



1 Front - Elev A  
1/8" = 1'-0"



2 Rear - Elev A  
1/8" = 1'-0"

Elevation A - Sheet List

Sheet Number	Sheet Name
A-Pg1	Front & Rear Elevations
A-Pg2	Side Elevations
A-Pg3	1st Floor Plan
A-Pg4	2nd Floor Plan
A-Pg5	Roof Plan
Pg6	1st Floor Electrical Plan
Pg7	2nd Floor Electrical Plan
Pg8	Sections
Sec-Crawl/Brk	Typical Wall Section
Structural Pages	by Engineer

Area Schedule  
(Elevation A)

Name	Area
Heated	
1st Floor	1669 SF
2nd Floor	1980 SF
	3649 SF
Unheated	
Front Porch	99 SF
Garage	412 SF
Screened Porch	100 SF
	611 SF
Under Roof	4260 SF

GREENE - Elevation A

Front & Rear Elevations

Job #: 2024-SAN-071

Address: 16 Ithica Ln  
Bunnlevel, NC 28323

County: Harnett County

Plan Version Date:  
2-2-21

Job Version Date:  
4-22-25

Sheet #:  
A-Pg1



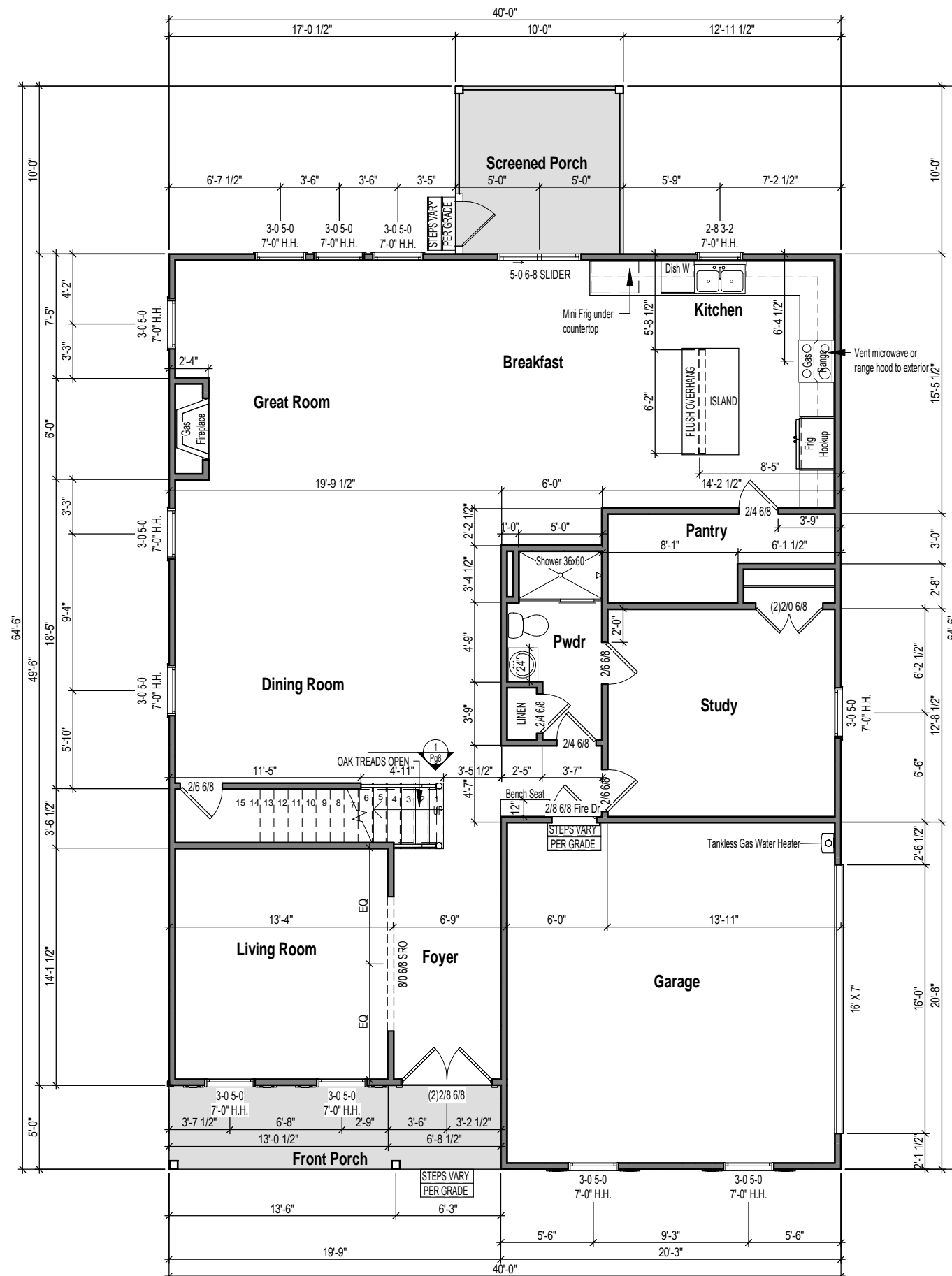
3015 Jefferson Davis Hwy, Sanford, NC 27332



1 Left - Elev A  
1/8" = 1'-0"



2 Right - Elev A  
1/8" = 1'-0"



1 1st Floor Plan - Elev A  
1/8" = 1'-0"

**WALL STUD SIZES**

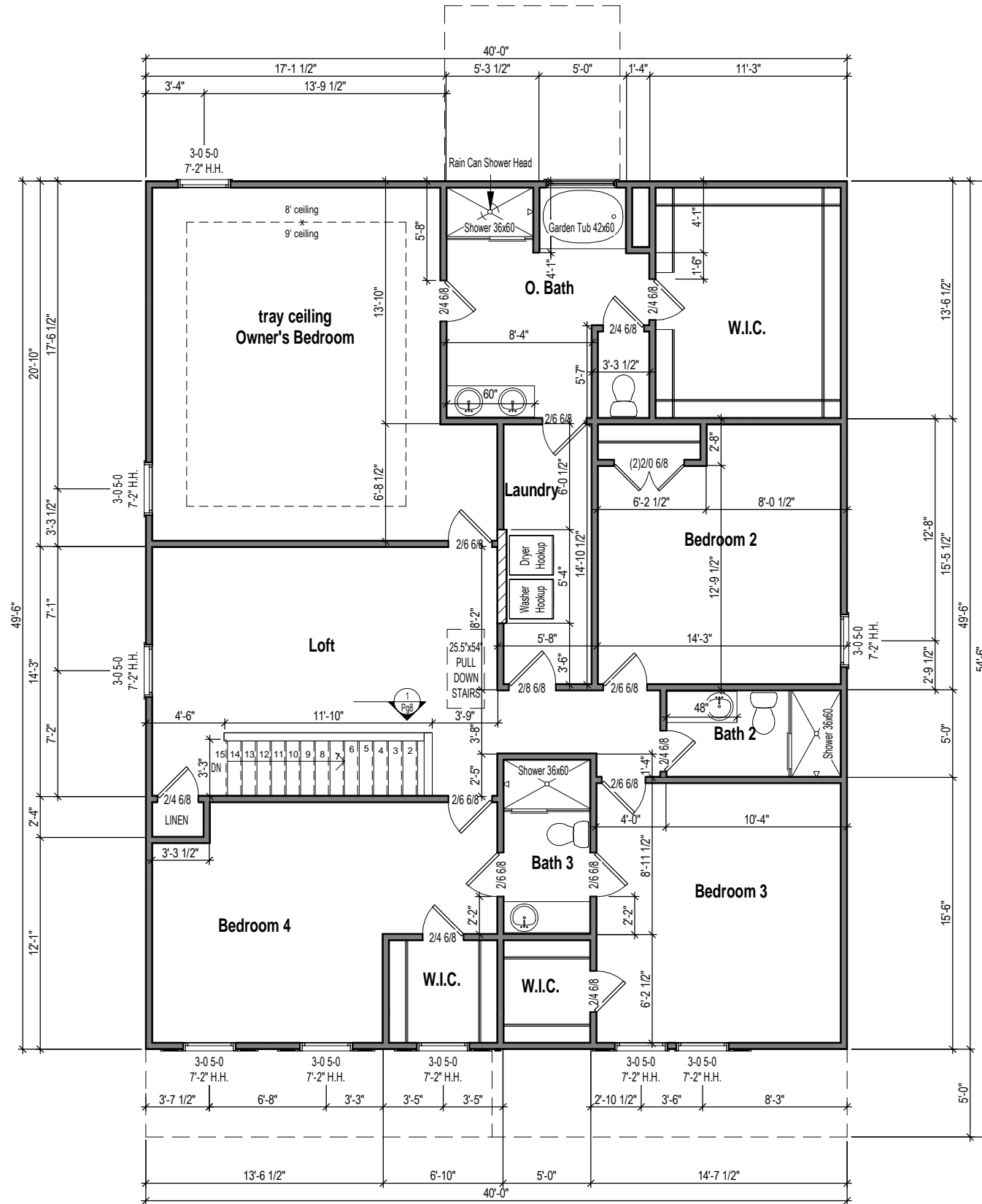
===== = 2x4    / / / = 2x6

**DIMENSIONS**

- EXTERIOR WALL DIMENSIONS ARE TO FACE OF SHEATHING
- INTERIOR WALL DIMENSIONS ARE TO FACE OF STUD

**EXTERIOR DOOR ROUGH OPENINGS**

- ALL EXTERIOR SWING DOORS HAVE A HEADER HEIGHT = TO 3" HIGHER THAN CALL SIZE
- ALL EXTERIOR SLIDING DOORS HAVE A HEADER HEIGHT = TO CALL SIZE



1 2nd Floor Plan - Elev A  
1/8" = 1'-0"

#### WALL STUD SIZES

— = 2x4    // = 2x6

#### DIMENSIONS

- EXTERIOR WALL DIMENSIONS ARE TO FACE OF SHEATHING
- INTERIOR WALL DIMENSIONS ARE TO FACE OF STUD

#### EXTERIOR DOOR ROUGH OPENINGS

- ALL EXTERIOR SWING DOORS HAVE A HEADER HEIGHT = TO 3" HIGHER THAN CALL SIZE
- ALL EXTERIOR SLIDING DOORS HAVE A HEADER HEIGHT = TO CALL SIZE

GREENE - Elevation A

2nd Floor Plan



3015 Jefferson Davis Hwy, Sanford, NC 27332

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Address: 16 Ithica Ln  
Bunnlevel, NC 28323

County: Harnett County

Plan Version Date: 2-2-21

Job Version Date: 4-22-25

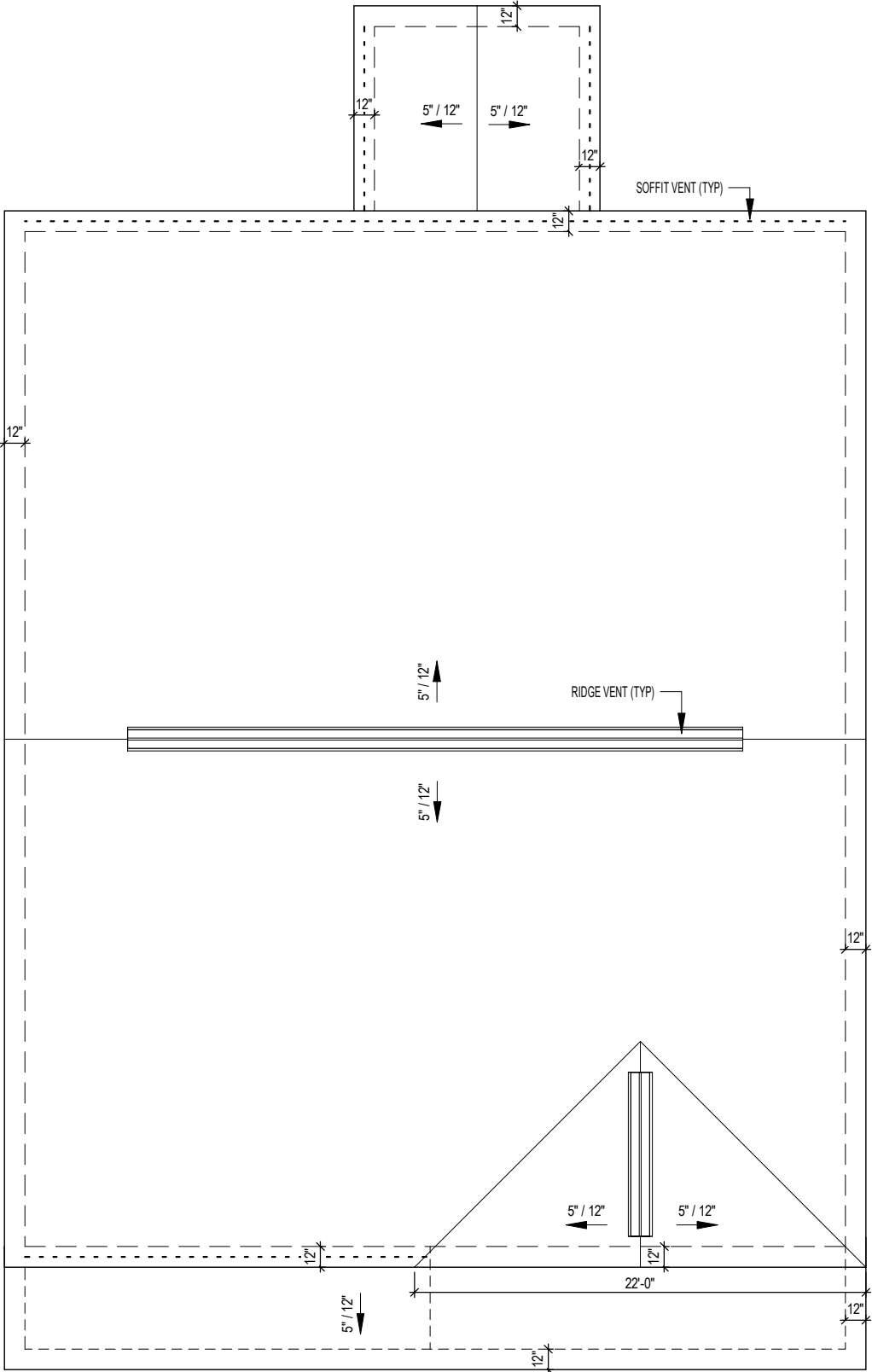
Sheet #: A-Pg4

Attic Ventilation Calcs 1/300 (sq.in.)























Area	Ventilation Required (sq.in.)	Max Upper (sq.in.)	Min Upper (sq.in.)	Upper Ventilation (sq.in.)	Lower Ventilation (sq.in.)	Total Ventilation (sq.in.)	Ridge Vent (in.ft.)	Roof Vents (ea)	Soffit Vents (sq.ft.)
1980 SF	950	760	475	570	708	1278	38	0	118

CALCS BASED ON THE FOLLOWING VALUES

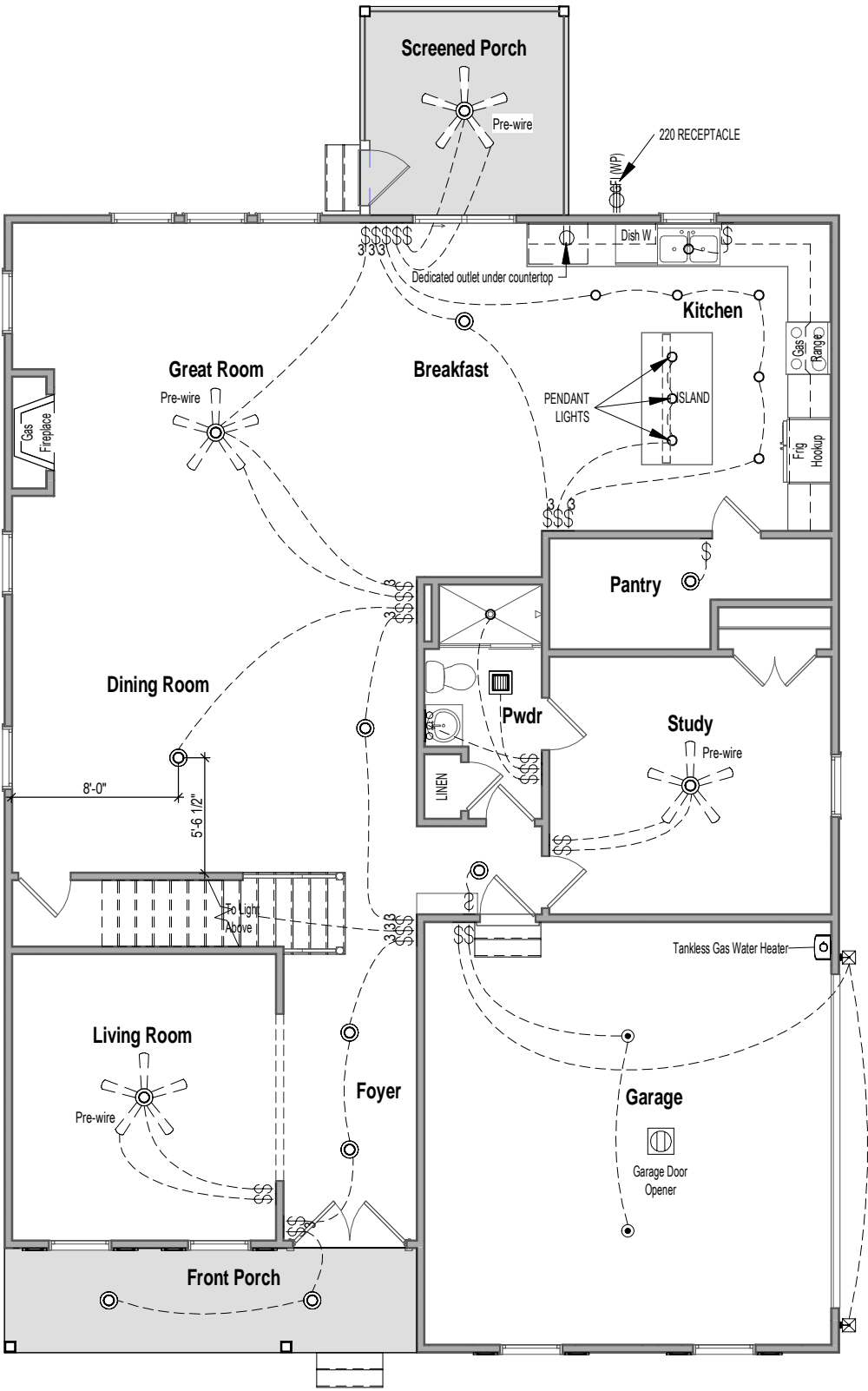
- Ridge Vents = 15 in<sup>2</sup> of net free area per linear foot
- Roof Vents = 50 in<sup>2</sup> of net free area per unit
- Soffit Vents = 6 in<sup>2</sup> of net free area per square foot





















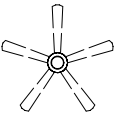



1 Roof Plan - Elev A  
1/8" = 1'-0"

ELECTRICAL LEGEND					
WALL MOUNTED FIXTURES			CEILING MOUNTED FIXTURES		
 OUTLET - 110V	 OUTLET - TV	 GARAGE DOOR OPENER PREWIRE	 KEYLESS	 SMOKE DETECTOR	
 OUTLET - 110V GROUND FAULT INTERRUPTER	 OUTLET - PHONE	 18" LIGHT BAR	 FLUSH MOUNT	 SMOKE DETECTOR/CO2	
 OUTLET - 110V GROUND FAULT INTERRUPTER WATER PROOF	 SWITCH - SINGLE POLE	 COACH LIGHT - FRONT DOOR	 LED PUCK	 BATHROOM EXHAUST FAN	
 OUTLET - 220V	 SWITCH - 3 WAY	 COACH LIGHT - REAR DOOR	 FLUSH MOUNT W-FAN PREWIRE	 FLUORESCENT 4' - 2 LAMPS	
	 SWITCH - 4 WAY			 FLUORESCENT 2' - 1 LAMP	

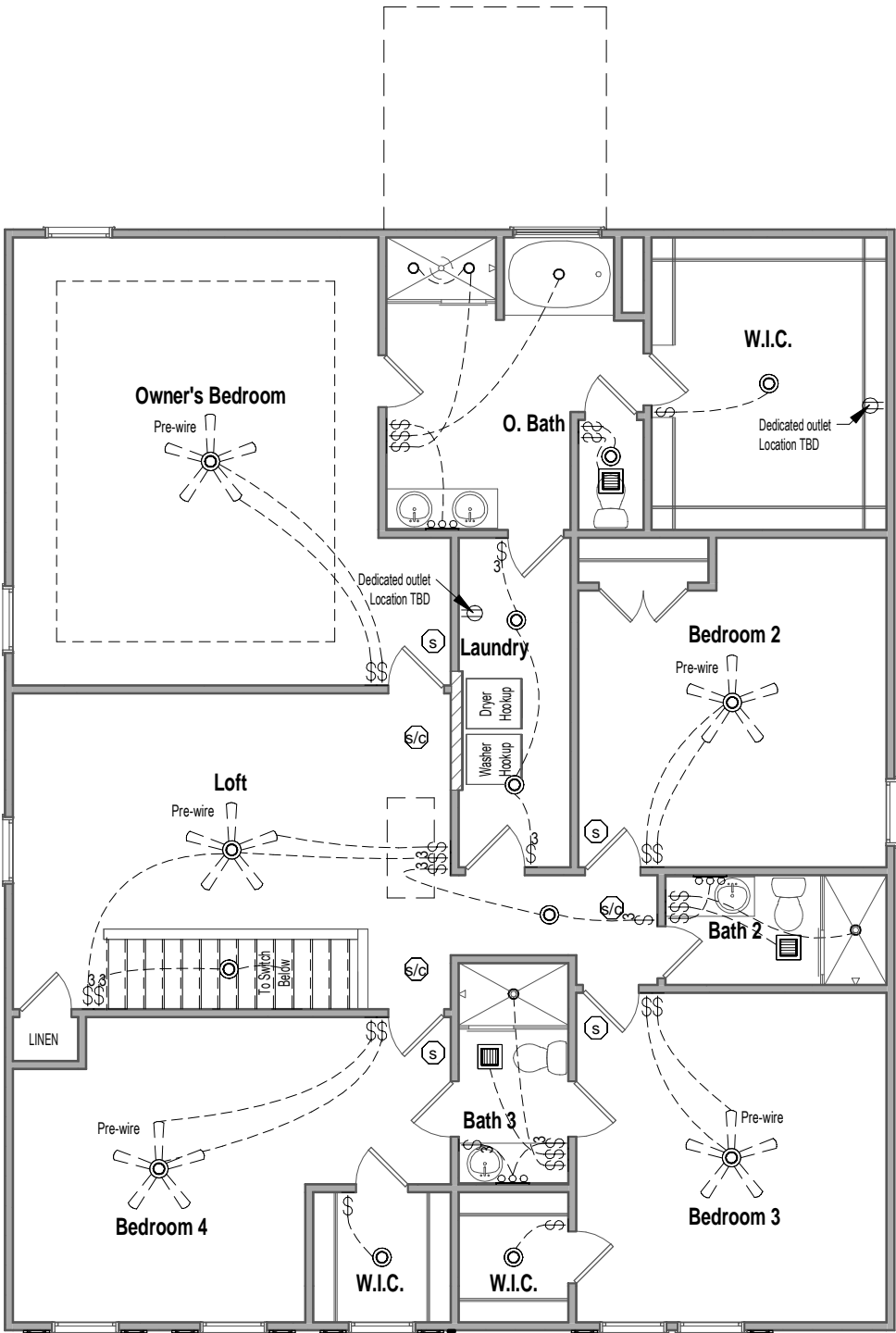
Outlets shown on the electrical layout are in addition to the outlets that shall be provided in accordance with International Residential Code Sections E3901.2 through E3901.11.



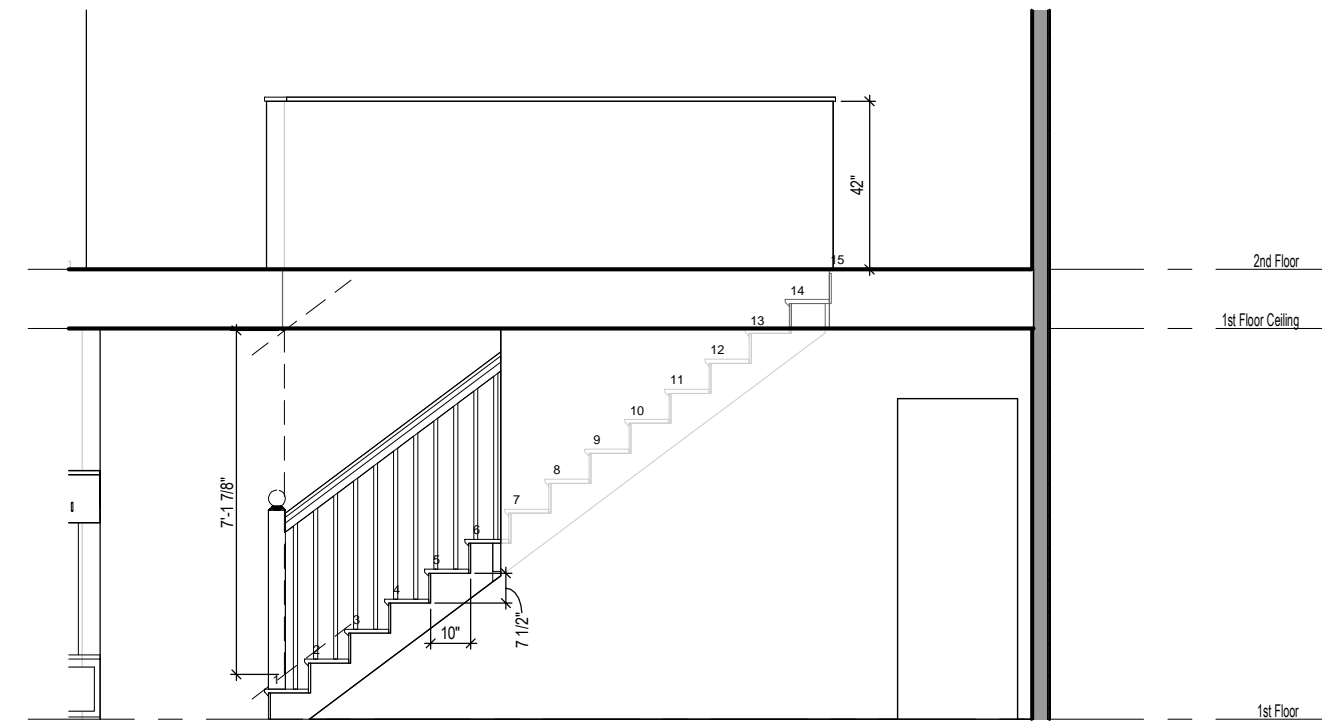
1 1st Floor Electrical  
1/8" = 1'-0"

ELECTRICAL LEGEND					
WALL MOUNTED FIXTURES			CEILING MOUNTED FIXTURES		
 OUTLET - 110V	 OUTLET - TV	 GARAGE DOOR OPENER PREWIRE	 KEYLESS	 SMOKE DETECTOR	
 OUTLET - 110V GROUND FAULT INTERRUPTER	 OUTLET - PHONE	 18" LIGHT BAR	 FLUSH MOUNT	 SMOKE DETECTOR/CO2	
 OUTLET - 110V GROUND FAULT INTERRUPTER WATER PROOF	 SWITCH - SINGLE POLE	 COACH LIGHT - FRONT DOOR	 LED PUCK	 BATHROOM EXHAUST FAN	
 OUTLET - 220V	 SWITCH - 3 WAY	 COACH LIGHT - REAR DOOR	 FLUSH MOUNT W-FAN PREWIRE	 FLUORESCENT 4' - 2 LAMPS	
	 SWITCH - 4 WAY			 FLUORESCENT 2' - 1 LAMP	

Outlets shown on the electrical layout are in addition to the outlets that shall be provided in accordance with International Residential Code Sections E3901.2 through E3901.11.



1 2nd Floor Electrical  
1/8" = 1'-0"



1 Stair Section  
1/4" = 1'-0"

GREENE - Elevation A

Sections

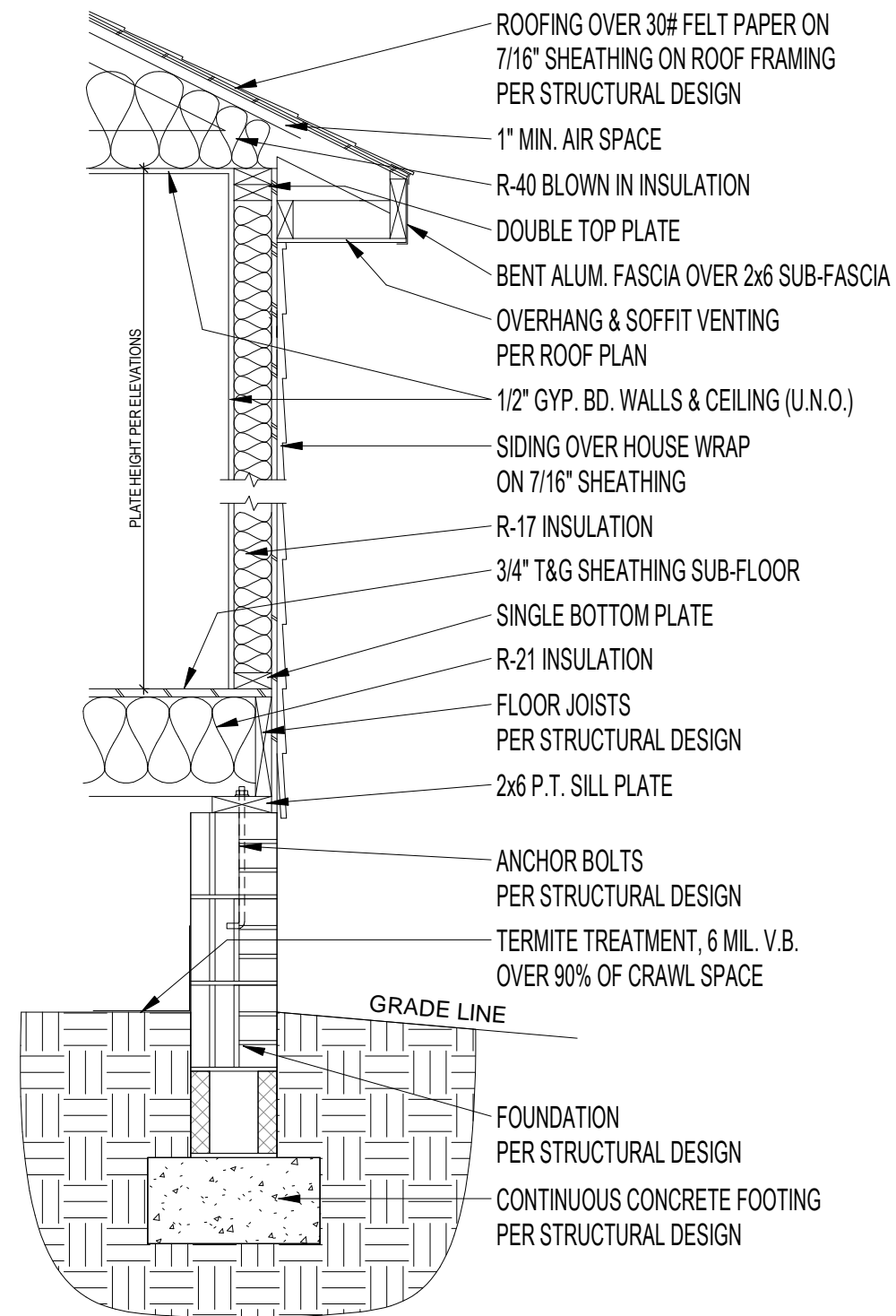
Job #: 2024-SAN-071  
Address: 16 Ithica Ln  
Bunnlevel, NC 28323  
County: Harnett County

Plan Version Date:  
2-2-21

Job Version Date:  
4-22-25

Sheet #:  
Pg8





1 Typical Wall Section - Brick End  
3/4" = 1'-0"

GREENE - Elevation A

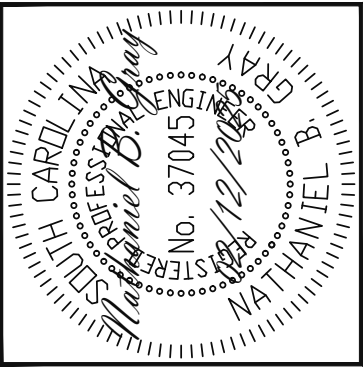
Typical Wall Section

Job #: 2024-SAN-071  
Address: 16 Ithica Ln  
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Plan Version Date:  
2-2-21

Job Version Date:  
4-22-25

Sheet #:  
Sec-Crawl/Brk



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318 W Millbrook, Suite 201  
Raleigh, North Carolina 27609  
Phone (919) 844-1661

VALUE BUILD HOMES		
SCOPE	STRUCTURAL ADDENDUM	
LOC	16 ITHACA LN	REV 1    NBC    4/71/2025
	BUNNLEVEL, NC	
	JOB# 2024-SAN-071 OLANIYI	

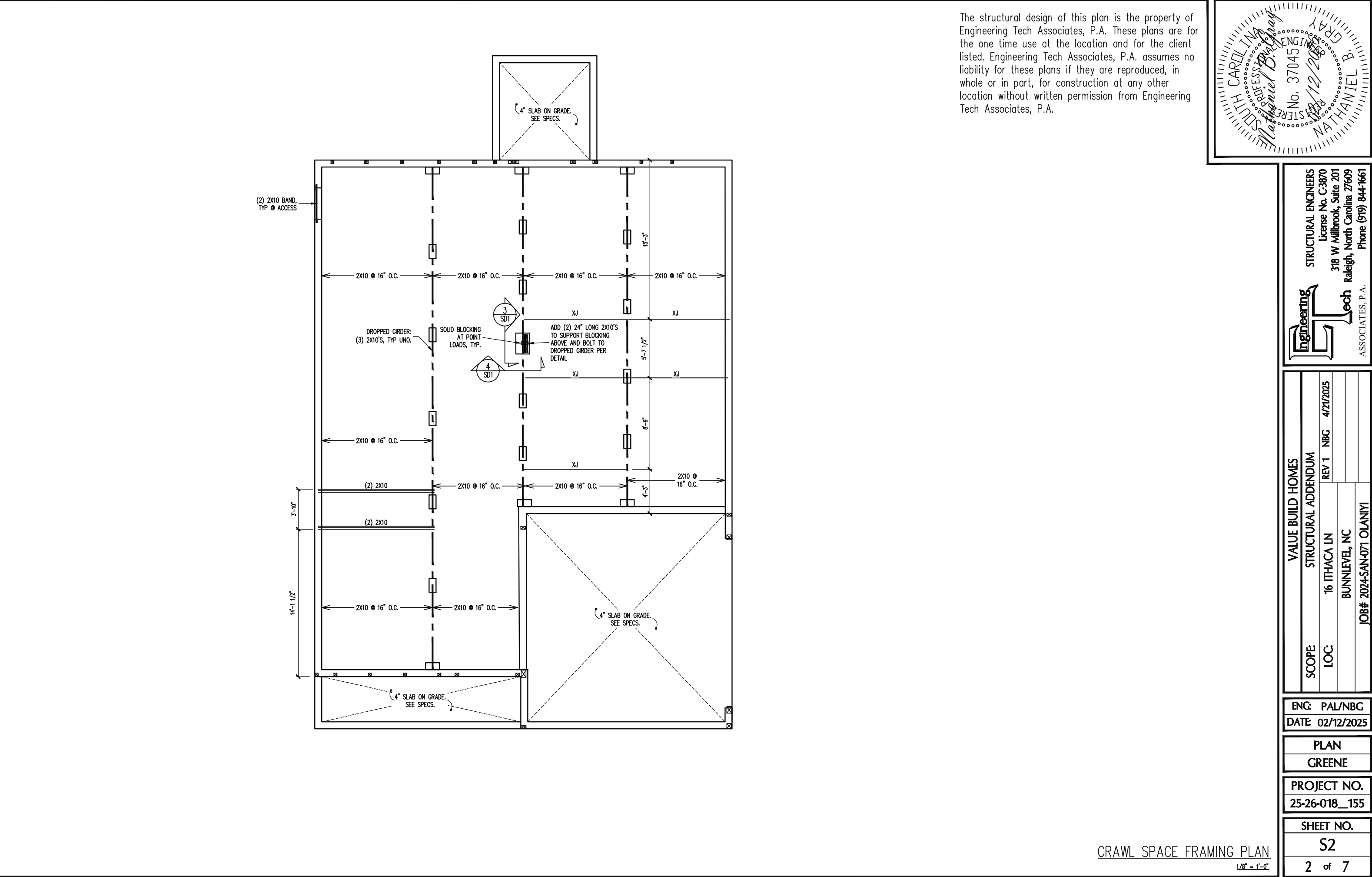
PLAN
GREENE

SHEET NO.
S1

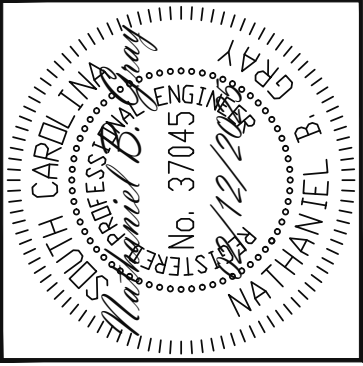
1 of 7

PLAN DESIGNED UNDER  
2018 NORTH CAROLINA  
RESIDENTIAL CODE

$$\underline{\underline{1/8'' = 1'-0''}}$$



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VALUE BUILD HOMES	
SCOPE	STRUCTURAL ADDENDUM
LOC	16 ITHACA LN BUNNLEVEL, NC
JOB# 2024-SAN-071 OLANIYI	
REV 1	NBG 4/21/2025

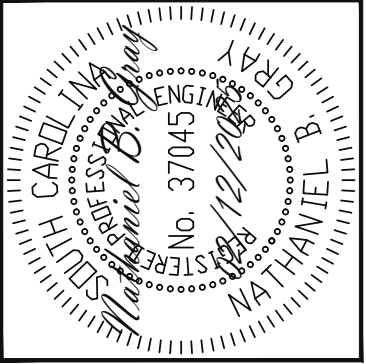
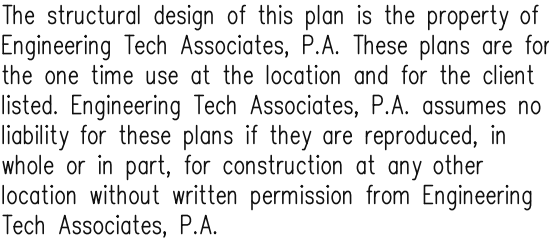
ENG: PAL/NBG  
DATE: 02/12/2025

PLAN  
GREENE

PROJECT NO.  
25-26-018\_155

SHEET NO.  
S2  
2 of 7

CRAWL SPACE FRAMING PLAN  
1/8" = 1'-0"



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VALUE BUILD HOMES			
SCOPE	STRUCTURAL ADDENDUM		
LOC	16 ITHACA LN	REV 1	NBG 4/21/2025
	BUNNLEVEL, NC		
	JOB# 2024-SAN-071 OLANIYI		

ENG: PAL/NBC
DATE: 02/12/2025

PLAN  
GREENE

PROJECT NO.
25-26-018__155

SHEET NO.
S3
3 of 7

## CONSTRUCTION SPECIFICATIONS

### INSTANT REFERENCES

REFER TO THE CONSTRUCTION SPECIFICATIONS  
SECTIONS FOR THE FOLLOWING INFORMATION:

**PART 1.01: CURRENT GOVERNING CODE**

## PART 14: STUD SUPPORT FOR BEAMS

## PART 17: KING STUDS FOR EXTERIOR WALLS

SEE DETAIL / CONSTRUCTION SPECIFICATIONS  
SHEETS FOR I-JOISTS ALLOWABLE SUBSTITUTIONS

## WALL BRACING

SHADED WALLS:

ALL EXTERIOR STUD WALLS, EXTERIOR SIDE, ARE TO BE CONTINUOUSLY SHEATHED WITH 7/16 APA RATED OSB NAILED TO STUDS WITH 8d NAILS @ 6" O.C. AT PANEL EDGES, 12" O.C. IN PANEL FIELD.

NOTES:  
PROVIDED CONTINUOUS SHEATHING = 190' MIN.

REFERENCE PART 16.02 OF CONSTRUCTION SPECIFICATIONS FOR GENERAL WIND BRACING INFORMATION.

## HEADER SCHEDULE

- H1 SINGLE 2X4 TURNED FLAT (A)  
H2 (2) 2X4'S ON SINGLE JACKS (B)  
H3 (2) 2X8'S ON SINGLE JACKS (C)  
H4 (2) 1.75" X 9.25" LVL'S ON DBL JACKS  
H5 (2) 2X8'S ON DBL JACKS  
H6 (2) 2X10'S ON DBL JACKS

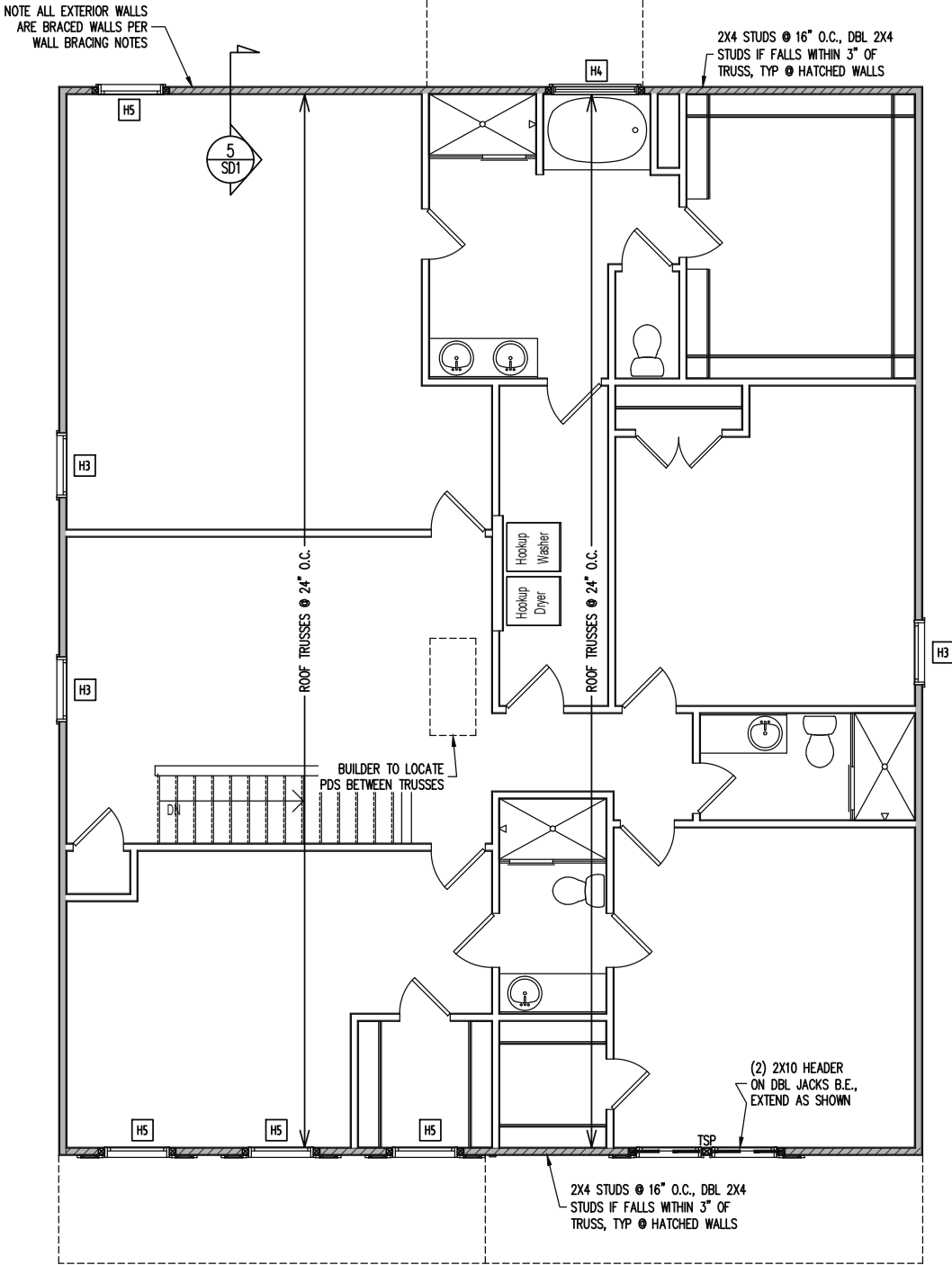
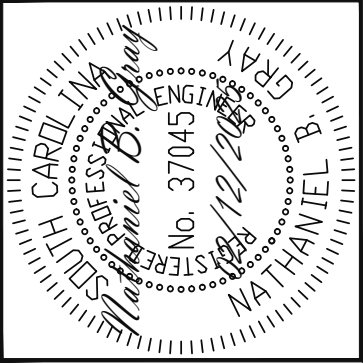
- (A) TYPICAL FOR INTERIOR NON LOAD BEARING WALLS ONLY, ROUGH OPENING 38" MAX.
- (B) TYPICAL FOR INTERIOR NON LOAD BEARING WALLS ONLY, ROUGH OPNG 38" TO 74" MAX.
- (C) TYPICAL FOR ALL CONDITIONS NOT LISTED IN (A) OR (B) UNO.

NOTES:  
-HEADERS IN NON LOAD BEARING INTERIOR  
WALLS ARE NOT LABELED.

# 1ST FLOOR FRAMING PLAN

WALLS AND CEILING  
1/8" = 1'-0"

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CONSTRUCTION SPECIFICATIONS

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PART 1.01: CURRENT GOVERNING CODE

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WALL BRACING

SHADED WALLS:

ALL EXTERIOR STUD WALLS, EXTERIOR SIDE, ARE TO BE CONTINUOUSLY SHEATHED WITH 7/16 APA RATED OSB NAILED TO STUDS WITH 8d NAILS @ 6" O.C. AT PANEL EDGES, 12" O.C. IN PANEL FIELD.

NOTES:  
PROVIDED CONTINUOUS SHEATHING = 180' MIN.

REFERENCE PART 16.02 OF CONSTRUCTION SPECIFICATIONS FOR GENERAL WIND BRACING INFORMATION.

HEADER SCHEDULE

H1 SINGLE 2X4 TURNED FLAT (A)

H2 (2) 2X4'S ON SINGLE JACKS (B)

H3 (2) 2X8'S ON SINGLE JACKS (C)

H4 (2) 1.75" X 9.25" LVL'S ON DBL JACKS

H5 (2) 2X8'S ON DBL JACKS

(A) TYPICAL FOR INTERIOR NON LOAD BEARING WALLS ONLY, ROUGH OPENING 38" MAX.

(B) TYPICAL FOR INTERIOR NON LOAD BEARING WALLS ONLY, ROUGH OPNG 38" TO 74" MAX.

(C) TYPICAL FOR ALL CONDITIONS NOT LISTED IN (A) OR (B) UNO.

NOTES:  
-HEADERS IN NON LOAD BEARING INTERIOR WALLS ARE NOT LABELED.

2ND FLOOR FRAMING PLAN

WALLS AND CEILING

1/8" = 1'-0"

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Engineering Tech Associates, P.A.

16 ITHACA LN

BUNNLEVEL, NC

2024-SAN-071 OLANIYI

VALUE BUILD HOMES

STRUCTURAL ADDENDUM

REV 1 NBG 4/21/2025

SCOPE

LOC

ENG: PAL/NBG

DATE: 02/12/2025

PLAN

GREENE

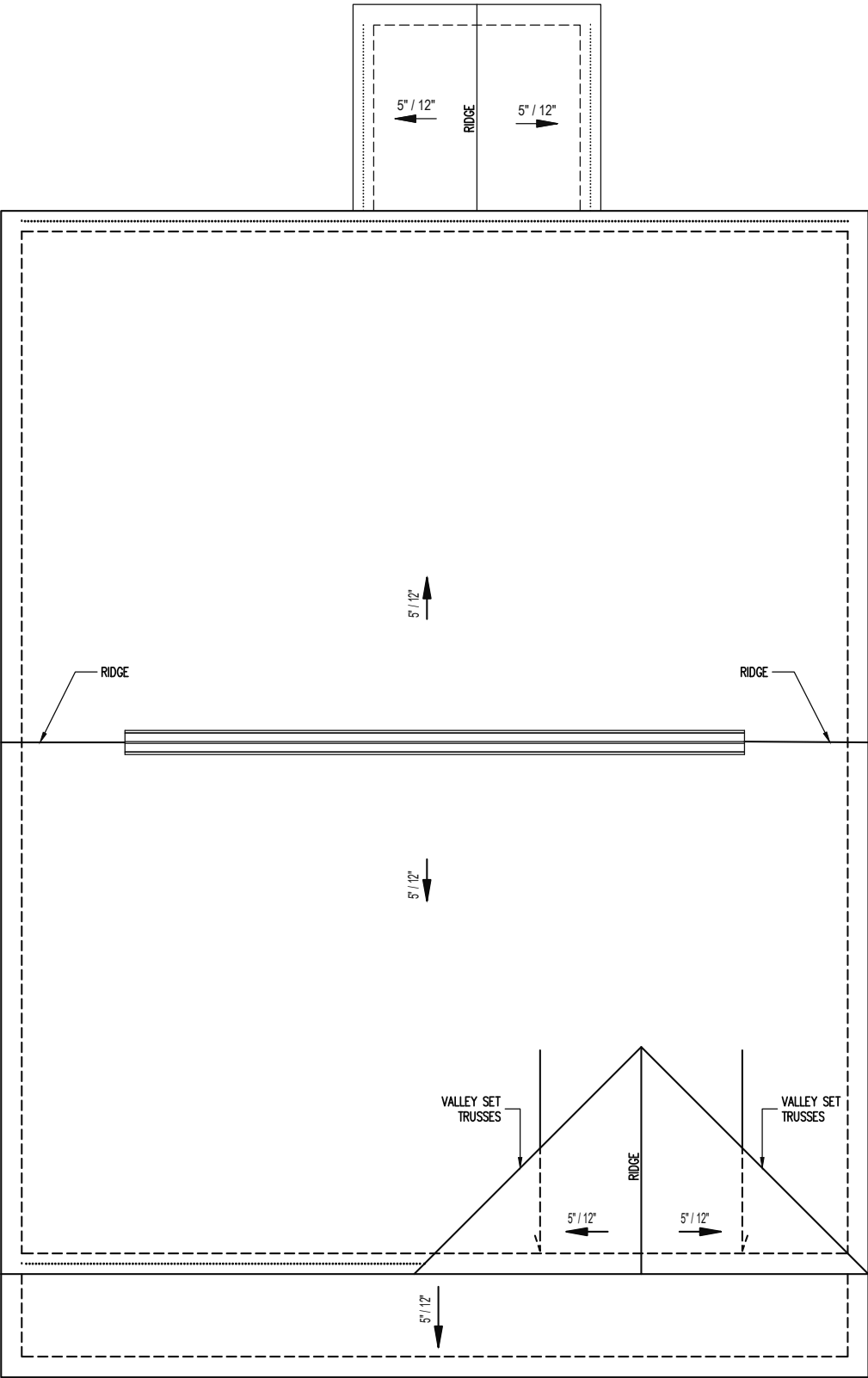
PROJECT NO.

25-26-018\_155

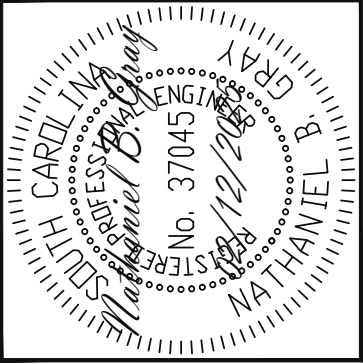
SHEET NO.

S4

4 of 7



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VALUE BUILD HOMES			
STRUCTURAL ADDENDUM			
SCOPE	16 ITHACA LN	REV 1	NBG 4/21/2025
LOC	BUNNLEVEL, NC		
	JOB# 2024-SAN-071 OLANIYI		

ENG: PAL/NBG  
DATE: 02/12/2025

PLAN  
GREENE

PROJECT NO.  
25-26-018\_155

SHEET NO.  
S5  
5 of 7

TRUSS UPLIFT CONNECTORS

EXPOSURE B, 120 MPH, ANY PITCH  
24" O.C. MAX ROOF TRUSS SPACING

TRUSSES SHALL BE ATTACHED TO SUPPORT WALL FOR UPLIFT RESISTANCE. CONTINUOUS OSB WALL SHEATHING BELOW PROVIDES CONTINUOUS UPLIFT RESISTANCE TO FOUNDATION. ALL TRUSSES SUPPORTED BY INTERMEDIATE SUPPORT WALLS, KNEEWALLS OR BEAMS SHALL BE ATTACHED TO SUPPORTING MEMBER PER SCHEDULE BELOW.

ROOF SPAN IS MEASURED HORIZONTALLY BETWEEN FURTHEST SUPPORT POINTS.

ROOF SPAN UP TO 18' CONNECTOR NAILING PER TABLE 602.3(1) NCRBC 2018 EDITION

OVER 18' (1) SIMPSON H2.5A HURRICANE CLIP TO DBL TOP PLATE OR BEAM

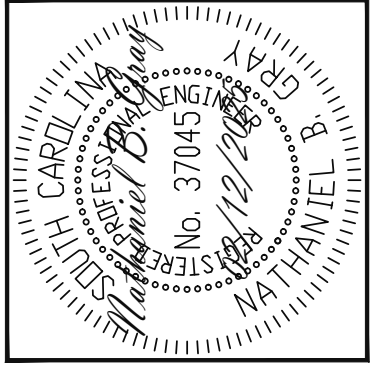
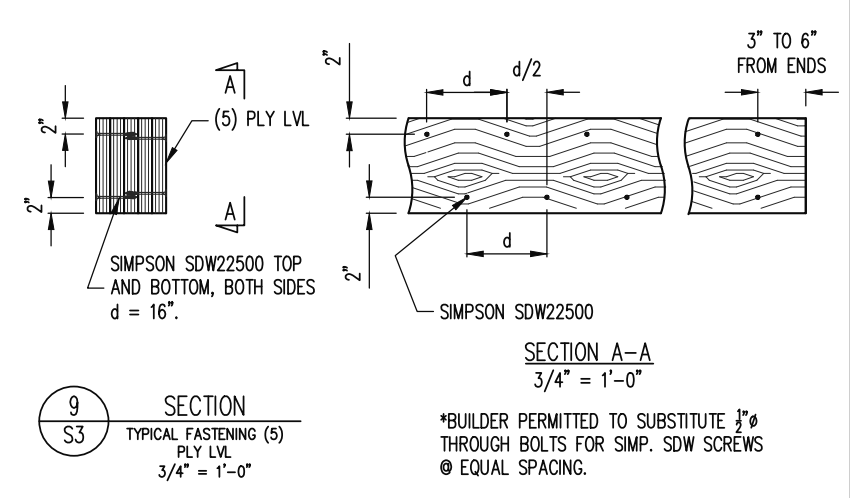
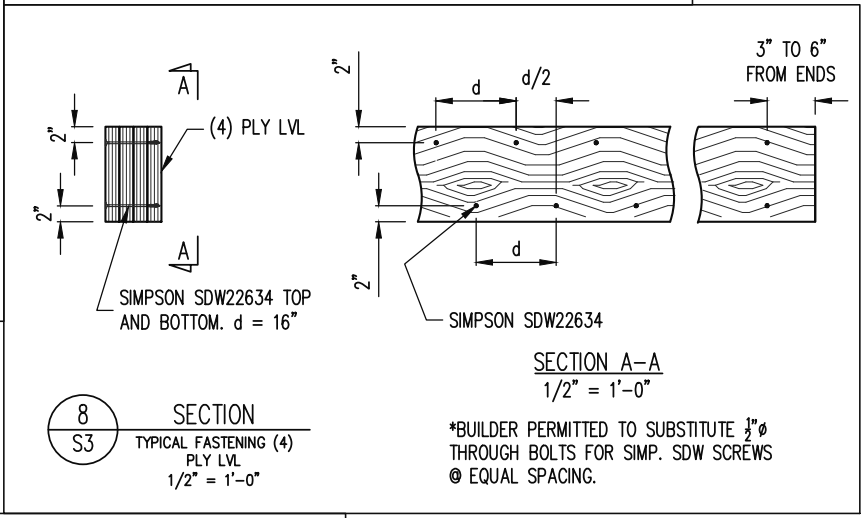
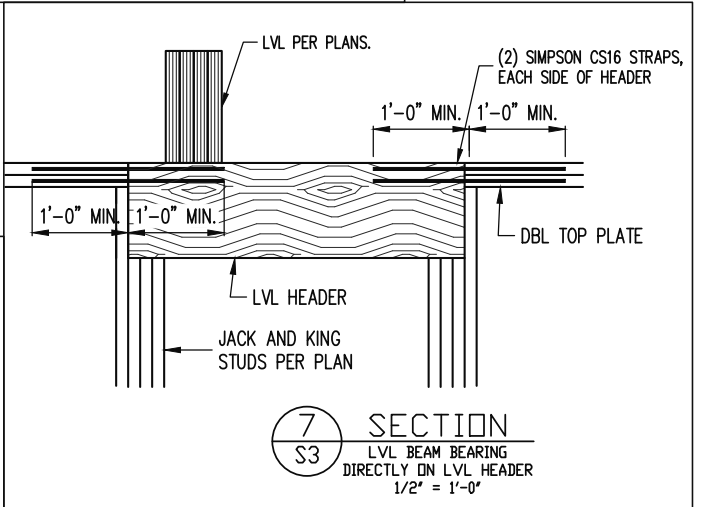
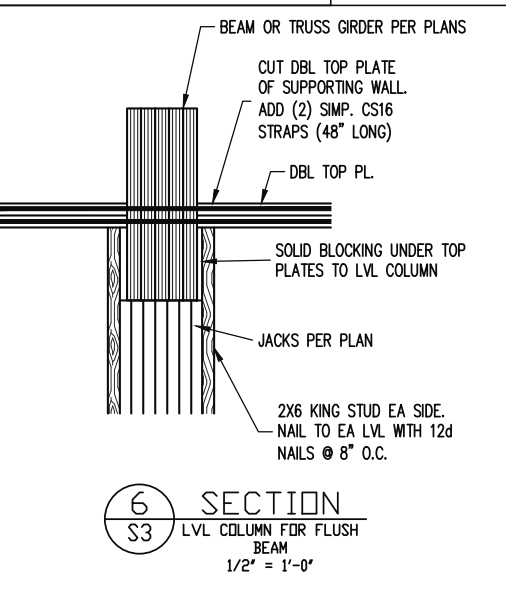
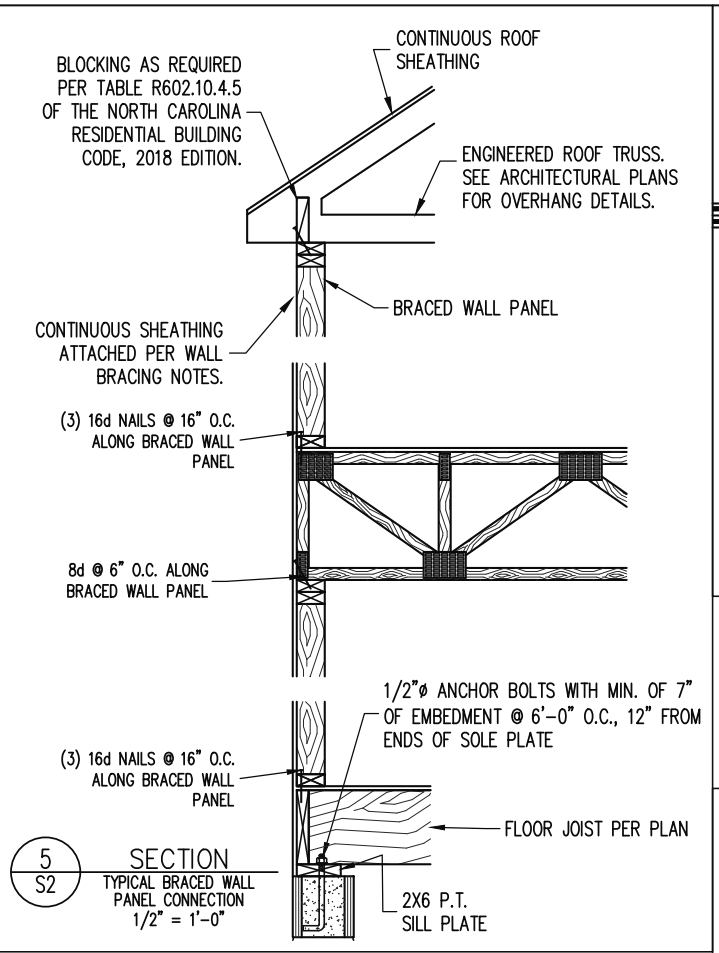
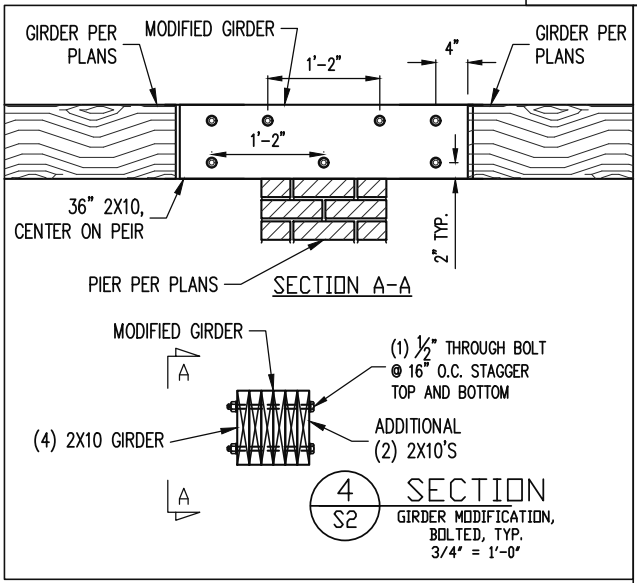
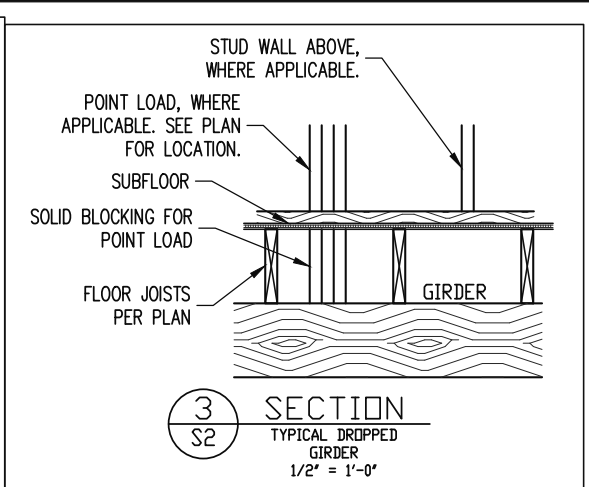
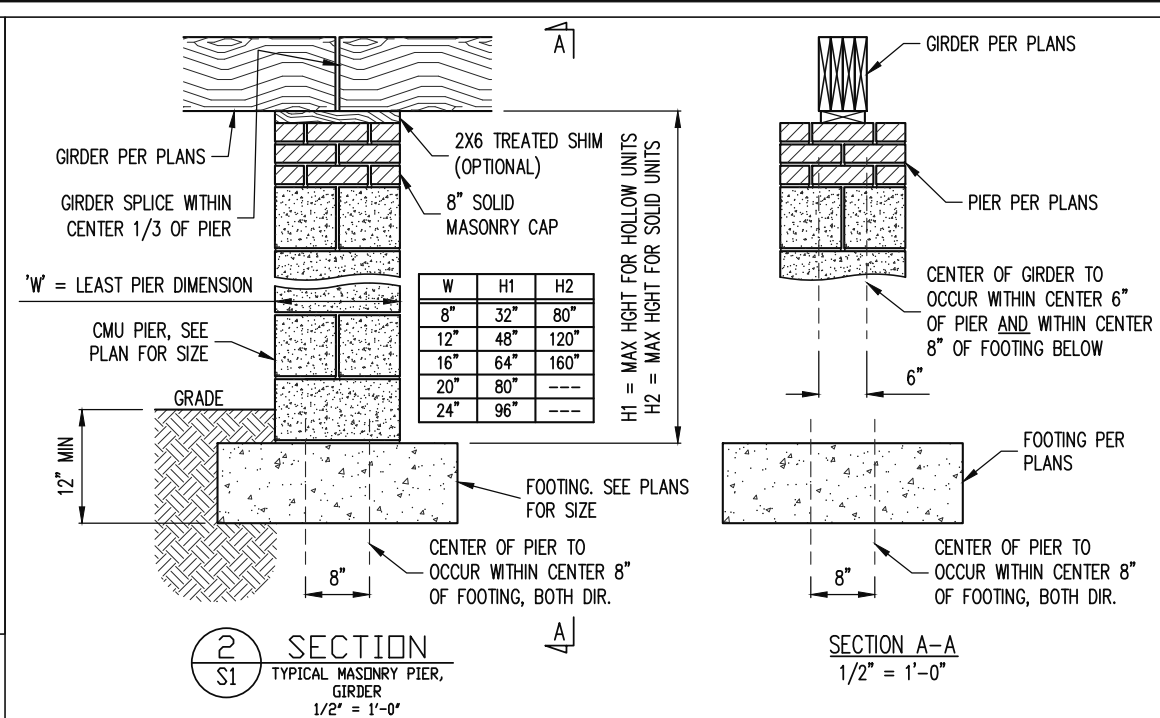
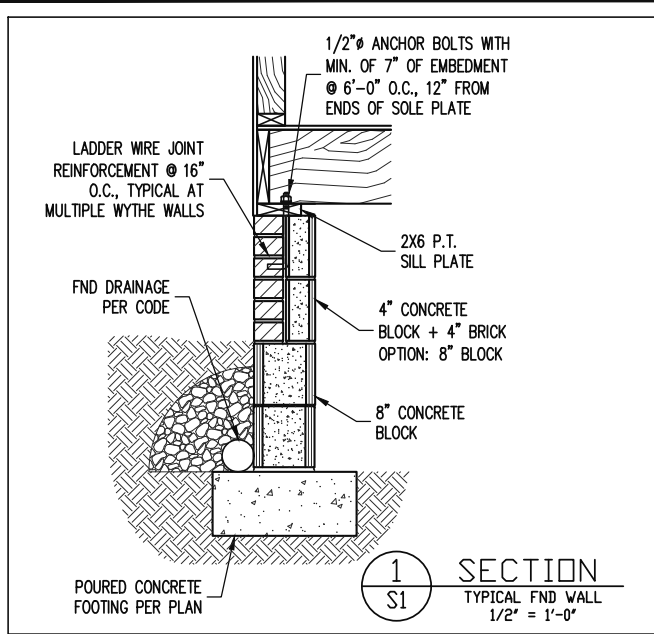
FRAMING NOTES

ROOF ONLY

-ROOF TRUSSES PER MANUFACTURER, TYP U.N.O.

-VERIFY ROOF PITCHES, OVERHANG LENGTHS, AND KNEEWALL FRAMING HGTS WITH ARCHITECTURAL DRAWINGS, TYPICAL

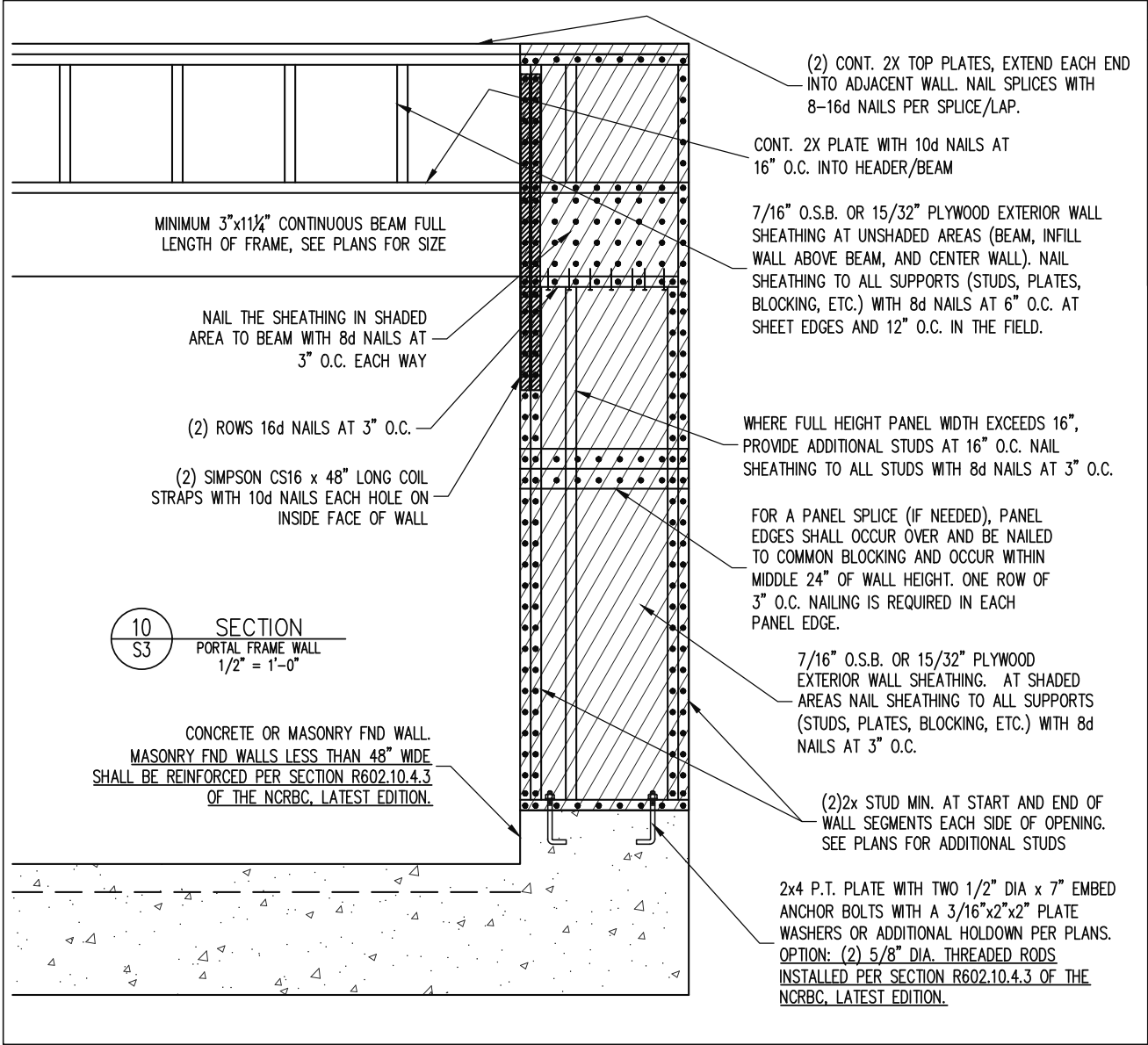
ROOF FRAMING PLAN  
1/8" = 1'-0"



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SCOPE	VALUE BUILD HOMES		
	STRUCTURAL ADDENDUM		
LOC	REV 1	NBG	4/21/2025
	16 ITHACA LN	BUNNLEVEL, NC	JOB# 2024-SAN-071 OLANIYI

ENG	PAL/NBG
DATE	02/12/2025
PLAN	GREENE
PROJECT NO.	25-26-018_155
SHEET NO.	SD1
6 of 7	



## NOTES

THE BUILDER IS RESPONSIBLE FOR REVIEWING PLANS PRIOR TO CONSTRUCTION. THE BUILDER SHALL IMMEDIATELY CONTACT THE ENGINEER OF RECORD (EOR) BEFORE PROCEEDING IF THE FOLLOWING CONDITIONS ARE NOTED BEFORE OR DURING CONSTRUCTION:

- 1) THE WORKING PLANS DO NOT BEAR THE SEAL OF THE EOR
- 2) THE PLANS CONTAIN DISCREPANT OR INCOMPLETE INFORMATION

ANY ERRORS DUE TO A FAILURE TO FOLLOW THE ABOVE PROCEDURES SHALL NOT BE THE RESPONSIBILITY OF THE EOR. FURTHERMORE, IT IS THE RESPONSIBILITY OF THE BUILDER TO ENSURE THAT ANY REVISIONS ISSUED BY THE EOR ARE PROMPTLY DISTRIBUTED TO THE SUBCONTRACTORS

THE EOR DOES NOT PERFORM FENESTRATION OR VENTING CALCULATIONS OR ANY OTHER CALCULATIONS THAT ARE NOT DIRECTLY RELATED TO STRUCTURAL ENGINEERING.

ROOF AND FLOOR TRUSSES TO BE DESIGNED BY AN ENGINEER REGISTERED BY THE STATE. FINAL TRUSS DRAWING SHOULD BE SUBMITTED TO THE EOR FOR REVIEW

## ABBREVIATIONS

ABV	ABOVE	FND	FOUNDATION	TJ	TRIPLE JOIST
B	BOTH	FTG	FOOTING	TYP	TYPICAL
B.E.	BOTH ENDS	HOG	HOT DIPPED	TRPL	TRIPLE
BTWN	BETWEEN	GLV	GALVANIZED	TSP	TRIPLE STUD POCKET
CIP	CAST IN PLACE	HGR	HANGER	UNO	UNLESS NOTED OTHERWISE
CONC	CONCRETE	LVL	LAMINATED VENEER LUMBER	XJ	EXTRA JOIST
CS	CONTINUOUS SHEATHING	NTS	NOT TO SCALE		
DIA	DIAMETER	O.C.	ON CENTER		
DBL	DOUBLE	PSL	PARALLEL STRAND LUMBER		
DJ	DOUBLE JOIST	PT	PRESSURE TREATED		
DSP	DBL STUD POCKET	QJ	QUAD JOIST		
EQ	EQUAL	SP	STUD POCKET		
EA	EACH	SQ	SQUARE		
FLG	FLANGE				
FL PL	FLUTCH PLATE				
FLR	FLOOR				

## CONSTRUCTION SPECIFICATIONS

### PART 1: GENERAL

- 1.01 CONSTRUCTION SHALL MEET THE REQUIREMENTS OF THE NORTH CAROLINA RESIDENTIAL CODE, 2018 EDITION.
- 1.02 DIMENSIONS SHOWN SHALL GOVERN OVER SCALE ON THESE DRAWINGS.
- 1.05 METHODS, PROCEDURES AND SEQUENCES OF CONSTRUCTION ARE THE RESPONSIBILITY OF THE CONTRACTOR, WHO SHALL TAKE ALL NECESSARY PRECAUTIONS TO MAINTAIN AND INSURE THE INTEGRITY OF THE STRUCTURE AT ALL STAGES OF CONSTRUCTION.

### PART 2: DESIGN LOADS

- 2.01 DESIGN LOADS SHALL CONFORM WITH THE TABLE BELOW:

USE	LIVE LOAD (PSF)	DEAD LOAD (PSF)
BALCONIES, DECKS, ATTICS WITH FIXED STAIR ACCESS, DWELLING UNITS INCLUDING ATTICS WITH FIXED STAIR ACCESS, STAIRS, FIRE ESCAPES	40	10
GARAGES (PASSENGER CARS ONLY)	50	---
ATTICS (NO STORAGE, LESS THAN 5' HEADROOM)	10	10
ATTICS (WITH STORAGE)	20	10
ROOF	20	10 (15 FOR VAULTS)

NOTES: - INDIVIDUAL STAIR TREADS ARE TO BE DESIGNED FOR THE UNIFORMLY DISTRIBUTED LIVE LOAD OF 40 PSF OR A 300 LB. CONCENTRATED LOAD ACTING OVER AN AREA OF 4 SQ. WHICHEVER PRODUCES THE GREATER STRESS.  
- BUILDER TO VERIFY DEAD LOAD DOES NOT EXCEED 10 PSF WHEN HEAVY FLOOR OR ROOF FINISHES SUCH AS TILE OR SLATE ARE UTILIZED. NOTIFY ENGINEERING UNDER THESE CONDITIONS

- 2.02 INTERIOR WALLS: 5 PSF LATERAL.
- 2.03 BASIC WIND DESIGN VELOCITY OF 120 MPH.
- 2.04 SOIL BEARING CAPACITY 2000 PSF (PRESUMPTIVE).

### PART 3: STRUCTURAL STEEL

- 3.01 WIDE FLANGE BEAMS AND TEE SECTIONS SHALL CONFORM TO ASTM A992 MINIMUM GRADE.
- 3.02 SQUARE AND RECTANGULAR TUBING SHALL CONFORM TO ASTM A500 GRADE B MINIMUM GRADE.
- 3.03 STEEL PIPE SHALL CONFORM TO ASTM A53 GRADE B, TYPE S, MINIMUM GRADE.
- 3.04 ALL OTHER STRUCTURAL STEEL SHALL CONFORM TO ASTM A36 MINIMUM GRADE.
- 3.05 STRUCTURAL STEEL CONSTRUCTION SHALL MEET THE REQUIREMENTS OF THE AISC SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS.

### PART 4: WELDING

- 4.01 WELDING ELECTRODES SHALL BE E70XX AND ALL WELDING SHALL BE PERFORMED BY AN AWS CERTIFIED WELDER

### PART 5: CONCRETE AND SLABS ON GRADE

- 5.01 CAST IN PLACE CONCRETE SHALL BE OF NORMAL WEIGHT, 6% AIR ENTRAINMENT, AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS TYP UNO. ALL CONCRETE, INCLUDING CONCRETE FOR FOOTINGS, IS TO BE CAST IN PLACE, TYP UNO.
- 5.02 REINFORCED CAST IN PLACE CONCRETE SHALL BE PROPORTIONED, MIXED AND PLACED IN ACCORDANCE WITH THE SPECIFICATIONS OF ACI 318, LATEST EDITION.
- 5.03 SLABS ON GRADE, IF ANY, SHALL CONTAIN SYNTHETIC POLYPROPYLENE FIBRILLATED MICRO FIBERS, FIBER LENGTH 1 1/2", DOSAGE RATE 1 1/2 LBS/CU YD. SLAB TO BE PLACED ON A 6 MIL VAPOR BARRIER ON 2" MIN GRANULAR FILL ON SOIL WITH 90% MIN STANDARD PROCTOR DENSITY. VAPOR BARRIER MAY BE OMITTED FOR SLABS NOT IN ENCLOSED AREAS

### PART 6: REBAR AND WIRE REINFORCEMENT

- 6.01 REBAR SHALL BE DEFORMED STEEL CONFORMING TO ASTM A615 GRADE 60 TYP UNO
- 6.02 LAP SPLICES SHALL BE CLASS B AS DEFINED BY ACI 318, TYP UNO
- 6.03 WIRE REINFORCEMENT SHALL BE 9 GA AND SHALL CONFORM TO ASTM A1064.

### PART 7: MASONRY

- 7.01 CONCRETE MASONRY UNITS SHALL CONFORM TO ASTM C90 AND C55, NORMAL WEIGHT, FM = 1,500 PSI MIN
- 7.02 CLAY MASONRY UNITS SHALL CONFORM TO ASTM C62-17 GRADE SW
- 7.03 MORTAR SHALL BE TYPE S. MORTAR AND GROUT SHALL CONFORM TO ASTM C476, MIN COMPRESSIVE STRENGTH OF 2000 PSI.
- 7.04 MASONRY CONSTRUCTION SHALL CONFORM TO THE SPECIFICATIONS OF ACI 530
- 7.05 LADDER WIRE REINFORCEMENT SHALL CONFORM TO ASTM A951. 6" MIN LAPS FOR CONTINUOUS WALL APPLICATIONS

### PART 8: BOLTS AND LAG SCREWS

- 8.01 BOLTS SHALL CONFORM TO ASTM A307 MINIMUM GRADE TYP UNO. INSTALL STANDARD STEEL WASHERS (ASTM F844-07a) FOR THE NUT / BOLT HEAD WHEN BOLTING WOOD MEMBERS
- 8.02 LAG SCREWS SHALL CONFORM TO ANSI/ASME STANDARD B18.2.1-1981. PILOT HOLES SHALL BE USED FOR LAG SCREW INSTALLATION AND SHALL BE BORED ACCORDING TO NDS SPECIFICATIONS. INSTALL STANDARD STEEL WASHERS (ASTM F844-07a) FOR SCREW HEAD
- 8.03 ANCHOR RODS AND BOLTS SHALL CONFORM TO ASTM F1554-15 GRADE 36 UNO. BENT ANCHOR BOLTS SHALL HAVE A 2" MIN HOOK UNO

### PART 9: DRIVEN FASTENERS

- 9.01 NAILS, SPIKES AND STAPLES SHALL CONFORM TO ASTM F 1667--05. NAILS ARE TO BE COMMON WIRE OR BOX

### PART 10: DIMENSIONAL LUMBER

- 10.01 SOLID SAWN WOOD FRAMING DESIGN IS BASED ON NO. 2 SPRUCE PINE FIR OR SYP #2 FOR JOISTS, RAFTERS, GIRDERS, BEAMS, STUDS, ETC.

### PART 11: ENGINEERED LUMBER

- 11.01 LVL OR PSL MINIMUM ALLOWABLE DESIGN STRESSES ARE AS FOLLOWS:  
E= 1.3 X 10<sup>6</sup> PSI, Fb = 2600 PSI, Fv = 285 PSI, Fc = 750 PSI  
LSL MINIMUM ALLOWABLE DESIGN STRESSES ARE AS FOLLOWS:  
E= 1.3 X 10<sup>6</sup> PSI, Fb = 1700 PSI, Fv = 400 PSI, Fc = 680 PSI

- 11.02 LVL OR PSL MEMBERS MAY BE RIPPED FROM DEEPER MEMBERS TO MATCH THE MEMBER DEPTH SPECIFIED IN THE PLANS

### PART 12: PRESSURE TREATED LUMBER

- 12.01 LUMBER IN CONTACT WITH THE GROUND, CONCRETE OR MASONRY SHALL BE PRESSURE TREATED IN ACCORDANCE WITH AWPA STANDARD C-15. ALL OTHER EXPOSED LUMBER SHALL BE TREATED IN ACCORDANCE WITH AWPA STANDARD C-2 OR BY ANY METHOD GIVING EQUAL PROTECTION. THE BUILDING CODE OFFICE MAY ALSO APPROVE A NATURAL DECAY RESISTANT WOOD PER SECTION 19-6(A)

### PART 13: STEEL FLUTCH PLATE BEAMS

- 13.01 FLUTCH PLATE BEAMS SHALL CONSIST OF A CONTINUOUS STEEL PLATE BOLTED BETWEEN TWO PIECES OF CONTINUOUS LUMBER AS SIZED ON THE PLANS. BOLT PIECES TOGETHER USING 1/2" Ø BOLTS SPACED AT 24" O.C. STAGGERED TOP TO BOTTOM OF THE BEAM. MAINTAIN A 2" EDGE DISTANCE. PLACE TWO BOLTS, ONE ABOVE THE OTHER, 6" ± 2" FROM EACH END OF THE BEAM.

### PART 14: STUD SUPPORTS FOR BEAMS

- 14.01 STEEL, ENGINEERED LUMBER, AND FLUTCH PLATE BEAMS BEARING ON A STUD WALL SHALL BEAR AS FOLLOWS:

1-WHEN THE BEAM IS PERPENDICULAR TO, OR SKEWED RELATIVE TO THE WALL, THE BEAM SHALL BEAR FULL WIDTH ON THE SUPPORTING WALL INDICATED AND SHALL BE SUPPORTED BY A MINIMUM OF THREE GANGED STUDS, OR A GANGED STUD COLUMN WITH A NUMBER OF STUDS SUCH THAT THE STUD COLUMN IS AT LEAST AS WIDE AS THE TRUE WIDTH OF THE BEAM BEING SUPPORTED, WHICHEVER IS GREATER. TYP UNO, FOR THE SKEWED CONDITION PARTICULAR CARE SHALL BE TAKEN TO ENSURE STUD COLUMN IS CENTERED ON THE BEAM  
2-BEAMS BEARING ONTO THE END OF A STUD WALL PARALLEL TO THE BEAM SHALL BEAR A MINIMUM OF 4 1/2" ONTO THE WALL AND BE SUPPORTED BY A TRPL STUD GANGED COLUMN TYP UNO.

- 14.02 DIMENSIONAL LUMBER BEAMS BEARING ON A STUD WALL SHALL BEAR AS FOLLOWS:  
1-WHEN THE BEAM IS PERPENDICULAR TO, OR SKEWED RELATIVE TO THE WALL, THE BEAM SHALL BEAR FULL WIDTH ON THE SUPPORTING WALL INDICATED (LESS 1 1/2" TO ALLOW FOR A CONTINUOUS RIM JOIST WHERE APPLICABLE) AND SHALL BE SUPPORTED BY A

GANGED STUD COLUMN THE SAME WIDTH AS THE BEAM TYP UNO. (E.G. A TRIPLE 2X10 IS TO BE SUPPORTED BY (3) STUDS). FOR THE SKEWED CONDITION PARTICULAR CARE SHALL BE TAKEN TO ENSURE STUD COLUMN IS CENTERED ON THE BEAM  
2-BEAMS BEARING ONTO THE END OF A STUD WALL PARALLEL TO THE BEAM SHALL BEAR A MINIMUM OF 3" ONTO THE WALL AND BE SUPPORTED BY A DBL STUD GANGED COLUMN TYP UNO.

- 14.03 EXTRA JOISTS BEARING ON A STUD WALL PERPENDICULAR TO OR SKEWED RELATIVE TO THE BEAM SHALL BE SUPPORTED BY ONE ADDITIONAL STUD.
- 14.04 STUDS THAT ARE GANGED TO FORM A COLUMN SHALL HAVE ADJACENT STUDS WITHIN THE COLUMN NAILED TOGETHER WITH ONE ROW OF 10d NAILS AT 8" O.C. (TWO ROWS OF 10d NAILS @ 8" O.C., 3" APART, FOR 2X8 OR 2X10 STUDS) ALL COLUMNS SHALL BE CONTINUOUS DOWN TO THE FOUNDATION OR OTHER PROPERLY DESIGNED STRUCTURAL ELEMENT SUCH AS A BEAM. COLUMNS TRANSFERRING LOADS THROUGH FLOOR LEVELS SHALL BE SOLIDLY BLOCKED FOR THE FULL WIDTH OF THE STUD COLUMN WITHIN THE CAVITY FORMED BY THE FLOOR JOISTS.

### PART 15: NAILING OF MULTI-PLY WOOD BEAMS

- 15.01 SOLID SAWN LUMBER JOISTS THAT ARE GANGED TO FORM A BEAM SHALL HAVE ADJACENT MEMBERS IN THE BEAM NAILED TOGETHER WITH THREE ROWS OF 10d NAILS @ 16" O.C. FOR 2X10 OR LARGER, TWO ROWS OF 10d NAILS @ 16" O.C. FOR 2X8, ONE ROW OF 10d NAILS @ 16" O.C. FOR 2X6 OR SMALLER. STAGGER ROWS 5" MIN.

- 15.02 LVL MEMBERS THAT ARE GANGED TO FORM A BEAM SHALL HAVE ADJACENT MEMBERS IN THE BEAM FASTENED TOGETHER PER MANUFACTURERS RECOMMENDATIONS, TYP UNO

### PART 16: WALL FRAMING AND BRACING

- 16.01 STUD WALLS SHALL CONSIST OF 2X4 STUDS SPACED AT 16" O.C. UNO. STUDS SHALL BE CONTINUOUS FROM SOLE PLATE AT FLOOR TO DOUBLE TOP PLATE AT THE CEILING OR ROOF. NO INTERMEDIATE BANDS OR PLATES SHALL CAUSE DISCONTINUITIES IN A STUD WALL EXCEPT AS REQUIRED FOR DOOR OR WINDOW OPENINGS. THE KING STUDS FOR SUCH OPENINGS SHALL BE CONTINUOUS, TYP UNO.  
MAX ALLOWABLE WALL HEIGHTS FOR EXTERIOR STUD WALLS, WITH SOLE PLATE AND DBL TOP PLATE AND 7/16" OSB EXTERIOR BRACING AND ROW OF 2X4 / 2X6 PURLINS AT 8' HEIGHT (AND AT 16' HEIGHT FOR TALL WALLS), TYP UNO:  
2X4 @ 16" O.C.: 11'-1 1/2" 2X6 @ 16" O.C.: 17'-0"  
2X4 @ 12" O.C.: 12'-1 1/2" 2X6 @ 12" O.C.: 18'-8"  
DBL 2X4 @ 16" O.C.: 13'-4" DBL 2X6 @ 16" O.C.: 21'-0"

- 16.02 FOR WALL BRACING THE FOLLOWING SHALL APPLY:  
-BLOCKING AT UNSUPPORTED PANEL EDGES IS REQUIRED TYP UNO.  
-WALL BRACING IS BY ENGINEERED DESIGN AND NOT PRESCRIPTIVE PER SECTION 602.10 OF THE 2018 NCRBC. CONTINUOUS SHEATHING HAS BEEN PROVIDED, ALONG WITH ALTERNATIVE METHODS TO INSURE THE MINIMUM INTENT OF SECTION 602.10 OF THE 2018 NCRBC HAS BEEN MET AND EXCEEDED.  
-BRACED WALL PANELS SHALL BE FASTENED IN ACCORDANCE WITH TABLE 602.3(1) TO PROVIDE CONTINUOUS PANEL UPLIFT RESISTANCE, AND COMPLIANCE WITH NCRBC R602.3.5 AND R802.11 UNLESS NOTED OTHERWISE ON STRUCTURAL PLANS.  
-MAY SUBSTITUTE WSP FOR GB  
-SINGLE JOIST, CONTINUOUS RIM JOIST, OR BLOCKING OF EQUAL DEPTH IS REQUIRED ABOVE AND BELOW ALL BRACED WALLS. NAIL BLOCKING ABOVE WALL TO TOP PLATE WITH 16d TOE NAILS @ 6" O.C. NAIL SOLE PLATE OF BRACED WALL TO BLOCKING BELOW WITH (3) 16d NAILS @ 16" O.C. BLOCKING AT HORIZONTAL JOINTS IN BRACED WALL LINES ONLY REQUIRED AT SHADED WALLS, UNO.

### PART 17: KING STUDS

- 17.01 KING STUDS FOR OPENINGS IN EXTERIOR WALLS SHALL BE AS FOLLOWS:

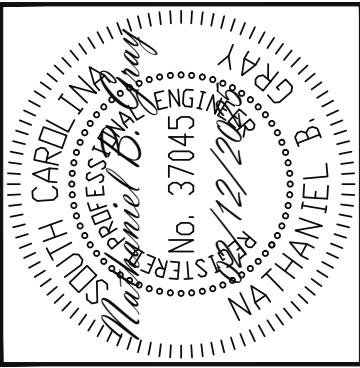
	NUMBER OF KING STUDS				
MAX OPENING WIDTH	5'-0"	9'-0"	13'-0"	17'-0"	21'-0"
STUD SIZE	2X4 1	2X6 1	2X8 1	2X8 2	2X8 2

### PART 18: SUBSTITUTIONS

- 18.01 MATERIAL OR MEMBER SIZE SUBSTITUTIONS OR PLAN DEVIATIONS REQUIRE THE WRITTEN AUTHORIZATION OF THE DESIGNERS. UNAUTHORIZED DEVIATIONS ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

### PART 19: OWNERSHIP OF STRUCTURAL DESIGN

- 19.01 THE STRUCTURAL DESIGN OF THIS PLAN IS THE PROPERTY OF ENGINEERING TECH ASSOCIATES (ETA). THESE PLANS ARE FOR THE ONE TIME USE AT THE LOCATION INDICATED AND FOR THE CLIENT LISTED. ETA ASSUMES NO LIABILITY FOR THESE PLANS IF THEY ARE REPRODUCED, IN WHOLE OR IN PART, FOR CONSTRUCTION AT ANY OTHER LOCATION WITHOUT WRITTEN PERMISSION FROM ETA



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