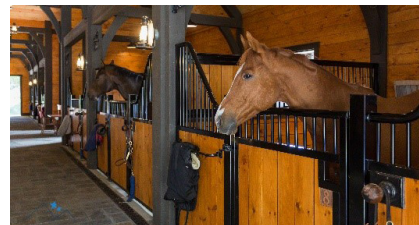
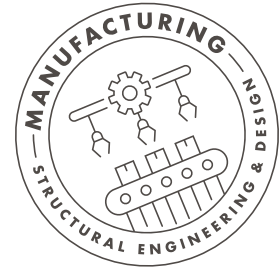


# ROUND PEN TIMBERFRAME BARN

WOODHOUSE TIMBER FRAME COMPANY, MANSFIELD, PA  
TIMBERFRAME

BLUE STAR RANCH, CASHIERS, NORTH CAROLINA •  
WWW.BLUESTARRANCH.COM

Tamarack Grove worked with Blue Star Ranch, a private horse ranch on a 170-acre expanse in the Blue Ridge Mountains of North Carolina to bring their architectural sketch to life by working with a Timberframe manufacturer to solve the structural engineering challenges. The Round Pen structure with historic roots dating to the tradition of Spanish horsemanship, was designed as an open structure to have covered horse waiting areas, heated platforms and a covered training pen area of over 3,000 SF.



## CHALLENGE

The owner requested a completely open structure for use as a training pen/arena requiring a design with limited structural columns.

## SOLUTION

In order to achieve the goal of limiting structural columns, the design had to include both wood Timberframes, steel tension rods and concealed steel plates with bolts to produce the frame spans needed to support the overall roof dead and live loads. With a dirt filled arena/round pen, the footings had to be designed as isolated column footing pads to resist the required gravity loads and then lateral/uplift loads produced by the wind forces. The final design included 8 main structural timber columns with only 4 in the round pen supporting the roof over this area. The entire arena area was designed with an open concept with a 62'-0" wide diameter pen.

## TEAM MEMBERS

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REVIEW OF MANUFACTURER'S  
SHOP DRAWINGS

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