The City of WORCESTER
Department of Public Works & Parks

Department of Public Works & Parks
Hope Cemetery
119A Webster Street, Worcester, MA 01603
P | 508-799-1531 F | 508-799-1253
HopeCemetery@worcesterma.gov

HOPE CEMETERY COMMISSION MEETING

Monday February 12, 2024 – 4:00 P.M.
Parks, Recreation & Cemetery Administrative Office
Meeting Room A
50 Officer Manny Familia Way Worcester, MA 01605

Or

If you choose to use the Microsoft Teams platform:
1) Go to www.teams.com
2) Enter Meeting ID#: 222 537 068 684
3) Enter password: 4Wn6nB

If you choose to attend via phone:
1) Call 1-469-998-7682
2) Enter Meeting ID#: 951 363 562#

If technological problems interrupt the virtual meeting component, the meeting will continue in-person.

AGENDA

1. Call to Order

2. Attendance (Roll Call)

3. Acceptance of Minutes for the December 4, 2023 (Table) & January 8, 2024 (Roll Call)

4. To request a reasonable accommodation or interpretation or submit written comments or questions in advance of the meeting, please contact the Hope Cemetery by email at Hopecemetery@worcesterma.gov. Please note that interpretation requests must be received no later than 48 hours in advance of the meeting. Para solicitar una interpretacion razonable, o enviar comentarios o preguntas por escrito por favor comuniquese con la oficina de la Division de Parques, Recreo & Cementerio por correo electronico a Hopecemetery@worcesterma.gov. Por favor note que las solicitudes de interpretacion deberan ser enviadas 48 horas antes de la reunion.

5. Public Participation – Pursuant to Chapter 20 of the Acts of 2021 and in order to ensure active, public engagement, the City of Worcester currently allows for both in person and remote participation at the Hope Cemetery Commission meetings. To partake in the "Public Participation" section of this meeting, you may join us directly within the 50 Officer Manny Familia Way Meeting Room A, follow the information above to join via the Microsoft Teams application or dial the direct line as indicated. If you would like to raise your hand when in the meeting as a call-in user, you may dial *5.

6. Assistant Commissioners Report (See Report Topics Below)

7. Old Business
    a. Overview of the Hope Cemetery Master Plan
    b. 5 Year Capital Plan Discussion

8. New Business:
Agenda items must be submitted three (3) business days preceding each Commission Meeting with the subject line "Agenda Item" to Hopecemetery@worcesterma.gov.

    a. NA

9. Date of Next Meeting:
    - March 4, 2024
    - April 8, 2024
    - May 6, 2024 (New Date)
    - June 3, 2024

8. Meeting Adjourned (Roll Call)

ASSISTANT COMMISSIONER'S REPORT:

1. Friends Of Hope Cemetery - Update
   a. Signage
   b. Cemetery Plantings
   c. Events
   d. Sound System
   e. Mausoleum
2. Genealogical - NA
3. Compost Site - NA
4. Water System - NA
5. Hope Cemetery Records - NA
6. Perpetual Care Fund – City Treasurer - NA
7. Rules and Regulation Changes - NA
8. Lot Sale Fee Changes - NA
9. Interment & Associated Fees - NA
10. Fiscal Year Budget - NA
11. Fiscal Year Capital Budget - NA
12. Donations NA
13. Monuments and Mausoleums - NA
    a. Discussion on new cremation burial options
14. Section Development -
    a. Section 39 Possible Columbarium NA
       - Location – See Master Plan on the City Web Site
       - RFP
       - Design
       - Timeline
15. Building Rehab - Update
    a. Barn
       - Reports – Submitted by the Friends of Hope Cemetery (2-10-2007)
       - Grants
       - Historical Commission
       - Plans of storage
    b. Admin
16. Condition of Hope – Update
    a. Sheriff's Community Outreach Program
17. Hope Cemetery Master Plan Approved by City Council 10-10-17
    a. City Parks | City of Worcester, MA (worcesterma.gov)
18. Misc. -
    a. Productivity Reports
    b. Staff
    c. City Council Orders
       - NA
    d. Articles
    e. Other

The City of WORCESTER
Department of Public Works & Parks

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HOPE CEMETERY COMMISSION MEETING MINUTES

Monday January 8, 2024 – 4:00 P.M.
Parks, Recreation & Cemetery Administrative Office
Meeting Room A
50 Officer Manny Familia Way Worcester, MA 01605

Or

If you choose to use the Microsoft Teams platform:
1) Go to www.teams.com
2) Enter Meeting ID#: 234 643 923 886
3) Enter password: d79WY4

If you choose to attend via phone:
1) Call 1-469-998-7682
2) Enter Meeting ID#: 258 153 693#

If technological problems interrupt the virtual meeting component, the meeting will continue in-person.

AGENDA

1. Call to Order – At 4:06 PM

2. Attendance (Roll Call) – In attendance were Commissioners:

    a. Matthew Curewitz
    b. John Deedy
    c. Christopher Faucher
    d. Fatima Idris
    e. Andrew Lizotte (Virtual)

3. Acceptance of Minutes for the May 8, 2023, June 5, 2023 & November 6, 2023.
    a. Commissioner Faucher made a motion to approve. Second by Commissioner Deedy. All were in favor. Motion was approved 5 – 0.
    b. December 4, 2023 (Table)

4. To request a reasonable accommodation or interpretation or submit written comments or questions in advance of the meeting, please contact the Hope Cemetery by email at Hopecemetery@worcesterma.gov. Please note that interpretation requests must be received no later than 48 hours in advance of the meeting. Para solicitar una interpretacion razonable, o enviar comentarios o preguntas por escrito por favor comuniquese con la oficina de la Division de Parques, Recreo & Cementerio por correo electronico a

Hopecemetery@worcesterma.gov. Por favor note que las solicitudes de interpretacion deberan ser enviadas 48 horas antes de la reunion.

5. Public Participation – Pursuant to Chapter 20 of the Acts of 2021 and in order to ensure active, public engagement, the City of Worcester currently allows for both in person and remote participation at the Hope Cemetery Commission meetings. To partake in the "Public Participation" section of this meeting, you may join us directly within the 50 Officer Manny Familia Way Meeting Room A, follow the information above to join via the Microsoft Teams application or dial the direct line as indicated. If you would like to raise your hand when in the meeting as a call-in user, you may dial *5.

6. Assistant Commissioners Report (See Report Topics Below)

7. Old Business
    a. Overview of the Hope Cemetery Master Plan – will keep on agenda
    b. 5 Year Capital Plan Discussion
        i. Assistant Commissioner Antonelli stated he had no updates while the Fiscal 2025 budget is still being worked on. He added that the state is looking to make some cuts which may affect municipalities, but he did not foresee anything that would affect the cemetery.
        ii. Commissioner Faucher asked if there were any Capital expenses for equipment.
        iii. Assistant Commissioner Antonelli responded that there's always Capital equipment expenses. He offered to bring a list of what's being purchased in fiscal 2024 for the following meeting. There was a discussion on the different types of equipment and their lifecycle/duration.

8. New Business:
Agenda items must be submitted three business days preceding each Commission Meeting to Hopecemetery@worcesterma.gov

    i. Request of Commissioner Chris Faucher to discuss the attached letter
        1. Commissioner Faucher read a letter written for Commissioner Jay Fink, in reference to the poor condition of the Hope Cemetery Barn, safety concerns and the request for funding to begin some type of preliminary steps which will lead to the replacement and renovation of the barn.
        2. Commissioner Faucher made a motion to approve the letter. Second Commissioner Idris. All were in favor. Motion was approved 5-0.

9. Date of Next Meeting:
    - February 5, 2024
    - March 4, 2024

- April 8, 2024
- May 13, 2024 – Commissioner Curewitz requested this date be rescheduled.
- June 3, 2024

8. Meeting Adjourned at 4:20 PM

ASSISTANT COMMISSIONER'S REPORT:

1.	Friends Of Hope Cemetery -	No update
	a. Signage	
	b. Cemetery Plantings	
	c. Events	
	d. Sound System	
	e. Mausoleum	
2.	Genealogical -	NA
3.	Compost Site -	NA
4.	Water System -	NA
5.	Hope Cemetery Records -	NA
6.	Perpetual Care Fund – City Treasurer -	NA
7.	Rules and Regulation Changes -	NA
8.	Lot Sale Fee Changes -	NA
9.	Interment & Associated Fees -	NA
10.	Fiscal Year Budget -	Working on budget
11.	Fiscal Year Capital Budget -	Working on budget
12.	Donations	NA
13.	Monuments and Mausoleums -	NA
	a. Discussion on new cremation burial options	
14.	Section Development -	
	a. Section 39 Possible Columbarium	NA
	• Location – See Master Plan on the City Web Site	
	• RFP	
	• Design	
	• Timeline	
15.	Building Rehab -	NA
	a. Barn	
	• Reports – Submitted by the Friends of Hope Cemetery (2-10-07)	
	• Grants	
	• Historical Commission	
	• Plans of storage	
	b. Admin	
16.	Condition of Hope –	No update
	• Commissioner Curewitz commented that he had been to the cemetery, and it was in great condition.	
	b. Sheriff's Community Outreach Program	
17.	Hope Cemetery Master Plan	Approved by City Council 10-10-17
	a. City Parks | City of Worcester, MA (worcesterma.gov)	

18. Misc. -
    a. Productivity Reports
    b. Staff
    c. City Council Orders
        - NA
    d. Articles
    e. Other
19. Date of Next meeting – February 5, 2024

20. Commissioner Faucher made a motion to adjourn. Second by Commissioners Idris and Lizotte. All were in favor. Motion approved 5 – 0. Meeting adjourned at 4:2 PM.

A copy of this full meeting will be available to view and listen to at:
www.worcesterma.gov/city-clerk/public- meetings/agendas-minutes

Antonelli, Robert C. Jr., Parks Asst. Comm.

From: Deborah Packard <[redacted]>
Sent: Thursday, January 11, 2024 12:27 PM
To: City Manager; Fink, Jay J.; Antonelli, Robert C. Jr., Parks Asst. Comm.; Johnstone, Michelle
Cc: [redacted]
Subject: Preservation Worcester - Hope Cemetery Barn
Attachments: Conditions & Treatment Report - Hope Barn - 2007.pdf; 2019-10-31 - Scope of Work estimates Hope Cemetery Barn - Worcester MA.pdf

Importance: High

Hi Eric, Jay, Rob and Michelle

Preservation Worcester is concerned about the recent article indicating that the Barn at Hope Cemetery may be razed. Worcester has few remaining barns. The Hope Cemetery barn is distinctive and important. It was built in in 1889 in the Queen Anne style.

The Barn has often been listed on our Most Endangered Structures list – 2006, 2016, 2017, 2018, 2022 and 2023. In 2007. We commissioned an Existing Condition and Treatment Report on the Barn. That report was given to the City and is attached to this email. In 2017, I met at the Barn with Ed Augustus, Paul Moosey, Rob and Joel Kent (PW Board Director and COO Fontaine Brothers). Ed expressed an interest in restoring and repurposing the Barn – possibly as a chapel or meeting space for wakes and other cemetery related activities. We were asked to provide a Scope of Work estimate which was shared with the City and is attached. With COVID and Ed and Paul's departure, the work on the cemetery most likely got lost.

It would be a real loss to the historic fabric of the city to demolish the building. I hope that you agree. Preservation Worcester is eager to help the City work toward a solution that repairs and repurposes the structure.

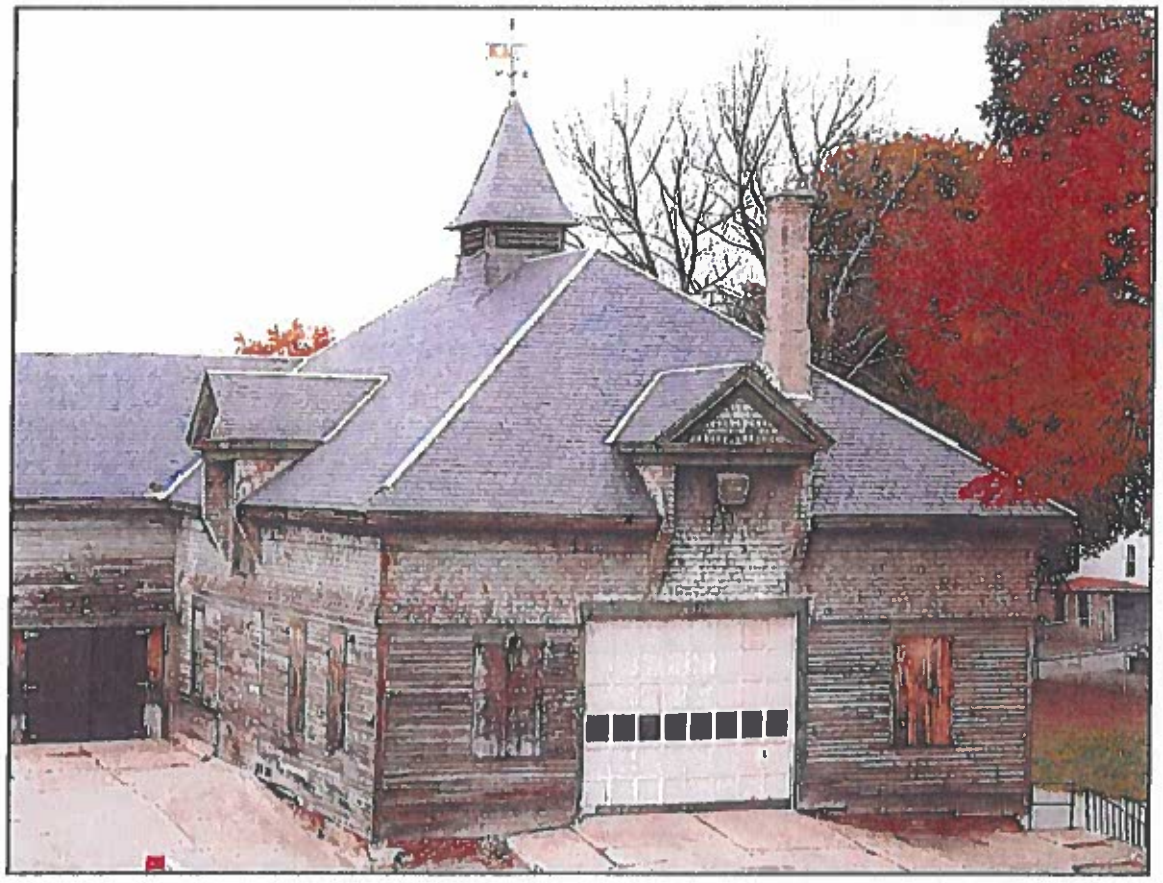
Best,
Deb

Deborah Packard
Executive Director
Preservation Worcester
61 Harvard Street
Worcester, MA 01609
508-754-8760

EXISTING CONDITIONS AND TREATMENT REPORT

HOPE CEMETERY BARN

CITY OF WORCESTER
WORCESTER, MASSACHUSETTS



Finch&Rose

PRESERVATION & DESIGN CONSULTANTS
50 FRONT STREET • BEVERLY, MASSACHUSETTS 01915 • 978-922-4950

FEBRUARY 10, 2007

Contents

EXISTING CONDITIONS AND TREATMENT RECOMMENDATIONS
HOPE CEMETERY BARN
City of Worcester
Worcester, Massachusetts

Finch&Rose
February 10, 2007

INTRODUCTION

The purpose of this report is to document the current condition of the architectural fabric of the Hope Cemetery Barn at a general survey level with an emphasis on the exterior, and to recommend historically appropriate repairs needed to restore the building's exterior to attractive and functional condition. The report is based on 3 separate site visits by William B. Finch during October of 2006 including about 5 hours in a man lift owned by the city to review the roof and upper level conditions. The treatment recommendations have been made within a framework of historic preservation standards with a bias towards retaining and preserving historic materials where reasonably feasible. Others without that bias might recommend replacement of more of the existing wood cladding and trim on the basis that it would simplify bidding and perhaps be less expensive.

The recommendations of this report are not intended to function as construction specifications or generate construction budgets. More extensive professional investigation and documentation will be required to more specifically define the extent and nature of repairs and to produce biddable construction documents. The evaluation of the building was limited to the review of visible surfaces and architectural elements, as the site visits did not include the removal of existing finishes to examine hidden conditions. Additional or more extensive deterioration may be found during construction or more detailed investigations, or if finishes are removed for evaluation hidden building fabric. This report is not intended to evaluate structural capacity or conformance to Building and Life Safety Codes, but does identify some conditions that warrant evaluation by a structural engineer familiar with historic structures. These are discussed in the last section of the report text.

Schematic floor plans, roof plans, and photographic elevations have been prepared to locate conditions discussed in the report and facilitate estimating quantities. These plans along with the indicated locations of doors, windows, and interior walls are approximate in scale and are not intended to be used for actual construction. 80 Photographs illustrating the conditions being discussed are included at the end of the report text.

HISTORY AND GENERAL DESCRIPTION

The main section of the Hope cemetery barn was built in 1889 with distinctive detailing in what has come to be known as the Queen Anne style. It is not known whether it was designed by an architect, and no original plans or drawings are known to exist. The main floor is clad with clapboards, while the loft floor is clad with wood shingles set in a staggered pattern too create a distinct texture. A continuous molded belt course separates the loft shingles from the first floor clapboards. At the top of the shingles there is an 18" high entablature made up of flat beaded boards with a small bed molding at the top. The roof eaves form a deep overhang that projects about 18" beyond the entablature. The soffit of the eaves is also formed with beaded boards supporting a simple cornice consisting of a plain board fascia and a crown molding. The east and north sides of the barn have an exposed basement that is finished with red brick on the exterior, much of which is currently painted.

The original roof on the building was wood shingles in a simple hip configuration. Currently the roof is finished with black slate that was applied directly over the wood shingles, probably in the 1920s. There are five dormers that break the line of the cornice . Two of the dormers have double doors that provided

access to haul hay and other materials up to the loft level, while the other three dormers had windows to provide light for the loft floor. The roof is crowned with a cupola and weathervane at its center. The cupola has open louvers to ventilate the loft floor.

The first floor has large double hung windows in 6/6 and 4/4 configurations, while the loft has 3/3 sash and basement windows are 6 light awning sash. The exterior window frames consist of simple plain boards without band moldings, except for the dormers which have an ogee moldings. The windows are currently boarded up with plywood. Entry to the barn was originally by large sliding doors in the south and west facades, and two doors of unknown type in the basement.

The interior of the main floor is finished with horizontal matched boarding on the walls, and similar matched boarding on the ceiling. These finishes are original. Based on the large size of the windows and the lack of any evidence of stall partitions on the matched board walls, the main barn was probably used to house equipment and carriages rather than to provide stalls for horses. The loft level walls and ceiling are open to the framing.

A lower gable roofed ell extends for 40' off the west side of the main barn. Based on its construction detailing at the loft level it may have predated the main barn by a few years rather than being a later addition. The evidence for the earlier date is mill sawn post and beam framing with pegged mortise and tenon joints, and two openings in the east gable end sheathing that may have been cut for former windows. However, the lack of obvious nail holes from former clapboards or shingles in the east end sheathing makes all this evidence ambiguous.

The ell is clad with clapboards, but lacks the belt course and shingled section of the main barn. Its cornice and entablature match the main barn. Currently, the main floor functions as a three bay garage with a reinforced concrete floor and plastered walls and ceiling intended to be fireproof. Its basement is open to the north side, and has cast in place concrete walls on all sides. Its north basement wall has an overhead garage door and two steel industrial 16 light windows. The north wall of the basement and main floor extends 3'6" beyond the line of the north loft wall.

The current main floor and basement clearly were rebuilt as a major alteration to the original ell. Based on the steel windows and concrete construction, this probably occurred in the 1930s or 40s. The posts forming the wood frame of the loft level have been cut just below the loft floor to accommodate the northerly extension of the first floor. The line of the main roof eaves on the north side has a very considerable sag that is not reflected in the lines of the first floor and basement construction (Photo 69). It may be that the ell was initially used as the stable section of the barn with horse stalls along the north wall, and accumulations of urine and manure below the stalls against the north wall in the cellar rotted out the wall framing and generated the sag. When horses became obsolete, the lower sections were rebuilt and extended several feet to accommodate truck storage using fireproof concrete construction without jacking up the sag.

At this time the first floor and basement are used to store a variety of vehicles and heavy excavation equipment. The loft floors are lightly used for random storage of various obsolete objects.

EXECUTIVE SUMMARY

When originally constructed in 1889 the barn utilized the fashionable Queen Anne style to create an artistic as well as functional embellishment for the Hope Cemetery and the city of Worcester..

The Main barn and ell currently present an extremely run down appearance due to the deteriorated condition of exterior paint and siding, and boarded up windows. The exterior does not appear to have been painted for at least 50 years. Expeditious repairs made some 15 years ago to repair rotting framing under a chronic roof leak at dormer #4 and to replace most roof flashings with sheet aluminum flashings can be credited with stabilizing the building and preventing more extensive deterioration of the

building's structure. The framing for the first floor of the main barn has also been reinforced by sistering many existing joists and adding posts, perhaps at the same time as the other repairs. There do not appear to have been any major exterior repairs or maintenance since those repairs.

Reversing the current run down appearance of the building will require extensive replacement of the exterior wood shingles, clapboards, cornice moldings and window sash along with painting using historically appropriate colors. Fortunately, the roof and slate shingles remain sound with only limited replacement of random broken slates needed in the immediate future. Pressing structural issues appear to be limited to correcting the deterioration of the concrete floor in the ell barn, although it would be prudent to have other structural components reviewed when that floor is evaluated by a structural engineer.

ROOFING (Photos 1-14)

Description:
The existing roof system consists of black slate laid directly over wood shingles. The shingles were probably the original roofing on the building. The slate was likely installed in 1920s once the original wood shingles were becoming worn. The wood shingles are installed on spaced wood sheathing boards supported on full 2" x 6" common rafters 20" on centers. The sheathing boards were spaced about 2" apart rather than butted tightly together in order let provide air circulation to the underside of the wood shingles (Photo 7). At the roof eaves a 2" high strip of wood has been added to the top of the original crown moldings to support the bottom course of slate (Photos 8 & 9).

The slates appear to be black Monson slate from Monson, Maine, a type of slate considered to be very high quality and long lasting. The individual slates on the roof are wearing well, with most individual defects being due to impact from stones, ice, and flashing problems rather than deterioration of the slates. The slates on the main roof pitches and dormers are uniform in size and measure 8" x 14" with an exposure to weather of 6" – 6 1/2". The head lap of these slates is minimal where the exposure is 6 1/2", but does not appear to be causing any obvious problems. The slates on the cupola are smaller measuring 6" x 12" with a 5" exposure to weather. Some of the cupola slates appear to have been replaced with Vermont grey-green slates. The slates on the small roof on the rear of the barn ell are also black Monson, but measure 12" x 18" with an 8" exposure to weather. These were probably installed some years after the slates on the main roof, as they are laid directly over tight sheathing boards rather than wood shingles.

The slates are fastened with galvanized roofing nails rather than copper nails. Contrary to popular literature that suggests rusting ferrous nails are a primary cause of slate roof failures, these nails are in good condition and do not appear to be a significant cause of damage to this slate roof. One potential issue with the nailing is that the nails do not penetrate very far into the wood sheathing due to the thickness of the wood shingles under the slate, and where the nailing occurs over the spaces between the sheathing boards, the slates are only nailed to the shingles. This is because the spacing of the sheathing boards was originally set up to match the nailing of the shingles rather than the slates. Except at one valley where the wood shingles are somewhat deteriorated (Photos 12 & 13), the nailing to the shingles seems secure and does not appear to be causing any significant problems. We recently removed a slate roof at the House of Seven Gables in Salem, MA that was installed over wood shingles, and did not observe significant slate failure due to the shingles.

The valley, hip, and ridge flashings on the roof are aluminum that appears to have been installed about 15 years ago as an expedient solution to replace defective original flashings that were probably copper or tin. Although aluminum has a much shorter service life than copper, no splits or holes were observed in the aluminum valleys. The main valley between the barn and the ell roofs has a number of loose or missing slates along its edges (Photo 12), and is therefore no longer functional. The installation details of theses flashings are also far from ideal (face nailing and minimal lap of slates in the valleys), but should remain functional for the immediate future.

The original shingle flashings at the junction of the main roof to the dormer cheek walls serve as the primary flashing for the slate. This is because the wood shingles on the dormer cheek walls were not redone when the slate was installed and therefore extend about 1" below the line of the slates (Photo 6). These shingle flashings are tin rather than copper. At the northerly dormer on the east façade (dormer #4), the failure of these flashings was probably a major factor in the past deterioration to the roof framing at this location. While there do not appear to be similar failures at the other dormers, these flashings are likely to cause future problems. The flashings at the northerly dormer have been replaced with aluminum.

Conditions:
The roof slates and flashings are generally in sound, serviceable condition except for the following issues:

1. There are a relatively small number of cracked, broken, or missing slates on all roof pitches. These are probably due to rock throwing and sliding ice and snow rather than defects in nailing. Some of these defects appear to have been present for a number of years and reflect a lack of routine maintenance over a number of years rather than severe problems with the roof. The largest concentration of random damaged slate is west of dormer #3 on the north roof pitch (Photo 4).

   Treatment: Replace individual defective slate with matching salvage Black Monson slate. Criteria for defective slate is where the crack or missing section is less than 2" away from the vertical joint between slates in the course below (Photos 10-14). In some cases cracked slate may be repaired by inserting a copper "babbie" under the cracked section. High priority.

   As a matter of routine maintenance, a slate roofer should be brought in every few years to repair random broken slates.

2. Missing slates along the edges of the main valley between the barn and the barn ell (Photo 12).

   Treatment: Re-lay missing or loose slate along edges of the existing valley flashing. Where the wood shingles in the defective areas appear to be too deteriorated to hold nails, remove the shingles and provide new solid wood substrate or shingles matching the thickness of the adjacent wood shingle substrate. An alternative better quality approach would be to remove the existing aluminum valley and replace the wood shingles along the valley with solid wood boarding matching the thickness of the adjacent wood shingle substrate, followed by installation of new 20 oz. Copper open valley flashing and adjacent slates. Highest priority

3. There are a significant number of slipped or crudely repaired slates on the cupola roof, particularly the north pitch (Photos 15-16). Many of the Cupola slates appear to be grey-green slate from Vermont that do not match the Black Monson slate. The flashings between the cupola cheek walls and the main roof appear to be worn (Photo 17).

   Treatment: At minimum re-lay the entire north pitch along with areas of slipped or missing slates on the other pitches, replacing all defective slate with sound matching salvage slate. Ideal treatment would be to relay all four pitches including replacement of non-matching Vermont slate with salvage Black monsoon slate along with replacing the cheek wall flashings with new copper. Medium priority.

4. Flashing at cheek walls of dormers #1-3 and #5 are the original tin shingle flashings, and likely deteriorating, although no current leaks were observed. At dormer #4 the flashings were redone with aluminum when the slate was relaid to repair major leaks 15 years ago. No current leaks are apparent at dormer #4.

Treatment -- Dormers #1-3 & #5: Install new 16 oz. copper step flashings between the slates and dormer cheek walls by laying new wood shingles on the cheek walls trimmed at the bottom to receive new step flashings at the plane of the slate. Relay slate as necessary to install flashings. Existing tin flashings under wood shingles may be left in place. Moderate priority.

Treatment – Dormers #4: Replace the aluminum step flashings with 16oz. copper flashings in conjunction with relaying slate per item 6 below. Install new wood shingles on cheek walls as part of this repair. Moderate Priority

5. Aluminum valley, hip, and ridge flashings have limited remaining service life, but are currently functional.

   Treatment: Monitor for defects and leaks on a yearly basis. Plan for eventual replacement of all aluminum flashings with properly detailed copper flashings in 5-10 years, or when defects and wear in the aluminum become apparent. Currently low priority.

6. A small area of main roof slates next to the northerly east façade dormer pitches down towards at the roof edge due to the omission the shim at the crown molding of when the dormer was repaired 15 years ago (Photos 23 & 28). This is primarily a cosmetic issue.

   Treatment: Relay the slate in this area making changes to the substrate at the roof edge so that the relaid slate aligns with the adjacent sound slate. The work should be done in conjunction with the cheek wall flashing replacement noted in Item #4 above. Moderate priority.

7. The 2" eaves strip added to the original crown moldings at the roof edge is loose or missing in many places. This strip supports the outer edge of the first course of slate at the eaves.

   Treatment: Replace the strip around the entire roof perimeter in conjunction with other carpentry repairs to the cornice and crown moldings. Treatment options are to replace the strip with a similar element nailed to the outer edge of the crown molding, or to replace all the crown molding with a new molding with a higher top lip to support the slate edge. High priority.

CUPOLA AND WEATHERVANE (Photos 15-21)

The slate on the cupola are discussed in the section above on roofs. The cupola has a set of wood louvers on each of four sides and rounded modillion blocks under the eaves (Photos 18 & 19). The paint has completely weathered off the cupola woodwork, but the louvers and modillions remain sound with minor weather checking. However, the corner boards have splits and checks, one of the bed molds under the sill is broken and another is missing.

Treatment: The corner boards and the two defective bedmolds should be replaced with new wood. Replacement of the louvers is optional. Medium priority.

The copper weathervane (Photos 20 & 21) appears to remain functionally sound, but once was gilded on most of its surfaces including the flower finials rather than just the vane that is currently gold colored (the gilding has actually worn off the yellow ground coat).

Treatment: The weathervane should be removed from the building and regilded along with any other repairs needs that may become apparent once it has been removed. After regilding it should be reinstalled. Medium priority

CORNICE AND ENTABLATURE (Photos 21-24)

Description:
The main roof entablature consists of an 18" high band of flat beaded boards forming a simple entablature in the vertical plane of the shingle siding (Photos 23 & 24). The roof eaves project about 18" out from the entablature to form a deep overhang. The soffit of the eaves is formed with flat beaded boards supporting a simple cornice consisting of a plain board fascia and crown molding (Photos 21 & 23). A 1" wide by 2" high strip of wood has been added to the top of the crown molding to meet the underside of the slate roof (Photo 21). This strip was made necessary to accommodate the thickness of the original wood shingles that were left in place when the slate were installed.

The dormers also have a similar formal cornice and entablature, but have smaller dimensions in keeping with the scale of the dormers. The entablature is about 8" high formed with a single board, and the soffit and crown molding project about 11" out from the wall plane.

Conditions:
The wood of the entablature and soffit sections were found to be sound with minimal weathering and checking under the very deteriorated paint on all facades of the barn and ell. A small section of paint on the east facade was removed with a paint scraper to verify the condition of the wood (Photo 24). There was some separation between the boards of the soffit adjacent to dormer #4 that was probably generated by past roof leaks (Photo 23). This limited area may require some minor refastening and caulking, but should be able to be retained in situ.

The condition of the fascia, crown molding, and added 2" strip was found to be more variable. At best the wood surface of these elements has fine weather checking (Photo 22), but is otherwise solid. In many locations the surface checking is deeper and more extensive, and in some places the crown molding and/or the added 2" strip is deeply rotted or missing. Areas where the deterioration is limited to fine weather checking can be retained, but the fine checking may lead to premature paint failure. Areas with deeper checking and other problems do not warrant retention and should be replaced with matching new wood using rot resistant species such as red cedar or Spanish cedar instead of pine. Areas where the crown molding and fascia are heavily deteriorated are indicated on the elevation photos. These include most of the main barn south and west facades, and the south façade of the ell.

The main cornice returns at the dormers, and most corners also exhibit deterioration that will require or replacement or conservation repair at splits where the damage is relatively minor.

The condition of the fascia and crown moldings at the dormers generally followed the condition of the adjacent main cornice.

> ***Treatment:*** At the indicated areas of heavily deteriorated cornice, the fascia, crown molding and added 2" strip should be replaced (Main barn south and west facades, ell south facades, and returns on the other facades). In other areas at least the added 2" strip should be replaced, and complete replacement of both fascia and crown mold should be considered as an option on both the main cornice and the dormer cornices. High priority.
>
> The replacement of the 2" strip under the slate requires some careful deliberation before execution of the work. Concerns include how to most securely add it to the crown molding, and how to accommodate the likely variable dimension between the top of the crown molding and underside of the slate. Reworking the profile, dimension, and placement of the crown molding may be a potential solution if the crown molding is to be replaced around the entire building.

The woodwork comprising soffit of the cornice and the entablature below the cornice can largely be preserved in place with the removal of all loose paint followed by light sanding to remove any soft weathered wood on the surface, and repainting. Carpentry work is limited to occasional renailing of loose boards, and possibly removal and reinstallation of boards that have separated at their joints below the northerly dormer of the east façade.

SHINGLE BAND (Photos 25-30)

Description:
The upper portions of the walls are clad with a band of wood shingles laid in a staggered pattern to create a distinctive surface texture that is typical of Queen Anne architecture. The shingles form a 4' high horizontal band consisting of 11 courses around the main barn extending from a molded belt course up to the underside of the entablature. At the dormers, the shingles continue upwards to form the dormer siding. The shingles are of uniform size measuring 5" wide by 16" long, and are laid with alternating exposures of about 4" and 4 3/4" to create a staggered pattern (Photo 25). Within the dormer pediments, the shingle pattern changes to scalloped shingles (Photo 39). The shingles appear to be original except in the face of the south dormer where the original loft doors have been covered over with shingles in the staggered pattern. (The original doors remain in place behind the shingles). The barn ell does not have any shingles. The wood species of the shingles was not determined. They may be cypress, which would explain why they have survived despite the chronic lack of maintenance.

Condition:
The condition of the shingles ranges from poor on the lower portions of the west and north facades to good on most of the east and south façades. All the shingles have severely weathered paint that makes them look worse than they are. Where a sample area on the east façade was scraped down to bare wood, the wood was found to remain sound (Photo 26). Removal of the paint was found to be very easy using a standard paint scrapper.

West facade: On the west façade, the lower courses have a substantial number of badly split and curled shingles, especially in the area below the dormer (Photo 29). The upper courses remain sound. Replacing only the bottom courses results in an awkward junction where the new shingles meet the ones to remain in place with compromises in the head lap and covering the nail heads. The problem is minor where only a few shingles are being replaced, but much more problematic when it extends across a façade. Where extensive sections of the lower courses are deteriorated, complete replacement of all the shingles on the façade is warranted.

North facade: On the north façade, extensive areas of shingles are missing, particularly in the in the lower center section (Photo 30). While many of the remaining shingles are sound, complete replacement is warranted due to the problems in patching in large areas of new shingles.

East facade: On the east façade only a few isolated shingles were cracked or missing. The worst area was under the northerly dormer where past severe leaks had rotted out sections of sheathing and the shingles are still missing (Photo 29). New shingles and sheathing should be installed at the damaged areas under the northerly dormer, as a high priority. The shingles on the rest of the façade can be retained with removal of the paint and repainting. In most cases the individual cracked shingles can be left as is, with replacement the few severely cracked individual shingles an optional treatment.

South Facade: The condition and recommended treatment of the shingles on the south façade is similar to the east façade, except that the shingles in the central dormer should be redone to expose the original loft doors. The enlargement of the door to the main floor removed a section of original shingles and belt course. If the main floor door is restored to its original dimensions, the shingles adjacent to the door frame will have to be redone.

TREATMENT: The staggered pattern of the shingles is a distinctive architectural feature of the building that should be preserved and strictly followed in any areas where the shingles are replaced. On the south and east facades, the shingles should be retained with replacement limited to areas of missing shingles below the dormer #4, and a few isolated severely cracked shingles. If the loft doors and/or the main front door on the south façade are restored, the shingles in these areas will also have to be reworked. On the west and north facades complete replacement of the shingles is warranted, although it may prove possible to retain sizeable areas of shingles at each end of these facades. The replacement shingles should be sawn western red cedar (blue label perfection grade) matching the size and staggered pattern of the existing shingles. The species of the existing shingles should be checked; if they are cypress some extra effort to retain and preserve them is warranted as old growth cypress is very rot resistant. High priority.

BELT COURSE (Photo 31)

Description:
A molded belt course about 7" high runs around the main barn forms the junction between the upper shingle band and lower band of clapboards. It is built up with several pieces of flat stock starting with a beaded fillet at the top of the clapboards and finishing with a crown molding. The top of the crown molding projects about 5" beyond the face of the corner boards, providing a distinctive outward curve for the bottom courses of shingles. This belt course is an important design element that is found on many Queen Anne style buildings and should be retained. The belt course is not present on the barn ell.

Condition:
Other than severely peeling paint and some moderately weathered surfaces, the belt course remains in sound condition. Some individual sections may have loose nailing, the end to end alignment of some pieces may be slightly off, and corner miters are moderately open at the joints. These are minor defects that are easily repaired. The first course of clapboards laps under the bottom board of the belt course. Proper installation of new clapboards may require the removal and reinstallation of some components of the belt course.

TREATMENT: Preserve the belt course in place as an important architectural feature with the removal of all loose paint followed by light sanding to remove any soft weathered wood on the surface, and repainting. Renail loose elements, and reset pieces as required to realign end joints and close miter joints. Remove and reset individual elements as required to install new clapboards below. High priority.

CLAPBOARD BAND (Photos 32-34)

Description:
The first floor of the main barn below the belt course is clad with 31 course of wood clapboards that terminate in a simple water table board. The exposure of the clapboards ranges from 3 1/2" to 4", with most being 3 1/2" – 3 3/4". At the ell barn, clapboards extend upwards from the base of the building to the entablature under the roof. The individual clapboards are typically 4'-8' long, but in some areas the clapboards are substantially longer. The end to end joints between clapboards are simple butt joints. Most of the clapboards appear to be original, although some areas of more recent replacement are apparent. The wood species was not identified, but they are probably eastern white pine.

Condition:
The clapboards on the west, south and east facades of the main barn and the south and north sides of the ell are in very poor condition. Many have warped severely and come loose or split, and a sizeable amount are missing (Photo 32). The paint has weathered off in most areas and the surface of the clapboards have become heavily weathered. There are limited sections where the warping and splitting is less severe

on the east façade of the main barn, but most nailheads have rusted and a substantial number of split clapboards will still require replacement (Photo 33). In general the clapboards on these facades have sufficient deterioration to warrant complete replacement with matching wood clapboards.

Clapboards on north side of the ell barn are more recent and in better condition with some thin paint still present. There are still some individual split clapboards, and band below the entablature is distorted to follow the past settlement of barn frame. The clapboards on this façade of the ell can be salvaged in place by sanding to remove the existing paint and any weathered wood on their surface, followed by repainting.

Clapboards on the north side of the main barn are less weathered than the other sides, but many nail heads are rusty and there are sizable areas of missing clapboards around the windows. Replacement of all clapboards where many are already missing around the windows, while retaining in place the areas of largely intact clapboards is an option to complete replacement on this section (photo 34). However, the rusting nail heads may tend to bleed through the paint.

> ***Treatment:*** Complete replacement with matching new wood clapboards is recommended for all facades of the main barn and ell barn except possibly north façade. At the north façade most of the existing clapboards appear sound enough to remain in place as a cost saving option, although complete replacement would provide the longest service life for the paint. High priority.
>
> New clapboards should be fully primed on all sides before installation, including end cuts made to fit them in place. Care should be taken to use only top grade heartwood clapboards with vertical grain. Flat sawn clapboards are more prone to warping and moisture movement that leads to premature paint failure. If clapboards are purchased pre-primed, the primer may make it difficult to confirm their quality. Either Western Red Cedar or radially sawn Eastern White Pine clapboards would be acceptable. The ultra-smooth milled surface of Red Cedar clapboards holds paint better if it is lightly sanded before priming. Radially sawn pine clapboards hold paint better and are straight grained due to the way they are sawn, and more closely match the appearance of the original clapboards (modern red cedar clapboards have slightly rounded edges). However, they are only available in lengths up to 8' and most be purchased directly from mills that produce them. The clapboards should be installed directly on the wood sheathing without Tyvek. The building is not heated, so Tyvek (or felt paper) does not offer any advantages and has the risk of trapping moisture behind the clapboards and causing paint failure.

WATERTABLE AND CORNERBOARDS

Description:
At all facades of the main barn there is a wood watertable at the top of the brick foundation that serves as a base for the clapboards. It consists of a single board about 8" high capped with a narrow piece of stock set an angle to direct water off the foundation and serve as a cant strip for the first course of clapboards. The ell has a similar wood watertable set at the top of the concrete basement on the north elevation, and over the garage doors on its south elevation. There is no watertable on the west ell façade. The corners of both the main barn and ell are finished at the clapboard bands with flat cornerboards. The cornerboards are a full inch thick.

Conditions:
At the west and south sides of the main barn the watertable is largely missing or in severely deteriorated condition. At the northerly end of the west façade it has been replaced by a concrete curb poured up against the base of the building. This obscures the condition of the sill and framing behind it and in the long run will generate rot (there may already be rot behind it, although it still appeared sound from

within the basement). On the east and north facades the wide lower board is intact, but the canted cap is missing or severely warped along about 50% of the walls. At the ell both the lower boards and the cap are intact, but the cap is frequently warped or loose. The lower boards of the water table and the corner boards are devoid of paint with weathering and occasional splits.

> ***Treatment:*** Complete replacement of all watertables is recommended in conjunction with clapboard replacement. Replacement of the cornerboards is optional on case by case basis. 5/4" stock should be used for any replacements. Removal of the watertables along with the sheathing boards behind them will also allow full assessment of the building sills and lower framing (our assessment of the sills was limited to sections we could see). High Priority

SHEATHING

Description:
All the walls of both buildings have nominal 1" thick rough sawn pine sheathing boards under the clapboards and shingles.

Condition:
Along the base of the west and south sides of the main barn where the clapboards and watertable are largely missing some of the sheathing boards or also missing or deteriorated (Photos 35 & 36). They also appear to have been damaged below dormer #4 on the east facade from the previous roof and flashing leaks. Otherwise the sheathing appears to remain serviceable, with caveat that additional areas of deterioration may be revealed when the clapboards are removed.

> ***Treatment:*** The areas of missing or deteriorated sheathing at the base of the west and south facades of the main barn, and below the northerly dormer of the east façade should be replaced with rough sawn pine sheathing of matching thickness. In addition, an allowance should be carried for replacement 10% (expressed as square feet) of the sheathing boards in all areas where clapboards or shingles are being replaced. The use of plywood or particle board for sheathing is not recommended. High Priority.

SILLS (Photos 35-38)

Description:
The main barn has approximately 8" x 8" wood sills set on top of the brick foundation. The sills at the ell were not visible, but are assumed to be more modern timber installed on top of the concrete foundation when the base of this section was rebuilt in the 1920s or 30s.

Condition:
Evaluation of the sills was limited to visual assessment where they could be seen from within the basement of the main barn, and short portions exposed on the outside of the west and south facades. The only area of substantial deterioration observed was at the southeast corner where the bottom 2" or so of the east sill was damaged from both water and insect infestation (Photo 38). This damage extend only a couple of feet along the east sill and did not appear to extend upwards into the heart of the sill or the corner post above. The brick foundation immediately below the sill was also deteriorated with a number of missing brick. Assuming further investigation does not find it to be substantially more extensive, it can be repaired in place by cutting out the damaged wood to a uniform plane and inserting new wood below the remaining sound wood to restore the full thickness of the sills. The brick foundation can then be rebuilt up to the base of the sills.

Along the southern half of the west foundation and the south foundation next to the door, portions of the of the sill and related wall studs were exposed due to missing clapboards and sheathing (Photos 35 & 37).

The exposed portions where severely deteriorated on their outer faces, but the damage did not appear to extend into the center of the sills. However, our review of them was very brief and did not include drilling into them. Along the northern half of the west foundation the sill is completely covered on the outside by a concrete curb and raised paving. The sill in this area was somewhat visible from within the basement, and did not show obvious visual signs of deterioration from that side. However, our inspection was very brief and did not include probing with a drill or other tools for internal rot. Typically, sill deterioration will start on the exterior face and/or the bottom and may not be apparent from the interior unless it has progressed far enough to cause the sill to roll outwards or crush. That some distoration in the belt course and cornice is visible below Dormer #1 (Cover photo) suggests that rot in the bottom of the sill behind the concrete curb has caused some settlent of the wall in this area.

Visual inspection of the sill under the other facades from within the basement did not reveal any obvious deterioration. Given that the sills are well above grade on the north and east sides, substantial sill deterioration is not likely except perhaps directly under dormer #4 on the east façade.

The south façade sill was altered in the center section by the widening of the vehicle entry door and the pouring of a concrete apron at grade at that door. We were not able to get a full sense of the alteration or conditions in this area due to limited access and debris within the basement.

Sills in the ell were not assessed as they could not be seen at all.

> ***TREATMENT:*** Repair the east sill and related brick foundation at the southeast corner of the main barn by cutting out the damaged wood to a uniform plane and inserting new wood below the remaining sound wood to restore the full thickness of the sill. The brick foundation can then be rebuilt up to the base of the sills. High priority.
>
> Along the west façade, the concrete curb and the adjacent concrete paving should cut back to allow full inspection of the sills (they are probably below grade at the northerly end), repair of defects that may be revealed, and the installation of below grade flashing configured to protect sills and related framing from water at grade level. High priority.
>
> The sills should be further evaluated from the exterior during renovation work when the clapboards and watertables are replaced.
>
> Further inspection of the sills by an engineer in conjunction with other engineering evaluations recommended in other sections of this report is recommended. Structures North of Salem MA, who have looked at other structures in the cemetery, possess a resistant drill which is very useful in assessing hidden deterioration in sills.

DOORS (Photo 39-48)

Description:

South Façade: The current ground level door is a modern wood overhead garage door. The current door between the ell barn and main barn in the basement appears to be a portion of the original south façade door (Photos 39 & 40). It is a distinctive rail and panel door. At the time the current door was installed the door opening was widened by about 1 1/2 feet on the west side and raised up into the shingle band at the top. The loft floor framing above the door frame was cut back to provide space for the door to rise into the ceiling when opened. More recently, the first floor framing inside the door has been heavily supplemented in the basement (Photo 79).

At the loft level in dormer #2, the original pair of frame and panel hinged to open into the loft are present on the interior, but the exterior side of the opening has been shingled over without any trace of the door

frame (Photos 43 & 44). Access and operation of the loft doors is now blocked by the raised floor installed behind the doors to accommodate the lifting of the ground level overhead door.

Main barn, West Facade: The original sliding frame and panel doors are present on the interior, but the exterior side of the door opening has been filled in with clapboards (Photos 41 and 42). The original door retains its track and hardware. The original panels of the door appear to have been replaced with newer boarding.
At the loft level the dormer retains its original pair of frame and panel doors hinged to open into the loft (Photos 45 & 46). The doors are in functional condition.

Main Barn, East Facade: There are two garage door openings at the basement level, each with a modern metal overhead door that was probably installed within the last 15 years. There is no indication of the design of the original doors.

Ell, North facade: There is a single garage door opening at the basement level having a modern wood overhead door.

Ell, South Facade: There are three garage door openings that take up the entire facade. The northerly opening has a wide wood overhead door. The other two openings have been reduced in width with plywood infill and fitted with hinged plywood doors. They previously had overhead doors that were probably installed when the lower portion of the building was rebuilt with a concrete foundation c. 1920s or 30s. The tracks for the doors are still in place (Photo 67).

At the loft level there are two small openings with their original frame and panel sliding doors that are in functional condition (Photos 47 & 48).

Condition:
South Facade: The current modern overhead door is in functional condition, but is visually obtrusive to the historic character of this primary facade. The enlargement of the opening has made it off-center on the facade and broken the line of the belt course. We understand there may be an historic photo that shows the original door in place, but have not seen it. However, the large fragment of the original door provides a sufficient evidence to reconstruct the original door, which appears to have been a single leaf sliding to the north side on the interior. Reconstruction of the original door (either in the existing opening or preferably in an opening reduced to its original size) would be a desirable option. Medium priority.

At the loft level the original doors appear to be in sound condition based on what is visible from the inside. The exterior shingles covering the opening are moderately worn, and are not as visually intrusive as the overhead door below. However, it would still be a substantial visual improvement if the dormer was restored with the original doors visible on the exterior. The west facade dormer can serve as a model for the exterior detailing. Restoration of the original door opening to expose the existing original doors when the exterior facade repairs are done is a desirable option to retaining the existing shingles. If the door is not restored to the exterior, it should still be preserved in place as a significant original feature. Medium priority.

Main barn, West Facade: The original sliding frame and panel doors appear to be in functional condition based on their interior appearance. Whether the replaced panel boarding matches the original matched board appearance on the exterior cannot be determined without removing the doors from the tracks (or opening up the exterior). The clapboards covering the exterior side of the opening are in poor condition and will require replacement if the current configuration is kept. That the door opening is slightly off-center to the dormer above appears to be the original configuration. Restoration of the original door opening to expose the existing original doors when the exterior facade repairs are done is a desirable option to retaining the existing clapboard infill. If the door is not restored to the exterior, it should still be preserved in place as a significant original feature. Medium priority

At the loft level, the doors are in functional condition. Their paint is peeling, and there are various minor digs, nicks and missing moldings from wear to both the doors and the frames. The doors warrant preservation with carpentry repairs as required to make them aesthetically and functional acceptable. High priority.

Ell, North facade: The current door appears to not be functional. The concrete forming the lintel for the door is in poor condition with an area of exposed and rusting rebar.

Ell, South Facade: The overhead door of the northerly opening is in functional condition. The plywood infill and hinged doors in the other two openings are unattractive make-do replacements of the original overhead doors, and only minimally functional.

At the loft level the two small openings and original frame and panel sliding doors are in functional condition with various digs and nicks from wear. They are rarely used but are part of the historic character of the facade and warrant preservation with carpentry repairs as required to make them aesthetically and functional acceptable. Their sills are fissured from weathering, and should be replaced or possibly repaired with epoxy consolidation.

TREATMENT:

West and South facades - Restoration Options: From a visual and historic point of view it is desirable to restore the exterior appearance of the original doors and door frames at the ground and loft levels of the south facade, and the ground level of the west facade. Functionally, the west facade ground floor door and south facade loft doors can be restored fixed in place if necessary for security. The ground floor door at the south facade obviously must be functional; the possibility of motorized sliding operation should be explored. Restoring the original width and height of the of the opening is desirable, but not critical. Medium priority.

The existing original doors at the loft level of the west facade and south facade of the ell should be retained and preserved. Some carpentry repairs will be needed, and the sills of the door frames at ell loft level should be replaced to match the existing sills, as they are deeply weathered. Restoration is medium priority, but preservation of the existing original elements is of high priority.

The other doors on the south ell facade and the east and north facades of the main barn and ell can be treated in a strictly functional manner as follows:

Main Barn, East Facade: Retain the current metal overhead doors as is. Their location is relatively obscure and the appearance of the original doors is unknown.

Ell Barn, North Facade: Retain the current wood overhead doors with whatever repair are needed to make it functional. Replacement with a new overhead door is also acceptable if that is more expeditious. The exposed rusted rebar at the lintel needs to be treated to remove the rust, and the concrete patched to provide full coverage over the rebar. Medium priority.

Ell, South Facade: The overhead door of the northerly opening is in functional condition and can be retained with whatever repairs are needed to maintain its functionality. The plywood infill and hinged doors in the other two openings should be redone to improve both their functionality and appearance. One option is to replace them with wood overhead doors that fill the original door openings and match the appearance of the existing one. Replacing the existing overhead

door hardware with modern hardware would be acceptable to accomplish this. Another option would be to redo both the infill panels and the doors with wood in a manner more sympathetic to the appearance of the building as well as having needed functionality. In that case a design should be prepared by an architect rather than simply going to a building center and throwing something together. Medium priority.

WINDOWS (Photos 49-55)

Description:
Main Barn: The main barn retains most of its original wood sash and frames, but they have been boarded up on the exterior due to past vandalism, and some are also covered up on the interior. The windows on the main floor have 6/6 (11 windows) and 4/4 (4 windows) double hung sash with original molded interior casings. The windows in the loft dormers (6 windows) have 3/3 double hung sash, are set in the exposed framing without any interior casings. The loft staircase windows (2 windows) have small 2/2 double hung sash. The basement windows (7 windows) have single 6 light sash with wire grills on the exterior. It was not clear whether they fixed or hinged to swing out. The first floor windows are finished with simple flat board casings on the exterior of the building while the dormer windows have ogee moldings on the casings.

Ell Barn: Windows in the main floor and basement are industrial steel sash original to the reconstruction of the lower section c. 1930s or 40s. The loft has a single 6 light sash wood window in the north side, and single 6/6 double sash wood window in the west gable.

Condition:
All the windows have been boarded up on the outside with plywood due to past vandalism, and some are also covered on the inside with plywood or clouded plastic. This has prevented detailed assessment, as the outside of the sash and portions of the frames are not visible. The basic condition and configuration of each window is noted on the floor plans.

Main Barn: The window sash in the main barn exhibit a wide range of condition from largely intact to falling apart or partially missing (Photos 49-50, 52). In a number of windows the sash remain in place with all their muntins and interior paint intact, but much the glass broken or missing. These would appear to be salvageable by reglazing and painting them, and renewing ropes and weights. However because their exterior was not accessible, it could not be determined if there was excessive weathering or corner damage that would make in-kind replacement rather than reglazing more practical. In other windows, one or both sash were missing, or the muntins were broken. In these cases in kind replacement of the sash is needed. The molded interior casings were intact and in serviceable condition at all the main floor windows where they were visible. As they give substantial historic character to the interior they should be retained and preserved.

The exterior casings of most of the windows had severely failing paint and moderate surface weathering, but should be salvageable with proper paint preparation (Photo 55). The condition of the sills was more variable, with a few having deep splits and weather checking warranting replacement or substantial conservation with epoxy and wood Dutchman repairs, and other having only minor surface weathering (Photo 53 & 54). The plywood covers prevented full assessment of the sills. One of the loft staircase windows is missing both its sash and frame.

Ell Barn: The steel sash windows are intact, but with much of the glass missing and considerable rust on the muntins and frames (Photo 51). Although they could probably be salvaged and reglazed after extensive rust removal, it would be more practical to replace with complete new windows matching the size of the openings and the basic configuration of the window panes. The replacements could be either

metal or wood, with operability as needed for functionality. While the existing steel sash have some historic significance to past the remodeling of the elf, they are not essential to the overall character of the entire barn.

The two wood windows at the loft level have their sash and glass intact and therefore may be salvageable, depending on their exterior condition.

TREATMENT:

General: From both aesthetic and historic preservation perspectives, the restoration of the windows as a visible exterior element is essential. Because the building is not heated, there is no need to utilize double glazing or storm windows for energy purposes. However, past experience with vandalism complicates the issue. As the basement windows all had protective heavy wire screens and the loft windows show little or nor glass breakage due to their height, the issue is limited to the main floor windows. Protective hardware cloth screens would be preferable to the existing plywood, but is still highly unattractive. Glazing the most vulnerable windows with Lexan rather than glass or installing Lexan storm windows are options, but are expensive and become unsightly after 10-20 years due to clouding and scratching. From a visual perspective, the windows of the south, east, and west facades of the main barn are the most important.

For budget purposes it should be assumed that all sash require replacement with new single glazed sash matching the size and pane configurations of the existing original sash, and all wood frames and casings will be retained.

Further assessment of the intact wood sash should be carried out to determine if some can readily be reused rather than replaced before finalizing a treatment plan. To do this, each set of sash should be removed from its frame and examined on both sides for condition issues. This can be done from the interior without removing the existing exterior plywood. If specific existing intact sash are found to need only simple reglazing and painting, it is preferable from an historic preservation perspective to reuse them. Also their old growth wood will be more rot resistant than modern wood.

For replacement sash the actual muntin profiles used can be a stock pattern of similar width and depth rather than an exact match to the existing muntins. Note that if historic preservation grant funds are used for the work, an exact match of the original muntins may be required. Either pine or mahogany can be used for the sash, with the latter being more expensive but more rot resistant. The use of vinyl or metal clad double glazed sash with attached grills is not recommended, as breakage from vandalism is substantially more complicated and expensive to repair than conventional single glazed windows.

Main Barn: All the existing window frames including interior and exterior casings should be retained in place with extensive paint preparation and sanding for the exterior elements. The one missing window frame at the loft stair should either be replaced, or clapboarded over as it is not essential to the character of the building. Some window sills will require more extensive preparation with epoxy filling of deep weather checks, and several may warrant replacement. Ropes and weights should be repaired if there is a need for operability. Otherwise the sash can be fixed in their openings (note that fixing them in place means they must be either cleaned form the outside or removed for cleaning). The north facade windows can be protected with wire grills similar to the basement windows of the main barn. High priority.

Ell Barn: The two existing wood windows should be treated similarly the main barn windows. The metal windows should be replaced with complete new windows matching the size of the openings and the basic configuration of the windowpanes. The replacements could be either metal or wood, with operability as needed for functionality. The north facade windows can be protected with wire grills similar to the basement windows of the main barn. High priority.

MASONRY (Photos 56-63)

Description:

Main Barn: The foundation is fieldstone set in mortar below grade, and sand molded brick in the above grade portions (Photo 60) The brick portions are three wythes (12") thick. The thickness of the stone is not known, but likely is about two feet. At the east and north facades the brick is exposed for the full height of the basement, while on the south and west sides the brick is limited to the five or six courses that are mostly above grade. The brick was originally laid in a lime mortar. The exposed brick was once painted, but much of the paint is now worn off. There is a brick chimney that rises from the first floor to penetrate the roof near the southeast corner. Above the roof line it is constructed with buff cement brick, while red brick is used below the roof.

Ell Barn: The foundation as visible in the basement is poured in place concrete of unknown thickness. On the east side it has been poured up against the original barn foundation, the entire mass being about 3' thick. On the north side the cement foundation is visible for the full height of the basement on the exterior. The basement ceiling is poured in place reinforced concrete over a grid of exposed steel beams and columns (Photo 63). The walls of the main floor look like cement, but are actually cement plaster on wire lath over wood frame walls set on the cement foundation.

Condition:

Main Barn: The fieldstone foundation where it is visible within the basement appears to be in sound serviceable condition with no obvious signs of significant deterioration (Photo 60). The condition of its mortar joints was not looked at in any detail.

The brick portions do have a number of significant condition issues at the exterior walls. Most of these appear to be due to moisture and salt derived from snow that has been routinely piled up against the foundation walls. At the west and south walls the damage is limited to deeply eroded mortar joints and minor spalling of some brick faces. At the southeast corner the mortar has deteriorated through the full 12" thickness of the wall, a number of bricks have fallen away and others are deeply spalled (Photo 59). Along the base of the east wall there are a number of areas of deeply eroded and joints and spalled brick extend up to the height of the window sills (Photos 56-58). At several areas the joint erosion is so deep that the face bricks are bulging and require rebuilding, including the returns at the garage door openings. Much of the paint on the bricks at the facade has weathered away. The condition of the north facade was largely obscured by materials piled next to the wall, but several large areas of more moderate joint erosion were observed. This facade retains most of its paint.

The chimney above the roofline has a number of vertical cracks that extend through the brick units, probably from freeze-thaw damage (Photo 62). There are also numerous cracks at the bond lines of the mortar, and the brick surfaces are moderately eroded. The chimney flashings have failed are a source of current leaking into the loft (Photo 61).

Treatment: Exterior brick joints at the west and south walls require 100% cutting and repointing, along with resetting of any loose brick. Brick at the southeast corner needs to be rebuilt with replacing of missing or deeply spalled brick with brick of matching color and size. The repairs should be carried out in conjunction with sill repairs.

Joints at the east wall should be 100% cut out and repointed from the height of the window sills down along the entire length of the wall. Areas where the face brick are deeply spalled, loose, bulging, or missing should be rebuilt reusing existing sound brick and using matching new or salvage brick to replace spalled or missing brick. High priority.

Areas of eroded brick on the north wall should be cut out and repointed. This likely involves at least 50% of the joints below the window sill level. High priority.

As the original brick were probably laid in a lime mortar (the mortar was not analyzed) , repointing and rebuilding should utilize a compatible lime or lime/ cement mortar rather than a modern cement or masonry cement mortar. Ideally the existing mortar should be analyzed as a basis for a formula, several rule of thumb options include a 1:2:8 (type S lime: Portland cement: sand) mix, Hydraulic lime from Virginia Limeworks (NHL 5 in a 1:2.25 mix, lime:sand).

Repainting the brick foundation walls after repairs using a breathable latex paint formulated for masonry would be an acceptable method of further protecting the brick. (Medium priority.

The brick chimney should either be taken down to the roof level and rebuilt using new buff colored brick, or simply taken down to the roof level (or its full height), and roofed over with slate matching the existing roof. Ordinarily, it is not desirable to remove chimneys from historic buildings, but in this case the chimney is not visually significant, and any relationship to its historic function has been lost (it probably served a forge in the basement and heated the small first floor "office" space, but there is no longer any trace of a forge). If it is decided to reinstate heating the future, the furnace could be a power vented unit with the exhaust vented through a side wall. High priority.

Ell Barn: No obvious defects were observed in the cement foundation walls as visible within the basement. The cement lintel spanning the garage bay door opening has spalled off in several locations resulting in exposed rebar that are now rusting. The initial cause of this was probably equipment banging into the lintel.

The cement ceiling of the basement has significant deterioration problems that pose a structural hazard for equipment stored on its upper surface in the garage bays of the ground floor above (Photo 63). Water and salts draining off the vehicles in the garage bays have penetrated thru the cement slab causing the lower surface to spall off and generating severe rust in many of the rebars and the flanges of some of the main support beams. The worst areas are along the south edge of the middle and west end bays where a number of rebar have rusted clear through and no longer connect to the top of the foundation wall. Concrete poured on the top surface of this area by cemetery staff is superficial and does not correct the basic structural issue.

Treatment: A structural engineer experienced with the repair of reinforced concrete should be consulted to evaluate the condition of the ceiling slab and the lintel over the garage door, and to recommend appropriate repair. Until that evaluation, heavy equipment and vehicles should not be stored in the garage bays above the damaged areas. High priority.

INTERIOR FINISHES (Photos 64-68)

Description:
Main Barn: The main floor is finished with the painted original beaded matched boarding on both on all the walls and the entire ceiling (Photo 64). The windows are finished with molded casings having turned corner blocks and molded aprons below the stool. The bottom chords of the main roof trusses are exposed as part of the ceiling finish, and are decorated with simple chamfered edges. A single room has been partitioned off on the east side of the floor with similar finishes. This likely served as an original office for the maintenance staff. This space was probably always used for vehicle and equipment storage rather than as a stable.

The loft level is unfinished with a wood plank floor and all the wall and roof framing exposed (Photo 65). The main roof trusses and tie rods are principal features.

The basement level is unfinished with the masonry foundation walls and ceiling framing exposed, and a concrete floor (Photo 60).

Ell Barn: The main floor is finished with cement plaster over wire lath on all the walls and the ceiling, where it also wraps over the bottom chord of the two roof trusses (Photo 67). The floor is reinforced concrete. The finishes date to the rebuilding of the lower part of the ell c. 1930s-40s.

The basement level is unfinished with poured concrete walls, floor, and ceiling, and exposed steel beams and posts (Photo 63).

The loft level is unfinished with a wood plank floor and all the wall and roof framing exposed (Photo 62). The main roof trusses and tie rods are also exposed. The framing dates to the original construction of the ell in the late 19th century.

Condition
Main Barn: The matched boarding is has not been painted for years. It is therefore somewhat dirty, but is otherwise sound and serviceable. There are cuts out of the central portion of most of the roof truss bottom chords. These are discussed in the report section titled "Structure".

The loft level has a random clutter of obsolete cemetery equipment, and a considerable layer of dust and fibers on the floor. The fibers looks like refuse from hay previously stored in the loft, and is a potential fire hazard. The stored materials are spread out and do not pose any structural issues, but do prevent the proper cleaning and routine inspection of the space.

The basement is filled with maintenance equipment that and vehicles that are currently used on a regular basis. Condition issues regarding the ceiling framing are discussed in the report under "Structure". The ceiling has a number of steam pipes from a heating system that is no longer used. Some of the pipes are covered with old insulation that is falling off and may contain hazardous materials (Photo 68).

Ell Barn: The cement plaster finishes on the walls and ceiling of the main floor, and the cement walls in the basement are in serviceable condition for the current usage. The hazards associated with the cement floor were discussed under masonry. The loft level conditions are similar to the main barn loft, except there is much less storage.

TREATMENT
Main Barn: The matched boarding on the walls and ceiling of the main floor along with the window casings are significant original features that should be retained and preserved. The boarding would benefit from cleaning and repainting, but this is a low priority item relative to the repair and restoration of the exterior. Low priority.

The materials being stored in the loft should be systematically sorted with only items having historical value or current use being retained. The dust and fiber debris should be completely cleaned out to reduce fire hazards. Future storage use should based on evaluation of the loading capacity of the floor by a structural engineer, as the cuts in the bottom truss chords may have reduced the strength of the floor. Medium priority due to fire risk.

The insulation on the basement steam pipes should be evaluated by a hazards materials consultant and remediated as he recommends. As there is no intention to restore the steam heating system, the pipes can be removed in conjunction with any remediation. High priority.

Ell Barn: The main floor slab needs to be evaluated by a structural engineer as discussed in the masonry section. The dust and fiber debris should be cleaned out of the loft level to reduce fire hazards. No other specific repairs are recommended to interior finishes given the current usage. High priority for concrete floor, low priority for loft cleanout.

PAINT ISSUES (exterior only)

As discussed in sections on the wall cladding, the exterior paint is in extremely deteriorated condition due to the building not having been painted for many years. Much of the woodwork has lost its paint entirely and has been weathering for a number of years with numerous fine cracks and checks in the wood surface.

TREATMENT:
A major goal of restoring the appearance of the building to a functional and attractive state should be to carry out a long lasting paint job. Because of the weathered state of the salvageable woodwork (Photo 22), this will require rigorous preparation. The existing paint was found to be so friable that it could easily be fully removed by normal hand scraping (Photos 24 & 26). However, in order to effectively hold paint, the weathered surface of the wood will need to be sanded down to expose fresh wood. This needs to be done with care and using only tools that will not leaved disfiguring tool marks (i.e., circular power grinders leave obvious circular marks in the wood, and should not be used). Assuming a full-bodied paint is to be used rather than a stain, all the wood should be primed with an oil based primer followed by two coats of a top quality 100% acrylic paint. Any new wood elements should be fully back primed before installation, including surfaces that cut to fit the piece during installation. Note that expeditious painting methods such as power spraying do not usually provide a long lasting paint job. It is critical to hand brush the paint in order to insure that it is worked into all the surface pores and fissures.

The colors used to paint the building should be appropriate to the period of its Queen Anne design in the late 19th century. Ideally its original paint colors should be determined and used as a basis for the repainting. This is done through a process called paint analysis in which samples of the full buildup of paint on the building are removed and examined under a low powered microscope to identify and match the initial layers. Despite the weathering, some of the protected areas under the roof eaves still retain enough build up of early paints to enable determination of the early paint color treatment of the building through paint analysis. If funds permit, paint analysis by a qualified historic preservation consultant should be done prior to paint preparation, which will of necessity remove all the surviving paint evidence. Note that some government grants may require paint analysis as a condition of the grant.

STRUCTURAL ISSUES (Photo 69-79)

In the course of reviewing the building several conditions were observed that warrant review by a structural engineer.

Main Barn Roof Trusses: At the ceiling of the main barn first floor, a portion about 3' long by 3" deep has been removed from the bottom of the beams forming the lower chord of the roof trusses (Photo 80) (the beams measure about 8" deep by 7" wide, and the cuts are at the center of the ceiling). Steel plates were bolted to the sides of the beams above the cuts to compensate for the loss of material. This was likely done to accommodate the height of a vehicle. No visible distress was observed relative to these cuts, but there is currently little loading on the beams beyond the loft floor structure. Evaluation of the trusses in the light of these cuts should be done by a structural engineer experienced with historic timber framing of this type to determine the safe capacity of the trusses relative to possible future uses or storage in the loft. The evaluation can also verify that the slate roof is not imposing excessive loads on the trusses, as the roof was originally clad with wood shingles rather than slate.

Main Barn – East Facade Northerly Dormer: Water damage to the truss ends and wall framing below the northerly dormer due to a past roof leak was extensive. Although repairs to the framing have been in place for some time, it is not clear that these have properly restored the continuity of the framing (Photos 73-76). For instance, the joint between the upper chord rafter and bottom chord beam was completely destroyed by rot, and the repairs do not appear to have directly reinstated this connection. At the first floor level the ends of the affected bottom chord beams have apparently been picked up by plywood boxes acting as columns (Photo 75). Whether there is any additional structure within the boxes was not apparent from our limited review. At the basement level the two ceiling beams under these boxes have a significant rotational twist, and their ends are picked now supported by 6x6 wood columns placed against the brick wall (Photo 76). This entire section should be evaluated by a structural engineer before any exterior repairs are made, and further repairs made as he may recommend.

Main Barn – Basement Ceiling Framing: Over the years substantial additional framing has been added to the ceiling to provide adequate support for the modern construction vehicles and equipment being stored on the floor above (Photo 78). At the south end a network of additional beams and posts has been placed to better support the floor inside the entry and compensate for loss of connection to the main front sill which may have been lost when the current cement apron was poured and the door widened (Photo 79). At a few beams, limited areas of fungal decay of a type called "white rot" were observed (Photo 77). This is far more benign that "brown" or "wet" rot, and is usually only superficial affecting the outer fibers only. It is characterized by a light colored stringy appearance to the surface of the wood. It would be prudent to have a structural engineer look over the ceiling framing to verify its adequacy when he is on site to evaluate the other structural issues.

Main Barn – Sills: As previously discussed the sills should be more closely inspected in conjunction with clapboard and water table replacement. If the engineer doing the recommended structural evaluations has a resistance drill, it would be prudent to systematically check the sills with it in conjunction with his other evaluations.

Ell Barn – Basement Ceiling: As previously discussed, a structural engineer should evaluate the condition of the concrete ceiling slab with exposed and rusted rebars, and recommend appropriate repair. This is of the highest priority. Heavy vehicles and equipment should not be stored on this floor until it has been reviewed by an engineer and appropriate repairs completed.

Ell Barn – North Facade: The roof cornice and wall below it has extensive sagging that probably predates the rebuilding of the first floor and basement and is thought to be stable (photos 69-72). In conjunction with other framing review it would be prudent to have the engineer look at this wall to determine whether it is in fact stable.

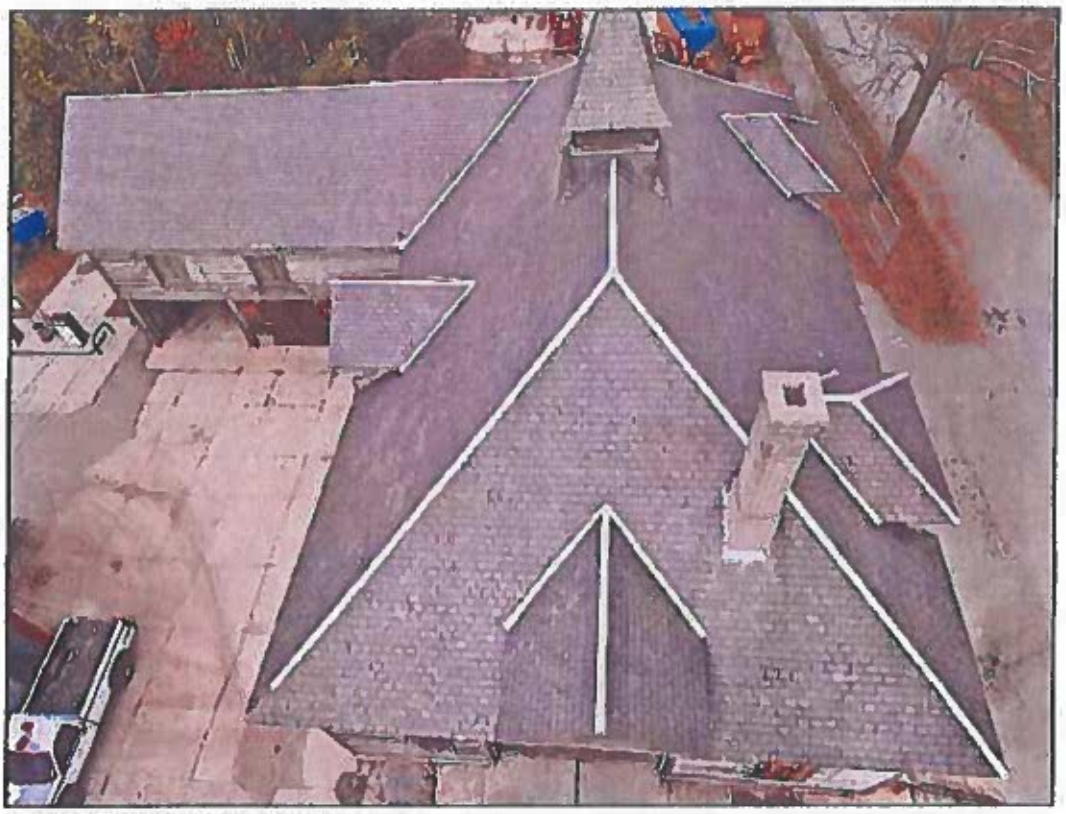


Photo 1: Overview of roof from south end.

Photo 2: Southern end of east roof pitch. Only a few slates show defects.

Photo 3: South pitch of ell barn roof. Note missing slates at lower right have caused considerable rot in the cornice directly below.

Photo 4: North pitch of main barn roof next to dormer.. This section has substantially more broken and cracked slate than other portions of the roof.

Photo 5: Southern end of west roof pitch on main barn. Only a few slates show defects.

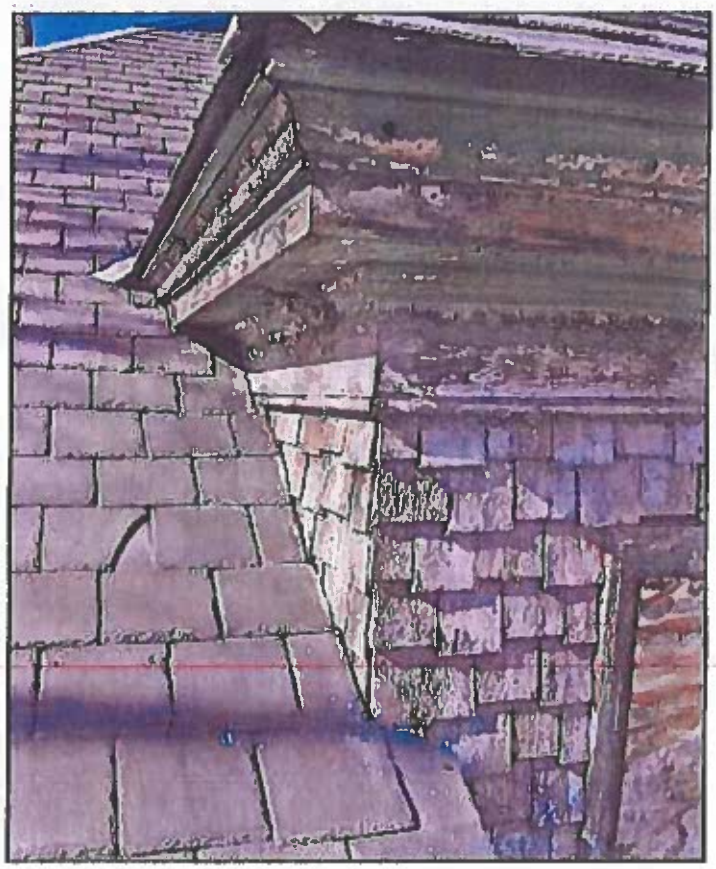


Photo 6: Detail of east pitch of main barn roof at southern dormer showing that wood shingles on dormer cheek wall extend below slate, and that the only flashings appear to be the original ones for the wood shingles under the slate.

Photo 7: Underside of roof from left showing original wood shingles (A) installed on the original spaced roof boards (B). Nails visible on underside of boarding are from shingles. Slate nailing is primarily held by wood shingles.

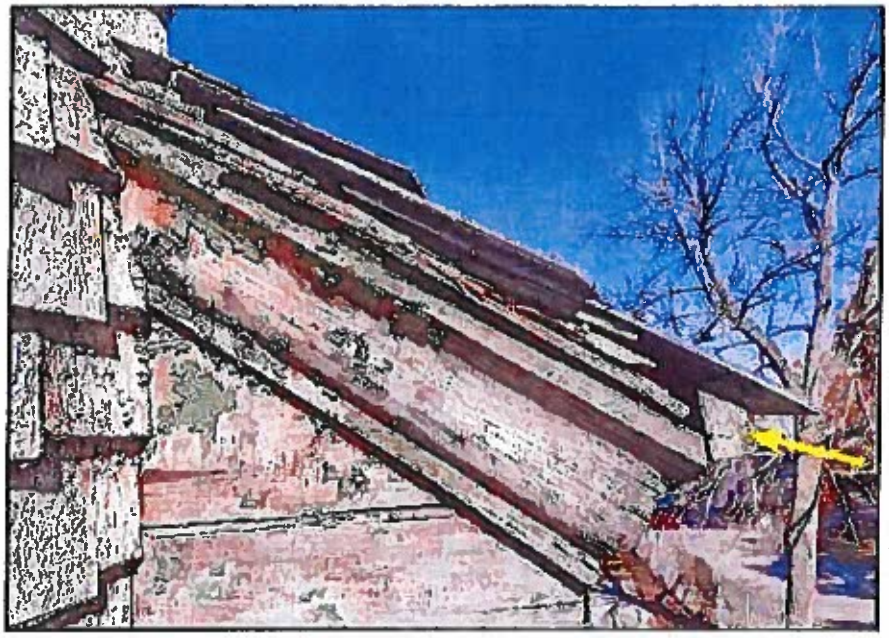


Photo 8: Roof return at dormer showing original wood shingles under slate and 2" high wood fillet (arrow) added to top of crown molding to support bottom of first slate course.

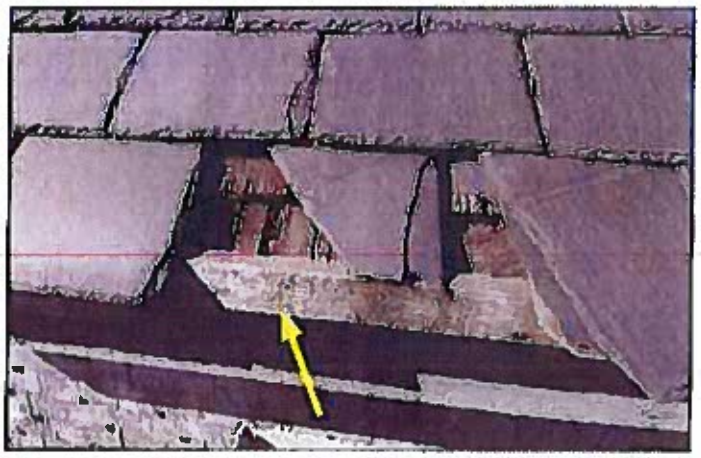


Photo 9: Roof edge at east pitch showing original wood shingles still in place under slates, and 2" high wood fillet (arrow) that was added to the crown molding when the slates were installed.

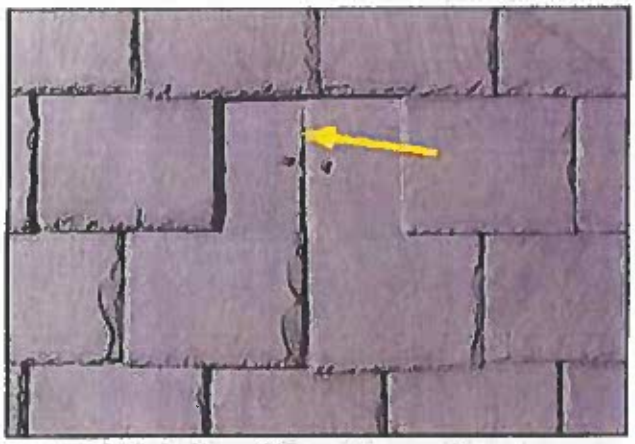


Photo 10: Slate defects - missing slate leaves joint between slates of the lower course exposed to the weather (Arrow) and potential leak. Replace missing slate.

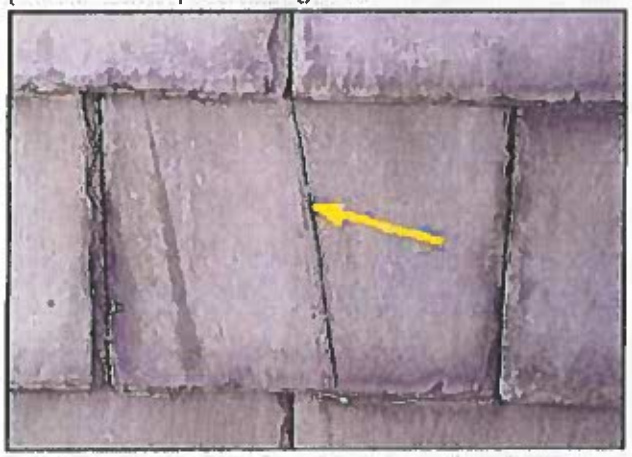


Photo 11: Slate defects - Cracked slate where crack is over or near joint of slates in the next course down is potential leak. Replace cracked slate or slip copper sheet under crack.

Photo 12: Slate defects - Substantial number of broken slate at south valley between ell barn and main barn roofs risks major water damage to framing below roof and should be repaired as soon as possible. Aluminum valley remains intact. Note wood shingles under missing slates.

Photo 13: Slate defects - Slipped slates at top of valley shown in Photo 12 need to be refastened. This may be due to a failure of the nails to hold in the wood shingles below.

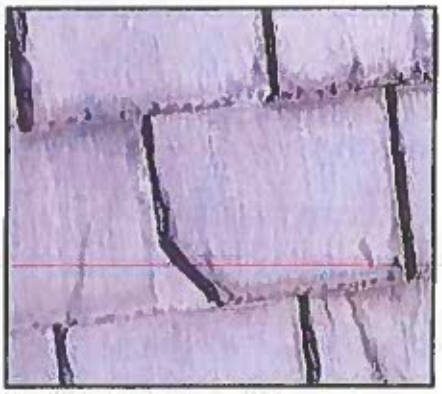


Photo 14: Slate defects - Broken corner. As break is not within 2" of joint between slates in course below, it can be left as is.

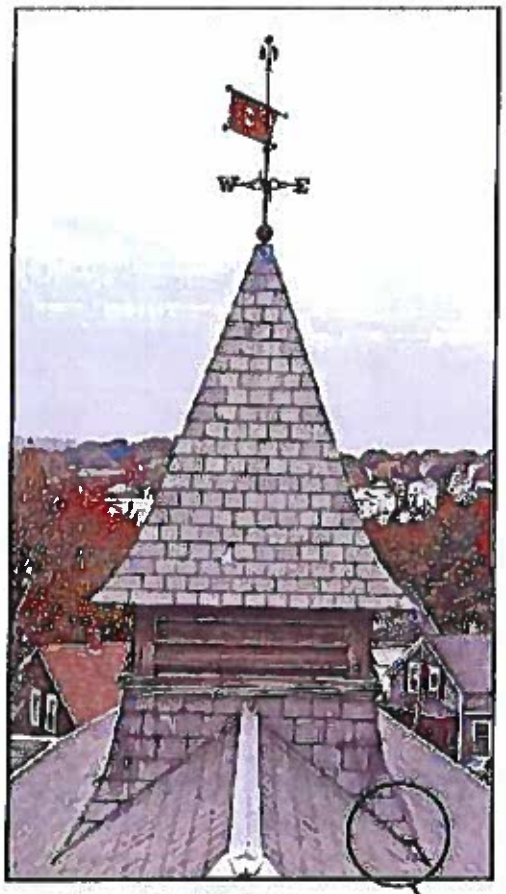


Photo 15: Overview of south side of cupola and weathervane.

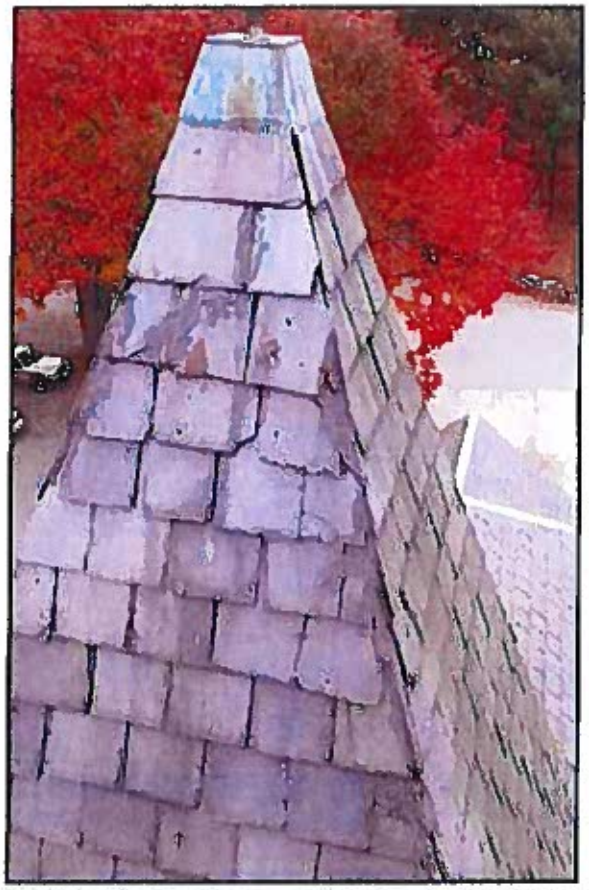


Photo 16: North side of cupola showing numerous loose or ragged slate with a number of roofing cement patches. Slates do not match the other sides. The slate on this face should be redone, preferably with slate that is a better match to the original slate.

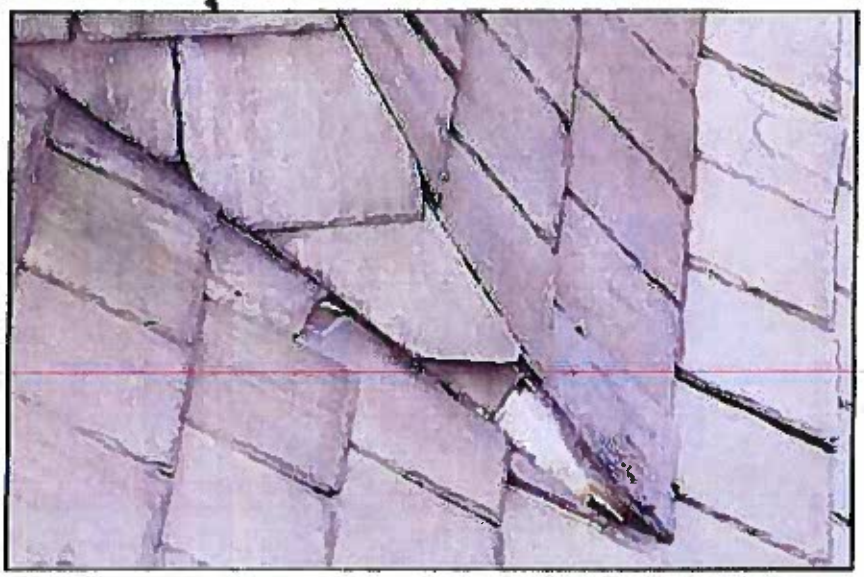


Photo 17: Flashing between cupola cheek wall and main roof is very worn where it is visible at the cupola base (arrow) and should be replaced with new copper flashings.

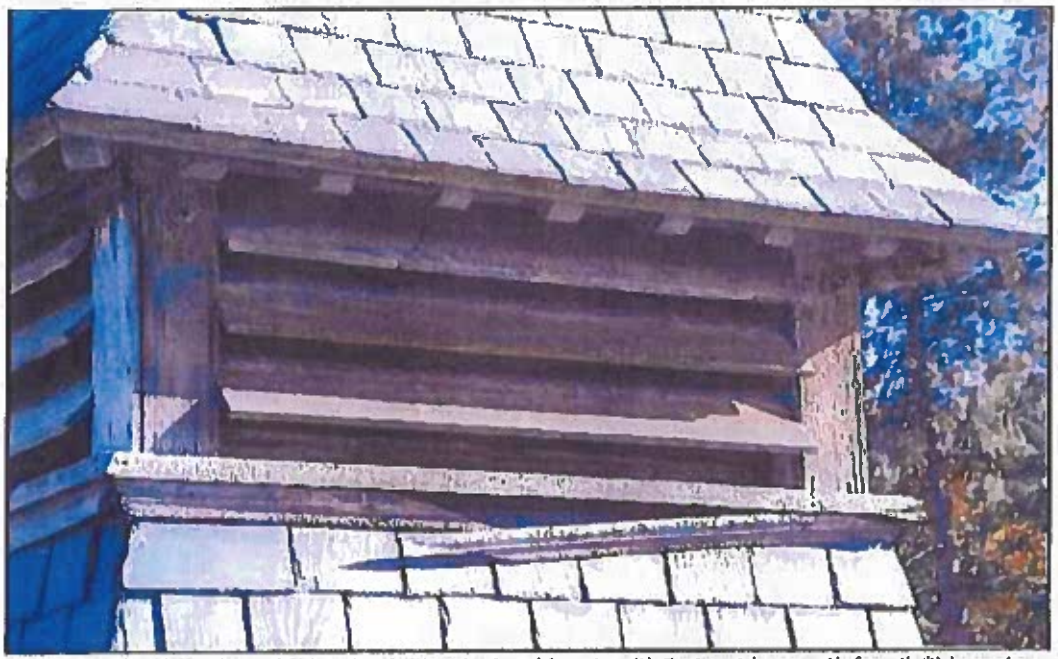


Photo 18: West face of cupola showing broken bed mold under sill. Bed mold on north face (left) is a mismatched replacement. Corner boards are weathered with small splits. Rounded modillion blocks under eaves appear to remain sound. Replace bedmolds and split cornerboards.

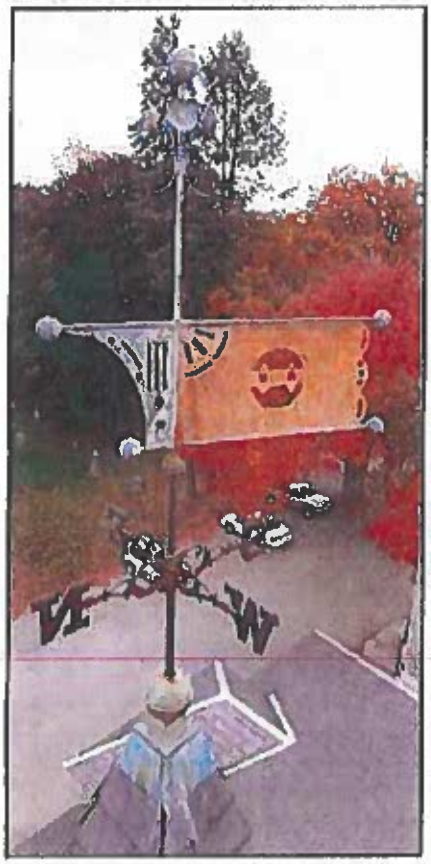


Photo 20: Overview of weathervane. Remaining gold color is probably the yellow ground for the gilding, which has worn off.

Photo 19: Detail of cupola showing gap at sill corner that was original covered with flashing, and moderate weather checking in louvers. Reflash sill corner joints. Replacement of louvers is an option, but not critical\ as they seem to be solid despite the weathering.

Photo 21: Detail ornament at top of vane showing traces of yellow ground indicating they were originally gilded.

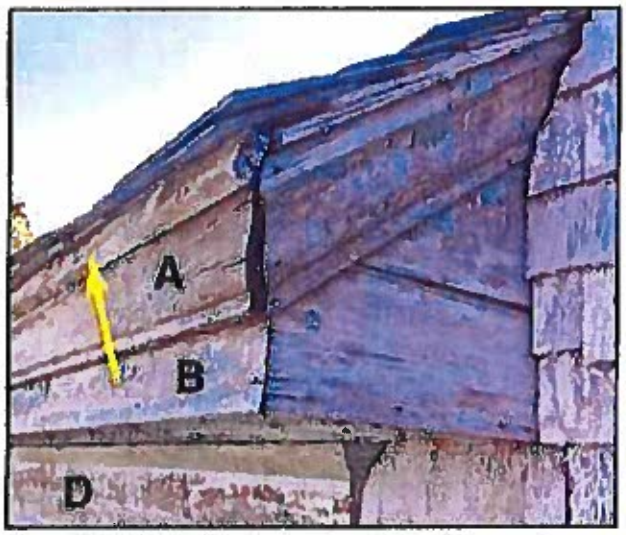


Photo 21: Main cornice at return for dormer. "A" marks the crown molding, "B" the fascia, and "D" the entablature. Yellow arrow marks the fillet added to support slate.

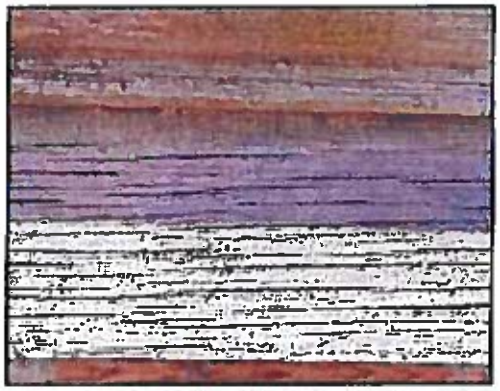


Photo 22: Detail of cornice fascia showing typical minor weather checking of otherwise sound wood. That the wood has lasted this long without rotting despite the absence of paint suggests it is more rot resistant than much modern replacement wood, and warrants retention if no other defects are present.

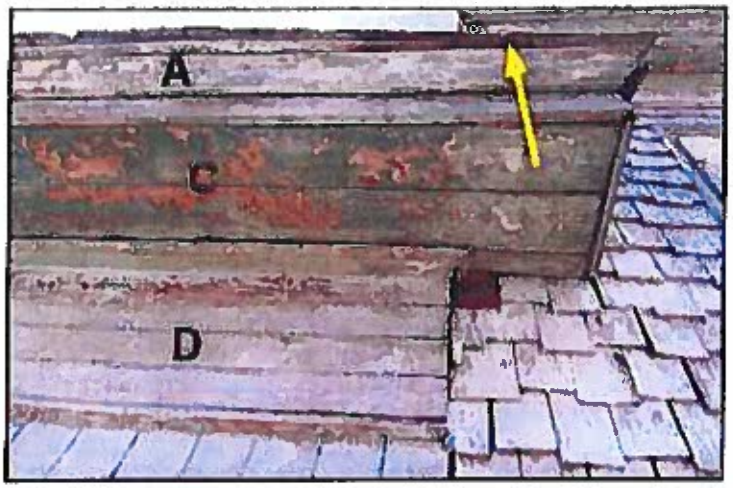


Photo 23: "C" marks soffit on underside of cornice. "D" marks entablature, and "A" marks cornice crown molding. Area shown is where former leak at dormer #4 has caused soffit boards to spread apart and edge of slate to dip due to loss of portion of support fillet (arrow). Soffit boards may need to be reset or replaced to close gaps.

Photo 24: Entablature on east facade showing area where existing paint was easily scraped back to bare wood with a hand scraper. This indicate that paint to bare wood removal should be routine. The wood surface should be lightly sanded after scraping to remove surface weathering.

Photo 25: Wood shingles with ruler to show dimensions used to achieve the staggered exposure that is a significant architectural feature.

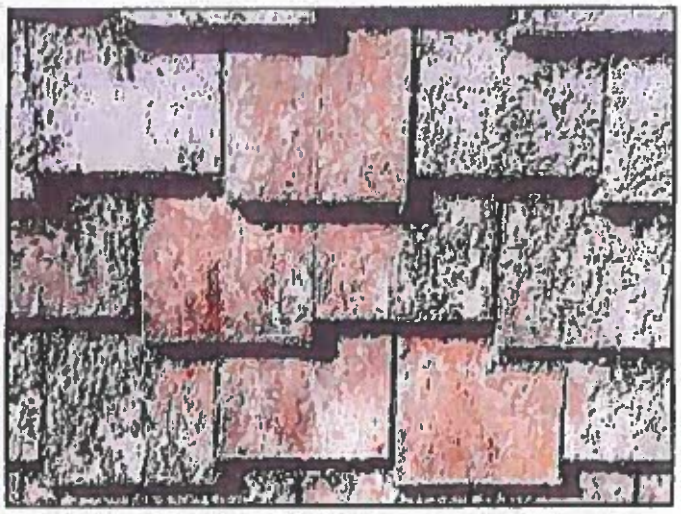


Photo 26: Wood shingles showing area where existing paint was easily scraped back to bare wood with a hand scraper. This indicate that paint to bare wood removal should be routine. The wood surface should be lightly sanded after scraping to remove surface weathering.

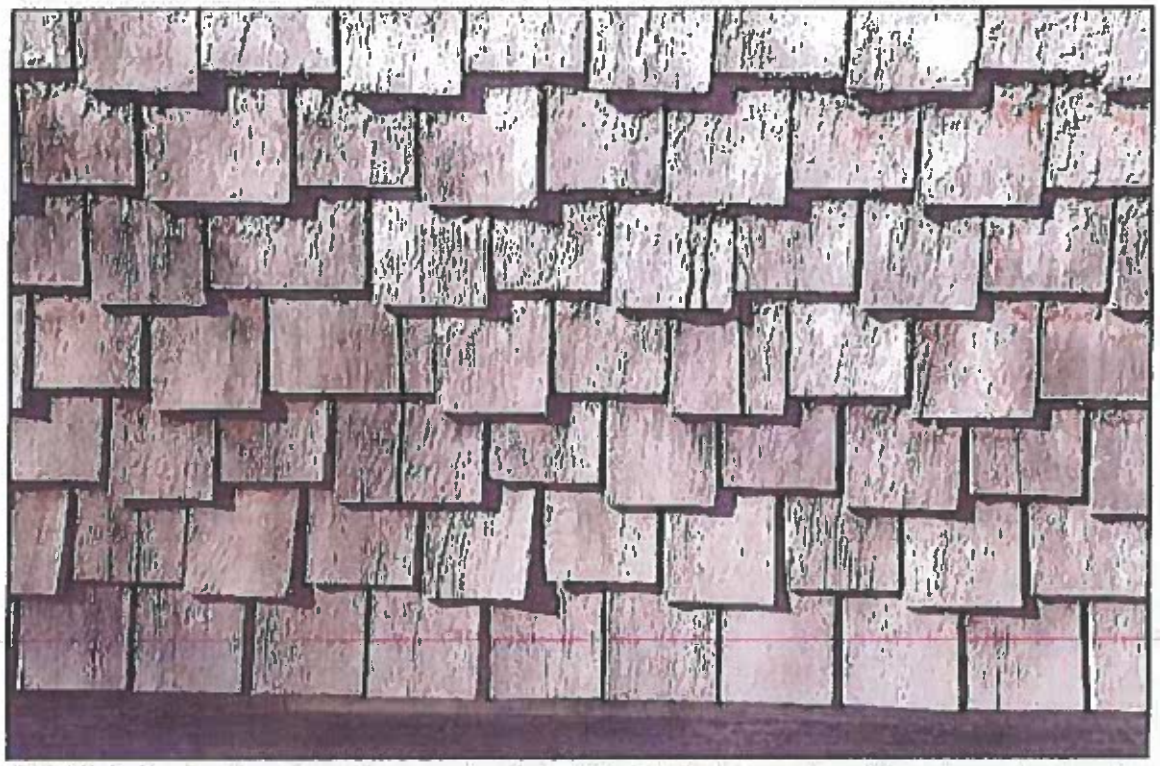


Photo 27: Section showing a few split or warped shingles. This illustrates the worst conditions observed on the east facade, and is still considered acceptable to leave as is with scraping to remove paint and repainting.

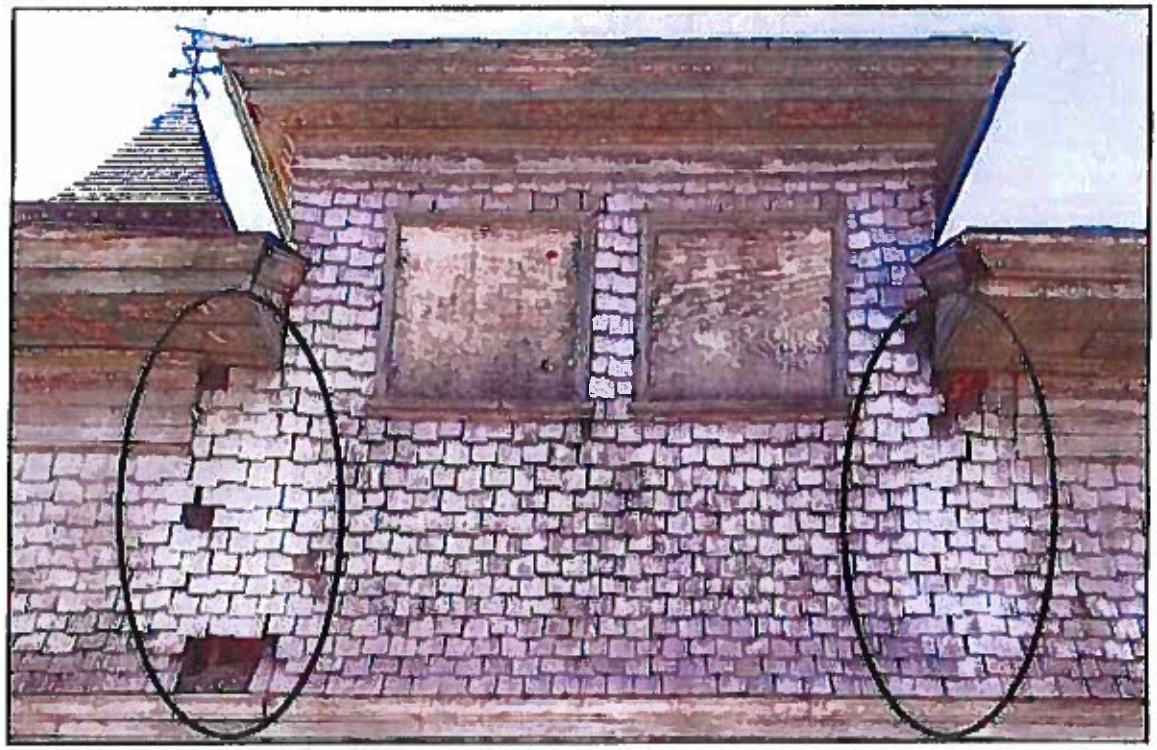


Photo 28: Shingle band below Dormer #4 on east facade showing damage to shingles from form former roof leak. Shingles in the indicated areas will require complete replacement to correct the damage and make the wall water-tight.

Photo 29: Shingle band adjacent to Dormer #1 on west facade showing many warped, split and missing shingles in lower portions. The extent of damaged shingles warrants complete replacement of shingles in this area, and possibly across the entire west facade.

Photo 30: Shingle band adjacent to Dormer #5 on north facade showing many loose and missing shingles in lower portions. The extent of damaged shingles warrants complete replacement of shingles on this facade. Replacing only the damaged courses is not recommended as the top course of replacement shingles will not have proper cover over their nailing.

Photo 31: Detail of belt course below shingle band showing typical condition with only minor weathering. The belt course can be retained around the entire main barn (it is not present on the ell barn). However, the lowest member (arrow) and possibly other elements above it, may have to taken off and reinstalled for proper installation of new clapboards.

Photo 32: Typical clapboard conditions at west facade of main barn; severely weathered with extensive warping and splitting. All clapboards on the west facade should be replaced. The west facade of the ell barn and the south facade of the main barn are in similar poor condition.

Photo 33: Typical clapboard conditions at east facade of main barn; At first glance they look better than the west facade, but a significant number have splits just under the laps (arrows) or are moderately warped. All clapboards on this facade should be replaced.

Photo 34: Typical clapboard conditions at north facade of main barn; weathering is moderate and splits are less severe and less frequent. Retaining the existing clapboards in place is feasible with replacement limited to badly split ones and the areas of missing clapboards around the windows.

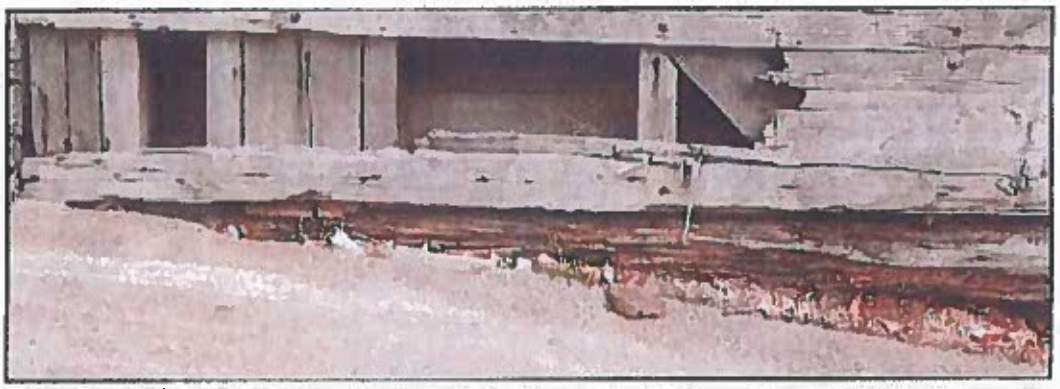
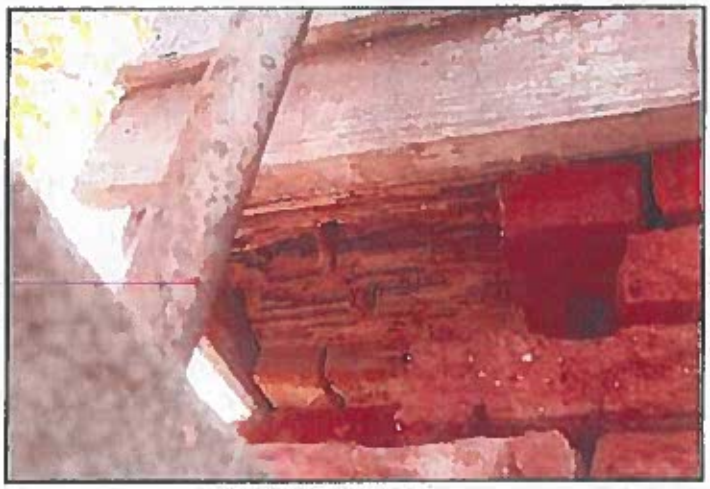


Photo 35: Sill at west facade of main barn to right of former door. The face of the sill has rotted, although the core may still be sound based on limited probing. The concrete apron aggravates the situation. At minimum repair involves splicing in new wood to replace the rot, and providing flashing for water protection. Further investigation is needed to determine the extent of rot, including the area under the door threshold.

Photo 36: West facade to left of door - concrete curb and apron cover the sill, which likely is deteriorated similar to sill in photo 35. Further evaluation is needed to determine repairs.

Photo 37: Sill at south facade of main barn to right of door. The face of the sill has rotted. Its condition and treatment need further investigation, similar to the sill in photo 35.

Photo 38: Sill at southeast corner of main barn. The underside of the east sill has lost several inches from insect damage and rot, while the south sill remains sound. The core of the east sill above the damage seems to be sound, and the visible damage only extends a couple of feet to the right. However, further probing should be done to verify the extent of damage. The sill needs to be repaired by piecing in sound wood to replace the deteriorated material, and the brick foundation rebuilt down to sound brick and mortar. In this case the full 12" depth of the wall need rebuilding at the top.



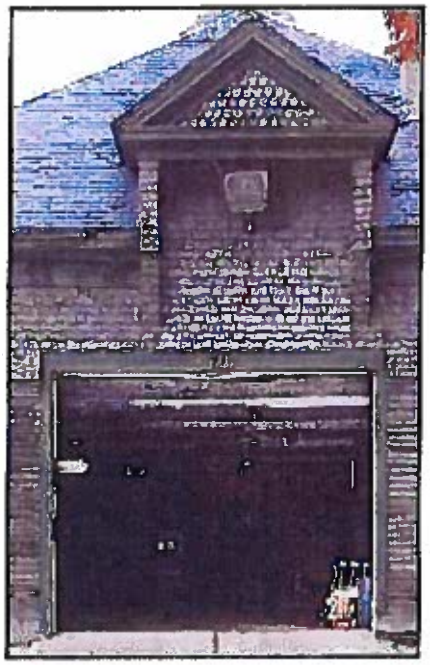


Photo 39: South facade main door. The opening has been widened to the left and increased in height to accommodate an overhead door and large vehicles. The top of the original door would likely have been below the belt course.

Photo 40: Door currently in the basement between the ell and the main barn is likely the original south facade main door. It has been cut down at the top to fit the basement, and may also have been reduced in width. It should be retained in its current position, but should be used as a model if a new reproduction door is made for the south facade.

Photo 41: The original west facade door opening has been filled in with clapboards, but the original door remains inside as shown in photo 42 on the right. If the opening is to remain filled in the frame casings should be retained or duplicated to express where the door was. It would be better to have the door exposed.

Photo 42: Original west facade main barn door with its original track and hardware remains in place behind the closed in opening. The original matched boarding that made up the panels may have been replaced with new boarding.

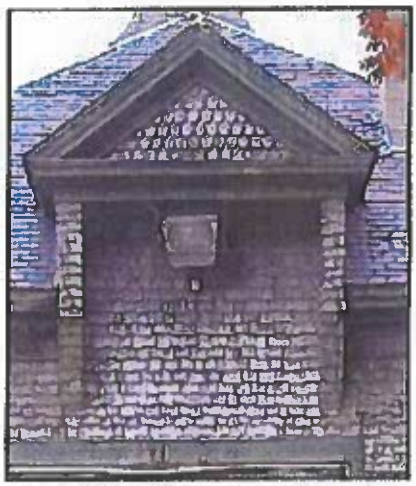


Photo 43: South facade dormer with shingled wall covering the original loft doors shown in photo 44 at right. Its original appearance matched the west facade dormer in photo 45 below.

Photo 44: Original loft doors at the south facade of the main door remain intact behind the exterior shingled wall of the south dormer (see photo 39 at left). The doors should be repaired as needed and restored as a visible exterior feature of the dormer.

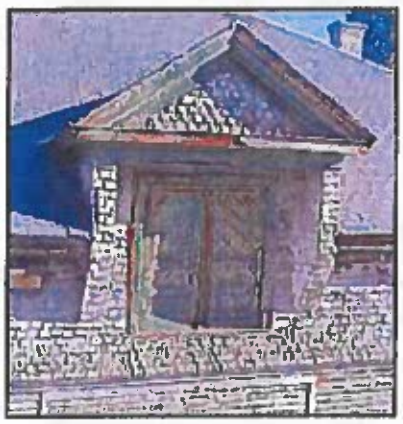


Photo 45: West facade dormer with original loft doors still in place. The doors should be retained and preserved as a significant historic feature. The trim on the dormer is extensively weathered needs to be replaced.

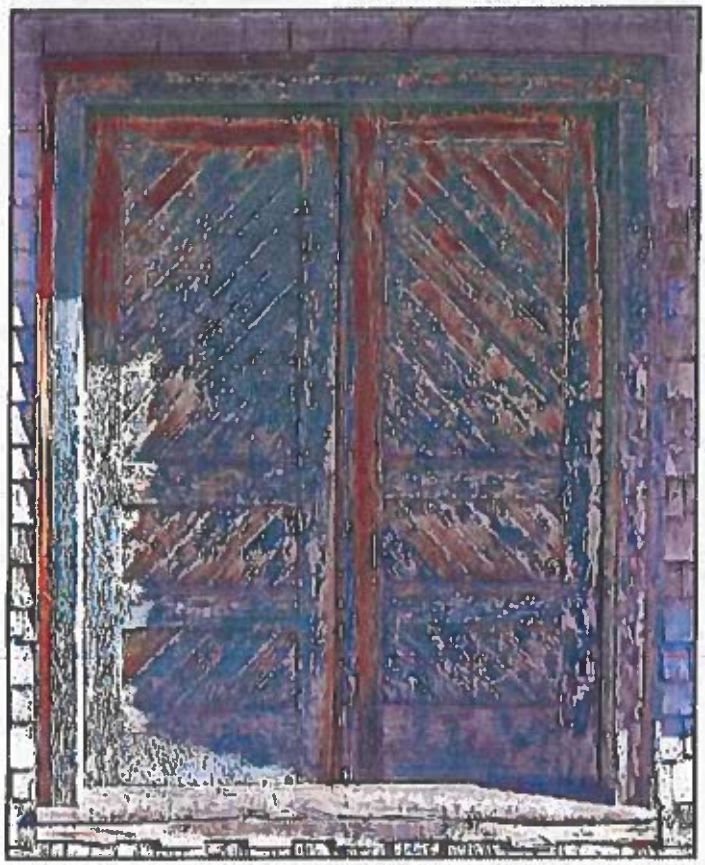


Photo 46: Original loft doors of west facade dormer. The original door and door jamb is intact. Missing mouldings need to be replaced on the door frame, and some wood repairs need to be done to the rails and stiles of the doors, and the sill of the door frame may need replacement due to weathering.

Photo 47: Original loft door of ell barn south facade. There are two original doors which should be retained and preserved. They are functional but have weathered surfaces and will need some carpentry repairs.

Photo 48: Deeply weathered surface of ell loft door sills will require extensive epoxy consolidation or replacement.

Photo 50: Interior side of first floor main barn window showing molded casings that should be retained and preserved. Sash are missing muntins (i.e., glazing bars), and should be replaced with matching new wood sash set in the existing original frame.

Photo 49: Interior side of first floor main barn window showing molded casings that should be retained and preserved. Sash are intact and can probably be retained with new glass and glazing.

Photo 50: Interior side of loft floor main barn dormer windows showing intact sash in frames without casings. The sash and frames should be retained and preserved with reglazing unless the exterior side shows severe damage.

Photo 51: Interior side of ell basement steel window with substantial rust. Replacement with new wood or metal window matching the size and pane configuration would be acceptable.

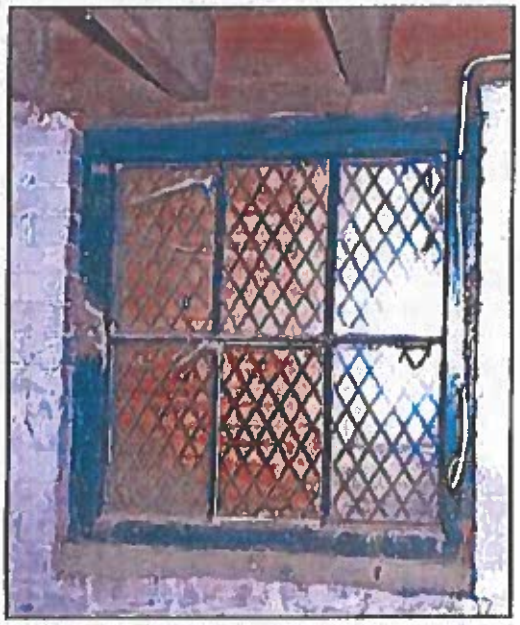


Photo 52: Interior side of main barn basement window with intact sash and old protective grill on the exterior. Both the sash and the grills should be retained when the sash is intact.

Photo 53: Exterior of main barn dormer window with moldings on the side casing. Sill has a deep crack, but can probably be saved by using epoxy consolidation and filling materials..

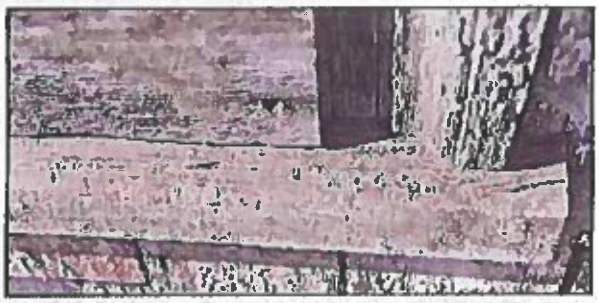


Photo 54: Another dormer sill. This one has only minor weathering and should be retained sanding and painting.

Photo 55: Typical first floor exterior window frame on main barn having moderate weather cracking on the flat surface casings. Casings in this condition can be retained, perhaps filling the cracks with epoxy fillers prior to repainting. Alternatively, they can be replaced with matching new wood, but the new wood may be less rot resistant than the existing weathered wood.

Photo 56: Brick below basement window sill of main barn east facade with open mortar joints and a number of deeply spalled (i.e., eroded) bricks. The spalled bricks sold be replaced with matching new or sound salvage bricks, and all joints in the area 100% cut and repointed using a mortar matching the relatively low strength of the existing original mortar.

Photo 57: Brick below basement window sill of main barn east facade with open mortar joints and a number of bricks that are loose an bulging out from the wall. All the loose bricks should be taken out and reset in new mortar, and all joints in the area 100% cut and repointed using a mortar matching the relatively low strength of the existing original mortar.

Photo 58: Foundation at northeast corner of main barn with loose and missing brick. This section should be rebuilt with matching brick.

Photo 59: Foundation at southeast corner of main barn with loose and missing brick extending through the full depth of the 12" thick wall. This section should be rebuilt for the full depth of the wall with matching brick after the sill above it has been repaired.

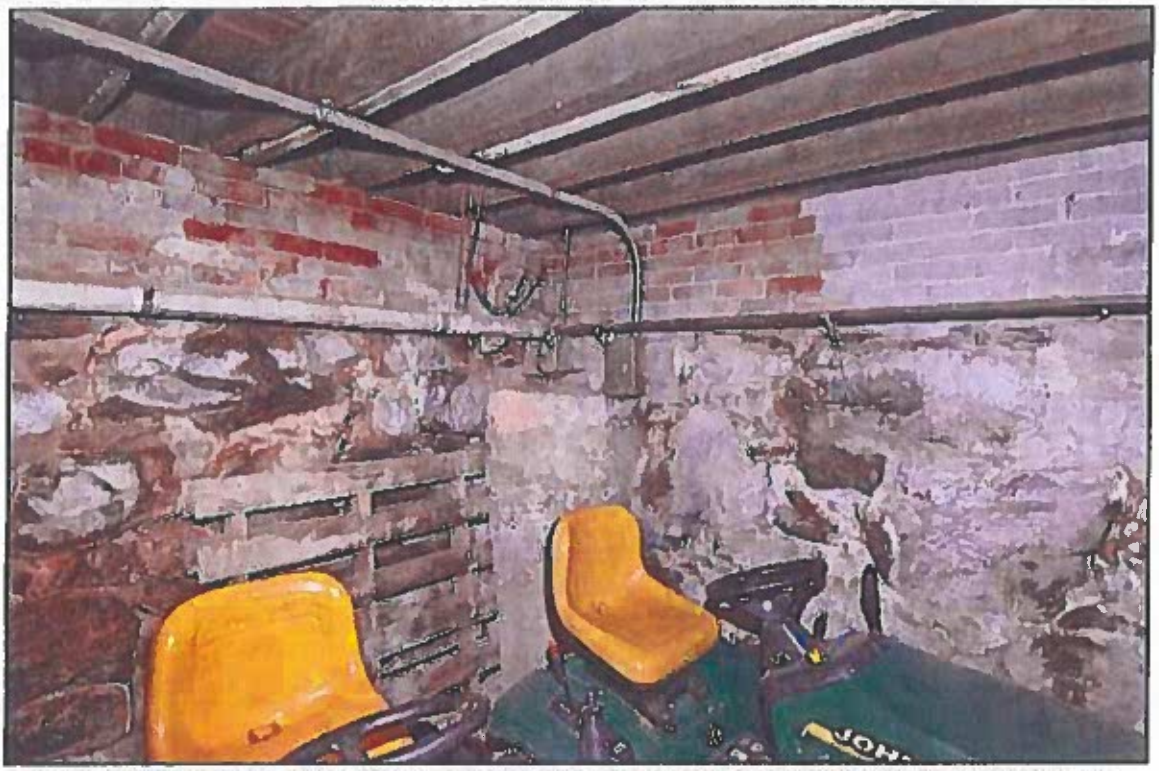


Photo 60: Interior of basement at southwest corner showing fieldstone laid in mortar below grade with brick from about 6" below grade up to the underside of the wood sills. As viewed from this side the sills generally appeared intact without visible damage.

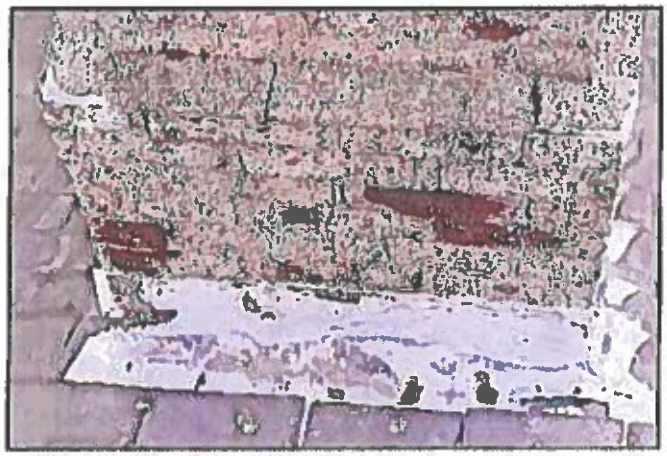


Photo 61: Chimney flashing at roof has numerous large holes that are easing leaks in the roof below.

Photo 62: Chimney has numerous long cracks though both bricks and mortar joints, and is built with poor quality cement bricks that have eroded surfaces. As it is not visually important to the roof and has only minor historical value, it can be removed. If it is to be retained, it should be completely rebuilt with new brick of similar color.

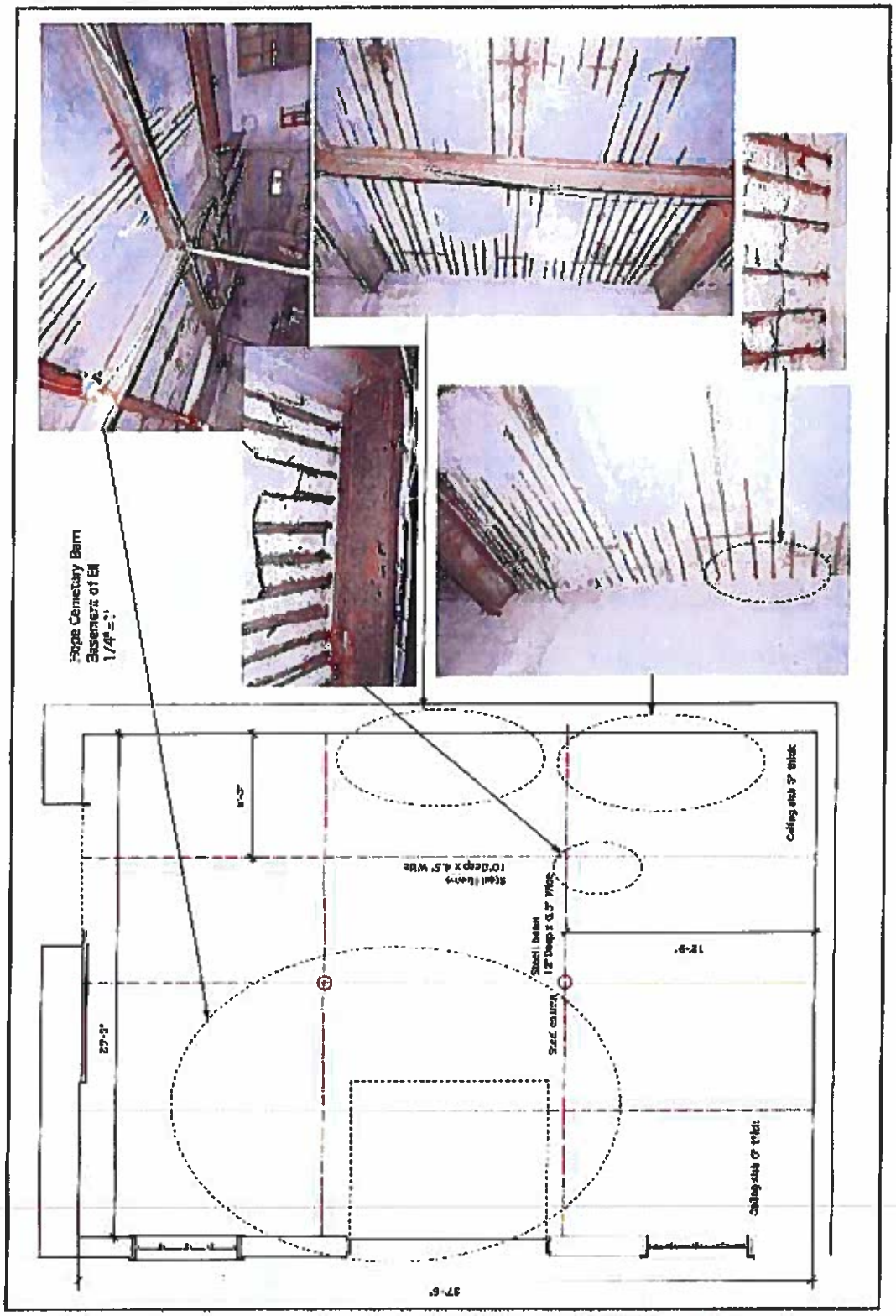


Photo 63: Photographs of ell barn basement ceiling showing spalling and severely rusting rebars. This is a significant current structural issue that needs to be evaluated by a structural engineer as a high priority.

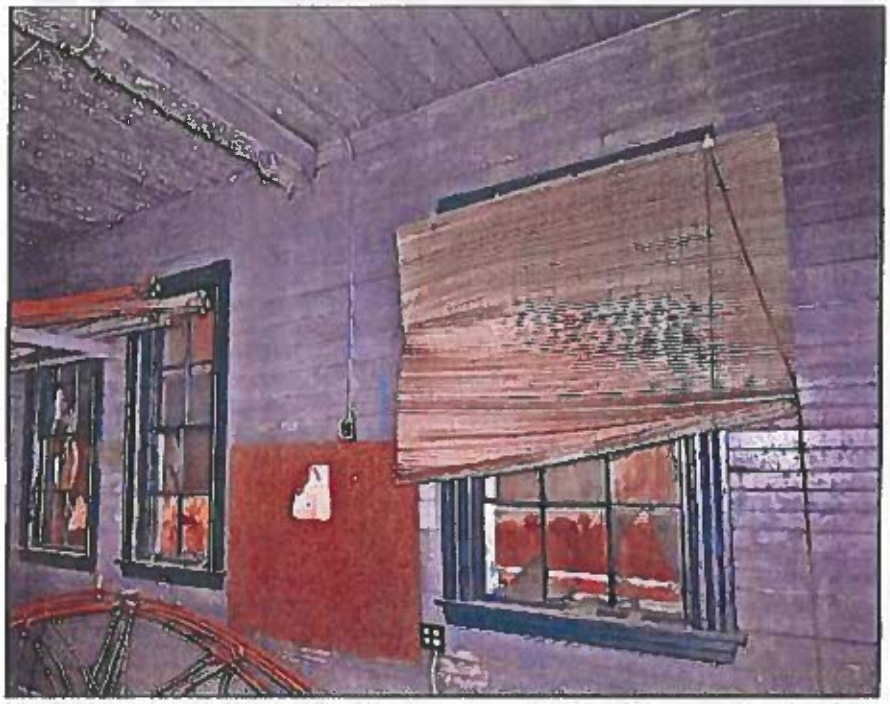


Photo 64: Interior of main barn first floor showing matched boarding on walls and ceiling that is the original interior finish and should be retained and preserved. Beam in ceiling is the bottom chord of a loft level roof truss

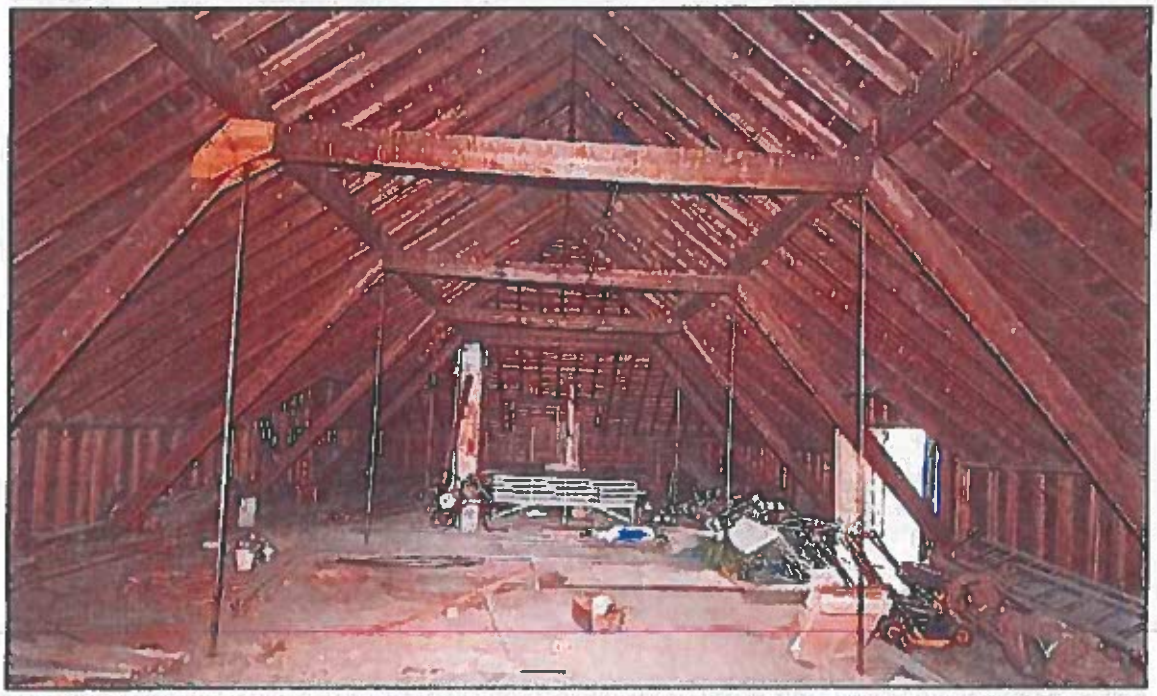


Photo 65: Interior of main barn loft floor showing queen rood roof trusses and exposed framing and sheathing. Stored items should be sorted items that are obsolete and of no historic value to the cemetery removed. There is considerable dust and fiber debris on the floor (especially at the side walls) that is a potential fire hazard and should be vacuumed out.

Photo 66: Interior of ell barn loft floor showing roof trusses and exposed framing. There is considerable dust and fiber debris on the floor (especially at the side walls) that is a potential fire hazard and should be vacuumed out.

Photo 67: Interior of ell barn first floor showing cement plaster wall and ceiling finishes. Heavy vehicles such as the truck at the end wall should not be stored on this floor until its condition has been evaluated by a structural engineer (see Photo 63)

Photo 68: Basement of main barn showing obsolete steam pipe with deteriorating insulation that may contain hazardous materials. The insulation should be evaluated by a professional hazardous materials consultant and remediated as directed by the consultant.

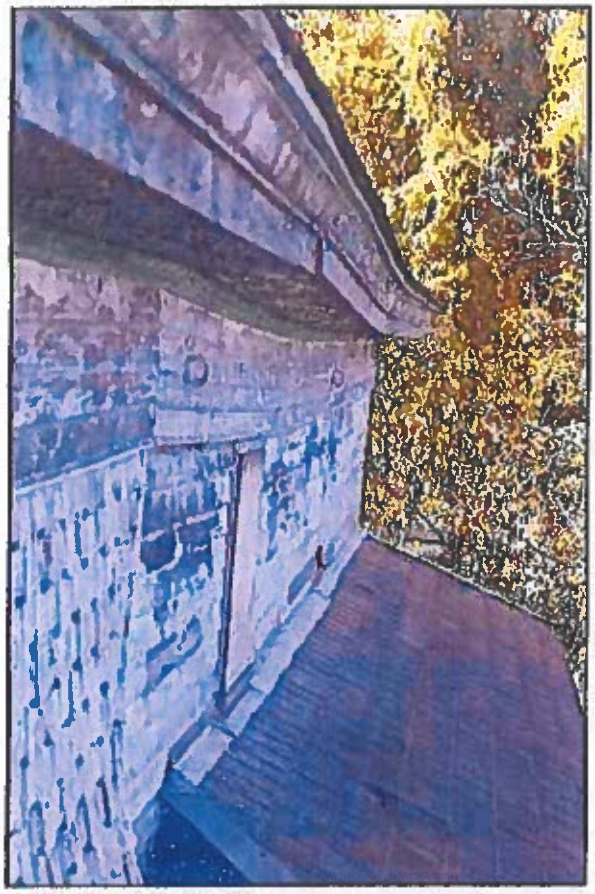


Photo 69: North facade of ell barn at loft level showing substantial sag in roof cornice and wall below. The sag does not extend into the first floor below indicating it may have been stabilized when the first floor was rebuilt c. 1930s.

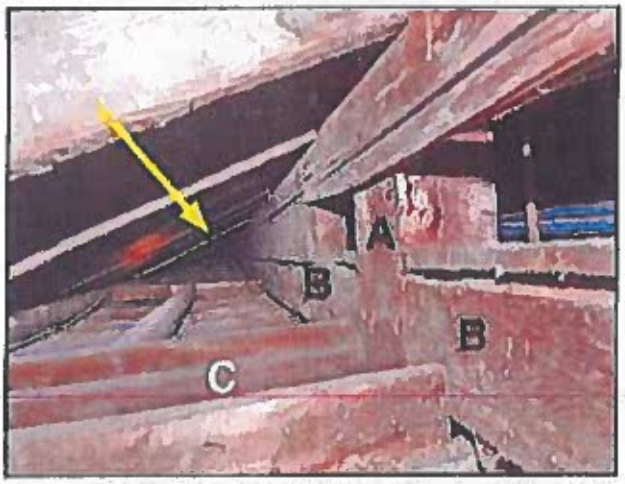


Photo 71: View of junction of ell loft wall framing with roof of first floor extension. Elements marked A, B, and C are the same elements marked in photo 72. The arrow indicates where the camera was positioned for photo 72.

Photo 70: Overview of north ell facade showing the c. 1930s extension of the first floor. The extension does not exhibit sag of the loft wall above. However, as a precaution, the condition of sagging of the loft wall should be evaluated by a structural engineer when the basement ceiling is evaluated.

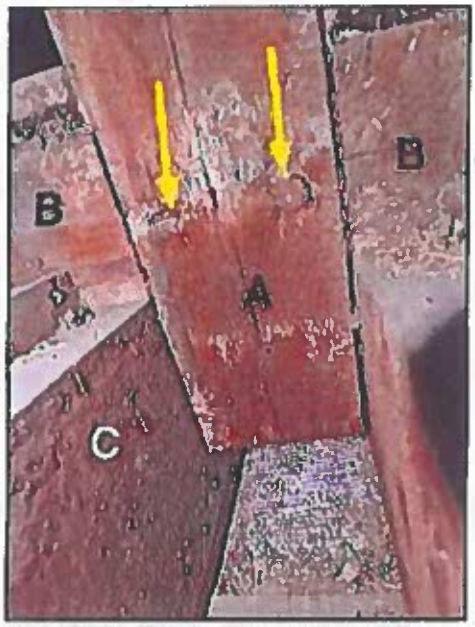


Photo 72: View of junction of ell loft wall framing with ceiling framing of first floor from within roof extension. Ceiling beam "C" apparently picks up wall loads from the original wall girt "B" and transfers the loads to the new north wall of the first floor. The original post "A" has been cut off just above the ceiling, but is joined to the girts "B" with mortise and tenon joints secured with pegs (arrows).

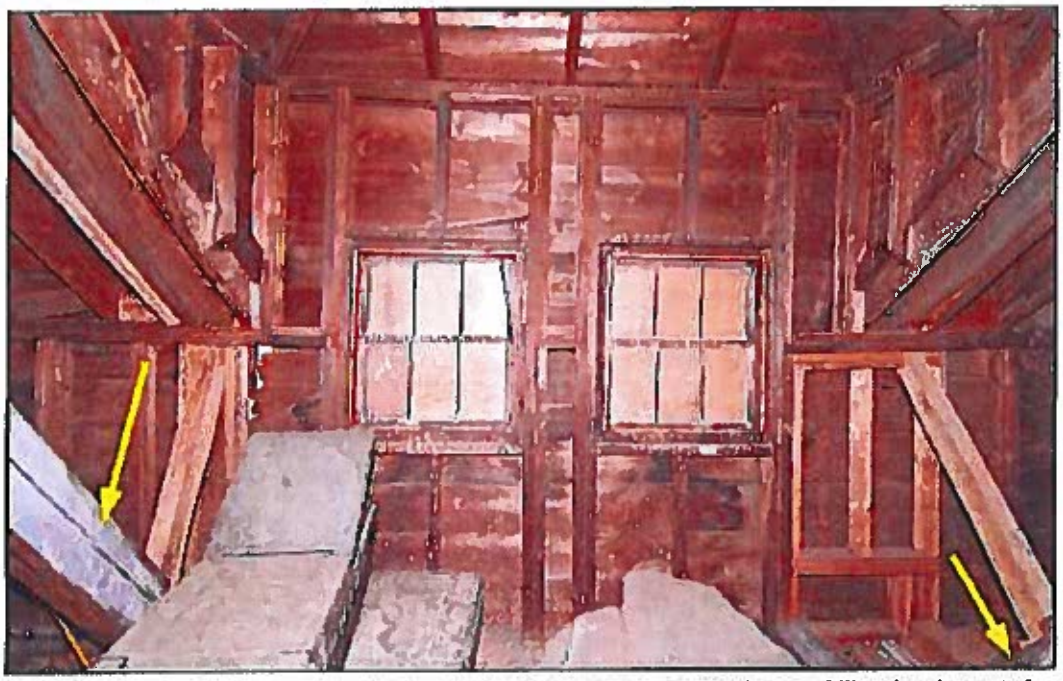


Photo 73: Interior of dormer # 4 at east wall of main barn showing past repairs to stabilize framing rotted by former roof leaks. The ends of the upper truss rafter chords (arrows) appear to be rotted completely off where they were originally joined to the floor beams forming bottom truss chords.

Photo 74: Exterior view of east wall at Dormer #4. Rotted truss rafter end was observed thru hole in shingles at belt course.

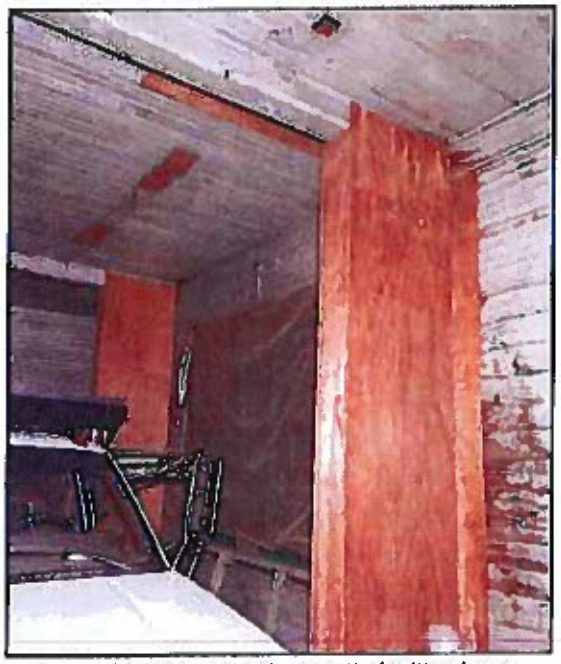


Photo 75: Past repair to stabilize rotted ceiling beam end and wall framing at first floor below dormer #4. The long term adequacy of the stabilization repairs should be evaluated by a structural engineer.

Photo 76: Twisted beam in basement directly below repairs shown in photo 75.

Photo 77: Main ceiling beam in basement of main barn showing area of fungal decay that is probably "white rot" as opposed to the more dangerous "brown rot".

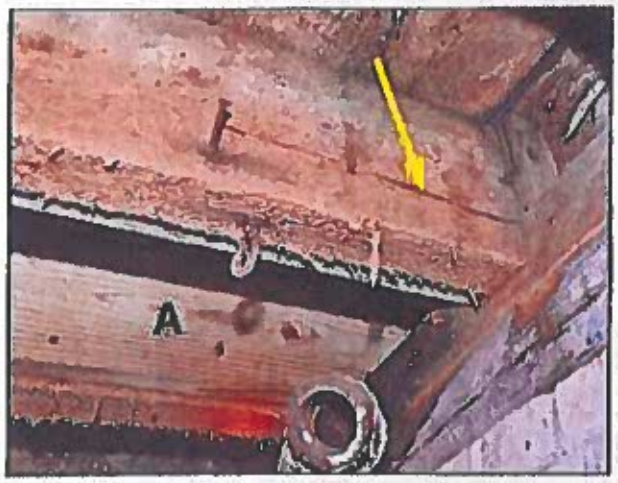
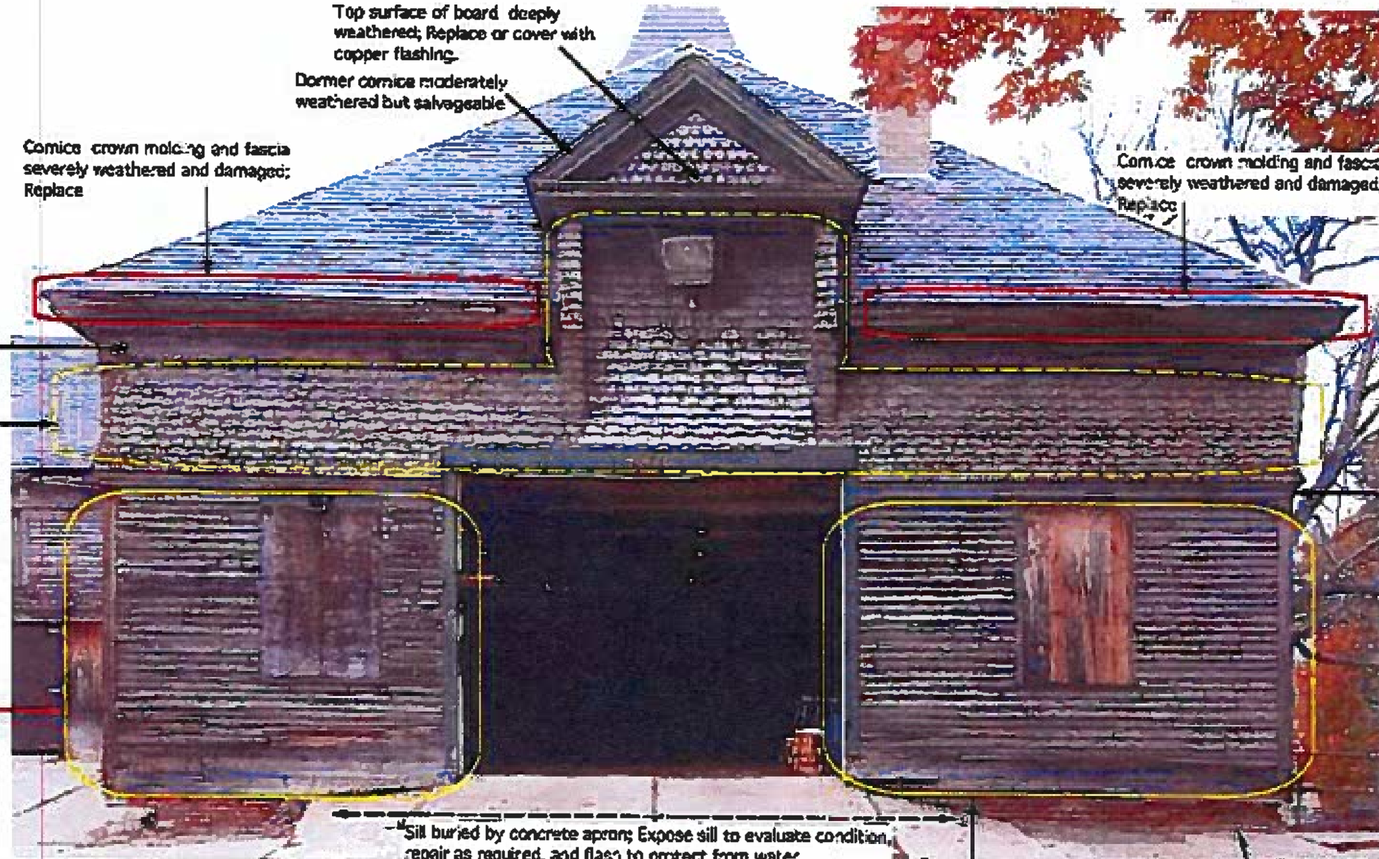


Photo 78: Ceiling joist in main barn basement with stress crack (arrow) at wall bearing. This and most other joists have been reinforced with sister joists ("B") to reduce the stress, probably after the cracks were observed.

Photo 79: Supplemental framing added below the south facade entry area inside the main barn within the last 20 years.

Photo 80: Bottom chord of roof truss with section cut out (arrow). The impact of this cut on the loading capacity of the loft floor should be evaluated by a structural engineer.

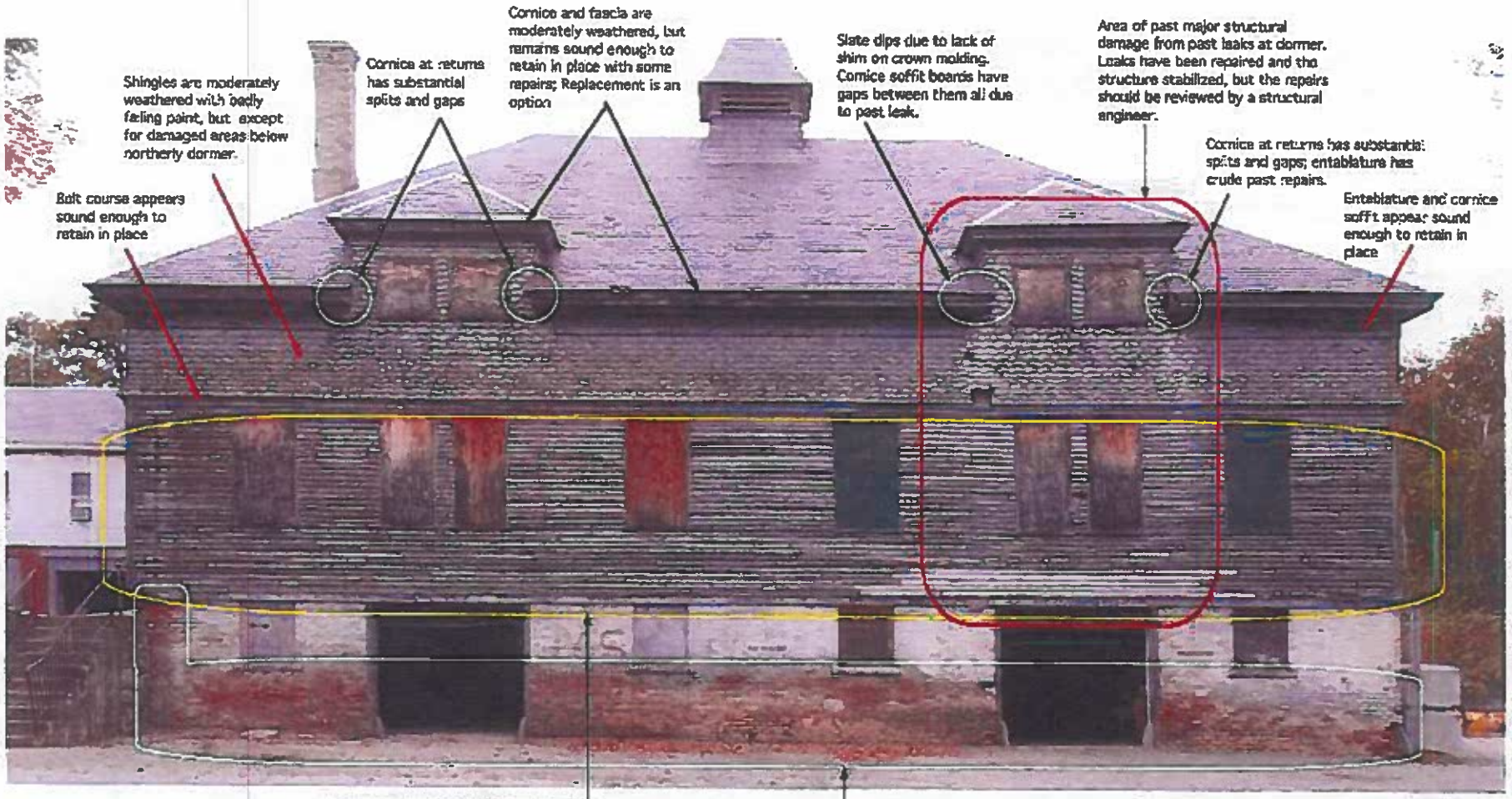


Clapboard Area (gross excl. exist. door): 264 sq. ft., 31 courses
window area: 60 sq. ft.
Shingle Area (gross): 150 sq. ft. excl. dormer, 11 courses
Brick Area (gross excl. doors): 25 sq. ft., 5 courses
Facade length: 40'6"

Scale of photographs and drawings is very approximate

NOT FOR CONSTRUCTION

SOUTH FACADE Main Barn	Sheet # 1
Hope Cemetery Barn Condition Study City of Worcester Worcester, MA	
Scale: 1/4" = 1'	Date: February 10, 2007
FINCH&ROSE 56 FRONT STREET, BEVERLY, MA 01915 • 978-922-[illegible]	



Clapboard Area (gross): 710 sq. ft., 31 courses
window area: 175 sq. ft.

Shingle Area (gross): 385 sq. ft. incl. dormer, 11 courses
window area: 40 sq. ft.

Brick Area (gross excl. doors): 400 sq. ft., 35 courses
window area: 40 sq. ft.

Facade length: 70'

Scale of photographs and drawings is very approximate

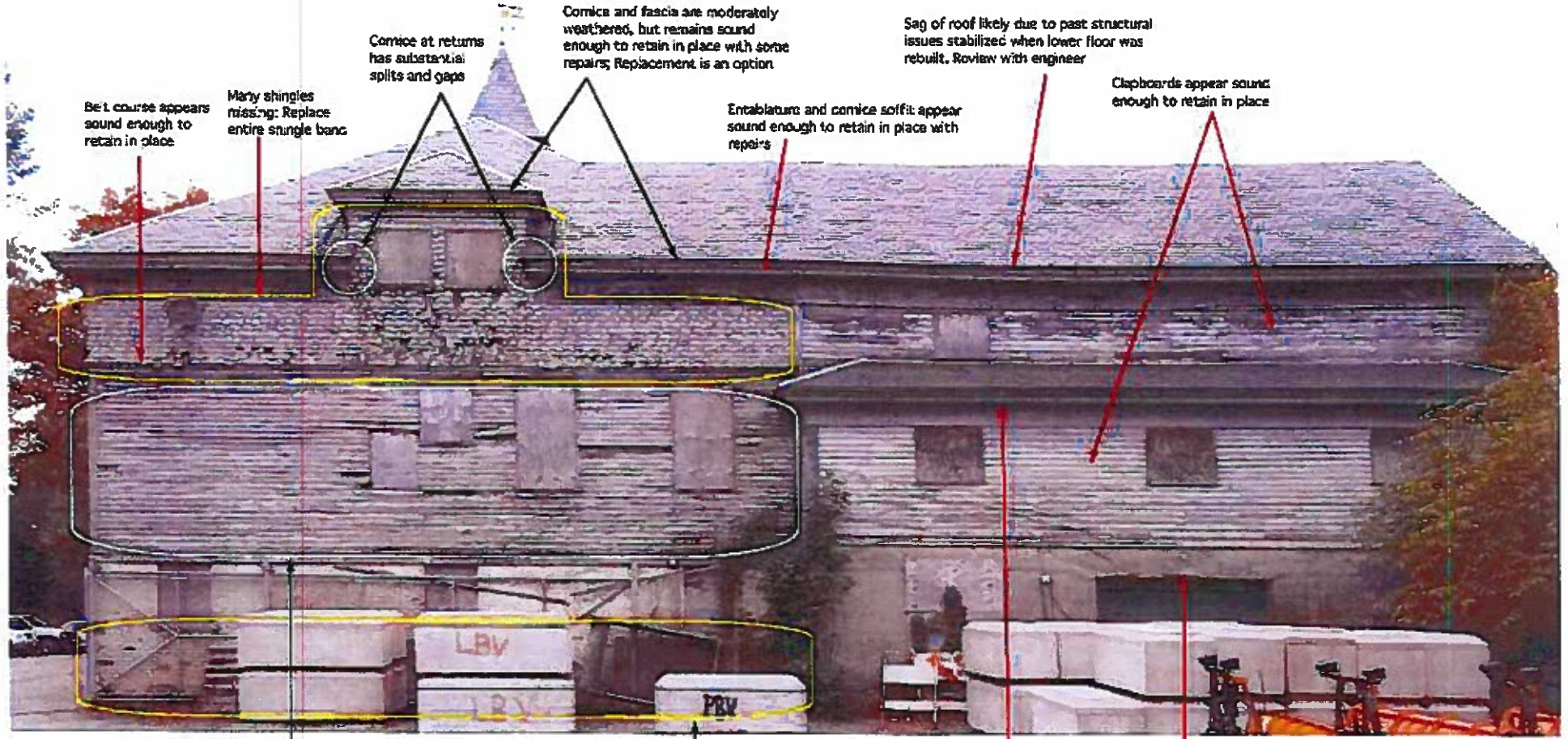
NOT FOR CONSTRUCTION

EAST FACADE Sheet # 2
Main Barn

Hope Cemetery Barn Condition Study
City of Worcester
Worcester, MA

Scale: 3/16" = 1'. Date: February 10, 2017

FINCH&ROSE
50 HOYT STREET, BEVERLY, MA 01915 • 978-922-4920



Clapboards are less worn than on other facades other than missing ones, and can be retained in place with replacement of missing clapboards. Full replacement is an option.

About 50% of brick joints are severely eroded; About 50% joints in indicated area should be cut and repointed with areas of loose, spalled, or missing brick rebuilt.

Entablature and cornice soffit appear sound enough to retain in place

Concrete lintel is spalled and rebar exposed and rusting

Clapboard Area - barn (gross): 418 sq. ft., 31 courses
window area: 75 sq. ft.

Shingle Area - Barn (gross): 200 sq. ft. incl. dormer, 11 courses
window area: 20 sq. ft.

Brick Area - barn (gross): 340 sq. ft., 35 courses
window area: 30 sq. ft.

Facade length - Barn: 40'6"

Clapboard Area - Ell tower (gross): 300 sq. ft., 18 courses
Sides; 40 sq. ft.
window area: 36 sq. ft.

Clapboard Area - Ell upper (gross): 130 sq. ft., 9 courses
window area: 10 sq. ft.

Facade length - Ell: 40'6"

Scale of photographs and drawings is very approximate

NOT FOR CONSTRUCTION

NORTH FACADE Sheet # 3
Main Barn And Ell Barn

Hope Cemetery Barn Condition Study
City of Worcester
Worcester, MA

Scale: 3/16" = 1' Date: February 10, 2007

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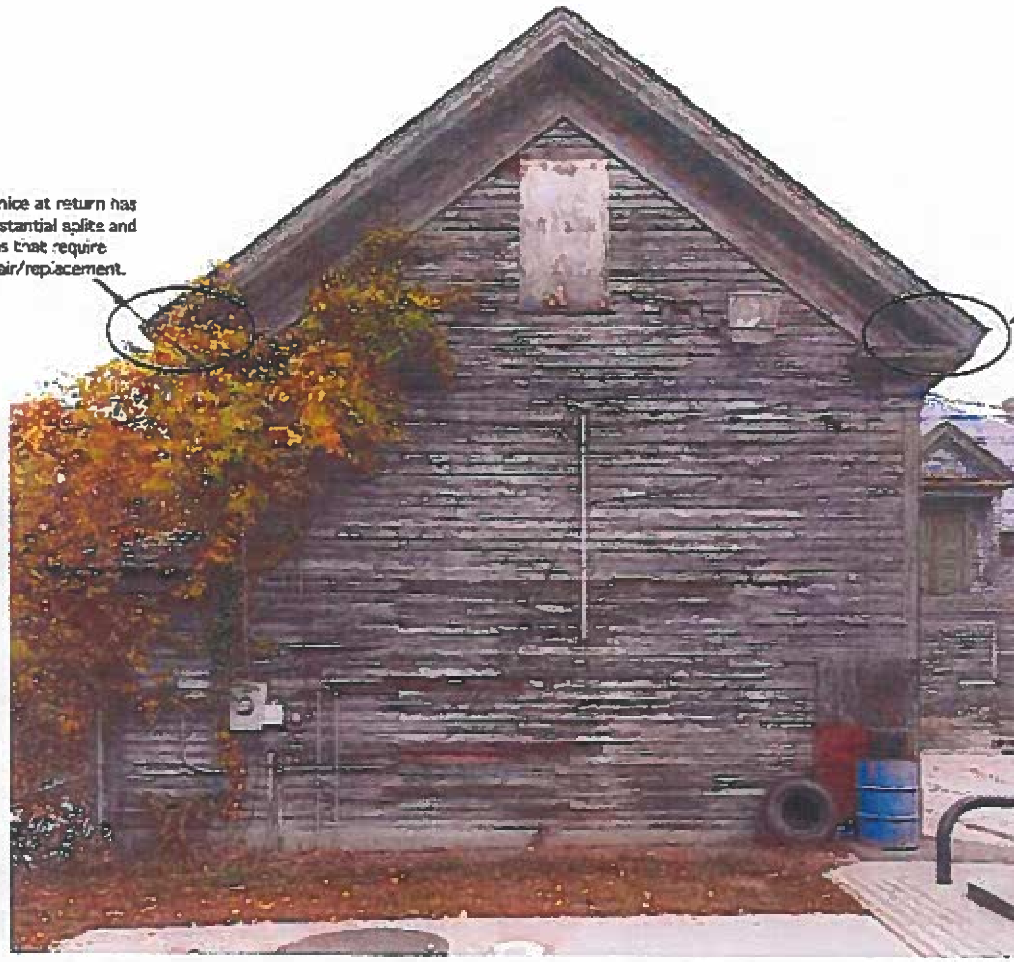
Cornice at return has substantial splits and gaps that require repair/replacement.



Cornice at return has substantial splits and gaps that require repair/replacement.

Many clapboards are warped or split; Replacement of all clapboards is warranted.

Clapboard Area (gross): 490 sq. ft. (1,300 l. ft.), 44 + 23 courses in peak
window area: 18 sq. ft.
Facade length: 24'4" + 3'6" extension

Scale of photographs and drawings is very approximate
NOT FOR CONSTRUCTION

WEST FACADE Sheet # 4
Ell Barn

Hope Cemetery Barn Condition Study
City of Worcester
Worcester, MA

Scale: 1/4" = 1'. Date: February 10, 2007

FINCH&ROSE
[illegible] STREET, BEVERLY, MA [illegible]

Cornice crown moldings and fascia severely weathered and damaged; Replace

Entablature and cornice soffit appear sound enough to retain in place

Clapboards not as bad as main barn, but still warrant replacement.

Clapboard Area (gross): 230 sq. ft., 17 courses
window area: 50 sq. ft.
Facade length: 40'6"

Scale of photographs and drawings is very approximate

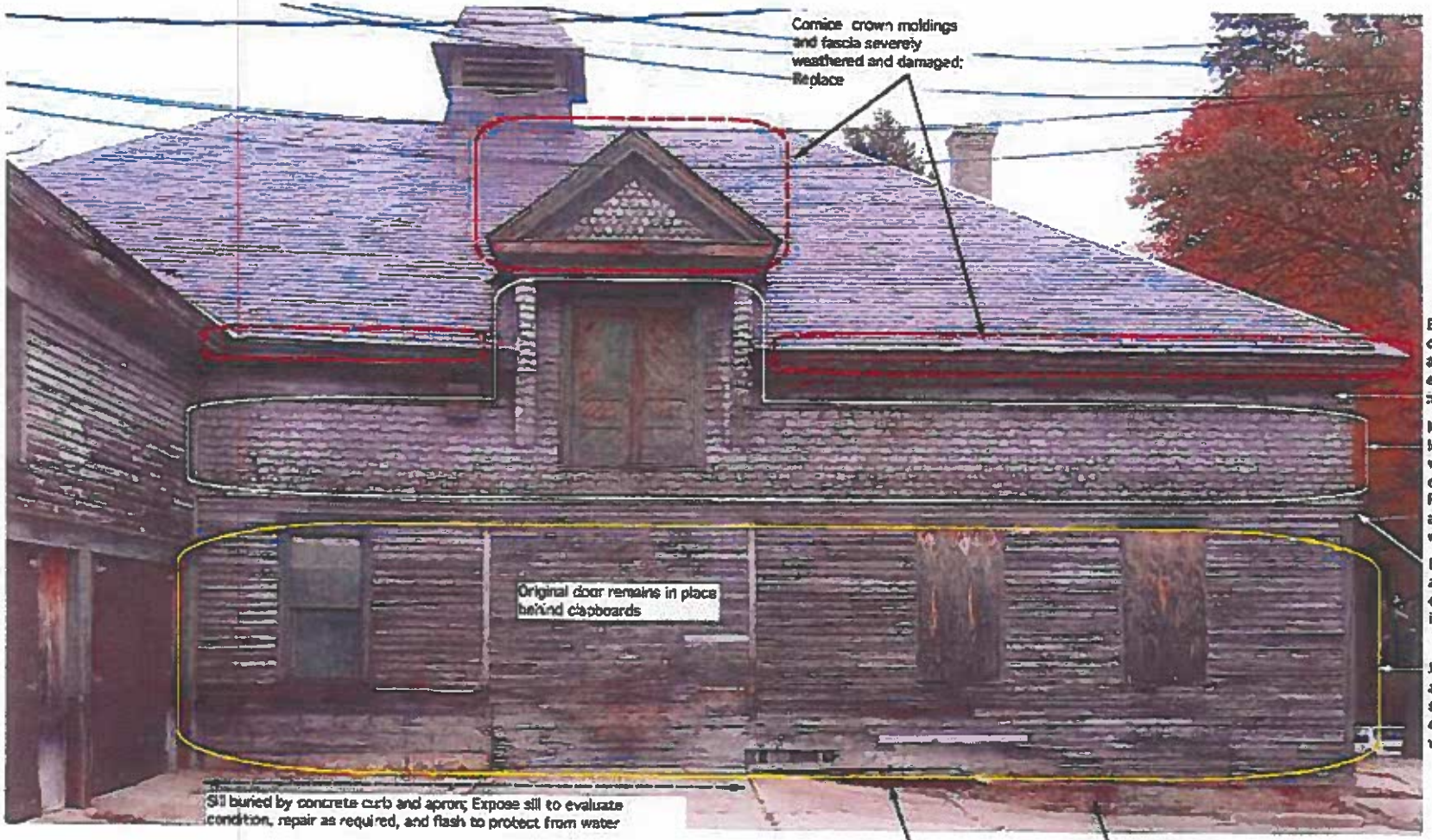
NOT FOR CONSTRUCTION

SOUTH FACADE Sheet # 5
Ell Barn

Hope Cemetery Barn Condition Study
City of Worcester
Worcester, MA

Scale: 1/4" = 1'. Date: February 16, 2007

HINCHEY/ROSE
31 HORT STREET, BEVERLY, MA 01915 • 978-922-4800



Clapboard Area (gross): 455 sq. ft., 31 courses
area of door: 100 sq. ft.
window area: 75 sq. ft.

Shingle Area (gross): 175 sq. ft. plus dormer, 11 courses
Facade length: 46'

Scale of photographs and drawings is very approximate

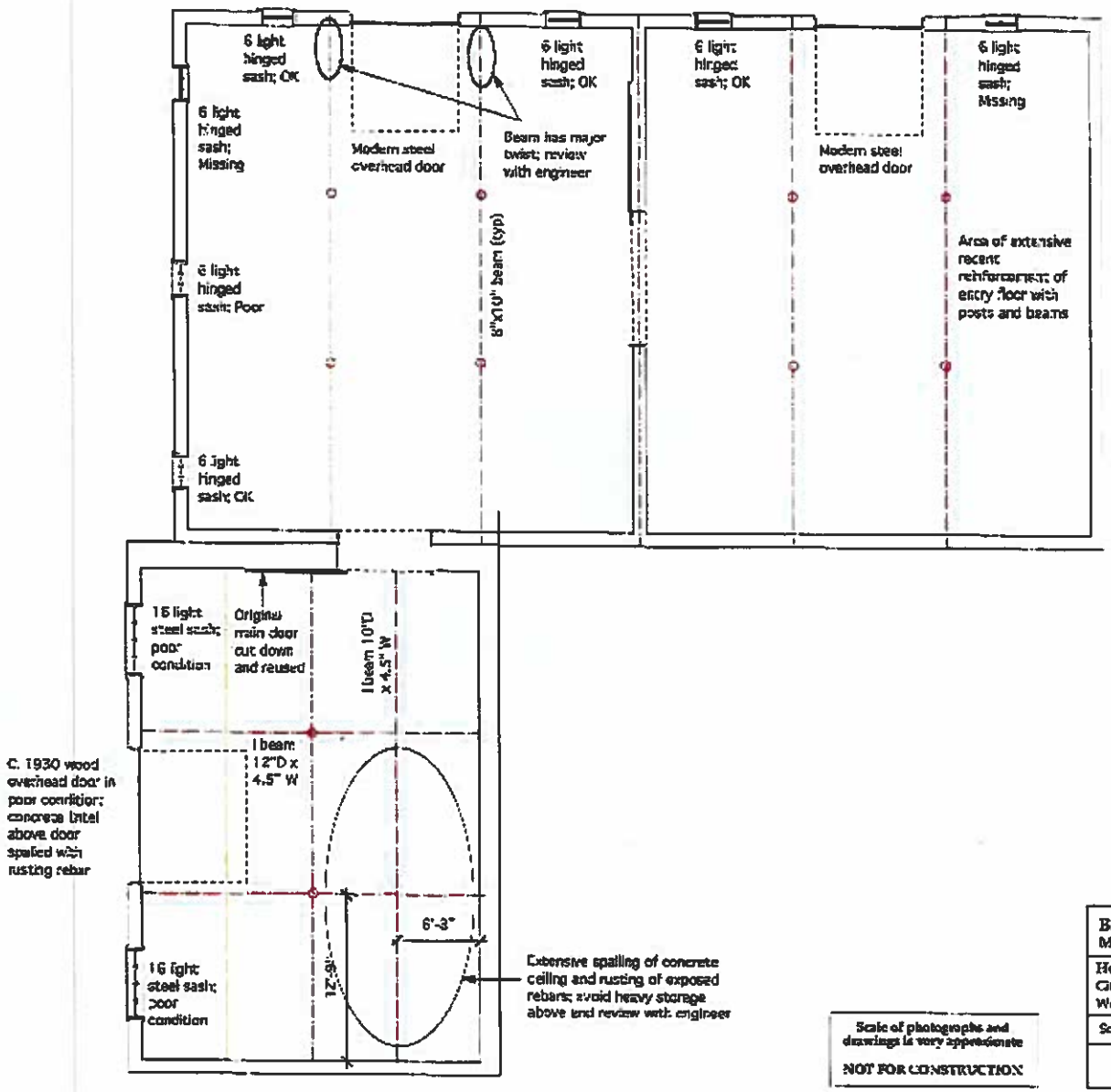
NOT FOR CONSTRUCTION

WEST FACADE Sheet # 6
Main Barn

Hope Cemetery Barn Condition Study
City of Worcester
Worcester, MA

Scale: 1/4" = 1'. Date: February 10, 2007

BENCHMARK
50 BRANT STREET, BEVERLY, MA 01915 • 978-922-4950



Scale of photographs and drawings is very approximate

NOT FOR CONSTRUCTION

BASEMENT FLOOR PLAN Sheet # 7

Main Barn and Ell Barn

Hope Cemetery Barn Condition Study

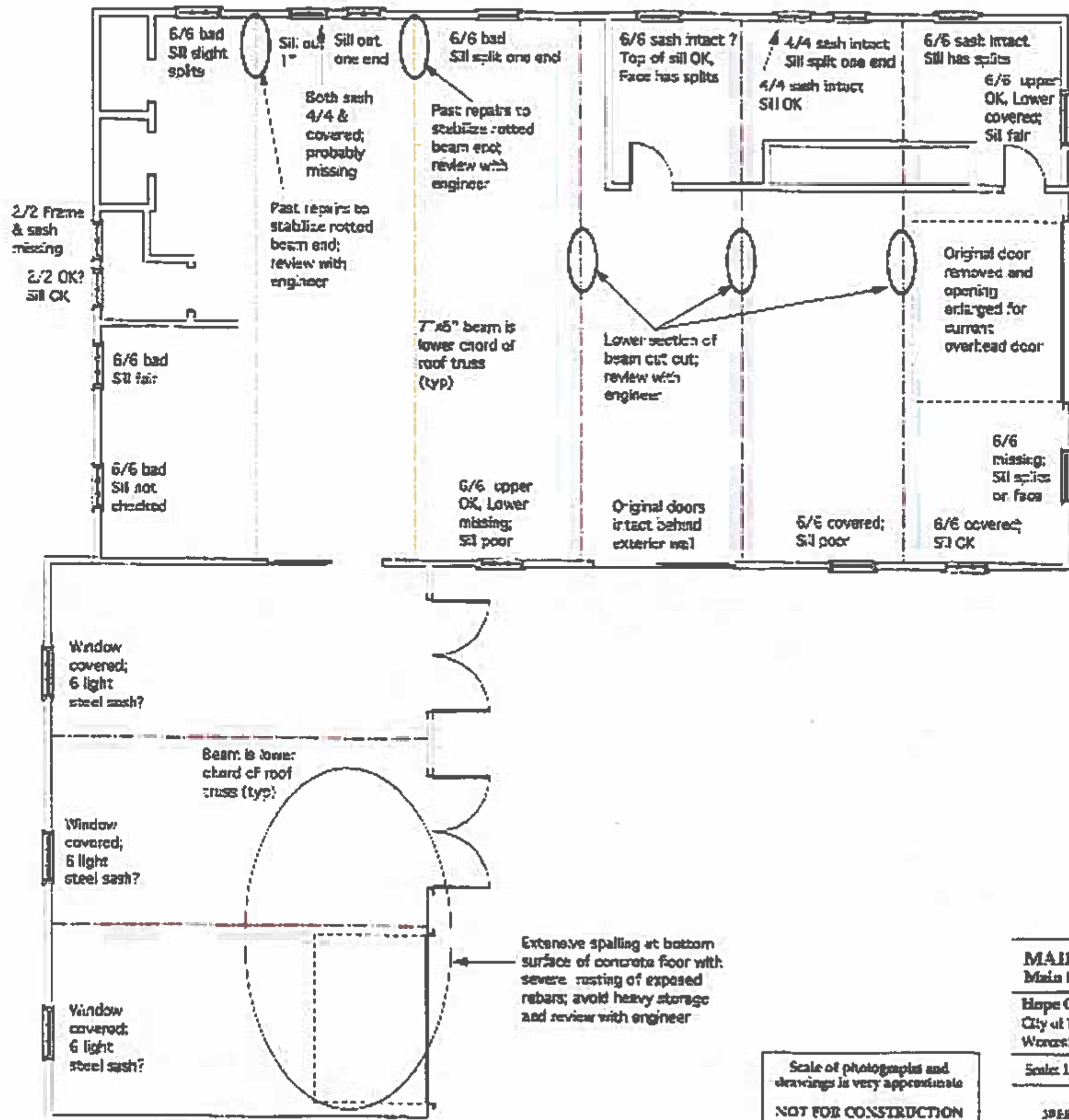
City of Worcester

Worcester, MA

Scale: 1/4" = 1'

Date: February 16, 2007

PINCHBECK
31 FRONT STREET, BEVERLY, MA 01915 • 978-922-4938



Scale of photographs and drawings is very approximate

NOT FOR CONSTRUCTION

MAIN FLOOR PLAN Sheet # 8
Main Barn and Fill Barn

Hope Cemetery Barn Condition Study
City of Worcester
Worcester, MA

Scale: 1/4" = 1'. Date: February 10, 2017

FINCH&ROSE
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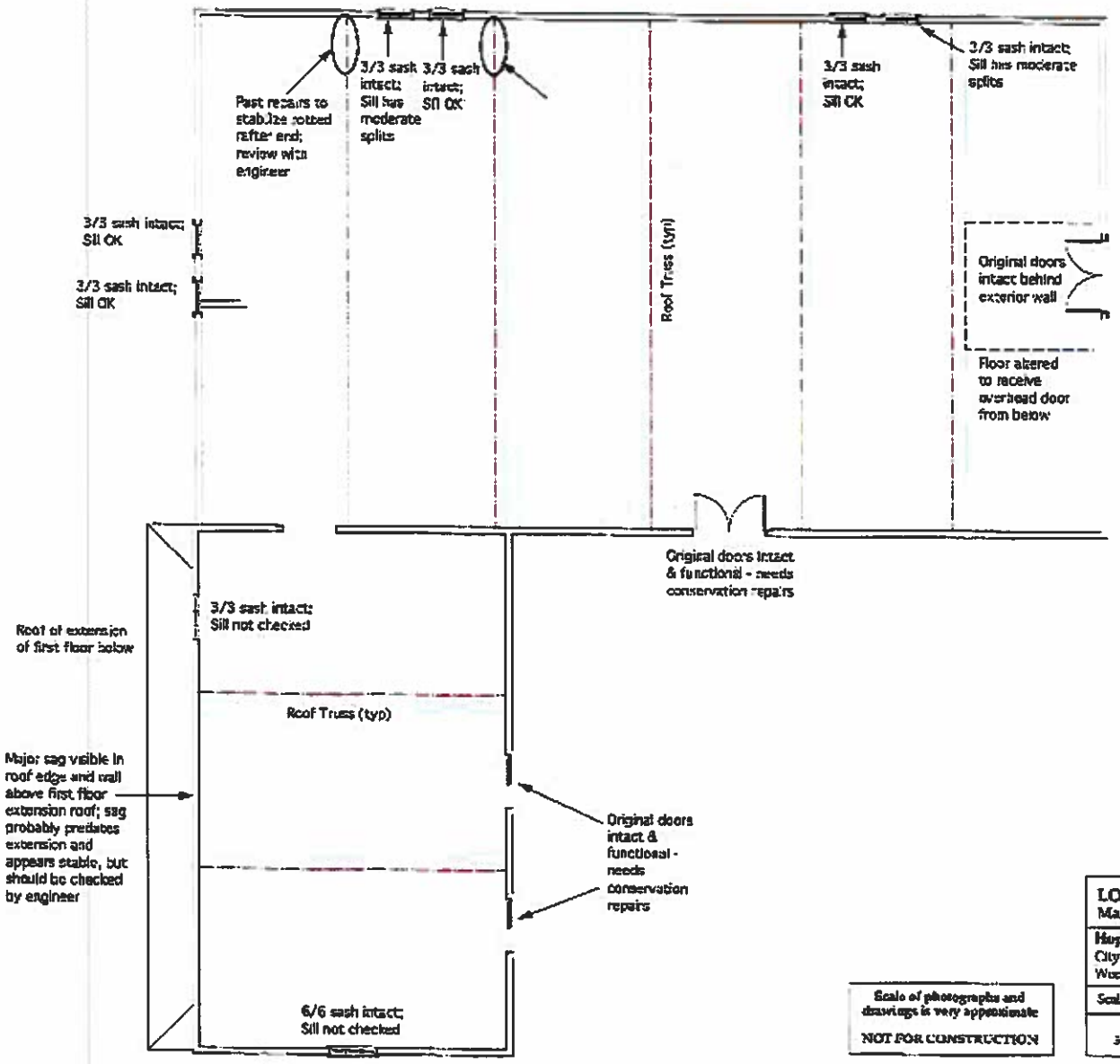

Scale of photographs and drawings is very approximate

NOT FOR CONSTRUCTION

LOFT FLOOR PLAN Sheet # 9
Main Barn and Ell Barn

Hope Cemetery Barn Condition Study
City of Worcester
Worcester, MA

Scale: 1/4" = 1'. Date: February 14, 2007

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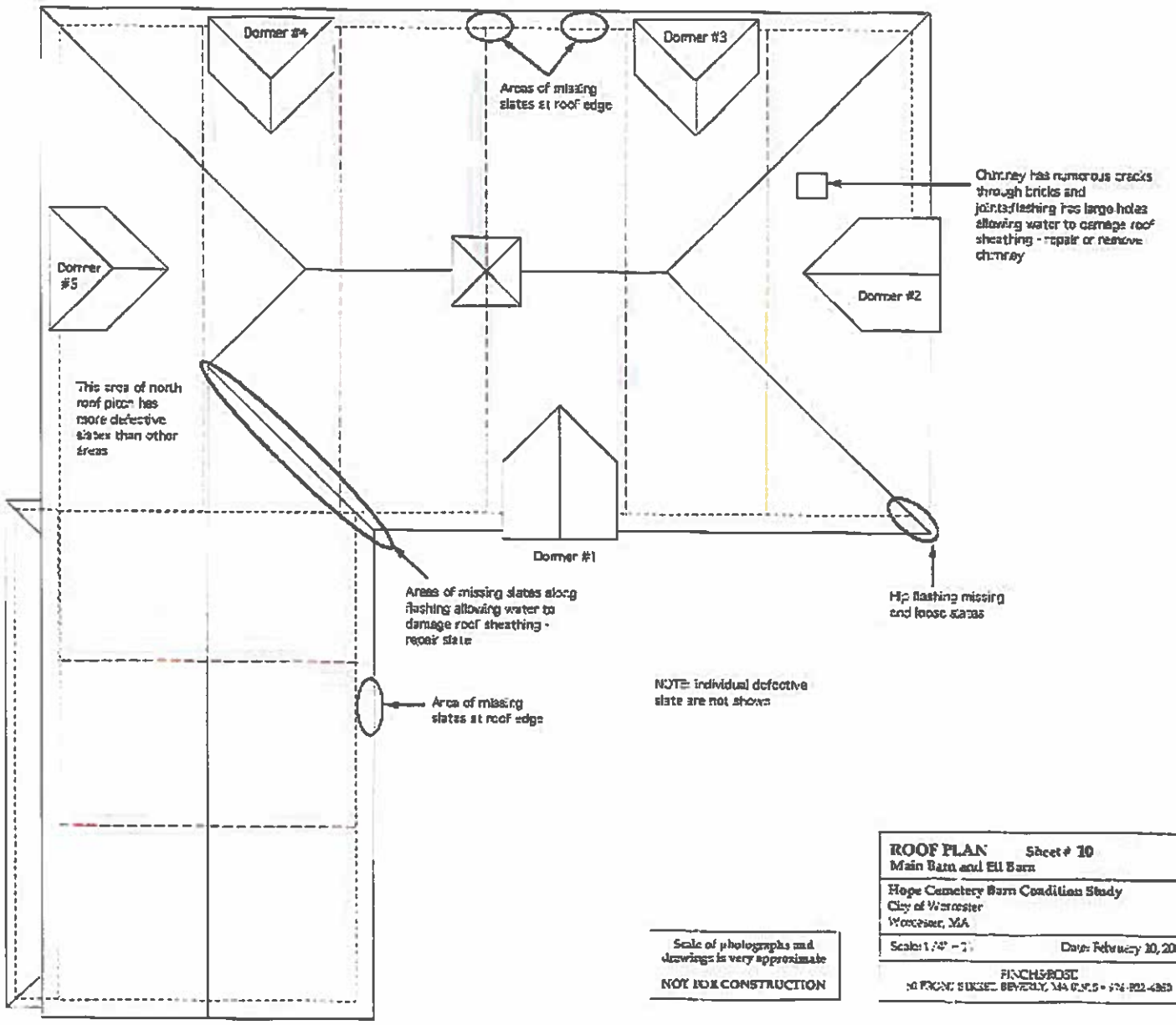
SCHOONER STREET, BEVERLY, MA 01915 • 978-922-4550



Scale of photographs and drawings is very approximate

NOT FOR CONSTRUCTION

ROOF PLAN Sheet # 10
Main Barn and Ell Barn

Hope Cemetery Barn Condition Study
City of Worcester
Worcester, MA

Scale: 1/4" = 1' Date: February 10, 2007

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30 FRONT STREET, BEVERLY, MA 01915 • 978-922-4353

October 31, 2019

Deborah Packard, Executive Director
Preservation Worcester
10 Cedar Street
Worcester, MA

RE: Hope Cemetery Barn

Dear Deb,

At the request of Preservation Worcester, Fontaine Bros., Inc. has completed a review of the existing conditions of the Hope Cemetery Barn at 199 Webster St., Worcester, MA, and has prepared the attached budgetary information for approximate costs associated with stabilizing, restoring, and fitting out the building. Our findings represent a thorough review of the document, "Existing Conditions and Treatment Report," prepared by Finch & Rose, dated 1/10/07, and a site visit to the building conducted on 6/21/19.

The figures presented herein represent our best efforts to asses the resources that would be required to provide varying levels of stabilization or restoration of the building in its current state, assuming no further degradation, and are budgetary in nature. It should be noted that no allowances have been included for design and engineering services, or hazardous material or soil remediation of any kind. It should also be noted that all figures contained within this budget summary are intended to reflect current construction costs, and do not account for escalation should the work proceed in the future. Further study and review of the building would be required to present a detailed estimate or proposal for the completion of this work, however we hope that this information will be helpful to your organization as you work to preserve this structure.

Sincerely,

Joel Kent
Fontaine Bros., Inc.
Project Manager

A. Exterior Stabilization
Fontaine Bros. offers the following budget for a stabilization of the building exterior, limited to the following scope of work:

- Patching and stabilization of the roof
- Stabilization of the exterior masonry
- Replacement of obvious wood decay

Estimated Budget: $500,000 to $700,000

B. Exterior Restoration
Fontaine Bros. offers the following budget for a restoration of the building exterior, including the following scope of work:

- Repairs to the existing slate roof & flashings
- Repair of existing exterior masonry
- Rebuilding the existing facia/ cornice, roof edge & soffits
- Repairing and re-siding the cupola
- Restoration of the weathervane
- Repairing and re-siding of the five dormers
- Removal and replacement of all existing siding and trim
- Removal and replacement of rotted sill and sheathing
- Repair and/ or replacement of exterior doors
- Removal/ replacement of windows
- Exterior painting

Estimated Budget: $1,750,000

C. Interior Fit-Out
Fontaine Bros. offers the following budget for a fit-out of the building interior, including the following scope of work:

- Interior structural repair
- Selective demolition
- Concrete
- Masonry elevator shaft
- Interior stairs
- Doors, frames & hardware
- Drywall, acoustical ceilings, flooring, and painting
- Elevator
- Plumbing
- Fire protection
- HVAC

- Electrical
- Site work necessary for new utility services

Estimated Budget: $3,600,000 *($300/sf, based on 12,000sf)*

Contact Information:

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Senior Estimator
Fontaine Bros., Inc.
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