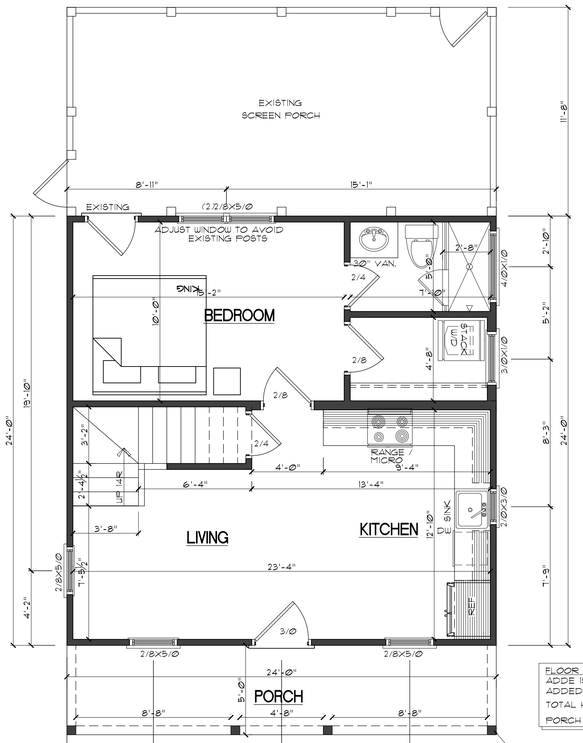


SPACE IS EXISTING GARAGE, CONVERTED INTO LIVING SPACE

FLOOR AREA:	
ADDE 1ST FLOOR HTD. =	576#
ADDED 2ND FLOOR HTD. =	235#
TOTAL HTD. =	811#
PORCH =	120#

GENERAL NOTES

WALLS:
ALL WALLS ARE DRAWN 4" THICK U.N.O.
ANGLED WALL ARE DRAWN @45° U.N.O.

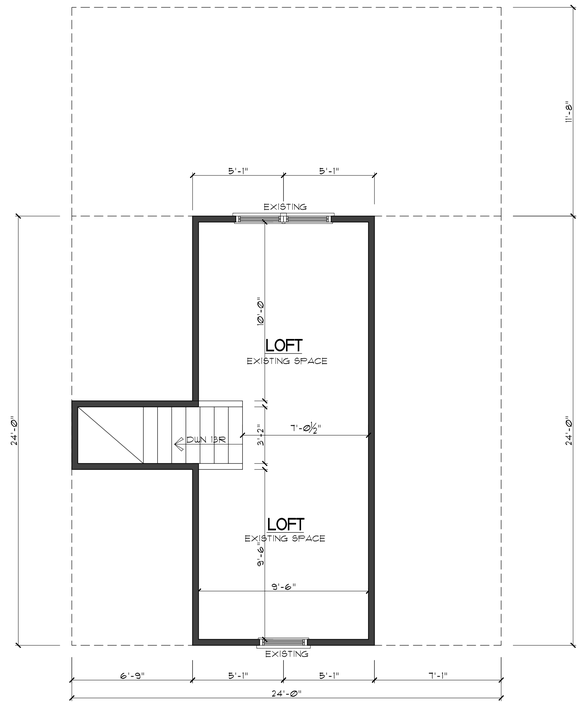
SMOKE DETECTORS:
LOCATION AND NUMBER OF DETECTORS SHALL CONFORM TO NEC.

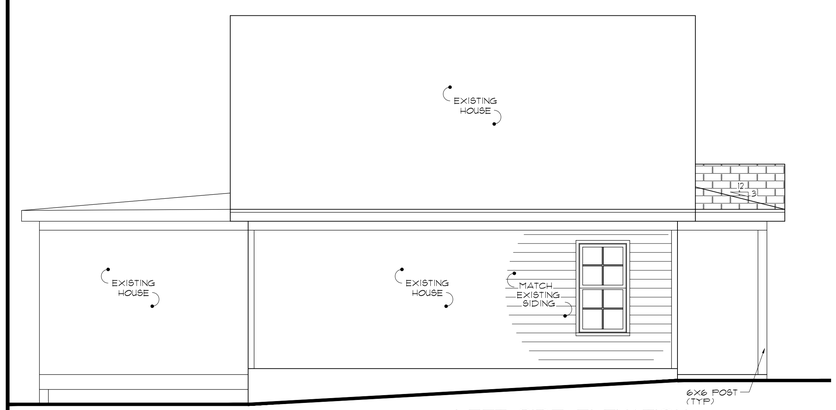
EGRESS:
ALL BEDROOMS MUST HAVE AT LEAST ONE WINDOW WHICH CONFORMS TO R-310 OF THE N.C. BLDG. CODE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY CHOSEN WINDOWS MEET EGRESS REQUIREMENTS AS MANUFACTURERS VARY.

ATTIC ACCESS:
MIN. ATTIC ACCESS SHALL BE PROVIDED BY BUILDER AND LOCATED ON SITE.

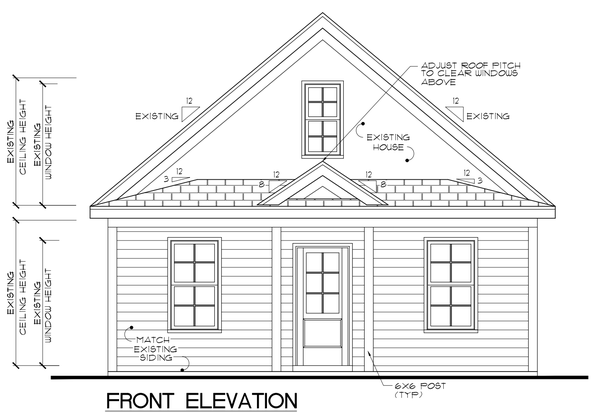
WALL/CEILING HGT.
WALL AND CEILING HEIGHT NOTES ARE BASED ON NOMINAL WALL SIZE.
KNEE WALL HEIGHT LABELS FOR WALLS UNDER RAFTERS ASSUME AN EXTRA 2" FOR FURRING (IN HEATED SPACES) FOR INSULATION. THE WALL HEIGHT REFERS TO THE HGT. FROM THE FLOOR DECKING TO THE BOTTOM OF THE FURRING.

PLANS ARE DESIGNED TO MEET THE REQUIREMENTS OF THE NORTH CAROLINA RESIDENTIAL CODE, 2018 EDITION

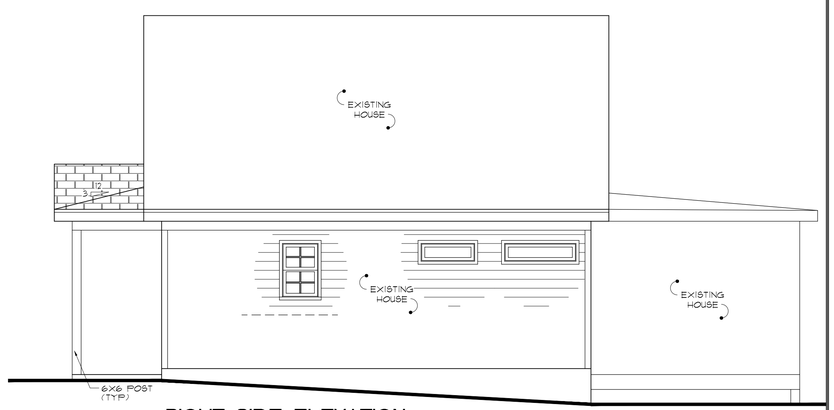




LEFT SIDE ELEVATION
SCALE: 1/4"=1'



FRONT ELEVATION
SCALE: 1/4"=1'



RIGHT SIDE ELEVATION
SCALE: 1/4"=1'

The Design MEISTER
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Drawn by: KM
Date: 05/02/2025
Revision:

9006 CHRISTIAN LIGHT RD

HOUSE PLAN

Sheet: A1

1) GENERAL STRUCTURAL NOTES:

1.1) THE DESIGN PROFESSIONAL WHOSE SEAL APPEARS ON THESE DRAWINGS IS THE STRUCTURAL ENGINEER OF RECORD (SER) FOR THIS PROJECT. THE SER BEARS RESPONSIBILITY FOR THE STRUCTURAL COMPONENTS INCLUDING RAFTERS, HIPS, VALLEYS, RIDGES, CEILING AND FLOOR JOISTS, LOAD-BEARING WALLS, BEAMS AND HEADERS, COLUMNS AND POSTS, CANTILEVERS, PIERS, GIRDERS, AND FOOTINGS.

1.2) THE SER DOES NOT CERTIFY THE DIMENSIONAL ACCURACY OF THE ARCHITECTURAL DRAWINGS, INCLUDING THE ROOF. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REVIEW THE ARCHITECTURAL AND STRUCTURAL DRAWINGS PRIOR TO CONSTRUCTION AND NOTIFY THE SER OF ANY DISCREPANCIES AND/OR INCOMPLETE INFORMATION.

1.3) THE SER IS NOT RESPONSIBLE FOR I-JOIST AND/OR FLOOR AND ROOF TRUSS DESIGN AND LAYOUT. FLOOR AND ROOF TRUSSES ARE TO BE DESIGNED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF CONSTRUCTION. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REVIEW FINAL TRUSS DRAWINGS PRIOR TO CONSTRUCTION AND NOTIFY THE SER OF ANY DISCREPANCIES.

1.4) THE SER IS NOT RESPONSIBLE FOR VERIFICATION OF ASSUMED FIELD CONDITIONS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ASSUMED FIELD CONDITIONS ARE MET OR EXCEEDED PRIOR TO CONSTRUCTION AND NOTIFY THE SER OF ANY DISCREPANCIES.

1.5) THE STRUCTURE IS ONLY STABLE IN ITS COMPLETED FORM. THE CONTRACTOR SHOULD PROVIDE ALL REQUIRED TEMPORARY BRACING DURING CONSTRUCTION TO STABILIZE THE STRUCTURE.

1.6) THE SER DOES NOT BEAR RESPONSIBILITY FOR THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, NOR SAFETY PRECAUTIONS IN CONNECTION WITH THE CONSTRUCTION OF THIS STRUCTURE. THE SER WILL NOT BE HELD RESPONSIBLE FOR THE CONTRACTOR'S FAILURE TO CARRY OUT CONSTRUCTION IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

1.7) ANY ERRORS DUE TO FAILURE TO FOLLOW THE ABOVE PROCEDURES SHALL NOT BE THE RESPONSIBILITY OF THE SER. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE ANY REVISIONS ISSUED BY THE SER ARE PROMPTLY DISTRIBUTED TO THE SUBCONTRACTORS.

1.8) THE SER DOES NOT PERFORM FENESTRATION OR VENTING CALCULATIONS OR ANY OTHER CALCULATIONS THAT ARE NOT DIRECTLY RELATED TO THE STRUCTURAL DESIGN. IT IS THE RESPONSIBILITY OF THE ARCHITECTURAL DESIGNER AND/OR CONTRACTOR TO PROVIDE ANY REQUIRED CALCULATIONS OUTSIDE OF THE SCOPE OF THE STRUCTURAL DESIGN.

2) DESIGN SPECIFICATIONS:

2.1) BUILDING CODES:
- 2018 NORTH CAROLINA RESIDENTIAL CODE (NCRC)
- ASCE/SEI 7-10 "MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES"

2.2) DESIGN LIVE LOADS:

- ROOF	20 PSF
- UNINHABITABLE ATTICS WITHOUT STORAGE	10 PSF
- UNINHABITABLE ATTICS WITH LIMITED STORAGE	20 PSF
- HABITABLE ATTICS AND ATTICS SERVED WITH FIXED STAIRS	30 PSF
- SLEEPING AREAS	30 PSF
- LIVING AREAS	40 PSF
- DECKS AND BALCONIES	40 PSF
- STAIRS	40 PSF
- PASSENGER VEHICLE GARAGE	50 PSF

2.3) DESIGN DEAD LOADS:

- ROOF TRUSSES	20 PSF (10 PSF TC, 10 PSF BC)
- SOLID SAWN RAFTERS AND JOISTS	10 PSF
- I-JOISTS	12 PSF
- FLOOR TRUSSES	15 PSF (10 PSF TC, 5 PSF BC)
- INTERIOR WALLS	8 PSF
- EXTERIOR WALLS	10 PSF
- BRICK, MASONRY, AND NATURAL STONE VENEER	40 PSF
- CERAMIC TILE FLOORING	10 PSF
- NATURAL STONE TILE FLOORING	32 PSF
- NORMAL WEIGHT CONCRETE	145 PCF

2.4) DESIGN SNOW LOADS:

- GROUND SNOW LOAD	20 PSF

2.5) DESIGN LATERAL LOADS AND CRITERIA:

- ULTIMATE WIND SPEED	120 MPH
- WIND EXPOSURE	B
- DESIGN WIND PRESSURE	20 PSF
- SEISMIC DESIGN CATEGORY	B

2.6) DESIGN SOIL LOADS:

- SOIL BEARING CAPACITY	2000 PSF (MINIMUM, ASSUMED)
- LATERAL SOIL PRESSURE	45 PCF (MAXIMUM, ASSUMED)

2.7) DESIGN DEFLECTION LIMITS:

	LIVE LOAD	TOTAL LOAD
- ROOF TRUSSES	L/360	L/240
- SOLID SAWN RAFTERS	L/240	L/180
- SOLID SAWN CEILING JOISTS	L/240	L/180
- I-JOISTS AND FLOOR TRUSSES	L/480	L/240
- SOLID SAWN FLOOR JOISTS	L/360	L/240
- BEAMS AND HEADERS	L/360	L/240
- FRAMING SUPPORTING CERAMIC TILE		L/360
- FRAMING SUPPORTING NATURAL STONE TILE		L/720 ($\frac{1}{32}$" MAX)
- LINTELS AND FRAMING SUPPORTING BRICK OR MASONRY		L/600 ($\frac{1}{32}$" MAX)

3) FOOTING AND FOUNDATION NOTES:

3.1) FOUNDATIONS SHALL BE CONSTRUCTED IN ACCORDANCE WITH CHAPTER 4 OF THE 2018 NCRC.

3.1) VERIFICATION OF THE ASSUMED SOIL BEARING CAPACITY IS THE RESPONSIBILITY OF THE CONTRACTOR. CONCRETE FOOTINGS SHALL NOT BE PLACED UNTIL THE SOIL BEARING CAPACITY HAS BEEN VERIFIED BY A QUALIFIED GEOTECHNICAL ENGINEER OR BUILDING INSPECTOR. CONSULT THE SER SHOULD THE SOIL BEARING CAPACITY NOT BE MET OR IF ANY OTHER ADVERSE SOIL CONDITION IS ENCOUNTERED.

3.2) THE BOTTOM OF ALL FOOTINGS SHALL EXTEND A MINIMUM OF 12" BELOW GRADE OR BELOW THE FROST LINE FOR THE CONSTRUCTION LOCATION, WHICHEVER IS GREATER.

3.3) ANY COMPACTED FILL SHALL BE PLACED UNDER THE DIRECTION OF A QUALIFIED GEOTECHNICAL ENGINEER. THE RESULTING SOIL SHALL BE COMPACTED TO A MINIMUM OF 95% OF THE MAXIMUM DRY DENSITY.

3.4) FOOTINGS SHALL BE FREE OF VEGETATION, TOPSOIL, AND FOREIGN MATERIAL. NO CONCRETE SHALL BE PLACED AGAINST ANY SUBGRADE CONTAINING WATER, ICE, FROST, OR LOOSE MATERIAL.

3.5) FOOTINGS SUPPORTING FOUNDATION WALLS SHALL HAVE A MINIMUM PROJECTION OF 2" AT ALL SIDES. MAXIMUM FOOTING PROJECTION AT FOUNDATION WALLS SHALL NOT EXCEED THE THICKNESS OF THE FOOTING.

3.6) WOOD SILL PLATES SHALL BE ANCHORED TO THE FOUNDATION WITH 1/2" DIA ANCHOR BOLTS WITH MINIMUM 7" EMBEDMENT INTO CONCRETE OR SOLID-GROUTED MASONRY SPACED A MAXIMUM OF 6'-0" O.C. UNLESS NOTED OTHERWISE. PROVIDE A MINIMUM OF TWO ANCHOR BOLTS PER PLATE SECTION AND ONE ANCHOR BOLT WITHIN 12" OF EACH CORNER UNLESS NOTED OTHERWISE. ANCHOR BOLTS SHALL BE LOCATED WITHIN THE MIDDLE THIRD OF THE SILL PLATE.

3.7) FOUNDATION WALLS MAY BE STEPPED AND FRAMED WITH CRIPPLE WALLS WHERE GRADE PERMITS (SEE NOTE 7.14 FOR WALL FRAMING REQUIREMENTS).

3.8) PROVIDE FOUNDATION WATERPROOFING AND AND DRAIN WITH POSITIVE SLOPE TO DAYLIGHT AS REQUIRED BY SITE CONDITIONS.

3.9) THE SITE SHALL BE GRADED TO DRAIN SURFACE WATER AWAY FROM FOUNDATION WALLS. THE GRADE SHALL FALL A MINIMUM OF 6" WITHIN THE FIRST TEN FEET.

3.10) CRAWL SPACES SHALL BE GRADED LEVEL AND CLEAR OF ALL DEBRIS. CRAWL SPACE GRADE SHALL BE LINED WITH MINIMUM 6 MIL APPROVED VAPOR BARRIER WITH ALL JOINTS LAPPED MINIMUM 12" AND SEALED. PROVIDE A MINIMUM ACCESS OPENING MEASURING 18" BY 24".

4) CONCRETE NOTES:

4.1) INTERIOR SLABS ON GRADE, EXCEPT FOR GARAGE FLOORS, AND FOOTINGS SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 2500 PSI AT 28 DAYS. FOUNDATION WALLS, GARAGE SLABS ON GRADE, AND EXTERIOR SLABS ON GRADE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS. ALL CONCRETE SHALL BE CAST IN PLACE.

4.2) CONCRETE SHALL BE PROPORTIONED, MIXED, AND PLACED IN ACCORDANCE WITH THE LATEST EDITIONS OF ACI 318 "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" AND AC1 301 "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS".

4.3) ALL CONCRETE EXPOSED TO FREEZE/THAW CYCLES SHALL BE AIR ENTRAINED WITH TOTAL AIR VOLUME NOT LESS THAN 5% OR MORE THAN 7%.

4.4) CONCRETE SLABS ON GRADE SHALL BE MINIMUM 4" THICK AND REINFORCED WITH POLYPROPYLENE FIBERS OR 6x6 WELDED WIRE FABRIC (WWF). POLYPROPYLENE FIBERS SHALL BE APPLIED AT A MINIMUM RATE OF 1.5 LBS PER CUBIC YARD. WWF SHALL BE PLACED AT THE MID-DEPTH OF THE SLAB.

4.5) CONCRETE SLABS ON GRADE SHALL BE PLACED ON MINIMUM 4" THICK GRANULAR FILL COMPACTED TO MINIMUM 95% OF THE MAXIMUM DRY DENSITY. INTERIOR SLABS ARE TO BE PLACED ON A MINIMUM 6 MIL VAPOR BARRIER PLACED ON TOP OF THE GRANULAR FILL.

4.6) $\frac{3}{8}$" TO 1" DEEP CONTROL JOINTS (SAW-CUT OR TOOLED) ARE TO BE PLACED IN SLABS ON GRADE WITHIN 4 TO 12 HOURS OF CONCRETE FINISHING. CONTROL JOINTS ARE TO BE SPACED 8'-0" TO 12'-0" O.C.

4.7) ALL CAST-IN-PLACE CONCRETE WALLS SHALL CONFORM TO SECTIONS R404 AND/OR R608 OF THE 2018 NCRC, ACI 318 "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE", AND/OR ACI 332 "CODE REQUIREMENTS FOR RESIDENTIAL CONCRETE".

5) MASONRY NOTES:

5.1) CONCRETE MASONRY SHALL CONFORM TO ASTM C90. ALL BRICK SHALL CONFORM TO ASTM C62. ALL MASONRY SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 1500 PSI.

5.2) ALL MORTAR SHALL BE TYPE "S". GROUT AND MORTAR SHALL CONFORM TO ASTM C270 AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 2000 PSI AT 28 DAYS.

5.3) ALL MASONRY WALLS SHALL CONFORM TO SECTION SECTIONS R404 AND/OR R606 OF THE 2018 NCRC, NCMA TR68-A "CONSTRUCTION USING CONCRETE MASONRY", AND/OR ACE 530/ASCE 5/TMS 402 "BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES".

5.4) THE UNSUPPORTED HEIGHT OF UNGROUTED HOLLOW MASONRY PIERS SHALL NOT EXCEED FOUR TIMES THEIR LEAST DIMENSION. THE UNSUPPORTED HEIGHT OF SOLID OR SOLID-GROUTED MASONRY PIERS SHALL NOT EXCEED TEN TIMES THEIR LEAST DIMENSION.

5.5) EACH CRAWL SPACE PIER SHALL BEAR WITHIN THE MIDDLE THIRD OF ITS RESPECTIVE FOOTING AND EACH GIRDER SHALL BEAR WITHIN THE MIDDLE THIRD OF THE PIERS. PILASTERS SHALL BE BONDED TO THE PERIMETER FOUNDATION WALL.

5.6) THE TOP COURSE OF MASONRY SHALL BE GROUTED SOLID. ALL CELLS CONTAINING REINFORCING STEEL OR EMBEDDED ITEMS SHALL BE GROUTED SOLID.

5.7) HORIZONTAL WALL JOINT REINFORCEMENT SHALL BE STANDARD 9 GAUGE GALVANIZED LADDER OR TRUSS TYPE SPACED AT 16" O.C. MAXIMUM, UNLESS NOTED OTHERWISE ON THE DRAWINGS, AND SHALL CONFORM TO ASTM A951. LAP HORIZONTAL REINFORCEMENT MINIMUM 6" FOR CONTINUOUS WALL APPLICATIONS.

6) REINFORCING STEEL NOTES:

6.1) WELDED WIRE FABRIC SHALL CONFORM TO ASTM 185. CONCRETE REINFORCING STEEL SHALL CONFORM TO ASTM 615, GRADE 60. REINFORCING STEEL WITHIN FOOTINGS SHALL MAINTAIN MINIMUM 3" CONCRETE COVER AND REINFORCING STEEL WITHIN SLABS SHALL MAINTAIN MINIMUM 1 $\frac{1}{2}$" CONCRETE COVER. CONCRETE COVER FOR #5 AND SMALLER REINFORCING BARS WITHIN CONCRETE WALLS SHALL BE MINIMUM 1 $\frac{1}{2}$" AND CONCRETE COVER FOR #6 AND LARGER REINFORCING BARS WITHIN CONCRETE WALLS SHALL BE MINIMUM 2".

6.2) LAP REINFORCING STEEL, AS REQUIRED, A MINIMUM OF 48 TIMES THE BAR DIAMETER (18" FOR #3 BARS, 24" FOR #4 BARS, 30" FOR #5 BARS, 36" FOR #6 BARS, ETC.).

7) WOOD FRAMING NOTES:

7.1) SOLID SAWN FRAMING MEMBERS SHALL BE SPRUCE-PINE-FIR (SPF) #2 OR SOUTHERN YELLOW PINE (SYP) #2 WITH THE FOLLOWING MINIMUM DESIGN VALUES:
- SPF #2: Fb=875 PSI, Fv=135 PSI, E=1,400,000 PSI
- SYP #2: Fb=750 PSI, Fv=175 PSI, E=1,400,000 PSI

7.2) ENGINEERED LUMBER BEAMS SHALL HAVE THE FOLLOWING MINIMUM DESIGN VALUES:
- LAMINATED STRAND LUMBER (LSL): Fb=2,325 PSI, Fv=310 PSI, E=1,550,000 PSI
- LAMINATED VENEER LUMBER (LVL): Fb=2,600 PSI, Fv=285 PSI, E=2,000,000 PSI
- PARALLEL STRAND LUMBER (PSL): Fb=2,900 PSI, Fv=290 PSI, E=2,000,000 PSI

7.3) ENGINEERED LUMBER COLUMNS SHALL HAVE THE FOLLOWING MINIMUM DESIGN VALUES:
- LAMINATED STRAND LUMBER (LSL): Fb=1,700 PSI, Fc=710 PSI, E=1,300,000 PSI
- LAMINATED VENEER LUMBER (LVL): Fb=2,600 PSI, Fc=750 PSI, E=2,000,000 PSI
- PARALLEL STRAND LUMBER (PSL): Fb=2,400 PSI, Fc=545 PSI, E=1,800,000 PSI

7.4) WOOD IN CONTACT WITH THE GROUND, CONCRETE, OR MASONRY SHALL BE PRESSURE TREATED IN ACCORDANCE WITH AWPA STANDARD C-15. ALL OTHER MOISTURE EXPOSED LUMBER SHALL BE TREATED IN ACCORDANCE WITH AWPA STANDARD C-2 OR SHALL BE A NATURALLY DURABLE DECAY RESISTANT WOOD AS DEFINED IN SECTION R202 OF THE 2018 NCRC.

7.5) NAILS SHALL BE COMMON WIRE NAILS UNLESS NOTED OTHERWISE AND SHALL CONFORM TO ASTM F1667-05.

7.6) BOLTS SHALL CONFORM TO ASTM A307 UNLESS NOTED OTHERWISE. INSTALL STANDARD STEEL WASHERS FOR THE NUT AND BOLT HEAD WHEN BOLTING WOOD MEMBERS. HOLES FOR BOLTS SHALL BE $\frac{1}{16}$" LARGER THAN THE BOLT DIAMETER UNLESS NOTED OTHERWISE.

7.7) LAG SCREWS SHALL CONFORM TO ANSI/ASME B18.2.1. INSTALL STANDARD STEEL WASHERS FOR THE SCREW HEAD. PILOT HOLES SHALL BE USED FOR LAG SCREW INSTALLATION AND SHALL BE BORED ACCORDING TO NDS SPECIFICATIONS.

7.8) INDIVIDUAL STUDS BUILT UP TO FORM A COLUMN SHALL BE FASTENED WITH (2) ROWS OF 10d NAILS @ 6" O.C. STAGGERED. BLOCKING MATCHING OR EXCEEDING THE WIDTH OF THE STUD COLUMN SHALL BE INSTALLED AT ALL FLOOR LEVELS TO ENSURE PROPER LOAD TRANSFER THROUGH THE STRUCTURE.

7.9) MULTI-PLY SOLID SAWN BEAMS AND HEADERS SHALL BE FASTENED WITH (2) ROWS OF 10d NAILS @ 16" O.C. STAGGERED FOR 2x8 AND SMALLER OR (3) ROWS OF 10d NAILS @ 16" O.C. STAGGERED FOR 2x10 AND LARGER. APPLY NAILING FROM BOTH FACES FOR (3) OR MORE PLIES.

7.10) MULTI-PLY ENGINEERED LUMBER BEAMS AND HEADERS SHALL BE FASTENED PER THE MANUFACTURER SPECIFICATIONS UNLESS NOTED OTHERWISE.

7.11) BEAMS PERPENDICULAR TO THE SUPPORTING WALL SHALL BEAR THE FULL WIDTH OF THE WALL UNLESS NOTED OTHERWISE AND SHALL BE SUPPORTED BY A COLUMN OF BUILT UP STUDS THAT MATCHES OR EXCEEDS THE WIDTH OF THE BEAM (NOT LESS THAN TWO STUDS).

7.12) BEAMS PARALLEL TO THE SUPPORTING WALL SHALL BEAR THE WIDTH OF THE SPECIFIED STUD COLUMN ON THE END OF THE WALL (BEARING SHALL NOT BE LESS THAN 3" TO BEAR OVER TWO STUDS UNLESS NOTED OTHERWISE).

7.13) HEADERS SHALL BE SUPPORTED BY JACK STUDS AND KING STUDS BASED ON THE FOLLOWING CONDITIONS UNLESS NOTED OTHERWISE:

CLEAR SPAN:	# OF JACK STUDS:	# OF KING STUDS (EXTERIOR):	# OF KING STUDS (INTERIOR):
UP TO 3'-0"	(1)	(1)	(1)
>3'-0" TO 6'-0"	(2)	(2)	(1)
>6'-0" TO 9'-0"	(2)	(3)	(2)
>9'-0" TO 12'-0"	(3)	(4)	(2)
>12'-0" TO 15'-0"	(3)	(5)	(3)
>15'-0" TO 18'-0"	(4)	(6)	(3)

7.14) STUD SPACING FOR EXTERIOR AND INTERIOR BEARING WALLS SHALL BE BASED ON THE FOLLOWING CONDITIONS UNLESS NOTED OTHERWISE:
- SUPPORTING UP TO ONE STORY ABOVE:
  - UP TO 10'-1 $\frac{1}{2}$" IN HEIGHT: 2x4 @ 16" O.C. OR 2x6 @ 24" O.C.
  - >10'-1 $\frac{1}{2}$" UP TO 12'-1 $\frac{1}{2}$": 2x4 @ 12" O.C. OR 2x6 @ 16" O.C.
- SUPPORTING UP TO TWO STORIES ABOVE:
  - UP TO 10'-1 $\frac{1}{2}$" IN HEIGHT: 2x4 @ 12" O.C. OR 2x6 @ 16" O.C.
  - > 10'-1 $\frac{1}{2}$" UP TO 12'-1 $\frac{1}{2}$": 2x6 @ 12" O.C.

7.15) ALL EXTERIOR WALLS TO BE FULLY SHEATHED WITH $\frac{7}{16}$" APA RATED OSB EXPOSURE 1 ATTACHED WITH 8d NAILS @ 6" O.C. ALONG PANEL EDGES AND 12" O.C. IN PANEL FIELD UNLESS NOTED OTHERWISE.

7.16) ROOF SHEATHING SHALL BE MINIMUM $\frac{7}{16}$" APA RATED OSB EXPOSURE 1 ATTACHED TO ROOF FRAMING WITH 8d NAILS @ 6" O.C. ALONG PANEL EDGES AND 12" O.C. IN PANEL FIELD UNLESS NOTED OTHERWISE. SHEATHING SHALL HAVE A SPAN RATING THAT MATCHES OR EXCEEDS THE FRAMING SPACING.

7.17) FLOOR SHEATHING SHALL BE MINIMUM $\frac{23}{32}$" APA RATED TONGUE AND GROOVE OSB EXPOSURE 1 ATTACHED TO FLOOR FRAMING WITH 8d NAILS @ 6" O.C. ALONG PANEL EDGES AND 12" O.C. IN PANEL FIELD UNLESS NOTED OTHERWISE. SHEATHING SHALL HAVE A SPAN RATING THAT MATCHES OR EXCEEDS THE FRAMING SPACING.

7.18) EXTERIOR WOOD DECKS SHALL BE CONSTRUCTED IN ACCORDANCE WITH APPENDIX M OF THE 2018 NCRC UNLESS NOTED OTHERWISE.

7.19) EXTERIOR WOOD POSTS SHALL BE SECURED TO THE BAND AT THE BOTTOM AND BEAM AT THE TOP WITH (1) SIMPSON STRONG-TIE H6 HURRICANE TIE, (2) H2.5A HURRICANE TIES, OR (1) SECTION OF CS16 COIL STRAPPING WITH MINIMUM 9" END LENGTHS. FOR MASONRY OR CONCRETE FOUNDATIONS, SECURE POSTS AT THE BOTTOM WITH A SIMPSON STRONG-TIE ABU POST BASE FOR THE SPECIFIED POST SIZE.

8) STEEL FRAMING NOTES:

8.1) STEEL FRAMING SHALL CONFORM TO THE FOLLOWING SPECIFICATIONS:

- W SHAPES	ASTM A992
- CHANNELS AND ANGLES	ASTM A36
- PLATES AND BARS	ASTM A36
- HOLLOW STRUCTURAL SECTIONS (HSS)	ASTM A500, GRADE B
- PIPES	ASTM A53, GRADE B, TYPE E OR S

8.2) STEEL BEAMS SHALL BE ANCHORED AT THE BOTTOM FLANGE TO EACH SUPPORT AS FOLLOWS UNLESS NOTED OTHERWISE:

- WOOD FRAMING	(2) $\frac{1}{2}$" DIAMETER x 4" LONG LAG SCREWS
- CONCRETE	(2) $\frac{1}{2}$" DIAMETER x 4" LONG SST TITEN HD (OR EQUAL) SCREW ANCHORS
- MASONRY (GROUTED SOLID)	(2) $\frac{1}{2}$" DIAMETER x 4" LONG SST TITEN HD (OR EQUAL) SCREW ANCHORS
- STEEL COLUMN	(2) $\frac{1}{2}$" DIAMETER BOLTS OR $\frac{5}{16}$" CONTINUOUS FILLET WELD

8.3) ATTACH A 2x NAILER TO THE TOP FLANGE OF STEEL BEAMS w/ (2) ROWS OF $\frac{1}{2}$" DIAMETER CARRIAGE BOLTS @ 48" O.C. STAGGERED UNLESS NOTED OTHERWISE.

8.4) FLITCH BEAMS SHALL BE BOLTED WITH (2) ROWS OF $\frac{1}{2}$" DIAMETER BOLTS @ 16" O.C. STAGGERED.

9) SUPPORT OF MASONRY OR NATURAL STONE VENEER:

9.1) VENEER ABOVE OPENINGS SHALL BE SUPPORTED BY STEEL ANGLES AS FOLLOWS UNLESS NOTED OTHERWISE:

CLEAR SPAN:	SIZE OF STEEL ANGLE:
UP TO 3'-0"	L3x3x$\frac{1}{4}$
>3'-0" UP TO 6'-0"	L5x3 $\frac{1}{2}$x$\frac{5}{16}$ (LONG LEG VERTICAL)
>6'-0" UP TO 8'-0"	L6x4x$\frac{5}{16}$ (LONG LEG VERTICAL)

9.2) VENEER ABOVE OPENINGS WITH A CLEAR SPAN EXCEEDING 8'-0" SHALL BE SUPPORTED BY A 6x4x$\frac{5}{16}$ STEEL ANGLE FASTENED TO THE HEADER WITH (2) ROWS OF $\frac{1}{2}$" DIAMETER x 3" LONG LAG SCREWS @ 16" O.C. UNLESS NOTED OTHERWISE.

9.3) STEEL ANGLES SHALL BE EMBEDDED MINIMUM 4" INTO THE VENEER AT EACH SIDE OF THE OPENING.

9.4) VENEER ABOVE ROOF LINES SHALL BE SUPPORTED BY AN L6x4x$\frac{5}{16}$ STEEL ANGLE FASTENED TO (2) 2x10 BLOCKING w/ (2) ROWS OF $\frac{1}{2}$" DIAMETER x 3" LONG LAG SCREWS @ 16" O.C. BLOCKING TO BE FASTENED TO WALL STUDS AT EACH END WITH (4) 10d TOE NAILS PER PLY. FOR ROOF SLOPES EXCEEDING 7:12, WELD 3"x3"x$\frac{1}{4}$" STEEL PLATE STOPS @ 24" O.C. TO STEEL ANGLE.

COMMON ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR
ALT	ALTERNATE
ARCH	ARCHITECTURAL
BRG	BEARING
BTM	BOTTOM
CIP	CAST-IN-PLACE
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
CONC	CONCRETE
CONN	CONNECTION
CONT	CONTINUOUS
DBL	DOUBLE
DIA	DIAMETER
DJ	DOUBLE JOIST
DSP	DOUBLE STUD POCKET
EA	EACH
EQ	EQUAL
FLR	FLOOR
FND	FOUNDATION
FTG	FOOTING
GA	GAUGE
HDG	HOT-DIPPED GALVANIZED
HDR	HEADER
HGR	HANGER
HORIZ	HORIZONTAL
ICF	INSULATED CONCRETE FORMS
INFO	INFORMATION
LBS	POUNDS
LSL	LAMINATED STRAND LUMBER
LVL	LAMINATED VENEER LUMBER
MAX	MAXIMUM
MFR	MANUFACTURER
MIN	MINIMUM
NTS	NOT TO SCALE
O.C.	ON CENTER
PCF	POUNDS PER CUBIC FOOT
PLF	POUNDS PER LINEAR FOOT
PSF	POOUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PSL	PARALLEL STRAND LUMBER
PT	PRESSURE TREATED
QJ	QUADRUPLE JOIST
REINF	REINFORCE
SER	STRUCTURAL ENGINEER OF RECORD
SF	SQUARE FEET
SJ	SINGLE JOIST
SP	SPACE (SPACING)
SPEC(S)	SPECIFICATION(S)
SPF	SPRUCE-PINE-FIR
SST	SIMPSON STRONG-TIE
SYP	SOUTHERN YELLOW PINE
TJ	TRIPLE JOIST
TRPL	TRIPLE
TSP	TRIPLE STUD POCKET
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
VERT	VERTICAL
W/	WITH
WWF	WELDED WIRE FABRIC
XJ	EXTRA JOIST

LEGEND

■(#)	STUD COLUMN AT POINT LOADS THAT REQUIRES SOLID BLOCKING TO GIRDER OR FOUNDATION (#) DENOTES NUMBER OF STUDS. (2) STUDS REQUIRED IF NOT SPECIFIED
■	OFFSET POINT LOAD FROM ABOVE TO BE SUPPORTED BY GIRDER, BEAM, HEADER, JOIST, OR BLOCKING AS SPECIFIED
	BEARING WALL
	OFFSET BEARING WALL ABOVE
	BEAM, GIRDER, OR HEADER AS SPECIFIED
	JOIST, RAFTER, OR TRUSS AS SPECIFIED
	MECHANICAL FASTENER (REFER TO SCHEDULE BELOW)
	FULL HEIGHT MASONRY OR NATURAL STONE VENEER
	MASONRY OR NATURAL STONE VENEER WATERTABLE BELOW
	PLUMBING OR APPLIANCES ABOVE (FOR REFERENCE ONLY, REFER TO ARCHITECTURAL PLANS)
	SOLID GROUTED MASONRY
	ROOF SUPPORT BELOW
	FULL HEIGHT BRICK VENEER BELOW ROOF

MECHANICAL FASTENERS

BEAM SIZE:	FASTENER:
(2)-2x6 OR (2)-2x8	LUS26-2
(2)-2x10 OR (2)-2x12	LUS210-2
(1)-PLY LSL OR LVL	HUS1.81/10
(2)-PLY LSL OR LVL	HHUS410
(3)-PLY LSL OR LVL	HHUS5.50/10
(4)-PLY LSL OR LVL	HHUS7.25/10

NOTES:
- MECHANICAL FASTENERS TO BE INSTALLED BASED ON THIS SCHEDULE UNLESS NOTED OTHERWISE.
- ALL SPECIFIED MECHANICAL FASTENERS ARE SIMPSON STRONG-TIE BRAND. OTHER BRAND FASTENERS WITH EQUIVALENT OR BETTER CAPACITY MAY BE SUBSTITUTED.
- ALL MECHANICAL FASTENERS IN CONTACT WITH PRESSURE TREATED LUMBER SHALL BE HOT-DIPPED GALVANIZED OR EQUIVALENT CORROSIVE RESISTANT COATING.

ALLOWABLE I-JOIST SUBSTITUTIONS

SPECIFIED SERIES:	EQUIVALENT SERIES:
TJI 110	BCI 4500s 1.8
TJI 210	BCI 5000s 1.8, BLI 40, LPI 20PLUS, NI-40x
TJI 230	BCI 6000s 1.8, LPI 32PLUS
TJI 360	BCI 60s 2.0, BLI 60, LPI 36, NI-60
TJI 560	BCI 90s 2.0, BLI 80, LPI 56, NI-80

NOTES:
- MAINTAIN SPECIFIED JOIST DEPTH, DIRECTION, AND SPACING.
- JOISTS NOT LISTED IN THIS SCHEDULE MAY BE SUBSTITUTED PROVIDED THEY MEET OR EXCEED THE PROPERTIES OF THOSE LISTED.

NORTH CAROLINA PROFESSIONAL SEAL 052324 ENGINEER ZACHARY H. HAYES

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CARTLEDGE CONTRACTING
9006 CHRISTIAN LIGHT RD

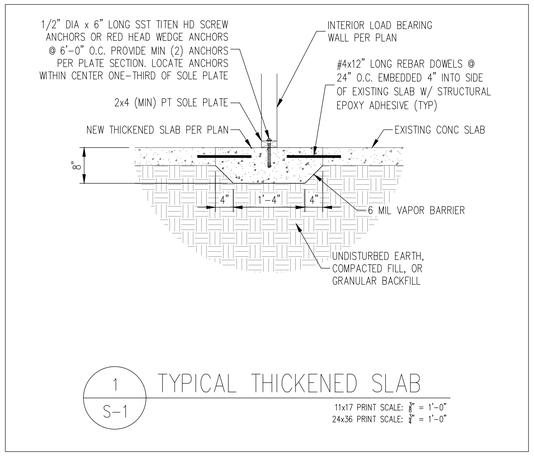
PROJECT NO.: 25-TDM-010

DATE: JUNE 19, 2025

SCALE: NOT TO SCALE

SHEET: STANDARD STRUCTURAL NOTES

S-0



1 / S-1 TYPICAL THICKENED SLAB

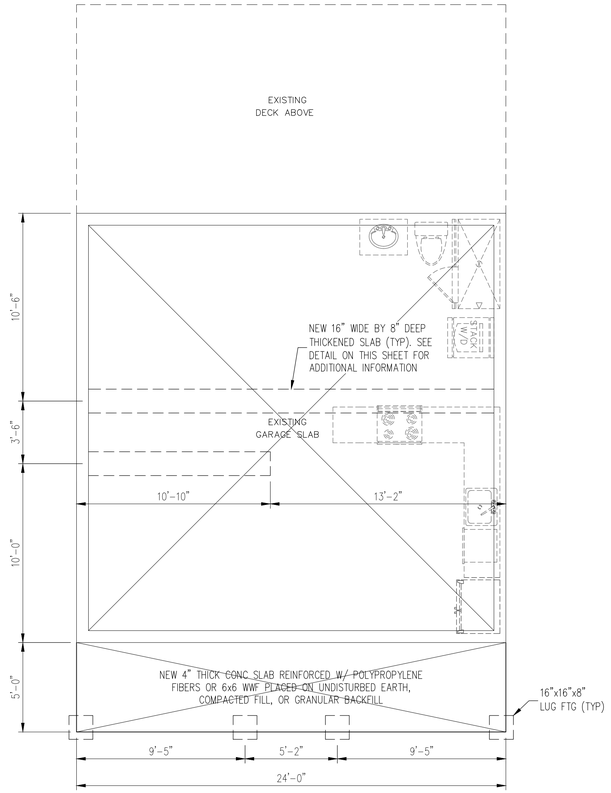
11x17 PRINT SCALE: 3/4" = 1'-0"
24x36 PRINT SCALE: 1½" = 1'-0"

FOUNDATION NOTES:

1. THE BOTTOM OF NEW FOOTINGS SHALL EXTEND A MINIMUM OF 12" BELOW GRADE OR BELOW THE FROST LINE, WHICHEVER IS GREATER.
2. NEW FOOTINGS TO BE EXCAVATED TO FIRM SOIL WITH A MINIMUM REQUIRED BEARING CAPACITY OF 2,000 PSF. CONSULT THE SER SHOULD THE SOIL BEARING CAPACITY NOT BE MET OR IF ANY OTHER ADVERSE SOIL CONDITION IS ENCOUNTERED.
3. REFER TO NOTES SHEET FOR ADDITIONAL STRUCTURAL INFORMATION.

LEGEND

(S)	NEW PLUMBING ABOVE (FOR REFERENCE ONLY, REFER TO ARCH PLANS)



FOUNDATION PLAN

FIRST FLOOR FRAMING NOTES:

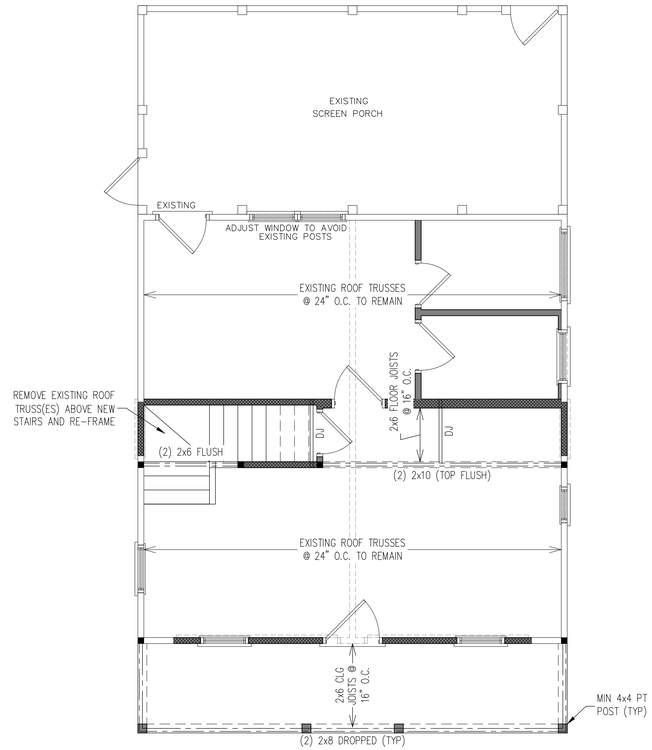
1. NEW SOLID SAWN FRAMING LUMBER TO BE SPF #2 OR SYP #2.
2. PROVIDE A DOUBLE JOIST UNDER NEW WALLS PARALLEL TO FLOOR JOISTS WHERE NOTED ON THE PLAN.
3. NEW LOAD BEARING HEADERS TO BE (2) 2x6 UNO.
4. NEW HEADERS TO BE SUPPORTED BY JACK STUDS AND KING STUDS PER THE TABLE BELOW UNO.
5. NEW EXTERIOR AND INTERIOR LOAD BEARING WALLS TO BE 2x4 @ 16" O.C. OR 2x6 @ 24" O.C. UNO.
6. NEW EXTERIOR WALLS TO BE SHEATHED WITH 7/16" APA RATED OSB EXPOSURE 1 ATTACHED WITH 8d NAILS @ 6" O.C. ALONG PANEL EDGES AND 12" O.C. IN PANEL FIELD (UNO) TO SATISFY WALL BRACING REQUIREMENTS PER SECTION R602.10.3 "CONTINUOUS SHEATHING" OF THE 2018 NCRC.
7. NEW PORCH POSTS TO BE SECURED TO BEAM AT TOP WITH (1) SST H6, (2) SST H2.5A, OR (1) SST CS16 STRAP WITH MIN 9" END LENGTHS. SECURE NEW POSTS TO CONCRETE SLAB AT BOTTOM WITH A SST ABU POST BASE FOR THE SPECIFIED POST SIZE.
8. REFER TO NOTES SHEET FOR ADDITIONAL STRUCTURAL INFORMATION.

NEW HEADER SUPPORT

CLEAR SPAN:	JACK STUDS:	KING STUDS (EXTERIOR):	KING STUDS (INTERIOR):
UP TO 3'	(1)	(1)	(1)
>3' TO 6'	(2)	(2)	(1)
>6' TO 9'	(2)	(3)	(2)
>9' TO 12'	(3)	(4)	(2)
>12' TO 15'	(3)	(5)	(3)
>15' TO 18'	(4)	(6)	(3)

LEGEND

■(#)	NEW STUD COLUMN AT POINT LOADS THAT REQUIRES SOLID BLOCKING TO GIRDER OR FOUNDATION. (#) DENOTES NUMBER OF STUDS. (2) STUDS REQUIRED IF NOT SPECIFIED.
	NEW BEARING WALL
	BEAM, GIRDER, OR HEADER AS SPECIFIED
	JOIST, RAFTER, OR TRUSS AS SPECIFIED



FIRST FLOOR FRAMING PLAN

SPACE IS EXISTING GARAGE, CONVERTED INTO LIVING SPACE

–NEW CONSTRUCTION
–EXISTING CONSTRUCTION
–REMOVE EXISTING CONSTRUCTION

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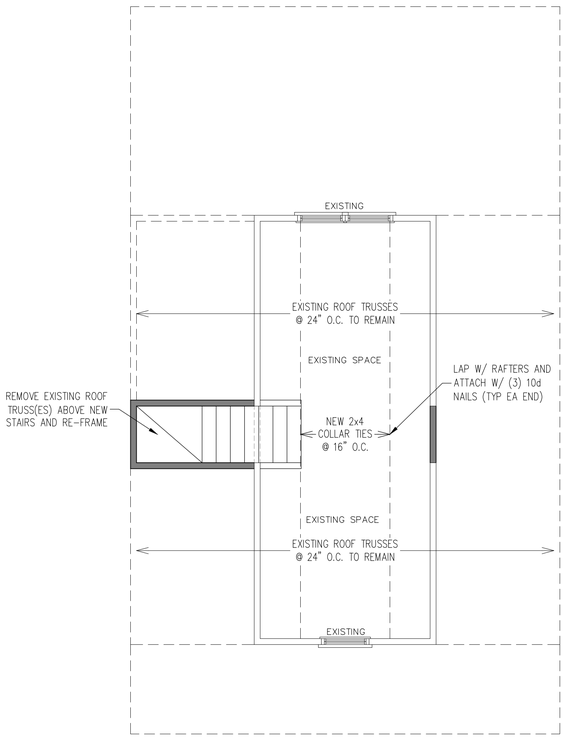
24x36 PRINT SCALE: 1½" = 1'-0" (UNO)

SHEET: FOUNDATION AND FIRST FLOOR FRAMING PLANS

S-1

SECOND FLOOR FRAMING NOTES:

1. NEW SOLID SAWN FRAMING LUMBER TO BE SPF #2 OR SYP #2.
2. REFER TO NOTES SHEET FOR ADDITIONAL STRUCTURAL INFORMATION.



SECOND FLOOR FRAMING PLAN

EXISTING LOFT INTENDED FOR USE AS CONDITIONED STORAGE SPACE.

—NEW CONSTRUCTION

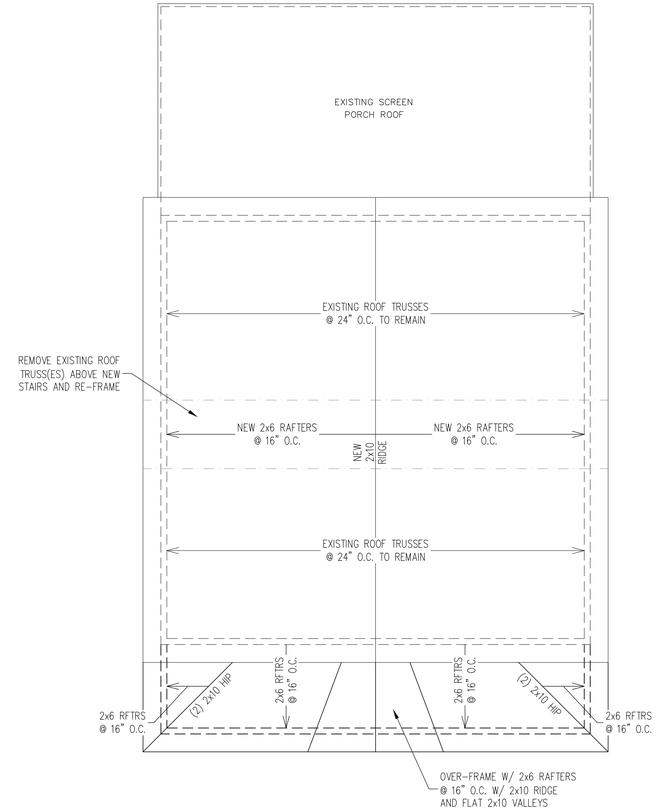
—EXISTING CONSTRUCTION

—REMOVE EXISTING CONSTRUCTION

ROOF FRAMING NOTES:

1. NEW SOLID SAWN FRAMING LUMBER TO BE SPF #2 OR SYP #2.
2. NEW ROOF SHEATHING TO BE $\frac{7}{16}$" MINIMUM APA RATED OSB EXPOSURE 1 ATTACHED TO ROOF FRAMING WITH 8d NAILS @ 6" O.C. ALONG PANEL EDGES AND 12" O.C. IN PANEL FIELD UNO. SHEATHING SHALL HAVE A SPAN RATING THAT MATCHES OR EXCEEDS THE FRAMING SPACING.
3. FASTEN FLAT VALLEYS TO EVERY OTHER CROSSING RAFTER BELOW (32" O.C. MAX) WITH (2) $4\frac{1}{2}$" LONG SST SDS SCREWS.
4. REFER TO NOTES SHEET FOR ADDITIONAL STRUCTURAL INFORMATION.

LEGEND	
= = = =	ROOF SUPPORT BELOW



ROOF FRAMING PLAN

NORTH CAROLINA PROFESSIONAL SEAL 052324 ENGINEER ZACHARY H HAYES

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24x36 PRINT SCALE: $\frac{1}{2}$" = 1'-0" (UNO)

SHEET: SECOND FLOOR AND ROOF FRAMING PLANS

S-2