Southern Maryland Tobacco Barn Survey

Final Report Submitted to the Maryland Historical Trust

Dennis J. Pogue, PhD
University of Maryland
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Title: Southern Maryland Tobacco Barn Survey

Nature of the Project:
Cultural Resources Survey and Evaluation

Location:
Heritage resources located throughout the five-county Southern Maryland Region: Anne Arundel, Calvert, Charles, Prince Georges, St. Mary's

Author and Principal Investigator:
Dennis J. Pogue, PhD
11999 Farrabow Lane
Woodbridge, VA 22192
703-314-6485
dpogue@umd.edu

Lead Agency:
University of Maryland
3112 Lee Building
7809 Regents Drive
College Park, MD 20742-5141
301-405-6269
oraa@umd.edu

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Executive Summary

The purpose of the Southern Maryland Tobacco Barn Survey was to inventory and document the character, and assess the condition and integrity, of tobacco barns in the five-county region, with a focus on those barns that were constructed before ca. 1870. Barns from this era reflect the greatest period of historical significance of tobacco culture in Southern Maryland, and they are also the most endangered.

Surveyors reviewed the entries in the Maryland Inventory of Historic Places (MIHP) to identify previously recorded structures, as well as consulted with various secondary sources, agencies, and individuals to identify appropriate barns that had not been entered in the listing. This effort yielded a total of 168 potential barns, of which 13 had not been previously listed in the MIHP. Surveyors used a mix of strategies to attempt to determine the current status of the barns, beginning with a remote reconnaissance via the Google Earth online platform, supplemented by contact with local informants, and by direct physical survey whenever possible. The finding that more than 54% (91) of the barns were determined to have been lost is unsettling but is hardly surprising. Surveyors were able to investigate and record 53 buildings for this project; seven barns already had been surveyed in the earlier exercise carried out by Pogue and Bryan in 2021, and Pogue documented the De La Brooke barn in 2015. Twenty-one barns were not available for study due to a variety of factors, with more than half (11) denied access by property owners. A total of 27 barns were assessed as potentially eligible for listing on the National Register.

Field documentation consisted of filling out a standardized descriptive survey form, which included recording the building plan and section, characterizing the construction methods and changes that had been made to the structure, preparing a framing schedule, and assessing the condition and integrity (Appendix A). Scaled drawings based on the field measurements were prepared, and extensive photo-documentation was keyed to the survey form.

Outcomes of the survey include preparing addenda to the MIHP forms for 14 barns, which include a detailed assessment of National Register eligibility. In addition to the survey records, detailed documentation drawings were prepared for 13 of the barns, and dendrochronological testing was accomplished for four of the structures.

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I. Introduction

The Southern Maryland Tobacco Barn Survey is the outcome of a partnership by the University of Maryland and MHT to identify and document pre-1870 air-cured tobacco barns located in the five-county Southern Maryland region. The project was made possible by a Non-Capital Grant Fund award in the amount of $42,000.

The geographic area covered by this project was defined by the Tobacco Barns of Southern Maryland National Register Multiple Property Documentation Form (Thursby and Schomig 2010), which covers the five counties of Anne Arundel, Calvert, Charles, Prince George's, and St. Mary's (Figure 1). Together the counties form a peninsula, bounded by the Chesapeake Bay on the east and the Potomac River on the west and south. They have similar physiographic features and share a distinctive history rooted in tobacco culture. The guidance provided by the MPDF has been used to inform assessments as to significance and integrity of the resources.

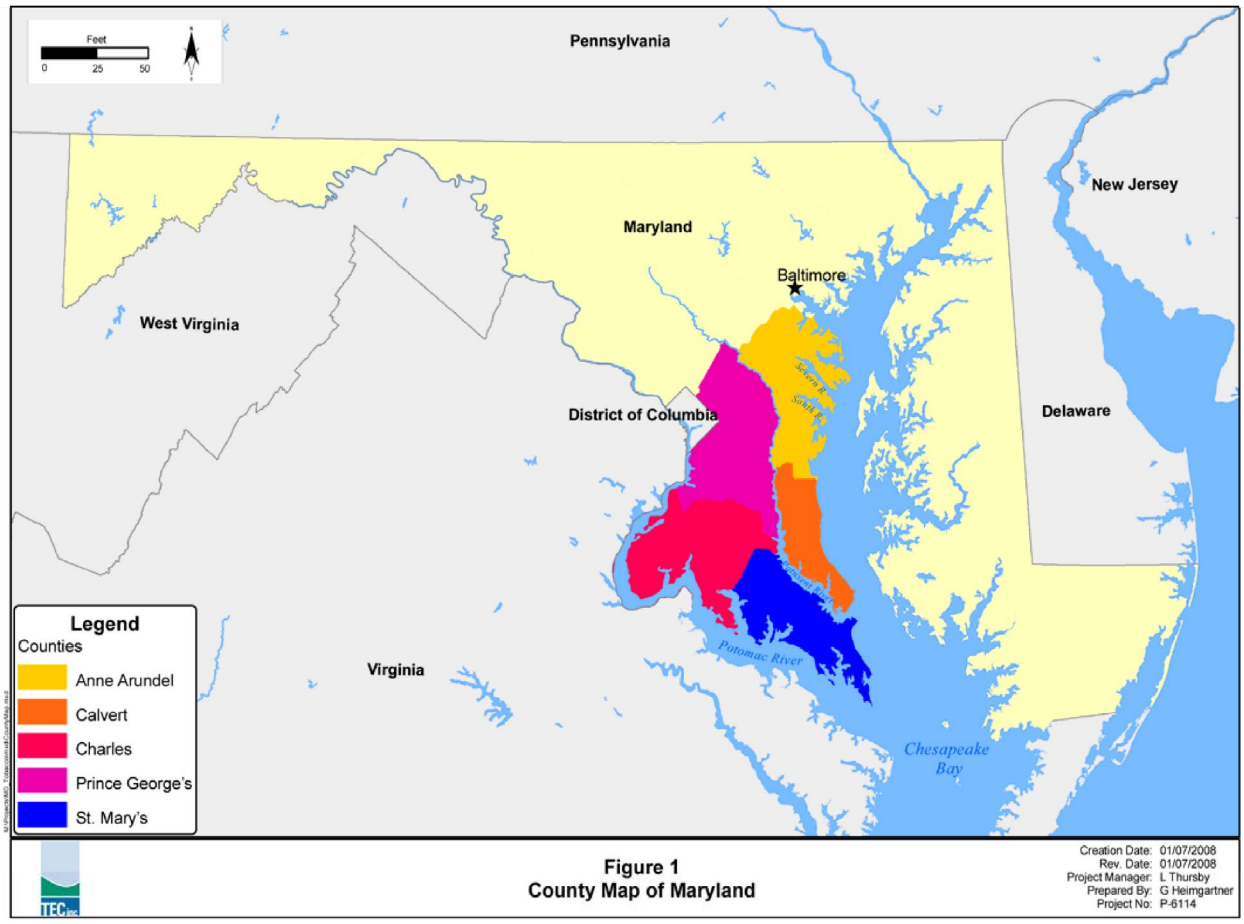

Figure 1. Map of the state of Maryland, indicating the five counties of the Southern Maryland region study area (from Thursby and Schomig 2010).

The Principal Investigator for the university is Dennis J. Pogue, PhD, Associate Research Professor. Pogue reviewed the MIHP forms for Anne Arundel County, conducted background research at MHT and in other repositories, led the field documentation in Anne Arundel, Prince George's, Charles, and St. Mary's, prepared addenda to 13 MIHP forms, and is the principal author of the final report. Two recent UMD graduates and a professional colleague with extensive preservation experience participated in the project. Chris Bryan, MA, University of Maryland, reviewed the MIHP forms for Calvert, Charles, and St. Mary's counties, conducted field surveys and prepared drawings and other documentation for barns located primarily in Calvert County, and prepared the MIHP addendum for one barn. Sara Baum, MA, University of Maryland, conducted background research and reviewed the MIHP forms for Prince George's County. David Weir, MA, Goucher College, assisted in documenting selected barns throughout the region and prepared final documentation drawings for 12 barns.

Previous research undertaken by Pogue and Bryan served as the platform for the current study. Fieldwork informing Bryan's 2021 MA final project included documenting nine early tobacco barns located in Calvert and St. Mary's counties. Pogue documented the De La Brooke barn (SM-411) in 2015 and submitted an addendum to the MIHP form at that time. Several of the barns recorded in 2021 were revisited during this project to capture additional evidence.

The project schedule was conceived as consisting of the related phases of background research, preliminary investigations, detailed and updated documentation, analysis, and report preparation. Over the course of the project the budget was revised, diverting unexpended funds from the categories of consultant hours and mileage reimbursement, to support the additional component of dendrochronological testing of four barns.

The actual schedule of the work was extended to accommodate unanticipated complications. Surveyors initiated a round of background research in January 2022, and they completed reviewing the remaining MIHP forms by April 15, 2022. Related research also conducted during this period included examining the references, records, and drawings held by MHT, acquiring copies of drawings of buildings prepared by staff at the Colonial Williamsburg Foundation in the 1980s and early 2000s, and reaching out to staff of the planning departments of the five Southern Maryland counties. Field survey began in April 2022 and continued intermittently up to July 2024, with 53 barns examined. The initial Research Design was prepared and submitted in October 2022. Draft MIHP form addenda for seven barns were prepared and submitted in December 2022 and for an additional seven barns in August 2023. Detailed drawings of 12 selected barns have been prepared. Due to an untimely accident suffered by the dendrochronology consultant, that work was postponed until the summer of 2024. Four barns were successfully sampled between May 10 and June 27, 2024, and the final reports were completed and submitted on July 19, 2024.

This final report presents a revised version of the research design, which incorporates the change to the scope of work to include dendrochronological testing of selected barns. The historic and architectural context will relate the findings of the survey to the larger patterns of development of the region, which will be discussed in detail. This presentation will outline the survey methods and techniques, as well as consider the constraints and other issues related to the success of the project. As the core finding of the survey is that the historical resource has

suffered major losses over the years, and that many of the surviving barns are seriously endangered, additional measures are recommended to continue to capture important information and to undertake efforts to support the barns' preservation.

II. Research Design

The goals of the project have been to identify and document pre-1870 air-cured tobacco barns located in the five-county Southern Maryland region. As such, the project is closely aligned with the stated goals of the FY 2022 non-capital grant program: to systematically identify and document previously unknown resources; update information on previously identified resources; and provide the basis for preparing nominations to the National Register of Historic Places.

Research and survey are the foundation for all preservation activity. The project has aimed to identify important barns that have fallen outside the current registration system, and to provide an assessment of condition, significance, and integrity for those buildings as well as for barns already listed with MHT. The project also has provided a higher level of documentation of the structures' historic fabric and character. It is our hope that this data will inform planners at all levels of government, as well as property owners, as to significance and current threats, and may aid in obtaining resources to support their preservation.

The survey research design was developed with reference to extensive earlier efforts to document and register tobacco barns in the region. The most helpful resource is the National Register Multiple Property Document Form prepared by Thursby and Schomig (2010). Other studies include the survey of St. Mary's County barns conducted by Ranzetta, the interpretive results of which were reported in published form (Ranzetta 2005). A limited project to document selected tobacco barns in Southern Maryland and elsewhere in the state was conducted in partnership with MHT by the University of Delaware in 2008-09, which resulted in measured drawings for 23 barns (21 in Southern Maryland, 15 of which fit the survey criteria) that are archived at the MHT offices in Crownsville and are available in digital format. In 1989-90, the Calvert County planning department carried out a county-wide survey of tobacco barns, which resulted in producing sketch drawings and descriptions for more than 100 buildings; these findings were generally appended to the individual MIHP forms. Finally, prominent scholars of vernacular architecture, such as Orlando Ridout V, with MHT, staff of the Colonial Williamsburg Foundation, and Garry Stone and other staff of Historic St. Mary's City, conducted detailed investigations of selected barns, many of which were incorporated into published treatments (cf. Ridout 1982 and 2013). The drawings of barns produced by CWF staff were made available upon request. A ground-breaking dendrochronological investigation to establish the dates of construction of early structures in the region, including eight tobacco barns, was carried out in partnership between MHT and HSMC in the early 1980s (Heikkenen and Edwards 1983, Stone 1987).

Barns designed specifically to perform the function of air-curing tobacco leaves in preparation for shipping the crop to market share a number of character-defining features. Generally speaking, they are sturdily built structures aimed at serving just one purpose, and they exhibit distinctive framing features to efficiently carry the "sticks" heavily loaded with tobacco plants suspended from poles in multiple tiers. While the overall process remained largely unchanged

over the centuries, the details of the hanging system and the framework of the barns that supported them were subtly adapted over time, and characteristics of construction also varied across the region. An associated goal of the project is to capture this range of variation to further our understanding of the social, spatial, and temporal dynamics of Maryland tobacco culture.

The survey methodology focused initially on determining the current status of the potential structures that had been identified via background research. A total of 305 tobacco barns (of all periods) are individually listed with MIHP forms, with others grouped on properties with multiple resources. A review of all of the MIHP forms for the five counties found that many of the listed barns clearly dated after ca. 1870, which allowed the number of potential barns to be reduced to 155. Another 13 barns not listed with the MHT were identified, primarily via secondary sources and the input of colleagues and local informants. Several barns were brought to the attention of the surveyors by owners who heard about the project either from articles carried in the University of Maryland publications, *Terp* and *Maryland Today*, or from word of mouth. Staff with the Calvert County Planning Department issued a call for information through their social media outlet, which yielded several prospects.

In most instances the MIHP forms provided information sufficient to pinpoint locations of the barns. Surveyors then sought to confirm the existence of the barn via an aerial search using the Google Earth online platform. In some instances, it was not possible to differentiate the barn in question from other structures on the property, or the building was obscured by tree cover, so complementary methods were sought to determine the status. This included consulting with staff members working at each of the five county planning departments who are tasked with managing historic resources. The intent of the survey has been to access and document all of the potential barns, with this effort serving as the final means of determining the conditions. A total of 53 barns were investigated; access to 21 barns had not been obtained by the completion of the project.

Contacting owners to seek access to their property was an ongoing challenge. The overwhelming majority of the MIHP forms were prepared more than 30 years ago, and obtaining contact information for the current owners was often difficult. Many owners also simply failed to respond to telephone messages, to emails, or to flyers. Arriving unannounced at owners' doorsteps in rural areas was considered to be an avenue of last resort, which nevertheless turned out to be successful in numerous instances without incident. Finally, 11 owners categorically refused us access to their property.

Each of the barns surveyed in 2022-24 was documented in a standardized manner, using a survey form developed specifically for the purpose. Each barn was described according to the construction methods and materials, measured to prepare a plan and section, and photographed both inside and out. Surveyors filled out a schedule of the dimensions and character of the framing members and fasteners, and also sketched distinctive features such as joint details. Documenting the character of the scaffolding installed to hang the tobacco was a particular focus.

Determining the date of construction of vernacular structures such as tobacco barns is a challenge, with dendrochronology offering a particularly important potential source of

information. The availability of a precisely dated sample of barns is particularly valuable in analyzing the subtle variations in the designs of tobacco barns found across the region. Unexpended funds were authorized to be redirected from approved budget lines to be able to conduct dendrochronological testing of four barns. The barns were selected based on their potential to yield samples sufficient in quality and quantity to yield dependable results, with four barns proving dateable. The findings of the testing and the details of the analytical process are reported in Worthington and Seiter 2024. Those results have been incorporated into the discussion of temporal trends in tobacco barn characteristics presented below.

The 168 barns that were identified as likely meeting the survey criteria are distributed quite unevenly across the region. Almost half are located in Calvert County, with only 30 (17.8%) combined in Anne Arundel and Prince George's. These results are due to a combination of factors, the most important of which undoubtedly relate to the marked differences in population density and the high rates of both commercial and residential development that occurred much earlier in the two more northern counties. The great majority of the surviving structures are in private hands, with the remainder primarily owned by the state or the five county jurisdictions. Three early barns are owned by a public utility and two others by foundations. Ten barns have been either moved or dismantled and re-erected, with four barns relocated to serve as attractions on public properties; another half-dozen barns are available to be visited by the public on at least a limited basis.

All survey records, to include sketches, drawings, and photographic images, are retained and will be submitted in digital form, along with selected hard copies, together with the final report. Excel spreadsheets capturing meta data for all extant barns have been prepared, which include the owner identity and contact information, where available, along with a summary of the status and condition of the structure (Appendix B). A spreadsheet displaying data for a range of fields related to the characteristics of 68 barns has been prepared (Appendix C). Detailed drawings for selected barns will be submitted to MHT according to the format specified.

III. Historic and Architectural Context

The geographic area covered by this project was defined by the Tobacco Barns of Southern Maryland National Register Multiple Property Documentation Form (Thursby and Schomig 2010), which consists of the five counties of Anne Arundel, Calvert, Charles, Prince George's, and St. Mary's. Two historic contexts were identified in the Tobacco Barns MPDF, which have been used to guide the current project. They are:

- Tobacco Production in Southern Maryland, 1630s–2005.
- Southern Maryland Tobacco Barns, 1790s–1960

The literature on the history of tobacco culture in Southern Maryland over a span of four centuries is extensive. The Tobacco Barns of Southern Maryland MPDF presents a detailed review of the sources, which includes both a broad historic overview and detailed consideration of the social, economic, and cultural factors that affected the character of the tobacco barns. Southern Maryland was the birthplace of Maryland and one of the cultural hearths of the nation. Tobacco was the economic mainstay of the colony beginning in the first years of settlement and

its cultivation was the prime factor in creating the early cultural landscape of a unique tobacco-growing area, which continues to define the character of the region, and air-cured tobacco barns are the defining feature of that landscape.

Tobacco was planted by the first colonists to settle the Maryland colony in the 1630s and the focus on large-scale cultivation of the cash crop was almost immediate. The dependence on tobacco shaped the physical development of the five Southern Maryland counties from their founding until the mid-20th century. The region was sparsely developed, initially characterized by isolated, self-sustaining plantations focused on growing tobacco for the international market and corn for subsistence. Along with other factors, in the 19th century the fluid economics of the tobacco market influenced many Southern Maryland farmers to diversify their operations to include producing wheat as a second staple crop. However, tobacco remained central to the rural economy until the close of the Civil War, after which it continued as an important contributor until the end of the 20th century.

Cultivating and processing tobacco was a labor-intensive activity that extended over a period of more than 16 months. Seedlings were prepared in the winter and planted in the spring; the crop was carefully tended and then harvested in late summer and transferred to barns to cure over the course of the fall; during the winter the leaves were stripped, packed, and prepared for sale; the crop finally was dispatched to market in the spring. Thus, the availability of sufficient laborers to undertake the many interrelated tasks was crucial to the success of the tobacco economy, and the vagaries in the labor supply was a major factor affecting both the methods of cultivation and the design of the barns that were the salient structural feature of the process (Ridout 2013:181-187).

Early tobacco growers relied on indentured laborers who migrated in large numbers from England in the 17th century. With changing economic conditions in England, the attraction of emigration to America declined, and the influx of workers to the Chesapeake dropped steadily over the last decades of the century. As a result of the shortage of white, high-quality labor, by the1690s the majority of Chesapeake planters were in the process of turning to enslaved Africans to satisfy their labor demands (Kulikoff 1986:37-44). Maryland was the second largest slaveholding colony in North America in the 18th century. During the first half of the 19th century agriculture in Southern Maryland moved away from its sole dependence on tobacco to adopt a more diversified enterprise, to include expanding cultivation of row crops, particularly wheat, and investing more in livestock raising and marketing dairy products (Marks 1979). Enslaved Blacks continued to be the primary source of labor for all of these activities, and slavery and tobacco remained intertwined in the fabric of society.

The rate of growth and degree of sustainability of the enslaved population in Southern Maryland was extraordinary, signifying the reliance on unfree labor to sustain and then to increase tobacco production. According to Thursby and Schomig (2010), the enslaved constituted 18% of the total population of Charles County in 1712; 70 years later, the numbers of enslaved had nearly tripled, reaching 48% of the total. By 1850, nearly 65% of Charles County's population was enslaved. Anne Arundel, Calvert, and Prince George's counties had similar population ratios. By the time of the 1860 U.S. Census, the

total free population of Maryland (white and free Blacks) was 599,860, compared to 87,189 enslaved. The total number of enslaved in 1860 represented a decline of almost 20% (20,167) from 1820. The population of the enslaved in the five Southern Maryland counties remained essentially unchanged, however, and by 1860 the region accounted for more than 46% (40,592) of the total for the entire state. The continued dependence on cultivating tobacco, and the labor-intensive character of the process, was the overwhelming factor in slavery's unabated significance in the region (U.S. Decennial Census, 1840-1870).

The volume of production of Southern Maryland tobacco fluctuated widely over the years, reflecting market conditions that were impacted by factors that were local (weather/drought, civil unrest, soil exhaustion, emigration), as well as national (the financial panic of 1819 and the depression of 1837), and international (the Revolutionary War and the War of 1812). Precise numbers for the size of the crop for the region overall are not readily available before the U.S. Census of 1840. But a detailed study of the economy of St. Mary's County for the period 1790-1840 points to long-term volatility in market prices, and fluctuation in the volume of the annual tobacco crop, throughout the decades of the 1820s-1840s (Marks 1979). In 1840 the total production of tobacco in Southern Maryland was 24.8 million pounds; 10 years later, the total had dropped to 21.4 million pounds, which reflected a sustained period of drought. The size of the crop rebounded and expanded dramatically by 1860, topping 38.4 million pounds. With the massive disruptions to all aspects of society in the region as the result of the Civil War and the manumission of Maryland's enslaved in 1864, the crop plummeted to 15.8 million pounds in 1870. It wasn't until almost 100 years later that the crop returned to pre-Civil War levels (U.S. Decennial Census, 1840-1870).

When Maryland farmers began to turn to less labor-intensive crops and other sources of revenue after ca. 1790, chief among them was cultivation of wheat. But soils that were conducive to growing the grain were far from uniformly distributed. Thus, only some farmers were able to replace tobacco with wheat, while others adopted wheat as a second staple crop, and a sizeable number continued their primary reliance on growing tobacco. No matter which avenue was pursued, enslaved workers continued to be the main source of labor, although wheat growers generally were able to reduce the number of workers they required. Given the competition for resources resulting from adding wheat and other commodities to farmers' work schedule, achieving efficiencies in expenditures of labor took on added significance. As the tobacco crop increased by almost 45% between 1850 and 1860, while the population of the enslaved actually declined by almost 2,000 individuals, farmers must have had considerable success in doing so.

The findings of the SMTB survey point to modifications that were made to the design of tobacco barns as a likely important factor in expanding the tobacco crop by increasing the efficiency of farm laborers. Unlike other tobacco growing regions, Marylanders resisted innovations – such as flue curing -- that would have fundamentally changed both the character of their crop and the structures and processes that supported its production (King 1997). But farmers in the region did not stand pat. Over the course of the antebellum era, on average the carrying capacity of individual barns increased

substantially. Along with building bigger barns, they were designed to incorporate ever more substantial sheds to increase the capacity for hanging without the expense of erecting separate buildings (Ranzetta 2005). Many barns were either designed or modified to improve efficiency in hanging the plants by providing access to the interior of the structures by wheeled vehicles via loading aisles, and it was common for older barns to be modified by cutting avenues through the wall sills at doorways that had served as barriers to access. Other barns were erected using a hybrid design, which featured lower costs and improved access to the interior afforded by earthfast construction, combined with the resiliency of timber framing. According to one source, allowing tobacco-laden vehicles to enter barns could reduce the labor required to suspend and then take down the leaves by one-third. The trend to make barns more accessible via wide doorways and unobstructed aisles was further stimulated by the transition from horsepower to engine driven tractors in the mid-20th century (Thursby and Schomig 2010).

With the abolition of slavery in Maryland in 1864 and the conclusion of the Civil War a year later, the society and economy that both supported and benefited from tobacco culture was seriously disrupted. The loss of cheap labor forced tobacco growers to reduce the previous scale of production. According to Thursby and Shomig (2010), farmers who continued to grow tobacco quickly learned that the prices paid for their existing tobacco yield could not pay for the wage-earning farm workers who tended the crop, and farmers were forced to reduce the acreage devoted to the labor-intensive staple. To stay financially solvent, owners of large properties sold off tracts of their land, and many farmers rented fields to tenants or sharecroppers. Consequently, the total number of farms rose dramatically, with a significant decrease in the average size of holdings, many only 50 acres or less.

Maryland tobacco growers were distinctive for their commitment to traditional techniques that were developed more than 350 years ago. With only a handful of exceptions, Maryland tobacco barns were built for the singular purpose of readying the harvested crop by air curing. This focus lends the barns a distinctive character that remained essentially unchanged, although the pressures to economize and to optimize labor output led to subtle but important design modifications that are evident from the results of this survey. Thus, the barns represent a remarkable example of continuity and change over a period of four centuries. The trajectory of modifications made to traditional construction techniques and methods of managing the structures in curing the leaf reflect the differing ways that growers responded to the changing social and economic forces within which they operated.

Despite the fundamental reorientation of society and of the economy after the Civil War, tobacco growing in the region persisted for another 150 years, reaching its peak with a protracted period of growth and profitability in the third quarter of the 20th century. Large-scale cultivation of tobacco in Southern Maryland finally ceased in the early 2000s, however. The factors contributing to the decline included drought-related crop failures beginning in the early 1980s, rising labor costs, explosive population growth throughout the region, and a related increase in land prices and development pressure. The final blow to Maryland tobacco came with the Tobacco Buyout Program, initiated by

the governor's office in 1998. By 2005, 83% of Maryland tobacco growers had joined the buyout (Thursby and Schmig 2010).

The defining feature of tobacco cultivation in the region is the barn, an essential part of the process of air-curing tobacco. As tobacco barns were built to support a highly specialized purpose and given the large number of tobacco barns that had been built, finding alternate uses for the structures is extremely challenging. Barn owners are left with the quandary of maintaining buildings that likely serve no commercial purpose. By 2004 Maryland tobacco barns had been named by the National Trust for Historic Preservation to the list of 11 most endangered historic resources in America. The findings of this survey confirm that historic tobacco barns are being lost at an alarming rate. As there are no federal, state, or local funding sources specifically targeted for preserving Maryland tobacco barns, unless steps are taken soon to alter the picture this highly concerning situation is likely to continue unabated.

IV. Results of Field Investigations

With the almost complete demise of tobacco growing in Maryland, the rate of loss for tobacco barns is unsparing and alarming. Of the 168 barns that were identified as likely to meet the survey criteria of dating before ca. 1870, only 74 (44%) have been determined to survive in a condition relatively close to their original design (Table 1). Included in the structures that have been lost are some of the earliest known barns in the region. A total of 53 barns were surveyed over the course of this project; prior documentation in the form of measured drawings exist for 26 structures, many of which no longer survive.

Table 1. Southern Maryland tobacco barns, overall survey results.*

County	Total Barns	Extant	Lost	Unknown	Surveyed	Other Documentation
Anne Arundel	20	10	10	0	8	3
Calvert	77	30	46	1	21	9
Charles	26	15	10	1	14	5
Prince George's	10	2	8	0	3	3
St. Mary's	35	17	17	1	15	5
Totals	168	74 (44%)	91 (54%)	3	53	26

***Notes:** Lost barns include demolished, moved, and dismantled; unknown are those which could not be located with confidence on aerial imagery or visited in the field; surveyed barns by SMTB/2015/2021 include both extant and now lost; other documentation consists of measured drawings and dendrochronology, including barns both extant and now lost.

Anne Arundel County

The low number (20) of tobacco barns located in Anne Arundel that were identified as potentially meeting the survey criteria is not a factor of the historic significance and prevalence of tobacco cultivation in the county (Table 2). Rather, it is largely a reflection of the impact of population growth and the attendant explosive commercial and residential development that occurred over the course of the 20th century, combined with the demise of tobacco culture and the forces of time and neglect. On the other hand, the documented structures in the county present a remarkable diversity in design, and they include some of the earliest tobacco barns in Maryland. Development pressure has been the most intense in the northern portion of the county, focusing around Annapolis and in the Washington, DC-Baltimore metropolitan corridor, but barns in formerly less developed areas are increasingly under threat, primarily from neglect. Sadly, almost half of the structures have been lost, which include many of the county's earliest and rarest examples. Fortunately, thanks to the efforts of surveyors employed by the Colonial Williamsburg Foundation working in partnership with staff of the Maryland Historical Trust, several of those now-lost structures were recorded before their demise.

Notable among the surviving tobacco barns is the structure at Burrage's End (AA-257), which is both early and of a rare type, featuring earthfast construction and likely dating to before ca. 1800. While the barn was substantially modified when it was converted to serve as a horse stable, it exhibits remarkably rare and well-preserved construction features that are especially significant in the context of the study of early Chesapeake vernacular architecture, and it was also documented by CWF. The well-preserved frame barn at Rose Hill (AA-191) likely dates to ca. 1821 based on documentary evidence, and the structure is highly unusual in that its construction can be related to a known craftsman. At least two barns in the county were originally designed with open loading aisles (Stisted AA- and Homeport AA-946). Most of the surviving barns are in relatively good condition, but one privately held structure is severely deteriorated and is unlikely to survive. Two barns are the property of the Anne Arundel County parks department. Three other barns are extant but could not be surveyed at this time.

Most prominent among the structures that have been lost is one of only a few early log barns in the state (Hammond AA-10), along with the earliest dendro-dated (1805) tobacco barn of any type in the county (Tracy's Landing #2 AA-756), and another example of a timber-framed barn with early construction features (Linthicum Walks AA-782). One of only two documented earthfast barns (James Owens AA-247) in the county has been lost; there are only a handful of surviving early barns of that type in the state. Two other barns have been dismantled and relocated for display and interpretation in public venues: Tracy's Landing #1 (AA-755), similar in details and likely in date to Tracy's Landing #2, and which is now located at the National Colonial Farm in Charles County, and the log barn on display at Historic Londontown, which was dismantled in the 1980s and relocated from the Hockley-in-the-Hole property (AA-873).

Figure 2. Tobacco barn at Rose Hill (AA-191), constructed ca. 1821; original shed on the left, early added shed on the right; the barn is in good condition and with high integrity (facing east).

Table 2. Anne Arundel County tobacco barns status.

MIHP	Name	Status	Condition	Integrity	Documentation
AA-10	Hammond	Demolished			
AA-191	Rose Hill	Extant	Good	High	SMTB(1)
AA-204	Linden Grove	Demolished			
AA-247	James Owens/Chaney	Demolished			CWF
AA-250	White Oak	Extant	Unknown	Unknown	
AA-252	Paddy	Demolished			
AA-257	Burrage's End	Extant	Good	Medium	SMTB/CWF
AA-264	Gowry Banks	Extant	Unknown	Unknown	
AA-265	Trenton Hall	Demolished			
AA-275	Mushake	Demolished			
AA-357	Nutwell	Extant	Good	Medium	SMTB(2)
AA-755	Tracy's Landing #1	Moved	Good	None	MHT
AA-756	Tracy's Landing #2/Coe	Demolished			CWF/Dendro
AA-782	Linthicum Walks	Demolished			CWF
AA-882	Forney	Extant	Poor	Low	SMTB
AA-946	Homeport	Extant	Good	Medium	SMTB(3)
AA-2064	Hazelnut Ridge	Extant	Unknown	Unknown	

AA-873	Hockley-in-the-Hole	Moved	Good	None	
AA-	Stisted	Extant	Poor	Low	SMTB

Calvert County

The relatively high number of Calvert County tobacco barns listed in the MIHP is largely a consequence of an early attempt on the part of the planning department to inventory the resource, combined with the isolated condition of the county until relatively recently (Table 3). One measure of the stasis that defined the character of Calvert for much of its existence is the almost imperceptible growth in population that occurred over the 150-year span between 1790 and 1940 (from 8,652 to 10,484). As the smallest county in Maryland, occupying a relatively inaccessible peninsula far from the early population centers to the north, Calvert's economy remained overwhelmingly dependent on agriculture, and it was not subjected to the massive influx in population experienced by Anne Arundel and Prince George's. As late as 1944, more than 50% of Calvert's cropland was devoted to tobacco, producing 6 million pounds of leaf that was valued eight times higher than the combined income from all grain and vegetable products (Thursby and Schomig 2010).

The traditional rhythms of life in the county began to undergo a dramatic transformation in the years following the Second World War. With improved transportation links and population pressures from the north, the northern end of the peninsula became an attractive target for developing commuter, resort, and retirement communities. Similarly, improvements to the transportation and utility infrastructures within the county, and the opening of a direct bridge connection with St. Mary's County in 1978, fostered robust development in the lower portion of the peninsula, focused particularly in the vicinity of Solomons and reaching north to Prince Frederick. As a consequence, the population doubled between 1940 and 1970, then doubled again (from 20,682 to 51,372) by 1990, finally increasing by almost 46% to 93,928 in 2021. Following the regional trend, by the year 2000 county farmers were not producing any appreciable amount of tobacco.

The combined pressures of development and the forces of time and neglect have had a predictable impact on the dwindling stock of Calvert County's tobacco barns. With 77 potential structures, Calvert had more than twice as many early tobacco barns as any of the other Southern Maryland counties. Even with the loss of 45 barns (over 58%), the number of remaining structures still leaves Calvert far in the lead, as the other counties have experienced losses that are comparable in degree if much lower in actual numbers.

The inventory of surviving Calvert barns includes several especially noteworthy specimens. The Preston frame barn and the Wilson log barn, both located on the property of the Calvert Cliffs nuclear power plant, are important examples of early construction methods. The Preston barn (CT-59B) has been dendro-dated to 1819, marking it as one of the earliest barns in the region, and it is noteworthy as an example of what became the normative design type for barns in the southern counties over the course of the first decades of the 19th century. In contrast, the Wilson barn (CT-59A) represents an older tradition of less permanent barns formed of logs,

which could be relocated as needed to accommodate shifting planting patterns. Two additional log barns survive (Holly Hill CT-1346 and Willow Glen CT-34) that are later in date, with each taking the form of two conjoined pens.

The Smart barn (CT-346) is a well-preserved example of a frame barn with multiple (3) original earthfast sheds, which has been dendro-dated to the year 1839. Twenty years after the Preston barn design included the innovation of substituting horizontal rails for wall studs, the Smart barn was equipped with the more traditional studs, which were covered with riven clapboards. Remarkably, large sections of the clapboards are preserved on three of the walls. The Parrans barn (CT-58), also located at the Calvert Cliffs power plant, was also designed with studded walls. In contrast to the Smart barn, Parrans was erected without a shed, but one was added likely within a few years. When the shed was erected, the horizontal siding was removed on that wall and replaced with widely spaced riven battens. The space between the slats were intended to allow ventilation for the drying tobacco plants hanging within. This innovative feature is found at five other early barns in the region, including the Black Friars barn (CH-42), which has been dendro-dated to 1836.

The Octavius Bowen barn (CT-1345) was erected in the 1840s to air cure tobacco, but it was adapted to experiment with the flue curing process that was introduced to Maryland and had a brief spate of adoptions by a few Calvert farmers in the 1860s (King 1997). At the end of the experiment, the Bowens returned their barn to traditional air-curing. The Octavius Bowen barn is a notable exception to the standardized bay systems generally found in the county, as the 32'-walls are supported by post pairs at an interval of 14', 4', and 14'.

The remainder of the Calvert barns are frame construction, and primarily reflect the trends of increasing size, the adoption of integrated hanging sheds, and 8'-bays and 4'-hanging rooms that became common during the decades preceding the Civil War. The Calvert County barn sample is unusual, however, in the prevalence of an unusual technique of joining together sills and principal posts using especially sturdy "double tenons." Of the 22 barns in the region that have been documented as exhibiting this system, 14 are located in Calvert County. Based on the sample of documented barns, Calvert farmers may not have adopted the concept of integrating open loading aisles in their barns until after the Civil War.

Table 3. Calvert County tobacco barns status.

MIHP	Name	Status	Condition	Integrity	Documentation
CT-2	Woodlawn	Demolished			
CT-18	Upper Bennett	Demolished			
CT-24	Hunting Fields	Extant	Unknown	Unknown	
CT-26	Old Delight	Demolished			
CT-34	Willow Glen	Extant	Unknown	Unknown	UD
CT-41	Sharp's Outlet	Demolished			
CT-42	Louis Gray	Demolished			
CT-58	Parran's	Extant	Good	Low	SMTB
CT-59A	Wilson	Extant	Good	High	SMTB/CWF

CT-59B	Preston	Extant	Excellent	High	SMTB/Dendro
CT-97	Wilburne #1/Homestead A	Demolished			CWF
CT-97	Wilburne #2/Homestead B	Demolished			CWF
CT-102	Reid	Extant	Poor	Medium	SMTB
CT-147	Gott	Extant	Unknown	Unknown	
CT-210	Talbott	Demolished			
CT-225	Small Reward	Demolished			
CT-358	Prout	Dismantled			
CT-385	Marquess #1	Demolished			
CT-385	Marquess #2	Demolished			
CT-386	Smart	Extant	Good	High	SMTB(4)/Dendro
CT-417	Schrom #1	Extant	Unknown	Unknown	
CT-417	Schrom #2	Extant	Unknown	Unknown	
CT-750	Cross	Unknown	Unknown	Unknown	
CT-1028	Plumer-Cranford	Moved	Good	None	2021
CT-1029	Hance - A	Demolished			
CT-1038	Broach	Demolished			
CT-1039	Cox-Ensminger	Demolished			
CT-1040	Hill	Demolished			
CT-1042	Allen - A	Extant	Unknown	Unknown	
CT-1047	Thompson	Demolished			
CT-1050	Raff - B	Extant	Unknown	Unknown	
CT-1051	Schrom - A	Extant	Unknown	Unknown	
CT-1055	Wells	Demolished			
CT-1059	Ward - A	Extant	Unknown	Unknown	
CT-1061	Kehoe	Demolished			
CT-1062	Maidstone - A	Extant	Unknown	Unknown	
CT-1069	Bourdon-Dixon	Demolished			
CT-1075	Hicks – C	Demolished			
CT-1077	LaVeille – A	Extant	Unknown	Unknown	
CT-1079	Pinewood Acres	Demolished			
CT-1080	Saylor – A	Demolished			
CT-1085	Prouty – C	Extant	Good	Medium	SMTB
CT-1089	Holmes-Cox	Demolished			
CT-1090	Buckler	Extant	Fair	Medium	SMTB(5)
CT-1092	L. Dowell - A	Moved	Good	None	SMTB
CT-1095	D.O. Bowen	Moved	Good	High	SMTB
CT-1098	W. Dowell - A	Extant	Unknown	Unknown	
CT-1104	Trott - D	Extant	Good	Medium	2021
CT-1108	Phipps - B	Moved	Good	None	SMTB

CT-1112	Meador	Extant	Unknown	Unknown	
CT-1114	Wesley Hall	Demolished			
CT-1117	Bowen	Demolished			
CT-1118	Hallowing Point	Extant	Good	Medium	2021
CT-1122	Yost-Williams	Demolished			
CT-1130	Reserve - A	Demolished			
CT-1131	Reserve - B	Demolished			
CT-1133	Cleary-Ward	Extant	Fair	Medium	SMTB
CT-1137	Eisenman	Extant	Good	High	SMTB
CT-1142	Norfolk - A	Extant	Unknown	Unknown	
CT-1148	Crane	Demolished			
CT-1150	Greenwell-Ward	Extant	Good	Medium	SMTB
CT-1151	Herbert	Demolished			
CT-1153	Chambers	Demolished			
CT-1155	Thompson	Demolished			
CT-1156	Hall Farm	Demolished			
CT-1157	Andrew Smith	Demolished			
CT-1158	Godlewski	Demolished			
CT-1159	Hooper	Demolished			
CT-1162	Hawkins - B	Demolished			
CT-1164	Briscoe - C	Moved	Fair	None	SMTB
CT-1345	Octavius Bowen	Extant	Good	Medium	2021/UD
CT-1346	Holly Hill	Extant	Good	Medium	2021/UD
CT-	Vieley	Extant	Good	Medium	SMTB
CT-	Seidel	Extant	Good	Medium	SMTB
CT-	White Cliffs #1	Demolished			UD
CT-	White Cliffs #3	Demolished			UD
CT-	Wesley Jones	Demolished			UD

Figure 3. Buckler tobacco barn (CT-1090), with one original shed on the left and one added shed on the right; the barn is in fair condition with medium integrity (facing west).

Charles County

The history and significance of tobacco cultivation in Charles County followed the familiar pattern of early adoption and sustained importance over a period of more than three centuries, weathering the disruptions from the manumission of the enslaved in 1864, and finally succumbing at the end of the 20th century. As with the other four counties in the region, for centuries the economy and society of Charles followed the rhythms and cycles of tobacco cultivation, withstanding the recurring instability in the tobacco market, and later diversifying and adopting wheat as a second staple crop. Charles County farmers remained dependent on enslaved Blacks throughout the period, with the second highest population of enslaved residents in both the region and the entire state in 1860, making up almost 60% of the inhabitants. As elsewhere in the region, tobacco production remained important after the Civil War, with farmers generally down-sizing their holdings and turning to tenants and sharecroppers to supply their labor needs (Thompson and Diehlman 2021). After a slight decline in numbers (4.7%) immediately after the war, the population of the county remained remarkably stable until the decade following World War II. The pressure of development spreading out from Washington, DC, served as the main factor in the sustained upswing in growth that occurred during the post-war years, which saw the population more than triple by 1980 (72,751), then more than double again by 2020 (166,617).

With 16 of the 26 structures determined to remain intact, the survival rate (61%) for recorded potentially early barns in the county is the highest in the region, while still representing a tiny fraction of the barns that once existed (Table 4). Among the surviving tobacco barns in Charles

County is one of the earliest barns in the state (Exchange CH-357), which may date as early as the late 18th century, and while it was altered to serve as a stable, retains much of the character defining integrity. Also included are three earthfast barns that together reflect some of the range in variation of this once-popular design type. The Jenkins barn (CH-367) is likely to be the earliest; it is sturdily framed with interrupted sills spanning between the posts, with unusual H-bent girders joining the principal wall posts. The barn was dismantled in the 1980s and has been reassembled at Smallwood State Park. The Plank Bridge barn (CH-174) has an earthfast earlier section, which originally was silled, but their removal has contributed to the structure's current poor condition. The Locust Grove barn (CH-353) has been determined to actually fall outside of the target date range for the survey, as it likely was constructed in the late 19th century. Its unusual length (80'), extra-wide entry doors, and lack of sills reflects the changing approach to tobacco barns that emphasized improved access for loading and unloading, which kept earthfast structures in the design mix long after they might have been expected to disappear.

The remaining barns are primarily representative of the well-built timber-framed barns, following the 8'-spacing for bays and 4'-hanging rooms, that were the norm in the decades leading up to the Civil War. Two of the barns incorporate unusual methods to allow ventilation for hanging tobacco plants, similar to the Parrans barn (CT-58), but with sawn material rather than riven. Most notable is Longevity (CH-71), dendro-dated to 1834, for its three-bay plan, with 12'-bays flanking a central 8'-aisle, formed by intermediate sills and outfitted with a tight floor, presumably to facilitate loading the crop. The horizontal sheathing boards are attached only on the wall facing the original open-sided shed. The Black Friars barn (CH-42) has been dendro-dated to 1836, which makes its 80'-length even more remarkable. Black Friars also has spaced sheathing boards running along one wall facing the original open-sided shed. The Spye Park barn (CH-304) is notable as an early example (possibly dating to the 1820s) of a cross-axial open aisle plan, which extended into the original shed running the length of one long wall, to allow access by wheeled vehicles. The roof framing members of several Charles County barns also appear to be blackened by soot, which likely reflects the practice of using smoldering fires to help dry the tobacco leaves.

Table 4. Charles County tobacco barns status.

MIHP	Name	Status	Condition	Integrity	Documentation
CH-5	Habre de Venture	Extant/Restored	Good	Low	SMTB
CH-6	St. Thomas	Extant	Good	Low	SMTB/ORV
CH-42	Black Friars	Extant	Excellent	High	SMTB/Dendro/UD
CH-58	Mill Hill	Demolished			
CH-71	Longevity	Extant	Excellent	High	SMTB(6)/Dendro
CH-105	Rosemary Lawn	Demolished			
CH-108	Napping	Extant	Good	Medium	SMTB(7)
CH-118	Hadlow #2	Extant	Fair	Low	SMTB
CH-174	Plank Bridge	Extant	Poor	Medium	SMTB
CH-304	Spye Park	Extant	Unknown	Unknown	UD

CH-332	Johnsontown #1	Dismantled			
CH-343	Wilton	Demolished			
CH-347	McPherson's	Demolished			
CH-353	Locust Grove	Extant	Good	Medium	SMTB
CH-357	Exchange	Extant	Good	Medium	SMTB/UD
CH-367	Jenkins	Moved	Good	None	SMTB
CH-645	Calverton Manor	Demolished			
CH-657	Simpkin-Coatback	Extant	Fair	Low	SMTB
CH-711	Hadlow #1	Demolished			
CH-720	Simpson's Supply	Extant	Good	Medium	SMTB(8)
CH-725	Maiden Point	Demolished			
CH-742	Johnstown #2	Extant	Fair	Medium	SMTB/UD
CH-779	Grosstown	Unknown	Unknown	Unknown	
CH-790	Smoot	Extant	Unknown	Unknown	
CH-808	Hamilton	Demolished			
NA	Serenity	Extant	Fair	Medium	SMTB

Figure 4. Plank Bridge tobacco barn (CH-174); original, earthfast section on the left; poor condition and medium integrity (facing southwest).

Prince George's County

With 10 potential barns and only two surviving structures, the sample for Prince George's is both the smallest of any in the Southern Maryland region and a poor indicator of the former importance of tobacco culture in the history of the area (Table 5). According to the 1798 federal tax listing, there were more tobacco barns (829) than houses (759) in the county in that

year (Ridout 2013:181). Prince George's likely ranked annually as the largest producer of tobacco in the state throughout the half-century before the Civil War, and it also was first in the number of enslaved Black inhabitants. In 1860, the 12,479 enslaved outnumbered the 10,848 free citizens, marking the county as one of only two in the state (along with Charles) with an enslaved Black majority.

The paucity of surviving early tobacco barns is undoubtedly a function of the spectacular growth in population and commercial and residential development that occurred over the middle decades of the 20th century. From 29,898 in 1900, the population almost tripled by 1940, then doubled by 1950, before tripling again by 1970 (660,567). After 1970 the growth in population was less explosive but remained steady, increasing between 7.7% and 12% annually from 1980 to 2020 (967,201). The county's remarkable growth was linked to the corresponding expansion beginning during World War II in the size and scope of the federal government centered in Washington, DC. The booming economy of the District of Columbia transformed the western portions of Prince George's and Montgomery counties into bedroom and service communities, extending the Washington metropolitan area well into Maryland. While the western and northern sections of the county experienced exponential growth, the areas to the east and south along the Patuxent River remain largely rural. This "rural tier" had been prime tobacco growing country throughout its history, and tobacco barns that date to the later 19th and 20th centuries remain there in significant numbers. Therefore, it is puzzling that so few early barns appear to have survived.

While the sample is woefully small, the five documented Prince George's County barns share a number of unusual characteristics. All five barns were arranged in bays divisible by 5', which carried over to the spacing between joists and rafters, to produce "rooms" of 5'-dimension for hanging tobacco sticks. This wider spacing is contrary to the 4'-interval that became the norm elsewhere in the region beginning by the end of the 18th century. All but one of the only other barns with a standard 5'-spacing are early: the Brome-Howard tobacco barn in St. Mary's (SM-33H), which has been dendro-dated to 1785, the Exchange barn (CH-357), and the two barns at Tracy's Landing (AA-755 and AA-756). In addition, four of the Prince George's barns featured open transverse aisles to allow access for wheeled vehicles into the building to facilitate loading and unloading. Original open aisles have been documented in a half-dozen barns located in three of the other four counties. The Calvert barn (PG-74A), located at the Belt's Woods property near Bowie, is the earliest of the structures, dendro-dated to 1824. The Concord (PG-75A) and Chelsea (PG-17-018) barns have been dendro-dated to 1858 and 1860, respectively. These barns are also noteworthy due to their remarkable size, as each structure has a footprint measuring upwards of 2,500 square feet, or more than double the size of the average antebellum tobacco barn. Unfortunately, three of the documented barns (Concord, Warington PG-733-6, and Belle View) no longer survive.

Figure 5. Warington tobacco barn (PG-733-6, HABS MD-980-1), ca. 1840s, fully framed with one original and two added sheds (non-extant).

Table 5. Prince George's County tobacco barns status.

MIHP	Name	Status	Condition	Integrity	Documentation
PG-17-018	Chelsea	Extant	Good	High	SMTB/Dendro
PG-70-22	Duvall	Demolished			
PG-70-25	Prospect Hill	Demolished			
PG-71A-36	Bowie	Demolished			
PG-71B-9	Hill Farm	Demolished			
PG-71B-16	Melford	Demolished			
PG-733-6	Warington	Demolished			UD
PG-74A	Calvert	Extant	Good	Medium	SMTB/DNR/Dendro
PG-75A	Concord	Dismantled			SMTB/Dendro
PG-	Belle View	Demolished			UD

St. Mary's County

As the earliest settled area in Southern Maryland, St. Mary's County's focus on tobacco culture stretched back to the 1630s, when tobacco was established as the leading crop by far in a society that was overwhelmingly dependent on agriculture. The development model that was eventually established in Virginia in the preceding decades was adopted wholeheartedly by the

Calvert family proprietors of the Maryland colony to take advantage of the robust transatlantic market for tobacco. As in Virginia, the availability of Englishmen who were willing to migrate to the Chesapeake and agree to an indenture of several years in service in exchange for their passage provided the labor required to produce the crop. By the last years of the century slavery was on track to replace indentured white servants in the tobacco fields as the influx of migrants from England ebbed. The population of the enslaved remained steady between 1800 (6,399) and 1860 (6,519). As with the other counties in the region, the population of St. Mary's was remarkably stable between 1790 and 1940, before doubling in 1950, doubling again by 1980 (59,895), and experiencing steady growth up until the present (113,777 in 2020).

The uncertainty of the tobacco market in the years following the American Revolution caused a spurt of migration from the county to take advantage of the newly opened territories west of the Appalachian Mountains. St. Mary's farmers already were experimenting with a more diverse economic model, and by the 1790s wheat was being added to the mix as a second staple crop. While wheat was less labor intensive than tobacco, farmers who turned to the grain continued to depend on unfree Black workers, and few completely gave up on the traditional crop. The continued commitment to tobacco is reflected in the increase in the size of the crop, which more than doubled between 1840 and 1860 (from 2.87 million pounds to 5.77 million). Given the fact that both the total population of the county, and that of the enslaved inhabitants, remained virtually the same over that period, St. Mary's tobacco growers must have found a way to optimize their labor efficiency (Ranzetta 2005:84). The constraints on adopting wheat included the limited availability of soils conducive to its growth, sufficient resources to commit to managing the soil nutrients via manures, and the capital to invest in specialized farm equipment. The effect of the different approaches to farming has been well documented by scholars, revealing that wheat production was concentrated in the southern portion of the county, with tobacco continuing to dominate on farms to the west and north (Marks 1979). This dichotomy is reflected in the distribution of surviving early tobacco barns in the county. With a few exceptions, the barns are located in the west, roughly split between properties along the upper Patuxent River and in the vicinity of St. Clement Bay on the Potomac.

The size of the sample of surviving tobacco barns in St. Mary's is second only to Calvert, and it includes both the two earliest dated barns in the state, and a remarkable diversity of designs (Table 6). Constructed in 1785, the Brome-Howard barn (SM-33H) is both the earliest dated barn, and the best-preserved representative of the traditional framing system of 10' bays and 5' hanging rooms that was soon superseded throughout four of the five Southern Maryland counties as the standard design. Another example of the traditional 5'-layout is the diminutive Murray log barn (SM-263), which dates to the second quarter of the 19th century. Several barns in Prince George's County were designed with 5'-spacing as well, which was related to ongoing experimentation with efficiency of design. The De La Brooke barn (SM-411) is the only other barn that has been dendro-dated to the 18th century (1797); it is remarkably well-preserved, exhibiting a number of rare early features, and it was laid out in increments of 8'-bays and 4'-hanging rooms, with two open-sided sheds supported by hole-set posts. The number of documented barns in the county that feature earthfast construction is equally remarkable, with four early surviving barns, along with three other documented examples that have been lost, and

two other barns that continued the tradition as late as the last decades of the 19th century. Three well-preserved examples of barns of log construction survive (Spalding SM-170, Murray SM-263, and Sims SM-246).

Figure 6. Albert Guy Farm, tobacco barn #2 (SM-157), with adjacent 20th-century stripping shed; the barn and the open-sided shed have been extended in the direction of the stripping building; the original portion of the barn is in good condition, with medium integrity (facing northeast).

Table 6. St. Mary's County tobacco barns status.

MIHP	Name	Status	Condition	Integrity	Documentation
SM-1	Mulberry Fields	Extant	Fair	Low	SMTB
SM-33H	Brome-Howard	Extant	Excellent	Medium	SMTB/Dendro
SM-72	Savona	Demolished			Dendro
SM-93	Cremona #1	Extant	Good	Low	2021/Dendro
SM-93	Cremona #2	Extant	Good	Low	2021/Dendro
SM-155	Carberry	Extant	Good	High	SMTB(9)
SM-157	Guy #1	Extant	Poor	Medium	SMTB(10)/Dendro
SM-157	Guy #2	Extant	Good	Medium	SMTB(11)
SM-158	Gunnell	Demolished			
SM-162	Underwood	Demolished			
SM-166	Gillen's	Demolished			
SM-170	Spalding	Extant	Good	Medium	SMTB(12)
SM-238	St. John	Demolished			
SM-245A	Western/Sims Barn #2	Demolished			CWF
SM-246	Sims	Extant	Excellent	Medium	SMTB/CWF
SM-255	Half Pone	Moved	Good	None	2021
SM-263	Murray	Extant	Good	Medium	SMTB
SM-374	Busler	Demolished			
SM-380	Simpson	Extant	Good	Unknown	none

SM-403	Hope Grace	Demolished			
SM-411	De La Brooke	Extant	Good	High	2015/Dendro
SM-426	Barber's	Demolished			
SM-546	Dryadocking	Demolished			UD
SM-633	Mattingly	Demolished			
SM-641	Prospect Hill	Demolished			
SM-635	Allstan	Extant	Poor	Unknown	none
SM-850	Penerine	Demolished			UD
SM-859	Earnshaw	Demolished			
SM-876	Horse Landing	Demolished			
SM-881	Mechanicsville	Unknown	Unknown	Unknown	none
SM-	Hurry	Extant	Good	High	SMTB(13)
SM-	Dawson	Extant	Good	Medium	2021
SM-	Briscoe-Petty	Extant	Fair	Low	SMTB
SM-	Della Brooke-Jones	Extant	Good	Fair	
SM-	Middleton A	Demolished			UD

Patterns in Tobacco Barn Construction and Design

In addition to the preservation concerns, the preliminary findings confirm that details of barn designs varied over time and space, and they reinforce the assessment that many questions related to the character of the barns have yet to be fully addressed. While air curing remained the preferred approach to drying the leaf throughout the region, farmer-builders experimented with a range of innovations that are represented in surviving buildings. With a much-expanded sample of well-documented barns from the five counties, it is possible to begin to consider these patterns in a more quantitative manner. Assigning dates of construction for barns based on physical evidence alone is a challenge. Traditional materials and methods of construction continued to be used for agricultural buildings in general, and for tobacco barns in particular, long after they had been discontinued for other structures (Ranzetta n.d.). The relatively small but growing number of Maryland tobacco barns that have been dated via dendrochronology is invaluable in helping to refine our understanding of the temporal patterning of these buildings.

The heavy timber framing systems used in most early tobacco barns were the result of a process of trial and error that led to a hybridized approach to building that quickly dominated the region, and which came to be known as the "Virginia house." This regional pattern of construction was adapted to the specific frontier conditions found in the Chesapeake colonies, and both reflected and fortified the emerging novel social and economic adaptations. In order to reduce labor costs to focus on the priority of cultivating tobacco, colonists conceived the Virginia house type as an impermanent solution that incorporated traditional English timber framing techniques with a number of innovations. Chesapeake carpenters retained the use of substantial sills, plates, posts, and braces to anchor the frame, but imagined a considerably slighter and less elaborately joined system for the roof and for enclosing the walls. Thin "riven," or hand-split, clapboards served as the supple outer skin for both walls and roofs. The most unusual feature of all was the widespread replacement of raised foundations with structural posts that were set several feet into

the subsoil. Post-in-ground, or earthfast, structures became the most common building form in the region (Graham 2013).

The method of framing roofs that was developed for the Virginia house was a clever and distinctive innovation. Standard English features such as principal rafter trusses and secondary rafters, combined with heavy horizontal purlins, along with the complex joinery that they required, were generally discarded in favor of an inexpensive frame comprised of common rafters reinforced by collar beams, which depended on a covering of clapboards to give them strength and stability. Carpenters further strengthened the roof by attaching the feet of the rafters to a horizontal structural member, which was known as a false plate, that rested on the ends of the projecting ceiling joists. Setting the square or rectangular false plate at a 45-degree angle, or at a "tilt," became a common practice, as it provided a clean connection for the rafter, and facilitated extending the rafter feet well past the ends of the joists. As with the wall units, the roof frame was arranged to accommodate their covering with clapboards, with the rafter pairs set initially at an interval of 2'6", later commonly narrowed to 2' (Graham 2013, Ridout 2013:184).

The combined elements of the Virginia house were highly conducive to the needs of curing tobacco, and the requirements of erecting many hundreds of buildings devoted to housing the leaf was an overriding factor in refining the design. The tobacco leaves had to be protected and cured (dried) for a period of up to several months, leading to barns where the harvested plants were attached to sticks that were suspended from the building frame. Chesapeake carpenters followed the traditional English preference for building in 10'-increments, laying out their structures with principal posts according to that pattern. The length of riven clapboards was functionally limited by the quality of the wood available and by the process of splitting by hand. A module of 10'-bays and clapboards of roughly 5'-length was adapted as the solution that best met the requirements, with the clapboards nailed to vertical wall studs and roof rafters on 2'6"-centers. The length of the riven tobacco hanging sticks was accordingly standardized to span that width, and the barns were compartmentalized into 5' "hanging rooms." Over time, the builders came to favor a reduced module of 8' in both barns and houses, with hanging rooms thus shrinking to 4'-wide. This transition appears to have been well underway by the end of the 18th century (Stone 2004, Ridout 2013:181-187).

In barns, the rafters also crucially served as supports for hanging the tobacco sticks within the roof, suspended from tiers of horizontal collars spanning the pairs. The collars, usually between two and four sets per hanging pair, were spaced vertically at an interval of roughly 3'6' to 4'. But because of the tight spacing of the rafters, only every other rafter pair could play a part in hanging and were outfitted with multiple collars, while the others served only as attachments for the clapboards. Clapboards were superseded over time by split and then sawn wood shingles, which were easier to produce and less dependent on the quality of the wood available, and they were nailed to thin strips of wood laid horizontally over the tops of the rafters. The shingle battens, or nailers, were generally laid with a gap between them that related to the length of the shingles and the pattern of nailing. The nailers took the place of clapboards in strengthening the roof frame, and over time barn builders realized that they could dispense with the secondary

rafter pairs, which allowed the spacing of the remaining rafters to match that of the hanging rooms (Ridout 2013).

The system for hanging tobacco sticks was duplicated in the body of the barn, starting with the joists, with horizontal poles that spanned the width of the building at the lower levels. On all but the smallest structures, two poles together were required to span the barn, with one end of the poles supported by rails on each wall, and the other end by one of several types of vertical supports that ran down the center of the building. In log barns the rails were attached to the faces of the walls. In frame barns that had vertical wall studs to attach horizontal siding boards, the rails were either nailed, pegged, or mortised to the posts running along the inner faces of the studs. Over time, vertical studs were superseded by spaced horizontal rails, or runners, incorporated into the wall frame, which served double-duty as nailers for vertical siding boards as well as for supporting tier poles. The number of tiers of hanging sticks that the body of the barn could accommodate was a function of the wall height, and early barns such as De La Brooke, with a roughly 12'-pitch, were set up for three tiers.

Frame Barns:

Tobacco barns of heavy timber frame construction are by far the most numerous in the inventory of early barns, as well as in the sample of surviving structures. Although they were more expensive to erect than either log barns or barns that incorporated hole-set posts, frame barns held advantages over the other options and appear to have gained in popularity. The size of log barns was limited by the dimensions of the available trees and other factors, which became more of an issue over time. The nature of log construction, with walls notched and joined at the corners, also made them more difficult to enlarge, and thus the form was less adaptable to the goal of improving efficiency by building larger barns. Earthfast barns were amenable to extension, on the other hand, but unless they were well supported by interrupted sills, they were vulnerable to wind damage, and the hole-set posts were highly susceptible to deterioration from moisture and insect infestation due to their contact with the ground.

The Brome-Howard barn (SM-33H), dating to 1785, is the pre-eminent example of the traditional 5'-interval system. The 40' x 22' main section of the barn is arranged in irregular bays, with centered door posts forming 4'-doorways, flanked by bays of 8' and 10' on either side. The roof frame does not precisely align with the principal posts, therefore, with the joists spaced at 5'-intervals to form the hanging rooms. A transverse sill spans between one of the paired door posts on each wall. An original open-sided shed ran along one side of the barn; remnants of clapboard siding survive attached to studs on the south long wall. The Burrage's Edge barn (AA-257) likely dates to before ca. 1800, and it is an example of an early barn using hole-set posts that has 4'-hanging rooms, but which continued the practice of roughly 10'-structural bays. The 8'-interval between posts is by far the most common in our sample, but a number of barns exhibit slight variations. The 4'-pattern in hanging rooms is found everywhere but at Brome-Howard and a few other early barns, along with the five documented barns in Prince George's and one small barn in St. Mary's. The retention of 5'-hanging rooms in the Prince George's barns correlates with other features suggesting that rather than a throw-back to

earlier practice, they represent an effort to optimize the loading of individual tobacco sticks. This was likely made possible by the greater availability of water-driven sawmills in the region, which allowed the return to the longer units by reducing the labor required to produce the sticks, as well as lowering the quality of the wood that was needed.

The De La Brooke barn (SM-411), from 1797, is the best-preserved, earliest dendro-dated example of a frame barn following the ascendant 4'-design. The timber-framed, gable-roofed structure is rectangular in form, 40' x 32' in dimension overall, with a 20'-wide central section framed in 8'-bays, and two 10'-wide open-sided sheds that were supported by hole-set posts. The central bay is supported by substantial sills, with a fifth (intermediate) sill bisecting the plan. Remnants of masonry, including short sections with several intact courses of brick, indicate that the central bay had been supported by a nearly continuous foundation. Substantial double doors, each carried by three pairs of wrought iron strap hinges (and unusual double pintles), are centered on both ends, with single doorways centered on the long walls. The sheds were eventually enclosed and outfitted to hang tobacco, and the beaded horizontal weather boards on the former exterior long walls were removed, along with the doors. As was common practice beginning at the turn of the 20th century, the barn was re-sided with vertical circular-sawn boards, with rails inserted within the frame as needed to act as nailers, and boards attached with hinges were incorporated in the siding to swing open to facilitate ventilation. The long walls facing the sheds remained uncovered and retain the wall studs.

Figure 7. The remarkably well-preserved De La Brooke barn (SM-411) is representative of the early fully framed type, with two sheds (facing southwest).

Up until ca. 1840 frame barns continued to be laid out with walls incorporating vertical studs, set either at approximately 2'6", as at the Brome Howard barn, or 2' as at the De La Brooke barn. The close-spacing was integral to the Virginia house framing design, which used horizontal siding as a structural feature. With the availability of sawn weatherboards that could span up to 16' in length, the tighter nailing pattern was no longer needed. The De La Brooke barn is a notable outlier, however, as the barn was clad with sawn and beaded siding as early as 1797. Wall studs were superseded by horizontal rails, or runners, integral to the frame, which served double-duty as nailers for vertical siding boards as well as acted as supports for hanging poles. The savings in both material and labor in switching from studs to runners was substantial, without sacrificing any structural support.

Figure 8. Even though the De la Brooke barn was originally outfitted with nailers to mount rows of wood shingles, the rafters were set in the traditional close-spacing of 2' that was suited to attaching clapboards.

According to our sample of documented barns, studded walls were widespread before 1840 and likely were used only rarely after that year. In addition to Brome-Howard (1785) and De La Brooke (1797), all of the other early barns are studded. The earliest known barn with horizontal runners is the Preston barn (CT-59B) dendro-dated to 1819. The Rose Hill barn (AA-191) is another early structure, dated to ca. 1821 based on documentary evidence, which features horizontal runners. The Smart barn (CT-386) from 1839 is the latest dendro-dated barn with wall studs. Many other barns that were initially laid out with studded walls were modified in later years, with studs removed along exterior walls and replaced by runners (such as Simpkin-Coatback CH-657, Cremona #1 SM-93, and Longevity CH-71).

A number of surviving barns share a common design, which included an innovative open transverse loading aisle. Most of these barns also had an original shed-like appendage that ran the full length of one of the walls, which were supported by earthfast posts but were enclosed from the beginning and designed to hang tobacco. This is in contrast to older barns, such as De La Brooke (also Parrans CT-58, Longevity CH-71, and Black Friars CH-42), where the sheds were open-sided and may have been only enclosed and outfitted with tier supports to hang tobacco at a later date. The Smart barn (CT-386) represents an interesting alternative. The three sheds are original and were outfitted to carry at least two tiers of tobacco sticks, but the lower walls appear to have remained open.

In the new design, the aisle was roughly centered on the long walls in conjunction with openings for double-doorways, extending from one side of the body of the barn to the far side of the shed. On the wall that joined with the shed, doors were not necessary and may not have been installed, and the exterior doorway was generally placed in the shed wall. The frame of the roof for the appendage may have been attached midway up the slope of the main rafters (as was the case at Calvert PG-74A), but in several instances the shed rafters ran all the way to connect near or at the peak of the main roof (such as at the Hurry SM-, Homeport AA-946, and Stisted AA- barns). Together with the integrated sheds and their overall larger size, measured in their footprint and the height of their walls, the carrying capacity for hanging tobacco in these barns increased significantly, as much as doubling that of earlier versions.

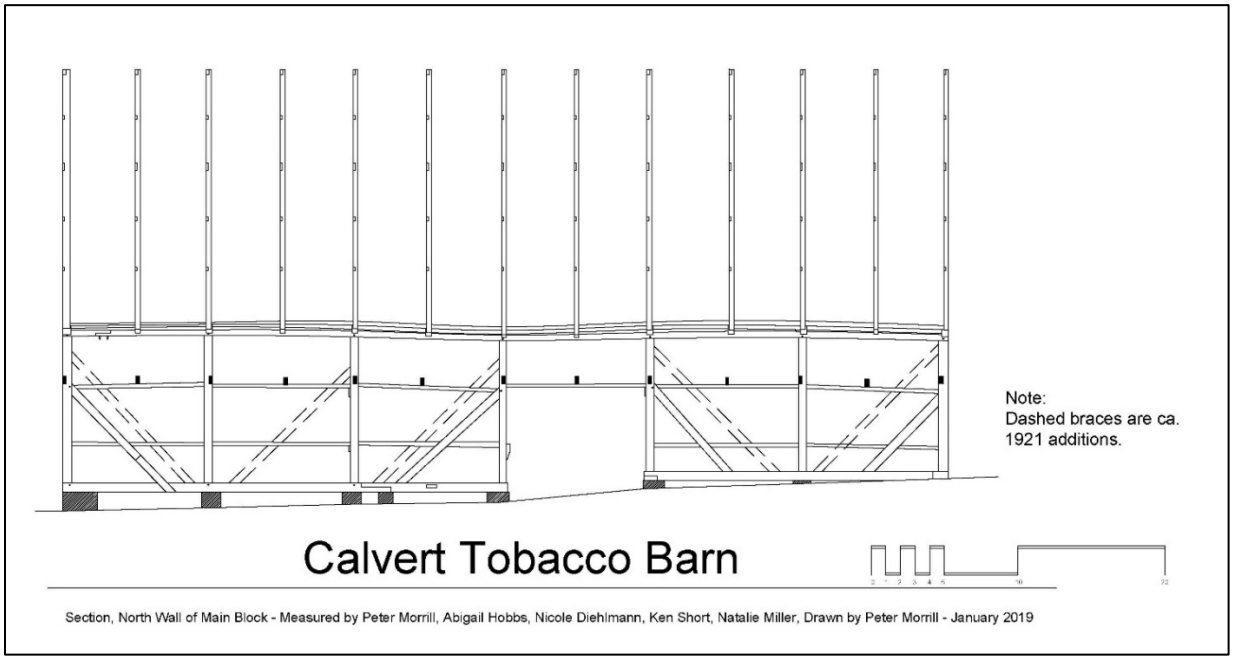

Figure 9. The Calvert tobacco barn (PG 74A-38) has been dendro-dated to 1824. Given the change in elevation from one end of the barn to the other, the transverse aisle must be original, and it is the earliest on record (longitudinal section facing south).

The sample of early barns that feature an open transverse loading aisle begins with the Calvert barn (PG-74A-38), dendro-dated to 1824. The success of this design feature is testified to by the number of barns that were retrofitted to replicate it by cutting away wall sills at doorways to

allow vehicle access (among the many examples are Warington PG-733-6, Rose Hill AA-191, Forney AA-882, and Guy #1 SM-157). Therefore, careful inspection is required to determine whether the openings were original or a later modification. At the Calvert barn the substantial slope of the ground surface running the length of the barn would have made it extremely challenging to carry a continuous sill from one end of the building to the other. The height of the sills on either side of the doorway are not aligned, making it impossible for them to have originally spanned the openings, and confirming that the aisle was an original feature. The current sheds running along both long walls are replacements for the original versions. While the current shed roof frames reach to the peak of the main section of the barn, the rafters for the originals likely met the main rafters at a lower point. Other barns that likely date to the antebellum period that feature open transverse aisles include three others in Prince George's County, as well as the Stisted (AA-) and Homeport (AA-946) barns in Anne Arundel County, the Spye Park barn (CH-304) in Charles County, and the Hurry barn (SM-) and the Middleton-A barn (SM-) in St. Mary's County. All of these barns feature integrated roof systems for the original shed that ran the length of the structure.

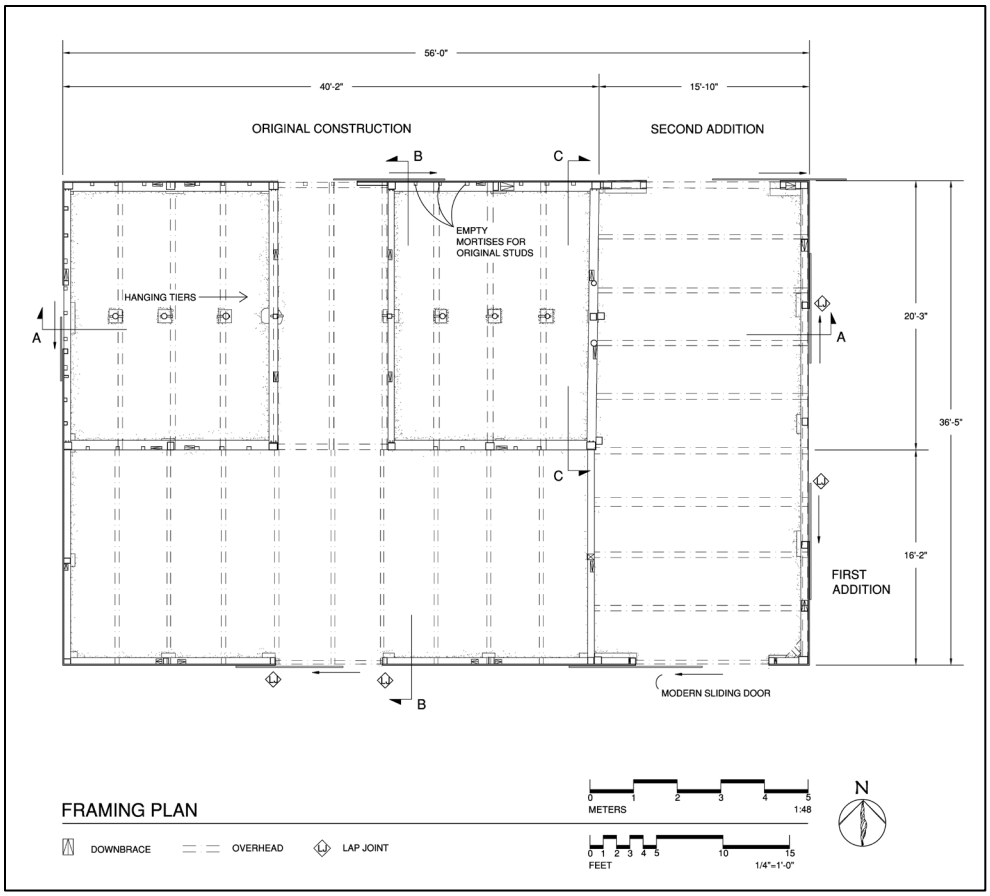

Figure 10. The Spye Park tobacco barn (CH-304) exhibits the centered transverse aisle design, with two fully framed flanking bays and a likely original shed running the length of the south wall (framing plan).

The Concord (PG-75A) and Chelsea (PG-17-018) barns in Prince George's are particularly noteworthy, as they have been dendro-dated to 1858 and 1860, respectively, and they seem to

represent the apogee of the antebellum through-aisle design. With footprints in excess of 2,500 square feet, the two barns are enormous when compared to the average size of tobacco barns of the period. Both barns dispensed entirely with "sheds" in favor of incorporating all of the hanging area within an integrated truss roof system that featured purlins and a combination of both up- and down-braces that may be unique in agricultural buildings in the Chesapeake. A row of posts rest on the inner wall plates to carry a purlin, which in turn supports the elongated roof rafters. A similar approach was taken at some of the barns with integrated shed roofs, with posts and a purlin supporting the connection between the shed roof and the main body.

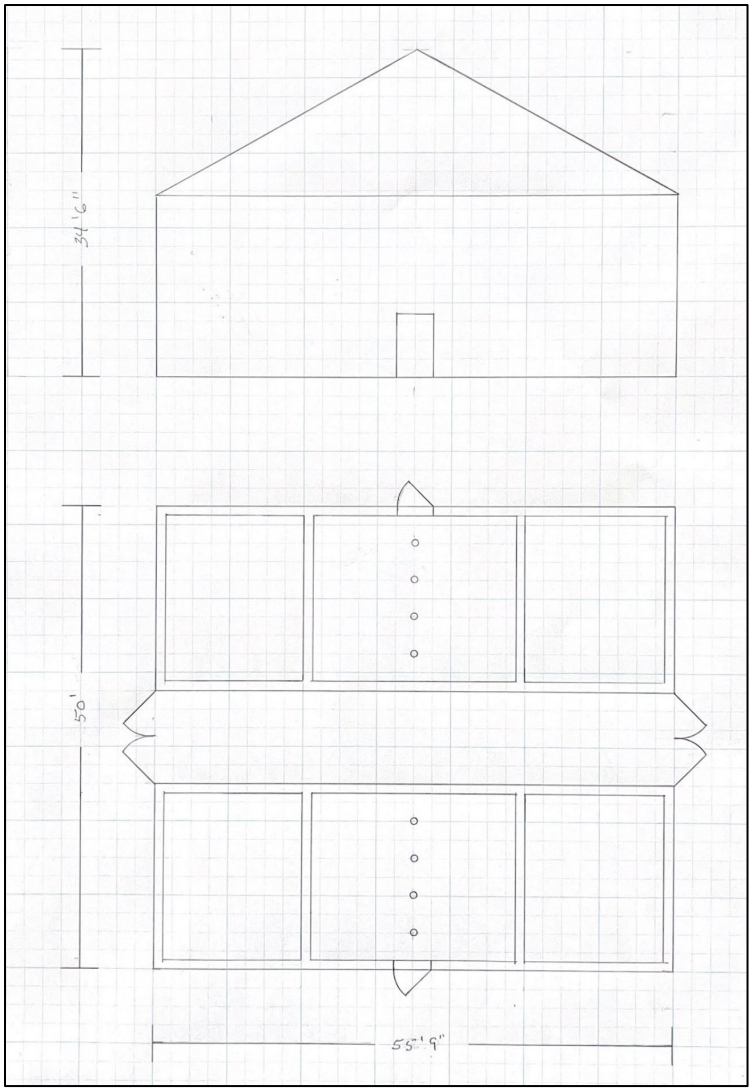

Figure 11. The design of the Chelsea tobacco barn (PG-17-018) negated the requirement for sheds, containing all of the hanging tiers within the truss roof frame (sketch plan and elevation).

The Chelsea and Concord barns were constructed within a few years and just a few miles of each other, located at farms that were owned by members of the wealthy and socially prominent Berry family. Therefore, the similarity in design seems likely to be linked to the family connection, and it does not appear to have influenced other farmers to follow. The expense of erecting a barn

of that scale, and with an elaborate roof framing system, must have been beyond the capacity of most of the Berrys' neighbors, whether or not it succeeded in the goal of greater efficiency. At any rate, with the straitened circumstances that dominated the years following the Civil War, Maryland farmers explored less costly alternatives. Longer barns with through-aisles accessed by wide double-doorways was a popular approach. Given the ease of earthfast construction, that cheaper building alternative appears to have experienced a renewal, with surviving barns combining the light framing technique with longitudinal loading aisles, as at Briscoe-Petty (SM-), Locust Grove (CH-353), and Jutland (SM-627), all of which likely date to the last decade of the 19th century.

Transverse sills tying together the two long walls were a feature of many early barns, with the number of sills linked to the length of the structure. The two earliest barns, Brome-Howard and De La Brooke, each had one transverse sill, while the Black Friars (CH-42) barn incorporated three transverse sills to support its remarkable 80'-length. But the sills would have acted as impediments to movement within the barn, and replacing the sills with elevated rails to serve as structural girts presumably provided the desired lateral stability without restricting access. Barns with girts include Rose Hill (AA-191) ca. 1821, Stisted (AA-), Homestead-B (CT-97), and at the Cremona #2 barn (SM-93), dendro-dated to 1826. In eight of the barns that feature through-aisles, the body of the structures are timber-framed in the traditional manner (such as at Spye Park CH-304), with two transverse sills flanking the long axis. The interconnected sills created box-frames on either side of the pass-through aisle, which opened into the unsilled earthfast shed. At the Calvert and Concord barns, and possibly at the Bellview barn (also in Prince George's but non-extant), the sills formed an aisle that ran the full width of the barn.

Log Barns:

With their walls comprised of logs joined at the corners in an interlocking crib, the character of the main body of log barns presents a radical departure from the Virginia house model. But the flexibility of the system of framing for the roof was readily adaptable to log structures, and it served to organize the space to accommodate tobacco hanging. The sample of log tobacco barns in the region is limited to seven surviving structures, and with helpful information for an eighth barn that no longer survives. The small number of surviving log barns undoubtedly does not reflect their original numbers, as they were not as likely to continue to be used and maintained. As a group they conform to the size limitations that are associated with the type. Three of the barns consist of a single crib, which measures 20' on one axis and 25' or less on the other. Two barns have two cribs each that are roughly 20'-square, which are joined together. The Wilson barn (CT-59A), Hockley-in-the-Hole (AA-873), and the no longer extant Hammond barn (AA-10) are slight outliers, measuring 36' x 20' and each 33'6" x 25'6", respectively. The Spalding barn (SM-170) had two original hanging sheds and the Sims barn (SM-246) and the Wilson barn both likely had one. Log barns tend to be low in height as well, further reducing their capacity to hold tobacco. With the notable exception of the Spalding barn, builders of log barns took advantage of the cribbed walls to space the logs to provide ample ventilation for the tobacco as it cured.

The Sims barn (SM-246), dendro-dated to 1837, is the earliest known surviving log barn in the region. The building was the first in a succession of structures that were linked over the years to create an impressive agricultural ensemble. The barn measures 24' x 20', joined at the corners with v-notches. The framed gables were covered with riven clapboards, which survive on the west end of the building. An unusual feature of the construction is the use of hole-set posts pegged to logs in each of the walls to provide structural support; dendrochronology has determined that the pegged logs were an early feature but not original. The tie beams/joists are set at a 4'- interval, which created six "rooms" for hanging tobacco. The rafter pairs are spaced at 2', with tiers of three collars spanning between every other pair. Three tiers of tobacco sticks were accommodated in the main body, with two additional tiers suspended within the roof. Earthfast posts attached to the sides of the tie beams/joists ran down the center of the barn following the 4'-spacing pattern, which provided rests for tobacco hanging poles that spanned the width of the crib. The capacity for hanging tobacco was augmented by two appended spaces. An original, enclosed 14'-wide shed, heavy timber-framed and resting on a sill, is attached to the north wall. The shed was set up to hang tobacco in 4'-rooms, before it was converted into a stable. A 20' x 12'-gable-roofed room, supported by hole-set posts and interrupted sills, was appended to the east wall of the barn, likely in the 1840s. The addition was also intended to hang tobacco, using the same spacing and structural system found in the main section of the barn.

The Spalding tobacco barn (SM-170) is a low structure featuring a log crib measuring 24'9" x by 20', which appears to rest directly on the ground. The core of the building has a steeply-pitched side-gable roof, with two original earthfast sheds, each 10'-wide. The crib is exceptionally sturdily built, with tightly laid log walls, 10'-high, joined at the corners with well executed full-dovetail notches. The logs are well finished and laid with only narrow gaps between the units, many of which are infilled with wood chinking. The tight spacing of the logs, which would have inhibited air-flow, seems highly unusual for a tobacco barn. In frame barns, ventilation to assist in curing the tobacco may have been accomplished by loosely attaching the siding boards or by installing slatted openings in the eaves or the gables; opening and closing the multiple doors was the primary means of controlling flow. The wall logs of the Murray barn (SM-263), the Sims barn (SM-246), and the Wilson barn (CT-59A) are laid with gaps of several inches, which seems to have been a common feature of the type.

A row of short boards was installed along each long wall of the Spalding barn to block the opening between the top log and the bottom of the roof. Only one board survives in place, but patterns of nails and holes indicate the former presence of the others. Tight envelopes were a feature of barns that used fire to assist in curing the tobacco. The simplest method was to dig a shallow pit to contain a smoldering fire, and fire pits were documented at two no longer extant barns in Calvert County (Ranzetta 2005), and oral history indicates their use at the Johnsontown #2 tobacco barn (CH-742) in Charles. A framed rectangular opening in the west gable of the Spalding barn likely served as a ventilator, and a second opening may have been installed in the opposite gable, which no longer survives. If the barn had been built to accommodate fire curing, the ventilators presumably would have been added when that practice was discontinued. Or

perhaps the builders valued tight walls for their own reasons and installed the vents as part of the original design.

Figure 12. Spalding tobacco barn (SM-170). The well executed full-dovetail notching at the corners testifies to the high level of skill of the builders, but also produced a relatively tight fit for the logs that is surprising given the need for ventilation to help cure the tobacco (facing northwest).

The Wilson barn (CT-59A) was likely erected in the mid-19th century, and it is remarkable for featuring reused materials from multiple earlier structures, including a wall plate dendro-dated to 1820. The evidence indicates that the Wilson barn was re-erected more than once, which may reflect the practice of shifting tobacco houses around the property as the nutrients in tobacco fields were exhausted, and cultivation was moved to take advantage of fresh soil. The 36' x 30' core accommodated three tiers of tobacco in its body and another three partial tiers within the roof. An original shed runs the length of one of the walls, which was also equipped for hanging tobacco sticks (Stone 1987).

Earthfast and Hybrid (or "Bastard") Barns:

Among the numerous innovations that came to define the "Virginia house," the most notable was the adoption of principal posts set directly into the ground as an alternative to the support provided by raised foundations. Chesapeake farmer-builders viewed earthfast construction as an impermanent solution to the challenge of cheaply and quickly erecting houses and agricultural buildings in reaction to the frontier conditions and environmental factors. Over the course of the 18th century, earthfast construction fell out of favor among those who had the means and the desire to erect more durable houses for themselves, turning to fully framed walls and masonry

foundations, or more rarely buildings entirely made of brick or stone. But the practice continued to be a popular building type for secondary structures, and especially those devoted to agriculture. The reasons for their continued popularity remained constant: the ready availability of building materials and relative ease of construction, combined with flexibility in adapting to different conditions and needs, and familiarity on the part of the builders. It would be misleading to assume, based on the evidence provided by the surviving sample, that earthfast structures represented only a small portion of tobacco barns in the region, as their numbers are undoubtedly a function of preservation bias, largely reflecting the impermanence that was inherent in structural posts anchored into the ground (Graham 2013).

There are a total of 14 early earthfast tobacco barns for which substantial documentation exists, six of which survive in their original location; one has been moved and reassembled, and the remaining seven are non-extant. Another three barns date after ca. 1870, but they have been recorded for comparative purposes. Seven of the barns were stand-alone earthfast structures, ranging in date from the late 18th century until the 1850s. The earliest of the barns is likely to be Burrage's End (AA-257), dated to before ca. 1800 on the basis of materials and methods of construction. The envelope of the barn survives relatively intact, although the structure was modified in the 20th century to serve as a stable (Graham 2013). Among Burrage's many noteworthy characteristics is the use of interrupted sills. Only four other documented barns -- the non-extant James Owens/Chaney (AA-247) barn, the relocated Jenkins barn (CH-367), the addition to the Sims log barn, and the Plank Bridge barn (CH-174) -- are recorded as having interrupted sills. The sills tied the wall posts together, providing crucial structural support and anchoring the wall studs. Other stand-alone barns with hole-set posts, but without sills, include Western (SM-245A) and two other non-extant barns that also had been part of the larger Sims farm complex, and the Dawson barn (SM-). A large earthfast barn, without sills, was added to the Sims barn ca. the 1850s. The other earthfast barns are of hybrid design, which incorporated hole-set principal posts running along all or the majority of one wall in combination with framed sills on the others.

Burrage's End is somewhat larger than usual for its postulated date of construction, measuring 52'4" x 24'5", with the frame supported by two rows of substantial square-hewn earthfast posts. Notches near the base of the posts indicate that they had been joined by sills. The plates are notched and pegged to the posts, carrying joists that are spaced at a 4'-interval. The joists project 9" to support a tilted false plate, notched and pegged, with the rafters spaced at 2'-intervals, notched over and carved to project roughly 5½" beyond the end of the joists. The 4'-spacing of the joists does not align with the posts in the two northern bays, which are set at roughly 10' rather than the nominal 8'-interval for the other bays. Wall studs were notched into the outside faces of the plates to anchor horizontal siding boards, and presumably were attached in a similar manner to the sills, which do not survive. Only the oversized corner posts were braced.

The system for hanging tobacco at Burrage's End is clearly evident, although important elements have been removed. The rafter pairs forming the steeply pitched roof are set at the traditional closely-spaced interval of 2'. The rooms for hanging tobacco were 4'-wide, however, as defined

by the plan of the joists; therefore, only every other pair of rafters were used for hanging tobacco sticks. Only the uppermost collars survive, but notches in the rafters indicate that there were a total of four tiers of collars lapped onto every other pair, spaced to accommodate hanging three tiers of tobacco. The intervening rafter pairs were only fitted with the uppermost collar, so as not to conflict with the hanging system. The relatively low pitch (9') to the top of the plates could accommodate two or perhaps three more tiers of tobacco in the body of the barn. Notches in the posts on both long walls indicate that a horizontal rail was set roughly 3'6" below the plates to carry the ends of the tobacco poles. Presumably a row of supports ran down the center of the barn to carry the other ends of the poles.

The Jenkins barn (CH-367), hypothesized to date to ca. 1825, consists of the 32' x 20' main section, with two full-length 10'-sheds. The core of the barn was supported by hole-set posts with interrupted sills, forming four 8'-bays, with rafters spaced at an interval of 4'. The sheds are arranged for hanging tobacco and may be original, but they currently rest on a continuous low brick foundation, which likely replaced hole-set posts. Relatively narrow doorways (4'6") are centered on the gables, which currently are not obstructed by sills. The frame has an unusual feature consisting of three girts set several feet below the level of the joists, one each spanning between the three inner principal posts. These are reminiscent of H-beam construction that was favored in house design among various European immigrant groups (see Beatty-Cramer house F-8-35). As there is no interior transverse sill binding the sidewalls, unlike the De La Brooke barn (SM-411), which has the same dimensions, it is likely that the girts were intended to serve the purpose of providing strength and lateral stability to the frame.

The Dawson tobacco barn (SM-) seems to present a novel approach to providing lateral support for an earthfast structure. The posts are hole-set and do not exhibit evidence for having had wall sills. Yet, a roughly centered transverse sill bisects the barn, mortised into the base of the opposing wall posts and secured to both uprights with substantial down-braces. The bottoms of all of the posts have been cut off and replaced with blocks, but the middle post on one long wall extends low enough to the ground to retain the mortise-and-tenon joint connection with the transverse sill. If a wall sill had been connected to this post, the evidence should be readily visible.

In addition to the earthfast extension to the 1837 log tobacco barn at the Sims farm, four other barns supported by hole-set posts are documented as having existed on the property, none of which incorporated sills. A substantial gable-roofed tobacco barn, measuring approximately 60' x 29', survives just to the south and running parallel to the log barn, at a distance of 13'. The structures were joined together by adding a shed roof to the south side of the earlier building. The southern barn is supported by round hole-set posts, regularly spaced at 12'-intervals on the east, and more irregularly with eight bays on the west. Diagonal up-braces connect the corner posts and two intermediate posts on each long wall with the tie beams, but otherwise the posts are not braced. Access to the much larger earthfast barn is unrestricted all along the north wall, and an exterior double doorway centered on the east end wall led to two aisles running the length of the barn, separated by a row of tobacco tier support posts, which do not survive.

Figure 13. The Sims barn (SM-246) combines both a log crib and two types of earthfast construction. The earlier log barn, dendro-dated to 1837, was expanded within a decade by an earthfast addition with interrupted sills, then a few years later was enlarged again by the double-aisle, earthfast barn (foreground).

The other three earthfast barns were stand-alone buildings positioned at some distance from the centrally located main barn complex. Staff with the Colonial Williamsburg Foundation documented the structures in 2008-09, shortly before they were demolished. All three of the barns, along with the earthfast barn appended to the log barn, have been estimated to date to the ca. 1840s-50s on the basis of construction methods and materials. The circumstances that may have led farmer Sims to erect so many barns within such a short time span are unknown and must have been remarkable. All of the barns feature posts that were left in the round and braced to the plates, supporting traditionally joined common-rafter roof frames. The flat false plates on one of the barns was determined to consist of circular sawn boards, providing a general *terminus post quem* in tidewater Maryland of ca. 1840. The 64’2” x 24’4”, double-aisle Western barn (SM-245A) is especially notable because of the unusual system of tier pole supports. The round posts were attached to the joists above, but they were supported at the bottom by a pair of opposing angled struts that raised the posts roughly three feet from the ground. Three tiers of horizontal members attached to the sides of the raised posts ran from one end of the barn to the other, providing the center support to carry the ends of hanging poles.

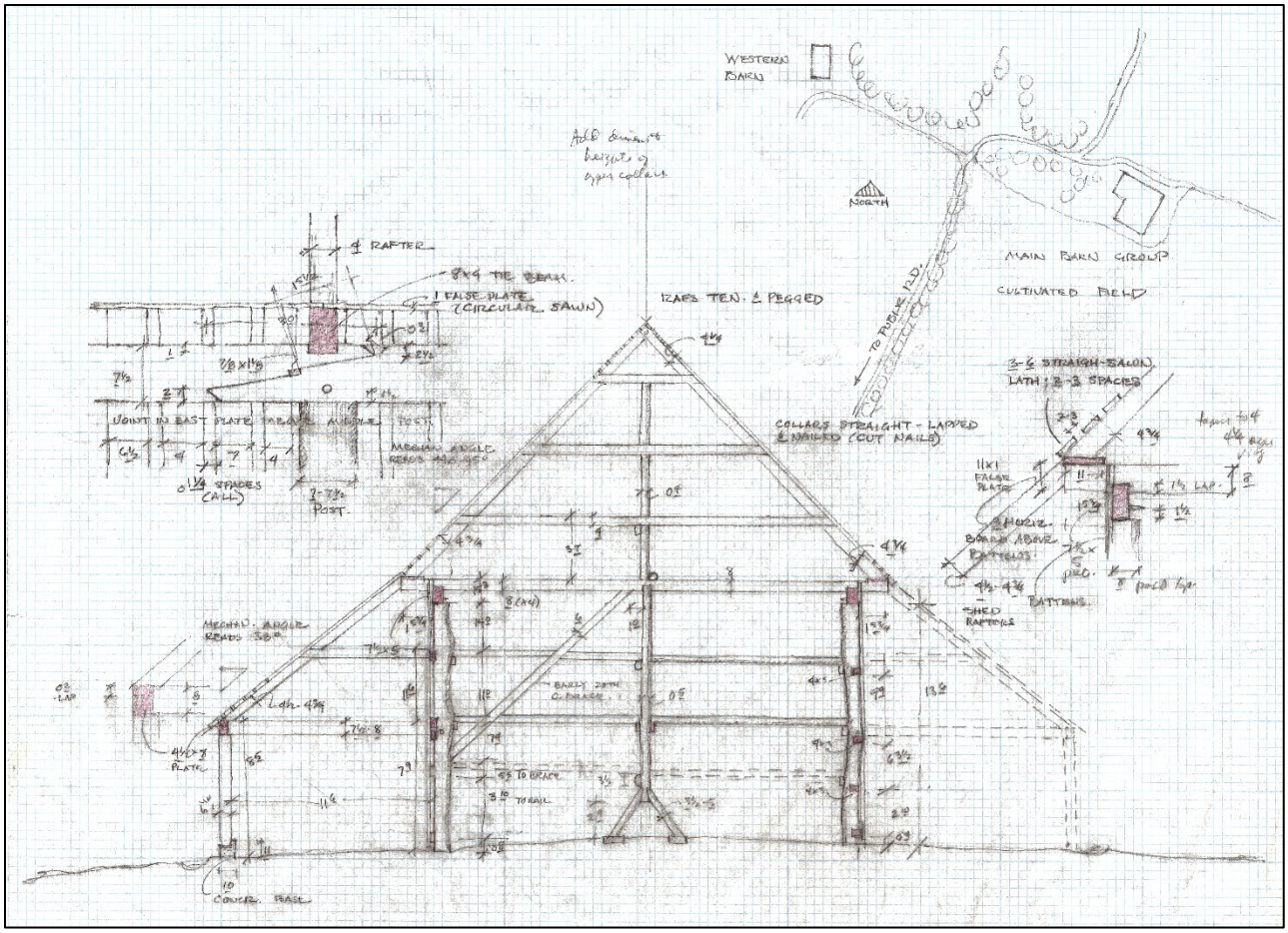

Figure 14. Western/Bond Farm Barn #2 (SM-245A), cross-section by Chappell and Klee 2008.

Some farmers incorporated both earthfast and framed construction in their barns, presumably to combine the strength of interconnected sills with the ready access provided by an unsilled wall. Two surviving barns located within three miles of each other exhibit variations on this hybrid design. The Albert Guy Farm barn #2 (SM-157) measures 64'6" x 20'3" and includes five earthfast posts forming 3/4ths of the south wall. The north, east, and west walls are fully framed, on the other hand, including a conjoined 20'-square silled bay on the east end. An original shed likely ran along the wall partially framed by the hole-set posts. The nearby Allstan barn (SM-635) is 60' x 25', divided into three bays with hole-set posts on one side linked by transverse sills to the opposite wall. The Savona barn (SM-72) was dendro-dated to 1803, and thus was likely to have been the earliest known hybrid earthfast barn in the region before its demise in 2021-22. The barn was long and relatively narrow at 72' x 18', which seems to be characteristic of barns of this type, with an open earthfast wall on one side. The Penerine barn (SM-850), at 100' x 20' also shared the design of three silled walls and one long earthfast front wall. Unlike the Guy Farm Barn #2, with its fully-silled end bay and no other interior sills, all three barns had transverse sills that linked the rear sill to one of the hole-set posts, which divided the barn into multiple bays.

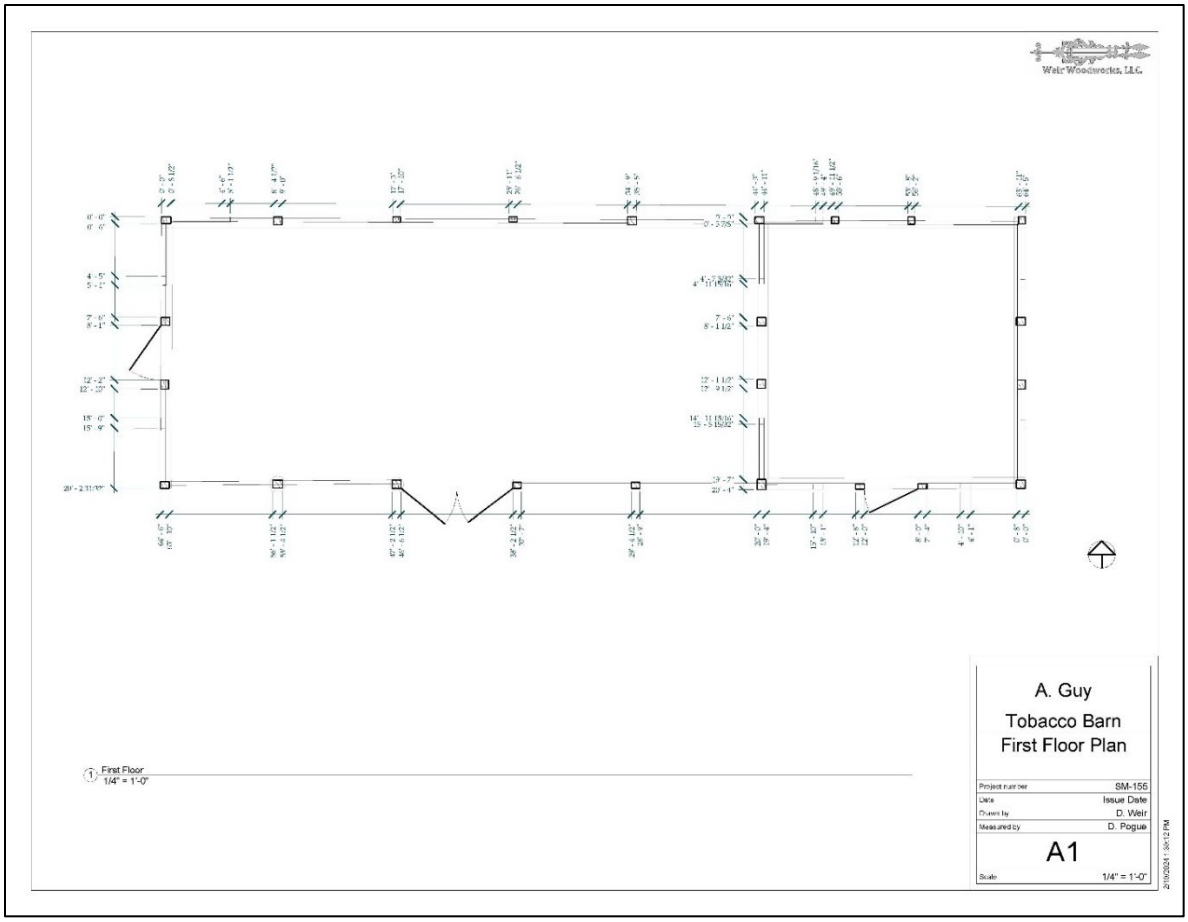

Figure 15. The Albert Guy barn #2 (SM-157) plan; hole-set posts frame the west five bays of the south wall.

The decision to erect earthfast barns without incorporating interrupted sills in the design seems to have represented a perilous trade-off between stability and accessibility. While the absence of the sills reduced conflicts to movement, the evidence from several barns in the sample testifies to the relative weakness of the un-silled walls. The condition of the Briscoe-Petty barn (SM-), dating to ca. 1890, is instructive in this regard. The structure is 80'6"-long and 20'6"-wide, with three rows of hole-set posts set at 10'-intervals forming two aisles, and a shed 14'7"-wide running along one wall. In addition to a lack of sills, the posts are unbraced, with only the post in the center of each row forked at the top to bridge the junction of the two-part plates and middle girt. The roof is traditionally framed, with joists notched over the plates, and rafter pairs set at a 4'-interval, each with three tiers of collars. The hole-set posts are severely racked in the direction of the shed; connections between the posts and plates have been broken, and joists and rafters have been fractured and displaced. Historical documents reference the prevalence of damage to tobacco barns caused by the frequent heavy windstorms that are common in the region (Ranzetta 2005:88). This was likely the cause of the displacement and damage to the Briscoe-Petty barn, as the building is positioned on a ridge fully exposed to the elements and less than a half-mile from the Patuxent River. If not for the sturdy roof frame and the support of the shed, the barn likely would have collapsed.

Figure 16. The Albert Guy Farm barn #2 (SM-157), hole-set posts in the foreground frame a section of one wall with continuous sills on the others.

Tobacco Hanging Systems:

In tobacco barns that were no wider than about 20'-across, the poles used to support the tobacco sticks hanging within the body of the barn could span from one side of the building to the other. Beyond that approximate limit, two poles in concert were usually required, with the ends of each pair resting on horizontal rails attached to the walls and to a system of supports in the middle of the building. All but two of the documented barns follow this pattern, with the only exceptions the barns at Simpson's Supply (CH-720) and at Johnsontown #2 (CH-742), where substantial de-barked poles span the entire width (20' and 24') of the buildings.

Four distinct variations on tier supports are represented in the sample of 28 barns in the region for which documentation exists to enable their study. The most common methods feature a row of vertical posts, connected to the joists overhead and which almost always were set into the ground, that ran down the center of the barn. In one version the posts were either fully-squared or flattened on the sides facing the long walls, with either oblong or rectangular through-mortises cut large enough to insert the ends of both hanging poles. A second variant used a series of pegs, projecting up to 1', inserted into holes drilled into one side of the post. A third variety substitutes the row of posts with two boards joined at intervals by dowels to create a narrow "ladder" frame. The frames were suspended by the upper-most dowel from the joist, and rested lightly on the ground surface. The advantage of this system is that the frames could be shifted against one of the walls of the barn when not needed. The fourth approach consists of tiers of

continuous horizontal rails running the length of the barn. The small size of the sample precludes forming firm conclusions as to spatial or temporal causes of variation, but several suggestive patterns are apparent.

Figure 17. Ladder-style tier pole supports at De La Brooke (SM-411), dating to 1797.

The ladder-type system has been documented at six barns in the region, with three surviving examples. The method of supporting hanging poles does not survive at the 1785 Brome-Howard barn (SM-33H). However, the second-oldest dated tobacco barn in the region, De La Brooke (1797), has a remarkably well-preserved system of hanging ladders. Dendrochronology confirmed that the tier ladders are original features, as one of the three samples that were

analyzed was precisely datable to the winter of 1796/97. Ladders were documented at the Dryadocking (SM-546), Middleton-A (SM-), and Wilton (CH-343) barns, which do not survive, as well as at the Spye Park barn (CH-304. All four barns have been estimated to date as early as the 1820s. The sixth barn is Carberry-Abell (SM-155), which, based on nails and other evidence, likely dates after 1840. Four of the barns were located in St. Mary's County, with Spye Park and Wilton in Charles County as the outliers.

As many as nine barns with the post-and-peg variant are documented, spread over Anne Arundel, Calvert, and Prince George's counties. The dendro-dated structures range from 1819 (Preston CT-59B) to 1860 (Chelsea PG-17-018). The system was used in barns of earthfast (Chaney AA-247) and log (Wilson CT-59A) construction, as well as heavy-timber-framed.

The post-and-mortise variant appears most often in barns located in Charles County. Of the nine barns in the sample, six are in Charles, with two in Calvert, and only a single barn in St. Mary's (Hurry SM-). This total includes the Longevity barn (CH-71), which uses a combination of a pair of posts with mortises to support longitudinal rails across the center bay and traditional supports elsewhere. The barns likely range in date from the 1830s until the ca. 1900 Hadlow #2 (CH-118) and Locust Grove barns (CH-353).

The seven barns with permanent longitudinal rails are similarly widely distributed, with two barns in St. Mary's, three in Calvert, one in Anne Arundel, and one in Charles. The Tracy's Landing #1 barn (AA-755) which dates to ca. 1800, is likely the earliest known example. The Black Friars barn (CH-42) is the earliest dendro-dated barn (1836) with that feature. At Black Friars five widely-spaced posts carry the rails, which are set into notches and secured with pegs. At both the Tracy's Landing #1 barn (AA-755) and the Briscoe-Petty barn (SM-), which dates to ca. 1890-1900, the rails were nailed to one side of the center posts. The Habre de Venture (CH-5) and Octavius Bown barns (CT-1345) represent variations on the theme. At Habre de Venture the tier supports have mortises in the lateral faces to receive removeable rails; at Octavius Bown two widely spaced posts have pegs to carry a longitudinal pole rail, which supports the middle of tobacco poles that span from one side of the barn to the other.

In all types of barns the hanging poles within the main body of the structure were supported on the ends by horizontal rails running along or within the long side walls. As early as 1819 with the Preston barn (CT-59B), frame barns were designed with horizontal rails, or "runners," in the walls to serve double-duty as framing members and as attachments for vertical siding boards. The runners were typically attached to the posts with a mortise and tenon joint and nailed to down braces as needed. For frame barns fitted with wall studs, the rails were inserted running on the interior between the posts. The simplest approach was to nail them to faces of the posts, as at the De La Brooke barn. At the Longevity barn, the rails were carefully notched to fit around the studs and bevel-notched and nailed to the posts, so that the rails do not project into the barn beyond the wall plane. At the Smart barn (CT-386) the rails are half-lapped and nailed to the posts and run close to the studs; at the Guy Farm Barn #1 (CM-157), the rails are half-lapped and pegged and project 2" into the space.

Ventilation:

Tobacco plants hanging in the tightly packed barns were prone to moisture build-up ("sweating") and vulnerable to sprouting mold, so farmers had to closely monitor those conditions. In wet weather, farmers may have built low-burning fires to reduce moisture and keep a relatively even temperature (Ridout 2013:181-182). Early barns generally were outfitted with multiple doorways, often with one opening on each wall and commonly including at least one set of double-doors, roughly 8' to 10' in width. Opening and closing the doors was the main method of regulating air-flow into the barn before hinged openings were introduced in the late 19th century. The disposition of doorways varied considerably, however, with the presence of sheds seeming to act as a determining factor in designs. When barns were equipped with one or more sheds running along the long walls, the double-doorways in early barns such as De La Brooke (SM-411) and at Cremona (SM-93), were situated in the end walls. When transverse through-aisles were introduced, the aisles generally were accessed by at least one double-doorway on the long wall.

Some early documented barns featured louvered or hinged openings in the gables to provide a means of air circulation. The Black Friars barn (CH-42) has remnants of what may be an original louvered vent in the gables, as does the Spalding (SM-170), Spye Park (CH-304), and Johnsontown #2 (CH-742) barns. A more elaborate scheme of ventilation was documented at both the Tracy's Landing Barn #2/Coe barn (AA-756), which no longer exists, and the surviving Tracy's Landing #1 barn (AA-755). According to Stone (1987), expansive openings 9'-wide were incorporated into at least one of the walls, which could be opened and closed using hinged leaves. By the 20th century, barn designs frequently incorporated ventilators in the form of one or more structures projecting at the peak of the roof. The Homeport barn (AA-946) has two cupola-style, louvered ventilators that may be original to the construction of the barn ca. 1860-1880.

The evidence from numerous barns in the sample point to another means of ventilation that took advantage of the presence of open-sided sheds. The exterior wall facing the shed was sheathed with either vertical or horizontal battens that were spaced one to three inches apart, while the other walls were covered with standard siding. The non-extant Dryadocking barn (SM-546) may have been the earliest documented example of this feature, but it is found at both the Longevity (CH-71) and the Black Friars (CH-42) barns, dendro-dated to 1835 and 1836, respectively. At the Parrans (CT-58) barn, the horizontal siding was replaced with spaced, narrow riven clapboards when the shed was added along that wall. The sheds were at least partially open-sided, and presumably the roofs provided adequate protection from the weather, which allowed the spaced battens to be used to provide air circulation. At De la Brooke (SM-411), narrow sawn battens were attached to the underside of the projecting eaves, which presumably helped to ventilate the barn while the walls remained covered in tightly overlapping weatherboards. The use of spaced battens on an exterior wall is documented as late as the ca. 1890s Briscoe-Petty barn (SM-). In this instance, there does not appear to have been an original shed running along that wall, but the roof has an unusually generous overhang of 2', which presumably provided sufficient protection from rain to allow installing the more porous wall finish.

As concerns with ventilation appear to have increased among Maryland tobacco farmers over the years, additional features to promote air circulation were incorporated into barn designs. The most common of these was to create a series of narrow vertical vents by installing swinging boards, mounted on pairs of hinges, at intervals along the exterior walls. The adoption of vertical board siding facilitated this practice, as it was an easy matter to either incorporate the vents into the design, or to remove and retrofit boards at a later date. The transition to vertical siding occurred long before the practice of installing swinging boards, which does not appear to have been widely adopted before ca. 1900 (Ranzetta 2005:89). As vertical boards on surviving barns are butted together rather than overlapped, perhaps the spaces between the boards were viewed as also furthering air circulation.

Figure 18. Parrans tobacco barn (CT-58) with remnants of a covering of spaced riven battens attached to the exterior wall facing the open-sided shed.

Carpentry Details:

A notable framing feature has been recorded at as many as 22 barns in the documented sample. The examples are concentrated in Calvert County, at 14 of the total, with two found in Anne Arundel and another six in Charles. The earliest dated barn with this feature is Tracy's Landing #2 (AA-756, 1805) and the latest is Hadlow #2 (CH-118, ca. 1890-1900). The distinctive joint consists of two "tenons" projecting from the end of the transverse sill, with the lower projection inserted as usual into a horizontal mortise. The transverse sill is oriented with a taller vertical

dimension to provide sufficient material to enable the upper tenon to overlap the wall sill, and the post is notched to fit over and "clench" the tenon. One or two pegs penetrate from the top of the transverse sill through both tenons. This condition is most commonly found in relation to corner assemblies, but it also has been found joining transverse sills at intermediate wall posts. In some of the barns the posts attach to the plates in a somewhat similar fashion. The secured double tenons provided an especially tight joint, which seems to have been particularly valued by Calvert barn builders for reasons known only to themselves.

Figure 19. Buckler barn (CT-1090), double-tenoned corner joint with clenched post.

Dating and Dendrochronology:

The dating of vernacular structures overall, and agricultural buildings in particular, is a challenge, as they only loosely follow stylistic trends and they seldom are favored with detailed documentary evidence. To base their assessments as to date of construction, investigators are left with identifying patterns in the historic fabric, with a particular focus on framing methods, the types of fasteners used, and the visible marks that reflect the methods of preparing the wooden members. Technological advancements provide benchmarks or horizons for their introduction, but the innovations did not necessarily cause the older methods and materials to be discontinued, as is demonstrated by the evidence provided by the documented barns. As the basic structural requirements of air-cured tobacco barns remained unchanged for hundreds of years, it is not a surprise that the framing found in documented buildings reflect conservative

tendencies. Assigning relatively precise dates of construction for selected barns via dendrochronology has provided an invaluable source of comparative data to trace changes to barn designs and construction methods and materials over time. Unfortunately, three of the barns have been demolished, and two others have been dismantled. The Johnsontown # (CH-332B) barn has been partially re-erected on private property; the remnants of the Concord barn PG-75A are in storage.

Table 7. Dendro-dated early Maryland tobacco barns.

MIHP	Name	Date	Status	Source
SM-33H	Brome-Howard	1785	Extant	Heikkenen 1983
SM-411	De La Brooke	1797	Extant	Miles 2013
SM-72B	Savona	1803	Demolished	Heikkenen 1983
AA-756	Tracy's Landing #2/Coe	1805	Demolished	Heikkenen 1983
CT-59B	Preston	1819	Extant	Heikkenen 1983
PG-74A	Calvert	1824	Extant	Worthington 2023
CT-504A	St. Leonard Shores	1824	Demolished	Heikkenen 1983
SM-93	Cremona #2	1826	Extant	Worthington 2019
CH-332B	Johnsontown #1	1830	Dismantled	Heikkenen 1983
SM-93	Cremona #1	1833	Extant	Worthington 2019
SM-157	Guy #1	1834	Extant	Worthington 2024
CH-71	Longevity	1835	Extant	Worthington 2024
CH-42	Black Friars	1836	Extant	Worthington 2024
SM-246	Sims - Log	1837	Extant	Heikkenen 1983
CT-346	Smart	1839	Extant	Worthington 2024
PG-75A	Concord	1858	Dismantled	Worthington 2014
PG-74A	Chelsea	1860	Extant	Worthington 2022

Temporal Patterns:

Steps in the development of such basic building components as nails and other hardware, along with the methods of preparing wooden timbers, making bricks, and such, are relatively well documented. Changes over time represent the predictable impact of industrialization, with hand-made materials and traditional processes superseded by mechanized innovations. Tracing the presence/absence of selected variables provides a general picture of the rate at which those innovations were adopted (cf. Edwards and Wells 1993, Graham 2013, Lounsbury 2013).

The results reinforce the overall expected trends, as well as point to a conservative approach related particularly to some features continuing long after they might have been expected to disappear. Overlaps in the use of different types of nails, along with other characteristics such as the manner of cutting and finishing wood, are to be expected and are clearly evidenced. The Preston barn (CT-59B) is the most compelling demonstration of this phenomenon, as it exhibits several examples of overlapping technologies that reflect its 1819 date of construction.

Blacksmith-made, wrought nails were used exclusively in the region up until ca. 1800, when the earliest manufactured, or cut, nails were introduced. The first cut nails were small in size and were adopted for specialized applications, such as attaching plaster lathes. As cut nails of various sizes became more readily available, wrought nails fell out of favor for framing, generally disappearing except for specialized functions by ca. 1810, when they were replaced by cut nails with heads that were finished by hand (HHC). The next innovation consisted of cut nails with machine-finished heads, which appeared in the 1810s and rather quickly displaced the hand-headed versions. The early cut nails were in turn replaced by more standardized versions with distinctive heads and tips that were introduced in the 1830s and which remained in widespread use until the early 20th century. The introduction of round, wire-wound nails ca. 1880 marked the next innovation, but cut nails continued to be valued for their excellent gripping properties.

Similar developments in mechanized processes relate to methods of preparing the wood. Hand hewing with axes is an ancient technique, and it was universally used to square up logs for framing, and in preparation for cutting into narrower boards by pitsawing by hand. Larger members – such as sills, plates, and posts – were often completely hewn, or exhibit a combination of hewing and saw marks, and at least partially hewn sills and posts remained common in the region until the end of the 19th century. Hand-split clapboards used for siding walls and covering roofs were a fundamental feature of the Virginia house design, and riven boards are found on barns extending well into the 19th century. Smaller-dimensioned framing members were initially sawn by hand, but mill-powered sash saws were in wide use in the Chesapeake by the last decades of the 18th century. Where relatively precise dimensioning and regular finishes was highly valued, such as for flooring and siding, sash sawing was adopted early on. By the 1820s it was common for other framing members -- such as studs, false plates, rafters, and braces – to be sashsawn. Lumber mills outfitted with circular saws were making their appearance in the Chesapeake in the 1840s, and circular sawn framing members are found in several early houses and barns that likely date to the 1850s-60s.

Other temporally sensitive features reflected in the tabulation relate to the character of the structural false plates, and the types of wall covering. False plates to support the rafters were an integral innovation in the Virginia house design. House builders increasingly turned away from tilted false plates during the last decades of the 18th century, however, as they opted to enclose the unsightly gaps and finish the eaves with a boxed cornice. Open eaves were viewed as a functionally beneficial feature in tobacco barns, however, as the gap provided an opportunity for exterior air to circulate within the structure, and tilted false plates continued to be incorporated into tobacco barns for much longer. The sample of dated barns does not include tilted false plates after the 1805 Tracy's Landing #2 barn (AA-756), but the feature is recorded in other barns that likely date as late as the 1840s (such as Stisted AA-). Barns with vertical studs and horizontal siding were similarly superseded over the first half of the 19th century, in favor of horizontal runners and vertical boards. That transition appears to have been well underway by the 1820s, but the Cremona barns (SM-93) and the Plumer-Cranford barn (CT-1028) are notable exceptions, with the wall studs at Plumer-Cranford covered by riven clapboard siding estimated

to date to the 1830s. The Sims barn (SM-246), dated to 1837, retains riven clapboards used to enclose the gables.

Table 8 displays the results of noting selected features for the dendro-dated barns for which that information is available. Three other barns are included, using approximate dates that are based either on construction characteristics, or in the case of Rose Hill (AA-191) on the basis of documentary evidence.

Table 8. Dated barns and selected characteristics.*

MIHP	Name	Date	False Plate	Siding	Finish	Nails
SM-33H	Brome-Howard	1785	T	H	R + H/PS	W
SM-411	De La Brooke	1797	T	H	H/PS	W
AA-257	Burrage's End	**Ca. 1800**	T	H	H/PS	W
CH-357	Exchange	**Ca. 1800**	T	H	H/PS	W
SM-72B*	Savona	1803	T	H	H/PS	W
AA-756*	Tracy's Landing #2/Coe	1805	T	H	R + H/PS	W/HHC
CT-59B	Preston's Cliffs	1819	F	V	H/PS + SS	W/HHC/CN
AA-191	Rose Hill	**Ca. 1821**	F	V	H/PS	CN
PG-74A	Calvert	1824	F	V	H/PS + SS	CN
SM-93	Cremona #2	1826	F	H	H/PS + SS	CN
SM-93	Cremona #1	1833	F	H	H/PS + SS	CN
SM-157	Guy #1	1834	F	H	H/PS	MCN
CH-71	Longevity	1835	F	H	H/PS+SS	MCN
CH-42	Black Friars	1836	F	V	H/PS	MCN
SM-246	Sims - Log	1837	F	H	R + H/PS	CN
PG-75A*	Concord	1858	F	V	H/PS + SS	MCN
PG-74A	Chelsea	1860	F	V	H/PS + SS	MCN

***Notes:** False Plate: T = tilted, F = flat; Siding: H = horizontal, V = vertical; Finish: R = riven clapboards, H = hewn, PS = pitsawn, SS = sashsawn; Nails: W = wrought, HHC = hand-headed cut; CN = machine-headed cut; MCN = face-pinched cut. * = demolished or dismantled. Dates in **bold** are based on sources other than dendrochronology.

A range of building characteristics have been tabulated for 68 Southern Maryland tobacco barns (Appendix C). The entries include both extant structures and those that have been lost but for which adequate documentation exists. We are indebted to earlier investigators, in particular staff with the Colonial Williamsburg Foundation, the University of Delaware, Historic St. Mary's

City, and the Maryland Historical Trust, for capturing the information in detailed measured drawings and/or descriptions. The barns are listed chronologically, based on the dendrochronology results and documentary sources where available, with the remainder assigned approximate date ranges by the principal investigator using the criteria of presence and absence of selected of features. These date ranges are necessarily broad and likely are only relatively reliable. Nevertheless, clear patterns emerge.

The earliest barns in the sample, those dating before ca. 1820, demonstrate a major shift in building design. Four of the barns are laid out in the traditional module of 5', to divide the barns into rooms of 5'-width for hanging tobacco sticks. The rafters were set at a nominal interval of 2.5', in order to provide attachments for the traditional covering of riven clapboards. The Brome-Howard barn (CH-33H) is the earliest example of this design (1785), accompanied by the Exchange (CH-357) and Tracy's Landing barns (AA-755 and AA-756), all of which likely date before 1805. Already by the date of the construction of the De La Brooke barn (SM-411), the shift to a 4'-module and 2'-spacing of rafters was underway. Burrages's End (AA-257), which may date even earlier than De La Brooke, and Savona (SM-72), dendro-dated to 1803, are the other early examples following that pattern. All of these barns were framed with studded walls as well, to anchor riven clapboard or, in the case of De La Brooke, sawn weatherboard siding.

The inclusion of shed-roofed extensions along one or both walls was a feature of many of the earliest barns. The sheds were low earthfast structures, often open on the long wall, which may not have been intended initially to hang tobacco. The sheds at De La Brooke, which dendrochronology confirmed were original to the construction of the barn, were open-sided. When the sheds were enclosed and outfitted to hang tobacco, the siding on the adjoining barn walls was removed, along with the doorways. Other early barns with sheds include Broome-Howard (SM-33H), the barns at Tracy's Landing (AA-755 and AA-756), and Jenkins (CH-367), while many other early barns, such as Burrage's End (AA-257), Exchange (CH-357), and Johnsontown #1 (CH-742), did not have any sheds originally. Sheds appear to have become a more common feature on barns beginning in the 1820s, and they were generally more substantial and designed to hang tobacco. The numerous examples of sheds of this type dating to the 1820s-1830s include Calvert (PG-74A), the two Cremona barns (SM-93), Longevity (CH-71), and Smart (CT-386).

With the incorporation of sheds as integral to curing tobacco, the use of studded walls declined. In addition to strengthening the wall frame, the purpose of studs was to anchor horizontal siding. Horizontal rails would have been required as well in studded barns to provide supports for hanging tobacco tier poles. When one or more of the walls of the barn faced a shed that was incorporated into the design, studs along those walls were unnecessary. Many barns that were erected with studs were later modified to remove the members along with the siding, as at Guy #1 (SM-157). The step of eliminating wall studs entirely in lieu of horizontal rails, or runners, which served double-duty in anchoring vertical siding boards and hanging tier poles, represented an obvious savings in labor and material.

The Preston barn (CT-59B), dendro-dated to 1819, has an original shed running along one wall. It is the earliest dated example of a barn designed to completely forego studs in favor of rails

(except in the gables), and it also adopted the 4'-module for both joists and rafters. Dropping the intermediate rafter pair was another obvious savings in labor and material. With the introduction of shingles attached to horizontal nailers in place of clapboards, the extra rafter pairs were rendered unnecessary. In addition, as an upper collar had to be retained to secure the rafters in any case, the upper tier of collars in the load-bearing rafters could not be used to hang tobacco sticks. With all of the rafters spaced according to the width of the tobacco sticks, this represented a slight gain in the volume of tobacco that the barn could accommodate.

The data suggests that by the 1820s the model for frame tobacco barns represented by the Preston barn (CT-59B) was in ascendence, but considerable variation remained. Barns increased in size and a substantial shed was commonly incorporated into the design. The Calvert barn (PG-74A), dendro-dated to 1824, marked another innovation, featuring an unobstructed through-aisle allowing wheeled vehicles to enter the barn. Such aisles appear to have remained unusual, however, with the other documented examples dating to decades just prior to the Civil War.

V. Summary and Recommendations

Detailed guidance for assessing significance and integrity, and for pursuing registration of the resources in question, is provided by the Tobacco Barns of Southern Maryland MPDF (Thursby and Schomig 2010). Air-curing tobacco barns of Southern Maryland are significant under *Criterion A* for their association with the historic context, Tobacco Production in Southern Maryland, 1630s–2005. They have local and state significance in the area of agriculture for their association with the agricultural history of Maryland. Air-curing tobacco barns of Southern Maryland are significant under *Criterion C for* their association with the historic context, Southern Maryland Tobacco Barns, 1790s–1960. They have local significance in the area of architecture for illustrating a distinctive type, period, or method of construction.

- In order to be eligible under *Criteria A and C*, the air-curing barn must be in its original location in one of the five counties in Southern Maryland.
- The barn must have been built before 1960.
- The barn should include the majority of the character-defining features of air-curing barns, such as its framing system, the tiers and transverse rows of vertical posts, and the form of ventilation, whether gaps between horizontal logs or vertical board siding, hinged ventilators, or a series of doors.

Three early tobacco barns are currently individually listed on the National Register of Historic Places: Johnsontown #2 (CH-742), De La Brooke (SM-411), and Sims (SM-246). Five other barns are located on listed properties, with the Spye Park (CH-304) and Willow Glen (CT-34) barns identified as contributing structures. The other nominations were prepared at a time when associated buildings were not specifically indicated as contributing, but the barns are included in the property descriptions: Rose Hill (AA-191), Burrage's End (AA-257), and LaVeille (CT-43). The Spye Park, LaVeille, and Willow Glen barns could not be accessed for this project, but they are believed to survive. The Rose Hill barn has been assessed as likely to be eligible for individual listing under the criteria set by the Southern Maryland Tobacco Barns MPDF. In addition to these structures, 26 other surviving barns appear to retain sufficient integrity to meet the criteria for listing on the National Register. Two of those barns, however, are in poor condition

and therefore are unlikely to survive beyond the mid-term.

All of the barns in question are in their original location within the Southern Maryland region, were built well before 1960, and include a majority of the character-defining features of air-curing barns (Table 9). A particularly notable factor when considering integrity is the survival of the system of supports to carry tobacco hanging poles, which is present in the 26 barns deemed eligible. Many other structures are in relatively good condition overall, but they have lost crucial elements of the structural system for hanging the tobacco which was integral to the curing process.

Table 9. Tobacco barns considered to be potentially eligible for listing on the National Register.

MIHP	Name	Condition	Integrity
AA-191	Rose Hill	Good	High
AA-357	Nutwell	Good	Medium
AA-946	Homeport	Fair	Medium
AA-	Childs's Return	Good	Medium
CT-59A	Wilson	Good	High
CT-59B	Preston	Excellent	High
CT-102	Reid	Poor	Medium
CT-386	Smart	Good	High
CT-1085	Prouty-C	Good	Medium
CT-1090	Buckler	Fair/Poor	Medium
CT-1104	Trott-D	Good	Medium
CT-1118	Hallowing Point	Good	Medium
CT-1133	Cleary-Ward	Good	Medium
CT-1137	Eisenman	Good	High
CT-1150	Greenwell-Ward	Good	Medium
CT-1345	Octavius Bowen	Good	Medium
CT-	Seidel	Good	Medium
CT-	Vieley	Good	Medium
CH-42	Black Friars	Excellent	High
CH-71	Longevity	Excellent	High
CH-720	Simpson's Supply	Fair	Medium
PG-17-018	Chelsea	Good	High
SM-155	Carberry-Abell	Good	High
SM-170	Spalding	Fair	Medium
SM-	Hurry	Good	High
SM-	Della Brooke-Jones	Good	High
SM-	Dawson	Good	Medium

It is possible that other barns may be considered sufficiently significant for consideration for listing on the NR on the basis of other factors rather than the narrow scope of the Tobacco Barns of Southern Maryland MPDF. Both the Burrage's End (AA-257) and

Exchange (CH-357) barns are remarkable survivals and are important for their early and rare architectural features. While neither barn appears to retain sufficient integrity relating to the tobacco hanging system to meet the criteria set out by the MPDF, the authors of the document urge that early barns be given some measure of grace in terms of integrity, and both structures may warrant further consideration for eligibility.

Twenty-one barns that had been identified as likely dating prior to ca. 1870 were not available for study, but which appear to survive. Property owners denied access to 11 of the buildings; the remaining owners either could not be reached or declined to communicate with the surveyors. Surveying these barns to ascertain their condition, document their character, and assess their eligibility for listing on the National Register is an obvious need, which might be accomplished given a longer time frame in order to win over property owners.

The updated information detailing the current condition of Southern Maryland tobacco barns should be incorporated into preservation planning for the five counties in the region. The findings should be incorporated as well into the process for preparing the next MHT strategic plan. The goal of raising funds to support property owners in preserving their structures should be resuscitated, to include exploring possible corporate and foundation sources along with government appropriations. The county agencies should revisit their current zoning and other land use mechanisms to consider how historic tobacco barns may be more effectively protected. County and state agencies who administer barns that are deemed eligible for listing on the National Register should be encouraged to pursue their nomination.

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Appendix A. Southern Maryland Tobacco Barn Project: Survey Fields

Front Matter:

Name: As indicated in MIHP, or current owner's name

MIHP#: If applicable

Address: Full street address if available

Owner: Full name(s)

Contact: Tel. phone # and email, if available

Date Surveyed: Initial and any subsequent

Surveyor: Name(s)

Description:

Provide a detailed architectural description, to include both the overall character (roof type, number of bays, foundation, wall covering), along with the number and character of any sheds, and offer an assessment of the chronology of construction with a summary of the evidence in support.

Provide details of the framing methods and materials and overall plan; heavy timber frame details, such as the type of plates/false plates, finishes and fasteners; spacing; any notable characteristics. For the tobacco hanging system, indicate the number of rooms and tiers, the character of the tier poles and attachments, accommodations such as struts supporting the collars.

Dimensions:

Overall dimensions of the footprint, as well as important subsections such as principal bays, sheds.

Provide the heights of the tops of various horizontal elements -- measured from the ground surface: girt, rails, joists, tier rails (all), collar (all), and the bottom of the peak of the roof.

Measure members of the frame and enter in attached framing schedule.

Shed(s):

Indicate presence and important characteristics; provide an assessment of whether it is original or an addition, and indicate evidence.

Doorways:

Number of original doorways (justification), their locations and width; double or single; evidence for type of hinges.

Joinery:

More details on joinery, especially related to unusual or varying framing methods; main section versus sheds. Evidence for changes.

Condition Assessment:

Provide assessment of overall condition: poor, fair, medium, good, excellent; provide reasons for assessment.

Postulated Date of Construction:

Based on evidence of framing methods, finishes, nails. Indicate any other available dating evidence, such as documents, dendrochronology, maps, etc.

Framing Schedule:

As possible provide modal dimensions of indicated elements – if there is a wide range in dimensions, indicate the range; indicate the finishes – hewn and/or pitsawn, sashsawn, or circular sawn; type of nail fastener – wrought, cut; method of joinery – M&T, pegged or nailed (or nothing); notched/lapped, pegged or nailed; spiked, toe-nailed.

Accompanying sheets:

- Annotated sketch plan at approximately 1/8" scale on graph paper; provide North arrow; indicate locations of posts and presence of braces; provide actual measurements of bays and doorways;
- Annotated sketch of cross section (1/8" scale on graph paper) at most informative location, indicating posts, braces, plates, false plates, joists, collars, rafters, struts; provide actual vertical dimensions (tops of horizontal members, and bottoms as possible);
- [Optional as needed] Annotated sketch of tobacco hanging system; sketches of any details as needed.

Photographs:

Exterior -- at least one photograph of each elevation, of each corner;

Interior -- at least one photograph of each wall, one of each corner; framing details such as joinery at posts and doorways, the eave assembly, and any unusual/noteworthy features.

Framing Schedule:

Member	**Dims.**	**Finish**	**Joint**	**Fastener**
Rafter				
Collar				
False Plate				
Joist				
Plate				
Corner Post				
Brace				
Girt				

Int. Post				
Door Post				
Stud				
Rail				
Sill				
Shed Rafter				
Shed Joist				
Shed Corner Post				
Shed Int. Post				
Shed Rail				

Appendix B: Anne Arundel County

MIHP #	Name	Status	Condition	NR Eligible	Address
AA-191	Rosehill	Surveyed	Good	Yes	2105 Rose Hill DR, Gambrills, MD 21054
AA-250	White Oak	No	Unknown	NA	5893 Pindell Rd, Lothian MD 20711
AA-257	Burrage's End	Surveyed	Good; altered	Yes	5635 Old Ridge Path Ln, Lothian, MD 20711
AA-264	Gowry Banks	No	Unknown	NA	265 Sansbury Rd, Friendship, MD 20758
AA-357	Nutwell	Surveyed	Good	Yes	330 Highview Rd, Davidsonville, MD 21035
AA-755	Tracy's Landing #1	Surveyed	Moved to National Colonial Farm	No	13551 Ft. Washington RD, Ft. Washington, MD 20616
AA-837	Hockley-in-the-Hole	No	Moved to Historic Londontown	No	839 Londontown RD, Edgewater, MD 21037
AA-882	Forney Farm	Surveyed	Fair	No	1218 Forney Rd, Crownsville, MD 21032
AA-946	Homeport Farm	Surveyed	Good; altered	Yes	Homeport Dr., Edgewater, MD 21037
AA-2064	Hazelnut Ridge	No	Unknown	NA	165 Fiddlers Hill Rd, Edgewater, MD 21037
NA	Stisted	Surveyed	Poor	No	398 Dodon Rd, Davidsonville, MD 21035
NA	Childs's Return	Surveyed	Good	Yes	363 Sansbury RD, Friendship, MD 20758

Appendix B: Calvert County

MIHP#	Name	Status	Condition	NR Eligible	Address
Ct-24	Hunting Fields	Denied access	Unknown	NA	2280 Huntingfields DR, Huntingtown, MD 20639
CT-34	Willow Glen	Denied access	Unknown	NA	845 Barstow RD, Prince Frederick, MD 20678
CT-58	Parrans	Surveyed	Fair	No	1650 Calvert Cliffs Pkway, Lusby, MD 20657
CT-59A	Wilson	Surveyed	Good	Yes	1650 Calvert Cliffs Pkway, Lusby, MD 20657
CT-59B	Preston	Surveyed	Good	Yes	1650 Calvert Cliffs Pkway, Lusby, MD 20657
CT-102	Reid	Surveyed	Poor	Yes	3010 Ponds Wood RD, Huntingtown, MD 20639
CT-147	Gott	Denied access	Unknown	NA	1375 Ball RD, Port Republic, MD 20676
CT-386	Smart	Surveyed	Good	Yes	5610 Stephen Reid RD, Huntingtown, MD 20639
CT-417	Schrom #1	Denied access	Unknown	NA	Hunting Creek Road , Huntingtown, MD 20639
CT-417	Schrom #2	Denied access	Unknown	NA	Hunting Creek Road, Huntingtown, MD 20639
CT-750	Cross	No access	Unknown	NA	
CT-1028	Plumer-Cranford	Surveyed	Good	No	2695 Grays Road, Prince Frederick, MD 20678
CT-1042	Allen - A	Denied access	Unknown	NA	3915 Hallowing Point RD, Prince Frederick, MD 20678
CT-1050	Raff - B	No access	Unknown	NA	2450 Chaney RD, Owings, MD 20736
CT-1051	Schrom - A	Denied access	Unknown	NA	Hunting Creek Road, Huntingtown, MD 20639
CT-1059	Ward - A	Denied access	Unknown	NA	7051 Prout Road, Friendship, MD 20758
CT-1062	Maidstone - A	No access	Unknown	NA	[1140 or 1146] Chesapeake Beach Road, Owings, MD
CT-1077	LaVeille - A	Denied access	Unknown	NA	LaVeille RD, Port Republic, MD 20676
CT-1085	Prouty - C	Surveyed	Fair	Yes	Potts Pt. RD, Huntingtown, MD 20639
CT-1090	Buckler	Surveyed	Poor	Yes	4110 Huntingtown RD, Huntingtown, MD 20639

CT-1092	L. Dowell - A	Surveyed	Good	No	250 Clyde Jones RD, Sunderland, MD 20689
CT-1095	D.O. Bowen	Surveyed	Good	Yes	370 M.F. Bowen RD, Huntingtown, MD 20639
CT-1098	W. Dowell - A	No access	Unknown	NA	310 Dalrymple RD, Sunderland, MD 20689
CT-1104	Trott - D	Surveyed	Good	Yes	11250 Southern Maryland BLVD, Dunkirk, MD 20754
CT-1108	Phipps - B	Surveyed	Good	No	11250 Southern Maryland BLVD, Dunkirk, MD 20754
CT-1118	Hallowing Point	Surveyed	Good	Yes	4755 Hallowing Point RD, Prince Frederick, MD 20678
CT-1122	Meader Barn	Denied access	Unknown	NA	1365 W Mt. Harmony RD, Owings, MD 20736
CT-1133	Cleary-Ward	Surveyed	Fair	Yes	3501 Chaneyville RD, Owings, MD 20736
CT-1137	Eisenman	Surveyed	Good	Yes	10770 Southerm Maryland BLVD, Dunkirk, MD 20754
CT-1142	Norfolk Barn A	Denied access	Unknown	NA	7630 Southern Maryland BLVD, Owings, MD 20736
CT-1148	Crane Barn	No access	Unknown	NA	11336 Mill Bridge RD, Lusby, MD 20657
CT-1150	Greenwell-Ward	Surveyed	Good	Yes	1489 Jewell Road, Dunkirk, MD 20754
CT-1164	Briscoe - C	Surveyed	Fair	No	7251 Parker's Wharf RD, St. Leonard, MD 20685
CT-1345	Octavius Bowen	Surveyed	Good	Yes	2488 Apple RD, Port Republic, MD 20676
CT-1346	Holly Hill	Surveyed	Good	Yes	2985 Dares Beach RD, Prince Frederick, MD 20678
NA	Vieley	Surveyed	Good	Yes	1271 Matthew DR, Huntingtown, MD 20639
NA	Seidel	Surveyed	Good	Yes	2790 Plum Pt., RD, Huntingtown, MD 20639

Appendix B: Charles County

MIHP#	Name	Status	Condition	NR Eligible	Address
CH-5	Habre de Venture	Surveyed	Good; restored	No	6655 Rosehill RD, Port Tobacco, MD 20677
CH-6	St. Thomas	Surveyed	Fair; with additions	No	8855 Chapel Pt. RD, Port Tobacco, MD 20677
CH-42	Black Friars	Surveyed	Excellent; TB Restoration Fund	Yes	11650 Mt. Victoria RD, Newburg 20661
CH-71	Longevity	Surveyed	Good; with additions	Yes	7175 Bumpy Oak RD, La Plata, MD 20646
CH-108	Napping	Surveyed	Good; TB restoration fund	No	7350 Henson Landing RD, Welcome, MD 20693
CH-118	Hadlow #2	Surveyed	Fair/Poor	No	9915 Old Sycamore RD, Charlotte Hall, MD 20622
CH-174	Plank Bridge	Surveyed	Fair/Poor	No	6335 Bumpy Oak RD, La Plata, MD 20646
CH-304	Spye Park	Not accessible	Unknown; appears on aerial (2023); could not reach owner	NA	10400 Griffith Lane, White Plains, MD 20695
CH-353	Locust Grove	Surveyed	Good	No	11220 DeLozier Farm RD, Harris Lott, MD 20664
CH-357	Exchange	Surveyed	Good; with additions	No	7310 Greenland DR, La Plata, MD 20646
CH-367	Jenkins	Surveyed	Dismantled, reconstructed at	No	2750 Sweden Point RD,

			Smallwood State Park (1985)		Marbury, MD 20658
CH-657	Simpkin-Coatback	Surveyed	Fair	No	12537 Charles St., La Plata, MD 20646
CH-720	Simpson's Supply	Surveyed	Good	Yes	9055 Kentucky Ave., LaPlata, MD 20646
CH-742	Johnsontown #2	Surveyed	Good; with additions	Yes	9830 Johnsontown RD, La Plata, MD 20646
CH-790	Smoot	Not accessible	Appears on aerial; Fair (2018); within bounds of quarry.	NA	Beethoven Place, Charlotte Hall, MD 20622
NA	Serenity Farm	Surveyed	Fair; with additions	No	6932 Serenity Farm RD, Benedict, MD 20612

Appendix B: Prince George's County

MIHP#	Name	Status	Condition	NR Eligible	Address
PG-73-18	Chelsea	Surveyed	Good; TB restoration fund	Yes	Watkins Regional Park 301 Watkins Park Dr., UpperMarlboro, MD
PG-74A-38-1	Calvert	Surveyed	Good	Yes	1506 Church RD, Bowie, MD 20721
PG-75A-1	Concord	Surveyed	Dismantled	No	Walker Mill Regional Park 8001 Walker Mill RD, District Heights, MD 20747

Appendix B: St. Mary's County

MIHP#	Name	Status	Condition	NR Eligible	Address
SM-1	Mulberry Fields	Surveyed	Good	No	19700 Mulberry Fields RD, Leonardtown, MD 20650
SM-33H	Brome-Howard	Surveyed (2021)	Good	Listed	St. Mary's City, MD
SM-93	Cremona #1	Surveyed (2019)	Good	No	4100Cremona RD, Mechanicsville, MD 20659
SM-93	Cremona #2	Surveyed (2019)	Good	No	4100 Cremona RD, Mechanicsville, MD 20659
SM-155	Carberry-Abell	Surveyed	Good	Yes	2232 Bayside Drive, Leonardtown, MD 20650
SM-157	Guy Farm #1	Surveyed	Poor	Yes	23222 Budds Creek RD, Clements 20624
SM-157	Guy Farm #2	Surveyed	Good	No	23222 Budds Creek RD, Clements 20624
SM-170	Samuel Spalding	Surveyed	Fair	Yes	0000 Vista RD, Hollywood, MD 20636-2613
SM-246	Sims #1	Surveyed	Good	Yes	Greenwell State Park, Steer Horn Neck RD
SM-255	Half Pone	Surveyed (2021)	Relocated	No	Half Pone Farm
SM-263	Murray	Surveyed	Good	Yes	Horse Landing RD, Mechanicsville, MD 20659
SM-380	Simpson	No; access denied	Good; based on drive-by	NA	39205 Burch RD, Avenue, MD 20690
SM-411	De La Brooke	Surveyed (2015)	Good	Listed	De LaBrooke RD, Mechanicsville, MD 20659
SM-635	Allstan	No; access denied	Poor; based on drive-by and aerial	NA	23458 Colton PT RD, Clements 20624
SM-881	TB	No	Unknown; uncertain if on aerial	NA	26160 Mechanicsville RD, Mechanicsville 20659
NA	James R. Hurry	Surveyed	Good	Yes	25400 Colton Pt., RD Clements 20624
NA	Briscoe-Petty	Surveyed	Good	No	44141 Tranquility Farm RD, Hollywood, MD 20636
NA	Dawson	Surveyed (2021)	Good	No	24460 Hollywood RD, Hollywood, MD 20636

NA	Della Brooke-Jones	Surveyed	Good	Yes	42612 Della Brooke LN, Mechanicsville, MD 20659

Appendix C: Southern Maryland Tobacco Barns, Construction Characteristics

Column1	Column2	Column3	Column4	Column5	Column6	Column7	Column8	Column9	Column10	Column11	Column12	Column13	Column14	Column15	Column16	Column17	Column18	Column19	Column20	Column21	Column22	Column23	Column24	Column25	Column26
Name	ID	Date	Dim.	Height [Joist]	Constr.	Int. Sill	Doors	Orient.	Aisle	Shed	Dim.	Constr.	Bays	Double Tenon	Rooms	Rafters	FP	Siding	Finish	Nails	Slats	Tier Supports	Hangers	Rooms #	Tiers #
Brome-Howard	SM-33H	**1785**	40x22'		Frame	Y	1:04	End			2 8'	EF	10/8/4/8/10		5'	2.5'	T	H	H/PS + Riven	W		NA	NA	10	??
De La Brooke	SM-411	**1797**	32x20'	13'4"	Frame	Y	2:2 1:2	End			2 10'	EF	8'		4'	2'	T	H	H/PS	W		Ladder	Dowels	??	??
Burrage's End	AA-257	1780-1800	52x24'	9'1"	EF/Int.		??	End			0		10'		4'	2'	T	H	H/PS	W		NA	NA	13	6
Exchange	CH-357	1780-1800	35x33'	11'10"	Frame		2:02	End			0		10/7.5/7.5/10		5'	2.5'	T	H	H/PS + Riven	W		NA	NA	7	7
Savona	SM-72	**1803**	72x18'	11'8"	Hybrid	Y	2:01	Side			0		12'		4'	2'	T	H	H/PS	W		NA	NA	18	6
TL#1/NCF	AA-755	ca. 1805	45x24'	14'6"	Frame	Y-2	2:1 1:3	Side			1 8'		10/5/5/5/5/5/10	Y	5'	2.5'	T	H	H/PS	W		EF/Round	Rails	9	8
TL #2/Coe	AA-756	**1805**	45x24'	14'6"	Frame	Y-2	2:1 1:3	Side			1 8'		10'	Y	5'	2.5'	T	H	H/PS + Riven	W/HHC		EF/Round	Morts.	9	8
Preston	CT-59B	**1819**	40x20'	13'8"	Frame	Y	1:02	Side			1 14'	EF	10'		4'	4'	F	V	H/PS	W/HHC/CN		EF/Round	Pegs	10	7
Homestead A	CT-97	1800-20	40x24'	NA	Frame		2:1 1:2	Side			0		8'	Y	4'	4'	T	H	H/PS + Riven	HHC		EF/Round	Pegs	10	7
Homestead B	CT-97	1800-20	40x24'	NA	Frame		1:04	Side			0		8'	Y	4'	4'	T	H	H/PS + Riven	HHC		EF/Round	Pegs	10	7
Linthicum Walks	AA-782	1810-20	40x24'	NA	Frame		2:2 1:2	Side			0		8'		4'	4'	T	V	H/PS	W		EF/Rect.	NA	10	8
Rose Hill	AA-191	ca. 1821	40x26.5'	14'4"	Frame	Girts - 2	2:1 1:2	Side			1 14'	EF	8'		4'	4'	F	V	H/PS	CN		EF/Round	Pegs	10	8
Calvert	PG-74A	**1824**	60x24'		Frame	Y - 2	2:1 1:2	Side	Y		2 14'	EF	10'		5'	5'	T	V	H/SS	W/CN		NA	NA	12	??
Jenkins	CH-367	ca. 1825	32x20'	13'5"	EF/Int.	Girts - 3	2:02	End			2 10'	EF	8'		4'	4'	F	H	H/PS	CN		NA	NA	8	6
Cremona #2	SM-93	**1826**	48x24'	17'	Frame	Girts - 2	2:2 1:2	End			1 NA	EF	12/10/4/12/10		4'	2'	F	H	H/PS	CN		NA	NA	12	8
Dryadocking	SM-546	1810-30	61x24'	17'11"	Frame	Y-2	2:2 1:2	Side			0		9'		4'	4'	F	V	H/PS	W	V	Ladder	Dowels	15	8
Prouty	CT-1085	1810-30	52x22'	15'9"	Frame	Y-2	2:2 1:1	Side			1 16'	EF	10/10/12/10/10	Y	4'	4'	F	H	H/PS + Riven	W/CN		NA	NA	13	8
Cremona #1	SM-93	**1833**	48x24'	17'	Frame	Y-2	2:2 1:2	End			1 NA	EF	8'		4'	2'	F	H	H/PS	CN		NA	NA	12	8
Guy #1	SM-157	**1834**	36x24'	16'2"	Frame		2:2 1:2	Side			0		13.5/9/13.5		4'	4'	F	H	H/PS	MCN		NA	NA	9	6
Longevity	CH-71	**1835**	32x24'	15'6"	Frame	Y-2	2:2 1:2	Side			1 12'	EF	12 8 12		4'	4'	F	H	H/PS	MCN	H	Square/Flat	Mort./Rails	8	8
Black Friars	CH-42	**1836**	80x24'	18'1"	Frame	Y-3	1:04	Side			1 15'9"	EF	20/25/15/20	Y	4'	4'	F	V	H/PS	MCN	V	Rect.	Rails	20	8
Sims #1	SM-246	**1837**	24x20'	11'4"	Log		2:01	Side			1 14'	EF	NA		4'	4'	F	NA	H/PS	MCN		NA	NA	6	6
Smart	CT-386	**1839**	36x24'	17'4"	Frame		2:2 1:2	Side			3 12'	EF	9'	Y	4'	4'	F	H	H/PS + Riven	MCN		EF/Round	Mort.	9	8
Johnsontown #2	CH-742	1820-40	40x24'	18'2"	Frame	Y	2:02	End			0		12/8/8/12	Y	4'	4'	F	H	H/PS + Riven	CN		None	NA	10	8
Plumer-Cranford	CT-1028	1820-40	40x20'	16'"	Frame	Y	1:04	Side			1 14'	EF	10/10/4/8/8	Y	4'	4'	F	H	H/PS + Riven	CN		NA	NA	10	??
Parrans	CT-58	1820-40	44x24'	14'2"	Frame	Y	1:02	Side			1 NA		12/8/4/8/12	Y	4'	4'	F	H	H/PS + Riven	MCN	H	EF/Round	NA	11	8
Plank Bridge	CH-174	1820-40	32x24'	9'9"	EF/Int.		??	End			0		8'		4'	4'	F	H	H/PS	CN		EF/Round	Mort.	8	8
D.O. Bowen	CT-1095	1820-40	32x30'	16'2"	Frame		2:2 1:2	Side			0		4'		4'	2'	Tr	H	H/PS	CN		Ties	NA	8	??
Octavius Bowen	CT-1345	1847	32x24'	16'3"	Frame		1:03	Side			1 14'	EF	14/4/14		4'	4'	F	V	H/?	MCN		EF/Round	Pegs/Rails	8	7
Reid	CT-102	1830-50	32x24'	16'11'	Frame	Y	2:2 1:2	Side			2 14'	EF	8'	Y	4'	4'	F	V	H/PS	CN		EF/Round	Mort.	8	9
Eisenman	CT-1137	1830-50	32x24'	16'7"	Frame	Girt	2:04	Side			1 10'		8'	Y	4'	4'	F	V	H/PS	CN		EF/Round	Mort.	8	8
Phipps - B	CT-1108	1830-50	40x24'	15'2"	Frame	Y	2:2 1:1	Side			0		8'		4'	4'	F	V	H/PS/SS	CN		NA	NA	10	7
Leroy-Dowell	CT-1092	1830-50	32x20'	16'4"	Frame	Y	2:2 1:2	Side			0		8'	Y	4'	4'	F	V	H/PS	CN		EF/Round	Mort.	8	7
Cleary-Ward	CT-1133	1830-50	40x24'	17'7"	Frame	Y-2	2:2 1:2	Side			1 12'	EF	8'	Y	4'	4'	F	V	H/PS	CN		EF/Round	Mort.	10	8
Vieley	CT-	1830-50	40x24'	16'2"	Frame	Y	2:1 1:2	Side			1 16'	EF	8'	Y	4'	4'	F	V	H/PS	MCN		EF/Round	Peg	8	??
Buckler	CT-1090	1830-50	28x18'	15'6"	Frame		2:2 1:2	Side			1 12'	EF	7'	Y	4'	4'	F	V	H/SS	CN		NA	NA	7	6
Serenity	CH	1830-50	40x24'	16'6"	Frame	Y	2:1 1:3	Side			1 14'	EF	8'	Y	4'	4'	F	V	H/PS/SS	CN		EF/Rect	Mort.	10	8
Seidel	CT	1830-50	32x24'	13'9"	Frame	Y	2:2 1:2	Side			0		8'	Y	4'	4'	F	V	H/PS	CN		EF/Round	Mort.	8	7
Stisted	AA	1830-50	48x25'	14'3"	Frame	Girts - 2	2:02	Side	Y		1 14'	EF	10' (7'9" aisle)		4'	4'	T	V	H/PS/SS	MCN		EF/Round	Pegs	12	6
Nutwell	AA-357	1830-50	32x24'	15'7"	Frame		1:02	End			0		8'		4.5-5'	4.5-5'	F	V	H/SS	MCN		EF/Round	Pegs	7	7
Simpkin Coatback	CH-657	1830-50	32x24'	15'10"	Frame	Y	2:2 1:2	Side			1 13'6"	EF	8'		4'	4'	F	H	H/PS	CN		EF/Round	Mort.	8	7
Spalding	SM-170	1830-50	25x20'	10'5"	Log		1:01	Side			2 10'	EF	NA		4'	4'	F	NA	N/PS	MCN		NA	NA	6	5
Napping	CH-108	1830-50	30x20'	12'8"	Frame		2:02	Side			1 12'	EF	8/4/6/4/8		4'	4'	F	V	H/PS+SS	CN		NA	NA	7	6
St. Thomas	CH-5	1830-50	50x24'	14'10"	Frame	Y	2:2 1:2	Side			0		8'		4'	4'	F	V	H/PS	CN		NA	NA	12	6
Dawson	SM	1830-50	40x20'	16'2"	EF	Y	1:03	Side			1 13'8"	EF	6'6"		4'	4'	F	V	H/PS/SS	MCN		NA	NA	10	??
Childs's Return	AA	1830-50	40x24'	16'5"	Frame		2:1 1:2	Side			1 12'	EF	8'		4'	4'	F	V	H/SS/PS	CN		EF/Round	Mort.	10	6
Wilson	CT-59A	1840-60	36x20'	10'5"	Log		1:02	Side			1 13'5"	EF	NA		4'	4'	F	NA	H/SS	??		EF/Round	Mort.	9	6
Trott D	CT-1104	1840-60	40x24'	16'3"	Frame	Y-2	2:2 1:2	Side			1 16'	EF	8'	Y	4'	4'	F	V	H/PS	MCN		EF/Round	NA	10	7
Forney	AA-882	1840-60	32x30'	16'4"	Frame		??	End			1 14'	EF	8'		4'	4'	F	V	H/PS/SS	MCN		NA	NA	8	7
Murray	SM-263	1840-60	20x20'	11'5"	Log			Side			0		NA		5'	2.5'	T	NA	H	MCN		EF/Round	Mort.	8	4
Mulberry Fields	SM-1	1840-60	40x20'	17'0"	Frame	Y	2:01	Side			0		10'		4'	4'	F	V	H/PS	MCN		NA	NA	10	4
Della Brooke	SM	1840-60	33x24'	16'3"	EF		2:01	Side			1 14'	EF	5'6"/5'6"/8'/7'/7'		4'	4'	F	V	H/?	MCN		EF/Round	Pegs	8	8
Guy #2	SM-157	1840-60	64x20'	13'2"	Hybrid	Y	2:1 1:3	Side			1 16'	EF	9/9/9/9/9/8/4/8		4'	4'	F	V	H	MCN		NA	NA	15	7
Simpson's Supply	CH-720	1840-60	32x24'	15'9"	Frame		1:03	Side			1 12'	EF	8'	Y	4'	4'	F	V	H/PS+SS	MCN	V	None	None	8	8
Habre de Venture	CH-5	1840-60	44x20'	16'5"	Frame	Y-2	2:02	Side			0		10/10/8/6/10	Y	4'	4'	No	V	H/PS	CN		EF/Rect.	Mort./Rails	11	6
Hallowing Point A	CT-1118	1850-60	28x24'	15'2"	Frame	Girt	1:03	Side			1 12'	EF	12'		4'	4'	F	V	H/CS	MCN		EF/Round	Rails	7	6
Carberry-Abell	SM-155	1850-60	32x20'	14'10"	Frame	Y		Side			1 12'	EF	6'		4'	4'	F	V	H/CS	MCN	V	Ladder	Dowels	8	6
Sims #2	SM-246	1850-60	60x29'	12'	EF		2:01	End			0		12'		4'	4'	F	V	H/PS+CS	CN		NA	NA	15	6
Bond-Western	SM-245A	1850-60	64x24'	NA	EF		2:02	End			1 12'	EF	8'		4'	4'	F	V	H/CS	CN		Struts./Round	Rails	16	7
Simpson	SM-380	1850-60	48x24'	NA	Frame		2:2 1:2	Side	Y		1 16'	EF	10' (8' aisle)		4'	4'	F	V	H/PS+CS	MCN		NA	NA	12	??
Concord	PG-75A	**1858**	52x50'	NA	Frame		2:2 1:2	Side	Y		0		10'		5'	5'	F	V	H/SS	MCN		NA	NA	9	??
Chelsea	PG-73	**1860**	56x50'	19'5"	Frame	Y-2	2:02	Side	Y		0		10'		5'	5'	F	V	H/PS	MCN		EF/Round	Pegs	10	8
Greenwell-Ward	CT-1150	1850-70	52x20'	16'	Frame	Y	2:2 1:1	Side			1 16'	EF	8'		4'	4'	F	V	H/CS	MCN		EF/Round	Mort.	6	8
Hurry	SM	1850-70	60x24'	16'11"	Frame	Y-2	2:02	Side	Y		1 16'	EF	8' (12' aisle)		4'	4'	F	V	H/CS	MCN		EF/Round	Mort.	15	8
Homeport	AA-946	1860-80	52x24'	16'2"	Frame	Y-2	2:1 1:2	Side	Y		1 16'	EF	10' (12' aisle)		4'	4'	No	V	H/CS	MCN		EF/Round	Pegs	13	6
Hadlow #2	CH-118	1880-1900	44x24'	15'11"	Frame	Y-2	2:1 1:2	Side	Y		1 12'	EF	8' (12' aisle)	Y	4'	4'	F	V	H/CS	MCN		EF/Round	Mort.	11	8
Briscoe-Petty	SM	1890-1900	80x20'	10'1"	EF		2:02	End	Y		1 14'7"	EF	10'		4'	4'	F	V	H/SS	MCN	V	EF/Round	Rails	20	6
Locust Grove	CH-353	1900-1910	80x35'	12'11"	EF		2:04	Side	Y		1 15'	EF	10'		4'	4'	F	V	H/CS	MCN		EF/Rect	Mort.	20	7

Barns with bolded names non-extant

Appendix C

SMTBs Unassigned Dates

Name	ID	Status	Doc.	Date	Dim.	Height [Joist]	Volume	Constr.	Int. Sill	Doors	Orientatior	Aisle	Shed	Dim.	Constr.	Bays	Dbl Tenon	Rooms	Rafters	FP	Siding	Finish	Nails	Tier Suppo	Hangers	Rooms #	Tiers #
Belle View	PG	Demo	UD		40x24'			Frame	Y-2	2:2 1:1	Side	Y				15/10/15		5'	5'	T	V					8	6
Warington	PG-733G	Demo	UD		41x24'			Frame		1:02	End			1 12'		10'		5'	5'	F	V					8	8
Penerine	SM-850	Demo	UD		100x20'			Hybrid	Y-2	2:01	Side					10'		4'	2'	F	V					25	6
Middleton A	SM	Demo	UD		60x24'			Frame	Y-2	2:02	Side	Y				8' (12' aisle)		4'	4'	F	V			Ladder	Dowel	15	7
White Cliffs #1	CT	Demo	UD		40x24'			Frame	Girts-2	2:02	Side					8'		4'	4'	F	H					10	7
White Cliffs #3	CT	Demo	UD		32'x24'			Frame	Y	1:03	Side					8'		4'	4'	F	H					8	8
Weley Jones	CT	Demo	UD		32x24'			Frame		2:1 1:3	Side					8'		4'	4'	Rect.	H					8	6
Willow Glen	CT	Demo	UD		60x20'			Log	2 pens	2:02	Side	Y				20'		4'	4'	F						15	6
Plummer	CT	??	UD		40x30'			Frame		2:2 1:2	Side	Y				8/8/12/4/8		4'	4'	F	V					10	6
Chaney	AA-247	Demo	CWF		40x20'			EF/Int.		1:04	Side					9/9/4/9/9		4'	4'	T	V	H/PS		EF/Round	Peg	9	6