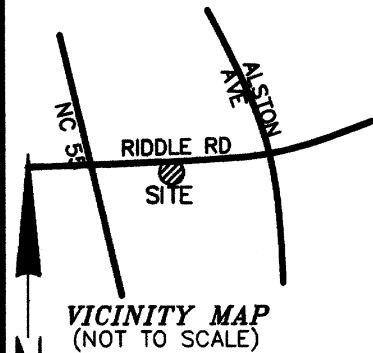




P.B. 206 PG. 76

REFERENCES

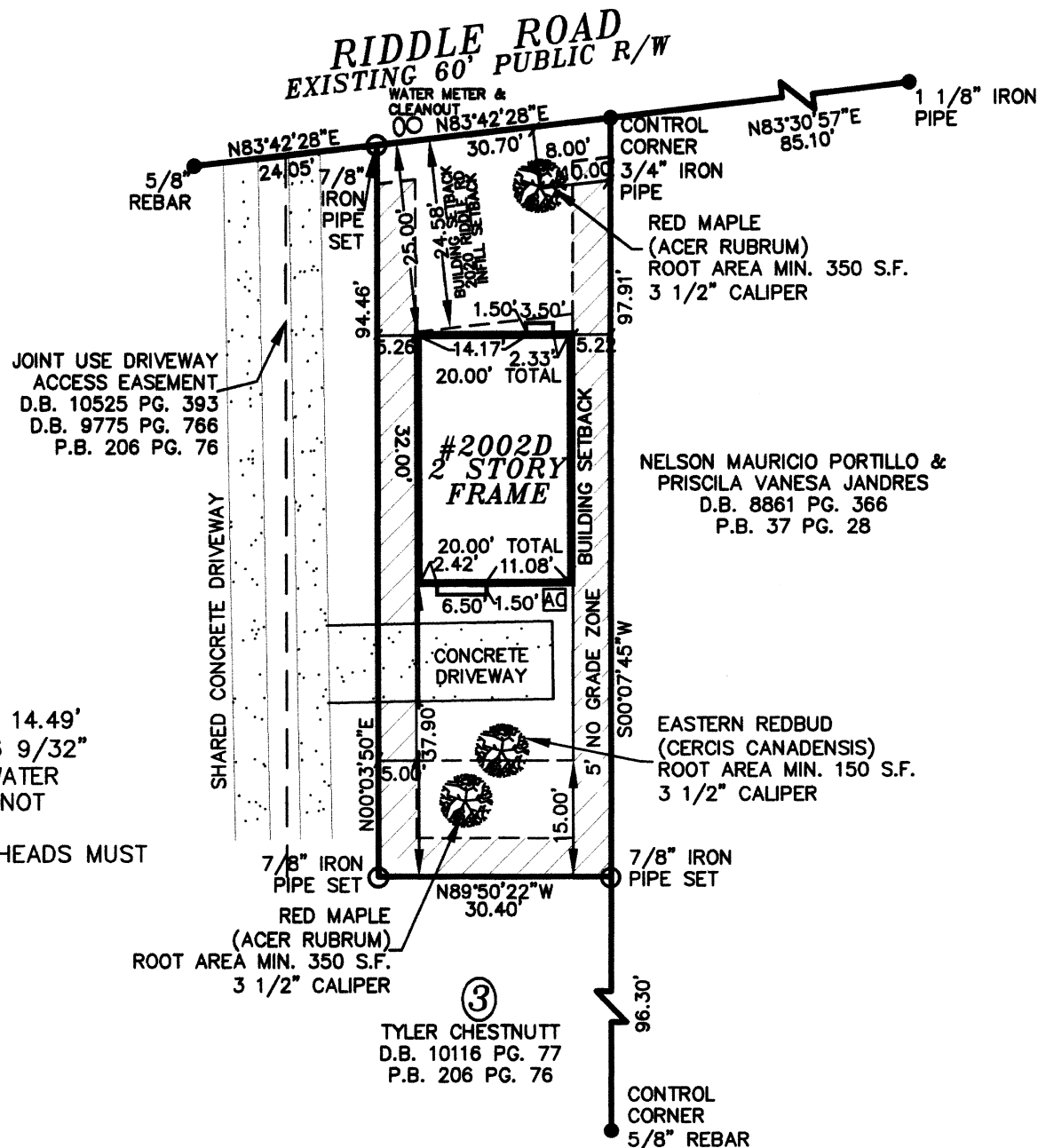
LOT 2
P.B. 206 PG. 76
D.B. 9721 PG. 108

2006 RIDDLE RD BUILDING HEIGHT IS 14.49'
PROPOSED BUILDING HEIGHT IS 23' 6 9/32"
DOWNSPOUTS SHALL DIRECT STORMWATER
RUNOFF OVER PERVIOUS AREA AND NOT
PIPED TO THE RIGHT OF WAY.
ALL TOILETS, FAUCETS AND SHOWERHEADS MUST
MEET EPA WATER-EFFECIENCY.

LEGEND

- IRON PIN FOUND
- IRON PIN SET
- △ MATH. POINT
- ⊠ MONUMENT
- NO N.C.G.S. MONUMENT
WITHIN 2000 FT.

DWG# C:\SURVEY\Riddle Rd 2002D.dwg



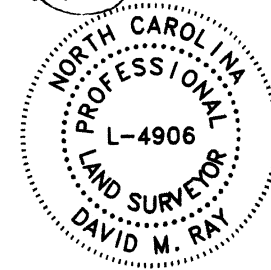
I David M. Ray do certify that the property on this plot is not located in a special flood hazard area as determined by the Department of Housing and Urban Development.

This 15 Day of April 2026.

Professional Land Surveyor L-4906

I David M. Ray, certify that this plot was drawn under my supervision from an actual survey made under my supervision from references as noted on said plot; that the boundaries not surveyed are clearly indicated as drawn from information as indicated under references; that the ratio of precision as calculated is greater than 1:15,000; that this plot was prepared in accordance with G.S. 47-30 as amended. Witness my original signature, registration number and seal this 15 day of April A.D. 2026.

Professional Land Surveyor (L-4906)



Planning & Development

Reviewed by Carl Kolosna
05/15/2026 10:37:18 AM

②

TOTAL AREA
2,929 S.F.
.07 ACRES
PIN 0830324903
PARCEL 231537



DAVID M. RAY P.L.S.
P.O. BOX 752 HILLSBOROUGH, NC 27278
TELEPHONE (919)296-1298
EMAIL DAVID@RAYPLS.COM

PLOT PLAN

PALMETTO HAVEN HOLDINGS, LLC
2002D RIDDLE RD. DURHAM, NC 27707

DURHAM COUNTY, NORTH CAROLINA

SCALE: 1"=20' DATE 4/15/2026

GENERAL NOTES

DESIGN NOTES

- 1. Floor: 40 lbs. Live load, 15 lbs. Dead load
- 2. Roof: 30 lbs. Live load, 20 lbs. Dead load
- 3. Soil bearing capacity-2000 PSF
- 4. Live loads, dead loads, wind loads, snow loads, lateral loads, seismic zoning and any specialty loading conditions will need to be confirmed before construction and adjustments to plans made accordingly. See your local building officials for verification of your specific load data, zoning restrictions and site conditions.

CONCRETE AND FOUNDATIONS

- 1. All slabs on grade shall be 4 inch 3000 PSI (28-day compressive strength concrete), unless noted otherwise.
- 2. All slabs on grade shall bear on four inch compacted granular fill with 6 by 6 10-10 welded wire mesh.
- 3. Interior slabs shall have 6 mil, polyethylene vapor barrier underneath.
- 4. Provide proper expansion joints and control joints as per local requirements.
- 5. Provide additional bearing points as required by floor "I" joist manufacturer, and loading transfers.
- 6. Foundation details may vary with local codes and conditions, verify with contractor or engineer.
- 7. Provide foundation access and vents as required by local codes and conditions.
- 8. Foundation wall and footing sizes reinforcing must conform with your local building requirements.
- 9. Foundation walls are not to be backfilled until house is completely framed and roof is in place.
- 10. Verify depth of footings with your local codes.
- 11. Provide termite protection as required by HUD minimum property standards.

BASEMENT

- 1. Basement stairs are calculated as 10 inch treads with 1 inch nosing (11 inch total) and 7.75 inch risers.
- 2. Water heater and air conditioner may be located in basement when using basement option.
- 3. Provide sump pumps as required.
- 4. Some soil conditions may require a 12 inch concrete retaining wall, verify with contractor or engineer.
- 5. Provide exterior windows and door as grade allows.
- 6. Provide venting as local codes and conditions dictate.

FRAMING

- 1. Contractor to confirm the size, spacing and species of all framing and structural members to meet your local code requirements.
- 2. Any structural or framing members not indicated on the plan are to be sized by the contractor.
- 3. Double floor joists under all partition walls, unless otherwise noted.
- 4. All angled walls are 45 degree angles unless noted otherwise.
- 5. Provide collar ties, cross-bridging and bracing as required.
- 6. Provide additional bearing points as required by loading transfers.
- 7. Framing lay-out and size may vary with local codes and conditions.
- 8. Roof framing plan is for general layout only, do no use for rafter count.

MISC. NOTES

- 1. Prefabricated fireplaces and flues are to be U.L. approved and installed per manu. specifications.
- 2. All materials, supplies and equipment to be installed per manu. specifications and local codes.
- 3. Provide type "x" firecode sheetrock on garage walls and ceilings.
- 4. Confirm window openings for your local egress requirements and minimum light and venting.
- 5. The mechanical and electrical layouts are suggested only. Consult your mechanical and electrical contractors for exact specifications, locations and sizes.
- 6. Minor alterations to this plan can be made by the builder. Please contact our drafting department for information price quotes if major changes are required.

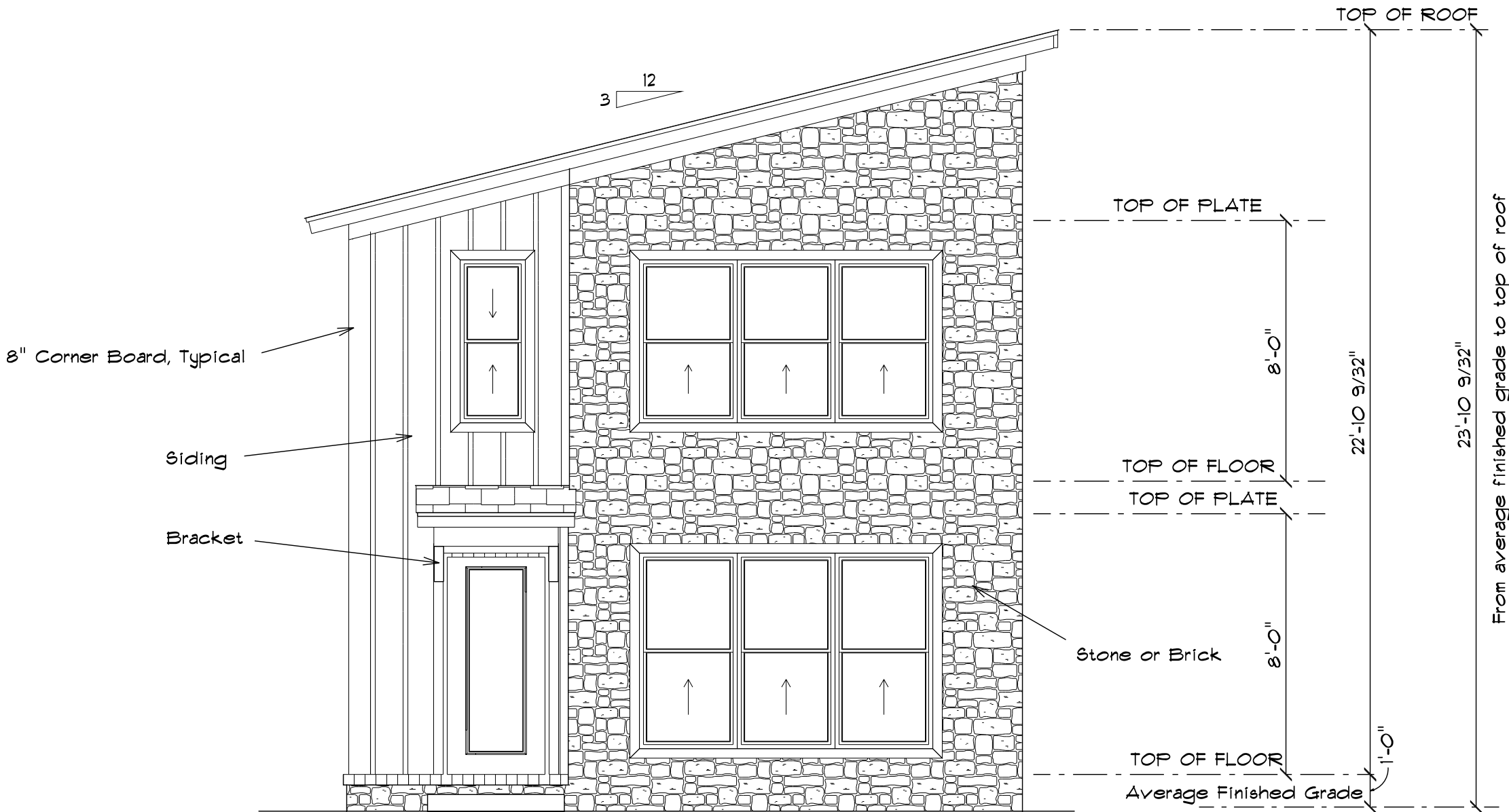
This plan was designed and drafted by W.L. Martin Home Designs to meet average conditions and codes in the state of Oklahoma at the time it was designed. Because codes and regulations can change and may vary from jurisdiction to jurisdiction, W.L. Martin Home Designs cannot warrant compliance with any special code or regulation. Consult your local building official to determine the suitability of these plans for your specific site and applicaion. This plan can be adapted to your local building codes and requirements, but also, it is the responsibility of the purchaser and/or builder of this plan to see that the structure is built in strict compliance with all governing municipal codes [city,county,state, and federal]. The purchaser and/or builder of this plan releases W.L. Martin Home Designs, its owner and employees from any claims or lawsuits that may arise during the construction of this structure or any time thereafter.

06/03/2026 3:02:02 PM
26101117

JOBSITE COPY
A copy of the plans, as approved by the Durham City-County Inspection Department, is required to be kept in the building during the period on construction.

Per 204.5.2 Permit Intent: A permit issued shall be construed as permission to proceed with the work and not as authority to violate, cancel, alter, or set aside any of the provisions of the technical codes. Issuance of a permit shall not prevent the inspections department from requiring correction of errors in plans, construction, or violations of this code. (General Statute 160D-1110)

BUILDING PLAN REVIEW EXCLUDES ALL MECHANICAL, ELECTRICAL AND PLUMBING SHEETS, DRAWINGS, DETAILS, NOTES, ETC. - PG

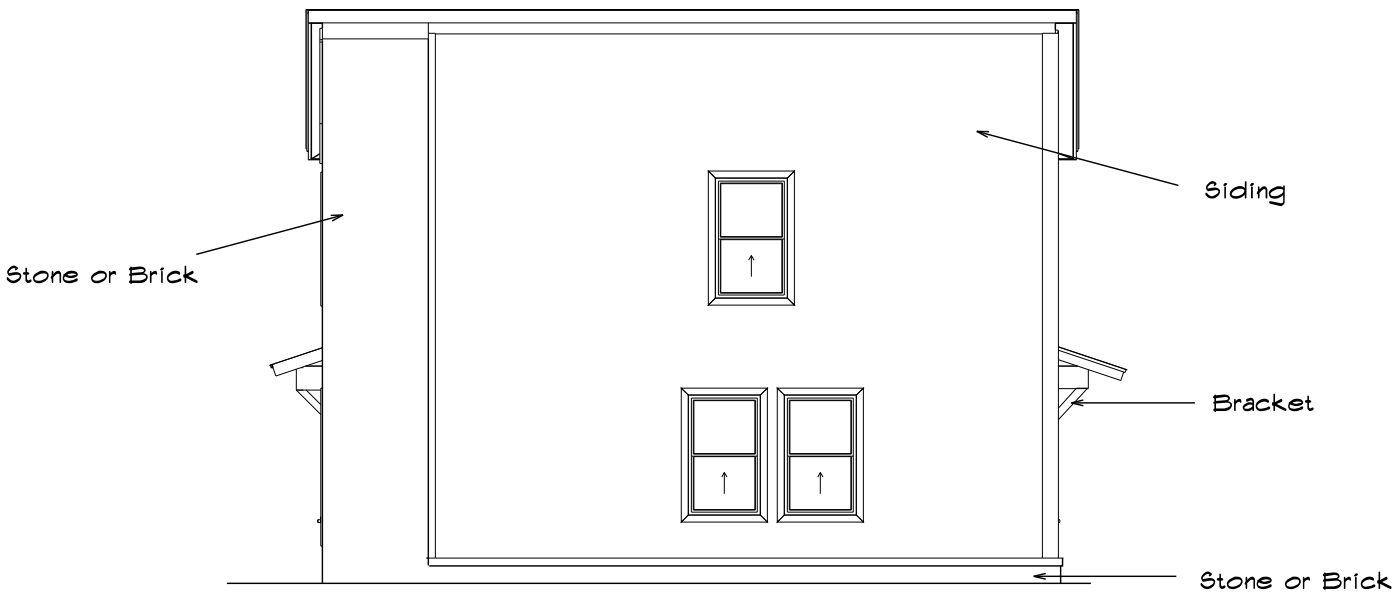


FRONT ELEVATION

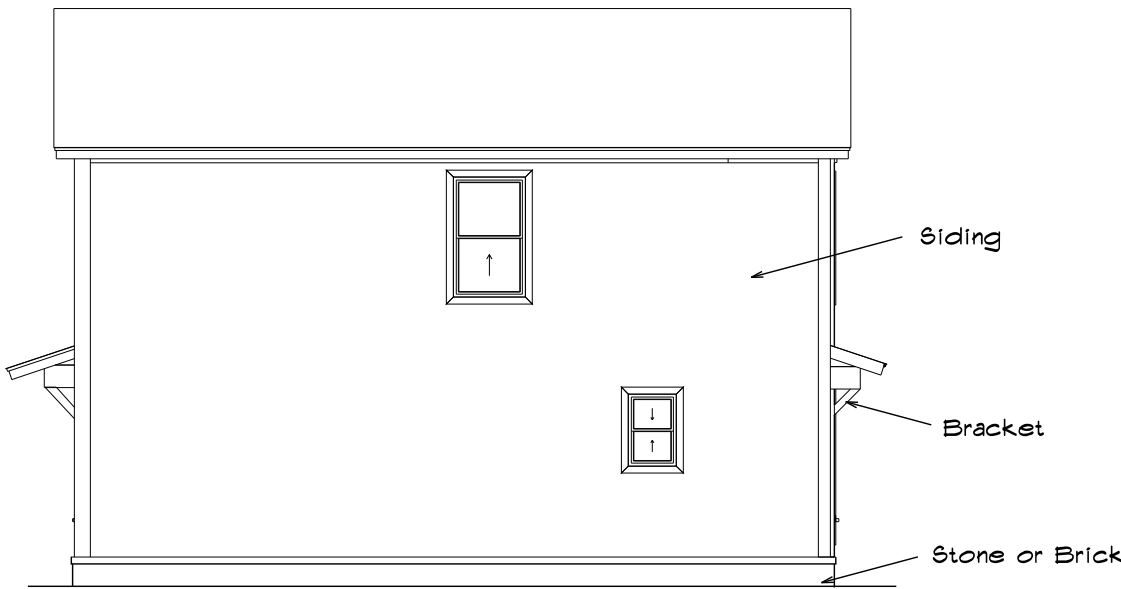


Inspections
Reviewed by Calvin Jones
06/03/2026 2:59:04 PM

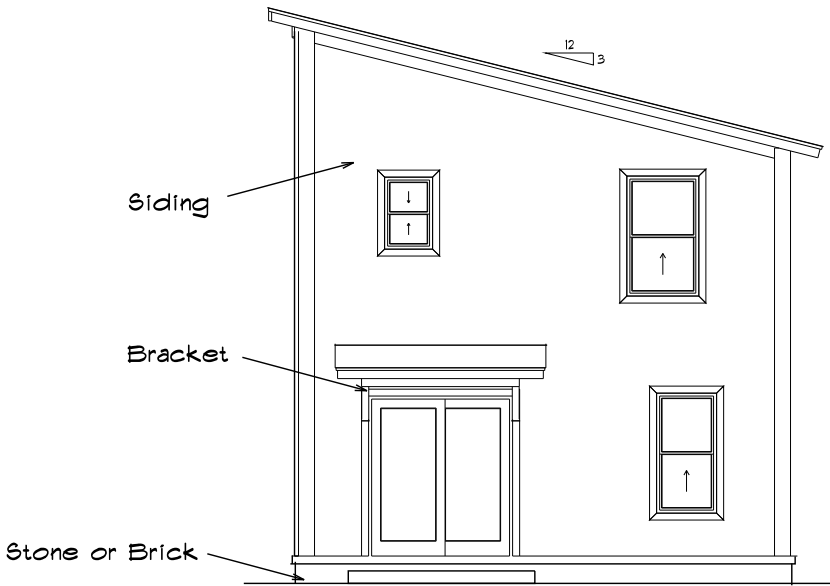
REVISIONS	BY
House Plan #24564 Modified For Amiri	
W.L. Martin Home Designs for Contact Information www.wlmartinhomes.com	
Date	
Scale 1/4" = 1'-0"	
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Sheet 1	
Of	8 Sheets



RIGHT SIDE ELEVATION



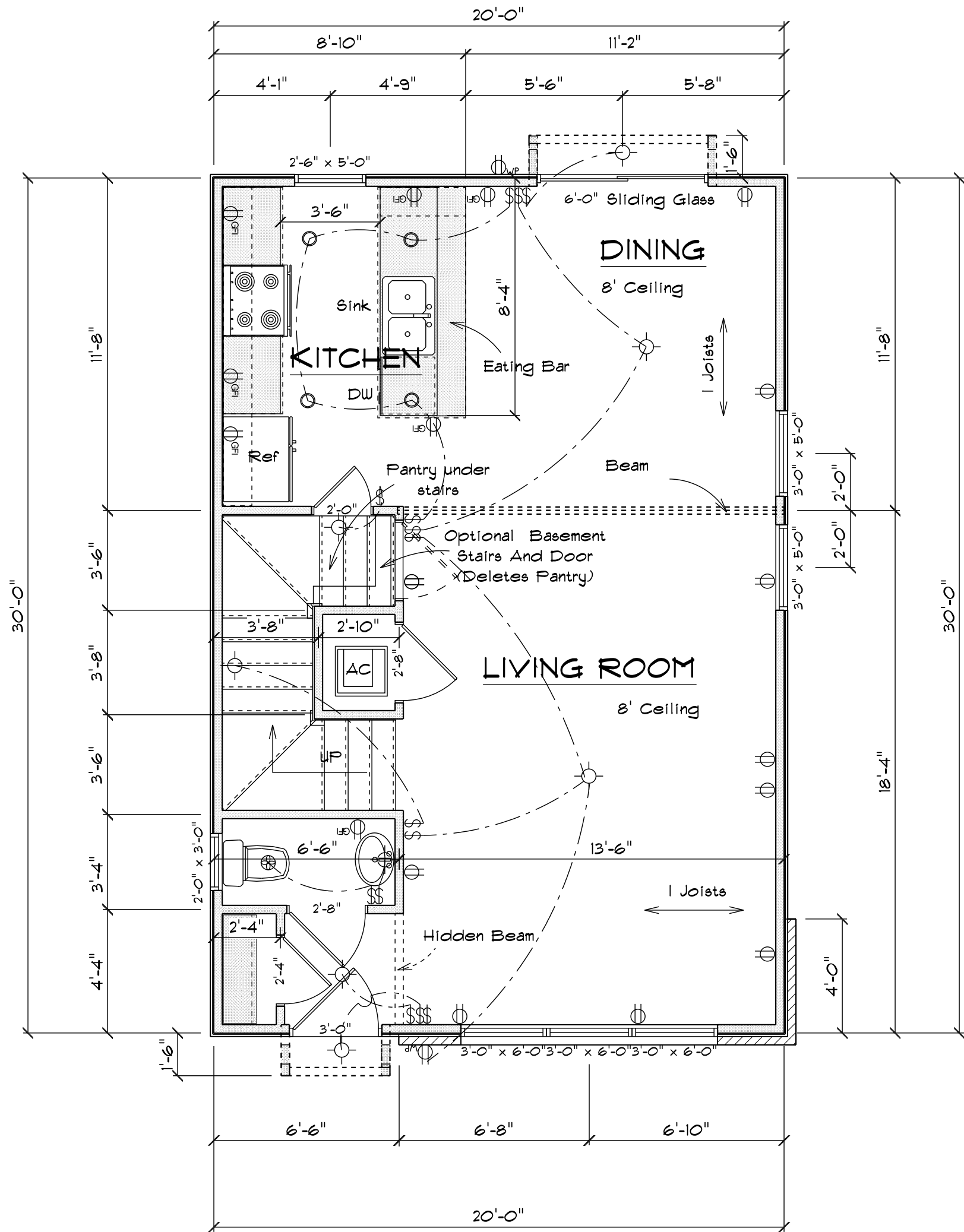
LEFT SIDE ELEVATION



REAR ELEVATION

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PLUMBING SHEETS, DRAWINGS,
DETAILS, NOTES, ETC. - PG



FIRST FLOOR PLAN

- Notes:
- 1. A/C May be Relocated as Required by Mechanical Contractor.
 - 2. Builders Choice on 6" Plumb Wall Locations.
 - 3. Co-ordinate Floor Truss Chase with Mechanical Contractor.
 - 4. Provide Safety Glass where Required by Local Code.

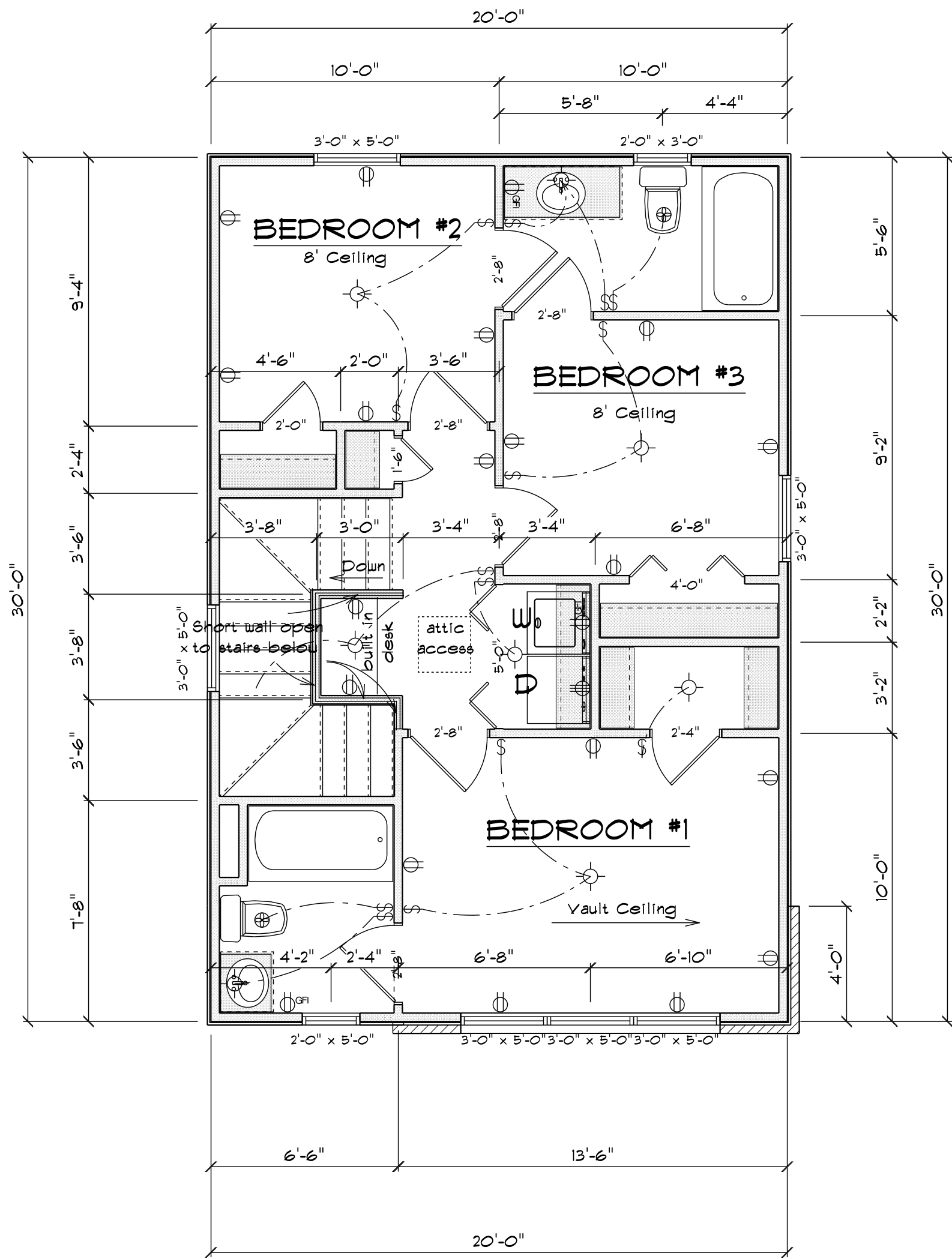
600 SQ FT FIRST FLOOR
600 SQ FT SECOND FLOOR
1200 SQ FT TOTAL HEATED

 
Inspections
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Of 8 Sheets	

BATHROOM WINDOWS SHALL
COMPLY WITH R308 - PG

BUILDING PLAN REVIEW EXCLUDES
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PLUMBING SHEETS, DRAWINGS,
DETAILS, NOTES, ETC. - PG



SECOND FLOOR PLAN

Option - Built in desk can be built with full
walls for a closet or A/C closet



Inspections

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W. L. MARTIN HOME DESIGNS DOES NOT WARRANT OR GUARANTEE THE ACCURACY OF THIS SET OF PLANS. BEFORE CONSTRUCTION THE CONTRACTOR, ENGINEER, OR ARCHITECT MUST CHECK DIMENSIONS AND LOADING, AND VERIFY THAT THESE PLANS COMPLY WITH ALL BUILDING CODES IN EFFECT AT CONTRUCTION LOCATION.

DURHAM

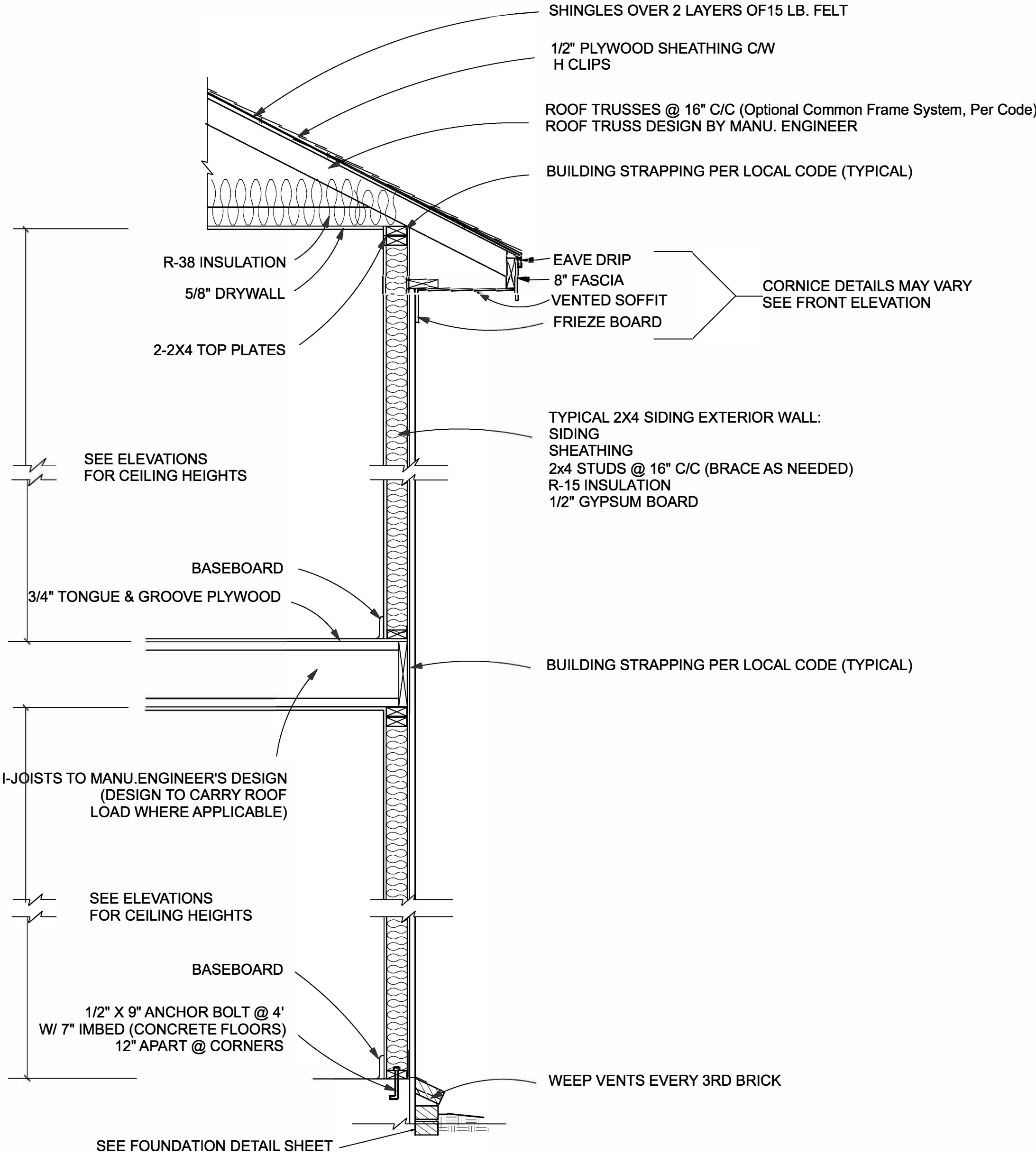
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CO

DURHAM

COUNTY

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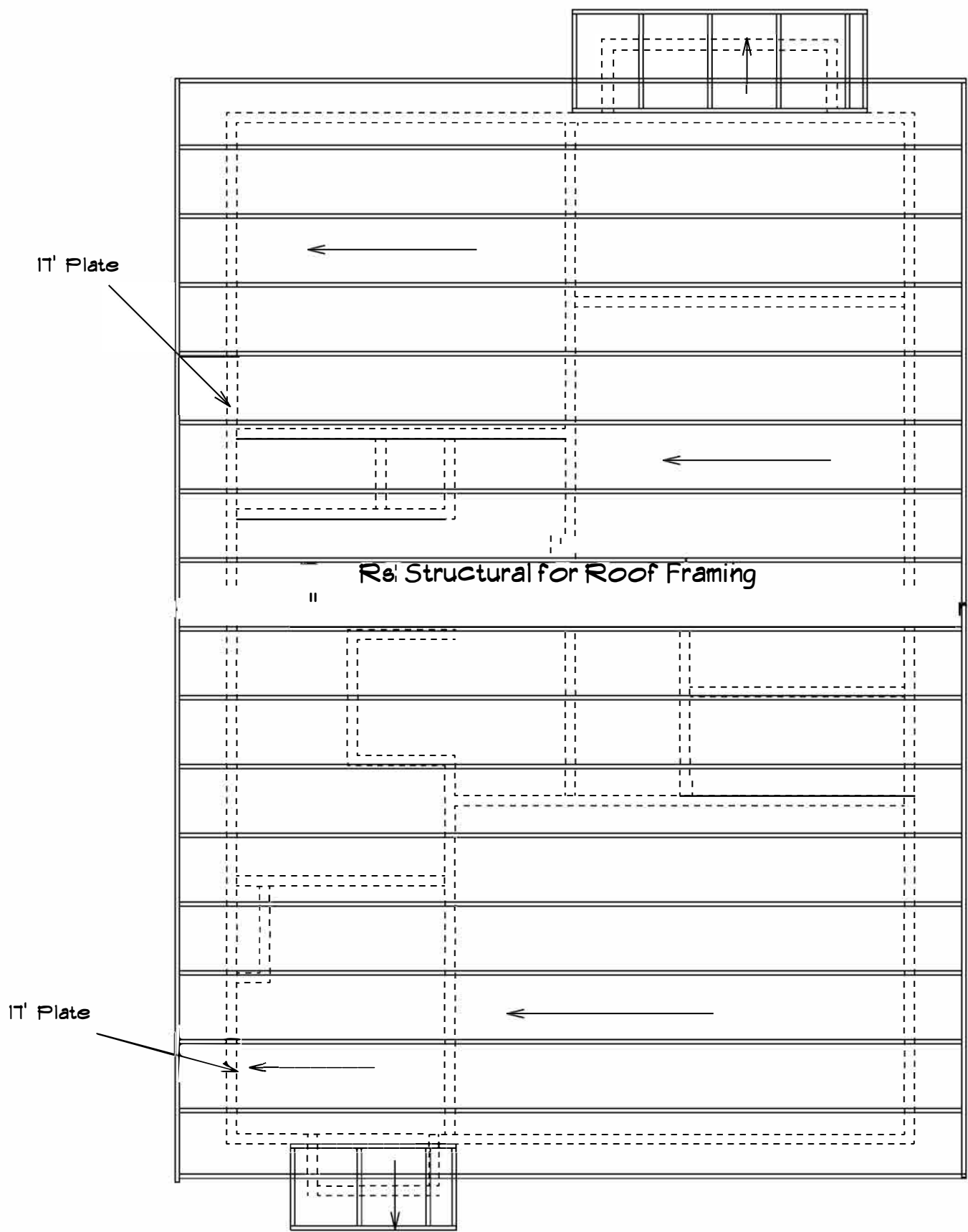
TYPICAL BUILDING SECTION

NOTE: ALL STRUCTURAL MEMBERS MUST COMPLY W/ LOCAL BUILDING CODES.

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ROOF PLAN

Roof Pitches are 3:12

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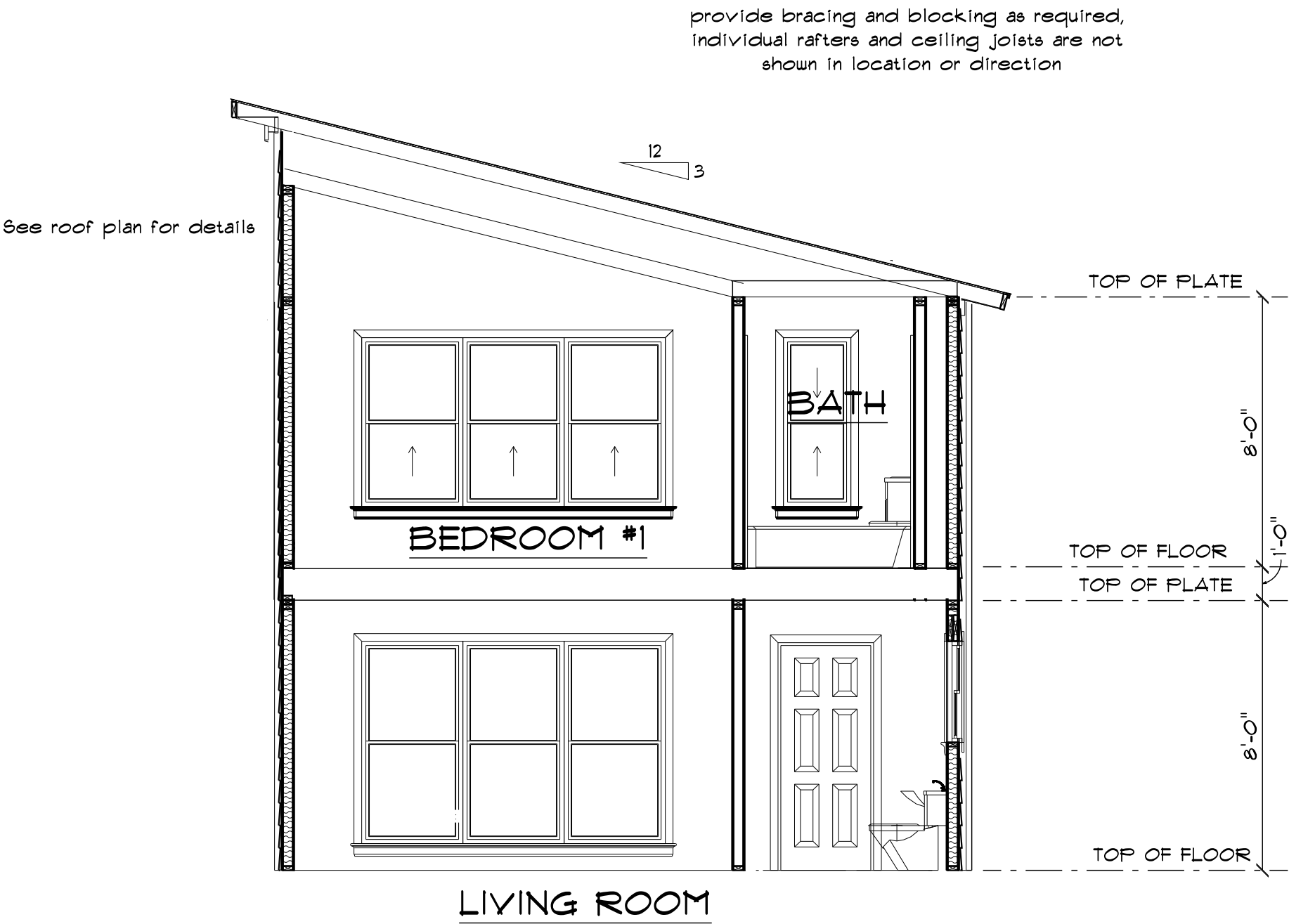
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BUILDING SECTION

For more details see: Typical wall section, foundation plan, foundation details and roof plan

THIS PRINT IS THE PROPERTY OF DKO ENGINEERING AND PUBLICATION OR REUSE OF THESE DRAWINGS OR DETAILS THEREOF IS PROHIBITED WITHOUT PRIOR WRITTEN CONSENT OF THE STRUCTURAL ENGINEER

GENERAL NOTES

- DKO ENGINEERING IS THE ENGINEER REFERENCED HEREIN THESE NOTES AND DRAWINGS. ALL REFERENCES TO ENGINEER SHALL REFER TO DKO ENGINEERING.
- THESE DRAWINGS SHALL BE USED IN CONJUNCTION AND COORDINATED WITH THE ARCHITECTURAL DRAWINGS, GEOTECHNICAL SOIL REPORT, AND OTHER CONTRACT DOCUMENTS.
- THE STRUCTURAL DRAWINGS DO NOT INDICATE THE METHOD OR MEANS OF CONSTRUCTION. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION METHODS, METHODS, PROCEDURES, TECHNIQUES, SEQUENCING, AND TEMPORARY BRACING.
- THE STRUCTURE HAS BEEN DESIGNED TO RESIST DESIGN LOADS ONLY AS A COMPLETED STRUCTURE. APPLICATION OF CONSTRUCTION LOADS TO THE PARTIALLY COMPLETED STRUCTURE SHALL BE CONSIDERED BY THE CONTRACTOR AND SO INCLUDING IN THE DESIGN OF SHORING, BRACING, FORM WORK, AND ANY OTHER SUPPORTING ELEMENTS PROVIDED FOR CONSTRUCTION OF THE STRUCTURE. DURING ERECTION AND UNTIL ALL PERMANENT CONNECTIONS ARE MADE, THE CONTRACTOR MUST PROVIDE TEMPORARY BRACING FOR THE STRUCTURE IN ALL DIRECTIONS. CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS AND GRADE CONDITIONS, BOTH NEW AND EXISTING, AND REPORT ANY DISCREPANCIES TO THE ARCHITECT PRIOR TO ORDERING MATERIALS OR PROCEEDING WITH ANY CONSTRUCTION. ANY DISCREPANCIES BETWEEN ENGINEER DRAWINGS AND FIELD CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER, IN WRITING, FOR CORRECTIVE ACTION.
- DO NOT SCALE DIMENSIONS FROM DRAWINGS. THE CONTRACTOR SHALL REQUEST, FROM THE ARCHITECT OR ENGINEER, NECESSARY DIMENSIONS NOT SHOWN ON THE DRAWINGS.
- SEE ARCHITECTURAL DRAWINGS FOR FLOOR ELEVATIONS, FLOOR SLOPES, AND LOCATION OF DEPRESSED / STEPPED FLOOR AREAS.
- ANY DISCREPANCIES BETWEEN FINAL ARCHITECTURAL DRAWINGS AND/OR OTHER DRAWINGS PROVIDED BY A THIRD PARTY SHALL NOT BE THE RESPONSIBILITY OF ENGINEER. ENGINEER IS NOT RESPONSIBLE FOR DETERMINING BUILDING LOCATION ON SITE, BUILDING HEIGHT, BUILDING SETBACKS, UTILITY EASEMENTS, AERIAL EASEMENTS OR ANY OTHER ARCHITECTURAL ASPECT OF THIS STRUCTURE. REFER TO ARCHITECTURAL PLANS.
- ENGINEER IS NOT RESPONSIBLE FOR VARIATIONS IN THE FRAMING FROM THE PLANS DUE TO OWNER/CONTRACTOR OR ARCHITECTURAL CHANGES, UNLESS APPROVED IN WRITING PRIOR TO CONSTRUCTION.
- SITE OBSERVATIONS ARE REQUIRED FOR ALL PIER, FOUNDATION, AND FRAMING WORK PRIOR TO CONCRETE POURING AND WALL COVERING INSTALLATION. THE USE OF THESE DRAWINGS SIGNIFIES THE OWNER/CONTRACTOR'S AGREEMENT THAT THE ENGINEER SHALL NOT BE LIABLE FOR ANY CONSTRUCTION THAT HAS NOT BEEN OBSERVED AND APPROVED. IN WRITING, BY ENGINEER. IN THE ABSENCE OF SUCH SITE OBSERVANCE AND APPROVAL, ENGINEER MAKES NO REPRESENTATIONS OF SUITABILITY, EXPRESS OR IMPLIED, WITH REFERENCE TO THESE DRAWINGS. OWNER/CONTRACTOR AGREES TO INDEMNIFY AND HOLD HARMLESS ENGINEER FOR ALL DAMAGES, COSTS, AND ATTORNEY FEES THAT ENGINEER MAY INCUR AS A RESULT OF ANY LITIGATION ARISING OUT OF THIS PROJECT IF ENGINEER HAS NOT REVIEWED THE CONSTRUCTION WORK AND APPROVED IT. IN CHOOSING TO BUILD WITHOUT SITE OBSERVATION AND APPROVAL, OWNER/CONTRACTOR AGREES TO BE RESPONSIBLE FOR SAID CONSTRUCTION. NOTE THAT "APPROVAL/APPROVED," AS USED IN THIS NOTE, SHALL NOT BE CONSTRUED AS A WARRANTY OF ANY SORT BUT IS DEFINED AS "TO BE IN GENERAL CONFORMITY WITH ENGINEER PLANS AND SPECIFICATIONS."
- DKO'S LIABILITY IS LIMITED TO FEE CONTRACTED AND PAID FOR RELATED TO THE PREPARATION OF THESE DOCUMENTS.
- ALL SUBSTITUTIONS MUST BE APPROVED BY DKO PRIOR TO INSTALLATION. FAILURE TO RECEIVE SUBSTITUTION APPROVAL RELIEVES DKO FROM RESPONSIBILITY OF SUBSTITUTED PRODUCT.
- TERMITE PROTECTION SHALL BE PROVIDED BY TREATED WOOD AND BORATES.

STRUCTURAL DESIGN CRITERIA

APPLICABLE BUILDING CODES:
2018 NORTH CAROLINA RESIDENTIAL CODE

WIND LOADS:

MAIN WIND FORCE RESISTING SYSTEM (MWFRS)	METHOD II, ANALYTICAL
WIND LOAD DESIGN PROCEDURE	Y _w = 115 mph
BASIC WIND SPEED	F = 1.00
IMPORTANCE FACTOR	IC = II
OCCUPANCY CATEGORY	Exp = B
TOPOGRAPHIC FACTOR	Kc = 1.0
EXPOSURE CATEGORY	RC = II
RISK CATEGORY	Enclosed
ENCLOSURE CLASSIFICATION	Gcpi = ±0.18
INTERNAL PRESSURE COEFFICIENT	

COMPONENTS AND CLADDING

ALL BUILDING COMPONENTS AND CLADDING ENGINEERED BY THE COMPONENT MANUFACTURER ARE TO BE DESIGNED BY THE MANUFACTURER'S ENGINEER FOR WIND LOADS DETERMINED PER THE BUILDING CODE DESIGN WIND VELOCITY, IMPORTANCE FACTOR, AND EXPOSURE LISTED ABOVE.

COMPONENTS & CLADDING PRESSURE, (TRIBUTARY AREA = 10 SF)			
ROOF	ZONE 1, 2e, 2r:	+P= 18.4 psf	-P= -33.8 psf
	ZONE 2h, 3r:	+P= 18.4 psf	-P= -37.2 psf
	ZONE 3e:	+P= 18.4 psf	-P= -45.6 psf
WALL	ZONE 4:	+P= 20.1 psf	-P= -21.8 psf
	ZONE 5:	+P= 20.1 psf	-P= -27.0 psf

SNOW LOADS:

GROUND SNOW LOAD	Pg = 0 psf
------------------	------------

SEISMIC LOADS:

SEISMIC DESIGN CATEGORY	C
ANALYTICAL PROCEDURE	D EQUIVALENT LATERAL FORCE
SITE CLASSIFICATION	D - STIFF SOIL
IMPORTANCE FACTOR	Ie = 1.0 (RISK CAT. II)

MAPPED SPECIAL RESPONSE ACCELERATION			
S _s	0.12	S ₁	0.06
	0.128	S ₀₁	0.096
MAXIMUM CONSIDERED SPECTRAL RESPONSE ACCELERATION			
S _{MS}	0.191	S _{M1}	0.144

DEAD LOADS:

DEAD LOAD, TYPICAL	15 psf
ATTIC	10 psf
ROOF	15 psf

LIVE LOADS:

SLEEPING ROOMS	30 psf
ROOMS OTHER THAN SLEEPING	40 psf
ALL TRUSSES REGARDLESS OF ROOM	40 psf
STAIRS	40 psf
*Individual stair treads shall be designed for a uniform live load or a 300 lb concentrated load acting over an area of 4 sq in, whichever produces greater stresses	
UNINHABITABLE ATTICS w/out STORAGE	10 psf
*max. clear height between joists and rafters is less than 42". Live load need not be assumed to act concurrently with any other live load requirements.	
UNINHABITABLE ATTICS w/LIMITED STORAGE	20 psf

ROOF LIVE LOADS:

FLAT OR RISE LESS THAN 4"/FT (1:3)	20 psf
RISE 4"/FT (1:3) TO LESS THAN 12"/FT (1:1)	16 psf
RISE 12"/FT (1:1) AND GREATER	12 psf

FOUNDATION

DESIGN:

- FOUNDATION DESIGN IS BASED ON AN ASSUMED DESIGN PRESSURE OF 3,000 PSF. CONTRACTOR SHALL VERIFY MINIMUM OF 3,000 PSF BEARING PRIOR TO CONSTRUCTION.

COORDINATION:

- CONTRACTOR MUST VERIFY ALL DROPS, OFFSETS, BRICK LEDGES, AND BLOCK OUTS ON ARCHITECTURAL PLANS AND NOTIFY ENGINEER OF ANY DISCREPANCIES THAT MAY EXIST PRIOR TO CONSTRUCTION. DKO ENGINEERING SHALL NOT BE LIABLE FOR ANY DIMENSIONAL ERRORS.
- CONTRACTOR MUST COORDINATE THE STRUCTURAL PLANS WITH ARCHITECTURAL AND MECHANICAL FOR ALL OPENINGS, INSETS, AND OTHER RELATED ITEMS REQUIRED TO COMPLETE THE FOUNDATION.
- EXTERIOR BEAMS TO EXTEND A MINIMUM OF 24" INTO UNDISTURBED SOIL UNLESS NOTED OTHERWISE.
- SOIL COMPACTION AND SITE PREPARATION SHALL BE 95% DENSITY.
- A 10 mil GROUND COVER SHALL BE LAID OVER THE GROUND IN ALL CRAWLSPACES. THE GROUND COVER SHALL BE OVERLAPPED BY 12" AT EACH JOINT AND SHALL EXTEND TO THE FOUNDATION WALL.

CONCRETE:

- ALL CONCRETE WORK SHALL BE DONE IN ACCORDANCE WITH ACI 318 "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE", LATEST EDITION.
- NORMAL WEIGHT CONCRETE SHALL HAVE ASTM C33 COARSE AND FINE AGGREGATE WITH A MAXIMUM UNIT WEIGHT OF 150 PCF. LIGHTWEIGHT CONCRETE SHALL HAVE ASTM C330 EXPANDED SHELL OR SLATE AGGREGATE BY ROTARY-KILN METHOD WITH A MAXIMUM UNIT WEIGHT OF 120 PCF. NOMINAL MAXIMUM COARSE AGGREGATE SIZE FOR LIGHTWEIGHT CONCRETE IS 3/4".
- CONCRETE SHALL BE AIR ENTRAINED. TOTAL AIR CONTENT SHALL BE NOT LESS THAN 5% AND NOT MORE THAN 7%.
- CONCRETE COMPRESSIVE STRENGTH, F_c AT 28 DAYS = 3,000 psi AND AT LEAST 2,000 psi AT TIME OF STRESSING (3 TO 10 DAYS).
- USE MINIMUM 4 1/2 SACKS OF CEMENT PER CUBIC YARD WITH 5 1/2" MAXIMUM SLUMP. CURING IS REQUIRED. CALCIUM CHLORIDE OR ADMIXTURES CONTAINING CALCIUM CHLORIDE SHALL NOT BE USED AS ADDITIVES IN CONCRETE MIX.

MATERIALS:

- PREINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60.

CONSTRUCTION:

- PROVIDE 4" MINIMUM CUSHION LAYER OF EITHER Pervious SAND OR GRANULAR FILL UNDER SLAB, OR PER SOIL REPORT. SOIL ENGINEER TO CERTIFY SOIL PREPARATIONS HAS BEEN PERFORMED PER SOIL REPORT RECOMMENDATIONS.
- PLACE 6 MIL THICK POLYETHYLENE VAPOR RETARDER SHALL BE INSTALLED ALL CONCRETE SLABS. JOINTS IN POLYETHYLENE SHALL BE LAPPED 6".
- BAR STOPPERS, DESIGN, DETAILING FABRICATION, AND PLACING OF REINFORCING STEEL SHALL BE IN ACCORDANCE WITH ACI 318, ACI 301r, AND THE "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES", ACI 315.
- CONCRETE SHALL BE WELL CONSOLIDATED.
- DKO ENGINEERING CANNOT BE HELD RESPONSIBLE FOR THE ADEQUACY OF CONSTRUCTION OR COMPLIANCE TO THESE DRAWINGS UNLESS WE ARE CONTRACTED TO PROVIDE REGULAR INSPECTION DURING CONSTRUCTION AND THEREBY HAVE LIMITED CONTROL OVER FIELD APPLICATION.

MILD STEEL:

- CONCRETE COVERAGE ON REINFORCING STEEL SHALL BE AS FOLLOWS UNLESS NOTED OTHERWISE:
 - FOOTING AND OTHER PRINCIPAL STRUCTURAL MEMBER IN WHICH CONCRETE IS DEPOSITED AGAINST THE GROUND = 3" (i.e., GRADE BEAMS BOTTOM = 3", SIDE = 3").
 - MEMBER WITH FORMED SURFACES EXPOSED TO THE WEATHER OR GROUND = 2".
 - CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND = 1 1/2".
 - SLABS ON GRADE = MIDDLE (CENTERS) OF SLAB.
- PROVIDE 2 - #5 x 4'-0" CORNER BARS AT TOP OF BEAM ON OUTSIDE FACE OF EXTERIOR GRADE BEAM AND AT ALL DEAD END BEAMS.
- PROVIDE 2 - #4 x 4'-0" BARS AT ALL RE-ENTRANT CORNERS.
- BARS DETAILED AS CONTINUOUS SHALL HAVE THE FOLLOWING MINIMUM LAP LENGTHS:
 - #3 -- 18"
 - #4 -- 24"
 - #5 -- 30"
 - #6 -- 36"

WOOD

LUMBER

- FRAMING LUMBER SHALL BE SOUTHERN PINE WITH 19% MAXIMUM MOISTURE CONTENT, UNLESS NOTED OTHERWISE ON PLANS.
- THE MODULUS OF ELASTICITY (E) SHALL BE GREATER THAN 1,400,000 psi.
- THE SHEAR STRESS PARALLEL TO THE GRAIN, F_v, SHALL BE A MINIMUM OF 175 psi.
- FRAMING LUMBER BENDING STRESSES (F_b) FOR A SINGLE MEMBER ARE LISTED BELOW:
 - 2x6 1000 psi
 - 2x8 925 psi
 - 2x10 800 psi
 - 2x12 750 psi
- ALL STUDS LESS THAN 10'-0" LONG SHALL BE STUD GRADE OR BETTER MATERIAL PROPERTIES. LONGER LENGTHS SHALL BE #2 SOUTHERN PINE OR BETTER OR AS STATED ON PLANS.
- SPF (SPRUCE, PINE, FIR) LUMBER IS NOT ACCEPTABLE FOR FLOOR JOISTS, HEADERS, OR BEAMS. UTILITY GRADE STUDS ARE NOT ACCEPTABLE FOR EXTERIOR WALLS OR TOP PLATES.
- ALL WOOD IN CONTACT WITH CONCRETE, MASONRY, OR SOIL SHALL BE PRESSURE TREATED.
- MUDSILLS WITHIN 18" OF GRADE SHALL BE PRESSURE TREATED LUMBER.
- WITHIN THE CRAWLSPACE, THE FRAMING SHALL HAVE A CLEARANCE OF 18" BETWEEN BOTTOM OF WOOD AND EARTH
- MINIMUM DESIGN STRESSES FOR FABRICATED WOOD MEMBERS ARE LISTED BELOW:

	F _b (psi)	F _v (psi)	E (psi)
10.1. PARALLAM	2,900	290	2,000,000
10.2. MICROLAM/LVL	2,600	285	2,000,000
10.3. GLUELAM	2,400	165	1,800,000
- OWNER/CONTRACTOR MUST VERIFY WITH SUPPLIERS THAT LUMBER CRITERIA ARE MET.

REAR EXTERIOR STUD WALL SHALL BE 2x4 @ 16" ON-CENTER. ALL OTHER EXTERIOR AND INTERIOR LOAD BEARING SHALL BE 2x4 @ 16" ON-CENTER. WALLS OVER 10'-0" AND UP TO 12'-0" TALL SHALL BE DOUBLE 2x4 OR SINGLE 2x6 @ 16" ON-CENTER, AND WALLS OVER 12'-0" SHALL BE MINIMUM OF 2x6 @ 16" ON-CENTER UNLESS NOTED OTHERWISE ON PLAN.
- INTERIOR NON-LOAD BEARING STUD WALLS UP TO 12'-0" CAN BE 2x4 STUDS AT 16" ON-CENTER UNLESS NOTED OTHERWISE.
- LOAD BEARING PARTITIONS AND COLUMNS SHALL NOT BEAR ON PLYWOOD DECK ALONE. FLOOR JOISTS OR BLOCKING MUST BE PLACED UNDER FLOOR DECK TO TRANSFER LOADS TO FOUNDATIONS OR OTHER SUPPORTS. ALL CONNECTIONS MUST BE SHIMMED TIGHT.
- MULTIPLE STUD COLUMNS SHALL BE NAILED TOGETHER USING MINIMUM 2 - 10d NAILS AT 16" ON-CENTER.
- TRIMMERS TO BE DOUBLED UNDER ALL HEADERS SPANNING MORE THAN 8'-0" OR FOLLOW TABLE R602.7.
- ALL STUD WALLS SHALL BE DIAGONALLY BRACED WITH A 1x4 LET IN BRACE AT EACH CORNER OR WITHIN 10' OF THE CORNER AND AT 20'-0" MAXIMUM SPACING ALONG THE WALL. THE BRACE SHALL BE SECURELY FASTENED TO BOTH THE TOP AND BOTTOM PLATES AND EACH STUD IT CROSSED WITH 2-10d NAILS. LET IN BRACING NOT ALLOWED ON GROUND LEVEL OF 3-STORY STRUCTURE.
- LATERAL BRACING PLAN IS CONTINUOUS SHEATHING WITH WOOD STRUCTURAL PANELS. ALL EXTERIOR WALLS SHALL BE CONTINUOUSLY SHEATHED WITH 1/2" PLYWOOD OR 7/8" OSB FASTENED WITH 10d COMMON NAILS AT 6" EDGES AND 12" FIELDS ON BLOCKED EDGES. MINIMUM PENETRATION IN FRAMING SHALL BE 1 3/8" .

WOOD cont.

TRUSS FLOOR FRAMING:

- THE DESIGN AND FABRICATION OF ALL WOOD TRUSSES SHALL MEET THE "NATIONAL DESIGN SPECIFICATIONS FOR STRESS GRAD LUMBER AND ITS FASTENERS" BY NATIONAL FOREST PRODUCTS ASSOCIATION (LATEST REVISION), "TIMBER CONSTRUCTION STANDARDS" BY AMERICAN INSTITUTE OF TIMBER CONSTRUCTION (LATEST REVISION), AND "DESIGN SPECIFICATIONS FOR LIGHT METAL CONNECTED WOOD TRUSSES" BY TRUSS PLATE INSTITUTE (LATEST REVISION). BOISE CASCADE IS THE BASIS OF THE TRUSS DESIGN.
- TRUSS DESIGN DRAWINGS SHALL BE PREPARED BY A LICENSED PROFESSIONAL ENGINEER IN THE STATE IN WHICH THE TRUSSES WILL BE CONSTRUCTED. TRUSS DESIGN DRAWINGS SHALL BE SUBMITTED AND APPROVED BY THE BUILDING OFFICIAL PRIOR TO CONSTRUCTION.
- TRUSS DESIGN DRAWINGS SHALL INCLUDE, AT A MINIMUM, THE INFORMATION SPECIFIED BELOW:
 - SLOPE OR DEPTH, SPAN AND SPACING.
 - LOCATION OF ALL JOINTS.
 - REQUIRED BEARING WIDTHS.
 - DESIGN LOAD INCLUDING, LIVE LOADS, DEAD LOADS, CONCENTRATED LOADS AND POINT OF APPLICATION, AND CONTROLLING WIND AND/OR EARTHQUAKE LOADS.
 - ADJUSTMENTS TO LUMBER AND JOINT CONNECTOR DESIGN VALUES FOR CONDITIONS OF USE.
 - EACH REACTION FORCE AND DIRECTION.
 - JOINT CONNECTOR TYPE AND DESCRIPTION, e.g. SIZE, THICKNESS OR GAUGE, AND THE DIMENSIONAL LOCATION OF EACH JOINT CONNECTOR EXPECT WHERE SYMMETRICALLY LOCATED RELATIVE TO THE JOINT INTERFACE.
 - LUMBER SIZE, SPECIES AND GRADE FOR EACH MEMBER
 - CONNECTION REQUIREMENTS FOR: TRUSS-TO-GIRDER TRUSS, TRUSS PLY-TO-PLY, AND FIELD SPLICES.
 - CALCULATED DEFLECTION RATIO AND/OR MAXIMUM DESCRIPTION FOR LIVE AND TOTAL LOAD.
 - MAXIMUM AXIAL COMPRESSION FORCES IN THE TRUSS MEMBERS TO ENABLE THE BUILDING DESIGNER TO DESIGN THE SIZE, CONNECTIONS AND ANCHORAGE OF PERMANENT CONTINUOUS LATERAL BRACING. FORCES SHALL BE SHOWN ON THE TRUSS DRAWING OR ON SUPPLEMENTAL DOCUMENTS.
 - REQUIRED PERMANENT TRUSS MEMBER BRACING LOCATION.
- ALL TRUSS CONNECTOR PLATES SHALL BE MANUFACTURED FROM STRUCTURAL QUALITY GALVANIZED SHEET METAL OF NO LESS THAN 20 GAUGE THICKNESS, WITH MINIMUM YIELD STRENGTH OF 33 ksi AND MINIMUM TENSILE STRENGTH OF 45 ksi. THE CORROSION RESISTANT COATING SHALL MEET OR EXCEED ASTM A446, STANDARD SPECIFICATION FOR SHEET METAL, ZINC COATED BY HOT DIP PROCESS. PHYSICAL QUALITY, GRADE A, AND ASTM A525; COATING DESIGNATION C60. ALTERNATELY, COLD-ROLLED ELECTROLYTIC ZINC COATED PLATES SHALL MEET OR EXCEED ASTM A591, COATING CLASS C AND MEET THE STRUCTURAL QUALITY REQUIREMENTS OF ASTM A446, GRADE A.
- ALL TRUSS MEMBERS SHALL BE ACCURATELY CUT TO LENGTH, ANGLE, AND TRUE TO LINE TO ASSURE TIGHT JOINTS FOR FINISHED TRUSS.
- TRUSS GIRDS SHALL BE SUPPORTED BY MINIMUM OF FOUR STUDS AT EACH END.
- NO OPEN JOINTS WHICH DEPEND ON STIFFNESS OF METAL CONNECTOR PLATE TO TRANSMIT STRESSES NOR IMPROPER FITTING JOINTS WILL BE ALLOWED. TRUSSES WITH ANY LOOSENESS OR SEPARATION OF THE CONNECTOR PLATES SHALL BE ACCEPTED.
- DEAD KNOTS AND WANES ON LUMBER SHALL NOT ENTER THE CONNECTOR PLATES.
- PROVIDE PERMANENT LATERAL CROSS-BRACING AT THIRD POINTS OF TRUSS SPAN.
- TRUSS CONNECTORS SHALL BE "TECO" OR "SIMPSON" OR ENGINEER APPROVED SUITABLE FOR CONNECTION STRESSES.
- TRUSSES SHOULD BE INSPECTED FOR QUALITY AT SITE PRIOR TO ERECTION.
- TRUSSES SHALL NOT BE ALLOWED TO GET WET AT ANY TIME. THEY SHALL BE KEPT COVERED DURING STORAGE AND CONSTRUCTION.

ROOF FRAMING:

- PROVIDE A CONTINUOUS TIE ACROSS BUILDING WITH STRONGBACKS MADE FROM A SINGLE 2x6 LAID FLAT AND A SINGLE 2x8 VERTICAL, RUNNING PERPENDICULAR TO JOISTS AND NAILED TO EACH JOIST.
- ALL RIDGES, HIPs, AND VALLEYS SHALL BE ONE SIZE LARGER THAN ROOF RAFTERS.
- INSTALL 2x6 CROWN TIES 1/3 OF THE SPAN DOWN FROM RIDGE BEAM, SPACED AT MAXIMUM OF 48" ON-CENTER.
- INSTALL 2x8 PURLINS UNDER 2x6 RAFTERS THAT SPAN MORE THAN 12'-0". BRACE TO STRONGBACKS OR PARTITIONS BELOW AT 48" ON-CENTER WITH 2x4 OR 2x6 BRACES.
- PROVIDE MINIMUM 2x8 RAFTERS AT ALL SLOPED CEILING CONDITIONS.
- ROOF SHEATHING SHALL BE 5/8" THICK C-D EXPOSURE 1 EXTERIOR PLYWOOD. SHEATHING SHALL BE FASTENED TO SUPPORT MEMBERS WITH 8d NAILS AT 6" CENTERS ON PANEL EDGES AND 12" CENTERS IN FIELD. INSTALL 8d NAILS AT 4" CENTERS AT PLYWOOD TO TOP PLATE AT WALL CONNECTIONS. REFER TO FLOOR FRAMING FOR PLYWOOD DETAIL.
- INSTALL SIMPSON H2.54 HURRICANE CLIP AT EVERY RAFTER, CONNECTING RAFTER TO TOP PLATE. FOR ROOF TRUSSES, PROVIDE SIMPSON H10 AT EVERY ROOF TRUSS, CONNECTING TRUSS TO TOP PLATE.

WOOD CONNECTORS:

- BOLTS SHALL COMPLY WITH ASTM A307 GRADE MATERIAL.
- BOLT HOLES THROUGH WOOD SHALL BE DRILLED 1/8" MAXIMUM LARGER THAN THE DIAMETER OF THE BOLTS.
- BOLTS THRU WOOD SHALL BE INSTALLED WITH STANDARD WASHERS AT HEAD AND NUT ENDS.
- THE NUMBER AND SIZE OF NAILS CONNECTING WOOD MEMBERS TOGETHER SHALL BE IN ACCORDANCE WITH TABLE R602.3(1) FASTENING SCHEDULE OF THE INTERNATIONAL RESIDENTIAL CODE, CURRENTLY ADOPTE EDITION UNLESS NOTED OTHERWISE OR DETAILED.
- PROVIDE SIMPSON "STANDARD U JOIST HANGERS" AT FLUSH JOIST CONNECTIONS AND SIMPSON 6x8B BEAM HANGERS" AT FLUSH BEAM CONNECTIONS, UNLESS NOTED OTHERWISE.
- PROVIDE SIMPSON "R6" CAPS AT POST-BEAM CONNECTION AND SIMPSON "L6B" COLUMN BASES AT POST-CONCRETE CONNECTIONS, UNLESS NOTED OTHERWISE. INSTALL HARDWARE PER MANUFACTURER INSTALLATION INSTRUCTIONS.
- ALL TIMBER FASTENING ITEMS SHALL BE EQUAL OR EXCEED THOSE MANUFACTURED BY SIMPSON STRONG-TIE. WHEN FASTENING ITEMS OTHER THAN THOSE SHOWN ON THESE PLANS, TECHNICAL DATA SHALL BE SUBMITTED TO ENGINEER FOR APPROVAL.
- MULTIPLE MEMBER BEAMS SHALL BE INSTALLED CENTERED UNDER UNIFORM OR CONCENTRATED LOADS.
- DOUBLE JOISTS, HEADERS, AND BEAMS SHALL BE FASTENED AS SHOWN BELOW:
 - 3-16d NAILS (3 ROWS) AT 12" CENTERS FOR 2x6 AND 2x8 MEMBERS.
 - 4-16d NAILS (4 ROWS) AT 12" CENTERS FOR 2x10 AND 2x12 MEMBERS.

MISCELLANEOUS

ANCHOR BOLTS:

- EXTERIOR WALLS SHALL HAVE 1/2"Ø BY 10" ANCHOR BOLTS (7" MINIMUM EMBEDMENT) WITH NUT AND WASHER SPACED AT MAXIMUM OF 48" ON-CENTER AND MINIMUM OF 2 BOLTS PER PLATE SECTION WITH ONE BOLT LOCATED NOT MORE THAN 6" OR LESS THAN 7 BOLT DIAMETERS FROM EACH END OF PLATE SECTION. IF DOUBLE SILL PLATE IS INSTALLED, ANCHOR BOLT SHALL BE 1/2" IN LENGTH.
- AN ALTERNATE TO THE SPECIFIED ANCHOR BOLTS, AT NON-SHEAR WALLS, ARE THE SIMPSON MASA MUDSILL ANCHORS SPACED AT MAXIMUM SPACE OF 48" ON-CENTER AND MINIMUM OF 2 ANCHORS PER PLATE SECTION WITH ONE ANCHOR LOCATION NOT MORE THAN 12" FROM EACH END OF PLATE SECTION.
- INTERIOR SHEAR AND BEARING WALLS SHALL HAVE HILTI POWER-DRIVEN FASTENERS, 0.145Ø x 1 1/4" PENETRATION AT MAXIMUM OF 16" ON-CENTER OR 1/2"Ø x 10" ANCHOR BOLTS (7" MINIMUM EMBEDMENT) WITH NUT AND WASHER SPACED AT MAXIMUM OF 48" ON-CENTER
- INTERIOR NON-LOAD BEARING WALLS SHALL HAVE HILTI POWER-DRIVEN FASTENERS, 0.145Ø x 1 1/4" PENETRATION AT MAXIMUM OF 24" ON-CENTER.

SITE:

- WATERPROOFING AND DRAINAGE BELOW GRADE FOR FOUNDATION WALLS IS NOT THE RESPONSIBILITY OF DKO.
- POSITIVE DRAINAGE AWAY FROM FOUNDATION SHALL BE MAINTAINED.
- GRADE SHALL FALL A MINIMUM OF 6" WITHIN FIRST 10 FEET AWAY FROM FOUNDATION. 10" WITHIN FIRST 10 FEET IS RECOMMENDED.
- UNDERGROUND DRAINAGE MUST BE PROVIDED AND DRAINS SHOULD SLOPE A MINIMUM OF 1%.
- DOWNSPOUTS SHALL EXTEND AT LEAST 5' AWAY FROM FOUNDATION OR FEED DIRECTLY INTO UNDERGROUND DRAINAGE SYSTEM.
- IT IS THE HOMEOWNERS RESPONSIBILITY TO CREATE AND MAINTAIN ADEQUATE DRAINAGE AWAY FROM THE FOUNDATION.

GYPSON WALLBOARD:

- ALL INTERIOR WALLS SHALL BE SHEATHED WITH MINIMUM 1/2" GYPSUM WALLBOARD (GWB) AND FASTENED IN ACCORDANCE WITH TABLE R602.3(1) OR TABLE R702.3.5.

FASTENING SCHEDULE	
CONNECTION	NAILING
WALL FRAMING	
Top or sole plate to stud (face nailed)	3-10d or 2-16d
Stud to top or sole plate (toe nailed)	4-10d or 3-16d
Cap/sole plate laps and intersections	2-16s at each side
Diagonal bracing	2-8d, 2-10d or 2-16d
Sole plate to joist or blocking at braced panels	2-16d @ 16"oc
Double top plate	16d @ 16" oc
Double studs	16d @ 16" oc
Corner studs	10d @ 16" oc
CEILING AND ROOF FRAMING	
Ceiling joist to plate	4-10d or 3-16d
Ceiling joists lap at partition	4-10d or 3-16d
Ceiling joist to parallel rafter	4-10d or 3-16d
Collar tie to rafter	3-10d or 3-16d
Jack rafter to hip (toe nailed)	3-10d or 2-16d
Rafter to rafter (toe nailed)	3-10d or 3-16d
Rafter rafter to 2-by ridge beam (face nailed)	3-10d or 2-16d
Rafter to 2-by ridge beam (toe nailed)	3-10d or 2-16d
FLOOR FRAMING	
Joist to band joist	3-16d
Ledger strip	3-16d @ 16" oc
Joist to sill or girder (toe nailed)	3-10d
Blocking between joist or rafter and top plate (toe nailed)	3-10d
Bridging to joist (at each end)	2-8d
Rim joist to top plate (toe nailed)	10d @ 6"oc
Built up beams and girders	2-20d @ 32" stag.
	3-16d @ 24" stag.
STRUCTURAL MEMBERS	
Wood structural panels, subfloor, roof, & interior wall sheathing to framing	6" edge / 12" field
$\frac{3}{8}$ " to $\frac{1}{2}$ " (subfloor wall)	6d
$\frac{3}{8}$ " to $\frac{1}{2}$ " (roof)	8d
$\frac{1}{2}$ " to 1"	8d
$1\frac{1}{8}$ " to $1\frac{1}{2}$ "	10d
Wood structural panels, combination subfloor underlayment to framing	6" edge / 12" field
$\frac{3}{8}$ " and less	8d common
$\frac{3}{8}$ " to 1"	8d common
$1\frac{1}{8}$ " to $1\frac{1}{2}$ "	8d common

FASTENING SCHEDULE NOTES:

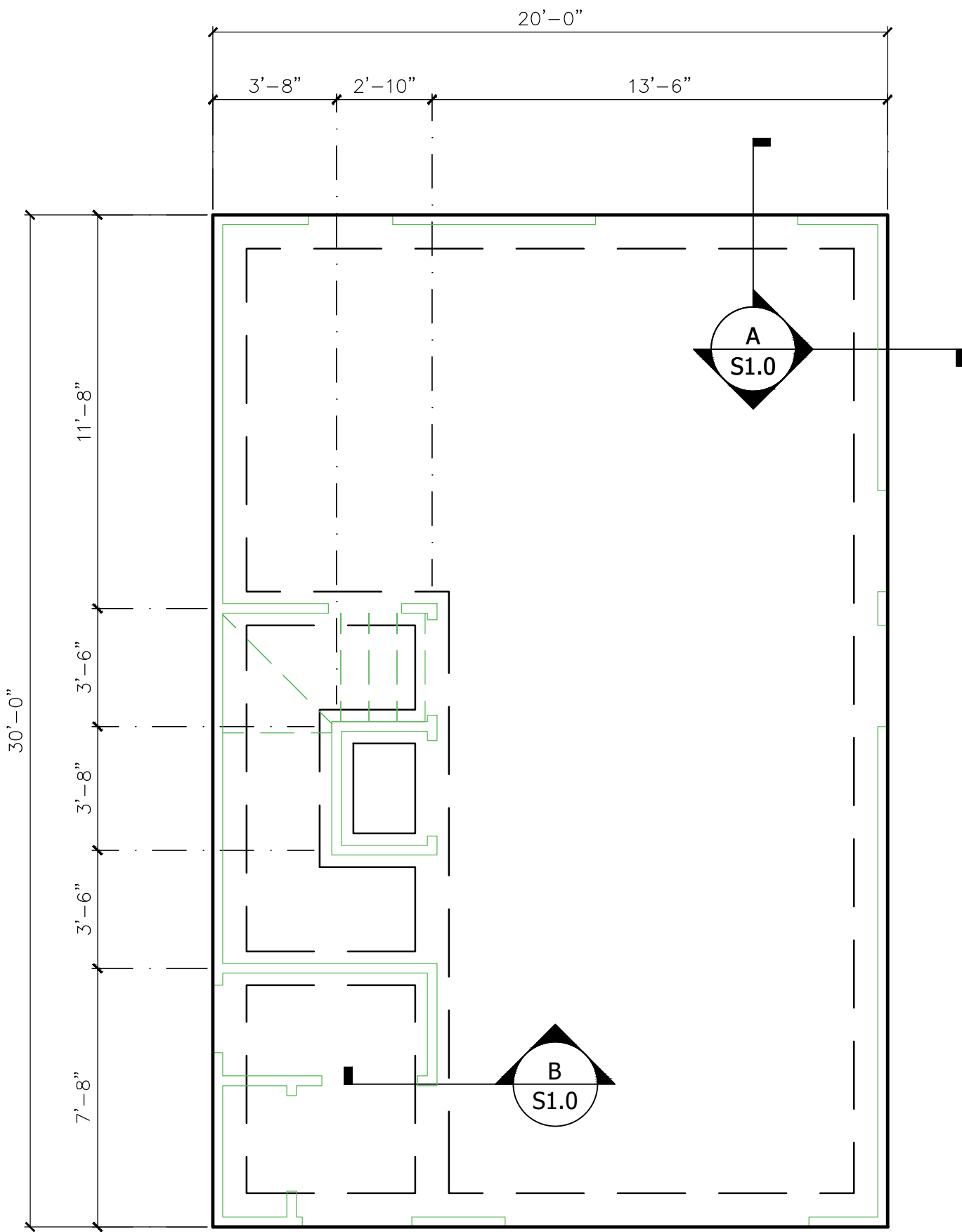
- Nails shall be spaced at not more than 6" oc at all supports where spans are 48" or greater.
- Spacing of fasteners on floor sheathing, panel edges applies to panel edges supported by framing members and required blocking and at all floor perimeters only. Spacing of fasteners on roof sheathing, panel edges applies to panel edges supported by framing members and required blocking. Blocking of roof or floor sheathing panels edges perpendicular to the framing members need not be provided except as required by other provisions of this code. Floor perimeter shall be supported by framing members or solid blocking. Roof sheathing 1/2" or greater in thickness does not require perimeter blocking.
- Metal connectors, anchors, and fasteners will corrode and lose load carrying capacity when installed in corrosive environments or exposed to corrosive materials. Changes in the preservative-treated treated wood industry voluntarily transitioned from Chromated Copper Arsenate (CCA-C) used in residential applications to alternative replacement treatments that are generally more corrosive than CCA-C.
- Due to the uncertainties in regard to the chemicals used in pressure treated wood, which are out of the specifier's control, DKO recommends the use of Stainless Steel fasteners, anchors and connectors with treated wood when possible. At a minimum contractors should use Hot-Dip Galvanized (per ASTM A123 for connectors and ASTM A153 for fasteners), or mechanically galvanized fasteners (per ASTM B695, Class 55 or greater), product with the new alternative treated woods. Due to the many variables involved, many of which are controlled by the chemical supplier and the wood treatr, Hurley Michael Structural Engineers cannot make an unqualified recommendation of any galvanized or other coating for use with treated wood. We suggest that all users obtain recommendations for mechanically galvanized, or other coatings from their treated wood suppliers.
- Uncoated and painted products should not be used with treated woods. When using Stainless Steel or Hot-Dip Galvanized connectors, the connectors and fasteners should be made of the same material.

ABBREVIATIONS

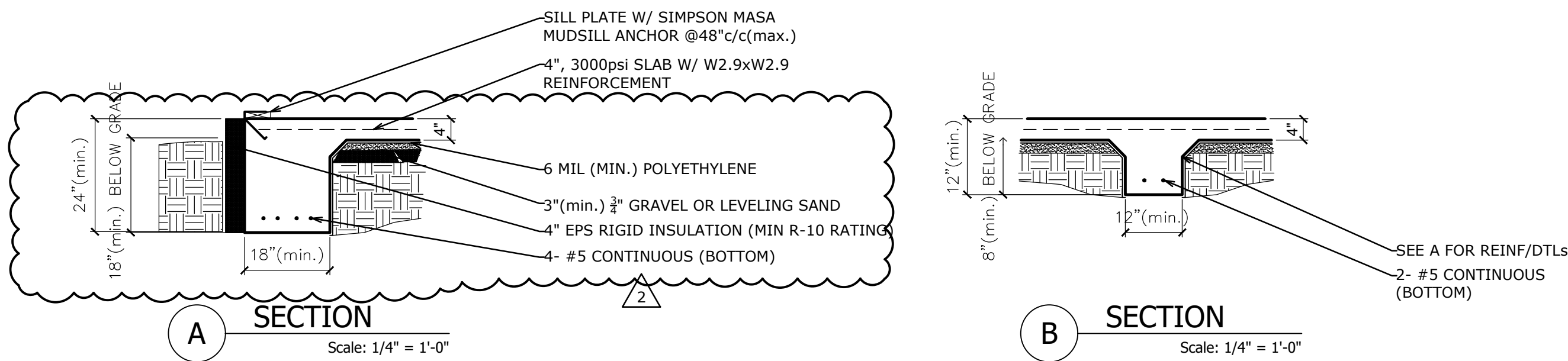
@	AT
Ø	CENTERLINE
Δ	DIAMETER
#	POUND
AB	ANCHOR BOLT
ARCH	ARCHITECT(URAL)
BBO	BEAM BY OTHERS
BLDG	BUILDING
BM	BEAM
BOT	BOTTOM
CB	COLUMN ABOVE
CA	COLUMN BELOW

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1



1 SLAB-ON-GROUND FOUNDATION PLAN
Scale: 1/4" = 1'-0"



Inspections
Reviewed by Peter Gervias
08/04/2026 7:58:03 AM

DKO

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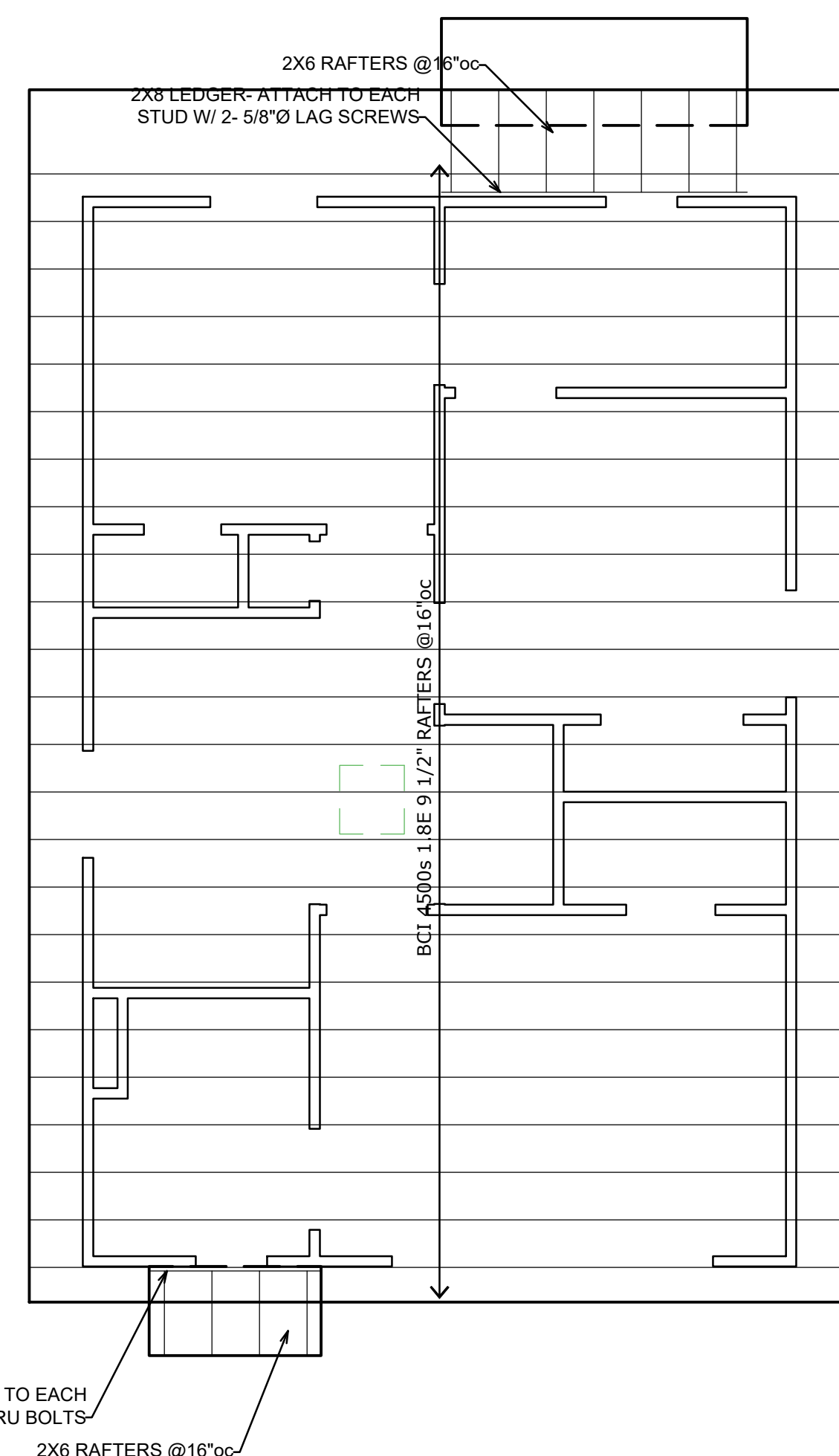
NORTH CAROLINA
PROFESSIONAL
SEAL
041123
ENGINEER
LAURA BOLDUC

Laura Bolduc
June 17, 2026

2002 RIDDLE ROAD
LOT D
DURHAM, NC 27713

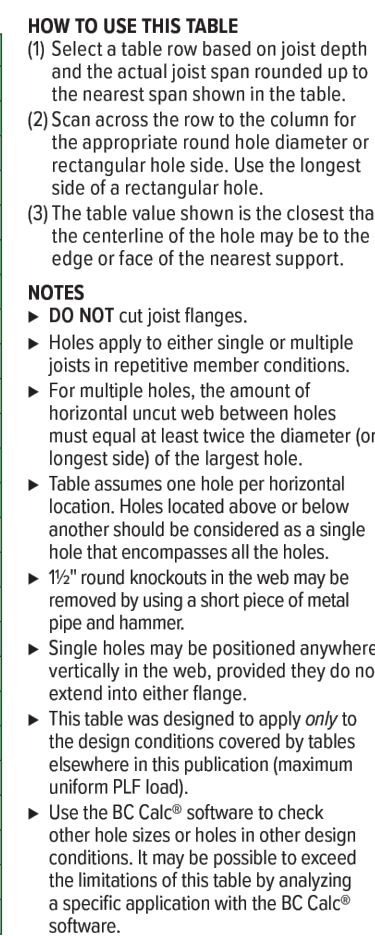
PLAN:	W.L. Martin Home Designs
#24564, Lot D	
DATE:	2026.02.26
REVISION:	
1	2026.05.04
2	2026.06.17
DRAWING BY:	JMM
CHECKED BY:	LCB
PROJECT NO.:	26.0025
FOUNDATION PLAN OPTIONS AND SECTIONS	
SHEET	
S1.0	

PLAN: W.L. Martin Home Designs	
#24564, Lot D	
DATE:	2026.02.26
REVISION:	
	2026.05.04
	2026.06.17
DRAWING BY:	JMM
CHECKED BY:	LCB
PROJECT NO.:	26.0025
FIRST FLOOR CEILING, SECOND FLOOR CEILING, AND ROOF FRAMING PLAN	
SHEET	
S2.0	



3 ROOF FRAMING PLAN

Scale: $1/4" = 1'-0"$



		Minimum Distance (D) From Any Support To The Centerline Of The Joist													
		2'	3'	4'	5'	6'	7'	8'	8 1/2'	9'	10'	11'	12'	13'	
Round Hole Diameter		–	–	–	–	–	–	–	–	–	–	–	–	–	
Rectangular Hole Side		–	–	–	–	–	–	–	–	–	–	–	–	–	
Any 9 1/4" Joist	Span	8'	1'0"	1'1"	1'5"	2'1"	2'9"	2'1"	3'5"	–	–	–	–	–	
		12'	1'0"	1'2"	2'2"	3'2"	4'2"	4'8"	5'2"	–	–	–	–		
		16'	1'0"	1'7"	2'11"	4'3"	5'7"	6'3"	6'11"	–	–	–	–		
20'		1'0"	1'7"	2'11"	4'3"	5'7"	6'3"	6'11"	–	–	–	–			
Round Hole Diameter		–	–	–	–	–	–	–	–	–	–	–	–	–	
Rectangular Hole Side		–	–	–	–	–	–	–	–	–	–	–	–	–	
Any 11 1/4" Joist	Span	8'	1'0"	1'1"	1'5"	1'10"	2'4"	2'7"	2'10"	3'4"	–	–	–	–	
		12'	1'0"	1'4"	2'1"	2'10"	3'7"	3'11"	4'3"	5'0"	5'8"	–	–		
		16'	1'0"	1'10"	2'10"	3'9"	4'9"	5'3"	5'9"	6'9"	7'7"	–	–		
		20'	1'1"	2'3"	3'6"	4'9"	5'11"	6'7"	7'2"	8'5"	9'6"	–	–		
Round Hole Diameter		–	–	–	–	–	–	–	–	–	–	–	–	–	
Rectangular Hole Side		–	–	–	–	–	–	–	–	–	–	–	–	–	
Any 14" Joist	Span	8'	1'0"	1'1"	1'2"	1'3"	1'8"	1'10"	2'1"	2'6"	2'10"	2'11"	3'4"	3'8"	
		12'	1'0"	1'1"	1'3"	1'6"	1'10"	2'0"	2'5"	3'1"	3'9"	4'3"	4'4"	5'0"	
		16'	1'0"	1'1"	1'8"	2'6"	3'4"	3'9"	4'2"	5'0"	5'8"	6'8"	6'8"	7'5"	
		20'	1'0"	1'1"	2'1"	3'2"	4'2"	4'8"	5'2"	6'3"	7'2"	7'3"	8'4"	9'4"	
		24'	1'0"	1'4"	2'6"	3'9"	5'0"	5'8"	6'3"	7'6"	8'9"	10'0"	10'12"	–	
Round Hole Diameter		–	–	–	–	–	–	–	–	–	–	–	–	–	
Rectangular Hole Side		–	–	–	–	–	–	–	–	–	–	–	–	–	
Any 16" Joist	Span	8'	1'0"	1'1"	1'2"	1'2"	1'3"	1'3"	1'7"	1'11"	2'0"	2'5"	2'9"	3'2"	3'7"
		12'	1'0"	1'1"	1'2"	1'2"	1'3"	1'6"	1'10"	2'5"	2'11"	3'0"	3'7"	4'2"	4'9"
		16'	1'0"	1'1"	1'2"	1'2"	1'8"	2'1"	2'3"	3'11"	4'0"	4'10"	5'7"	6'4"	7'2"
		20'	1'0"	1'1"	1'2"	1'2"	2'1"	2'7"	3'1"	4'11"	4'11"	5'1"	6'0"	7'0"	8'0"
		24'	1'0"	1'1"	1'2"	1'4"	2'6"	3'1"	3'9"	4'11"	5'11"	6'1"	7'5"	8'9"	10'9"

Large Rectangular Holes

Single Span Joist

Simple span joist 6'-0" min.

Multiple Span Joist

Multiple span joist 12'-0" min.

▶ Hole sizes in table below are based on maximum uniform load of 40 psf live load and 10 psf dead load, at maximum spacing of 24" on center.

▶ Additional holes may be cut in the web provided they meet the specifications shown in the Minimum Distance hole chart above or as allowed using BC Calc[®] sizing software.

Maximum Hole Size

Joist Depth	Simple Span	Multiple Span
9"1/2"	6" x 14"	6" x 12"
11"1/2"	7" x 16" 8" x 15"	8" x 12"
14"	8" x 16" 10" x 15"	8" x 15"
16"	9" x 18" 11" x 16"	10" x 14"

Larger holes may be possible for either single or multiple span joists using BC Calc[®] sizing software for specific analysis.

Boise Cascade EWP ▲ Specifier Guide: U.S. East
7
MTP-E7000 ▲ Rev. 03/25