

STRUCTURAL WOOD FRAMING:

STRUCTURAL FRAMING IS SHOWN AS A GENERAL LAYOUT ONLY AND EXACT PLACEMENT SHALL BE VERIFIED IN THE FIELD. HOWEVER, FRAMING PLACEMENT SHALL NOT EXCEED THE SPACING SHOWN ON THE DRAWINGS.

EXTERIOR STUD WALLS ARE 2x6 AT 16" O.C. U.N.O.

SEE SHEET A1.0 FOR DIMENSIONS NOT SHOWN.

STRUCTURAL DIMENSIONAL SAWN-LUMBER SHALL BE SOUTHERN PINE NO. 2 OR EQUIVALENT. FB=1000 PSI, FV=175 PSI, FC(PERP.)=565 PSI, FC(PARALLEL)=1350 PSI, E=1,400,000 PSI. STRUCTURAL LUMBER INCLUDES BEARING HEADERS, INTERIOR BEARING WALL STUDS, ALL EXTERIOR STUDS, RAFTERS, AND FLOOR JOISTS. PLACE STRUCTURAL MEMBERS IN A MANNER SUCH THAT GRADE STAMP IS READILY VISIBLE.

ENGINEERED LUMBER, BY WEYERHAEUSER TRUS JOIST OR EQUIVALENT, TIMBERSTRAND, LSL: FB=2250 PSI, FC(PARALLEL)=1950 PSI, E=1,500,000 PSI MICROLAM, LVL: FB=2800 PSI, FC(PARALLEL)=2310 PSI, E=1,900,000 PSI PARALLAM, PSL: FB=2900 PSI, FC(PARALLEL)=2900 PSI, E=2,000,000 PSI ENGINEERED LUMBER SUPPLIER SHALL SPECIFY AND SUPPLY HANGERS AS REQUIRED.

ALL ROOF SHEATHING SHALL BE APA RATED SHEATHING, EXPOSURE 1 WITH A MINIMUM THICKNESS AS INDICATED ON THE DRAWINGS AND A SPAN RATING MEETING OR EXCEEDING THAT REQUIRED FOR THE DESIGN LOADS AND SPACING OF SUPPORTS.

WALL SHEATHING SHALL BE INSTALLED CONTINUOUS OVER TWO OR MORE SPANS WITH FACE GRAIN ACROSS SUPPORTS, UNLESS OTHERWISE INDICATED, SHEATHING SHALL BE NAILED AT 6" O.C. ALONG EDGES AND AT 12" O.C. ALONG INTERMEDIATE SUPPORTS WITH 10D BOX NAILS. ALLOW 1/8" GAP AT PANEL EDGES AND ENDS. PROVIDE 2X BLOCKING BETWEEN STUDS AT ALL HORIZONTAL PANEL JOINTS IN WALLS & SHEAR WALL LOCATIONS. REFER TO SHEAR WALL SCHEDULE.

COORDINATE FRAMING LOCATION FOR OPENINGS REQUIRED BY THE MECHANICAL TRADES. WHEN OPENING SIZES REQUIRE SPACING OF FRAMING GREATER THAN THAT SHOWN ON DRAWINGS, PROVIDE DOUBLE MEMBERS ON EACH SIDE OF THE OPENING AND PROPERLY HEADER THE ENDS OF THE OPENING TO SUPPORT THE INTERMEDIATE MEMBERS. NOTIFY AND CONSULT ENGINEER IF SPECIAL FRAMING REQUIRED.

STRUCTURAL FRAMING MEMBERS SHALL BE ADEQUATELY BRIDGED TO ENSURE BEAM STABILITY AS CALLED FOR IN SECTION 4.4.1 OF THE 2012 EDITION OF THE NATIONAL DESIGN SPECIFICATIONS FOR WOOD CONSTRUCTION.

AT SOLID SAWN MULTI-PLY HEADERS, BEAMS AND STUD ASSEMBLIES, GLUE PLYS WITH CONSTRUCTION ADHESIVE AND NAIL WITH 16D NAILS AT 6" ON CENTER LOCATED 2" FROM EDGES. STAGGER NAILS ON BOTH SIDES OF THE MEMBER.

AT MULTI-PLY ENGINEERED LUMBER MEMBERS SHALL BE GLUED WITH CONSTRUCTION ADHESIVE AND NAILED WITH 16D NAILS AT 6" ON CENTER LOCATED 2" FROM EDGES. STAGGER NAILS ON BOTH SIDES OF THE MEMBER.

ALL HEADERS AND BEAMS SHALL BEAR ON A MINIMUM OF (2) STUDS UNLESS NOTED OTHERWISE ON DRAWINGS.

AT MULTIPLE PLY FRAMING MEMBERS AND TRUSSES, PROVIDE AT LEAST ONE SUPPORTING STUD PER PLY. PROVIDE BLOCKING THROUGH FLOOR FRAMING TO TRANSFER LOADS TO FOUNDATION.

ALL BEAMS AND JOISTS SHALL BE SEAT CUT FOR FULL UNIFORM BEARING AT SUPPORTS, BEAM SEATS AND COLUMN CAPS.

ALL WOOD IN CONTACT WITH CONCRETE, STEEL OR GRADE SHALL BE PRESERVATIVE TREATED.

ALL BOLTED OR NAILED STRAP CONNECTIONS SHALL HAVE AN EQUAL NUMBER OF BOLTS OR NAILS EACH SIDE OF THE SPLICE JOINT. THE FIRST BOLT OR NAIL FROM EACH SIDE OF THE SPLICED OR TREATED MEMBER SHALL BE EQUAL DISTANCE FROM THE SPLICE. STRAPS USING 16d NAILS ON 2x MATERIAL SHALL BE INSTALLED ON THE 1 1/2" EDGE OF THE MEMBER.

USE AT PRESSURE TREATED LUMBER AT WINDOW JAMBS, SILL AND STUDS UNDER SILL AS WELL AS ALL TOILET PLUMBING WALLS.

PLYWOOD SHEATHING:

ALL ROOF SHEATHING SHALL BE APA RATED SHEATHING, EXPOSURE 1 WITH A MINIMUM THICKNESS AS INDICATED ON THE DRAWINGS AND A SPAN RATING MEETING OR EXCEEDING THAT REQUIRED FOR THE DESIGN LOADS AND SPACING OF SUPPORTS.

WALL SHEATHING SHALL BE INSTALLED CONTINUOUS OVER TWO OR MORE SPANS WITH FACE GRAIN ACROSS SUPPORTS, UNLESS OTHERWISE INDICATED, SHEATHING SHALL BE NAILED AT 6" O.C. ALONG EDGES AND AT 12" O.C. ALONG INTERMEDIATE SUPPORTS WITH 10D BOX NAILS. ALLOW 1/8" GAP AT PANEL EDGES AND ENDS. PROVIDE 2X BLOCKING BETWEEN STUDS AT ALL HORIZONTAL PANEL JOINTS IN WALLS & SHEAR WALL LOCATIONS. REFER TO SHEAR WALL SCHEDULE.

NAIL SPECIFICATION CHART		
NAIL SIZE	DIAMETER	LENGTH
6d	.092	1 1/2"
8d	.131	2"
10d	.142	3"
12d	.120	3 1/2"
16d	.162	3 1/2"
20d	.148	4"

THE FOLLOWING SCHEDULE IS A MINIMUM NAILING REQUIREMENT. SEE DRAWINGS FOR POSSIBLE HIGHER REQUIREMENTS:

ELEMENT	NAIL SIZE	NUMBER AND LOCATION
STUD TO SOLE PLATE	16d BOX	TOE NAIL OR 2 DIRECT NAIL
STUD TO CAP PLATE	16d BOX	2 TOE NAIL OR 2 DIRECT NAIL
DOUBLE STUDS	10d BOX	12" O.C. DIRECT
CORNER STUDS	16d BOX	24" O.C. DIRECT
DOUBLE CAP PLATE	10d BOX	16" O.C. DIRECT
HEADER BEAMS TO TRIMMERS	20d BOX	3 EACH END
TRUSS TO PLATE	PROVIDE "HURRICANE TIES" DRAWING	FOLLOW MANUFACTURER'S RECOMMENDATIONS FOR NAILING.
ROOF SHEATHING	10d BOX	6" O.C. DIRECT @ EDGES 12" O.C. @ INTERIOR POINTS
WALL SHEATHING	10d BOX	6" O.C. DIRECT @ EDGES 12" O.C. @ INTERIOR POINTS
SILL PLATE TO CONC. WALL	5/8" DIA. ANCHOR BOLTS @ 32" O.C. (FROST WALLS) (NO LESS THAN 2 ANCHOR BOLTS PER BOARD, ONE MUST BE WITHIN 12" FROM THE END OF EACH BOARD)	

METAL DECK NOTES:

ROOF DECK:

1 1/2" DEEP, TYPE "B" (WIDE RIB), GALVANIZED. SEE ROOF FRAMING PLAN FOR GAGE. SHEET WIDTH = 36"

PREPARE AND REPAIR DAMAGED GALVANIZED COATING ON BOTH SURFACES OF DECK WITH GALVANIZING REPAIR PAINT ACCORDING TO ASTM 780 AND MANUFACTURER'S INSTRUCTIONS.

CONNECTIONS TO STEEL SUPPORTS SHALL BE FUSION TYPE WELDS PERFORMED BY COMPETENT WELDERS WHO HAVE QUALIFIED TESTS AS PRESCRIBED BY THE AMERICAN WELDING SOCIETY TO PERFORM THE TYPE OF WORK REQUIRED. ROOF DECKS SHALL BE PUDDLE WELDED (6" DIAMETER MINIMUM) TO THE SUPPORTS AT 12" CENTERS. THE FIRST AND LAST RIBS OF EACH SHEET MUST BE WELDED TO ALL SUPPORTS. END WELDS AND THOSE OCCURRING AT LAPS SHALL BE WELDED THROUGH ALL THICKNESSES. SIDE JOINTS SHALL BE MECHANICALLY FASTENED AT MIND SPAN (UNO).

DECK ATTACHMENT PATTERN SHALL BE AS INDICATED ON THE DRAWINGS.

STEEL DECK SHALL BE CONTINUOUS OVER A MINIMUM OF 4 SUPPORTS.

PROVIDE 1 1/2" MINIMUM DECK BEARING AT ALL SUPPORTS. DECK SHALL BE PLACED AT THE PERIMETER WITH A COMPLETE RIB BEARING ON THE STEEL SUPPORT.

NO LIGHT GAGE FRAMING, MECHANICAL, ELECTRICAL OR OTHER EQUIPMENT SHALL BE SUSPENDED FROM OR ATTACHED TO ANY METAL ROOF DECK.

OPENINGS SMALLER THAN 12" SQUARE ARE TO BE CUT BY INDIVIDUAL TRADE AND FLASHED BY ROOFING/SIDING CONTRACTOR. ALL LARGER OPENINGS TO BE CUT AND FLASHED BY ROOFING/SIDING CONTRACTOR WITH OPEN EDGES SUPPORTED BY STRUCTURAL STEEL.

STRUCTURAL STEEL:

STRUCTURAL STEEL WORK SHALL BE IN ACCORDANCE WITH THE A.I.S.C. "SPECIFICATIONS FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS" (FOURTEENTH EDITION) AND THE "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES".

STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING:

- A. WIDE FLANGE SHAPES AND WTS: ASTM A992 WITH A MINIMUM YIELD STRENGTH OF 50,000 PSI.
- B. CHANNELS, ANGLES, PLATES AND MISCELLANEOUS CONNECTION MATERIAL: ASTM A-36 WITH A MINIMUM YIELD STRENGTH OF 36,000 PSI, UNO.
- C. STEEL TUBING: ASTM A500, GRADE B, WITH A MINIMUM YIELD STRENGTH OF 46,000 PSI.

BOLTS SHALL BE 3/4" DIAMETER ASTM A325 H.S. U.N.O. CONNECTIONS SHALL BE TYPE N FOR FRAMED CONNECTIONS AND TYPE SC CLASS A FOR MOMENT AND BRACING.

NUTS SHALL CONFORM TO ASTM A563 HEAVY HEX CARBON STEEL.

WASHERS SHALL CONFORM TO ASTM F436 HARDENED CARBON STEEL.

BOLTS, NUTS, & WASHERS SHALL BE FURNISHED WITH ZINC COATING IN ACCORDANCE WITH ASTM A153.

AISC STANDARD DOUBLE ANGLE CONNECTION DETAILS SHALL BE USED FOR ALL CONNECTIONS THAT ARE NOT OTHERWISE DETAILED ON THE DRAWINGS. WHERE THE REACTIONS OF BEAMS AND GIRDERS ARE NOT SHOWN ON THE DRAWINGS, THE CONNECTIONS SHALL BE DESIGNED TO SUPPORT THE MAXIMUM ALLOWABLE UNIFORM LOAD AS INDICATED IN THE LOAD TABLES OF THE AISC MANUAL OF STEEL CONSTRUCTION OF THE GIVEN BEAM SIZE AND SPAN.

EXPANSION BOLTS SHALL BE STUD TYPE, CARBON STEEL ANCHORS OF THE DIAMETER INDICATED ON THE DRAWINGS. USE HILTI KWIK BOLT 3 EXPANSION ANCHORS MANUFACTURED BY HILTI FASTENING SYSTEMS OR APPROVED EQUAL. ANCHORS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

WELDING SHALL BE IN ACCORDANCE WITH THE STRUCTURAL WELDING CODE ANSI/AWS D1.1, AMERICAN WELDING SOCIETY, LATEST EDITION. USE E70XX ELECTRODES.

ALL FIELD CONNECTIONS SHALL BE BOLTED. ONLY USE FIELD WELDED CONNECTIONS WHERE DETAILED ON STRUCTURAL DRAWINGS. EACH FIELD WELDED CONNECTION SHALL BE FULLY DETAILED ON ERECTION DRAWINGS.

STEEL EXPOSED TO THE EXTERIOR SHALL BE HOT DIPPED GALVANIZED ACCORDING TO ASTM A123.

STEEL SHALL BE SHOP PRIMED WITH A 1-COAT, NONASPHALTIC PRIMER COMPLIANT WITH SSPC-PS GUIDE 7.00, "PAINTING SYSTEM GUIDE 7.00: GUIDE FOR SELECTING ONE-COAT SHOP PAINTING SYSTEMS," TO PROVIDE A DRY FILM THICKNESS OF NOT LESS THAN 1 MILS.

DO NOT PAINT STEEL WHERE ENCASED WITH CONCRETE, OR AT FIELD WELD AREAS.

NONMETALLIC SHRINKAGE-RESISTANT GROUT: PRE-MIXED, NONCORROSIVE, NONSTAINING PRODUCT CONTAINING SELECTED SILICA SANDS, PORTLAND CEMENT, SHRINKAGE COMPENSATING AGENTS, PLASTICIZING AND WATER REDUCING AGENTS, COMPLYING WITH CE-CRD C621.

STRUCTURAL STEEL FABRICATOR SHALL PROVIDE FOR VERTICAL AND HORIZONTAL FIELD ADJUSTMENT OF SUPPORT ASSEMBLIES.

THE STRUCTURAL STEEL FABRICATOR AND/OR GENERAL CONTRACTOR SHALL VERIFY EXISTING DIMENSIONS AND CONDITIONS AT THE SITE. ANY DISCREPANCIES FOUND SHALL BE REPORTED TO THE ARCHITECT PRIOR TO PREPARATION OF SHOP DRAWINGS. DRAWINGS SHALL INCLUDE FIELD MEASUREMENTS AND CONDITIONS.

PROVIDE TEMPORARY SHORING AND BRACING MEMBERS WITH CONNECTIONS OF SUFFICIENT STRENGTH TO SUPPORT ALL IMPOSED LOADS. REMOVE TEMPORARY MEMBERS AND CONNECTIONS WHEN PERMANENT MEMBERS ARE IN PLACE AND FINAL CONNECTIONS ARE MADE. PROVIDE TEMPORARY GUY LINES TO ACHIEVE PROPER ALIGNMENT OF STRUCTURES AS ERECTION PROCEEDS.

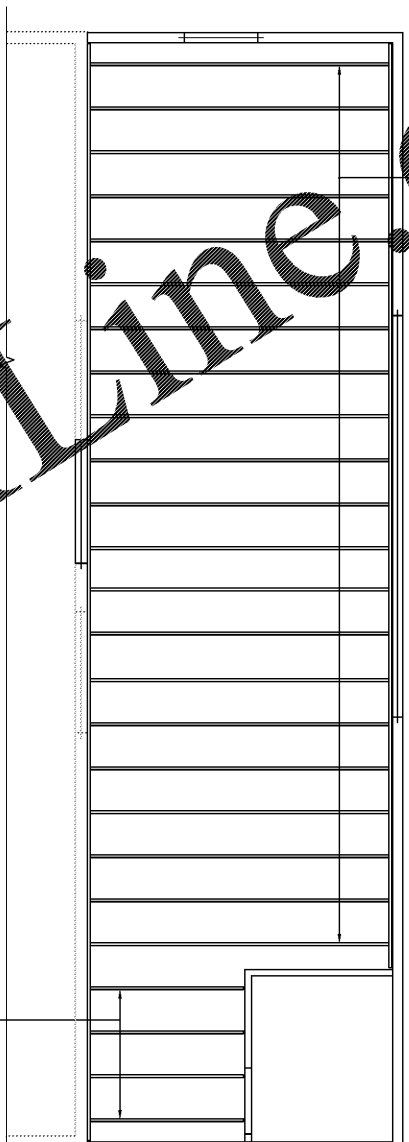
CUTS, HOLES, COPING, ETC. REQUIRED FOR OTHER TRADES SHALL BE SHOWN ON THE SHOP DRAWINGS AND MADE IN THE SHOP. CUTS OR BURNING OF HOLES IN THE FIELD WILL NOT BE PERMITTED.

SHOP DRAWINGS:

A. SUBMIT SHOP DRAWINGS PREPARED UNDER SUPERVISION OF A REGISTERED STRUCTURAL ENGINEER, INCLUDING COMPLETE DETAILS AND SCHEDULES FOR FABRICATION AND ASSEMBLY OF STRUCTURAL STEEL MEMBERS, PROCEDURES AND DIAGRAMS. INCLUDE DETAILS OF CUTS, CONNECTIONS, CAMBER, HOLES AND OTHER PERTINENT DATA.

B. INDICATE WELDS BY STANDARD AWS SYMBOLS AND SHOW SIZE, LENGTH, AND TYPE OF EACH WELD. PROVIDE SETTING DRAWINGS, TEMPLATES AND DIRECTIONS FOR INSTALLATION OF ANCHOR BOLTS AND OTHER ANCHORAGES TO BE INSTALLED BY OTHERS.

EXPOSED 2x8 CEILING JOISTS @ 24" O.C. SEE 1/52.1 FOR CONNECTION EA. END



STEEL JOIST NOTES:

BAR JOISTS SHALL BE DESIGNED AND FABRICATED ACCORDING TO THE LATEST STANDARDS OF THE STEEL JOIST INSTITUTE. JOIST FABRICATOR SHALL BE A MEMBER OF THE STEEL JOIST INSTITUTE.

BAR JOISTS SHALL BE WELDED TO SUPPORTING BEAMS, OR WELD PLATES WITH 1" OF WELD ON EACH SIDE OF BAR JOIST, UNLESS NOTED OTHERWISE.

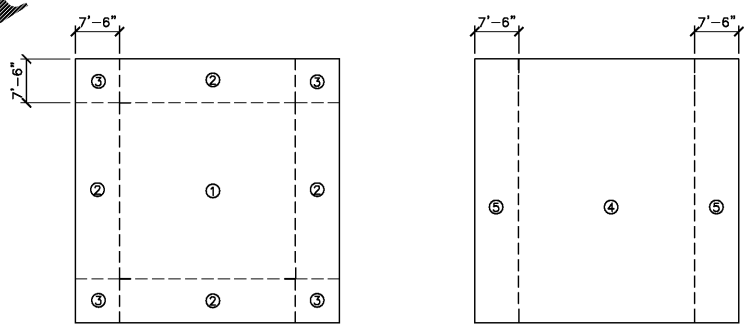
PROVIDE JOIST BRIDGING TO MEET THE REQUIREMENTS OF SJI. PROVIDE UPLIFT BRIDGING FOR THE NET UPLIFT SHOWN IN THE DESIGN LOADING NOTES.

BRIDGING TERMINATING AT MASONRY WALLS OR STEEL BEAMS SHALL BE ANCHORED TO WALL OR BEAM. BRIDGING SHALL BE ANCHORED AT ENDS FROM APPLYING ROOF OR FLOOR LOADS.

BAR JOISTS AT COLUMN LOCATIONS TO BE BOLTED TO SUPPORTING BEAM AT TIME OF ERECTION.

MINIMUM BEARING REQUIREMENTS FOR BAR JOISTS: 2 1/2" ON STRUCTURAL STEEL

UNLESS SHOWN ON STRUCTURAL DRAWINGS, NO PROVISIONS HAVE BEEN MADE IN THE BAR JOIST DESIGN TO ACCOUNT FOR CONCENTRATED LOADS. CONCENTRATED LOADS IN EXCESS OF 200 LBS/IN WILL REQUIRE JOIST REINFORCING PER THE DETAILS.



C&C WIND PRESSURES BY ZONE: **
 ZONE 1: 16 PSF / -35 PSF
 ZONE 2: 16 PSF / -41 PSF
 ZONE 3: 16 PSF / -56 PSF
 ZONE 4: 28 PSF / -31 PSF
 ZONE 5: 28 PSF / -40 PSF
 ** PRESSURES ARE BASED ON ULTIMATE WIND SPEED

GENERAL NOTES CONT.

Drawing Name: C:\2017\0201713103 - Chesterfield, VA\DWG\Struct\AIS3.0.dwg July 2, 2014 - dherriot

GENERAL NOTES:

DESIGN LOADS	
GOVERNING CODE:	2012 VIRGINIA BUILDING CODE (2012 IBC)
FLOOR LIVE LOAD:	100 PSF
ROOF LIVE LOAD:	20 PSF
ROOF SNOW LOADS:	
GROUND SNOW LOAD (Pg)	20 PSF
SNOW EXPOSURE FACTOR (Ce)	1.0
THERMAL FACTOR (Ct)	1.0
SNOW IMPORTANCE FACTOR	1.0
FLAT ROOF SNOW LOAD:	20 PSF
SPECIAL LOADS:	
INTERIOR PARTITIONS	5 PSF
HANDRAILS	50 PLF
ROOF JOIST DESIGN:	
PER LOADINGS SHOWN ABOVE, INCLUDE UNBALANCED SNOW AND SNOW DRIFTING PER CODE. DESIGN DEADLOAD = 18 PSF	
WIND LOADS (IN ACCORDANCE WITH 1609):	
BASIC WIND SPEED (ULT.)	115 MPH
BASIC WIND SPEED (NOM.)	89 MPH
WIND IMPORTANCE FACTOR	1.0
EXPOSURE CATEGORY	EXPOSURE C
INTERNAL PRESSURE COEFFICIENT	+/- 0.18
SEISMIC DESIGN DATA:	
RISK CATEGORY	II
SITE CLASSIFICATION	D
Ss	0.236
S1	0.063
Sds	0.252
Sd1	0.101
SEISMIC IMPORTANCE FACTOR	1.0
SEISMIC DESIGN CATEGORY	B
SEISMIC FORCE RESISTING SYSTEM	LT. FRAMED WALLS w/STRUCTURAL SHEATHING
DESIGN BASE SHEAR ADDED	0.077W

EXPOSED CEILING FRAMING PLAN

1/4"=1'-0"

DESIGN LOADING INFORMATION

1/4"=1'-0"

Project No. 17-052
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DRAWN BY:	JAG
CHECKED BY:	JNK
DATE:	05/01/17
REV. DATE	DESCRIPTION

The Construction Documents shall consist of all drawings, specifications, surveys, notes, reports, addenda and other information that are incorporated by reference into the Construction Documents. The Construction Documents shall be the sole basis for the construction of the project. Any discrepancies or conflicts between the drawings and the specifications or other information shall be resolved in the interpretation of the Architect.

SHEET TITLE
 CEILING FRAMING PLAN AND NOTES
S3.0