

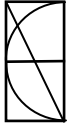
A Report  
to the  
Bolton Heritage Farm Commission  
concerning

**The Bolton Heritage Farm**

266 Bolton Center Road, Bolton, Connecticut

*September 30, 2008*

NELSON EDWARDS COMPANY ARCHITECTS, LLC  
PUBLIC ARCHAEOLOGY SURVEY TEAM, INC.  
GIBBLE NORDEN CHAMPION BROWN CONSULTING ENGINEERS, INC.



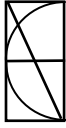
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**INTRODUCTION**

Nelson Edwards Company Architects, LLC



### INTRODUCTION

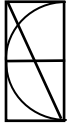
In August of 2000, the Town of Bolton purchased the property known as Valley View Farm (Rose Farm) at 266 Bolton Center Road in Bolton. The purchased property consists of 90 acres of open fields and woodlands as well as a historic house and barn. The site is listed on the National Register of Historic Places due to its' significance as an archaeologically documented location of a French Army encampment the Revolutionary War. Notably, the site was also the home to the earliest congregational ministers in Bolton, and was continuously occupied and farmed from 1725 until the present time.

In order to thoughtfully and responsibly plan for the future use of the site as well as the care of its buildings, The Town of Bolton, under the direction of the Bolton Heritage Farm Commission, hired a consultant team experienced with historic properties. Team members included Nelson Edwards Company Architects, LLC, Gibble Norden Champion Brown Consulting Engineers, Inc., and the Public Archaeology Survey Team, Inc. (PAST). The consultant team worked on this project from April through August, 2008. The team was hired to research and document the history of the site and structures, to assess the condition of the structures and develop a prioritized list of repairs and maintenance items necessary to stabilize and preserve the structures, and to make recommendations for the future use and protection of the buildings in light of their historical merit and condition. PAST was very familiar with the Revolutionary War era history of the site; in 1999 they were hired by the then Connecticut Historical Commission to research and document the boundaries of the Rochambeau encampment. PAST's findings were released in a report entitled "The Rochambeau Project – Historical and Archaeological Documentation of The French Army's Marches through Connecticut in 1781 and 1782." In addition PAST prepared the paperwork for the site's nomination to the National Register.

A draft report dated August 22, 2008 was distributed to the Bolton Heritage Farm Commission for preliminary review. An informational meeting was held on September 30, 2008 by the Bolton Heritage Farm Commission to review the findings of the draft report. Attending the meeting were members of Nelson Edwards Company Architects, and PAST as well as John Obed Curtis, an architectural historian with particular expertise in the domestic architecture of New England. During the research phase of this report Mr. Curtis acted as an independent consultant to PAST for the purpose of reviewing the physical characteristics of the farm house and offering an additional perspective as to the age of the structure.

While the findings of this report suggest that physical evidence dates the present farm house to the early 19<sup>th</sup> century, and that there is high





## INTRODUCTION

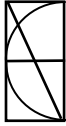
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probability that the foundations of the 18<sup>th</sup>-century home are in close proximity to the 19<sup>th</sup>-century house there will always be those who believe the present farm house was built on the remains of the earlier 18<sup>th</sup>-century home. Until such time as middens are uncovered at the present house site or in a different location on the site, the debate about the location of the 18<sup>th</sup>-century house will always continue.

With regard to the condition of the buildings, the findings of the consultant team are based on information on hand at the time of their work. Given that the house and barn are vacant, and the timeframe for repairs unknown, no guarantee, express or implied, can be made that the documented condition of the structures may not change.

**METHODOLOGY**

Nelson Edwards Company Architects, LLC



## HISTORICAL ANALYSIS

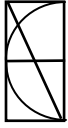
When asked to determine the age of a structure architectural historians and architects look to a variety of sources - physical evidence within the buildings, primary and secondary documentary evidence, oral interviews, and established scholarship regarding building development in a particular region. Facts from all sources are recorded and compared to one another with the hopes of establishing patterns of congruity.

Actual physical evidence includes architectural elements such as a building's shape, mass and orientation to the street, roof pitch, window and door style(s), fireplace size and location, exterior siding size and detail, interior detailing, and most importantly, the building's structural system. The structural system – i.e. the size, location, style and connection of the framing components of the building - gives the clearest indication of the age of the structure; the presence or absence of particular framing system components such as ridge beams, purlins, girts, and summer beams narrow down the date of construction, and are compared to other architectural details to establish a possible sequence of construction.

Documentary evidence is established through a variety of means and includes review of town land records and tax abstracts, wills and probate records, and U.S. census materials. Additionally, in the case of the Bolton Heritage Farm, archival research included review of historical maps and aerial photographs, local histories, and other writings related to the occupants, the site and the French encampment.

When a building has been inhabited for a period of years by a single family oral interviews are conducted to uncover recollections that may have bearing on both physical evidence and documentary research. Mary G. Harper of PAST conducted extensive interviews with Richard Rose and Helen Rose Miloche. The information and photographs the Rose siblings shared with Mary provide a wealth of understanding about the history and use of the Heritage Farm site, and farming practices throughout the twentieth century.

Lastly, in spite of intensive scholarship and field survey work there are often lingering questions that can not be fully addressed without investigative demolition within the framework of the building, or archaeological testing around the perimeter of a building or site. The work of this study did not include investigative demolition or archaeology. In their report, PAST makes specific recommendation for limited but focused investigation in order to address outstanding questions.



## **STRUCTURAL ASSESSMENT**

The structural review of the house and barn was conducted by Gible Norden Champion Brown Consulting Engineers and began with detailed field measurements that formed the basis of measured drawings for all building levels including roof, basement and crawl space areas. Once completed the measured drawings were annotated for framing member size, orientation, location and condition. The size of the framing members as well as their location and condition formed the basis of a structural analysis to compare existing framing capabilities against the requirements of the existing State of Connecticut Building Code. Safety hazards and areas of inadequacy as they relate to the Building Code were identified and recommendations for repair included.

Structural review of potential future uses was completed in a general way but can not be considered definitive until a final program is identified and architectural plans prepared.

## **CONDITIONS ASSESSMENT**

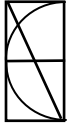
Nelson Edwards Company prepared a Conditions Assessment for non-structural systems, i.e. the building envelope and interior finishes. The Conditions Assessment does not include review of electrical, mechanical, plumbing, water supply and waste systems. The Conditions Assessment was based on a review of visible surfaces in May and August, 2008, as well as a review of Town files for a listing of work previously performed on the building. The Town files gave Nelson Edwards Company specific information on items such as the type and age of the house roof.

In undertaking the Conditions Assessment Nelson Edwards Company Architects recognized that the repair work on both the house and barn needed to be prioritized as the Town would not be in the financial position to repair all items on both buildings all at once. The work documented in the Conditions Assessment is ranked from "Immediate" (needs to be done immediately to prevent future deterioration or to correct a safety hazard) to "Cosmetic" (needs to be done to restore general building aesthetics.)

The information contained in the Conditions Assessment is intended for general information, planning and budgeting. It is not an exhaustive "board for board" analysis. As the building is unoccupied, unheated, and open to weather in some locations, there is no guarantee that the condition of the house and barn may not change.

**SUMMARY OF FINDINGS & RECOMMENDATIONS**

Nelson Edwards Company Architects, LLC



## SUMMARY OF FINDINGS AND RECOMMENDATIONS

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### AGE AND HISTORY

The history of the property, the house and the barn is contained in three sections of this report prepared by PAST, Inc. The Bolton Heritage Farm site has been occupied since 1725, first as a home and small farm to the early ministers called to serve the Bolton Congregational church, and later as a working farm and summer retreat. In June 1781, 4,000 troops under the command of Count Rochambeau stopped at the site on their way from Newport, Rhode Island to New York to join the American Army under the command of George Washington.

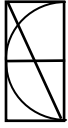
While it is clear that there was a house on the site at the time of the French encampment the relationship between that house and the present house has been subject of much speculation. A detailed architectural examination of the existing house was prepared by PAST as part of this study and indicates that while the existing house has some 18<sup>th</sup> century features (such as some of the interior doors), the overwhelming physical evidence indicates that the present house is the second house on the property. It is likely that the foundations for the colonial era home can found just west of the present house. The only way to definitively date the construction of the present house and address whether the present house is the Colton House or a later house will be to hire professional archaeologists to conduct limited testing to look for concentrations of 18<sup>th</sup>-century material.

### CONDITION

The house and barn have clearly weathered a lot of changes over all the years, and are presently vacant and unheated. Both the house and barn show significant deterioration due to deferred maintenance.

The immediate goal for both the house and barn is to provide weather-tight enclosure to prevent further deterioration, and to correct structural deficiencies due to insect damage or water that present immediate safety hazards. The house will need minimal heat to prevent further growth of mold, and both the house and barn will need fire detection systems tied to a central monitoring station to prevent catastrophic loss.

In reading the prioritized list of repairs one will note that there is some ambiguity in the intersection of the work which is noted as "immediate" or "urgent" with the work which is noted as "maintenance" or "cosmetic". The front porch on the farm house is one such example. The floor and roof structure of the porch is significantly deteriorated and needs immediate attention. In order to rebuild these areas and properly connect them to the house, one would need to provide flashing between the structural components and the house sheathing. This requires the removal of shingles and clapboard siding – an item which is generally noted as "maintenance" work. In areas such as the porch, the Town should develop a work package that encompasses "maintenance"



## SUMMARY OF FINDINGS AND RECOMMENDATIONS

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work adjacent to immediate work so that when the work is done, it is done completely and will not need to be redone at a later date.

Detailed Conditions Assessments for the structural systems and building envelopes for both buildings are included as individual sections of this report. A repair matrix for both buildings is included in the appendix. A timeframe for known repairs made to the buildings and grounds is also included in the appendix.

### FUTURE USE

The project team recognizes that the best preservation tool for historic buildings or sites is the continued use of those buildings / sites with uses that are compatible with the historic framework. Sometimes, but not always, the best future use is simply a continuation of the existing use.

The Town of Bolton and Heritage Farm Commission need to decide and articulate what they wish to interpret on this site. There are many wonderful options that include the Revolutionary War, and an almost 300 year history of agricultural practices. Because the site and buildings have been altered over time they are not purely representational of any one time in particular, and their greatest strength and most compelling story, is the sense of three centuries of overlapping history.

The consultant team provides a general framework for considering adaptive reuse of the buildings in the "Considerations for Future Use" section. The team can help the Town refine their vision, and understand the impact of that vision on the buildings as more information becomes available.

**SITE PLAN**

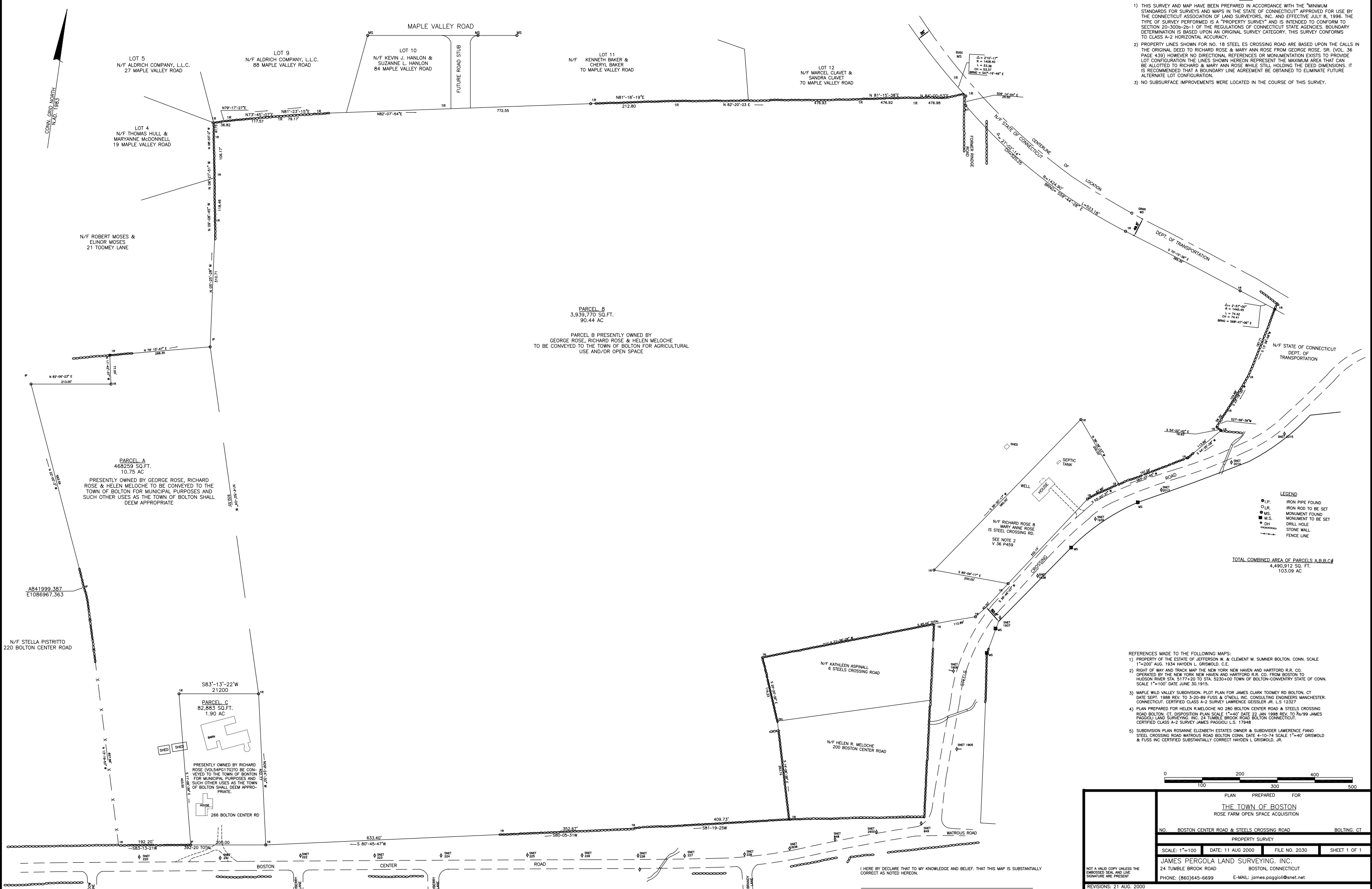
Survey completed by James Paggioli

August, 2000



NOTES

- 1) THIS SURVEY AND MAP HAVE BEEN PREPARED IN ACCORDANCE WITH THE "MINIMUM STANDARDS FOR SURVEYS AND MAPS IN THE STATE OF CONNECTICUT" APPROVED FOR USE BY THE CONNECTICUT ASSOCIATION OF LAND SURVEYORS, INC. AND EFFECTIVE JULY 8, 1996. THE TYPE OF SURVEY PERFORMED IS A "PROPERTY SURVEY" AND IS INTENDED TO CONFORM TO SECTION 20-300b-29-1 OF THE REGULATIONS OF CONNECTICUT STATE AGENCIES. BOUNDARY DETERMINATION IS BASED UPON AN ORIGINAL SURVEY CATEGORY. THIS SURVEY CONFORMS TO CLASS A-2 HORIZONTAL ACCURACY.
- 2) PROPERTY LINES SHOWN FOR NO. 18 STEEL CROSSING ROAD ARE BASED UPON THE CALLS IN THE ORIGINAL DEED TO RICHARD ROSE & MARY ANN ROSE FROM GEORGE ROSE, SR. (VOL. 36 PAGE 439) HOWEVER NO DIRECTIONAL REFERENCES OR MONUMENTATION EXISTS TO PROVIDE LOT CONFIGURATION THE LINES SHOWN HEREON REPRESENT THE MAXIMUM AREA THAT CAN BE ALLOTTED TO RICHARD & MARY ANN ROSE WHILE STILL HOLDING THE DEED DIMENSIONS. IT IS RECOMMENDED THAT A BOUNDARY LINE AGREEMENT BE OBTAINED TO ELIMINATE FUTURE ALTERNATE LOT CONFIGURATION.
- 3) NO SUBSURFACE IMPROVEMENTS WERE LOCATED IN THE COURSE OF THIS SURVEY.



**PARCEL B**  
3,939,770 SQ.FT.  
90.44 AC

PARCEL B PRESENTLY OWNED BY  
GEORGE ROSE, RICHARD ROSE & HELEN MELOCHE  
TO BE CONVEYED TO THE TOWN OF BOLTON FOR AGRICULTURAL  
USE AND/OR OPEN SPACE

**PARCEL A**  
468,259 SQ.FT.  
10.75 AC

PRESENTLY OWNED BY GEORGE ROSE, RICHARD ROSE & HELEN MELOCHE TO BE CONVEYED TO THE TOWN OF BOLTON FOR MUNICIPAL PURPOSES AND SUCH OTHER USES AS THE TOWN OF BOLTON SHALL DEEM APPROPRIATE

**PARCEL C**  
82,883 SQ.FT.  
1.90 AC

PRESENTLY OWNED BY RICHARD ROSE (VOL. 54 PG. 176) TO BE CONVEYED TO THE TOWN OF BOLTON FOR MUNICIPAL PURPOSES AND SUCH OTHER USES AS THE TOWN OF BOLTON SHALL DEEM APPROPRIATE.

- REFERENCES MADE TO THE FOLLOWING MAPS:
- 1) PROPERTY OF THE ESTATE OF JEFFERSON W. & CLEMENT M. SUMNER BOLTON, CONN. SCALE 1"=200' AUC. 1934 HAYDEN L. GRISWOLD, C.E.
  - 2) RIGHT OF WAY AND TRACK MAP THE NEW YORK NEW HAVEN AND HARTFORD R.R. CO. OPERATED BY THE NEW YORK NEW HAVEN AND HARTFORD R.R. CO. FROM BOSTON TO HUDSON RIVER STA. 5177+20 TO STA. 5230+00 TOWN OF BOLTON-CONVENTRY STATE OF CONN. SCALE 1"=100' DATE JUNE 30, 1915.
  - 3) MAPLE VALLEY SUBDIVISION. PLOT PLAN FOR JAMES CLARK TOOMEY RD BOLTON, CT DATE SEPT. 1988 REV. TO 3-20-89 FUSS & O'NEILL INC. CONSULTING ENGINEERS MANCHESTER, CONNECTICUT. CERTIFIED CLASS A-2 SURVEY LAWRENCE GESSLER JR. L.S. 12327
  - 4) PLAN PREPARED FOR HELEN R. MELOCHE NO 280 BOLTON CENTER ROAD & STEELS CROSSING ROAD BOLTON, CT. DISPOSITION PLAN SCALE 1"=40' DATE 22 JAN 1998 REV. TO 10/99 JAMES PAGOGLI LAND SURVEYING, INC. 24 TUMBLE BROOK ROAD BOLTON CONNECTICUT. CERTIFIED CLASS A-2 SURVEY JAMES PAGOGLI L.S. 17948
  - 5) SUBDIVISION PLAN ROSANNE ELIZABETH ESTATES OWNER & SUBDIVIDER LAWRENCE FIANO STEEL CROSSING ROAD WATROUS ROAD BOLTON CONN. DATE 4-10-74 SCALE 1"=40' GRISWOLD & FUSS INC. CERTIFIED SUBSTANTIALLY CORRECT HAYDEN L. GRISWOLD, JR.

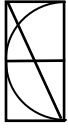
I HEREBY DECLARE THAT TO MY KNOWLEDGE AND BELIEF, THAT THIS MAP IS SUBSTANTIALLY CORRECT AS NOTED HEREON.

JAMES PAGOGLI, PR LLS NO 179.18

PLAN PREPARED FOR			
<b>THE TOWN OF BOSTON</b>			
ROSE FARM OPEN SPACE ACQUISITION			
NO. BOSTON CENTER ROAD & STEELS CROSSING ROAD		BOLTON, CT	
PROPERTY SURVEY			
SCALE: 1"=100'	DATE: 11 AUG 2000	FILE NO. 2030	SHEET 1 OF 1
JAMES PERGOLA LAND SURVEYING, INC.			
24 TUMBLE BROOK ROAD		BOSTON, CONNECTICUT	
PHONE: (860)645-6699		E-MAIL: james.pagoqli@snet.net	
REVISIONS: 21 AUG. 2000			

**BUILDING DESCRIPTIONS AND AREA DIAGRAMS**

Nelson Edwards Company Architects, LLC



### PHYSICAL DESCRIPTION

The Bolton Heritage Farm house is a 2 ½-story frame dwelling with its gable end facing south toward Bolton Center Road. Measuring 26' by 30' in plan, the house has a 1 ½-story kitchen ell, 21' by 24' in plan, extending eastward from its northeast rear corner; a 1-story 10' by 12' addition is appended to the north side of the ell. The main part of the house and the ell rest on stone foundations, with the rear addition on a concrete slab. A small brick chimney emerges above the roof of the main part of the house, with another serving the ell. Currently, the house's exterior is covered with wood shingles, but clapboards are visible in several places underneath; the roofs are covered with asphalt shingles. The dating of the house is taken up at length in Section VII; the Greek Revival-style details, gable-end-to-the-road orientation, and overall proportions give it the appearance of an early 19<sup>th</sup>-century house.

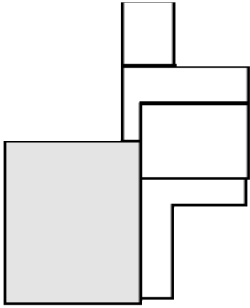
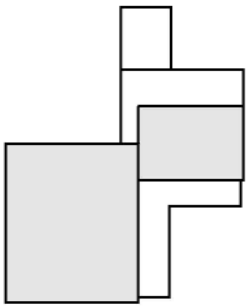
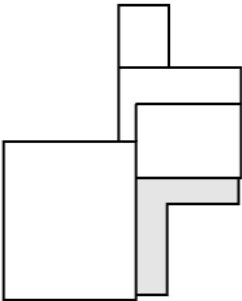
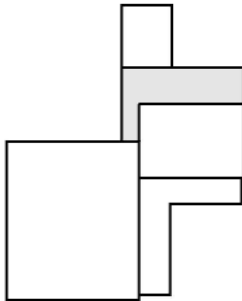
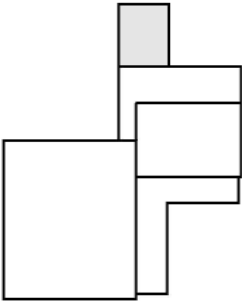
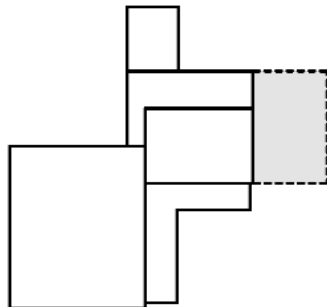
The south elevation of the main part of the house is divided into three unequal bays, with a window on each level; the main entrance is on the east side. Windows are fitted with 6-over-6 sash. The long rectangular gable window has an intricate rectilinear muntin pattern. Currently, there is a partial return of the molded cornice, but a ca. 1900 photograph (see Section VI) seems to show a full cornice return, in the Greek Revival style. A secondary entrance and two windows are found on the first level of the south elevation of the ell, with two small three-pane "eyebrow" windows lighting the upper level within. A flat-roofed Italianate-detailed open porch extends across the east elevation of the main part of the house and the south elevation of the ell. The porch is supported on paired turned posts with arched brackets terminating in pendants.

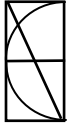
The interior is finished with plaster walls and ceilings, wood floors, and beaded casings for the posts and beams. The original plan of the main part of the house, evident from the placement of framing members, provided for a large west front room and a large east rear room, with smaller rooms at the other corners. Currently, the front part of the house is open all the way across, but marks on the floor indicate the location of the original partition for the southeast front room. The southwest front room has the only fireplace in the house. Stairs for the second floor are currently entered from the northeast rear room. The ell has a large west room and two smaller east rooms on the first level, with an added rear stairway leading to the rooms on the second floor.

Individual areas of the house are diagrammatically indicated on the accompanying illustration. These areas are referenced by all team members in their report sections.



BUILDING AREA - HOUSE

	
<p>MAIN HOUSE</p>	<p>MAIN HOUSE with CONTEMPORANEOUS ELL</p>
	
<p>PORCH</p>	<p>ELL MODIFICATIONS</p>
	
<p>MUDROOM</p>	<p>ELL EXTENSION</p>



### PHYSICAL DESCRIPTION

The barn at the Bolton Heritage Farm is believed to have been built in 1908. Measuring 46' by 34' in plan, it rests on a brick and stone foundation exposed for the height of the cellar on the south and east sides. Because of the topography, the west end and north side of the barn are at grade, where there are large sliding paneled doors. The exterior is covered with narrow vertical boards. The ridge of the barn's asphalt-shingled gable roof is oriented in an east-west direction; in the center of the roof is a small square-plan, hip-roofed cupola with paired louvered openings on each side.

The interior of the barn is organized around a north-south driveway accessed from the north-side door (the larger of the two sliding barn doors), with open areas to either side. At the west end of the barn, 14' is partitioned into a large room, the walls and ceiling of which are finished with narrow beaded wainscoting.

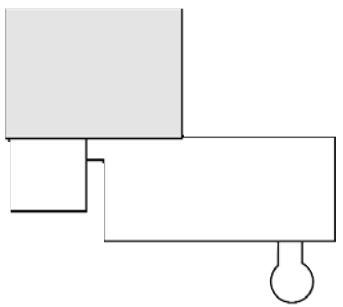
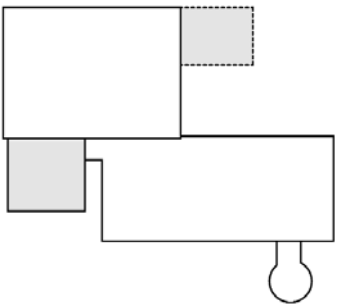
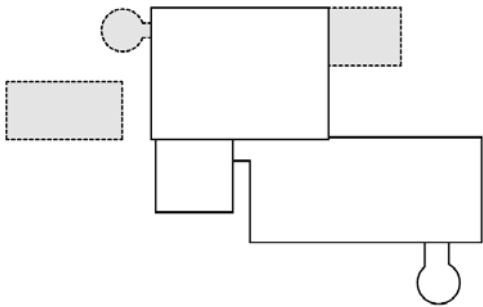
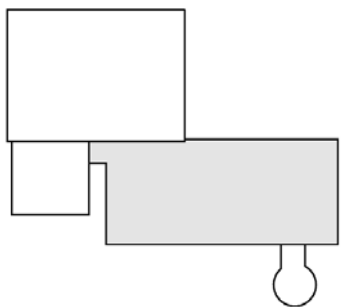
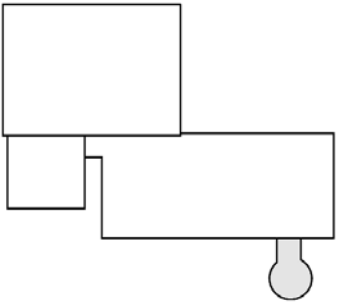
The barn is post-and-beam framed, with all members circular-sawn and joined with turned treenails. Two east-west column lines support purlins for the roof rafters; an additional center column line rises only to the level of the loft floor. The traveler and rail for a horse fork are suspended from the ridge pole.

Additions to the barn include an early 20<sup>th</sup>-century gable-roofed extension at the cellar level on the north end of the south side, 19' by 20' in plan; a concrete-block cow barn constructed in 1980, 27' by 60' in plan, attached to the south side about at its midpoint and extending eastward; and a concrete silo constructed in 1982. The materials of the earlier addition are similar to those of the main barn; it is known to be an addition because exterior siding is visible where it connects to the main barn. The 1980 cow barn has corrugated-metal roofing on its shallow-pitched gable roof and it includes a cylindrical corrugated-metal elevated bulk grain bin and a large silo formed of interlocking pre-cast concrete "staves" secured with circular tie-rods. Evidence exists for additional structures attached to or nearby the barn that are no longer extant (see Section VIII).

The separate areas of the barn are diagrammatically indicated on the accompanying illustration.



BUILDING AREA - BARN

	
<p>1908 BARN</p>	<p>EARLY 20th CENTURY ADDITIONS</p>
	
<p>COMPONENTS AS OF 1947</p>	<p>c. 1980 ADDITION</p>
	
<p>1982 SILO</p>	

**HISTORICAL BACKGROUND OF BOLTON HERITAGE FARM PROPERTY**

Public Archaeology Survey Team

## **Historical Background of the Bolton Heritage Farm Property**

The Bolton Heritage Farm property was for more than a hundred years the homestead and farm of one of the community's most influential leaders: the minister of the Congregational church. Until the Constitution of 1818, Congregationalism enjoyed a special status in Connecticut. Not only was it the religion of a majority of Connecticut residents, it was supported by taxes, regulated by the legislature, and made part of public life through Fast Days, election sermons, and other ceremonial functions. Those not wishing to align themselves with the established church could seek alternatives only with special exemptions granted (or not granted) by a town's selectmen. The minister hired by the congregation, or ecclesiastical society, as the institution was formally known, was often the only college-educated person in the community, and his parishioners looked to him as a source of moral, theological, cultural, and even political guidance. In addition to his religious duties, the Congregational minister prepared young men for college, should any of the farmers' sons in his flock have the wherewithal to pursue an education for a professional career.

Although ministers were paid a salary, often in goods as well as cash, most were obliged to supplement their earnings by operating a small farm. Although the minister owned his farm in fee simple, in practice the minister's farm was frequently passed down to his successors; as each minister retired or passed away, the farm would be sold to the next man who answered the congregation's call. Such was the case with Bolton's Minister's Farm.

Bolton was settled by the English in the first two decades of the 18<sup>th</sup> century, when it was generally known as 'Hartford Mountains'. In 1720, the town was formally incorporated, named either after the Duke of Bolton or Bolton in Lancashire, England. The following year, the town voted to build a meetinghouse. In 1722, a prospective minister, Jonathan Edwards, preached at Bolton and even agreed to take the pulpit, though he later changed his mind and became a tutor at Yale College. Edwards went on to become one of the most noted preachers and theologians of the 18<sup>th</sup> century. Nevertheless, Bolton was fortunate in the second man called to the pulpit, Thomas White (1701-1763), a classmate of Edwards' at Yale. As part of his agreement with the congregation, which was not formally incorporated as an ecclesiastical society until 1725, White received a tract of land from the town. At the town meeting held on September 14, 1724, it was voted "to give Rev. Thomas White in case he will settle in the town the lot assigned by the Committee for the Minister" (Sumner 1888: 578). At that same meeting, the town authorized a salary of £110 a year for the first two years, apparently in recognition of his need to get himself established; his salary thereafter was to be £60 per year for the next three years, with annual raises thereafter (capped at £90) of £5 per year. Thomas White accepted these terms on October 5, 1725. Farmland in Bolton was said to be well-suited to the cultivation of hay, corn, oats, and rye (Sumner 1888: 583), and the land given to the minister, high and well-drained, would appear to have been especially choice. Although there is no way to know how soon Reverend White built on his lot, it seems logical to assume that he would complete his house and barn as soon as possible, particularly given the arrangement in which his salary sharply declined after the first two years.

White served his congregation for 40 years, until his death in 1763. His successor



in the pulpit described him as follows:

Mr. White was in height above ordinary stature. He was of a full habit, with a very portly appearance, with a loud and sweet-sounding voice. He was a very companionable man, and possessed the faculty of rendering all in his company happy. He was a sound, orthodox preacher, a friend of peace and order (Sumner 1888: 603).

The second man in Bolton's pulpit was George Colton (1736-1812). In 1764, Reverend Colton purchased 50 acres described as A part of the home lot of Mr. Thomas White. According to the deed (Bolton Land Records, Volume 4, p. 206, hereafter BLR), the property included a mansion house, barn, and orchard. The term 'mansion house' at this time did not imply an exceptionally large or elaborate dwelling; instead, the term was simply part of the legalese of the period and was applied to ordinary dwellings. Colton had an even longer tenure, 48 years. He was by all accounts an impressive and idiosyncratic man. Standing 6' 7" or 6' 8" in height, he was known for his quick wit and unconventional behavior. Himself the son of a minister, he was educated at Yale and graduated in 1756. He is said to have been very thin and to have always worn old-fashioned clerical clothes, with a cocked hat and an enormous white wig (Dexter 1912: II, 408-409). He and his wife had no children, a circumstance that led to a strange incident of misunderstanding.

In June of 1781, an army of some 4,000 men under the command of Count Rochambeau camped at Bolton, taking up positions on either side of the road just east of the minister's dwelling. The army was part of a French contingent, which also included hundreds of cavalry guarding the main column but moving in a separate line to the south, that marched overland through Rhode Island, Connecticut, and New York so as to join up with George Washington's Continental Army, then encamped near the Hudson River north of New York City. The first two regiments of infantry had marched from their camp at Windham, through present-day Columbia and Andover, and then up the hilly, winding abandoned road known today as Bailey Road to the center of Bolton. The march had been so arduous that the supply wagons were late in arriving, and without tents, the troops were forced to bivouac, or sleep on the ground. Early on the morning of June 21, the first two regiments resumed their march and later that day another two regiments took their place. The presence of the French Army in Bolton was accompanied by a great deal of interaction with local citizens. The regimental musicians provided music for dancing, and Bolton residents brought food and other items to the camp to exchange for hard currency, which was scarce in the colonies.

Baron von Closen, an officer with the second contingent of French troops, recorded the following incident involving Reverend Colton in his diary:

The Presbyterian minister in this town, a large fleshy man, very prosperous, married, but childless, suggested to the wife of the grenadier Gabel, of the Royal Deux-Ponts, that she leave him one of their daughters, whom he would adopt as his own child, in return for some thirty *louis* to ease the campaign for her. [Some of the French troops were accompanied by their families.] The grenadier and his wife, who were very much attached to this child of four, steadily refused M. Coleban's offer, and thus proved their fine character and disinterest. This proposed sale was published in all the gazettes, even in France (Closen 1956: 85).

The story was also recorded in the diary of another officer, Baron du Bourg, who again misspelled Colton's name, writing it as 'Cotton' (Bourg 1880: 293). Although it apparently offended the French, the incident appears to have had no lasting effect on Reverend Colton's ministry, which continued for the next 30 years.

As part of the standard operating procedure of French military engineers, the site of the Bolton encampment was drawn in some detail, including roads, houses, field lines, streams, and the location of army units (Figure Site-1). The camp sites had been picked out prior to the march, and an overall itinerary was written out, accompanied by detailed strip maps that showed the route. It appears that the camp maps themselves were prepared at the time of the encampments and then later finalized. French military engineering was the standard of the world at the time, and it is known that the maps are relatively accurate, given the constraints of time. The purpose of preparing the maps was to serve as a record of the campaign and to provide a starting point for carrying out army movements in the future (a major consideration in Europe, where the same pieces of ground were repeatedly contested). The locations of houses were of special interest to the French engineers because officers typically were quartered in private homes.

In his will, not having any children, Reverend Colton left the 50-acre farm to the Missionary Society of Connecticut. At the time of his death, the farm's livestock included 4 cows, 1 heifer, a horse, five hogs, and 12 sheep (Andover Probate District 1812). Colton's successor, Philander Parmele, was the next owner, having purchased the farm from the Missionary Society for \$1,700 in 1817 (BLR (9:487)). Reverend Parmele was also a graduate of Yale (Dexter 1912: 6, 275-276) and came to Bolton from Victor, New York, where some controversy over the War of 1812 had led to his dismissal. Philander Parmele's Bolton ministry was short, extending only from 1815 to his death in 1822. He was a proponent of what has been called the Second Great Awakening, preaching sinfulness and redemption and urging his hearers to repent. During the summer of 1819 alone, he added 59 people to the rolls of the converted. Reverend Parmele's strong views did not please everyone in Bolton: according to his obituary, he was refused entry to a house on at least one occasion, and another time his coat was surreptitiously slashed to ribbons (Nettleton 1823). Reverend Parmele published an account of the revivals in Bolton in the *Religious Intelligencer* in 1820.

In October 1822, Reverend Parmele was entertaining a house guest, Asahel Nettleton, a Yale classmate who had become an itinerant preacher conducting revivals across the state. Reverend Nettleton had been infected with typhus, and he spread the disease to Reverend Parmele, his wife Abigail, and her sister, Amelia Redfield, who was also visiting. Typhus was characterized by high fever, chills, nausea, and a drop in blood pressure and had a high fatality rate in the days before antibiotics were available. Although Mr. Nettleton and Mrs. Parmele recovered, Mrs. Redfield died almost immediately and then, after suffering for ten agonizing days, Philander Parmele succumbed. He was widely mourned, both in Bolton and in neighboring towns, where many recalled him as a cheerful and concerned spiritual father. He was remembered for his punctuality and steadfastness; in all of his time in Bolton, before his last illness, he missed only one Sunday. According to his obituary, "in his deportment Mr. Parmele was modest and unassuming; and among strangers, retiring and diffident" (Nettleton 1823: 371).

The probate of Reverend Parmele's estate (Andover Probate District 1823) shows that the property was still a working farm. In addition to bushels of potatoes, hay and grain on hand, the

inventory recorded farm tools, cider barrels, packed meat, wagons and harnesses, four cows, four other cattle, and a horse. The Parmeles had no children, but they did not live here alone: in the 1820 federal census, another man and woman, both between the ages of 16 and 25, lived in their household. Whether they were boarders, relatives, servants, or farm hands cannot be determined.

The next minister, Lavius Hyde, who was educated at Williams College and served from 1823 to 1830, bought the property (through an intermediary, Elijah White) for \$1,600 in 1824 (BLR 10:167, 183). Did Reverend Hyde find the property unsuitable? For whatever reason, he quickly sold it back to his predecessor's widow, Abigail Parmele, for \$1,600 in 1825 (BLR 10:212). Mrs. Parmele took out two mortgages on the property, described as a farm and buildings in 1825 and a house and barn in 1833; the acreage was given variously as 50 acres and 52 2 acres (BLR 10:200a, 11:131). Finally, in 1836, she sold the farm for \$1,450<sup>1</sup> to James Ely, then serving as Bolton's fifth minister (BLR 11:254).

Reverend Ely had been educated at the Foreign Mission School in Cornwall, Connecticut, and had been a missionary to Hawaii for five years in the 1820s (Sumner 1888: 606). Returning to Connecticut for reasons of health, he took up the Bolton pulpit upon Mr. Hyde's resignation in 1830 and served until 1848. In the 1840 federal census, he and his wife were recorded as having two children then living with them. In 1848, Reverend Ely sold the property to Samuel P. Wrisley, a local farmer, for \$2,400<sup>2</sup> (BLR 12:233), and for the first time the Bolton Heritage Farm property was owned by someone other than a minister or a minister's widow.

Not much is recorded in history about Samuel P. Wrisley (1811-1901), other than that he was born in Massachusetts. He and his wife, Maria, had at least five children: Josephine, Arthur, Abby, Lilly, and Henry. In addition, in 1870 they had a 16-year-old living with them, Regina Duff ;whether she was a servant or relative is not specified (U.S. Census 1860b, 1870). The Wrisley family operated what can only be described as a typical Connecticut general-purpose farm of the period. According to the 1850 U.S. Census of Agriculture, the 52-acre Wrisley farm produced 125 bushels of corn, 100 bushels of oats, 15 tons of hay, 8 bushels of rye, 15 bushels of peas, 125 bushels of potatoes, 6 bushels of buckwheat, 150 pounds of butter, and 300 pounds of cheese; the value of slaughtered animals was given as \$100. Clearly, much of the output of the farm must have been consumed as feed for various animals and by the family itself, with relatively little (such as the butter and cheese) representing market production. For livestock, Wrisley reported owning a yoke of oxen, a horse, and four each of milk cows, sheep, and swine.

As recorded by the 1860 agricultural census, the Wrisley farm cultivated 60 acres and reported an additional cow and two other cattle. The range of crops and amounts that year were similar to what had been reported ten years earlier. The 7 ½-acre difference in acreage between 1850 and 1860, which also appears in the deeds, has not yet been accounted for. Samuel P. Wrisley

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<sup>1</sup>The difference in price between 1825 and 1836 probably represents a small but real decrease in the value of the farm; prices had fallen in the years 1832 and 1833 but then began to rise again so that by 1836 they were almost back to their 1825 level. See "Consumer Price Index (Estimate) 1800-2008", *Handbook of Labor Statistics*, U.S. Department of Labor, Bureau of Labor Statistics, or the online table at <http://www.minneapolisfed.org/Research/data/us/calc/hist1800.cfm>.

<sup>2</sup>This change in selling price represents a doubling in value, given the deflation over that period; it would appear that Reverend Ely made some major improvement to the property. Because of the Greek Revival (1830-1860) appearance of the present house, one could conclude that it was built or substantially modified during Reverend Ely's tenure; see next section.

is shown as the owner of the farmhouse on this property on both mid-19th-century maps (Figures Site-2 and Site-3).

In 1871, Wrisley sold the farm, described as 60 acres with buildings, to John W. Sumner for \$5,200 (BLR 15:117). John W. Sumner was a prominent man and represented Bolton in the General Assembly in 1877 and 1878. The inventory of his estate suggests that John W. Sumner carried on a farming operation similar to his predecessors on the property: he had a yoke of oxen, 4 cows, 4 yearlings, 2 horse, 4 carriages and wagons, farming implements, and \$200 worth of hay in the barn (Andover Probate District, 1893). After his death, the property became a summer residence for his two sons and their families, both of whom lived in Hartford (De Pold 2006). George G. Sumner was a well-known Hartford lawyer and Democratic politician. In addition to serving as mayor of Hartford from 1878 to 1880, Sumner served in both houses of the legislature and was Lieutenant Governor from 1883 to 1885. The other son, Frank C. Sumner, was a prominent banker in Hartford and served on many boards and commissions. Following the death of George G. Sumner in 1906, the property came into the sole possession of his mother Mary and his brother Frank C. Sumner. A cousin, Charles F. Sumner, bought the property in 1918, and in 1922 he sold it, along with another parcel of 13 acres, to George O. Rose, Sr. in 1922 (BLR 19:317, 20:153). Interestingly, George O. Rose's father was a missionary, indirectly continuing the farm's religious associations.

George O. Rose operated the farm from 1922 to 1984. The Rose family named the property "Valley View Farm," but it was also commonly known locally as the Rose Farm. George O. Rose's tenure of 62 years was the longest of any individual, and it came at a time when substantial changes in agriculture were occurring. He added additional land to the farm (e.g., BLR 26:81), increasing it to 103 acres, cultivated orchards, and engaged in milk production on a commercial scale (see the cultivated land visible in the 1934 aerial photograph, Figure Site-4). George O. Rose was joined by his son, Richard, in 1980; a large concrete-block cow barn was added at that time. When George O. Rose died in 1984, the dairy herd numbered 60 head of Jersey cattle (BLR 60:160), which passed into the possession of his son, Richard. The farm itself was inherited by Richard and his siblings, George and Helen, and continued as an active dairy farm until purchased by the Town of Bolton in the year 2000.

More than any other farm around, the Bolton Heritage Farm has for years been the subject of paintings, drawings, and photographs, and the property frequently was featured in local newspapers. A selection of these pictorial works is included in the section on the barn, but there exist dozens more in the collection of Helen Rose Meloche. Collectively, these depictions of the buildings and the scenic landscape testify to the farm's status as an important community landmark.

For almost three hundred years, the Bolton Heritage Farm property has been at the center of the town's history. Part of it was listed on the National Register of Historic Places because of its significance as an archaeologically intact Revolutionary War encampment site, yet it also has great heritage value as a well-preserved farmstead: as first the Minister's Farm and then later as the property of other local farmers, the Bolton Heritage Farm calls to mind the central role of agriculture in Connecticut's economy and society. With an early 19<sup>th</sup>-century farmhouse (see the issue of dating, next section) and an early 20<sup>th</sup>-century barn, the property is representative of the way nearly all Connecticut residents made their living in the 18<sup>th</sup> and early 19<sup>th</sup> centuries, a way of life that continued in increasingly fewer places as the 20<sup>th</sup> century wore on. In interviews with the Rose

family, both Richard Rose and Helen Rose Meloche told how strenuous life on the farm was, but also how much they loved it and found it hard to leave. Today, the fields, stone walls, and farm buildings of the Bolton Heritage Farm collectively represent a rare and historically significant rural landscape (Photographs Site-1 through Site-4), one that recalls farm life over many generations.

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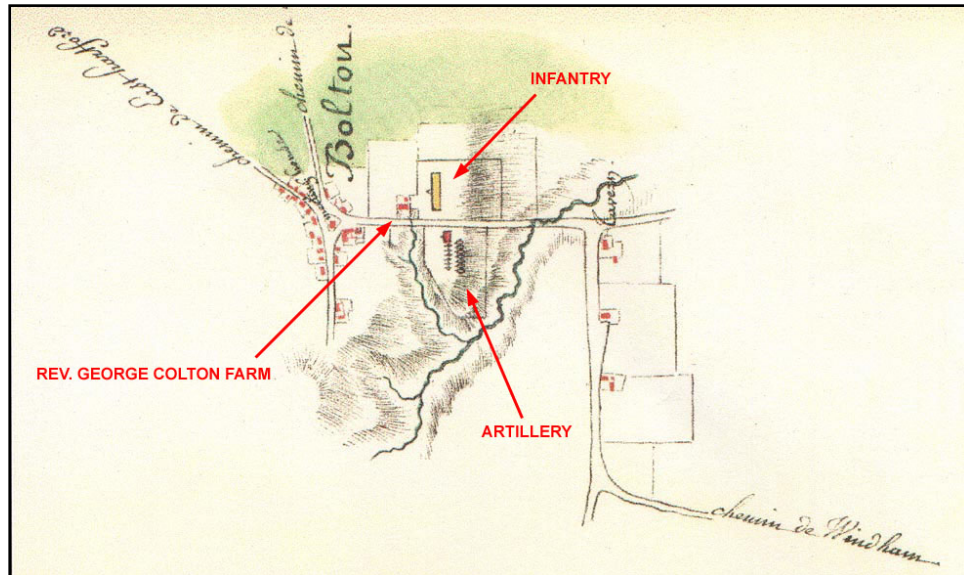
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**Figure Site-1a:** Map of Camp No. 5, Bolton, June, 1781, as drawn by French military engineers. The yellow symbol on the north side of the road is for the infantry camp, with artillery parked on the south side of the road. The house shown west of the camp is presumably that of Reverend George Colton. Reproduced from Rice and Brown (1972).



**Figure Site-1b:** The area of Camp No. 5 shown at the same scale and orientation on a portion of the USGS Rockville Quadrangle. The location of the Bolton Heritage Farm is shown by an arrow.

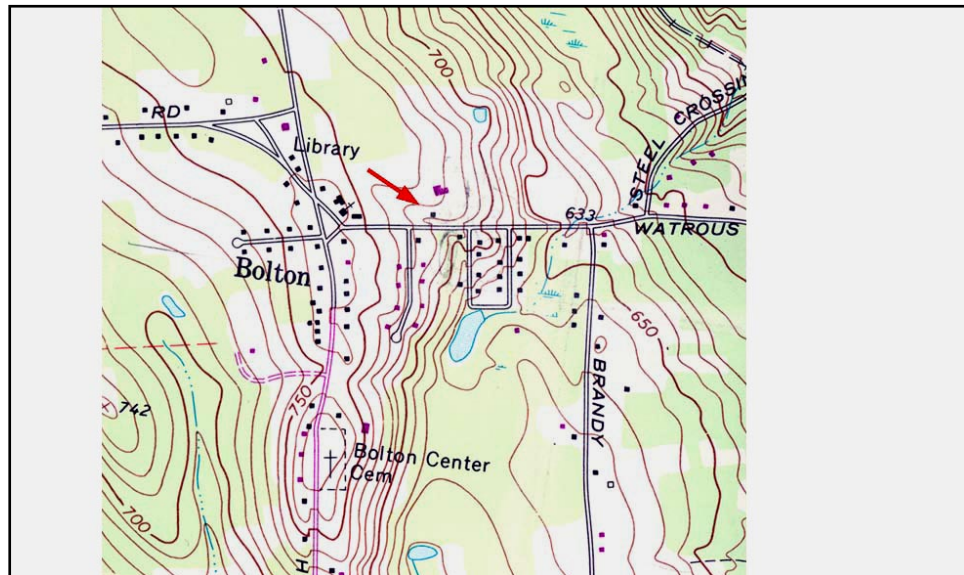
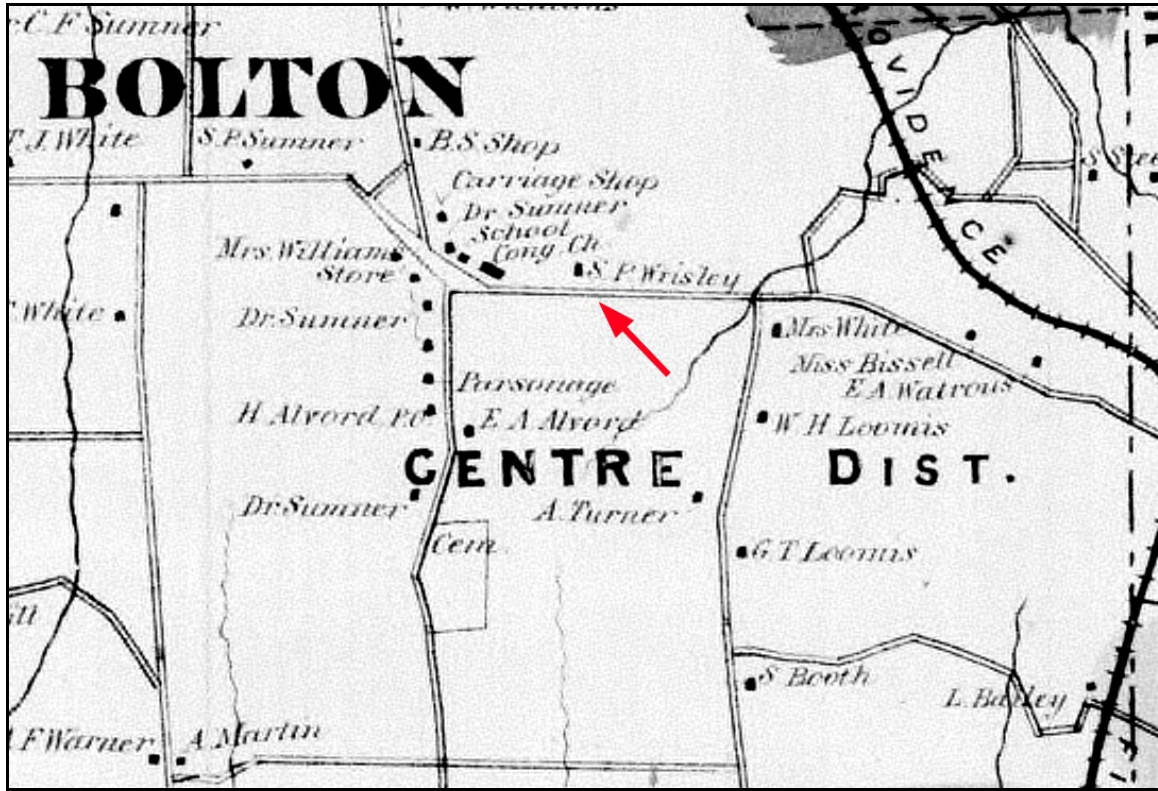




Figure Site-2: Location of the farm as shown on the 1857 Eaton county wall map. The house is shown as the property of S[amuel] P. Wrisley.



Figure Site-3: Location of the farm as shown on the 1869 Gray Eaton county atlas map. The house is shown as the property of S[amuel] P. Wrisley.



**Figure Site-4:** Fairchild aerial photograph of the farm, 1934. The farmhouse is indicated by an arrow.





**Photograph Site-1:**

**Bolton Heritage Farm, overview of the landscape from fields east of the house and barn, camera facing west.**



**Photograph Site-2:**

**Bolton Heritage Farm house, an old farm road, north of the barn leading northeast, east elevation, camera facing east.**



**Photograph Site-3:**

**Typical view of fields and stone walls, Bolton Heritage Farm.**





**Photograph Site-4: Area west of the house along Bolton Center Road, camera facing west.**



**HISTORICAL BACKGROUND OF BOLTON HERITAGE FARM HOUSE**

Public Archaeology Survey Team



## Historical Background of the Bolton Heritage Farm House

The documentary record indicates that the Bolton Heritage Farm property included a house as far back as the 1720s, when Bolton's first minister, Thomas White, was given land by the town for his homestead. But how old is the present house on the property (Photographs House-1 through House-4); does it, in whole or in part, date back as far as the 1720s or at least to some point in the 18<sup>th</sup> century? In order to address this question, PAST's architectural historian, Bruce Clouette, Ph.D., combined documentary research with a physical inspection of the house, both interior and exterior; interviews with Rose family members also provided relevant information. Clouette has more than 30 years of experience examining old houses in Connecticut, chiefly in connection with the preparation of National Register of Historic Places nominations, of which he has written dozens for 18<sup>th</sup>-century and early 19<sup>th</sup>-century houses in Connecticut.

In this section, two areas of inquiry are pursued: the date of construction of the main house, and the overall building sequence, including additions. By main house is meant the 24' x 28' two-story portion with its gable end facing south toward Bolton Center Road. Extensions to the house include a perpendicular 1 ½-story wing, called the kitchen ell, extending eastward from the main house's northeast (rear) corner; an Italianate-style open porch along the east side of the house and the south side of the kitchen ell; a gable-roofed second story over the intersection of the kitchen ell and main house at the main house's northeast corner, built to accommodate a back stairway to the upper floor; and a small one-story addition, termed the mud room, extending north from the rear of the house. Section IV includes graphic depictions of the various parts of the house.

### Main House

The documentary research in the land and probate records did not uncover any specific, detailed descriptions that would address the question of the age of the main house. Although most early deeds enumerate a house and barn, that is the extent of the information. One anomaly did appear: between 1836 and 1848, the value of the property increased from \$1,450 to \$2,400. As this was a period of deflation (falling prices), the actual increase is even more than it first appears. The acreage remained the same at 52 1/2 acres. What accounts for the difference in selling price? The increase suggests that some major improvement occurred in that time period. In fact, the increase is large enough to account for the outright replacement of an aging early 18<sup>th</sup>-century house with a new house after Reverend James Ely bought the property in 1836.

Another piece of evidence that emerged from the documentary research is the French map of Camp No. 5 drawn (at least in preliminary form) in 1781 by the French military engineers (Figure House-1). The map shows the house on the property<sup>1</sup> oriented with its broad side parallel to the road, as was most typical of 18<sup>th</sup>-century houses, and the location of

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<sup>1</sup> Because the French were very interested in houses for quartering officers, it can be assumed that that all houses in the vicinity of the Bolton camp were plotted on the map.

the house is shown considerably to the west of the present house, nearer the stream that crosses the road. Although the French camp maps are known to have been carefully prepared, it cannot be stated with absolute certainty how accurate this depiction is; all that can be said is that it does not seem compatible with the location and orientation of the present house (see Figure House-2).

Tax records often shed light on house construction; major increases in the assessment of a house usually indicate replacement or enlargement of an earlier house. However, continuous series of tax assessments for Bolton do not survive for the entire period in question. Moreover, ministers were exempt from taxation, so the only surviving tax lists for Bolton that include this house are 1812 and 1813, when Reverend Colton's widow Martha appeared on the list; 1819 and 1820, when Philander Parmele was included in the assessment (but listed as exempt); and 1833, when Abigail Parmele owned the property. The livestock and acreage in the tax lists are consistent with that appearing in the deeds and probate records: 50 acres, of which about 60% was improved, and a horse and 4 or 5 cows. In 1812 and 1813, the house was assessed as having five "one-half depreciated" fireplaces (half-depreciated was the middle of three quality categories of fireplaces). In the later tax lists, only the total value of buildings is given: \$400 in 1819, \$360 in 1820, and \$200 in 1833.

The architectural examination by PAST's architectural historian suggests an early 19<sup>th</sup>-century date for the present house. The following features are much more typical of the early 19<sup>th</sup> century than the 18<sup>th</sup> century:

- Gable-end-to-the road orientation (Photograph House-1). This feature is usually interpreted as part of the interest in Classical architecture in that period; such an orientation enhanced the sense of the building as a Classical Greek or Roman temple. The gable-end orientation appeared in the Federal period (1800-1830) and was continued in the Greek Revival period (1830-1860). Except in urban areas where land was at a premium, Colonial houses almost always were built with the broad side facing the road.
- Roof framing (Photograph House-5). The most prevalent form of 18<sup>th</sup>-century roof framing for houses of this size was the use of hewn common rafters connected at the apex with mortise-and-tenon joints, with no ridgepiece connecting the rafter pairs.<sup>2</sup> The earliest use of a ridgepiece known to PAST's architectural historian is the Shubael Paterson House in Berlin, said to have been built ca. 1790. After

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<sup>2</sup>The standard work on Connecticut colonial houses (Kelly 1924) does not include the type of roof seen in the Bolton Heritage Farm house as one of the characteristic 18<sup>th</sup>-century framing methods. Kelly's conclusions have been modified by later scholarship, especially in regard to small, vernacular houses, but no more recent comprehensive work has appeared, and his general conclusions are widely accepted.

1800, the practice of using a hewn ridgepiece, with sawn rafters and one set of purlins and inclined purlin-posts, as seen in this house, became nearly ubiquitous in Connecticut. In the middle of the 19<sup>th</sup> century, the use of the hewn ridgepiece was superseded by a flat ridgeboard, essentially the same as modern practice. The use of up-and-down sawn rafters is also characteristic of the first half of the 19<sup>th</sup> century.

- Framing members. Typically, 18<sup>th</sup>-century framing is heavier than the post-and-beam framing used in the early 19<sup>th</sup> century. Usually, corner posts have a flared shape or *Agunstock* shape in houses from the middle 18<sup>th</sup> century, and the joist system was often divided in mid-span by a summer visible in the ceilings. Over time, the summer became reduced in size and disappeared. The framing of the Bolton Heritage Farm house includes straight and relatively slender posts (Photograph House-6) and does not include summers. The proportions of the framing members alone would suggest a late 18<sup>th</sup> - century/early 19<sup>th</sup>-century date.
- Chimney. The present chimney was rebuilt by George O. Rose in the 1920s (Rose 2008), but there is no evidence for a substantially larger chimney such as would be required for the typical 18<sup>th</sup>-century house, certainly for the five fireplaces known to have been in Reverend Colton's house. The chimney that preceded the present one is visible in the ca. 1900 photograph included as Figure House-3 and appears just a little larger than the present chimney. Also, there is no evidence for a substantially larger chimney in the roof sheathing or framing (Photograph House-7). In fact, the presence of the continuous center beam in the first floor framing is completely incompatible with a large center chimney. Presently, there are no fireplaces in the main house other than that in the front room, and there is no visible evidence that fireplaces have been removed. Nor does the current partitioning of first-floor rooms seem to allow for fireplaces opening into a large central stack.
- Foundation. The foundation around the present house (Photograph House-8) consists of a rubblestone base, with cut granite or granitic-gneiss slabs forming an exterior top course. This technique of creating the appearance of a cut-stone foundation was much more common in the early 19<sup>th</sup> century, when commercial granite quarries first appeared in Connecticut, than earlier. It was virtually never found before the Revolution, especially in rural areas, where fieldstone or roughly shaped schist or gneiss predominated (Kelly 1924: 67-71).

- Windows. Windows in the house are of two types, 12-over-8 thin-muntin sash typical of ca. 1810 and 6-pane sash typical of the period 1830-1860. The 12-over-8 windows, while glazed with hand-blown glass, are not typical of the 18<sup>th</sup> century but rather of the early 19<sup>th</sup> century; earlier windows had muntins that were broad and flat (Kelly 1924: 94-95). The front gable window (Photograph House-1), with its rectilinear glazing, is a Greek Revival-period (1830-1860) element; this stylistic feature replaced the elliptical and fan-shaped windows found on earlier, gable-end houses of the Federal period (1800-1830).

Thus, the preponderance of the evidence, in the opinion of PAST's architectural historian, is that the main house dates to the early 19<sup>th</sup> century, perhaps as late as ca. 1840, when the house was owned by Reverend James Ely. No single piece of evidence can be considered definitive by itself, because alternative explanations (departure from the norm, later modification) are always possible. Taken together, however, the architectural elements of the house lead to only one conclusion. The architectural evidence is also consistent with the decline in the value of the property's buildings between 1820 and 1833 in the tax assessments, which could be accounted for by the original 18<sup>th</sup>-century house becoming increasingly decrepit, and with the increase in the overall property's sale price between 1836 and 1848 arising from the construction of a new house.

The only identifiably 18<sup>th</sup>-century material observed in the main part of the house during the field inspection were the various batten and paneled interior doors. These doors, some of which retain 18<sup>th</sup>-century hand-forged latches and strap hinges, are almost certainly not original to the house. In almost every case they have been cut down or built up to fit the door opening, and the paneled doors are not installed in a consistent manner (i.e., with the paneled sides facing in or out). Moreover, these authentic old doors are similar to the three doors (Photograph House-9) that George O. Rose is known to have used to repair roof sheathing damaged during the Hurricane of 1938 (Rose 2008).

This opinion is not in accordance with an assessment of the house produced by the Newport Restoration Foundation (Foley 2008), which stated that the main part of the house dated from 1724-1735. As a check on the analysis by PAST's architectural historian, PAST retained the services of John Obed Curtis, former curator of architecture at Old Sturbridge Village. Mr. Curtis visited hundreds of 18<sup>th</sup> and 19<sup>th</sup>-century houses throughout southern New England in connection with his work at Old Sturbridge Village, including dismantling and re-erecting many such houses, for which he is considered a national authority. Mr. Curtis has also served as a consultant on historic architecture for the Connecticut State Historic Preservation Office for more than 40 years. Mr. Curtis concluded that, based on stylistic evidence, the main house was built in the period 1815 to 1825. In addition to the considerations enumerated above, Mr. Curtis noted the relatively shallow roof pitch, the narrow-bead corner-post boxing, the lack of chair rails, and the apparently original closets, all of which point to an early 19<sup>th</sup>-century date. He concluded that no original elements of

the present house could predate the American Revolution and that the house was in all likelihood built 40 or 50 years later (with even later Greek Revival-period (1830-1860) stylistic modifications). Mr. Curtis suggested that, given the absence of fireplaces other than the one in the front room, or any evidence for such fireplaces, the main part of the house probably relied upon stoves for its principal source of heat. Wood stoves became increasingly common after 1800; because combustion occurred in an enclosed space, they were far more efficient than fireplaces and required correspondingly less draft. As a result, a small chimney could accommodate pipes from stoves in several rooms (such a shared flue would not meet current fire-safety codes). With no large central stack determining the layout of rooms, floor plans became more diverse, allowing such variations as the diagonally symmetrical first-floor plan seen in this house.

Even if the present main house was erected in the first part of the 19<sup>th</sup> century as a replacement for the original early 18<sup>th</sup>-century house, it may be that some of the framing members from the earlier house were incorporated into the second house's frame; this practice was quite common, since it could save the labor of hewing new timbers. The authentic 18<sup>th</sup>-century doors and hardware and the kitchen-ell paneling (see below) also may have been salvaged from the earlier house. In short, while it presently appears to be a house from the Greek Revival period, the Bolton Heritage Farm house may contain some material that dates back to the earliest house on the site, the dwelling of the first minister, Thomas White.

There are two scientific techniques, both entailing some additional outlay of funds, that could address the question of the present house originating, in whole or in part, from the 18<sup>th</sup> century. If the house is the original house or on the site of the original house, professional archaeological testing around the perimeter would be expected to uncover the 'signature' of an 18<sup>th</sup>-century building: predominance of hand-formed nails, creamware ceramics, and large-bore pipe stems, for example. Conversely, the early 19<sup>th</sup>-century signature of cut nails, later ceramics, and smaller-bore pipes would indicate that the house is a 19<sup>th</sup>-century structure.<sup>3</sup> In addition, professional archaeological testing by an historic house-archaeology specialist could establish, with a small number of exploratory test pits, whether an earlier house was located on the knoll to the west, as suggested by the 1781 French map. A concentration of early to late 18<sup>th</sup>-century domestic artifacts there would constitute strong evidence that the Colton house is not the Bolton Heritage Farm house but rather is buried just to the west.

Another relevant scientific technique is dendrochronology, in which the spacing of growth rings in the framing timbers is compared to a known sequence of rings. If qualifying timbers can be identified, core samples could identify the year in which the trees were felled, shortly after which, presumably, the house was built. Dendrochronology is not always possible, however, and cannot by itself distinguish re-used timbers from an earlier house.

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<sup>3</sup>In interviews with PAST, Richard Rose stated that he has never found early nails or other early artifacts in the vicinity of the house.

### Building Sequence

The second line of inquiry undertaken by PAST's architectural historian was determining the stages by which the house reached its present form. The following sequence of additional building episodes appears likely, given the physical and stylistic evidence:

- Kitchen ell. There is evidence both for the 1 ½-story kitchen ell being original to the house (in whole or in part) and for its being an addition. No evidence of a large kitchen-sized back fireplace exists in the main part of the house, leading to the conclusion that the present kitchen ell either is contemporaneous with the main part of the house or replaced an earlier kitchen ell. Otherwise, where was the family's cooking done? It is unlikely that the fireplace in the front room would have been used for cooking, as that would be incompatible with the room's use as a parlor. However, the mantel in the front room was originally 6' to 7' across (Rose 2008), raising the possibility that it was large enough to be a cooking fireplace. Alteration of the original chimney stack in the 1920s may have made it impossible to make conclusions regarding the original chimney and fireplace arrangement. The kitchen ell formerly contained a large cast-iron cook stove in front of a fireplace (Rose 2008), so it is known that the ell has a long history as the house's kitchen.

The presence of hewn beams and up-and-down sawn joists visible in the crawl space underneath the kitchen ell also points to a contemporaneous origin for the ell; these are similar to the framing materials used in the main part of the house. Finally, the house and the front part of the ell share the same granite-slab foundation facing, evidence, perhaps, of a single building episode.

Against this evidence for the kitchen being contemporaneous with the main part of the house (assuming the latter dates from the early 19<sup>th</sup> century) must be weighed three pieces of evidence. First, the exterior cornice moldings, while similar, are not identical to those on the main part of the house, suggesting that they were built at different times (Photographs House-10a and 10b). Secondly, except for one visible post in the east wall, the framing members of the ell do not protrude into the room like those in the main part of the house, suggesting that it has a much more slender post-and-beam frame or even a frame formed from studs, and therefore that it was constructed later than the main house. The lack of protrusion of the structural frame into the interior also argues against the ell being an 18<sup>th</sup>-century building or a fragment of an 18<sup>th</sup>-century building. Mr. Curtis proposed a date of ca. 1875 for the present kitchen ell, either as an addition or as a replacement for an earlier kitchen ell, and the Newport Restoration Foundation study proposed a date of ca. 1850.

The presence of an intermediate stone wall in the crawl space provides a possible solution to the problem of dating the ell. If the wall represents the foundation for an outside wall, then the original ell was smaller than what is apparent today, 15' by 24' in plan instead of 21' by 24'. A distinct discontinuity in foundation materials between the two parts is apparent from the inside, in the crawl space, lending additional evidence for a once-smaller ell. Such an ell would not be wide enough for rooms on the second level, so the present second floor, roof, and cornice moldings would all post-date the original kitchen ell. As the one extant post visible on the interior corresponds to the east end of the stone wall, it could be surmised that it was a corner post to the original ell, with the other posts disappearing through later modifications, such as the installation of a plumbing stack at the southeast corner and the added stairway at the northwest corner.

There was no opportunity in this study to examine the structural connection between the ell and the main part of the house underneath the clapboards; usually evidence of addition becomes clear once a portion of the siding is removed. Similarly, removal of portions of the interior finish on exterior walls would probably provide evidence of any discontinuities in the ell. For example, it might show that the upper level was a later modification, and it might show that the northernmost 6' of the first floor was added to an original, smaller ell.

As a working hypothesis, PAST proposes that the main part of the house, along with a single-story 15' by 24' kitchen ell, was built in the late 1830s or early 1840s. Fifteen or twenty years later, the ell was expanded to its present dimensions, allowing more room on the first floor and creating habitable space on the upper level.

- Porch. The porch along the east side of the house and across the south elevation of the ell is Italianate in style, particularly the articulation of the turned posts into pedestal/column/frieze components, the use of doubled posts, and the arched post brackets with pendants. These stylistic details were used from the 1850s through the 1870s (McAlester and McAlester 1984: 213). Mr. Curtis suggested the porch was built in the 1870s.
- Ell extension. Early photographs (Figure House-3) show a one-story wing built onto the present ell extending toward the present driveway. According to the oral interviews with members of the Rose family, this portion was removed in the early 20<sup>th</sup> century by Richard O. Rose and replaced by a simple open porch (Figure House-4). This portion,

which had no cellar, was known as the “servants’ quarters” and was accessed from the kitchen ell through a door in what is now a bathroom. Other than noting it was in place ca.1900, there is no way to further refine the date of origin for this no-longer-extant component. Richard Rose stated in interviews that the belief that this extension burned is incorrect and that his father removed the ell because of wood rot and deterioration.

- Back stairway. The rear stairway is contained within a small two-story gable-roofed appendage where the main house and ell intersect near the main house’s northeast (rear) corner (Photographs House-3 and House-4). This component appears to represent a ca.1900 modification to the house. Again, the cornice moldings are different from both those on the ell and those on the main house. The construction appears to be stick-framed, and the two-over-two windows are consistent with a ca.1900 date.
- Mud room. The latest portion of the house is the small one-story wing that contains the rear entrance to the house (Photographs House-3 and House-4). Built of modern dimensioned lumber on a concrete slab, it was constructed around 1940.
- Miscellaneous modifications. Interviews with Richard Rose indicate that his father, George O. Rose, carried out a number of modifications. At some point, a partition that formed a small room just inside the front entry to the main house was removed; marks on the floor indicate its location. George O. Rose also rebuilt the main house’s chimney in brick, reduced the size of the stone chimney base, and constructed the arched brick fireplace in the front room, building out the Greek Revival mantel and reducing it in size (Photograph House-11). A wide doorway between the front and rear rooms was fitted with French double doors. In the kitchen ell, Mr. Rose also rebuilt the chimney and installed a cast-iron cook stove to replace the one present when he bought the house in 1922.

Pictorial evidence (Figure House-3) indicates the house around 1900 had shutters, a wood-shingled roof, and a clapboarded exterior, all of which have been removed, replaced, or obscured by later material.

Paint marks in the rear room of the main house suggest that the present open stairway was formerly enclosed; this could be interpreted as evidence that the stairs were earlier accessed through the front room, which would be more logical.



Currently, the interior of the kitchen ell has raised paneling forming a dado halfway up the wall. The paneling has been cut to fit the length of the walls, indicating that it is not original (Photograph House-12).

The mantel behind the cook stove in the kitchen ell was removed in the 1980s (Rose 2008).

### **Conclusion**

**It is important to note that the dating of the main house and the building sequence presented above are based upon a surface examination of the house.** Much additional data can be expected to emerge if the house undergoes any repair or restoration. As siding, wall coverings, and later floors are removed, older layers will be uncovered. In any work on a building of this age, new anomalies will emerge, crying out for an explanation; cherished estimates of age and sequence will have to be rethought; and once-discarded theories will be given new life. This is normal for old houses: even the most beloved historic house museums of New England find they must constantly re-evaluate the age and construction sequence assigned to their buildings.

With this caveat in mind, it can nevertheless be stated that the Bolton Heritage Farm house is an important, even essential, component of the overall historic property. Regardless of one's opinion about its date of construction, it certainly must have been in place during the tenure of Bolton's fifth minister, James Ely, and so sustains the appreciation of the property as the "Minister's Farm." Although it has been substantially modified on the interior, its exterior appearance is that of a typical rural house of the Greek Revival period. The gable window, cornice moldings, and six-pane sash are hallmarks of the type. The porch, while probably somewhat later than the Greek Revival-period elements, also adds to the sense of history inherent in the house. Conservation of these character-defining features will allow the house to continue to play its role as a heritage resource. Should funds permit, exposure and repair of the clapboarded exterior and restoration of the cornice return across the front gable will enhance its historic appearance.

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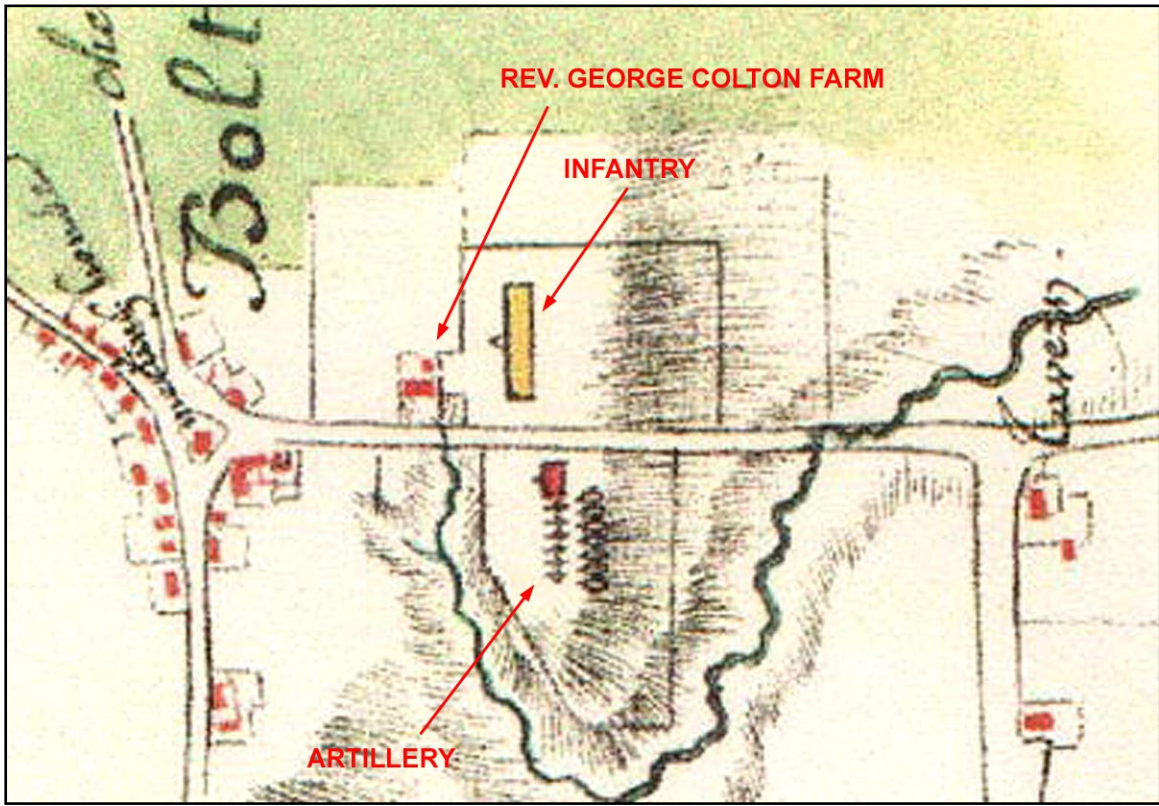
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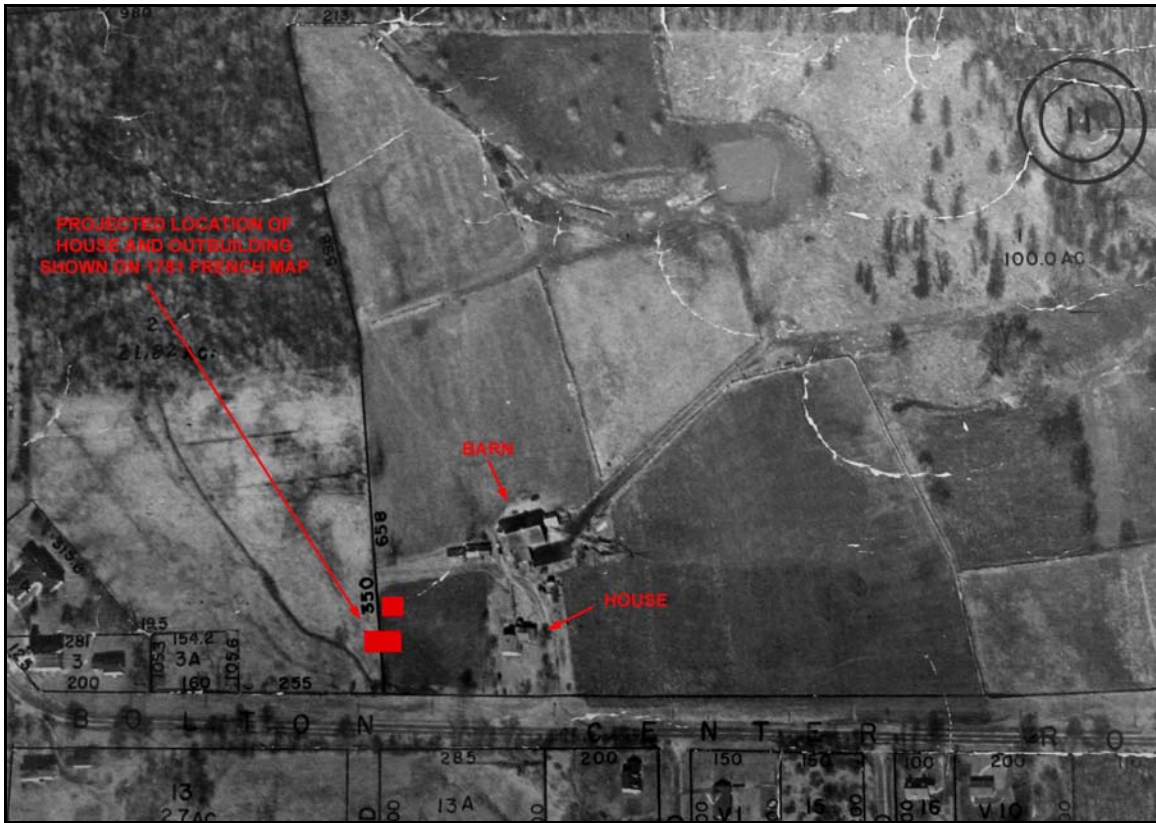
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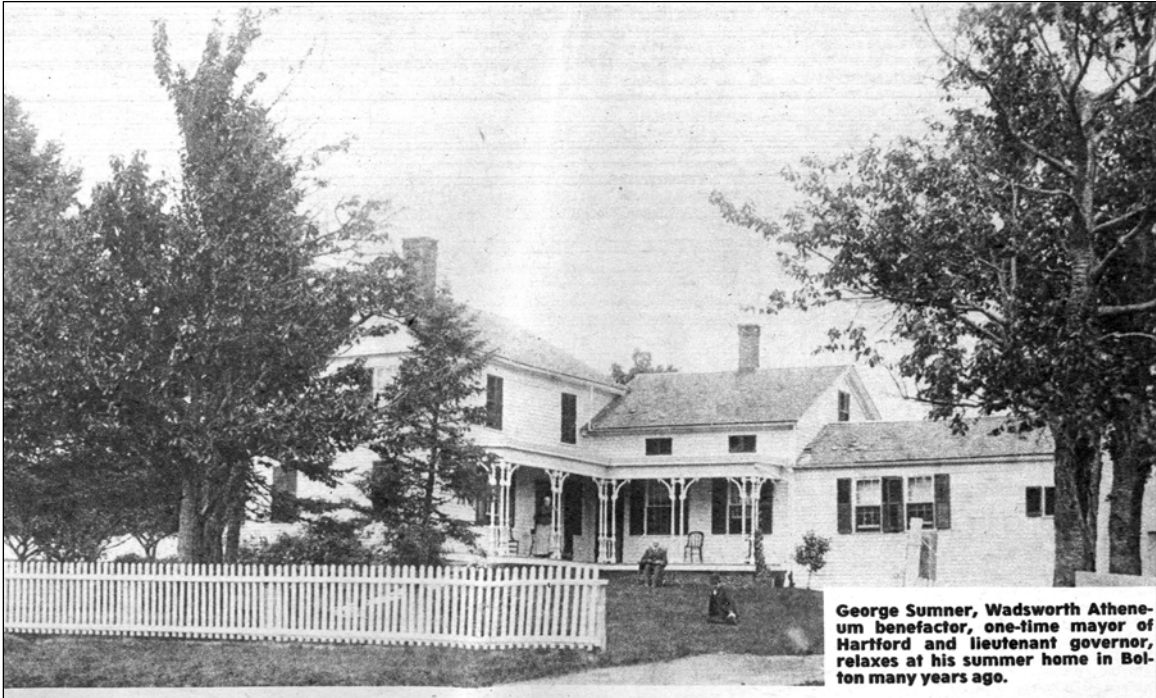
**Figure House-1:** Map of Camp No. 5, Bolton, June, 1781, as drawn by French military engineers. The yellow symbol on the north side of the road is for infantry, with artillery parked on the south side of the road. The house shown west of the camp, presumably that of Reverend George Colton, appears further west than the present farmhouse, and it is shown with its broad side parallel to the road, the most common 18<sup>th</sup>-century orientation.



**Figure House-2:** Location of the house and outbuilding shown on the 1781 French map of Camp No. 5 plotted on the current Bolton Assessor map. Re-scaling of the maps used the Bolton Green and the still-extant White Tavern on Brandy Street as reference points. In this overlay, the house appears to straddle the property line, which seems unlikely, but, allowing for some error in pacing off distances, the French map raises the possibility that the knoll to the west of the present house may be the site of an earlier 18<sup>th</sup>-century house. Note the change in orientation, with the older map showing the broad side of the house parallel to the street.



**Figure House-3:** Copy of a photograph of the house, ca. 1900, showing members of the George Sumner family (Collection of Helen Rose Meloche). The photograph shows an extension to the kitchen ell that is no longer there. Other differences from its modern appearance include clapboards on the exterior, wood-shingled roof, shutters on the windows, twelve-pane sash in the front windows of the kitchen ell, and the full cornice return across the south gable end.



**Figure House-4:** Copy of a photograph dated 1951, showing members of the Rose family in front of the porch that took the place of the extension of the kitchen ell (Collection of Helen Rose Meloche) The wood-shingle siding is in place.





**Photograph House-1: Bolton Heritage Farm house, south (front) elevation, camera facing north.**



**Photograph House-2: Bolton Heritage Farm house, east elevation, camera facing west.**





**Photograph House-3:**

**Bolton Heritage Farm house, north (rear) elevation, camera facing south.**



**Photograph House-4:**

**Bolton Heritage Farm house, north and west elevations, camera facing south.**





**Photograph House-5:**

**Hewn five-sided ridgepiece visible in the attic. This type of roof framing is associated with early 19<sup>th</sup>-century houses, as are the up-and-down-sawn rafters.**



**Photograph House-6:**

**Cased posts in the first-floor front room, camera facing southeast.**



**Photograph House-7:** Interruption of the ridgepiece (between arrows) indicating the size and orientation of an earlier chimney.





**Photograph House-8:**

**Corner of house, showing foundation facing slab.**



**Photograph House- 9:**

**Authentic 18<sup>th</sup>-century batten door used to repair roof sheathing following damage from the Hurricane of 1938.**



**Photograph House-10a:      Cornice molding on the main part of the house.**



**Photograph House-10b:      Cornice molding on the kitchen ell.**





**Photograph House-11:**

**Greek Revival-style mantel in the front room of the main house and arched brick fireplace. George O. Rose built the fireplace and cut down and built out the mantel to its present size; he also installed the French doors (right) connecting the front and back rooms.**



**Photograph House- 12:**

**Paneled dado in the kitchen ell. The paneling has been cut to fit the space, so it must be a later modification.**



**HISTORICAL BACKGROUND OF BOLTON HERITAGE FARM BARN**

Public Archaeology Survey Team

## Historical Background of the Bolton Heritage Farm Barn

The barn at the Bolton Heritage Farm (Photographs III-1 through III-3) was built in September 1908, at which time the property was a summer retreat for members of the Sumner family. The date of construction is known from an inscription on one of the timbers by the presumed builder, a man named Mahr (Rose 2008). In form and materials, it is typical of New England barns of the late 19<sup>th</sup> and early 20<sup>th</sup> centuries and reflects the changes in agriculture that occurred in that period. Sometimes called a “Yankee Barn” (Porter and Gilman 2001: 11), the type represents an improvement over the traditional English Barn that had been common since Colonial times. The English Barn was smaller overall and divided into three bays. The center bay, which usually had large barn doors front and back, was used for threshing and winnowing grain by hand, taking advantage of the cross-currents of air afforded by the two sets of doors. Hay was stored in lofts to either side, with limited space on the first floor for horses and wagons and carts. Cattle, including cows and oxen, were typically not housed in the barn but rather provided with lean-tos or other primitive shelters. After 1800, various mechanical methods of threshing and winnowing were devised. The English Barn remained in use, however, undoubtedly because its relatively small size and center bay facilitated the arduous chore of unloading hay wagons by hand.

The defining characteristics of the Yankee Barn<sup>1</sup>, which became increasingly common after 1860, are a larger overall size, taller proportions, a gable-end entry, some provision for ventilation, and outside access to both the main floor of the barn and the below-grade area, achieved either by natural topography or building a ramp to the main end entrance. These changes came about from a growing desire to house animals inside, by the need for increased hay storage, and by the introduction of mechanical methods for unloading hay. Agricultural societies and writers in progressive agricultural magazines urged the adoption of the new ideas about barns; the magazine *American Agriculturist* called the old English Barn unsightly, inconvenient, and poorly adapted to any use but that of storing grain and hay (Rawson 1982: 12) As one would expect of a barn built by the well-to-do Sumner family, the Bolton Heritage Farm barn embodies all of what were then regarded as modern, up-to-date features.

Barns of this period continued to be built with post-and-beam framing (Photograph III-4). In place of the hand-hewn members of earlier barns, however, the use of sawn structural members increasingly replaced the hewn frame, starting with the smaller elements and continuing to the main posts and beams themselves by 1900. At first, sawn members were the product of up-and-down reciprocating saws, but increasingly sawmills with circular saws were able to produce all but the largest structural members. It was not until the braced-rafter barn was introduced about 1920 that American barns abandoned the post-and-beam principle.

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<sup>1</sup>Other terms for this type of barn include “New England Barn” (Hubka 1984: 55; Vlach 2003: 44) and “Gable-Front Bank Barn” (Visser 1997: 74-76).

The Sumners appear to have used the Bolton Heritage Farm barn primarily as a horse barn; the barn exhibits several specific adaptations for that purpose. The west end entrance, which in a general-purpose barn would be an opening for the center drive, opens into a large wainscoted carriage/workshop/tack room; not large enough for a fully loaded hay wagon, the doorway appears instead to have been intended for carriages. A corresponding blocked-up opening on the east wall of the carriage room suggests that originally carriages and wagons could have been driven into the center of the barn this way. The main hay entrance is on the north side, within a larger door, which gives access to a cross-wise drive (Photograph III-5). Hay was unloaded with the assistance of a horse fork, the rail and traveler for which are still in place (Photograph III- 6). A loaded hay wagon could be unloaded in a matter of minutes with this equipment (Visser 1997: 79-80).

The post-and-beam frame, tongue-and-groove exterior, ventilating cupola, sliding doors, and end entrance of the Bolton Heritage Farm barn are all original features that help define it as an example of its period and type. The lower level of the barn, part of the original design, has been partially obscured by later additions. Originally, the lower level of the Yankee barn was intended for the storage of root vegetables, carts and implements, and manure. Farmers were divided on whether it was wise to house animals on the lower level because of the dampness, but eventually the housing of animals on the lower level became common so long as adequate ventilation was provided by means of small windows along the perimeter (although vegetation now obscures them, the brick lower level of this barn has such windows).

The lower level of the Bolton Heritage Farm barn was adapted to dairy farming beginning in the 1920s. A concrete floor with manure gutters was poured and a ventilator box leading to the barn's main floor was installed. The present arrangement of the lower level, with stanchions for 18 cows on the lower level and pens along the periphery (Photograph III- 7), represents the latest in a series of re-configurations of this space (see also Figure III-6). A manure-removal system, known as a "litter-carrier (Meloche 2008)," formerly extended into the area east of the barn (Figure III-7). The manure was collected here and spread onto the farm fields.

Horses remained an important part of farm operations. Like most Connecticut farmers, George Rose relied on horses for plowing, raking, pulling wagons, and other operations requiring power. Tractors did not become common on Connecticut farms until the 1940s, which is when Mr. Rose purchased his first tractor.

At the southwest corner, a one-story gable-roofed wing extends to the south; it was in place as early as 1934 (see Figures III-1 and III-5). At the east end, near the north corner, was another pre-1934 one-story addition; the shadow marks of its roof can still be seen (Photograph III-3). It is said to have been an old ice house incorporated into the barn and used as a bull pen. It was removed after the town acquired the property in the year 2000 (Rose 2008).

In 1947, a wood-stave silo purchased from a farm in Andover was added near the west end of the barn (Figure III-4). It was removed in the 1980s, but its stone and concrete foundation can still be seen (Photograph III-8). Silage was an important innovation of the late 19<sup>th</sup> century. By chopping up and storing corn, both ears and stalks, dairy farmers could provide their cows with green feed all through the winter, without which milk production would drastically decrease. At first, silage was simply stored in a closed-off area within the barn, but this proved less than ideal because it was difficult to keep moisture in and air out. Prefabricated silos of interlocking wood staves, tiles, or concrete blocks proved more effective.

The last major change to the barn occurred around 1980 with the addition of a large one-story concrete-block, metal-roofed cow barn on the south side, along with a newer and larger concrete-stave silo and a metal bulk-grain bin (Photographs III-1, III-6, III-9 III-10). This type of silo, which uses interlocking pre-cast concrete “staves,” was developed in the 1920s, but it remained popular for decades. The barn was fitted with stanchions for 40 cows, a centralized milk-collection system, and clean-out mechanisms in the manure gutters in the concrete floor. The litter carrier was removed at this time (Meloche 2008).

In addition to the barn and its additions, the outbuildings of the Rose Farm also included two sheds to the west that are no longer standing (Figures III-8 through III-10). These sheds are said to have been carriage houses removed from the nearby Congregational Church property (Meloche 2008, Rose 2008). Another small shed stood to the east of the barn. These were removed after the town acquired the property in the year 2000.

The barn at the Bolton Heritage Farm is an exceptionally well-preserved, substantially original example of an important American form of building, the Yankee Barn. The barn could well serve as an interpretive touchstone for discussing all manner of changes in agriculture over the past two centuries. Further consultation with members of the Rose family, ideally on-site, could provide more information about how the barn was used, and the many changes that occurred, during their family’s long period of ownership.

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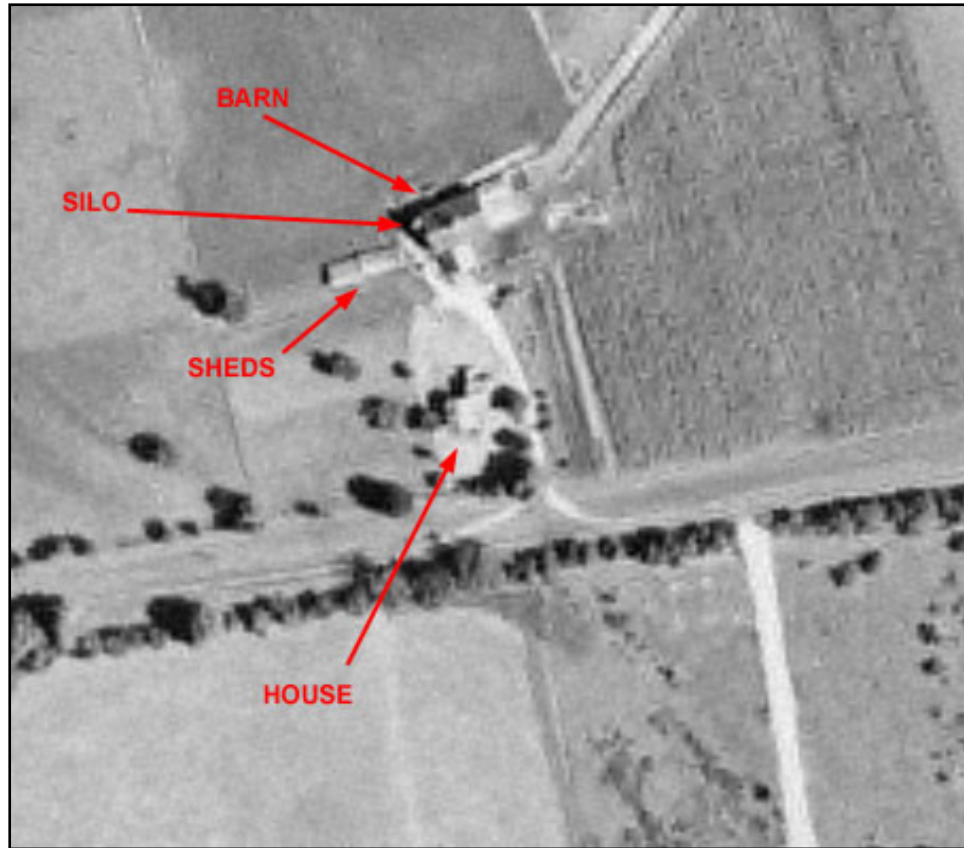
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**Figure Barn-1:** Fairchild aerial photograph, 1934, showing the Bolton Heritage Farm barn. Visible are the additions on the south and east elevations, a small shed or other outbuilding to the east, and one shed to the west. There is no silo.

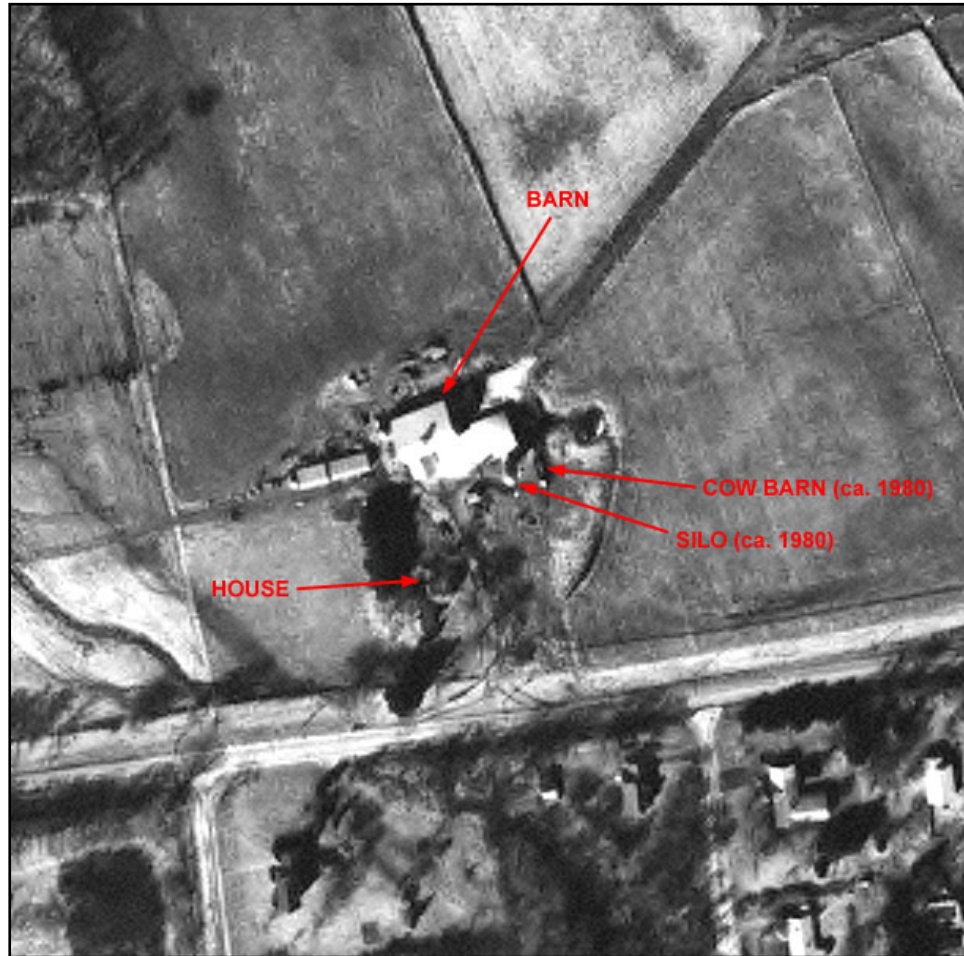




**Figure Barn-2:** U.S. Department of Agriculture aerial photograph, 1951. Visible are the silo moved to the site in 1947, at the northwest corner of the barn, and a second shed to the west.



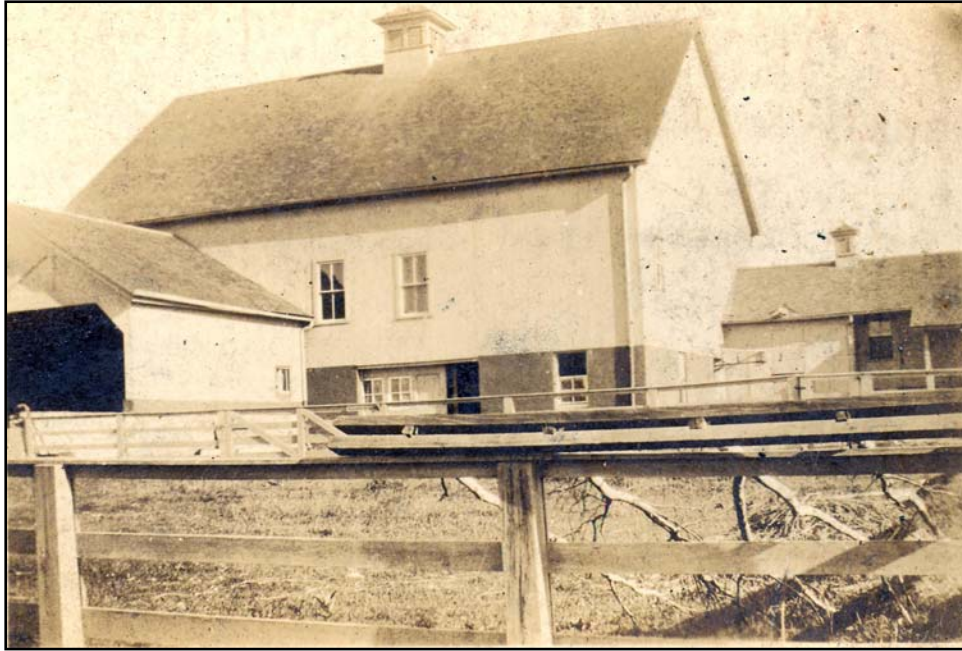
**Figure Barn-3:** Connecticut Department of Environmental Protection aerial photograph, 1985. The ca. 1980 additions are visible on the south side of the barn.



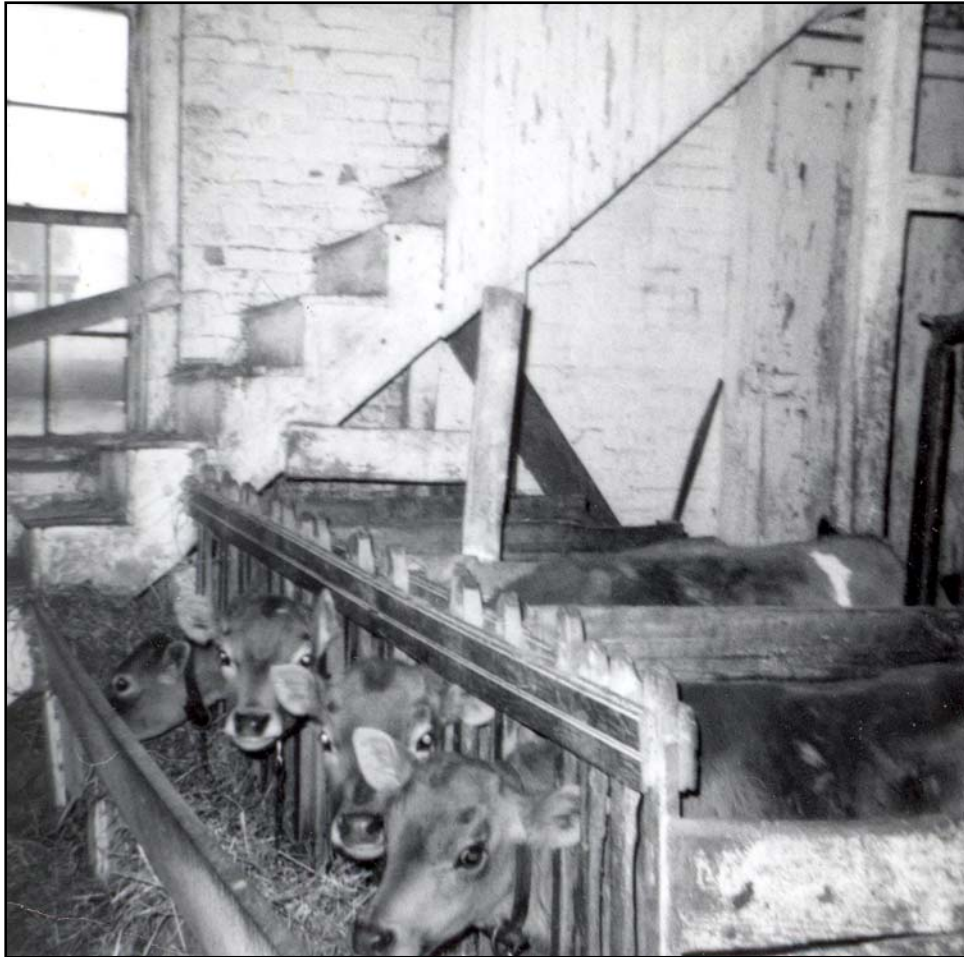
**Figure Barn-4:** Copy of photograph dated May 8, 1947, showing wood-stave silo added to the west end of the barn (Collection of Helen Rose Meloche).



**Figure Barn-5:** Copy of photograph, undated by probably late 1940s, showing south side of barn before addition of later concrete-block cow barn (Collection of Helen Rose Meloche).

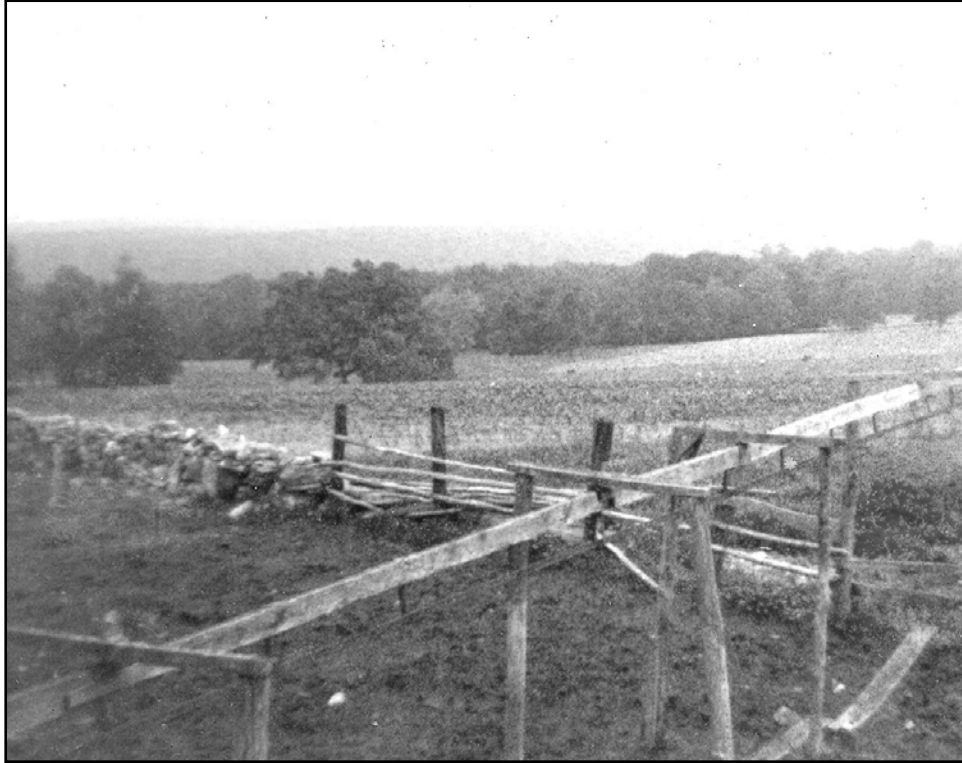


**Figure Barn-6:** Copy of photograph dated May 1968, showing interior of lower-level of barn, looking south (Collection of Helen Rose Meloche).





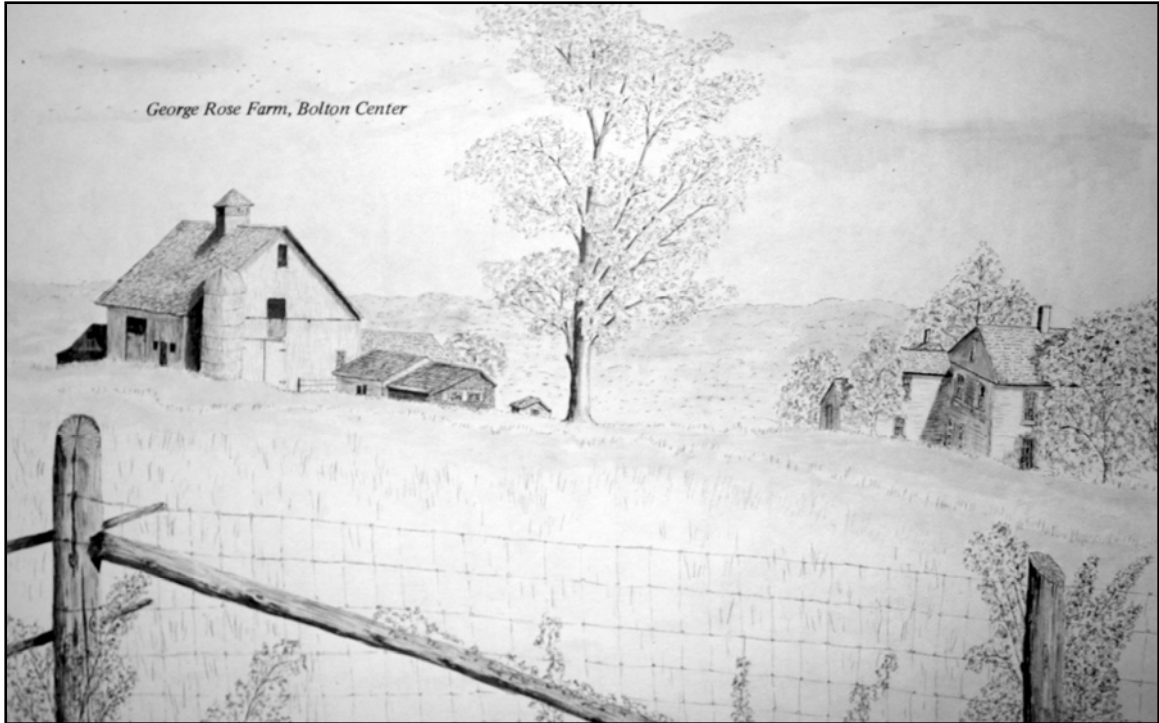
**Figure Barn-7:** Copy of photograph, undated but probably ca. 1970, showing manure-removal mechanism, called a “litter-carrier,” on the east end of the barn (Collection of Helen Rose Meloche).



**Figure Barn-8:** Sketch of the Bolton Heritage Farm barn, looking northeast (Ronson (1970)). Although not explicitly so identified, the known elements—silos, two shed, south ell—make it near certain that this is the barn shown in Figure Barn-9 from a different angle.

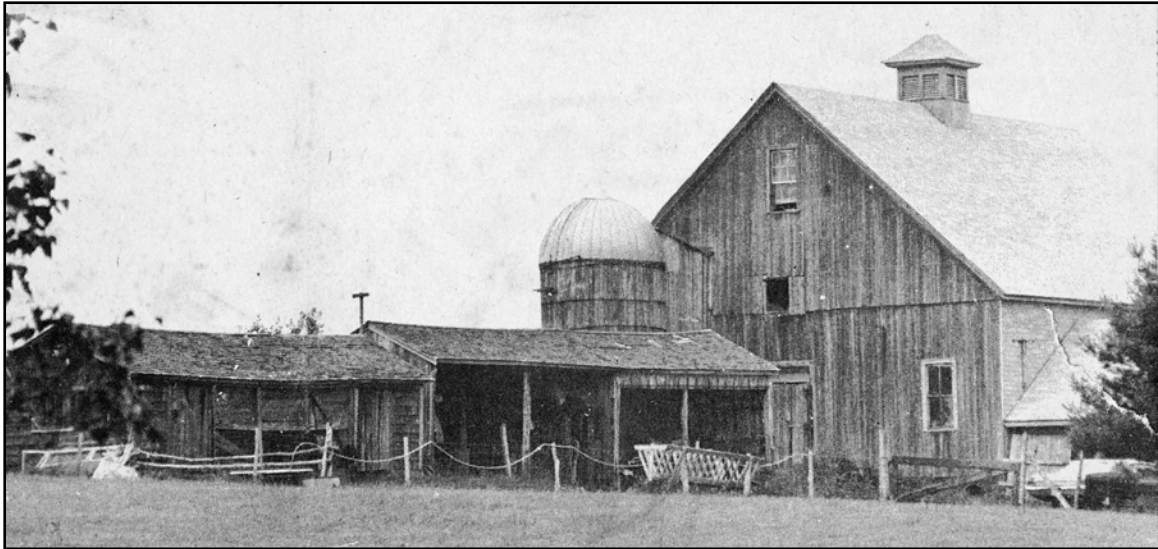


**Figure Barn-9: Sketch of Rose Farm from the northwest, showing barn and outbuildings (Ronson 1970).**





**Figure Barn-10: Copy of a *Manchester Herald* photograph, ca. 1975 (Collection of Helen Rose Meloche).**



**Photograph Barn-1:**

**Overview of the Bolton Heritage Farm barn, camera facing northwest. The additions visible on the south side include a one-story gable-roofed ell, built prior to 1934, and a concrete cow barn, grain bin, and silo, added ca. 1980.**



**Photograph Barn-2:**

**Bolton Heritage Farm barn, west end, camera facing east. The doorway on this elevation, not large enough for a fully loaded hay wagon, opens into a large wainscoted carriage room.**



**Photograph Barn-3:**

**Bolton Heritage Farm barn, east end and north side, camera facing southwest. The large door on the north side represents the principal access for hay wagons. The location of a one-story gable-roofed addition, added before 1934, is visible on the east end.**





**Photograph Barn-4: Interior of barn, showing typical post-and-beam framing.**



**Photograph Barn-5:**

**Interior of barn just inside north-elevation sliding door, showing crosswise drive for hay wagons, camera facing south.**



**Photograph Barn-6:**

**Detail of traveler and rail for horse fork, east end of barn.**





**Photograph Barn-7: Interior of barn, lower level, showing added cow stanchions and concrete floor, camera facing southwest.**





**Photograph Barn-8:**

**Concrete and stone silo foundation, west end of Bolton Heritage Farm barn, camera facing east. The silo, a wood-stave structure bound with iron tie-rods, was purchased from another farm and moved to this barn in 1947. It was removed in the 1980s.**



**Photograph Barn-9:**

**Detail of concrete-block cow barn, ca. 1980, north elevation, camera facing south.**



**Photograph Barn-10:**

**Interior of ca. 1980 cow barn, camera facing east.**



**STRUCTURAL CONDITION ASSESSMENT OF HOUSE AND BARN**

Gibble Norden Champion Brown Consulting Engineers, Inc.

## **I. Introduction**

At the request of Nelson Edwards Company (NEC) of Branford CT, Gibble Norden Champion Brown Consulting Engineers, Inc. (GNCB) was retained to perform an on-site Condition Assessment Survey of the house and barn structures known as the Rose Farm Complex in Bolton, CT. The complex is on the National Register of Historic Places and is a fine example of an early farm complex.

GNCB has followed the National Park Services guidelines for the structural assessment, analysis and reportings published in the Historic Structures Report (HSR) standards. The following report is a summary of those survey findings as well as a follow-up analysis of each of the complex's structures.

The report is organized with survey observations and recommendations as the main body of significant data collection, analysis and structural recommendations. Appendices A and B represent the photo documentation with applicable annotations for the house and barn structures respectively. Appendix C is a set of four 11" x 7" structural framing drawings for the entire complex. These drawings also serve to provide the reader with where and from what direction each of the photos of the preceding appendices are taken.

Only those areas which were visible were documented and reported on. No destructive demolition was done at this time to ascertain conditions not subject to view.

Generally, the structure as a residence was reviewed and analyzed for the current Connecticut Residential Code for loadings of 30 psf for the roofs, 30 psf for second floor rooms and 40 psf for the main floor living spaces.

**II. Main House: (See Appendix A for Photo Documentation with Commentary)**

**A. Roof/Attic**

**1. Observations**

The main roof is constructed of sawn native timber. The rafters are square 3 ¾" timber spanning continuous from eave members to an intermediate purlin then to a main ridge beam. They are adequate to take the Code snow load as are the roof's intermediate purlins. While the purlins are only 6 ¼" W x 6" D the knee braces at midspan and ends assist in cutting down these spans giving the purlins the capacity to take the required snow load. Some roof sheathing has been improvised and consists of plywood and wooden doors. These are functional and can span between the roof rafters.

The center support for the long span purlin is a braced frame which bears on the 2<sup>nd</sup> floor bearing wall below. The end walls have adequate studs and additional knee bracing for lateral stability to resist wind or seismic loads.

The attic floor joist span north/south and bear on the same center bearing wall used by the braced frame described above. They are adequate to take a light attic storage load of 20 psf in keeping with Code requirements for residential attics.

Generally the Main House attic and roof structure are in good condition with only minor damage from past animal infestation. Historically, it has been uncovered that some of the roof areas



were damaged during the 1938 hurricane and were subsequently repaired.

## **2. Recommendations**

There is no work required at this time for the Main House roof/attic structure.

## **B. Second Floor**

### **1. Observations**

The second floor joists are covered with carpeting on wood decking but are in good condition. The front, south bedroom bays have a center bearing wall allowing these joists to meet the Code required bedroom floor live load of 30 psf. The rear, north joist bay is longer due to an offset bearing wall below and they thus fall short of the required bedroom live load capacity. They have a slight deflection and vibrate under normal foot fall loads.

The plaster of the first floor ceiling appears to be well keyed to the wood lath at the underside of these joists. The wall structure appears sound but was not observed due to finish plaster surfaces.

### **2. Recommendations**

If full bedroom live load capacity of 30 psf is required of the over spanned north bay joists they will need to be sistered up with modern 2 x 6 lumber framing. This would be accomplished from

above by removing the floor sheathing, reinforcing the joists and replacing the sheathing and new finished flooring. This repair will be required no matter what the intended new use may be as 30 psf is a minimal load capacity and may require additional analysis and reinforcing once new uses are determined.

**C. Basement/First Floor**

**1. Observations**

The main house first floor timber framing has suffered severe damage and has both rotting due to partial dirt floor rising dampness, and deterioration due to vermin infestation. The main sill has some rotted areas and many of the main floor joists and large timber beams are heavily damaged by powder post beetle infestation. The original joists and carrying beams are undersized for the Code required first floor live load capacity of 40 psf even if in good condition.

The brick center girder support piers are also deteriorating from the dirt floor rising dampness. This is common for soft bricks and mortar joints of this era in the presence of dampness.

The basement exterior walls are rubble stone construction with mud or heavily deteriorated lime mortar. They appear generally plumb and structurally sound at this point. Some moisture is present coming through the walls which is contributing to the damp condition in this basement.



## 2. Recommendations

A significant amount of work is required in this area of the main house. The sequence of the work should be as follows:

- A professional exterminator should be employed to determine if any active vermin infestation is present and if so, apply the appropriate extermination treatment.
- Remove approximately 6" of existing soil and place a new 3"± concrete mud slab basement floor. Pour on a leveled subgrade covered with a minimum 6 mil vapor retardant material. The existing stone pavers can then be reset on stone dust on top of the slab with the joints filled with soil to replicate the existing floor surface.
- The brick piers should be face plastered with a 1:1:6 (1 part lime, 1 part Portland cement and 6 parts masons sand) mixture as a permanent repair and moisture barrier.
- The exterior wood sills should be completely inspected for decay and replaced in-kind as necessary.
- For continual residential use, all the floor joists should be sistered with new pressure treated 2 x 8 joists for repair and enhanced load capacity. The main girders should be sistered at this same time with new 2 x 10 pressure treated members, one on each side. Galvanized joist hangers or framing clips should be used for all joist to girder and joist to sill attachments. If new use of this floor

requires a higher load capacity, new reinforcing can be sized accordingly.

- The interior face of the exterior walls should be raked back of all the loose mortar in the joints. They should then be full depth repointed with a 1:1:6 mortar mix for enhanced water tightness and to maintain their structural integrity.
- The above remediation should be accomplished after the building's use is determined and done in conjunction with the building's historical evaluation during this period of repair to help assist in more precisely determining all the structure's ages.

### **III. Kitchen EII Addition**

**(See Appendix A for Photo Documentation with Commentary)**

#### **A. Roof/Attic**

##### **1. Observations**

The 3" W x 4" D roof rafters are undersized for the span and are inadequate for the Code required snow loads. The high 1x collar ties are poorly connected to these rafters and are therefore not of any use. The small attic area seems dry and free from rot in the small areas that could be observed from the attic ceiling access hatch.

**2. Recommendations**

This area will need to have the ceilings removed and new 2 x 6 rafters sistered to the existing 4" deep rafters. New 2 x 6 collar ties will be required to replace the existing ones. These will need to have adequate attachment at each end to the rafters with galvanized nails or screws.

**B. Second Floor**

**1. Observations**

The observed 2 x 8 floor joists in the second floor appear in sound condition and are adequately sized for a bedroom floor loading of 30 psf.

**2. Recommendations**

No work is necessary in this second floor at this time.

**C. Basement/First Floor**

**1. Observations**

This area is a low-headroom, dirt floor crawl space accessible through a first floor hatch. Approximately 75% of the original undersized 3 1/4"W x 4" D floor joists have been replaced with new 2 x 6 joists. The north portion of this floor pitches down toward the north exterior wall most likely due to joist or main beam or sill

rotting. Dampness was present at the time of investigation most likely leading to the rotting problem inherent to this floor.

## **2. Recommendations**

This area will need to have the flooring removed to better determine the cause of settlements and to institute the necessary repairs. As in the Main House this area will need a new 6 mil vapor retardant installed topped by a 3" ± thick concrete mud slab to solve the moisture problem.

## **IV. Main House and Additions**

### **(See Appendix A for Photo Documentation with Commentary)**

#### **A. Exterior**

##### **1. Observations**

Generally, the building's original exterior wall sheathing of horizontal clapboards has been completely covered over with a cedar or pine shingle system. The siding is painted and peeling in areas where water is entering. The siding is installed tight to the window casing without flashing which is causing the window trim to rot as moisture is trapped against this trim by these extra cladding shingles.

The base of the shingles are absorbing moisture in numerous places due to roof water run off and splashing at the ground against the foundation walls. There is an excessive overhang of the wall system which may be an old water table system but

investigation was not able to be done due to the shingle siding system. All of the aforementioned problems caused by the shingle siding make a compelling argument for the shingle removal and new clapboards installed to return the exterior to its original aesthetic character and water tightness.

A cast-in-place concrete wall facing piece along the east side basement wall of the addition was added possibly to protect a deteriorating foundation wall.

The front porch is suffering from joist and deck decay and has collapsed in some areas. The porch roof trim is rotting in some areas as is the wood porch ceiling indicating moisture coming in to this space from poor past roofing or inadequate or failed flashing.

## **2. Recommendations**

Due to the rotting conditions at the windows and doors, the applied shingles should be removed and the original clapboard siding reestablished. Adequate flashing around doors and window should be installed at this time and any rotted trim replaced in-kind. Refer to the main reports Architectural Evaluation section for more specific recommendations.

The porch structural floor should be demolished and rebuilt with in-kind materials treated to resist decay and deck paint applied to match the existing. The ornate roof support columns should be repaired where decayed or broken as they are an integral part of the house's architecture. The porch roof should be further

inspected for possible structural decay and appropriate repairs made with proper flashing installed where this roof meets the main house. New Sonotube concrete pier supports should be installed to a depth of 3'-6" below adjacent grade to provide frost heave protection.

## **V. Barn Complex**

### **A. Main Barn – c. 1908**

#### **1. Observations**

The main timber framed barn is two stories with the below grade basement being the original farm's milking parlor. The upper barn is heavy timber framing consistent with a Yankee or New England barn of the early twentieth century (c. 1908). The western side has a full width main loft floor while the eastern end has several spaced lofts filling the main barn volume.

The barn is adequately braced with numerous knee braces and the barn does not appear to have side-swayed much over the years due to lateral wind loads. The roof and wall timber framing is adequate for the barn's use as an ancillary farm structure but may require upgrading if it is programmed for a change of use to a more formal structure. The vertical board siding is weathered and has many "air gaps". These gaps are responsible for the air flow which keeps most of the framing in a dry condition. Again, this wall system is adequate for barn use but would need replacing if a more formal enclosed space is planned for the main barn.

The main barn floor is heavy timber planked on closely spaced full 2x wood joists which are supported by 8 ½" x 10 ½" solid timber girders. The girders are supported by the exterior foundation walls and interior 12" x 16" solid brick piers. This framing has been kept painted during the milking parlor era and is in good condition. The joists and large cross timber support girders will support a 60 psf live load which is adequate for most farm uses except that of public assembly which would require a live load capacity of 100 psf. If any assembly areas are planned, the floor would need reinforcing by sistering the joist and support girders.

The lower level floor is concrete but shaped with risers and trenches reflecting the requirements of the original milking parlor. Replacement or leveling of this floor would be required if this is to become a more formal space for public use. There is some brick and mortar decay at the lower ¼ of the main supporting brick piers. The exterior walls are rubble stone and mortar construction topped by an upper brick wall component.

Some foundation wall areas are missing mortar due to general dampness decay. They are generally sound and structurally adequate to support the barn building above and main floor timber framing at its perimeter. The barn's brick corners are coming apart due to thermal movements and winter freeze/thaw conditions comprised of absorbed water which then freezes, expands and displaces the brickwork.

The north foundation wall and bottom of barn siding is subjected to water damage due to the elevated adjacent soil at grade which



also slopes toward the barn instead of away from it. This is the case at the west side adjacent to the old silo foundation as well. This will need remediation to preserve the exterior foundation wall as well as wooden siding at this base.

## **2. Recommendations**

The main barn structure is in generally sound condition and functional as an ancillary barn building for the farm. As noted above, most minor repairs or upgrades would only be needed if a more formal, watertight, insulated structure is planned for the building. At that time, an actual design of structural upgrades would be planned which would be in keeping with the new changed use.

The corner bricks should be reset and re-mortared to maintain the foundation integrity.

The north and west high grades should be lowered by installing a drainage swale of crushed stone wrapped in filter fabric and drained to the lower eastern portion of the site.

## **B. New Milking Barn and Silo**

### **1. Observations**

The long rectangular newer milking parlor building is twentieth century construction (c.1980) with concrete and masonry exterior bearing walls and repetitive, prefabricated wood trusses clear spanning this space. Like the old barn's milking parlor, this newer

barn's concrete floor slab has appropriate trenches and risers consistent with its use. It is a newer farm utility building in good condition.

The adjacent silo is a prefabricated concrete wall structure with appropriately spaced steel rod tension hoop ties. The roof of the silo could not be inspected at this time.

## **2. Recommendations**

No repairs are required to these structures and plans for new uses should be reviewed by GNCRB to see if they will have any impact on these buildings' structures. Appropriate design of structural reinforcing or uncovered damage repairs can be done at this time.

### **C. South Barn Shed**

#### **1. Observations**

The south shed building structure frames off the south wall elevation of the main timber barn and is of light wood framing and clad with plywood siding. Its pitched roof structure has minimal sized rafters and only one timber cross tie to take the rafter thrust. Ceiling joists and insulation appear to have been added at a later date.

The foundation system is a combination of stone and brick and is crumbling in some locations.

This is a structure with minimum integrity and may soon be in danger of collapsing without significant repairs being made.

## **2. Recommendations**

It is our opinion that this structure be removed in the near future for reasons stated above. If it is to be saved for reuse, GNCR will participate in the necessary, extensive repair plan for this structure.

## **VI. Remediation Time Frame**

As a summary of structural work to be completed at Bolton Rose Farm Complex, the following condition ratings and repair time frame are as follows:

1. Immediate – in danger of failing.
2. Urgent – should be done within 1 year to maintain integrity.
3. Necessary – accomplished within a 3 to 5 year period but not currently urgent.
4. Maintenance – issue(s) to be addressed within the next 10 year (maximum) period.
5. Cosmetic – improvement(s) to general building aesthetics.

### Summary of Suggested Remediations

1. Immediate - Main House Exterior: Repair/Replace porch deck and supporting structures and reset existing ornate columns. Provide deck support piers on concrete Sonotubes to a 3'-6" minimum depth for frost.

2. Urgent - Main House – Basement/First Floor Framing: Implement items listed in Report under II. C. “Recommendations”.  
Kitchen Ell – Roof: Add new rafter sisters and new collar ties.

Main Barn: Repair the barn’s deteriorating brick exterior corners and provide an engineered drainage wall on west/north side draining to the east.

3. Necessary - Main House - Second Floor: Sister rear joists to establish minimum 30 psf live load capacity.

Kitchen Ell - Basement/First Floor: Repair floor pitch problem and provide new slab as stated.

## **VII. Conclusions**

The Bolton Rose Farm complex is a fine example of an historic farm located on an impressive surrounding amount of farm acreage. The house structure is in generally good condition with the most damaging areas located in the basement including the first floor timber framing. These moisture related damaged areas can be rehabilitated and moisture intrusion arrested or controlled to restore this floor’s integrity. The exterior added shingles will need to be removed to restore the house’s original siding with necessary repairs made at that time. Some porch rebuilding is necessary but not complex. The foundations are sound and routine maintenance will allow them to continue to function as the house’s support system.

The barn complex is equally sound with the exception of the small, protruding south shed. Some minor maintenance repairs are necessary for the large barn if

it is to stay as a functioning barn structure. If a major change of use is planned, some more significant reinforcing of the roof, walls and potentially portions of the main timber floor must be anticipated. The entire timber barn's exterior siding would need to be replaced if a true, watertight enclosure is planned.

The milking barn stands ready to be cleaned and minor maintenance completed to have it presented as what its former active use was. If adaptive reuse for a more formal use is planned some further considerations will need to be investigated such as removal and replacement of the existing milking parlor floor.

GNCB is ready to proceed to the next phase of design once plans are formulated for the final use of this National Register site.

#### **VIII. Limitations**

Pursuant to contract between Gible Norden Champion Brown Consulting Engineers, Inc. and Nelson Edwards Company Architects, LLC. this report has been prepared exclusively for specific application to The Bolton Rose Farm Complex in Bolton, Connecticut in accordance with generally accepted structural engineering practices. Specifically not included in the survey was identification for remediation of hazardous materials.

No other warranty, express or implied, is made. In the event that any changes in condition of the building or site areas occur following the preparation of our report, the conclusions and recommendations contained in this report should not be considered valid unless the changed conditions are reviewed and conclusions of this report modified or verified in writing by GNCB.

The analysis and recommendations in this report are based upon data obtained from limited field observations. If discrepancies, unforeseen conditions or

Bolton Heritage Farm  
Bolton, CT

undesirable conditions more extensive than originally thought become evident in the field, it will be necessary to re-evaluate the recommendations contained in this report.

GNCB will prepare a proposal to produce the necessary contract documents required for the recommended repairs.

Bolton Heritage Farm  
Bolton, CT

**Appendix A**  
**Main House Photo Documentation**





Photo P1 – Attic joist with insulation.



Photo P2 – Main House attic central braced purlin frame.



Photo P3 – Main house purlin with end wall column/knee brace.



Photo P4 – Main house roof eave girt with rafter connection.





Photo P5 - Main house 5-sided ridge beam and rafter connections.



Photo P6 – Main house and end walls with knee braces.



Photo P7 – Main house second floor indicating well keyed ceiling on wood lath below.



Photo P8 – Addition roof with high collar ties.





Photo P9 – Addition roof rafters with 1x ridge pole.



P10 – Addition second floor joist with T & G deck.



Photo EP1 – Original clapboard painted siding below newer shingles.



Photo EP2 – Close-up of original clapboard siding.





Photo EP3 – Projected shingles from recessed foundation wall.



Photo EP4 - Base furring boards on old water table?





Photo EP5 – Cast-in-Place concrete foundation wall fascia at east side.



Photo EP6 – Concrete foundation fascia at deck and rotted deck.



Photo EP7 – Deck corner rot with buckled porch columns.



Photo EP8 – Deck ceiling rotting due to wall leaks above.





Photo EP9 - Deck roof fascia boards; rotted through.



Photo EP10 – Window trim rotting due to extra shingle surface treatment.



Photo EP11 – Paint peeling due to trapped moisture in shingles.



Photo EP12 – Base course shingle rotting due to roof runoff splash zone.





Photo B1 – North side Main House sill rotting.



Photo B2 – Main House first floor joist with severe powder post beetle damage.



Photo B3 – Heavy brick pier damage at Main House.



Photo B4 – Main House girder damage at front (south) wall.





Photo B5 – Main House girder with heavy powder post beetle damage.



Photo B6 – Main House foundation wall with mud or lime mortar.



Photo B7 – Addition with first floor old joist shoring system.



Photo B8 – Addition with original girder and old and new joists.





Photo B9 – Addition stone foundation wall with brick capping.

Bolton Heritage Farm  
Bolton, CT

**Appendix B**  
**Barn Complex Photo Documentation**



Photo BN1 – Wood roof trusses above the milking barn.



Photo BN2 – Main barn exterior post with powder post beetle damage.





Photo BN3 – Main barn typical end wall framing with airspaces.



Photo BN4 – Main barn typical roof construction with purlins and rafters.



Photo BN5 – Main barn cross frame showing scabbed on repair pieces at timber end connections.



Photo BN6 – Main barn center roof cupola framing.





Photo BN7 – Main barn roof rafter/ridge construction.



Photo BN8 – Main barn side wall and west loft framing.





Photo BN9 – Main barn interior cross bay framing with reinforcing pieces.



Photo BN10 – Minimal wood roof structure above the south shed building.





Photo BN11- Collapsing front foundation corner on the south shed building.



Photo BN12 – Deteriorating base of main barn basement brick pier.





Photo BN13 – Top of main barn basement supporting brick pier.



Photo BN14 – Raised basement slab in old milking room in basement of main barn.





Photo BN15 – Side basement wall construction in main barn.



Photo BN16 – Main barn basement end wall with vertical bracing pilaster.





Photo BN17 – New milking barn interior photo.



Photo BN18 – Minimal shrinkage crack in new milking barn foundation wall.

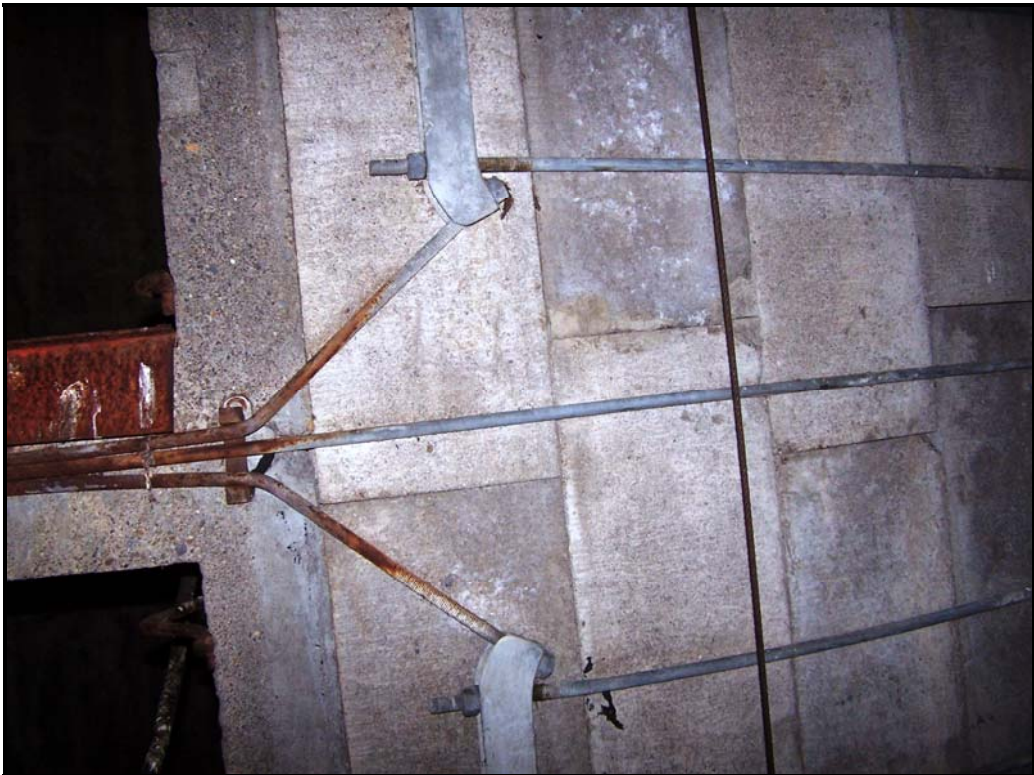


Photo BN19 – General construction photo of concrete block with rod tension ties.



Photo BN20 – View inside concrete block silo looking up towards roof.





Photo BN21- 1908 barn foundation walls at corners needing repair.



Photo BN22 – 1908 barn exterior wall with damage to adjacent raised soil grade.

Bolton Heritage Farm  
Bolton, CT

## **Appendix C**

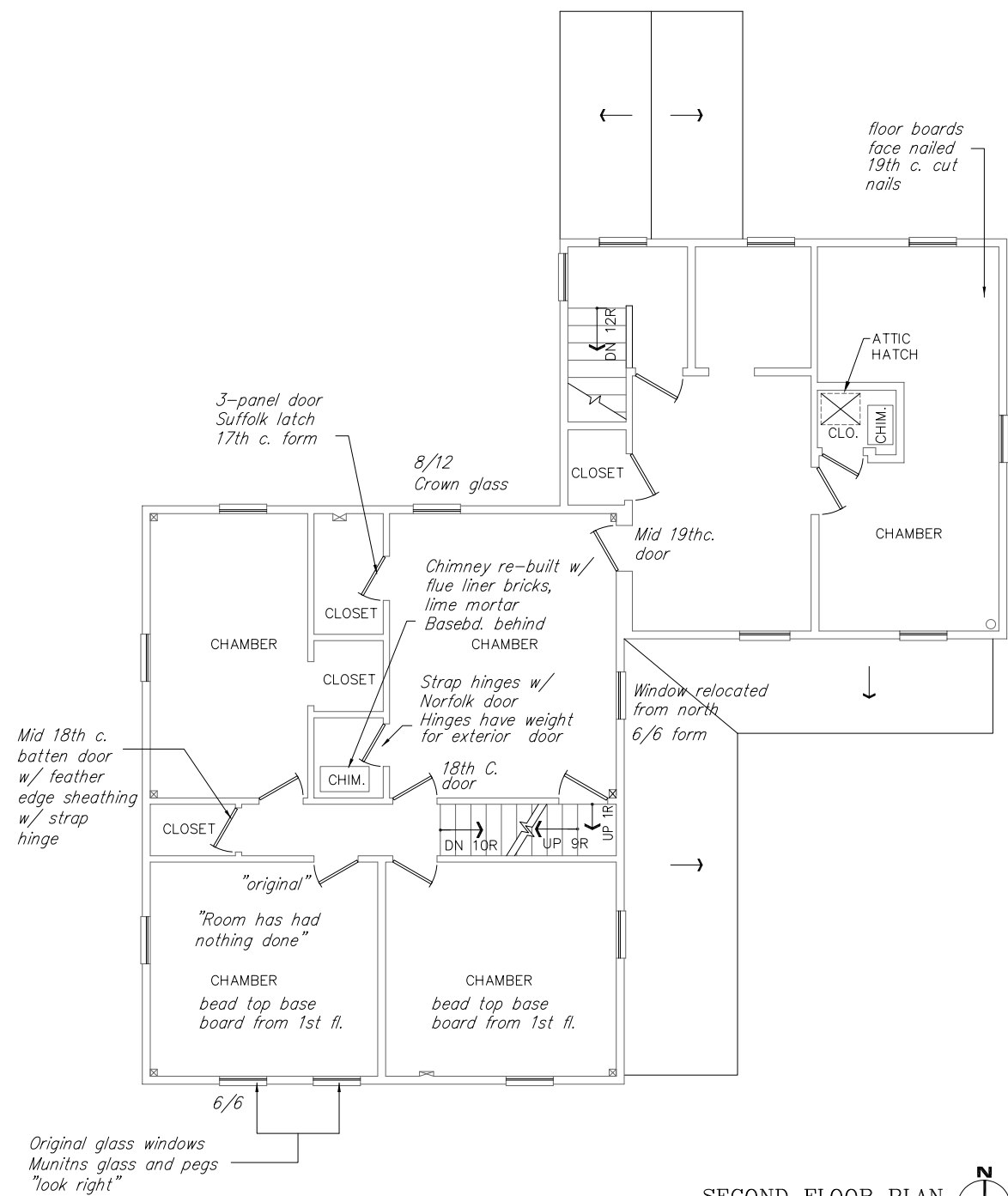
### **Architectural Floor Plans**

#### **Structural Framing Drawings with Photo Location Index**

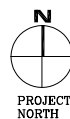




Keynotes / General Notes:



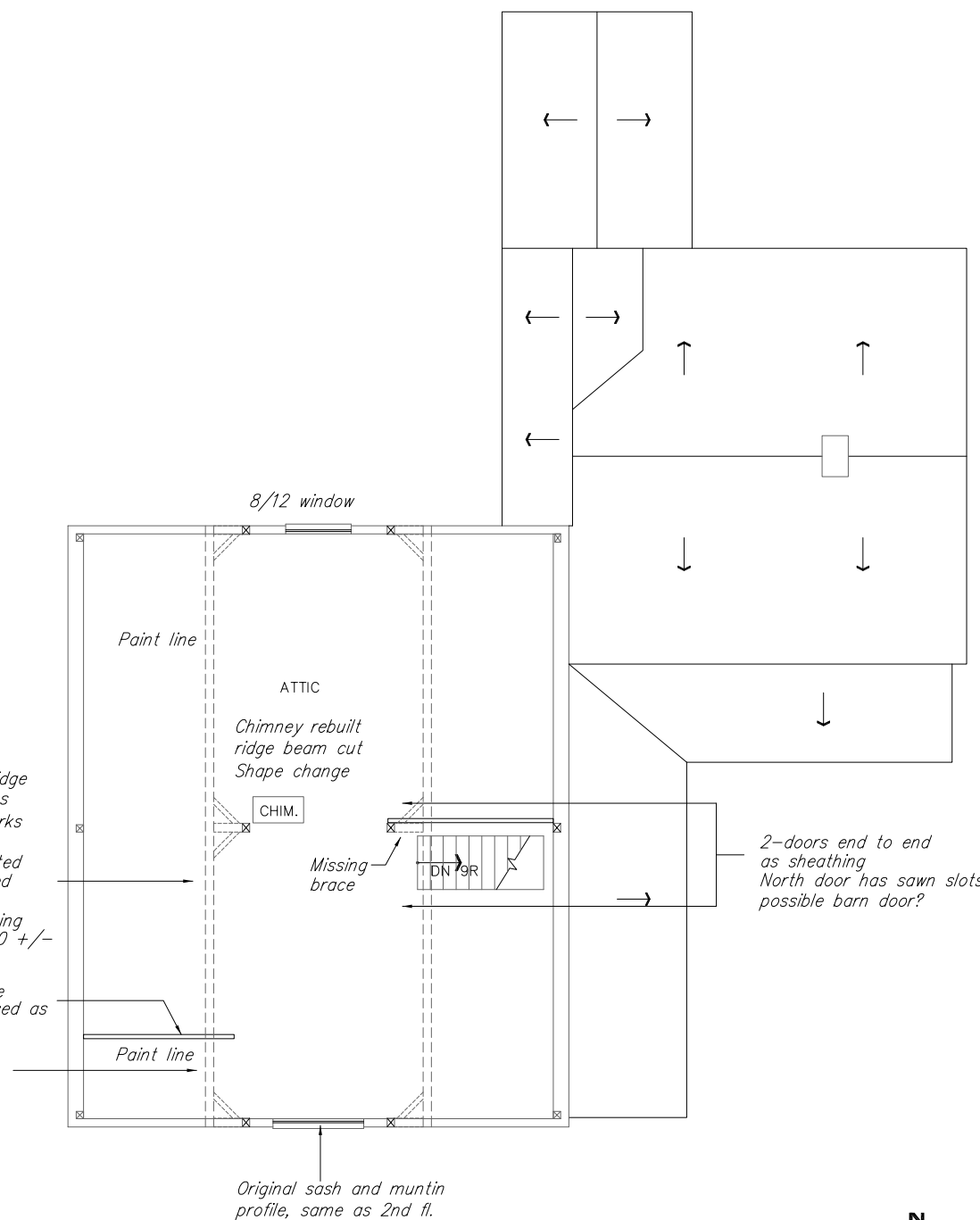
**SECOND FLOOR PLAN**  
SCALE: 1/4"=1'-0"



Hewn, polygonal ridge  
beam, hewn purlins  
Reciprical saw marks  
on roof rafters  
Would have expected  
more widely spaced  
roof sheathing  
Wide board sheathing  
consistent w/ 1810 +/-  
framing

18th c. overmantle  
& other panels used as  
divider

1-door as  
sheathing



**ATTIC FLOOR PLAN**  
SCALE: 1/4"=1'-0"



FARM HOUSE  
SECOND FLOOR PLAN  
AND ATTIC PLAN

BOLTON HERITAGE FARM  
BOLTON, CONNECTICUT

DATE: 05-12-2008  
PROJECT: 08048  
SCALE: 1/4" = 1'-0"  
DRAWN BY: JJS  
CHECKED BY: JFN

DRAWING NO.

A1.2

Keynotes / General Notes:

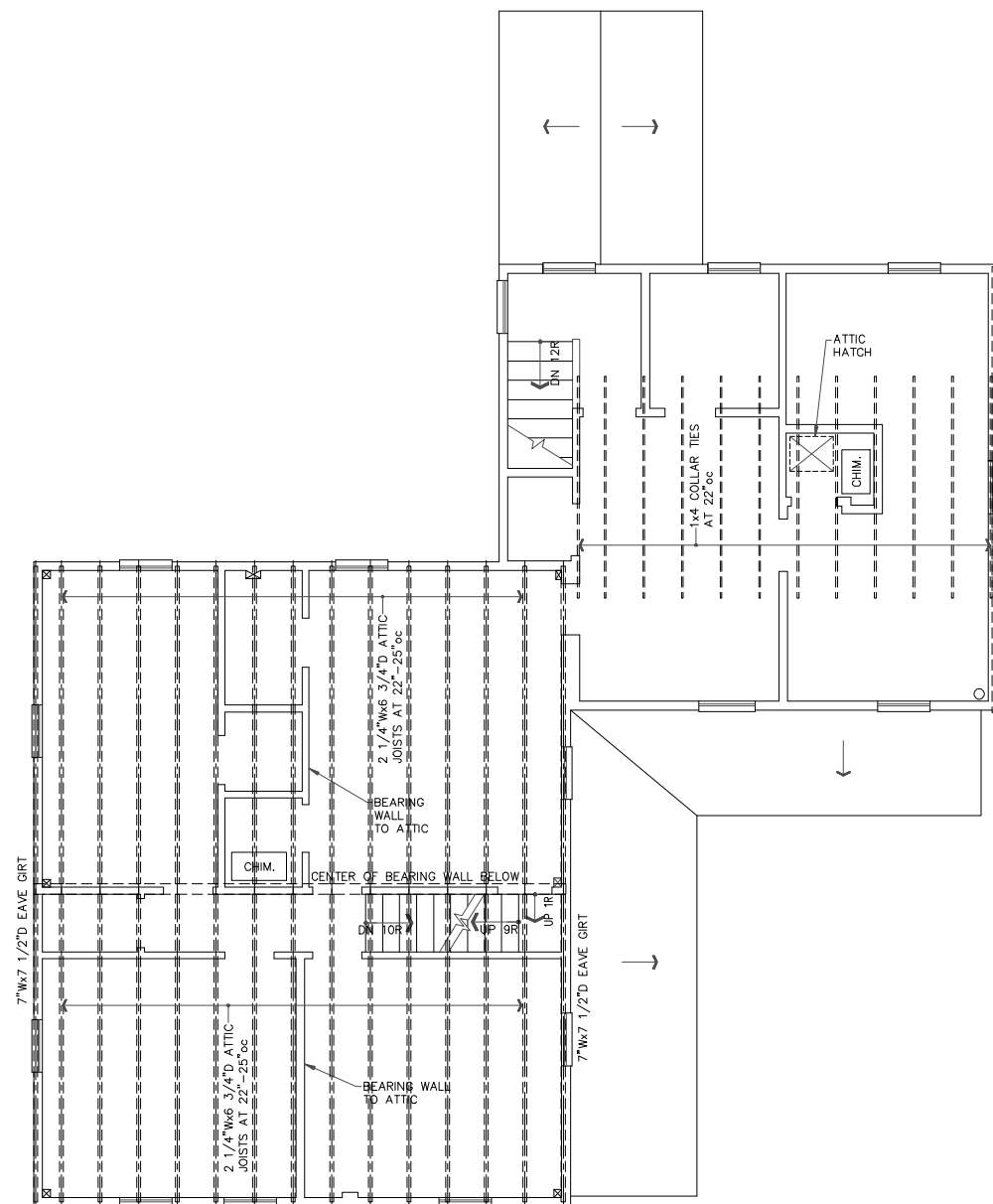
**FARM HOUSE  
SECOND FLOOR PLAN  
WITH ATTIC FLOOR FRAMING &  
ATTIC PLAN WITH  
ROOF FRAMING**

**BOLTON HERITAGE FARM  
BOLTON, CONNECTICUT**

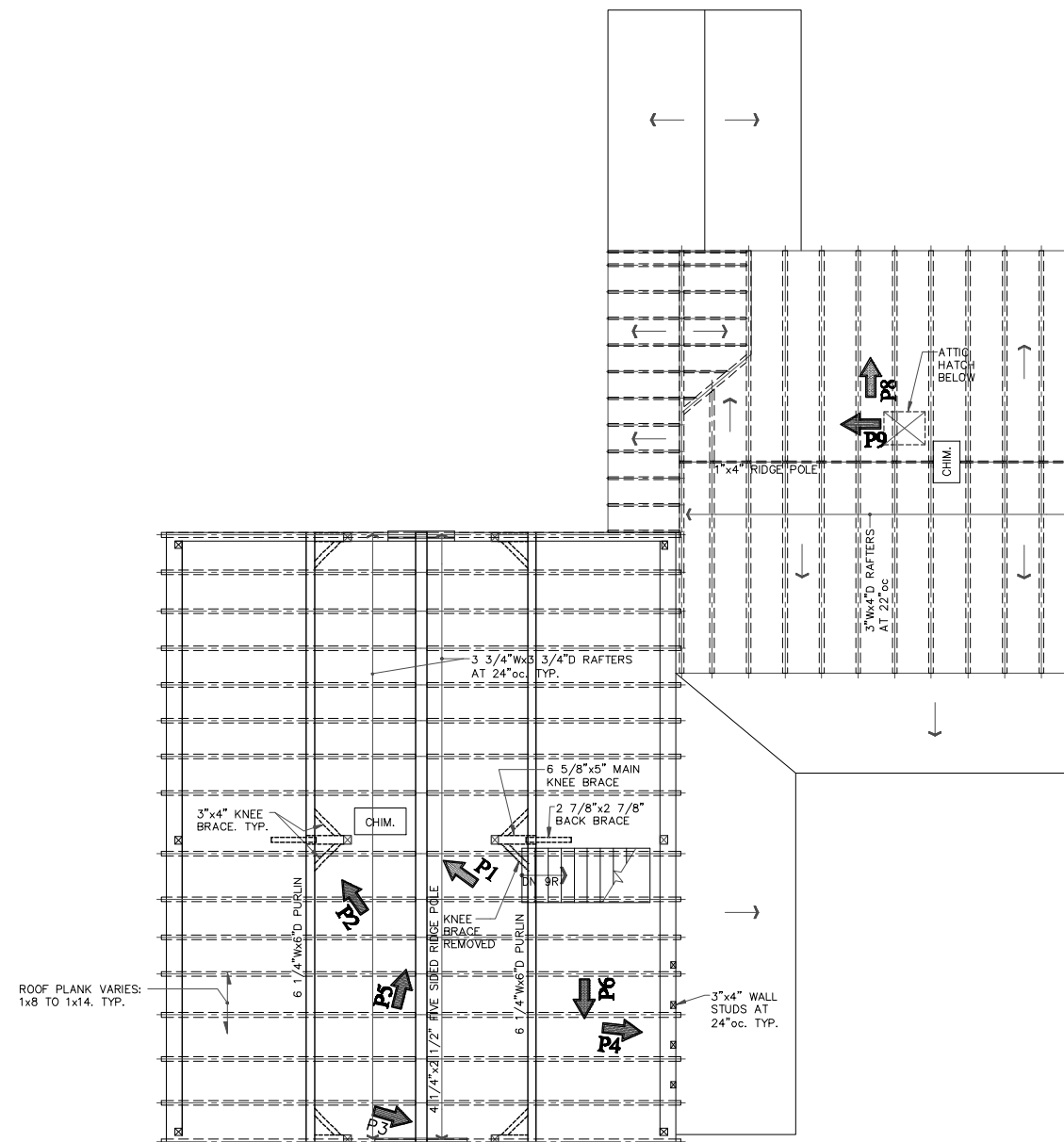
**SURVEY DOCUMENTATION**

DATE: 08-10-2009  
PROJECT: 0000  
SCALE: 1/4" = 1'-0"  
DRAWN BY: JLB  
CHECKED BY: JPH

DRAWING NO.  
**S1.1**



**SECOND FLOOR PLAN  
WITH ATTIC FRAMING**  
SCALE: 1/4" = 1'-0"  
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SCALE: 1/4" = 1'-0"



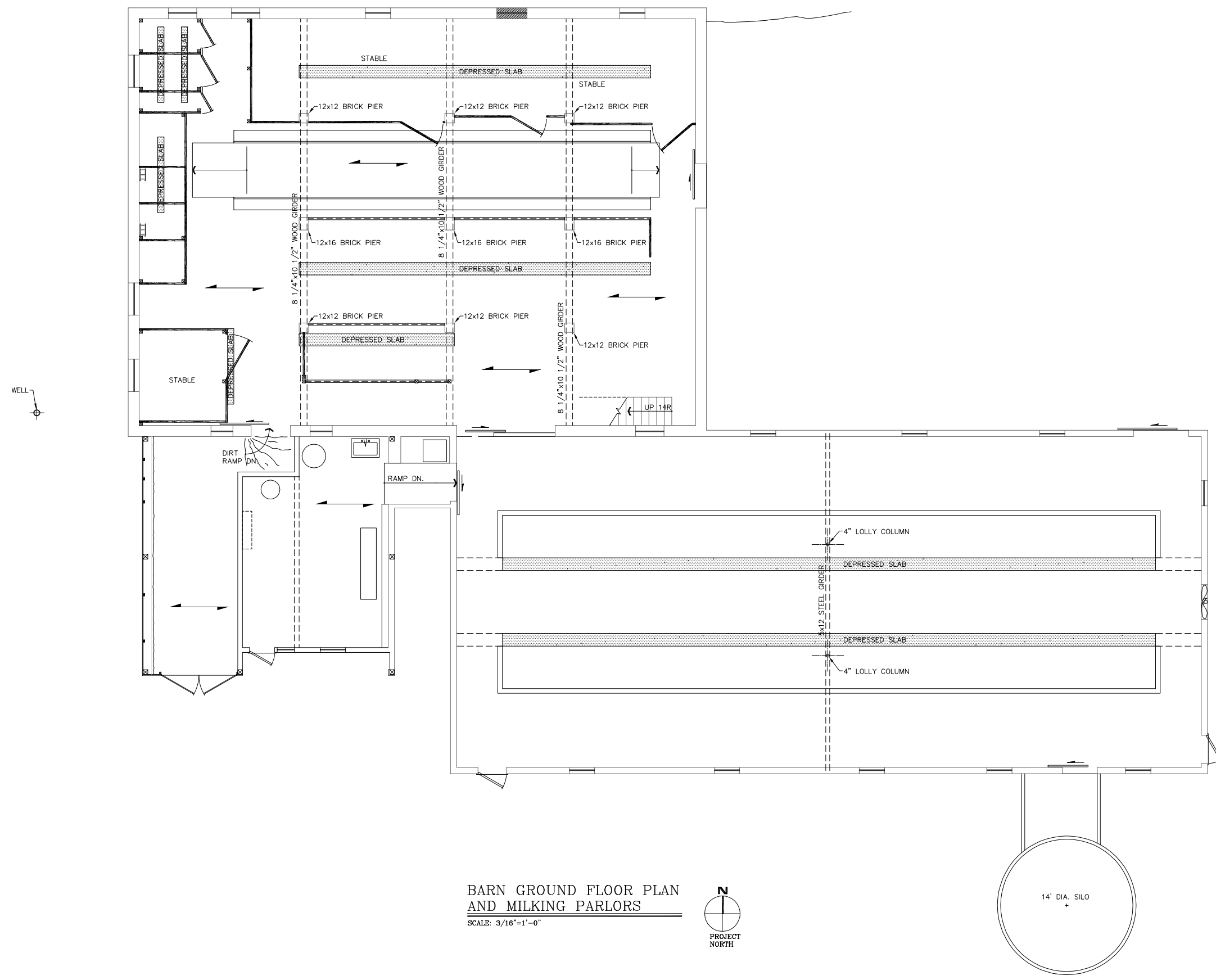
**ATTIC FLOOR PLAN  
WITH ROOF FRAMING**  
SCALE: 1/4" = 1'-0"  
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SCALE: 1/4" = 1'-0"



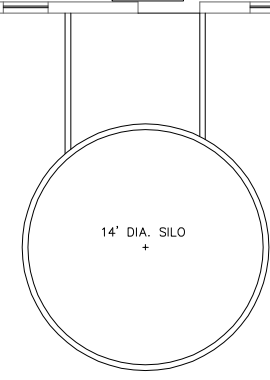
ROOF PLANK VARIES:  
1x8 TO 1x14. TYP.



Keynotes / General Notes:



**BARN GROUND FLOOR PLAN  
AND MILKING PARLORS**  
SCALE: 3/16"=1'-0"



BARN GROUND FLOOR PLANS  
AND MILKING PARLORS

BOLTON HERITAGE FARM  
BOLTON, CONNECTICUT

DATE:	05-12-2008	DRAWING NO.	<i>A1.1B</i>
PROJECT:	08048		
SCALE:	3/16" = 1'-0"		
DRAWN BY:	JJS		
CHECKED BY:	JFN		



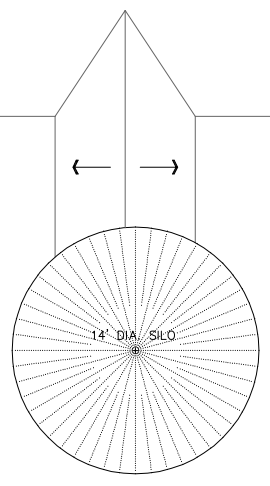
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Keynotes / General Notes:



BARN UPPER FLOOR PLAN WITH LOFTS ABOVE  
SCALE: 3/16"=1'-0"



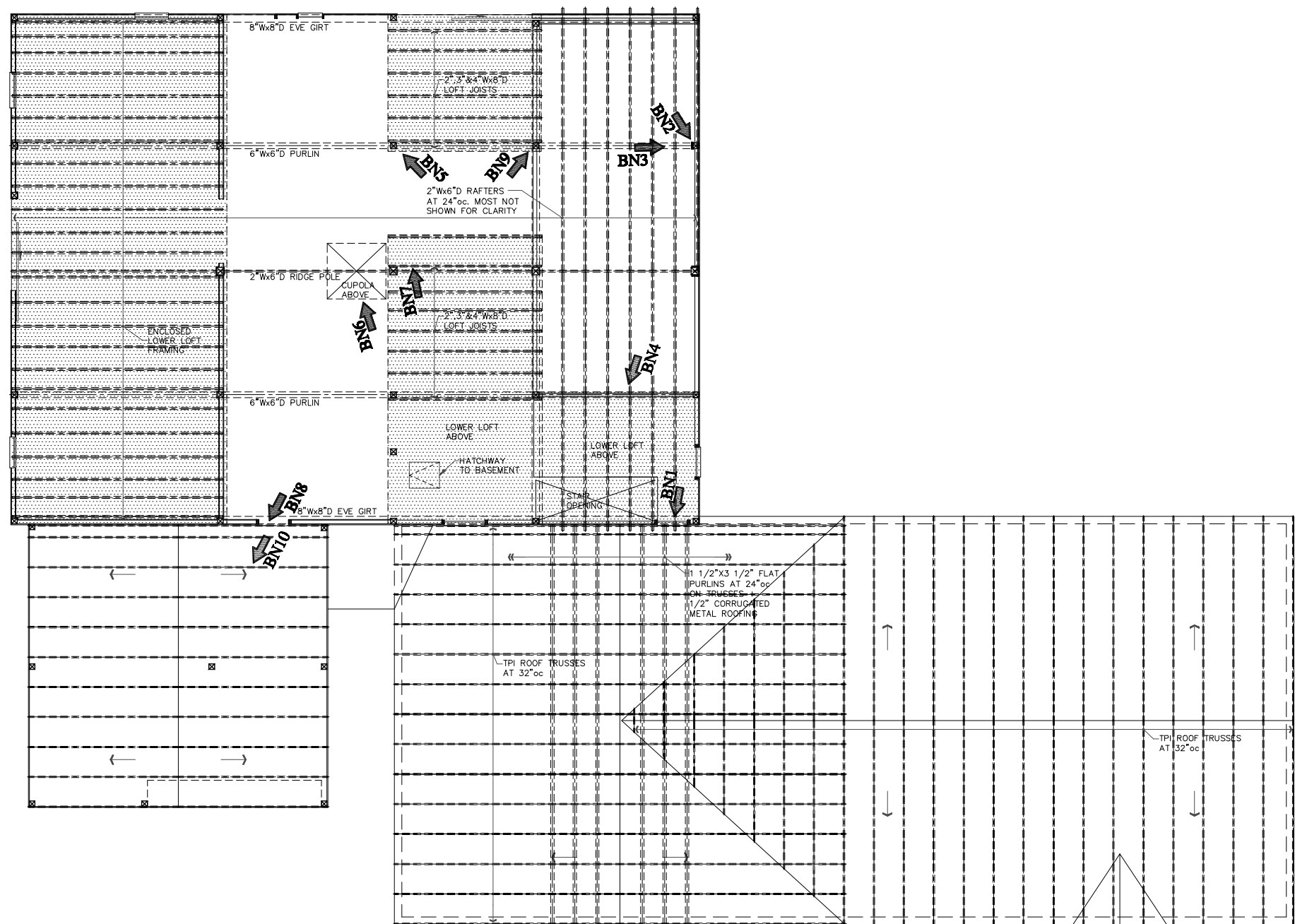
BARN UPPER FLOOR PLANS WITH LOFTS ABOVE

BOLTON HERITAGE FARM  
BOLTON, CONNECTICUT

DATE:	05-12-2008	DRAWING NO.	A1.2B
PROJECT:	08048		
SCALE:	3/16" = 1'-0"		
DRAWN BY:	JJS		
CHECKED BY:	JFN		

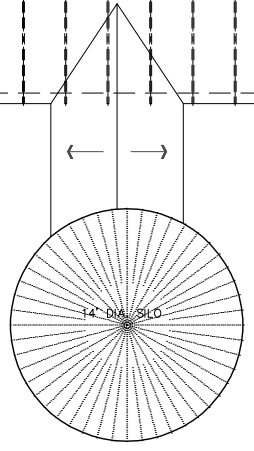


Keynotes / General Notes:



**BARN LOFT FRAMING  
WITH ROOF FRAMING PLAN**

SCALE: 3/16" = 1'-0"  
0 2'-8" 5'-4" 10'-8"  
SCALE: 3/16" = 1'-0"



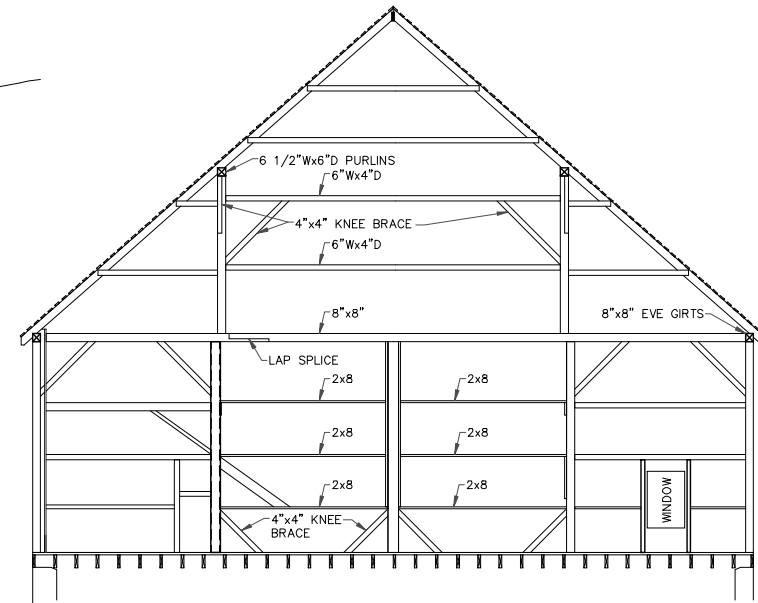
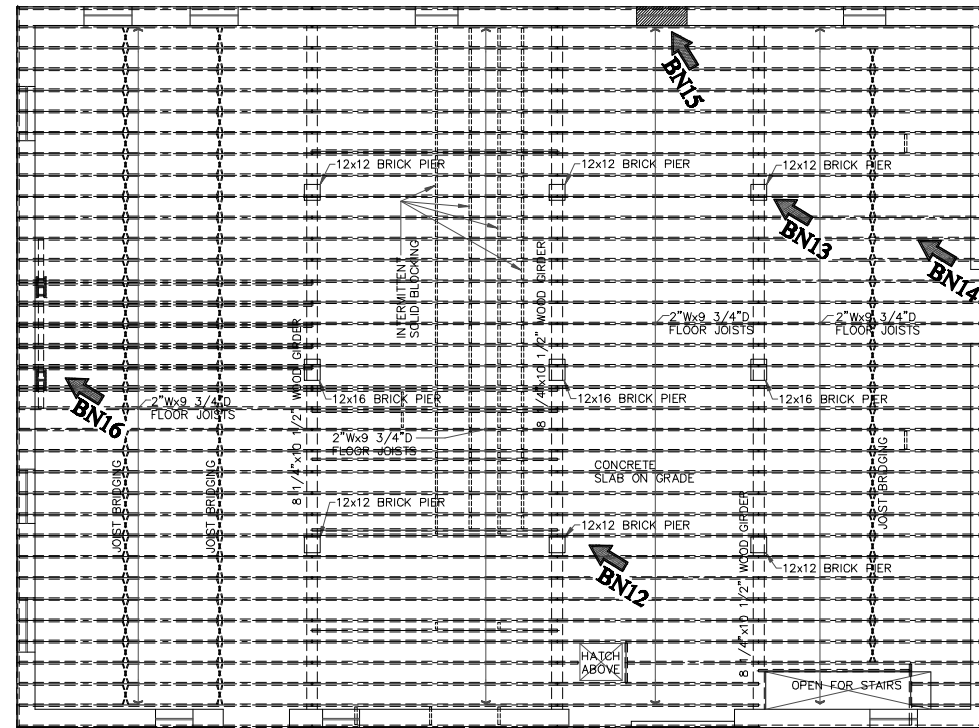
**BARN  
BARN LOFT FRAMING WITH  
ROOF FRAMING PLAN**

**BOLTON HERITAGE FARM  
BOLTON, CONNECTICUT**

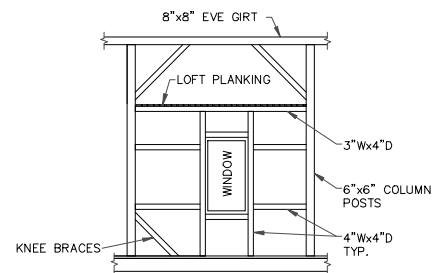
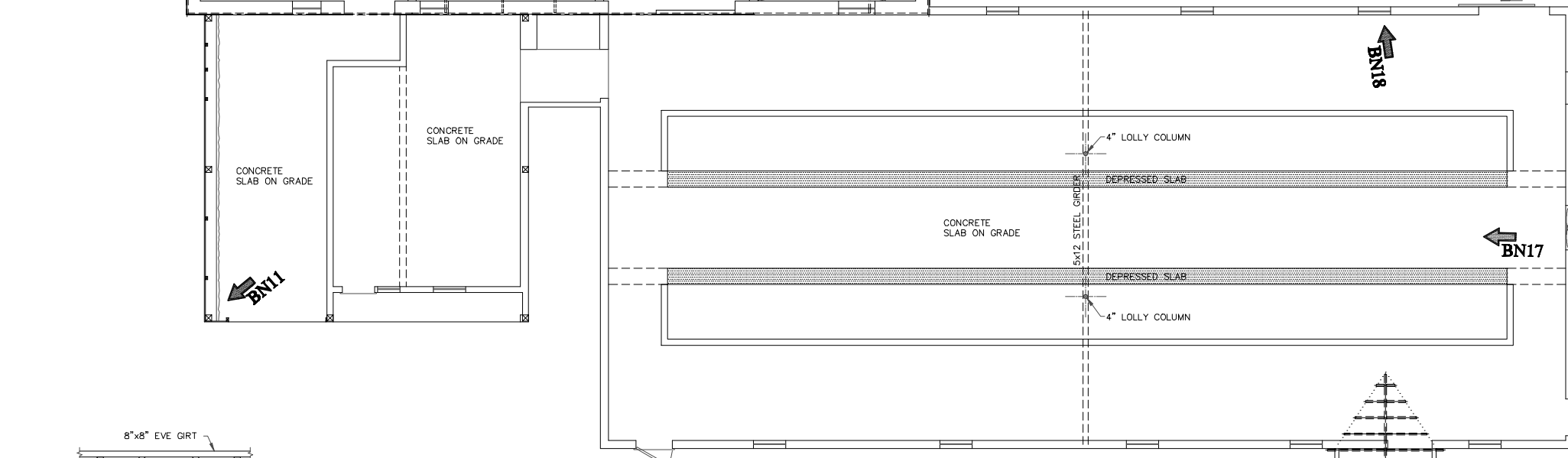
**SURVEY DOCUMENTATION**

DATE:	05-10-2005	DRAWING NO.:	
PROJECT:	0000		
SCALE:	3/16" = 1'-0"		
DRAWN BY:	JLB		
CHECKED BY:	JFN		

Keynotes / General Notes:

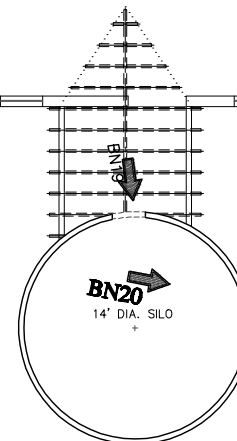


**BARN EXTERIOR FRAMING  
 ELEVATION - END BAYS**  
 SCALE: 3/16" = 1'-0"



**BARN EXTERIOR FRAMING  
 ELEVATION - SIDE BAYS. TYP.**  
 SCALE: 3/16" = 1'-0"

**BARN FLOOR FRAMING PLAN  
 AND MILKING PARLORS**  
 SCALE: 3/16" = 1'-0"  
 0 2'-8" 5'-4" 10'-8"  
 SCALE: 3/16" = 1'-0"



**BARN  
 BARN FLOOR FRAMING PLAN  
 AND EXTERIOR  
 FRAMING ELEVATIONS**

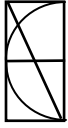
**BOLTON HERITAGE FARM  
 BOLTON, CONNECTICUT**

**SURVEY DOCUMENTATION**

DATE:	06-16-2009	DRAWING NO.:	
PROJECT:	00048	SCALE:	3/16" = 1'-0"
DRAWN BY:	JLB	CHECKED BY:	JPL
			<b>S1.4</b>

**ARCHITECTURAL CONDITION ASSESSMENT OF HOUSE AND BARN**

Nelson Edwards Company Architects, LLC



## ARCHITECTURAL CONDITIONS ASSESSMENT

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### GENERAL

The following photos pages document deficiencies in the building envelope and finishes. A combined list of prioritized architectural and structural repairs is found in the Appendix.

While the list of repairs may seem long and extensive it is important to remember that most deficiencies are due to deferred maintenance or lack of timely treatment for insect damage. Any building, of any age and construction type, needs to be periodically maintained. When maintenance work is not a priority, or performed as a “band-aid” approach, deterioration ensues. With the exception of the early 20<sup>th</sup> century addition to the south side of the barn, both the barn and the house are essentially sound structures. Once repairs are made to each structure they will serve the Town well for many years to come.

Many of the architectural repair items listed result from water infiltration. These include open eaves and rakes on roof edges; siding placed too close to the ground which allows the siding to wick up moisture; shingles on the house placed over existing clapboard siding which traps moisture against window frames, casings and sills; and in the case of the barn, earth piled up against the building causing deterioration of the barn siding.

In order to contain the work, the Town should consider exactly which portions of the house and barn have the most bearing on the story they wish to tell with the complex. For example, the c.1940 mud room on the north side of the house will need to have the bottom courses of shingles removed and replaced due to the condition of the shingles. If the intent of the Town is to interpret the site to the 19<sup>th</sup> century, or even early 20<sup>th</sup> century, the Town may want to consider removal of the mudroom. Conversely, structural analysis indicates that the south addition to the barn is not sound. Again, if interpretation to the early 20<sup>th</sup> century is selected, and that portion of the barn is significant to the story of the site, than the Town may want to consider rebuilding the south addition.

All of the team’s recommendations should be considered in light of the Town’s interpretive plan. We are happy to help the Town further evaluate building maintenance issues as more decisions are made about the future of the site.



CONDITIONS ASSESSMENT - HOUSE



Figure 1: Deterioration of porch structure and finish.



Figure 2: Deterioration of porch ceiling



Figure 3: Porch roof past the end of its' useful life. Porch roof structure deteriorated. New sidewall flashing needs to extend under siding.



Figure 4: Eave at south wall of main house is badly deteriorated. The best time to rebuild an eave is when the roof is replaced.



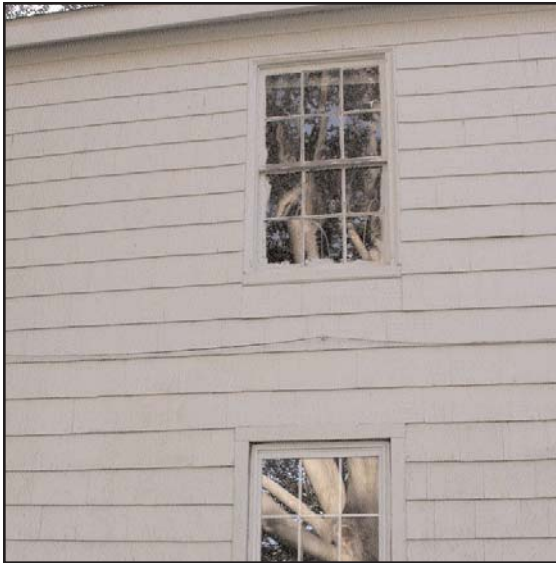
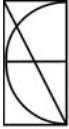


Figure 5: Shingle siding over existing clapboard siding causes window trim to become partially recessed resulting in deterioration of window frames / sills. Note installation of vinyl replacement window on first floor north wall. Shingle siding should be removed for practical as well as aesthetic reasons.



Replace broken or missing glazing (this window pane on east side of second floor fell out of frame and as found on porch roof).



Mold on second floor ceiling of kitchen ell. In an unheated building mould will grow on the paper cover of gypsum wall-board.



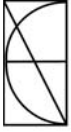
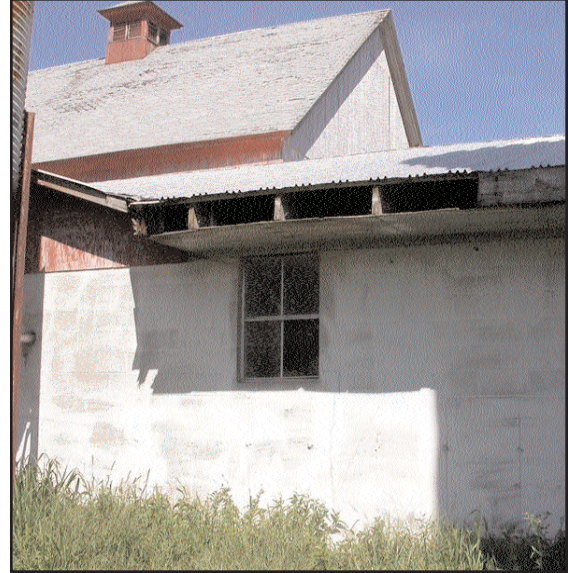


Figure 1: Deterioration of barn roof.



Deterioration of eave on south side of 1980 barn.

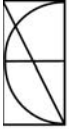


Deterioration of eave on north side of 1980 barn.



Deterioration of eave and sidewall flashing.





CONDITIONS ASSESSMENT - BARN



Rainwater leader terminates "uphill". Rainwater leaders to be connected to fence drain and connected to drywell.

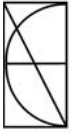


Deterioration of siding adjacent to ramp area north side. Grade/ramp access to be reworked to remove grade from wood cladding / framing.



Deterioration of siding adjacent to grade west side.

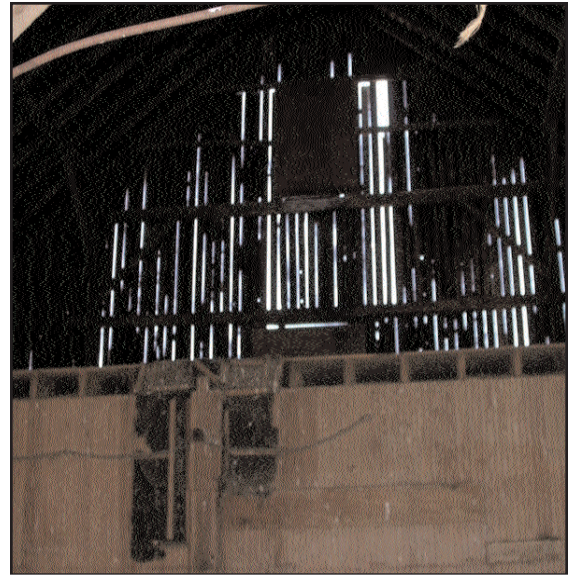




CONDITIONS ASSESSMENT - BARN



South east corner of 1908 barn. Note severe deterioration of masonry foundation and siding.



West gable end of 1908 barn.

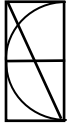


Window opening with deteriorated enclosure.

**CONSIDERATION OF FUTURE USES**

All Team members





### FRAMEWORK

Before one can address the “future use” of a site or building in a meaningful way a philosophical decision needs to be made to establish the “period” of significance”. In other words, what is the story that you are trying to tell? Uniquely, the Bolton Heritage Farm site can simultaneously tell the story of the American Revolution, as well as the agricultural past in Connecticut.

When and if the remains of the Colonial era home foundation are excavated there will be an additional story to tell related to the history of building— as one building falls into disrepair or is outgrown, a new home is created with parts from the older home.

Once a philosophical framework is established the site and buildings are analyzed to see how they relate to the overall plan and what modifications are needed to affect the program. The details of this are identified in an interpretive plan.

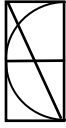
### BUILDING CODE

#### Building Use

To understand the impact of building codes on building design and renovation one first has to become familiar with the concept of “use” as defined by the Building and Fire codes. Building “use” relates to a specific classification of occupancy for a given building. Each building “use” has specific requirements in the codes that govern everything from design of the structural systems, to life safety requirements. As a single family residence the existing farm house falls under Residential “use”. Should the house be renovated for offices with display areas the house becomes a Business “use”. Should the house have an area that could hold 50 or more people the house would also have an Assembly area. It is possible to have a building occupied by two or more “uses” (for example, a Business use with Assembly area) where one use the primary use and the other use the incidental use.

#### Change of Use

Buildings constructed before the adoption of the current State of Connecticut Building Code are “grand-fathered” with respect to the requirements of the current code. With respect to the State Building Code previously grandfathered conditions do not need to be changed unless there is a change of use of the building (i.e. Residential use to Business use), or renovations take place. In the case of “change of use” all areas of the building must meet current code requirements for the new use, even if the building is not architecturally altered. In the case of renovations without a “change of use”, only those areas that are renovated need comply with the current code – areas that remain un-renovated do not need to be brought up to meet current code standards. Often times the greatest limiting factors in any conversion from one use to another is the capacity of the framing system to support the live loads designated by the Building Code for the intended use.



### **Structural Modifications**

As indicated in GNGB Engineer's report, the first floor structural system of the house needs immediate remediation in areas due to insect damage. In addition, in analyzing the structure for continued residential use, GNGB's findings indicate that a portion of the second floor system is undersized and needs to be augmented to overcome vibration and deflection. The code requirements for residential use are 30 pounds / SF for live load for bedroom areas and 40 pounds / SF for live load for other residential areas. In contrast, office use or museum use requires 100 pounds / SF. None of the floor structures in the house can support 100 pounds / SF without additional structural modification. In the case of the first floor structure it is easy to affect the modifications from the underside of the floor system (i.e. the basement.) In the case of the second floor structure, the addition of new structural members will require the removal of the second floor finish or first floor ceiling.

The main level of the 1908 barn can support 60 pounds / SF. This is adequate for farm displays but does not meet the 100 pounds / SF for public areas.

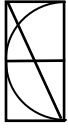
### **Other Code Considerations**

If the house were to change from Residential use to any other type of use additional changes would be required that will affect the architectural character of the house. These involve accessibility to the main entrance and all program areas within the house, stairway design, doorway size, number of toilet fixtures and toilet room size, installation of exit lights and the like. While the option exists to file for "Modification" to the State Building Code for relief from a specific code requirement it should be noted that modifications are not automatically granted even with historic structures.

### **HEALTH CODE**

The house is currently served by a septic system that is dated by Helen Rose Miloche to 1940. Should the use of the house be changed, or the existing residential use expanded, the existing septic system will need to be upgraded to meet current State of Connecticut Health Code. The barn does not appear to have a septic system (litter carrier for the cows not-with-standing.)

The number of restroom facilities required for a public building is a function of the size of the spaces and the occupancy count for the building area. If the barn remains an "interpretive" display for farm life one could argue that restroom facilities be located separately from the barn structure. Should the barn be converted to public assembly space accessible restroom facilities need to be included.



Any septic system upgrades must be planned in such a way to avoid disturbance in archaeologically sensitive areas (encampment or house site.)

### OPTIONS FOR USE

In considering the future of both the barn and the house the project team considered a range of possible uses. For the farm house this included continued residential use, museum use, office use, and a combination museum and office use. For the barn this included seasonal or year round museum use, or public assembly use in support of a museum function.

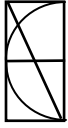
#### House

In its appearance and characteristics the existing house is a wonderful example of a nineteenth century farmhouse. The footprint of the house has clearly changed over the years. The footprint of the original kitchen ell was smaller, the second floor over the kitchen is likely contemporaneous with the ell expansion, the back stair a later renovation, and the mud room an even later renovation. If the house is to be interpreted as a house museum the original kitchen needs to be restored. Elements that detract from the Greek Revival appearance such as the shingle siding, asphalt roof, and later additions would need to be removed in order to strengthen the understanding of the house. Some of those additions, such as the Italianate porch have an intrinsic value all of their own.

If the house were to become a house museum the house will compete with a plethora of house museums throughout New England at a time when museum visitation is down both nationally and regionally. If the house were to become a house museum, a capital campaign would need to be undertaken to provide sufficient funds for renovation and material artifacts to interpret the house as well as provide a working endowment.

Alternately the house could be converted to first floor office use or combined first floor office use and display areas. Old houses do not efficiently lend themselves to modern office use – rooms are connected to rooms not public hallways, and door layouts not conducive to effective space planning. That said, the first floor could provide a small display area with small office / workroom. The first floor could also provide a small meeting area with small office or display areas. Use of the second floor for display or offices is not recommended; the number of renovations required would substantially alter the character of the house.

Lastly, the Town could retain the house as a single family residence for a full time, on-site care taker or curator. While this plan requires the least amount of code required renovations, we note that house is in poor condition and would need considerable refurbishment of interior spaces



to provide a clean and comfortable living environment. We recommend that the Town oversee such a renovation effort (as opposed to the building occupant) and that the completed work be appropriate to the age and style of the house.

### BARN

The 1908 barn retains the remarkable framing and layout of a Yankee barn. The size and layout of the main level make the space suitable for a variety of functions from displays to meetings.

Part of the beauty of the structure is that the framework is clearly etched against the exterior siding. Any year-round use of the barn would require complete change to the exterior envelope – insulation and wiring needs to be installed in the exterior wall. Even high density insulation products require several inches of depth to meet today's requirements for energy efficiency. If insulation is placed on the "inside" of the existing siding you sacrifice the reading of the exterior wall structure. Insulation placed on the "outside" of the wall means that the exterior wall's relationship to the foundation below and eaves above is altered.

Conversely, if seasonal occupancy were desired one would leave the barn un-insulated and the exterior walls unaltered. One way to address year round occupancy would be to insulate the walls and ceiling of the lower floor level and use this area for interpretive displays. The upper level could remain "as-is" (but in restored condition for seasonal use.) The lower level provides the climate controlled display area.

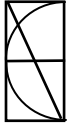
The barn could also be used as originally intended – to house farm animals. If the Town is committed to preserving the agricultural heritage of the site, the barn could house a non-profit foundation that allows pasture animals (goats or sheep), and would offer educational programs around agricultural uses such as cheese making or spinning. There are examples of similar programs around the state.

Clearly the options for use are endless, but the uses that preserve the reading of the barn structure and heritage are the most sympathetic to the history of the site.

### CONCLUSION

While the final use of the site and the buildings is subject to the Town's collective decision making, the project team recommends continued residential use for the farm house and seasonal or agricultural use for the barn (which may include year round use of lower floor areas.)

The decision of how to best use the property is complicated by many considerations. The consultant team is happy to participate in further discussions and planning efforts as we realize that there are many wonderful possibilities, but no simple solutions.



## CONSIDERATION OF FUTURE USES

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Whichever direction the Town elects to follow, we recommend that a preservation plan be drawn up for the building and site that identifies the character defining elements that contribute to the historic read and value of the site and additionally, establishes a framework for future renovations.



**APPENDIX**

Bolton Heritage Farm, Bolton, Connecticut

Summary of Repair Work - Bolton Heritage Farm, Bolton, Connecticut (Assumes no identified use and that the goal is building stabilization)

Building	Location	Item	Repair Needed	Immediate	Urgent	Necessary	Maintenance	Cosmetic
HOUSE	Exterior, Main House	Foundation						
		Siding (shingle)	Remove siding as additional layer causing deterioration of window frames and trim. Assume replacement of clapboards below. Work can be phased. Start with porch area so new porch roof can be properly flashed.			X		
		Windows	Repair broken or missing glazing	X				
		Doors	Repair broken or missing glazing	X				
		Trim	Replace deteriorated trim (condition varies by location)	X		X		
		Eave	Replace south eave and trim	X				
		Roof	Existing roof installed in 1996. Roof installed was GAF 3-tab with 25-year "guarantee"				X	
		Chimney	Replace flashing with new roof or sooner if leak develops				X	
	Exterior, Porch	Porch structure	Replace porch floor and roof structure	X				
		Porch roof	Replace roof and side wall flashing (see comment about siding removal)	X				
		Porch finish (floor)	Replace in-kind	X				
		Porch finish (ceiling)	Replace in-kind	X				
		Paired columns	Reset existing paired columns and provide sonotube foundation below grade	X				
		Porch trim	Replace in-kind	X				
		Porch skirt	Replace per historic photos					X
	Exterior, Kitchen Ell	Foundation						
		Siding (shingle)	Remove siding as additional layer causing deterioration of window frames and trim. Assume replacement of clapboards below. Work can be phased. Start with porch area so new porch roof can be properly flashed.			X		
		Windows	Repair broken or missing glazing	X				
		Doors	Repair broken or missing glazing	X				
		Trim	Replace deteriorated trim (condition varies by location)	X				
		Eave						
HOUSE, cont.		Roof Structure	Sister existing rafters with new rafters and provide new collar ties		X			

**Immediate:** In danger of failing

**Urgent:** Should be done within 1 year to maintain integrity

**Necessary:** Accomplish within a 3 to 5 year period but not currently urgent

**Maintenance:** Issue to be addressed within next 10 year (maximum) period

**Cosmetic:** Improvement to general building aesthetics

Summary of Repair Work - Bolton Heritage Farm, Bolton, Connecticut (Assumes no identified use and that the goal is building stabilization)

Building	Location	Item	Repair Needed	Immediate	Urgent	Necessary	Maintenance	Cosmetic
		Roof	Existing roof installed in 1982. Roof installed was GAF 3-tab with 25-year guarantee			X		
		Chimney	Replace flashing with new roof			X		
	Exterior, Mud Room	Foundations / footings / slab on grade	Decide if Ell to remain					
		Exterior envelope	Replace lower course(s) of shingles that have deteriorated. Depends upon final decision regarding Mud Room.			X		
		Doors	Repair broken or missing glazing	X				
		Roof	Replace roof with main house roof if ell remains			X		
		Eave	Replace deteriorated eave boards with roof			X		
	Interior. Main House	Basement floor	Remove stone pavers, excavate for gravel base, install concrete slab and reinstall stone pavers			X	X	
		Basement foundation walls and piers	Repoint foundation walls and plaster brick masonry columns					
		First floor structure	Replace or sister deteriorated framing members (joists and girder)	X				
		First floor - floors	Remove carpet					X
		First floor - walls						
		First floor - ceilings						
		Second floor structure	Sister existing joists in north east corner (decide future use first)			X		
		Second floor - floor						
		Second floor - walls						
		Second floor - ceilings						
	Interior, Kitchen Ell	Basement floor	Install concrete slab over gravel base			X		
		Basement walls (foundation)	Review settlement along north wall foundation / sill			X		
		First floor structure	Sister framing to address settlement in north east corner (address with foundation)			X		
		First floor - floors						
		First floor - walls						
		First floor - ceilings						
		Basement stair	Replace stair	X				
HOUSE, Cont.		Second floor structure						
		Second floor - floor	Remove carpet					X

**Immediate:** In danger of failing

**Urgent:** Should be done within 1 year to maintain integrity

**Necessary:** Accomplish within a 3 to 5 year period but not currently urgent

**Maintenance:** Issue to be addressed within next 10 year (maximum) period

**Cosmetic:** Improvement to general building aesthetics

Summary of Repair Work - Bolton Heritage Farm, Bolton, Connecticut (Assumes no identified use and that the goal is building stabilization)

Building	Location	Item	Repair Needed	Immediate	Urgent	Necessary	Maintenance	Cosmetic
		Second floor - walls	Remove GWB if house will not be heated (mould will feed on paper finish and grow rapidly in unheated condition.)		X			
		Second floor - ceilings	Remove GWB if house will not be heated (mould will feed on paper finish and grow rapidly in unheated condition.) Removal will also facilitate installation of new rafters and collar ties		X			
	Interior, Mud Room	Slab on grade						
		First floor - walls						
		Roof structure						
	Utilities	Wiring	Disconnect old wiring from panel. Inspect and make code compliant circuits for heating, well pump, new security system, and security lighting	X				
		Lighting	Install lighting in basement, "pathway lights" through house, exterior security lighting	X				
		Heating	Have furnace inspected. Provide 40 degree heat to prevent deterioration of surfaces.	X				
		Security - Fire Detection	Install centrally monitored smoke detector	X				

**Immediate:** In danger of failing

**Urgent:** Should be done within 1 year to maintain integrity

**Necessary:** Accomplish within a 3 to 5 year period but not currently urgent

**Maintenance:** Issue to be addressed within next 10 year (maximum) period

**Cosmetic:** Improvement to general building aesthetics

Summary of Repair Work - Bolton Heritage Farm, Bolton, Connecticut (Assumes no identified use and that the goal is building stabilization)

Building	Location	Item	Repair Needed	Immediate	Urgent	Necessary	Maintenance	Cosmetic
BARN	Main barn	Foundation walls	Rebuild masonry corners		X			
		Foundation wall - drainage	Provide drainage wall at north and west foundation wall		X			
		First floor structure						
		Exterior envelope	Replace missing or deteriorated boards	X				
		Exterior envelope finish	Repaint			X		
		Windows	Install weather-tight covers to window openings	X				
		Doors	Rebuild lower rail of sliding door (north elevation)	X				
		Wall Structure						
		Roof Structure						
		Eave	Rebuild eaves	X				
	Roof	Replace roof and flashing at cupola	X					
	Early 20th C. addition	Foundation walls	See GNCB notes about removal due to condition. If the additoin to say the structure and envelope will need immediate work.	X				
		First floor slab	See above					
		Exterior envelope	See above					
		Windows	See above					
		Doors	See above					
		Wall Structure	See above					
		Roof Structure	See above					
		Eave	See above					
	Roof	See above						
	c. 1980 Addition	Foundation walls / slab on grade						
		Masonry walls						
		Windows						
		Doors						
		Roof Structure						
		Eave	Rebuild eaves	X				
	Roof	Replace roof and side wall flashing	X					
	1982 Silo	Foundation						
		Walls (concrete stave construction)	Inspect tension rings from ground to eave			X		
		Roof	Inspect roof			X		
	Exterior Grade	Downspouts	Connect downspouts on north side to underground french drain and connect to drywell	X				

**Immediate:** In danger of failing

**Urgent:** Should be done within 1 year to maintain integrity

**Necessary:** Accomplish within a 3 to 5 year period but not currently urgent

**Maintenance:** Issue to be addressed within next 10 year (maximum) period

**Cosmetic:** Improvement to general building aesthetics



Summary of Repair Work - Bolton Heritage Farm, Bolton, Connecticut (Assumes no identified use and that the goal is building stabilization)

Building	Location	Item	Repair Needed	Immediate	Urgent	Necessary	Maintenance	Cosmetic
BARN, cont.		Grading to sliding doors	Once french drain is installed revise ramp entrance on north and west side to keep grade away from bottom of barn siding	X				
	Utilities	Security	Install centrally monitored smoke detectors.	X				

**Immediate:** In danger of failing

**Urgent:** Should be done within 1 year to maintain integrity

**Necessary:** Accomplish within a 3 to 5 year period but not currently urgent

**Maintenance:** Issue to be addressed within next 10 year (maximum) period

**Cosmetic:** Improvement to general building aesthetics

List of Known Repairs - Bolton Heritage Farm, Bolton, Connecticut (PROGRESS)						
Building	Location	Item	Work completed	Date	Information source	
HOUSE	Exterior envelope	House roof	Removed old roof and installed 25-year GAF shingle roof	10/29/96	Building file	
		Windows	Replaced (2) first floor north windows and (1) first floor south window with vinyl replacements	c. 1998	Richard Rose	
	Utilities	Septic system	Installed septic tank on east side of house (house side of drive.)	1940	Helen Miloche	
		Well pump	Replaced	Feb-04	John Butrymovich	
		Furnace	Replaced	Apr-05	John Butrymovich	
		Light Fixtures	Replaced (location to be identified)	Dec-05	John Butrymovich	
		Electrical	Replaced wires feeding barn from house	Jan-05	John Butrymovich	
BARN	Exterior envelope	Gutters	Installed gutters on main barn	Oct-03	John Butrymovich	
	Utilities	Well	Installed well, depth 200'. Triangulated off of west side of main barn	Jun-05	Well completion report, Town Hall files	
		Well pump	Replaced well pump, piping and controller for barn	Nov-03	John Butrymovich	
		Hot water heater	Replaced	Jan-03	John Butrymovich	
		Electrical	Replaced main electrical panel in barn	Jan-05	John Butrymovich	
			Replaced light fixtures in Milking Parlor	Jan-05	John Butrymovich	