

Dating Barns in Holland Township, New Jersey with Dendrochronology Part 4 - the Nathaniel Britton Barn

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Holland Township, which is in the northwestern corner of Hunterdon County, New Jersey bordering Warren County, New Jersey and Bucks County Pennsylvania, is a fascinating place to study barns. Twenty-three ground barns (1794-circa 1900), 6 stone Pennsylvania forebay barns with a Germanic frame (1805-circa 1832), 18 frame Pennsylvania forebay barns with a light Germanic frame (1825-1941) and 21 frame Pennsylvania forebay barns with a swing beam (circa 1815-circa 1900), have been documented to date. The earliest barns in each category have been dated with dendrochronology. Their dates range from 1794 to 1825 (see past NBA articles). The Nathaniel Britton barn, however, was so unique that it was dated with dendrochronology even though it did not appear to be one of the earliest ones.

Nathaniel Britton built his 7 bay ground-level swing beam barn in 1832¹ to house 7 cows, 4 horses, hay, straw and feed. It's construction date is more than 25 years after the first Pennsylvania forebay bank barn appeared in Holland Township and within the height of their popularity during the agriculturally prosperous years of the 1820s and 30s. Since the Pennsylvania bank barn form provided the space saving lower level to stable livestock, the characteristic forebay to shelter the stable doors and conveniently accessible haymows in the upper level, one would wonder why Nathaniel chose to expand the ground barn form that was popular in Holland Township between about 1790 and 1820 and not choose the “newer” two level form. One reason may be the site, which is relatively flat and within fifty feet of the Delaware River, but other forebay bank barns built along the river have ramps to access the

¹ Date according to dendrochronology by Michael Worthington, November 2017

upper level so the site was not a definitive deterrent. Nathaniel must have had a personal preference.

Nathaniel's need for space was far greater than those who built ground barns a generation earlier. His 7 bay ground barn provided approximately the same amount of space that a three-bay Pennsylvania forebay bank barn provided in that time period. Nathaniel expanded the concept of the ground-level three bay barn by adding two extra bays for hay mows and one extra bay for stabling. The barn is divided roughly in half with the hay and grain related functions on the east end and the livestock related functions on the west end. Bays 1 and 2 are floor to ceiling hay mows, bays 3 and 4 are joined by a swing beam and have a wood threshing floor and hay lofts, bay 5 has 7 wooden stalls with chains and feed bins for cows and small animals, bay 6 is a wagon entry bay lined with horizontal planks with hinged doors to access the feed bins, and bay 7 has 4 wooden horse stalls. This is the only ground barn to have more than four bays remaining today in Holland Township. The barn was accompanied by a hovel, barnyard wall with pig pens south of the wall, and a wagon house.



In addition to farming, Nathaniel operated a saw mill on his property and likely cut the timbers used to build this barn. The barn is framed almost entirely from hemlock floated down the Delaware River from either Pennsylvania or New York State. Most of the timbers are vertically sawn. Rectangular hemlock posts are roughly 8" x 10" with the wider dimension parallel to the ridge. The massive cambered hemlock swingbeam (22½" x 12" in the center and 20" x 12" at each end) is hewn on the sides and sawn on the top and bottom. The passing braces that join the upper, middle and lower tie beams in the swingbeam bent are oak, and the only oak members in the barn frame. Interestingly however, the mortise-and-tenon frames of the board-and-frame wagon doors are also oak. This is a combination scribe rule/square rule barn with two-foot scribe marks noted on the tiebeams and swingbeam. Rafters are sawn and joined to the corresponding rafter with a tongue-and-fork connection. This may be one of the earliest barns in Holland Township to be built almost entirely of hemlock and perhaps one of the latest barns to use scribe rule framing techniques.

Due to the use of hemlock and scribe rule joinery, this barn was difficult to date without dendrochronology. Dendrochronologist Michael Worthington used east coast data on hemlock to date 8 hemlock samples. Seven samples revealed a felling season between the summer of 1827 and the summer of 1832. The sample taken from the swing beam dated to the winter of 1830/31. The oak passing brace was sampled but no date was obtained. An 1832 construction date was assumed for the barn.