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January 1, 2023
Letter valid for one year of above date with purpose of review by Engineer when expired.

Pack Sheds, LLC dba BAS Buildings
1641 US 70 Hwy. East
Garner, NC

This letter addresses and provides structural certification for the Classic Barn style shed with Gambrel roof system in 8, 10, 12, and 16-foot widths built by BAS Buildings, LLC.

The 8 and 10-foot Classic Barn will have 2" x 4" rafters. The 12 and 16-foot Classic Barn will have 2" x 6" rafters. All rafters will be spaced at 2' centers. For the Gambrel style roof system, the upper roof slope member joints are cut at 22 ½ degrees for a 5:12 pitch. The two joints or haunches that form the change in roof pitch shall be connected gusset plates for the 10, 12 and 16-foot wide Barn, attached on each side of the rafter. Gusset Plates for the 10 foot and up wide Barn shall be 7/16" OSB and be a size of 16" wide by 10" tall. The tops of the gusset plates may be chamfered to match the roof slope and each plate shall be nailed to its respective rafter with 12 – 8d nails. The haunch attachment for the 8-foot wide Barn may be made with 1 inch Galvanized staples, heavily stapled. All rafters shall be cross-tied with 2" x 4" collar ties located at the 1/3 point extending downward from the ridge and spaced at 4'-0" on center.

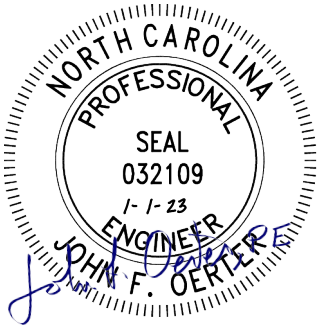
A ridge board for the 10, 12 and 16 foot Barn shall be installed, with minimum thickness of 1 ½ inches and a minimum depth of 6" depth. The ridge board must allow full connection of the rafter's angle cut. The 8-foot Barn may have the rafters join at the ridge with staples or nail plates both sides.

The flooring system shall be constructed as follows. For the 8 and 10-foot Classic Barn, 2" x 4" joists at 16" centers shall be used. For the 12- and 16-foot sheds, 2" x 6" joists at 16" centers shall be used. All joists are to be supported with (2) 4" x 4" skids for the 8 foot wide shed and (3) 4" x 4" skids for 10 foot and wider sheds. The exterior skids shall be located no more than 10 inches from the parallel side edge of the shed. This 10-inch cantilever of the joists, created by the offset of the skids, shall not be exceeded. The Skids on all models must be supported by piers at a maximum of 4' on center. As an alternative for the 4" x 4" skids, a double 2" x 6" beam may be used for the skids, they must be supported on piers at a maximum of 5' on center.

The piers for all models shall be made up with a minimum of 8" x 16" CMU piers which bear directly on the soil. If necessary, for elevation requirements, the piers may be constructed with dry stacked concrete masonry units, with solid units top and bottom and hollow 8" concrete masonry units for the remainder of the pier at a maximum height of 36". All The floor framing should be tied down with 30" screw anchors and 1" metal strapping across the floor joists.

Wood stud headers over openings not exceeding 6'-0" in the end walls (non-load bearing) shall be (2) 2" x 4" studs bearing on a single 2" x 4" jack stud at each end. Headers over openings not exceeding 6'-0" in the side walls (load bearing) shall be (2) 2" x 6" studs bearing on double 2" x 4" jack studs.

All loads and code compliance are pursuant to the 2018 Edition of the North Carolina Residential Building Code and meets or exceeds the Building code requirements with respect to loading and serviceability. All lumber is to be SPF #2 or better (exterior grade where required). Please do not hesitate to contact me if you have any questions, or if I may be of further assistance regarding this matter.



Sincerely,
John F. Oerter, PE
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