

PHYSICAL CONDITION ASSESSMENT

and

RESTORATION RECOMMENDATIONS

for the

DOE CREEK SCHOOL

Henderson County, Tennessee



October 2006



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Prepared for
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Henderson County, Tennessee
and
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A Professional Services Project of the
Tennessee Civil War National Heritage Area
Middle Tennessee State University

October 2006



The Tennessee Civil War National Heritage Area (TCWNHA) is a statewide program dedicated to the interpretation and preservation of Tennessee's Civil War and Reconstruction legacies. Partially funded by the National Park Service, the TCWNHA is one of several projects administered by the Center for Historic Preservation at Middle Tennessee State University.

INTRODUCTION

The historic Doe Creek School is located along Doe Creek Road, a few miles south of Scotts Hill in southeastern Henderson County, adjacent to the Decatur County line. Originally built during the Reconstruction period, c.1870, as a meeting place for a Baptist congregation, the multipurpose building served as a schoolhouse and church for several generations until legendary teacher Elmer Duck dismissed the last class in the early 1950s.

The modest one-room building is a local landmark. The structure itself is a rectangular hewn log house, approximately 24' by 30', with half dovetailed corner notching. Large yellow poplar trees were cut down in the nearby woods and hauled to the site by a team of oxen, where the carpenters hewed the logs on two sides before erecting them. The roof consists of corrugated sheet metal, although it appears that wooden shingles covered the building originally. A brick chimney emerges from the peak of the roof at the center of the structure.

Oriented along an east-west axis, the gable-front schoolhouse faces the road. Double doors on the east wall provide entry to the interior. The traditional fenestration pattern of the church building called for two windows on each of the remaining three walls; however, two additional windows have been inserted between the windows on the south side at a later date to improve the lighting in the classroom.

The significance of the Doe Creek School as the last of the one-room log schoolhouses that once dotted the region's rural landscape cannot be understated. The old schoolhouse, which continues to serve as a symbol of the importance that our forbears placed on education in the past, may provide some inspiration for the generations of the future.

Foundation – Consists of piers composed of rocks and concrete blocks, some turned sideways, laid on the bare earth. These piers should be replaced by ones that are made from large flat limestone rocks, at least two rocks high, set on 12” thick concrete footers dug below the frost line. A minimum of 18” of clearance should exist between the ground and the nearest surface of the wooden sill logs.



Sill Logs – Consist of three large squared timbers running the long way under the building, one under each long wall and one down the center. One end of the middle timber is shown in the above photograph. Some have been repaired at some time in the past. Due to deterioration, these timbers should be replaced by similarly-sized stock, preferably utilizing a decay resistant wood (such as white oak or red cedar).

Floor Joists (Sleepers) – Consist of small round red oak logs, approximately eight inches in diameter, supported on each end by a sill log. Both ends of the joists were roughly worked to fit to sills. All of these sleepers should be inspected for deterioration and replaced if necessary with the same type of material.

Wall Logs – Consist of hewn yellow poplar logs, 12” to 16” in diameter and half dovetail notched at the ends. Some of these logs, particularly near the bottom of the walls, have deteriorated beyond repair. They should be replaced with similar stock, worked and notched to match the others. A member of the community has saved some of the shorter logs from the west wall and has them stored at his home.



Chinking and Daubing – Consist of wood billets and small stones covered with a Portland cement-based mortar. The chinking should be examined to make sure it is wedged firmly between the logs and replaced if necessary. Portland cement should not be used in the daubing; rather, a lime-based mixture should be employed which will not cause the wood of the adjoining logs to deteriorate.

Plates – Consist of two large squared yellow poplar logs at the top of each long wall that support the roof system. These timbers extend beyond the walls in order to provide an overhang front and rear. Since considerable deterioration at the ends of these plates can be observed from the ground, they should be inspected carefully to ensure their soundness. Repair may be possible; otherwise they should be replaced with similar stock, worked in the original way.



Ceiling Joists – Consist of regularly-spaced 2" by 8" circular-sawn lumber that supports the ceiling itself. In addition, two 4" thick hewn joists support the brick flue in the center of the building. (see photograph below right) 1" by 4" circular-sawn braces connect the joists and the rafters, thus forming crude trusses. All components should be inspected carefully and replaced if necessary with similar material.



Rafters – Consist of regularly-spaced 3” by 4” circular-sawn lumber butted together at the peak of the roof. Each rafter should be inspected carefully and replaced with similar material if necessary.



Lathing – Consists of 1” by 4” circular-sawn planks nailed to the rafters in order to support the roof covering. All pieces should be inspected carefully and replaced if necessary with similar material.

Roofing – Consists of corrugated sheet metal fastened to the lathing with lead-headed nails. The roofing is heavily rusted and in poor condition. It should be replaced with similar new material. Sheet metal in the 5-V pattern would be an acceptable substitute because of its superior water-shedding ability, but modern sheet metal fabricated in agricultural patterns should be avoided.



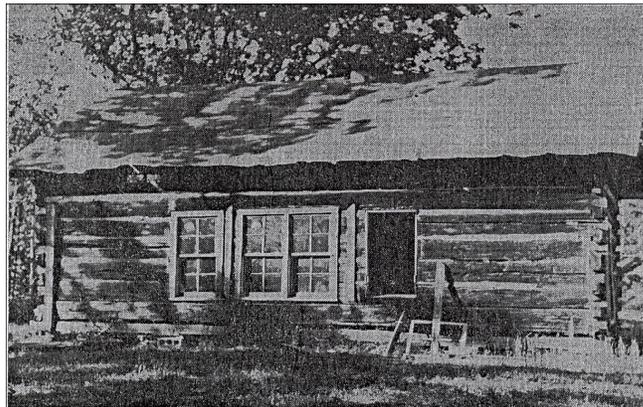
Brick Flue – Consists of a brick and mortar chimney suspended from iron brackets set between two extra-thick hewn joists and extending through the roof. The mortar should be checked for voids and crumbling material and replaced where necessary. The junction of the chimney and roof should be flashed and counter-flashed with appropriate sheet metal.



Siding – Consists of overlapping six-inch-wide circular-sawn beveled yellow poplar boards nailed to 3” by 4” circular-sawn yellow poplar studs, enclosing the two gable ends. All elements should be inspected carefully and replaced if necessary, using appropriate nails.



Windows – Each consists of double-hung 4/4 sashes in a simple wooden frame with flat wooden trim. There are a total of eight in the building. Some are completely gone and others are quite deteriorated. These window units should be replaced with similarly-sized units made from the same type of materials used in the originals. Each opening should be reinforced with a vertical 2” thick vertical frame nailed to the logs on either side of the opening. The historic photograph below and remnants on the site provide the information needed to replicate the window units.



Doors – Consist of one set of double doors centered on the east façade. The doors themselves are missing, so it is not known whether they were plank or paneled. Possibly some additional research could uncover what type of doors and hardware were used originally. Plank doors probably would have been the choice. New doors should be fashioned in the same manner and with the same material as the earlier ones.



Flooring – Consists of 1” by 4” tongue-and-groove southern yellow pine boards. This flooring is well worn and probably would need to be replaced with similar new material. If enough could be salvaged, it could be used for the stage flooring.



Paneling – Consists of narrow 1” by 2” wooden strips with a bead along one side. The paneling is found on all four walls and the ceiling. Much of it looks salvageable and the needed replacement pieces would be relatively easy to fabricate.



Stage — Consists of a raised platform built on top the floor with the same type of flooring used throughout the building. Much of the material used to construct the stage appears to be sound and could probably be recycled.



Desks – Consist of plank seats and backs nailed to thicker wooden supports. Some of the originals may still exist among the community, and the historic photograph below provides enough information to use in order to fabricate replicas.



RESTORATION ESTIMATE

The following cost estimate is intended as a guide for the restoration of the historic Doe Creek School, located in Henderson County, Tennessee. The estimate was made under the supposition that a professional restoration company would perform the work after winning the bid in a competitive process. However, certain factors could result in significant cost savings. These are as follows:

- The work is done by local carpenters with a knowledge of traditional woodworking techniques.
- Building material suppliers from the surrounding area provide their products, equipment, or services at a discount in return for recognition.
- Local government agencies are encouraged to provide support.

Significant community involvement potentially could reduce the actual cash outlay from twenty to thirty per cent of the following estimate with little or no loss of quality. It is important to agree on a specific plan of action at the start , and then have one person delegated to implement that plan.

<u>RESTORATION ESTIMATE</u>	<u>Labor</u>	<u>Material</u>
Foundation –	2500	500
Sill Logs –	4500	1500
Floor Joists (Sleepers) –	3000	1500
Wall Logs –	7500	3000
Chinking and Daubing –	5000	500
Plates –	3000	1500
Ceiling Joists –	1500	750
Rafters Lathing –	750	250
Roofing –	1500	1500
Brick Flue –	500	250
Siding –	1500	1000
Windows –	4000	1000
Doors –	1500	1000
Flooring –	2500	2500
Paneling –	7500	2500
Stage –	1500	500
Desks –	4000	1000
Miscellaneous –	<u>3000</u>	<u>2000</u>
Subtotal	55,250	22,750
Overhead & Profit (20 %)	<u>11,050</u>	<u>4,550</u>
Total	66,300	27,300
Grand Total	93,600	