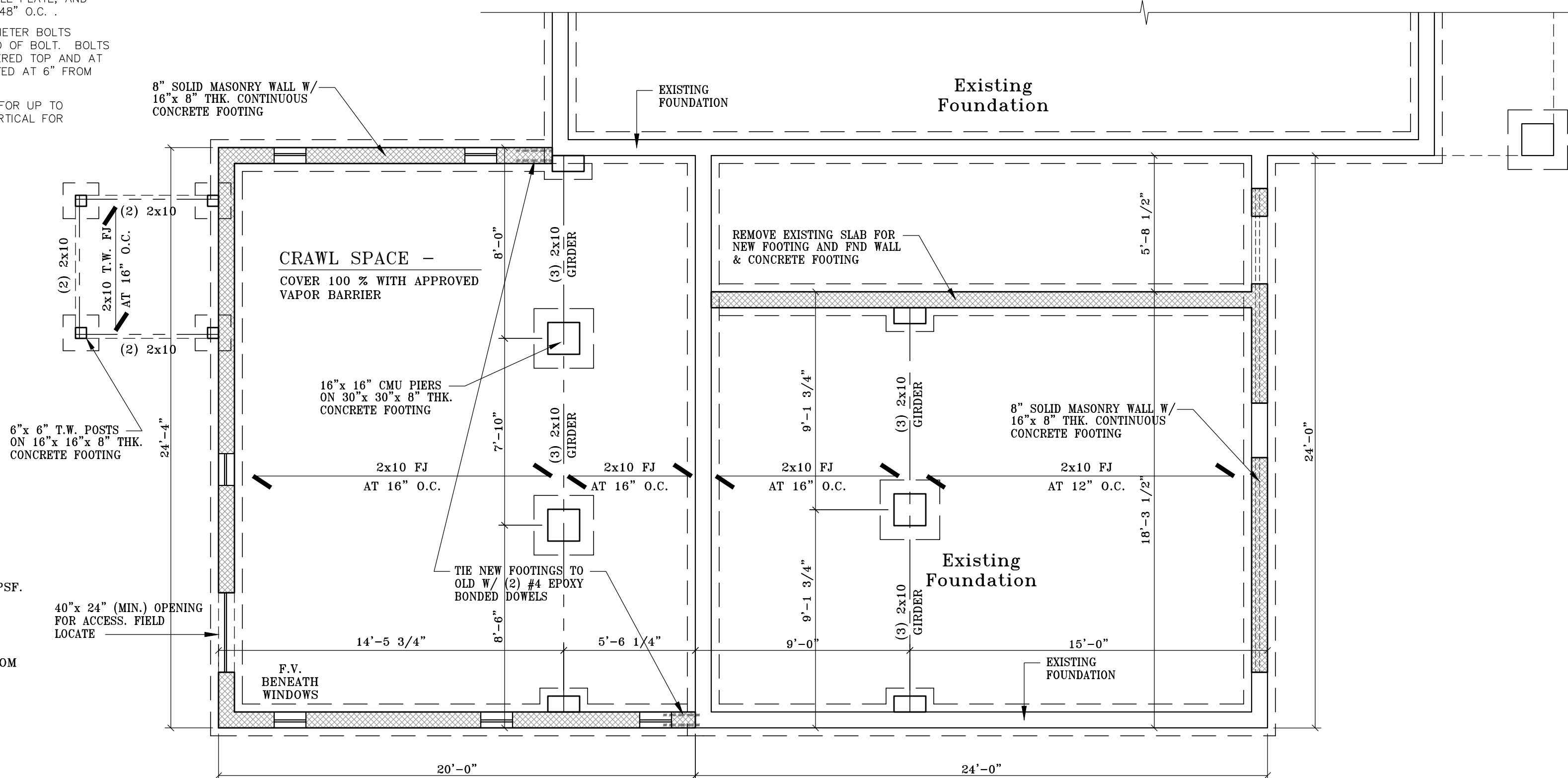
ATTACH SILL PLATE WITH 1/2" dia. ANCHOR BOLTS AT 6'-0" CENTERS ( 7" EMBEDMENT) AND 12" FROM EACH PLATE END. (SECTION R 403.1.6)

- "■" DESIGNATES A SIGNIFICANT POINT LOAD TO HAVE SOLID BLOCKING TO PIER. SOLID BLOCK ALL BEAM BEARING POINTS NOTED TO HAVE THREE OR MORE STUDS TO FND, TYPICAL.

### 5 ABBREVIATIONS:

"SJ" = SINGLE JOIST  
 "DJ" = DOUBLE JOIST  
 "TJ" = TRIPLE JOIST

- (4) 2 x 10 SPF #2 GIRDER, TYPICAL UNO.



## 01 Foundation Plan

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



**Perry Cox**  
 architect, p.a.  
 207 Hudson Avenue  
 Apex, North Carolina 27502  
 P: 919.363.5411  
 www.pcoxdesign.com

## Cheney Addition

31 Ray Con Circle  
 Lillington, NC 27546

4 November 2024

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ALL FRAMING MEMBERS (JOISTS, GIRDERS AND HEADERS) ARE # 2 S.P.F. UNLESS NOTED

PROVIDE 36" W. x 24" H. (MIN.) ACCESS DOOR. LOCATE AS REQUIRED BY FINISHED GRADE.

FOOTING SIZES BASED ON 2,000 psf ALLOWABLE SOIL BEARING PRESSURE.

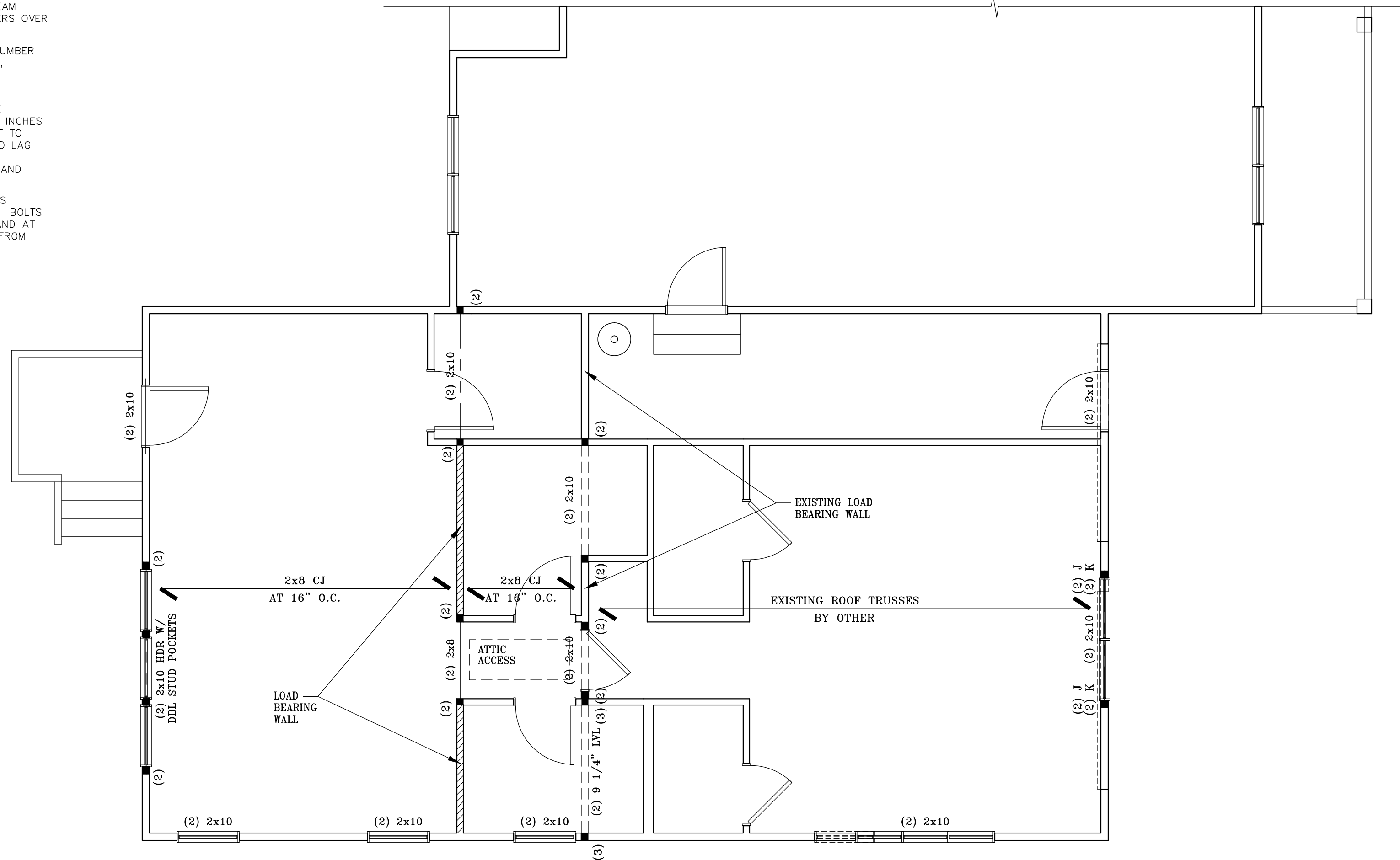
## Header Schedule

- ALL HEADERS IN EXTERIOR WALLS ARE (2) 2x10, UNLESS NOTED OTHERWISE
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- HEADERS FOR INTERIOR NON-LOAD BEARING WALLS ARE AS LISTED BELOW, U.N.O.:

SPAN	SIZE
Less than 3'-0"	(2) 2x4
3'-0" to 4'-0"	(2) 2x6
4'-0" to 5'-0"	(2) 2x8
5'-0" to 8'-0"	(2) 2x10

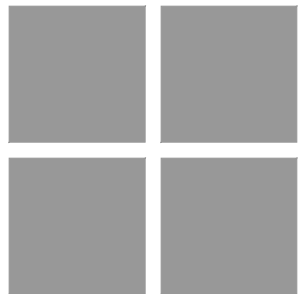
NOTE: NUMBER SHOWN AT BEAM AND HEADER SUPPORTS INDICATE NUMBER OF SUPPORT STUDS REQUIRED IN STUD POCKET.

11 04 2024 EST



# 01 First Floor Ceiling Framing Plan

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



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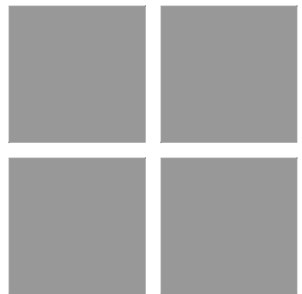
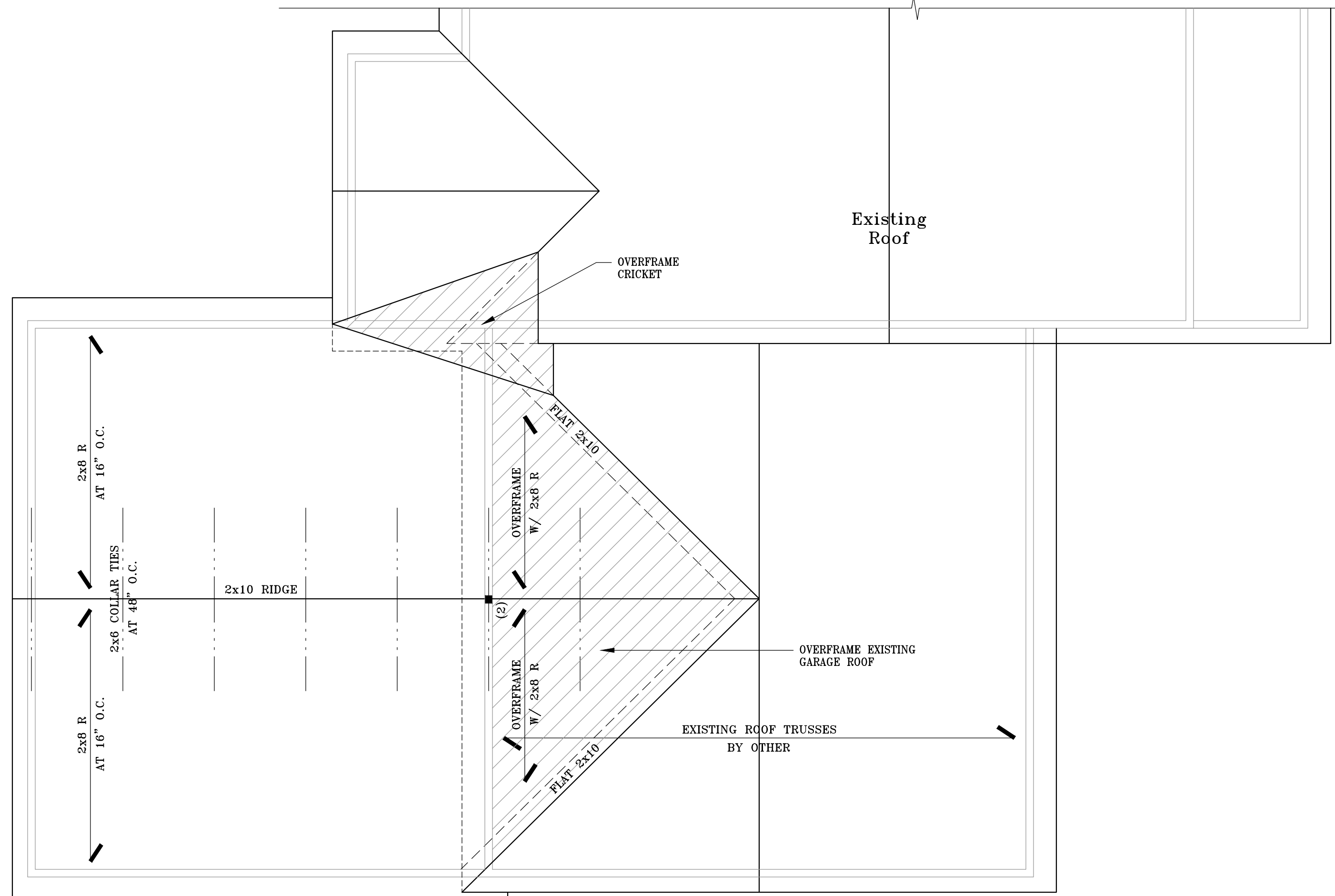
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