APPENDICES
M-NCPPC complies with state and federal laws regarding the disclosure of sensitive archaeological information.

State and Federal Laws:

Department of Housing and Community Development/Maryland Historical Trust (Article 83B, 5-615, Annotated Code of Maryland; Article 83 B, 5-601 (1))

Maryland Access to Public Records Act (State Government Article, 10-618(g), Annotated Code of Maryland)

National Historic Preservation Act (Title 16, 470w-3, United States Code) (Access to Information)
APPENDIX B:

LANDSCAPE ASSESSMENT
Landscape Assessment

Description of the Riley House Landscape

The Riley House (Photo 1) is located at 11420 Old Georgetown Road within the Luxmanor community near Montrose in Montgomery County, Maryland. The house occupies a rise near the center of the approximately one-acre parcel located near the intersection of Old Georgetown Road and Tilden Lane. Adjacent properties include a synagogue to the north and privately-owned residential lots to the west and south.

The house is approached by an asphalt entrance drive (Photo 2) leading northwest into the property in a diagonal alignment from Old Georgetown Road. The driveway passes the front entrance to the house (Photo 3) and terminates in a circular turn-around (Photo 4) edged by the log wing to the south (Photo 5) and a Colonial Revival style garage to the west (Photo 6). Ornamental plantings edge the side of the house and the garage. The center of the turn-around is planted with azaleas. Personal interviews with former residents suggest that there may once have been a water feature located within the area currently planted with azaleas.

The driveway follows a relatively level knoll and sits above a deeply etched swale located between the house and Old Georgetown Road (Photo 7). The driveway and Old Georgetown Road corridors are planted with numerous species of ornamental trees, shrubs, and groundcovers. A mix of deciduous and evergreen trees, shrubs, and groundcovers follow the driveway to either side (Photo 8). These plantings are garden-like, but also screen the property from the neighboring residence to the south and southwest. The plantings along Old Georgetown Road are primarily evergreen (Photo 9), providing a strong visual screen or buffer from this heavily traveled circulation corridor. The majority of these plantings appear to range from thirty to fifty years of age, although older trees also dot the property. There are four large trees located within this area. These include willow oaks (Quercus phellos) southwest of the driveway (Photo 10), along the property line edging the synagogue/day-care facility, and behind the garage (Photo 11), and a butternut or white walnut (Juglans cinerea) southwest of the house.

The house faces east toward Old Georgetown Road. The area immediately around the house is planted in turf grasses (Photo 12). A flagstone walk leads toward the front door from the driveway. Stone steps lead up to the lawn along the driveway and to a landing in front of the door (Photo 3). Local stone supports the walk and is used as an edging material along the driveway and the sides of the walk (Photo 13). A light fixture, black painted metal with a Colonial Revival style luminaire, illuminates the walk. A bell on a wooden post edges the landing near the front door. A black painted metal handrail edges the two-stair flight near the front door. There is an unpainted square wood post to the north of the walk near the driveway (Photo 14). Boxwood shrubs edge the driveway in the vicinity of the walk, and are used as foundation plantings along the front and sides of the house, as well as the log wing (Photo 15). Two Colorado blue spruce serve as foundation plantings along the southern façade of the main block of the house. Boxwoods also edge the driveway along the circular turn-around. Based on dendrochronology, or the counting of annual growth rings, the boxwood plantings were approximately thirty to thirty-five years of age when tested in spring 2007. A small garden feature sits to the south of the house within the lawn area. This circular planting of pachysandra (Pachysandra terminalis) groundcover appears to cover a former garden feature of unknown use (Photo 16).

A secondary walk providing access to the log wing arises from the edge of the circular turn-around. The walk is comprised of three gently rising steps that lead through the boxwood
plantings edging the driveway (Photo 17). Where this walk meets the driveway, there is a small landing of granite cobbles and a remnant of a concrete pad.

A third walkway arises from the driveway. This walk passes between the garage and the house and provides a pedestrian connection to the steps leading into the rear of the house. The walk is comprised of flagstone stepping stones edged primarily by granite cobbles. Local stone is also used as an edging material periodically along the walk (Photo 18). There is also a flagstone patio located behind the screen porch addition to the house (Photo 19).

The other notable circulation feature present on the property is a trace of a former road or driveway that curves between the existing driveway and the back yard of the property (Photo 20). It exists as a hard-packed earth two-track leading through the ornamental trees and shrubs south of the house. The swale east of the house also appears to have served previously as part of the property’s entrance drive, but this is less discernible in the landscape today.

Behind the house are additional gardens and landscape features. These include linear and circular planting beds, a stone grill, a bird bath, concrete slab, clothesline, and bench.

Associated with the flagstone terrace behind the house is a metal table. Nearby is an unpainted wooden post that has been used as a clothes line. Next to the terrace is a circular planting bed edged with stone (Photo 21). Behind the terrace, there is also a circular planting of boxwoods with a cast stone birdbath in its center (Photo 22). Another circular planting area characterized by vines covers a metal plate (Photo 23). Behind this garden there are two notable trees, an American beech (Fagus grandifolia) (Photo 24) and an open grown black walnut (Juglans nigra). The walnut is in poor condition.

Behind the main block of the house there is a stone grill edged by stone wing walls (Photo 25). The grill is constructed of local stone and capped with flagstone. It includes the metal grill. The rustic appearance of the grill suggests that it was constructed in the 1930s or 1940s.

Nearby is a concrete slab that may sit above a water box, cistern, or septic system (Photo 26). The slab is cracked and broken.

Along the southwestern property boundary, which is edged by woven wire fencing, there is a wooden slat and metal frame bench (Photo 27). White pine trees (Pinus strobus) edge the fenceline in places. To the northwest, the wire fence is replaced by a vertical board privacy fence. A double trunk tulip poplar tree (Liriodendron tulipifera) of some size edges the fence. This tree may be located on an adjacent property (Photo 28).

Land that was subdivided from the Riley House property edges the back yard to its west. Rows of white pine and Kentucky coffeetrees (Gymnocladus dioicus) follow the subdivision property lines (Photo 29). These trees appear to be at least fifty years of age. They may be components of former agricultural hedgerows. A metal shed sits along a property line behind the Riley House. It likely is associated with a neighboring property.

Species noted during field investigations conducted in June 2007 on the property include:

**Trees**
Red maple (Acer rubrum)
Tree of heaven (Ailanthus altissima)
Hercules-club (Aralia spinosa)
Blue atlas cedar (Cedrus atlantica ‘Glauca’)

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John Milner Associates, Inc. • June 2008 • Landscape, Conditions Assessment • B - 2
Redbud (*Cercis canadensis*)
Flowering dogwood (*Cornus florida*)
Common Chinafir (*Cunninghamia lanceolata*)
American beech (*Fagus grandifolia* or *F. sylvatica*)
Kentucky coffeetree (*Gymnocladus dioicus*)
American holly (*Ilex opaca*)
Butternut (*Juglans cinerea*)
Black walnut (*Juglans nigra*)
Eastern redcedar (*Juniperus virginiana*)
Golden rain tree (*Koelreuteria paniculata*)
American sweetgum (*Liquidambar styraciflua*)
Tulip poplar (*Liriodendron tulipifera*)
Southern magnolia (*Magnolia grandiflora*)
Norway spruce (*Picea abies*)
Colorado spruce (*Picea pungens* an unknown variegated variety)
Variegated purple-leaf plum (*Prunus cerasifera* var. not known)
White pine (*Pinus strobus*)
Black cherry (*Prunus serotina*)
Willow oak (*Quercus phellos*)
Canadian hemlock (*Tsuga canadensis*)

**Shrubs**
Glossy abelia (*Abelia x grandiflora*)
Japanese aucuba (*Aucuba japonica*)
Wintergreen barberry (*Berberis julianae*)
Japanese barberry (*Berberis thunbergii*)
Common boxwood (*Buxus sempervirens* variety unknown)
Spreading euonymus (*Euonymus kiautschovicus* or *E. japonicus*)
English holly (*Ilex aquifolium*)
Chinese holly (*Ilex cornuta*)
Leatherleaf mahonia (*Mahonia bealei*)
Sweet mockorange (*Philadelphus coronarius*)
Azalea (*Rhododendron spp.*)
Himalayan sarcococca (*Sarcococca hookeriana* var. *humilis*)
Yew (*Taxus spp.*)

**Groundcovers and perennials**
Poison ivy (*Rhus radicans*)
Ferns
English ivy (*Hedera helix*)
Privet (*Ligustrum spp.*)
Liriope (*Liriope*)
Japanese Pachysandra (*Pachysandra terminalis*)
Lamb’s ears (*Stachys sp.*)
Periwinkle (*Vinca minor*)

**Inventory of Landscape Features**

**Buildings and Structures**
- Main house with side porch
- Log wing addition
Garage

Circulation

- Asphalt and gravel entrance drive
- Flagstone walk to front door
- Flagstone steps to landing at front door
- Two-track lane/woodland path
- Cobble landing and concrete steps at side entrance to front yard
- Stone and cobble edging along entrance drive
- Flagstone and stone patio behind screen porch
- Wood stair leading to rear yard from back porch with single handrail
- Flagstone stepping stones along rear of house
- Iron rail behind back porch

Vegetation

- Boxwood in front of house
- Boxwood in rear of house
- Rows of pines
- Evergreen trees and shrubs along road
- Large willow oak along driveway
- Large willow oak behind garage
- Large beech
- Large butternut

Small-scale Features

- Post at driveway entrance with street number (brass numbers nailed to wood post)
- Light pole with Colonial Revival luminaire along front walk
- Metal bell on wood post at front door
- Boulders in swale alongside entrance drive
- Unidentified wood post at front walk
- Concrete slab in rear yard (broken)
- Stone grill edged by wing walls
- Woven wire fencing with metal posts along property boundary
- Wood board privacy fencing along property boundary
- Wood slat and metal frame bench with back
- Low metal plate
- Cast stone bird bath
- Stone-edging associated with planting beds in rear yard
- Wood clothes line post
- Unidentified wood post along rear façade of main block of house
- Wooden barrel beneath downspout along rear of the log wing
- Metal pipe noting presence of underground oil tank

Issues of Concern and Recommendations

Based on field investigations and consideration of the landscape conditions documented as part of this study, the following issues of concern are noted for consideration by current and future site managers:
The ornamental qualities of the Riley House garden are very attractive and appealing. The collection of plant material is varied, with some notable specimens (Photo 30). Although the majority of the plantings appear to be less than fifty years of age, seven trees notable either for their size, age, or species are located on the property. Butternut, for example, is unusual to find within this area, and there is a large black walnut tree on the property. Maintenance of the garden and the plant collection will present a challenge due to its extent and diversity. Some dead and fallen trees already require clearing out (Photo 31).

- Retain and maintain the existing garden as an attractive refuge for visitors until such time that additional information may become available to enhance interpretation of the late-18th or early-19th century character of the property.

- Engage and train maintenance crews capable of carefully perpetuating the Riley House gardens.

- The notable black walnut tree appears to be in poor health and should be evaluated by a certified arborist to ensure the safety of the house and visitors to the property (Photo 32). In general, this is true of all trees on the property that have the potential to pose hazards to visitors. Any deficiencies in the structural integrity of such trees will need to be corrected before affording visitors access to the property. Lightning rods may need to be placed in the upper canopies of the taller trees as an added safety precaution.

- Engage a certified arborist to evaluate the health of all large woody plant specimens on the property.

- Follow the arborist’s recommendations regarding tree removal and pruning, cabling, placement of lightning rods, and other activities promoting health of the plants and the safety of visitors.

- Numerous examples of invasive alien plant species were observed on the property during June 2007 field investigations. Invasive species are those with the potential to disrupt ecosystems and displace native species. Some of the species observed, such as English ivy (Hedera helix), were planted intentionally as garden elements (Photo 33), others like the tree of heaven (Ailanthus altissima) appear to be proliferating due to a lack of vigilant maintenance, for example. Rigorous maintenance by trained personnel may be required to keep invasive alien plant species at bay within the property.

- Identify current and potential invasive alien plant threats to the gardens.

- Remove invasive alien plants. [Note: The client wishes to retain some of the periwinkle (Vinca minor) because of its documented association with slave spiritual beliefs. This should be only in area where it can be maintained/contained]

- Establish a monitoring program to identify new populations of invasives requiring removal.

- The boxwoods along the driveway and in the front of the house and log wing are approximately thirty years of age and therefore do not contribute to the significant history of the property. Those located in close proximity to the foundations of the buildings, particularly the log wing, may be contributing to moisture retention within the wooden
elements that are near the soil line. They may need to be removed (Photo 35). Because they are planted in rows, removal of the entire row along the affected façade is preferable to removing one or two specimens.

✓ Remove boxwoods around the foundations of the house and log wing that are causing moisture retention in these structures by contributing to moisture retention.

- Some of the boxwoods that line the front lawn are dead or dying. Replacement of these may be difficult given their size (Photo 34).

✓ Consider removing all of the boxwood plantings if interpretation of the property to an earlier period is determined desirable.

✓ If the boxwood plantings are to remain on the property in front of the house, replace any dead and dying specimens in kind as possible.

- Multiple poison ivy vines were observed during June 2007 field investigations. As a courtesy to visitors, this will need to be regularly removed.

✓ Remove poison ivy on the property as identified.

- The entrance drive leading into the property arises along a busy segment of an arterial road. The drive itself does not meet Old Georgetown Road at a 90 degree angle, and dense vegetation is growing along the road margins. These two conditions contribute to a lack of site distance for leaving the property and a need to severely slow down when turning into the property. These are unsafe conditions, particularly when considering larger vehicles such as school buses. A new entrance will likely need to be developed to provide safe access and egress to visitors. It is possible that a right-of-way may connect the property to Tilden Lane. One possibility is to investigate the establishment of a new access route from this direction.

✓ Engage a landscape architect and engineer to consider alternatives for reconfiguring the property entrance drive taking into consideration safety as well as historic resource values.

- The rear property boundary is not currently delineated, leading to confusion as to when visitors are trespassing on neighboring properties. A survey will need to be conducted to locate the rear property boundary, and it will need to be marked in some way before visitors are afforded access to the property.

✓ Conduct a boundary survey to locate and mark the rear property line. Establish a marking system that clarifies the boundary between the Riley House and adjacent residential property lines.

- Some pathways on the property have loose or dislodged paving stones affording an uneven walking surface. The paths will need to be repaired to correct trip hazards before visitors are afforded access to the property.

✓ Repair and replace walks that present a trip hazard to visitors.
Little is currently known about the features or character of the landscape during the important nineteenth century Riley family period. Rehabilitation or restoration of the property to more closely approximate its character during the nineteenth century would introduce a great degree of conjecture due to a lack of documentary sources of information and evidence.

Consider developing a list of research questions and design a landscape archeology investigation to potentially learn more about the property during earlier periods of its history, particularly the Riley family period. This could include seed and pollen analysis and identification of missing cultural landscape features including water features, circulation features, fencing, agricultural features, buildings, structures, and small scale features (such as benches).

**Analysis of Historical Graphic Sources**

Historic maps, photographs, and oral histories help to suggest the features, resources, and landscape character that may have existed on the property during earlier periods. These include the 1879 Hopkins Atlas map, 1890 Fava Naeff & Co. map, Martenet and Bond’s 1865 Montgomery County map, and a 1949 map indicating the subdivision of the property. One of the most useful resources for understanding the subdivision of the property is a 1962 plat because it clarifies the parcel’s relationship to adjoining land that once belonged to the Riley’s.

Historic photographs of the Riley House and log wing illustrate the character and composition of the landscape prior to the extensive planting of ornamentals and foundation shrubs in the 1960s and 1970s. A 1919 photograph suggests that grass lawn and a few shrubs edged the two buildings at the time (Photo 36). Oral histories conducted with former residents of the property and their neighbors indicate that there were various lilac shrubs around the house in the 1910s; one is visible in the 1919 photograph. At least one older tree is visible behind the house. A later photograph, ca. 1939, of the remodeled house also suggests a very open landscape with limited shrubs around the base of the two buildings (Photo 37). This suggests that the existing shrub plantings, while of interest for their gardenesque qualities, do not possess historical significance.

The house appears on the 1879 Hopkins atlas as a small square labeled “Matilda Riley” just below the Montrose P.O. label, again sited along an unnamed important road (Old Georgetown Road) (Map 1, and see compendium). The Fava Naeff & Co. map illustrates the Mace property as it existed ca. 1890 when it included 112-1/2 acres (Map 2, and see compendium). The Riley House is visible in the northeastern corner of the property along an unnamed main road corridor (Old Georgetown Road). A swale is visible extending from near the house to the north.

Oral histories conducted with former residents of the property suggest that a large vegetable garden stood behind the log wing in the 1910s and that there was a spring located in the vicinity of the swale east of the driveway. The spring was the source of potable water for the property in the 1910s.

Readable aerial photographs of the area exist for various dates beginning with 1944 and extending to 1957 (Photos 38 and 39, and see compendium). These photographs illustrate the subdivision of the property and can be coordinated with the 1949 and 1962 plats (Map 3 and 4, and see compendium). Three features of interest appear on these maps. The first is what looks like a driveway feature extending into the property from near the intersection of Old Georgetown Road and Tilden Lane and running parallel with Old Georgetown Road, likely in the location of the swale in front of the house. This ends in a turn-around in front of the house. Adjacent to and
south of the house, another entrance road leads west from Old Georgetown Road past the house to a large circular turnaround near a grove of trees. Oral histories conducted with former residents of the property indicate that a large frame barn sat at the end of this driveway during the first half of the 20th century. The third feature is the swale on the Fava Naeff & Co. map which appears as a vegetated line extending across the property to Tilden Lane and beyond. This swale seems to arise behind the house near the existing stone grill structure. The property otherwise appears relatively open in the earliest aerial photographs, becoming increasingly wooded over time.
**Treatment Guidelines**

The general treatment guidelines that follow should be used when planning for any future landscape change. They are intended to support all landscape treatments proposed in this report and should be considered in conjunction with any project or treatment alternative that is undertaken at the site. These guidelines relate to a philosophy of cultural landscape treatment based on the *Secretary of the Interior’s Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes*.

**Natural Systems and Features, Vegetation, and Topography**

- Retain, maintain, and protect all water-related resources.

- Practice integrated pest management (IPM) as a part of maintenance activities. Avoid the use of pesticides and herbicides unless absolutely necessary. If chemical controls are used, apply the minimum necessary to achieve the proposed effect. Allow only qualified applicators to apply chemicals.

- Remove, when necessary, existing trees using a method that minimizes the potential impacts on known and potential cultural and archeological resources. Undertake tree removal from areas with known or potential cultural and archeological resources under the guidance of a historical landscape architect and archeologist.

- Mark all vegetation to be removed prior to beginning work. Employ an arborist, natural resource manager, and/or landscape architect familiar with the site to mark the vegetation to be removed or thinned.

- Remove dead trees and shrubs and those identified as potentially hazardous to individuals or resources because of their health or condition.

- Avoid altering site topography whenever possible.

- Protect any slopes from erosion by maintaining a healthy vegetative cover.

- Consider equally both natural and cultural features in treatment and land-use decisions.

- Avoid land-use activities, permanent or temporary, which threaten or impair known or potential archeological resources.

- Monitor and regulate use of the landscape to minimize immediate and long-term damage to cultural resources.

- Limit, monitor, and control access to areas that are vulnerable to damage from human access or use.

**Circulation**

- Minimize the visual impacts of vehicles and vehicular access systems. Consider the potential impact on views when planning to add or change circulation systems.
• Minimize the visual impacts of any new pedestrian access systems.

• Design interpretive walks to follow historic routes whenever practicable. Consider the potential impacts of new walks on historic routes.

• Avoid regrading, when establishing new circulation routes, that will damage historic circulation traces. Whenever regrading is necessary, use fill that is distinguishable from the existing grade rather than cut, which will destroy the resource.

• Provide universally accessible routes to interpretive elements. Strive to accommodate universal accessibility to all interpreted features. Provide alternative interpretive experiences where accessibility is not possible or reasonable.

• Follow the regulations stipulated in the Uniform Federal Accessibility Standard (UFAS) and Americans with Disabilities Act Accessibility Guidelines (ADAAG) for trails and paths when establishing universally accessible circulation. Avoid steep slopes, ensure that walk widths meet regulations, and take other precautions to make these walks accessible to all visitors.

Buildings and Structures

• Remove non-contributing buildings and structures only if they have a negative impact on the historic character and integrity of the site landscape. Document thoroughly all buildings and structures before removal.

• Avoid conjectural reconstruction of missing historic buildings and structures.

Views and Viewsheds

• Minimize the visual impact of circulation systems. Consider using techniques such as establishing vegetative screens and minimizing the amount of signage, seating, and other small-scale features associated with these access systems in their design.

Small-scale Features

• Provide minimal site furnishings to accommodate visitors. Use site furnishings that are compatible with the character of the site in concept and materials. Ensure that the style of site furnishings is uniform throughout the property.

• Keep the number of contemporary small-scale features to the minimum required for visitor and staff comfort and safety.

• Convey interpretive information to visitors primarily through pamphlets and other materials that do not require the establishment of new features within the landscape.

New Design and Construction and Sustainability

• Ensure that all future changes to the property are consistent with the guidance offered in the *Secretary of the Interior’s Standards for the Treatment of Historic Properties*. 

- Institute cultural and natural resource treatment and maintenance methods that are environmentally and culturally sensitive and sustainable over the long term.

- Minimize areas of ground disturbance, earth grading, and compaction and drainage pattern alteration.

- Promote biodiversity and native plant species.

- Design any necessary new construction using green building techniques, and incorporate technologies such as those described by LEED (Leadership in Energy and Environmental Design), a voluntary, consensus-based national standard for developing sustainable building.

- Take into consideration life-cycle costing of materials to assess their long-term wearing and maintenance costs. Consider materials that are non-toxic, durable, long-lived, and low-maintenance.

- Undertake sufficient study and recordation of landscape features that require modification, repair, or replacement before work is performed to protect research and interpretive values.

- Locate any necessary new features supporting visitor services and administrative, operations, and maintenance functions in areas where they can be carefully screened. Consider the existing garage for its utility and adaptive reuse potential for any of these needs. If these facilities are found to be insufficient for projected needs, consider an off-site a location for housing new facilities.

- Avoid constructing new features on the site. If they are necessary, however, consider the following:
  - Design and situate new additions or alterations to the landscape in such a way that they do nothing to destroy historic materials, features, and spatial relationships that characterize the cultural landscape.
  - Minimize adverse impacts on the historic character and features of the landscape when introducing any new buildings and structures to facilitate access and interpretation.
  - Document to all changes to the landscape that result from the addition of new features on the property. Include photographic, cartographic, and narrative documentation of displaced, disturbed, destroyed, and altered features. Carefully maintain the documentation records for future research and information needs.
  - Ensure that new construction is compatible with existing historic resources in materials, size, scale and proportion, and massing. Differentiate new work from existing resources.
  - Design and situate additions and alterations to the landscape in such a way that, if removed in the future, the essential form and integrity of the landscape would be unimpaired.
✓ Design new construction to have muted, neutral, earth-tone colors and materials that serve to make new facilities compatible with the historic and natural context. Ensure that all new features are designed with hurricane and severe storm damage in mind.

✓ Ensure that the location, design, and construction of any new facilities and systems are subordinate to the surviving cultural and natural landscape. New design and construction should be as visually unobtrusive as possible without sacrificing functionality.

Interpretation

- Provide an alternative means for interpretation, such as an interior exhibit, for those features located in areas that cannot be made universally accessible.

- Consider carefully any proposals to restore or reconstruct missing features. Prior to undertaking restoration or reconstruction efforts, carefully weigh the financial costs of both the initial effort, as well as the subsequent maintenance costs; the ultimate benefit to be gained for interpretation; and the accuracy with which the feature could be reestablished.
Photo 1. View looking northwest of the Riley House principal facade.

Photo 2. View looking northwest of the entrance drive corridor to the east of the house.

Photo 3. View west of the entrance walk leading to the main door of the Riley House.

Photo 4. View south of the circular driveway turnaround.

Photo 5. View looking west of the cabin.

Photo 6. View looking southwest of the garage.
Photo 7. View east of the swale between Old Georgetown Road and the Riley House entrance drive.

Photo 8. View southeast along the driveway corridor with ornamental plantings visible along the margins.

Photo 9. View northeast along Old Georgetown Road, with evergreen plantings on the Riley House property visible to the left of the road.

Photo 10. One of the two large willow oak trees located near the house.

Photo 11. A large willow oak sits behind the Riley House garage.

Photo 12. Turf lawn and boxwood plantings edge the Riley House.
Photo 13. Local stone edges the driveway.

Photo 14. The front walk is edged by a wooden post, a light post, and a bell near the front door. A black metal handrail edges the landing at the door.

Photo 15. Boxwoods are used as foundation plantings around the house and the cabin and edge the entrance drive.

Photo 16. A circular planting of pachysandra (foreground) may indicate the location of a former garden feature. Colorado spruce edge the side of the house (top left).

Photo 17. View south of the secondary walk leading to the Riley House and the cabin.

Photo 18. A stone-lined walk of open-placed flagstones leads from the driveway to the rear porch of the Riley House.
Photo 19. A flagstone terrace edges the screen porch of the Riley House to its west.

Photo 20. View east along road trace leading through garden plantings to the south of the Riley House.

Photo 21. A wooden clothesline and stone-edged circular planting bed are located near the flagstone patio. A metal table is set on the patio.

Photo 22. Nearby, there is a cast-stone birdbath encircled by boxwood plantings.

Photo 23. This circular planting bed characterized by ground covers sits atop a metal plate of unknown origin.

Photo 24. View northeast of the notable beech tree behind the Riley House.
Photo 25. A stone grill with a wing wall extensions that appears to have been built in the 1930s or 1940s is located behind the main block of the Riley House.

Photo 26. There is also a concrete box covering the property’s cistern nearby. The feature has a cracked lid.

Photo 27. A wood slat bench has been placed near the property’s southern boundary.

Photo 28. There is a wooden board privacy fence and double trunk tulip poplar tree in the above image. The double trunk tree fell in a recent storm.

Photo 29. View south of a row of fifty-year-old pines and Kentucky coffeetrees that extend along subdivision lines west of the Riley House property. Some of the trees fell in a recent storm.

Photo 30. The various ornamental plant species on the Riley House property will require careful maintenance by trained staff. Shown is a variegated purple-leaf plum.
Photo 31. View north from the driveway circle showing some of the overgrown conditions that will require maintenance.

Photo 32. The notable black walnut (shown left) may be a hazard to building and visitor safety due to signs of decay and a hollow core.

Photo 33. There are invasive plants such as English ivy in the garden that may need to be removed.

Photo 34. Some of the boxwoods on the property are in decline.

Photo 35. Boxwoods along the foundations of the cabin and main house may be causing damage to the structures.
Photo 36. 1919 photograph of the Riley House and cabin.

Photo 37. Ca. 1939 photograph of the Riley House and cabin.

Map 1. The 1879 Hopkins Atlas map indicating the Matilda Riley House south of Montrose P.O.

Map 2. Fava Naeff & Co. map (1890) indicating the Mace (Riley) property.

Photo 38. 1944 aerial photograph illustrating the Riley House property and adjacent subdivisions.

Photo 39. 1957 aerial photograph illustrating the character of the Riley House property, including a long driveway to the south ending in a circular turnaround, a drive entering the property from the Tilden Lane intersection that parallels Old Georgetown Road, woody growth along a swale, and otherwise relatively open vegetative conditions.
Map 3. 1949 subdivision plan of the community at the corner of Old Georgetown Road and Tilden Lane.

Map 4. 1962 subdivision plat of the Riley House property annotated with the driveway and house.
APPENDIX C:

STRUCTURAL ENGINEERING REPORT
Structural Assessment

Historic Structure Report

for

The Riley House / Josiah Henson Site
"Uncle Tom’s Cabin"

RSA PROJECT NO. W1977
June 2008

PREPARED FOR:

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Introduction
Robert Silman Associates (RSA) was retained by John Milner Associates to prepare the structural component of a historic structure report for the Riley House/Josiah Henson Site near Rockville, Maryland. As part of this effort, RSA reviewed and investigated the building to identify structural systems and current conditions. From the information gathered, RSA performed structural analysis of selected building components to provide recommendations for repairs, maintenance and future use.

Project Scope
Existing Structure
The existing structure is an assemblage of parts built at different times with various materials. Figure 2 depicts the assorted sections of the house.

The main house (as noted by ‘1’ in Figure 2) is a two story structure with a basement, thought to have been built at the earliest, around 1797, when the property was purchased by George Riley. A stone foundation wall outlines the original shape of the house and supports the hand-hewn timber superstructure above. Two brick chimneys pierce the gable roof, one at each end of the building.

The log house (see ‘2’ in Figure 2) was constructed separately at some point in the nineteenth century. In the course of an archeological investigation, a concrete foundation was discovered below the log walls, thought to date to the 1936 house renovation (see below). The fact that the logs are considerably older than the foundation suggests that the log house may have been either moved or raised in place to place the new foundation under it.

Drawings from the 1936 renovation show the kitchen area (see ‘5’ in Figure 2) as new construction. The foundation is constructed of brick load bearing walls which support the nominal 2x10 first floor joists. The second floor, built 8" below the main house second floor, has wood framing mimicking the first floor. The wood-framed gabled roof has a shallower slope than that of the main house. At the time that the western addition was built (‘5’ in Figure 2) the original roof framing was modified and valley beams were added at the roof seams.

As part of the 1936 renovation, two porches were added to the south and west sides of the building. A screened-in porch, added onto the south side of the main building (‘4’ in Figure 2), has exposed wood rafters framing the gable roof. A series of wood posts supports the roof and brick pavers provide the flooring. A small porch, added to the west side of the kitchen addition (‘6’ in Figure 2), has a shed roof supported on wood framing. The floor framing is raised above grade and is supported on two brick piers.
Investigation
Review of Available Documents

John Milner Associates made available to RSA the 1936 renovation drawings during the initial site visit. These drawings depict the kitchen addition (‘5’ in Figure 2), the screened-in porch (‘4’ in Figure 2), and plumbing and other general upgrades to the main house (‘1’ in Figure 2). No drawings from before 1936 are known to exist to show the original framing of the main house or the log house.

Main House Foundations

The foundation walls consist of stone rubble walls at the perimeter of the main house with an additional wall running north-south slightly west of the centerline of the house. This center wall is partly stone rubble with a more recent brick portion below the interior summer beam/sill, dating to the 1936 renovation. The stone foundation wall has been repaired in places with brick infill and shows signs of previous repointing. The basement is only partially excavated, as can be seen in Figure 4.

During the 1936 renovation at the interface of the main house with the kitchen addition, a portion of the original stone foundation wall was removed. This is discussed in more detail below.

First Floor Framing

The first floor framing investigation revealed large timber sills atop the perimeter and central walls. These sills support round log joists spanning east-west at the first floor level. The log joists were measured to have an approximate diameter of 9 inches and have had their top one inch removed to create a level surface to receive the 1” floor boards. The log joists are spaced at 2 feet on center and still have the bark attached. The joists are notched over the bearing points with the notches ranging in length from 6 to 16”. A typical cross section is provided in Figure 5.

When a portion of the west foundation wall was removed to create an opening into the kitchen addition basement, this caused the timber sill of the wall to act as a lintel. There is evidence of a previous post existing approximately mid-span of the spanning sill, however the post no longer exists (Figure 6). In addition, this sill has significant signs of termite damage. Both conditions have likely reduced its strength.

The condition of the joists in the main house varied. Some of the first floor joists are above unexcavated soil, which may contribute to moisture induced deterioration (Figure 4).

Figure 4: Log joists bear on the timber sill at unexcavated portion of basement. Note stone rubble exterior wall and brick interior wall.

Figure 5: The first floor framing in the main house consists of log joists notched at their bearing locations.

Figure 6: Circular indents on the timber sill suggest the lintel was once supported by a post.
At several locations in the first floor framing, cracks have formed at the notch causing the wood to separate (Figure 7). Therefore, where these cracks are present, only the wood above the cracks is resisting the shear loads. Large longitudinal cracks splitting the joist vertically in two were observed in other locations (Figure 8).

![Figure 7: A joist has split almost into two pieces.](image)

Some deterioration of the joists was visible in the first floor framing, especially at the bearing walls (Figure 9). A portion of the floor framing in the eastern half of the house has been reframed with new wood (Figure 10).

**Exterior Walls**

The exterior walls above are framed by wood studs. Original studs are hand-hewn and one stud exposed in a wall probe was measured to be approximately 2½" square. A diagonal brace 2½”x 3” connects the original corner stud to the adjacent stud and provides lateral stability at the corner. In the 1936 renovation, the wall construction was changed drastically with both new clapboards at the exterior and new plaster at the interior and the cavity space was increased in the process. To accomplish this, newer wood studs were nailed to the original studs, projecting towards the house to support the interior wall finishes (see Figure 11).

**Second Floor and Roof Framing**

The second floor framing also spans in the east-west direction and is supported on the east and west exterior walls as well as an additional interior line of support in the form of a summer beam. This summer beam is exposed at the first floor ceiling level.

![Figure 8: In several locations a crack has formed at the notched ends of the floor joists.](image)

![Figure 9: A joist bearing end on a brick foundation wall is significantly deteriorated.](image)

![Figure 10: New framing has replaced deteriorated joists.](image)
A floor board was removed in the smaller of the second floor bedrooms, revealing the floor framing below. Original hand-hewn joists were measured to be 3½” wide by 6½” deep spaced at approximately 16” on center. Newer wood members were scabbed onto the sides of these joists. See Figure 12.

The second floor joists extend past the first floor exterior stud wall, likely bearing on a top plate or sill. At their ends, they support a ‘false plate’ which in turn supports the rafters of the gable roof. The joists also act as ties for the roof rafters to provide resistance against the horizontal thrust of the rafter under load. Collar ties form the flat portion of the second floor ceiling and a low knee wall defines the second floor space on the east and west sides. This knee wall also provides an additional support for the roof rafters, transferring load to the second floor joists below.

A probe was made in the ceiling of Room 204 (see architectural drawings for second story room numbers) near the high point of the valley where the 1936 addition roof meets the original roof. No ridge beam was observed, as roof rafters were found to be connected to each other with a nailed half-lap. Marriage marks in the form of roman numerals were visible at one connection, indicating that the laps were cut on the ground and then the rafters were raised and assembled. The roof framing installed in the 1936 addition is discussed below.

1936 West Kitchen Addition

The Kitchen Addition, built in 1936 at the house’s west side, consists of a first floor and a second floor supported on brick foundation walls, above which is a wood-framed roof.

Visual observations of wood framing members confirmed the information provided in the 1936 renovation drawings. First and second floor framing is 2x10 joists spaced at 12 inches on center and bearing on the parallel north and south exterior walls (Figure 14). Two rows of wood bridging are provided.

The gable roof was found to be framed with 2x8 nominal rafters connected at the peak to a 2x8 ridge board. The valley beams at the intersection of the original and addition roofs were also found to be 2x8 nominal members.

The brick foundation wall in the 1936 addition appeared to be in good condition, as did the wood framing observed.

Log House

The archeological investigation revealed that the log cabin room is supported on stones set on a concrete foundation. Historically the log cabin would be built on a stone foundation similar to the main house foundation.
It is the conclusion of the archeological investigation that the log cabin was raised in place to remove deteriorated bottom logs and to provide a new foundation, possibly in the 1936 renovation.

Forming the exterior load bearing walls are large white oak timbers “V” notched at the corners and alternating with layers of chinking. The “V” notched detailing provides stiffness at the corners that is crucial to the structural integrity of the cabin structure (Figure 15). Insect damage and rot is obvious in the timbers. The bottom log in particular appears to be significantly deteriorated, likely the result of increased and sustained moisture near the foundation level (Figure 16). Also, a cementitious mortar has been employed in areas of the chinking, likely causing moisture to be trapped in the logs and increasing the speed of decay.

The roof is a gable roof that appears to be of more modern construction than the log house walls. The log house floor is apparently framed with wood members over a shallow crawl space. This was likely done when the house was moved onto the concrete footings, possibly during the 1936 renovations. Framing was not observed or measured by RSA while on site.

*Porches*

The south screened-in porch has a gable roof framed with nominal 2x8 rafters at 16” on center. There is no ridge beam; therefore, the rafters exert a horizontal thrust on the perimeter beams that supports them. These beams are in turn supported on a series of 4x4 wood posts, most of which are experiencing severe deterioration due to insect damage (Figure 17).

The west porch has a wood-framed shed roof supported on wood stud walls. The floor framing consists of wood joists spanning to perimeter beams, which are supported at the 1936 addition’s west wall and two brick piers.

*Figure 14:* The first floor framing of the 1936 addition.

*Figure 15:* Log house exterior corner, detailing V-notch connection and chinking.

*Figure 16:* The southeast corner of the log house. Note wood deterioration at base and opening allowing entry of wildlife into crawlspace.

*Figure 17:* South porch post deterioration.
Analysis

The observed framing was analyzed to estimate the amount of load carrying capacity of the floor and roof construction. Since many floor joists were not visible, and therefore, the wood species of those floor joists is unknown at this time, the joists were analyzed assuming two different wood species commonly used in this region. The two species used were southern yellow pine #2 and white oak #2, and the results show a range of predicted performance between the two.

The live load capacity required by code for a residential building is 30 pounds per square foot (psf) for sleeping rooms and 40 psf for all other rooms. Minimum loading requirements for house museums are not specified by code, and therefore basic assumptions need to be made based on projected use of the space. For example, a density of one 200 lb person per 2’x2’ floor area corresponds to a 50 psf live load.

The first floor rooms require a minimum live load capacity of 40 psf per code. In the analysis of the log joists, a wood grade of white oak #2 was assumed and notching effects were taken into consideration, resulting in a live load capacity of 35 psf. However, the effects of the splits in the wood were not included in the live load capacity analysis. The capacity of the sill at the west wall of the main house was not calculated based on inadequate information on the integrity of the member. The framing of the 1936 kitchen addition was assumed to be southern yellow pine #2, resulting in a 60 psf live load capacity (Figure 13). Based on these results, the main house floor joists do not have adequate capacity but the kitchen addition joists do.

The second floor joists in the kitchen were assumed to be southern pine #2, similar to the first floor, and were found to be adequate for normal house loading. Most second floor joists are concealed, and therefore, the wood species of the framing in those areas was unknown (particularly the original frame house). Live load capacities were calculated assuming material properties for white oak #2. The analysis was based on the observed sizes of the joists in the small probe in Room 204, which are likely to be typical for the entire floor.

The east span is longer than the west span due to the location of the summer beam below, resulting in lower floor capacities at the east span. In addition, as noted above, the floor joists support knee walls that may brace the roof rafters. Two cases were analyzed: the first case represents the condition where the floor joists take roof load transferred through the knee walls. The second case represents the condition where only the self weight of the knee wall is supported on the floor joists and the rafters span to the eaves. Based on these variables, the live load capacity of the eastern joists varies.
from 1-15 psf and the live load capacity for the western joists varies from 42-49 psf, depending on the knee wall conditions. While the western joists have adequate capacity, the eastern joists appear to be undersized. It is possible that the results of the analysis could be improved in the following ways: if, by chance, the floor joists are in fact of a wood species and grade with better material properties than what has been assumed, higher live load capacities would be calculated. In addition, the joists have been assumed to be simply supported between the exterior walls and the summer beam. If the joists are instead continuous over the summer beam, this would also improve the results of the analysis.

The roof framing was also evaluated with varying wood species. Current building code requires approximately 25 psf snow load capacity. The rafters over the kitchen addition and the newer screen porch, assumed to be southern pine #2, both have sufficient live load capacity. The rafters over the main house, assumed to be white pine #2, were found to have between 9 and 13 psf capacity, depending on the knee wall condition. This is lower than the code required capacity. Similar to the second floor framing in the main house, if the wood is found to have better material properties than those assumed, then the capacity results would correspondingly improve.

The floor and roof framing members of the log house were not analyzed since member sizes and spacing are unknown.

Conclusions and Recommendations

1. Further identification of the wood species and grading of the joists in the main house. The wood identification for the historic structure report analysis was limited because the team was avoiding extensive destructive testing of the house’s plaster and wood floors. Depending upon the exact use and treatment chosen for the building, removal of large areas of plaster may be necessary for both analysis (including identification of all concealed anomalies) and reinforcement. The determination of wood species and grading equivalents would provide more accurate material properties for the framing members. After a reanalysis of the structural members based on these properties, a more informed decision can be made as to whether areas of the house need structural reinforcement and/or prescribed limitations to occupancy or use, e.g. limitations to size of tour groups, etc.
2. Further investigation to determine the log house floor and roof framing. Framing sizes and spacing as well as wood species and grading determination would be required for an accurate assessment if the floor and roof framing are to be kept as they are.
3. The deteriorated first floor timber beam spanning the opening in the basement wall between the main house and 1936 addition: RSA recommends resistance drilling of the beam to assess the extent of deterioration and provide information for subsequent design of reinforcement, if needed, depending upon the use and treatment chosen.
4. Reinforcing of split log joists in the main house first floor framing, likely consisting of lag screws or thru-bolts at cracks/splits with possible sistering or replacement of select members.
5. Resistance drilling of logs in log house walls to determine whether observed deterioration is limited to the exterior face of the logs or continues into the interior of the logs. If significant interior deterioration is found, repair or reinforcement schemes would be devised.
6. Recommended probe at the second floor summer beam in the main house: To adequately assess the capacity of the second floor framing, both the size of the summer beam and the condition of the joists at the summer beam (i.e. continuous or simply supported) need to be verified. This could be done by destructive testing: removing a floor board over the summer beam or a sizable area of plaster in the living room ceiling.
7. Recommended probe at the second floor beam at the interface of the main house and the kitchen addition (the area behind the living room stairs and where the dining room was expanded westward about three feet into the addition in 1936): To adequately assess the capacity of the second floor framing at the stair landing, the size of the beam at the original west wall needs to be verified. This could be done by creating a probe in the first floor ceiling below.
APPENDIX A: FRAMING PLANS

Foundation Plan ................................................................. 11
First Floor Framing Plan .......................................................... 12
Second Floor Framing Plan ....................................................... 13
Roof Framing Plan .................................................................. 14
FIRST FLOOR FRAMING PLAN
SECOND FLOOR FRAMING PLAN
ROOF FRAMING PLAN
APPENDIX D:

PAINT ANALYSIS
PAINT ANALYSIS OF THE
RILEY HOUSE
ROCKVILLE, MD

PREPARED BY
JOHN MILNER ASSOCIATES, INC.
5250 CHEROKEE AVENUE, SUITE 300
ALEXANDRIA, VA 22312

SEPTEMBER 2007
(REVISED JUNE 2008)
John Milner Associates Inc. (JMA) performed paint analysis to aid in the understanding of the chronology of elements as part of the ongoing HSR. In 2007, samples were taken by Alfonso Narvaez and given to Lane Burritt, Sr. Architectural Conservator for JMA, who processed the samples in JMA’s Alexandria laboratory.

INTRODUCTION

Paint Analysis is a conservation technique used to uncover the historic paint scheme for a structure. This analysis involves sample collection, microscopic analysis of those samples, and color matching using the Munsell system. The extracted samples are collected with as many layers of paint as possible as well as part of the substrate. These samples are then placed into plastic bags and labeled for laboratory preparation. In the lab, the samples are mounted into polyester resin cubes and examined under a microscope to identify each individual layer of paint. Through a process called seriation, each layer is examined for significant characteristics, recorded, and given a color designation. The colors are defined numerically by the Munsell system for hue, value, and chroma. These numeric designations can then be converted to match modern paint colors from various manufacturers for use during restoration.

Selected elements of interior rooms were sampled. The intention of this analysis is to determine the first coatings that appear above the substrate with the hope that this would be a historic finish. Another purpose of this analysis is to locate decorative finishes. In some samples the final layer separated from the mounted sample. To solve this problem, unmounted samples were analyzed in conjunction with mounted samples to ensure the right sequence. Interior samples were labeled by sample number. Locations are listed in the table below.

The following analysis is based on a limited number of samples being processed from elements of the interior. They may not necessarily reflect the overall paint scheme used during a specific period. Additionally, it is important to note that not all the layers represent paint but also other coatings such as oils, primers, or dirt.

PRELIMINARY FINDINGS

One of the roles of paint analysis is to determine whether the paints identified are early paints or modern paints. Small round pigments can be seen in all layers of the samples but are more present in the earlier layers. Pigments are added to paint to provide hiding power to the mixture which prevents the substrate from showing through. Typically pigments were added to the paint mixture by hand resulting in particles of variable sizes and shapes that are visible under a microscope. In modern paints, pigments are pulverized and added to the paint mixture by the manufacture resulting in less visible particles under the microscope and a more uniform cover over the painted substrate. If necessary, these pigments can further be identified through X-ray diffraction. Another factor used to determine the age of paint in the samples is the uniformity of the layers. Modern paints are very even due to self-leveling properties while historic paints are uneven and jagged.
<table>
<thead>
<tr>
<th>Sample #</th>
<th>Sample Location</th>
<th>Earliest Color Recorded Followed By Early Decorative Layers</th>
<th>Munsell #</th>
<th>Period</th>
<th>Image</th>
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<tr>
<td>PA001</td>
<td>Library West Door Trim</td>
<td>Buff Yellow (base coat), Brown (possible varnish)</td>
<td>10YR 8/2, 2.5Y ¾</td>
<td>Late 18&lt;sup&gt;th&lt;/sup&gt; / Early 19&lt;sup&gt;th&lt;/sup&gt; Century</td>
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<td>PA002</td>
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<td>Buff Yellow (base coat), Brown (possible varnish)</td>
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<td>Late 18&lt;sup&gt;th&lt;/sup&gt; / Early 19&lt;sup&gt;th&lt;/sup&gt; Century</td>
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<td>Buff Yellow (base coat), Brown (possible varnish)</td>
<td>10YR 8/2, 2.5Y ¾</td>
<td>Late 18&lt;sup&gt;th&lt;/sup&gt; / Early 19&lt;sup&gt;th&lt;/sup&gt; Century</td>
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<td>PA004</td>
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<td>Early 20th Century</td>
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<td>Early 20th Century</td>
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<td>--------------------------------------------------------</td>
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<td></td>
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<td>Upstairs South Bedroom - South Window Trim (west side of chimney)</td>
<td>Blue, dark blue (much later sequence found in samples 1-3)</td>
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<td>Early 20th Century</td>
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</table>
CONCLUSIONS AND RECOMMENDATION

There are two general sequences of paint seriations found in the samples, an early sequence and a later one. Paint analysis, therefore, provided a way of distinguishing between pre-1936 details and ones that were installed in 1936. Locations were chosen based on architectural history and the 1936 drawings, so that the sampling included some of the house’s earliest details and a roughly equal number of details installed in ca.1936. The number paint layers confirmed these assumptions in most instances, and they also point to the fact that the older details had been repainted over time with enough layers of coatings to indicate that they were not installed in the early twentieth century (pre-1936), or even in the late nineteenth century. The choice of possible areas to sample, as noted below, was limited because the house does not have a single room where most of the design details and surface materials date from before 1936. Further inquiry may be warranted if restoring some specific rooms to their earliest appearance is determined to be the appropriate treatment. However, as noted elsewhere in this report, the house does not contain a single room which is intact enough or documented enough to be restored to accepted standards to any specific design dating to before 1936.

The shorter, 20th-century-only paint seriations likely date back to the 1936 renovations. This sequencing started with a buff yellow and later a blue. Elements of this sequence were found in such samples as the library north window, the library east trim, the parlor stair, and library base boards. These locations were chosen because they are believed to be from that time period, as all of these details are documented elsewhere (in either photographs or drawings, or both) to have been altered in the ca.1936 renovation of the house.

The older paint seriations that are likely to date from the early 19th century or even the late 18th century also began with a buff yellow. However, it is also possible that some of the early 20th century elements were painted to recreate historic colors. In any event, it appears that interior trim color used the ca.1936 work was nearly identical to the earliest colors found on the oldest trim elements in the house. This could be a coincidence, but it may indicate that the earliest coatings were studied and identified in 1936 to duplicate the original appearance.

One of the one most interesting paint samples is found at the second story south bedroom east window trim. This window has a style of casing that is very plain, a molding formed with a bevel along the center line of the face. It is a molding style that is usually found only in the simplest houses, often in out of the way bedrooms, and usually dating from before the 1840s. This simple trim has a red base coat, possibly a varnish rather than an opaque paint. Although these boards most likely indicate that the opening is among the house’s oldest elements, it is also possible that they were reused materials taken from another early part of the house.

The samples analyzed in this report represent a limited fraction of the painted surfaces of the interior. The choice of potential places from which to take samples is unusually small because so many of the house’s interior finishes were altered in the ca.1936 project. Paint analysis would be more reliable if there were rooms in the house where most of the trim details reflected a consistent design dating to before the twentieth century project. The extent of ca.1936 changes, however, resulted in there being only a few places (specifically certain doorways and windows) in each of three or four rooms where pre-1936 finishes could be expected. Since each of those rooms has a blend of early details and twentieth century alterations, the possibility that some of the trim was re-used after removal from another part of the house must be considered as a potential scenario.
It is important to note that the tones of paint colors identified in this report may differ from the original hue of paint due to yellowing from light exposure over time or blanching from the degradation of oil media.

Further analysis of early elements might solidify a complete early paint scheme. The analysis should exclude elements known to have been replaced in the 20th century. An example of a kind of further study that might be warranted would be pigment and binder analysis of paint samples known to be from the earlier period. Using this kind of technique, it might be possible to identify a narrower date range for the earliest layers of coatings on painted details already known to be among the house’s earliest design elements.
APPENDIX A: SAMPLE SPREADSHEET
Paint Seriation Study and Color Analysis

Project: Uncle Toms Cabin HSR 1

Building Name: Riley House
Location of Building: Rockville, MD
Sample Number: PA001
Location of Sample: Library West Door Trim

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<td>10YR 8/2</td>
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<td>Brown (possible varnish)</td>
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<td>-</td>
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<td>14.</td>
<td>White</td>
<td>+</td>
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Technician: Lane Burritt
Date: 9/6/2007
Comments: Not all layers are shown in the mounted sample.

No Photomicrograph Available
Paint Seriation Study and Color Analysis

Project: Uncle Toms Cabin HSR 1

Building Name: Riley House  Location of Building: Rockville, MD
Sample Number: PA002
Location of Sample: Library Mantel (upper section)

Sample Location:
- Brown (possible varnish)
- Light Gray Green
- Cream White
- Blue
- White
- White
- White
- White
- White
- White

Technician: Lane Burritt  Date: 9/6/2007

Comments:

Paint Seriation Chart

<table>
<thead>
<tr>
<th>Layer No.</th>
<th>Descriptive Color Name</th>
<th>Layer Thickness</th>
<th>Munsell No.</th>
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<tr>
<td>1.</td>
<td>Buff Yellow</td>
<td>-</td>
<td>10YR 8/2</td>
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<tr>
<td>2.</td>
<td>Brown (possible varnish)</td>
<td>- - irregular</td>
<td>2.5Y 3/4</td>
</tr>
<tr>
<td>3.</td>
<td>Buff Yellow</td>
<td>+ +</td>
<td>10YR 8/2</td>
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<td>4.</td>
<td>Light Gray Green</td>
<td>-/+ irregular</td>
<td>10Y 7/1</td>
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<tr>
<td>5.</td>
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<td>+</td>
<td>5Y 9/1</td>
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No Photomicrograph Available
## Paint Seriation Study and Color Analysis

**Project:** Uncle Toms Cabin HSR 1  
**Building Name:** Riley House  
**Location of Building:** Rockville, MD  
**Sample Number:** PA003  
**Location of Sample:** Library Mantel (lower section)

### Paint Seriation Chart

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<tr>
<td>1.</td>
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<td>10YR 8/2</td>
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<td>2.</td>
<td>Brown (possible varnish)</td>
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<td>2.5Y 3/4</td>
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<td>3.</td>
<td>Buff Yellow</td>
<td>+</td>
<td>10YR 8/2</td>
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<td>-</td>
<td>5Y 4/1</td>
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<td>5.</td>
<td>Light Gray Green</td>
<td>-</td>
<td>10Y 6/1</td>
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<td>6.</td>
<td>Dark Gray Green</td>
<td>-</td>
<td>5Y 5/1</td>
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<td>7.</td>
<td>Light Gray Green</td>
<td>-</td>
<td>10Y 7/1</td>
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<td>8.</td>
<td>Cream</td>
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<td>Yellow</td>
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**Comments:**

No Photomicrograph Available

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**Technician:** Lane Burritt  
**Date:** 9/6/2007

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John Milner Associates, Inc.
Paint Seriation Study and Color Analysis

Project: Uncle Toms Cabin HSR 1  
Building Name: Riley House  
Sample Number: PA004  
Location of Building: Rockville, MD  
Sample Number: PA004  
Location of Sample: Library North Window Trim

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<td>4.</td>
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Technician: Lane Burritt  
Date: 9/6/2007  
Comments:

No Photomicrograph Available
# Paint Seriation Study and Color Analysis

**Project:** Uncle Toms Cabin HSR 1  
**Building Name:** Riley House  
**Location of Building:** Rockville, MD  
**Sample Number:** PA005  
**Location of Sample:** Library North Window Apron

## Paint Seriation Chart

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<tbody>
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<td>Substrate: Wood</td>
<td>1. Blue</td>
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<td>8B 7/1</td>
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<tr>
<td>2. White</td>
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<td>4. White</td>
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<td>5. White</td>
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**Technician:** Lane Burritt  
**Date:** 9/6/2007  
**Comments:** No Photomicrograph Availible

John Milner Associates, Inc.
### Paint Seriation Study and Color Analysis

**Project:** Uncle Toms Cabin HSR 1  
**Building Name:** Riley House  
**Location of Building:** Rockville, MD  
**Sample Number:** PA006  
**Location of Sample:** Library East Window Trim

#### Paint Seriation Chart

<table>
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<th>Layer Thickness</th>
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<tbody>
<tr>
<td>1.</td>
<td>Buff Yellow</td>
<td>-</td>
<td>-</td>
<td>10YR 8/2</td>
</tr>
<tr>
<td>2.</td>
<td>Blue</td>
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<tr>
<td>3.</td>
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<tr>
<td>4.</td>
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<td>+</td>
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<td>5.</td>
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<td>+</td>
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<tr>
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**Technician:** Lane Burritt  
**Date:** 9/6/2007  
**Comments:**

No Photomicrograph Available

John Milner Associates, Inc.
### Paint Seriation Study and Color Analysis

**Project:** Uncle Tom's Cabin HSR 1  

**Building Name:** Riley House  
**Location of Building:** Rockville, MD  
**Sample Number:** PA007  
**Location of Sample:** Parlor North Door Trim

<table>
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<tr>
<td>1.</td>
<td>Dark Gray Green</td>
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<td>5Y 4/1</td>
</tr>
<tr>
<td>2.</td>
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<td>10Y 6/1</td>
</tr>
<tr>
<td>3.</td>
<td>Dark Gray Green</td>
<td>-</td>
<td>5Y 5/1</td>
</tr>
<tr>
<td>4.</td>
<td>Light Gray Green</td>
<td>-</td>
<td>10Y 7/1</td>
</tr>
<tr>
<td>5.</td>
<td>Cream White</td>
<td>+</td>
<td>5Y 9/1</td>
</tr>
<tr>
<td>6.</td>
<td>Cream</td>
<td>+</td>
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<tr>
<td>7.</td>
<td>Yellow</td>
<td>+</td>
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<tr>
<td>8.</td>
<td>Blue</td>
<td>+</td>
<td></td>
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<tr>
<td>9.</td>
<td>White</td>
<td>+</td>
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**Technician:** Lane Burritt  
**Date:** 9/6/2007

**Comments:** Earlier sequence only seen in unmounted samples.

No Photomicrograph Available

John Milner Associates, Inc.
### Paint Seriation Study and Color Analysis

**Project:** Uncle Toms Cabin HSR 1  
**Building Name:** Riley House  
**Location of Building:** Rockville, MD  
**Sample Number:** PA008  
**Location of Sample:** Parlor Mantel (lower section)

**Technician:** Lane Burritt  
**Date:** 9/6/2007

#### Paint Seriation Chart

<table>
<thead>
<tr>
<th>Layer No.</th>
<th>Descriptive Color Name</th>
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<td>10Y 6/1</td>
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<tr>
<td>2.</td>
<td>Cream</td>
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</tr>
<tr>
<td>3.</td>
<td>Blue</td>
<td>+</td>
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<tr>
<td>4.</td>
<td>Dark Blue</td>
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<tr>
<td>5.</td>
<td>White</td>
<td>+</td>
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**Comments:** Green only seen in unmounted sample.

---

John Milner Associates, Inc.
## Paint Seriation Study and Color Analysis

**Project:** Uncle Toms Cabin HSR 1  
**Building Name:** Riley House  
**Location of Building:** Rockville, MD  
**Sample Number:** PA009  
**Location of Sample:** Parlor Stair

<table>
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<tr>
<td>1.</td>
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<td>2.</td>
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<td>3.</td>
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**Technician:** Lane Burritt  
**Date:** 9/6/2007  
**Comments:**  

*No Photomicrograph Available*
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<tr>
<td>1.</td>
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<tr>
<td>3.</td>
<td>White</td>
<td>+</td>
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</tr>
<tr>
<td>4.</td>
<td>White</td>
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<td>5.</td>
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Comments: No Photomicrograph Available

Technician: Lane Burritt
Date: 9/6/2007

John Milner Associates, Inc.
# Paint Seriation Study and Color Analysis

**Project:** Uncle Toms Cabin HSR 1  
**Building Name:** Riley House  
**Location of Building:** Rockville, MD  
**Sample Number:** PA011  
**Location of Sample:** Upstairs South Bedroom - South Window Trim  
(east side of chimney)

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**Comments:**

No Photomicrograph Available

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**Technician:** Lane Burritt  
**Date:** 9/6/2007

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John Milner Associates, Inc.
## Paint Seriation Study and Color Analysis

**Project:** Uncle Toms Cabin HSR 1  
**Building Name:** Riley House  
**Location of Building:** Rockville, MD  
**Sample Number:** PA012  
**Location of Sample:** Library Basebord (left of mantel)

### Paint Seriation Chart

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**Technician:** Lane Burritt  
**Date:** 9/6/2007  
**Comments:** No Photomicrograph Available

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John Milner Associates, Inc.
Paint Seriation Study and Color Analysis

Project: Uncle Toms Cabin HSR 1

Building Name: Riley House  
Location of Building: Rockville, MD

Sample Number: PA013

Location of Sample: Fireplace Mantel (unmarked location)

Technician: Lane Burritt  
Date: 9/6/2007

Comments:

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No Photomicrograph Available

John Milner Associates, Inc.
APPENDIX E:

ANNOTATED BIBLIOGRAPHY FOR JOSIAH HENSON
Annotated Bibliography for Josiah Henson
Compiled by Cheryl LaRoche, Ph. D.

This bibliography highlights sources that either add clarity to the relationship between Henson’s six editions of his narrative or his relationship to *Uncle Tom’s Cabin*. In part, Harriet Beecher Stowe relied on Henson’s first edition of his narrative published in 1849 as the inspiration for *Uncle Tom’s Cabin*. Various versions of Henson’s life provide a full accounting of the broad expanse of his life experiences; the 1881 edition was published two years prior to his death in 1883. Little new information beyond Henson’s own words has been added to the facts surrounding Henson’s life. We were unable to examine a copy of Beattie’s *Black Moses* and the final 1890 edition of Henson’s narrative which are included but are annotated using Robin Winks’s assessment.


In the Introduction to the 1969 Dover Edition of the Henson autobiography, Robin Winks, another Henson biographer, criticizes Beattie’s biography stating, “This unfortunate biography confuses more than it helps, for it mixes the several editions of Henson’s narrative indiscriminately, accepts all that he says at face value, assumes that the 1849 account was not edited…misreads or manufactures evidence and conversation.” (†Note, p. xxi).


A white Methodist Episcopal minister recounts meeting Henson in Boston in 1858. Although the text primarily relies on Henson’s narrative, it adds a few new details and contains good eye-witness accounts of Henson’s physical impairments, his appearance, mood and character.

http://docsouth.unc.edu/neh/bleby/bleby.html


Contains an investigation of slavery in Montgomery County through the four Beall sisters. Also contains discussion of Josiah Henson’s attempts to purchase his brother John Henson. According to Broadhurst, Josiah Henson purchased his brother from Jane N. Beall for $250 in 1858 although the inconsistencies between Henson’s autobiography and the circumstances of Jane Beall’s life introduce sufficient doubt as to warrant further investigation.


Based on the title of this recent book, rehabilitating the term “Uncle Tom” or mitigating the negative images associated with it may prove challenging. Demonstrating how entrenched the negative stereotype of an “Uncle Tom” actually is, Carroll briefly defines the term and then devotes the first half of the book to contributors first questioning, then assessing and ultimately defending Booker T. Washington, finding him ‘not guilty’ against the charge of being an “Uncle Tom.” The book has nothing to do with Henson; essays contemplating the title question serve as the introduction to a reprint of Booker T. Washington’s narrative *Up From Slavery*. The same can be said for René Richardson’s
Black Masculinity and the U. S. South: From Uncle Tom to Gangsta which examines historical and contemporary ideologies of black masculinity in the United States.


Contains a discussion of Riley family land transactions. Also discusses George Riley, Isaac Riley’s older brother, whom Henson identified as follows: “the model for the character ‘George Shelby’ in Uncle Tom’s Cabin. This character in Stowe’s book slows down the pursuing slave traders to allow ‘Eliza’ time to escape.” Cissel finds in this description of George Riley typified by Henson and, in turn by Stowe, the “good, kind-hearted slave holder.” Nevertheless, George Riley’s overseer, Brice Letton (identified as Litton by Henson), Stowe’s model for Simon Legree did, in fact, administer the brutal beating that left Henson impaired for life which the author also discusses.


Brief discussion of Adam Robb, the enslaver who initially purchased Henson in Montgomery County. Also mention of land transactions between a Camden Riley (apparently, Isaac Riley’s brother, although Camden was a common name in the Riley family) and Upton Beall.


Although this monograph does not provide much insight into the lives of the enslaved living in Montgomery County, it does give an accounting of the slaveholding lineage of the Beall and Robb families. The authors identify John Henson as Josiah Henson’s brother and provide details of Henson’s purchase of his brother from Jane Beall.


The edited volume contains the text of slave narratives as well as articles written about slave narratives. Most importantly, the volume contains the full text of Ephraim Peabody’s “Narratives of the Fugitive Slaves.” Numerous authors have come to the conclusion that Stowe was greatly influenced by this work and developed her prototypes after reading this essay. Also contains Robin W. Winks article, “The Making of a Fugitive Slave Narrative: Josiah Henson and Uncle Tom—A Case Study.”


This short eight page literary critique and analysis of the multiple versions of the narrative contains an extensive analysis of the second expanded 1858 edition.

Benjamin Drew reported on his visit to Henson’s colony at Dawn in 1854.


Author identified “Uncle Tom” as having lived on a plantation between Rockville and Bethesda, noting that one of the cabins still stood in 1961.


*Frederick Douglass’ Paper.* 24 July, 21 August, 25 September 1851; 24 June, 8 October 1852; 4 January, 29 April, 1853; 11, 18 August 1854.

Various newspaper articles pertaining to Henson and his life in Canada.


Drawing directly from Henson’s narrative, the book contains a discussion of James Lightfoot as the influencing factor for Henson’s return to Kentucky and the rescue of Lightfoot’s sisters, brothers, and parents. Also contains brief discussion of influences on Harriet Beecher Stowe in the writing of *Uncle Tom’s Cabin*. This work primarily focuses on the lives and escape of the Blackburns but also compares their experiences to Henson’s in Kentucky and Canada.


This is an invaluable and definitive text for anyone interested in a detailed analysis of *Uncle Tom’s Cabin*. In addition to the extensive annotations, the text is copiously illustrated with both color and black and white images. The images and captions, in combination with the annotations, provide a second parallel narrative within the book that illustrates the sustained impact of Stowe’s text.


Genovese uses brief excerpts from Henson’s narrative among several others to probe the paradigm of paternalism, the lives of the enslaved, Henson’s role as driver, his leadership capabilities and the relationship between enslaved mothers and their children.


Considered one of the few biographies of Henson, Gysin mixes the details of Henson’s life taken directly from Henson’s narratives with fiction and chatty commentary. The author, who is not a historian, adds nothing substantive about Henson’s life beyond the narrative. The work is without citations. In the book’s “Introduction,” the author states
that he intends the work as “…a book against the attitude to which the term, Uncle-Tomism, has come to be applied.” The author looks across time at the meaning and definition of an “Uncle Tom.” The Appendix contains a history of slavery in Canada and ends with discussion of John Brown and the Civil War.


This highly informative article explores how the term “Uncle Tom” became one of the most inflammatory racial insults that a Black person can offer another. The author traces the evolution of the term from its complimentary status in the nineteenth century to its denigrating meaning in the twentieth (and twenty-first).

http://findarticles.com/p/articles/mi_m0DXK/is_8_19/ai_87853136


The first edition is rare. According to Winks, the handwritten manuscript of the autobiography is in the Boston Public Library. Henson dictated the first edition of his narrative to Massachusetts Congressman Samuel A. Eliot. Henson was a frequent guest in Eliot’s Boston home. Originals of this edition are quite rare but reprint editions are available. This is the original, straightforward version of Henson’s life and is the version Harriet Beecher Stowe would have read and upon which she based her narration of Uncle Tom's Cabin. As was frequently the custom in slave narratives produced during this period before emancipation, Henson uses only initials to identify individuals rather than fully naming them. Full texts of this version are available at http://www.iath.virginia.edu/utc/abolitn/henson49hp.html http://docsouth.unc.edu/neh/henson49/henson49.html


This edition was retitled and substantially revised with the addition of six new chapters recounting his enterprise in starting a lumber mill, and his selling the wood in Boston and in England, where he saw Queen Victoria, was interviewed by the Archbishop of Canterbury, and was entertained at the estate of the Prime Minister, Lord John Russell. The publication was rewritten by Massachusetts Congressman Samuel A. Eliot and was the first of the editions that began to tie Henson directly to Uncle Tom's Cabin. Stowe authored a brief introduction. This significant edition is the first to spell out the names contained throughout the narrative and contains the all-important engraved portrait of Henson as a middle aged man on the frontispiece. Electronic edition available at: http://docsouth.unc.edu/neh/henson58/henson58.html


This is third revised and enlarged edition and the first edited by John Lobb who would go on to edit the remaining editions of Henson’s narratives. This edition is the foundation for the
later Henson biographies. Adding eight new chapters discussing his troubles with swindling managers of the school and saw mill, his encouragement of Canadian blacks who fought in the Civil War, his final visit to England, and his interviews with Mrs. Stowe, Queen Victoria, and President Hayes.

http://docsouth.unc.edu/neh/henson/henson.html


A version with minimal additional material beyond the version published the previous year.


Written in his very old age and published in Boston with a new preface by Mrs. Stowe, this version also contains Introductory Notes by three noted abolitionists, Wendell Phillip, the antislavery poet John Greenleaf Whittier and staunch abolitionist and Methodist Episcopal Bishop Gilbert Haven who writes an appendix “The Exodus,” a discussion of racism and the aftermath of emancipation. This edition contains the engraving of Henson with snowy hair and white beard which is the likeness on the 1983 Josiah Henson Canadian Stamp.


Both are reprint editions of the 1881 autobiography, An Autobiography of the Rev. Josiah Henson (“Uncle Tom”) From 1789 to 1881 With a Preface by Mrs. Harriet Beecher Stowe, edited by John Lobb. This is the fullest and most complete version of Henson’s life to appear during his lifetime. This, the first edition published in Canada, adds two new chapters, including “My Visit to My Old Home in Maryland” and appendices. The original revised and enlarged edition contained sections from both the 1878 and 1879 versions. The two reprint editions referenced here contain an extensive thirty-four page introduction authored by Henson scholar Robin W. Winks who situates both Henson’s life and his narratives in historical context. Winks also provides a useful guide to the differences among the editions of Henson’s narratives in addition to a very useful bibliographic essay “A Note on Henson’s Biographers.” Anyone interested in a thorough critique of the several Henson biographies or his limited biographers should consult this edition. Full text of Henson’s narrative without the Winks introduction is available at: http://docsouth.unc.edu/neh/henson81/henson81.html


Slight additions were made to this final edition of Henson’s life, including Henson’s death but some matter was deleted. Therefore, the 1881 Ontario edition remains the definitive version of the autobiography.

The author questions the framing and exhibit of Uncle Tom's Cabin in the Columbian Exposition and its post-Civil War appeal. As in other contexts throughout the 1890s, Uncle Tom's Cabin was used to support narratives of moral and social progress in U.S. culture while simultaneously outlining a program of continued subordination as the proper place for African Americans. (Excerpted from author’s abstract).


A good source for investigating the enslavement of Africans in Maryland and the laws and regulations governing their lives. Although focused on the Eastern Shore, Talbot, Dorchester, and Caroline Counties, this work provides valuable comparative information about slavery in Maryland. Similar to Josiah Henson, Tubman was enslaved as a child in Maryland, living a comparative if not comparable existence. As adults acting as conductors on the Underground Railroad, both Henson and Tubman returned to the States of their own enslavement to lead others to freedom. Until recently, knowledge of Tubman’s life paralleled Henson’s; their narratives were the primary sources for analyzing their extraordinary lives.

Lobb, John. The Young People’s Illustrated Edition of “Uncle Tom’s” Story of His Life (From 1789 to 1877) London: Christian Age, 1877.

Henson’s life is narrated with engraved illustrations. Montgomery County Historical Society owns an original copy. Frontispiece contains an image of Henson and Lobb.

The National Era. 18 November 1847.

A newspaper article pertaining to Henson’s life in Canada and the various events surrounding his life there.


Another look at the validity of Stowe’s and Henson’s claim that Henson was the model for Uncle Tom’s Cabin.

The North Star. 2, 9 March 1849; 19 January 1849.

Newspaper articles pertaining to Henson’s life in Canada and the various events surrounding his life there.


A strong discussion of Stowe’s novel and her various claims and disclaimers pertaining to Henson’s inspiration for the character of Uncle Tom. Also contains a valuable section “Uncle Tom’s Cabin and Racism” which, along with Hamilton’s “The Strange Career of
Uncle Tom” help explain the development of racism and the modern history and negative reactions attached to “Uncle Tom.”


Rev. Ephraim was inspired to write this essay after reading Henson’s first narrative. Apparently, this essay had a great influence on Harriet Beecher Stowe. She probably based her development of the prototype of Uncle Tom on Peabody’s interpretation of five slave narratives including Henson’s. See Davis and Gates for full text of Peabody’s essay.


Contains an extensive discussion of the Dawn community and the British American Institute near Dresden, Canada West (the original name for Ontario).


Primary sources pertaining to Henson’s various Canadian activities.


Offers a literary approach to the narrative with good comparative analysis within the genre. This is an excellent source for understanding the different influences various slave narratives had on Stowe. She based *Uncle Tom’s Cabin* on several narratives in addition to Henson’s.


Contains the original story of Uncle Tom for which Josiah Henson was one among several models.


A *post facto* attempt to historicize the characters and events in the novel. At least two other people in Henson’s life, George Riley and Brice Letton were reported as the models for George Shelby and Simon Legree, respectively, in the original work of Uncle Tom’s cabin. The single most important contribution of the book is Stowe’s page and a half identification of Josiah Henson as the model for Uncle Tom (26-7).

http://www.iath.virginia.edu/utc/uncletom/key/kyhp.html
http://www.iath.virginia.edu/utc/uncletom/key/keyIt.html
http://etext.virginia.edu/toc/modeng/public/StoKeyu.html

*The Provincial Freeman*. 27 August 1852; 26 August 1854; 7 April 12, May, 22, 29 August, 8, 22, 29 September, 20 October, 8 November, 29 December 1855; 10 January, 7, 18, 28 February, 18 April, 2 May, 1857.
Several newspaper articles pertaining to Henson’s life in Canada and the various events surrounding his life there.


This is a popular book rather than a scholarly or authoritative work focused on the Underground Railroad. The author indicates that the book “introduces the reader to the real-life ‘Uncle Tom’ who influenced Harriet Beecher Stowe’s *Uncle Tom’s Cabin.*” The book makes direct reference to the Riley House with an image and a caption reading “Maryland home of Reverend Josiah Henson. The house was a part of a 3,700 acre tobacco plantation where Henson was enslaved.” This acreage and crop information does not corroborate with other conclusions contained elsewhere in this report.


Report of Henson speaking at the funeral of Thomas Carey.


Discusses Henson’s relationship to Harriet Beecher Stowe and his evolving persona as the model for Uncle Tom. Winks also sifts through the various Henson narratives. The relationship between Henson and the origins of the Dawn Institute as well as a thorough analysis of his Canadian years can be found here. Winks (195) refers to Henson as “the best known of all Negro Canadians, his narratives the most frequently used sources, his life the archetypical fugitive experience.”


Chapter 4, “Beyond the Cover: *Uncle Tom’s Cabin* and slavery as global entertainment” discusses *Uncle Tom’s Cabin* as the key site for examining what mid-nineteenth century popular audiences saw and publishers disseminated as the representation of blacks within the systems of enslavement. In a subsection titled “The ‘real’ Uncle Tom and multiple fantasy,” the chapter also discusses Henson’s use of his Uncle Tom persona.


As an important Canadian historic site focused on the life of Josiah Henson, Uncle Tom’s Cabin site informs visitors about the life of fugitive slaves in the Dresden area.
APPENDIX F:

CATALOGUE OF IMAGES
HISTORIC PHOTOGRAPHS

Figure 1: Undated image, ca.1910-1936.
This photograph appears to have been first published as a “before” image to illustrate the July 30, 1939, Washington Star article on Levina Bolten’s 1936 “restoration” of the house.

Figure 2: Ca. 1919 image (Image identified as “11420 Old Georgetown Road.”)
Rambler Photograph Collection, part of the E.B. Thompson Collection at the Historical Society of Washington, D.C. Glass plate negative No.0637-1. “The Rambler” was a column that ran in the Sunday edition of the Washington Star. The photograph collection spans from 1912 to 1927. This image appeared in the October 19, 1919 Rambler column entitled “The Rambler Writes of Several Old Families.” (see Appendix F, pages 19-20; figures 25 and 26).
Mrs. Bolten seated before the fireplace in the restored old slave quarters and log kitchen. A loft, approached by a small flight of stairs, was originally built over the room. The window to the left (marked by arrow) looked out from the loft upon the ‘run,’ where in Civil War days Gen. Jubal Early was camped with him [sic] men.

— Star Staff Photos
Figure 4: *Star* [newspaper], July 30, 1939.  
[caption indicates that the person in the doorway is Mrs. Bolten]

Figure 5: Image published in the *Washington Post*, 1951.
Figure 6: Ca. 1950 image, published in *Washington Post, Maryland Weekly* [special section], 1979. Caption indicates that the image was taken “in the early 1950s.”

Figure 7: Image published in the *Star* [newspaper], Ca. 1950
Figure 8: Pre-1955 image
“Original Uncle Tom’s Cabin Stands in Montgomery.”
The Sentinel [newspaper, staff photo], published September 29, 1955

Figure 9: Image published in the Sentinel [newspaper] in 1975
AERIAL PHOTOGRAPHS

Figure 10: Ca. 1937 aerial image, Montgomery County Archives, Rockville, MD

Figure 11: Ca. 1944 aerial image, Montgomery County Archives, Rockville, MD
Figure 12: Ca. 1951 aerial image, Montgomery County Archives, Rockville, MD

Figure 13: Ca. 1957 aerial image, Montgomery County Archives, Rockville, MD
Figure 14: Ca. 1963 aerial image, Montgomery County Archives, Rockville, MD

Figure 15: Ca. 1970 aerial image, Montgomery County Archives, Rockville, MD
**Figure 16:** “Map of Dann,” undated (ca.1830-50) survey map of farms located on Dann Land Patent, Montgomery County Historical Society. The historical society had just uncovered this image at the time that the research was being conducted; the document had not yet been catalogued. Below is an enlargement of Isaac Riley Property from “Map of Dann.” The arrow points to Riley House location. North is to the right of the image.
Figure 17: Map of Collyar’s Resurvey (MSA)
This map was the document prepared for a new survey of the Collyer property in 1787. At the time, after retracing the metes and bounds, the Collyer farm was found to have 262½ acres. North is oriented toward the top of the page. The copy below (below left) highlights the lines that were the final boundary as determined by the surveyor. The image below to the right is the Map of Dann (Figure 16), turned so that north is up, with the Collyer boundary showing how the Collyer’s Resurvey Farm overlapped with Dann.
**Figure 18:** Subdivision of Isaac Riley’s Land (“Map 18e”), Montgomery County Historical Society.

This is a portion of a larger map that was developed to illustrate several different land transactions that had occurred in the vicinity of the Riley House in the 19th century. The map is oriented with north at the top. The section included here illustrates the outcome of the equity suit filed in 1863 by Samuel Magruder, Riley’s son-in-law, to bring about the settlement of the Isaac Riley estate. The Riley House is located near where the letter “A” is show at the acute angle along the east edge of the area shown in this excerpt (the angle is approximately the modern-day intersection of Old Georgetown Road and Tilden Lane). The tract of a little over 63 acres surrounding the house was the “Dower Lot” where Matilda Riley continued to live after Isaac’s death. The scythe-shaped tract that formerly extended north and then west (see Appendix F, page 10) had apparently been sold before Isaac Riley’s death. Likewise, the land that formerly extended the Riley property to the south had been sold to the Lyddane family. The present map indicates that the remaining land was divided among five of Riley’s children, four of them as farms of 49-50 acres each. At least one of the Riley children, Sarah Veirs (and her husband, Edward) had received a portion of the farm before 1850 by purchasing land from Isaac Riley while he was still alive.
Figure 20: 1879 map (Hopkins, G.M. *Atlas of Fifteen Miles around Washington, Including the County of Montgomery, Maryland.* Philadelphia: G.M. Hopkins, C.E., 1879); north is toward the top right hand corner of the image.

On the right is an enlargement of the Montrose area of the above image, with Matilda Riley’s name circled. The acute angle of Tilden Lane meeting Old Georgetown Road is apparent in the image.
Figure 21: 1890 map (Fava, Francis, Jr. *Real Estate Map of the Metropolitan Branch of the Baltimore and Ohio Railroad Company, Between Washington, D.C. and Rockville, MD, and adjacent Land Holdings.* Fava Naeff and Co., Civil Engineers and Architects, Corcoran Building, Washington, D.C., 1890). Enlarged detail (inset) shows relationship between the house, streambed, and a building closer to the corner of Tilden Lane.

Below is an enlargement of the parcel.
Figure 24: 1959 map (Klinge, Frank H.M. *Atlas of Montgomery County, Maryland.* Volume Two. Lansdale, PA: Frank H.M. Klinge Engineers and Publishers, 1959)
Enlargement of Luxmanor portion of 1959 map (Klinge, Frank H.M. *Atlas of Montgomery County, Maryland.* Volume Two. See figure24, above). The Riley House parcel has been highlighted in this copy of the map.
Enlarged view of the Riley House parcel from the 1959 Klinge map (See figure 24, above).
HISTORIC NEWSPAPER ARTICLES

Figure 25: *Sunday Star*. “The Rambler Writes of Several Old Families.” Washington, DC. October 19, 1919.
Figure 26: Smith, Gretchen. “Legendary Scene of Uncle Tom’s Cabin is Restored: Three Years are Taken to Make Old Home into Modern Residence.” Star [newspaper]. July 30, 1939.
Figure 27: Smith, Gretchen. “Legendary Scene of Uncle Tom’s Cabin is Restored: Three Years are Taken to Make Old Home into Modern Residence.” Star [newspaper]. July 30, 1939.
APPENDIX G:

JOSIAH HENSON AND DAWN, ONTARIO, IMAGES/MAPS/INFORMATION
Figure 1: Wilbur H. Siebert, *Routes of the Underground Railroad, 1830-1865*, New York: The MacMillan Company, 1898 (cropped). This map, one of the most commonly used illustrations of Underground Railroad geography, provides a glimpse of the route Josiah Henson would have most likely taken to reach the Ohio River and then Kentucky, and the route he would have most likely taken north in escaping to Ontario. Location labels and dotted lines have been added over the map. The dotted lines show the most likely route from Montgomery County to the Ohio River, through Cumberland Maryland to either the river port of Brownsville Pennsylvania on the Monongahela River (a tributary of the Ohio), or Wheeling, Virginia (now West Virginia) on the Ohio. The route from Owensboro to Dawn on the Underground Railroad is less documented and difficult to know for certain. However, near the midpoint of the straight line between the two locations is Fountain City, Indiana, a major center of Underground Railroad activity.
On the map to the right (Mapquest) the star marks the location of Dresden, Kent County, Ontario. The Dawn Settlement was at the eastern edge of the area covered by the star. On the historic map of Kent County (below), the circle indicates the location of the village of Dawn Mills and the vicinity of the Dawn Settlement. The township immediately to the north of the circle, in Lambton County, is named Dawn Township, and it contains a village known as Dawn Valley. However, all accounts of the Dawn Settlement refer to the settlement as being in Kent County, apparently centered at Dawn Mills. Dresden, Ontario is just outside the circle, to the west. Dresden was an independent town for many years, but was its government was recently consolidated with that of Kent County. It has a population of 2,700.
Figure 2: Image collage depicting the Henson story as it relates to the Dawn Settlement in Ontario, entitled: Henson, Rev. Josiah, "Uncle Tom." Prints and Photographs Division, Library of Congress. Possibly published as a postcard or handbill; a handwritten note in Library of Congress file says: Copyright 1936, Carl J. Ayers.
APPENDIX H:

JOSIAH HENSON MANUMISSION PAPER
Figure 1: Josiah Henson, manumission paper, March 9, 1829
(MSA, Land Records of Montgomery County, Maryland, BSZ-167)
APPENDIX I:

FAMILY RECORD PAGES FROM RILEY FAMILY BIBLE
Figure 1: Images from the Riley family Bible, page 677. Source: Jeannette Crockett, Riley descendant and cousin of Frances Mace Hansbrough.
Figure 2: Images from the Riley family Bible, page 678. Source: Jeannette Crokett, Riley descendant and cousin of Frances Mace Hansbrough.
Figure 3: Images from the Riley family Bible, page 679. Source: Jeannette Crokett, Riley descendant and cousin of Frances Mace Hansbrough.
Figure 4: Images from the Riley family Bible, page 680. Source: Jeannette Crockett, Riley descendant and a cousin of Frances Mace Hansbrough.
APPENDIX J:

RILEY FAMILY TREE
APPENDIX K:

ACT OF THE MARYLAND ASSEMBLY ON ARNOLD WINSOR’S 1827 REQUEST TO SELL SOME ASSETS OF THE GEORGE RILEY ESTATE
JOSEPH KENT, ESQUIRE, GOVERNOR.

1837

SEC. 18. And be it enacted, That nothing in this act contained, shall authorize the said company to close the present turnpike road, until a good summer road fit for the travelling of wagons and carriages, shall be formed by said company, upon the side of or near the rail road authorized by this act, unless the said rail road be so constructed as to permit the travelling of private wagons, carriages and horses; for which travelling they shall receive the same rate of toll now received by said company on the turnpike road, which summer road, when so formed, shall be kept in repair by the company under the penalties now imposed for neglect of repair of the present turnpike road.

SEC. 19. And be it enacted, That the owners of the Savage factory, and of the factory called Johnston’s factory, and of any other factory which is or shall be established within two miles of the rail road authorized by this act, shall respectively be entitled to connect a road from their several factories to and with the said rail road, and to transport thereon any produce, merchandise, manufactures or other articles whatsoever, bona fide the property of the owners or occupiers of said factories respectively: Provided, That the wagons or other vehicles to be used for such transportation, shall be such as shall be approved of by the president and managers aforesaid, or their agent duly authorized for the purpose; and such transportation shall in other respects conform to such rules as shall be adopted and practised by the president and managers aforesaid, in relation to the vehicles used by them upon the said rail road, and subject to the payment of the tolls which are authorized by the provisions of this act.

—

CHAPTER 171.

An act extending the time for completing the Turnpike Road, from Boonsboro to the Potomac River.

Be it enacted by the General Assembly of Maryland, That the time for completing the turnpike road from Boonsboro, in Washington county, to Swearinger’s Ferry on the Potomac river, be, and the same is hereby extended until the year eighteen hundred and thirty-three, any law to the contrary notwithstanding.

—

CHAPTER 172.

An act to empower the judges of Montgomery county court, to direct the sale of the lands therein mentioned.

SECTION 1. Be it enacted by the General Assembly of Maryland, That if in the opinion of the judges of Montgomery county court, it shall be more advantageous to the heirs of

Figure 1: This document is available online at: http://aomol.net/megafile/msa/speccol/sc2900/sc2908/000001/000474/pdf/am474--205.pdf and http://aomol.net/megafile/msa/speccol/sc2900/sc2908/000001/000474/pdf/am474--206.pdf
LAWS OF MARYLAND.

CHAP. 172. George Riley, late of said county, to sell a part of their real estate, than their personal property, the said judges be, and they are hereby empowered and directed, upon the application of Arnold T. Winsor, guardian to said children, to authorise and direct the sale of such part of the real estate of the said children, as the said court in its discretion shall think most advantageous; and for that purpose the said court shall appoint a trustee or trustees, who shall sell the said land in such manner, and upon such terms as the said court shall direct, and the proceeds of said sales shall be first applied to the payment of such sum as the said court shall determine, the said Arnold T. Winsor to be entitled to for a building erected by him on the lands of the said children; and if there shall remain any part of the said proceeds, then the trustee or trustees, to be appointed as aforesaid, shall dispose of and invest the same, in such manner as the said court shall direct.

Sec. 2. And be it enacted, That the trustee or trustees, to be appointed under this act, shall give bond, with such security as the said court shall approve, to the state of Maryland in such penalty as the said court shall prescribe, conditioned for the faithful performance of the trust reposed in him or them.

Sec. 3. And be it enacted, That if the said court shall be of opinion, that it is not advantageous to the said children to sell any part of their real estate for the purposes aforesaid, they shall so certify to the orphans court of said county, whose duty it shall be to direct the sale of such part of the personal estate of said children as shall be equal to the sum which they may think the said Arnold T. Winsor entitled to for the building aforesaid, which sum shall be paid to said Winsor.

CHAPTER 173.

An act for the encouragement of Primary Schools in Anne Arundel County.

Sec. 1. Be it enacted by the General Assembly of Maryland, That the treasurer of the Western Shore be, and he is hereby authorized and required to pay to the commissioners of Primary Schools for Anne Arundel county, the money now in the treasury not already invested, belonging to said county, so soon as the said commissioners or a majority of them, shall have given bond to the justices of the levy court of said county, with good and sufficient security, to be approved by said justices in the penalty of ten thousand dollars, conditioned for the faithful performance of their duty as required by the provisions of this act, which said bond shall be filed and recorded among the records of Anne Arundel county court, a copy whereof under the seal of the court shall be evidence in any court of law and equity in this state.

Sec. 2. And be it enacted, That the school fund of Anne Arundel county arising under the act to incorporate a company to make a turnpike road leading to Cumberland, and for
APPENDIX L:

EXCERPT FROM 1830 ACCOUNT OF GEORGE RILEY ESTATE FILED BY ISAAC RILEY, ADMINISTRATOR OF THE GEORGE RILEY WILL
Figure 1: The above document is the final page of an account that Isaac Riley filed in the Montgomery County Courts in 1830, showing assets of the George Riley Estate and calculating a monetary allowance that he was to receive from the estate. This document shows that as late as 1830 Isaac was still Administrator of George Riley’s assets, apparently included the property now known as the Riley House, despite the Act of Assembly passed in 1827 recognizing Arnold Winsor’s right, as the guardian of George Riley’s children, to sell certain assets in the estate.

The text of the above final page of the document reads as follows:

Montgomery County to wit on the 16th day of December 1830 came Isaac Riley who was the Administrator of the Will [______] of George Riley late of said county deceased and made oath on the Holy Evangels of Almighty God that the foregoing account is [______] and true as it stands and that he hath bonafide paid in accord as secured to be paid the several sums for which he claims an allowance which after due examination passed by order of the court.      Certified by Solomon Holland, Regstr.
APPENDIX M:

EXCERPT (FIRST SIX PAGES) FROM CATALOGUE DOCUMENT ON CELOTEX FROM THE 1936 EDITION OF SWEET’S CATALOGUE FILE
CELOTTEX
BRAND
INSULATING CANE BOARD
REG. U. S. PAT. OFF.

The Celotex Corporation, Chicago, Illinois
The Celotex Corporation
919 NORTH MICHIGAN AVENUE • CHICAGO, ILLINOIS

BRANCH SALES OFFICES
See Local Telephone Books for Addresses

BOSTON, MASS.
CHICAGO, ILL.
Cleveland, OHIO
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LONDON, ENGLAND
PARIS, FRANCE
LOS ANGELES, CAL.
PHILADELPHIA, PA.
MINNEAPOLIS, MN.
NEW YORK, N.Y.
ST. LOUIS, MO.
PORTLAND, ORE.
SEATTLE, WASH.
SPRINGFIELD, WASH.
SYDNEY, AUSTRALIA
TURIN, ITALY
Buenos Aires, Argentina

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EXPERIENCE
World-wide experience, coupled with intensive research and field investigation, have made Celotex Products famous in the Insulation field. Every phase of the utilization of case fibre and the application of insulation and acoustical correction have been carefully studied until today the products of this Corporation are of such nature as to evoke the complete confidence of Architect, Builder, Décorateur, and Owner. Installations have been made in over 50,000 buildings representing every type of construction.

MANUFACTURING FACILITIES
The plant, located at Natchez, Miss., just across the Mississippi River from New Orleans, is in the heart of the great raw material district and strategically located with respect to economical transportation facilities by water and rail. More than one billion square feet of Celotex have been produced.

DISTRIBUTION
Celotex is marketed nationally through lumber dealers. Stock is maintained in all the principal centers and are available practically everywhere. Asbestos-Celotex is applied by authorized contracting acoustical engineers.

SERVICE
A Service Department is at the disposal of architects interested in the use of Celotex Products. Advice on special problems is always available. A competent Service Department is in constant touch with agricultural conditions throughout the country, will furnish information upon request.

CERTIFIED INSULATION GUARANTEE
Celotex Case Fibre Insulating board is guaranteed by The Celotex Corporation to meet all the requirements of Commercial Standard CS 45-32 for fibre insulating board as issued by the U.S. Department of Commerce, Washington, D.C.

ECONOMY
Celotex usually pays for itself through actual saving in fuel bills. An accurate comparison of walls and roofs as to their insulating value, and comparative fuel requirements is contained in the folder "Insulation Data," in which the same values and methods of computation are used as the Guides of the American Society of Heating and Ventilating Engineers.
PHYSICAL PROPERTIES

- THERMAL CONDUCTIVITY
  
  The thermal conductivity of Celotex has been established by many nationally known laboratories (U. S. Bureau of Standards, Armour Institute of Technology, and others). The average conductivity established by test in these laboratories being 0.04 Btu, per hour, per square foot, per degree F, per inch thickness.

- STRUCTURAL STRENGTH
  
  Tests made by the University of Minnesota, The R. W. Hunt Company, and Columbia University show the distortion of a 1/4 in. Celotex sheathed wall under a thrust of 1600 lb. (near the maximum strength of a well shingled house) with wood to ensure 0.25 in. The distortion of a wood sheathed wall under similar tests averaged 0.84 in.

- FIRE RESISTANCE
  
  Due to its high insulative value, light weight, and the absence of arson points, it retards the spread of fire.

- MANUFACTURE
  
  Celotex is made from bagasse—the vegetable fibre waste of sugar cane after the sugar has been extracted. This fibre, in addition to its economic value, and its practically limitless supply, is ideal for the manufacture of structural insulating board. The individual fibres are nearly long, tough, and strong and, when impregnated, their normal resistance to deterioration assures extraordinary durability. Due to climatic conditions in Louisiana, the characteristics of Louisiana bagasse are not present in sugar cane fibre produced elsewhere.

  During the processes of manufacture the cane fibres are washed and repeatedly washed. The cooling or drying of cane matter and the washing removes it. The clean fibres are chemically treated (waterproofed) so that the entire board throughout its thickness is highly water resistant.

  The clean cane fibres after the process of washing and the removal of unwanted materials are thoroughly mixed and securely interwoven, and the addition of a small quantity of a binder to prevent loss of strength and durability. The process is complete in 30 to 40 minutes. This process makes a material that is heat resistant, non-combustible, odorless, permanent, and in many ways the physical properties, appearance, or utility of the finished product. It resists all hazards to human beings or domestic animals.

- THE FEROX PROCESS
  
  Toxic to Fungi and Termites (White Ants)

  Ferox Process is the result of ten years of experimental research by the Celotex Research and Development Department and is patented in the United States and in foreign countries.

  In this process the individual fibres, in their wet state and before formation into the board, are treated with a chemical compound which, upon contact with fungi, termites, and similar cellulose destroying organisms, the chemical compound is immovable in water, non-volatile, odorless, permanent, and in many ways alters the physical properties, appearance, or utility of the finished products. It prevents no hazards to human beings or domestic animals.

  Ferox process treated & untreated—note the surface treatment. This outstanding feature has been added to all Celotex Cane Fibre Products.

  [Image of Celotex and Ferox process]
CELOTTEX THERMAL INSULATION PRODUCTS

- **CELOTTEX BUILDING BOARD**
  The original core lime insulation. Natural appearance with two distinct surfaces—one side has a tapestry textured finish; the other a smooth portrait finish. Furnished also in colors Nos. 56-75-62 as described under Tile Board.
  Sizes—4'x4', 4'x5', 4'x6', 4'x7', 4'x8', 4'x9', 4'x10', 4'x12', 4'x15', 4'x18', 4'x24'.
  Thicknesses—1/2, 3/4, and 1 inch.
  Uses—Furnished in all sizes for stud framing, floor sheathing, or roof sheathing under tile, shingles, or metal roofing, or as an interior finish for partition walls, basement ceilings, or interior walls.

- **CELOTTEX SHEATHING BOARD**
  A heavy wood composite. Ideal insulation value with structural strength.
  Sizes—4'x4', 4'x5', 4'x6', 4'x7', 4'x8', 4'x9', 4'x10', 4'x12', 4'x15', 4'x18', 4'x24'.
  Thicknesses—1/2, 3/4, and 1 inch.
  Uses—Furnished for interior surfaces, wall sheathing, or roof sheathing.

- **CELOTTEX ORNAMENTS AND MOULDINGS**
  A number of attractive Mouldings and square and round ornamental. Mouldings made of Celotex are available to make possible a finished artistic effect without advisable only in ornamental plaster and cored wood. Sizes of Ornament: 12', 12', 16', 16', 18'.
  Mouldings range from 1/2' and 4' plaster to 6' board finish. See page 11.

- **CELOTTEX LATH**
  A plastered insulating plaster base. Long edges are steamed and all edges are beveled to reinforce plaster against cracking and to eliminate slight lath marks. Two modes of determining the base of a grout plaster to Celotex show a holding power of 1000 lbs. per sq. ft., greater than that obtained where plaster is applied over many other types of plaster base.

Sizes—18'x40' inches. Thicknesses—1/2, 3/4, and 1 inch.
Uses—As a continuous insulating plaster base.

- **CELOTTEX TILE BOARD**
  Celotex Core Fibre Board in units with beveled edges—finest finish on either side. Furnished with Type Double A reversible bevel joint in 3/4" thickness only, whereby either side can be exposed thus offering the possibility of many unusual designs. Also furnished with other joints in 3/4", 1", and 1-1/2" thicknesses.
  Sizes—6', 8', 10', 12', 14', 16'.
  Colors and Surface Textures—No. 63 Natural; No. 65 Natural Rigid and Sanded; No. 75 Light Brown Rigid and Sanded; No. 82 Ivory Smooth Finish.
  Use—An attractive wall and ceiling treatment which is easily and quickly installed. Provides efficient insulation from heat, cold, and noise.

- **CELOTTEX FINISH PLANK**
  Made from selected Celotex Core Fibre Board in special with long edges beveled and beaded. Furnished with Type Double A reversible bevel joint, interlocking joint whereby either side can be exposed, offering the possibility of many unusual designs.
  Colors and Surface Textures—Furnished in colors Nos. 53-55-75-92 as described under Tile Board, also No. 55, Muted Brown, Tapestry texture.
  Sizes—6', 8', 10', 12', and 16' in widths 6, 7, 8, 9, 10, and 12 ft. long. Thickness—1/2 inch.
  Use—For interior finish where either regular or random plastering effect is desired. Provides efficient insulation.
**CELOTEX ROOF INSULATION**

Celotex Cane Fibre Board. For insulation over roof decks under built up roofing, slate, or tile.

Sizes—22 x 47 and 24 x 40 inches, 1/8 in. thick and multiples thereof up to 12 inches (8 p/yl).

**CELOTEX VAPORPROOFED ROOF INSULATION**

For use treated Celotex, fabrication, dried, and edged coated with a film of high quality asphalt. White asphalt it still hot, a vaporproofing membrane is applied and all laps and folds securely sealed with hot asphalt. Each unit is cooled under pressure to assure permanent adhesion.

Sizes—22 inches by 47 inches. Thickness—1, 1/2, 2, 3, 4 inches or any multiple of 1/2 inch.

**CELOTEX VAPORPROOFED LOW TEMPERATURE INSULATION**

Factory sealed, low density insulation. Comes wrapped in a vaporproofing, waterproofing covering. Has conductivity of 0.30 Btu's per inch thickness. Ample structural strength.

Sizes—12 x 48 inches, 18 x 48 inches, 24 x 48 inches. Thickness—1/16, 1/4, 1/2, 3/4, 1 inch.

**USES**—For severe cold storage requirements, including coolers, freezers, fruit and vegetable rooms, packing plants, barns, granaries, etc. Storages, air-conditioned spaces, general cold storage rooms, etc.

**CELOTEX FEROX INSULATING PROTECTION COURSE**

Provides superior protection for membrane waterproofing and damproofing on foundations, roofs, bridges, tunnels, and reservoirs. Size—22 x 47 inches. Thickness—1/2 and 1 inch.

**CELOTEX ROCK-WOOL PRODUCTS**

Made from carefully selected natural rock, melted in a furnace and blown into felt-like fibers by high pressure steam. The material is high in insulating efficiency, permanent, and incombustible.

Batts—Wall thick x 15 inches wide x 22 inches long. The batts are waterproofed during manufacture. They are reusable and easy to handle and install.

Loose Wool—For packing into open spaces.

Granulated Wool—For padding into enclosed spaces.

**OTHER CELOTEX PRODUCTS**

**CELOTEX HARDBOARD**

Rigid, tough, grainless, and moisture-resistant. Available tempered or untempered. Sizes—4 x 2, 4 x 3, 4 x 4, 4 x 6, 4 x 8, 4 x 10, 4 x 12. Thickness—1/16, 1/4, 1/2, 3/4, 1 inch.

**CELOTEX HARDBOARD TILE**

(Tempered only)

A tempered fibre board, moisture-proof, permanent, and paintable. Impressions which are stamped into the board during manufacture mark the surface into a 4 in. square block pattern. Readily takes enamel or lacquer finish.

Sizes—4 x 12. Thickness—1/8 or 3/16 inch.

**CELOTEX PANEL BOARD**

A quarter-inch fibre product of strength, stiffness, moisture-resistance. Sizes—4 x 4, 4 x 8, 4 x 10, 4 x 12. Thickness—Approximately 1/4 inch.

**CELOTEX STUDIO BOARD**

A tough, integral fibre board with a light brown color, permanent and paintable. Sizes—4 x 2, 4 x 3, 4 x 4, 4 x 6, 4 x 8, 4 x 10, 4 x 12. Thickness—1/4 inch.

**G-X WALLBOARDS**

Orange Label—(Celotex thickness approximately .095). Paintable finish, both sides varnished sized to take all decorative treatments, particularly water color paint, widely used in display background work. Sizes—32 and 48 in. wide; 6 to 12 ft. long. 14 and 16 ft. lengths also furnished.

Blue Label—(Celotex thickness approximately .175). Paintable finish, both sides varnished sized to take all decorative treatments. Sizes—32 and 48 in. wide; 6 to 12 ft. long.

APPLICATIONS OF CELOTEX

Ceolotex Building Board
Ceolotex Sheathing Board

1. Framing

All framing shall be 12 in. or 16 in. on center.

2. Material

(Sheathing) (covering finish) and (roof) sheathing shall be Ceolotex Building Board or Ceolotex Sheathing Board. Boards shall be 1-1/2 in., 3/4 in., 1/8 in. thick, and be of sufficient length for complete lap between floor and roof framing members. When intermediate wood posts are necessary, provide 21/4 in. knitting nails in between framing members. All joints shall be cut or folding.

3. Splicing—Splice boards 1/4 in. apart at all points, and overlap boards 1 in. in other contact with frame members.

1A) Construction

Following the standard recommendations of the Building Code Commission of the U.S. Department of Commerce for all wood framing. All fastening shall be securely nailed or stapled, and the nails to be set flush with the surface and painted where necessary.

1B) Wood Siding

All bare wood shall be given two coats of stain, and two coats or more of paint. Application of primer under the finish coat is optional. All wood trim shall be applied over finish coat.

1C) Masonry Siding

Masonry veneer shall be built to the local masonry code, and sound masonry with a minimum of 1/8 in. mortar joints. Masonry shall be laid and jointed with a minimum thickness of 1/4 in. and a maximum thickness of 1/2 in.

1D) Exterior Stucco

(a) Waterproofing and Sealing—Asbestos cement paper shall be used for sealing paper or metal paper to the finish coat. Also, where necessary, metal paper shall be sealed with rubber-base asphaltic paint or asphaltic emulsion.

(b) Furring Strips for Stucco, etc.

Provide 12 gauge galvanized fastening strips nailed every 16 in. to the wall, and 12 gauge drywall fastening strips nailed every 16 in. to the roof. All framing shall be 2 in. square, and the framing members shall be at least 2 in. thick. Provide 24 in. of standoff space at the edges of the framing members.

Notes: Ceolotex is a waiting brand.
APPLICATION No. 2—SPECIFICATIONS
Celotex Lath—Interior Plaster Base

(1) Framing
All framing shall be 12 in. or 16 in. on center.

(2) Material

(2A) General

(1) For interior work the specified lath shall be 11/16 in. x 1/16 in. x 16 in. with the long edge and the ends of all laths delivered to the builder in the original manufacturer's packages. The following small (end) trimming strips shall be provided:

Notes: Where needed or required, solid or stud framing members are required. Where used, framing members shall be spaced 6 in. o.c. and be assembled at 12 in. o.c.

(2) Application

(2B) Furring

(2C) Grounds

(3) Framing

(4) Variation

Notes: Due to the moisture-protective characteristics of Celotex Lath, all plaster seams must be covered by the air or in contact with the exposed lath surface. Where necessary and particularly on ceilings, provide plaster transits before or after application. Where the lath is stained at any point, lath must be carefully stained on both sides and the lath transited to prevent plaster failure.

(5) Electric Outlets

John Milner Associates, Inc. • June 2008 • Catalogue Information on Celotex • M - 8
The National Register Criteria

Source:  http://www.nps.gov/nr/listing.htm

What are the Criteria for Listing?

The National Register's standards for evaluating the significance of properties were developed to recognize the accomplishments of all peoples who have made a significant contribution to our country's history and heritage. The criteria are designed to guide State and local governments, Federal agencies, and others in evaluating potential entries in the National Register. …

Criteria for Evaluation

The quality of significance in American history, architecture, archeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:

A. That are associated with events that have made a significant contribution to the broad patterns of our history; or

B. That are associated with the lives of persons significant in our past; or

C. That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

D. That have yielded or may be likely to yield, information important in prehistory or history.

Criteria Considerations

[i.e., Properties in special categories requiring specific procedures for evaluation in relation to the National Register Criteria]

Ordinarily cemeteries, birthplaces, graves of historical figures, properties owned by religious institutions or used for religious purposes, structures that have been moved from their original locations, reconstructed historic buildings, properties primarily commemorative in nature, and properties that have achieved significance within the past 50 years shall not be considered eligible for the National Register. However, such properties will qualify if they are integral parts of districts that do meet the criteria or if they fall within the following categories:
a. A religious property deriving primary significance from architectural or artistic distinction or historical importance; or

b. A building or structure removed from its original location but which is primarily significant for architectural value, or which is the surviving structure most importantly associated with a historic person or event; or

c. A birthplace or grave of a historical figure of outstanding importance if there is no appropriate site or building directly associated with his or her productive life; or

d. A cemetery which derives its primary importance from graves of persons of transcendent importance, from age, from distinctive design features, or from association with historic events; or

e. A reconstructed building when accurately executed in a suitable environment and presented in a dignified manner as part of a restoration master plan, and when no other building or structure with the same association has survived; or

f. A property primarily commemorative in intent if design, age, tradition, or symbolic value has invested it with its own exceptional significance; or

 g. A property achieving significance within the past 50 years if it is of exceptional importance.
APPENDIX O:

THE SECRETARY OF THE INTERIOR’S STANDARDS FOR THE TREATMENT OF HISTORIC PROPERTIES
ARCHEOLOGY AND HISTORIC PRESERVATION:

Secretary of the Interior's Standards and Guidelines
[As Amended and Annotated]

The Secretary of the Interior’s Standards for the Treatment of Historic Properties,
1995

Standards for Preservation

1. A property will be used as it was historically, or be given a new use that maximizes the retention of distinctive materials, features, spaces, and spatial relationships. Where a treatment and use have not been identified, a property will be protected and, if necessary, stabilized until additional work may be undertaken.

2. The historic character of a property will be retained and preserved. The replacement of intact or repairable historic materials or alteration of features, spaces, and spatial relationships that characterize a property will be avoided.

3. Each property will be recognized as a physical record of its time, place, and use. Work needed to stabilize, consolidate, and conserve existing historic materials and features will be physically and visually compatible, identifiable upon close inspection, and properly documented for future research.

4. Changes to a property that have acquired historic significance in their own right will be retained and preserved.

5. Distinctive materials, features, finishes, and construction techniques or examples of craftsmanship that characterize a property will be preserved.

6. The existing condition of historic features will be evaluated to determine the appropriate level of intervention needed. Where the severity of deterioration requires repair or limited replacement of a distinctive feature, the new material will match the old in composition, design, color, and texture.

7. Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.

8. Archeological resources will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.
Standards for Rehabilitation

1. A property will be used as it was historically or be given a new use that requires minimal change to its distinctive materials, features, spaces, and spatial relationships.

2. The historic character of a property will be retained and preserved. The removal of distinctive materials or alteration of features, spaces, and spatial relationships that characterize a property will be avoided.

3. Each property will be recognized as a physical record of its time, place, and use. Changes that create a false sense of historical development, such as adding conjectural features or elements from other historic properties, will not be undertaken.

4. Changes to a property that have acquired historic significance in their own right will be retained and preserved.

5. Distinctive materials, features, finishes, and construction techniques or examples of craftsmanship that characterize a property will be preserved.

6. Deteriorated historic features will be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature will match the old in design, color, texture, and, where possible, materials. Replacement of missing features will be substantiated by documentary and physical evidence.

7. Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.

8. Archeological resources will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.

9. New additions, exterior alterations, or related new construction will not destroy historic materials, features, and spatial relationships that characterize the property. The new work will be differentiated from the old and will be compatible with the historic materials, features, size, scale and proportion, and massing to protect the integrity of the property and its environment.

10. New additions and adjacent or related new construction will be undertaken in such a manner that, if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.
Standards for Restoration

1. A property will be used as it was historically or be given a new use which reflects the property's restoration period.

2. Materials and features from the restoration period will be retained and preserved. The removal of materials or alteration of features, spaces, and spatial relationships that characterize the period will not be undertaken.

3. Each property will be recognized as a physical record of its time, place, and use. Work needed to stabilize, consolidate and conserve materials and features from the restoration period will be physically and visually compatible, identifiable upon close inspection, and properly documented for future research.

4. Materials, features, spaces, and finishes that characterize other historical periods will be documented prior to their alteration or removal.

5. Distinctive materials, features, finishes, and construction techniques or examples of craftsmanship that characterize the restoration period will be preserved.

6. Deteriorated features from the restoration period will be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature will match the old in design, color, texture, and, where possible, materials.

7. Replacement of missing features from the restoration period will be substantiated by documentary and physical evidence. A false sense of history will not be created by adding conjectural features, features from other properties, or by combining features that never existed together historically.

8. Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.

9. Archeological resources affected by a project will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.

10. Designs that were never executed historically will not be constructed.
Standards for Reconstruction

1. Reconstruction will be used to depict vanished or non-surviving portions of a property when documentary and physical evidence is available to permit accurate reconstruction with minimal conjecture, and such reconstruction is essential to the public understanding of the property.

2. Reconstruction of a landscape, building, structure, or object in its historic location will be preceded by a thorough archeological investigation to identify and evaluate those features and artifacts which are essential to an accurate reconstruction. If such resources must be disturbed, mitigation measures will be undertaken.

3. Reconstruction will include measures to preserve any remaining historic materials, features, and spatial relationships.

4. Reconstruction will be based on the accurate duplication of historic features and elements substantiated by documentary or physical evidence rather than on conjectural designs or the availability of different features from other historic properties. A reconstructed property will re-create the appearance of the non-surviving historic property in materials, design, color, and texture.

5. A reconstruction will be clearly identified as a contemporary re-creation.

6. Designs that were never executed historically will not be constructed.
APPENDIX P:

PRESERVATION BRIEF: THE PRESERVATION AND REPAIR OF LOG BUILDINGS
The Preservation and Repair of Historic Log Buildings

Bruce D. Bomberger

» Historical Background
» Traditional Log Construction
» Historical Evaluation and Damage Assessment
» Preservation Treatments
» Log Repair
» Preserving Log Buildings in Their Historic Settings
» Summary
» Selected Reading

A NOTE TO OUR USERS: The web versions of the Preservation Briefs differ somewhat from the printed versions. Many illustrations are new, captions are simplified, illustrations are typically in color rather than black and white, and some complex charts have been omitted.

The intent of this Brief is to present a concise history and description of the diversity of American log buildings and to provide basic guidance regarding their preservation and maintenance. A log building is defined as a building whose structural walls are composed of horizontally laid or vertically positioned logs. While this Brief will focus upon horizontally-laid, corner-notched log construction, and, in particular, houses as a building type, the basic approach to preservation presented here, as well as many of the physical treatments, can be applied to virtually any kind of log structure.
Log buildings, because of their distinct material, physical structure, and sometimes their architectural design, can develop their own unique deterioration problems. The information presented here is intended to convey the range of appropriate preservation techniques available. It does not, however, detail how to perform these treatments; this work should be left to professionals experienced in the preservation of historic log buildings.

Despite the publication since the 1930s of a number of books and articles on the history of log construction in America, some misconceptions persist about log buildings. Log cabins were not the first type of shelter built by all American colonists. The term "log cabin" today is often loosely applied to any type of log house, regardless of its form and the historic context of its setting. "Log cabin" or "log house" often conjures up associations with colonial American history and rough frontier life. While unaltered colonial era buildings in general are rare, historic log buildings as a group are neither as old nor as rare as generally believed. One and two-story log houses were built in towns and settlements across the country until about the middle of the 19th century, and in many areas, particularly in the West, as well as the Midwest and southern mountain regions, log continued to be a basic building material despite the introduction of wooden balloon frame construction. By the early 20th century, the popularity of "rustic" architecture had revived log construction throughout the country, and in many areas where it had not been used for decades.

A distinction should be drawn between the traditional meanings of "log cabin" and "log house." "Log cabin" generally denotes a simple one, or one-and-one-half story structure, somewhat impermanent, and less finished or less architecturally sophisticated. A "log cabin" was usually constructed with round rather than hewn, or hand-worked, logs, and it was the first generation homestead erected quickly for frontier shelter. "Log house" historically denotes a more permanent, hewn-log dwelling, either one or two stories, of more complex design, often built as a second generation replacement. Many of the earliest 18th and early 19th century log houses were traditionally clad, sooner or later, with wood siding or stucco.
**Historical Background**

No other architectural form has so captured the imagination of the American people than the log cabin. Political supporters of 1840 presidential candidate William Henry Harrison appropriated the log cabin as a campaign symbol. The log cabin was birthplace and home for young Abe Lincoln, as well as other national figures, and assumed by many 19th century historians to be the very first type of house constructed by English colonists. In 1893 Frederick Jackson Turner in his influential paper, "The Significance of the Frontier in American History" suggested that European colonists had adopted this means of shelter from the Indians.

More recent 20th century scholarship has demonstrated that horizontal log buildings were not the first form of shelter erected by all colonists in America. Nor was log construction technology invented here, but brought by Northern and Central European colonists. Finnish and Swedish settlers are credited with first introducing horizontal log building in the colony of New Sweden (now Pennsylvania) on the upper shores of Delaware Bay in 1638, who later passed on their tradition of log construction to the Welsh settlers in Pennsylvania.

During the 17th and 18th centuries, new waves of Eastern and Central Europeans, including Swiss and Germans, came to America bringing their knowledge of log construction. Even the Scotch-Irish, who did not possess a log building tradition of their own, adapted the form of the stone houses of their native country to log construction, and contributed to spreading it across the frontier. In the Mississippi Valley, Colonial French fur traders and settlers had introduced vertical log construction in the 17th century.

Through the late 18th and early 19th centuries, frontier settlers erected log cabins as they cleared land, winding their way south in and along the Appalachian valleys through the back country areas of Maryland, Virginia, the Carolinas and Georgia. They moved westward across the Appalachian Mountain barrier into the Ohio and Mississippi River valleys transporting their indispensable logcraft with them, into Kentucky and Tennessee, and as far to the southwest as eastern Texas. Log buildings are known to have been constructed as temporary shelters by soldiers during the Revolutionary War, and across the country, Americans used logs not only to build houses, but also commercial structures, schools, churches, gristmills, barns, corncribs and a variety of outbuildings.
Around the mid-19th century, successive generations of fur traders, metal prospectors, and settlers that included farmers and ranchers began to construct log buildings in the Rocky Mountains, the Northwest, California, and Alaska. In California and Alaska, Americans encountered log buildings that had been erected by Russian traders and colonists in the late 18th and early 19th centuries. Scandinavian and Finnish immigrants who settled in the Upper Midwest later in the 19th century also brought their own log building techniques with them. And, many log structures in the Southwest, particularly in New Mexico, show Hispanic influences of its early settlers.

While many parts of the country never stopped building with logs, wooden balloon frame construction had made it obsolete in some of the more populous parts of the country by about the mid-19th century. However, later in the century, log construction was employed in new ways. In the 1870s, wealthy Americans initiated the Great Camp Movement for rustic vacation retreats in the Adirondack Mountains of upstate New York. Developers such as William Durant, who used natural materials, including wood shingles, stone, and log--often with its bark retained to emphasize the Rustic style--designed comfortable summer houses and lodges that blended with the natural setting. Durant and other creators of the Rustic style drew upon Swiss chalets, traditional Japanese design, and other sources for simple compositions harmonious with nature.

The Adirondack or Rustic style was balanced in the West with construction of the Old Faithful Inn at Yellowstone National Park in Wyoming, designed by Robert C. Reamer, and begun in 1903. This popular resort was tremendously influential in its use of locally-available natural materials, especially log, and gave impetus to Rustic as a true national style. From the turn of the century through the 1920s, Gustav Stickley and other leaders of the Craftsman Movement promoted exposed log construction. During the 1930s and 40s, the Civilian Conservation Corps (CCC) used log construction extensively in many of the country's Federal and State parks to build cabins, lean-tos, visitor centers, and
maintenance and support buildings that are still in service.

**Traditional Log Construction**

**Plan and Form**

When settlers took the craft of log construction with them onto the frontier, they successfully adapted it to regional materials, climates and terrains. One of the most notable characteristics of the earliest 18th and 19th century log houses is the plan and form. The plan can sometimes provide clues to the ethnic origin or route of migration of the original inhabitant or builder. But in the absence of corroborating documentary evidence, it is important not to infer too much about the ethnic craft traditions of a particular log house.

Historians have identified a number of traditional house plans and forms as prototypes. They were often repeated with simple variations. The basic unit of each of these types is the one room enclosure formed by four log walls joined at their corners, called a single "pen" or "crib." The single pen was improved upon by installing interior partitions or by adding another log pen. Some variations of historic log house plans include: the typically mid-Atlantic "continental" plan, consisting of a single-pen of three rooms organized around a central hearth; the "saddlebag" or double-pen plan, composed of two contiguous log pens; and the "dogtrot" plan, formed by two pens separated by an open passage space (sometimes enclosed later), all covered by a continuous roof. The continental plan originated in central and eastern Europe and is attributed to 18th century German immigrants to Pennsylvania. Non-log interior partition walls form the multi-room plan within the exterior log walls. The saddlebag plan consists of two adjoining log pens that share a central chimney. A saddlebag is often the evolution of a single pen with an end chimney, expanded by adding a second pen onto the chimney endwall. The saddlebag was built in a number of different regions across the country. The dogtrot plan may be seen with variation in many parts of the country, although it is sometimes, perhaps erroneously, considered the most typically southern, because its covered passageway provided both air circulation and shelter from the heat. All these plan types were typically built in the form of one or one-and-one-half story settlement cabins.

A somewhat different form evolved in the West around the middle of the 19th century which became especially distinctive of the Rocky Mountain cabin. While the entrance doorway to most earlier log houses was generally placed beneath the eaves, as a means of adapting to the greater snowfall in the Rockies, here the entrance was placed in the gable end, and sometimes protected from roof slides by a porch supported by two corner posts created by an extension of the roof beyond the gable wall.

From the late 18th through the mid-19th centuries, Americans also built many substantial two-story log houses in towns throughout the eastern half of the country. In rural areas two-story log houses were sometimes built to replace earlier, first-generation settlement cabins, but just as often the early hewn-log house was retained and enlarged. A second story was added by removing the roof and gables, constructing a second floor, laying additional courses of logs, and building a new roof, or reassembling the old one. Each generation of owners might expand an early log core building by adding on new log pens, or masonry or wood frame extensions. The addition of a rear ell, or infill construction to link a formerly freestanding outbuilding, such as a kitchen to
the log main house was particularly common. Such a layering of alterations is part of the evolution of many log buildings.

**Corner Notching and Other Fastening Techniques**

Corner notching is another of the characteristic features of log construction. Most notching methods provide structural integrity, by locking the log ends in place, and give the pen rigidity and stability. Like the floor plan, the type of corner notching can sometimes be a clue to the ethnic craft origin of a log building, but it is important not to draw conclusions based only on notching details. Numerous corner notching techniques have been identified throughout the country. They range from the simple "saddle" notching, which demands minimal time and hewing skill, to the very common "V" notching or "steeple" notching, to "full dovetail" notching, one of the tightest but most time-consuming to accomplish, "half-dovetail" notching which is probably one of the most common, and "square" notching secured with pegs or spikes.

The notching method on some of the earliest eastern cabins and most 19th century western cabins, particularly saddle notching, left an extended log end or "crown." Crowns are especially pronounced or exaggerated in Rustic style structures, and sometimes they are cut shorter as the wall rises, creating a buttress effect at the corners of the building.

Another method of securing log ends consists of fastening logs that are laid without notching ("false notching") with tenons into vertical corner posts, or using spikes or pegs to attach them to vertical corner planks. Vertically positioned logs were secured at their top and bottom ends, usually into roof and sill plate timbers.

**Selecting Logs and Assembling the Building**

Although wood selection was most likely to be determined by availability, chestnut, white oak, cedar, and fir were preferred because these trees could provide long, straight, rot-resistant logs. Pine, which also provided long straight logs, was also used in areas where it was plentiful. Woods were often mixed, utilizing harder, heavier rot-resistant wood such as white oak for the foundation, "sill log", and lighter, more easily hewn wood such as yellow poplar for the upper log courses.

One of the principal advantages of log construction was the economy of tools required to complete a structure. A felling axe was the traditional tool for bringing down the tree and cutting the logs to length. For many frontier and western structures the round logs
were debarked or used in their original form with the bark left on, or one or more sides of the logs were hewn flat with a broadaxe, or more finely finished with an adze as smooth thick planks. Notching was done with an axe, hatchet or saw; openings for doors and windows were usually cut after the logs were set into place, and door and window frames, particularly jambs, were put in place during construction to help hold the logs in place. Roof framing members and floor joists were either hewn from logs or of milled lumber. A log cabin could be raised and largely completed with as few as two to four different tools, including a felling axe, a broad axe, and a hand saw or crosscut saw.

The upper gable walls were completed with logs if the roof was constructed with purlins, which is more typical of Scandinavian or Finnish construction, and western and 20th century Rustic styles. However, vertical or horizontal weatherboard sheathing was commonly used throughout the country to cover wood-framed gables.

**Chinking and Daubing**

The horizontal spaces or joints between logs are usually filled with a combination of materials that together is known as "chinking" and "daubing." Chinking and daubing completed the exterior walls of the log pen by sealing them against driving wind and snow, helping them to shed rain, and blocking the entry of vermin. In addition, chinking and daubing could compensate for a minimal amount of hewing and save time if immediate shelter was needed. Not all types of log buildings were chinked. Corncribs, and sometimes portions of barns where ventilation was needed were not chinked. While more typical of Swedish or Finnish techniques, and not as common in American log construction, tight-fitting plank-hewn or scribed-fit round logs have little or no need for chinking and daubing.

A variety of materials were used for chinking and daubing, including whatever was most conveniently at hand. Generally though, it is a three-part system applied in several steps. The chinking consists of two parts: first, a dry, bulky, rigid blocking, such as wood slabs or stones is inserted into the joint, followed by a soft packing filler such as oakum, moss, clay, or dried animal dung. Daubing, which completes the system, is the outer wet-troweled finish layer of varying composition, but often consisting of a mixture of clay and lime or other locally available materials. Instead of daubing, carefully fitted quarter poles or narrow wood strips were sometimes nailed lengthwise across the log joints.

Chinking, especially the daubing, is the least durable part of a log building. It is susceptible to cracking as a result of freeze-thaw action, structural settlement, drying of the logs, and a thermal expansion-contraction rate that differs from that of the logs. Seasonal deterioration of chinking necessitates continual inspection and regular patching or replacement.
Exterior Wall Treatments

Although the exterior logs of cabins in the West, and 20th century Rustic buildings are generally not covered, many 18th and 19th century log houses east of the Mississippi, with the exception of some of the simpler cabins and houses in remote or poorer areas, were covered with exterior cladding. The exterior of the log walls was covered for both aesthetic and practical reasons either as soon as the building was completed or sometime later.

In some instances, the exterior (and interior) of the logs was whitewashed. This served to discourage insects, and sealed hairline cracks in the daubing and fissures between the daubing and logs. Although the solubility of whitewash allows it to heal some of its own hairline cracks with the wash of rain, like daubing it has to be periodically reapplied. Usually, a more permanent covering such as wood siding or stucco was applied to the walls, which provided better insulation and protection, and reduced the maintenance of the log walls.

Sometimes log houses were sided or stuccoed later in an attempt to express a newly-achieved financial or social status. Many log houses were immediately sided and trimmed upon completion to disguise their simple construction beneath Georgian, Federal and later architectural styles. Frequently a log house was covered, or recovered, when a new addition was erected in order to harmonize the whole, especially if the original core and its addition were constructed of different materials such as log and wood frame.

Vertical wood furring strips were generally nailed to the logs prior to applying weatherboarding or stucco. This ensured that the walls would be plumb, and provided a base on which to attach the clapboards, or on which to nail the wood lath for stucco.

Foundations

Log building foundations varied considerably in quality, material, and configuration. In many cases, the foundation consisted of a continuous course of flat stones (with or without mortar), several piers consisting of rubblestone, single stones, brick, short vertical log pilings, or horizontal log "sleepers" set on grade. The two "sill logs," were laid directly upon one of these types of foundations.

Climate and intended permanence of the structure were the primary factors affecting foundation construction. The earliest log cabins, and temporary log dwellings in general, were the most likely to be constructed on log pilings or log sleepers set directly on grade. Where a more permanent log dwelling was intended, or where a warm, humid climate accelerated wood decay, such as in the South, it was sometimes more common...
to use stone piers which allowed air to circulate beneath the sill logs. Full cellars were not generally included in the original construction of most of the earliest log houses, but root cellars were often dug later.

**Roofs**

Log buildings were roofed with a variety of different framing systems and covering materials. Like log house plans and corner notching styles, the types of roof framing systems used were often variations on particular ethnic and regional carpentry traditions. In most cases wood shingles were the first roof covering used on the earliest 18th and 19th century log houses. As wood shingle roofs deteriorated, many were replaced with standing seam metal roofs, many of which continue to provide good service today. Later pioneer log buildings west of the Mississippi were likely to be roofed with metal or roll roofing, or even with sod. Other log buildings have been re-roofed in the 20th century with asphalt shingles. For some rustic log buildings in the West and Great Camps in the Adirondacks, asphalt shingles are the original historic roofing material.

**Chimneys**

Ethnic tradition and regional adaptation also influenced chimney construction and placement. Chimneys in log houses were usually built of stone or brick, a combination of the two, or even clay-lined, notched logs or smaller sticks. Later log buildings were frequently constructed with only metal stacks to accommodate wood stoves. The chimneys of log buildings erected in cold climates tended to be located entirely inside the house to maximize heat retention. In the South, where winters were less severe the chimney stack was more typically constructed outside the log walls. With the advent of more efficient heating systems, interior chimneys were frequently demolished or relocated and rebuilt to maximize interior space.

**Interior Finishes**

Logs on the interiors of many of the simpler cabins and Rustic style structures were often given a flattened surface or left exposed. But, in the more finished log houses of the 18th and 19th century, they were more commonly covered for most of the same reasons that the exterior of the logs was covered--improved insulation, ease of maintenance, aesthetics, and keeping out vermin. Covering the interior log walls with planks, lath and plaster, boards pasted with newspaper, fabric such as muslin, or wallpaper increased their resistance to air infiltration and their insulation value. Finished walls could be cleaned and painted more easily, and plastered walls and ceilings obscured the rough log construction and prepared interior surfaces for decorative wood trim in the current styles.

**Historical Evaluation and Damage Assessment**

Before undertaking preservation work on a historic log building, its history and design should be investigated, and physical condition evaluated. It is always advisable to hire a historical architect or qualified professional experienced in preservation work to supervise the project. In addition, State Historic Preservation Offices, regional offices of the National Park Service, and local historical commissions may also provide technical
and procedural advice.

The historical investigation should be carried out in conjunction with a visual inspection of the log building. Physical assessment needs to be systematic and thorough. It should include taking notes, photographs or video recording, and making drawings of existing conditions, including overall and detail views. This will serve as a record of the appearance and condition which can be referred to once work is under way. A physical assessment should also identify causes of deterioration, not just symptoms or manifestations and, in some instances, may need to include a structural investigation.

Foundation Inspection

The foundation of a log building should always be inspected before beginning work because, as in any building, foundation-related problems can transfer structural defects to other components of the building. Settling of the foundation is a typical condition of log buildings. If settlement is not severe and is no longer active, it is not necessarily a problem. If, however, settlement is active or uneven, if it is shifting structural weight to unintended bearing points away from the intended main bearing points of the corner notches and sill log, serious wall deflections may have resulted. Causes of settlement may include foundation or chimney stones or sill logs that have sunk into the ground, decay of log pilings, log sleepers, or of the sill logs themselves.

Log Inspection

Foundation problems usually result in damage to the sill logs and spandrels, which are often the most susceptible to deterioration. Sill logs, along with the corner notching, tend to bear most of the weight of the building, and are closest to vegetation and the ground, which harbors wood-destroying moisture and insects. If the sill log has come into contact with the ground, deterioration is probably underway or likely to begin. It is also important to check the drainage around the building. The building assessment should note the condition of each log and attempt to identify the sources of problems that appear to exist.

Sill log inspection should not necessitate destruction of historic exterior cladding if it exists. Inspection can usually be made in areas where cladding is missing, loose, or deteriorated. Sill log, as well as upper log, deterioration may also be revealed by loose or peeling areas of the cladding. If pieces of cladding must be removed for log inspection, they should be labeled and saved for reinstallation, or as samples for replacement work. Historic cladding generally need not be disturbed unless there are obvious signs of settling or other indications of deterioration.

Other areas of the log walls which are particularly susceptible to deterioration include window and door sills, corner notches, and crowns, and any other areas regularly saturated by rain runoff or backsplash. The characteristic design feature of Adirondack or Rustic style log buildings of leaving log ends or crowns to extend beyond the notched corners of the building positions the crowns beyond the drip-line of the roof edge. This makes them vulnerable to saturation from roof runoff, and a likely spot for deterioration. Saddle notching in which the cut was made out of the top surface of the log and which cups upward, and flat notching, may also be especially susceptible to collecting runoff moisture.
Detection of decay requires thorough inspection. Probing for rot should be done carefully since repair techniques can sometimes save even badly deteriorated logs. Soft areas should be probed with a small knife blade or icepick to determine the depth of decay. Logs should be gently tapped at regular intervals up and down their lengths with the tool handle to detect hollow-sounding areas of possible interior decay. Long cracks which run with the wood grain, called "checks," are not signs of rot, but are characteristic features of the seasoning of the logs. However, a check can admit moisture and fungal decay into a log, especially if it is located on the log's upper surface. Checks should also be probed with a tool blade to determine whether decay is underway inside the log.

Sill log ground contact and relative moisture content also provide ideal conditions for certain types of insect infestation. Wood building members, such as sill logs or weatherboarding, less than eight inches from the ground, should be noted as a potential problem for monitoring or correction. Sighting of insects, or their damage, or telltale signs of their activity, such as mud tunnels, exit holes, or "frass," a sawdust-like powder, should be recorded. Insect infestation is best treated by a professionally licensed exterminator, as the chemicals used to kill wood-destroying insects and deter re-infestation are generally toxic.

**Roof Inspection**

Along with the foundation, the roof is the other most vital component of any building. The roof system consists of, from top to bottom, the covering, usually some form of shingles or metal sheeting and flashing; board sheathing or roof lath strips; the framing structure, such as rafters or purlins; the top log, sometimes referred to as the "roof plate" or "rafter plate;" and, sometimes, but not always, gutters and downspouts.

The roof and gutters should be inspected and checked for leaks both from the exterior, as well as inside if possible. Inspection may reveal evidence of an earlier roof type, or covering, and sometimes remnants of more than one historic covering material. The roof may be the result of a later alteration, or raised when a second story was added, or repaired as the result of storm or fire damage. Often, roof framing may be composed of reused material recycled from earlier buildings. Inspection of the roof framing should note its configuration and condition. Typical problems to look for are framing members that have been dislodged from their sockets in the roof plate, or that are cracked, ridge damage, sagging rafters, broken ties and braces, and decay of exterior exposed rafter or purlin ends, especially common on Rustic style buildings.

**Other Features**

The rest of the building should also be inspected as part of the overall assessment, including siding, window sash and frames, door frames and leafs, chimneys, porches, and interior walls, trim, and finishes. Any of these features may exhibit deterioration problems, inherent to the material or to a construction detail, or may show the effects of problems transmitted from elsewhere, such as a deformed or mis-shapen window frame resulting from a failed sill log. The inspection should note alterations and repairs made over time, and identify those modifications which have acquired significance and should
be preserved. Nothing should be removed or altered before it has been examined and its historical significance noted.

**Preservation Treatments**

Since excessive moisture promotes and hastens both fungal and insect attack, it should be dealt with immediately. Not only must the roof and gutters be repaired--if none exist, gutters should probably be added--but the foundation grade should be sloped to ensure drainage away from the building. If the distance from the ground to the sill log or exterior sheathing is less than eight inches, the ground should be graded to achieve this minimum distance. Excess vegetation and debris such as firewood, dead leaves, or rubbish should be cleared from the foundation perimeter, and climbing vines whose leaves retain moisture and tendrils erode daubing, should be killed and removed. Moisture problems due to faulty interior plumbing should also be remedied. Solving or reducing moisture problems may in itself end or halt the progress of rot and wood-destroying insects.

**Log Repair**

Stabilizing and repairing a log that has been only partially damaged by decay or insects is always preferable to replacing it. Retaining the log, rather than substituting a new one, preserves more of the building's integrity, including historic tool marks and the wood species which may no longer be obtainable in original dimensions. Log repair can generally be done with the log in place at less cost, in less time, and with less damage to building fabric, than by removing, and installing a new hewn and notched replacement log. Log repair is accomplished by two basic methods: traditional methods of splicing in new or old wood, or through the use of epoxies. These treatments are sometimes combined, and may also be used in conjunction with reinforcing members. Historic log repair, whether it involves patching techniques or the use of epoxies, should always be performed only by an experienced craftsperson or architectural conservator.

**Wood Splicing**

Wood splicing can involve several types of techniques. Also referred to as "piecing-in" or "Dutchman" repair, it involves treating a localized area of deterioration by cutting out the decayed area of the log, and carefully carving and installing a matching, seasoned wood replacement plug or splice. The wood species, if available, and the direction and pattern of the grain should match that of adjacent original wood. The location and depth of decay should determine the splicing technique to be used. In a case where decay runs deep within a log, a full-depth segment containing the affected area can be cut out, severing the log completely, and a new segment of log spliced in, using angled "scarf" joints or square-cut "half-lap" joints. The splice is secured to the severed log by angling lag screws or bolts through the upper and lower surfaces that will be concealed by daubing.

Splicing can also be performed using epoxy as an adhesive. A log with shallow decay on its outer face can be cut back to sound depth, and a half-log face spliced on, adhered with epoxy, screws or bolts. A technique for the repair of badly deteriorated log crowns involves cutting them back to sound wood, and into the notching joint if necessary, and installing new crowns cut to match. Fiberglass or aluminum reinforcement rods are inserted into holes drilled into the new crowns, and into corresponding holes drilled in
the ends of the original cutoff logs. Epoxy is used as an adhesive to attach and hold the new crowns in place. Long lag screws can be angled up through the underside of the crown into the log above to provide additional support for the repair.

**Epoxy Consolidation and Repair**

In some instances, epoxies may be used by themselves to consolidate and fill the voids left by deteriorated wood. Epoxies are versatile in performance, relatively easy to use by experts, and, after curing, may be shaped with woodworking tools. Their use requires that sufficient sound wood survives for the epoxy to adhere. But they can be used to stabilize rotted wood, return full or greater than original strength to decayed structure-bearing members, and to reconstitute the shape of decayed log ends. Epoxies resist decay and insects, and while epoxy itself is resistant to moisture, epoxy tends to cause adjacent wood to retain moisture rather than dry out, and if not used in the right location, can actually further a continuing cycle of wood decay. Hence, epoxy repairs are most successful in areas where they are protected from moisture. Epoxies, of which there are a variety of commercially-available products on the market, are prepared in essentially two forms: a liquid consolidant and a flexible putty filler. Each consists of a resin and a hardener which must be mixed prior to use.

The technique of treating, for example, a decayed log crown with epoxies is begun by removing loose decayed wood, and drying the area if necessary. The rot-affected cavity and surface of the log end is then saturated with liquid epoxy by repeated brushing, or by soaking it in a plastic bag filled with epoxy that is attached to the log. The porous condition of the rot-damaged wood will draw up the epoxy like a lamp wick. Once the liquid epoxy has saturated the log end and cured, the log end has been consolidated, and is ready for the application of an epoxy putty filler. The filler resin and hardener must also be mixed, pigments must be mixed with the filler epoxy to color the patch, and more importantly to protect it from ultraviolet sunlight. The filler can be applied with a putty knife, pressing it into the irregularities of the cavity. The cured patch can be worked like wood and painted with an opaque stain or a dull finish paint to help it blend with surrounding wood, although epoxy repairs can be difficult to disguise on natural, unpainted wood.

Epoxies can be used to consolidate and repair other areas of a log, including rotted internal areas which have not yet progressed to damage the log's outer surface. Saturation of small internal areas can be accomplished by drilling several random holes into the log through an area that will be concealed by daubing, and then pouring in liquid epoxy. If a pure resin is used, it should be a casting resin to minimize shrinkage, and it is best to fill voids with a resin that contains aggregates such as sand, or micro-balloons. Epoxy is frequently used by architectural conservators to strengthen deteriorated structural members. The damaged log can be strengthened by removing the deteriorated wood, and filling the void by imbedding a reinforcing bar in epoxy filler, making sure the void is properly sealed to contain the epoxy before using it. Sometimes larger decayed internal areas of a log can be more easily accessed and repaired from the interior of a structure. This may be a useful technique if it can be accomplished without causing undue damage to the interior finishes in the log building. However, despite its many advantages, epoxy may not be an appropriate treatment for all log repairs, and it should not be used in an attempt to conceal checking, or extensive log surface patching that is exposed to view, or logs that are substantially decayed or collapsed.
Log Replacement

Repairing or replacing only a segment of a log is not always possible. Replacement of an entire log may be the only solution if it has been substantially lost to decay and collapsed under the weight of logs above it. Log replacement, which should be carried out only by experienced craftspersons, is begun by temporarily supporting the logs above, and then jacking them up just enough to insert the new log. Potential danger to the structure may include creating inadequate temporary bearing points, and crushing chinking and interior finishes which may have settled slowly into non-original positions that cannot withstand jacking.

To begin the process of log replacement, the entire length of the log must be inspected from the exterior and the interior of the structure to determine whether it supports any structural members or features, and how their load can be taken up by bracing during jacking and removal. On the exterior, sheathing such as weatherboard, and adjacent chinking, must be removed along the length of the log to perform this inspection. Likewise, on the interior, abutting partition walls and plaster may also need to be removed around the log to determine what, if any, features are supported by or tied into the log to be removed.

A replacement log should be obtained to match the wood species of the original being removed. If it is a hewn log, then the replacement must be hewn to replicate the dimensions and tool marks of the original. If the same wood species cannot be obtained in the original dimensions, a substitute species may have to be used, and may even be preferable in some instances if a more durable wood can be found than the original wood species. It should, however, be chosen to match the visual characteristics of the original species as closely as possible.

Wood Preservatives

In most instances, the use of chemical wood preservatives is not generally recommended on historic log buildings. Preservatives tend to change the color or appearance of the logs. In addition, many are toxic, they tend to leach out of the wood over time, and like paint, must be periodically reapplied. Many of the late 19th and early 20th century Rustic structures were constructed of logs with the bark left on which may provide protection, while others have been painted. However, some log buildings, and especially log houses that have been inappropriately stripped of historic cladding in an earlier restoration, and now show signs of weathering, such as deep checking, may be exceptions to this guidance. A preservative treatment may be worth considering in these cases. Boiled linseed oil may sometimes be appropriate to use on selected exposures of a building that are particularly vulnerable to weathering, although linseed oil does tend to darken over time. Borate solutions, which do not alter the color or appearance of wood, may be another of the few effective, non-hazardous preservatives available. However, borate solutions do not penetrate dry wood well, and thus the wood must be green or wet. Because borate solutions are water-soluble, after treating, the wood must be coated with a water-repellent coating. In some instances, it may be appropriate to
reapply varnish where it was used as the original finish treatment. Pressure-treating, while effective for new wood, is not applicable to in-place log treatment, and is generally not effective for large timbers and logs because it does not penetrate deeply enough.

**Foundation Repair**

The foundation should have good drainage, be stable, adequately support the building as well as any future floor loads, and keep the sill log sufficiently clear of the ground and moisture to deter decay and insect infestation. Log buildings with cellars are less likely to suffer problems than those built upon the ground or with crawl spaces, as long as the cellar is kept dry and ventilated. Because the foundations of many log buildings were neither dug nor laid below the frost-like, they generally tend to be susceptible to freeze-thaw ground heaving and settlement. Also, as previously noted, some foundations consisted of wooden sleepers or pilings in direct contact with the ground. If a foundation problem is minor, such as the need for repointing or resetting a few stones, work should address only those areas. Loose stones should be reset in their original locations if possible. A clearly inadequate foundation that has virtually disappeared into the ground, or where large areas of masonry have buckled or sunk, resulting in excessively uneven or active settlement, will need to be rebuilt using modern construction methods but to match the historic appearance.

**Chinking Repair**

Repair of chinking, whether it is finished on the exterior with wooden strips or with daubing, should not be done until all log repair or replacement, structural jacking and shoring is completed, and all replacement logs have seasoned. Historically, patching and replacing daubing on a routine basis was a seasonal chore. This was because environmental factors--building settlement, seasonal expansion and contraction of logs, and moisture infiltration followed by freeze-thaw action--cracks and loosens daubing. If the exterior log walls are exposed, and the chinking or daubing requires repair, as much of the remaining inner blocking filler and daubing should be retained as possible. A daubing formula and tooled finish that matches the historic daubing, if known, should be used, or based on one of the mixes listed here. For the most part, modern commercially-available chinking products are not suitable for use on historic log buildings, although an exception might be on the interior of a log building where it will be covered by plaster or wood, and will not be visible. These products tend to have a sandy appearance that may be compatible with some historic daubing, but the color, and other visual and physical characteristics are generally incompatible with historic log surfaces.

Sections of wood chinking which are gone or cannot be made weathertight should be replaced with same-sized species saplings or quarter poles cut to fit. Generally, unless bark was used originally, it should be removed before nailing the new wood chinking replacements tightly into place.

Analysis of daubing can be done in much the same way as mortar analysis. If that is not
feasible, by crushing a loose piece of daubing its constituent parts can be exposed, which may typically include lime, sand, clay, and, as binders, straw or animal hair. The color imparted by the sand or pigmented constituents should be noted, and any areas of original daubing should be recorded with color film for later reference. Daubing that is loose or is not adhered to the logs must first be cleaned out by hand. Blocking filler should be left intact, refitting only loose pieces. (Sometimes it may be difficult to obtain a good bond in which case it may be necessary to clean out the joint entirely.) If needed, soft filler should be added, such as jute or bits of fiberglass batt, pressed firmly into voids with a stick or blunt tool. Concealed reinforcement may sometimes be used, depending upon the authenticity of the restoration. This can include galvanized nails partially inserted only on the upper side of the log to allow for the daubing to move with the upper log and keep the top joint sealed, or galvanized wire mesh secured with galvanized nails. Like repointing masonry, daubing should not be done in full sun, excessive heat or when freezing temperatures are expected. The daubing materials should be dry-mixed, the chinking rechecked as being tight and secure, and the mix wetted and stirred to a stiff, paste-like consistency. The mix dries quickly, so no more daubing should be prepared at a time than can be applied in about 30 minutes. A test patch of new daubing, either on the building, or in a mockup elsewhere, will help test the suitability of the formula's color and texture match.

Before applying the daubing, the chinking area, including filler and log surfaces to be covered, should be sprayed with water to prevent the dry filler from too rapidly drawing off the daubing moisture which will result in hairline cracking. A trowel, ground to the width of the daubing, is used to press the daubing into the chinking space, and to smooth the filled areas. Wide or deep chinking spaces or joints may have to be daubed in layers, to prevent sagging and separation from the logs, by applying one or two scratch coats before finishing the surface.

Portland cement was a part of the original daubing used in many late 19th and early 20th century log buildings, and is therefore appropriate to include in repairing buildings of this period. Although a small amount of portland cement may be added to a lime, clay and sand mix for workability, there should not be more than 1 part portland cement to 2 parts of lime in daubing mixes intended for most historic log buildings. Portland cement tends to shrink and develop hairline cracks, and retain moisture, all of which can be potentially damaging to the logs.

**Daubing Mixes**

<table>
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<th>material</th>
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<tr>
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<td></td>
</tr>
<tr>
<td>1/4</td>
<td>cement</td>
</tr>
<tr>
<td>1</td>
<td>lime</td>
</tr>
<tr>
<td>4</td>
<td>sand</td>
</tr>
</tbody>
</table>


Interior Treatments

There is no single appropriate way to finish or restore the interior of a historic log house. Each building and its history is unique. The temptation should be resisted to impart an unfinished frontier character by removing plaster to expose interior log walls or joists in the ceiling. Instead, interior treatments should be based on existing evidence, and guided by old photographs, written documentation, and interviews with previous owners. Interior features and finishes that might exist in some 18th and 19th century log houses include wood paneled walls, wood moldings, stairs, and fireplace mantels; where they have survived, these features should be retained. Many of the more rustic log buildings built later in the 19th or early 20th century intentionally featured exposed interior log walls, sometimes with the logs peeled and varnished. If interior plaster is severely damaged or has previously been removed, and evidence such as lath ghosting on the logs exists, walls should be replastered or recovered with gypsum board or dry wall to match the historic appearance.

Preserving Log Buildings in Their Historic Settings

Log buildings are too often viewed as portable resources. Like other historic buildings, moved or relocated log structures can suffer a loss of integrity of materials and of setting. Historic buildings listed in the National Register of Historic Places may be subject
to loss of that status if moved. Despite the popularity of dismantling and relocating log buildings, they should be moved only as a last resort, if that is the only way to save them from demolition. If they must be moved, it is preferable that they be moved intact— that is, in one piece rather than disassembled. Disassembling and moving a log building can result in considerable loss of the historic building materials. While the logs and roof framing members can be numbered for reassembly, dismantling a log building can result in loss of such features as foundation and chimney, chinking and daubing, exterior cladding, and interior finishes. Furthermore, log buildings can rarely be put back together as easily as they were taken apart.

Summary

Historic log buildings regardless of whether they are of horizontal or vertical construction, or whether they are 18th century log houses or early 20th century Rustic style cabins, are unique. Their conservation essentially centers on the preservation and repair of the logs, and appropriate repairs to chinking and daubing, which like repointing of masonry, is necessary to ensure that most log buildings are weathertight. Log building preservation may be accomplished with a variety of techniques including splicing and piecing-in, the use of epoxy, or a combination of patching and epoxy, and often, selected replacement. But, like any historic building, a log structure is a system that functions through the maintenance of the totality of its parts.

The exterior of many of the earliest late 18th and 19th century log buildings, and particularly those east of the Mississippi, were commonly covered with some type of cladding, either horizontal or vertical wood siding, stucco, or sometimes a combination. If extant, this historic cladding, which may be hidden under a later, non-historic artificial siding such as aluminum, vinyl, or asbestos, should be preserved and repaired, or replaced if evidence indicates that it existed, as a significant character-defining feature of the building.

Selected Reading


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This publication has been prepared pursuant to the National Historic Preservation Act of 1966, as amended, which directs the Secretary of the Interior to develop and make available information concerning historic properties. Technical Preservation Services (TPS), Heritage Preservation Services Division, National Park Service prepares standards, guidelines, and other educational materials on responsible historic preservation treatments for a broad public.
APPENDIX Q:

DESCRIPTION OF TYPICAL LOG CABIN CONSTRUCTION IN 1824

BY JOSEPH DODDRIDGE
An Account of Log Construction in the 1820s

The following is an account first published in 1824 describing the process of building a small log house, or more precisely, a primitive log cabin, on the frontier for a newlywed couple. The account is a chapter in the book Notes on the Settlement and Indian Wars by Joseph Doddridge (the text that follows is from the 1989 “Special Collector’s Edition” reprint of the 1912 printing of the book: Parsons, WV: McClain Publishing Company, 1989, pp. 106-108). The book was written to describe life in the Northern Panhandle of West Virginia and adjoining areas of Pennsylvania and Ohio in the late eighteenth century. It is regarded as one of the most accurate studies of this kind produced in the early nineteenth century. The description is of the construction of an unhewn, or round-log building, known as a “log cabin.” This type of residence was normally replaced by a hewn log house a few years later. Typical log house construction in the area Doddridge is describing had many of the same characteristics as log construction in Montgomery County in the same era. In fact, some of the families who settled in the area Doddridge is describing were from Montgomery County. Among the characteristics that log construction has in common in the two areas are the predominance of V-notching, the use of logs that are hewn to a vertical surface on the interior and exterior faces in log buildings when the building was intended to be permanent, a chimney on one gable end, the use of a single-pen rectangular floor plan with asymmetrical openings, and log walls that have two or three courses of logs above the joists of the loft floor. The account illustrates not only the culture and process of log construction, but also the association of “log cabins,” particularly unhewn log construction, with expedience. This method of building a residence allowed a house to be erected in as little as three or four days using neighbors as laborers and using materials that were available in most agricultural settlements, such as stands of trees of an appropriate species with certain characteristics, including and the availability of some straight-grained wood for cutting shingles. The construction of a hewn log house, such as the log wing of the Riley House, was a little more sophisticated and time-intensive. Building a more-permanent, hewn house involved cutting away two sides of each log and fitting the joints more tightly that would typify the unhewn house. The joinery often involved a visit from a master carpenter who marked the pieces of wood with Roman numerals (or similar markings) instructing the junior carpenters, or “journeymen,” on how to complete the project after the more experienced carpenter had moved on to another project (marking of this kind are found in the attic rafter of the frame part of the Riley House).
CHAPTER XVI

The House Warming.

I will proceed to state the usual manner of settling a young couple in the world.

A spot was selected on a piece of land of one of the parents, for their habitation. A day was appointed shortly after their marriage for commencing the work of building their cabin. The fatigue party consisted of choppers, whose business it was to fell the trees and cut them off at proper lengths. A man with a team for hauling them to the place, and arranging them, properly assorted, at the sides and ends of the building, a carpenter, if such he might be called, whose business it was to search the woods for a proper tree for making clapboards for the roof. The tree for this purpose must be straight grained and from three to four feet in diameter. The boards were split four feet long, with a large frow, and as wide as the timber would allow. They were used without planing or shaving. Another division was employed in getting puncheons for the floor of the cabin; this was done by splitting trees, about eighteen inches in diameter, and hewing the faces of them with a broad axe. They were half the length of the floor they were intended to make. The materials for the cabin were mostly prepared on the first day and sometimes the foundation laid in the evening. The second day was allotted for the raising.

In the morning of the next day the neighbors collected for the raising. The first thing to be done was the election of four corner men, whose business it was to notch and place the logs. The rest of the company furnished them with the timbers. In the meantime the boards and puncheons were collecting for the floor and roof, so that by the time the cabin was a few rounds high the sleepers and floor began to be laid. The door was made by sawing or cutting the logs in one side so as to make an opening about three feet wide. This opening was secured by upright pieces of timber about three inches thick through which holes were bored into the ends of the logs for the purpose of pinning them fast. A similar opening, but wider, was made at the end for the chimney. This was built of logs and made large to admit of a back and jambs of stone. At the square, two end logs projected a foot or eighteen inches beyond the wall to receive the butting poles, as they were called, against which the ends of the first row of clapboards was supported. The roof was formed by making the end logs shorter until a single log formed the comb of the roof. On these logs the clapboards were placed, the ranges of them lapping some distance over those next below them and kept in their places by logs placed at proper distances upon them.

The roof and sometimes the floor were finished on the same day of the raising. A third day was commonly spent by a few carpenters in leveling off the floor, making a clapboard door and a table. This last was made of a split slab and supported by four round legs set in auger holes. Some three-legged stools were made in the same manner. Some pins stuck in the logs at the back of the house supported some clapboards which served for shelves for the table furniture. A single fork, placed with its lower end in a hole in the floor and the upper end fastened to a joist, served for a bedstead by placing a pole in the fork with one end through a crack between the logs of the wall. This front pole was crossed by a shorter one within the fork, with its outer end through another crack. From the front pole, through a crack between the logs of the end of the house, the boards were put on which formed the bottom of the bed. Sometimes other poles were pinned to the fork a little distance above these, for the purpose of supporting the front and foot of the bed, while the walls were the supports of its back and head. A few pegs around the walls for a display of the coats of the women, and hunting shirts of the men, and two small forks or buck’s horns to a joist for the rifle and shot pouch, completed the carpenter work.

In the mean time masons were at work. With the heart pieces of the timber of which the clapboards were made they made billets for chunking up the cracks between the logs of the cabin and chimney; a large bed of mortar was made for daubing up those cracks; a few stones formed the back and jambs of the chimney.
The cabin being finished, the ceremony of house warming took place before the young couple were permitted to move into it. The house warming was a dance of a whole night’s continuance, made up of the relations of the bride and groom and their neighbors. On the day following the young couple took possession of their new mansion.