

## The Triemstra Barn: Probing Connections to Fort Winnebago



Adam Novey, June 3, 2021



## INVESTIGATING A FAMILY LEGEND

An old barn located on the rural Marcellon Triemstra farm has recently been the subject of renewed attention due to a family tradition which has been passed through time. This tradition pre-dates the Triemstra family's arrival in Marcellon over four generations ago. The fifth generation still recalls how upon their family's settlement on the farm, a previous owner informed them that the property's oldest barn had belonged to old Fort Winnebago, which had been established in 1828 approximately nine miles to the southwest. The story goes that the building was moved by horse and sledge across the intervening ground prior to being placed upon a native stone foundation adjacent to the farm's stock yard. Mortised sockets in the cross-beams were said to hold floor joists for a second floor on which soldiers would sleep, although the use of the building was presumed to be similar to its later use as a barn.

Within the last few years, this building was dismantled for reassembly as a hay barn on the nearby farm of Wayne S\_\_\_\_\_. Mr. S\_\_\_\_\_ has since altered his plans but has been in contact with HIAH about this unique structure's historical significance. He still stewards four of the five main "bents" which comprised the major structural features of the timber-frame building, as well as an assortment of rafters and other building members. With the fate of these last remnants of a barn which, according to this old family tradition, once stood among some of the most historically endowed buildings of the state, a compilation of known information, research, and analysis has become of pressing importance.<sup>1</sup>

## TIES TO THE FORT

With a family tradition claiming great significance for a historic structure, a number of questions must be addressed—particularly since the building has been separated by time and place from its roots. The logical starting point is to determine the likelihood of the building's origin within the Fort Winnebago complex.

### **1856 Fire**

A first important question which arises from a key event in the history of the fort is whether a timber-framed fort building was even available to be moved following the fort's decommission. It is historically known that Fort Winnebago was set ablaze in 1856, only two years after the fort had been sold into private hands. A fire-charred carved wooden eagle which had hitherto stood guard at the main entrance to the fort survives in the Fort Winnebago Surgeons Quarters collection as a relic of the intense inferno of that year. The reports which circulated through newspapers across the nation led to the belief that the greater portion of the fort had been lost to history.<sup>2</sup>

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<sup>1</sup> This report is heavily reliant on the information provided by the S\_\_\_\_\_ and Triemstra families, as well as details gleaned from Portage historian Kathy Taylor's interview with Donna Triemstra for the October 18, 2008 Public Broadcasting Service Special, "Wisconsin Hometown Stories: Portage Memories," which may be accessed at <https://www.pbs.org/video/wisconsin-hometown-stories-portage-memories/>.

<sup>2</sup> ; Louise P. Kellogg, "The Agency House at Fort Winnebago," *Wisconsin Magazine of History* 14, no. 4 (June 1931), 448, accessed December 27, 2020, JSTOR; "Please Correct" *The Independent*, April 24, 1856, accessed Newspapers.com

These contemporary narratives would leave only the fort's outbuildings available for relocation in subsequent years. However, the Portage *Independent* published an article titled, "Please Correct," just days after the initial word had been broadcast about the blaze. It explained that contrary to the mainstream report, only one building of the nearly one dozen buildings of the fort proper had actually burned. Later documentation from an account in 1871 corroborates that the fire's impact had been limited and identifies the buildings affected as the two enlisted barracks on the south side of the fort on either side of the entrance at which the carved eagle had been installed. One of the log blockhouses had also fallen victim. Thus, the buildings which would have been available to move after the fort's decommission (and even into the 1870s) would have included a large enlisted barracks and four officers' quarters enclosing three of the four sides of the primary defensive perimeter, a hospital, stables, and other assorted outbuildings. While weather-wrought decay was noted by this time, the fact remained that, "Most of the buildings stand."<sup>3</sup> Later that year, Portage's *Wisconsin State Register* reported that William Wier, an early settler of Portage, had begun work on a plan to revitalize the fort grounds by converting it into an asylum, or, if unsuccessful in that, to "brush up the premises so that the oldest inhabitants won't recognize the place," thus signifying the viable, albeit deteriorated, nature of that which remained.<sup>4</sup>

By 1898, however, the picture had greatly changed. Andrew Jackson Turner, in his treatise on the fort, noted that no fort structures were then visible upon the landscape except the surgeon's quarters, the commissary, and part of the hospital. The intervening 27 years saw the majority of the fort disappear, some components having been salvaged by local farmers (a large beam which had found its way into a farmer's wood pile is housed in the Agency House collection), and some having fallen victim to time and the elements. With the working assumption that the building under question was moved during this time period, the availability of such a building for relocation is well-attested.<sup>5</sup>

This time span is significant in that it roughly corresponds with the period during which the Triemstra barn is believed to have been moved. The Triemstra family tradition was based on the word of the farm's previous owner, David Beahm. The Beahm family's ownership of the property goes back to 1882, although it is also possible that the building was moved during the time of his predecessor, D. B. Herreman, who owned the farm since at least 1873.<sup>6</sup> Given that in 1871 the majority of the fort buildings were still standing in their original locations, the building could easily have been moved by the Herreman family.<sup>7</sup>

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<sup>3</sup> "Please Correct;" "The Portage and Fort Winnebago," *The Wisconsin State Register*, March 25, 1871.

<sup>4</sup> "Improvements at the Fort," *The Wisconsin State Register*, April 27, 1871.

<sup>5</sup> Andrew Jackson Turner, "The History of Fort Winnebago," in Reuben Gold Thwaites, ed., *Wisconsin Historical Collections*, Vol. XIV, (Madison, WI: State Historical Society of Wisconsin, 1898), 98.

<sup>6</sup> Marcellon Township map of 1890 would place the building on the land of David Beahm

<sup>7</sup> "Marcellon," *The Wisconsin State Register*, March 4, 1882; Harrison and Warner, *Atlas of Columbia County, Wisconsin, Drawn from Actual Surveys and the County Records*, (Madison, WI: Harrison and Warner, 1873), 61, accessed June 2, 2021, <https://content.wisconsinhistory.org/digital/collection/maps/id/24023/>; "Wisconsin Hometown Stories;" *Plat Book of Columbia County, Wisconsin*, (Minneapolis, MN: C. M. Foote & Co., 1890), 11, accessed June 2, 2021, <https://digioll.library.wisc.edu/cgi-bin/WI/WI-idx?type=header;pview=hide;id=WI.PlatBookCol90>.

## Proximity and Tracing the Building

A second question is whether a building located over 9 miles away has sufficient proximity to lend credence to the oral tradition attached to the building. The road adjacent to the building provides a potential insight. The Triemstra barn was located within 400 yards of the route of the Military Road, along the stretch which passed between Fort Winnebago and the historic lime kiln at the 1830s Belle Fontaine farm. Given that this route follows a direct, topographically gradual path, the Military Road formed a straight link from Fort Winnebago to the Triemstra farm along the most conducive terrain for heavy travel. The family tradition also holds that the building's relocation occurred during the winter when sledges could haul the building across farm lots as necessity dictated. Moving buildings significant distances was not entirely uncommon in the 19th century, and the story of the relocation of the Merrill home (c. 1835) from the west bank of the Fox River to its current location at 505 E. Cook St. provides a local—although shorter-distance—example of such a project.

## Consistency of Construction Techniques

A third consideration is whether the general construction of the building is consistent with methods and materials available at the time of the fort's establishment, which are otherwise documented as having been used in the greater Fort Winnebago complex. The Historic Indian Agency House collection which contains data from both the agency house and construction-related artifacts from the fort, as well as surviving descriptions from the fort's builders, constitute a base of comparison.

The builders of Fort Winnebago employed timber frame construction in erecting the main fort structures (not inclusive of temporary, or pre-existing log structures). Large hand-squared timbers were mortised together and fastened using wooden pegs. Some of these pegs were pine, while others were hardwood, brought from the hardwood forests near Baraboo. Old growth pine timbers of high quality were floated down the Wisconsin River to be utilized. In keeping with the materials available, pine—rather than cedar—was used to shingle the block houses (and presumably the rest of the buildings).<sup>8</sup>

Tamarack is also a material well attested in local construction at the time in question. A large tamarack swamp adjacent to the Fox River which is marked on the military road survey of 1836 appears to have been the source. The temporary log barracks used to shelter troops during the winter of 1828 prior to the construction of the permanent buildings were made of this readily available rot-resistant wood.<sup>9</sup>

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<sup>8</sup> Historic Indian Agency House Building Materials Collection; Jefferson Davis to Thomas Jesup, October 15, 1830, in *The Papers of Jefferson Davis* Vol. 1 (Baton Rouge, LA: Louisiana State University Press, 1971), 157-162, footnote on pg 201-202.

<sup>9</sup> Alexander J. Center, "Map of the Route of the Military Road from Fort Crawford to Fort Howard Via Fort Winnebago," 1836, accessed June 2, 2021, <https://www.wisconsinhistory.org/Records/Image/IM1826>; Juliette Kinzie, *Wau-Bun: The "Early Day" in the Northwest*, Historic Preservation Edition, (Grove City, OH: Gatekeeper Press, 2021), 241.

Cut nails and hand-forged spikes were used as secondary fasteners in constructing the agency building. A set of massive hand-forged bolts with a fort provenance is housed in the Agency House collection, with one which had an interior span (between the square nut and the head) of approximately 12 inches (fig. 1). Forged spikes of similar provenance are also held in the collection.

The Triemstra barn exhibits remarkable consistency with this overall scheme of construction (fig. 2). The timber frame “bents” which compose the largest surviving pieces of the building are made of pine beams squared by hand. While slightly larger than the largest beams of the Agency House, the beams match the span of the bolts from Fort Winnebago described above and pictured in figure 1. They are assembled with mortised joints which are fastened with wooden pegs (hardwood and possible pine). The upper joints of the uprights were reinforced with forged iron bands which are secured through the beam with long bolts almost identical in size and manufacture to those which are housed in the Agency House collection. The nuts on the bolts used in this instance are forged to the (presumably threaded) shaft. As an aside, assuming the provenance of the building is correct, this use of the bolts actually provides the most probable hypothesis for how the bolts in the Agency House collection were employed, since their use was previously a matter of speculation.

The rafters of the structure are round logs which have been squared on one side. They are believed by their present owner to be tamarack, which is of significance. Their age is indicated by their wooden peg attachment and the surviving square cut nails and spikes (also roughly matching a few with fort provenance in the Agency House collection) which are still embedded along their length after the removal of the deteriorated roofing.

This rotten roofing provides other correlations. A historic roof (although it is unknown if it was original) was encountered beneath the tin roof which covered the structure at the time of its dismantling. The sheathing was turning to dust, but Mr. S\_\_\_\_\_ remarked that one roofing plank was approximately 24” across with a straight grain which would only occur in the old growth pine available prior to the end of the lumbering era in Wisconsin. While this is not definitive evidence to tie it to the 1820s, planks of old growth pine sawed by pit saws during the fort’s construction would be consistent with this evidence.

The historic roof’s shingles had also disintegrated nearly to oblivion. No samples were saved, but during an interview with Mr. S\_\_\_\_\_, when the question was posed whether these were cedar or perhaps pine, S\_\_\_\_\_ recalled that his brother had remarked during the process of dismantling the structure that there was no customary smell of cedar when the remains of the shingles were disturbed. These shingles had also turned black with age, whereas S\_\_\_\_\_ indicated that true cedar shingles would have disintegrated into a reddish hue. Thus, the possibility that these were pine shingles such as those available to the fort’s builders cannot be ruled out.

### **IDENTIFYING A SPECIFIC STRUCTURE**

With strong evidence that the Triemstra barn had been originally built as part of Fort Winnebago, it is important to correlate the building’s specifications (size, arrangement, dimensions) to the well-documented specifications of the fort’s structures and out-buildings. Since a significant number of fort

structures were built with similar width dimensions, it was not considered necessary, or even possible, to pin down one specific building with the pieces which remain, but if there was no size correlation (width being most important in timber framing, since bays could be added, subtracted, or re-sized), its origins would be called into serious question. Surprisingly, surviving data actually provides a very specific correlation.

The Triemstra Barn was approximately 35 feet wide and 51 feet long. It consisted of five bents spaced in an unusual sequence of 14, 13, 12, and 12 feet on center of beam. The last bent had been reconstructed after a structural failure in recent times but was presumably built on the same foundation as that which was prepared at the time when the intact building was moved to its new location. The sides from base of beam to the eaves was approximately 16' in elevation.

Fort buildings varied in size, although less-so in general profile and design. Of the approximately 20 buildings making up the fort (fig. 3), 15 were under 30 feet wide, most being significantly closer to 20' in width. Of the five that approach 35' in width, the Surgeons Quarters which still stands must be subtracted, as must be the commanding officers' quarters which was only 29' long.

The three possibilities which remain were all officers' quarters measuring exactly 35 feet wide—the same width as the Triemstra structure. The length of one of these was 106', which does not rule it out, but makes it less likely given the following information. The two remaining buildings were identical officers' quarters along the north side of the fort which measured, by Jefferson Davis' blueprints, 53' long. Given that these measurements are taken from a hand-drawn scale, the difference between these and the approximate 51' length of the Triemstra barn is insignificant. In terms of height, the first story of the building as illustrated in Davis' blueprints was 9.5', while the second story, which overlapped with the upright walls slightly, was approximately 8.5' and extended into the garret floor. From ground level to the ridge pole (including an appx. 4' exposed stone foundation) the height of the entire building was approximately 33.75' tall. This would result in an estimated upright beam height from foundation to eaves of 12'-13' ( $9.5' + 0.75'$  for first floor joists on top of foundation +  $0.75'$  for second floor width +  $1'$  or more to eaves line in second floor). Since this scaled plan was again drawn by hand, the difference between this and the 16' of the Triemstra barn, while modestly off-scale, is not overly problematic, especially if the actual building of the fort's foundations resulted in a lower foundation than the specified 4' above-ground margin as is indicated in Juliette Kinzie's 1831 illustration of the fort (fig. 4).<sup>10</sup>

### **SPECIFICATIONS UNIQUE TO THE OFFICERS' QUARTERS**

With this nearly exact correlation of size between the officers' quarters and the Triemstra structure, a new set of building-specific detail queries must be posed to the building's remains.

#### **Special Building Specifications for Barracks**

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<sup>10</sup> Fort Winnebago Building Elevations, Fort Winnebago Records, 1819-1866, Wisconsin Historical Society Mss. BM Folder 6 MAD 4/32/P3; Frank and Stein Associates, "Final Report, Part 1: The Reconstruction of Fort Winnebago," January 3, 1968, accessed June 3, 2021, [http://portagecanal.org/Documents/FrankStein\\_Part%20I.PDF](http://portagecanal.org/Documents/FrankStein_Part%20I.PDF). These measurements were corroborated by the author's 2021 review of Davis' blueprints. Frank and Stein report. Also Wau-Bun

While the general building styles and construction techniques appear to have been consistent across all frame structures at the fort, buildings inhabited as barracks had additional specifications consistent with the needs of quartering personnel. The first necessity was insulation. Jefferson Davis' October 1830 description is instructive: "...the space between the studs filled in with block and clay then lathed to receive plaster[;] the partition walls are lathed on both sides and not filled in."<sup>11</sup>

The Agency House also utilized this insulation technology (fig. 5). The Triemstra barn in its moved state had neither lath/plaster, nor brick insulation, but this does not pose a significant problem. To move such a building (particularly with the intent to use it as a barn in its new location), the brick insulation would have been removed on site prior to its transit. In the process of doing this, the lath covering the studs would need to be removed and not replaced since the building was to become a barn. A legitimate question then arises as to what evidence might remain of such plastering and mortared brick insulation on the surviving woodwork. In this case, the Agency House becomes an important point of comparison. In 1932, many of the bricks within the walls were removed for restoring the home's fireplaces.<sup>12</sup> Now, only ninety years later, samples of beams which have been removed from the house during the 2012 restoration, as well as pieces that are visible in wall-cutaways show no residual grout adhering to them. Whether the grout/plaster was not in contact with the wood due to the intermediate lath, or in the case of insulation, the bricks themselves, or whether it is due to the unstable nature of the material, the surviving beams are clean, as though they had never been subject to this building treatment.

Another specification unique to the fort's barracks structures was a second half-story (in the case of officers' quarters a substantial one with a ceiling height of 8.5 feet made possible by the building's healthy width. The presence of a substantial second story floor at some point is well attested by original mortised joist sockets in the cross-beams (fig. 2). These were, according to S\_\_\_\_\_, not a standard lumber width, adding further credence to their originality at a time prior to sawmills in this region. With these mortises occurring approximately every 1.5'-2' across the full structure, it is hard to dismiss this structural feature as an agricultural hay loft. Rather, this second story appears to have been removed upon the building's conversion to farm use). This second floor additionally occurs at a likely height for a second floor based upon the surviving vertical plan for the building. Its distance down from the eaves line is slightly longer (appx. 18-24" rather than Davis' appx. 12"). However, with a drawing of Davis' scale, this again—while slightly off—is not prohibitive. As a final note of the significance of this second story, the non-barracks buildings for which plans survive show none which would match this type of second floor. The block house and surgeon's quarters may be immediately discounted. The commissary had two operable levels, but the first level was an exposed stone cellar, leaving only one frame story above. The stables appear to have engaged a similar arrangement as the commissary, leaving the hospital—for which a fate is known, and for

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<sup>11</sup> Jefferson Davis to Thomas Jesup, October 15, 1830.

<sup>12</sup> Adam Novey, "The Restoration, Preservation, and Stewardship of the Indian Agency House," addendum in *Wau-Bun*, 412.

which dimensions provide little correlation.<sup>13</sup> The only buildings which had this type of second story were the fort's officers' and enlisted barracks.

Another feature of importance to structures used as dwellings is windows. In its re-sided state, no window openings were present at the time of the building's dismantling. However, when asked about doors or windows, Mr. S\_\_\_\_\_ pointed to evidence along the intact end of the building. On the gable end of the quarters, Davis draws four windows: two on the first floor and two on the second (fig 6). S\_\_\_\_\_ recalled that there were what appeared to be original cross ties in two areas along the end of the building's first floor which were cut off in their center (fig 7). The resultant gap was suggestive of old door or window placements. Moreover, the ends of these beams (which had later been spliced with newer wood) were mortised to accept upright pieces of timber which would have been present for a window or door. One such residual upright had been left in place and spliced over. S\_\_\_\_\_ drew these openings at the exact points at which Davis' sketch illustrates windows without having seen Davis' blueprints. This correlation is compelling evidence for windows which indicates an original non-agricultural use of the building which perfectly matches the plans for the officers' quarters. With the outer bent on the other end of the barn having been replaced, similar information was not available for the other side, nor was data available for the lengthwise sides of the structure.

As to the lighting of the "garret" level, dormer windows were present on all barracks (fig 6). For the officers' quarters in question, these appear to have been arranged with three in front and two in back of the building.<sup>14</sup> These were not present on the Triemstra barn. However, in discussing a separate issue with Mr. S\_\_\_\_\_, he mentioned that he remembered a handful of areas of roof sheathing which had been patched at some point in the building's past. One was drawn on his illustration (fig. 7), but he pointed to two other areas along the slope of the roof which he also recalled as being replaced (although he could not exactly pin them down on the sketch). These generally located points roughly correlate with where the dormer windows appear on Davis' illustration. With nearly one half of the roof having been replaced at a later date, similar data for the other end of that slope and on much of the other side of the roof is not available. It is also unknown whether there were any irregularities in rafter placement along the length of the building suggestive of these features. In its use as an agricultural building, the disappearance of dormers would not be a surprise, and with the above evidence of disturbance at likely areas, this is not entirely problematic.

### **Officers' Quarters Layout**

The floorplan of the officers' quarters must also be considered. Prior to the barn's dismantling, upright beams were present across the width of each bent. With known splices where cracks had developed in bents of the Triemstra barn, the presence of these posts to prop up weak areas is not unusual. It is plausible—and in the case of the officers' quarters essential—to assume that the floor plan was at one point open, allowing for non-weight bearing partitioning as is a common feature of timber framed structures. Moreover, with the sizing of the officers' quarters' rooms known from

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<sup>13</sup> "The History of Fort Winnebago," 98.

<sup>14</sup> Jefferson Davis to Thomas Jesup, October 15, 1830; Fort Winnebago Building Elevations.

Jefferson Davis' layout it is apparent that multiple bents would have had to be constructed without such supports since they would have coincided with the middle of rooms (fig. 6). Since the upright supports of the Triemstra barn are likely later additions (some being round logs, strongly indicating a post-construction addition), and the timbers are of such a size and design as to make them structurally unnecessary prior to the structure's aging, the placement of partition walls according to Davis' plan is not problematic under the assumption that the uprights present during the farm-era were added later for stability.

What is more significant is the number of bents in this structure. With five bents, one would logically be placed in the center of the building. This arrangement would be extremely problematic in that the officers' quarters were built with a central hall and exterior doorways on either side of the building's midpoint (fig. 6). However, this is where another piece of previously unrelated information garnered from Mr. S\_\_\_\_\_ becomes significant. In describing the building, S\_\_\_\_\_ recalled that the spacing of the bents across the length of the structure was completely unorthodox. The two spaces between bents on one end of the building were equidistant at twelve feet on center of beam, but the other side's bents were spaced approximately fourteen and thirteen feet, respectively (fig. 7). This quirk in the building design makes no sense unless considered in light of the officers' quarters floor plan. With the number of bents being determined by building length, and not layout, this building hypothetically required five bents for structural integrity (as was present in the barn). To ensure that the middle bent did not interfere with the floorplan's central doorways, the bents on the right side of the structure could have each been built with marginal (although cumulative) extra space to allow for the central doorway. As is apparent in the Triemstra barn, this spacing allowed approximately three feet of space (possibly more depending on the preciseness of measurements) exactly in the center of the building which would have been free of beams, and suitable for a doorway. This nontraditional spacing of these five bents thus goes from being problematic to becoming compelling evidence which is only explained when looked at in light of the officers' quarters floorplan.

Another feature in the floorplan of the quarters is the presence of two fireplaces/chimneys. While these were not present in the barn, S\_\_\_\_\_ did recall a section of replaced roof sheathing near the ridge line which could be evidence of the past presence of a chimney aperture (fig. 7). Again, one end of the building's roof had been replaced, so it would be impossible to determine if a second was present.

### **A FINAL QUESTION**

While the above observations cannot constitute definitive proof of the building's origin and there remain some discrepancies and missing information, the evidence broadly supports a fort provenance across a spectrum of building details. The tight correlation existing between this building's design and the officers' quarters is both a blessing and a curse. On the one hand, assuming this building was part of Fort Winnebago, we are given only three options for which building it could be, thus greatly assisting in determining the structure's history, for if this structure is not one of these three buildings, it could be no other known fort building. On the other hand, it can never be proven today (barring documentary evidence) that it is a fort building beyond a shadow of a doubt. Whatever the case, the consistency of

design, dimensions, structural details, and family tradition makes a case which cannot be easily dismissed.

With so great a body of evidence pointing toward a fort provenance, and even a specific building within the historic complex, two questions remain: First, should this structure be saved? By way of historic significance, few buildings in the state of Wisconsin today would share in the age or powerful historic richness of this unassuming structure. There is no question of the worthiness of an 1820s officers' quarters for preservation, particularly one which was built upon the heels of the turning point of indigenous inhabitation in southern Wisconsin. It was central as a military stronghold during Wisconsin's only major frontier war; served—if it is, indeed, one of the two officers' quarters—as the Indian Agency of John and Juliette Kinzie prior to the construction of their surviving 1832 home; and held a pivotal role in the history of settlement in Wisconsin overall and the modern community of Portage in particular.

The final question then becomes, *can* it be saved? The building no longer stands, but major structural components (comprising upward of 50% of the building) survive. Photos of these massive structural elements (fig. 2) illustrate the effect which the elements have had upon them. Some individual timbers are beyond repair, but it is the opinion of the Amish men who dismantled it that the old-growth heartwood within the timbers is sound enough for reconstruction, assuming the joints are addressed and—if warranted—reinforced. If faithfully reconstructed, the cost would be high and new components would have to be sourced to replace those which have fallen victim to time. While it is doubtful whether immediate space or funds are present for such a monumental undertaking to come to fruition, this building is too important not to receive every chance for some form of preservation, even if it entails only smaller components of the remains of the building being exhibited and interpreted in one or more of Portage's three main public history venues. Perspective on this historic building is not hard to maintain. This piece of history is at a crossroads and, as is well known in historic preservation, once it is gone it can never be replaced.

FIGURE 1: Baseline Period Building Characteristics Present in Agency House



Beam section removed from the Agency House during its 2012 restoration. Ruler placed for rough scale. Note joint mortise. Beam segments surviving in the Agency House collection vary in dimension and proportion, ranging from 3" in width to 8".

Forged iron bolts of known Fort Winnebago provenance. The bolt on the left would accommodate a 12" beam. Note particularly the filed threading, massive square nut, and square head.



Cut nails and forged iron spikes from the Agency House. Spikes were known to attach building hardware (shutters, etc.), and nails to attach lath and roofing.

**FIGURE 2: Surviving Structural Components of Triemstra Barn**



Overall View



Left: Mortised sockets for joists of second floor. Right: Tenons for sill beam (no longer extant). Note hand-hewn nature of beams.



Round log upright stud. S\_\_\_\_\_ believed that the round-log studs present in some areas of the building post-date the initial construction.

There are two or so examples of this round-log material which survive in the building's remains.

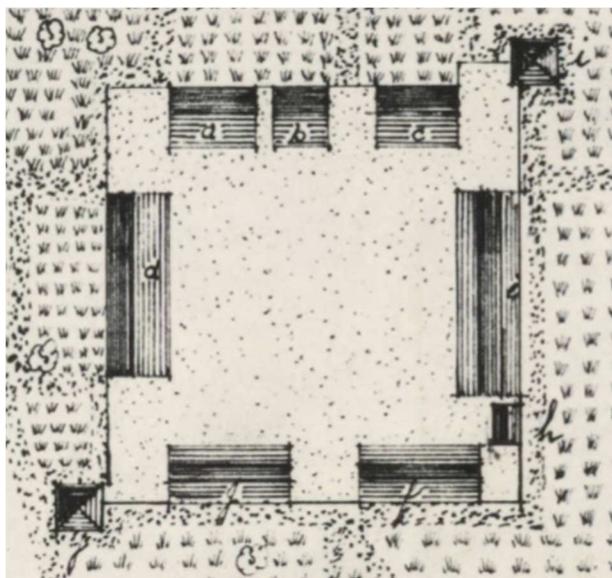
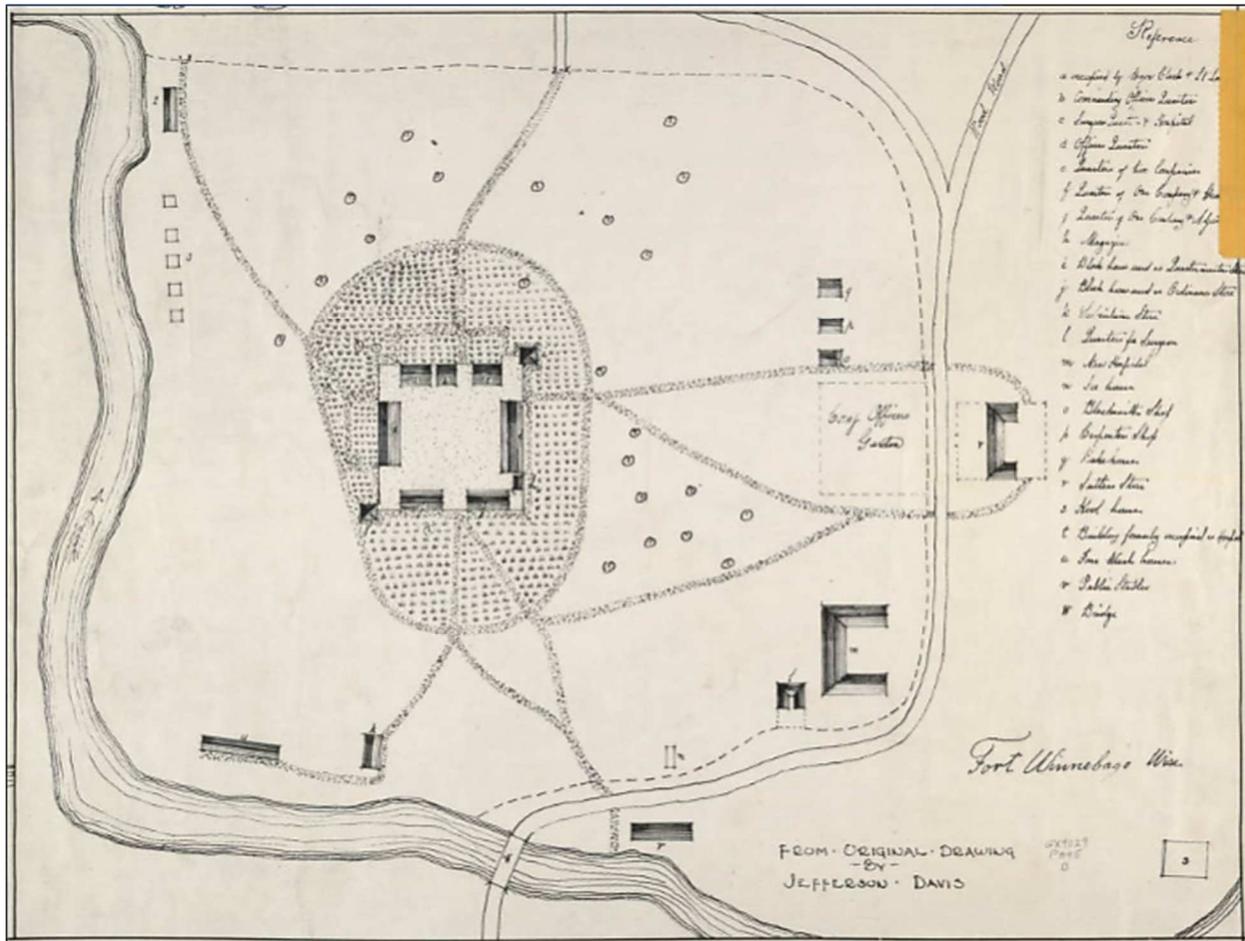


Wrought iron band reinforcing a mortised joint. Note the square bolt which fastens this component. Also note the pegs to the right of the joint and the peg/mortise holes in the lower, more deteriorated beam.



Rafter poles of round tamarack squared on one side. Note iron spike, nails, and pegs.

FIGURE 3: Illustrations of Fort Structures by Jefferson Davis, 1830



Buildings a, b, c, and d share a width of 35'. The enlisted quarters opposite these buildings are approximately 20' in width not inclusive of the covered porch delineated in the sketch. Other buildings visible in the overall illustration of the fort complex are all under 30' in width excepting those addressed above.

Buildings a and c both match the Triemstra barn's dimensions closely and were two identical buildings as illustrated in the below sketch (fig. 4)



Scale (rough) 1":42.5'

Digitized Blueprints After Building Elevations by Jefferson Davis in Fort Winnebago Records, 1819-1866, Wisconsin Historical Society Mss. BM Folder 6 MAD 4/32/P3

FIGURE 4: Juliette Kinzie's 1831 Illustration of Fort Winnebago



First Published in *Wau-Bun: The "Early Day" in the Northwest* (New York, NY: Derby & Jackson, 1856).

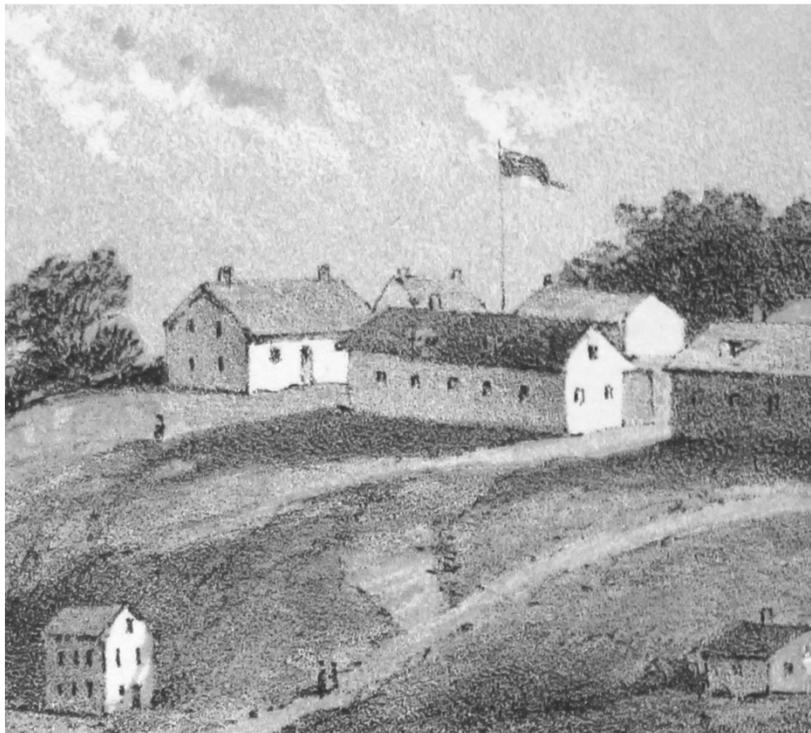


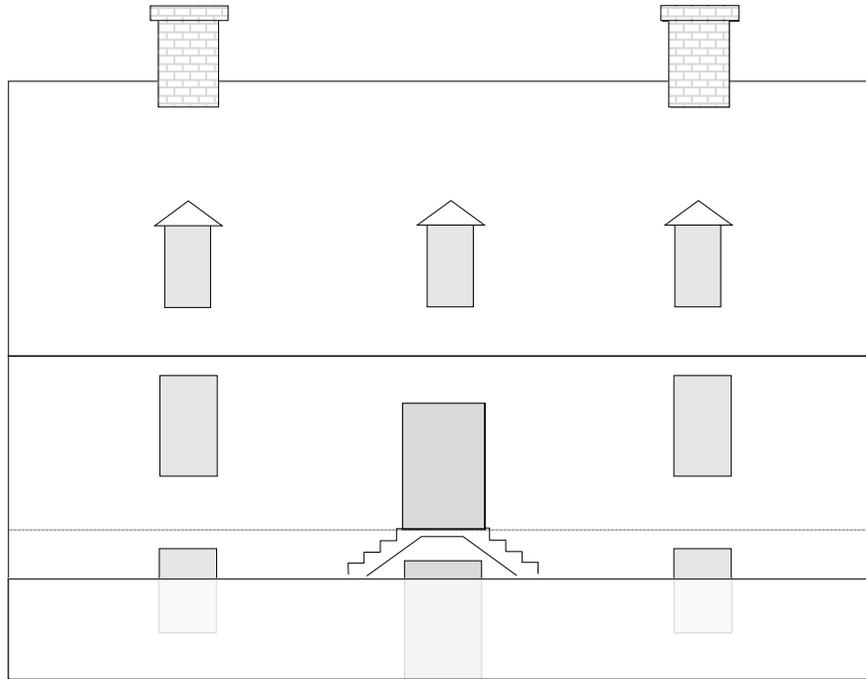
FIGURE 5: Brick Insulation Example



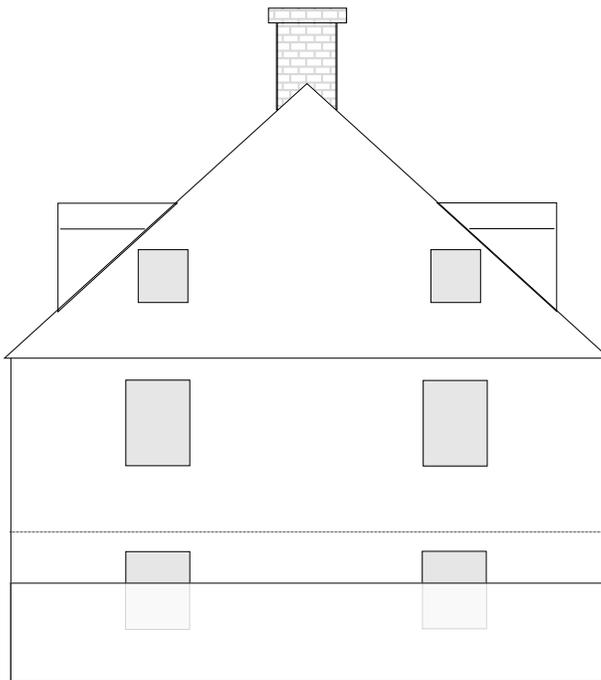
Bricks insulation between studs on the first floor of the Fort Winnebago agency house.

FIGURE 6: Fort Winnebago Officers' Quarters Plans Based on Jefferson Davis' Blueprints

(Scale of 1":12')



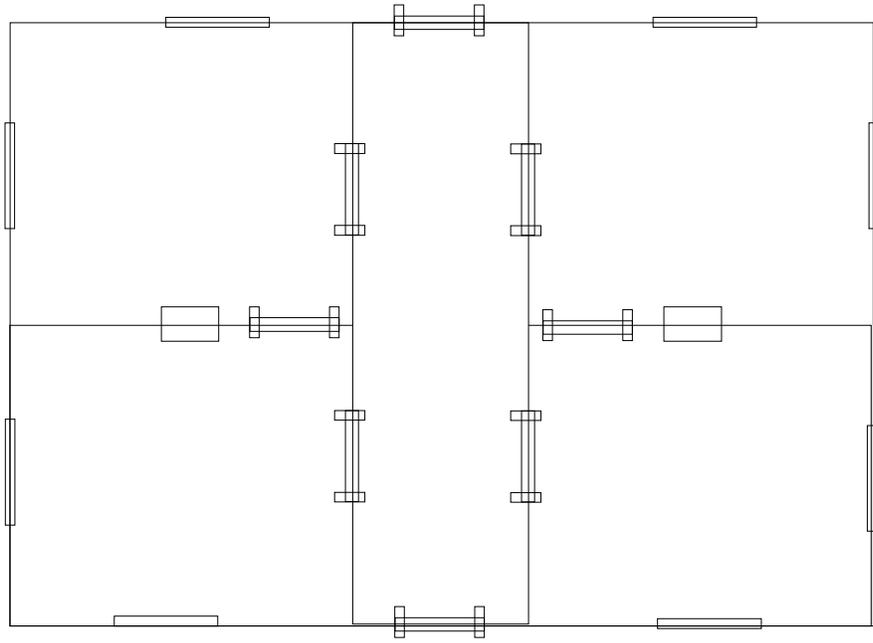
—appx. 53 feet based on rough scale—



-----Height of Second Floor on Davis illustration

-----Height of stone foundation on Davis illustration (actual above-ground profile in question: see fig. 5)

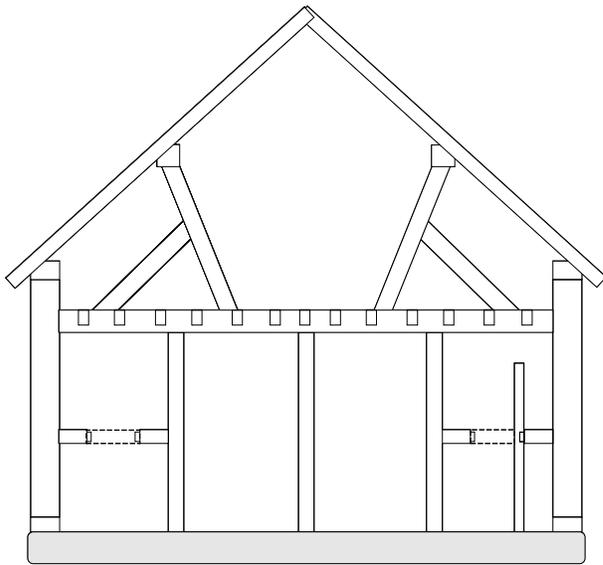
—appx. 35 feet based on rough scale—



Floor Plan (as per Davis' October, 1830 Illustration)

Fort Winnebago Records, 1819-1866, Wisconsin Historical Society Mss. BM Folder 6 MAD 4/32/P3

FIGURE 7: Sketch of original details by Wayne S----- (5/25/2021)



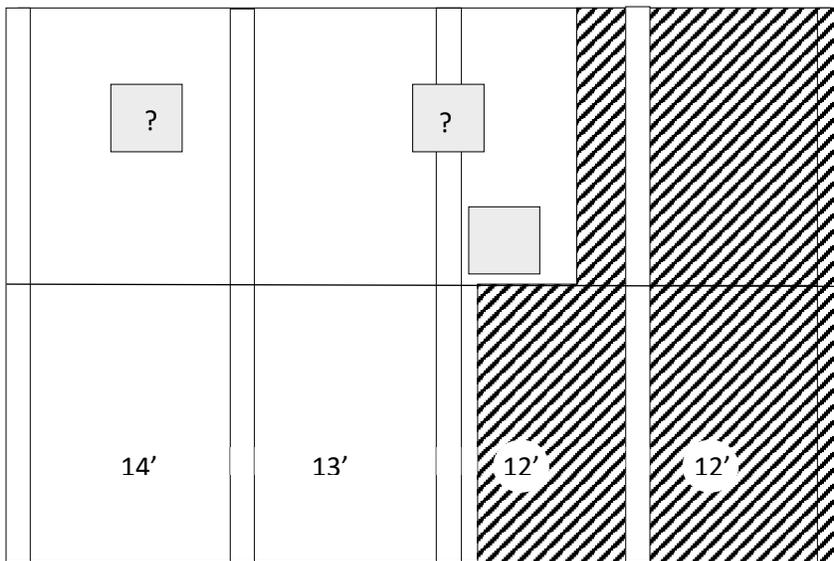
—appx 35 feet wide—

Tamarack rafters assembled with wooden pegs. Roof angle unknown. Mortised on top of the lengthwise beam and secondary support and attached with forged spikes and oak pegs. Sheathing attached with cut nails. Total wall height 16’.

Loft/second floor mortises on beams appx. 18-24” below top of uprights posts. According to S\_\_\_\_, these mortises do not appear to be a standard milled lumber mortise.

The cross ties illustrated were truncated with mortised ends. One upright door/window member was still attached.

When dismembered, it was sitting on a stone foundation. S\_\_\_\_ believed that the original structure would have had less of a substantial foundation, but that was based more on building relocation logistics than design.



—appx. 51 feet long—

S\_\_\_\_ drew a patched area appx. near the ridgeline (possible chimney?). Two other patched areas further down the roof also came to mind which are marked approximately, but with a limited degree of certainty.

Bay spacing measurements are from beam-center to beam-center.

Striped area was re-constructed in recent time (although on the same stone foundation as original).