



10/24/2021  
 STRUCTURAL EVALUATION BY:  
**HOWERTON SERVICES, PLLC**  
 LICENSE # P-1716  
 3513 CATHEDRAL BELL ROAD, RALEIGH, NC 27614

BUILDING DESIGN BY:  
**S&S CONTRACTING**  
 6349 RIVER ROAD, FLOUJAY, NC 27526

CUSTOM HOUSE PLANS FOR:  
**GOODWIN RESIDENCE**  
 CHELSEY LANE, HARNETT COUNTY, N.C.

DESCRIPTION:  
 FOUNDATION PLAN  
 REVISION:  
 DATE:  
 SEPTEMBER 2021

DRAWING:  
**S1**

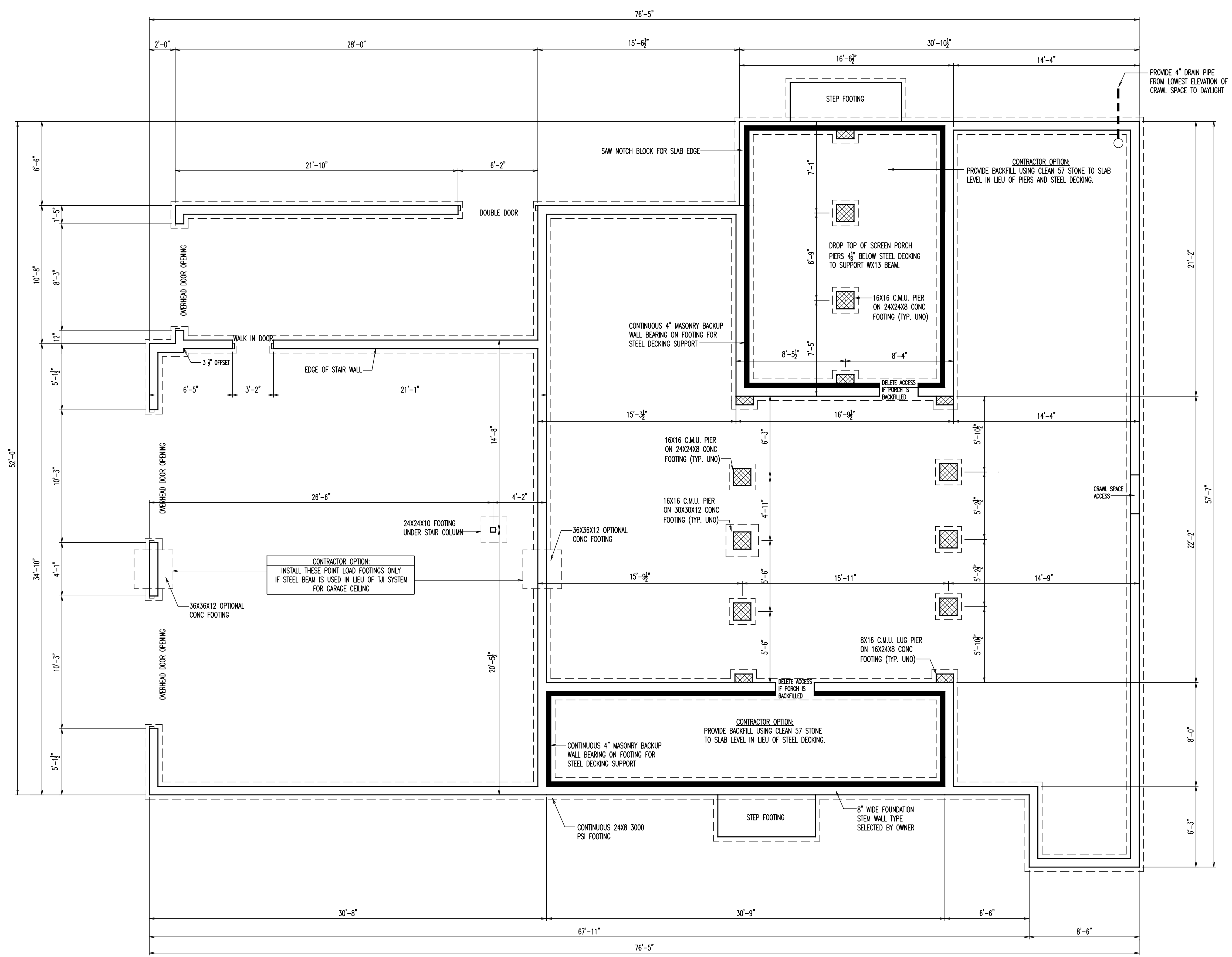
**GENERAL FOUNDATION NOTES:**

1. THIS PLAN DESIGNED IN ACCORDANCE WITH NC RESIDENTIAL CODE, 2018 EDITION.
2. EXTERIOR WALL FOOTING TO BE 24" X 8" 3000 PSI STRUCTURAL CONCRETE UNLESS OTHERWISE NOTED. CONCRETE TO BE PREPARED AND PLACED IN ACCORDANCE WITH ACI 318. FOR FOUNDATION WALL HEIGHT, THICKNESS AND BACKFILL REQUIREMENTS, REFER TO STATE AND LOCAL BUILDING CODES. NOTE: ASSUMED SOIL BEARING CAPACITY=2000 PSF. CONTRACTOR MUST VERIFY SITE CONDITIONS AND CONTACT SOIL ENGINEER IF MARGINAL OR UNSTABLE SOILS ARE ENCOUNTERED.
3. FOOTINGS TO BEAR ON UNDISTURBED EARTH A MIN. OF 12" BELOW ADJACENT FINISH GRADE OR AS OTHERWISE DIRECTED BY LOCAL INSPECTOR.
4. FOUNDATION DRAINAGE SHALL BE IN ACCORDANCE WITH SECTION R405 OF THE CODE "FOUNDATION DRAINAGE".
5. THE FOUNDATION SHALL BE TREATED IN ACCORDANCE W/SECTION R406 OF THE CODE "FOUNDATION WATERPROOFING AND DAMPPROOFING".
6. THIS FOUNDATION DESIGN IS VALID FOR 100 MPH WIND ZONES ONLY.
7. FOUNDATION WALLS SHALL BE 12" IN WIDTH WHERE SUPPORTING FRAMING WITH BRICK VENEER.

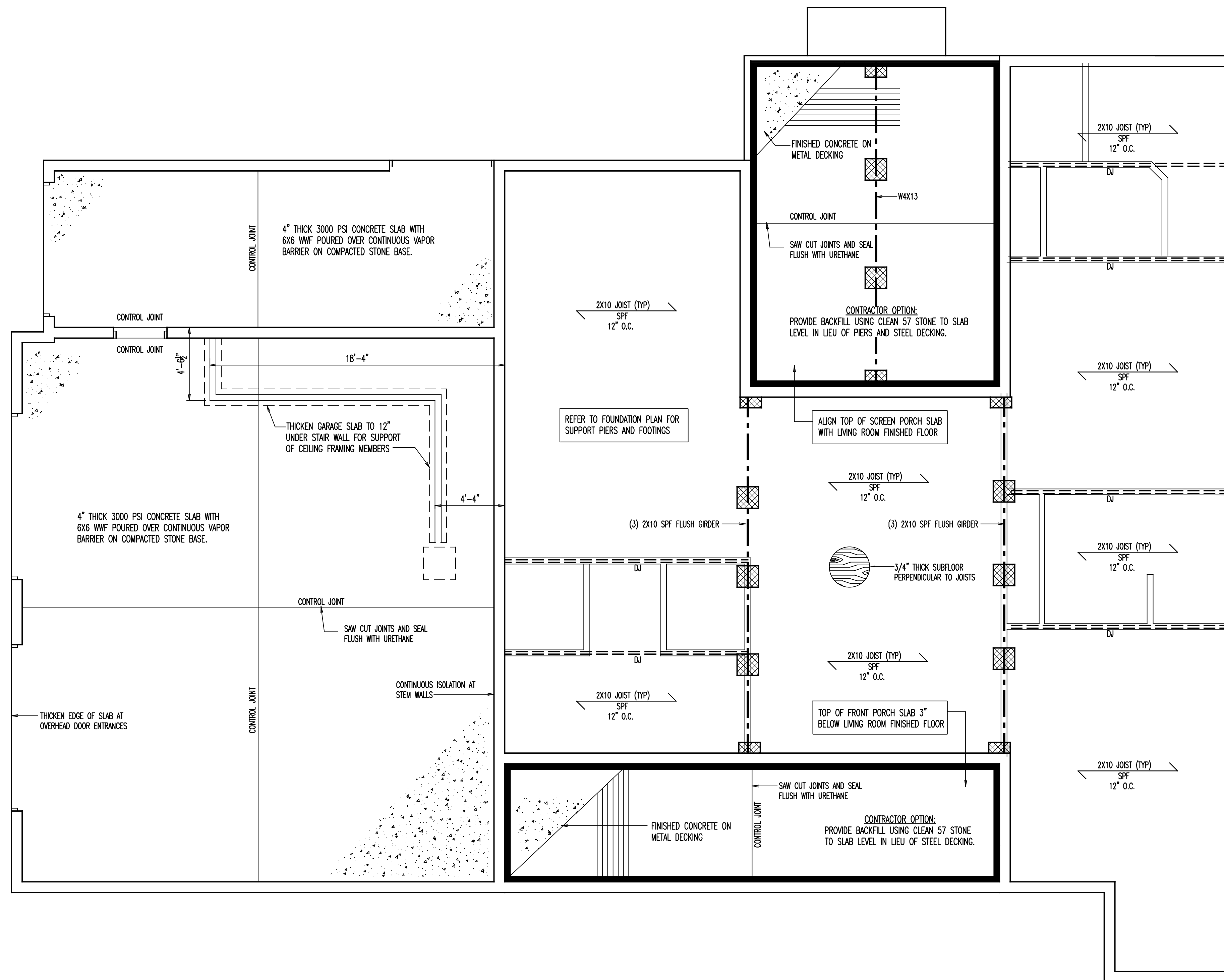
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**S1** FOUNDATION PLAN  
**01** 1/4"=1'-0"



GENERAL FRAMING NOTES:

- THIS PLAN DESIGNED IN ACCORDANCE WITH NC RESIDENTIAL CODE, 2018 EDITION.
- GLAZING AREAS SHOWN ON THESE DESIGN DRAWINGS DO NOT EXCEED 15% OF THE GROSS AREA OF THE EXTERIOR WALLS. THIS STRUCTURE MEETS THE REQUIREMENTS OF N1101.2.1, RESIDENTIAL BUILDING, TYPE A-1.
- WALL CLADDING IS DESIGNED FOR A 24.1 #/SF OR GREATER POSITIVE/NEGATIVE PRESSURE.
- ALL WALLS, FLOORS AND CEILINGS SHALL BE INSULATED IN ACCORDANCE WITH CODE SUMMARY.
- DESIGN CRITERIA:
 

	DEAD	LIVE
PRIMARY FLOOR	10 PSF	40 PSF
SECONDARY FLOOR	10 PSF	40 PSF
SLEEPING AREAS	10 PSF	30 PSF
ATTIC	10 PSF	20 PSF
ROOF	10 PSF	20 PSF

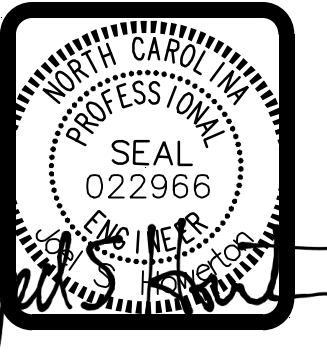
 DEFLECTION LIMITS:  
 FLOOR L/360 (LIVE LOAD ONLY)  
 ROOF L/240
- ALL HEADERS IN LOAD BEARING WALLS SHALL BE DOUBLE 2X10.
- ALL WALLS ARE 2X4 @ 16" O.C. UNLESS OTHERWISE NOTED.
- PROVIDE DOUBLE FLOOR JOISTS UNDER WALLS ABOVE.
- PROVIDE FOUNDATION VENT WITHIN 36" OF EACH CORNER.
- ALL JOISTS TO BE SPF.

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S2 FLOOR FRAMING PLAN  
 01 1/4" = 1'-0"



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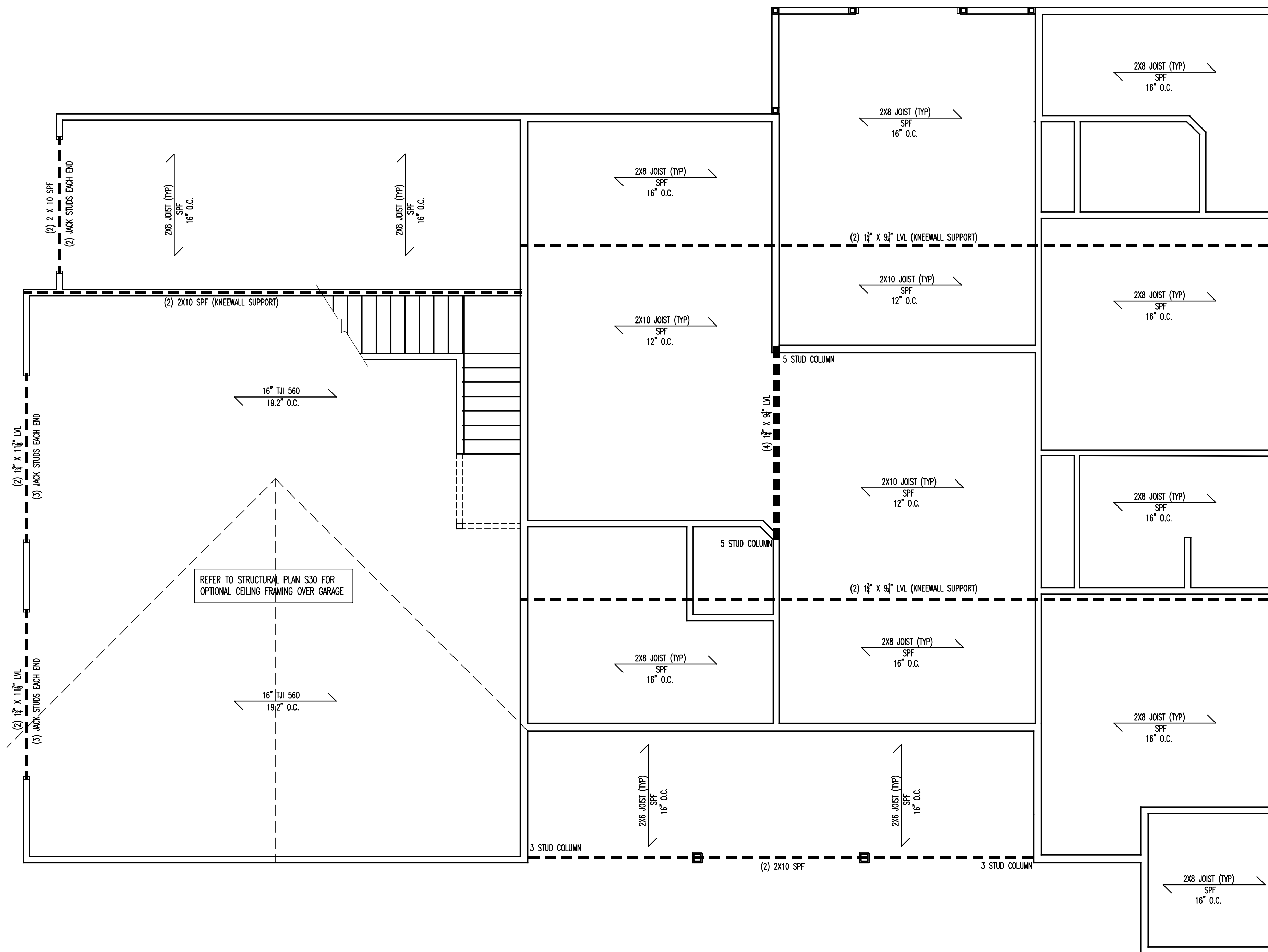
CUSTOM HOUSE PLANS FOR:  
 GOODWIN RESIDENCE  
 CHELSEY LAKE, HARNETT COUNTY, N.C.

DESCRIPTION:  
 FLOOR FRAMING PLAN

REVISION:

DATE:  
 SEPTEMBER 2021

DRAWING:  
 S2



**GENERAL FRAMING NOTES:**

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 DEFLECTION LIMITS:  
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- ALL HEADERS IN LOAD BEARING WALLS SHALL BE DOUBLE 2X10.
- ALL WALLS ARE 2X4 @ 16" O.C. UNLESS OTHERWISE NOTED.
- PROVIDE DOUBLE FLOOR JOISTS UNDER WALLS ABOVE.
- PROVIDE FOUNDATION VENT WITHIN 36" OF EACH CORNER.
- ALL JOISTS TO BE SPF.

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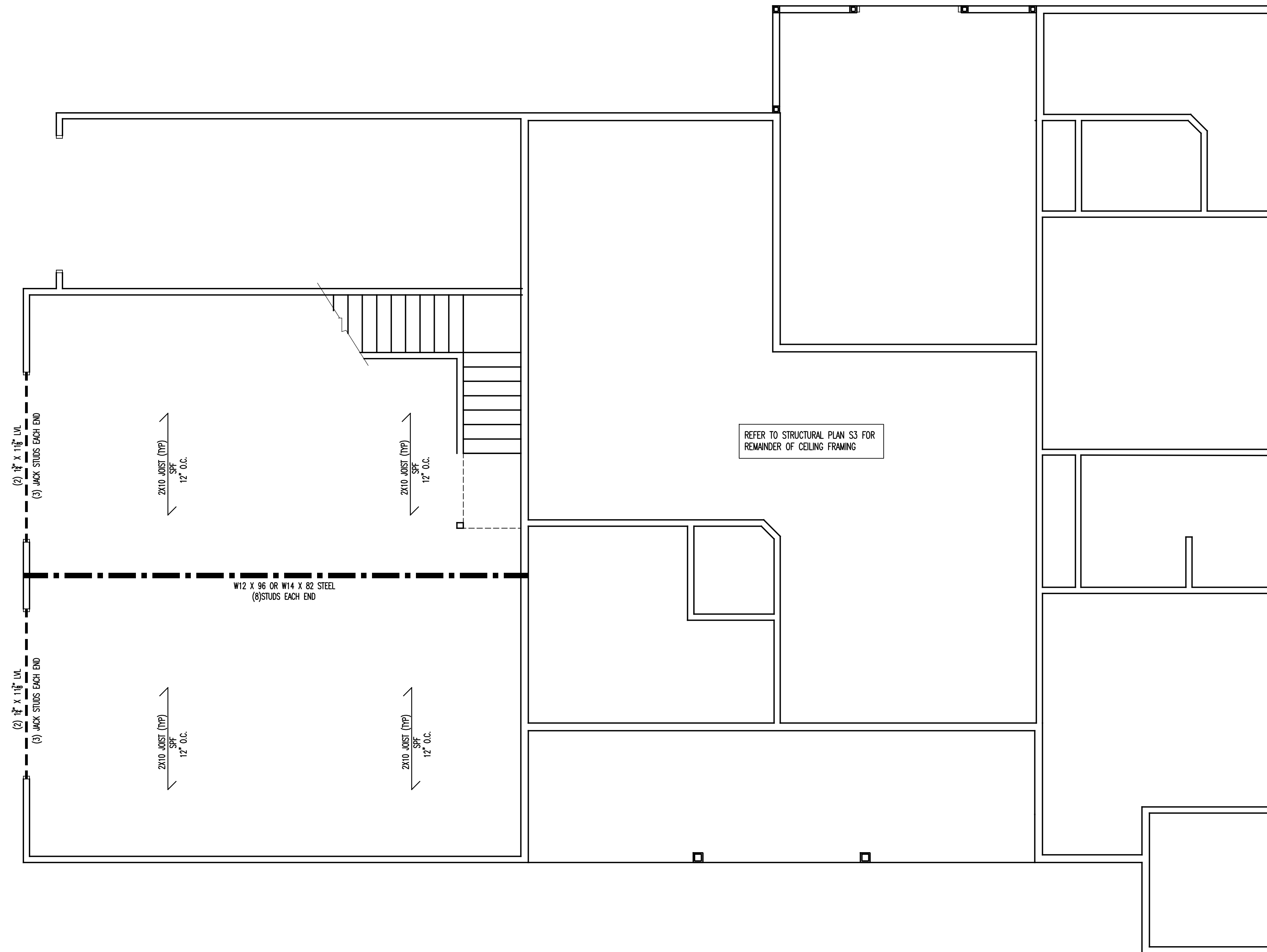
BUILDING DESIGN BY:  
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CUSTOM HOUSE PLANS FOR:  
**GOODWIN RESIDENCE**  
 CHELSEY LANE, HARNETT COUNTY, N.C.

DESCRIPTION: CEILING FRAMING PLAN
REVISION:
DATE: SEPTEMBER 2021

DRAWING:  
**S3**

**S3** CEILING FRAMING PLAN  
 01 1/4"=1'-0"



**GENERAL FRAMING NOTES:**

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PRIMARY FLOOR	10 PSF	40 PSF
SECONDARY FLOOR	10 PSF	40 PSF
SLEEPING AREAS	10 PSF	30 PSF
ATTIC	10 PSF	20 PSF
ROOF	10 PSF	20 PSF

 DEFLECTION LIMITS:  
 FLOOR L/360 (LIVE LOAD ONLY)  
 ROOF L/240
- ALL HEADERS IN LOAD BEARING WALLS SHALL BE DOUBLE 2X10.
- ALL WALLS ARE 2X4 @ 16" O.C. UNLESS OTHERWISE NOTED.
- PROVIDE DOUBLE FLOOR JOISTS UNDER WALLS ABOVE.
- PROVIDE FOUNDATION VENT WITHIN 36" OF EACH CORNER.
- ALL JOISTS TO BE SPF.

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CUSTOM HOUSE PLANS FOR:  
**GOODWIN RESIDENCE**  
 CHELSEY LANE, HARNETT COUNTY, N.C.

DESCRIPTION:  
 OPTIONAL  
 CEILING FRAMING  
 PLAN

REVISION:

DATE:  
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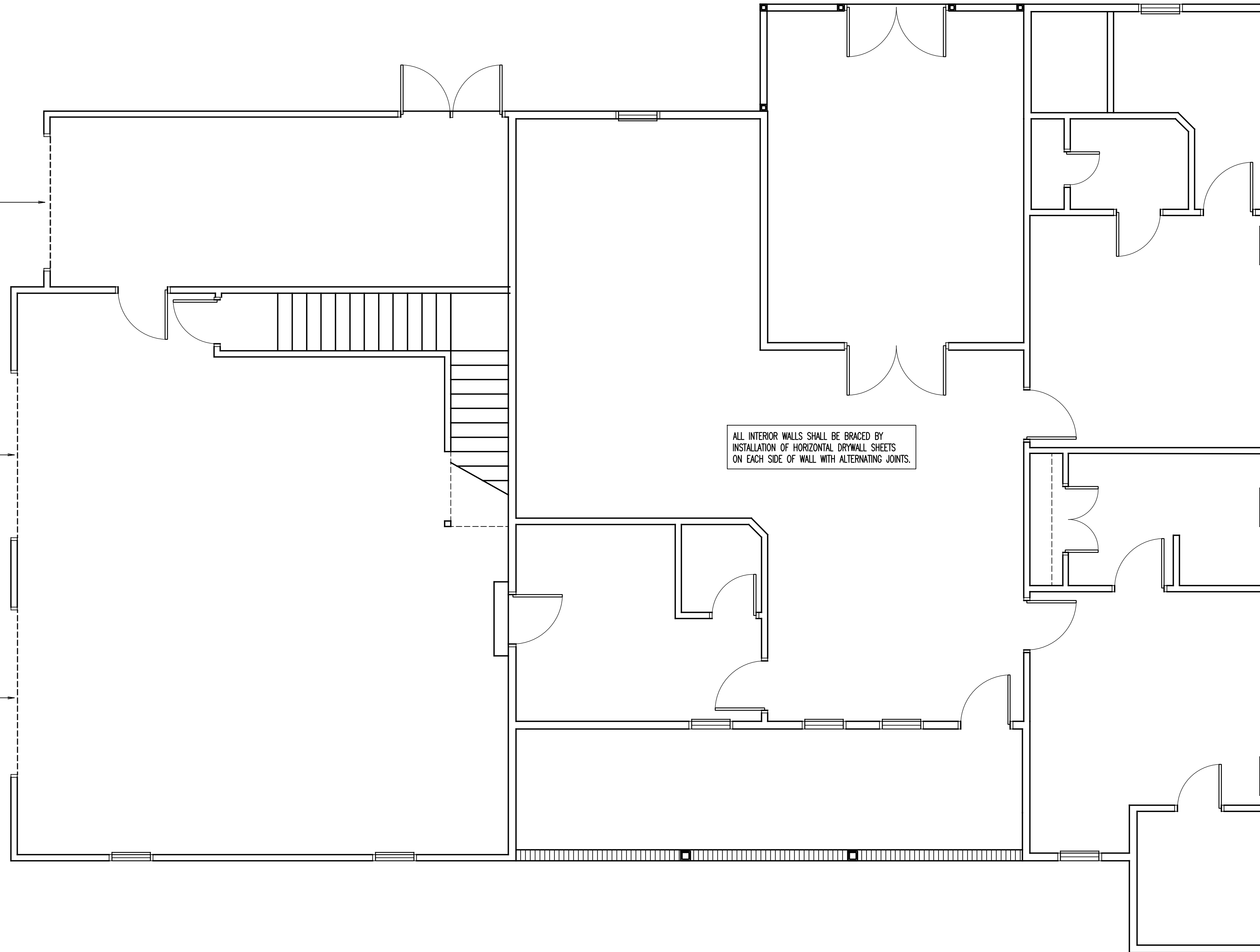
DRAWING:  
**S30**

**S30** OPTIONAL  
**01** CEILING FRAMING PLAN  
 1/4"=1'-0"

PROVIDE GARAGE PORTAL FRAME. FASTEN SHEATHING TO HEADER AND WALL FRAMING WITH 8d NAILS ON 3" CENTERS. STRAP HEADER TO FRAMING ON BOTH SIDES WITH 1000 lb. RATED STRAP. REFERENCE 2018 NCBC RESIDENTIAL CODE FOR REQUIREMENTS.

PROVIDE GARAGE PORTAL FRAME. FASTEN SHEATHING TO HEADER AND WALL FRAMING WITH 8d NAILS ON 3" CENTERS. STRAP HEADER TO FRAMING ON BOTH SIDES WITH 1000 lb. RATED STRAP. REFERENCE 2018 NCBC RESIDENTIAL CODE FOR REQUIREMENTS.

PROVIDE GARAGE PORTAL FRAME. FASTEN SHEATHING TO HEADER AND WALL FRAMING WITH 8d NAILS ON 3" CENTERS. STRAP HEADER TO FRAMING ON BOTH SIDES WITH 1000 lb. RATED STRAP. REFERENCE 2018 NCBC RESIDENTIAL CODE FOR REQUIREMENTS.



ALL INTERIOR WALLS SHALL BE BRACED BY INSTALLATION OF HORIZONTAL DRYWALL SHEETS ON EACH SIDE OF WALL WITH ALTERNATING JOINTS.

BRACED WALL NOTES:

1. BRACED WALLS ARE REQUIRED PER SECTION R602.10.1 2018 NCBC RESIDENTIAL CODE.
2. THE EXTERIOR WALL STRUCTURE SHALL BE CONTINUOUSLY SHEATHED, FULL HEIGHT WITH MIN. THICKNESS 7/16" OSB. THESE WALLS SHALL BE CONSTRUCTED IN CONFORMANCE TO TYPE CS-WSP DETAILS. REFER TO PLAN FOR LOCATION OF REQUIRED BRACING LABELED "CS BRACING" AND LENGTH OF WALL BRACING LABELED IN LINEAR FEET.
3. INTERIOR WALLS WHERE NOTED SHALL BE BRACED PER INDICATED METHOD IN REFERENCE TO NCBC-RESIDENTIAL CODE, TABLE R602.10.2
4. SPECIAL BRACING DETAILS ARE ILLUSTRATED IN THE CODE AND ALLOWED WHERE WALLS DO NOT MEET THE MINIMUM REQUIREMENTS FOR SUPPORT.

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**S4** BRACING PLAN  
**01** 1/4"=1'-0"



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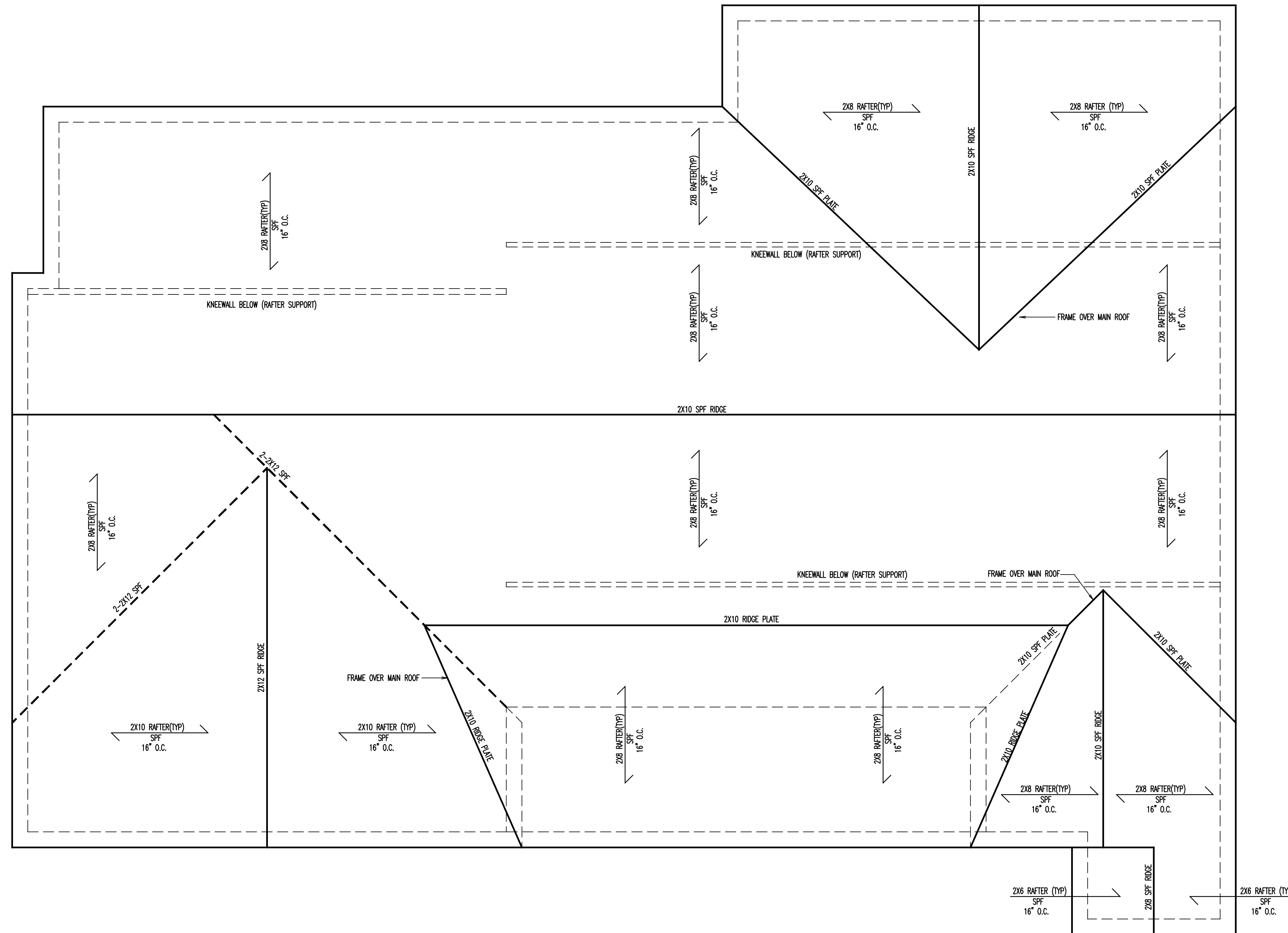
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**GOODWIN RESIDENCE**  
CHELSEY LAKE, HARNETT COUNTY, N.C.

DESCRIPTION:  
BRACING PLAN

REVISION:

DATE:  
SEPTEMBER 2021

DRAWING:  
**S4**



**GENERAL ROOF NOTES:**

1. THIS PLAN DESIGNED IN ACCORDANCE WITH NC RESIDENTIAL CODE, 2018 EDITION.
2. ROOF CLADDING DESIGN VALUES (POSITIVE/NEGATIVE) SHALL BE AS FOLLOWS:  
 45.5 #/SF FOR ROOF PITCHES FROM 0/12 TO 2.25/12  
 34.5 #/SF FOR ROOF PITCHES FROM 2.25/12 TO 7/12  
 21 #/SF FOR ROOF PITCHES FROM 7/12 TO 12/12
3. ALL ROOFING ELEMENTS SHALL MEET THE REQUIREMENTS OF CHAPTER 8 OF THE CODE.
4. ALL LUMBER SHALL BE #2 SPF OR BETTER. RAFTERS MAY BE FINGER JOINTED PER NATIONAL DESIGN SPECIFICATIONS FOR WOOD CONSTRUCTION, AND MUST HAVE THE STRUCTURAL CERTIFICATION STAMPED ON THE MEMBER.
5. RAFTER SIZES, SPANS AND SPACING SHALL NOT EXCEED THE FOLLOWING:  

SIZE	2x6	2x8	2x10
SPACING 12" O.C.	14'-9"	19'-8"	2X10
SPACING 16" O.C.	13'-5"	17'-9"	22'-3"
6. ALL RAFTERS TO BE 2x8 @ 16" O.C. #2 SPF UNLESS NOTED OTHERWISE.
7. 2-2X10 HIPs MAY BE SPLICED WITH A MIN. 6'-0" OVERLAP.
8. PROVIDE DOUBLE RAFTERS EACH SIDE OF DORMERS WITH DOUBLE HEADER.
9. ATTACH VAULTED RAFTERS WITH HURRICANE CLIP SIMPSON "H-5" OR EQUIVALENT. PROVIDE DOUBLE OPPOSING RAFTERS WHERE NOTED.
10. 2X8 RAFTERS @ CATHEDRAL OR VAULTED CEILINGS TO BE FURRED DOWN 2" OR USE 2X10 RAFTERS FOR INSULATION PER CODE.
11. PROVIDE 2X4 COLLAR TIES EVERY SECOND RAFTER (TYPICAL)
12. PROVIDE 2X4 RAFTER TIES @ 32" O.C. (TYPICAL)
13. FRAME RAFTERS ON 2X4 PLATE ON TOP OF CEILING JOISTS UNLESS NOTED OTHERWISE.
14. SHINGLES ASSUMED TO BE 240 LB. FIBERGLASS, OR EQUAL. MINIMUM ROOF PITCH TO BE AS INDICATED ON ARCHITECTURAL PLAN SHEETS.
15. PROVIDE DOUBLE LAYER OF ROOF FELT WHERE ROOF PITCH IS LESS THAN 4 /12.
16. THESE DESIGN DRAWINGS WERE PRODUCED BY HOWERTON CONSULTING ENGINEERING, INC ASSUMES NO LIABILITY FOR THE CORRECTNESS OF ARCHITECTURAL FEATURES, DIMENSIONS OR FIXTURES.
17. ALL HIP RIDGES AND VALLEYS SHALL BE DOUBLE 2X10 UNLESS NOTED OTHERWISE.
18. CONTRACTOR IS RESPONSIBLE FOR REVIEWING DRAWINGS FOR CONSTRUCTABILITY PRIOR TO BEGINNING CONSTRUCTION.
19. VALLEY RAFTERS WITH SPANS LONGER THAN 15' SHALL BE LVLs SUPPORTED AS NOTED. PROVIDE TEMPORARY STIFF KNEE SUPPORT UNTIL ALL SHEATHING AND RAFTER TIES/COLLARS ARE INSTALLED.
20. DO NOT SCALE THESE DRAWINGS. IF DISCREPANCIES ARE NOTED, CONTACT THE ENGINEER.
21. DESIGN BASIS PROVIDED BY S&S CONTRACTING INC., FUQUAY VARINA, NC AND THEY ARE RESPONSIBLE FOR ALL ARCHITECTURAL FEATURES, DIMENSIONS, COMPLIANCE WITH ALL ACCESS/EGRESS REQUIREMENTS, FIRE CODE AND LIFE SAFETY DESIGN ISSUES.

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**S5** ROOF PLAN  
**01** 1/4" = 1'-0"



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**S5**