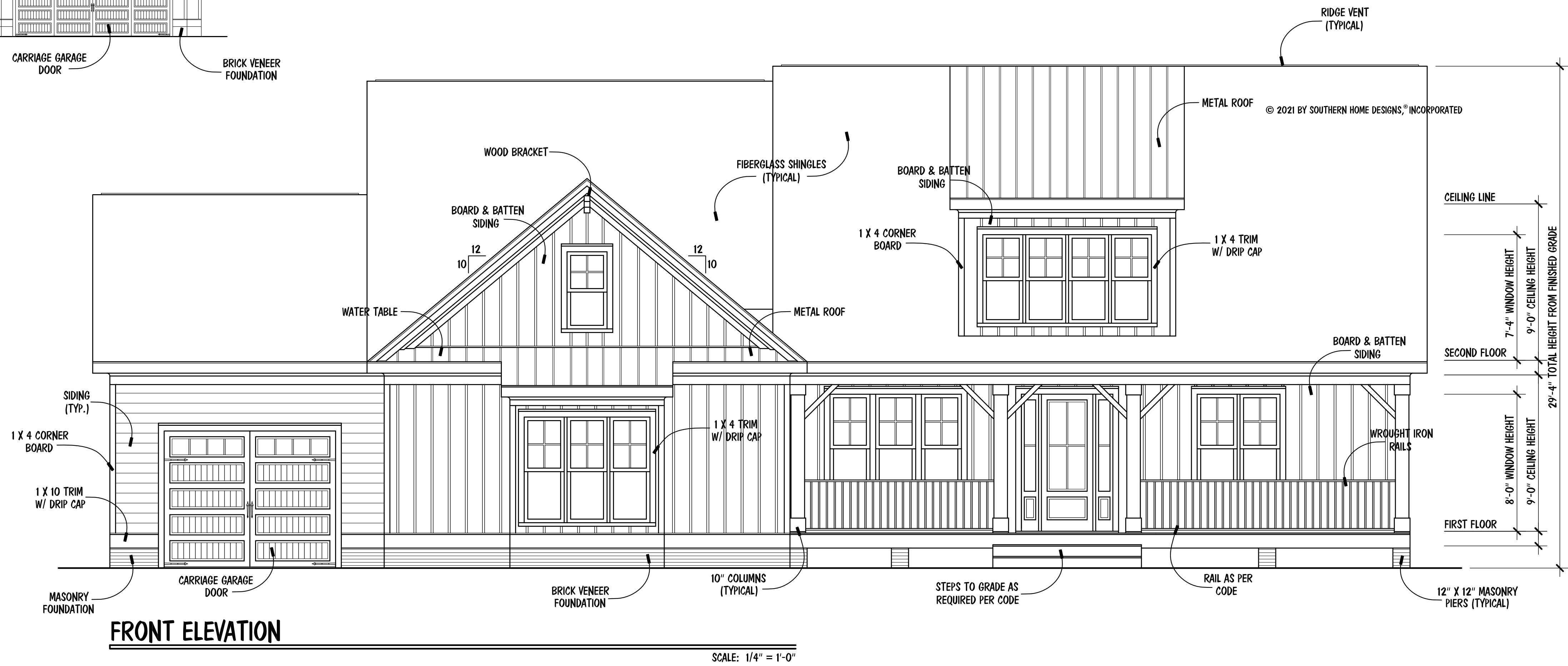
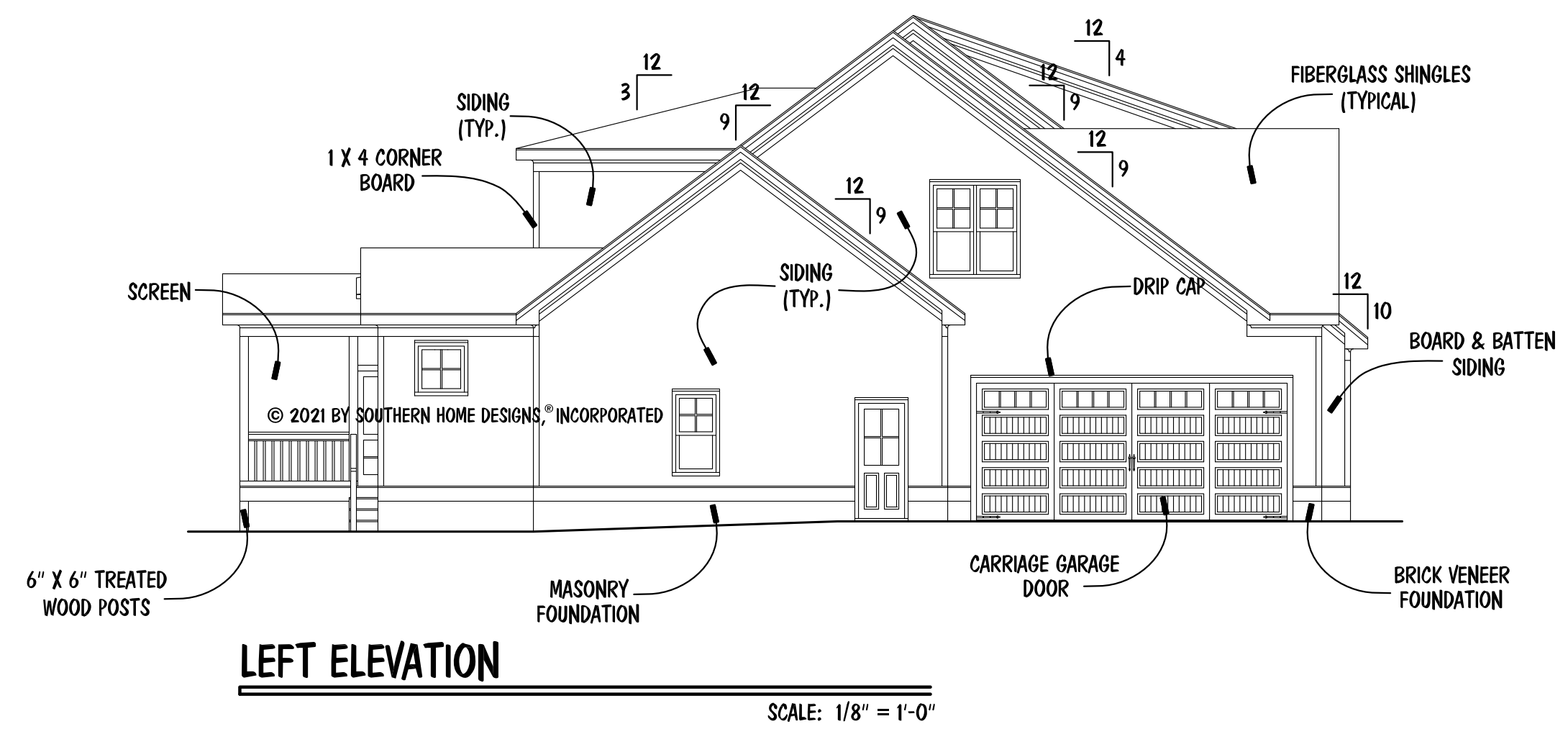
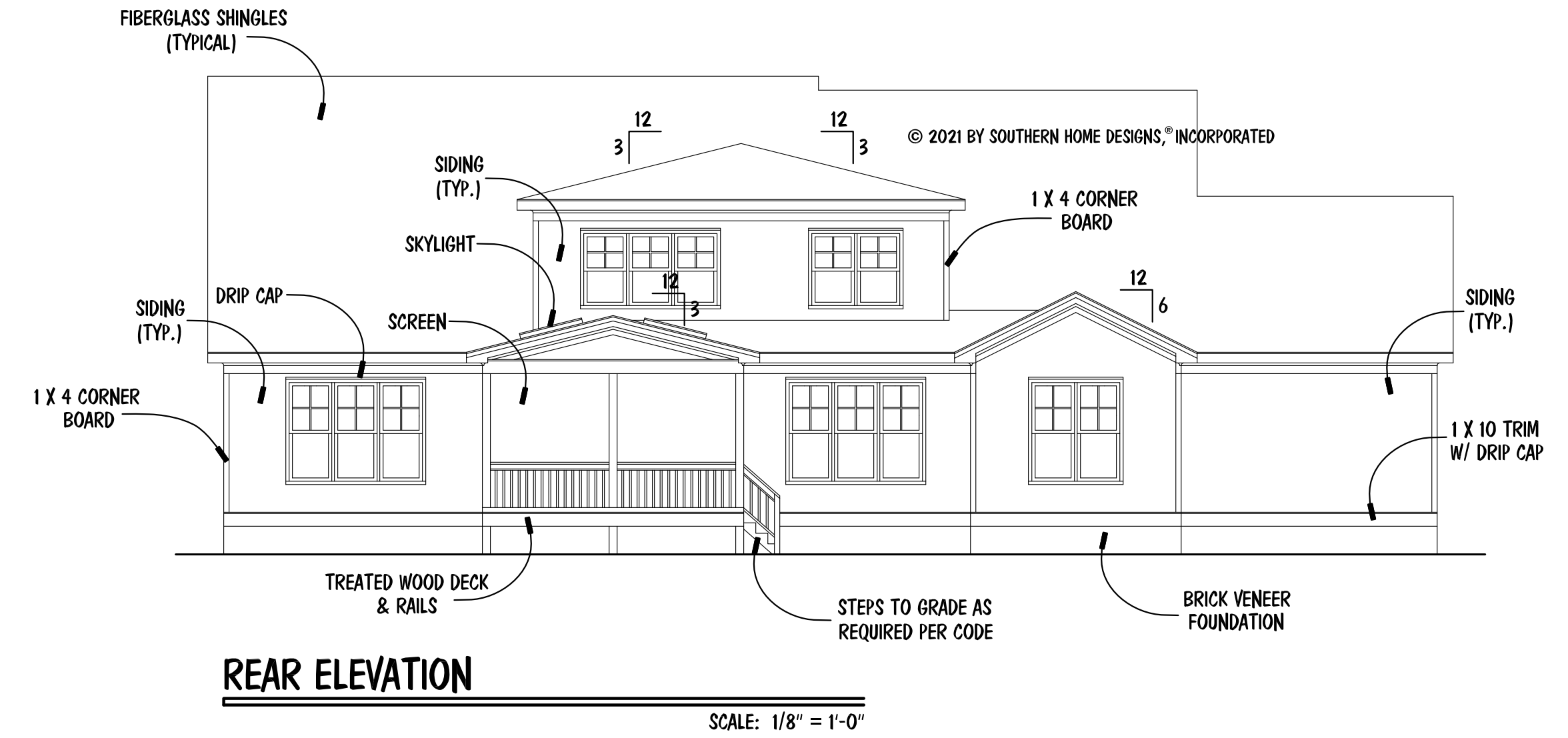
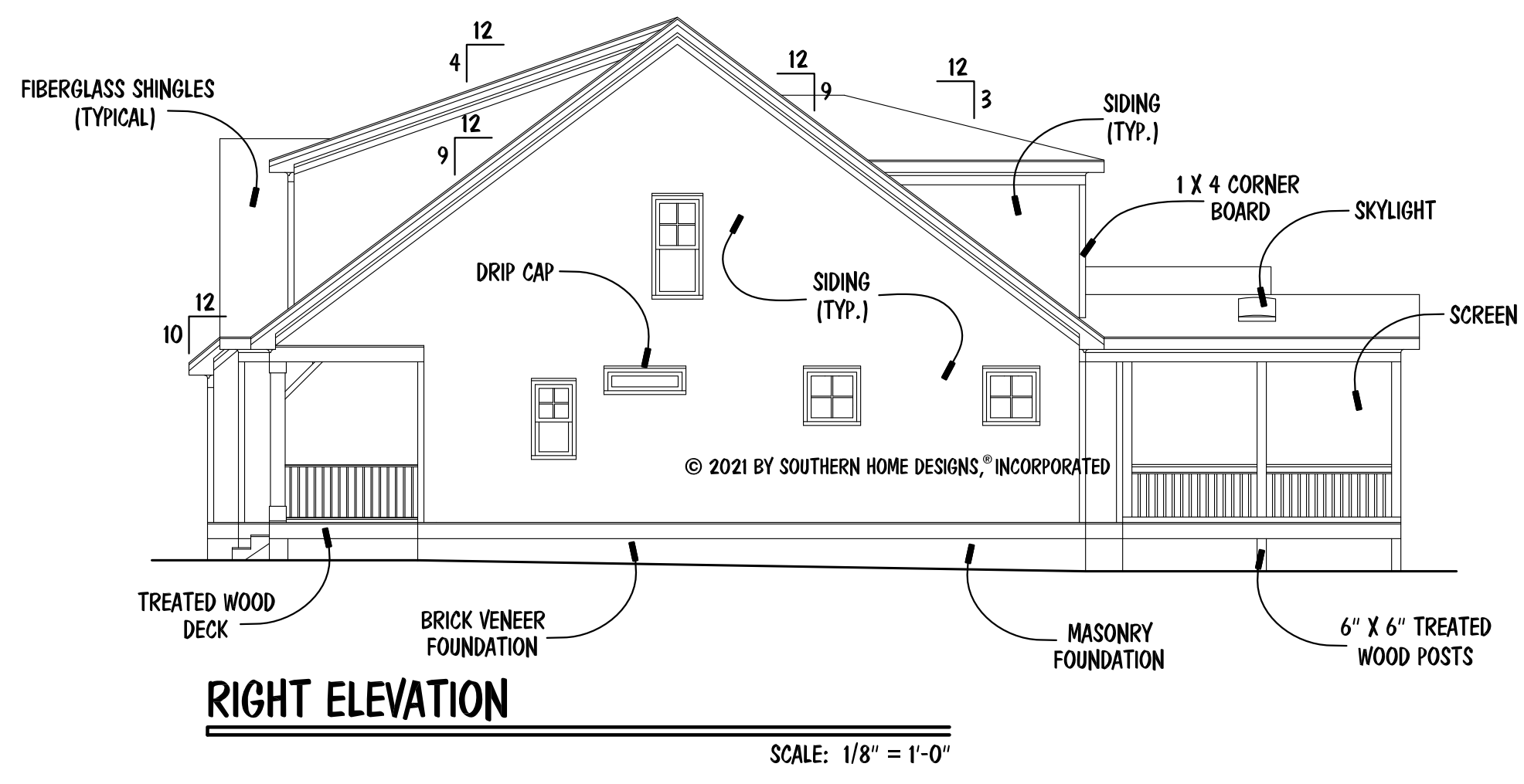


NOTICE TO CONTRACTOR
All construction must comply with current NC Building Codes and is subject to field inspection and verification.

APPROVED
Limited building only review
Permit holder responsible for full compliance with the code

04/07/2021





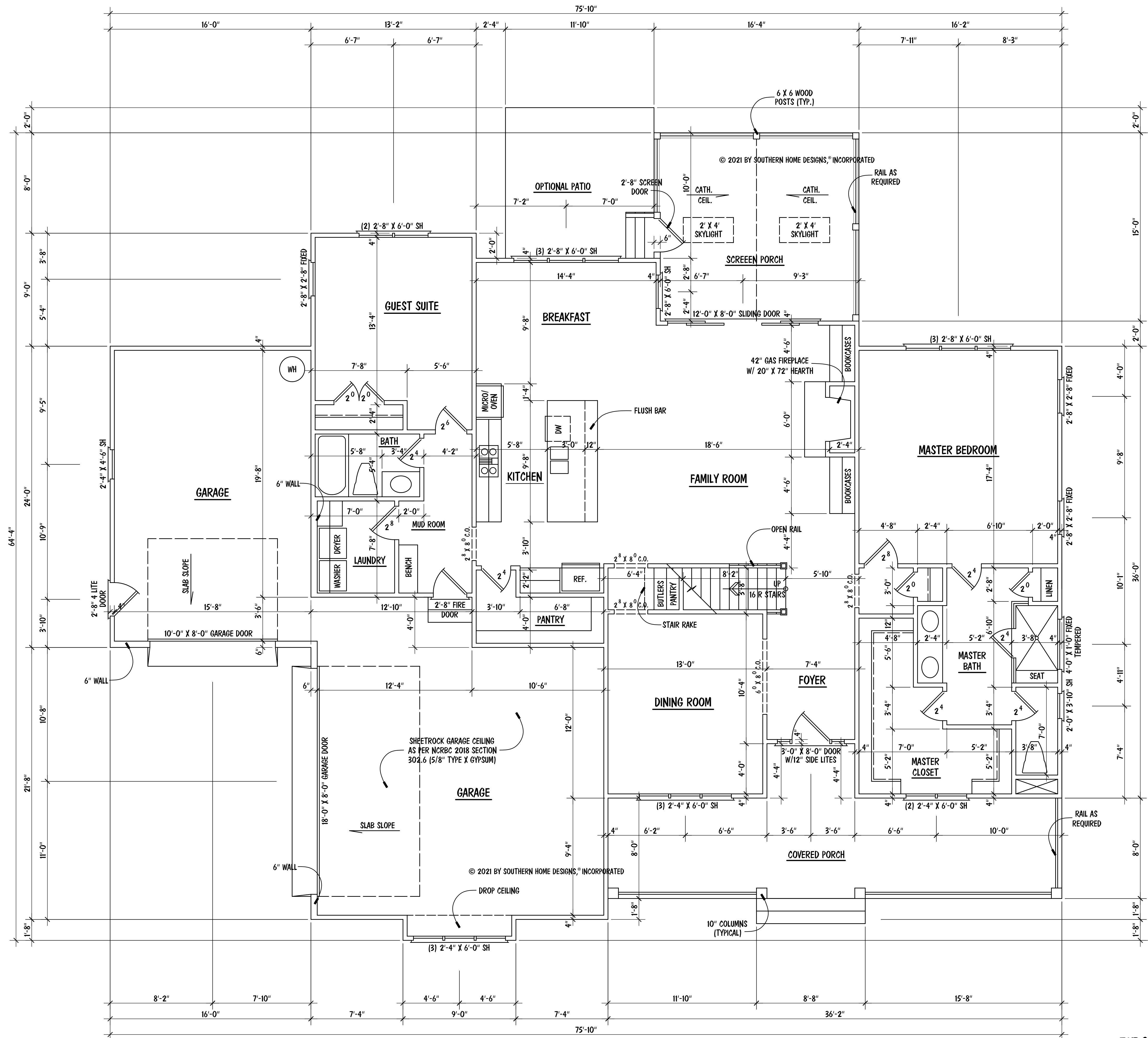
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919.380.7400 Office 919.380.7464 Fax
Web: shdplans.com Email: shd@ncrr.com

THE
FALLKNER
RESIDENCE

Glenwood Builders, LLC
1757 Oakridge Duncann Road, Fuquay-Varina, NC 27526
Office: 919.868.4202

ENGR. #:
DATE: 02-25-21
SHEET: A-1
PLAN #: 21-022521



- NOTES:**
- 9'-0" CEILING HGT. (TYP.) U.N.O.
 - SET WINDOWS @ 8'-0" A.F.F. (TYP.) U.N.O.
 - SET WINDOW IN MASTER BATH TOILET @ 7'-4" A.F.F.
 - STAIRS: UP 16 R (TYP.), 1ST FLOOR TO 2ND FLOOR

SQUARE FOOTAGE	
FIRST FLOOR	2045
SECOND FLOOR	1427
TOTAL	3472
MISCELLANEOUS	
GARAGE	959
FRONT PORCH	320
SCREEN PORCH	243
OPTIONAL PATIO	142
MECH. / STOR.	531

FIRST FLOOR PLAN

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

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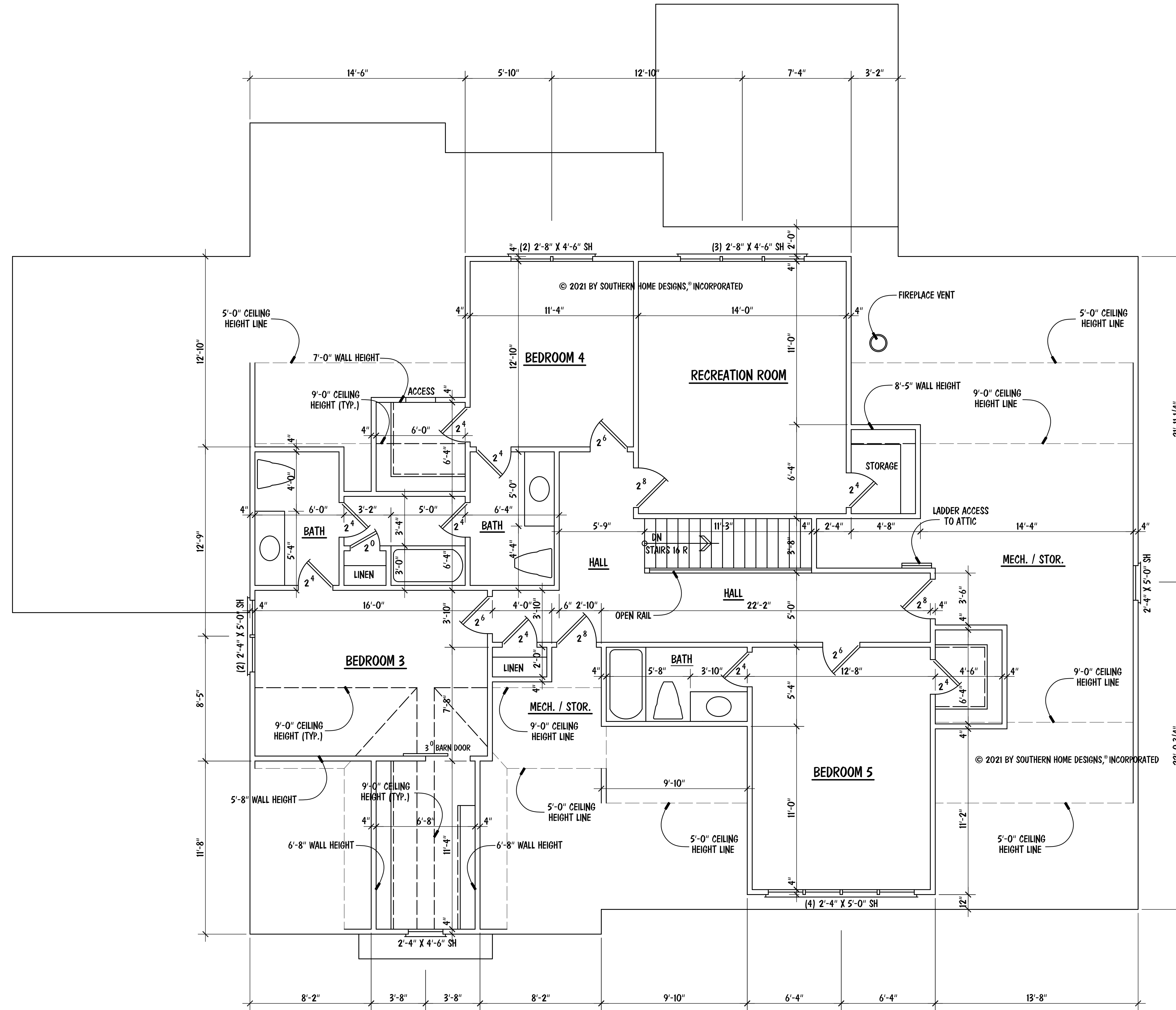
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THE
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 1757 Oakridge Duncan Road, Fuquay-Varina, NC 27526
 Office: 919.868.4202

ENGR. #:
 DATE: 02-25-21
 SHEET: A-2
 PLAN #: 21-022521



- NOTES:**
- 9'-0" CEILING HGT. (TYP.) U.N.O.
 - SET WINDOWS @ 7'-4" A.F.F. (TYP.) U.N.O
 - SET FRONT WINDOW IN BEDROOM 3 @ 6'-4" A.F.F.
 - STAIRS: DN 16 R (TYP.), 2ND FLOOR TO 1ST FLOOR

SECOND FLOOR PLAN

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

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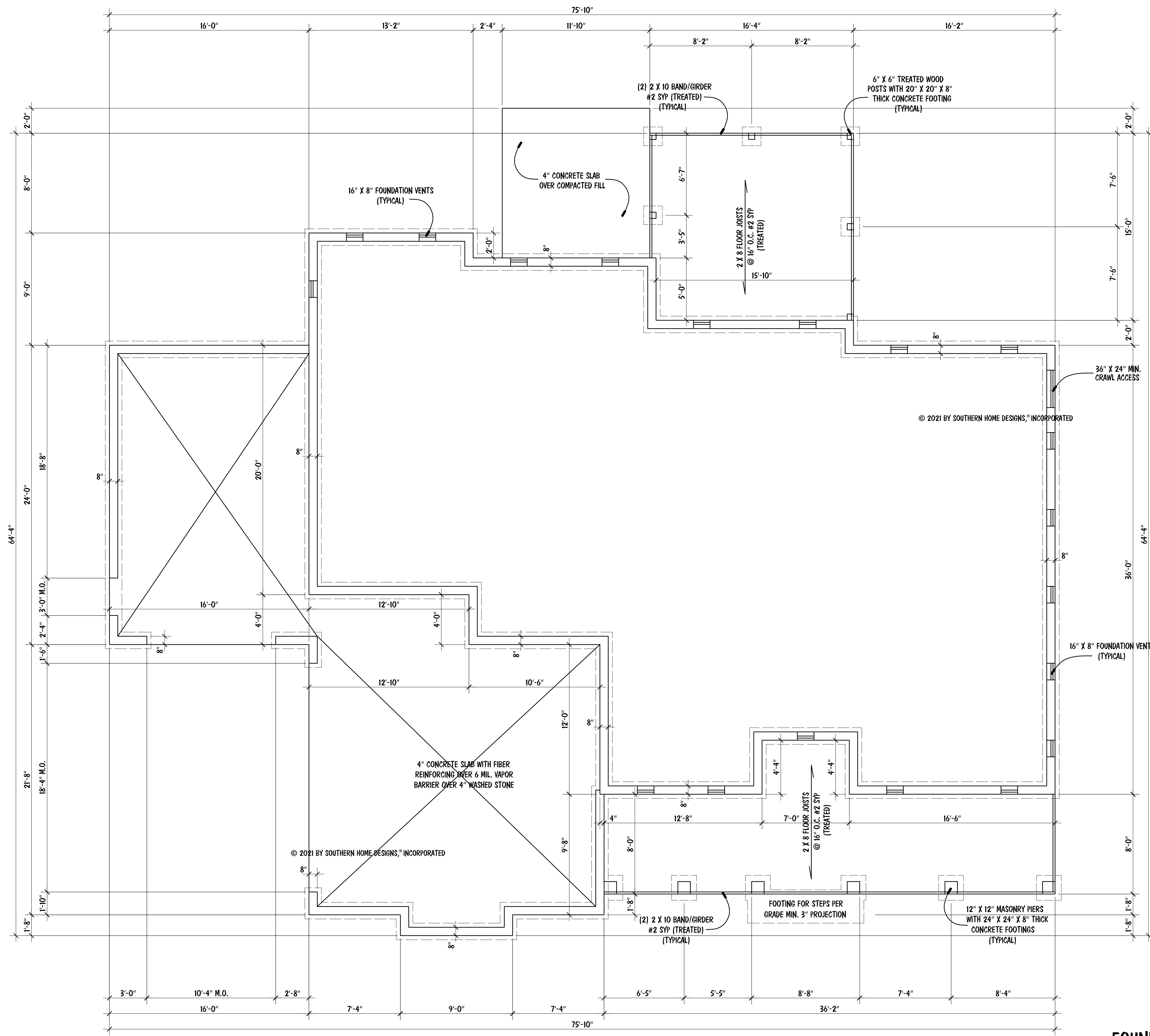
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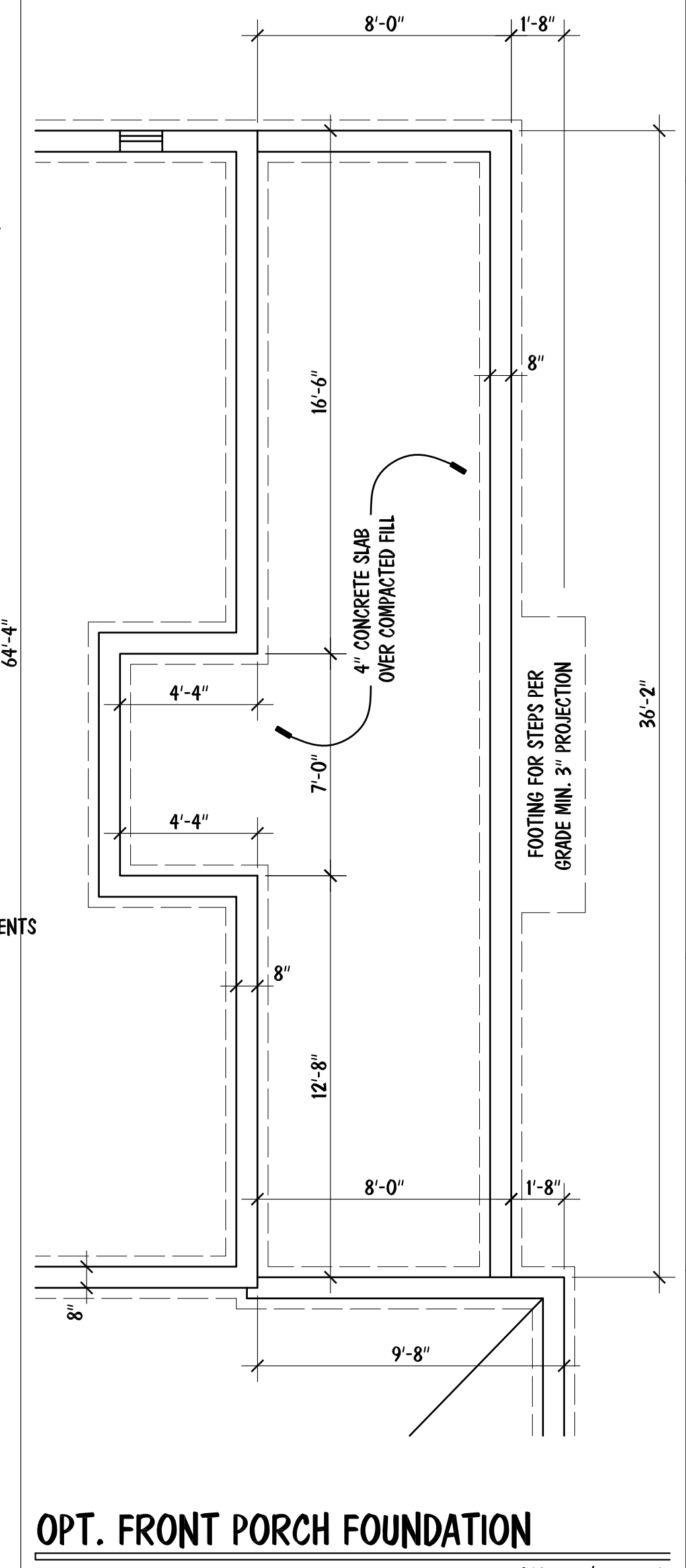
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 Office: 919.868.4202

ENGR. #:	
DATE:	02-25-21
SHEET:	A-3
PLAN #:	21-022521



CRAWL SPACE VENTILATION
 2045 SQ. FT. OF CRAWL AREA / 150 = 13.63 SQ. FT. OF FREE VENT AREA REQUIRED
 SEE SECTION R408.1 OF 2018 NCRBC (2015 IRC)
 FREE VENT AREA REQUIRED MAY BE REDUCED TO 1/1500 IF APPROVED VAPOR BARRIER IS INSTALLED OVER 100% OF CRAWL FLOOR AREA AND VENTS ARE INSTALLED TO PERMIT CROSS-VENTILATION OF CRAWL SPACE. SEE SECTION R408.1.1.



FOUNDATION PLAN

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

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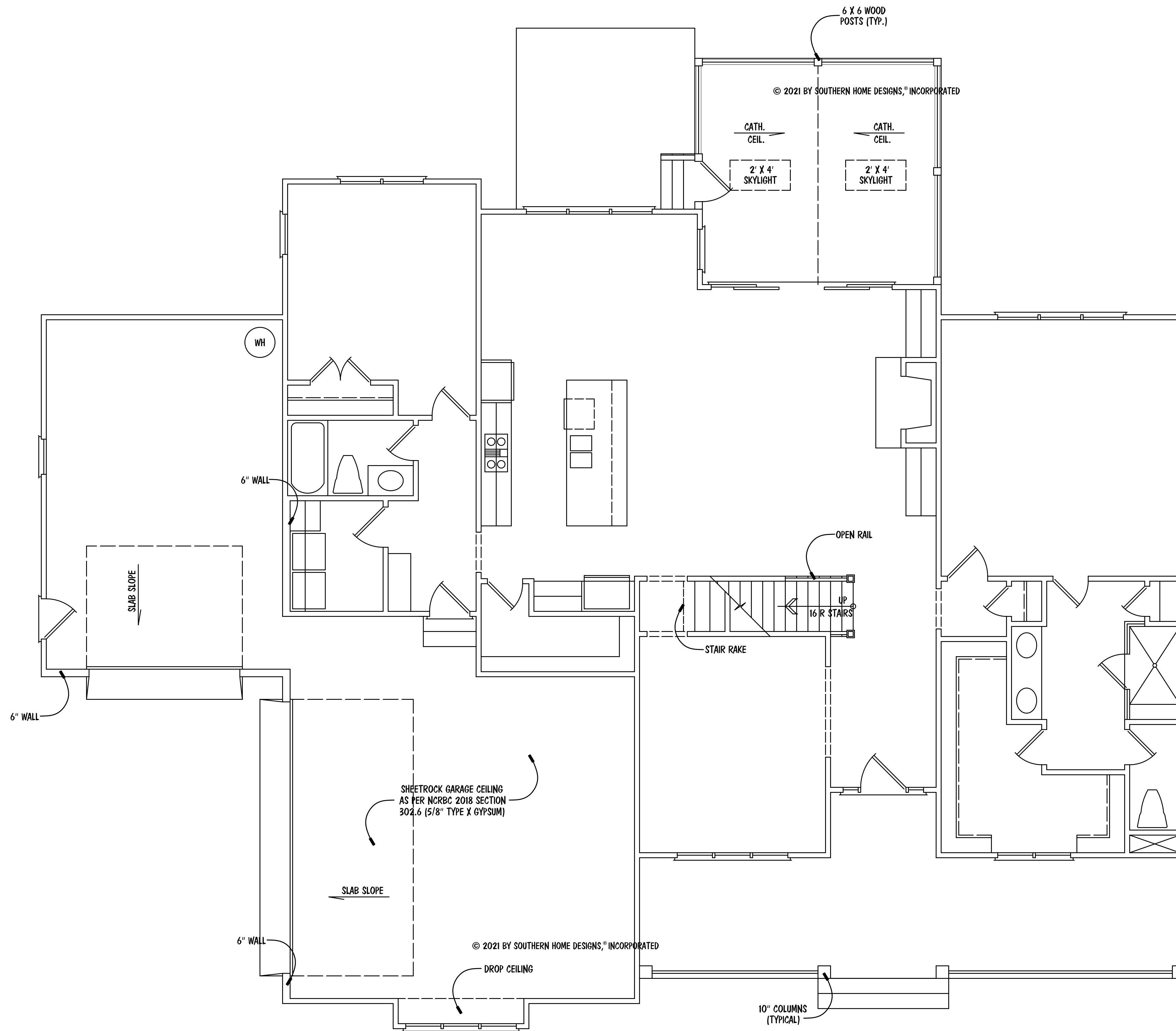
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 Office: 919.868.4202

ENGR. #:
 DATE: 02-25-21
 SHEET: S-1
 PLAN #: 21-022521



FIRST FLOOR STR. PLAN

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

ENGR. #:	
DATE:	02-25-21
SHEET:	S-2
PLAN #:	21-022521

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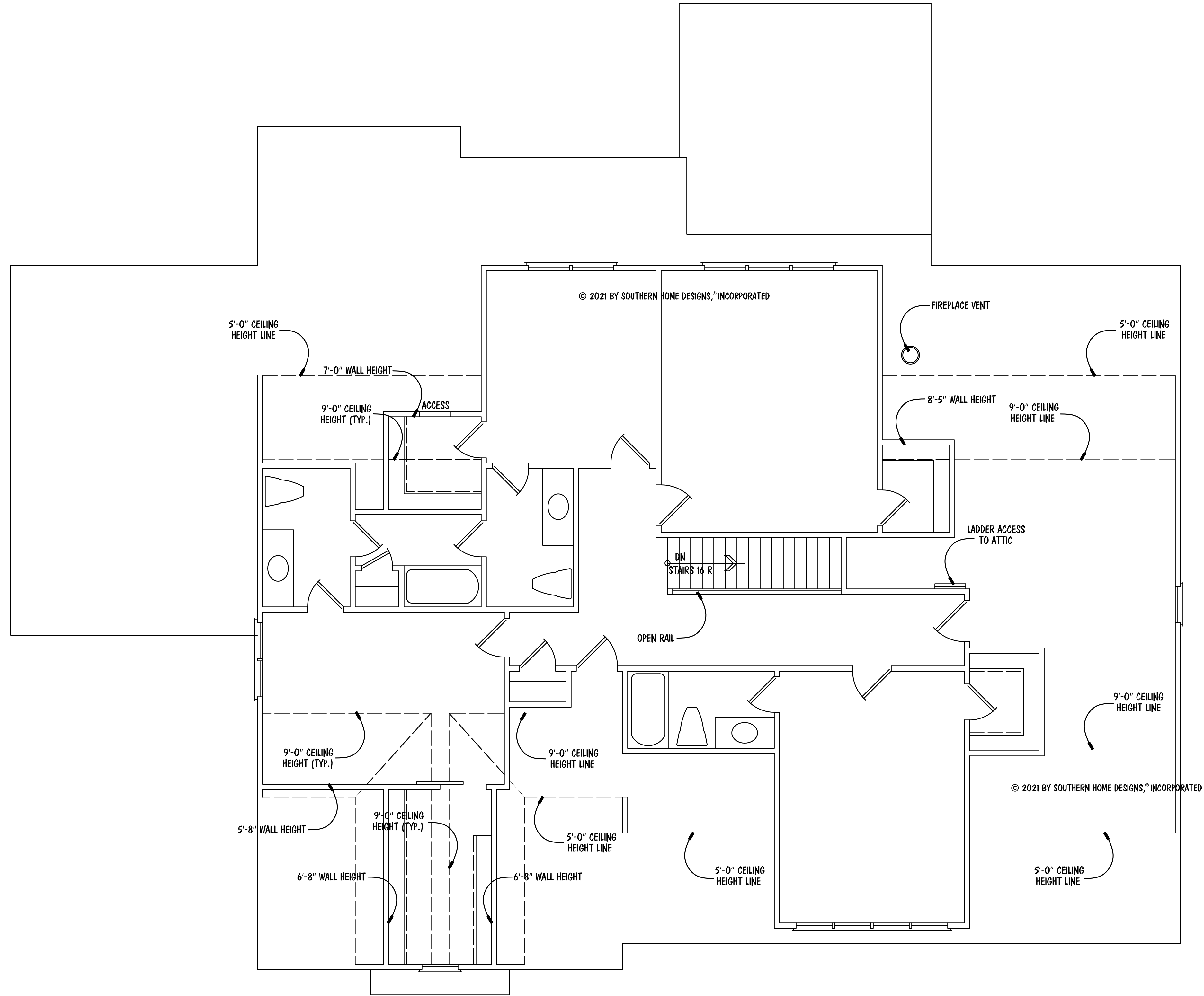
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SECOND FLOOR STR. PLAN

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

ENGR. #:	
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SHEET:	S-3
PLAN #:	21-022521

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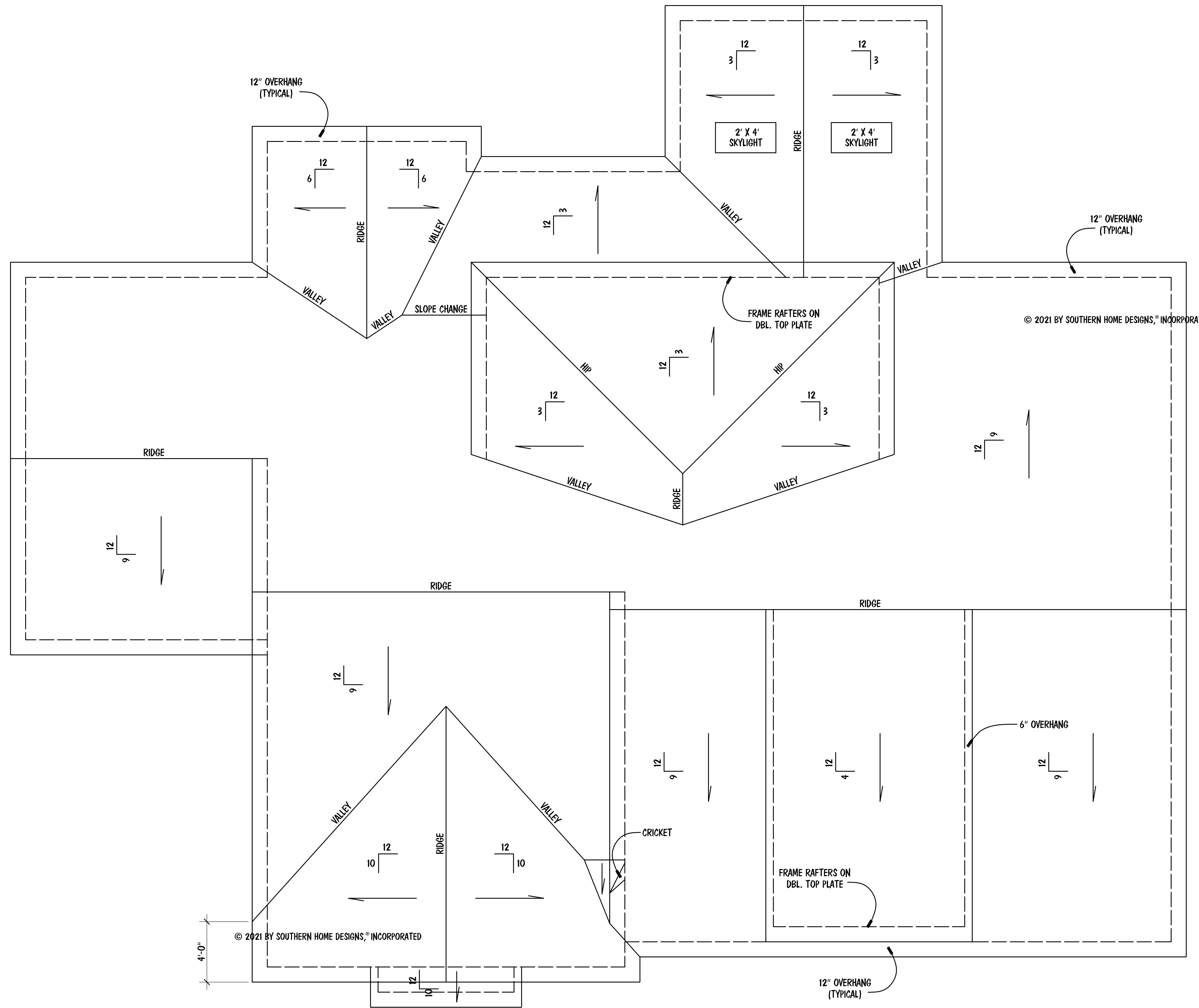
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NOTES:

- MEAN ROOF HEIGHT FOR THIS STRUCTURE IS 20'-8"

ATTIC VENTILATION:

$\frac{3567}{300}$ SQUARE FEET = $\frac{11.89}{300}$ REQUIRED

THE NET FREE AREA OF VENTILATION REQUIRED IS TO BE

$\frac{11.89}{300}$ SQUARE FEET.

ROOF FRAMING PLAN

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

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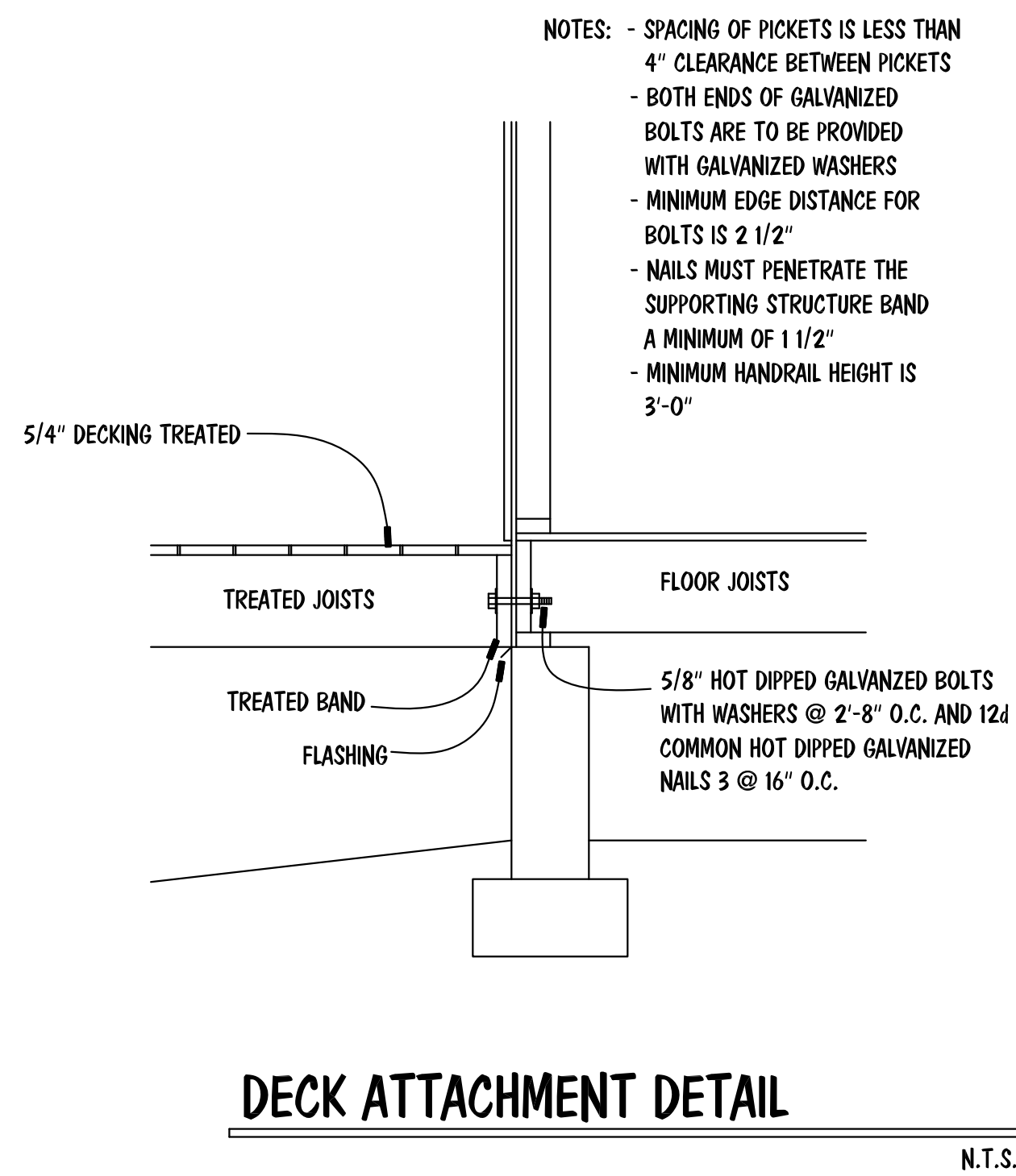
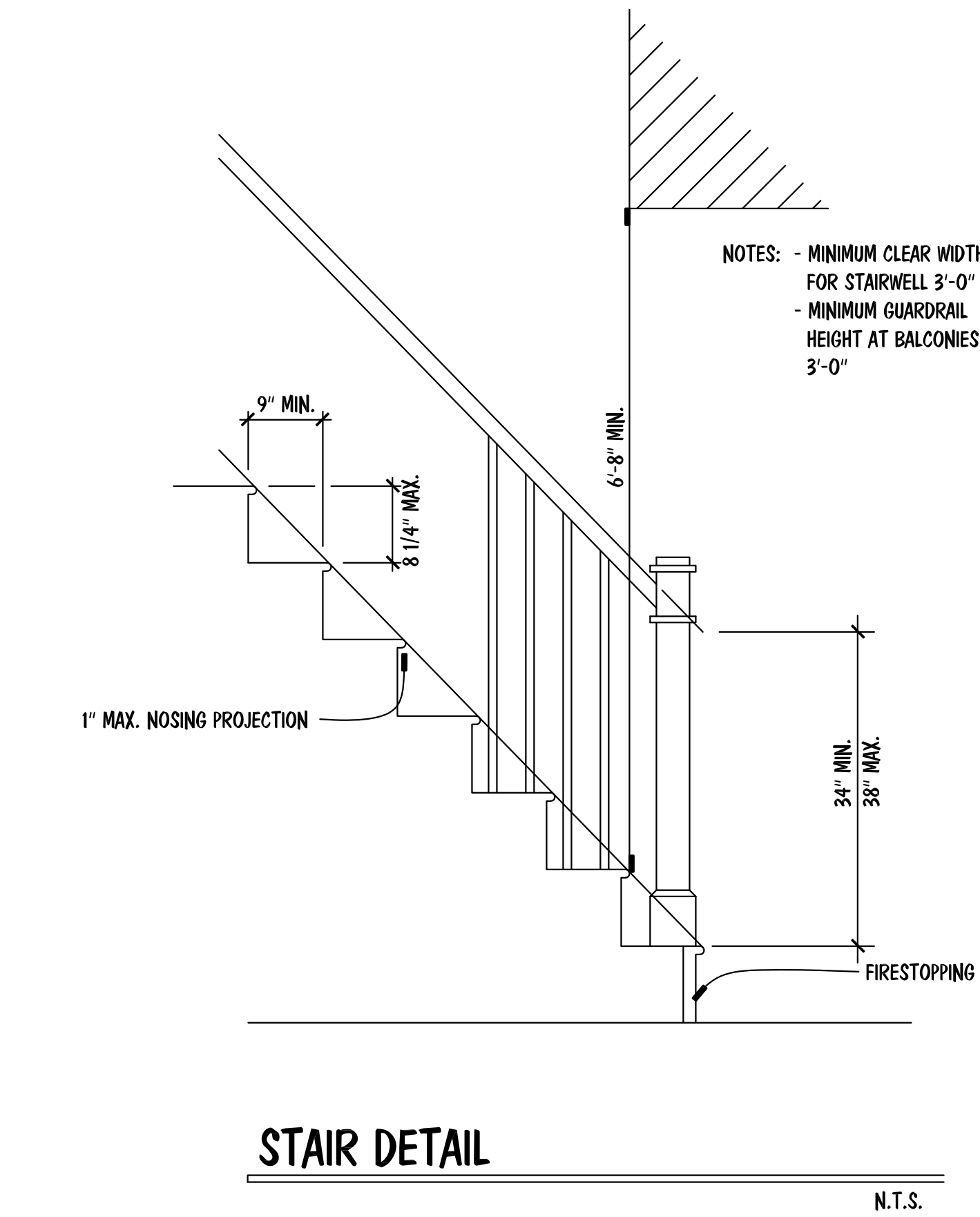
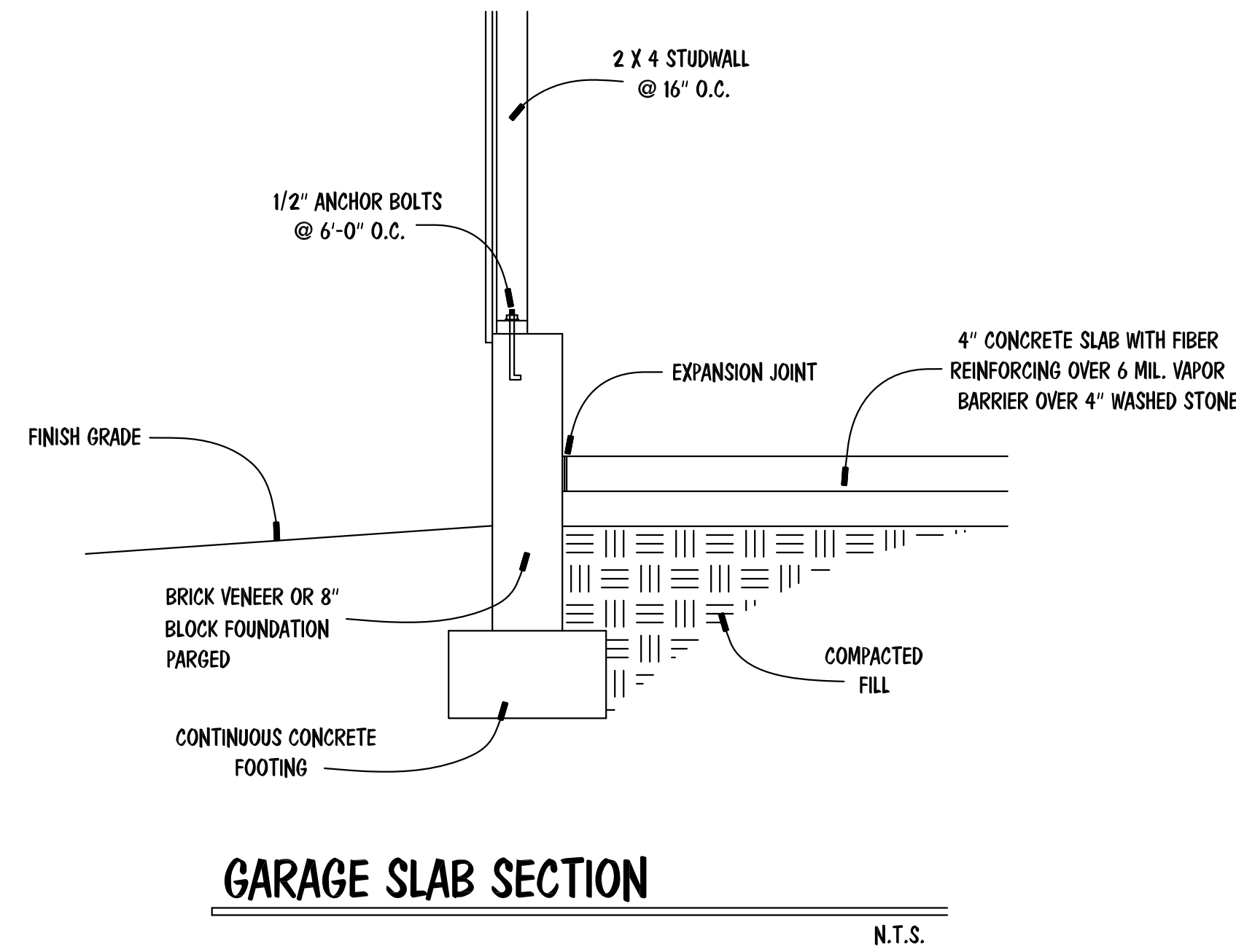
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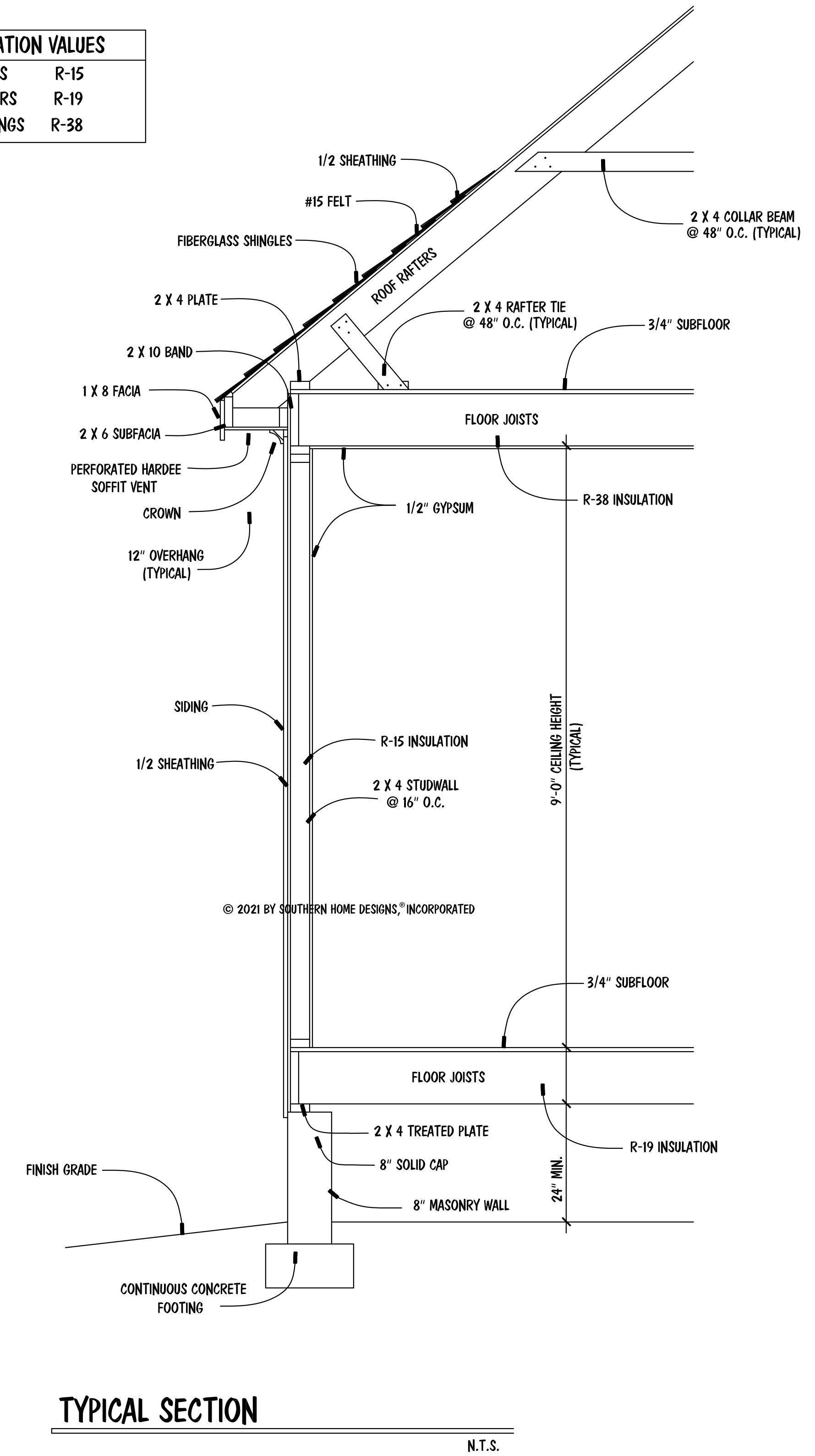
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 Office: 919.868.4202

ENGR. #:	
DATE:	02-25-21
SHEET:	S-4
PLAN #:	21-022521



INSULATION VALUES	
WALLS	R-15
FLOORS	R-19
CEILINGS	R-38



STR. DETAIL PLAN

STRUCTURAL NOTES:

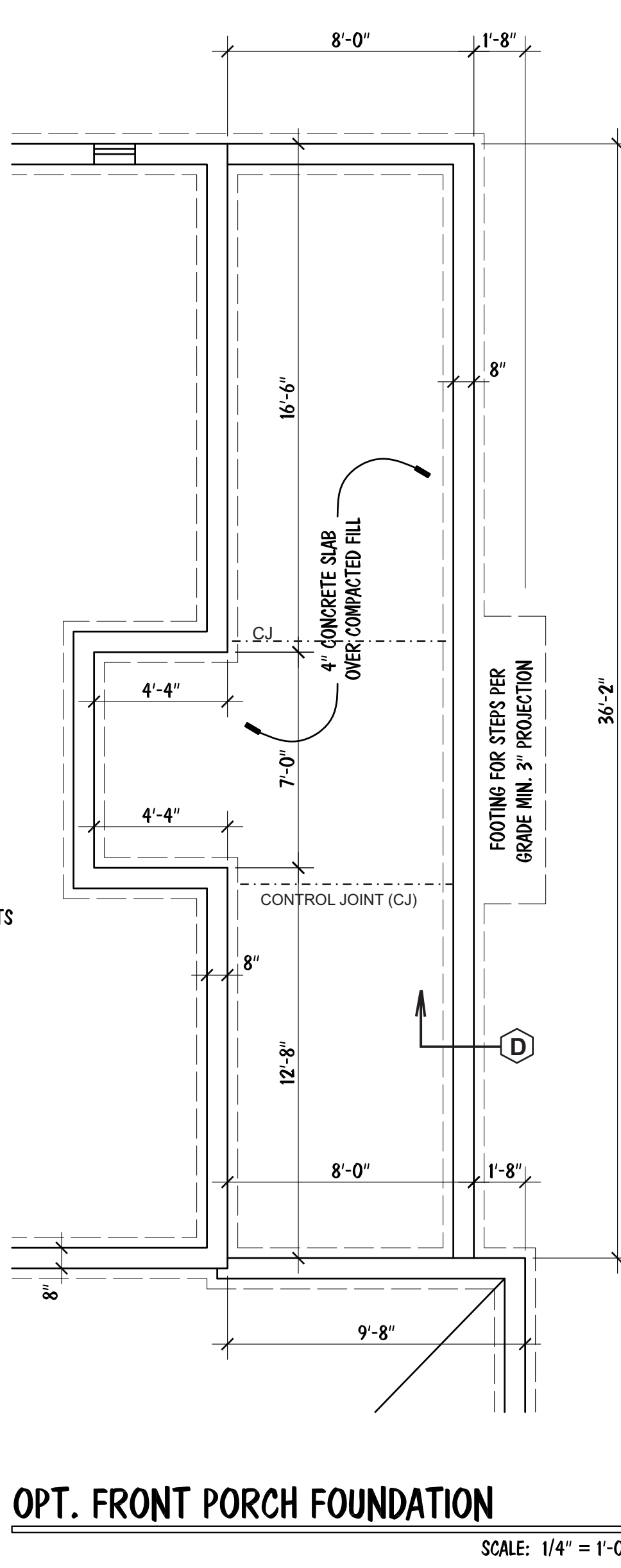
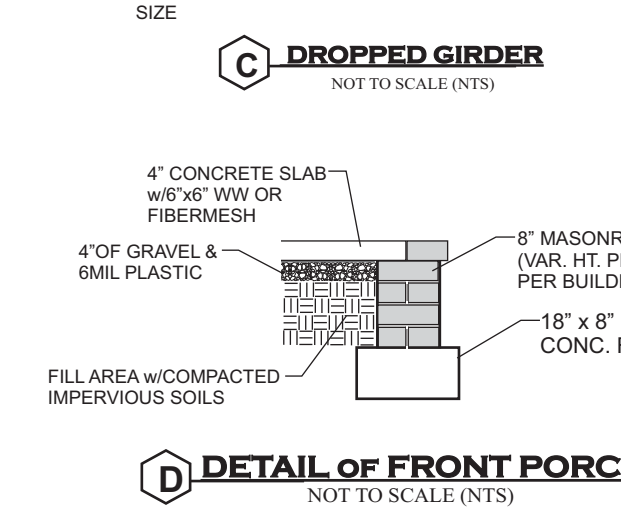
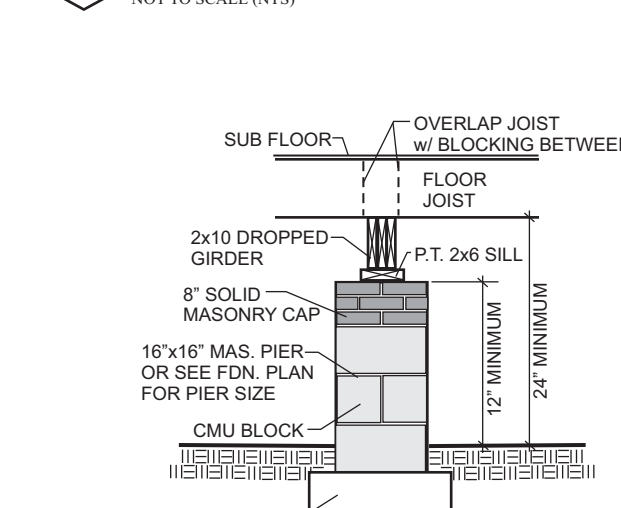
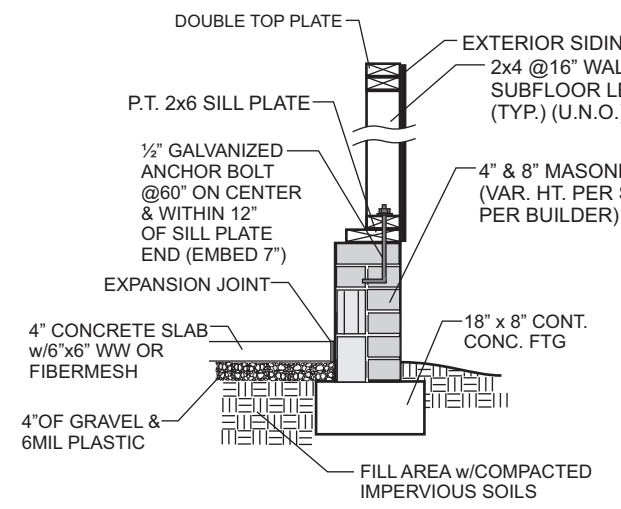
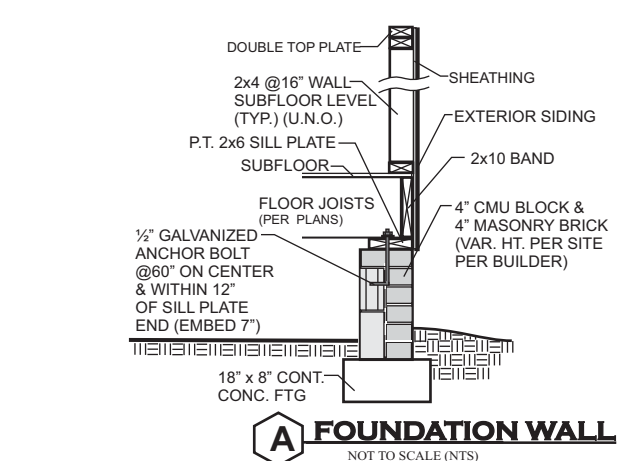
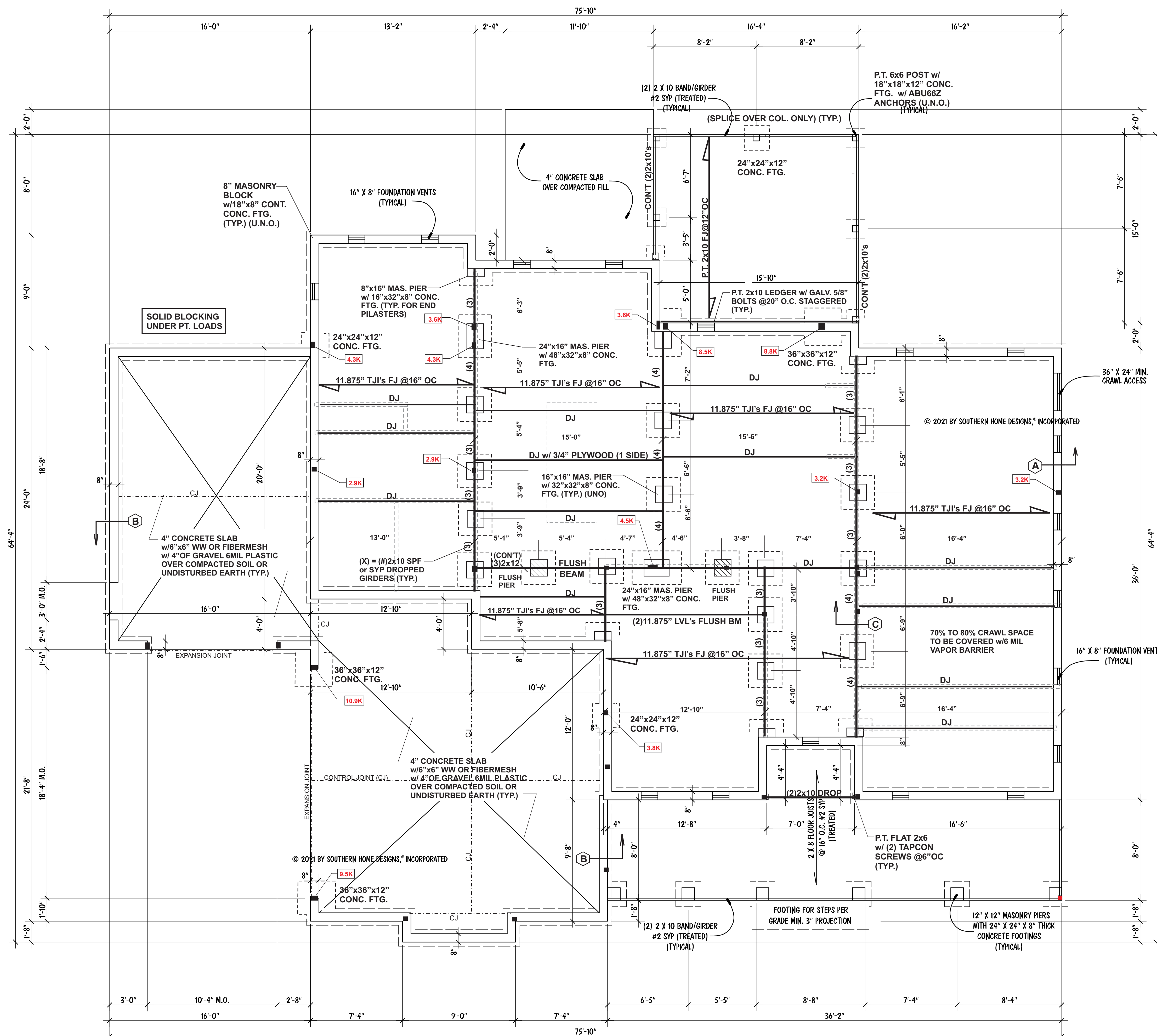
- Framing lumber shall be #2 SPF (modulus of elasticity 1,100,000 psi, fb 950). All beams & treated lumber to be #2 SYP. E=1,600,000, fb=1100 min. Splice min #2 or stud grade.
- Use hangers for all beam to beam connections. Structural fastening as per R602.3(1). Adequate connectors is the sole responsibility of the general contractor and his subs.
- Structural members fastening to conform to Table R602.3(1) and (2).
- Roof Framing Notes:
 - Dbl Hips may be spliced with a min. 6'-0" overlap at center. No valley splices.
 - Use 2x10 or fir down rafters for vaulted areas.
 - Attach vaulted rafters with hurricane connectors: Simpson H-2.5, H-5 or approved equal.
- All construction shall conform to the latest requirements of the NC State Residential Building Code - 2018 Edition, plus all local codes & regulations or 2015 IBC. Structural Engineer is not responsible for and will not control of construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with the construction work.
- Structural Engineer is not responsible for the contractor's failure to carry out the proposed construction work in accordance with the contract document.
- Use Method #3 for Structural Sheathing: "Accepted Engineer's Practice"

FOUNDATION NOTES:

- Deck posts min. 4'-0" above grade are to be knee or diagonally braced per Appendix M. Fastening to house will be by nailer with 5/8" galvanized bolts @ 20" o.c. and 1/2" hot dipped galv. @ 42" o.c.
- Corners shall be braced with one of the approved methods as outlined in R602.10.3.
- Structural members fastening to conform to Table R602.3(1) and (2).
- Girders and piers shall bear on center 1/3 of pier and footing, respectively.
- 2018 NC State Residential Building Code apply to the construction of footings.
- Typical lug footing to be 18" x 8" deep, (UNO).
- Pressure treated wood shall be installed for exterior use.
- Hanger Schedule (Simpson hangers) for beam to beam connections (UNO)
 - (2)x10's LUS10-2
 - (2)x10's LUS10-3
 - (2)x14 LUS14, HUS10
- Concrete shall have min. 28 day strength of 3000 psi, and max. Slump of 5 inches unless noted otherwise (UNO). All entrained air per Table 4022. All concrete shall be proportioned, mixed, handled, sampled, tested, and placed in accordance with ACI current standards. All samples for pumping shall be taken from the exit pump.
- Allowable soil bearing pressure assumed to be 2000 psf. The contractor must contact Geotechnical Engineer & the Structural Engineer if unsatisfactory subsurface conditions are encountered. The surface area adjacent to the foundation wall shall be provided adequate drainage, and shall be graded so as to drain surface water away from foundation walls.
- Allowable soil bearing pressure assumed to be 2000 psf. The contractor must contact Geotechnical Engineer & the Structural Engineer if unsatisfactory subsurface conditions are encountered. The surface area adjacent to the foundation wall shall be provided adequate drainage, and shall be graded so as to drain surface water away from foundation walls.

***NOTE: I-JOIST EQUIVALENT CAN BE USED FOR SPECIFIED I-JOISTS SUCH AS:**
 GPI 65 SERIES 11.875" @ 16" O.C. OR
 BLUELINK 60 SERIES 11.875" @ 16" O.C.
 BCI 6500 SERIES 11.875" @ 16" O.C.
 LPI 32 PLUS SERIES 11.875" @ 16" O.C.
 WEYERHAUSER 230 SERIES @ 16" O.C.

CRAWL SPACE VENTILATION
 2045 SQ. FT. OF CRAWL AREA / 150 = 13.63 SQ. FT. OF FREE VENT AREA REQUIRED
 SEE SECTION R408.1 OF 2018 NRCB (2015 IRC)
 FREE VENT AREA REQUIRED MAY BE REDUCED TO 1/1500 IF APPROVED VAPOR BARRIER IS INSTALLED OVER 100% OF CRAWL FLOOR AREA AND VENTS ARE INSTALLED TO PERMIT CROSS-VENTILATION OF CRAWL SPACE.
 SEE SECTION R408.1.1.



FOUNDATION PLAN

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



Engineered by:
 Patrick E. Teague, PE
 Date: 3/25/21
 North Carolina License # 20239

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THE FAULKNER RESIDENCE

Glenwood Builders, LLC
 1757 Oakridge Duncan Road, Fuquay-Varina, NC 27526
 Office: 919.868.4302

ENGR. #: _____
 DATE: 02-25-21
 SHEET: S-1
 PLAN #: 21-022521

WALL BRACING NOTES:

WALL BRACING SHALL BE IN ACCORDANCE WITH SECTION R602.10.3 CONTINUOUS SHEATHING. BRACING METHOD CS-WSP SHALL BE USED IN ACCORDANCE WITH TABLE R602.10.1

1. THE REQUIRED LENGTH OF BRACING FOR EACH SIDE OF A RECTANGLE CIRCUMSCRIBED AROUND THE PLAN OR A PORTION OF THE PLAN AT EACH STORY LEVEL SHALL BE IN ACCORDANCE WITH TABLE R602.10.3 AND FIGURE R602.10.3(1). UNLESS NOTED OTHERWISE, THE ENTIRE STRUCTURE IS ASSUMED TO BE CIRCUMSCRIBED WITHIN A SINGLE RECTANGLE.

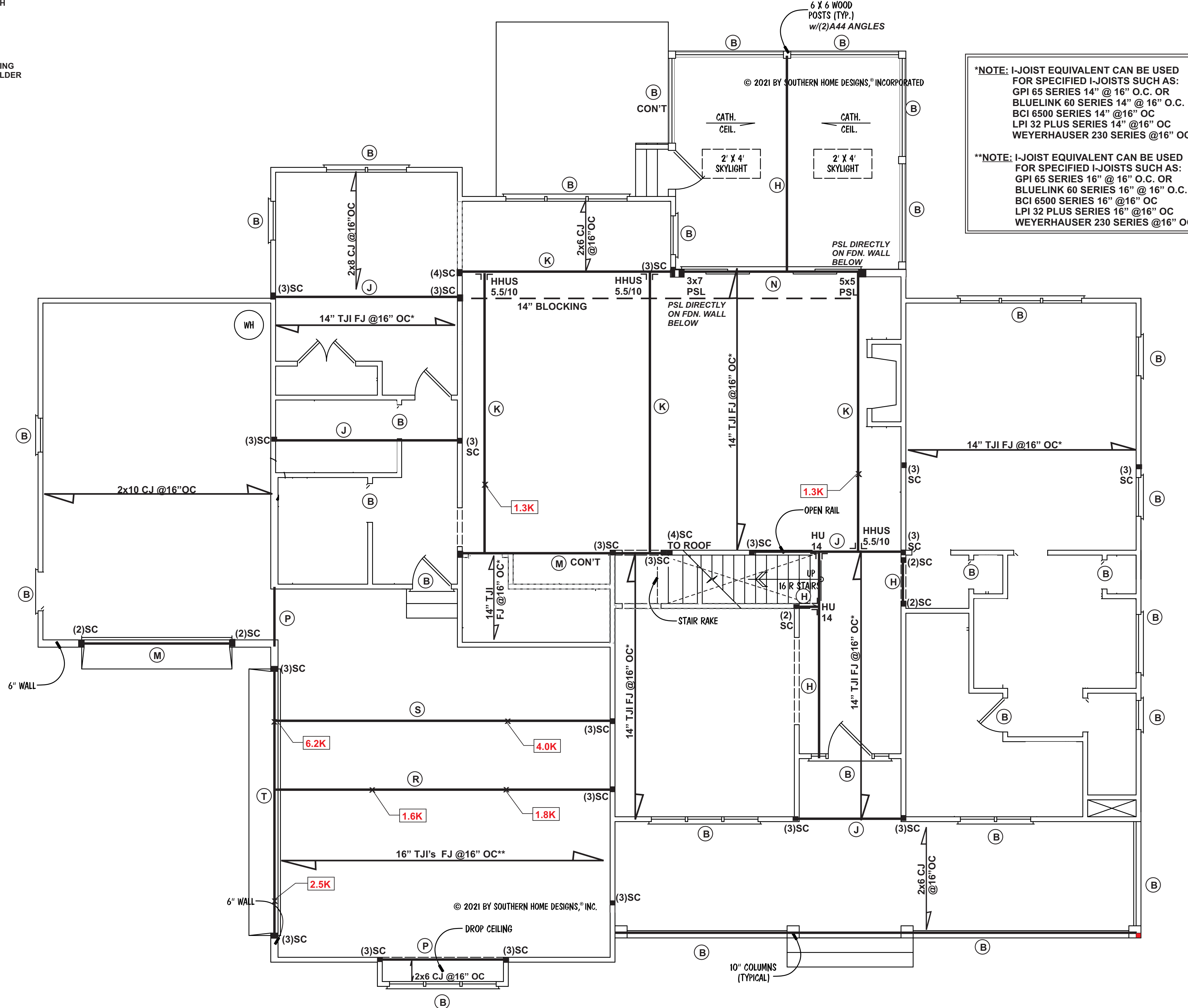
2. MINIMUM PANEL WIDTH IS 24". SEE SECTION R602.10.3 FOR ADDITIONAL INFORMATION. CONNECTION CRITERIA SHALL BE IN ACCORDANCE WITH TABLE R602.10.1.

3. PORTAL FRAME CONSTRUCTION SHALL BE IN ACCORDANCE WITH FIGURE R602.10.1.

4. HOLD DOWN DEVICE SHALL BE AS FOLLOWS:
SIMPSON LSTA24 STRAP (OR EQUIVALENT) BETWEEN FLOORS EXTENDING FROM BOTTOM OF FLOOR BAND AND UP THE STUDS PER SITE PER BUILDER
SIMPSON HD3B HOLD DOWN (OR EQUIVALENT) WHERE REQUIRED TO CONNECT DIRECTLY TO FOUNDATION.

THIS PLAN DESIGNED UNDER NORTH CAROLINA RESIDENTIAL CODE 2018 EDITION

HOUSE DESIGNED FOR 115 MPH, EXPOSURE B
ANCHOR BOLTS SHALL BE MINIMUM 1/2" DIAMETER & SHALL EXTEND A MINIMUM OF 7" INTO MASONRY OR CONCRETE. ANCHOR BOLTS TO BE NO MORE THAN 6'-0" ON CENTER & WITHIN 12" OF ALL PLATE SPLICES.



***NOTE: I-JOIST EQUIVALENT CAN BE USED FOR SPECIFIED I-JOISTS SUCH AS:**
GPI 65 SERIES 14" @ 16" O.C. OR BLUELINK 60 SERIES 14" @ 16" O.C. BCI 6500 SERIES 14" @ 16" O.C. LPI 32 PLUS SERIES 14" @ 16" O.C. WEYERHAUSER 230 SERIES @ 16" OC

****NOTE: I-JOIST EQUIVALENT CAN BE USED FOR SPECIFIED I-JOISTS SUCH AS:**
GPI 65 SERIES 16" @ 16" O.C. OR BLUELINK 60 SERIES 16" @ 16" O.C. BCI 6500 SERIES 16" @ 16" O.C. LPI 32 PLUS SERIES 16" @ 16" O.C. WEYERHAUSER 230 SERIES @ 16" OC

STRUCTURAL NOTES:

- Framing lumber shall be #2 SPF (modulus of elasticity 1,100,000 psi, fb 950). All beams & treated lumber to be #2 SYP, E=1,600,000, fb=1100 min. Studs min.#2 or stud grade.
- Use hangers for all beam to beam connections. Structural fastening as per R602.3(1). Adequate connections is the sole responsibility of the general contractor and his subs.
- Structural members fastening to conform to Table R602.3(1) and (2).
- Roof Framing Notes:
 - Dbl Hips may be spliced with a min. 6'-0" overlap at center. No valley splices
 - Use 2x10 or fir down rafters for vaulted areas
 - Attach vaulted rafters with hurricane connectors: Simpson H-2.5, H-5 or approved equal
- All construction shall conform to the latest requirements of the NC State Residential Building Code - 2018 Edition, plus all local codes & regulations or 2015 IBC.
- Structural Engineer is not responsible for and will not control of construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with the construction work.
- Structural Engineer is not responsible for the contractor's failure to carry out the proposed construction work in accordance with the contract document.
- Use Method #3 for Structural Sheathing; "Accepted Engineer's Practice"

FRAMING NOTES:

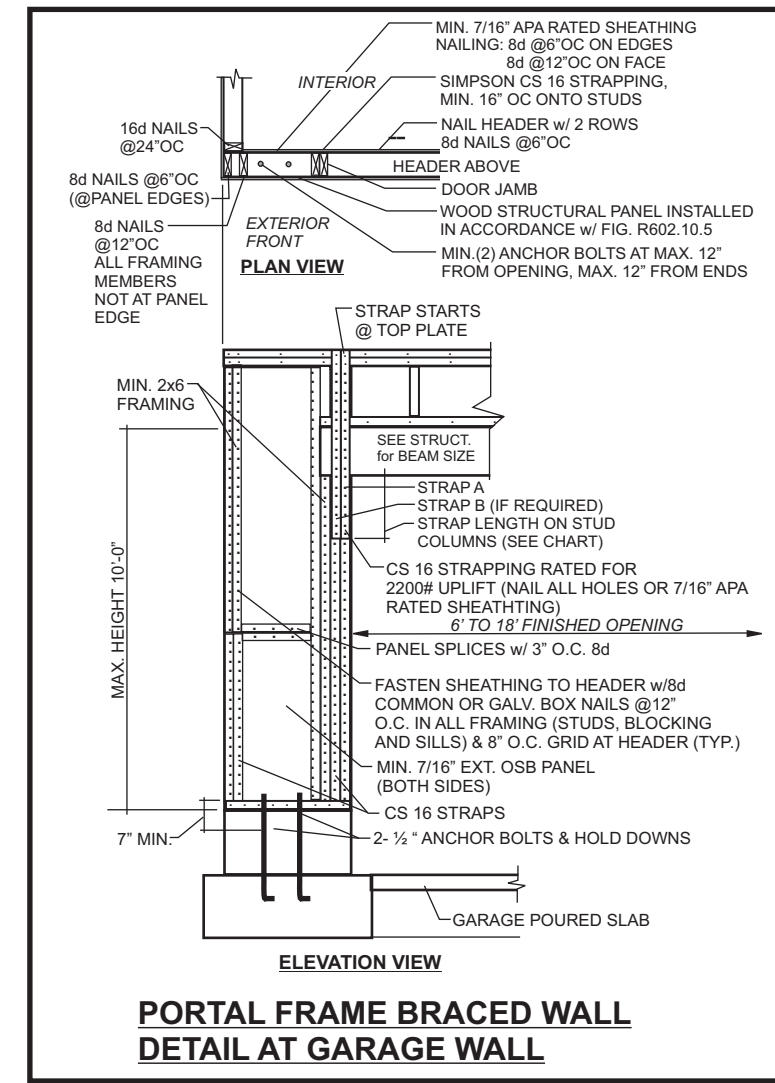
- Design Loads (R301.5)

	Live Loads (PSF)	Dead (PSF)
Rooms not for Sleeping	40	10
Sleeping Rooms	30	10
Attic w/o Permanent Stairs	40	10
Attic w/o Storage	10	10
Stairs	40	-
Exterior Balconies	60	10
Decks	40	10
Guardrails & Handrails	200	-
Passenger Vehicle Garages	50	10
Fire Escapes	40	10
Snow	20	-

Wind Load: (Refer to Table R301.2.4)
- Verify Zone before Construction
- Wall Bracing: Braced wall panels shall be in accordance with section R602.10.3 continuous sheathing. Bracing method CS-WSP shall be used in accordance with Table R602.10.1. The required length of bracing for each side of a rectangle circumscribed around the plan or a portion of the plan at each story level shall be in accordance with Table R602.10.3 & figure R602.10.3(1). Unless noted otherwise, the entire is assumed to be circumscribed within a single rectangle.
- All framing lumber shall be SPF#2 (Fb=875 psi) unless otherwise noted (UNO). All treated lumber shall be SYP#2 (Fb=975 psi). Plate material may be SPF#3 or SYP#3 (Fc (perp.) = 425 psi min.).
- All exterior headers to be (2)2x10 spf. u.n.o w/ dbl. Jacks for all openings >5'-0".
- All interior bearing headers to be (2)2x10 u.n.o. w/ dbl. jacks for all openings >4'-6", use (2)2x8 w/ dbl. Jacks for all openings >3'-0" u.n.o.
- All interior non-bearing headers to be min. (2)2x4 flat u.n.o.
- Fireblock to conform with R602.8

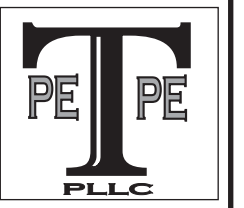
HEADER SCHEDULE

- (A) (2) 2x10's Flush
- (B) (2) 2x10's Dropped
- (C) (2) 2x8's Flush
- (D) (2) 2x8's Dropped
- (E) (2) 9.25" LVL's Flush
- (F) (2) 9.25" LVL's Dropped
- (G) (2) 2x12's Dropped
- (H) (1) 14" LVL's Flush
- (J) (2) 14" LVL's Flush
- (K) (3) 14" LVL's Flush
- (M) (2) 14" LVL's Dropped
- (N) (3) 14" LVL's Dropped
- (P) (1) 16" LVL's Flush
- (R) (2) 16" LVL's Flush
- (S) (3) 16" LVL's Flush
- (T) (3) 20" LVL's Dropped



Engineered by:
Patrick E. Teague, PE 3/25/21
Date:
North Carolina License # 20239

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FIRST FLOOR STR. PLAN

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

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THE
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 RESIDENCE

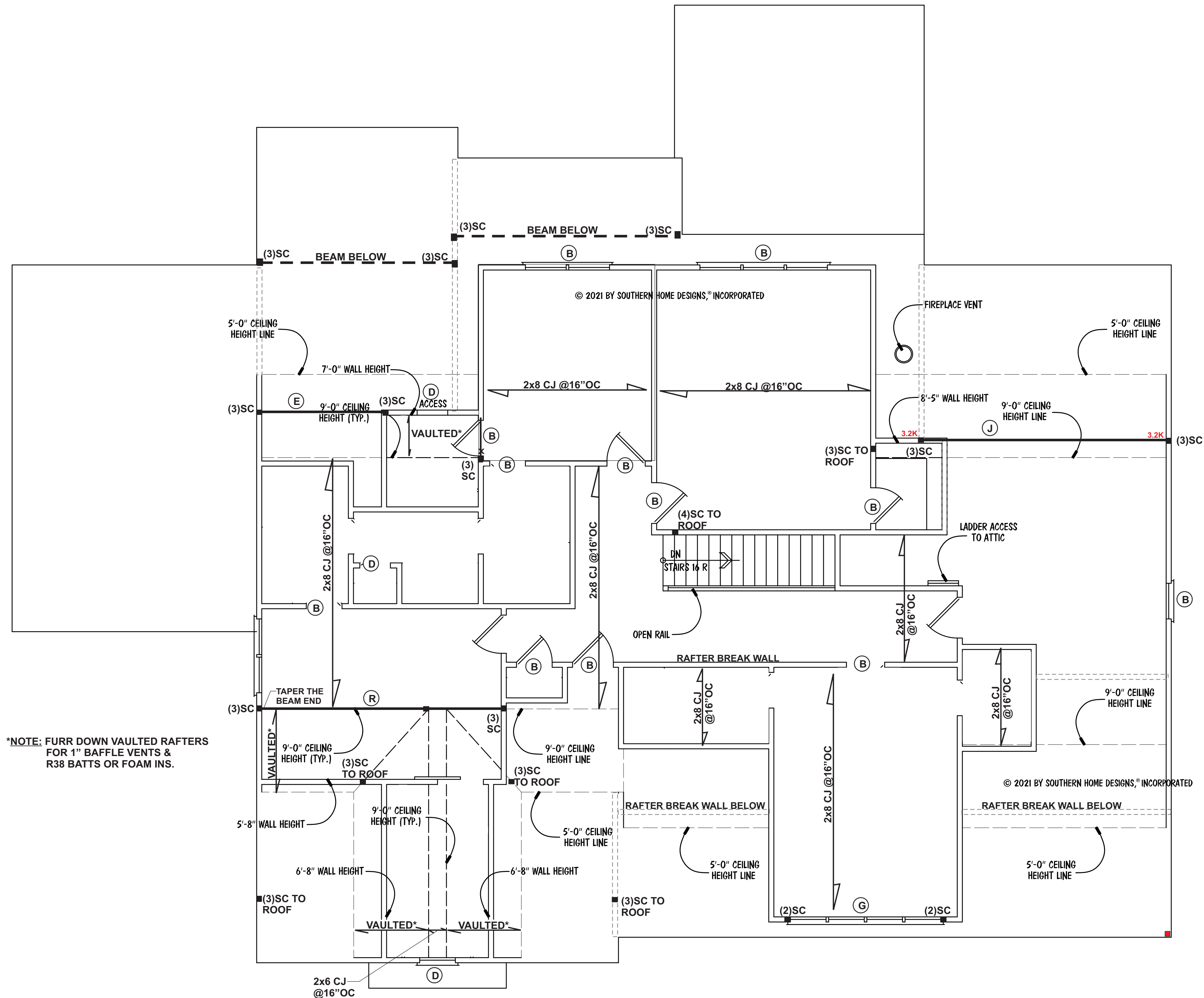
Glenwood Builders, LLC
 1757 Oakridge Duncan Road, Fuquay-Varina, NC 27526
 Office: 919.868.4302

ENGR. #:

DATE: 02-25-21

SHEET: S-2

PLAN #: 21-022521



*NOTE: FURR DOWN VAULTED RAFTERS FOR 1" BAFFLE VENTS & R38 BATTS OR FOAM INS.

STRUCTURAL NOTES:

- Framing lumber shall be #2 SPF (modulus of elasticity 1,100,000 psi, fb 950). All beams & treated lumber to be #2 SYP, E=1,800,000, fb=1100 min. Studs min.#2 or stud grade.
- Use hangers for all beam to beam connections. Structural fastening as per R602.3(1). Adequate connections is the sole responsibility of the general contractor and his subs.
- Structural members fastening to conform to Table R602.3(1) and (2).
- Roof Framing Notes:
 - Dbl Hips may be spliced with a min. 6'-0" overlap at center. No valley splices
 - Use 2x10 or fir down rafters for vaulted areas
 - Attach vaulted rafters with hurricane connectors: Simpson H-2.5, H-5 or approved equal.
- All construction shall conform to the latest requirements of the NC State Residential Building Code - 2018 Edition, plus all local codes & regulations or 2015 IBC.
- Structural Engineer is not responsible for and will not control of construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with the construction work.
- Structural Engineer is not responsible for the contractor's failure to carry out the proposed construction work in accordance with the contract document.
- Use Method #3 for Structural Sheathing; "Accepted Engineer's Practice"

FRAMING NOTES:

Design Loads (R301.5)	Live Loads (PSF)	Dead (PSF)
Sleeping Rooms	40	10
Attic w/Permanent Stairs	30	10
Attic w/o Permanent Stairs	20	10
Stairs	10	10
Exterior Balconies	40	-
Decks	60	10
Guardrails & Handrails	40	10
Passenger Vehicle Garages	200	-
Fire Escapes	50	10
Snow	40	10
	20	-

Wind Load: (Refer to Table R301.2.4)

- Verify Zone before Construction
- Wall Bracing: Braced wall panels shall be in accordance with section R602.10.3 continuous sheathing. Bracing method CS-WSP shall be used in accordance with Table R602.10.1. The required length of bracing for each side of a rectangle circumscribed around the plan or a portion of the plan at each story level shall be in accordance with Table R602.10.3 & figure R602.10.3(1). Unless noted otherwise, the entire is assumed to circumscribed within a single rectangle.
- All framing lumber shall be SPF#2 (Fb=875 psi) unless otherwise noted (UNO). All treated lumber shall be SYP#2 (Fb=975 psi). Plate material may be SPF#10 or SYP#2 (Fb=975 psi) = 425 psi min.)
- All exterior headers to be (2)2x10 spf. u.n.o w/ dbl. jacks for all openings >5'-0".
- All interior bearing headers to be (2)2x10 u.n.o. w/ dbl. jacks for all openings >4'-6", use (2)2x8 w/ dbl. jacks for all openings >3'-0" u.n.o.
- All interior non-bearing headers to be min. (2)2x4 flat u.n.o.
- Fireblock to conform with R602.8

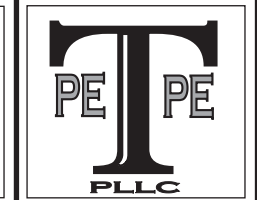
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(T) (3) 20" LVL's Dropped



Engineered by:
Patrick E. Teague, PE
Date: 3/25/21
North Carolina License # 20239

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SECOND FLOOR STR. PLAN

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

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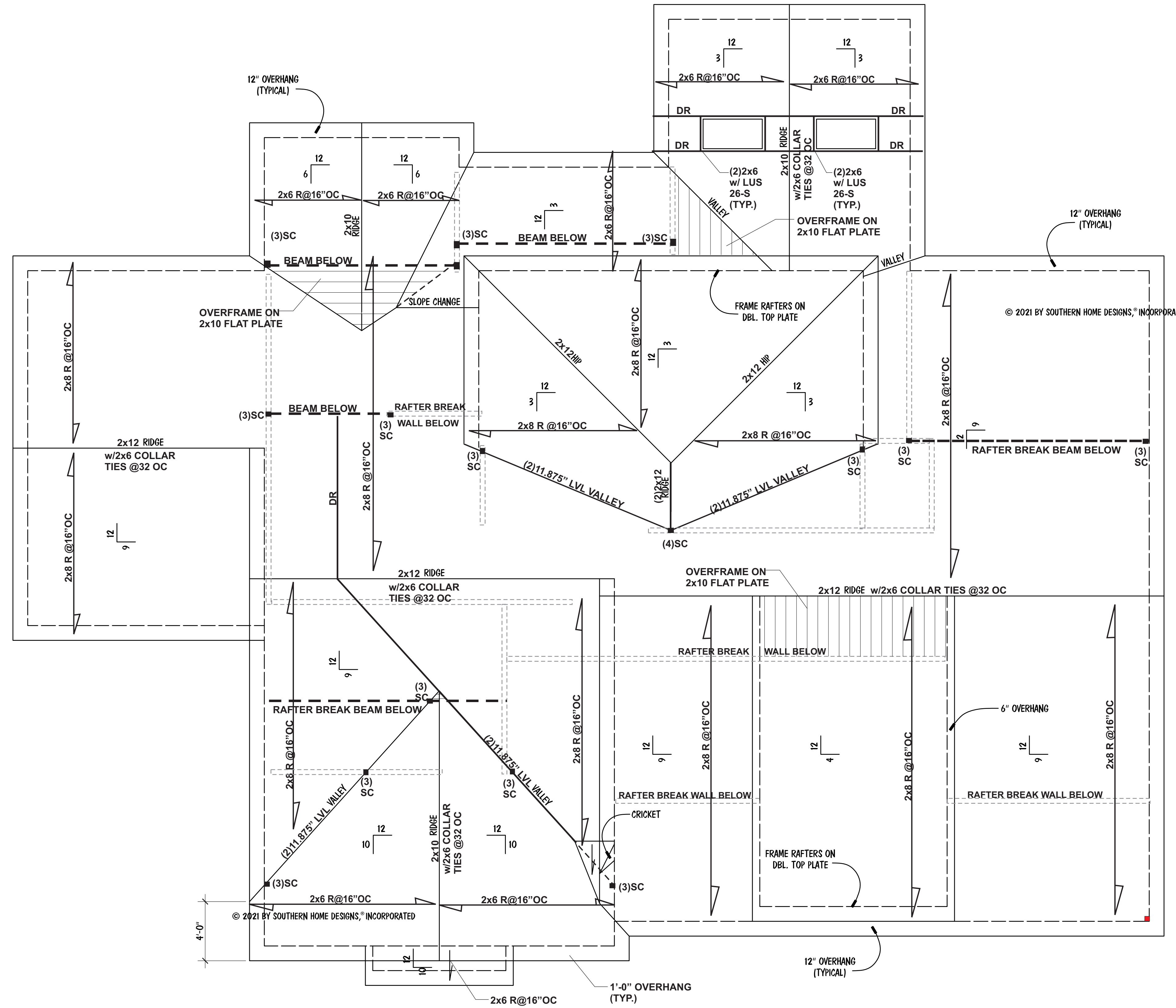
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THE
 FALLKNER
 RESIDENCE

Glenwood Builders, LLC
 1757 Oakridge Duncan Road, Fuquay-Varina, NC 27526
 Office: 919.868.4202

ENGR. #:
 DATE: 02-25-21
 SHEET: S-3
 PLAN #: 21-022521



NOTES:

- MEAN ROOF HEIGHT FOR THIS STRUCTURE IS 20'-8"

ATTIC VENTILATION:

3567 SQUARE FEET = 11.89 REQUIRED
300

THE NET FREE AREA OF VENTILATION REQUIRED IS TO BE

11.89 SQUARE FEET.

STRUCTURAL NOTES:

- Framing lumber shall be #2 SPF (modulus of elasticity 1,100,000 psi, fb 950). All beams & treated lumber to be #2 SYP, E=1,600,000, fb=1100 min. Studs min.#2 or stud grade.
- Use hangers for all beam to beam connections. Structural fastening as per R602.3(1). Adequate connections is the sole responsibility of the general contractor and his subs.
- Structural members fastening to conform to Table R602.3(1) and (2).
- Roof Framing Notes:
 - Dbl Hips may be spliced with a min. 6'-0" overlap at center. No valley splices
 - Use 2x10 or fir down rafters for vaulted areas
 - Attach vaulted rafters with hurricane connectors: Simpson H-2.5, H-5 or approved equal.
- All construction shall conform to the latest requirements of the NC State Residential Building Code - 2018 Edition, plus all local codes & regulations or 2015 IBC.
- Structural Engineer is not responsible for and will not control of construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with the construction work.
- Structural Engineer is not responsible for the contractor's failure to carry out the proposed construction work in accordance with the contract document.
- Use Method #3 for Structural Sheathing; "Accepted Engineer's Practice"

FRAMING NOTES:

- Design Loads (R301.5)

	Live Loads (PSF)	Dead (PSF)
Rooms not for Sleeping	40	10
Sleeping Rooms	30	10
Attic w/Permanent Stairs	40	10
Attic w/o Permanent Stairs	20	10
Stairs	40	-
Exterior Balconies	60	10
Decks	40	10
Guardrails & Handrails	200	-
Passenger Vehicle Garages	50	10
Fire Escapes	40	10
Snow	20	-

 Wind Load: (Refer to Table R301.2.4)
Verify Zone before Construction
- Wall Bracing: Braced wall panels shall be in accordance with section R602.10.3 continuous sheathing. Bracing method CS-WSP shall be used in accordance with Table R602.10.1 The required length of bracing for each side of a rectangle circumscribed around the plan or a portion of the plan at each story level shall be in accordance with Table R602.10.3 & figure R602.103(1). Unless noted otherwise, the entire is assumed to circumscribed within a single rectangle.
- All framing lumber shall be SPF#2 (Fb=875 psi) unless otherwise noted (UNO). All treated lumber shall be SYP#2 (Fb=975 psi). Plate material may be SPF#3 or SYP#3 (Fc (perp.) = 425 psi min.)
- All exterior headers to be (2)2x10 spf, u.n.o w/ dbl. Jacks for all openings >5'-0".
- All interior bearing headers to be (2)2x10 u.n.o w/ dbl. jacks for all openings >4'-6". Use (2)2x8 w/ dbl. Jacks for all openings >3'-0" u.n.o.
- All interior non-bearing headers to be min. (2)2x4 flat u.n.o.
- Fireblock to conform with R602.8



Engineered by:
Patrick E. Teague, PE
Date: 3/16/21
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ROOF FRAMING PLAN

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

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ENGR. #:	
DATE:	02-25-21
SHEET:	S-4
PLAN #:	21-022521