The "Anne"
Plan # 1992
Lot 7 Purfoy Place

DESIGN LOADS

TABLE R301.4	LIVE LOAD (PSF)	DEAD LOAD (PSF)
DWELLING UNITS	40	10
SLEEPING ROOMS	30	10
ATTICS WITH STORAGE	20	10
ATTICS WITHOUT STORAGE	10	10
ROOF SNOW	20	10
STAIRS	40	10
DECKS	40	10
EXTERIOR BALCONIES	60	10
PASSENGER VEHICLE GARAGES	50	--
FIRE ESCAPES	40	10
GUARDRAILS AND HANDRAILS	200	--

MATERIALS

1. FRAMING LUMBER SHALL BE #2 SPRUCE PINE FIR (SPF) WITH THE FOLLOWING DESIGN PROPERTIES:
Fb = 875 PSI Fv = 70 PSI E = 1.4E6 PSI

2. FRAMING LUMBER EXPOSED TO WEATHER OR IN CONTACT WITH THE GROUND, CONCRETE OR MASONRY SHALL BE #2 SOUTHERN YELLOW PINE (SYP) TREATED IN ACCORDANCE WITH AWPA C22 WITH THE FOLLOWING DESIGN PROPERTIES:
Fb = 1050 PSI Fv = 95 PSI E = 1.6E6 PSI

3. ENGINEERED WOOD BEAMS SHALL BE LAMINATED VENEER LUMBER (LVL) OR PARALLEL STRAND LUMBER (PSL) WITH THE FOLLOWING MINIMUM DESIGN PROPERTIES:
Fb = 2900 PSI Fv = 285 PSI E = 1.9E6 PSI

4. STRUCTURAL STEEL SHALL CONFORM TO ASTM A-36 MINIMUM GRADE.

5. BOLTS SHALL CONFORM TO A307 MINIMUM GRADE.

6. REBAR SHALL BE DEFORMED STEEL CONFORMING TO ASTM A615 GRADE 60.

7. POURED CONCRETE SHALL HAVE A MINIMUM SPECIFIED COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS. MATERIALS USED TO PRODUCE CONCRETE SHALL COMPLY WITH THE APPLICABLE STANDARDS LISTED IN ACI 318 OR ASTM C 1157.

8. CONCRETE LOCATED PER TABLE R402.2 SHALL BE AIR ENTRAINED WITH THE TOTAL AIR CONTENT NOT LESS THAN 5 PERCENT OR MORE THAN 7 PERCNET.

9. MASONRY UNITS SHALL CONFORM TO ACI 530/ASCE 5/TMS 402 AND MORTAR SHALL COMPLY WITH ASTM C 270.

10. ALLOWABLE SOIL BEARING PRESSURE 2000 PSF.

GENERAL

ENGINEER'S SEAL APPLIES TO STRUCTURAL COMPONENTS ONLY AND DOES NOT CERTIFY ARCHITECTURAL LAYOUT OR DIMENSIONAL ACCURACY. ENGINEER IS NOT RESPONSIBLE FOR CONSTRUCTION METHODS OR ANY DEVIATION FROM THE PLANS.

ALL CONSTRUCTION, WORKMANSHIP, MATERIAL QUALITY AND SELECTION SHALL BE IN ACCORDANCE WITH THE NORTH CAROLINA STATE BUILDING CODE - RESIDENTIAL CODE 2018 EDITION FROM THE INTERNATIONAL RESIDENTIAL CODE 2018 (IRC), AND LOCAL CODES AND REGULATIONS. DIMENSIONS SHALL GOVERN OVER SCALE AND CODE SHALL GOVERN OVER DIMENSIONS.

ADDITIONAL LOADS

FIGURE R301.2(4) - BASIC DESIGN WIND SPEED 100 MPH

FIGURE R301.2(2) - SEISMIC DESIGN CATEGORY B

TABLE R301.2(4) - DESIGN POSITIVE AND NEGATIVE PRESSURE FOR DOORS AND WINDOW FOR A MEAN ROOF HEIGHT OF 35 FEET OR LESS SHALL BE 25 PSF

TABLE R301.2(2) - COMPONENT AND CLADDING LOADS FOR A MEAN ROOF HEIGHT OF 30 FEET OR LESS LOCATED IN EXPOSURE B
ROOF VALUES BOTH POSITIVE AND NEGATIVE SHALL BE DESIGNED BASED ON ROOF PITCHES AS FOLLOWS:
45,4 PSF FOR 0:12 TO 2,25:12, 34,8 PSF FOR 2,25:12 TO 7:12 AND 21 PSF FOR 7:12 TO 12:12
WALL CLADDING IS DESIGNED FOR A 24.1 PSF POSITIVE AND NEGATIVE PRESSURE

ENERGY COMPLIANCE:

TABLE N1102.1 - REFER TO TABLE N1101.1 TO DETERMINE THE CLIMATE ZONE BY COUNTY AND REFER TO TABLE N1102.1 FOR R VALUE INSULATION REQUIREMENTS LISTED BY ZONE.

TABLE N1102.1 - ZONE 7 - MAX. GLAZING U FACTOR: 0.40, MIN. INSULATION R VALUES: CEILING R-30, WALLS R-13, FLOORS R-19, BASEMENT WALLS R-7, SLAB PERIMETER R-0, CRAWL SPACE WALLS R-7.

TABLE N1102.1 - ZONE 8 - MAX. GLAZING U FACTOR: 0.40, MIN. INSULATION R VALUES: CEILING R-30, WALLS R-13, FLOORS R-19, BASEMENT WALLS R-8, SLAB PERIMETER R-5 (2 FT DEEP), CRAWL SPACE WALLS R-10.

CONSTRUCTION

1. STEEL FLITCH BEAMS SHALL BE FASTENED TOGETHER WITH 1/2" DIAMETER BOLTS WITH WASHERS PLACED UNDER THE THREADED END OF THE BOLT. BOLTS SHALL BE SPACED AT MAXIMUM 24" o.c. STAGGERED TOP AND BOTTOM OF BEAM WITH A MINIMUM 2" EDGE DISTANCE. TWO BOLTS SHALL BE LOCATED AT 6" FROM EACH END OF FLITCH BEAM.

2. STEEL BEAMS SHALL BE SUPPORTED AT EACH END WITH A MINIMUM BEARING LENGTH OF 3 1/2" AND FULL FLANGE WIDTH. BEAMS MUST BE ANCHORED AT EACH END WITH A MINIMUM OF FOUR 16d NAILS OR TWO 1/2" x 4" LAG SCREWS.

3. ENGINEERED WOOD BEAMS SHALL BE INSTALLED WITH ALL CONNECTIONS PER MANUFACTURER'S INSTRUCTIONS.

4. ALL BEAMS SHALL BE CONTINUOUSLY SUPPORTED LATERALLY AND SHALL BEAR FULL WIDTH ON THE SUPPORTING WALLS OR COLUMNS INDICATED WITH A MINIMUM OF THREE STUDS.

5. SOLID BLOCKING SHALL BE PROVIDED AT ALL POINT LOADS TO TRANSFER LOADS THROUGH FLOOR LEVELS. COLUMNS SHALL BE CONTINUOUS TO THE FOUNDATION OR TO OTHER STRUCTURAL ELEMENTS.

6. ENGINEERED WOOD FLOOR SYSTEMS AND ROOF TRUSS SYSTEMS SHALL BE PROVIDED FOR REVIEW AND COORDINATED WITH THE ENGINEER OF RECORD. INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.

7. WALL BRACING REQUIREMENTS SHALL BE IN ACCORDANCE WITH SECTION R602.10 OF THE NORTH CAROLINA RESIDENTIAL CODE.

8. BRICK LINTELS SHALL BE 3 1/2 x 3 1/2 x 1/4 STEEL ANGLE FOR UP TO 6'0" MAXIMUM SPAN AND 6 x 4 x 5/16 FOR SPANS GREATER THAN 6'0".

9. BRICK LINTELS AT SLOPED AREAS SHALL BE 4 x 3 1/2 x 1/4 STEEL ANGLE WITH 16d NAILS IN 3/16" HOLES IN 4" ANGLE LEG AT 12" o.c. TO DOUBLE RAFTER. WHEN THE SLOPE EXCEEDS 4:12 A MINIMUM OF 3 x 3 x 1/4 PLATES SHALL BE WELDED AT 24" o.c. ALONG THE STEEL ANGLE.

MEAN ROOF HEIGHT
1 STORY = 11'-0"
CLADDING POSITIVE & NEGATIVE PRESSURE = 21 PSF

1 1/2 STORY = 19'-0"
CLADDING POSITIVE & NEGATIVE PRESSURE = 34.8 PSF

2 STORY = 19'-0"
CLADDING POSITIVE & NEGATIVE PRESSURE = 34.8 PSF

ANCHOR BOLTS
INSTALL ANCHOR BOLTS, NUTS, AND WASHERS PER CODE AT ALL EXTERIOR WALL TREATED PLATES AND AT INTERIOR BEARING WALL
TREATED PLATES ON SLAB FOUNDATIONS. TO BE A MINIMUM OF 6' O.C. AND WITHIN 12" FROM THE ENDS OF EACH PLATE.

DESIGN PRESSURES
MINIMUM RATING: 25 PSF

MI WINDOWS 3500 SERIES
LOW E-GLASS WINDOWS

ABBREVIATIONS

CONC	CONCRETE
CONT	CONTINUOUS
DBL	DOUBLE
DJ	DOUBLE JOIST
DSP	DOUBLE STUD POCKET
EA	EACH
FL PT	FLAT PLATE
FTG	FOOTING
HGR	HANGER
LVL	LAMINATED VENEER LUMBER
NTS	NOT TO SCALE
OC	ON CENTER
PSL	PARALLEL STRAND LUMBER
PT	PRESSURE TREATED
SC	STUD COLUMN
SP	STUD POCKET
TJ	TRIPLE JOIST
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE

SQUARE FOOTAGE 'A'

	HEATED S.F.	UNHEATED S.F.
FIRST FLOOR	1989	0
SECOND FLOOR	0	735
DECK		120
FRONT PORCH		95
GARAGE		438
TOTAL	1989	1388

SQUARE FOOTAGE 'B'

	HEATED S.F.	UNHEATED S.F.
FIRST FLOOR	2005	0
SECOND FLOOR	0	735
DECK		120
FRONT PORCH		95
GARAGE		438
TOTAL	2005	1388

SQUARE FOOTAGE 'C'

	HEATED S.F.	UNHEATED S.F.
FIRST FLOOR	1989	0
SECOND FLOOR	0	735
DECK		120
FRONT PORCH		111
GARAGE		438
TOTAL	1989	1404

REVISION LOG

Rev	Description	Drawn By	Date	Sheets Affected	Brochure Required	Engineering Required
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						

TABLE N1102.1 CLIMATE ZONES 3-5

CLIMATE ZONES	FENESTRATION U-FACTOR b	SKYLIGHT b U-FACTOR	GLAZED FENESTRATION SHGC b,e	CEILING k R-VALUE	WOOD FRAMED WALL R-VALUE	MASS WALL R-VALUE i	FLOOR R-VALUE	BASEMENT c WALL R-VALUE	SLAB d R-VALUE AND DEPTH	CRAWL SPACE c WALL R-VALUE
3	0,35	0,65	0,30	30	13	5/10	19	10/13 f	0	5/13
4	0,35	0,60	0,30	38 OR 30 CONT j	15 OR 13+2,5 h	5/10	19	10/13	10 d	10/13
5	0,35	0,60	NR	38 OR 30 CONT j	19 OR 13+5 OR 15+3,8 h	13/17	30 g	10/13	10 d	10/13

a. R-VALUES ARE MINIMUMS, U-FACTORS AND SHGC ARE MAXIMUMS.
b. THE FENESTRATION U-FACTOR COLUMN EXCLUDED SKYLIGHTS. THE SHGC COLUMN APPLIES TO ALL GLAZED FENESTRATION.
c. "10/13" MEANS R-10 CONT. INSULATED SHEATHING ON THE INTERIOR OR EXTERIOR OF THE HOME OR R-13 CAVITY INSULATION AT THE INTERIOR OF THE BASEMENT WALL OR CRAWL SPACE WALL.
d. FOR MONOLITHIC SLABS, INSULATION SHALL BE APPLIED FROM THE INSPECTION GAP DOWNWARD TO THE BOTTOM OF THE FOOTING OR A MAXIMUM OF 18 INCHES BELOW GRADE, WHICHEVER IS LESS. FOR FLOATING SLABS, INSULATION SHALL EXTEND TO THE BOTTOM OF THE FOUNDATION WALL OR 24 INCHES, WHICHEVER IS LESS. R-5 SHALL BE ADDED TO THE REQUIRED SLAB EDGE R-VALUE FOR HEATED SLABS.
e. R-19 FIBERGLASS BATTS COMPRESSED AND INSTALLED IN A NOMINAL 2x6 CAVITY IS DEEMED TO COMPLY. FIBERGLASS BATTS RATED R-49 OR HIGHER COMPRESSED AND INSTALLED IN A 2x4 WALL IS NOT DEEMED TO COMPLY.
f. BASEMENT WALL INSULATION IS NOT REQUIRED IN WARM-HUMID LOCATIONS AS DEFINED BY FIGURE N1101.2 (1 AND 2) AND TABLE N1101.2.
g. OR INSULATION SUFFICIENT TO FILL THE FRAMING CAVITY, R-49 MINIMUM.
h. "13+5" MEANS R-13 CAVITY INSULATION PLUS R-5 INSULATED SHEATHING. 15+3 MEANS R-15 CAVITY INSULATION PLUS R-3 INSULATED SHEATHING. IF STRUCTURAL SHEATHING COVERS 25 PERCENT OR LESS OF THE EXTERIOR, INSULATING SHEATHING IS NOT REQUIRED WHERE STRUCTURAL SHEATHING IS USED. IF THE STRUCTURAL SHEATHING COVERS MORE THAN 25 PERCENT OF THE EXTERIOR, STRUCTURAL SHEATHING SHALL BE SUPPLEMENTED WITH INSULATED SHEATHING OF AT LEAST R-2. 13+2,5 MEANS R-13 CAVITY INSULATION PLUS R-2,5 SHEATHING.
i. FOR MASS WALLS, THE SECOND R-VALUE APPLIES WHEN MORE THAN HALF THE INSULATION IS ON THE INTERIOR OF THE MASS WALL.
j. R-30 SHALL BE DEEMED TO SATISFY THE CEILING INSULATION REQUIREMENT WHEREVER THE FULL HEIGHT OF THE UNCOMPRESSED R-30 INSULATION EXTENDS OVER THE WALL TOP PLATE AT THE EAVES. OTHERWISE R-38 INSULATION IS REQUIRED WHERE ADEQUATE CLEARANCE EXISTS OR INSULATION MUST EXTEND TO EITHER THE INSULATION BAFFLE OR WITHIN 1" OF THE ATTIC ROOF DECK.
k. TABLE VALUE REQUIRED EXCEPT FOR ROOF EDGE WHERE THE SPACE IS LIMITED BY THE PITCH OR THE ROOF. THERE THE INSULATION MUST FILL THE SPACE UP TO THE AIR BAFFLE.

ATTIC VENT SCHEDULE

ELEVATION

MAIN HOUSE		SQ FTG	2819	AT / NEAR RIDGE			AT / NEAR EAVE	
VENT TYPE	SQ. FT. REQUIRED RANGE	SQ. FT. SUPPLIED	PERCENT OF TOTAL SUPPLIED	POT LARGE (SQ. FT. EACH)	POT SMALL (SQ. FT. EACH)	RIDGE VENT (SQ. FT. PER LF)	EAVE VENT (SQ. IN. EACH)	CONT. VENT (SQ. IN. PER LF)
				0.4236	0.2778	0.125	0.1944	0.0625
RIDGE VENT	3.76 4.70	6.50	39.39	0	0	52.00		
SOFFIT VENTS	5.64 4.70	10.00	60.61				0	160.00
TOTAL (MIN)	9.40 9.40	16.50	100.00	POT VENTS MAY BE REQUIRED IF THERE IS INSUFFICIENT RIDGE AVAILABLE				

* SCHEDULE HAS BEEN CALCULATED ASSUMING EAVE VENTILATION AT 50-60% OF TOTAL AND RIDGE AT 40-50% OF TOTAL REQUIRED VENTILATION

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Date: 10-8-21

Revision No.	Revision Date

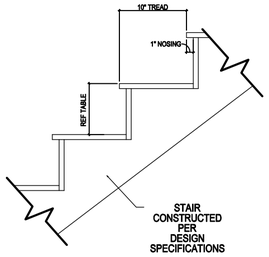
Designer Signature

Client: Triangle Building Properties

Title: COVER SHEET

Plan No. "Anne"
Purfoy Place

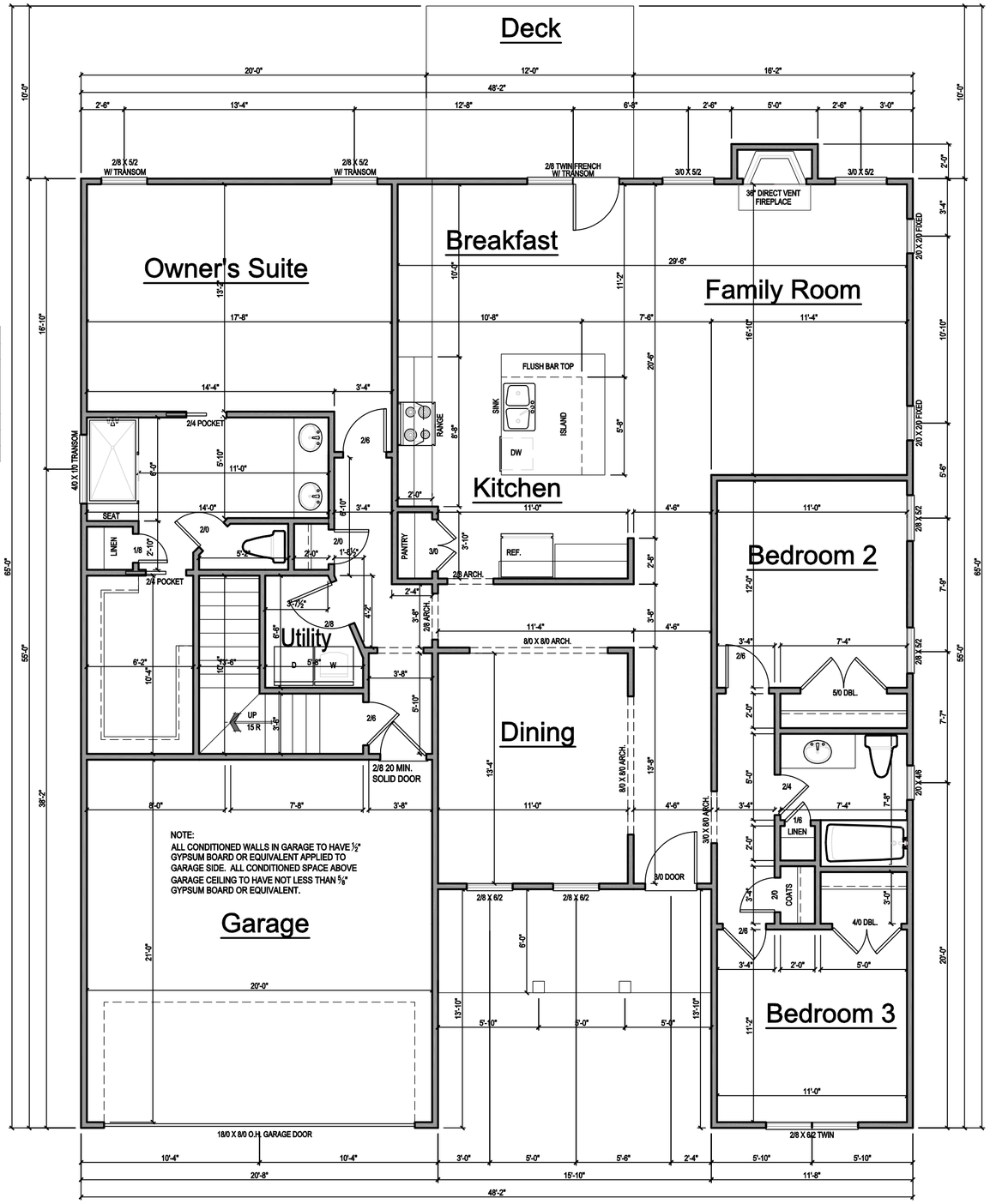
Sheet No. Of



RISER HEIGHTS PER STAIR CONFIGURATION			
PLATE HEIGHT	10" FLOOR SYSTEM	14" FLOOR SYSTEM	16" FLOOR SYSTEM
8'-1 1/2"	14 RISERS @ 7 11/16"	15 RISERS @ 7 1/2"	15 RISERS @ 7 5/8"
9'-1 1/2"	16 RISERS @ 7 1/2"	16 RISERS @ 7 3/4"	17 RISERS @ 7 7/16"
10'-1 1/2"	17 RISERS @ 7 3/4"	18 RISERS @ 7 9/16"	18 RISERS @ 7 11/16"

2 TYPICAL STAIR DETIAL

SCALE: 3/8" = 1'-0"



1 FIRST FLOOR PLAN 'A'

SCALE: 3/16" = 1'-0"

NOTE:
HANDRAILS SHALL BE PROVIDE ON AT LEAST ONE SIDE OF STAIR TREADS WITH 4, OR MORE RISERS. VERTICAL HT. OF HANDRAILS SHALL BE NOT LESS THAN 34" AND NO MORE THAN 38" PER NC 2018 RESIDENTIAL CODE SEC. R311.7.8

GUARDS ON ALL HANDRAILS SHALL BE PLACED SO THAT A SPHERE OF 4" CANNOT PASS THROUGH PER NC 2018 RESIDENTIAL CODE SEC. R312.1

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 MANUFATURERS 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.

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Title:
FIRST FLOOR PLAN

Plan No.
"Anne"
Purfoy Place

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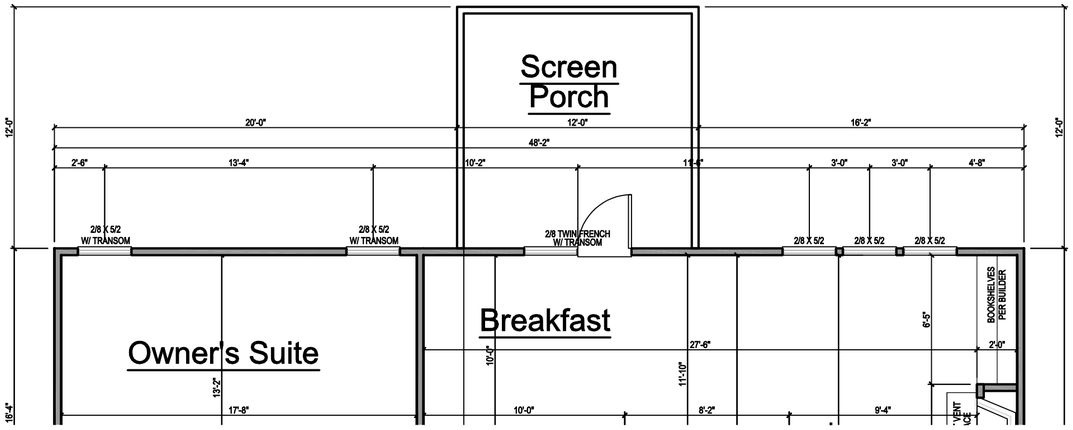
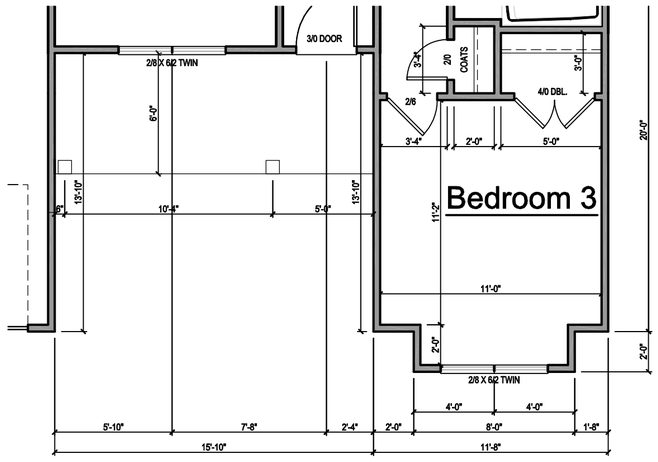
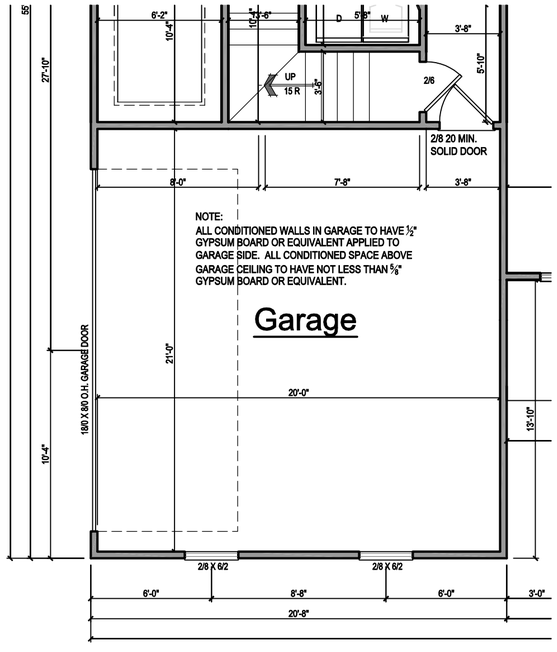


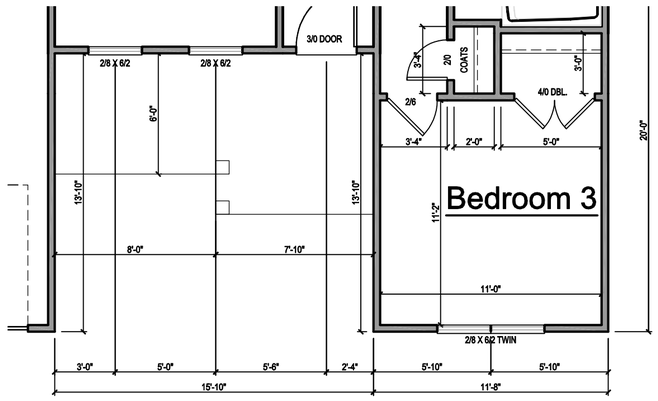
1 SCREEN PORCH OPTION
SCALE: 3/16" 1'-0"



1 PARTIAL FIRST FLOOR PLAN 'B'
SCALE: 3/16" = 1'-0"



1 FIRST FLOOR PLAN - SIDE LOAD GARGE
SCALE: 3/16" = 1'-0"



1 PARTIAL FIRST FLOOR PLAN 'C'
SCALE: 3/16" = 1'-0"

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FIRST FLOOR PLAN

Plan No.
"Anne"
Purfoy Place

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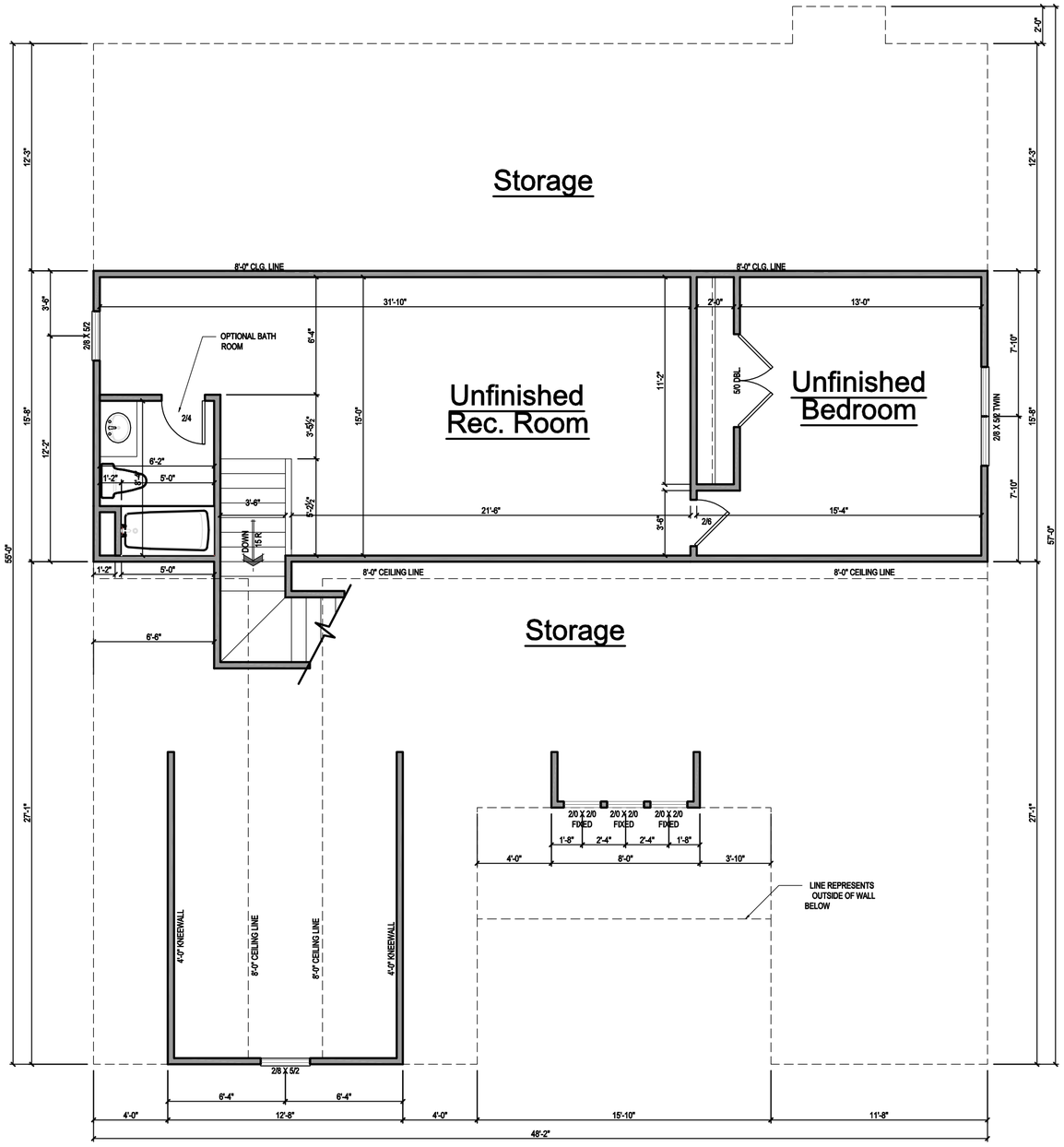

2 SECOND FLOOR PLAN 'A'

SCALE: 3/16" = 1'-0"

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 MANUFATURERS 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.

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Title:
SECOND FLOOR PLAN

Plan No.
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Purfoy Place

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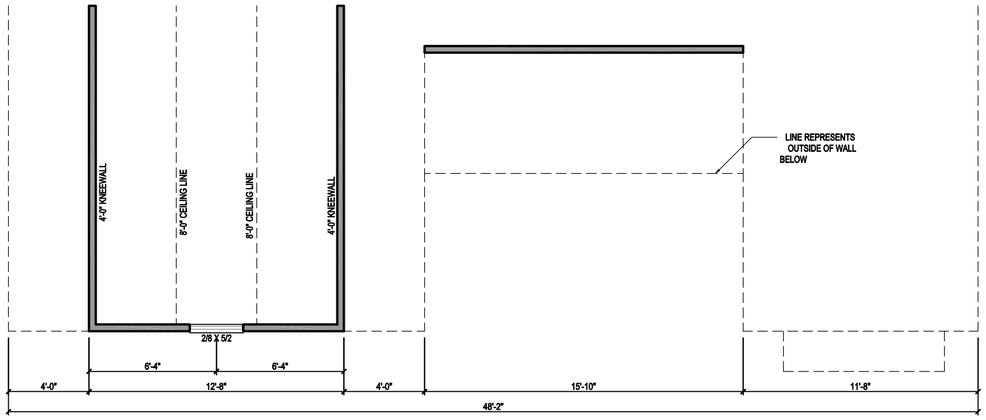
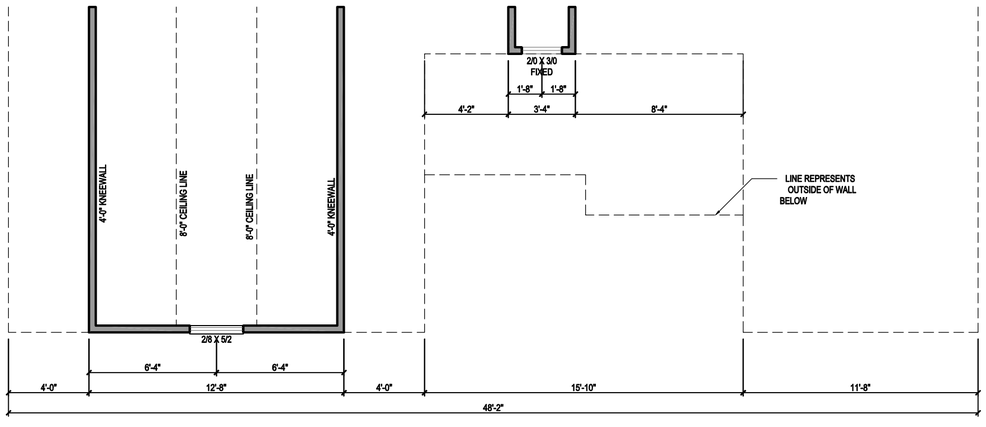


2 PARTIAL SECOND FLOOR PLAN 'B'

SCALE: 3/16" = 1'-0"



2 PARTIAL SECOND FLOOR PLAN 'C'

SCALE: 3/16" = 1'-0"

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1 FRONT ELEVATION 'B'

SCALE: 1/4"= 1'-0"

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Title: FRONT ELEVATION "B"

Plan No. "Anne"

Purfoy Place

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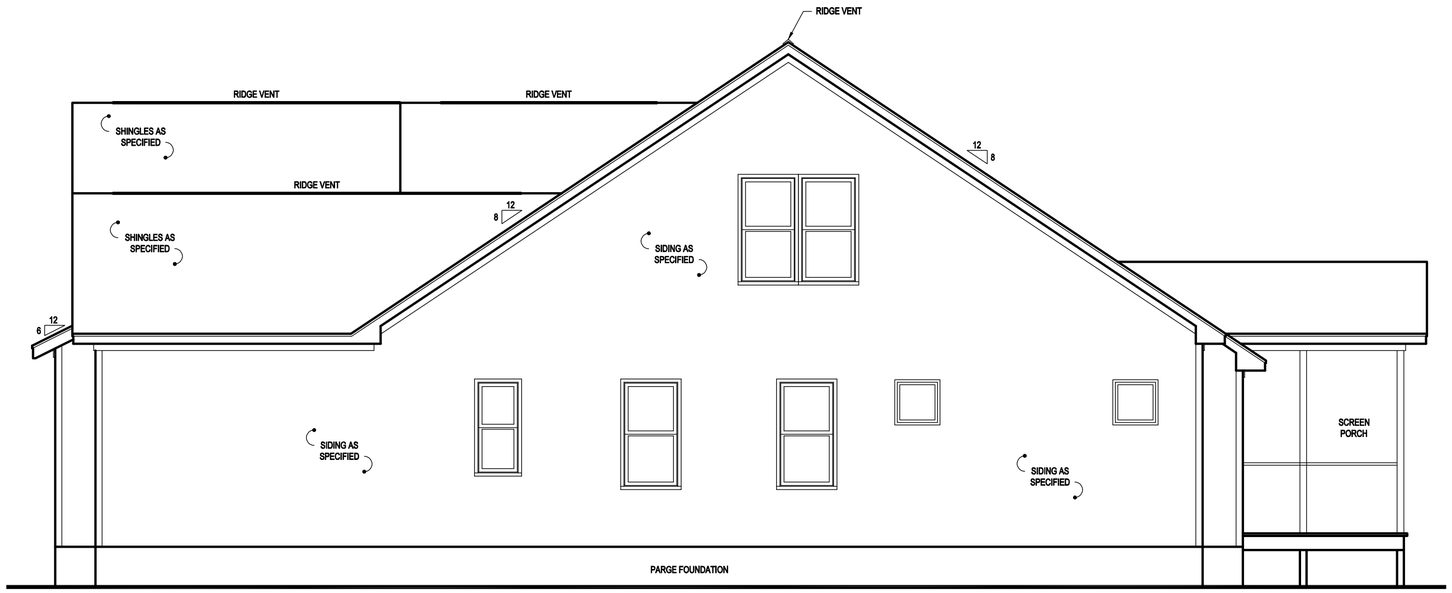
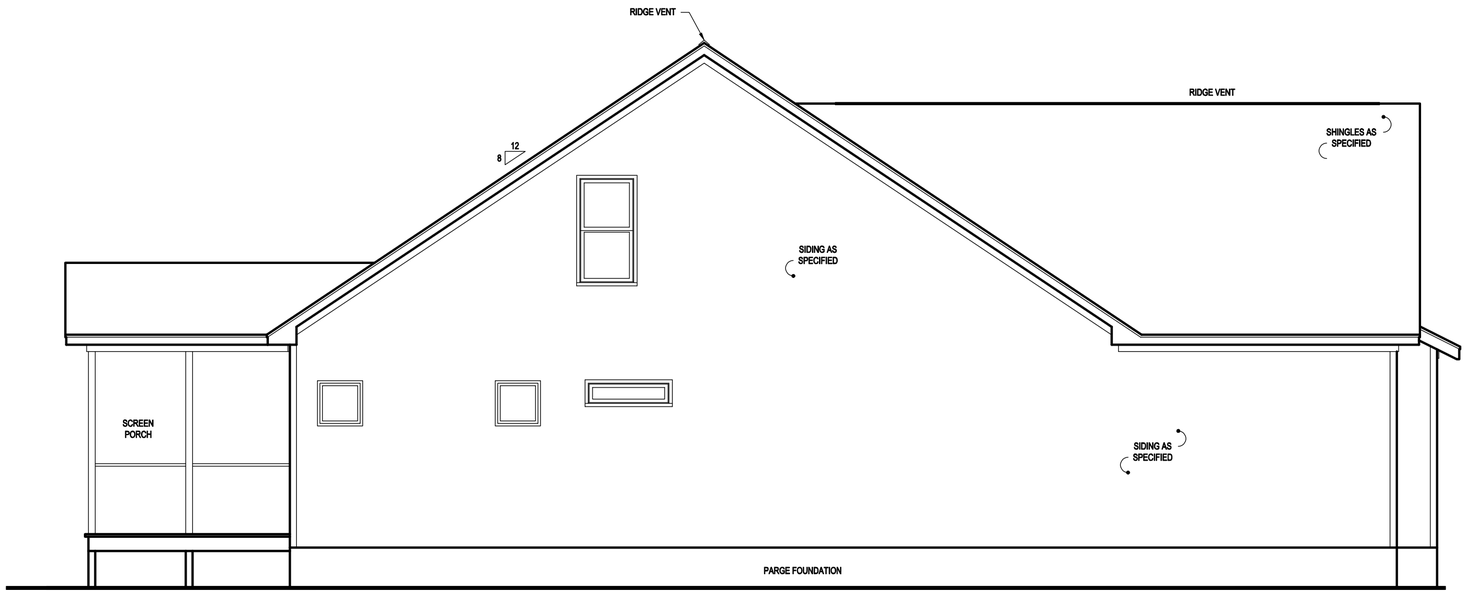


1 RIGHT SIDE ELEVATION 'B'

SCALE:3/16"= 1'-0"



2 LEFT SIDE ELEVATION 'B'

SCALE:3/16"= 1'-0"

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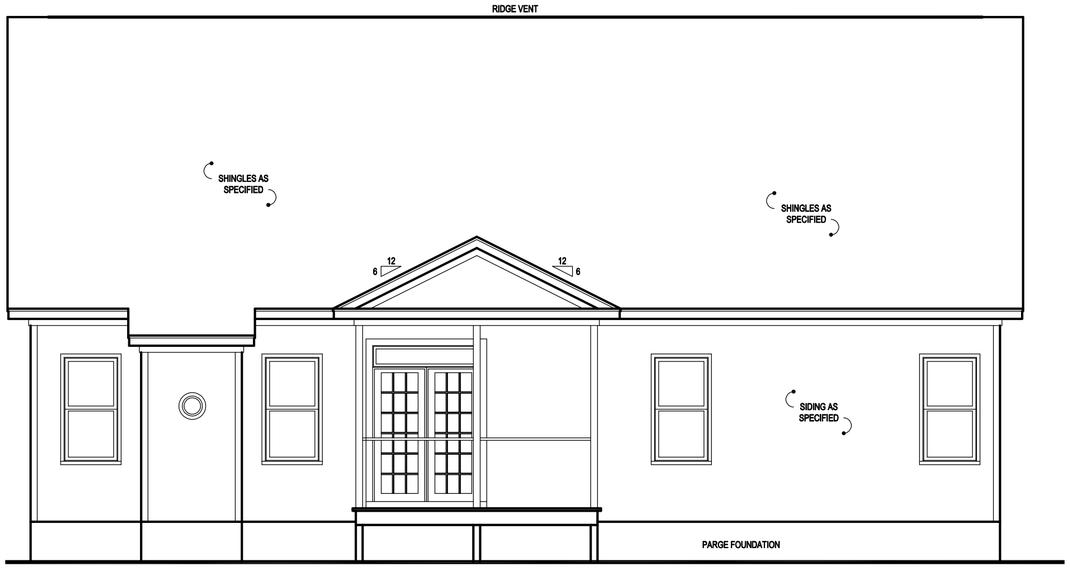
Title:
SIDE ELEVATIONS "B"

Plan No.
"Anne"
Purfoy Place

Sheet No. Of



1 REAR ELEVATION 'B'
SCALE:3/16"= 1'-0"

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REAR ELEVATION "B"

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BEAM & POINT LOAD LEGEND:

- INTERIOR LOAD BEARING WALL
- ROOF RAFTER/TRUSS SUPPORT
- DOUBLE RAFTER / DOUBLE JOIST
- STRUCTURAL BEAM / GIRDER
- WINDOW / DOOR HEADER
- ⊠ POINT LOAD TRANSFER
- ⊡ POINT LOAD FROM ABOVE BEARING ON BEAM / GIRDER

STRUCTURAL FRAMING NOTES

1. ALL FRAMING TO BE #2 SPF MINIMUM.
2. ALL BEARING HEADERS TO BE (2) 2"x 6" SUPPORTED W/ MIN. (1) JACK AND (1) KING EACH END U.NO.
3. ALL NON BEARING HEADERS TO BE (2)2"x4' U.NO.
4. PROVIDE CONTINOUS BLOCKING THROUGH STRUCTURE FOR ALL POINT LOADS.
5. ALL HANGERS AND CONNECTORS SPEC'D ARE TO BE SIMPSON STRONG TIE OR EQUIVALENT.
6. ALL BEAMS SPEC'D ARE MINIMUM SIZES ONLY. LARGER MEMBERS MAY SUBSTITUTED AS NEEDED FOR EASE OF CONSTRUCTION.
7. ALL EXTERIOR WALLS TO BE FULLY SHEATHED WITH 7/16" OSB
8. FRONT PORCH COLUMNS TO BE MIN. 4X4 PT ATTACHED AT TOP AND BOTTOM USING SIMPSON (OR EQUIV) COLUMN BASE OR SST A24 BRACKETS. TRIM OUT PER BUILDER.
9. REAR PORCH COLUMNS TO BE MIN. 4X4 PT ATTACHED AT BOTTOM USING SIMPSON (OR EQUIV) ABA44 AND AT TOP USING CS 16 STRAPPING (12" MIN.) TO PORCH HEADER/BAND.
10. WHEN A 4 PLY LVL IS USED ATTACH WITH (1) 1/2" Ø BOLT 12" O.C. STAGGERED TOP AND BOTTOM, 1 1/2" MIN. FROM ENDS. ALTERNATE ATTACHMENT EQUIVALENT METHOD MAY BE USED SUCH AS SDW OR TRUSSLOK SCREWS (SEE MANUFACTURERS SPECIFICATIONS)
11. FOR STUD COLUMNS OF 5 OR MORE, INSTALL SST CS16 STRAPS AT TOP, MIDPOINT, AND BOTTOM OF THE INSIDE FACE OF THE STUD COLUMN.

IRC 2015 NCBC 2018 REQUIRES VAPOR BARRIER OVER 100 PERCENT OF CRAWL AREA

ALL FLOOR JOISTS
11 7/8 BCI 5000 @ 19.2
or 2 x 10 @ 16 # 2 SPF or Better

ORIENTED Left To Right

DENOTES 12"x16" –or– 16"x16" CMU PIER WITH 8" SOLID CAP ON 30"x30"x10" CONC. FTR.

CONCRETE PIER SIZES

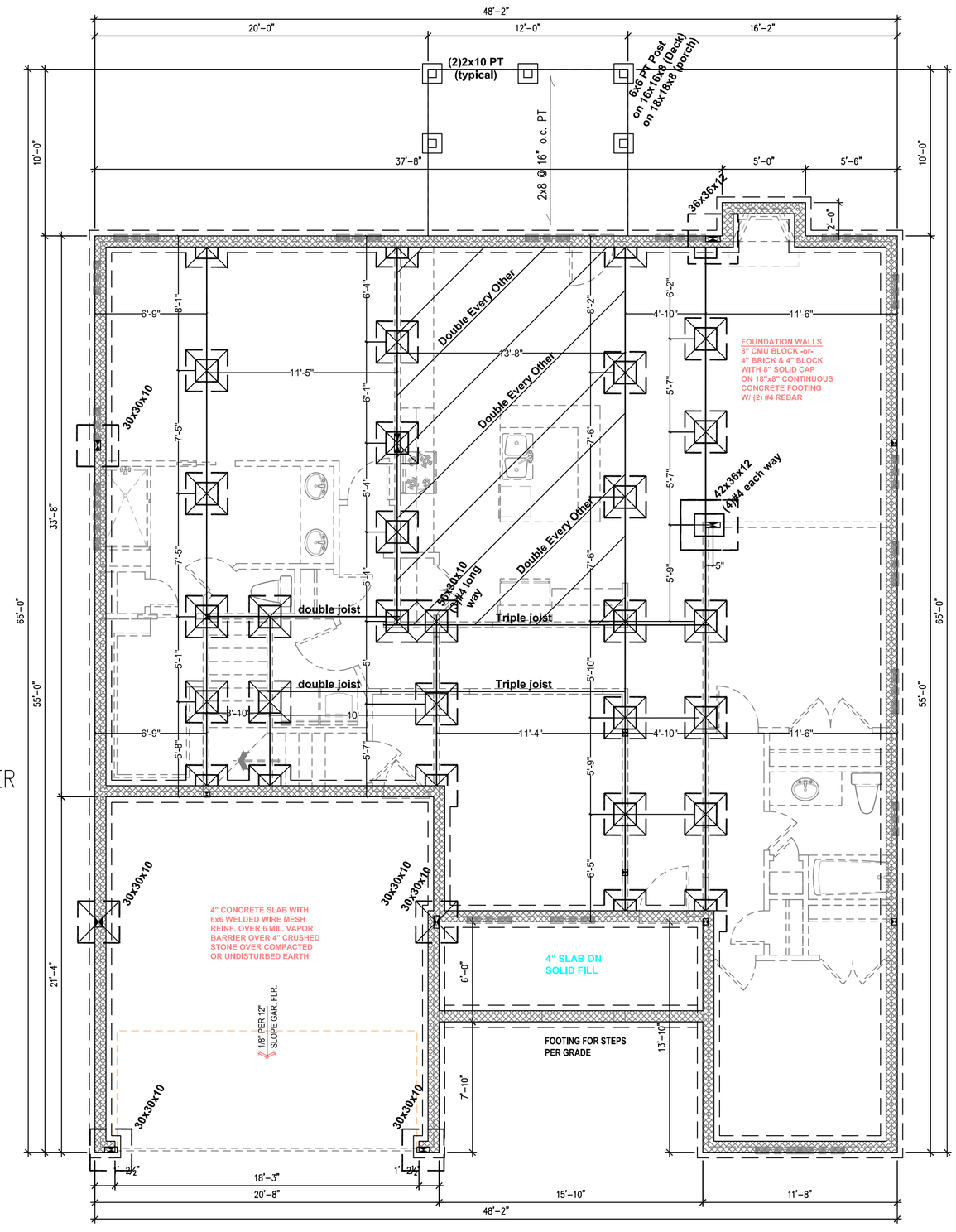
Size	Hollow Masonry	Solid Masonry
12"x16"	Up to 48" High	Up to 9'–0" High
16"x16"	Up to 64" High	Up to 12'–0" High

FOUNDATION WALLS
ALL FOUNDATION WALLS 8" BLOCK
PARGED –or– 4" BRICK w/ 4" BLOCK
w/ 8" SOLID CAP ON 18"x8" CONTINUOUS
CONCRETE FOOTER

20" x 10" in areas of brick veneer

GIRDERS
(2) 9 1/4 LVL or
(4) 2 x 10 # 2 SYP or Better

Anchor bolts required ALL foundation walls
provide 1/2" x 10" with 7 inch embedment
6' on center and 12 inches from ends / corners



FOUNDATION WALLS
8" CMU BLOCK -on-
4" BRICK & 4" BLOCK
WITH 8" SOLID CAP
ON 18"x8" CONTINUOUS
CONCRETE FOOTING
W/ (2) #4 REBAR

PROVIDE 1/2" ANCHOR BOLTS AT TREATED WOOD SILL PLATES WITH 7" EMBEDMENT AT MAXIMUM 6'-0" ON CENTER AND WITHIN 12" FROM THE ENDS OF EACH PLATE SECTION

CRAWL FOUNDATION PLAN 'A'

SCALE: 3/16" = 1'-0"

STRUCTURAL FRAMING NOTES

1. REFER TO DETAILS SHEET DT1 FOR STRUCTURAL NOTES RELATING TO MINIMUM DESIGN LOADS, MATERIAL SPECS, CONSTRUCTION/FDN NOTES, AND ABBREVIATIONS KEY AND OTHER MISC. PLAN INFORMATION.
2. ALL FRAMING TO BE #2 SPF MINIMUM.
3. ALL BEARING HEADERS TO BE (2) 2"x 6" SUPPORTED W/ MIN. (1) JACK AND (1) KING EACH END U.NO.
4. ⊠ INDICATES POINT LOAD PER CONSTRUCTION NOTE #6 ON SHEET DT1.
5. ALL HANGERS AND CONNECTORS SPEC'D ARE TO BE SIMPSON STRONG TIE OR EQUIVALENT.
6. ALL BEAMS SPEC'D ARE MINIMUM SIZES ONLY. LARGER MEMBERS MAY SUBSTITUTED AS NEEDED FOR EASE OF CONSTRUCTION.

CRAWL SPACE VENTILATION 'A':

2002 SQ. FT. / 150 = 13.35 SQ. FT. REQ.
13.35 SQ. FT. / .47 PER VENT = 29 VENTS REQ.

NOTE: WHERE AN APPROVED VAPOR BARRIER IS INSTALLED OVER GROUND SURFACE, THE REQUIRED VENTILATION MAY BE REDUCED BY 50%

FOUNDATION

1. MINIMUM ALLOWABLE SOIL BEARING CAPACITY IS ASSUMED TO BE 2000 PSF. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY SOIL BEARING CAPACITY IF UNSATISFACTORY CONDITIONS EXIST.
2. CONCRETE AND MASONRY FOUNDATION WALLS TO BE SELECTED AND CONSTRUCTED IN ACCORDANCE WITH THE PROVISIONS OF SECTION R404 OR IN ACCORDANCE WITH ACI 318, NCMA TR68-A, OR ACI 530/ASCE 5/TMS 402.
3. MASONRY AND POURED CONCRETE WALL REINFORCEMENT TO BE IN ACCORDANCE WITH TABLES R404.1.1 (1 THROUGH 4) OF THE NORTH CAROLINA RESIDENTIAL CODE.
   A. PER R404.1.3, TABLES ASSUME THAT WALLS HAVE PERMANENT LATERAL SUPPORT AT THE TOP AND BOTTOM.
   B. WALL REINFORCING SHALL BE PLACED ACCORDING TO FOOTNOTE (c) OF THE TABLES (REINFORCING IS NOT CENTERED IN WALL).
   C. FOUNDATION DRAINS ARE ASSUMED AT ALL WALLS PER R405.
4. WOOD SILL PLATES TO BE ANCHORED TO THE FOUNDATION WITH 1/2" ANCHOR BOLTS WITH MINIMUM 7" EMBEDMENT SPACED A MAXIMUM OF 6'-0" o.c.(3'-0" FOR BASEMENT WALLS) AND WITHIN 12" FROM THE ENDS OF EACH PLATE SECTION. INSTALL MIN. (2) ANCHOR BOLTS PER SECTION.
5. THE UNSUPPORTED HEIGHT OF SOLID MASONRY PIERS SHALL NOT EXCEED TEN TIMES THEIR LEAST DIMENSION . UNFILLED HOLLOW PIERS MAY BE USED IF THE UNSUPPORTED HEIGHT IS NOT MORE THAN FOUR TIMES THEIR LEAST DIMENSION.
6. CENTERS OF PIERS TO BEAR IN THE MIDDLE THIRD OF THE FOOTINGS, AND GIRDERS SHALL CENTER IN THE MIDDLE THIRD OF THE PIER
7. ALL FOOTINGS TO HAVE MINIMUM 2" PROJECTION ON EACH FOUNDATION WALLS.

NORTH CAROLINA PROFESSIONAL SEAL 20031 ENGINEER JOHN ALEXANDER MCRAE

APRIL 2021

Structural Design By:
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(NC C-2298)
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2101–17
Design to IRC 2015 NCBC 2018

BEAM & POINT LOAD LEGEND:

- INTERIOR LOAD BEARING WALL
- ROOF RAFTER/TRUSS SUPPORT
- DOUBLE RAFTER / DOUBLE JOIST
- STRUCTURAL BEAM / GIRDER
- WINDOW / DOOR HEADER
- ⊠ POINT LOAD TRANSFER
- ▫ POINT LOAD FROM ABOVE BEARING ON BEAM / GIRDER

STRUCTURAL FRAMING NOTES

1. ALL FRAMING TO BE #2 SPF MINIMUM.
2. ALL BEARING HEADERS TO BE (2) 2"x 6" SUPPORTED W/ MIN. (1) JACK AND (1) KING EACH END U.NO.
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6. ALL BEAMS SPEC'D ARE MINIMUM SIZES ONLY. LARGER MEMBERS MAY SUBSTITUTED AS NEEDED FOR EASE OF CONSTRUCTION.
7. ALL EXTERIOR WALLS TO BE FULLY SHEATHED WITH 7/16" OSB
8. FRONT PORCH COLUMNS TO BE MIN. 4X4 PT ATTACHED AT TOP AND BOTTOM USING SIMPSON (OR EQUIV) COLUMN BASE OR SST A24 BRACKETS. TRIM OUT PER BUILDER.
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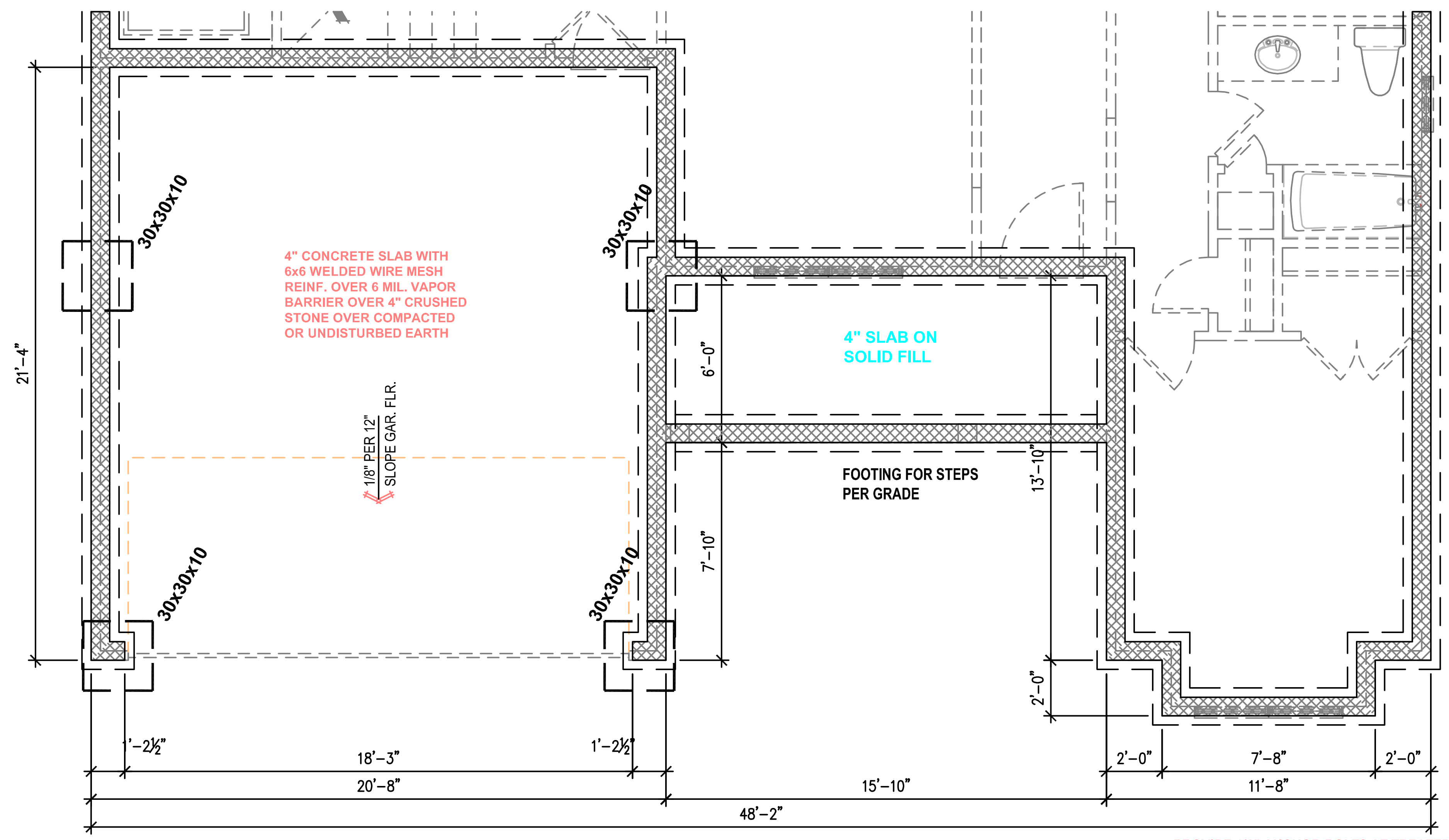
11. FOR STUD COLUMNS OF 5 OR MORE, INSTALL SST CS16 STRAPS AT TOP, MIDPOINT, AND BOTTOM OF THE INSIDE FACE OF THE STUD COLUMN.



PROVIDE 1/2" ANCHOR BOLTS AT TREATED WOOD SILL PLATES WITH 7" EMBEDMENT AT MAXIMUM 6'-0" ON CENTER AND WITHIN 12" FROM THE ENDS OF EACH PLATE SECTION

PARTIAL CRAWL FOUNDATION PLAN 'B'

SCALE: 3/16" = 1'-0"

CRAWL SPACE VENTILATION 'B':

2002 SQ. FT. / 150 = 13.35 SQ. FT. REQ.
13.35 SQ. FT. / .47 PER VENT = 29 VENTS REQ.

NOTE: WHERE AN APPROVED VAPOR BARRIER IS INSTALLED OVER GROUND SURFACE, THE REQUIRED VENTILATION MAY BE REDUCED BY 50%

STRUCTURAL FRAMING NOTES

1. REFER TO DETAILS SHEET DT1 FOR STRUCTURAL NOTES RELATING TO MINIMUM DESIGN LOADS, MATERIAL SPECS, CONSTRUCTION/FDN NOTES, AND ABBREVIATIONS KEY AND OTHER MISC. PLAN INFORMATION.
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3. ALL BEARING HEADERS TO BE (2) 2"x 6" SUPPORTED W/ MIN. (1) JACK AND (1) KING EACH END U.NO.
4. ⊠ INDICATES POINT LOAD PER CONSTRUCTION NOTE #6 ON SHEET DT1.
5. ALL HANGERS AND CONNECTORS SPEC'D ARE TO BE SIMPSON STRONG TIE OR EQUIVALENT.
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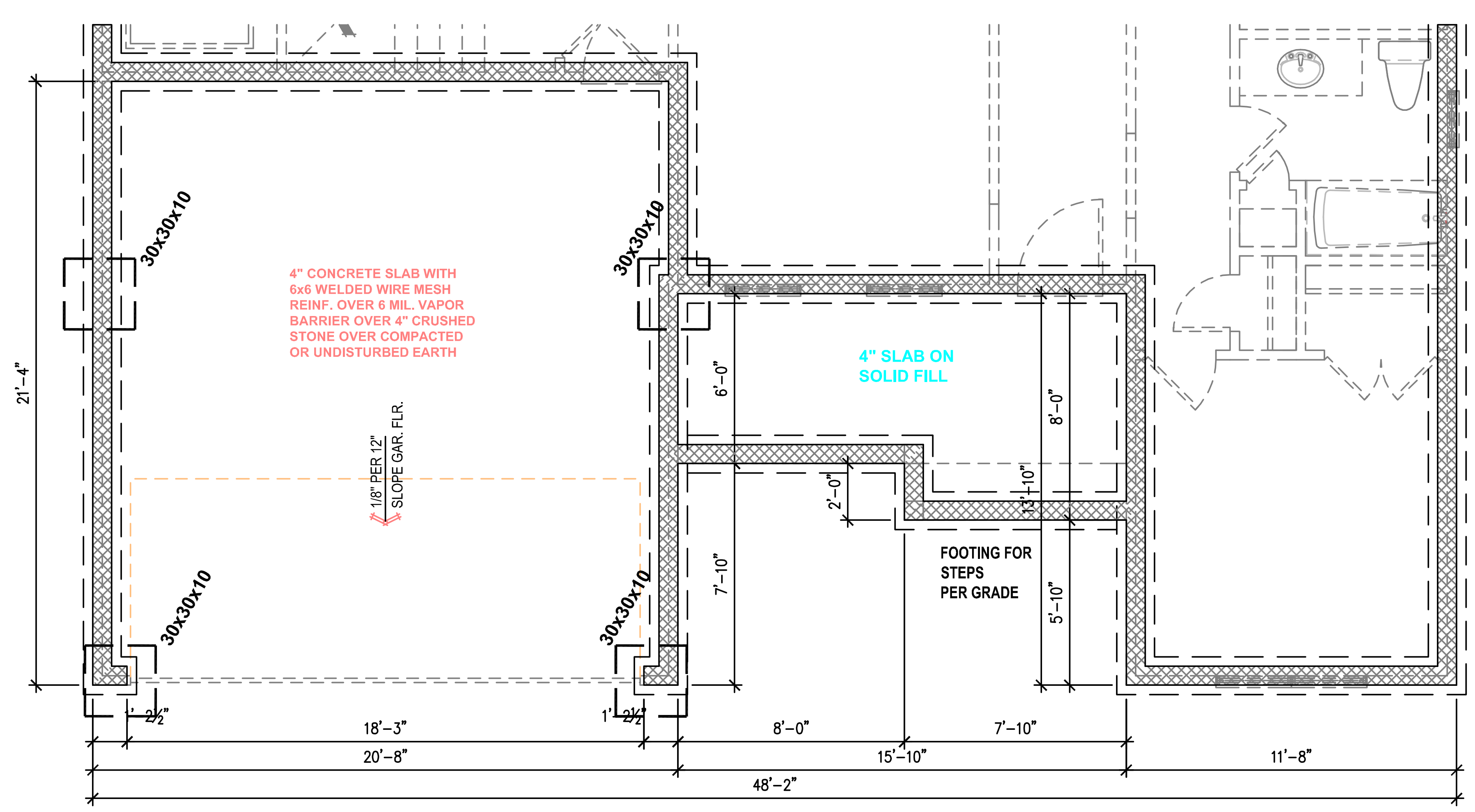

CRAWL SPACE VENTILATION 'C':

2002 SQ. FT. / 150 = 13.35 SQ. FT. REQ.
13.35 SQ. FT. / .47 PER VENT = 29 VENTS REQ.

NOTE: WHERE AN APPROVED VAPOR BARRIER IS INSTALLED OVER GROUND SURFACE, THE REQUIRED VENTILATION MAY BE REDUCED BY 50%

PROVIDE 1/2" ANCHOR BOLTS AT TREATED WOOD SILL PLATES WITH 7" EMBEDMENT AT MAXIMUM 6'-0" ON CENTER AND WITHIN 12" FROM THE ENDS OF EACH PLATE SECTION

PARTIAL CRAWL FOUNDATION PLAN 'C'

SCALE: 3/16" = 1'-0"

FOUNDATION

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6. CENTERS OF PIERS TO BEAR IN THE MIDDLE THIRD OF THE FOOTINGS, AND GIRDERS SHALL CENTER IN THE MIDDLE THIRD OF THE PIERS.
7. ALL FOOTINGS TO HAVE MINIMUM 2" PROJECTION ON EACH SIDE OF FOUNDATION WALLS.

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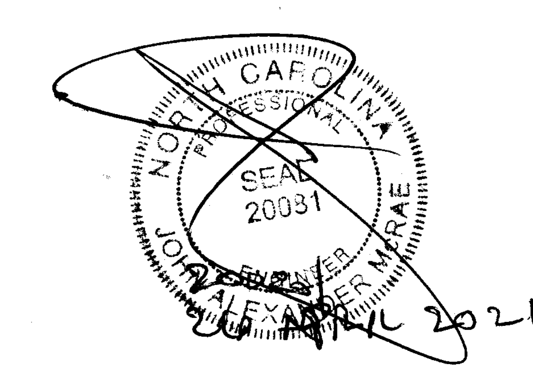
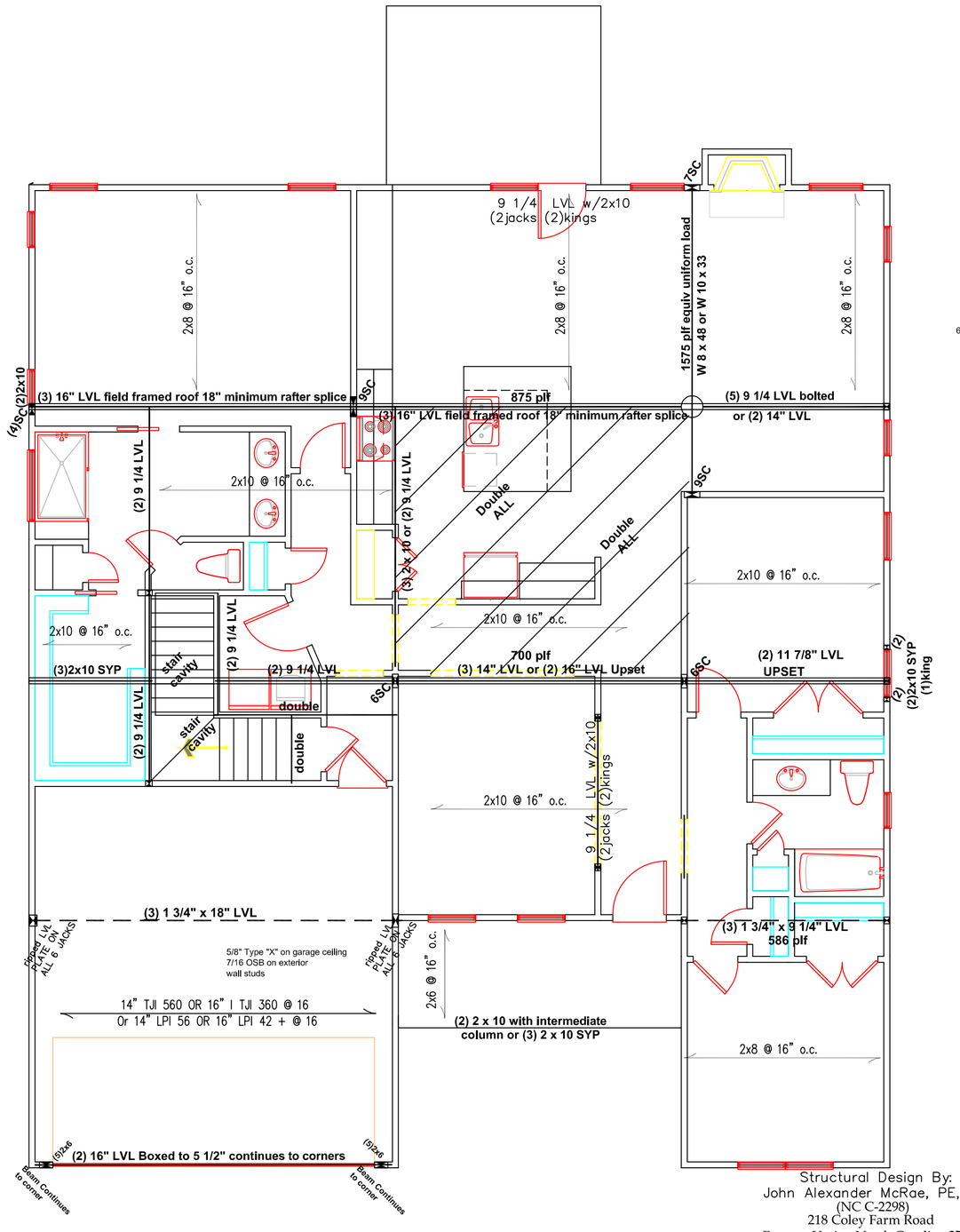
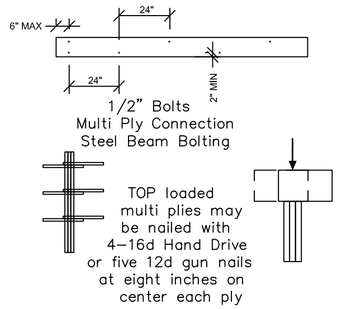




FINISHED ATTIC NOTE (RIGHT SIDE):

FOR FINISHED ATTIC OVER RIGHT SIDE USE STEEL BEAM OPTION AND CONVERT FLOOR SYSTEM TO I-JOISTS PER MFTR



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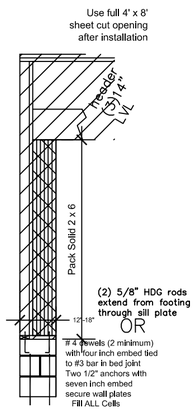
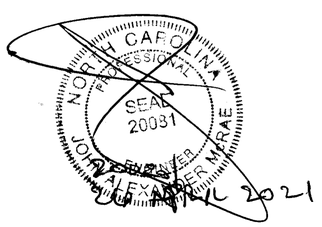


LIMITED LENGTH OF WING WALLS WILL REQUIRE 7/16 osb SHEATHING BOTH SIDES OF WALL LAP osb FROM TOP PLATE DOWN FULL EIGHT FOOT SHEET PRIOR TO OPENING CUT-OUT



Design To IRC 2015 / NCBC 2018
ALL FLOOR JOISTS 2 X 10 @16
#2 SPF OR BETTER
ALL CEILING JOIST 2 X 8 @ 16 Up To 15'
2 X 6 @ 16 Up To 11'

FIRST CEILING FRAMING 'A'

SCALE: 3/16" = 1'-0"

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Design to IRC 2015 NCBC 2018

ALL EXTERIOR AND BEARING HEADER (2) 2"x10" u.n.o.
ALL LVL BEAMS/HEADERS 3 STUD COLUMNS EACH END u.n.o.
ALL FRAMING #2 SPF OR BETTER u.n.o.

Design To IRC 2015 / NCBC 2018
ALL FLOOR JOISTS 2 X 10 @16
#2 SPF OR BETTER
ALL CEILING JOIST 2 X 8 @ 16 Up To 15'
2 X 6 @ 16 Up To 11'

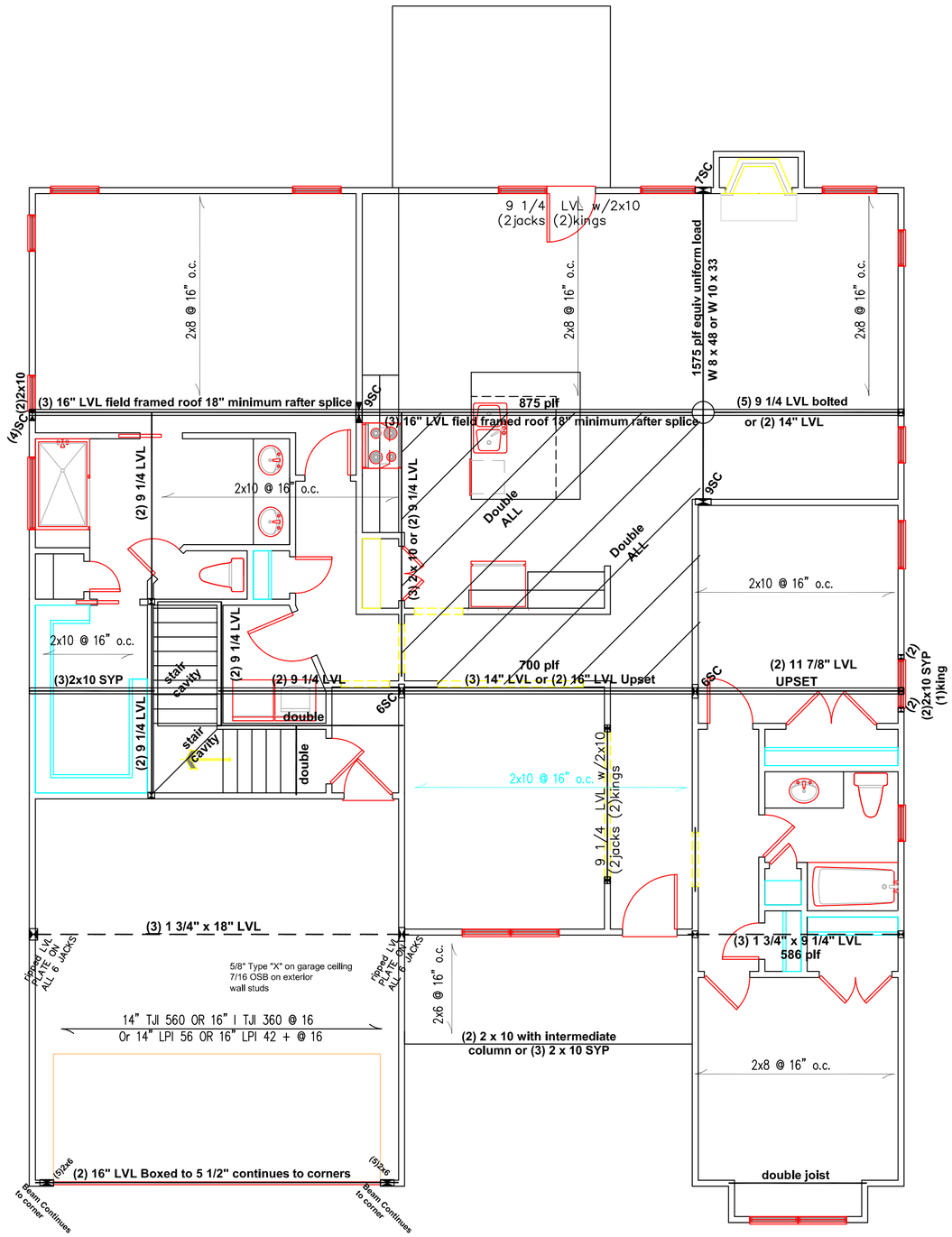
Main Roof Structures
Attic Truss by Manufacturer
Optional Field Framing Also Shown

All stories to be sheathed with 7/16" OSB nailed @ six inches on center edges and ends with additional nailing of "braced" panels as noted below:

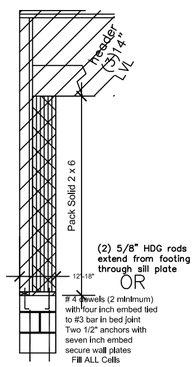
ALL EXTERIOR BEARING AND
NON LOAD BEARING WALLS
Four Foot Panel at Corners
and Maximum 12' o.c.

Wall Bracing 7/16" OSB Lap OSB from top plate down full eight foot sheet prior to opening cut-out. Nail with 8d nails at THREE inches on center edges/ends six inches in field. Purlins at panel

Minimum Panel Width 48" u.n.o.



Use full 4' x 8'
sheet cut opening
after installation



LIMITED LENGTH OF WING WALLS WILL REQUIRE 7/16 osb
SHEATHING BOTH SIDES OF WALL LAP osb FROM TOP
PLATE DOWN FULL EIGHT FOOT SHEET PRIOR TO OPENING
CUT-OUT

Design To IRC 2015 / NCBC 2018
ALL FLOOR JOISTS 2 X 10 @16
#2 SPF OR BETTER
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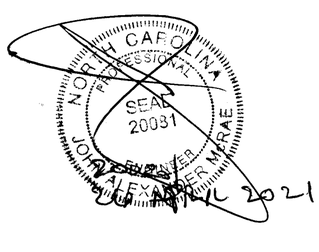
2 X 6 @ 16 Up To 11'

FIRST CEILING FRAMING 'B'

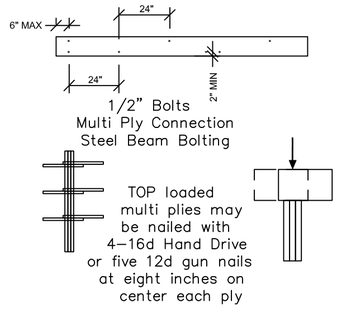
SCALE: 3/16" = 1'-0"

ALL EXTERIOR AND BEARING HEADER (2) 2"x10" u.n.o.
ALL LVL BEAMS/HEADERS 3 STUD COLUMNS EACH END u.n.o.
ALL FRAMING #2 SPF OR BETTER u.n.o.



FINISHED ATTIC NOTE (RIGHT SIDE):

FOR FINISHED ATTIC OVER RIGHT SIDE USE STEEL BEAM OPTION AND CONVERT FLOOR SYSTEM TO I-JOISTS PER MFTR



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#2 SPF OR BETTER
ALL CEILING JOIST 2 X 8 @ 16 Up To 15'
2 X 6 @ 16 Up To 11'

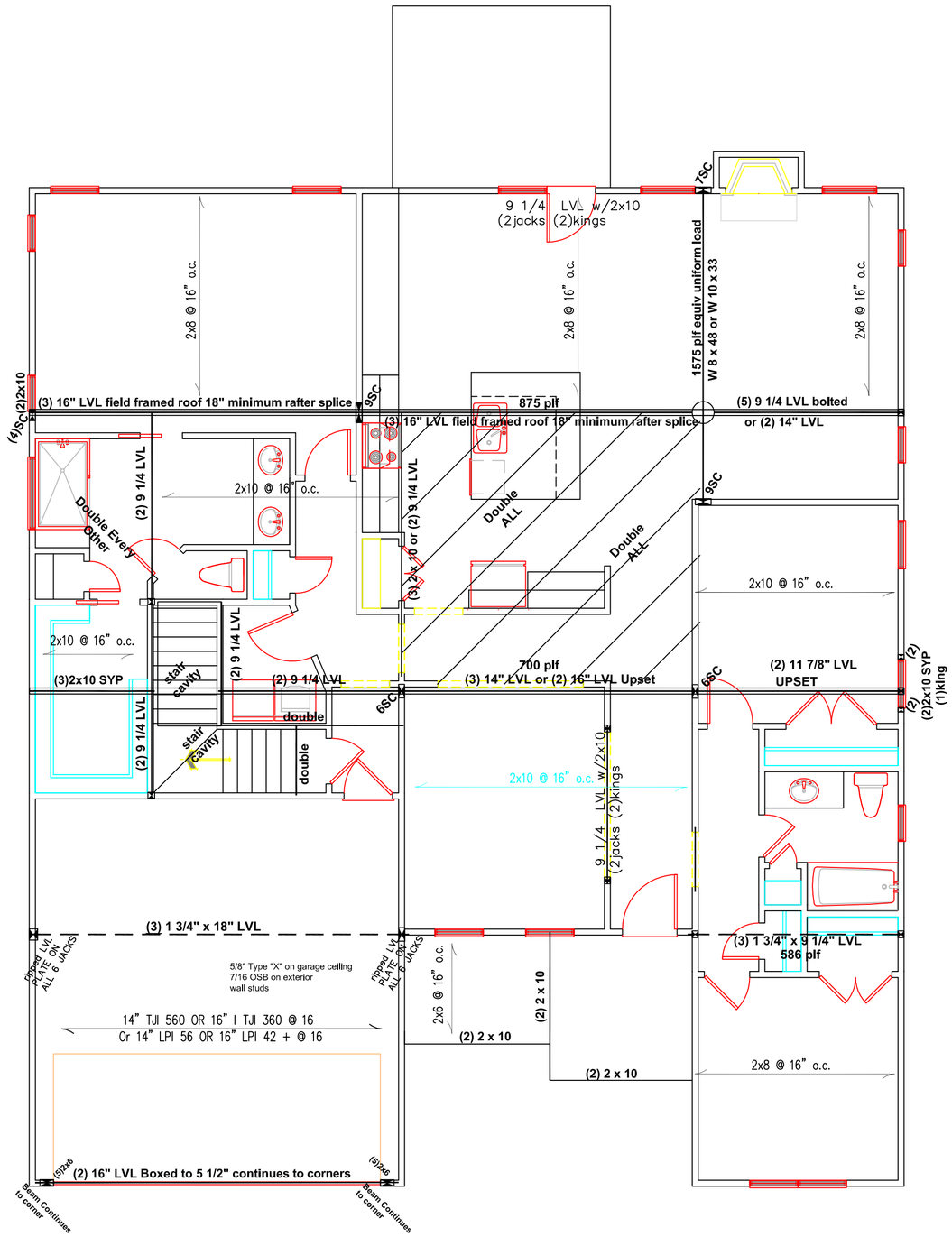
Main Roof Structures
Attic Truss by Manufacturer
Optional Field Framing Also Shown

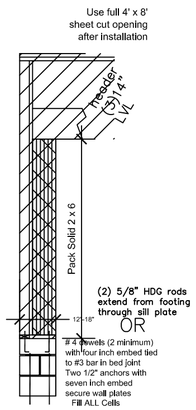
All stories to be sheathed with 7/16" OSB nailed @ six inches on center edges and ends with additional nailing of "braced" panels as noted below:

ALL EXTERIOR BEARING AND
NON LOAD BEARING WALLS
Four Foot Panel at Corners
and Maximum 12' o.c.

Wall Bracing 7/16" OSB Lap OSB from top plate down full eight foot sheet prior to opening cut-out. Nail with 8d nails at THREE inches on center edges/ends six inches in field. Purlins at panel

Minimum Panel
Width 48" u.n.o.





LIMITED LENGTH OF WING WALLS WILL REQUIRE 7/16 osb SHEATHING BOTH SIDES OF WALL LAP osb FROM TOP PLATE DOWN FULL EIGHT FOOT SHEET PRIOR TO OPENING CUT-OUT

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ALL CEILING JOIST 2 X 8 @ 16 Up To 15'
2 X 6 @ 16 Up To 11'

FIRST CEILING FRAMING 'C'

SCALE: 3/16" = 1'-0"

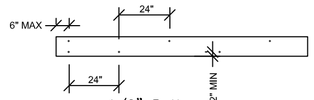
ALL EXTERIOR AND BEARING HEADER (2) 2"x10" u.n.o.
ALL LVL BEAMS/HEADERS 3 STUD COLUMNS EACH END u.n.o.
ALL FRAMING #2 SPF OR BETTER u.n.o.

NORTH CAROLINA PROFESSIONAL SEAL 20031 ENGINEER JOHN ALEXANDER MCRAE

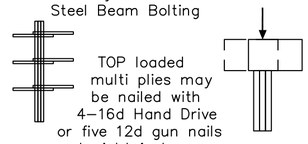
RECEIVED APRIL 2021

FINISHED ATTIC NOTE (RIGHT SIDE):

FOR FINISHED ATTIC OVER RIGHT SIDE USE STEEL BEAM OPTION AND CONVERT FLOOR SYSTEM TO I-JOISTS PER MFTR



1/2" Bolts
Multi Ply Connection
Steel Beam Bolting



TOP loaded multi plies may be nailed with 4–16d Hand Drive or five 12d gun nails at eight inches on center each ply

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2. ALL FRAMING TO BE #2 SPF MINIMUM.
3. ALL BEARING HEADERS TO BE (2) 2"x 6" SUPPORTED W/ MIN. (1) JACK AND (1) KING EACH END U.NO.
4. ☒ INDICATES POINT LOAD PER CONSTRUCTION NOTE #6 ON SHEET DT1.
5. ALL HANGERS AND CONNECTORS SPEC'D ARE TO BE SIMPSON STRONG TIE OR EQUIVALENT.
6. ALL BEAMS SPEC'D ARE MINIMUM SIZES ONLY. LARGER MEMBERS MAY SUBSTITUTED AS NEEDED FOR EASE OF CONSTRUCTION.

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Report deficiencies immediately
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ALL FLOOR JOISTS 2 X 10 @16
#2 SPF OR BETTER
ALL CEILING JOIST 2 X 8 @ 16 Up To 15'
2 X 6 @ 16 Up To 11'

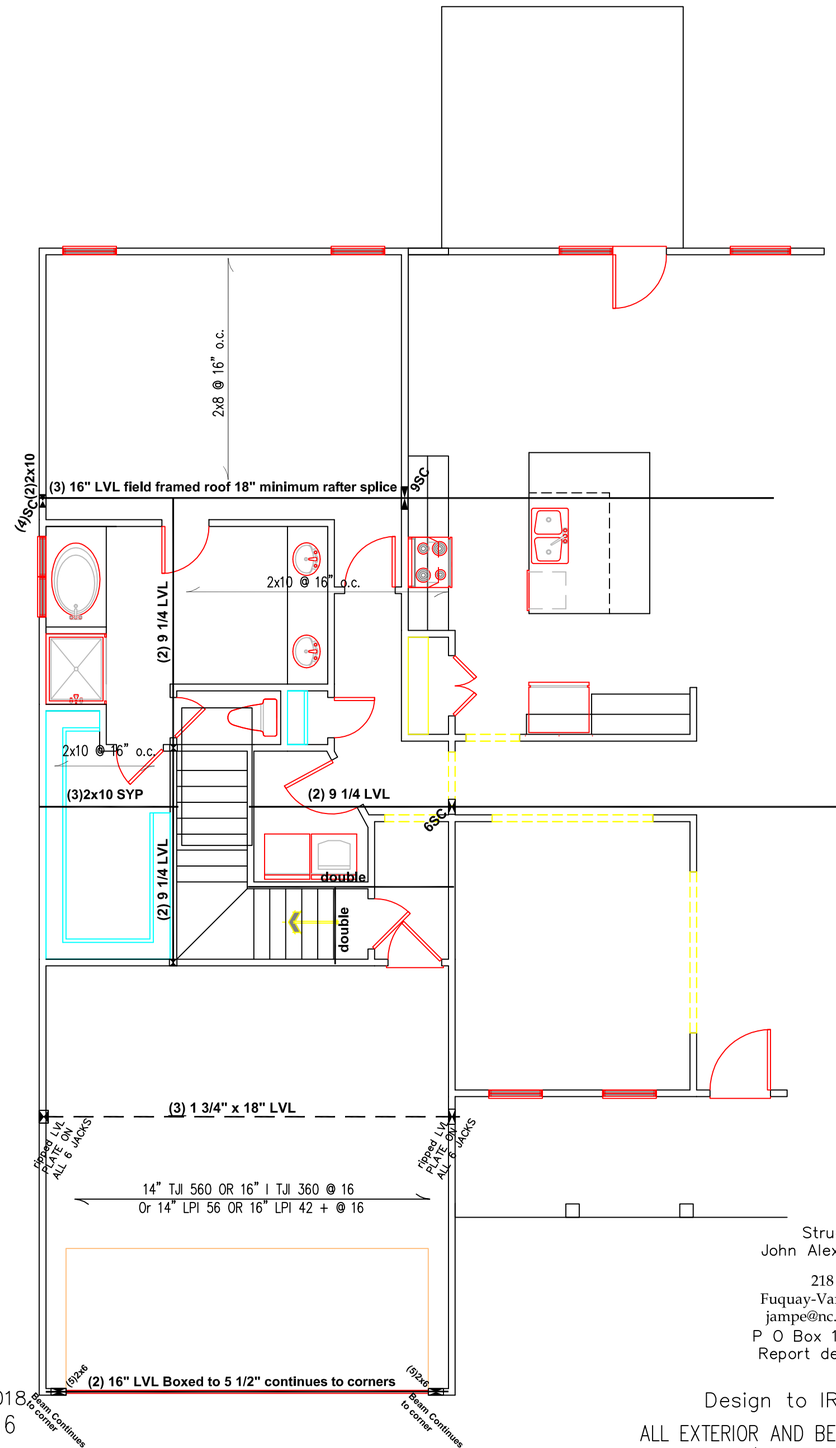
Main Roof Structures
Attic Truss by Manufacturer
Optional Field Framing Also Shown

All stories to be sheathed with 7/16" OSB nailed @ six inches on center edges and ends with additional nailing of "braced" panels as noted below:

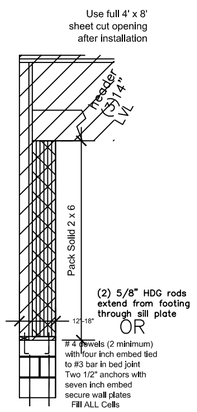
ALL EXTERIOR BEARING AND
NON LOAD BEARING WALLS
Four Foot Panel at Corners
and Maximum 12' o.c.

Wall Bracing 7/16" OSB Lap OSB from top plate down full eight foot sheet prior to opening cut-out. Nail with 8d nails at THREE inches on center edges/ends six inches in field. Purlins at panel

Minimum Panel Width 48" u.n.o.



Use full 4' x 8' sheet cut opening after installation



LIMITED LENGTH OF WING WALLS WILL REQUIRE 7/16 osb SHEATHING BOTH SIDES OF WALL LAP osb FROM TOP PLATE DOWN FULL EIGHT FOOT SHEET PRIOR TO OPENING CUT-OUT

Design To IRC 2015 / NCBC 2018
ALL FLOOR JOISTS 2 X 10 @16
#2 SPF OR BETTER
ALL CEILING JOIST 2 X 8 @ 16 Up To 15'
2 X 6 @ 16 Up To 11'

Optional First Floor

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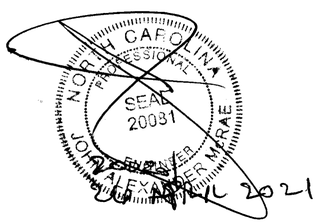
Design to IRC 2015 NCBC 2018

ALL EXTERIOR AND BEARING HEADER (2) 2"x10" u.n.o.
ALL LVL BEAMS/HEADERS 3 STUD COLUMNS EACH END u.n.o.
ALL FRAMING #2 SPF OR BETTER u.n.o.



Design To IRC 2015 / NCBC 2018
ALL FLOOR JOISTS 2 X 10 @16
#2 SPF OR BETTER
ALL CEILING JOIST 2 X 8 @ 16 Up To 15'
2 X 6 @ 16 Up To 11'

Main Roof Structures
Attic Truss by Manufacturer
Optional Field Framing Also Shown

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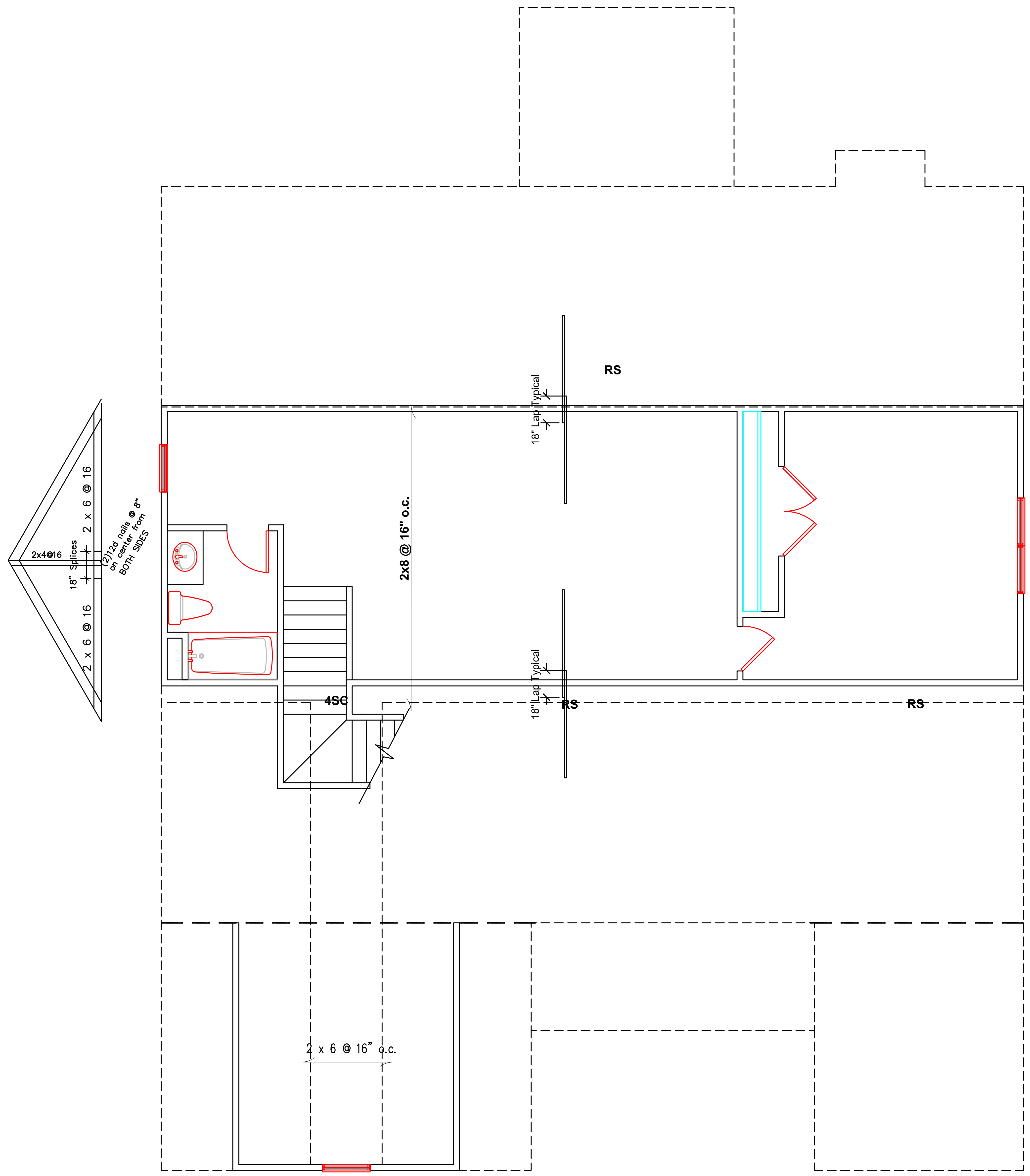
Minimum Panel Width 48" u.n.o.



STRUCTURAL FRAMING NOTES

1. REFER TO DETAILS SHEET DT1 FOR STRUCTURAL NOTES RELATING TO MINIMUM DESIGN LOADS, MATERIAL SPECS, CONSTRUCTION/FDN NOTES, AND ABBREVIATIONS KEY AND OTHER MISC. PLAN INFORMATION.
2. ALL FRAMING TO BE #2 SPF MINIMUM.
3. ALL BEARING HEADERS TO BE (2) 2"x 6" SUPPORTED W/ MIN. (1) JACK AND (1) KING EACH END U.NO.
4. ⊠ INDICATES POINT LOAD PER CONSTRUCTION NOTE #6 ON SHEET DT1.
5. ALL HANGERS AND CONNECTORS SPEC'D ARE TO BE SIMPSON STRONG TIE OR EQUIVALENT.
6. ALL BEAMS SPEC'D ARE MINIMUM SIZES ONLY. LARGER MEMBERS MAY SUBSTITUTED AS NEEDED FOR EASE OF CONSTRUCTION.

Main Roof Structures
Attic Truss by Manufacturer
Optional Field Framing Also Shown

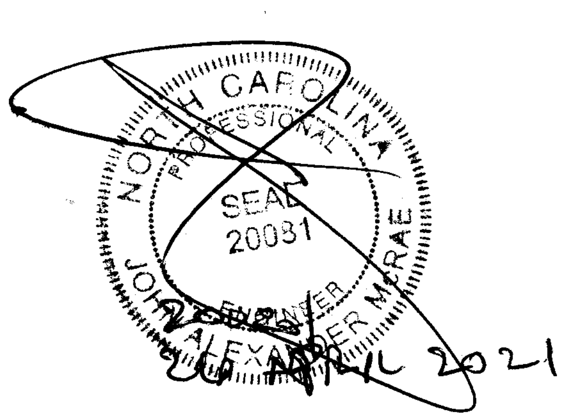
Design To IRC 2015 / NCBC 2018
ALL FLOOR JOISTS 2 X 10 @16
#2 SPF OR BETTER
ALL CEILING JOIST 2 X 8 @ 16 Up To 15'
2 X 6 @ 16 Up To 11'
ALL EXTERIOR AND BEARING HEADER (2) 2"x10" u.n.o.
ALL LVL BEAMS/HEADERS 3 STUD COLUMNS EACH END u.n.o.
ALL FRAMING #2 SPF OR BETTER u.n.o.

All stories to be sheathed with 7/16" OSB nailed @ six inches on center edges and ends with additional nailing of "braced" panels as noted below:

ALL EXTERIOR BEARING AND
NON LOAD BEARING WALLS
Four Foot Panel at Corners
and Maximum 12' o.c.

Wall Bracing 7/16" OSB Lap OSB from top plate down full eight foot sheet prior to opening cut-out. Nail with 8d nails at THREE inches on center edges/ends six inches in field. Purlins at panel

Minimum Panel Width 48" u.n.o.



SECOND CEILING FRAMING

SCALE: 3/16" = 1'-0"

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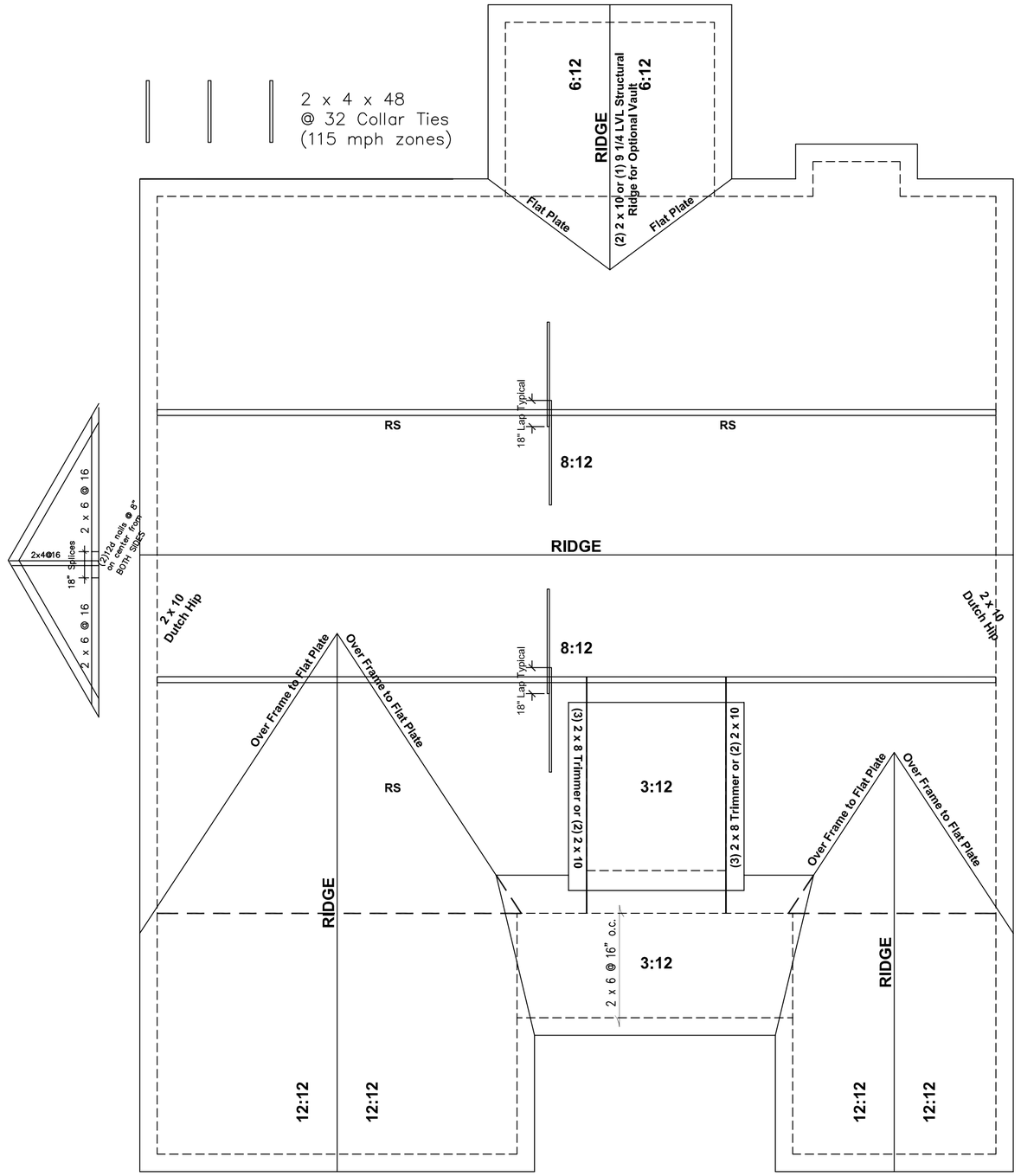

STRUCTURAL ROOF NOTES

1. SEE STRUCTURAL NOTES SHEET DT1
2. FRAMING SHALL BE #2 SPF OR BETTER u.n.o.
3. PROVIDE 2x4 COLLAR TIES AT 48" o.c. AT UPPER THIRD OF RAFTERS u.n.o. ON PLAN.
4. FUR RIDGES FOR FULL RAFTER CONTACT
5. ⊠ DENOTES POINT LOAD. SEE CONSTRUCTION NOTE #6 ON SHEET DT1.
6. ▨ DENOTES OVERFRAMED AREA

PROVIDE 2x4 RAFTER TIES AT 16" o.c. AT 45° BETWEEN RAFTERS AND CEILING JOISTS. USE (4) 16d NAILS AT EACH CONNECTION. RAFTER TIES MAY BE SPACED AT 48" o.c. AT LOCATIONS WHERE NO KNEE WALLS ARE INSTALLED.

ATTIC VENTILATION

2948 SQ. FT. OF CEILING / 150 = 19.7 SQ. FT. OF FREE VENT REQUIRED = 9.83 SQ. FT. IN/ 9.83 SQ. FT. OUT

NOTE:
REFER TO SECTION 806 (ROOF VENTILATION)
IN THE NORTH CAROLINA STATE BUILDING CODE (IRC)

All framing #2 SPF or better

NORTH CAROLINA PROFESSIONAL SEAL 20031 ENGINEER JOHN ALEXANDER MCRAE
APRIL 2021

ROOF FRAMING PLAN 'A'

SCALE: 3/16" = 1'-0"

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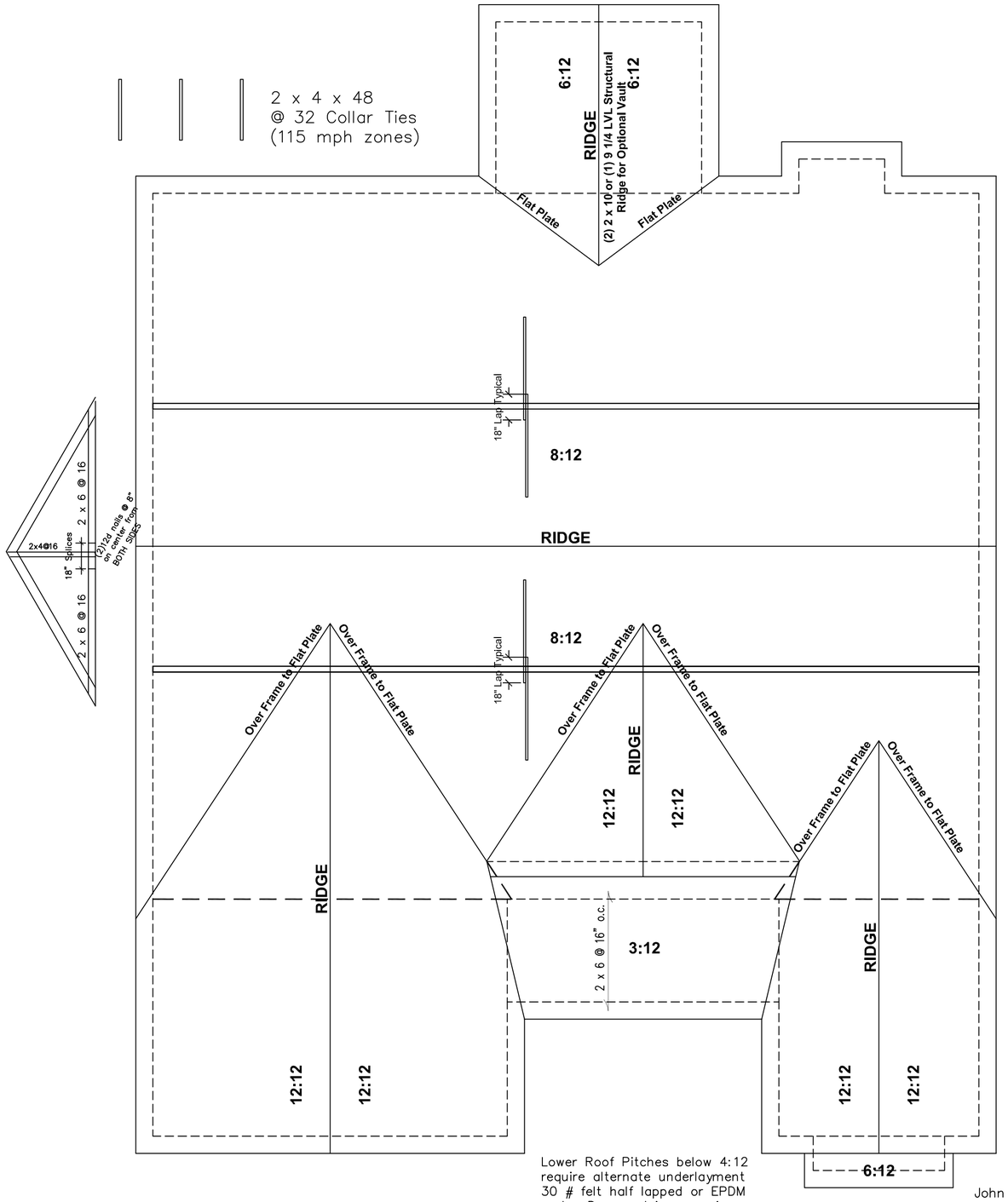
Design to IRC 2015 NCBC 2018

Main Roof Structures
Attic Truss by Manufacturer
Optional Field Framing Also Shown

All Other Rafters
2 x 8 @ 16 #2
spf or better
all ridges 2 x 10 u.n.o.
fur ridge as required to
provide full rafter contact
fur rafters as required to
meet insulation code
lap all rafters at kneewall splices
18" minimum nail with 5–12d
nails from each side

IRC 2015 / NCBC 2018 Increases
Attic / Ceiling Insulation to R-38



Lower Roof Pitches below 4:12 require alternate underlayment 30 # felt half lapped or EPDM or Ice Dam and increase in live load to 30 psf

ROOF FRAMING PLAN 'B'

SCALE: 3/16" = 1'-0"

STRUCTURAL ROOF NOTES

1. SEE STRUCTURAL NOTES SHEET DT1
2. FRAMING SHALL BE #2 SPF OR BETTER u.n.o.
3. PROVIDE 2x4 COLLAR TIES AT 48" o.c. AT UPPER THIRD OF RAFTERS u.n.o. ON PLAN.
4. FUR RIDGES FOR FULL RAFTER CONTACT
5. ⊠ DENOTES POINT LOAD. SEE CONSTRUCTION NOTE #6 ON SHEET DT1.
6. ▨ DENOTES OVERFRAMED AREA

PROVIDE 2x4 RAFTER TIES AT 16" o.c. AT 45° BETWEEN RAFTERS AND CEILING JOISTS. USE (4) 16d NAILS AT EACH CONNECTION. RAFTER TIES MAY BE SPACED AT 48" o.c. AT LOCATIONS WHERE NO KNEE WALLS ARE INSTALLED.

Main Roof Structures
Attic Truss by Manufacturer
Optional Field Framing Also Shown

All Other Rafters
2 x 8 @ 16 #2
spf or better
all ridges 2 x 10 u.n.o.
fur ridge as required to
provide full rafter contact
fur rafters as required to
meet insulation code
lap all rafters at kneewall splices
18" minimum nail with 5–12d
nails from each side

IRC 2015 / NCBC 2018 Increases
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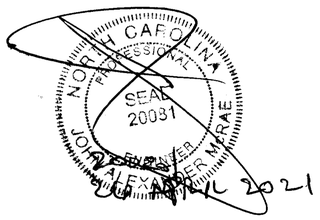
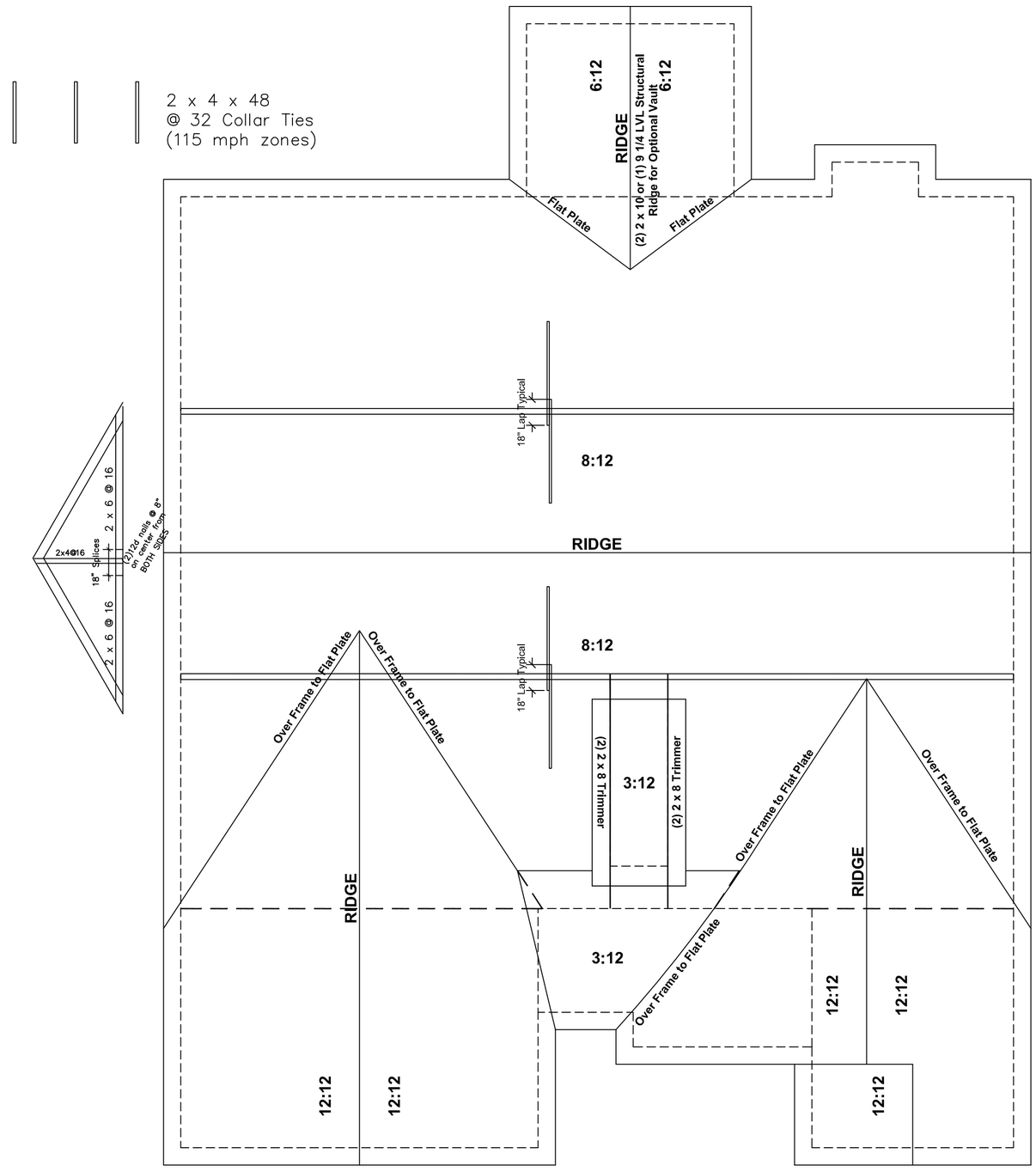


APRIL 2021



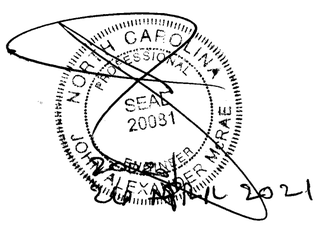
STRUCTURAL ROOF NOTES

1. SEE STRUCTURAL NOTES SHEET DT1
2. FRAMING SHALL BE #2 SPF OR BETTER u.n.o.
3. PROVIDE 2x4 COLLAR TIES AT 48" o.c. AT UPPER THIRD OF RAFTERS u.n.o. ON PLAN.
4. FUR RIDGES FOR FULL RAFTER CONTACT
5. ⊠ DENOTES POINT LOAD. SEE CONSTRUCTION NOTE #6 ON SHEET DT1.
6. ▨ DENOTES OVERFRAMED AREA

PROVIDE 2x4 RAFTER TIES AT 16" o.c. AT 45° BETWEEN RAFTERS AND CEILING JOISTS. USE (4) 16d NAILS AT EACH CONNECTION. RAFTER TIES MAY BE SPACED AT 48" o.c. AT LOCATIONS WHERE NO KNEE WALLS ARE INSTALLED.

ROOF FRAMING PLAN 'C'

SCALE: 3/16" = 1'-0"



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2101–17

Design to IRC 2015 NCBC 2018

Main Roof Structures
Attic Truss by Manufacturer
Optional Field Framing Also Shown

All Other Rafters
2 x 8 @ 16 #2
spf or better
all ridges 2 x 10 u.n.o.
fur ridge as required to
provide full rafter contact
fur rafters as required to
meet insulation code
lap all rafters at kneewall splices
18" minimum nail with 5–12d
nails from each side

IRC 2015 / NCBC 2018 Increases
Attic / Ceiling Insulation to R-38

GENERAL NOTES

1. ENGINEER'S SEAL APPLIES TO STRUCTURAL COMPONENTS ONLY. ENGINEER'S SEAL DOES NOT CERTIFY DIMENSIONSAL ACCURACY OR ARCHITECTURAL LAYOUT INCLUDING ROOF GEOMETRY. JDS CONSULTING & DESIGN, PLLC ASSUMES NO LIABILITY FOR CHANGES MADE TO THESE PLANS BY OTHERS, OR FOR CONSTRUCTION METHODS, OR FOR ANY DEVIATION FROM THE PLANS. ENGINEER TO BE NOTIFIED PRIOR TO CONSTRUCTION IF ANY DISCREPANCIES ARE NOTED ON THE PLANS.
2. ALL CONSTRUCTION, WORKMANSHIP, MATERIAL QUALITY AND SELECTION SHALL BE IN ACCORDANCE WITH THE **NORTH CAROLINA STATE BUILDING CODE - RESIDENTIAL CODE 2012 EDITION** FROM THE 2009 INTERNATIONAL RESIDENTIAL CODE (IRC). DIMENSIONS SHALL GOVERN OVER SCALE AND CODE SHALL GOVERN OVER DIMENSIONS.
3. THESE PLANS ARE ISSUED FOR A CONDITIONAL ONE TIME USE FOR THE LOT OR ADDRESS SPECIFIED ON THE TITLE BLOCK. PLANS MUST HAVE SIGNED SEAL AND BE CONSTRUCTED ON SPECIFIED LOT OR ADDRESS TO BE VALID.

CONSTRUCTION

1. IT IS THE CONTRACTORS RESPONSIBILITY TO VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION. FURTHERMORE CONTRACTOR IS ULTIMATELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, AND SAFETY ON SITE. NOTIFY JDS CONSULTING & DESIGN, PLLC IMMEDIATELY IF DISCREPANCIES ON PLAN EXIST.
2. ALL INTERIOR AND EXTERIOR BEARING HEADERS TO BE MINIMUM (2) 2x6 #2 SPF WITH (1) JACK AND (1) KING STUD AT EACH END U.N.O.
3. ALL ENGINEERED WOOD PRODUCTS (LVL, PSL, LSL, ETC.) SHALL BE INSTALLED WITH CONNECTIONS PER MANUFACTURER SPECIFICATIONS.
4. ALL STEEL BEAMS TO BE SUPPORTED AT EACH END WITH A MIN. BEARING LENGTH OF 3 1/2" AND FULL FLANGE WIDTH. BEAMS MUST BE ATTACHED AT EACH END WITH A MINIMUM OF FOUR 16d NAILS OR TWO 1/2" x 4" LAG SCREWS U.N.O.
5. ALL BEAMS TO BE CONTINUOUSLY SUPPORTED LATERALLY AND SHALL BEAR FULL WIDTH ON THE SUPPORTING WALLS OR COLUMNS INDICATED WITH A MINIMUM OF THREE STUDS U.N.O.
6. SOLID BLOCKING TO BE PROVIDED AT ALL POINT LOADS THROUGH FLOOR LEVELS TO THE FOUNDATION OR TO OTHER STRUCTURAL COMPONENTS.
7. ENGINEERED WOOD FLOOR SYSTEMS AND ROOF TRUSS SYSTEMS TO BE PROVIDED FOR REVIEW AND COORDINATED WITH THE ENGINEER OF RECORD. INSTALLATION TO BE IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. ROOF TRUSS DRAWINGS TO BE SIGNED AND SEALED BY THE MANUFACTURER AND REVIEWED BY THE ENGINEER OF RECORD PRIOR TO CONSTRUCTION.
8. STEEL FLITCH BEAMS TO BE BOLTED TOGETHER USING (2) ROWS OF 1/2" DIAM. BOLTS (ASTM 307) WITH WASHERS PLACED UNDER THE THREADED END OF THE BOLT. BOLTS TO BE SPACED AT 24" o.c. (MAX), AND STAGGERED TOP AND BOTTOM OF BEAM (2" EDGE DISTANCE), WITH TWO BOLTS TO BE LOCATED AT 6" FROM EACH END OF FLITCH BEAM.
9. BRICK LINTELS TO BE 3 1/2 x 3 1/2 x 1/4 STEEL ANGLE FOR UP TO 6'-0" SPAN AND 6 x 4 x 5/16 STEEL ANGLE FOR SPANS GREATER THAN 6'-0" AND UP TO 10'-0" U.N.O.
10. BRICK LINTELS AT SLOPED AREAS TO BE 4 x 3 1/2 x 1/4 STEEL ANGLE WITH 16d NAILS IN 3/16" HOLES IN 4" ANGLE LEG AT 12" o.c. TO TRIPLE RAFTER. WHEN THE SLOPE EXCEEDS 4:12 A MINIMUM OF 3 x 3 x 1/4 PLATES SHALL BE WELDED AT 24" o.c. ALONG THE STEEL ANGLE.
11. ATTACH PORCH COLUMNS TO SLAB/FDN WALL USING ABA -OR- ABE SIMPSON POST BASES TO FIT COLUMN SIZES CALLED ON PLAN -OR- ANY OTHER COLUMN CONNECTION WITH 500# UPLIFT.
11. ATTACH PORCH COLUMNS TO UPPER PORCH BANDS USING AC -OR- BC SIMPSON POST CAPS TO FIT COLUMN SIZES CALLED ON PLAN -OR- ANY OTHER COLUMN CONNECTION WITH 500# UPLIFT.
12. ALL METAL HANGERS, STRAPS, AND HOLD-DOWNS TO BE SIMPSON STRONG-TIE OR EQUIV.

DESIGN LOADS

	LIVE LOAD (PSF)	DEAD LOAD (PSF)
TABLE R301.5		
DWELLING UNITS	40	10
SLEEPING ROOMS	30	10
ATTICS WITH STORAGE	20	10
ATTICS WITHOUT STORAGE	10	10
ROOF SNOW	20	10
STAIRS	40	10
DECKS	40	10
EXTERIOR BALCONIES	60	10
PASSENGER VEHICLE GARAGES	50	--
FIRE ESCAPES	40	10
GUARDRAILS AND HANDRAILS	200	--

TABLE R301.2(4) - DESIGN POSITIVE AND NEGATIVE PRESSURE FOR DOORS AND WINDOW FOR A MEAN ROOF HEIGHT OF 35 FEET OR LESS SHALL BE 25 PSF

TABLE R301.2(2) - COMPONENT AND CLADDING LOADS FOR A BUILDING LOCATED IN EXPOSURE B

ROOF VALUES BOTH POSITIVE AND NEGATIVE SHALL BE DESIGNED BASED ON ROOF PITCHES AND MEAN ROOF HEIGHT AS FOLLOWS:

	MEAN ROOF HEIGHT		
ROOF PITCH	0-30 FT	35 FT	40 FT
0:12 TO 2.25:12	45.4 PSF	47.7 PSF	49.5 PSF
2.25:12 TO 7:12	34.8 PSF	36.5 PSF	37.9 PSF
7:12 TO 12:12	21.0 PSF	22.1 PSF	22.9 PSF

WALL CLADDING SHALL BE DESIGNED FOR A 24.1 PSF POSITIVE AND NEGATIVE PRESSURE

ROOF TRUSS SYSTEM (IF USED)

TRUSS LAYOUT AND PLACEMENT BY MANUFACTURER TO COINCIDE WITH THE SUPPORT LOCATIONS SHOWN. TRUSS PROFILES SHALL BE SEALED BY THE TRUSS MANUFACTURER. TRUSS PLANS SHALL BE PROVIDED FOR REVIEW AND COORDINATED WITH THE ENGINEER OF RECORD AS REQUIRED BY THE BUILDING CODE OFFICIALS. INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.

UPLIFT NOTE:

1. MFTR TO PROVIDE REQUIRED UPLIFT CONNECTION.
2. PROVIDE H2.5A OR EQUIVALENT AT EACH RAFTER TO TOP PLATE CONNECTION (UNO) AT OVER-FRAMED AREAS.
3. UPLIFT CONNECTION TO BE CARRIED THRU TO FLOOR SYSTEM.

MATERIALS

1. 1. INTERIOR / TRIMMED FRAMING LUMBER SHALL BE #2 SPRUCE PINE FIR (SPF) WITH THE FOLLOWING DESIGN PROPERTIES:

   Fb = 875 PSI Fv = 70 PSI E = 1.4E6 PSI
2. FRAMING LUMBER EXPOSED TO WEATHER OR IN CONTACT WITH THE GROUND, CONCRETE, OR MASONRY SHALL BE PRESSURE TREATED #2 SOUTHERN YELLOW PINE (SYP) WITH THE FOLLOWING DESIGN PROPERTIES:

   Fb = 975 PSI Fv = 95 PSI E = 1.6E6 PSI
3. LVL STRUCTURAL MEMBERS TO BE LAMINATED VENEER LUMBER WITH THE FOLLOWING MINIMUM DESIGN PROPERTIES:

   Fb = 2600 PSI Fv = 285 PSI E = 1.9E6 PSI
4. PSL STRUCTURAL MEMBERS TO BE PARALELL STRAND LUMBER WITH THE FOLLOWING MINIMUM DESIGN PROPERTIES:

   Fb = 2900 PSI Fv = 290 PSI E = 2.0E6 PSI
5. LSL STRUCTURAL MEMBERS TO BE LAMINATED STRAND LUMBER WITH THE FOLLOWING MINIMUM DESIGN PROPERTIES:

   Fb = 2250 PSI Fv = 400 PSI E = 1.55E6 PSI
6. STRUCTURAL STEEL WIDE FLANGE BEAMS SHALL CONFORM TO ASTM A36. Fy = 50 KSI
7. REBAR SHALL BE DEFORMED STEEL CONFORMING TO ASTM A615 GRADE 60.
8. SEE **TABLE R602.3(1)** FOR STRUCTURAL MEMBER FASTENING REQUIREMENTS.
9. POURED CONCRETE TO BE MINIMUM 3000 PSI AT 28 DAYS. MATERIALS USED TO PRODUCE CONCRETE SHALL COMPLY WITH THE APPLICABLE STANDARDS LISTED IN ACI 318 OR ASTM C 1157.
10. CONCRETE LOCATED PER TABLE **R301.2(1)** SHALL BE AIR ENTRAINED PER **TABLE R402.2**.
11. MASONRY UNITS SHALL CONFORM TO ACI 530/ASCE 5/TMS 402 AND MORTAR SHALL COMPLY WITH ASTM C 270.

FOUNDATION

1. MINIMUM ALLOWABLE SOIL BEARING CAPACITY IS ASSUMED TO BE 2000 PSF. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY SOIL BEARING CAPACITY IF UNSATISFACTORY CONDITIONS EXIST.
2. CONCRETE AND MASONRY FOUNDATION WALLS TO BE SELECTED AND CONSTRUCTED IN ACCORDANCE WITH THE PROVISIONS OF **SECTION R404** OR IN ACCORDANCE WITH ACI 318, NCMA TR68-A, OR ACI 530/ASCE 5/TMS 402.
3. MASONRY AND POURED CONCRETE WALL REINFORCEMENT TO BE IN ACCORDANCE WITH **TABLES R404.1.1 (1 THROUGH 4)** OF THE NORTH CAROLINA RESIDENTIAL CODE.
   A. PER **R404.1.3**, TABLES ASSUME THAT WALLS HAVE PERMANENT LATERAL SUPPORT AT THE TOP AND BOTTOM.
   B. WALL REINFORCING SHALL BE PLACED ACCORDING TO FOOTNOTE (c) OF THE TABLES (REINFORCING IS NOT CENTERED IN WALL).
   C. FOUNDATION DRAINS ARE ASSUMED AT ALL WALLS PER **R405**.
4. WOOD SILL PLATES TO BE ANCHORED TO THE FOUNDATION WITH 1/2" ANCHOR BOLTS WITH MINIMUM 7" EMBEDMENT SPACED A MAXIMUM OF 6'-0" o.c.(3'-0" FOR BASEMENT WALLS) AND WITHIN 12" FROM THE ENDS OF EACH PLATE SECTION. INSTALL MIN. (2) ANCHOR BOLTS PER SECTION.
5. THE UNSUPPORTED HEIGHT OF SOLID MASONRY PIERS **SHALL NOT EXCEED TEN TIMES THEIR LEAST DIMENSION**. UNFILLED HOLLOW PIERS MAY BE USED IF THE UNSUPPORTED HEIGHT IS NOT MORE THAN **FOUR TIMES THEIR LEAST DIMENSION.**
6. CENTERS OF PIERS TO BEAR IN THE MIDDLE THIRD OF THE FOOTINGS, AND GIRDERS SHALL CENTER IN THE MIDDLE THIRD OF THE PIERS.
7. ALL FOOTINGS TO HAVE MINIMUM 2" PROJECTION ON EACH SIDE OF FOUNDATION WALLS.

ABBREVIATIONS

CONC	CONCRETE
CONT	CONTINUOUS
DBL	DOUBLE
DIAM	DIAMETER
DJ	DOUBLE JOIST
DSP	DOUBLE STUD POCKET
EA	EACH
FL PT	FLAT PLATE
FTG	FOOTING
HGR	HANGER
LVL	LAMINATED VENEER LUMBER
MFTR	MANUFACTURER
NTS	NOT TO SCALE
OC	ON CENTER
PT	PRESSURE TREATED
RS	RAFTER SUPPORT
SC	STUD COLUMN
SP	STUD POCKET
TJ	TRIPLE JOIST
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
XJ	EXTRA JOIST

MISC. / SPECIAL NOTES SECTION

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Drawn By: RWB
Checked By: RWB
Date: 11-3-2020

Revision No.	Revision Date

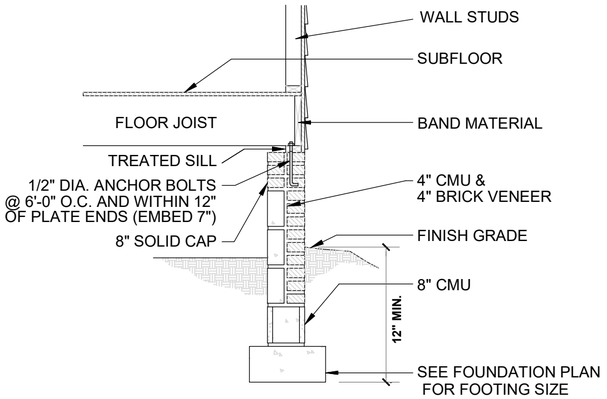
Designer Signature

Client:
Triangle
Building Properties

Title:

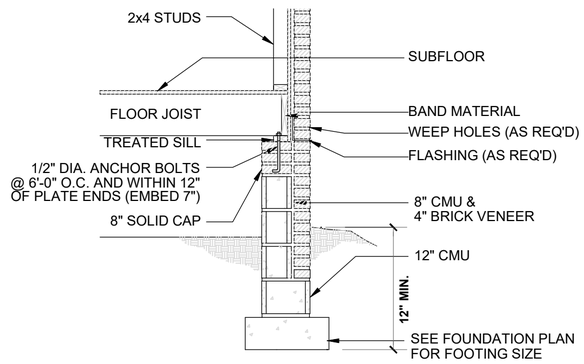
Plan No.
"Anne"
Purfoy Place

Sheet No. Of



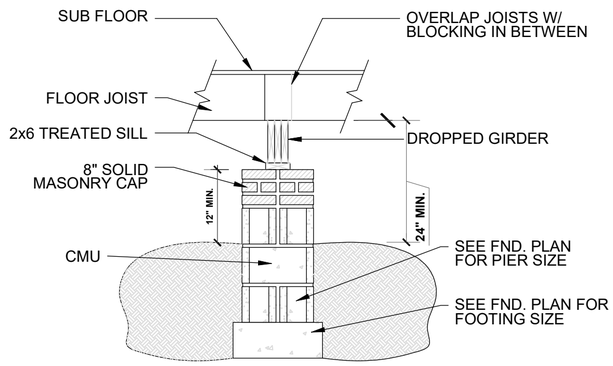
1 DT2 **CRAWL SECTION**

NTS (SIDING)



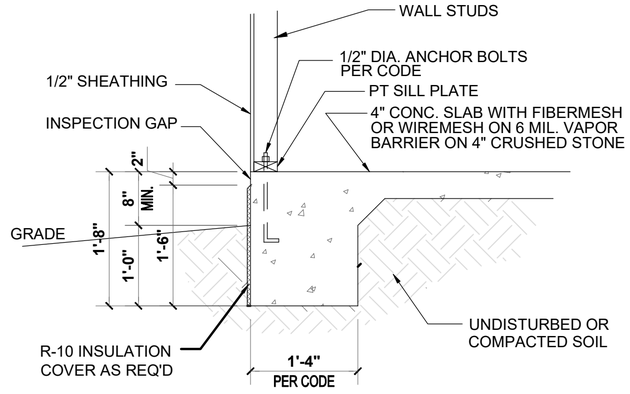
2 DT2 **CRAWL SECTION**

NTS (BRICK VENEER)



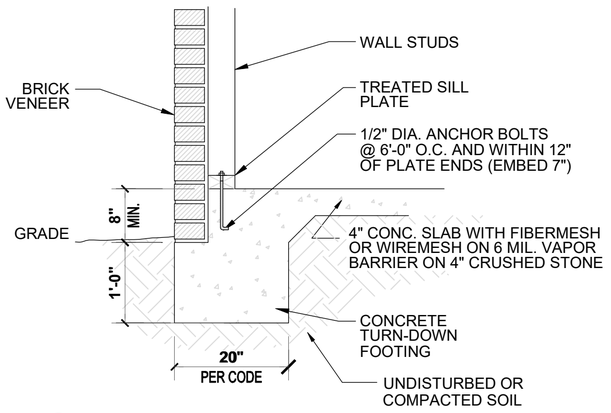
3 DT2 **DROPPED GIRDER**

NTS



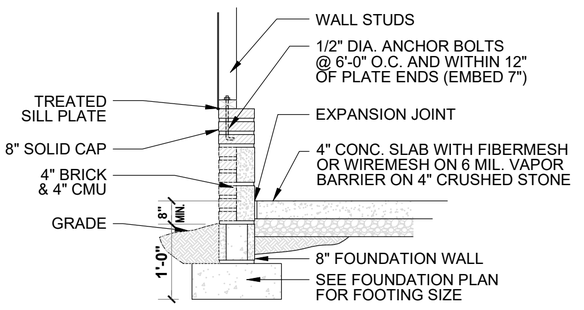
4 DT2 **TURN DOWN SLAB FOOTING**

NTS (SIDING)



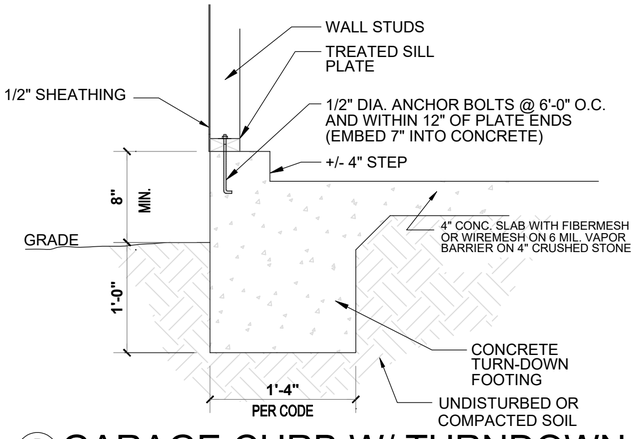
5 DT2 **TURN DOWN SLAB FOOTING**

NTS (BRICK VENEER)



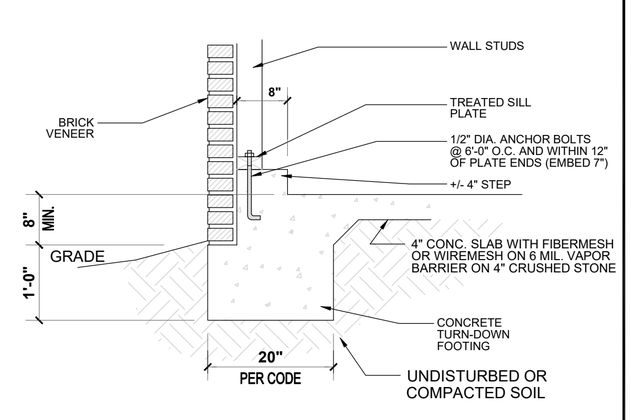
6 DT2 **GARAGE SLAB STEM WALL**

NTS



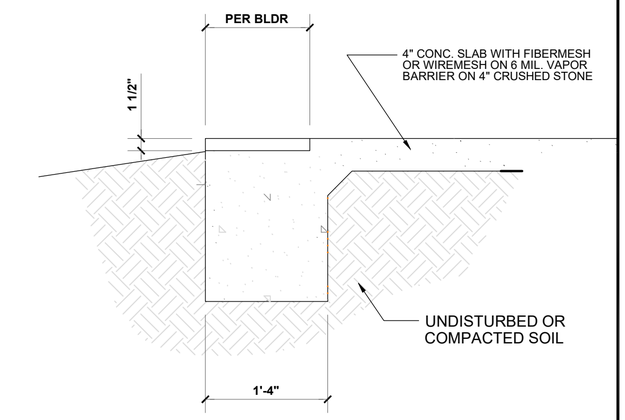
7 DT2 **GARAGE CURB W/ TURNDOWN**

NTS (SIDING)



8 DT2 **GARAGE CURB W/ TURDOWN**

NTS (BRICK VENEER)



9 DT2 **GARAGE ENTRY TURDOWN**

NTS

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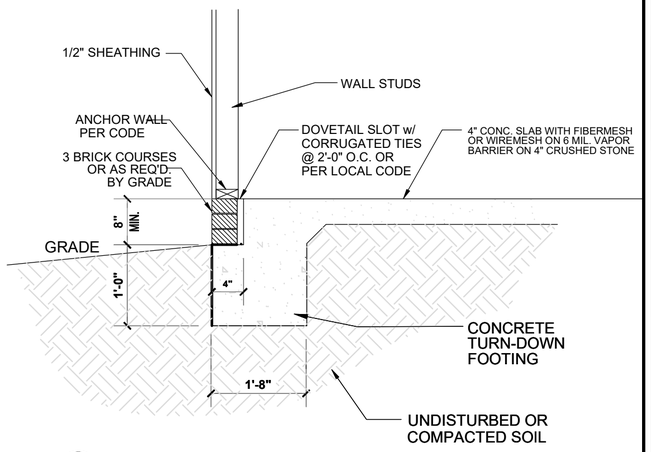
Building Properties

Title:

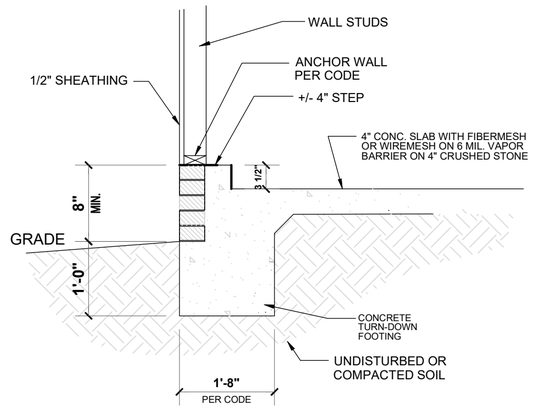
Plan No.
"Anne"
Purfoy Place

Sheet No. Of



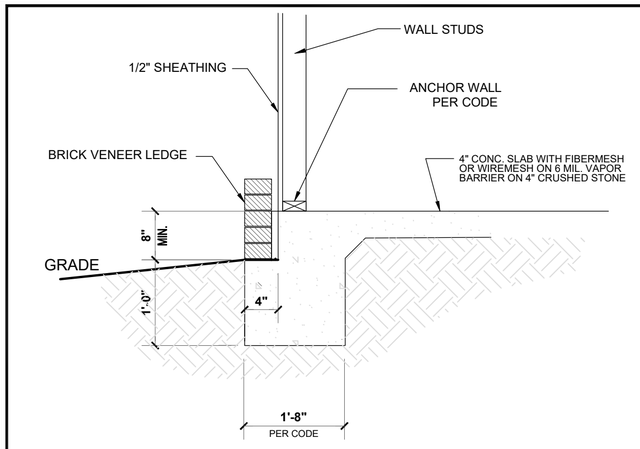
1 DT3 **VENEER TURN DOWN SLAB**

NTS (SIDING)



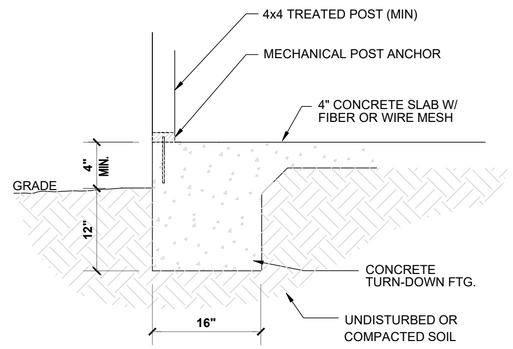
2 DT3 **VENEER CURB W/ TURDOWN**

NTS (SIDING)



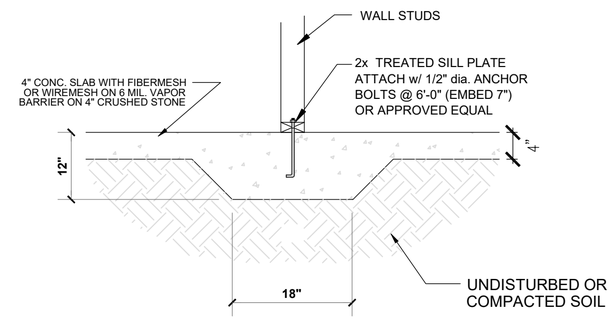
3 DT3 **BRICK LEDGE W/ TURN DOWN**

NTS



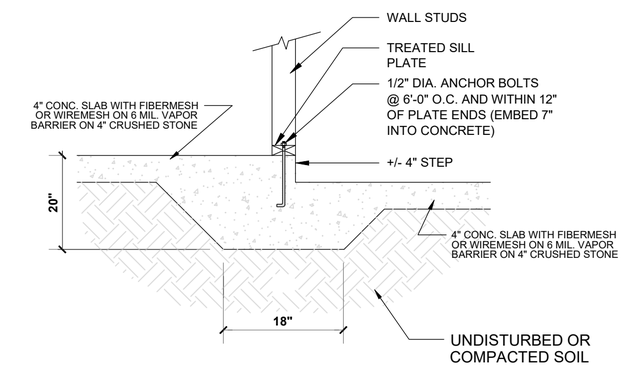
4 DT3 **PORCH TURN DOWN SLAB**

NTS



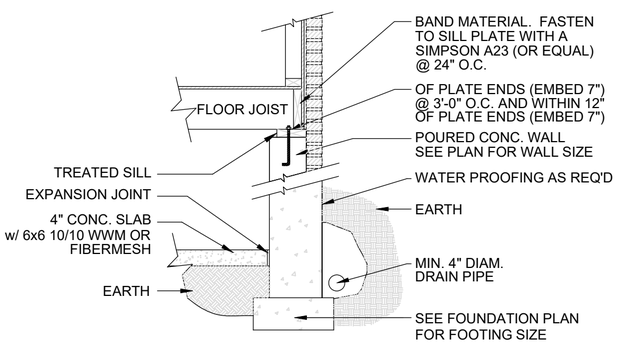
5 DT3 **TYPICAL THICKENED SLAB**

NTS



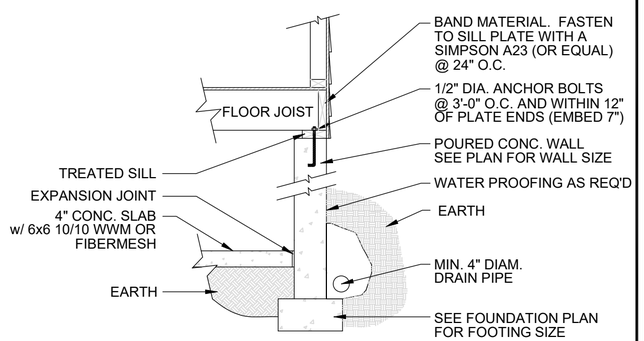
6 DT3 **TYPICAL SLAB STEP**

NTS



7 DT3 **BASEMENT FOUNDATION**

NTS REINF. PER CH4 OF THE 2012 NCBC



8 DT3 **BASEMENT FOUNDATION**

NTS REINF. PER CH4 OF THE 2012 NCBC

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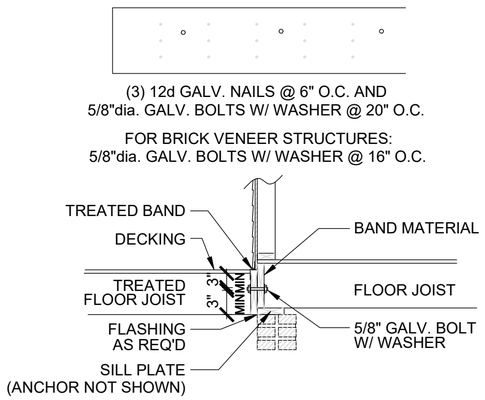
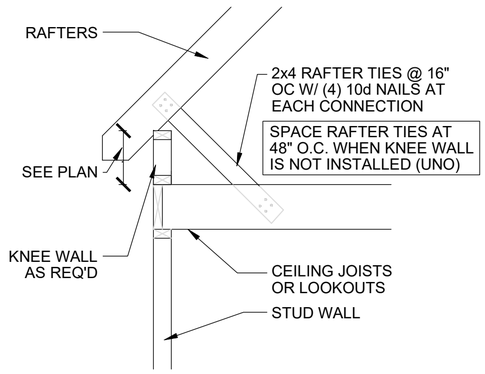


1 DT4 DECK ATTACHMENT DETAIL

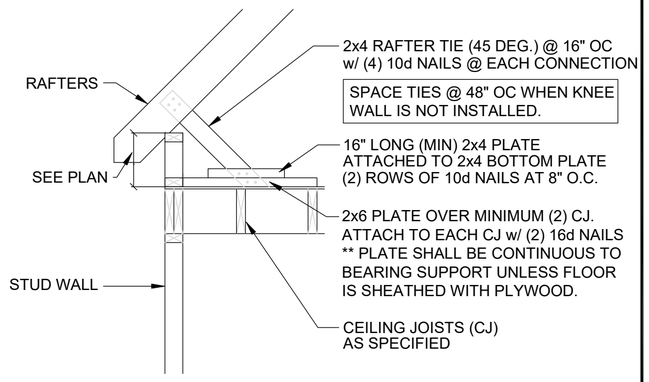
NTS

NTS



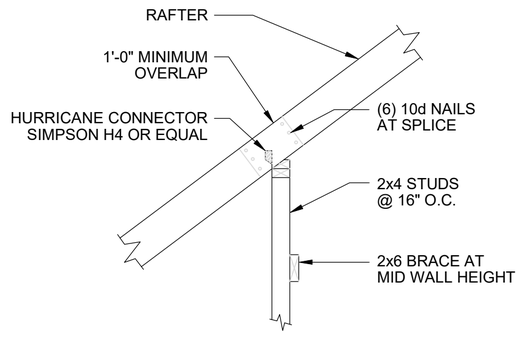
2 DT4 RAFTER TIE DOWN (TYP)

NTS



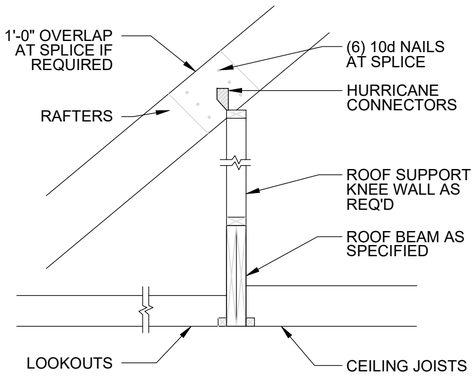
3 DT4 RAFTER TIE DOWN (TYP)

NTS (RAFTERS PERPENDICULAR TO JOISTS)



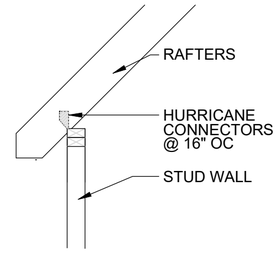
4 DT4 RAFTER SPLICE - ATTIC K.W.

NTS



5 DT4 ROOF BEAM

NTS



6 DT4 RAFTER TIE @ VAULT

NTS

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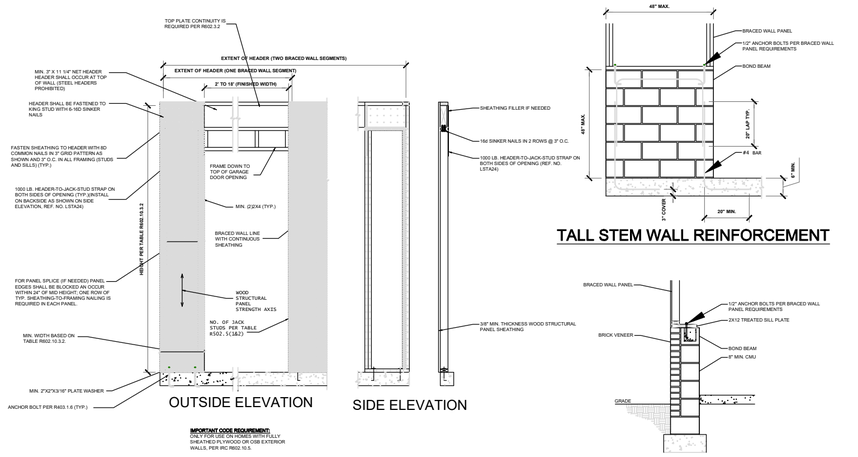
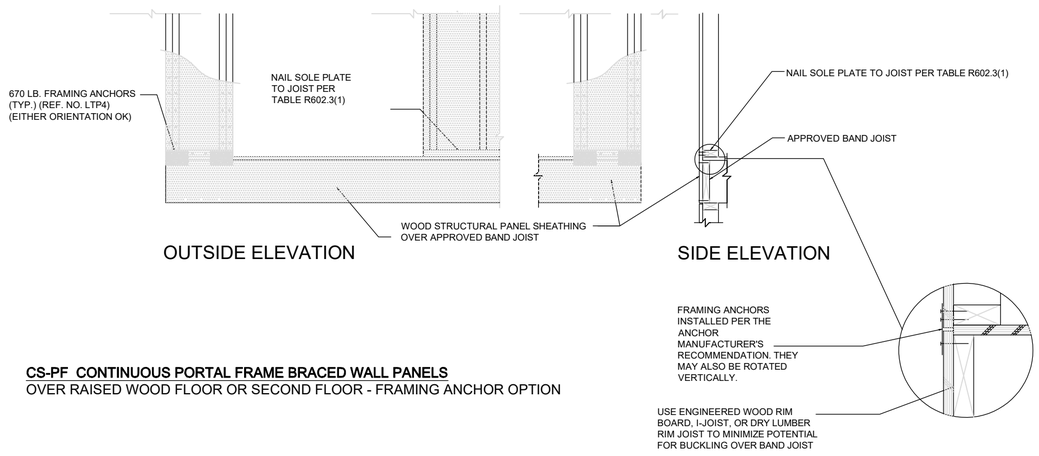


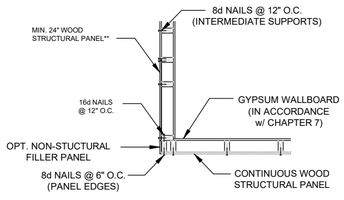
CS-PF - CONTINUOUS PORTAL FRAME BRACED WALL PANELS
OVER SLAB FDN

TALL STEM WALL REINFORCEMENT

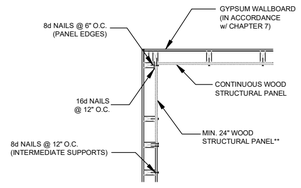
TYPICAL STEM WALL SECTION



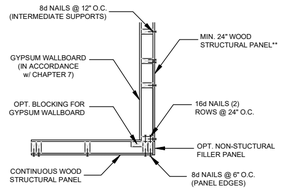
CS-PF CONTINUOUS PORTAL FRAME BRACED WALL PANELS
OVER RAISED WOOD FLOOR OR SECOND FLOOR - FRAMING ANCHOR OPTION



OUTSIDE CORNER DETAIL



INSIDE CORNER DETAIL



GARAGE DOOR CORNER

WALL CORNER DETAILS

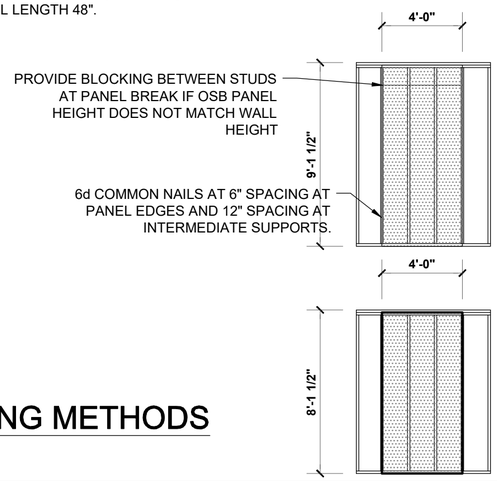
BRACING NOTES

BRACED WALL CONSTRUCTION NOTES: 30' MAX MRH - 10 FT MAX WALL HEIGHT (EXCEPT ITEM 5)

1. ALL EXTERIOR WALLS ARE BRACED WALLS NOTATED EBW AND CONTINUOUSLY SHEATHED (EXTERIOR ONLY) WITH MIN. 7/16 OSB. MINIMUM WALL BRACED WALL PANEL LENGTH TO BE 12' PER LEVEL IN EACH DIRECTION U.N.O. W/ 6D COMMON NAILS AT 6" O.C . AT PANEL EDGES AND 12" O.C. AT INTERMEDIATE STUD SUPPORTS. PROVIDE BLOCKING BETWEEN STUDS AT PANEL BREAK IF OSB PANEL HEIGHT DOES NOT MATCH WALL HEIGHT (FIRST LEVEL SHEATHING TO LAP TREATED MUD-SILL PLATE).
2. ALL INTERIOR BRACED WALLS NOTATED IBW (IF USED) ARE TO BE BRACED USING DOUBLE SIDED GWB WITH A MINIMUM BRACED PANEL LENGTH OF 20' PER LEVEL U.N.O. W/ GWB NAILED TO STUDS AT 7" O.C.
3. MAXIMUM DISTANCE BETWEEN BRACED WALL LINES TO BE 60' U.N.O.
4. MAXIMUM OFFSET FOR BRACED WALL CONTINUITY TO BE 4' EACH AND 8' TOTAL PER BRACED WALL LINE (BWL)
5. BALLOON FRAMED AND TALL WALLS (OVER 10'-0") TO BE BRACED USING A COMBINATION OF INTERIOR SIMPSON WB126 STRAPPING (CROSS PATTERN - FULLY NAILED) W/ ½" GWB AND EXTERIOR OSB SHEATHING WITH CONNECTIONS AS OUTLINED ABOVE.
6. PROVIDE 800# HOLD DOWN FASTENERS AT BUILDING CORNERS WHEN A MINIMUM 24" RETURN CANNOT BE MET. SEE R602.10 FOR HOLD DOWN ATTACHMENT.
7. FOR 120 MPH & 130 MPH PROVIDE BLOCKING PER R4506.2 IF LESS THAN 50% OF THE WALL LENGTH IS SHEATHED.

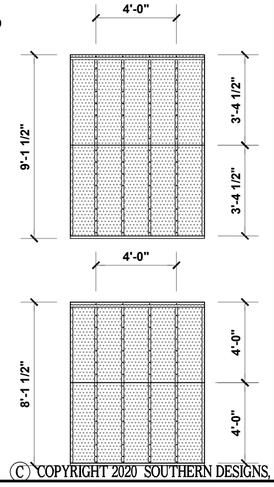
WSP - WOOD STRUCTURAL PANEL

BRACED WALL PANEL PER IRC TABLE R602.10.2.1
3/8" MIN. OSB SHEATHING ON ONE SIDE OF WALL.
MINIMUM PANEL LENGTH 48".



GB - GYPSUM BOARD

BRACED WALL PANEL PER IRC TABLE R602.10.2.1
1/2" GYPSUM BOARD NAILED TO STUDS AT 7" O.C.
MINIMUM PANEL LENGTH 48" WHEN APPLIED TO BOTH SIDES OF WALL AND 96" WHEN APPLIED TO ONE SIDE OF WALL.



BRACING METHODS

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