

ROUGH CARPENTRY

1. ALL WOOD FRAMING SHALL COMPLY WITH THE NATIONAL FOREST PRODUCTS ASSOCIATION'S NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION (NDS).
2. ALL WOOD FRAMING MEMBERS ARE DESIGNED TO ACT AS A SYSTEM ONCE CONSTRUCTION IS COMPLETE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE SAFETY AND STABILITY OF WOOD FRAMING SYSTEMS (I.E. TEMPORARY BRACING) DURING CONSTRUCTION AS A RESULT OF CONSTRUCTION METHODS AND SEQUENCES.
3. WOOD FRAMING MATERIALS:
 - a. DIMENSIONAL LUMBER SHALL BE #2 SOUTHERN YELLOW PINE.
 - b. LAMINATED VENEER LUMBER (LVL) SHALL BE MICROLAM LVL GRADE 2.0E MANUFACTURED BY WEYERHAEUSER TRUS JOIST.
 - c. PARALLEL STRAND LUMBER (PSL) SHALL BE PARALLAM PSL MANUFACTURED BY WEYERHAEUSER TRUS JOIST WITH THE FOLLOWING GRADES:
 - HEADER AND BEAM SIZES = 2.0E GRADE
 - COLUMN AND POST SIZES = 1.8E GRADE
 - d. LAMINATED STRAND LUMBER (LSL) SHALL BE TIMBERSTRAND LSL MANUFACTURED BY WEYERHAEUSER TRUS JOIST WITH THE FOLLOWING GRADES:
 - HEADER AND BEAM SIZES = 1.55E GRADE
 - COLUMN AND POST SIZES = 1.3E GRADE
 - e. WOOD JOISTS SHALL BE TJI JOISTS MANUFACTURED BY WEYERHAEUSER TRUS JOIST.
4. ALL WOOD FRAMING MATERIAL SHALL BE SURFACED DRY AND USED AT 19% MAXIMUM MOISTURE CONTENT. ALL LUMBER EXPOSED TO EXTERIOR ENVIRONMENT OR IN CONTACT WITH MASONRY OR CONCRETE SHALL BE PRESSURE TREATED TO A MINIMUM RETENTION OF 0.25 lbs. OF ACO PER CUBIC FOOT OF WOOD, AND EACH PIECE SHALL BEAR THE THIRD PARTY QUALITY MARK, "ABOVE GRADE USE". ALL LUMBER IN CONTACT WITH THE GROUND SHALL BE PRESSURE TREATED TO A MINIMUM RETENTION OF 0.40 lbs. OF ACO PER CUBIC FOOT OF WOOD, AND EACH PIECE SHALL BEAR THE THIRD PARTY QUALITY MARK, "GROUND CONTACT USE". REFERENCE STANDARD AWPAC C2 AND ASTM D1760 FOR PRESSURE TREATMENT OF TIMBER PRODUCTS.
6. WHERE POSSIBLE ALL CUTS AND HOLES SHOULD BE COMPLETED BEFORE TREATMENT. CUTS AND HOLES DUE TO ON-SITE FABRICATION SHALL BE BRUSHED WITH 2 COATS OF COPPER NAPHTHENATE SOLUTION CONTAINING A MINIMUM OF 2% METALLIC COPPER IN SOLUTION (PER AWPAS STD. M4).
7. THE CONTRACTOR SHALL CAREFULLY SELECT LUMBER TO BE USED IN LOAD BEARING APPLICATIONS. THE LENGTH OF SPLIT ON THE WIDE FACE OF 2" NOMINAL LOAD BEARING FRAMING SHALL BE LIMITED TO LESS THAN 1/4 OF THE WIDE FACE DIMENSION. THE LENGTH OF SPLIT ON THE WIDE FACE OF 3" (NOMINAL) AND THICKER LUMBER SHALL BE LIMITED TO 1/4 OF THE NARROW FACE DIMENSIONS.
8. LOCATION, NUMBER, AND DIMENSIONS OF FRAMING MEMBERS SHOW GENERAL ARRANGEMENT ONLY. ACTUAL SPANS, SPACINGS, ETC. SHALL BE DETERMINED FROM ARCHITECTURAL DETAILS.
9. SEE ARCHITECTURAL PLANS AND DETAILS FOR EDGE SECTIONS, HEADER AND LINTEL LOCATIONS, AND ALL NON-STRUCTURAL FRAMING AND TRIM.
10. FOR ALL JOISTS AND RAFTERS, PROVIDE FULL-DEPTH BLOCKING AT ENDS, AT MIDSPAN, AND AT A MAXIMUM SPACING OF 8 FEET IN BETWEEN.
11. ALL ENGINEERED WOOD PRODUCTS SHALL BE BRIDGED, BLOCKED, AND BRACED IN CONFORMANCE WITH THE MANUFACTURERS RECOMMENDATION.
12. LOAD BEARING STUD WALLS SHALL BE CONTINUOUSLY BRIDGED AT MID-HEIGHT AND UNSUPPORTED PLYWOOD WALL SHEATHING JOINTS WITH SOLID WOOD BLOCKING, UNLESS NOTED OTHERWISE.
13. NO CUTS, HOLES, OR COPES IN STRUCTURAL WOOD FRAMING SHALL BE PERMITTED WITHOUT PRIOR REVIEW AND APPROVAL BY THE STRUCTURAL ENGINEER AND ARCHITECT.
14. ALL BOLTS, CARRIAGE BOLTS, LAG SCREWS, EXPANSION BOLTS AND EPOXY BOLTS SHALL BE INSTALLED WITH STANDARD CUT WASHERS UNDER THE BOLT HEADS AND NUTS THAT BEAR DIRECTLY ON THE WOOD. ALL NUTS SHALL BE TIGHTENED AT THE TIME OF INSTALLATION AND RE-TIGHTENED IF NECESSARY DUE TO WOOD SHRINKAGE. PRIOR TO CLOSE-IN OR AT THE COMPLETION OF THE PROJECT. BOLTS AND LAG SCREWS SHALL CONFORM TO ANSIS/ASME STANDARD B18.2.1. WOOD SCREWS SHALL CONFORM TO B18.6.1. ALL BOLTS SHALL CONFORM TO ASTM A307 GRADE A UNLESS NOTED OTHERWISE. THE MINIMUM STRENGTHS FOR LAG SCREWS AND WOOD SCREWS SHALL BE AS FOLLOWS:

SCREW YIELD STRENGTH		
SCREW DIAMETER	SCREW TYPE	YIELD STRENGTH
#6 (0.138 IN.)	WOOD SCREW	100 KSI
#7 (0.151 IN.)	WOOD SCREW	90 KSI
#8 (0.164 IN.)	WOOD SCREW	90 KSI
#9 (0.177 IN.)	WOOD SCREW	90 KSI
#10 (0.190 IN.)	WOOD SCREW	80 KSI
#12 (0.216 IN.)	WOOD SCREW	80 KSI
#14 (0.246 IN.)	WOOD SCREW	70 KSI
1/4 IN.	LAG SCREW	70 KSI
5/16 IN.	LAG SCREW	60 KSI
3/8 IN. AND GREATER	LAG SCREW	45 KSI

15. BOLT HOLES SHALL BE CAREFULLY CENTERED AND DRILLED NOT MORE THAN 1/16" LARGER THAN THE BOLT DIAMETER. BOLTED CONNECTIONS SHALL BE SNUG TIGHT BUT NOT TO THE EXTENT OF CRUSHING WOOD UNDER WASHERS.
16. LAG SCREWS SHALL BE BORED PER NDS 11.1.3.
17. ALL PLATES, ANCHORS, NAILS, BOLTS, NUTS, WASHERS, AND OTHER MISCELLANEOUS HARDWARE SHALL BE HOT DIP GALVANIZED IN PRESERVATIVE-TREATED AND FIRE-RETARDANT-TREATED WOODS.
18. ALL NAILS FOR STRUCTURAL WORK SHALL BE COMMON WIRE NAILS UNLESS NOTED OR DETAILED OTHERWISE MEETING ASTM F1607. HOLES SHALL BE PRE-DRILLED WHERE NECESSARY TO PREVENT SPLITTING. NAILS SHALL HAVE THE MINIMUM PROPERTIES SPECIFIED IN THE TABLE BELOW.

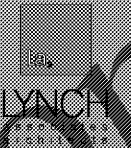
NAIL YIELD STRENGTH	
NAIL SIZE	YIELD STRENGTH
6d (0.133 IN. x 2 IN.)	100 KSI
8d (0.131 IN. x 2 1/2 IN.)	90 KSI
10d (0.148 IN. x 3 IN.)	90 KSI
12d (0.148 IN. x 3 1/2 IN.)	90 KSI
16d (0.162 IN. x 3 1/2 IN.)	80 KSI
20d (0.192 IN. x 4 IN.)	80 KSI

19. PROVIDE DOUBLE JOISTS OR SOLID BLOCKING AT 24" O.C. UNDER ALL PARTITIONS AND TO SUPPORT CONCENTRATED LOADS FROM FRAMING ABOVE, UNLESS NOTED OTHERWISE.
20. CUTTING AND NOTCHING OF SAWN LUMBER JOISTS, SAWN LUMBER RAFTERS AND STUDS SHALL BE IN CONFORMANCE WITH THE FOLLOWING CRITERIA:
 - a. JOISTS - NOTCHES AT THE ENDS OF JOISTS SHALL NOT EXCEED 1/5TH THE JOIST DEPTH. HOLES BORED IN JOISTS SHALL NOT BE WITHIN 2 1/4 INCHES OF THE TOP OR BOTTOM OF THE JOIST, AND THE DIAMETER OF ANY SUCH HOLE SHALL NOT EXCEED 1/4TH THE DEPTH OF THE JOIST. NOTCHES IN THE TOP OR BOTTOM OF THE JOISTS SHALL NOT EXCEED 1/6TH THE DEPTH AND SHALL NOT BE LOCATED IN THE MIDDLE THIRD OF THE SPAN.
 - b. RAFTERS - NOTCHING AT THE ENDS OF RAFTERS OR CEILING JOISTS SHALL NOT EXCEED 1/5TH THE DEPTH. NOTCHES IN THE TOP OR BOTTOM OF THE RAFTER OR CEILING JOIST SHALL NOT EXCEED 1/5TH THE DEPTH AND SHALL NOT BE LOCATED IN THE MIDDLE THIRD OF THE SPAN. EXCEPT FOR A NOTCH NOT EXCEEDING 1/3RD OF THE DEPTH IS PERMITTED IN THE TOP OF THE RAFTER OR CEILING JOIST NOT FURTHER FROM THE FACE OF THE SUPPORT THAN THE WIDTH OF THE MEMBER. HOLES BORED IN RAFTERS OR CEILING JOISTS SHALL NOT BE 2 1/4 INCHES FROM THE TOP, BOTTOM AND THEIR DIAMETER SHALL NOT EXCEED 1/4TH THE DEPTH OF THE MEMBER.
 - c. WALL STUDS - A MAXIMUM OF 2 1/4-INCH DIAMETER NEATLY BORED HOLES MAY BE PLACED IN THE CENTER OF ALL BEARING 2x6 STUDS WITH NO ADDITIONAL REINFORCEMENT REQUIRED.
21. CUTTING AND NOTCHING OF ENGINEERED WOOD PRODUCTS SHALL ADHERE TO THE RECOMMENDANCES PROVIDED BY THE MANUFACTURER.

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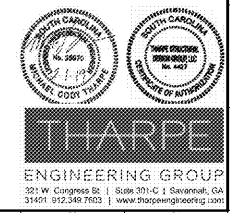
Revisions

NO.	DATE	DESCRIPTION

STRUCTURAL NOTES

DATE: 2/1/2019
DRAWN BY: []
CHECKED BY: []
SCALE: 1/8" = 1'-0"

S003



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