

DURA-BUILT, LLC

GENERAL NOTES:

1. STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH THE 2018 NORTH CAROLINA RESIDENTIAL CODE (NCRC) AND THE 2018 NORTH CAROLINA BUILDING CODE (NCBC).
2. ALL MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE ABOVE CODES AT THE TIME OF MANUFACTURE.
3. DRAWINGS SHALL NOT BE SCALED FOR DIMENSIONS.
4. STRUCTURES ARE CLASSIFIED AS "MINOR STORAGE FACILITIES" (RISK CATEGORY I) PER NCBC TABLE 1604.5 AND SHOULD NOT BE USED FOR HUMAN HABITATION.
5. SIDING FASTENERS SHALL NOT BE INSTALLED IN PANEL SIDING GROOVES IN THE FIELD OF THE PANEL OR WHEN THE SIDING GROOVES OCCUR AT CUT EDGES OF THE SIDING PANEL.
6. STRUCTURES SHOULD HAVE 25 YEAR RATED FIBERGLASS/ ASPHALT SHINGLES OR 29 GA METAL ROOFING OVER WOOD SHEATHING.
7. WOOD FRAMING SHALL COMPLY WITH THE ANSI/AWC "NATIONAL DESIGN SPECIFICATION (NDS) FOR WOOD CONSTRUCTION", 2015.
8. ALL ROOF DECKING IS TO BE 7/8" OSB SHEATHING. FASTEN ROOF SHEATHING TO ROOF FRAMING WITH 2" RING SHANK NAILS SPACED AT 6" MAX.
9. ALL SIDING IS TO BE 5/8" TREATED T1-11 PLYWOOD, 3/8" LP SMART PANEL, OR LP DUTCH LAP SIDING. 7/8" OSB WALL SHEATHING IS TO BE INSTALLED ON ALL WALLS USING DUTCH LAP SIDING.
10. ALL FLOOR JOISTS ARE TO BE PRESSURE TREATED SYP #2, OR BETTER, UNLESS NOTED OTHERWISE. FLOOR JOISTS FOR 10' WIDE BUILDINGS ARE TO BE SYP #1, OR BETTER.

11. ALL UN-TREATED WOOD FRAMING IS TO BE SPF #2 OR BETTER.
12. ALL EXTERIOR NAILS ARE TO BE ZINC COATED.
13. ALL FLOOR DECKING IS TO BE 5/8" OR 3/4" PLYWOOD.
14. ALL SKIDS ARE TO BE 4x6 PRESSURE TREATED, RATED FOR GROUND CONTACT.
15. SECTIONS AND DETAILS SHOWN ARE INTENDED TO BE TYPICAL AND SHALL APPLY AT ALL SIMILAR LOCATIONS, UNLESS NOTED OTHERWISE.

ITEMS BY OTHERS:

THE FOLLOWING ITEMS ARE TO BE SUPPLIED AND INSTALLED BY OTHERS. THESE ITEMS MAY BE SUBJECT TO LOCAL JURISDICTION APPROVAL. DURA-BUILT IS NOT RESPONSIBLE FOR THESE ITEMS.

1. THE COMPLETE FOUNDATION AND TIE-DOWN SYSTEM
2. RAMPS, STAIRS, AND GENERAL ACCESS
3. ELECTRICAL SERVICE HOOKUP

DESIGN CRITERIA:

1. RISK CATEGORY I
2. FLOOR LIVE LOAD: 40 PSF
3. ROOF LIVE LOAD: 20 PSF (REDUCIBLE PER NCBC 1607.12.2.1)
4. SNOW LOADS ARE BASED ON THE FOLLOWING:
GROUND SNOW LOAD, $P_g = 20$ PSF
FLAT ROOF SNOW LOAD, $P_f = 14$ PSF
EXPOSURE FACTOR, $C_e = 1.0$
IMPORTANCE FACTOR, $I = 0.8$
THERMAL FACTOR, $C_t = 1.2$
5. WIND LOADS ARE BASED ON THE FOLLOWING:
Vult = 150 MPH
RISK CATEGORY I
EXPOSURE CATEGORY B
INTERNAL PRESSURE COEFFICIENT:
 $G C_{pi} = \pm 0.18$
COMPONENTS & CLADDING:
ROOF-ZONE 1 = 14.0, -22.2 PSF
ROOF-ZONE 2 = 14.0, -38.7 PSF
ROOF-ZONE 3 = 14.0, -57.2 PSF
WALL-ZONE 4 = 24.3, -26.3 PSF
WALL-ZONE 5 = 24.3, -32.5 PSF

NOTE: C&C WIND PRESSURES SHOWN ARE FOR A 10 SQUARE FOOT EFFECTIVE AREA (A_e) AND MAY BE REDUCED FOR LARGER AREAS AS ALLOWED BY CODE.

PIERS (IF REQUIRED):

1. PIERS ARE NOT REQUIRED WHEN THE SKIDS CAN BE SUPPORTED ON FIRM, LEVEL GROUND. PIERS ALONG INTERIOR SKIDS SHALL BE ORIENTED WITH THE LONG SIDE PERPENDICULAR TO THE SKID. PIERS ALONG THE OUTSIDE SKIDS OF BUILDINGS WITH 4 SKIDS ARE PERMITTED TO BE ORIENTED WITH THE LONG SIDE PARALLEL TO THE SKID PROVIDED THAT THE PIERS ALONG THE INTERIOR SKID ARE ORIENTED PERPENDICULAR TO THE SKID.
2. PIERS SHALL TYPICALLY BE 8"x8"x16" OPEN CELL OR SOLID CONCRETE BLOCKS, DRY STACKED TO A MAXIMUM HEIGHT OF 36". THE BLOCK IN CONTACT WITH THE GROUND AT EACH PIER SHALL BE A 4"x8"x16" SOLID BLOCK. OPEN CELL BLOCKS AND 2" THICK SOLID BLOCKS ARE NOT TO BE USED AS THE BASE OF ANY PIERS. OPEN CELL BLOCKS ARE TO BE PLACED ON TOP OF SOLID BLOCKS AS NEEDED WITH THE OPEN CELLS RUNNING VERTICALLY AND MUST NOT BE PLACED ON THEIR SIDE.

CORNER PIERS OVER 20" TALL SHALL BE DOUBLE STACKED CONCRETE BLOCKS. THE DOUBLE STACKED BLOCKS BY ALTERNATING THE DIRECTION OF BLOCKS ON EACH ROW.
3. DURA-BUILT IS NOT RESPONSIBLE FOR THE PREPARATION OF THE PROPOSED SITE OR DETERMINATION OF THE SITE'S SUITABILITY TO SUPPORT THE PROPOSED STRUCTURE. IT IS THE PROPERTY OWNER'S RESPONSIBILITY TO DETERMINE IF SITE CONDITIONS ARE SUITABLE TO SUPPORT THE STRUCTURE.
4. PIERS SHOWN ON SHEET S-1 ARE CONCEPTUAL AND MAY NOT REFLECT ACTUAL CONDITIONS. THE PIER LAYOUT MAY BE ADJUSTED AS NEEDED BASED ON SITE CONDITIONS, PROVIDED THAT THE MAXIMUM SPACING SHOWN IS NOT EXCEEDED.



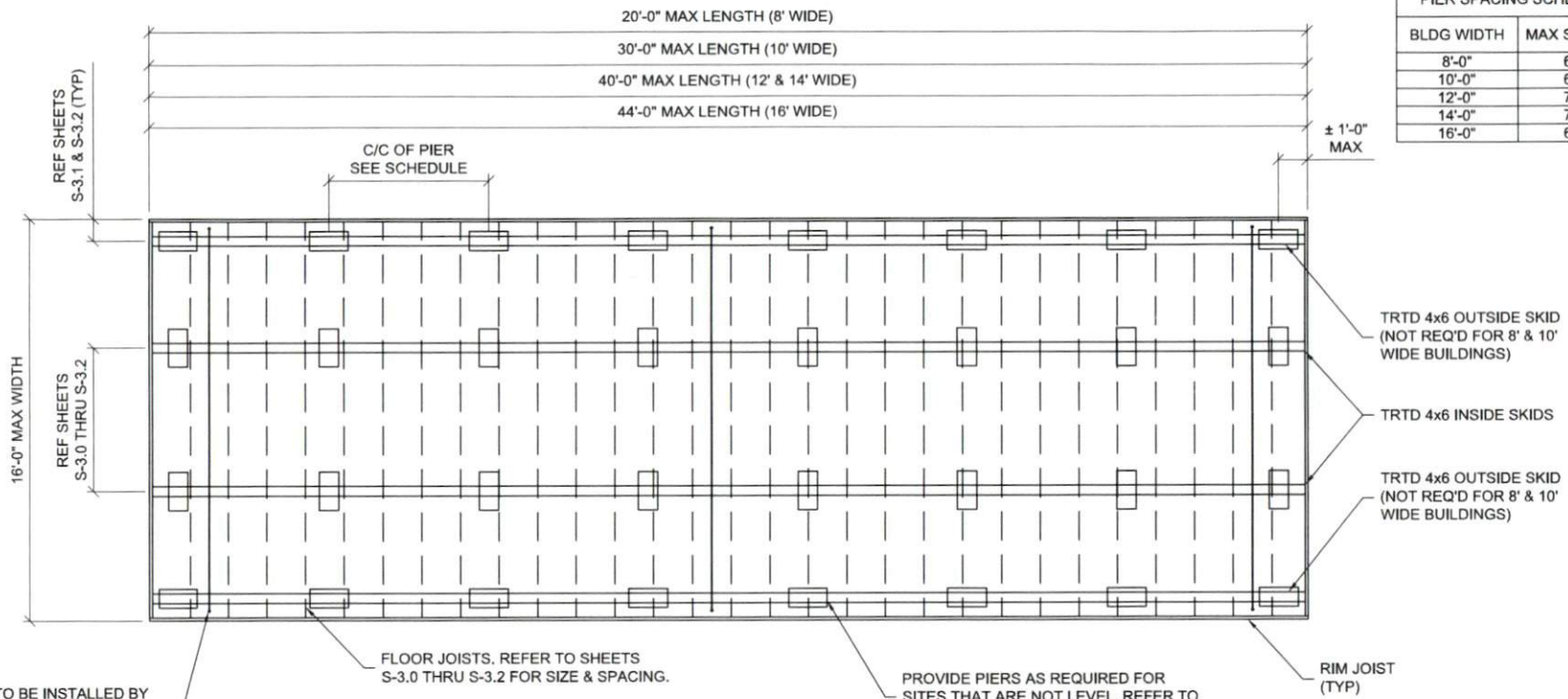
2-27-2020

LOFTED BARN--NORTH CAROLINA--WIND=150 MPH--2018 NCBC



PROJECT NO:	
DATE:	02-27-2020
DRAWN BY:	KLN
CHECKED BY:	KLN
REVISION:	

SHEET NUMBER	S-0-LB
SCALE:	NONE



FLOOR FRAMING PLAN

BUILDING TIE-DOWN TO BE INSTALLED BY THE CUSTOMER. REFER TO NOTES ON S-0. THE QUANTITY OF TIE-DOWNS SHOWN ON THIS PLAN ARE CONCEPTUAL AND MAY NOT REFLECT THE ACTUAL REQUIRED QUANTITY. SEE THE SCHEDULE ON SHEET S-2 FOR THE REQUIRED TIE-DOWN QUANTITY AND LOAD RATING BASED ON THE BUILDING LENGTH (TYP)

FLOOR JOISTS. REFER TO SHEETS S-3.0 THRU S-3.2 FOR SIZE & SPACING.

PROVIDE PIERS AS REQUIRED FOR SITES THAT ARE NOT LEVEL. REFER TO SHEET S-0 FOR PIER REQUIREMENTS.

RIM JOIST (TYP)



2-27-2020

LOFTED BARN--NORTH CAROLINA--WIND=150 MPH--2018 NCBC



PROJECT NO:	
DATE:	02-27-2020
DRAWN BY:	KLN
CHECKED BY:	KLN
REVISION:	

SHEET NUMBER	S-1-LB
SCALE: NOT TO SCALE	

UPLIFT ANCHORAGE SCHEDULE

BLDG LENGTH	8' WIDE BLDGS		10' WIDE BLDGS		12' WIDE BLDGS		14' WIDE BLDGS		16' WIDE BLDGS	
	NUMBER OF TIE-DOWNS	REQ'D ANCHOR CAPACITY	NUMBER OF TIE-DOWNS	REQ'D ANCHOR CAPACITY	NUMBER OF TIE-DOWNS	REQ'D ANCHOR CAPACITY	NUMBER OF TIE-DOWNS	REQ'D ANCHOR CAPACITY	NUMBER OF TIE-DOWNS	REQ'D ANCHOR CAPACITY
8'-0"	2	450#	-	-	-	-	-	-	-	-
10'-0"	2	550#	2	550#	-	-	-	-	-	-
12'-0"	2	700#	2	650#	2	550#	-	-	-	-
14'-0"	3	550#	3	500#	2	650#	3	550#	-	-
16'-0"	3	600#	3	550#	3	500#	3	600#	3	600#
18'-0"	3	700#	3	650#	3	550#	3	650#	3	700#
20'-0"	4	550#	3	700#	3	650#	4	550#	4	600#
22'-0"	-	-	4	600#	3	700#	4	600#	4	650#
24'-0"	-	-	4	650#	4	550#	4	650#	4	700#
26'-0"	-	-	4	700#	4	600#	5	600#	5	600#
28'-0"	-	-	5	600#	4	650#	5	650#	5	650#
30'-0"	-	-	5	650#	4	700#	5	650#	5	700#
32'-0"	-	-	-	-	5	600#	5	700#	6	600#
34'-0"	-	-	-	-	5	650#	6	650#	6	650#
36'-0"	-	-	-	-	5	700#	6	650#	6	700#
38'-0"	-	-	-	-	5	700#	6	700#	7	650#
40'-0"	-	-	-	-	6	650#	7	650#	7	650#
42'-0"	-	-	-	-	-	-	-	-	7	700#
44'-0"	-	-	-	-	-	-	-	-	8	650#

NOTES:

- 1) TIE-DOWNS AND ANCHORS ARE TO BE SUPPLIED AND INSTALLED BY THE CUSTOMER. DURA-BUILT IS NOT RESPONSIBLE FOR THE TIE-DOWN SYSTEM. REFER TO NOTE SHEET S-0.
- 2) THE SCHEDULE INDICATES THE RECOMMENDED NUMBER OF BUILDING TIE-DOWNS TO BE INSTALLED BY THE CUSTOMER. EACH TIE-DOWN HAS TWO ANCHORS. REFER TO DETAILS SHOWN ON SHEET S-2.1 FOR TIE-DOWN OPTIONS.
- 3) PROVIDE A TIE-DOWN NEAR EACH END OF THE BUILDING. REMAINING TIE-DOWNS SHOULD BE EVENLY SPACED ALONG THE ENTIRE LENGTH OF BUILDING.



2-27-2020

LOFTED BARN--NORTH CAROLINA--WIND=150 MPH--2018 NCBC



PROJECT NO:	
DATE:	02-27-2020
DRAWN BY:	KLN
CHECKED BY:	KLN
REVISION:	

SHEET NUMBER
S-20-LB
SCALE: NONE

20 GA. x 1 1/4" WIDE GALVANIZED STRAP ATTACHED TO ANCHOR w/ SLOTTED BOLT PER MANUF. SPECS. (NOT PROVIDED BY DURA-BUILT).

OUTER SKID (TYP)

5/8" DIAMETER x 30" LONG EARTH ANCHOR w/ (2) 4" HELIX, OR EQUAL. (NOT PROVIDED BY DURA-BUILT)

FINISH GRADE

TIE-DOWN ANCHOR DETAIL (OPTION A)

NOT TO SCALE

20 GA. x 1 1/4" WIDE GALVANIZED STRAP w/ DOUBLE BUCKLE. WRAP STRAP AROUND EACH OUTER SKID PER MANUFACTURER'S WRITTEN SPECIFICATIONS. ATTACH STRAP END TO ANCHOR w/ SLOTTED BOLT PER MANUF. SPECS. (NOT PROVIDED BY DURA-BUILT).

OUTER SKID (TYP)

5/8" DIAMETER x 30" LONG EARTH ANCHOR w/ (2) 4" HELIX, OR EQUAL. (NOT PROVIDED BY DURA-BUILT)

FINISH GRADE

TIE-DOWN ANCHOR DETAIL (OPTION B)

NOT TO SCALE

20 GA. x 1 1/4" WIDE GALVANIZED STRAP ATTACHED TO ANCHOR w/ SLOTTED BOLT PER MANUF. SPECS. (NOT PROVIDED BY DURA-BUILT).

OUTER SKID (TYP)

DOUBLE TENSION HEAD CONCRETE ANCHOR MODEL# MICS2 BY TIE DOWN ENGINEERING OR EQUAL. ATTACH TO SLAB PER MANUFACTURER SPECIFICATIONS (NOT PROVIDED BY DURA-BUILT)

CONCRETE SLAB OR FOOTING BY OTHERS. 4" MIN THICKNESS AT ANCHOR LOCATION.

TIE-DOWN ANCHOR DETAIL (OPTION C)

NOT TO SCALE

20 GA. x 1 1/4" WIDE GALVANIZED STRAP w/ DOUBLE BUCKLE. WRAP STRAP AROUND EACH OUTER SKID PER MANUFACTURER'S WRITTEN SPECIFICATIONS. ATTACH STRAP END TO ANCHOR w/ SLOTTED BOLT PER MANUF. SPECS. (NOT PROVIDED BY DURA-BUILT).

OUTER SKID (TYP)

CONCRETE SLAB OR FOOTING BY OTHERS. 4" MIN THICKNESS AT ANCHOR LOCATION.

TIE-DOWN ANCHOR DETAIL (OPTION D)

NOT TO SCALE

NOTE:
DURA-BUILT IS NOT RESPONSIBLE FOR THE DESIGN OR PLACEMENT OF THE CONCRETE SLABS OR FOOTINGS



2-27-2020

LOFTED BARN--NORTH CAROLINA--WIND=150 MPH--2018 NCBC

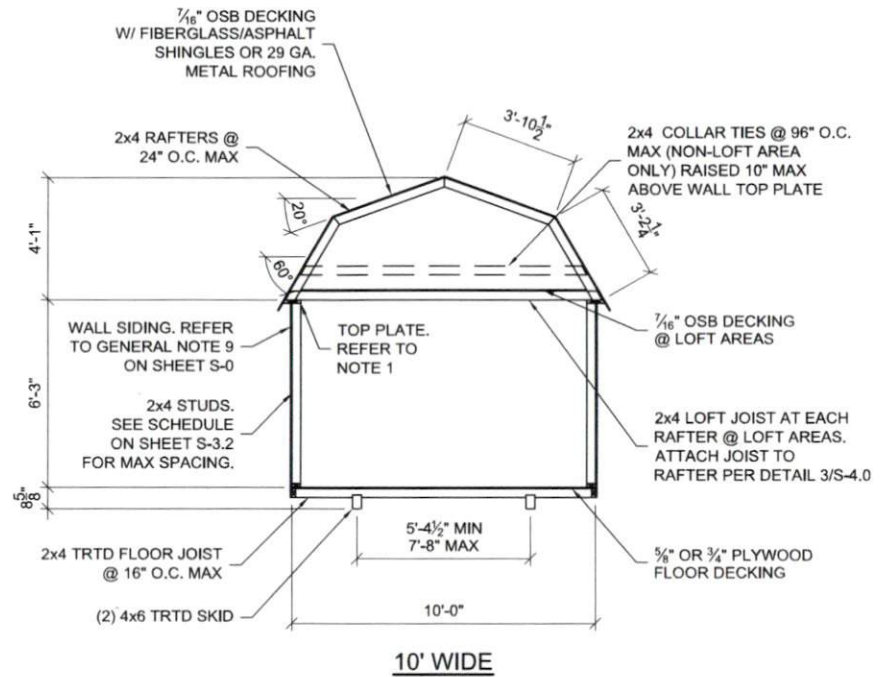
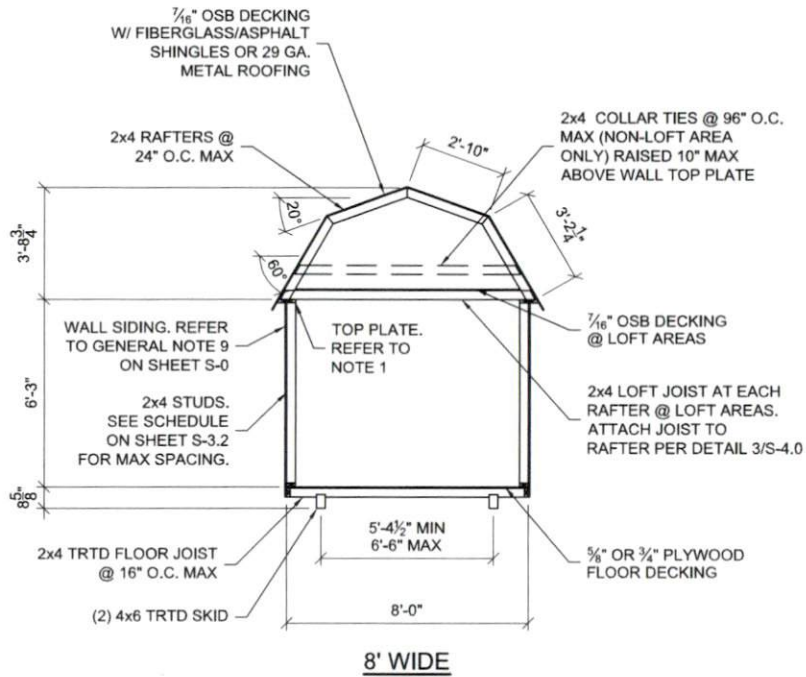


PROJECT NO:
DATE: 02-27-2020
DRAWN BY: KLN
CHECKED BY: KLN
REVISION:

SHEET NUMBER

S-21-LB

SCALE: NONE



BUILDING SECTIONS

- NOTES: 1. PROVIDE A DOUBLE TOP PLATE ALONG THE SIDE WALLS WHEN THE RAFTER SPACING DOES NOT MATCH THE WALL STUD SPACING.
 2. ACTUAL SKID SPACING MAY VARY PROVIDED THAT THE CENTER TO CENTER SPACING IS WITHIN THE MAX/MIN SPACING STATED.
 3. 2x6 FRAMING MAY BE SUBSTITUTED FOR THE 2x4 FRAMING SHOWN. THE SPACING OF THE 2x6 FRAMING SHALL BE AS SHOWN FOR THE 2x4.



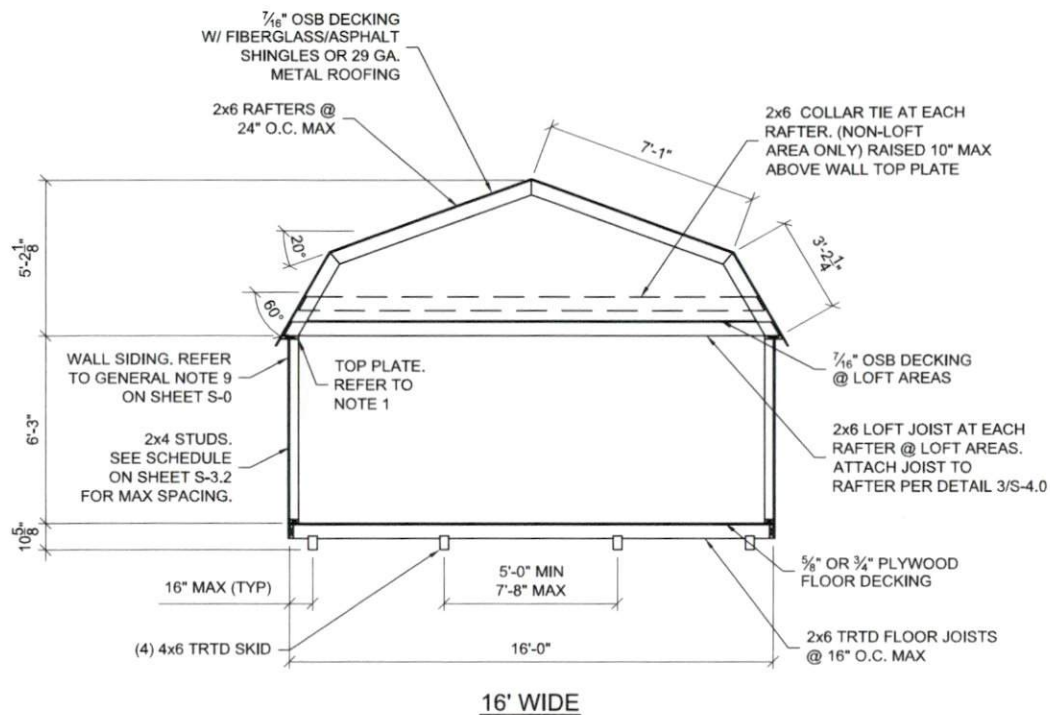
2-27-2020

LOFTED BARN--NORTH CAROLINA--WIND=150 MPH--2018 NCBC



PROJECT NO:	
DATE:	02-27-2020
DRAWN BY:	KLN
CHECKED BY:	KLN
REVISION:	

SHEET NUMBER	S-3.0-LB
SCALE: 1/4" = 1'-0"	



WALL STUD SPACING SCHEDULE (REFER TO NOTE 1)	
WALL SIDING	STUD SPACING
5/8" T1-11 PLYWOOD	24" MAX
3/8" LP SMART PANEL	16" MAX
LP DUTCH LAP w/ OSB SHEATHING	16" MAX

- NOTES:
1. PROVIDE A DOUBLE TOP PLATE WHEN THE STUDS ARE SPACED AT 16" O.C.
 2. ALL WALL PANELS SHALL BE FASTENED TO FRAMING WITH 2" RING SHANK NAILS.
 3. WALL PANEL NAIL SPACING SHALL BE:

STUDS SPACED AT 24:
 SIDE WALLS: SPACE NAILS AT 6" MAX ALONG ALL PANEL EDGES AND 6" MAX IN THE FIELD.
 END WALLS: SPACE NAILS AT 4" MAX ALONG ALL PANEL EDGES AND 6" MAX IN THE FIELD.

STUDS SPACED AT 16:
 SIDE WALLS: SPACE NAILS AT 6" MAX ALONG ALL PANEL EDGES AND 12" MAX IN THE FIELD.
 END WALLS: SPACE NAILS AT 4" MAX ALONG ALL PANEL EDGES AND 12" MAX IN THE FIELD.

- NOTES: 1. PROVIDE A DOUBLE TOP PLATE ALONG THE SIDE WALLS WHEN THE RAFTER SPACING DOES NOT MATCH THE WALL STUD SPACING.
 2. ACTUAL SKID SPACING MAY VARY PROVIDED THAT THE CENTER TO CENTER SPACING IS WITHIN THE MAX/MIN SPACING STATED.
 3. 2x6 FRAMING MAY BE SUBSTITUTED FOR THE 2x4 FRAMING SHOWN. THE SPACING OF THE 2x6 FRAMING SHALL BE AS SHOWN FOR THE 2x4.

BUILDING SECTIONS



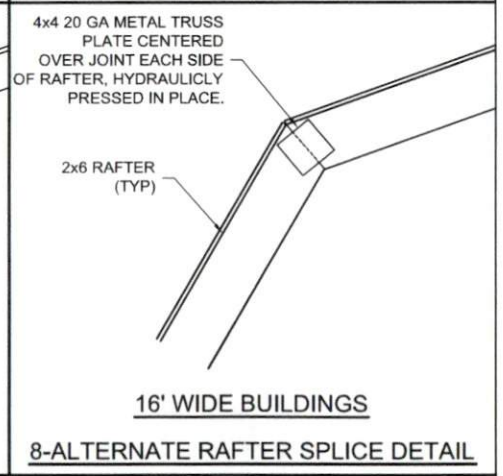
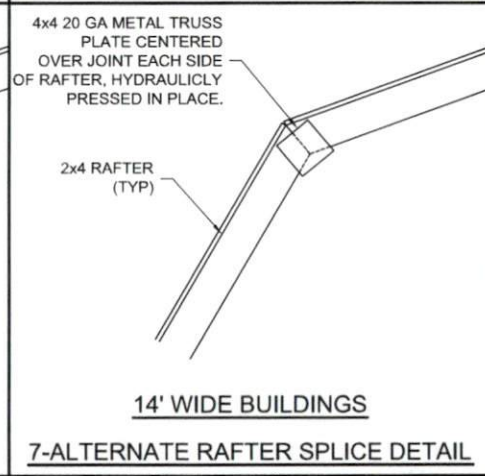
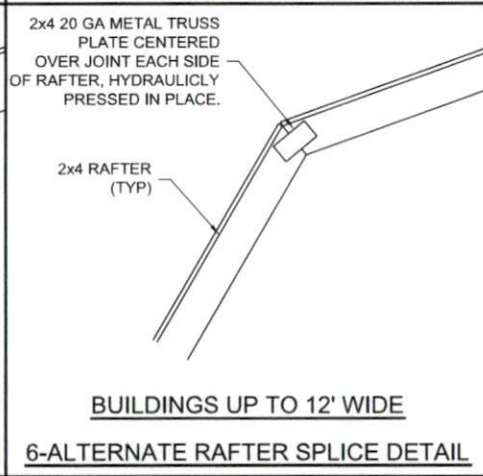
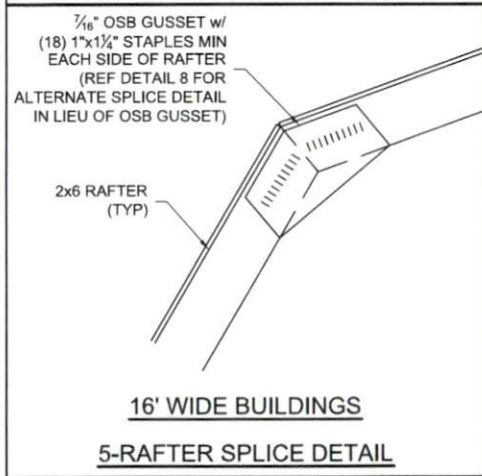
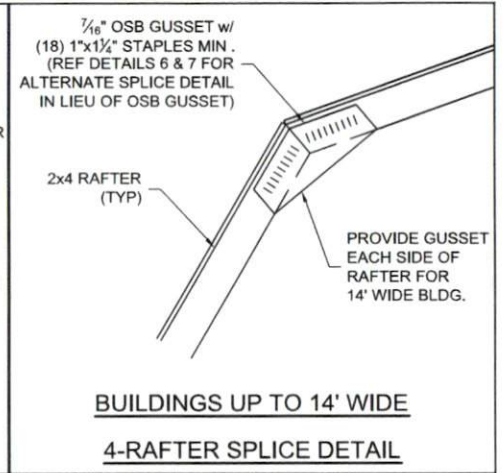
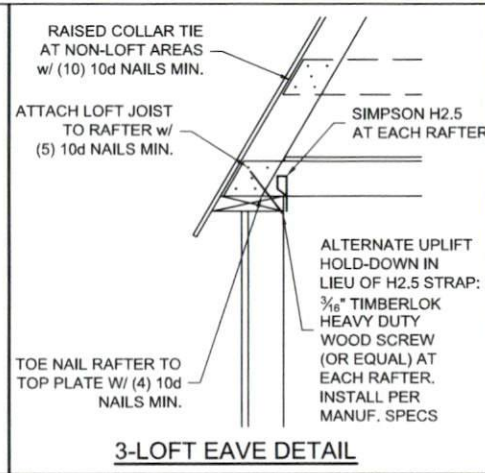
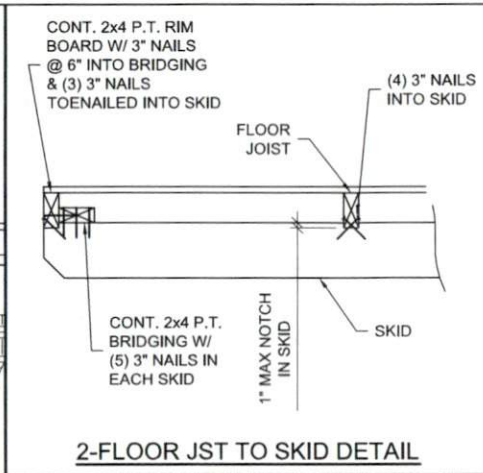
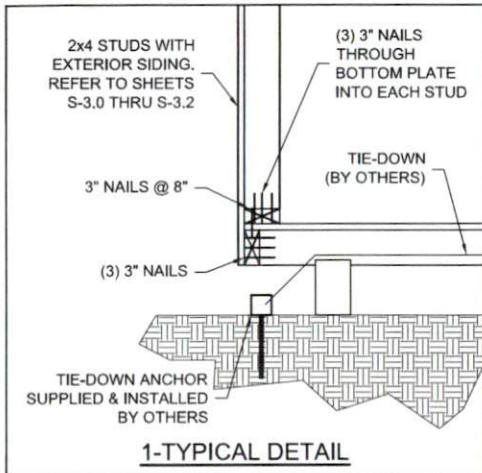
LOFTED BARN--NORTH CAROLINA--WIND=150 MPH--2018 NCBC

2-27-2020



PROJECT NO:	
DATE:	02-27-2020
DRAWN BY:	KLN
CHECKED BY:	KLN
REVISION:	

SHEET NUMBER
S-3.2-LB
 SCALE: 1/4" = 1'-0"



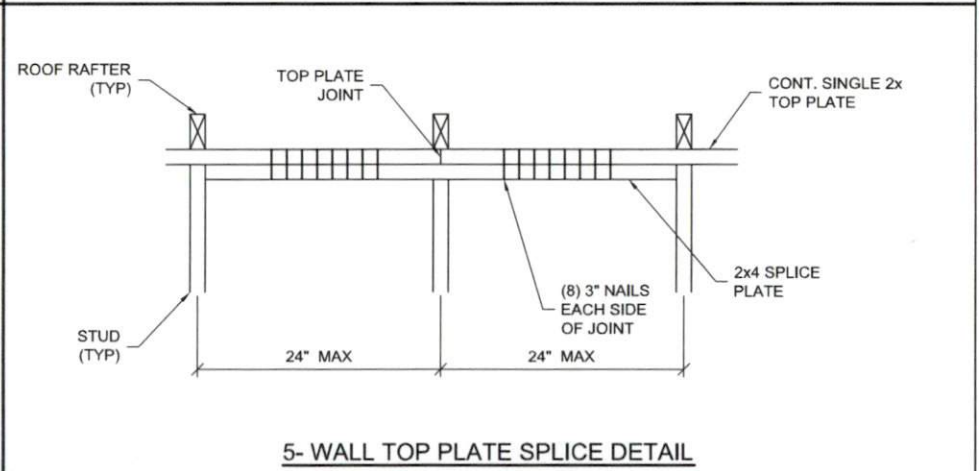
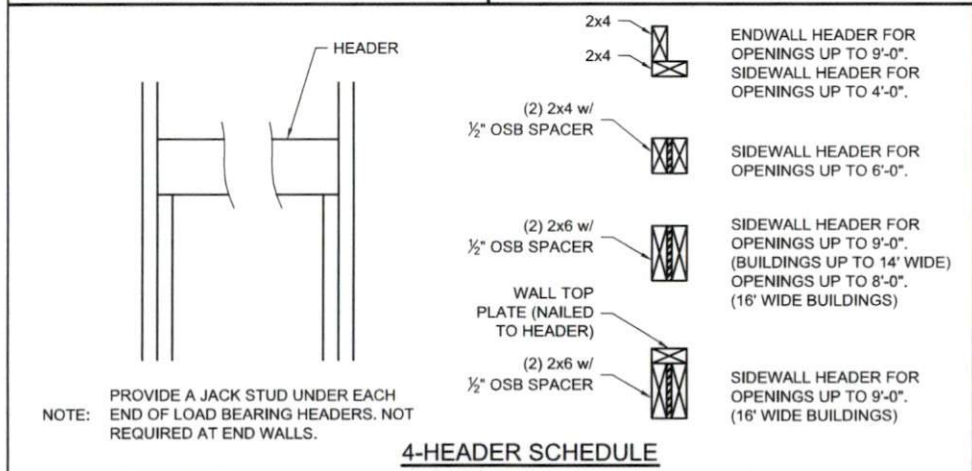
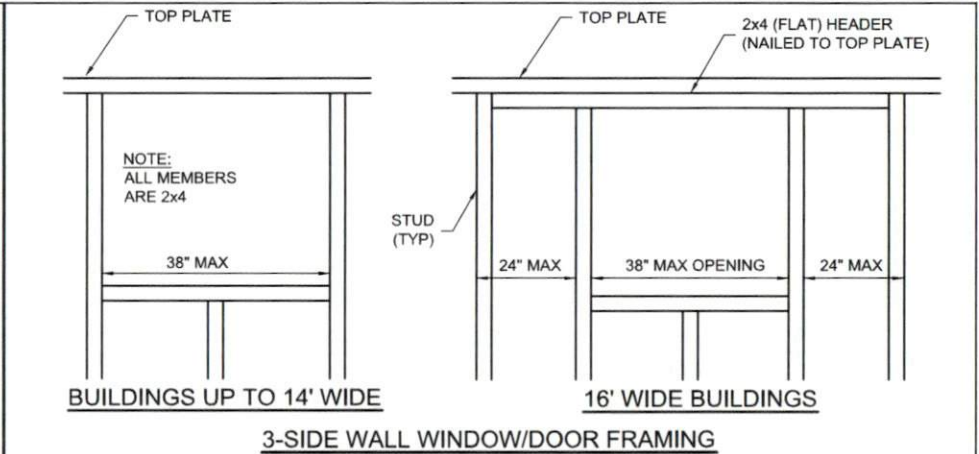
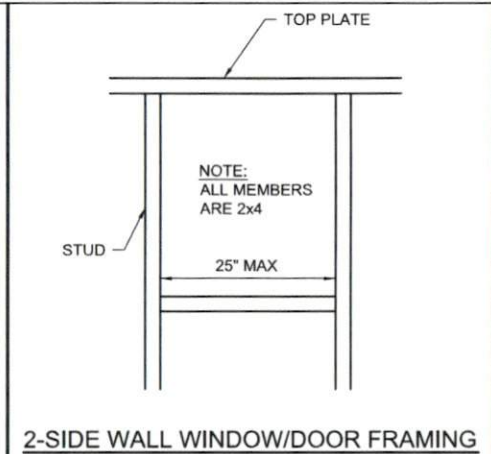
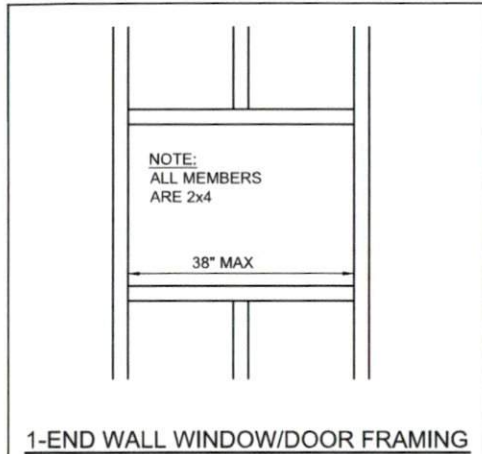
2-27-2020

LOFTED BARN--NORTH CAROLINA--WIND=150 MPH--2018 NCBC



PROJECT NO:	
DATE:	02-27-2020
DRAWN BY:	KLN
CHECKED BY:	KLN
REVISION:	

SHEET NUMBER	S-4.0-LB
SCALE:	



LOFTED BARN--NORTH CAROLINA--WIND=150 MPH--2018 NCBC



PROJECT NO:	
DATE:	02-27-2020
DRAWN BY:	KLN
CHECKED BY:	KLN
REVISION:	

SHEET NUMBER	S-41-LB
SCALE: 1"=1'-0"	