HISTORIC PRESERVATION PLAN

CARY BARN (AKA SCOTT FARM BARN)

88 Mountainside Road

Mendham Borough, Morris County, New Jersey

FOR

Borough of Mendham
2 West Main Street
Mendham Borough, New Jersey 07945

BY

Connolly & Hickey Historical Architects, LLC
P.O. Box 1726
Cranford, New Jersey 07016
973-746-4911

Project No. 2023C

23 February 2021

Historic Preservation Plan

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Mendham Borough
Morris County, New Jersey

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Frontispiece: View looking southeast at the Cary Barn; Connolly & Hickey 2020.

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Mendham Borough, Morris County, New Jersey

CLIENT

Borough of Mendham
2 West Main Street
Mendham Borough, New Jersey 07945

- Joyce Bushman, Borough Administrator

INVESTIGATING TEAM

CONNOLLY & HICKEY HISTORICAL ARCHITECTS, LLC
P.O. Box 1726
Cranford, New Jersey 07036
973-746-4911

- Thomas B. Connolly, AIA, Principal Architect
- Margaret M. Hickey, AIA, Principal Historic Preservation Specialist
- Beth A. Bjorklund, Historic Preservation Specialist
- Mirek L. Skros, Architectural Designer
- Dahiana Medina, Architectural Intern
- Pallavi Kanthe, Architectural Intern

CONSULTANT

Engineering

- James B. Huffman, P.E.
  Consulting Professional Engineer
  762 Village Road West
  Princeton Junction, NJ 08550

PROJECT FUNDING

The funding for the preparation of this Historic Preservation Plan has been provided in part by the Morris County Historic Preservation Trust Fund.

CONDITIONAL STATEMENT

The statements and opinions expressed herein are solely for the use and information of the Borough of Mendham. The opinions reflect the professional judgment of Registered Architects and Professional Engineers performing services that are usual and customary. These services are performed with care and skill ordinarily used by other Registered Architects and Professional Engineers when dealing with similar historic structures at the same time and in the same or similar localities. Conclusions drawn in this report are based on those conditions and surfaces that were accessible to the unaided visual observations of the Architect and Engineer. No warranties or guarantees can be inferred from, or implied by, the statements or opinions contained in this report.

EXECUTIVE SUMMARY

The Historic Preservation Plan for the Cary Barn (aka Scott Farm Barn) is a preservation planning document that will serve the Borough of Mendham (Borough) in planning the adaptive reuse of the barn within the context of the site's historical significance, evolution and existing conditions. The Historic Preservation Plan summarizes the history and development of the Cary Barn and adjacent storage building, analyses the overall conditions of both buildings on the exterior and interior, and makes recommendations for repair and upgrade. The plan addresses any conditions and recommendations that will ensure the Barn's long-term preservation for future use as a community resource for the Borough. The Cary Barn is a two-story, wood-frame, banked barn with its front elevation oriented north toward Mountainside Road. The Cary Barn was constructed circa 1825 and expanded on at least two occasions, but more likely three occasions based on the reading of the existing timber framing. The original barn consisted of the center portion of the building and was expanded to the west and rear, and possibly to the east. The Barn is worthy of preservation for its architecture and for its association with the history and development of Mendham from the early-nineteenth century to the mid-twentieth century.

The **Introduction** identifies the need for the preparation of a Historic Preservation Plan for the Cary Barn and outlines the scope of the study. It places the House in the context of its surroundings within Mendham Borough, summarizes the significance of the property, and outlines its construction evolution based on the available historical materials and architecture.

The **Conditions Assessment** summarizes the findings of in-field investigations of the exterior and interior including the structural and the (limited) electrical system. The significant architectural features of the building are identified and include the exterior which reflects its overall early-twentieth-century appearance including massing and fenestration; retention of some early materials including wood siding and trim, windows, doors, and rubblestone foundation; and an overall high degree of architectural integrity at the interior layout and features including animal stalls at the lower level and hay, feed, and other storage at the upper level and loft. Significant site features include the 10.6 acres of open space that remain of original property and convey its agricultural use; the relationship of the barn to the Stephen Cary House located across Mountainside Road; and an early-twentieth-century storage building that incorporates the remnants of a nineteenth-century building and is set east of the barn.

The **Treatment Analysis** assesses the building's proposed use as a community space/environmental center, including analysis against current code requirements including life-safety. The analysis finds that the use of the barn as an environmental center is satisfactory, but that modifications are required to not only meet current code requirements but to enhance the barn to support this new use. This analysis, coupled with the conditions assessment and historical overview, lays the groundwork for the development of the preservation philosophy and the recommendations for repair and upgrade. The preservation philosophy finds that the treatments for the Barn generally fall under rehabilitation in order to adaptively reuse the building and to implement upgrades for code including improvements related to barrier-free access. The analysis further finds that any work should be planned, undertaken, and supervised in compliance with the Secretary of the Interior's *Standards for the Treatment of Historic Properties*.

The **Conclusions and Recommendations** draw from the evaluation of the existing conditions and the identified needs. These conclusions and recommendations are based on the information available at the

EXECUTIVE SUMMARY

time of this report, and help to form the detailed treatment plan, which is the basis for the estimates of probable cost. The conclusions generally consist of the following:

- The barn is in overall fair condition with structural deficiencies at the framing and masonry foundation as well as deficiencies at the roofing, roof drainage, siding, trim, windows and doors.
- The building is set close to the road leaving only a narrow path to the main doors at the upper level and the lower level is open at its south end overlooking the field and is subject to animal intrusion, such as barn swallows, mice, and other birds and rodents (typical for a barn structure).
- The interior at the first-floor level of the barn is in fair condition with large sections of the floor not secured to the framing, steep drops between sections, debris, and the stair enclosure to the ground floor is in poor condition.
- The interior of the ground floor level is in fair to good condition with cracks in the concrete floor, mortar loss at the foundations, and debris. Several early-20th feed bins remain and appear in good condition overall.
- The storage building is in overall fair to good condition with mortar loss at the chimney, and wood deterioration and paint loss at the siding, windows, doors, etc.
- The tin roof at the storage building exhibits paint loss and rusting and its roof drainage is clogged.
- The interior of the building has a mix of older and newer finishes that are heavily soiled and a racoon has taken up residency in the attic.

The recommendations generally consist of the following. (These are not stated in their order of priority and are not inclusive of all recommendations.)

- Adaptively reuse the barn for use as an environmental center/community facility and picnic pavilion.
- Upgrade the barn structure and front foundation wall including repair and replacement of existing framing, securing wood flooring, and buttressing the north foundation wall.
- Repair and restore the roofing, roof drainage, siding, trim, doors, and windows at the barn.
- Install / implement certain upgrades to support a new use such as lighting, opening the rear wall to bring light and air to the first-floor level, make provisions for barrier-free access to both floor levels, and clean finishes and install new barrier for life-safety.
- Restore and repair the exterior and interior finishes of the storage building including the roofing, siding, trim, windows, and doors.
- Install an accessible restroom facility to support the use of the barn for the visiting public.

The **Recommendations** section presents a conceptual budget of approximately $1,117,000 including construction and non-construction costs as well as a fifteen-percent contingency for preservation and rehabilitation work at the exterior and interior. The scope of work is broken into three phases depending on available funding. The first phase focuses on the structural upgrades from foundation to roof at the barn along with roof and roof drainage upgrades. The second phase focuses on finishes and upgrade of the barn for adaptive reuse. The third phase, which could be broken into smaller phases, if needed, focuses on the repair and rehabilitation of the storage building.

1. INTRODUCTION

1.1 Scope of Study and Purpose Statement

The purpose of this report is to provide the Borough of Mendham (Borough) with a plan for the continued use and preservation of the Cary Barn (Barn), known today as the Scott Farm Barn. The Borough sought a proposal from an experienced historic architecture and preservation firm to produce a Historic Preservation Plan for the Cary Barn and favorably received the proposal submitted by Connolly & Hickey Historical Architects, LLC of Cranford, New Jersey.

This Historic Preservation Plan will provide an overview of the history and evolution of the building, and it documents and assesses the current exterior and interior conditions as well as the existing electrical system and the structure. This also includes assessment of the small storage building located east of the Barn; this building appears to be a former farm outbuilding that was modified and expanded. The plan includes treatment and phasing recommendations and preliminary estimates of conceptual cost.

The historical overview places the Cary Barn within a context relating to its place in the history and development of Mendham Borough. Information pertaining to the history and evolution of Mendham and the Barn were obtained primarily from readily available sources including a previous preliminary report, the National Register nomination, existing written histories, the files of the New Jersey History and Genealogy Center at the Morristown and Morris Township Library, and various online resources.

The Project Team examined the exterior envelope of the Barn and Storage Building before moving to the interior assessment. The exteriors were surveyed from the ground level. James B. Huffman, P.E., consulting engineer, examined the structure systems and made recommendations regarding upgrades. The findings of this assessment are included in Appendix A. The Project Team also noted minor electrical services at the storage building and barn, which were not working at the time of the survey.

This report makes conservation treatment recommendations for the building including at the exterior and interior, the structure, and the electrical system. These recommendations are for preserving the integrity of the buildings and are presented in a logical manner that endorse performing the work in phases so the Borough can undertake manageable-sized work programs based on available funding.

This report examines the evolution of the building and the evidence of distressed architectural fabric, determines possible remedial actions, projects probable costs, and makes recommendations for action. It is a summary of existing conditions, an exploration of possible treatments, a projection of expenses, and a recommended plan of action. It properly places the current situation in perspective with the history of the structure and its evolution over time. With this information in hand, the Borough can order its priorities, establish a work program, and develop contract documents for repairs. This report is a study and therefore does not generate the documents required to execute the repairs mentioned herein. As a planning tool, this Historic Preservation Plan devises the methodology for the Borough to proceed with the restoration and rehabilitation of the building in a logical, well-reasoned manner.

1. INTRODUCTION

1.2 Location

The Cary Barn is located in the Borough of Mendham, Morris County, New Jersey. Mendham lies within the physiographic region known as the Highlands. The Highlands extends from the New Jersey-New York border in a southwesterly direction towards Phillipsburg. The Highlands are part of the Reading Prong consisting of northwestern portions of Passaic, Morris and Hunterdon Counties, and the southeastern portions of Sussex and Warren Counties. The Highlands comprise approximately one-eighth of the total land area of New Jersey,[1] being approximately twenty-two miles wide at the New Jersey-New York border and narrowing to eight miles at Phillipsburg. The province is composed of primarily metamorphic rocks with deep valleys of tightly infolded and infaulted Paleozoic rocks and today is noteworthy as a relatively undeveloped area of forests, wetlands, and grasslands within the otherwise highly developed New York metropolitan area.[2]

Lying approximately fifty miles west of New York City, Mendham Borough has a total land area of 5.98 square miles. It is a rural suburban town of about 4,981 residents.[3] The Borough is bounded by Mendham Township to the north, east, and west, and by the Borough of Bernardsville (Somerset County) to the south. The North Branch of the Raritan River begins at Mendham Commons Lakes and extends west through the northern part of the Borough. One of the tributaries that form the headwaters of the Passaic River is located in the east-central section of the Borough. Other brooks and streams also streak the area. County Routes 510 (Main Street) and 525 (Hilltop Road) pass through the Borough, intersecting at the commercial center. Mendham is not serviced by New Jersey Transit rail or bus access.

The Cary Barn is located on the south side of Mountainside Road in a rural residential area. Mountainside Road serves as the northern boundary of the Borough, with the opposite side of the road, which is where the Stephen Cary House is located, being Mendham Township. The barn's front elevation faces north toward Mountainside Road and is set just a few feet from the road.

1.2.1 Location Maps

[1] Maxine N. Lurie and Marc Mappen, eds., *Encyclopedia of New Jersey* (New Brunswick, NJ: Rutgers University Press, 2001), 363.
[2] Kemble Widmer, *The Geology and Geography of New Jersey* (Princeton, NJ: D. Van Nostrand Company, Inc., 1964), 12.
[3] Population as of the 2010 Federal Census.

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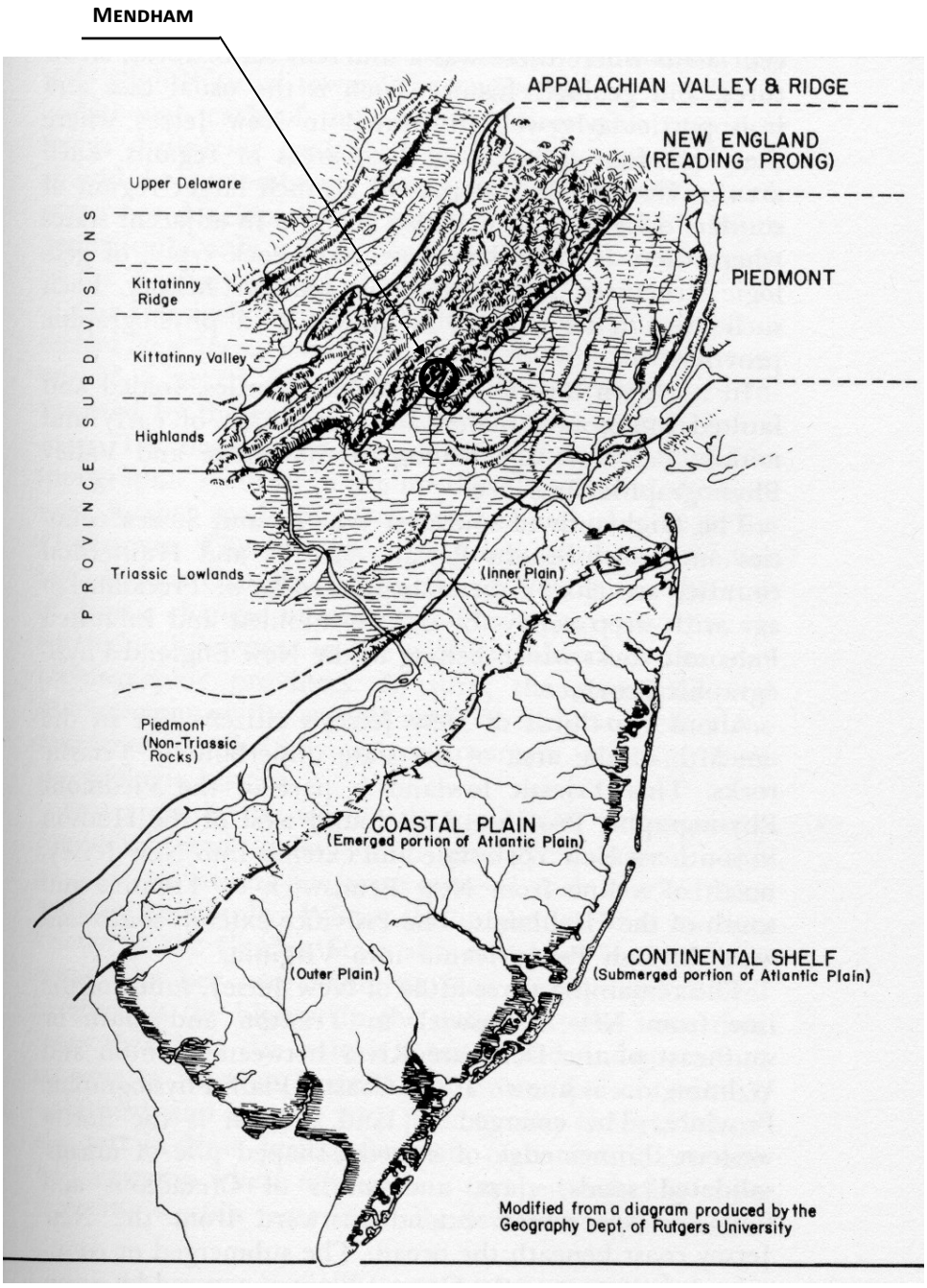

Figure No. 1

Physiographic Location Map

Credit: Geographical Department, Rutgers University. *Physiographic Provinces of New Jersey.* New Brunswick, NJ.

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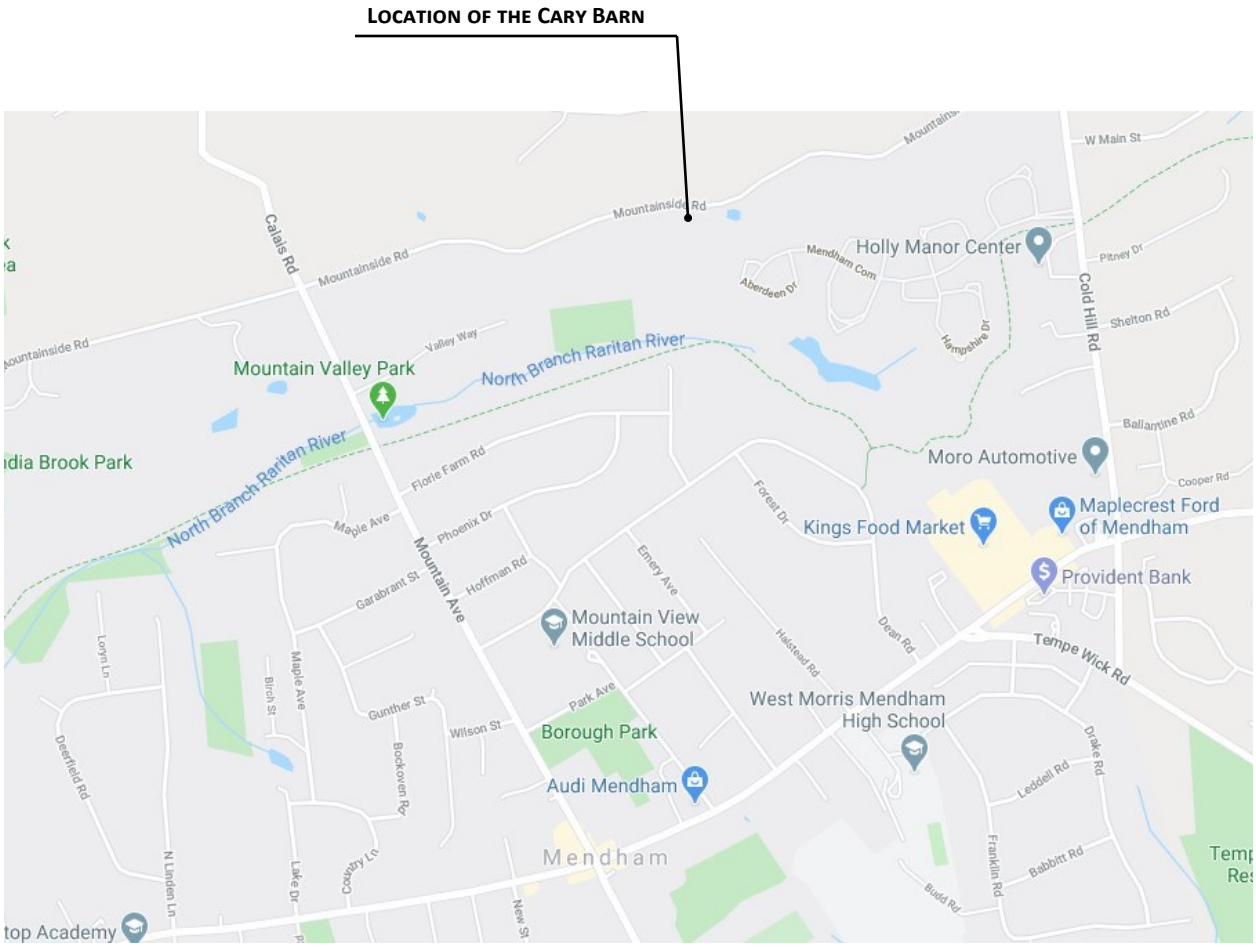

Figure No. 2

Location Map

Credit: Google Maps. Data ©2020

1. INTRODUCTION

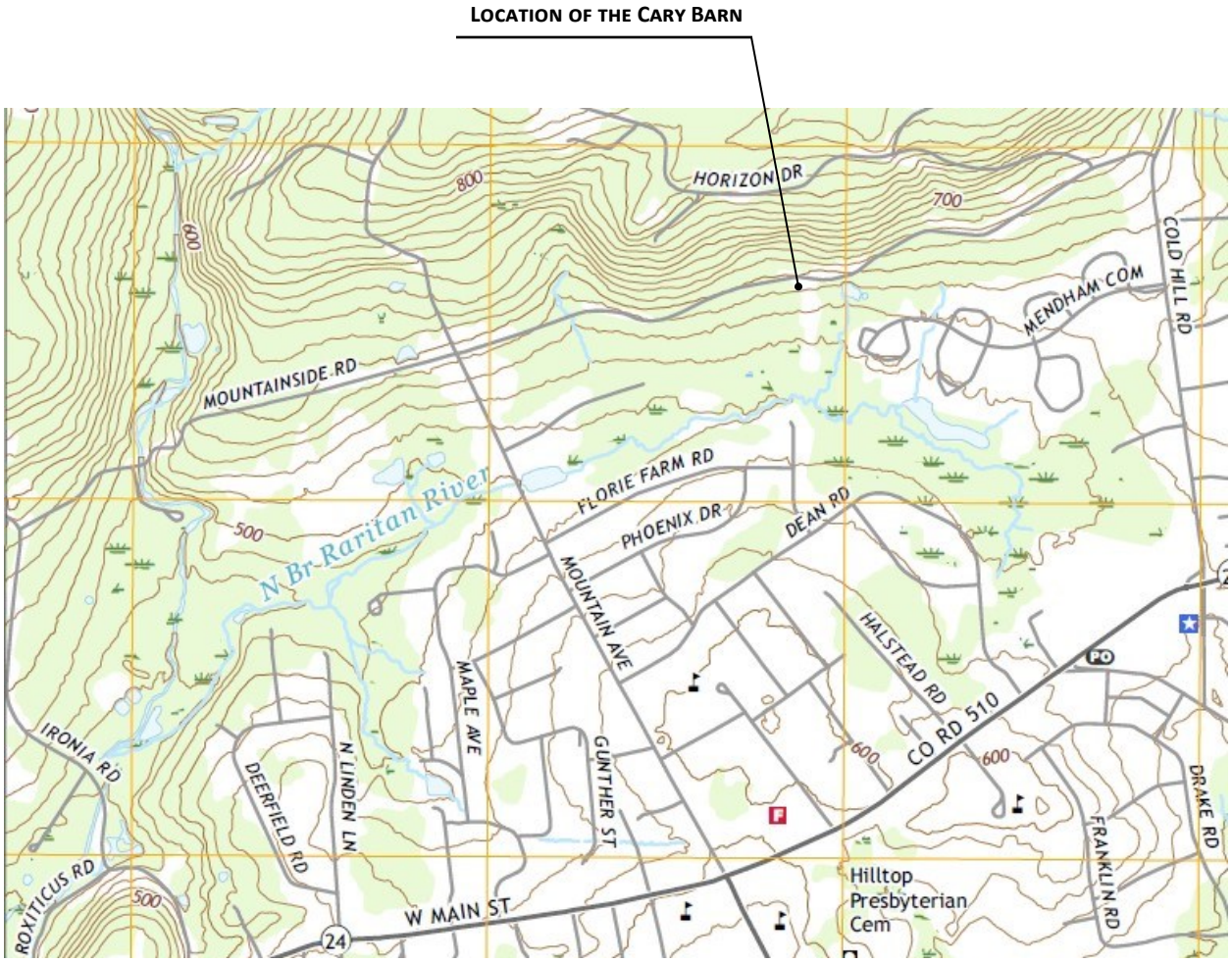

Figure No. 3

USGS Topographic Map, 2019

U.S. Geological Survey Map, Mendham Quadrangle focusing on Mendham and the surrounding region.

Credit: U.S. Geological Survey, Denver, Colorado. Obtained from the USGS Store. Available at http://store.usgs.gov. Accessed July 2020.

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Figure No. 4

Aerial View of Mendham

Aerial view of Mendham focusing on the area surrounding the Cary Barn.

Credit: Google Maps - Imagery ©2020 Google. Imagery ©2020 Maxar Technologies, USDA Farm Service Agency, Map data ©2020.

2. DEVELOPMENTAL HISTORY

2.1 Historical Overview

2.1.1 Development of Mendham

The Borough of Mendham was first home to the Lenni Lenape Native Americans who valued the area's many waterways and fertile soil, and whose migratory Minisink Trail passed through Mendham. The earliest land transaction by Europeans may have been circa 1708 when Englishman John Brain reportedly built a small cabin at the intersection of the main east-west road to Morristown (present-day Route 24) and what became known as Roxiticus Road; the first permanent settlement, however, did not occur until the 1720s or 1730s. In 1713, John Wills purchased 862 acres from the Proprietors of West Jersey and in the 1720s his son, James Wills, constructed one of the first permanent homes in the area. Today called Ralston, this area was originally known by its Native American name Roxiticus. The earliest settlers were mostly Scotch-Irish Presbyterians who built a meeting house and cemetery in Roxiticus by 1738. In 1745 the Presbyterian congregation split and half formed a new church to the southeast within the Township at the present location of the Hilltop Presbyterian Church.

Many of the early settlers came from Newark, Long Island, and New England.[4] They were attracted to the area's fertile land, extensive woodlands, hills with iron ore, and many sources of waterpower for industries including the three major rivers that begin in Mendham: the North Branch of the Raritan River, the Passaic River, and the Whippany River. Several brooks and streams also streak the area. Edmond Martin is believed to have operated a mill here as early as 1742. John Logan operated a grist and sawmill during the Revolutionary War that is said to have supplied the Continental army at Jockey Hollow. In 1786, area namesake John Ralston, who married Logan's daughter, purchased 114 acres including his father-in-law's mill and what was known as the Ralston Manor House. Ralston also opened a general store and post office at the main crossroads in Roxiticus making this intersection and area the business center of Mendham during the eighteenth century.[5] Located to the east along the main road, a secondary business center developed during the mid-eighteenth century at the intersection with Mountain Avenue/Hilltop Road where the Black Horse Inn was opened circa 1743; this became the center of the village of Mendham.

In 1749, Mendham Township was created and included portions of present-day Chester Township, Town of Dover, Mendham Borough, Mine Hill Township, Randolph Township, Victory Gardens Borough, and Wharton Borough. The origin of the name Mendham is not definitive, with different theories including it was named for the town of Mendham in England; it was named for Mendon, Massachusetts, the hometown of Ebenezer Byram, a prominent early settler;[6] or it may be derived from a Native American word "mendom" meaning raspberry.

The tax ratables for 1779 reflect the early industrial growth, which included six gristmills, ten stills, four sawmills, and seven forges.[7] The Township incorporated in 1798 as one of the state's initial 104 townships. The Township remained sparsely developed through the early-nineteenth century at which time small industries experienced a boom; some of these included a cotton and woolen factory, the first

[4] S. B. Axtell, "Mendham Township," History of Morris County, New Jersey with Illustrations and Biographical Sketches of Prominent Citizens and Pioneers (New York: W. W. Munsell & Co., 1882), 242.
[5] John W. Rae, *Images of America: The Mendhams* (Charleston, SC: Arcadia Publishing, 1998), 11.
[6] Janet W. Foster, National Register nomination for the Mendham Historic District, 1984, section 8 – page 2.
[7] Rae, 7.

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of its kind in New Jersey; blacksmiths; wheelwrights; small factories producing carpet, carriages, and glass; fulling, grist, and sawmills; lime kilns; forges; and mines producing mica, lead, and copper.[8] The Township's first academy was established in 1795 by Rev. Henry Axtell.[9]

In 1806, portions of Mendham Township were taken to form Randolph Township. Chartered in 1806 and completed in 1810, the Washington Turnpike connected Morristown and Easton, Pennsylvania, and incorporated the main east-west route through Mendham. The turnpike brought increased communication and commerce between neighboring villages and townships. The 1834 Gazetteer of New Jersey described the village of Mendham as containing, "a Presbyterian church, a board school for boys, in much repute, under the care of Mr. Fairchild, 1 grist mill, 1 tavern, three stores, and between 40 and 50 dwellings. Circumjacent country rolling, soil limestone, well cultivated and fertile."[10] Over the course of the nineteenth century, several private academies were established[11] followed by one-room schools to serve the Township's school districts.

Another advancement in transportation a few decades later, the railroad, would also affect the local economy. Many of the small industries did not survive without ready access to the new rail services being developed in the mid-nineteenth century reverting Mendham to a purely agricultural economy. As such, the Township was able to take advantage of the region's fertile lands to grow such products as wheat, corn, oats, potatoes, peaches, beans, and hay. Farmers in Mendham also produced large quantities of apples to be distilled into applejack and the Township became known for its many distilleries. Mendham's fertile land offered high property values, averaging $61 per acre in 1880 as compared to $50 in Chester and $30 in Rockaway.[12]

Beginning during the mid-nineteenth century, the country air and beauty of Mendham began to attract summer visitors who stayed at one of the Township's two boarding houses or with one of the farmers who would take in boarders.[13] During the late-nineteenth and early-twentieth century, Mendham was a stop on the short-lived Rockaway Valley Railroad, which ran from White House Station in Hunterdon County to Watnong in Morris Township, carrying both freight and passengers. Following the railroad's bankruptcy in 1917, residents relied on auto stages to Morristown for passenger, freight, and mail service.[14]

At the turn of the twentieth century the area remained rural and was known for its quiet and beauty, which were undisturbed by any industrial development.[15] These qualities attracted the wealthy, millionaire class to the region west and southwest of Morristown including Mendham. They constructed

[8] Rae, 7-8.
[9] Axtell, 248.
[10] Thomas F. Gordon, A Gazetteer of the State of New Jersey: Comprehending a General View of its Physical and Moral Condition, Together with a Topographical and Statistical Account of Its Counties, Towns Villages, Canals, Rail Roads, &c, Accompanied by a Map (Trenton: Daniel Fenton, 1834), 176.
[11] Foster, section 8 - page 4.
[12] Munsell, 246.
[13] Foster, section 8 - page 6.
[14] A History of Morris County, New Jersey Embracing Upwards of Two Centuries, 1710-1913 (New Yok: Lewis Historical Publishing Co., 1914), 218.
[15] A History of Morris County, New Jersey Embracing Upwards of Two Centuries, 1710-1913, 218.

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large mansions outside of the village, especially on the slope of Bernardsville Mountain to the south, in the area known as Washington Valley to the east, and on the ridge at the western edge of the Township.[16] This development brought new employment opportunities for many residents of Mendham who became servants or hired help at the estates and for local merchants who supplied the grand properties.[17]

In 1906, the Borough of Mendham incorporated from portions of Mendham Township. This separation was over concern for establishing a municipal water system for drinking and fighting fires. The new Borough established its own waterworks and gravity-fed system, which also supplied the fire department.[18] The population in 1910, which was the first federal census taken since the Borough incorporated, was 1,129. In the following decades of the early-twentieth century, increased residential development occurred filling in the empty lots of the early village's cross-roads plan. The Pennsylvania Power Company provided electrical light to public buildings, streetlights, and private homes. By the first decades of the century, the earlier one-room schools in the Borough were replaced by larger schools.

Many of the area's large estates were shuttered following the Great Depression, and Mendham did not experience significant change and growth until the mid-twentieth century. The opening of major highways in the region brought suburban development beginning in the 1960s, which surrounded the historic core of the Borough. By 1970 the population had grown to 3,729, and it peaked at 5,097 in the year 2000. Mendham today is an upper-middle-class suburb that retains much of its historic building fabric.

2.1.2 Cary Barn

What is today known as the Scott Farm Barn located on Mountainside Road in Mendham was originally constructed by Stephen Cary circa 1825. Stephen Cary (also spelled Carey) was born in 1794 in Mendham. He was a nephew of John Cary, who came to Mendham from Massachusetts in 1745 to construct the first church building for the Hilltop Presbyterian congregation. In 1822, Stephen Cary purchased 59 acres of land in Mendham from Josiah Conkling, and he married Sybil Beach around 1830; therefore, it is estimated he constructed his home, a Federal-style brick residence circa 1825-1830. Stephen was a farmer and constructed a banked barn across the road from his house around the same time.

In the 1850 Federal Census, Stephen is listed as a farmer living with his wife, two sons, three daughters, and his sister. He owned real estate valued at $2,000.[19] His eldest son, William, was also listed as a farmer. According to the Agricultural schedule of the 1850 census, Stephen Cary owned 45 acres of improved land and 45 acres of unimproved land. His farm included 2 horses, 3 milch cows, 1 other cattle, and 3 swine worth a total of $222. He produced 25 bushels of wheat, 150 bushels of Indian corn, 100 bushels of oats, 4 bushels of peas and beans, 15 bushels of Irish potatoes, 20 bushels of buckwheat, $100 worth of orchard products, 300 pounds of butter, and 8 tons of hay. He slaughtered animals valued

[16] Rae, 8.
[17] Foster, NR nomination, section 8, page 7.
[18] A History of Morris County, New Jersey Embracing Upwards of Two Centuries, 1710-1913, 218.
[19] 1850 United States Federal Census, Mendham Township, Morris County, New Jersey, page 123B, line 25.

2. DEVELOPMENTAL HISTORY

at $83.[20] Stephen's banked barn would have housed livestock at the lower level, with storage of wheat, hay, and other grains at the main level. During the mid-nineteenth century, the banked barn was enlarged with an addition to the west. Also constructed during this time was a small outbuilding located east of the barn whose original use is not known.

The 1853 Lightfoot and Geil Map of Morris County shows Stephen Cary's house (spelled Carey) along with a neighboring house owned by "S. Carey;" it is not known if Stephen Cary owned both properties. In the 1860 Federal Census, Stephen is living with his wife, two sons, two daughters, and his sister. For unknown reasons, his wife Sybil is listed as the head of household, with Stephen listed after their children. Their son, Edward, is listed as a farmer, while Stephen does not have an occupation listed indicating he may have retired by this time and his son taken over the farm.[21] The Agricultural schedule for the Cary farm on the 1860 census reflects similar production overall to 1850. "S. Carey" is indicated on the 1868 Beers Atlas of Morris County. Stephen Cary died in April of 1870 without a will, and his property presumably passed to his widow and children.

The 1870 federal census in Mendham lists Sybil Cary living with three of her adult children and her sister-in-law.[22] Her son, Edward, died without any heirs in 1877, and Sybil died in 1879. Daughter Anna deeded her share of the property to her sister Phebe, who had married Henry Drake in 1877.[23] The 1880 Federal Census lists Henry Drake as a farmer and Phebe keeping house, with the household also including Phebe's aunt.[24]

Henry Drake died in 1887, making Phebe Cary Drake the sole owner of her father's property. "S. Carry," incorrectly appears with the property on the 1887 Robinson Atlas of Morris County. Phebe is listed in the 1897-98 Morris County Directory as "Mrs. Henry Drake."[25] In the 1900 Federal Census, Phebe is listed as a farmer and her household includes two families renting from her: the Howell family included William, a piano tuner, wife Nellie and their two sons; and the Vandoren family included Charles, a day laborer, and his wife Margaret.

In 1907, Phebe Drake sold the property to William Howell, which included the house and barn built by her father. The 1910 Mueller Atlas of Morris County shows William Howell's property of 110 acres including the house, a springhouse east of the house, and the barn and small storage building across the street. William Howell was born in England in 1857 and immigrated to America with his family in 1876. He married Nellie Dent in 1882 and they had two children. The 1910 Federal Census lists William as a farmer living with his wife and one son, William, Jr. He continued to work as a piano tuner and the extent of his farming is not known.[26] In the following decades William, Jr. and his wife and children all

[20] 1850 United States Federal Census Agricultural Schedule, Mendham Township, Morris County, New Jersey, page 3, line 37.
[21] 1860 United States Federal Census, Mendham Township, Morris County, New Jersey, page 14, line 35.
[22] 1870 United States Federal Census, Mendham Township, Morris County, New Jersey, page 38, line 5.
[23] Sally Milner, National Register nomination for the Stephen Cary House, 1988, section 8 - page 1.
[24] 1880 United States Federal Census, Mendham Township, Morris County, New Jersey, 1988, page 16, line 3.
[25] Vogt Bros. complete Morris County, New Jersey, directory for 1897-98 : court, county, township, and municipal officers, associations, churches, clubs, lodges societies, etc. together with a colored map of the county, (Morristown, N.J.: "True Democrat Banner" Steam Print, 1898), 562.
[26] 1910 United States Federal Census, Mendham Township, Morris County, New Jersey, page 5A, line 49.

2. DEVELOPMENTAL HISTORY

lived with William and Nellie, and by the 1940 Federal Census he was listed as head of household with his father then retired. William Howell, Sr. died in 1941 and William, Jr. died just five years later. Ownership of the former Cary property following the Howells is not known.

Sometime in the early-twentieth century, the barn was enlarged to the rear through the addition of a forebay with a shed roof. Also during the time, the outbuilding east of the barn was rebuilt using portions of the earlier structure.

During the twentieth century the former Cary property was sold and presumably subdivided several times. Daniel and Darby Scott acquired the house and barn lots in 1977 and they retained ownership for several decades. In 1989, the Stephen Cary House was listed on the New Jersey and National Registers of Historic Place, and the listing included the property across the road with the barn and storage building. In 2015, the Scotts sold the barn lot, which totaled approximately 10.6 acres and included the barn, small storage building, and two chicken coops, to the Borough of Mendham to be preserved as open space. They sold the Cary House in 2017 and it remains a private residence today. The Borough intends to preserve/rehabilitate the Cary Barn for a public use.

2.1.3 Historical Maps and Images

2. DEVELOPMENTAL HISTORY

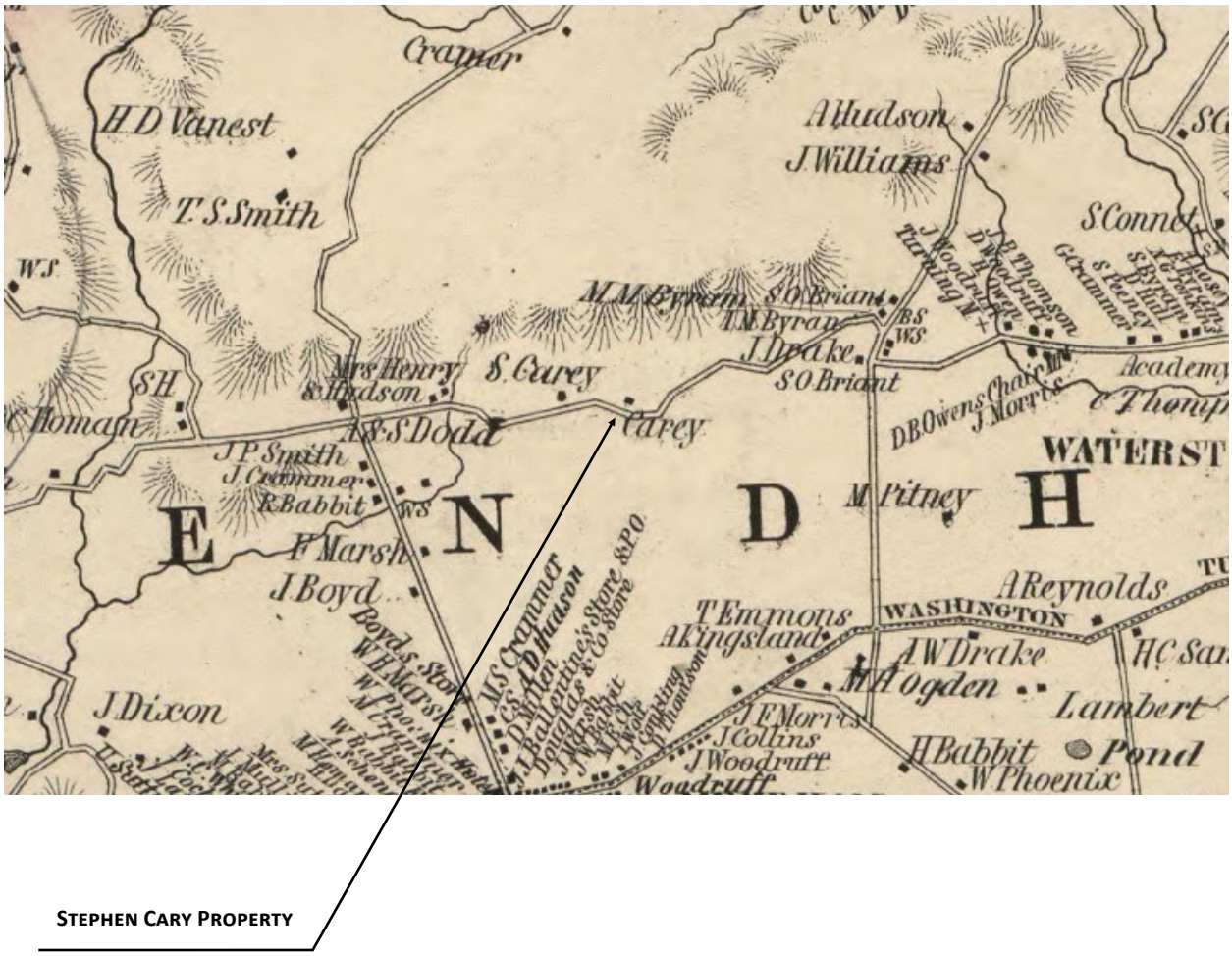

Figure No. 5
1853, Map of Morris County

1853 map showing Stephen Cary's house, across from which his barn was located.

Credit: Jesse Lightfoot (surveyor), Samuel Geil, and Robery Pearsall Smith, *Map of Morris County, New Jersey: from original surveys* (Morristown, NJ: B. Shields, 1853). Available online from the Library of Congress at loc.gov/maps (accessed August 2020).

2. DEVELOPMENTAL HISTORY

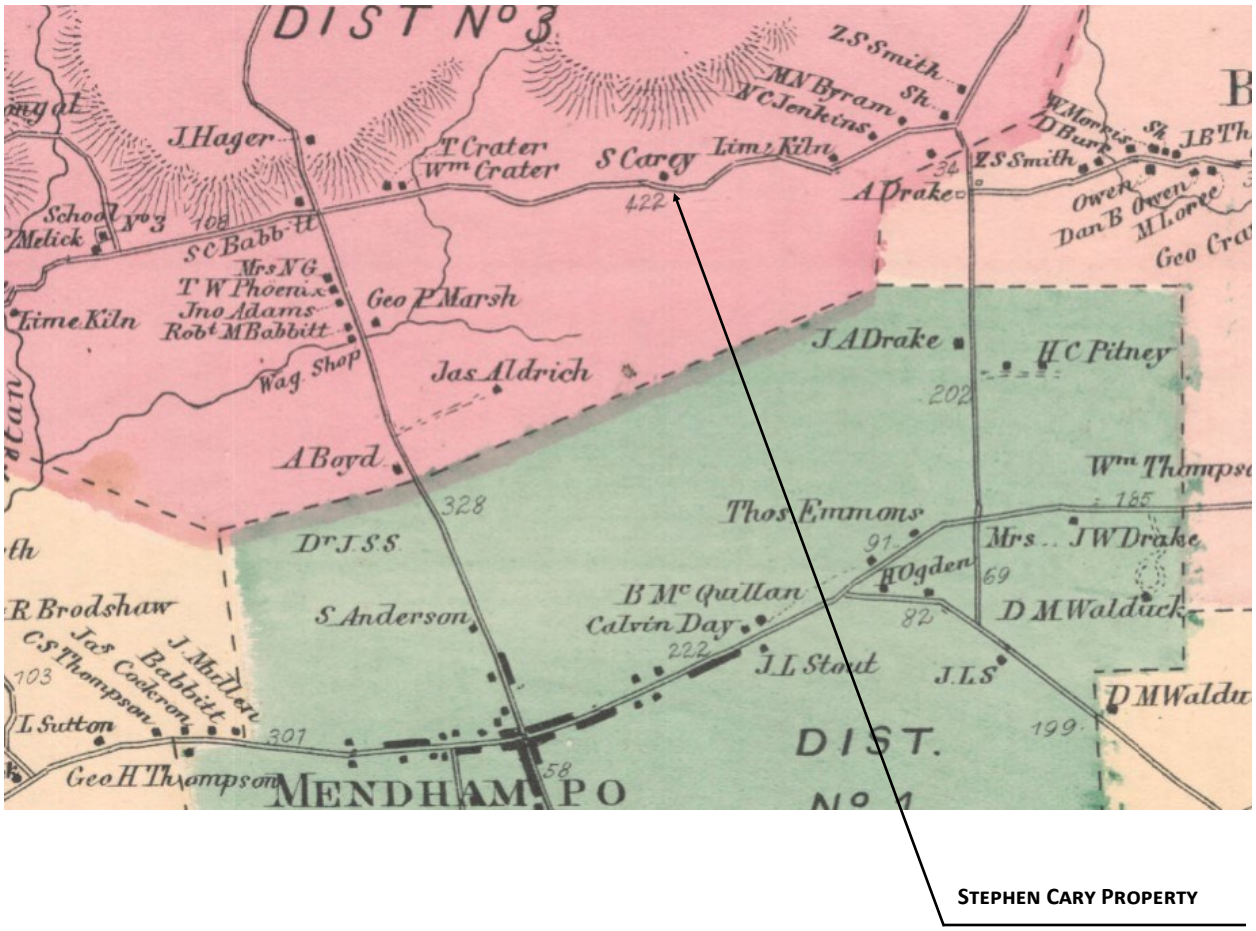

Figure No. 6
1868, Atlas of Morris County

1868 atlas showing Stephen Cary's house.

Credit: Plate 7 of F.W. Beers, *Atlas of Morris County, New Jersey* (New York: F.W. Beers, A.D. Ellis & G.G. Soule, 1868). Available online from the North Jersey History & Genealogy Center of the Morristown & Morris Township Public Library Digital Collection, https://cdm16100.contentdm.oclc.org/digital/collection/p15387coll1 (Accessed August 2020).

2. DEVELOPMENTAL HISTORY

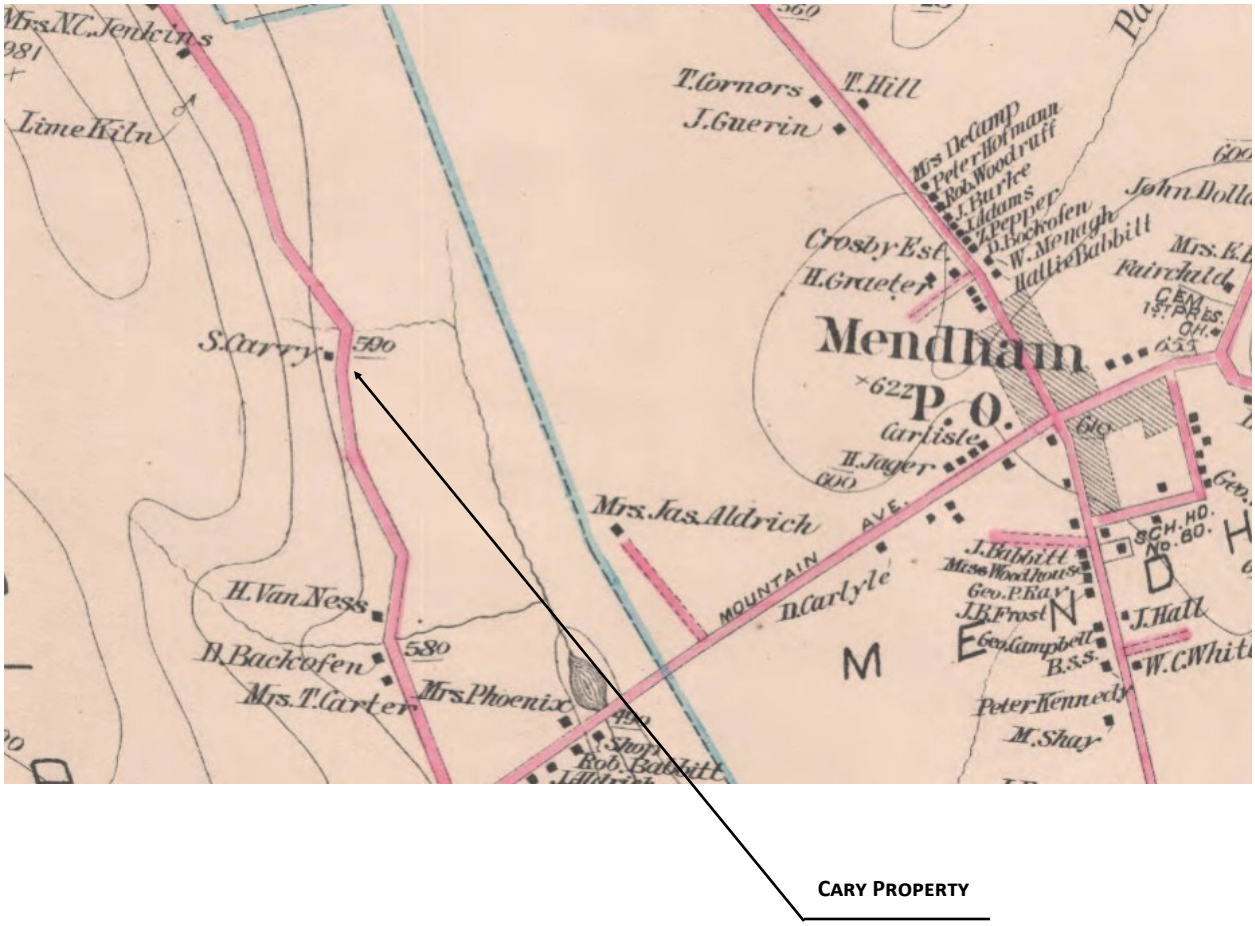

Figure No. 7
1887, Atlas of Morris County

1887 map showing Stephen Cary's house when it was owned by his daughter Phebe Drake. The property is still identified with his name even though he died in 1870.

Credit: Plate 31 of E. Robinson, *Robinson's Atlas of Morris County, New Jersey* (New York: E. Robinson, 1887). Available online from the North Jersey History & Genealogy Center of the Morristown & Morris Township Public Library Digital Collection, https://cdm16100.contentdm.oclc.org/digital/collection/p15387coll6/id/17/rec/12 (Accessed August 2020).

2. DEVELOPMENTAL HISTORY

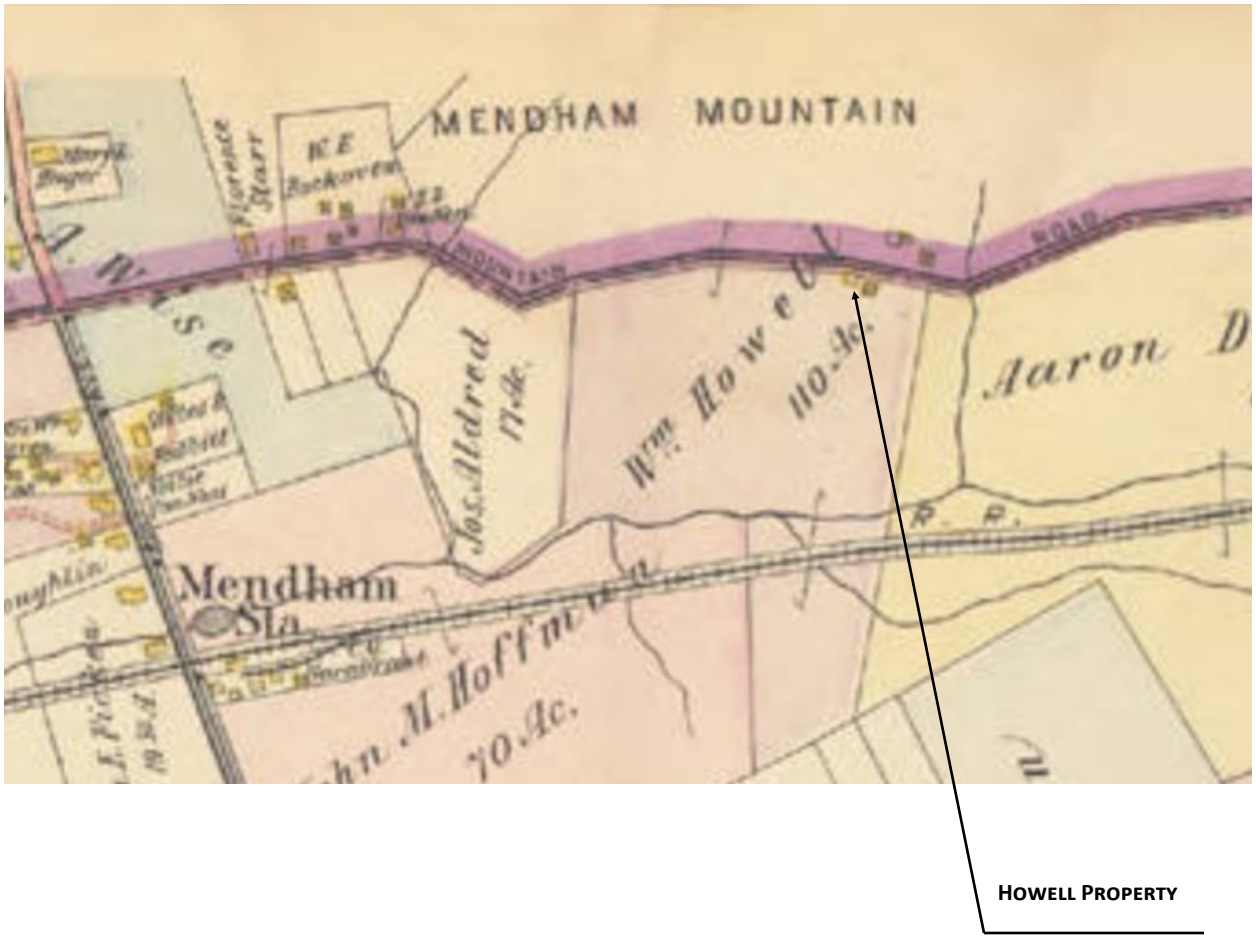

Figure No. 8
1910, Atlas of Morris County

1910 map showing the barn when owned by William Howell.

Credit: Plate 25 of A. H. Mueller, *Atlas of Morristown, Madison, Florham Park, Chatham, Mendham and Part of Morris Co. New Jersey* (Philadelphia: A. H. Mueller, 1910). Available online from the North Jersey History & Genealogy Center of the Morristown & Morris Township Public Library Digital Collection, https://cdm16100.contentdm.oclc.org/digital/collection/p15387coll8/id/13/rec/28 (Accessed August 2020).

2. DEVELOPMENTAL HISTORY

2.2 Chronology of Construction

The chronology of construction is based on the existing architectural fabric and previously prepared historical overviews. Although not all changes are known, the following is a summary of significant changes providing an outline of the building's evolution since construction.

c.1825	Stephen Cary constructed a banked barn, which may have consisted of only the current center section of the current barn.
Mid-19th century	The barn was expanded by the addition of one bay to the east. A small outbuilding was constructed east of the barn.
Late-19th century	The barn was expanded by the addition of one bay to the west. This section may have been an earlier barn that was moved to abut the main barn to create an additional bay. This supposition is based on the framing and the juxtaposition to the main core of the barn.
Early-20th century-	The barn was expanded at the rear through the addition of the forebay. The southeast corner at the lower level was rebuilt.
Early-20th century	The outbuilding was rebuilt into its existing form utilizing portions of the earlier building include the stone foundation at the north side, the chimney, and portions of the roof framing.

2. DEVELOPMENTAL HISTORY

2.3 Architectural Description

2.3.1 Site Description

The Cary Barn is set on a 10.6-acre site in a rural residential area. The barn is set close to the south side of Mountainside Road with a few feet buffer of grass. The grade slopes down away from the road with the barn banked into the slope. Approximately forty feet east of the barn is a small storage building, which is also set close to the road. There is a small gravel parking area immediately east of the storage building. A split rail wood fence runs along much of the perimeter as well as is used to enclose certain areas on the property. There are two chicken coops behind the barn and storage building. The majority of the property is open field with some trees, and it is wooded along the sides of the lot and at the far south end of the property.

2.3.2 Exterior Description – Cary Barn

The description of the exterior and interior of the building relies upon room callout numbers. The first number of each notation indicates the floor on which the item is found. The doors and windows are similarly noted in a consecutive order but are further identified by the inclusion of a "W" for window or "D" for door.

General

The Cary Barn is a two-story, wood-frame banked barn. The barn consists of the main gable-roof section, which was constructed over two or more phases, plus a rear shed-roof forebay addition. The building is four bays wide and three bays deep. The main section has a rubble fieldstone foundation, while the forebay addition is open at the ground floor and supported by wood posts at the first-floor level. The barn is clad with vertical board siding with plain wood corner boards and skirt boards with some anomalies as noted below.

Roof and Roof Drainage

The main section of the barn has a side-gable roof with its ridge set parallel to the road, and the rear forebay addition has a shed roof that is continuous with the main roof but at a shallower pitch. Both sections are clad with asphalt shingles. There is no overhang and there are plain wood fascia boards at the roof edges. The roof drainage system consists of hung aluminum gutters with aluminum leaders, some of which connect to an underground drainage system and some that drain at grade.

Elevations

<u>North Elevation</u>

The north (front) elevation of the Cary Barn is four irregular bays wide with large barn door openings in the second and forth bays. The eastern section, which contains the original portion of the building and may consist of two builds, is wider and contains a pair of tall sliding vertical board doors (D101). The west section contains a single shorter and wider sliding vertical board door (D105). There is an asphalt approach with concrete ramp/step up to each entrance. The grade east of door D101 slopes away, exposing more of the fieldstone foundation. The wood siding and skirt board east of door D101 are wider than at the rest of the elevation. Centered above door D105 is a small vertical board shutter (W105A).

2. DEVELOPMENTAL HISTORY

East Elevation

The east elevation is composed of the main section of the barn plus the rear addition to the south. The grade slopes significantly toward the south with the lower level and fieldstone foundation fully exposed at the south end. The main section is two bays wide. There is a sliding vertical board man door (D102) at the north end that is set between the main and lower floor levels to access intermediate-level spaces at the east end of the barn. In the southern bay is a six-lite fixed wood window (W103) with flat-stock wood trim that is set low on the first-floor level just above the skirt board. Set in the peak of the gable is an opening with a pair of louvered shutters (W201). The one-bay wide rear forebay addition lacks a foundation and a wood frame wall; it is finished with vertical board siding that rests on the concrete slab within the forebay addition. There is a single vertical board man door (D001) adjacent to the main barn at the ground floor. The siding at the first-floor level is also vertical boards but is not continuous between the two levels and a horizontal board separates them.

South Elevation

The south elevation consists of the rear forebay addition where the main level overhangs the open lower level. The lower level consists of open bays delineated by six wood posts and an end wall of fieldstone. The wood posts do not necessarily align with the posts delineating the four bays at the first-floor level of the main barn. The overhanging main level is clad with vertical board siding and lacks fenestration except at the west end where there is a single window composed of two stacked, two-lite, fixed sashes (W104). At the west end there are also remnants of wood battens at some of the vertical board siding but this appears to be an anomaly and is reflective of the constant modifications to the building over time. The concrete slab extends beyond the footprint of the building at the west bay to form an outdoor animal pen area. A small wooden fence and gate at the east side separate this from a concrete water trough that stops at the eastern-most bay.

West Elevation

The west elevation is the similar to the east elevation with the exception of the fenestration. This elevation lacks fenestration with the exception of a single nine-lite awning wood window (W002) toward the north end of the foundation. This elevation lacks a skirt board and horizontal board between floor levels.

2.3.3 Interior Description – Cary Barn

The description of the interior of the building relies heavily upon room callout notations. The first number of each notation indicates the floor on which the item is found. For example: 101 is a first-floor room. The doors and windows are similarly noted in consecutive order but are distinguished between each other and that of a room name by the indication of a “W” for window and “D” for door. For example: W101 would indicate a window located on the first floor.

General

The Cary Barn consists of the Main Level set at the level as the road; a Loft Level set above the west end of the Main Level; an Intermediate Level at the northeast section of the building, which is accessible from the sloped east side; and the Lower Level, which is accessible from the rear yard. There is interior access between the Main and Lower Levels via an interior stair.

2. DEVELOPMENTAL HISTORY

Lower Level

Room 001

Room 001 consists of the center portion of the Lower Level and extends the full depth of the barn. There are rubblestone foundation walls at the north and west walls, the south end is open with chicken wire attached at the forebay, and the east wall consists of a low rubblestone foundation wall at the north end and wood-framing with flush wood boards at the remainder. The floor is concrete, and there are no wall or ceiling finishes. Accessible above the low east foundation wall at its north end is a crawlspace that occupies the northeast portion of the lower level. Immediately south of this is Room 002, which consists of a gated animal pen. South of this, a gated low wall separates the main space from Room 003 within the forebay. There is an open wood stair towards the west end of the north wall that accesses the Main Level. The eastern-most bay has been sectioned off with horizontal wood fencing and chicken wire attached north-to-south between the wood posts. A twentieth-century feed trough is located approximately centered in the space, and another is located at the south end of the west foundation wall, separating Rooms 001 and 004 within the forebay. An interior shuttered opening high on the west foundation wall provides access to Room 005 to the west.

Room 002

This gated animal pen occupies the center of the eastern bay at the Lower Level. The space consists of rubblestone foundation walls at three sides and a low ad-hoc gated pen enclosure at the west wall; above the low ceiling level of the pen is the Intermediate Level Rooms G002 and G003. There is a dirt floor and no wall or ceiling finishes.

Door:

D006

Door Type:	Twentieth-century out-swing wood gate with three horizontal rails and one diagonal brace.
Hardware Type:	Two metal strap hinges and a turn latch.
Trim:	None.

Room 003

Room 003 occupies the southeast corner of the Lower Level. There is a stone floor with a section of concrete at the southeast corner. The north wall consists of a low rubblestone foundation wall with flush vertical wood boards above, the east wall consists of wood framing, and the south and west walls are enclosed by split-rail wood fencing. The ceiling consists of exposed wood framing. There is an exterior door at the east wall (D001), and there is a wood gate (D007) at the west wall. A plywood backboard is attached at the east wall south of the door.

Doors:

D001

Door Type:	Vertical board-and-batten wood door with one diagonal brace.
Hardware Type:	Metal pull handle, slide bolt, and two strap hinges.
Trim:	None.

2. DEVELOPMENTAL HISTORY

D005

Door Type:	Twentieth-century out-swing wood gate with three horizontal rails and one diagonal brace.
Hardware Type:	Two metal strap hinges and a turn latch.
Trim:	None.

Room 004

Room 004 occupies the southwest portion of the Lower Level, is two bays wide, and extends approximately two-thirds of the depth of the barn. The floor is concrete. The west wall and the north half of the east wall consist of rubblestone foundation walls, the north wall is delineated with a wooden feed trough with a gated opening to either side, and the south wall is open at the forebay with chicken wire attached. The south end of the east wall is delineated with a large wooden and metal feed trough. The ceiling consists of exposed wood framing.

Doors:

D004

Door Type:	Board-and-batten wood gate without butted boards.
Hardware Type:	Three butterfly hinges and a hook latch.
Trim:	None.

D005

Door Type:	Horizontal board wood gate without butted boards.
Hardware Type:	Two strap hinges and a latch.
Trim:	None.

Room 005

Room 005 is a livestock pen located north off Room 004 to the east. The floor is concrete. The north and west walls are finished with horizontal flush boards, the east wall consists of a rubblestone foundation wall, and the south wall is delineated by a feed trough. The ceiling consists of exposed wood framing. There is a shuttered opening set high at the east stone wall (D003). A wood storage bin extends the length of the north wall.

Doors:

D003

Door Type:	Board-and-batten wood shutter.
Hardware Type:	Two strap hinges.
Trim:	None.

Room 006

Room 006 is a livestock pen located north off Room 004 to the west. The floor is concrete. The north and east walls are finished with horizontal flush boards, the west wall consists of a rubblestone foundation wall, and the south wall is delineated by a feed trough. The ceiling consists of exposed wood framing. There is a window at the west stone wall (W002).

2. DEVELOPMENTAL HISTORY

Windows:

W002

Window Type:	Nine-lite, inswing wood awning window.
Hardware Type:	Three butterfly hinges and an eyehook.
Trim:	None.

Intermediate Level

Room G001

Room G001 occupies the northeast corner and is set at the intermediate level between the main and lower levels. There is twentieth-century tongue-and-groove wood flooring. The walls consist of exposed wood framing, and at the north wall the top of the rubblestone foundation is visible below the framing. There are no wall or ceiling finishes. There is an exterior door at the east wall (D102) and an interior door to Room G002 at the south wall (D106). There is an opening at the west wall that connects to Room 101 at the main level, but there is no stair access up to that level. There is a mid-twentieth-century storage bin and shelving in the southwest corner of the space.

Doors:

D102

Door Type:	Vertical-board sliding wood door.
Hardware Type:	Overhead sliding track and a hasp lock and chain for closure.
Trim:	None.

D106

Door Type:	Twentieth-century board-and-batten wood Dutch door.
Hardware Type:	Slide bolt, hasp lock, and strap hinges.
Trim:	Newer flat-stock wood at the Room G001 side only.

Room G002

Room G002 is located south of Room G001. There is twentieth-century tongue-and-groove wood flooring. The north wall is finished with random-width horizontal boards. The east wall consists of exposed wood framing with no finishes, and the top of the rubblestone foundation wall is visible below the framing. The south wall is finished with a combination of older horizontal wood boards and newer vertical wood boards. The west wall largely consists of the backside of feed bins with vertical wood boards below, and there is a small wood access hatch (D108) set low on the wall at its south end. The ceiling consists of exposed wood framing. Door D107 at the south wall leads to Room G003 and there is a window at the east exterior wall (W103).

Doors:

D107

Door Type:	Vertical-board-and-batten wood sliding door.
Hardware Type:	Older rolling hardware.
Trim:	None.

D108

Door Type:	Small vertical board-and-batten wood hatch.

2. DEVELOPMENTAL HISTORY

Hardware Type: Two hinges.
Trim: None.

Windows:

W103
Window Type: Six-lite fixed wood sash.
Hardware Type: None.
Trim: None.

Room G003

Room G003 is located south of Room G002. There is tongue-and groove wood flooring. The north wall consists of the exposed wood framing of the partition wall, and the east wall consists of the exposed exterior wood framing with the top of the rubblestone foundation wall visible below. The south and west sides of the space have low vertical-board wood walls and are open above to Room 101, which is set at a high level. There is no ceiling. A short sliding door (D109) at the south wall provides access to Room 003 below.

Doors:

D109
Door Type: Short sliding vertical board-and-batten wood door.
Hardware Type: Sliding hardware and a hook for closure.
Trim: None.

Main Level

Room 101

Room 101 occupies the center and south portions of the barn at the main level. There is random-width wood flooring. The walls and ceiling consist of exposed wood framing and no finishes, with one exception noted; there is a section of vertical wood boards at the south end of the west wall. There is an exterior door (D101) at the north wall. A wood stair enclosure is located along the north wall east of door D101; the enclosure is finished with wide wood boards at the wall and ceiling and there is a door at the east end (D110). There are wooden feed bins along the east end where the intermediate level rooms are located.

Doors:

D101
Door Type: Pair of sliding vertical board doors.
Hardware Type: Hasp lock and sliding hardware.
Trim: None.

D110
Door Type: Vertical board door of reused lumber.
Hardware Type: Strap hinges and a hook pull.
Trim: None.

2. DEVELOPMENTAL HISTORY

Room 102

Room 102 occupies the west end of the barn at the main level. There is random-width wood flooring. The walls and ceiling consist of exposed wood framing, and there are vertical wood boards applied at the east wall only. There is an exterior door (D105) at the north wall. There is a window (W104) at the south wall.

Doors:

D105

Door Type:	Single sliding vertical board door.
Hardware Type:	Metal pull handle, hasp lock, and sliding hardware.
Trim:	None.

Windows:

W104

Window Type:	Two stacked two-lite fixed wood sashes.
Hardware Type:	None.
Trim:	None.

Loft Level

Room 201

Room 201 is the loft level located above the west end of the main level. There is newer random-width wood flooring. The walls and ceiling consist of exposed wood framing and no finishes, except at the south wall where there are vertical wood boards. There is a small, shuttered opening (W105A) at the north wall.

Windows:

W105A

Window Type:	Small vertical board and batten wood shutter.
Hardware Type:	_____ and two hinges.
Trim:	None.

2.3.4 Architectural Plans and Elevations – Cary Barn

2. DEVELOPMENTAL HISTORY

2.3.5 Exterior Description – Storage Building

The Storage Building is a one-and-one-half-story, three-bay-wide wood-frame building located east of the barn. The building has a rubblestone foundation except at its south side end, which is constructed of concrete block. The building is clad with vertical wood siding and plain wood trim. The primary elevation faces east, and the building has an end-gable roof with the ridge set parallel to the road. There is a one-story extension with a shed roof centered at the west elevation that is set on a concrete slab.

Roof and Roof Drainage

The main gable roof is clad with painted, pressed metal tiles. The roof drainage consists of hung aluminum gutters with aluminum leaders, some of which connect to an underground drainage system. The shed roof at the extension is clad with asphalt shingles.

East Elevation

Centered at the east (primary) elevation is a pair of sliding vertical-board wood doors (D101) with crisscrossed battens. A door hood with sliding hardware extends the full width of the elevation. North of D101 is a man door with similar crisscrossed battens (D106). South of the doors is a six-lite fixed wood window set in flat-stock wood trim with a plain apron (W102). The lower portion of the elevation is clad with vertical board-and-batten siding while above the openings for the sliding doors is clad with narrow flush vertical boards. In the peak of the gable is a six-over-six hung wood window with a wood sill. (W201).

South Elevation

The south elevation is clad with board-and-batten wood siding that aligns with that at the east elevation. Above the board and battens is finished with flush wood sheathing. Centered at the elevation is a window composed of four sashes, the outer two of which have snap-in vinyl muntins, set in narrow wood trim with a simple molded outer edge. (W103).

The south elevation of the shed extension is clad with board-and-batten siding and lacks fenestration.

West Elevation

The small shed-roof extension is centered at the west elevation and has a pair of vertical-board doors with crisscrossed battens (D104). North of the extension on the main building is a man door with similar crisscrossed battens (D105). This elevation is clad similarly to the east side with vertical board-and-batten siding at the lower portion and narrow flush vertical boards above. There also is the same six-over-six hung wood window (W202) in the peak of the gable.

North Elevation

The north elevation is clad with narrow flush vertical boards. The rubblestone foundation projects out several inches beyond the exterior wall. Approximately centered at the elevation is an exterior rubblestone chimney. This side of the building lacks fenestration.

The north elevation of the shed extension is clad with board-and-batten siding and lacks fenestration.

2. DEVELOPMENTAL HISTORY

2.3.6 Interior Description – Storage Building

The interior of the Storage Building consists of a single space plus the rear shed extension. Access is via the large pair of doors at the east elevation (D101) or the man doors (D105 and D106) that are located at the north end of both the east and west walls. The floor is concrete. The walls are finished with beaded board with a wood base. The ceiling consists of exposed wood framing with particleboard between the framing. The east wall is framed out to accommodate interior doors that align with those at the exterior in order to provide a better regulated interior environment; the interior doors are modern six-panel composite door with faux graining. Built-in shelving with drawers below window W103 creates the impression of a bay window. There are two closets in the southwest corner. There is a drop-down ladder in the ceiling that provides access to the attic. There is no interior connection between the main building and the shed extension.

Doors:

D101

Door Type:	Pair of sliding board-and-batten wood doors with crisscrossed battens at the exterior. Pair of two composite, six-panel bi-fold doors at the interior.
Hardware Type:	Exterior doors have a hasp lock and slider hardware. Interior doors have brass knobs and hinges.
Trim:	None.

D105

Door Type:	Board-and-batten wood door with crisscrossed battens at the exterior. Beaded-board wood door at the interior.
Hardware Type:	Exterior door has a hasp lock with modern padlock and three small strap hinges. Interior door has a latch lift and two large strap hinges brass knobs and hinges.
Trim:	Flat-stock wood at the exterior. None at interior.

D106

Door Type:	Board-and-batten wood door with crisscrossed battens at the exterior. Beaded-board wood door at the interior.
Hardware Type:	Exterior door has a hasp lock with modern padlock and three small strap hinges. Interior door has a latch lift and two large strap hinges brass knobs and hinges.
Trim:	Flat-stock wood at the exterior. None at interior.

D107

Door Type:	Pair of six-panel faux wood doors.
Hardware Type:	Brass knobs and hinges.
Trim:	None.

D108

Door Type:	Pair of six-panel faux wood doors.
Hardware Type:	Brass knobs and hinges.

2. DEVELOPMENTAL HISTORY

Trim: None.

D109
Door Type: Beaded board-and-batten wood door.
Hardware Type: Metal latch lift and strap hinges.
Trim: None.

Windows:

W102
Window Type: Six-lite fixed wood window.
Hardware Type: None.
Trim: Flat-stock wood trim.

W103
Window Type: Band of four one-lite sashes. The center two sashes are fixed, and the outer two sashes are crank-operated out-swing casements with six-lite snap-in vinyl muntins.
Hardware Type: Turn cranks and sash locks.
Trim: Flat-stock wood trim.

W201
Window Type: Six-over-six hung wood window.
Hardware Type: Unknown, there is one or more racoon living in the attic so a close inspection was not feasible.
Trim: None.

W202
Window Type: Six-over-six hung wood window.
Hardware Type: Unknown, there is one or more racoon living in the attic so a close inspection was not feasible.
Trim: None.

2.3.7 Architectural Plans and Elevations – Storage Building

2. DEVELOPMENTAL HISTORY

2.4 Statement of Significance

Based on historic research and the existing architectural fabric, the period of significance for the Cary Barn is from c.1825, the estimated date of construction, to the mid-20th century. The vagueness of the date is related to the lack of specific dates for the chronology of construction of the main barn as well as the expansion of a former farm building to a storage building. If more information is made available in the future, the date could be better defined. It should be noted that the national register nomination notes the period of significance to be 1825 – 1835, which is too short a time period given the chronology of construction and the relevance that in order for farm buildings to remain viable they were constantly being adapted to reflect the changing agricultural and animal husbandry needs of the owners. In New Jersey, agricultural practices were constantly changing to respond to advances in farming technology and animal husbandry but also reflect the economic pressures beginning with expansion to the western United States for most of the country's agricultural products through the mid-twentieth century when most of the state's farmland was turned over to residential development.

The following is the generally accepted definition of a period of significance:

> … the length of time when a property was associate with important events, activities, or persons; or attained the characteristics which qualify it for National Register listing. Period of significance usually beings with the date when significant activities or events began giving the property it historic significance; this is often the date of construction…[27]

The Secretary of the Interior's *Guidelines for Selecting the Periods of Significance* further outline the period of significance for each of the National Register evaluation criteria:

> Criterion A: "…For properties associated with historic trends, such as commercial development, the period of significance is the span of time when the property actively contributed to this trend."
>
> Criterion B: "…the period of significance…is usually the length of time the property is associated with the important person."
>
> Criterion C: "For architecturally significant properties, the period of significance is the date of construction and/or the dates of any significant alteration and addition."
>
> Criterion D: "The period of significance for an archaeological site is the estimated time when it was occupied or used for reasons related to its importance.

Evaluation under National Register Criterion A
Significance for the Cary Barn may be established under Criterion A. Properties have historical significance under this criterion if they are associated with events that have made a significant contribution to the broad patterns of our history. The Cary Barn is significant due to its association with the agricultural trends of Morris County in the nineteenth and twentieth centuries.

[27] U.S. Department of the Interior, "National Register Bulletin 16A: How to Complete the National Register Registration Form," (Washington, DC: U.S. Department of the Interior, National Park Service, 1997), 42.

2. DEVELOPMENTAL HISTORY

Stephen Cary acquired 59 acres in 1822, and went on to become a successful farmer, expanding beyond subsistence farming. Records are not available regarding the original size and value of the Cary farm, but in 1850, the property was valued at $2,000 and included 90 acres, of which half was improved. It is not known what exactly existed on the farm during his ownership, but Stephen likely constructed the farmhouse c.1825, the banked barn c.1825, the springhouse east of the farmhouse, and the outbuilding east of the banked barn during the mid-nineteenth century. Stephen Cary practiced mixed husbandry with a focus on the cultivation of grains, particularly oats and Indian corn, and to a lesser extent wheat and buckwheat. He also raised dairy cows to produce milk and butter. Swine, horses, and cattle were limited, and likely only raised for use by the family. This is fairly representative of agriculture in Morris County and much of the state during the early-to-mid-nineteenth century, which experienced a strong growth and resurgence. This was due in part to major advances in farming practices spread through educational publications and agricultural societies and fairs, and to new farm equipment made available because of the Industrial Revolution. Stephen Cary's banked barn would have supported these farming practices allowing for livestock space at the lower level and hay, grain, and other storage at the main level. The banked barn was expanded on two or three occasions, to the west likely during the mid-nineteenth century, possibly to the east in the late-nineteenth century, and to the rear around the turn of the twentieth century. The modifications reflect the growth and changing needs of the farmer.

Development of the farm by members of the Cary family and subsequently the Howell family corresponded with the point in New Jersey's history, c.1850-1920, when it made the full transformation into a modern industrial state. The advances in transportation and technology in the early-nineteenth century were further enhanced during the late-nineteenth and early-twentieth centuries when innovations developed as part of the Industrial Revolution were applied to transportation, agriculture and other industries. These developments were further enhanced by the influx of immigrant laborers who were available to supply the industrial and agricultural enterprises that serviced the rapidly increasing New Jersey population. These factors thereby transformed not only the way New Jersey developed its business enterprises, but also had a profound impact on the landscape.

The way in which farmers undertook their agricultural pursuits dramatically changed in the latter half of the nineteenth and the early twentieth centuries. There were a number of influences including improved farming practices, the introduction of machinery in production, an expansion in research and education in agriculture, and specialized farming. These were coupled with improvements in transportation, the creation of large urban population centers, immigration, and U.S. expansion in the fertile lands of the West. As more rural residents moved to the urban centers to better-paying jobs in factories and commercial enterprises, farmers used the labor-saving machinery that came out of the advances developed as part of the Industrial Revolution. Such devices aided farmers in threshing, pumping water, grinding feed and sawing wood. Competition with western farms and ranches also forced New Jersey farmers to specialize in such crops and agricultural products as fruits, vegetables, dairy products and poultry, all of which were suited for sale to the densely populated cities in the State. Refrigerated railroad cars in turn aided the farmers in getting their products to the urban markets; this was especially the case for the dairy market. The dairy industry was also revolutionized by an increased interest in breeding quality milk-producing cattle and the mechanization of milk production.

2. DEVELOPMENTAL HISTORY

Evaluation under National Register Criterion C
Significance for the Cary Barn may be established under Criterion C. Properties have historical significance under Criterion C if they embody the distinctive characteristics of a type, period, or method of construction; if they represent the work of a master; if they possess high artistic values; or if they represent a significant and distinguishable entity whose components may lack individual distinction. The Cary Barn is significant at the local level under Criterion C, as a fine example of a posted forebay banked barn.

The Cary Barn was constructed circa 1825 and expanded on at least two occasions, but more likely three occasions based on the reading of the existing timber framing. Due to the various changes to the building, there is not a clear picture of chronology but it appears the original barn consisted of the center portion of the building and was expanded to the west and rear, and possibly to the east. Banked barns were a common two-story barn form in the region with a lower level built into the side of a hill permitting free access to two full sides of the barn for equipment and animal husbandry. At the Cary Barn, the lower level housed animals, while the upper level stored hay, equipment, and other materials. The moveable floors for hay and grain storage at the threshing floor (where the wagons would have driven into the barn) is unusual; this activity was typically reserved for the loft levels of the barn providing a safer threshing floor/work area for day-to-day agricultural activities. The rear forebay, or overhang, is thought to have been added around the turn of the twentieth century and it provided protection for livestock or farm equipment at the ground floor level. With the addition of the forebay under a shed roof, the barn took the form of a Sweitzer barn, where the gable ends are asymmetrical. The posted forebay is a variation of a type where this forebay is supported by wood posts, while others are typically unsupported. It is thought the Cary Barn reached its current form by the early-twentieth century and stands today as a unique amalgamation of farming practices under a single roof.

All of the modifications seen in the barn reflect the changing needs of the farmer and farm, which is common for agricultural buildings. As noted previously, in Morris County agricultural practices were constantly changing to not only reflect the outside economic pressures but also changes to the technology and equipment that aided agricultural pursuits. The Cary Barn, and in some part the storage building, reflects typical Morris County agricultural buildings, which are increasingly disappearing from the landscape as pressure from residential development continues into the twenty-first century.

Evaluation under National Register Criteria B and D
Establishing significance under Criterion B (association with a person significant to history) and D (significance as an archaeological site) is not possible at this time. However, given the history and development of the property there is always the potential for the discovery of buried cultural material from the property's period of development and significance. This material would have the potential to augment the historical record and provide greater insight into the site's evolution and the occupants' day-to-day lives.

3. CONDITIONS ASSESSMENT

3.1 Conditions Assessment

3.1.1 Site Conditions

There are uneven areas of ground caused by poor site drainage. The condition of the underground drainage system at the Storage Building is unknown. The buildings sit close to the road and are subject to road spray and salt materials causing erosion of the grade at the building foundations. The gravel drive located to the east of the property is subject to minor erosion from the cars pulling into and out of the space as the gravel is loosely laid.

3.1.1.1 Existing Condition Site Photographs

3. CONDITIONS ASSESSMENT

Photo S-1. View looking west at the Storage Building and Cary Barn along with the parking area in the foreground.

Photo S-2. View of the existing asphalt and concrete ramp leading to the main entrance door. Note the close proximity of the building to the road.

3. CONDITIONS ASSESSMENT

Photo S-3. View looking northeast at the Cary Barn in the foreground and the Storage Building beyond. The roof of the Stephen Car House, no longer part of this property, can be seen in the background and shows the connection of the agricultural buildings to the historic home.

Photo S-4. View of the steep grade change from the road along the northern edge of the property

3. CONDITIONS ASSESSMENT

Photo S-5. View looking southwest at the open field located south of the barn.

Photo S-6. View looking east at the ground floor of the barn and the sloped site to the south.

3. CONDITIONS ASSESSMENT

3.1.2 Exterior Conditions – Cary Barn

The exterior conditions are broken down by specific building components, including roof and each elevation, etc.

Roof and Roof Drainage
The roof ridge is visibly wavy. There is a bump at the rear shed roof towards its west end. The north side of the roof exhibits significant moss and mildew growth at the asphalt shingles. There are a few noted gaps at the asphalt shingles that are visible from the gable ends. At the south side, the rafter tails are exposed and appear to be in good condition. There is an intact lightning arrestor system.

The gutters at both the north and south sides are too long to not have expansion joints, causing some leaks. The leaders all drain at grade close to the base of the building or are cut off and drain right at the building causing deterioration of adjacent finishes. The long, angled leader at the south side has an open joint

Elevations

General
The paint is peeling and failing throughout, stain should have been used rather than paint.

North Elevation
There is mortar loss throughout the stone foundation. At the northwest corner, moisture from the cut-off leader has caused wood rot and biological growth at the base of the building and the corner board, as well as erosion of the mortar at the foundation.

The siding is in overall fair to good condition with paint loss, gaps, splits, and small holes throughout. There are two horizontal gouges in the siding west of door D101, which may have been caused by wear from the door opening. Door D101 exhibits biological growth at the base of both doors and there are some gaps between boards. The concrete ramp is cracked. There are holes caused by carpenter bees in the hood of the door slider. Door D105 exhibits some splits, peeling paint, and biological growth and paint loss at the base. The hood overhang exhibits wood rot at its top. The small door above door D105 is askew within its opening.

East Elevation
The rubblestone foundation exhibits mortar loss throughout and a mix of mortars. There is significant mortar loss at the northeast corner and a large gap at the top of the stone foundation at the south end.

At the main building, the siding exhibits many holes throughout, both from animals and from knots falling out. The northeast corner board exhibits paint loss throughout and splits at its base. Door D102 is set in a newer frame but is an older door. The door is in poor condition overall and exhibits paint loss, holes, and areas of wood loss throughout. Below the door there is a gap and an infilled mix of materials, which is not a good condition overall. Window W103 and its frame are newer. The glazing putty has failed. The section of wood siding around the window is newer and in good condition. There is a hole in the siding where it meets the head of window opening W201. The wood rake board appears to be finger jointed, which is not a good condition, and has a vinyl drip edge.

3. CONDITIONS ASSESSMENT

At the rear shed bay, the siding at the lower level is in good condition except there are holes from the knots falling out. Door D001 is in poor condition with loss at the base of the boards, gaps between boards, paint loss, and splits. At the upper level, the wood siding exhibits peeling paint, holes, and loss at the edges of boards. There are areas of wood rot and mildew growth at the horizontal board between levels, which correspond to gaps at the asphalt roof shingles above. The southeast corner board is in good condition overall.

South Elevation
The rubblestone foundation at the southwest corner exhibits mortar loss. The concrete pad at the two western-most bays exhibits cracking.

The wood post at the southeast corner is rotted at its base due to moisture from the leaders that drain against the building. The wood post one in from the east end exhibits holes that appear to be from a woodpecker. The two center posts were wet (despite no rain on day of survey) from the gutter and leader above leaking. There are holes from carpenter bees at the girder towards the center of the elevation. The wood siding is in poor condition overall. At the east end of the elevation, the vertical siding boards appear to be slanted/leaning towards the center of the building. At the center of the elevation, the siding exhibits significant paint loss, gaps between boards, and areas of wood loss; and the lower edge is pulling away from where it attaches to the siding; the nails are pulling out. The siding at the western-most bays is board-and-batten siding; however, where boards have been replaced there are no battens. There are holes in the southwest corner board. Window W104 consists of two stacked sashes with a dividing mullion and is in poor condition overall.

West Elevation
The rubblestone foundation exhibits a mix of mortars and some minor loss throughout. There is more significant mortar loss along the base of the foundation north of the window opening. Window W002 at the foundation has screening and chicken wire covering the exterior. There are open joints at the frame and the sill is in poor condition.

The northwest corner board is a poorly-matched replacement. There are holes and wood loss at the southwest corner board. The wood siding exhibits paint loss throughout, gaps between boards, splits, and the bottom edges of the boards all exhibit loss. There are many holes in the siding, some of which appear to be from a woodpecker. Near the center of the elevation at the loft level/gable end, several boards have pulled apart causing gaps. There are two holes in the siding along the north rake board that have been patched with license plates. There is a split in the south rake board close to the peak of the gable.

3.1.2.1 Existing Exterior Condition Photographs – Cary Barn

3. CONDITIONS ASSESSMENT

Photo E-1. Overall view of the north elevation along Mountainside Road.

Photo E-2. Overall view of the east elevation.

3. CONDITIONS ASSESSMENT

Photo E-3. Overall view of the south elevation.

Photo E-4. Overall view of the west elevation.

3. CONDITIONS ASSESSMENT

Photo E-5. View of door D101 at the north elevation. Note the paint loss, splits in boards, and few replacement boards.

Photo E-6. View of the cut-off leader at the northwest corner and the related wood rot and biological growth.

3. CONDITIONS ASSESSMENT

Photo E-7. View of the mismatched infill below door D102. Also note the mortar loss at the corner of the foundation and the paint loss at the door.

Photo E-8. View of door D102 at the east elevation showing wood loss, paint loss, and separation between boards. Also note the wood rot at the door hood above, and the loss at the ends of the siding boards.

3. CONDITIONS ASSESSMENT

Photo E-9. View of the wood post at the southeast corner, which exhibits significant loss and biological growth due to the position of the adjacent leader.

Photo E-10. View of the south elevation showing significant paint loss and wood rot at the siding caused by the disconnected leader above. Also note the projecting floor board, which has pulled away from the ends of the siding.

3. CONDITIONS ASSESSMENT

Photo E-11. Detail view of the bottom edges of siding boards at the west elevation showing wood loss, splits, and paint loss.

Photo E-12. View of the peak of the west gable end showing gaps between boards, lifting of boards, and a license plate used as a patch. Also note the gap at the asphalt roofing.

3. CONDITIONS ASSESSMENT

3.1.3 Interior Conditions – Cary Barn

General
The interior conditions are broken down on a room-by-room basis and address the finishes, doors, windows, lighting, and other features.

Lower Level

Room 001

Floor: The floor is heavily soiled. There is some cracking but this is a typical condition. The posts have newer concrete bases. The water trough for cleaning at the outer edge of the concrete floor is in good condition.

Walls: There is significant biological growth and mortar loss at the north wall, particularly along the bottom and around the stair. The west wall retains much of its original/early mortar, but there is some mortar loss along the bottom. The wood fence comprising the south end of the east wall at Room 003 is in poor condition overall including termite damage at the top and bottom rails.

Ceiling: There are barn swallow nests at the ceiling framing. The first-floor framing exhibits significant wood rot and loss at a number of members and the floor is lightly framed.

Stair: The stair is solid overall but there is moisture damage at the bottom.

Other: The crawlspace located northeast off the main space is filled with debris, and there is mortar loss at the west foundation wall.

Lighting: There are a few surface-mounted light bulbs.

Life/Safety: None.

Doors:

D003: There is minor loss at the edges of the boards and some paint loss.
Hardware: Good condition. There are remnants of earlier hinges at the head of the frame on the Room 001 side.
Trim: None.

D006: The gate door is solid but is worn.
Hardware: The hinges and fasteners are rusted.
Trim: None.

D007: The gate door is solid but is worn.
Hardware: The hinges and fasteners are rusted.
Trim: None.

Room 002

Floor: There is a lot of debris on the floor.

Walls: There is mortar loss and some small holes from stone loss at the foundation walls.

Ceiling: No finishes.

Lighting: None.

Life/Safety: None.

Room 003

Floor: There is significant grass and ivy growth at the stone floor.

3. CONDITIONS ASSESSMENT

Walls: The wood fence comprising the west wall at Room 001 is in poor condition overall including termite damage at the top and bottom rails. There is a mix of older and newer mortar at the north stone wall. There is mortar loss at the east end of the north wall. There is a water pump and an electrical panel at the east wood-frame wall.
Ceiling: No finishes.
Lighting: There is a surface-mounted light fixture.
Life/Safety: None.
Doors:
D001: Poor condition with loss at the base of the boards, gaps between boards, paint loss, and splits.
Hardware: The hardware is painted and there is some paint loss. A wood block attached across the door opening prevents the door from opening and therefore assessment of the hardware.
Trim: None. The wood frame is newer.

Room 004
Floor: There is significant cracking at the south end of the floor.
Walls: There is cracking and some mortar loss at the west foundation wall.
Ceiling: There is wood rot at the ceiling framing.
Lighting: There are some surface-mounted light bulbs.
Life/Safety: None.
Doors:
D004: The gate exhibits paint loss and is heavily soiled.
Hardware: The hardware is rusted.
Trim: None.
D005: The gate exhibits paint loss and is heavily soiled.
Hardware: The hardware is rusted.
Trim: None.

Room 005
Floor: Heavily soiled but solid.
Walls: Good condition.
Ceiling: No finishes.
Lighting: There is a surface-mounted light bulb.
Life/Safety: None.

Room 006
Floor: Heavily soiled but solid.
Walls: Good condition.
Ceiling: No finishes.
Lighting: There is a surface-mounted light bulb.
Life/Safety: None.
Windows:
W002: The sash is heavily soiled and worn.
Hardware: Rusted.

3. CONDITIONS ASSESSMENT

Trim: None.

Intermediate Level

Room G001

Floor: The floor is heavily soiled.

Walls: The north foundation wall retains older mortar but it has also been repointed with a cementitious mortar. There are two pegs missing from the wood rack on the north wall. There is some mortar loss. There is severe wood rot at the bottom of the northeast corner post and also higher up on the post.

Ceiling: No finishes.

Lighting: None.

Life/Safety: None.

Doors:

D102: The door is in poor condition overall and exhibits paint loss, holes, and areas of wood loss throughout.
Hardware: Fine.
Trim: None.

D106: The door is solid but heavily soiled.
Hardware: Rusted.
Trim: Soiled.

Room G002

Floor: The floor is heavily soiled.

Walls: The east foundation exhibits mortar loss throughout and stone loss along its top. The south horizontal board wall exhibits splits and the top board is missing. The section of newer vertical boards at the south wall is in good condition. The feed bins at the west wall are missing their backsides and their iron bars are rusted. There are miscellaneous hangers at the north wall.

Ceiling: No finishes.

Lighting: None.

Life/Safety: None.

Doors:

D107: Good condition.
Hardware: The door is off its track and the hardware is rusting.
Trim: None.

D108: There is damage at the bottom.
Hardware: Fine.
Trim: None.

Windows:

W103: Heavily soiled and the glazing putty is loose.
Hardware: None.
Trim: None.

Room G003

Floor: The floor is heavily soiled.

3. CONDITIONS ASSESSMENT

Walls: The south vertical board wall is leaning out and the upper horizontal beams are missing. There is stone and mortar loss at the east foundation wall.
Ceiling: None.
Lighting: There is an old and rusted electrical box at the southeast corner.
Life/Safety: None.
Doors:
D109: There are some splits in the door.
Hardware: Fine.
Trim: None.

Main Level

Room 101

Floor: The floor is generally stable at the northeast portion of the room, with a few noted holes. The floor at the west side and the entire south section within the forebay is in poor condition; the floor is not level or stable and there are many holes and missing boards.
Walls: The two center posts where the forebay meets the main building exhibit wholesale loss from water. There is a new beam at the south way of the forebay and there are modern repairs at four posts at this wall. There are a few boards missing at the small section of vertical board at the south end of the west wall. The feed bins at the east wall that back up to the intermediate level have some older tin repairs.
Ceiling: There is an area with significant moisture staining at the beam over the west bay where the forebay meets the main building. There is all new roof framing at the forebay. The open-board sheathing remains at the main section of the barn indicating it originally had wood shingle roofing. There is a basketball hoop attached at the beam where the forebay meets the main building.
Stair: The stair wood sided stair enclosure is askew but the boards are in good condition overall. The stair is newer.
Lighting: There are surface-mounted light bulbs.
Life/Safety: None.
Doors:
D101: The doors appear to date to the twentieth century. There are gaps between boards and some patches at boards. There is biological growth on the exterior at the base.
Hardware: The galvanized metal hardware dates to the early-twentieth century and is in good condition.
Trim: None.
D110: There is wholesale loss at the door.
Hardware: Good condition.
Trim: None.

Room 102

Floor: The floor is heavily soiled and slopes toward the south. There is significant moisture staining and loss along the north wall, particularly at the northwest corner; the floor was actively wet at the time of survey. There is a mix of older and newer framing at the south wall.

3. CONDITIONS ASSESSMENT

Walls: The extra posts along the west wall were likely added to support the loft flooring.
Ceiling: The loft flooring is newer.
Lighting: There are surface-mounted light bulbs.
Life/Safety: None.
Doors:
D105: The door appears to date to the twentieth century and exhibits some splits, peeling paint, and biological growth and paint loss at the base. The door would not open at time of survey.
Hardware: Fine.
Trim: There is older framing at the west side of the door opening and newer framing at the east side.
Windows:
W104: The window is heavily soiled and the glazing putty is starting to fail.
Hardware: None.
Trim: There is wood rot and termite damage at the bottom of the frame.

Loft Level

Room 201
Floor: The floor is heavily soiled.
Walls: The vertical boards at the south wall are in good condition.
Ceiling: No finishes.
Lighting: There is a surface-mounted light fixture missing its bulb.
Life/Safety: None.
Windows:
W105A: The shutter is askew in the opening and exhibits paint loss and wood rot
Hardware: The hinges are not straight.
Trim: None.

3.1.3.1 Existing Condition Interior Photographs – Cary Barn

3. CONDITIONS ASSESSMENT

Photo I-1. View looking north at the west end of Room 001. Note the feed troughs to either side and the stair at the rear.

Photo I-2. View looking southwest in Room 001 at the center feed trough.

3. CONDITIONS ASSESSMENT

Photo I-3. View looking northeast in Room 003.

Photo I-4. View looking west in Room 006, one of the livestock stalls.

3. CONDITIONS ASSESSMENT

Photo I-5. View looking north between Rooms G002 and G001.

Photo I-6. Overall view looking east in Room 101.

3. CONDITIONS ASSESSMENT

Photo I-7. View looking north/northeast in Room 101 showing the stair enclosure to access the lower level.

Photo I-8. View looking east in Room 102.

3. CONDITIONS ASSESSMENT

Photo I-9. View looking east from the loft level.

Photo I-10. View of the crawlspace showing mortar loss at the east foundation wall. Also note the debris on the dirt floor.

3. CONDITIONS ASSESSMENT

Photo I-11. View showing mortar loss and biological growth at the north foundation wall in Room 001.

Photo I-12. View showing wood rot and loss at the northeast corner post in Room G001.

3. CONDITIONS ASSESSMENT

Photo I-13. View looking west in Room G003 showing loss of a horizontal beam at the enclosure.

Photo I-14. View of door D110 showing wholesale loss at one board, gaps between boards, and displacement within the opening.

3. CONDITIONS ASSESSMENT

Photo I-15. View showing loss and unevenness at the floor.

Photo I-16. View showing a basketball hoop in Room 101.

3. CONDITIONS ASSESSMENT

Photo I-17. View showing significant water damage at a post in Room 101.

Photo I-18. View showing wood rot and moisture damage at the northwest corner of Room 102.

3. CONDITIONS ASSESSMENT

3.1.4 Exterior Conditions – Storage Building

General
The exterior conditions are broken down by specific building components, including roof and each elevation, etc.

Roof and Roof Drainage
The paint is failing at the pressed tin roofing, and the exposed tin is rusting especially at the edges. The south side of the roof exhibits heavier finish loss and lifting a several tiles. There is an intact lightning arrestor system. The way the gutters are hung is not ideal, allowing water to get in behind them and cause deterioration at the soffits. The chimney has a cricket but is not properly flashed. The northeast leader connects to an underground drainage system, but the others are not connected. The southwest leader is bent. The gutter immediately west of the chimney has an accumulation of debris.

The asphalt shingle roof at the shed extension exhibits a few lifting tiles. The roof is not flashed where it attaches to the main building. There is no roof drainage.

Elevations

General
The placement of the electrical service is not ideal.

East Elevation
The grade is too high, particularly at the north end of the elevation, and the northeast corner board and right side door of D101 sit in the earth. Both the board-and-batten siding and the vertical flush board siding exhibit paint failure but are otherwise in fair-to-good condition; there are many paint layers at the flush boards. There is wholesale wood loss and rot along the north rake board and soffit. At the low end of the south rake board there is wood rot and splits at the soffit. Both doors of D101 exhibit some separation between the vertical boards and the crisscrossed battens. The door hood exhibits paint loss along the top and there is a small hole made by an animal at the south end. Door D106 exhibits some paint loss. Window W102 has a hole in one pane of glass, the glazing putty is starting to fail, there is separation at the bottom rail, and there are many paint layers at the exterior. Window W201 exhibits paint failure but is in overall good condition.

South Elevation
The concrete block foundation exhibits messy pointing. There are two vertical seams in the foundation that align with the width of window W103 and changes at the siding. The southwest corner of the foundation is slightly undermined due to the adjacent drainage pipe. There is termite damage at an area of the skirtboard below the window, and the board is pulling away. There is an area of wood rot at the siding adjacent to the southeast corner. Window W103 exhibits paint loss and the glazing putty has failed. There is wood loss throughout the soffit. The flush wood above the board-and-batten siding exhibits paint loss.

The south side of the shed exhibits small areas of rot along the bottom of the siding and typical paint loss throughout.

3. CONDITIONS ASSESSMENT

West Elevation

There is a vertical crack in the concrete block foundation east of the shed extension. There is some mortar loss. There is typical paint loss at the board-and-batten siding. A hose protrudes through a hole in the siding, its purpose unknown. The paint is failing at the vertical flush siding above. There is paint loss throughout the rake boards and holes from carpenter bees. The soffits exhibit splits and wood rot. Door D105 is askew within its opening and the hinges are not straight; the door exhibits paint loss and wood rot. Window W202 exhibits significant paint loss and the glazing putty is failing.

There is wood loss at the base of the shed extension at its northwest corner. Door D105 has rusted fasteners and exhibits paint loss, largely caused by backsplash due to the lack of a gutter above.

North Elevation

The stone foundation exhibits biological growth. There are holes and loss along the bottom of the siding and areas of biological growth to either side of the base of the chimney. The paint is failing throughout and some of the fasteners are rusting. There is an area of loss at the siding behind the chimney. There is scarring from a former opening around where the property number (88) is currently posted. The chimney exhibits biological growth and mortar loss throughout, especially at the base and near the roofline. There is wood rot and loss at the soffit to either side of the chimney.

3.1.4.1 Existing Exterior Condition Photographs – Storage Building

3. CONDITIONS ASSESSMENT

Photo E-1. Overall view of the east elevation.

Photo E-2. Overall view of the south elevation.

3. CONDITIONS ASSESSMENT

Photo E-3. Overall view of the west elevation.

Photo E-4. Overall view of the north elevation.

3. CONDITIONS ASSESSMENT

Photo E-5. View of window W102 showing a hole in the bottom right pane.

Photo E-6. View showing wood rot and loss at the rake board and soffit at the east elevation.

3. CONDITIONS ASSESSMENT

Photo E-7. View showing loss at the skirt board at the south elevation. Also note the vertical seam in the foundation below.

Photo E-8. View of the soffit showing wood rot.

3. CONDITIONS ASSESSMENT

Photo E-9. View showing wood rot and loss at the rake board at the west elevation. Also note the paint failure at the siding.

Photo E-10. View looking south at the shed extension showing significant biological growth and loss at the base of the siding.

3. CONDITIONS ASSESSMENT

Photo E-11. View showing biological growth and loss at the base of the wood siding adjacent to the chimney. Also note the mortar loss and biological growth at the chimney.

Photo E-12. View showing debris at the gutter adjacent to the chimney.

3. CONDITIONS ASSESSMENT

3.1.5 Interior Conditions – Storage Building

General

First Floor

Room 101

Floor: There are two large cracks in the concrete floor likely due to the lack of an expansion joint. The two closets in the southwest corner are severely soiled from animal activity.

Walls: There are fresh gnaw marks from animals. There is damage at the wall finishes in the southeast corner. The wall finishes are heavily soiled.

Ceiling: Good condition.

Stair: The drop-down attic stair is in good condition.

Lighting: Fluorescent lighting.

Other: There is a newer electrical panel that is not active. There are two in-wall heaters.

Life/Safety: None.

Doors:

D101: The interior doors are soiled. See exterior conditions for exterior doors.
Hardware: Fine.
Trim: None.

D105: The interior door is in good condition. See exterior conditions for exterior door.
Hardware: Fine.
Trim: The exterior trim exhibits an uneven finished surface due to many paint layers and lack of surface preparation before painting.

D106: The interior door is in good condition. See exterior conditions for exterior doors.
Hardware: Fine.
Trim: The exterior trim exhibits an uneven finished surface due to many paint layers and lack of surface preparation before painting.

D107: The doors are soiled.
Hardware: Fine.
Trim: None.

D108: The doors are soiled.
Hardware: Fine.
Trim: None.

D109: There is some sort of insulating or heat-proof material applied at the lower half of the door at the closet side. The door is heavily soiled.
Hardware: Fine.
Trim: None.

Windows:

W102: Window has a hole in one pane of glass, the glazing putty is starting to fail, there is separation at the bottom rail, and there are many paint layers at the exterior
Hardware: None.
Trim: Overall good condition but with many paint layers.

3. CONDITIONS ASSESSMENT

W103: The glazing putty has failed and there is paint loss at the exterior. The interior is soiled. There are insect eggs inside the snap-in faux muntins.
Hardware: The cranks and locks appear fine.
Trim: The exterior trim exhibits paint loss and the wood appears brittle.

3.1.5.1 Existing Condition Interior Photographs – Storage Building

3. CONDITIONS ASSESSMENT

Photo I-1. Overall view looking west inside the Storage Building.

Photo I-2. Overall view looking east.

3. CONDITIONS ASSESSMENT

Photo I-3. View looking northwest at door D105.

Photo I-4. View looking up at the attic showing earlier framing incorporated with the roof framing.

3. CONDITIONS ASSESSMENT

Photo I-5. View showing a significant crack in the concrete floor.

Photo I-6. View of the closet in the southwest corner, which are heavily soiled from animal activity.

3. CONDITIONS ASSESSMENT

3.2 Identification of Significant Features

Site

- 10.6 acres of open space remain of original property and convey its agricultural use.
- Relationship of barn to Stephen Cary House located across Mountainside Road.
- Early-twentieth-century storage building that incorporates a nineteenth-century building remains east of the barn.

Exterior

- Retention of overall early-twentieth- century appearance including massing and fenestration.
- Retention of some early materials including wood siding and trim, windows, doors, and rubblestone foundation.

Interior

- Overall high degree of architectural integrity at the interior layout and features including animal stalls at the lower level and hay, feed, and other storage at the upper level and loft.

4. TREATMENT ANALYSIS

4.1 Preservation Philosophy

The Cary Barn (including the Storage Building) is an example of a nineteenth-century agricultural site that was utilized into the late-twentieth century and thereby evolved to reflect the changing farming in Morris County beginning in the mid-to-late-nineteenth century. The Cary Barn site, located on Mountainside Road, remains primarily rural in its appearance due to the residences in the area set on larger lots. The site is a short distance from the center of Mendham Borough, and although well-traveled, is not a major thoroughfare. The Cary Barn retains a high degree of architectural integrity in that one can see the evolution of the barn through the existing material fabric while also recognizing that as a key building within an active farm site its construction reflects the progression of agricultural practices and animal husbandry in a small-to-moderate scale operation. The Storage Building reflects its twentieth-century changes however, there are interesting aspects of the building that also show its evolution, which should be preserved. As a result, viewing the architecture and material fabric of the Cary Barn site should be through its period of significance, c. 1825 to the mid-twentieth century, including how the existing architecture currently relates to this period, and in determining the preservation and interpretation approaches in the context of this period.

The *Chronology of Construction* outlines, based on available documentation, the changes to the Cary Barn from its c.1825 construction through the subsequent nineteenth and twentieth-century building campaigns. The results of this evolution present two agricultural buildings with early-nineteenth-century origins, with layers of nineteenth and twentieth-century additions and modifications.

Based on the Project Team's understanding of the building and its historical evolution, the recommended approach is to primarily maintain the existing features and finishes of the barn and storage building but adaptively reuse them for a new use, mainly as an environmental center / park pavilion. As such, changes will be required to the existing fabric to be able to enhance the building and allow for a sustainable use going forward. This approach will require some flexibility in the treatment of the material fabric while ensuring the barn's long-term preservation. The recommended preservation philosophy is rehabilitation. The Cary Barn is listed on the New Jersey and National Registers of Historic Place as part of the Cary House site and the storage building has nineteenth-century origins as such; therefore any work undertaken must comply with the Secretary of the Interior's *Standards for the Treatment of Historic Properties* (Revised 1995) and is subject to review under the New Jersey Register Act by the New Jersey Historic Preservation Office.

Rehabilitation is defined as:

> the process of returning a property to a state of utility, through repair or alteration, which makes possible an efficient contemporary use while preserving those portions and features of the property which are significant to its historic, architectural, and cultural values. (*Standards*)

This approach was chosen because the Cary Barn site requires enhancements, envisioned to be focused primarily at twentieth-century modifications as part of its adaptive reuse as a three-season environmental center and park pavilion/shelter. The work advocated for the building recommends a light-handed approach so that it respects the changes made to the building over time and leaves valuable architectural fabric for the historic record, but also permits the insertion of new material fabric

4. TREATMENT ANALYSIS

to bring light into the upper lever of the building, to accommodate upgrades for code and accessibility, to enhance interior and exterior lighting, and to encourage new uses to help ensure the building's long-term preservation. Such envisioned changes include adding windows to the south side of the building to allow an overlook on the open field and permit bird watching while also bringing natural lighting into the building. Other envisioned upgrades are detailed in Section 5.1 – Architectural Planning. Although a preservation philosophy of rehabilitation more readily permits changes to the building than preservation or restoration, every effort should be made to preserve and restore original and older building fabric while focusing changes either at later fabric or making any modern additions easily reversible. The barn and the storage building's unique chronologies of construction are important to preserve as an aid in a broader understanding of the site's evolution, and they will help to refine the interpretation of the resources.

Based on an examination of the physical fabric, the historical development of the property, and the overall needs of the building fabric and its proposed use as a community resource, the goal of rehabilitation would be to repair all deteriorated building material at the exterior and interior from the foundation to the roofline. This would include repair of the existing roof, exterior siding and trim, fieldstone foundations, windows, doors, trim, and structure without making significant changes to layout other than minor modifications to accommodate barrier-free access and a safe access between floor levels. Any alterations for barrier-free access should respect the existing building material and should be reversible to the extent practical. Alterations would focus on the upgrading the forebay at the upper level to enhance the interior environment and create a visual connection between the barn and former agricultural fields beyond, creating useable space at the ground floor that can be protected when not in use through the use of gates and other barriers, adding limited heat to permit three-season use, adding lighting to highlight the architecture, provide lighting for day-to-day use and life-safety, and making upgrades for barrier-free accommodation. The storage building would also receive alterations including the possible installation of an accessible restroom to support the environmental center use at the barn.

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4.2 Use and Interpretation Analysis

The vision for the Carey Barn inclusive of the storage building and the overall grounds is for it to serve as an environmental center, albeit on a small scale, as a place for small community meetings and workshops, and to be available for casual gatherings at the ground floor. The Borough envisions the barn as a gathering place for residents and others to explore the grounds, understand ecology and other related topics, and be able to either sit within the barn or at the ground level and enjoy the natural surrounding looking out to the open field and stream beyond. The first-floor space of the barn is optimal for small group meetings and events that could also take advantage of the open space. The ground floor space has a direct connection to the open area adjacent to the conserved farm fields that could be utilized as a place to set picnic tables and benches, similar to a pavilion at a Borough park. However, there are also limitations as set by the nature of the building itself, including its thinly skinned structural frame, and by the site.

The first floor of the barn would be used in three seasons and provided with only limited heat to temper the interior climate in the early spring and late fall months. This approach would then permit the existing siding without insulation of the walls to remain, lowering the impact to the historic fabric and allowing the heavy-timber framing to remain exposed and part of the backdrop for the proposed use. Provisions for lighting, receptacles and data connections would be added to support meeting use with the lighting serving three purposes: life-safety, task lighting, and to possibly to highlight some elements of the architecture. Although there are two entrances to the barn, they are not remote enough from each other to be considered two means of egress thereby limiting occupancy to 49 people. However, 49 people is best for the site because of the limited parking area and the lack of on-street parking along Mountainside Avenue.

The ground floor will be similarly utilized but also contain picnic facilities that can either be placed under the first floor or set out on the lawn area. There are no occupancy limitations for outdoor areas but as noted, the site is restrictive so placing a cap of 49 as a rule will help to control use levels and pedestrian and vehicle traffic.

As an environmental center, it is feasible that many people may walk or take their bicycle to an event thereby limiting the need for a lot of parking. It is not anticipated for the site to be heavily trafficked by cars, but possibly from time-to-time for certain events, where the remainder of the time it may be used for small gatherings; as a way station for hikers to nearby trails; and a place to picnic for hikers, bicyclists and other nature/fitness enthusiasts. For the majority of the time, the site will be self-use with interpretive signage incorporated on the site and within the main building.

The Borough would like the back of the building at the first floor to look out to the field so visitors could bird watch, take advantage of the views, and help bring nature into what is a rather highly enclosed building at this level. The forebay is a newer addition to the barn complex and therefore more able to accept changes without damaging or destroying historic fabric. This type of change would make the building more attractive as an interior environment and could be made equally attractive at the exterior either using the language of agricultural buildings in the articulation of the windows or using a thin profile window of metal or similar material that may be more modern in appearance by blending with

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the wood siding and stone of the foundations. This will have to be explored during the development of the design.

Similarly, the barn will need to be accessible to everyone and manipulation of the large barn doors can be cumbersome. These doors could remain opened when the building is occupied and visitors can enter and leave as needed. However, the proposed use includes holding small meetings, events and workshops on site and with the main barn doors located only a few feet off the main road, the recommendation is to install a glass partition with single door into the frame of the opening. When the building is closed, the inner door would be locked and the outer door placed over it. The glass enclosure would help to lower road noise and fumes from the cars and would be readily reversible.

The storage building is the perfect size and location to provide an accessible restroom and possibly other miscellaneous support. The details would have to be developed during design but at a minimum the interior will require the construction of limited partitions and new finishes and fixtures, and the facilities would need to be tied to utilities, new lighting, and other amenities for a comfortable and welcoming facility.

If the building is to be used for meetings especially in the early spring and late fall when it can be dark earlier in the day, it would be advisable to have limited exterior lighting to light paths, entrances and other features for safety reasons. The lighting can be set on a timer and motion activated so it only operates when the building is in use, limiting any light nuisances to the neighboring residences.

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4.3 Code Analysis

The following code analysis, is presented based primarily on the barn with the storage building providing the needed support services for the proposed uses. The following code analysis is based upon the Cary Barn used primarily as an environmental center as an extension to municipal government with a limited occupancy of 49 people. Based on this categorization, the Project Team would argue the building falls under a B-Business use. Although the issues discussed are key points in any code analysis for planning purposes, they must be further developed at the time contract documents are prepared for any specific modifications and at permit filing. These topics are intended to provide a framework in which decisions can be made regarding the appropriateness of any proposed changes under this existing use or upgrades proposed to this specific building. Note that the discussion is prepared with the understanding that the Cary Barn and storage building, although separate buildings, are one in terms of occupancy, which drives much of the discussion on code compliance.

(###) For purposes of this code discussion, the three numbers denotes a 2018 International Building Code - New Jersey Edition (IBC) article.

Use Group B - Business

Use Group

TYPE	CATEGORY	LISTING
Municipal Building	Business Use	B (304)

Construction Type (602)
Type V A - All allowable building materials

Limitations (503)

USE	CLASSIFICATION	HEIGHT	AREA
B	A	3 story	18,000 SF

Carey Barn Attributes

Height	2 stories*, 27 feet 8 inches from average grade to roof ridge	
Footprint	60 feet 1 inch x 34 feet 2 inches	
Storage Building	24 feet 3 inches x 16 feet 3 inches	
Floor Area (barn only)	Basement	1,875 SF
	First Floor	2,057 SF
	TOTAL	3,932 SF

* Basement is considered a story because more than half of the elevations are above grade level IBC (502).

Fire Suppression Systems
In Use Group B fire suppression is not required. Storage rooms over 100 square feet require a one (1) hour separation.

Miscellaneous IBC Requirements for B Business

- Maximum floor area per occupant 100 SF gross (Exceptions can be made as long as occupancy does not fall under 5 SF per person and all other code requirements are in compliance; however, occupancy is also dictated by number of egresses, which is only one as the two doors on the

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same elevation are not adequately remote from each other and would be limited to 49 people at the first floor.)
- 50 PSF structural performance required on all floors.
- Ceilings must be a minimum height of 7 feet – 6 inches.
- Two means of egress required from each floor level with occupant loads greater than 50 and a travel distance to exit greater than 75 feet (not applicable, occupancy is less than 50 at each floor level).

Life Safety: The use group and the requirements for exits determine life-safety aspects. For use group B the following requirements apply:
- A limit on occupancy, not to exceed 49 is set by the construction official based on egress capacity and travel distance using the following parameters:
  (1) For buildings with a single means of egress, occupancy shall be limited to the first and second floors and the travel distance shall not exceed 75 feet.
- For the Barn, the recommendation is to limit occupancy for the entire building to 49 people due to space limitations of the entire building, the lack of egress and limitations set by the lack of parking on site or even on the roadway verge.

Miscellaneous Rehabilitation Subcode Provisions for Historic Buildings
- Supplemental requirements for Use Group B exempts buildings from manual alarm systems when they have occupied floors that are not two or more stories above the lowest level of exit discharge.
- There are no provisions requiring automatic alarm systems in Business Uses.
- Existing door openings, corridors, and stair widths may remain.
- Existing ceiling height shall be permitted.
- Existing riser and tread height may remain.
- All spaces intended for occupancy shall be provided with either natural or mechanical ventilation, using “operable” doors, windows, louvers, or other openings to the outdoors.
- For Means of Egress Lighting, artificial lighting with an intensity of not less than one foot candle at floor level shall be required during all times that the conditions of occupancy of the building require that the exits be available. Lighting shall also be required to illuminate exit discharge. Where more than one means of egress is required, the lighting shall be connected to an emergency electrical system that continues illumination for not less than one hour in the case of primary power loss.
- Illuminated exit signs shall be provided for all required means of egress in all buildings, rooms, or spaces required to have more than one exit or exit access. Since the barn is required to have a single exit, signs are not required; however, for this project, some means of directing egress either illuminated or self-illuminating should be provided for orientation purposes.
- Under the definition of the Rehabilitation Subcode, the scope of work constitutes a “reconstruction”; this applies when the building changes use and requires a certificate of occupancy and does not define the level or type of repairs to be applied to an existing building.
- Building owners may wish to use an alternative to compliance in writing. It shall include: a statement of the requirements of this Subcode from which a variation is sought; a statement of the manner by which strict compliance with the provisions of this Subcode would result in practical difficulties or would detract from the historic character of the building; and a

4. TREATMENT ANALYSIS

statement of feasible alternatives to the requirements of this Subcode that would adequately protect the health, safety, and welfare of the intended occupants and of the public generally.

- All buildings must comply with the Barrier-Free Subcode except when compliance is technically infeasible. Unless the historic character of the building would be threatened or destroyed, there shall be, at a minimum, at least one accessible route from an accessible parking space to an accessible entrance, at least one accessible entrance, and an accessible route from the accessible entrance to all publicly-used spaces on the level of the accessible entrance.
- Based on the level of historic fabric, the overall size and capacity of the building and other inherent limitations, the recommendation is barrier-free access through manipulation of the grade and new walks to the barn and the storage building with at least one accessible restroom that is set at grade level. (Refer to *Section 5.1 – Architectural Planning*)

Furthermore, the following code exceptions apply:

- In a building required by the Chapter 11 of the building subcode to be accessible, where the space altered is a primary function space, an accessible path of travel to the altered space shall be provided up to the point at which the cost of providing accessibility is disproportionate to the cost of the overall alteration project; a cost is disproportionate if it exceeds 20 percent of the cost of the alteration work.
- The accessible path of travel shall include, but not be limited to, an accessible parking space, an accessible exterior route, an accessible building entrance, an accessible interior route to the altered area, accessible restrooms, accessible drinking fountains, and accessible telephones serving the altered primary function space. Priority shall be given to providing an accessible entrance or accessible restrooms where possible.
- In determining disproportionate cost, the following materials may be deducted from the overall cost of the project:
  - Windows, hardware, operating controls, electrical outlets and signage;
  - Mechanical systems, electrical systems, installations or alterations of fire protection systems or abatement of hazardous materials; or
  - The repair or installation of roofing, siding, or other exterior wall facade.
- Where the work consists solely of the alteration of materials or systems listed above, the path of travel requirements shall not apply.
- Where the alteration work is for the primary purpose of increasing the accessibility of the building or tenancy, the requirement to further improve the path of travel shall not apply.

Rough Construction Estimate	$ 1,117,000
(less windows, HVAC, Electrical, walls, roof, etc., as well as General Conditions, Temporary Facilities, Contractor Overhead and Profit)	
	$ 890,000
Basis	$ 227,000
@ 20%	$ 45,400

Therefore, any cost above $ 45,400 would be considered “disproportionate.”

+ These items are not counted to determine the basis of the 20 percent.

4. TREATMENT ANALYSIS

Occupancy

For the purposes of this analysis and based on the code requirements, the occupancy for the Cary Barn shall be 49 persons.

- Based on the above, the following are the minimum egress requirements per floor level. With an occupancy of 49 people and a travel distance of less than 75 feet, one means of egress is required from each the ground level and main level.

Restroom Facilities

Occupancy calculated for plumbing fixtures is 49 x 2/3 = 33.

Male Occupancy = 33 x 0.6= 20

Female Occupancy = 33 x 0.6= 20

33 (entire facility) (20 male/20 female) – Per 2015 National Standard Plumbing Code (NSPC)

No. of Persons of Each Sex	Water Closets		Lavatories		Drinking Fountain	Other
	Male	Female	Male	Female		
1-50	**1**	**1**	**1**	**1**	1 per 1000 people	1 service sink/floor
51-100	Add 1	Add 1	Add 0	Add 1		
101-200	Add 1	Add 2	Add 1	Add 1		

Requirements: Based on the table above, there should be at least one toilet and one lavatory for the men and one toilet and one lavatory for the women. There should be at least one service sink per floor. There is room for one accessible restroom at the storage building and given the nature of the site, the limitations on occupancy and the anticipated shorter duration of stay at the facility by the public, the Project Team makes the recommendation to apply for a variation to limit the need for accessible restroom facilities to one.

Barrier-free Requirements:

All new building components must be designed in compliance with the Barrier-free Subcode of the New Jersey Uniform Construction Code.

- Small buildings, defined as those with a total gross enclosed floor area of less than 10,000 square feet, shall be required to have at least one accessible entrance on the ground (or first) floor and accessible interior building features on all floors.
- Except where noted, small buildings that are not more than two stories shall not be required to have an elevator(s) to provide vertical access between floors.

Based on the above requirements, the Cary Barn should be accessible to the first floor at a minimum but to the first floor and ground floor level preferred, and upgrades made, where applicable, for barrier-free compliance at interior features, such as circulation and, as previously noted, providing restroom facilities. Refer to *Section 5.1- Architectural Planning* for recommendations on the feasibility of providing barrier-free access.

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4.4 Vulnerability & Hazard Assessment

Identification of Vulnerabilities

- The building is set very close to the road, posing a risk of being hit by a vehicle.
- There was no noted fire detection or security system in either building.
- Although located in a residential neighborhood, buildings that look vacant are more inviting to vandals.
- The use of salts for road clearing during winter storms can degrade the mortar and cause wood to deteriorate.

Mitigation Recommendations - Immediate / Medium Term

- Install a fire detection system including, at a minimum, using heat detectors, which can withstand what is essentially an exterior environment.
- Improve the overall appearance of the building and include exterior lighting, even if minimal and on a timer, to show the building is used.

Mitigation Recommendations – Long-Term

- As part of any maintenance, clear snow from the foundations on a regular basis and clean with D2 or similar mold and mildew cleaner to help protect restored work once completed.

The recommendations noted above are also referenced in *Section 5.2 – Material Recommendations* and *Section 5.3 - Estimates of Probable Cost.*

5. CONCLUSIONS AND RECOMMENDATIONS

5.1 Architectural Planning

Architectural Enhancements:
As noted, the proposed use of the Carey Barn is as an environmental center at the main floor level and a picnic pavilion at the ground floor with views opening to the fields to the south. The Borough would like the building to serve as a way for the public to enjoy nature while also providing a place for small meetings by the community that address issues of community as well as ecology and other related topics. The primary function of the storage building will be to provide an accessible restroom and possibly some limited storage for the Borough; the accessible restroom is addressed below.

The Carey Barn has the potential to be a dynamic architectural space with its heavy-timber framing, soaring loft space and various detail elements, such as the feed bins and barn doors. However, there are not a lot of windows in the space and the existing exterior doors are cumbersome to operate by the average visitor. As such, the two main changes proposed are to retain and restore the barn doors but to create an interior wall and door at the main door of the barn on the north side (D101) behind the larger doors. The outer doors would remain open when the building is occupied and the interior glass door(s) will serve as the main entrance including as the accessible entrance. The added glass would be for the overall opening but would also help to provide light into the space while protecting the interior from noise and rain when there is a program occurring within the space. The north side of course looks out onto the street and there is only one small window on the south side of the building. This south section, or the forebay, is a late addition/modification and lends itself to modifications. As such, the proposed work includes adding windows along this wall so visitors can view the exterior and light can be brought into the interior. As an environmental center it is important for the spaces to communicate with the natural environment and windows provide this opportunity. The details in terms of size and extent of the windows will have to be addressed during design.

The ground floor is not to be ignored in this proposed use as the vision for here is as a picnic pavilion with picnic tables and benches being provided within the building and out on the lawn to the south of the barn. This will be an informal gathering place but also a place to bring activities outdoors on fine weather days. The main concern for this space is enclosing it in the evenings to protect it from being damaged by vandalism so a method of enclosure will have to be developed that makes it easy to open and close by public works staff on a daily basis from spring through fall.

Accessibility:
The Project Team proposes little change to the existing layout and configuration of the barn with slightly more changes to the storage building to respond to the proposed use of the site as an environmental center/picnic pavilion. As such, once available to the general public for programming, accessibility will need to be addressed at the buildings and grounds. There are two hindrances to barrier-free accessibility: the close proximity of the building to the road on the north side and the changes in grade from the parking area to both the south and north sides of the barn. It should be noted that non-barrier-free access is also a potential problem on the north side given the narrow path along the road from the parking to either door on that side.

A topographical survey of this area is part of the recommendations to help better understand the changes in grade from the parking to both the north and south sides of the barn. Once this is provided, a

5. CONCLUSIONS AND RECOMMENDATIONS

design for creating accessible walks from the parking to the barn can be laid out. The walk should be defined by a natural path demarked with stone dust or similar stable material compliant with barrier-free requirements. At the north side, at least one of the main barn doors, (D101 will probably be best given its proximity to the existing parking and its proximity to grade), will need to have the ramp comply with barrier-free requirements to the extent practical. (Alternatively, once the topographical survey is complete, a designated accessible parking area set to the west side of the barn may be the better approach.) At the south side, an accessible path, probably with a long, winding approach to work with the natural grade, could lead to the ground level with a small ramp or walk constructed to provide access to the interior.

At the storage building, a small ramp, typical for farm buildings, could be provided at the large bay doors since the ground floor is already near to grade. Again, any path should be of a natural material, such as crushed stone, and comply with barrier-free requirements.

Due to the proposed use for the barn as an environmental center / picnic pavilion, it is recommended that certain upgrades be made to the storage building to provide at least one accessible restroom. Although it would be inconvenient to leave the barn to seek facilities in another building during a program, a remote one is far better than none at all. The storage building, which has been significantly modified in the twentieth century lends itself to accommodating one accessible restroom facility with a small vestibule directly from the main entrance. The restroom will need to connect to the well and to either the sewer line in the street or to a septic tank, which would have to be cleaned from time-to-time based on use.

Mechanical and Electrical Systems:
The Project Team is not recommending any significant upgrades to the mechanical systems, such as supplying year-round heat or air conditionings as these barn buildings were not constructed in a manner to support such systems. However, based on the proposed use, a small amount of electric heat is recommended for both buildings. At the storage shed, where an accessible restroom is proposed, electric baseboard heat will provide moderate warmth in the spring and fall months when mornings and evenings can be cold enough to warrant heat to keep the pipes in good working order and users sufficiently provided for. For the barn, a few large unit heaters hung from the rafters or upper reaches of the barn will help to temperate the conditions in the early spring and late fall allowing for full three seasons of use at the barn. These can be temperature controlled and only in use when there are programs and events to help keep operational costs low. In addition to the electric heat, each building will require adequate lighting general safety and task lighting, but also to highlight the architecture of the barn and to provide moderate exterior lighting should programs occur in the early morning or late afternoon. Such lighting should reflect the historic use and the architecture and be of durable materials given the propensity for nesting birds and other critters.

5. CONCLUSIONS AND RECOMMENDATIONS

5.2 Material Recommendations

5.2.1 Non-Construction Recommendations

- The Historical Overview provided as part of this report is not definitive. A constant eye to augmenting the historical record of the Cary Barn site is recommended, and inclusion of interesting and thought-provoking elements should be added to the record when discovered and interpreted to the visiting public.
- Undertake a paint analysis of both the barn and storage building prior to undertaking surface preparation as preparing the surfaces for new finishes will need to be aggressive given the condition of the existing finishes. The reason for including the storage building is to determine what at the exterior is early fabric and what is newer fabric, and possibly help to determine the chronology of construction.
- Prepare a topographical survey of the site at the parking, storage building and barn to provide a base map for addressing soil erosion, gradings and other site conditions.
- If any future work requires excavations, this should be coupled with archeological investigations in order to mitigate ground disturbance and help augment the historical record.
- Archaeological investigations prior to construction once the design work is complete to determine if there is potential to disturb cultural artifacts from the period of significance. This would apply to both the barn and the storage building.
- Implement the cyclical maintenance plan provided as part of this report. If followed, such a plan should help to maintain and prolong the life of the materials present in the building envelope and interior finishes and fabric. This plan provides a list of weekly, monthly, and yearly tasks, which address the maintenance of the building and its individual components. Minimally, debris should be removed from gutters and vegetation should be trimmed from close proximity to the building twice a year.
- Prepare Contract Documents and Specifications for each phase of work proposed.
- Anticipate Contract Administration Services during Construction for each phase of work proposed, where required.
- All services shall be performed by experienced and qualified professionals with knowledge of historic buildings and the Secretary of the Interior's *Standards for the Treatment of Historic Properties.*

5.2.2 Site Recommendations

- Anticipate installation of new gravel at the drive (and any future walking paths) on a 1 to 1 1/2-year cycle depending on yearly winter conditions and how much use the site receives. (Maintenance)
- **Regrade the perimeter of the barn and storage building** for positive slope away from the foundations. (II-III)
- **Consider providing a gravel cut along the road** to help lower splash back on the foundations and lower areas of siding at the barn and storage building. This gravel would also need to be maintained on a regular basis. (II-III)
- **Install accessible (fine, tamped gravel) walks between the parking and the barn and the storage building. (III)**

5. CONCLUSIONS AND RECOMMENDATIONS

- Clean biological growth on foundations and lower areas of siding using a non-ionic detergent and natural bristle brushes (do not power wash). (Maintenance)

5.2.3 Cary Barn

Exterior Recommendations

Roof and Roof Drainage

- **Install new three-tab asphalt shingle roofing.** Although the original roof appears to have been wood shingle based on the presence of open-board sheathing, the POS is into the mid-20th century when the asphalt shingles were installed. **(I)**
- **Install a new roof drainage system** at the barn using tradition half-round gutters and smooth round leaders of lead-coated copper or similar material. **(I)**
- As part of the next re-roofing campaign, **improve the details with regard to the drip edge and rake flashings**. **(I)**
- **Repair and expand the underground drainage system** and tie the new leaders to this system to help keep moisture away from the foundation and the lower edges of siding. (I-II)

Elevations

- **Repoint the fieldstone foundation with replication mortar** matching all attributes; this work includes **rebuilding a section of foundation at the southeast corner and installing buttresses at the ground floor against the north foundation wall**. (I-II)

  Portions of the foundation may need to be repaired/repointed as part of any structural upgrades anticipated for Phase I and the remainder *could* be undertaken as part of a future phase.
- **Repair / replace existing wood siding and trim** using a combination of conservation treatments such as in-kind replacement and Dutchman repair. It is important to retain the patina and building evolution as reflected in the siding and trim, so a light-handed approach is the recommendation for repairs, that is, the barn does not need to look perfect after the work is completed. (II)
- **Repair existing wood doors, associated hardware and wood covers** using traditional conservation treatments. (II)
- **Repair/install new concrete ramps at each of the large barn doors.** Any new concrete should be colored and with aggregate to match older concrete. (I)
- **Repair using traditional conservation treatments the existing windows.** All sashes should be removed, portions rebuilt and new linseed oil glazing putty. Work includes repairs to the existing frames and sills. (II)
- **Replace the deteriorated wood posts at the north side of the forebay to match existing**. This includes rough posts with wood bark. **(I)**
- **Surface prepare and apply a solid stain to all existing wood siding and exterior doors.** (II)
- **Surface prepare, prime and two-coat finish paint wood trim, soffits, fascias and sashes.** (II)

Interior Recommendations

General

5. CONCLUSIONS AND RECOMMENDATIONS

- There is evidence, existing older nests, of barn swallows in the barns. Their presence will restrict the time when construction may take place on the barn as they are an endangered species.

Ground Floor

- **Upgrade first floor framing and first floor framing supports** by enhancing the existing structure (adding additional members where lightly framed) and replacing severely deteriorated members with new oak members in-kind. (I)
- **Repair severe areas of loss or significant cracks in-kind at concrete floor.** Clean the existing concrete flooring; minor cracks in concrete can remain to show patina. (II)
- **Remove plant growth at stone flooring and repoint.** (II)
- **Clean the foundations with a biocide and repoint areas of mortar deterioration with replication mortar** matching all attributes**.** (I)
- Clean the existing stair of all debris and repair/replace deteriorated elements. Install a new metal railing that will help improve access between the two levels. (I-II)
- **Upgrade the existing lighting/provide additional lighting** with new utility lights with cage covers to protect from vandals. (II)
- **Install new fencing with gates/doors along the south side of the forebay** to prevent ready access when the facility is closed to the public. The existing chicken wire prevents ready access, which is appropriate now as there is currently no building use. (III)
- **Make minor repairs to existing gates, doors, feed troughs, etc.** within the ground floor; however, the existing features should remain as close to their as-is condition as feasible. (II)

Intermediate Level, Main Level and Loft Level - General

- **Upgrade vertical post and roof framing** by enhancing the existing structure (adding additional members where lightly framed) and replacing severely deteriorated members with new oak members in-kind. **(I)**
- **Nail flooring in good condition to floor structure** once structural upgrades are completed**. Allow for significant replacement with new salvaged flooring.** (I)
- **Remove older and rusted electrical equipment and lighting**. (I)

Intermediate Level

- Clean all surfaces and remove all non-historic materials. (Maintenance)
- **Repoint deteriorated sections and inappropriate mortar with new replication mortar** matching all attributes. (II)
- **Provide new fieldstone to match where missing.** (II)
- **Repair backs of feed bins** and clean rust from the metal bars. (II)
- **Repair the doors** using traditional conservation techniques such as in-kind replacement and dutchman repair. Doors should remain in their natural conditions as much as possible so small areas of deterioration can remain. (II)
- **Repair the door hardware**, replacing severely deteriorated or missing components in-kind. Similar to the doors, hardware should remain as much in its natural state but should be functional. (II)
- **Install a guardrail between first floor and intermediate level for the protection of the public.** The railings should reflect the buildings simple detailing. (II)
- **Repair in-kind vertical board wall finishes as part of any structural repairs**. **(I)**

5. CONCLUSIONS AND RECOMMENDATIONS

- **Provide new interior lighting reflective of the architecture.** Place in a manner that would not encourage nesting by barn swallows, if possible. (II)

Main and Loft Level

- Clean all surfaces and remove all non-historic materials. (Maintenance)
- As noted above, **repair/replace deteriorated and missing floor boards with salvaged barn flooring.** (I)
- As noted above, **undertake structural repairs at posts, walls and roof framing. (I)**
- **Repair in-kind the board wall enclosure at the stair to the ground floor level. (II)**
- **Replace in-kind the door (D110)** to match the existing in all attributes. Use salvaged materials to rebuild the stair so it better fits with existing conditions. (II)
- **Repair the doors and hardware for the feed bins.** (II)

Accessibility

- Consider minor upgrades at the site and to the main door (D101) to provide barrier-free access. This may require a stabilized stone dust path from the parking to the door and a slight modification in the concrete ramp (which needs to be rebuilt) to meet 1:20 (walk) or 1:12 (ramp) access. A property survey with topography would aid in the design of these two features. (II)
- Install an inner glass wall and door behind the main door D101 to act as the door when the building is open to the public. The main sliding door would remain open while the building is occupied and the inner door would have the requirements for barrier-free access but would also provide protection from noise and weather while allowing lighting into the space. (II)

Structure and Electric

- Upgrade the existing first floor framing and roof structure to improve their ability to meet at least 50 PSF for first floor loading capacity and 40 PSF for roof loading capacity. (Preliminarily, work appears to be adding new members and replacing deteriorated members/it may require cutting the spans of members at the first floor level, and installing new post supports where missing or inadequate) (I)
- Repair/replace in-kind deteriorated wooden structural elements such as girders, posts, rafters and joists in-kind with new oak members to match typical existing. Some of the posts are rough wood with bark, these features should be retained. (I)
- Alleviate the load along the north foundation wall through the installation of concrete and stone buttresses. (I)
- Provide a fire detection system connected to a central monitoring system. (II)
- Provide a new electrical service subpanel for the barn and install new interior lighting and convenience outlets to assist with any future use of the facility. (II)

5.2.4 Storage Building

Exterior Recommendations

General

5. CONCLUSIONS AND RECOMMENDATIONS

- **Remove the racoon from the interior of the building and clean all feces. (I)** Temporarily plug all holes where racoon is gaining entry.

Roof and Roof Drainage – Storage Building

- **Replace the pressed tin roof** in-kind. The roofing material, shape and design, will be custom-made but there are small metal firms capable of matching the materials in-kind (III)
- **Install a new roof drainage system** using traditional half-round gutters and smooth round leaders of metal matching embossed roof. (III)
- **Repair and expand the underground drainage system** and tie the new leaders to this system to help keep moisture away from the foundation and the lower edges of siding. (III)

Elevations

- Clean the building of all biological growth with non-ionic detergent and natural bristle brush. (Maintenance)
- **Regrade perimeter of the building** for positive slope away from the foundations. (III)
- **Repoint the fieldstone and CMU foundations.** Use replication mortar at the fieldstone as this feature was part of an early farm building. (III)
- **Replace in-kind deteriorated section of the facias and soffits.** (III)
- **Replace in-kind deteriorated sections of the siding.** Weave new vertical siding for a seamless repair. (III)
- **Repoint the stone chimney and tie it to the existing wall framing** (reinforce wall framing as needed) (III)
- **Repair exterior doors and hardware** with repair and replacement of wood and replacement of hinges to match existing. (III)
- **Repair the existing windows using traditional conservation techniques** such as dutchmen repairs and epoxy consolidation, replace broken glass, and replace deteriorated glazing putty. (II)
- **Consider replacement of W103** with a window unit that is more appropriate to the architecture or at a minimum, remove the faux muntin. (III)
- **Surface prepare and apply solid stain to the existing wood siding and corner boards.** (III)
- **Surface prepare, prime and two-coat finish paint soffits, facias, door and window trim, and door and windows.** (III)

Interior Recommendations

- Clean the interior of all debris including washing down existing walls and flooring. (Maintenance)
- **Cut out the cracks in the concrete floor and patch in-kind** including accommodation for expansion. (III)
- **Repair interior wood and paneled finishes with dutchman and in-kind replacement.** (III)
- Repower the existing electrical panel and install new baseboard heating to work with a new interior layout. (III).
- Remove the newer interior doors and as part of the exterior repairs, restore the original doors to working order with improvements as necessary to keep debris out. (III)

5. CONCLUSIONS AND RECOMMENDATIONS

- Install new partitions and create an accessible restroom for use by visitors to the Cary Barn. This work will include new connections to the existing well and either connect to the sewer lines in the street or a septic tank. (III)

Mechanical, Electrical and Structural

- The existing structure of the Storage Building is in overall good condition. The interesting aspect is the portions of the wall framing and the roof framing from an earlier/smaller farm building remain. Based on the structure it appears the building was narrower but also had slanted walls, similar to a corn crib, and based on the evidence of pinned connections at the roof rafters, the original building probably dates to close to the time of the main barn's construction or at least the first half of the nineteenth century.
- Based on the structural analysis, there are some concerns with the condition of the chimney and the roof structure should be more fully evaluated for rafter conditions (not necessarily capacity of the framing) once the racoon is removed from the attic.
- An electrical panel is present and it appears to feed the lighting, two wall heaters and a pressurized well tank, all of which were not operational at the time of the site visit.

5. CONCLUSIONS AND RECOMMENDATIONS

5.3 Estimate of Probable Costs and Phasing Recommendations

The following conceptual estimates of probable cost are based upon the assessment of the existing conditions of the Cary Barn. These estimates are for planning purposes and projections that are more accurate can be based only upon more detailed design development and upon obtaining actual bids from qualified craftspersons. The dollars shown assume construction in 2023 This format follows the generally accepted Construction Specifications Institute outline.

It should be noted that construction costs change on a regular basis due to a number of reasons and are influenced by a number of factors. As such, a contingency of fifteen percent has been added to the projected costs to account for these fluctuations, which tend to fluctuate up rather than down.

As previously noted, all costs assume 2023 dollars; however, for each year a project is undertaken **after** 2023, add an additional four to six percent should be added to each cost to account for increases in labor and material costs.

CARY BARN
CONSTRUCTION

DIVISION 1 – General Requirements		
General Conditions		$ 75,340
Temporary Facilities		$ 50,220
Scaffolding for Exterior Repairs		$ 12,500
Scaffolding for Interior Repairs		$ 8,000
Archaeology Allowance		$ 10,000
	Division 1 Subtotal	*$ 156,060*
DIVISION 2 – Existing Conditions		
Selective Demolition and Salvaging		$ 9,430
Regrading		$ 2,880
Repair/Expand Underground Drainage		$ 9,430
Fencing/Gates		$ 9,430
Gravel Verge		$ 3,680
Flagstone Paving (ground level)		$ 5,280
	Division 2 Subtotal	*$ 40,130*
DIVISION 3 – Concrete		
Footings & Piers (allowance)		$ 15,530
Concrete Ramps		$ 13,110
Repair Concrete Floor/Troughs		$ 7,130
	Division 3 Subtotal	*$ 35,770*

5. CONCLUSIONS AND RECOMMENDATIONS

DIVISION 4 – Masonry	
Repoint Stone Foundations (exterior)	$ 16,100
Repoint Stone Foundations (interior)	$ 37,430
Repair Stone Foundations	$ 8,280
New Buttress at Front Stone Foundation Wall	$ 26,220
Division 4 Subtotal	*$ 88,030*
DIVISION 5 – Metals	
Miscellaneous Metals	$ 3,680
Metal Railings	$ 4,830
Interior Guard Rail (between levels)	$ 4,200
Guards at Ground Floor (security measure)	$ 9,150
Division 5 Subtotal	*$ 21,860*
DIVISION 6 – Wood, Plastics and Composites	
Structure	
Roofing Framing Allowance	$ 20,070
Floor Framing Allowance	$ 37,000
Wall Framing Repairs (anticipated)	$ 9,780
Intermediate Post Repairs/Replacement Allowance	$ 27,880
Exterior Siding and Trim	
Siding Repairs/Replacement	$ 32,780
Trim Repairs/Replacement	$ 9,950
Interior Features	
Stair Enclosure	$ 7,130
Stair Repairs	$ 2,760
Farm Equipment Repair Allowance	$ 2,530
Board Wall Finishes Repairs	$ 4,830
Division 6 Subtotal	*$ 154,710*
DIVISION 7 – Thermal and Moisture Protection	
Sheathing Replacement at Roof	$ 7,590
Asphalt Shingle Roof	$ 44,000
Flashings	$ 9,780
Hung Gutters	$ 11,930
Leaders	$ 5,870
Joint Sealants (misc.)	$ 2,760
Division 7 Subtotal	*$ 81,930*

5. CONCLUSIONS AND RECOMMENDATIONS

DIVISION 8 – Openings	
Window Restoration - Small	$ 1,900
Window Restoration – Medium	$ 6,730
New Window Wall at Rear/Viewing	$ 19,670
Repair Exterior Carriage Doors	$ 13,110
Repair Exterior Man Doors	$ 2,530
Repair Interior Man Doors	$ 7,590
Accessible Upgrades/Second Interior Door/Glass	$ 7,520
Hardware Allowance (all doors)	$ 7,480
Flashing at Hood Mold	$ 1,150
Division 8 Subtotal	*$ 67,680*
DIVISION 9 – Finishes	
Exterior Surface Preparation (siding and trim)	$ 40,960
Exterior Solid Stain (siding and trim)	$ 11,820
Surface Prep and Paint Windows and Doors	$ 5,030
Repair Plank Flooring	$ 22,080
Limewash Interior of Masonry	$ 8,340
Division 9 Subtotal	*$ 88,230*
DIVISION 10 – 15 (No Requirements)	
DIVISION 16 – Electrical	
Electrical Demolition	$ 4,140
Fire Detection System (weather/cold sensitive)	$ 9,430
Electrical Upgrades (wiring/service)	$ 9,430
Exterior Lighting (security/general)	$ 4,890
Lightning Protection System	$ 9,950
Interior Lighting (overall/safety/aesthetic)	$ 25,760
Unit Heaters (for spring/fall use)	$ 8,500
Division 16 Subtotal	*$ 72,100*
SUB-TOTAL CONSTRUCTION	**$ 806,500**
NON-CONSTRUCTION	
DESIGN AND CONTRACT DOCUMENTS	
Documentation	$ 4,600
Design Development	$ 7,100
Meetings (allow for 2)	$ 950
Contract Documents	$ 13,200
Structural Engineering Allowance	$ 10,000
MEP Engineering Allowance	$ 10,000
Topographical Survey	$ 2,000
Expenses (allowance)	$ 3,000

5. CONCLUSIONS AND RECOMMENDATIONS

BIDDING AND CONTRACT ADMINISTRATION (Per phase of construction)	
Pre-Qualification	$ 1,750
Bidding and Negotiation	$ 1,750
Contract Administration Services including Expenses/Engineers	$ 17,400
Structural Engineering Contract Administration	$ 6,500
MEP Engineering Contract Administration	$ 5,500
SUB-TOTAL NON-CONSTRUCTION	**$ 83,750**
TOTAL PROJECTED COSTS – CARY BARN	**$ 890,250**

5. CONCLUSIONS AND RECOMMENDATIONS

SHED/STORAGE BUILDING - CONSTRUCTION

DIVISION 1 – General Requirements	
General Conditions	$ 20,770
Temporary Facilities	$13,850
Archaeology (associated with accessibility and utilities)	$ 18,000
Division 1 Subtotal	*$ 52,620*
DIVISION 2 – Existing Conditions	
Selective Demolition and Salvaging	$ 3,680
Regrading	$ 5,980
Repair/Upgrade Underground Drainage	$ 2,880
Connect to Sewer	$ 8,500
Connect to Well	$ 6,900
Walks and Path (from parking to Cary Barn & Storage Building)	$ 15,000
Division 2 Subtotal	*$ 42,940*
DIVISION 3 – Concrete	
Concrete Ramp at Door	$ 3,280
Repair Concrete Floor/Cut and Patch for Plumbing	$ 7,440
Division 3 Subtotal	*$ 10,720*
DIVISION 4 – Masonry	
Repoint Stone & CMU Foundation/Chimney	$ 6,040
Repair Chimney	$ 2,130
Division 4 Subtotal	*$ 8,170*
DIVISION 5 – Metals	
Miscellaneous Metals	$ 1,380
Division 5 Subtotal	*$1,380*
DIVISION 6 – Wood, Plastics and Composites	
Roof/Wall Framing Repair	$ 4,830
Exterior Siding Repairs	$ 7,190
Interior Wall Finish Repairs	$ 6,190
Interior Partitions for Accessible Restroom	$ 3,970
Division 6 Subtotal	*$ 22,180*
DIVISION 7 – Thermal and Moisture Protection	
Sheathing Replacement at Roof	$ 1,040
Pressed Tin Roofing	$ 22,580
Flashings	$ 2,760
Hung Gutters	$ 5,380
Leaders	$ 1,960

5. CONCLUSIONS AND RECOMMENDATIONS

Asphalt Shingles at Shed	$ 1,150
Division 7 Subtotal	*$ 34,870*
DIVISION 8 – Openings	
Interior Door Repairs	$ 1,150
Interior Hardware Repairs	$ 200
Exterior Door Restoration – Carriage Doors	$ 4,260
Exterior Door Restoration – Man Doors	$ 1,960
Storage Doors	$ 1,380
Door Hardware/Weather Protection	$ 4,370
Repair/Restore Windows – Large	$ 4,490
Repair/Restore Windows – Small	$ 1,900
New Window Assembly	$ 4,200
Division 8 Subtotal	*$ 23,910*
DIVISION 9 – Finishes	
Exterior Surface Preparation (siding and trim)	$ 9,580
Exterior Solid Stain (siding and trim)	$ 4,230
Surface Prep and Paint Windows and Doors	$ 3,220
Tile Finishes at Accessible Restroom (walls and floor)	$ 7,230
Clean Interior Finishes	$ 1,960
Gypsum Board Finishes	$ 7,820
Division 9 Subtotal	*$ 34,040*
DIVISION 10 – Specialties	
Accessible Restroom Accessories	$ 6,330
Division 10 Subtotal	*$ 6,330*
DIVISION 11 – 14 (No Requirements)	
DIVISION 15 – Mechanical	
Accessible Restroom (plumbing/utilities)	$ 14,380
Baseboard Heating (electric)	$ 15,000
Division 15 Subtotal	*$ 29,380*
DIVISION 16 – Electrical	
Electrical Upgrades Allowance	$ 12,580
Division 16 Subtotal	*$ 12,580*
SUB-TOTAL CONSTRUCTION	**$ 279,120**

NON-CONSTRUCTION

Non-construction costs typically range from 15 to 18 percent of construction estimates including mechanical and electrical upgrades.

5. CONCLUSIONS AND RECOMMENDATIONS

SUB-TOTAL NON-CONSTRUCTION	**$ 50,240**
TOTAL PROJECTED COSTS – SHED/STORAGE BUILDING	**$ 329,360**

5. CONCLUSIONS AND RECOMMENDATIONS

5.4 Phasing Recommendations

Although the Cary Barn and the Storage Building are relatively small buildings, each exhibits a good number of needs and the Storage Building includes the installation of an accessible restroom, which is a significant cost of a project. The vision for the sequencing of the work is in two to three phases starting with the Barn.

Phase I:
Address the masonry repairs and structural upgrades at the Cary Barn including the restoration of the roofing, installation of a roof drainage system and repairing the flooring at the barn since it is integral to the structural stabilization work. Any repairs/structural upgrades will be undertaken with the understanding of the proposed new use as an environmental center/park pavilion.

Phase I Projected Costs: $ 430,000

Phase II:
The second phase will focus on the balance of the work at the Cary Barn and to permit adaptive reuse of the building. This will include repair of the siding, windows and doors, restoring the interior stair, constructing any barriers for life-safety and protection of the property, and installation of new windows and doors to support the new use. The electrical service will be upgraded to provide interior lighting and limited site lighting, convenience outlets, and unit heaters to support the proposed use. At the completion of this project, the building should be ready for full use.

Phase II Projected Costs: $ 440,000

Phase III:
The restoration and adaptive reuse of the Storage Building including all exterior restoration /repair work and installation of an accessible route. This work would also include establishing appropriate paths between the parking and the two buildings on site so the property can be utilized to its full potential.

Phase III Projected Costs: $ 300,000

BIBLIOGRAPHY

Books and Articles

Axtell, S. B. "Mendham Township." *History of Morris County, New Jersey with Illustrations and Biographical Sketches of Prominent Citizens and Pioneers*. New York: W. W. Munsell & Co., 1882.

Gordon, Thomas F. *A Gazetteer of the State of New Jersey: Comprehending a General View of its Physical and Moral Condition, Together with a Topographical and Statistical Account of Its Counties, Towns Villages, Canals, Rail Roads, &c, Accompanied by a Map*. Trenton: Daniel Fenton, 1834.

Lurie, Maxine N. and Marc Mappen, eds. *Encyclopedia of New Jersey*. New Brunswick, NJ: Rutgers University Press, 2001.

Pitney, Henry Cooper. *A History of Morris County, New Jersey Embracing Upwards of Two Centuries, 1710-1913*. New Yok: Lewis Historical Publishing Co., 1914.

Rae, John W. *Images of America: The Mendhams*. Charleston, SC: Arcadia Publishing, 1998.

Widmer, Kemble. *The Geology and Geography of New Jersey*. Princeton, NJ: D. Van Nostrand Company, Inc., 1964.

Online Resources

Ancestry.com Databases

1850 United States Federal Census

1860 United States Federal Census

1870 United States Federal Census

1880 United States Federal Census

1910 United States Federal Census

U.S. Department of the Interior. "National Register Bulletin 16A: How to Complete the National Register Registration Form." Washington, DC: U.S. Department of the Interior, National Park Service, 1997. Available online from https://www.nps.gov/subjects/nationalregister/upload/NRB16A-Complete.pdf.

Vogt Bros. Complete Morris County, New Jersey, Directory for 1897-98 : Court, County, Township, and Municipal Officers, Associations, Churches, Clubs, Lodges, Societies, etc. Together with a Colored Map of the County. Morristown, N.J.: "True Democrat Banner" Steam Print, 1898.

Other

1850 United States Federal Census Agricultural Schedule, Mendham Township, Morris County, New Jersey. On microfilm at the North Jersey History & Genealogy Center at the Morristown & Morris Township Public Library.

BIBLIOGRAPHY

Foster, Janet W. National Register nomination for the Mendham Historic District, 1984.

Milner, Sally. National Register nomination for the Stephen Cary House, 1988.

APPENDICES

APPENDIX A

ENGINEERING ASSESSMENT

Prepared By:

James B. Huffman, P.E.
Consulting Engineer

JAMES B. HUFFMAN, P.E. E-mail: jbhuffman2@comcast.net

762 Village Road West, Princeton Jct., NJ 08550 609-275-5846

18 February 2021

Margaret Hickey, AIA
Connolly & Hickey Historical Architects
2 North Avenue
P.O. Box 1726
Cranford, NJ 07016

RE: Scott Farm Barn, Mendham, NJ
Preservation Plan
Preliminary Evaluation of Structure for Barn and Adjacent Shed

Dear Ms. Hickey:

This report is based on a visit to the subject site on 22 December 2020, and is part of an overall conditions assessment of the building and site. The specific areas and items that were visually inspected and evaluated are outlined below, along with a summary of observations, assumptions, and recommendations. No probes or tests of any kind were conducted.

A. BARN

1. General

The Scott Farm Barn is an assemblage of four distinct structural elements. Three of the elements, comprising the 2-story portion of the bank barn, are traditional timber framed structures set on stone masonry foundations The fourth, the forebay, has been modified, repaired, and reconstructed to such an extent that its original identity is largely obscured.

The 2-story barn is unusual in that the three sections are independently framed, with double bents where the frames abut. The other unusual characteristic is that the lines of the foundations and the frames above do not entirely match up. Though the sequence of

construction is not entirely clear, it appears possible that one or more sections of the barn were relocated from another site and re-assembled on an existing or modified foundation.

2. Foundation

The foundations beneath the 2-story main barn are constructed of rubble stone masonry measuring approximately 18” to 20” in thickness. It appears likely that the western section of the foundation was added at the same time as the frame above. The sill plates at the base of the adjacent frames are different sizes, and the sill plate atop the west wall of room #001 is set to the west edge of the masonry.

The north wall of the center section of the lower level (in room #001) is substantially bowed inward, both in horizontal and vertical section. The most likely cause is the combined effect of soil pressure and frost action on the north side of the foundation wall. This is a common problem with bank barns. The grade of the road has undoubtedly been raised over the years, further exacerbating an already significant problem. It will likely be necessary to either construct interior buttresses of some sort or to reconstruct the north wall with hidden structure in the form of reinforced concrete or reinforced masonry on the north side of the stone foundation wall. In either case, it is recommended that provisions be made for improved drainage both at the surface and underground in order to minimize the lateral pressure against the wall.

There are vestiges of a largely unused foundation wall oriented north-south and located between room #001 and the shallow crawl space of room #002. This foundation is not aligned with either the east end of the central frame section above or the west end of the eastern section.

The stone masonry is, overall, in fair condition. Most areas of the stone masonry foundation walls show evidence of mortar loss, along with periodic repairs and repointing. It should be anticipated that most areas will require cleaning and repointing.

The foundations for the various wood posts at the lower level, both those supporting the south edge of the forebay and those within and at the south edge of room #001, are concrete, and appear to date from the early-to-mid twentieth century.

3. Framing

Much of the barn is framed with hewn oak members and assembled with traditional mortise-and-tenon joinery. Each of the three 2-story sections is framed slightly differently. In the eastern bay of the central section, the floor joists measure approximately 10” x 8”, are flattened only on their top surfaces, and are spaced at an average of approximately 48” O.C. A dropped girder, measuring approximately 9” x 7” supports the midspans of these joists. The western bay of the central section appears to have never had a permanent floor. The floor in this area is constructed in the fashion of a hay loft, with loosely laid 4” to 6” diameter split saplings oriented east-west and spanning approximately 12’. These saplings are now overlain with loose floor boards. Clearly, this is not a safe floor for public access. Either a

new floor will have to be designed and installed, or the area cordoned off and not used. The adjoining area of the forebay has joists measuring approximately 6” x 6” to 7” and spaced at approximately 36” O.C. Most of these joists are flattened only on their top surfaces. A few appear to be later replacements, clearly sawn and roughly square in cross section.

In the western section, the floor joists measure approximately 4” to 5” x 7” to 8”, are spaced at about 24” O.C., and are flattened only on their top surfaces. The two sets of joists are supported at roughly the midpoint between the north masonry wall and the south end of the forebay by a built-up girder consisting of (3) 2x10’s and (1) 2x8. It is not clear what supported the joists prior to the installation of these relatively modern members. This is the only area of the main floor where joists continue from the 2-story main barn into the forebay.

In the eastern section, there is no consistent floor framing. The various levels and member sizes suggest multiple changes over the life of the building. At the forebay, the sawn joists measure approximately 2” x 6” to 6-1/2”, and are spaced at approximately 18” O.C.

The girders at the south edge of the main barn are inconsistent. At the center span of the current three spans at the central section of the main barn, the deteriorated 9” x 8” girder has been supplemented with a 10” x 7” girder beneath the original. At the south edge of the forebay, the girders vary from span to span. There are several repairs and reinforcements present. At the west section, a ½” steel plate was installed to reinforce the deteriorated 7” x 7” wood member.

The bents framing each of the three sections of the main barn differ from those in the adjacent sections. Condition of the timbers varies widely. The worst conditions were noted along the south edge of the main barn, where some posts and connecting members (including tie beams) have suffered severe water damage and will need to be replaced. Damaged ends of connecting members will require repair. A few diagonal braces are missing in this area as well. The rafter plate at the south edge of the main barn is severely deflected, most notably at the western bay of the center section. This plate, which now appears undersized, was likely supported by vertical siding boards prior to the construction of the forebay.

The rafters above the center section of the main barn measure approximately 4” x 5-1/2”, are spaced between approximately 49” and 53” O.C., and are significantly deflected. The lath spacing is 5-1/2” O.C. Over the western section, the rafters measure approximately 3” to 4” x 5-1/2” and are spaced at 24” O.C. Here the lath spacing is approximately 7” to 7-1/2” O.C. These rafters are also deflected, but not as severely as those at the center section.

Substantial portions of the forebay walls, along with the entirety of its roof, are framed with modern dimensional softwood lumber. Many of the forebay wall repairs and replacements appear to have been poorly conceived and executed. The roof of the forebay is conventionally framed. It is recommended that the various connections, especially the fastenings of the ledger, be analyzed and upgraded as required. It is also recommended that this area be more fully investigated.

B. SHED/ STORAGE BUILDING

The original function of this building is unclear. What is clear is that the building was expanded and repurposed, while re-using much of the original framing material. There are two different lengths of rafters present in the current roof. An older set of rafters no longer reach the peak, suggesting that either the pitch was increased or that the side walls were moved outward, increasing the distance between the rafter plates. The shorter rafters now function as nailers, but do not contribute to the load capacity of the roof.

The perimeter foundations are constructed of rubble stone masonry on the north side and parts of the east and west ends. On the south side, the stem walls are constructed of CMU. Footing depth and dimensions are unknown. Visible portions of the stone masonry and CMU are in fair condition. The stone masonry chimney exhibits loss of mortar, and will need to be repointed. On the interior, wall finishes now conceal any former connection points to the chimney for a wood stove or other heating appliance. The concrete slab floor is in good-to-fair condition.

The ceiling is oddly framed, with two 7” x 9” longitudinal girders spaced about 6’ apart and extending the length of the building. Smaller members spaced at 24” O.C. connect these two girders. This exposed framing is most likely the remains of the former structure. The selected future purpose for the building will determine what, if any, structural repairs or modifications are needed.

Conditional Statement:

The statements and opinions expressed herein are solely for the use and information of Connolly & Hickey Historical Architects and the Borough of Mendham. The opinions reflect the professional judgments of a Registered Professional Engineer performing services that are usual and customary and with skill and care ordinarily used by other Professional Engineers when dealing with historic structures at the same time and in the same or similar localities. Conclusions drawn in this report are based on those conditions and surfaces that were apparent by the unaided visual observations of the Engineer. No tests of any kind were conducted. No warranties or guarantees can be inferred from, or implied by, the statements or opinions contained in this report.

Sincerely,

James B. Huffman, PE

APPENDICES

APPENDIX B

MAINTENANCE PLAN

Prepared By:

Connolly & Hickey Historical Architects, LLC

MAINTENANCE PLAN

MAINTENANCE PLAN FOR THE CARY BARN

Introduction

The most efficient and least expensive form of preservation is cyclical maintenance. It is not only a method of keeping the building in proper repair, but it is also a form of preservation. Periodic inspections provide the opportunity to detect deterioration in its early stages, before it escalates into daunting and costly repairs.

Record keeping is critical for monitoring changes over time. A maintenance log provides a written record of all inspections, maintenance, and repairs. This log is invaluable as a guide for understanding future repairs and will become part of the building's historical record.

This cyclical maintenance plan is for the basic preservation of the Cary Barn. This plan should be supplemented with a maintenance plan authored by the facilities manager.

Inspection: Scheduled inspections should be performed at least twice a year (spring and fall intervals are recommended) and after major storm events (occurrences of high wind and/or large amounts of rain, snow, or ice). As a matter of policy, inspections should be regarded as a constant ongoing process.

Maintenance Log: The maintenance log book should include each maintenance inspection and repair. Entries in the book are to be detailed and consistent. At each inspection, a maintenance checklist should be filled out providing information about the conditions found and maintenance procedures performed. Similarly, each repair should be documented, dated, and described. The description should include the names of the personnel, contractor, and consultants involved in the repair, and before and after photographs. Retain all "As-Built" drawings and specifications of installation information for future reference. File the necessary paperwork to keep warranties in force. A single three-ring binder for each building should be maintained and used to keep all papers in a single location.

Maintenance and Repair Guidelines:

- **Repair rather than replace** damaged building materials when possible
- Make all alterations and additions readily **reversible.**
- Treat or clean building materials carefully, only when necessary, and in the **least aggressive manner possible**.
- Use only compatible materials for cleaning. The building materials are delicate and incompatible cleaning products could easily destroy them.
- Sweep regularly with a soft natural bristle brush or vacuum with a non-abrasive head.
- Provide exterior natural-fiber mats (with solid backings) at entrance doors to remove dirt from visitors' feet before entering the building.
- Install door stops to prevent damage to the walls.
- Do not use salt near the base of the building. This is relevant for not only control of snow and ice but also many weed killers are salt-based.

MAINTENANCE PLAN

Exterior

Site Work

Spring and Fall

- Prune overhanging branches to minimize debris on the roof.
- Inspect vegetation and landscaping for signs of disease. Treat or remove and replace sick plantings.
- Remove plants from wall surfaces.
- Remove built-up leaves and debris from the building foundation.
- Trim vegetation from around the base of the building a distance of approximately two feet.
- Be certain that products used to control weeds or remove ice and snow around the base of the building do not contain agents that damage wood, masonry or soil.

Annually

- Check building perimeters at grade and make sure that a gentle slope away from the building exists at all locations. A gentle slope will help drain storm water away from the foundation walls and help keep the basement dry.

Storm Drainage

Spring and Fall

- Clean leaves and other debris from the roof, gutters and leaders, valleys. Ideally, gutters should be visually checked and cleaned at least **once a month from March to October.**
- Make sure strainers and screens are in place to prevent debris from clogging the drainage system. Ideally, check and clean these **four times a year.**
- Check all gutters, leaders, outlet tubes, and other drainage components for loose fittings and/or seams. Repair as required.

Annually

- Check to make sure that all gutters pitch properly towards outlets.
- Check that underground drainage connections, if extant, are sound. If there is a suspicion of a clog, clean all underground drainage from point of cleanout to the outlet.
- Check base of downspouts to ensure the runoff is directed away from the foundation. Install splash blocks or leader extensions as required.

Post Storm Event

- After heavy rainstorm, check all roof and storm-water drainage systems to observe water runoff (ponding, overflowing gutters, etc).
- After high-wind events (40 mph or greater), verify whether the seasonal or annual tasks outlined above require attention.

Roof

Spring and Fall

- Note all missing shingles and replace with materials to match existing.
- Remove all debris from roof including leaves, branches and other debris that promote biological growth, which promotes deterioration of the roofing materials.

Annually

- Check the underside of roof from the attic for staining, leaks, etc.

MAINTENANCE PLAN

- Check flashings for gaps, buckling, corrosion and separation in seams. Repair or replace loose or corroded flashings.
- Note the general condition of the roof covering, including the field and ridge shingles.
- Check chimney top for and remove debris, such as accumulated leaves and nests. Remove debris as required.

Post Storm Event

- After heavy rainstorm, check all roof and storm-water drainage systems to observe water runoff (ponding, overflowing gutters, etc).
- Check the roof after heavy snowfall or freeze/thaw cycles to determine where snow and ice dams collect.
- After high-wind events (40 mph or greater), verify whether the seasonal or annual tasks outlined above require attention

5-10 Years

- Check caulking and sealants for brittle, cracked or missing sections or pieces. Remove any damaged areas; clean, prime or seal according to manufacturer's specifications; replace caulk. Sealant should match color of adjacent construction or be paintable. **Expect to replace sealants and caulking about every six years.**

Over 10 Years

- Asphalt shingle roofs have a life expectancy depending on the quality and manufacturer and can range from twelve to thirty years.
- If well-maintained, all roofs can last their entire expected lifespan before requiring full replacement. Maintain all drainage and flashings at the asphalt shingle roof and inspect each year for missing shingles. Replace individual shingles on a yearly basis to maintain roof's integrity.
- The life expectancy of asphalt shingle roofing depends on the quality and manufacturer and can range from twelve to thirty years.

Masonry

Spring and Fall

- Check masonry, mortar for moist areas, efflorescence and organic growth.
- Determine and repair the source of the deterioration as well as the symptom of the deterioration.
- Upon finding significant cracks or material deterioration, contact a professional architect experienced in methods of evaluating historic masonry.

Annually

- Check for deteriorated mortar. Remove loose mortar. Repoint or replaced deteriorated mortar using replication mixes that matches the original in color, texture, compressive strength and workmanship. Mortar should have a high-lime and low-Portland cement content and should not be harder than the surrounding masonry units, original mortar. The aggregate and tooling should match adjacent conditions.
- Repair stone with a stone Dutchman or composite patching mortar that matches the composition, color, texture and finish of the existing.
- If cleaning is deemed necessary, clean with low-pressure water, or a soft natural bristle brush and a non-ionic detergent. Do not clean masonry with harsh chemicals or acids or by

MAINTENANCE PLAN

aggressive mechanical means. In addition, do not use power-washers, sandblasting, wire brushes, grinders, sanding discs or other abrasive methods. Alternatively, apply a product, such as D-2, to surface of stone and let natural rain wash surfaces of stone.

- Snow removal materials that might damage masonry (e.g. salt) should not be used on brick, concrete steps or adjacent to foundation walls. Surfaces should be kept clear as much as possible and cindered or sanded if necessary.

Woodwork (Siding, Doors, Windows, Millwork)

Weekly

- Open and close windows as required for proper ventilation.

Spring and Fall

- Check for moisture damage, warping, splitting, open joints and other signs of material construction failure.
- Check for signs of failure such as bowing or warping.
- Check for localized areas of discoloration and significantly peeling or blistering finishes. These may be a sign of moisture infiltration and/or insect infestation. Take necessary corrective action.
- If wood is deteriorated, determine cause and take corrective action.
- Seal fine cracks with wood filler.
- Check for termites and other wood-damaging insects in spring and early fall. Note evidence of insect activity: small holes in wood, small piles of sawdust, clay tubes on wood or actual insects. A professional exterminator should conduct the spring inspection.
- Check for rubs from hardware against surrounding wood trim.
- Check windows and doors.
    - Clean corners of windows and doors of dust and debris.
    - Repair open joints.
    - Repair or replace deteriorated or damaged metal flashing with materials to match existing.
    - Check glazing for loose attachments of hardware and reattach as necessary.
    - Lubricate moving parts, such as door hinges, with non-running grease or silicone. Items to inspect that are subject to wear include hardware (becomes worn through use), latches (cleaned, repaired), locks (become worn, may not function properly) and hinges (problems arise from wear at the knuckles or loosening of the screws).*

      *Only for hardware of doors, windows and storm/screen units to be used regularly.

Annually

- Check for mildew which is an indication of moisture. Take corrective actions to reduce moisture in that area.
- Clean mildew from **finished** wood surfaces with a weak mildewcide solution. Mildew is a sign of a moist environment but is not itself hazardous to building materials. However, it can become slippery and therefore cleaning it from floor surfaces is necessary.
- Check for loose or peeling finishes (see *Finishes* below).
- Wipe down surfaces with a dry rag or soft bristle broom to remove dirt, debris and cobwebs.

Glass

MAINTENANCE PLAN

Spring and Fall

- Check for cracked or broken glass panes. Replace all broken glass.
- Check panes for tightness, and if loose, re-glaze with linseed oil putty.

Finishes (Paints/Stains)

Spring and Fall

- Check for finish failure such as worn or bare spots, blistering, peeling, crazing and organic growth such as mildew.
- Determine cause of finish failure and perform required repairs to prevent future deterioration.
- Wash mildew with weak mildewcide solution. Mildew is a sign of a moist environment but is not itself hazardous to building materials. However, it is unsightly.
- For wood, split blisters, scrap peeling areas by hand, sand rough spots, and otherwise prepare surface for refinishing.
- Do not use mechanical scraping or sanding machines.
- Where painted, apply primer and two-coat finish paint, and where stained, lightly stand and apply 2-3 coats of solid stain to deteriorated finishes at wood and metal surfaces. Prime metal surfaces with rust inhibitors.

5-10 Years

- Expect to thoroughly surface prepare and refinish all exterior surfaces periodically. The recommended life span under typical circumstances is seven years.

Lighting Fixtures

Spring and Fall

- Clean fixture of insects and other dirt or debris.
- Check for deteriorated paint, rust, corrosion, moisture damage and wear.
- Check for loose attachments and hardware.
- Repair any loose or open joints, or weak links. Repair or replace deteriorated or missing attachments and hardware.
- When paint finish deteriorates, repaint according to paint section (as applicable).

Structural Systems

Spring and Fall

- Open attic ventilation in warm months and seal off in cold months.
- Check for termites and other wood-damaging insects twice a year, in spring and early fall. Note evidence of insect activity: small holes in wood, small piles of sawdust, clay tubes on wood or actually insects. A professional exterminator should conduct the spring inspection.

Annually

- Check roof structural system for twisted, deformed, and split connections (inside), and the ridge and slopes for sags or other signs of structural inefficiency. If conditions are noted, contact an architect or engineer to determine the cause and recommend treatment approach.
- Check exposed exterior and interior surfaces of walls and foundations, paying particular attention for areas of stairway, floor openings, wall openings and changes in wall masonry

MAINTENANCE PLAN

material. Check for cracks, collapsing, leaning or bulging areas or other signs of uneven settlement, movement, or structural deterioration.

- Check interior wall surfaces at upper levels, with particular attention to joints between side and front and rear walls joints between partitions and ceilings. Check for cracks, crumbled plaster, gaps between finishes or other signs of movement.
- If significant cracks, movement of structural members or other signs of structural deficiency are observed, review the structural condition of the building with an architect or engineer qualified to evaluate its condition in order to ensure that adequate safety standards and precautions are followed.

Interior

Note: The cycle of the following recommendations are guidelines only. Unlike the exterior maintenance, the interior cycles are dependent on the level of use of the building.

General

Weekly

- Dust visible surfaces with a soft untreated dust cloth, an untreated duster or an electrostatic duster.

Spring and Fall

- Provide ventilation in warm months and seal off in cold months. However, always provide enough ventilation to allow for air exchange and stable moisture content. Actively use shutters to provide shading. Provide cross ventilation.

Walls and Ceilings

Spring and Fall

- Check for moisture damage, warping, splitting, open joints and other signs of material construction failure.
- Check for signs of failure such as bowing or warping.
- Check for localized areas of discoloration and significantly peeling or blistering finishes. These may be a sign of moisture infiltration and/or insect infestation. Take necessary corrective action.
- If wood is deteriorated, determine cause and take corrective action.
- Seal fine cracks with wood filler.
- Check for termites and other wood-damaging insects in spring and early fall. Note evidence of insect activity: small holes in wood, small piles of sawdust, clay tubes on wood or actual insects. A professional exterminator should conduct the spring inspection.

Annually

- Check for mildew which is an indication of moisture. Take corrective actions to reduce moisture in that area.
- Clean mildew from **finished** wood surfaces with a weak mildewcide solution. Mildew is a sign of a moist environment but is not itself hazardous to building materials. However, it can become slippery and therefore cleaning it from floor surfaces is necessary.
- Check for loose or peeling finishes (see *Finishes* below).
- Wipe down surfaces with a dry rag or soft bristle broom to remove dirt, debris and cobwebs.

MAINTENANCE PLAN

Flooring

Weekly

- Provide exterior natural fiber mats (with solid backings) at entrances. These mats prevent floor born dirt from abrading, soiling and deteriorating floors and floor coverings. When worn, replace in-kind. Clean regularly (once per week).
- Sweep wood and solid-surface floors using a broom with soft natural bristles. Vacuuming these floors is an option using an attachment with soft natural bristles.

Monthly

- Remove excessive soiling at seams of solid-surfaced flooring with a blunt wooden or metal tool.

Doors

Monthly

- Clean easily soiled areas around doorknobs using dry methods such as untreated dust clothes. If the surface finish can tolerate moisture, non-ionic cleaning solutions are acceptable for cleaning heavy stains and soiling.
- Use dry cleaning methods such as an untreated dust cloth or a vacuum using the crevice attachment to remove soiling from interior sills.

Spring and Fall

- Clean entire door either by dusting or, if surface finish can tolerate moisture, use non-ionic detergent and water.
- Inspect door locks and latches for proper function, and door hinges for proper swing. When loose due to enlarged nail or screw holes, fill and reattach. Fill loose knob-set holes with solder and re-drill. Build up worn hinge knuckles with matching material. When loose screws or worn knuckles are not the cause of an ill-fitting door, this may be indicative of structural movement.

5-10 Years

- Only where previously finished, expect to thoroughly prepare, stain or paint all interior doors. The recommended life span under typical circumstances is seven to ten years.
- When possible, remove hardware when refinishing doors to prevent sanding abrasions and to facilitate a high-quality paint job. Before reinstallation, recondition hardware as described under *Hardware Section* below. When nondestructive removal of hardware is not feasible, protect hardware from paint spills and sanding abrasion.

Windows (Wood Windows Only)

Spring and Fall

- Use dry cleaning methods such as an untreated dust cloth or a vacuum using the crevice attachment to remove soiling from interior sills.
- Wash the interior and exterior of the windows with a water and vinegar solution. Protect sills and sash, and take care not to allow solution to run onto woodwork. Do not wash windows when the outside temperature is below freezing.

Annually

- Wax wood window track.

MAINTENANCE PLAN

- During the winter, inspect the window glass for condensation, which can cause damage if the finishes on the sash permits moisture infiltration. If condensation exists, apply a mixture of equal-part glycerin and methylate spirits to the inside of the glass with a soft cloth after each winter washing.
- Inspect for damaged or broken hardware. See *Hardware Section* below.

5-10 Years

- Expect to thoroughly prepare and finish all wood windows periodically. The recommended life span under typical circumstances is seven years.
- Open and close windows daily after refinishing to prevent sealing by the finish film.
- Do not finish the tracks on which the window sash glide.

Hardware

Annually

- Clean door hardware after applying a cardboard template to protect door surface. Cover adjacent dissimilar metals with paper before polishing.
  Brass or Iron
  - Clean lacquered brass with dry methods only.
  - Non-lacquered brass and iron may be cleaned with mineral spirits on a cotton swap followed by a wipe of alcohol.
  - Spotty or marred brass may be polished using a jeweler's cloth and jeweler's rouge.
  - After cleaning, apply a microcrystalline wax and buff with a soft cloth to brass and to unpainted iron.
- Recondition door and window hardware used on a regular basis as required, cleaning locks of accumulated rust and dirt to ensure proper functioning.
- Inspect function of all door and window hardware. Repair broken hardware as required. Replacement should be a last resort as hardware may be character-defining historic feature. If replacement is required, it should match the existing in size, shape, profile and finish.

Millwork

Monthly

- Inspect millwork for debris and heavy soiling.
- Regularly clean stable surfaces with soft, untreated dust cloth or duster. Clean heavily soiled areas finished with modern paint/finish with a non-ionic detergent heavily diluted with water. Clean unstable surfaces with a soft bristled brush.

Annually

- Wash surfaces finished with stain/paint with a non-ionic detergent in soft water and two damp sponges, thoroughly rinsing and drying each area. Do not clean with alkaline-based household cleaning products such as lye or ammonia. Do not allow solution to run or drip onto adjacent surfaces. Change rinse water frequently.

5-10 Years

- Expect to thoroughly prepare and refinish all interior millwork periodically. The recommended life span under typical circumstances is seven to ten years.

Stairs

Weekly

MAINTENANCE PLAN

- Vacuum or sweep treads of stairs.

Monthly

- Broom sweep or vacuum with soft bristle brush wood stair treads and risers.

Spring and Fall

- Inspect stair railings for loose or missing attachments; reattach as necessary.
- Inspect treads for worn sections, cracking or broken tread. Replace when necessary, matching the size, thickness, nosing profile and projections, grain pattern, species, workmanship and finish color of the original tread.

Finishes (Paint/Stain)

Spring and Fall

- Check for isolated blistering or peeling of finishes on walls, ceilings, and where applicable, woodwork (including windows and doors).
- Check where moisture is entering plaster/wood and stop leaks accordingly.
- Split blisters; scrape peeling areas and sand rough spots.
- Only when necessary, finish in-kind only those areas requiring refinishing. Applying unnecessary finishes will obscure molding profiles and create an inflexible layer that is subject to cracking and peeling.
- Maintain extra amounts of finish as samples for matching colors and for touch-up work. Keep container full, replenishing medium as required, and store upside down in a dry location to retard oxidation.

5-10 Years

- Expect to thoroughly prepare and refinished all previously finished interior surfaces periodically. The recommended life space under typical circumstances is seven to ten years.

Security and Fire Detection Systems

Spring and Fall

- Replace batteries in all smoke detectors.

Annually

- A test of the fire detection systems should be conducted by a system specialist for proper function. Correct as necessary.
- Replace batteries in all alarms.

Fire Extinguishers

Monthly

- Test fire extinguishers, which should be located on at each floor level, for proper function. Refill and/or replace as necessary.

Electrical System

Annually

- Have an electrician check for potential problems with electrical system. Correct as necessary.

Wood-damaging Insects

MAINTENANCE PLAN

Spring and Fall

- Inspect buildings for wood-damaging insects. Note evidence of insect activity: small holes in wood, small piles of sawdust, clay tubes on wood or actual insects. An exterminator should conduct the fall inspection.

Cary Barn Maintenance Log

Date of inspection:
Inspection performed by:
Inspection Type: ☐ Monthly ☐ Quarterly ☐ Post Storm Event

Check box for items inspected
Note observation/treatment provided where indicated and any additional notes where space is provided.

MONTHLY

- ❑ Clean fiber mats at entrances on the interior.
- ❑ Clean floors.
- ❑ Remove excessive soiling in cracks in floors.
- ❑ Clean easily soiled areas around doorknobs.
- ❑ Remove soiling from interior sills at windows and doors.
- ❑ Clean millwork surfaces.

POST-STORM EVENTS

- ❑ Inspect all roofs, drainage components, and other building areas that may be damaged by heavy snow fall or high wind activity for damage.
  Observations: _____
  Treatment provided: _____

OTHER:
Please describe any other conditions observed that require attention:

Cary Barn Maintenance Log

Date of inspection:
Inspection performed by:
Inspection Type: ☐ Spring ☐ Fall

Check box for items inspected
Note observation/treatment provided where indicated and any additional notes where space is provided.

SPRING AND FALL

Exterior

- ❑ Prune overhanging branches within ten (10) feet of the building.
- ❑ Inspect vegetation and landscaping for signs of health and disease immediately adjacent to the building. Remove dead/dying vegetation and replace in-kind.
  Observations: _____
  Treatment provided: _____
- ❑ Remove plants from wall surfaces and trim bed plantings.
- ❑ Remove all debris from roof including leaves, branches and other debris.

Interior

- ❑ Open attic ventilation in warm months and seal off in cold months (as applicable).
- ❑ Have a professional exterminator check for termites and other wood-damaging insects; treat as needed.
  Treatment provided: _____
- ❑ Clean wall and ceiling surfaces with soft untreated dust cloths or a feather duster.
- ❑ Clean interior and exterior of window surfaces with a vinegar and water solution. Note any condensation.
  Observations: _____

OTHER:
Please describe any other conditions observed that require attention: (Provide additional sheets as necessary)

Cary Barn Maintenance Log

Date of inspection:
Inspection performed by:
Inspection Type: ☐ Annual _____

Check box for items inspected
Note observation/treatment provided where indicated and any additional notes where space is provided.

ANNUALLY

EXTERIOR

- ❑ Inspect and report building perimeters at grade to ensure proper grading and drainage, and spot repair walks with in-kind material.
  Observations: _____
  Treatment provided: _____
- ❑ Inspect all aspects of the existing roofing including asphalt shingles, metal flashings, general structure (inside and out), and existing chimneys. Inspection and all repair work to be done by a qualified roofer
  Observations: _____
  Treatment provided: _____
- ❑ Inspect and repair all exterior metal components including hardware, attachments, flashings, etc. for signs of deterioration, rust, corrosion jacking, etc.
  Observations: _____
  Treatment provided: _____
- ❑ Inspect and repair all existing masonry for moisture, cracks, spalling, loose and crumbling mortar, efflorescence and organic growth.
  Observations: _____
  Treatment provided: _____
- ❑ Inspect and repair all existing exterior woodwork including doors, windows, millwork, etc. for moisture damage, warping, splitting, open joints and other signs of material or construction failure.
  Observations: _____
  Treatment provided: _____
- ❑ Inspect and repair existing window glass and glazing compounds for cracked or broken glass, loose or cracked glazing compounds, and overall fit of windows and its components.
  Observations: _____
  Treatment provided: _____
- ❑ Inspect and repair existing finished surfaces (substrate may vary) for finish failure such as worn or bare spots, blistering, peeling, crazing and organic growth such as mildew.
  Observations: _____
  Treatment provided: _____

Cary Barn Maintenance Log

INTERIOR

- ❑ Inspect roof structural system for twisted, deformed and split connections (inside), and the ridge and slopes for sags or other signs of structural inefficiency. If conditions noted, contact structural engineer.
  Observations: _____
  Treatment provided: _____
- ❑ Inspect exposed exterior and interior surfaces of walls, foundations, ceilings, stairs, window and door openings, etc. for cracks, collapsing, leaning or bulging areas or other signs of uneven settlement, movement or structural deterioration. If conditions noted, contact architect and/or structural engineer.
  Observations: _____
  Treatment provided: _____
- ❑ Inspect door locks and latches for proper function, and door hinges for proper swing and repair in-kind.
  Observations: _____
  Treatment provided: _____
- ❑ Inspect millwork for debris and heavy soiling and clean and/or refinish.
  Observations: _____
  Treatment provided: _____
- ❑ Inspect stair railings for loose or missing attachments; reattach as necessary and treads for worn sections, cracking, or broken treads.
  Observations: _____
  Treatment provided: _____
- ❑ Check finished surfaces for isolated blistering or peeling of finishes on surfaces on walls, ceilings, and woodwork; and surface prepare and refinish. Apply finish to entire surface or component for a seamless repair.
  Observations: _____
  Treatment provided: _____
- ❑ Clean and recondition door and window hardware.
  Observations: _____
  Treatment provided: _____

Cary Barn Maintenance Log

- ❑ Inspection of existing electrical systems and services including fire (and security) detection systems by a licensed electrician. Perform typical maintenance tasks and replace components nearing end of useful life.
  Observations: _____
  Treatment provided: _____
- ❑ Inspect all existing exterior and interior light fixtures for deteriorated paint, rust, corrosion, moisture damage and wear by a licensed electrician. Perform typical maintenance tasks and replace components nearing end of useful life.
  Observations: _____
  Treatment provided: _____
- ❑ Test fire extinguishers; replace those in-kind that do not pass test.
  Observations: _____
  Treatment provided: _____

OTHER:

Please describe any other conditions observed that require attention: (Provide additional sheets as necessary)

Cary Barn Maintenance Log

Place in binder (as applicable) all related information:

- **Receipts/ Quotes/ Scope of Work**
- **Samples of materials, paint/finish colors, catalog cut sheets, etc.**
- **Warranties or maintenance manuals**
- **As-built drawings/ Specifications**
- **Before and after photographs**

Date of Repair:

Check appropriate box:

EXTERIOR

LOCATION _____

- ❑ SITE WORK
- ❑ STORM DRAINAGE
- ❑ ROOF
- ❑ METALS
- ❑ MASONRY
- ❑ WOODWORK
- ❑ GLASS
- ❑ PAINT/FINISH
- ❑ LIGHTING FIXTURES
- ❑ STRUCTURAL SYSTEMS
- ❑ OTHER (describe)

INTERIOR

LOCATION _____

- ❑ WALL/CEILING FINISHES
- ❑ FLOORING _____
- ❑ DOORS
- ❑ WINDOWS
- ❑ HARDWARE
- ❑ MILLWORK
- ❑ STAIRS
- ❑ PAINT/FINISH
- ❑ BASEMENT
- ❑ FIRE SAFETY SYSTEMS
- ❑ ELECTRICAL SYSTEM
- ❑ OTHER (describe)

Cary Barn Maintenance Log

REPLACEMENT CYCLES (Attach all paperwork associated with replacement activities).

Exterior

❑ Replace existing caulks and sealants.
Scope of Work: _____
Year of Work: _____
Performed By: _____

❑ Replace existing roofing including associated flashings.
Scope of Work: _____
Year of Work: _____
Performed By: _____

❑ Refinish exterior wood and architectural metals including doors, windows, frames, trim, siding, etc.
Scope of Work: _____
Year of Work: _____
Performed By: _____

Interior

❑ Replace fire extinguishers.
Scope of Work: _____
Year of Work: _____
Performed By: _____

❑ Replace light fixtures and fittings.
Scope of Work: _____
Year of Work: _____
Performed By: _____

Cary Barn Maintenance Log

Person(s) of Company who performed maintenance/repair (including mailing address and phone number):

_____
_____
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_____

Describe in detail the work performed including conditions found which necessitated the repair:

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List Photographs by Number and Description:

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Cary Barn Maintenance Log

CONTINUATION PAGE