

# PRIEST FARM FEASIBILITY REPORT & CONCEPT PLAN

TOWN OF SOUTH WINDSOR, CT  
1407 SULLIVAN AVE, SOUTH WINDSOR, CT

MAY 16, 2016

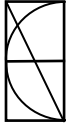
NELSON EDWARDS COMPANY ARCHITECTS, LLC  
1156 MAIN STREET, BRANFORD, CT 06405

ELMORE DESIGN COLLABORATIVE, INC.  
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GNCB CONSULTING ENGINEERS, P.C.  
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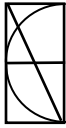
## TABLE OF CONTENTS

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I.	ACKNOWLEDGEMENTS	
II.	INTRODUCTION AND METHODOLOGY	
	NELSON EDWARDS COMPANY ARCHITECTS, LLC	
III.	EXECUTIVE SUMMARY	
	A. FINDINGS AND RECOMMENDATIONS	
	NELSON EDWARDS COMPANY ARCHITECTS, LLC	
	B. STRATEGY OUTLINE & PROPOSED BUDGET	
	ECONOMIC STEWARDSHIP, INC.	
	ELMORE DESIGN COLLABORATIVE, INC.	
	NELSON EDWARDS COMPANY ARCHITECTS, LLC	
IV.	ASSESSMENT OF CURRENT RESOURCE	
	A. EXISTING CONDITIONS - LANDSCAPE	
	ELMORE DESIGN COLLABORATIVE, INC.	
	B. EXISTING CONDITIONS – STRUCTURAL	
	GNCB CONSULTING ENGINEERS, P.C.	
	C. EXISTING CONDITIONS - ARCHITECTURAL ENVELOPE	
	NELSON EDWARDS COMPANY ARCHITECTS, LLC	
V.	CONCEPTUAL DEVELOPMENT	
	A. ECONOMIC DEVELOPMENT PLAN	
	ECONOMIC STEWARDSHIP, INC.	
	B. LANDSCAPE PLANS	
	ELMORE DESIGN COLLABORATIVE, INC.	
	C. COMMUNITY BARN – CONCEPTUAL IMAGES	
	NELSON EDWARDS COMPANY ARCHITECTS, LLC	
VI.	APPENDICES	
	APPENDIX A:	TEMPORARY STABILIZATION MEASURES AT WEST ELL ROOF
		GNCB CONSULTING ENGINEERS, P.C.
		NELSON EDWARDS COMPANY ARCHITECTS, LLC
	APPENDIX B:	FARM HOUSE – RECOMMENDATIONS FOR MOTHBALLING PROPERTY
		NELSON EDWARDS COMPANY ARCHITECTS, LLC
	APPENDIX C:	MODEL TRAILS AT PARMALEE FARM, KILLINGWORTH, CT
		ELMORE DESIGN COLLABORATIVE, INC.
	APPENDIX D:	UTILITIES REPORT
		TOWN OF SOUTH WINDSOR

## **I. ACKNOWLEDGEMENTS**

NELSON EDWARDS COMPANY ARCHITECTS, LLC



## ACKNOWLEDGEMENTS

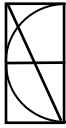
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A study such as this is the work of a great many people. The Feasibility Study and Conceptual Development Plan for the Priest Farm is predicated on the solid research and visioning work undertaken by the Town of South Windsor and by the South Windsor Agriculture, Arts & Nature Committee. The project could not have proceeded to the next stage without this background work or the vital ongoing contributions of the SWAAN Committee Members, including:

Saud Anwar, Town Council  
Pat Botteron, Open Space Task Force  
John Caldwell, Superintendent of Parks  
Tom Delnicki, Mayor  
Stephanie Dexter, Planning & Zoning Commission  
Ray Favreau, Director of Parks and Recreation  
Jeff Folger, Senior Environmental Planner  
Katie Graham, Park & Recreation Commission  
Sandy Jeski, South Windsor Agricultural Land Preservation  
Advisory Commission  
Michele Lipe, Director of Planning  
Ginny Macro, Historic District Commission  
John Mitchell, Rotary Club  
Andrew Paterna, South Windsor FOOD Alliance  
Liz Pendleton, Town Council  
Tim Shepard, South Windsor Land Trust  
Jan Snyder, Town Council  
Betty Warren, Inland Wetland Agency/Conservation  
Commission  
Mary Etter, South Windsor Public Library

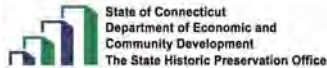
The consultant team would also like to thank Michele Lipe for providing reams of background information, answering our numerous questions, and organizing and facilitating meetings; Jeff Folger, for field visit logistics and other information; and Claire Lobdell, Archivist at the Wood Memorial Library for providing historical background documents, some of which we have used in this report.





## ACKNOWLEDGEMENTS

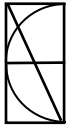
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Finally, the Feasibility Study and Conceptual Development Plan for the Priest Farm could not have been completed without the financial assistance provided by grant funds from the Historic Preservation Fund of the Department of the Interior, National Park Service, as administered by the Department of Economic and Community Development, State Historic Preservation Office (SHPO).

## **II. INTRODUCTION and METHODOLOGY**

NELSON EDWARDS COMPANY ARCHITECTS, LLC



## INTRODUCTION AND METHODOLOGY

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### INTRODUCTION

The Priest Farm was purchased by the Town of South Windsor in 1998 from the Stoughton/Priest family, which had owned and operated it for generations, first as a tobacco farm and later as a dairy farm. It is listed on the State Register of Historic Places.

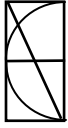
The Town of South Windsor's long term goal is to develop Priest Farm into a self-sustaining, agricultural heritage and cultural / educational / recreational center. The project enjoys the support and endorsement of the South Windsor Town Council, and dovetails neatly with the walk-ability and historic preservation components of the Town's recently-adopted Plan of Conservation and Development (2013). The project is currently being steered by the South Windsor Agriculture, Arts and Nature Center (SWAAN) Committee of volunteers which was expressly convened "to create a project celebrating the farm heritage of South Windsor using the Priest Farm Property".

### METHODOLOGY

The consultant team was headed by Nelson Edwards Company Architects, LLC of Branford, Connecticut and included GNCB Consulting Engineers, PC of Old Saybrook, Connecticut, Elmore Design Collaborative, Inc. of Suffield, Connecticut, and Economic Stewardship, Inc. of Sturgeon Bay, Wisconsin. Nelson Edwards Company provided review of building envelopes of the Farmhouse and six barnyard outbuildings, while GNCB provided structural review and recommendations. Elmore Design Collaborative, Inc. provided Landscape Architecture Assessment and Conceptual Development Landscape Plan, and Economic Stewardship, Inc., provided an Opportunities Analysis and Economic Development Plan. The study team included Economic Stewardship principal Elaine Carmichael, Elmore Design Collaborative's Tom Elmore and Anne Wellington, GNCB firm members James Norden, PE and Amy Jagaczewski and Nelson Edwards Company Architects firm members Sara Nelson, AIA and Laura Boyer, AIA.

Field work for the Architectural, Structural and Landscape Condition Assessments were conducted in December 2015 and January 2016.

The Opinion for Probable Costs for building structures and envelopes was generated by Nelson Edwards Company Architects with review by GNCB. Landscape Development costs were



## INTRODUCTION AND METHODOLOGY

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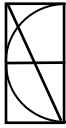
generated by Elmore Design Collaborative, and economic development plan costs were prepared by Economic Stewardship.

With regard to the condition of Priest Farm site, farm house and outbuildings, the findings of the consultant team are based on visible information on hand at the time of their work. Given that the timeframe for the identified repairs is unknown, no guarantee, express or implied, can be made that the documented condition of the land or structures may not change.

### **IIIA. EXECUTIVE SUMMARY - FINDINGS AND RECOMMENDATIONS**

NELSON EDWARDS COMPANY ARCHITECTS, LLC





## EXECUTIVE SUMMARY FINDINGS & RECOMMENDATIONS

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### GENERAL

The goal of this study was to undertake an architectural / engineering feasibility study to evaluate the restoration requirements and costs associated with the preservation of the property and to prepare a concept development plan for a community-based town farm. In addition to the work requested in the Town's RFP the consultant team undertook an Economic Development Plan to address not only the physical and financial feasibility issues identified in the RFP, but also the operational and managerial feasibility issues that a community farm project will entail. The strategies described in the consultant team's report are in accordance with the Town's Plan of Conservation and Development (2013) and with the Secretary of the Interior's Standards for the Treatment of Historic Properties.

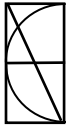
The study acknowledges and was built upon the solid visioning work accomplished by the Town of South Windsor and the South Windsor Agriculture, Arts & Nature Committee in 2014-2015.

### LANDSCAPE

While the farm's context has changed, its historical spatial organization and land patterns survive. The land includes acreage well-suited for cultivated crops and/or pastures, as well as wetland areas including open water which comprise 25.2 acres of the 73.16 acre site (or approximately 31 of 73.16 acres, according to some recent Town fieldwork). The Farm property includes a barnyard at the NE corner with a Farm House, five small outbuildings and a magnificent monolithic poured concrete silo.

The site comprises both desirable and supportive views of agrarian scenery, as well as unpleasant, restricted, and/or unsupportive views of the overhead power lines within the large utility company easement.

Vegetation on Priest Farm varies from native species in the wooded and wetland areas to rare and exotic species in the historic farm core landscape that were cultivated by former owner Norman Priest. The old fields are progressing through natural succession and will, if not maintained, revert back to forest. Invasive species are present across the farm. Overgrown vegetation impinges on sight lines, and restricts views to the North of oncoming traffic, which is fast and frequent, adding to the difficulty of leaving the site. The overgrown vegetation also blocks



## EXECUTIVE SUMMARY FINDINGS & RECOMMENDATIONS

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views of the Farm House from Sullivan Road, and increases the appeal of the site as a target for vandalism and arson.

Existing utilities on site, including well and septic system, are sufficient for a single family, two-bedroom house. Utilities will have to be brought into the site as it is developed for higher and more intensive public uses.

### FARM HOUSE

The 2,780 square foot, wood-framed Farm House and its barnyard context has great historic value, and should be restored and inhabited as soon as practicable to reverse accelerating cycles of deterioration and vandalism. The report identifies immediate work that is required to stabilize the Farm House and safeguard it from further deterioration while planning future site and building restoration steps. While we considered non-residential uses for the house, given the size of the building and rooms relative to the types of programs anticipated for the site, our recommendation is to retain the house as a residential building. We note that a Change of Use for the house would require full compliance with current Building / Life Safety / Accessibility Codes - an onerous undertaking that will add cost and result in a loss of historic building fabric.

### BARNYARD OUTBUILDINGS

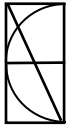
The six relatively small existing outbuildings in the Barnyard considered together with the Farm House embody an important historical spatial and functional organization. Ideally, the outbuildings would be restored where possible or replaced-in-kind when more cost effective than restoration.

### CONCEPTUAL DEVELOPMENT PLAN

The ideal scenario for the development of Priest Farm would be to undertake all of the recommended work as a single project over the next several years. Since this may not be feasible, the study outlines three separate phases to incrementally restore and develop the property as funds permit.

The first phase of work includes restoration of the Farm House, construction of walking trails and a small parking area and the hiring of a Community Farm Manager who would occupy the Farm House, watch over the site and coordinate and guide subsequent site and program development.

The second phase of work includes extension of site utilities, construction of the community gardens, restoration / rehabilitation



## EXECUTIVE SUMMARY FINDINGS & RECOMMENDATIONS

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of the outbuildings that would then be usefully integrated into a contemporary, functioning barnyard under the direction of the Community Farm Manager.

The third and final phase includes build out of farm operations and public facilities. This includes extension of site utilities and construction of a Community Barn that would serve as a venue for public events and provide exhibition space, classroom space for educational programs, office spaces for local organizations and food-related startups, as well as a commercial kitchen to serve food related start-ups and public events. During this final phase the Community Farm Manager would develop and oversee compact produce and animal operations that were both appealing to visitors and suitable for the available space.

The costs associated with a three phase restoration / build-out range between \$5,500,000 and \$6,500,000 in current (2016) dollars. There are a considerable number of unknowns regarding the site which means that final costs cannot be confirmed without more detailed investigations such as site borings, utility costs and the like. While the consultant team has identified three incremental phases for restoration / site development we do not recommend further sub-division of work into even smaller work packages as the cost effectiveness of work packages will diminish and it will be harder to reach identified milestones.

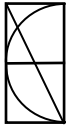
During the course of our work we have worked with and had conversations with many stakeholders for the property. The dedication and affection we observed as we have come to know this property are clear. The planning work started by the SWAAN Committee and continued in this study shows that Priest Farm can be transformed from a declining historical artifact into a living, vibrant, self-sustaining asset that will both protect an irreplaceable cultural resource and provide a community catalyst for the people of South Windsor for years to come.

### **IIIB. EXECUTIVE SUMMARY – STRATEGY & PROPOSED BUDGET**

ECONOMIC STEWARDSHIP, INC.

ELMORE DESIGN COLLABORATIVE, INC.

NELSON EDWARDS COMPANY ARCHITECTS, LLC



## EXECUTIVE SUMMARY - STRATEGY OUTLINE & PROPOSED BUDGET FOR PHASE I

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### A. PRE-DEVELOPMENT - GETTING READY

1. Assign Priest Farm to Town Department(s)
2. Temporary stabilization of Farmhouse (remaining envelope and roof)
3. Determine Trails Usage – What's OK?
4. Create Detailed Construction Plans - Trails
5. Build Alliances with HP, Silent Sports et al
6. Design, Execute Civic Engagement
7. Identify Funding Sources
8. Hire Community Farm Manager
9. Hire/Appoint Owner's Rep for Rehab
10. Have a Pest Inspection
11. Measured Drawings (plans / elevations) for Farmhouse
12. Hire A/E team for full Basic Services for Farmhouse rehabilitation
13. Review overall master plan with Office of State Archaeologist to identify any areas of interest and methodology.
14. Decide if Town wants to use grant funds for restoration and resultant timeline for work

### B. LANDSCAPE - CAPITAL IMPROVEMENTS

1. Clear, grub, dispose, and restoration for utilities
2. Install copper water and sewer to farm from Heritage Lane
3. Install gravel drive and trailhead
4. Misc. site improvements at farmstead
5. Fenced pasture with shed

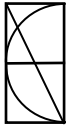
### C. EXISTING BUILDINGS - CAPITAL IMPROVEMENTS TO FARMHOUSE

1. Interior and exterior rehabilitation
2. Site work related to grades and house walkways
3. Utility / infrastructure related to house rehabilitation

### PROPOSED BUDGET FOR PHASE I: \$700,000 to \$820,000







## EXECUTIVE SUMMARY - STRATEGY OUTLINE & PROPOSED BUDGET FOR PHASE II

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### A. SETTING THE STAGE FOR PHASE II

1. Further investigation of Silo roof condition
2. Measured Drawings for outbuildings
3. Decide on uses for existing outbuildings
4. Hire A/E team for full Basic Services for Outbuilding rehabilitation
5. Rehab Animal Pens
6. Enclose Pastures
7. Acquire Tools, Livestock, Fish Ops Hives, etc.
8. Establish Produce and Protein Plans
9. Build and Furnish High Tunnels
10. Create Priest Farm Identity Package
11. Form Alliances with Schools, Markets etc.
12. Develop Internship Program
13. Create Ed/ Interpretive Programs

### B. LANDSCAPE - CAPITAL IMPROVEMENTS

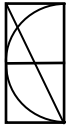
1. Install silt fence for gravel drive & Community Gardens
2. Clear, grub & dispose trees for Community Gardens
3. Misc. earthwork for drive, parking & Community Gardens
4. Extend gravel drive to and around Community Gardens
5. Extend copper water to Community Gardens and hose bids
6. Shade and picnic pavilion with concrete pavement, benches & tables
7. Grade, fine grade, and prep. Community Gardens
8. Restore disturbed areas with fine grade, seed, & fertilizer

### C. EXISTING BUILDINGS - CAPITAL IMPROVEMENTS TO OUTBUILDINGS

1. Rehabilitate / Restore outbuildings
2. Restore concrete silo
3. Misc. site work related to outbuildings

**PROPOSED BUDGET FOR PHASE II: \$570,000 to \$650,000**





## EXECUTIVE SUMMARY - STRATEGY OUTLINE & PROPOSED BUDGET FOR PHASE III

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### PRE-DESIGN WORK FOR PHASE III:

#### A. EXPANDING CAPACITY

1. Create partnership for Museum
2. Identify Funding Sources
3. Conduct Market Study for Events
4. Identify Other Producers for Store, Hub
5. Hire A/E Team for full Basic Services for Community Barn
6. Hire/Appoint Owners Rep
7. Conduct Market Study for Kitchen
8. Create Integrated Business Plan
9. Contract Barn Construction

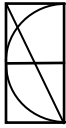
### PHASE III

#### A. SITE DEVELOPMENT FOR COMMUNITY BARN

1. Community Barn
  - a. Install silt fence
  - b. Clear, grub, and dispose
  - c. Grading and drainage
  - d. Extend 2" copper water & 6" sewer lines
  - e. Lower terrace paving
  - f. Site Lighting
2. Asphalt Drive and parking with gravel and earthwork
  - a. Gravel base and earthwork for asphalt drive
  - b. Concrete walks
  - c. Concrete curbs
  - d. Restore disturbed areas with fine grade, seed & fertilizer
3. Paved access to Heritage Lane
4. Paved access to south property line with trailhead parking
  - a. Clear, grub, and dispose of trees and stumps
  - b. Grading, drainage and prep
  - c. Fenced pastures & berry patch
    - i. Clear, grub & dispose of brush
    - ii. Move pasture fence and add additional fencing
    - iii. Prepare and install berry patch
    - iv. 8' tall fence and netting for berries

#### B. NEW BUILDINGS - COMMUNITY BARN

1. Site work - Utilities; sewer/septic; excavation & backfill
2. Footings / Foundations / masonry veneer
3. Historic Timber Frame 50' x 100'  
Siding, Roofing, Insulation / finishes, Mechanical, Electrical, Plumbing, Fire Protection,  
Furnishings / Fixtures, Contingency at 20%



## EXECUTIVE SUMMARY - STRATEGY OUTLINE & PROPOSED BUDGET FOR PHASE III

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### C. FIT OUT COMMERCIAL KITCHEN

### D. BUILDING A SUSTAINABLE OPERATION

1. Establish Use Parameters for Events
2. Market Event Center
3. Promote Community Spaces
4. Create Food Safety Protocols
5. Formalize Relationship w/Museum Operator
6. Conduct Market Study for Food Hub

**PROPOSED BUDGET FOR PHASE III: \$4,000,000 to \$5,000,000**



## IV.A ASSESSMENT OF EXISTING CONDITIONS LANDSCAPE

ELMORE DESIGN COLLABORATIVE, INC.

	INTRODUCTION
I.....	CONTEXT, SPATIAL ORGANIZATION AND LAND PATTERNS
II.....	TOPOGRAPHY
III.....	SOILS
IV.....	WETLANDS
V.....	VEGETATION
VI.....	VIEWS AND VIEW SHEDS
VII.....	CIRCULATION
VIII.....	SITELINES
IX.....	EASEMENTS
X.....	UTILITIES
XI.....	SUMMARY

### Introduction

Priest Farm is a significant vernacular landscape that is unique as a surviving example of a farmstead that retains its agricultural continuum from a single family dating back to 1823. The 193-years of history by the Priest's and their extended family are portrayed as layers of human activity up to the present use as public open space. The value of this property lies in its heritage that survives and the many opportunities that exist to use it as community open space. The character-defining features documented and assessed herein illustrate its wealth of extant features. The Town of South Windsor is fortunate to have saved this landscape from development. It will become a place of gathering for different groups and their diverse programs with an omnipresent sense of its heritage.

The following summarizes the findings of the landscape assessment for Priest Farm, an historic agricultural landscape that is presently owned and maintained by the Town of South Windsor, Connecticut as public open space. The farm continually evolved and changed over time by various members of the Priest family to meet their changing needs. This report informs and guides the Concept Development Plan that is part of Feasibility Study and Concept Landscape Plan for Priest Farm.

The purpose of this report is to document and assess the existing conditions of the landscape as it existed in December 2015 and January 2016. The format of this assessment follows the guidelines prepared by *The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes* by the U.S. Department of the Interior, National Park Services, 1996, though slightly modified for this project.

Within this report, each character-defining landscape feature is classified into the following categories:

- I. Context, Spatial Organization, and Land Patterns
- II. Topography
- III. Soils
- IV. Wetlands
- V. Vegetation
- VI. Views and Viewshed
- VII. Circulation
- VIII. Easements
- IX. Sightlines
- X. Utilities

### I. Context, Spatial Organization and Land Patterns

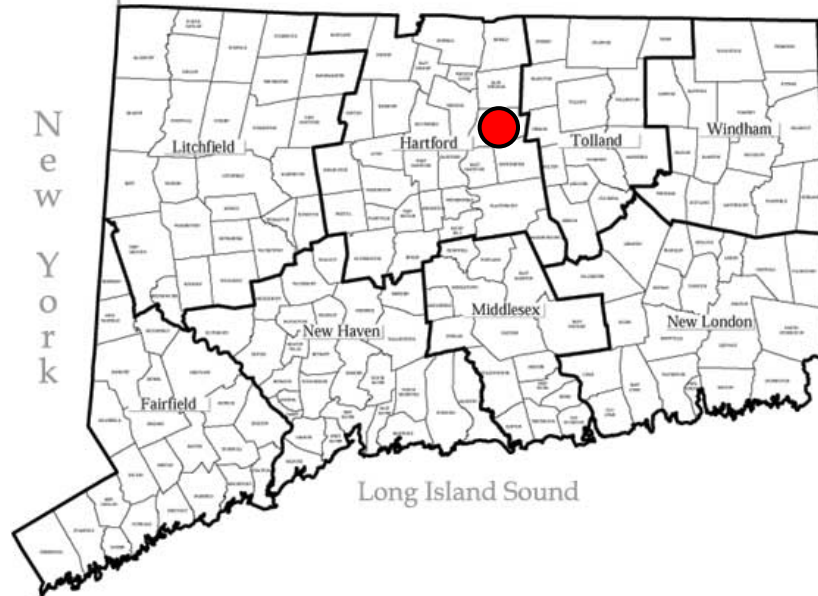
Priest Farm is an excellent example of a "Component Landscape" located within South Windsor. A Component Landscape is a discrete portion of a larger landscape that can be further subdivided into landscape units and then smaller character-defining landscape features. While the farm's context has changed, its extant, historic spatial organization and land patterns survive.

The Town of South Windsor is located in the north central portion of the state, on the east side of Hartford County, and east of the Connecticut River and Interstate 91. The Town abuts the Towns of East Hartford and Manchester to the south, Vernon to the east, East Windsor to the north, and Windsor to the

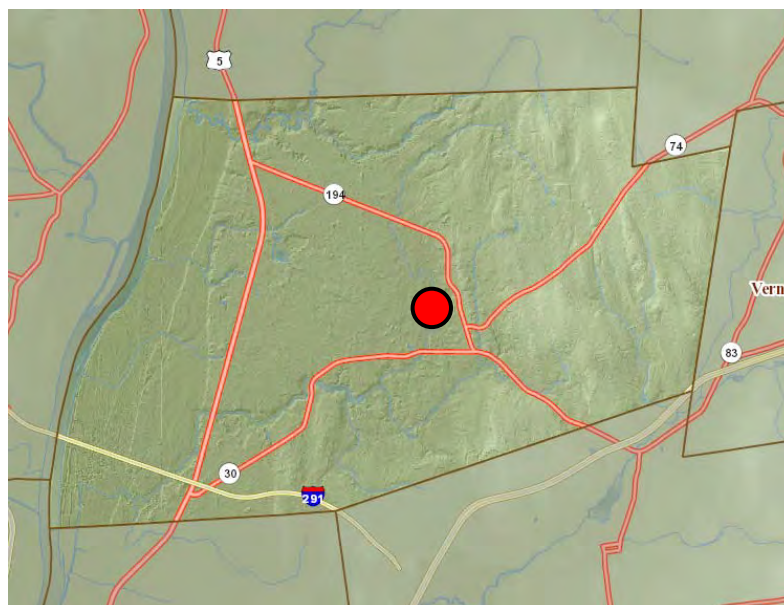


west. The farm is located nearly in the geographical center of the Town. It lies on the west side of Sullivan Avenue, between Heritage Drive to the north and Ellington Road to the south.

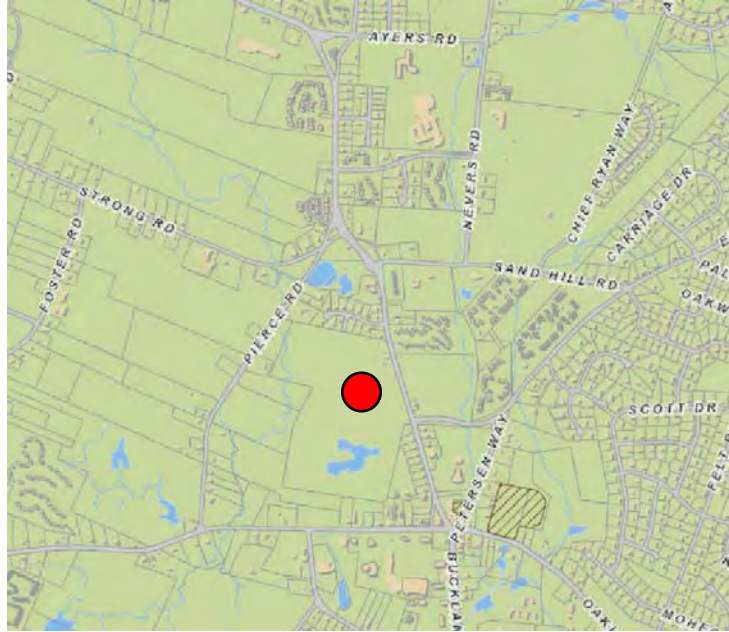
The Town purchased the property in 1996 as open space, thereby saving it from potential development. The surrounding land uses include single family houses on Heritage Drive to the north and southeast on Sullivan Avenue, condominiums across Sullivan Avenue, open space owned by both the Town of South Windsor and The South Windsor Land Conservancy Trust, Inc. to the west and southwest, and multi-family housing and commercial development to the south. The Town Hall is approximately 1/4 mile south on Sullivan Avenue.



Map of the State of Connecticut with the Town of South Windsor highlighted.



Map of the Town of South Windsor with the location of Priest Farm highlighted.



An enlarged portion of the Town of South Windsor Map with Priest Farm highlighted



Priest Farm 1934 Aerial Photograph (CT State Library Archives)



Graphic plan of the historic farm core landscape.

The Farm is 73.16 acres in size and consists of an open field, overgrown fields, woods, wetlands, and open water. The historic farm core landscape (also called the Barnyard), located at the farm's northeast corner, has a farmhouse with several outbuilding, a concrete silo, barn foundations, animal pens, two driveways providing access to Sullivan Avenue, and a variety of rare and exotic plant material. The spatial organization of this area is special with its many features tucked together in close proximity to one another. The extant small outbuildings and large trees and shrubs create a space that is "human in scale" around the old farmhouse. There is no other spot on the farm that feels like this.

A 300' wide utility easement owned by Eversource Energy bisects the property in an east/west manner. This easement separates the existing open farm field from the woods, wetlands, and open water to the south.

## II. Topography

The topography across the Farm's landscape varies from gently sloping to steeper terrain. The land slopes from the northeast corner at Sullivan Avenue to the west and southwest. The highest elevation is located in the northeast corner and is approximately 110 feet above sea level. Elevations at the western and southern corners varies between 82' and 65.75' in elevation. The lowest point along any property line is approximately 61' in elevation and is where the stream leaves Priest Farm.

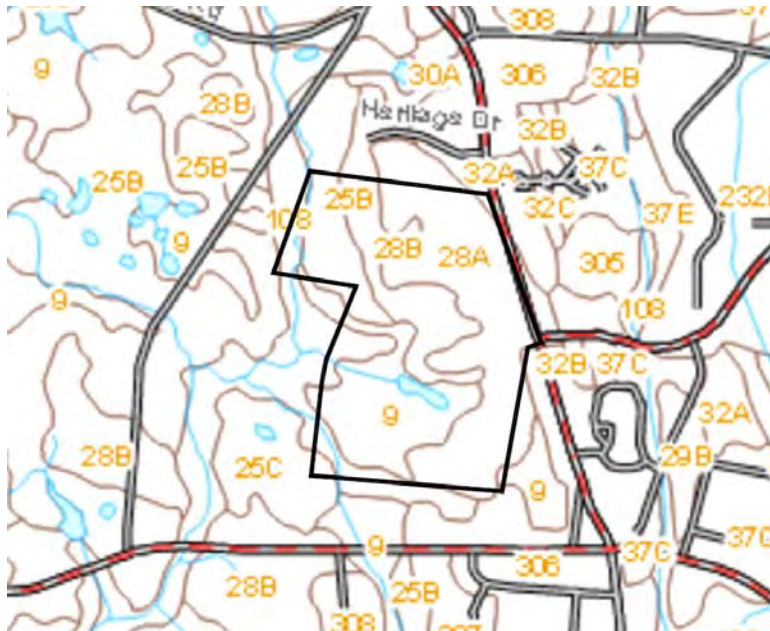
While the property slopes from east to west and southwest, the open field and formerly open fields have the least slope on the Farm, except for the wetlands. The wooded areas are the steepest and the flattest areas are the wetlands and floodplain areas. The early farmers utilized the higher, drier, and flatter portions of the property for constructing their farm buildings, fields, animal pens, and pastures.

(See "Topography" map at the end of this section)



### III. Soils

According to the Connecticut Soils map for the Town of South Windsor that was created by the U.S. Department of Agriculture, Natural Resources Conservation Services and the State of Connecticut, Department of Environmental Protection, dated October 2009\*, Priest Farm is comprised of six different types of soils. These soils are described in detail in the Soil Survey of the State of Connecticut by the United State Department of Agriculture, Natural Resources Conservation Services, 2003.\*\* A description of each soil follows:



Selected portion of the Connecticut Soils, South Windsor, CT Soils Map\*

\*[http://cteco.uconn.edu/map\\_catalog/maps/town/Soil/Soil\\_SouthWindsor.pdf](http://cteco.uconn.edu/map_catalog/maps/town/Soil/Soil_SouthWindsor.pdf)

- 9 Scitico, Shaker and Maybid Soils - nearly level soils
  - a combination of silt loam, silty clay loam, fine sandy loam, and sandy loam
  - most areas are in woodland with a seasonal high water table, low percolation rate, has frequent ponding, and poor soils for building and development
- 25B Brancroft Soil - 3 to 8% slopes
  - a combination of silt loam and silty clay loam
  - moderately well drained
  - most areas are in community development or cultivated crops, hay, or pasture with some wooded areas
- 25C Brancroft Soil - 8 to 15% slopes
  - a combination of silt loam and silty clay loam
  - moderately well drained
  - most areas are in cultivated crops, hay or pasture with some areas in vegetables or nursery stock
  - high seasonal water table with frost action requiring better built road bases and building foundations
- 28A Elmrige - 0 to 3% slopes
  - fine sandy loam with silty clay

- moderately well drained
- most areas are in cultivated crops, hay or pasture with some areas in vegetables or nursery stock
- high seasonal water table with frost action requiring better built road bases and building foundations

28B Elmrige - 3 to 8% slope

- fine sandy loam with silty clay
- moderately well drained
- most areas are in cultivated crops, hay or pasture with some areas in vegetables or nursery stock
- high seasonal water table with frost action requiring better built road bases and building foundations

In summary, the upper gently sloping soils (0 to 8%) are more silty loam and better suited for cultivated crops, hay and/or pastures. The open field and old or formerly open fields are made up of these soils. The wooded and wetland areas have the more dense soils with slopes that vary from nearly level to 8-15%. According to these description, seasonal high water table exists across the farm.

\*[http://cteco.uconn.edu/map\\_catalog/maps/town/Soil/Soil\\_SouthWindsor.pdf](http://cteco.uconn.edu/map_catalog/maps/town/Soil/Soil_SouthWindsor.pdf)

\*\*[http://www.nrcs.usda.gov/Internet/FSE\\_MANUSCRIPTS/connecticut/CT600/0/connecticut.pdf](http://www.nrcs.usda.gov/Internet/FSE_MANUSCRIPTS/connecticut/CT600/0/connecticut.pdf)

#### IV. Wetlands

The existing wetlands are located west and southwest of the farmhouse and the open field. They are covered with trees and maintain a natural setting. The Town's GIS web site states that the Connecticut Department of Environmental Protection (DEP) places the entire farm in a DEP Watershed and documented two types of wetlands:

- o Wetland - Alluvial and Floodplain Soils
- o Wetland - Poorly Drained and very Poorly Drained Soils.

The Federal Emergency Management Agency (FEMA) has a Flood Zone overlay that includes portions of the CT DEP's soils along the western boundary. In addition to these soil types and overlay there is some open water on the farm. Together, there is approximately 25.2 acres designated as water and/or wetlands.

Open Water - 3.7 acres

Connecticut Department of Environmental Protection (DEP)

DEP Wetland Soils - Alluvial and Floodplain Soils - 9.2 acres

DEP Wetland Soils - Poorly Drained and Very Poorly Drained Soils - 12.3 acres

Federal Emergency Management Agency (FEMA) - Flood Zone Overlay - 10.3 acres

(See "Wetlands" map at the end of this section).

#### V. Vegetation

As a character-defining feature on historic landscapes, vegetation typically undergoes the greatest change because of time, growing patterns, plant life expectancy, and deferred maintenance. Vegetation on Priest Farm varies from native species in the wooded and wetland areas to rare and exotic species in the historic farm core landscape. Invasive species are present across the farm. Norman Priest was a dairy farmer, but his true love was plants. He was nationally and internationally known for his plants and plant knowledge. He purchased many different varieties of trees and shrubs and planted them in the historic farm core landscape. Many are quite unique. Others are more common, but not typically found on a farm. The list



below identifies the documented plants around the farmhouse in December 2015 and January 2016. The open field has a cover crop that is maintained by a tenant farmer who leases the property from the Town. The old fields are progressing through natural succession and will, if not maintained, revert back to forest. The former field west of the farmhouse is nearly covered with scrub brush while the other old field, immediately south of the utility easement, is covered with grass and appears to recently have been mowed or cut. The edges of this field are starting to fill in with the first generation of volunteer species. A majority of the farm is covered with trees. In 2014, Mr. Edward A. Richardson and Mr. Frank Kaputa identified and documented many, but not all, of Norman's rare plants. Additional work is needed to complete this field work.

#### TREES

<i>Acer cappadocicum</i> *	Cappadocian Maple
<i>Acer ginnala</i> *	Amur Maple
<i>Fagus grandifolia</i> *	American Beech
<i>Juglans ailantifolia</i> *	Japanese Walnut
<i>Juglans ailantifolia</i> 'Cordiforms'*	Japanese Heartnut
<i>Magnolia macrophylla</i>	Bigleaf Magnolia
<i>Picea pungens</i> *	Blue Spruce
<i>Pinus strobus</i>	White Pine
<i>Prunus serotina</i>	Black Cherry
<i>Quercus rubra</i>	Northern Red Oak
<i>Rhus</i>	Common Sumac
<i>Sawara cypress</i> *	<i>Chamaecyparis pisifera</i>
<i>Stewartia monadelph</i> *	Orange Bark Stewartia
<i>Styrax japonica</i> *	Japanese Snowbell
<i>Syringa reticulata</i> *	Japanese Tree Lilac
<i>Tsuga canadensis</i>	Canadian Hemlock

#### SHRUBS

<i>Buxus</i> spp	Boxwood
<i>Juniperus chinensis</i>	Juniper
<i>Lonicera</i> spp.	Honeysuckle
<i>Taxus cuspidata</i> *	Japanese Yew

#### HERBACEOUS

<i>Asarum europaeum</i>	European Wild Ginger
Bamboo spp.	Bamboo (3-4 varieties exist)
<i>Chelidonium majus</i>	Greater Celandine (Swallowwort)
<i>Lamium</i> spp.	Dead Nettle
<i>Phytolacca americana</i>	American Pokeweed
<i>Silybum marianum</i>	Milk Thistle
<i>Silybum marianum</i> (L.) Gaertn.	Variegated Thistle
<i>Verbascum thapsus</i>	Common Mullein
<i>Yucca</i> spp.	<i>Yucca</i> (a special narrow-leaf variety)

#### GROUND COVER

<i>Ajuga reptans</i>	Bugleweed
<i>Vinca minor</i>	Periwinkle

## VINES

Akebia quintifolia  
Celastrus orbiculatus  
Euonymus fortunei  
Vitis spp.

Five-leaf Akebia (Chocolate Akebia)  
Oriental Bittersweet  
Winter Creeper (Climbing Euonymus)  
Wild Grape

---

\* Plants identified by Edward A Richardson, August 30, 2014



Oriental Bittersweet - invasive



Bamboo - invasive



Leaf of the Bigleaf Magnolia



Leaf of the Cappadocian Maple



Corkscrew Willow SW of the farmhouse



Boxwood hedge in front of the farmhouse





Overgrown vegetation blocks the view north toward the farmhouse.



Overgrown vegetation blocks the view of the farmhouse from Sullivan Avenue.

## **VI. Views and Viewsheds**

The opportunity for views and vistas within a landscape is enhanced by the opportunity to see across the land from within, for distant views into borrowed landscapes (to see beyond the immediate property into adjacent and distant property) and views from off-site into a site. Opportunities for views are enhanced where topographical variations exist and where few sightline restrictions exist, thus offering open or framed views.

Views and viewshed are categorized as desirable and supportive and unpleasant, restricted, and/or unsupportive. Both of these exist at Priest Farm.

Visitors to the farm enjoy several excellent views of the farm landscape from both inside and outside of the property. Views from Sullivan Avenue into and across the open agricultural field are highly desirable because of the agrarian scenery and being able to see into and across the landscape. Many similar views and viewsheds across New England have disappeared due to development, suburban sprawl, and the

process of natural succession or the returning of open fields back into forests. Unfortunately, the loss of these pleasing views are not appreciated by many people until they are gone. Fortunately, the purchase of this farm as open space and leasing of the field to a farmer have maintained the open field and these desirable views. Other desirable views are from within the landscape...views of the silo and views toward the farmstead from within the field.

Two main unpleasant, restricted, and/or unsupportive views are of the overhead power lines within the Eversource Energy easement and from Sullivan Avenue toward the farmhouse. The first is a fact that will remain because of the purpose and the height of the wires. Blocked views of the farmhouse and other farm buildings are the result of overgrown vegetation. These views can be restored and can once again become desirable after the vegetation is thinned, pruned, removed and maintained as a residential landscape.

Owing to the size of Priest Farm, more opportunities for different types of views might exist. However, the outer acreage is heavily wooded, which restricts views into, through, and across this area of the property.

(See "Views and Viewsheds" map at the end of this section).



View looking west from the farmhouse toward the silo.



View looking west across the open field from the grass path just north of the silo.





View looking east from the open field toward the silo, farmhouse, and Sullivan Avenue beyond.



View of the power lines within the Eversource Energy easement.



Blocked view of the farmhouse from Sullivan Avenue



## VII. Circulation

Vehicular access and the main arrival sequence into the site is from Sullivan Avenue that runs north and south along the east boundary of the property. A deteriorated asphalt drive and gravel drive provide access into the farmstead. Egress onto Sullivan Avenue from these driveways is difficult because of overgrown vegetation, the alignment of Sullivan Avenue from the north, and the speed and frequency of oncoming traffic. Another, but ill-defined, point of access exists south of the driveways and north of the utility easement. This "drive" may have been formerly used by farm machinery to cross Sullivan Avenue. Vehicular circulation within the historic farm core landscape exists on former farm drives that presently are covered with grass. When Heritage Drive was developed as a residential subdivision, a 50' wide strip of land was designed into the development to provide future vehicular access into Priest Farm. Heritage Drive is a short cul-de-sac with a single point of access onto Sullivan Avenue, just a short distance north of the farm.

Pedestrian access into the site is via the driveways, open field, and through the adjacent properties owned by the Town of South Windsor and The South Windsor Land Conservation Trust, Inc. (Land Trust). One trail enters the property from the southwest through Land Trust property and continues further south to Ellington Road. Circulation about the farm does not exist with defined roads, drives, or trails. However, as public open space, pedestrians can walk around unimpeded. Priest Farm is in close proximity to Wapping Park to the south and Major Michael Donnelly Land Preserve to the north. The creation and/or extension of trails in and through Priest Farm will increase hiking opportunities in this part of Town.



Aerial photograph illustrating the driveways and grass paths within the historic farm core landscape.



The north driveway is asphalt



Grass-covered gravel drive behind the farmhouse.



Grass-covered path from the open field.



Overgrown path leading south from the farmhouse.

### VIII. Sightlines

In this landscape assessment, sightlines refers to the line of sight for drivers entering onto Sullivan Avenue from Priest Farm. Presently, the two existing driveways have limited sightlines into the street because the overgrown vegetation blocks views to the left and because of the bend in the road a short distance to the north. When these situations are combined with the speed and frequency of traffic on Sullivan Avenue, it is difficult to exit the farm from these driveways.

On the other hand, views to the south from the driveways are better, but not great. Sullivan Avenue to the south is straight, which affords drivers the opportunity to see oncoming traffic. However, the vegetation continues to restrict views of oncoming traffic and with the speed and frequency of traffic from the north this driveway also is difficult to get out of. The other ill-defined driveway in the field south of these driveways and immediately north of Eversource Energy's utility easement provides better sightlines in both directions because the vegetation does not block views and the road is straight in both directions. However, the speed and frequency of traffic on Sullivan Avenue makes it difficult to leave the site from all of these driveway. The existing stop light at the intersection of Sullivan Road and Route 74/Ellington Road provides some help by controlling oncoming traffic with the cycle of each red light.

(See "Sightlines" map at the end of this section)





View from driveway looking north.



View from driveway looking south.

## IX. Easements

There are four (4) easements on Priest Farm. Three are small drainage easements of which two are located on Sullivan Avenue in favor to the State of Connecticut and one is on the north property line in favor of the Fieldstone Subdivision. The largest easement, held by Eversource Energy (formerly known as Conn. Light & Power) is 300 feet wide and bisects the farm in an east / west manner. This easement is approximately 11.2 acres in size. As part of this landscape assessment, we have contacted Eversource Energy and are trying to find answers to the following questions:

- Restrictions and Limitations?
- Opportunities?
- Herbicides & pesticides used by Eversource Energy - what are they, how often are they applied, and can they be eliminated if other people maintain the higher and flatter portion of their easement?

(See "Easement" map at the end of this section)

## X. Utilities

The existing utilities on the farm are sufficient for a single family, two-bedroom house and includes a well for drinking water and an on-site septic system. Electrical power comes from Sullivan Avenue. If the farm is developed for higher and more intensive public use with the addition of a building and facilities for more people on a regular basis, public utilities would have to be brought into the site. The closest connection for public water and sewer is located on Heritage Drive. This 50' wide strip of land that was designed into that development will be used to connect the farm to the necessary public utilities.





50' wide strip of land from Heritage Drive

## Summary

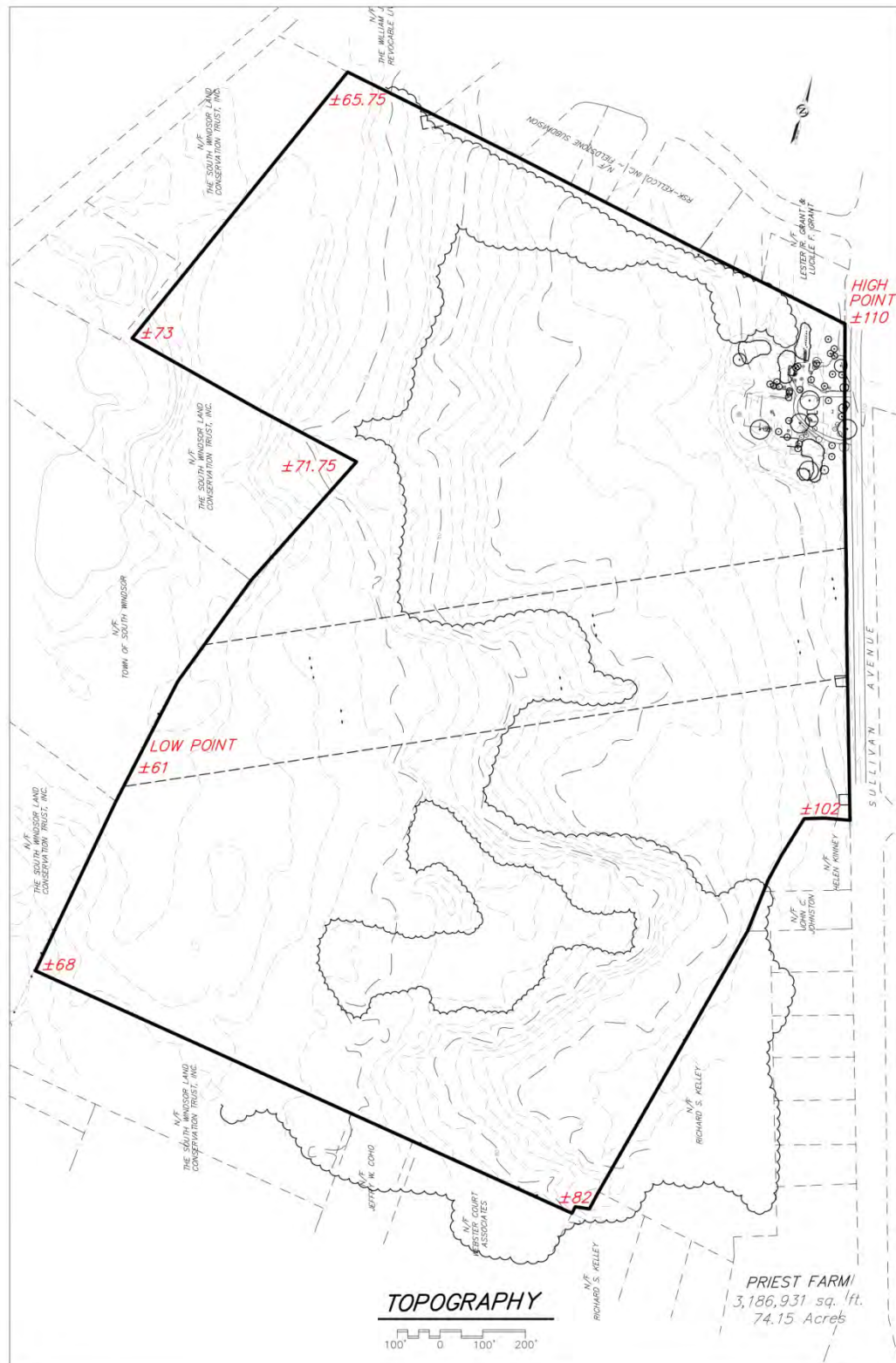
This is a significant and unique vernacular landscape that has changed since Norman and Edna Priest's relatives purchased it in 1823. Each owner modified the site (buildings and landscape) to meet their changing needs with the addition and removal of buildings, vegetation, and other site features. In the recent past, deferred maintenance, vandalism, and the rapid growth of invasive plant material has change the physical and visual appearance of the historic farm core landscape. The woods and fields are changing as well, but not as rapidly as the barnyard. While these visual and physical changes are obvious, the features within, under, and around survive, albeit in various states of condition. However, it is these changes and conditions that illustrate a continuum of ownership and land use.

In 1996, the Town of South Windsor acquired the farm as public open space and maintains ownership. The purchase of this land by the municipality saved it from being developed much like the surrounding parcels of land to the north, east and south. The views across the open agricultural field from Sullivan Avenue are more pleasing to our senses than most people understand. Unfortunately, their appreciation for the emotional value and aesthetic beauty of these types of views and landscapes are understood only after they are gone. Public ownership saved this farm.

Priest Farm is a large piece of open and undeveloped land that is centrally located within Town. During Norman and Edna's ownership, it was a dairy farm with lots of activity and noise from people, animals, and machinery living and working on the farm. Today, except for the tenant farmer working the field, this farm is quite. It is underutilized. Many opportunities exist to maintain it as public open space while improving it with features and activities that entice the community to visit. This farm should be used and made into a working and living landscape once again with opportunities for both active and passive uses. The aesthetics of the site will come to life and its sense of place will be re-established. This farm will once again be a living entity where people and their activity fill the spaces and their noise fills the air.

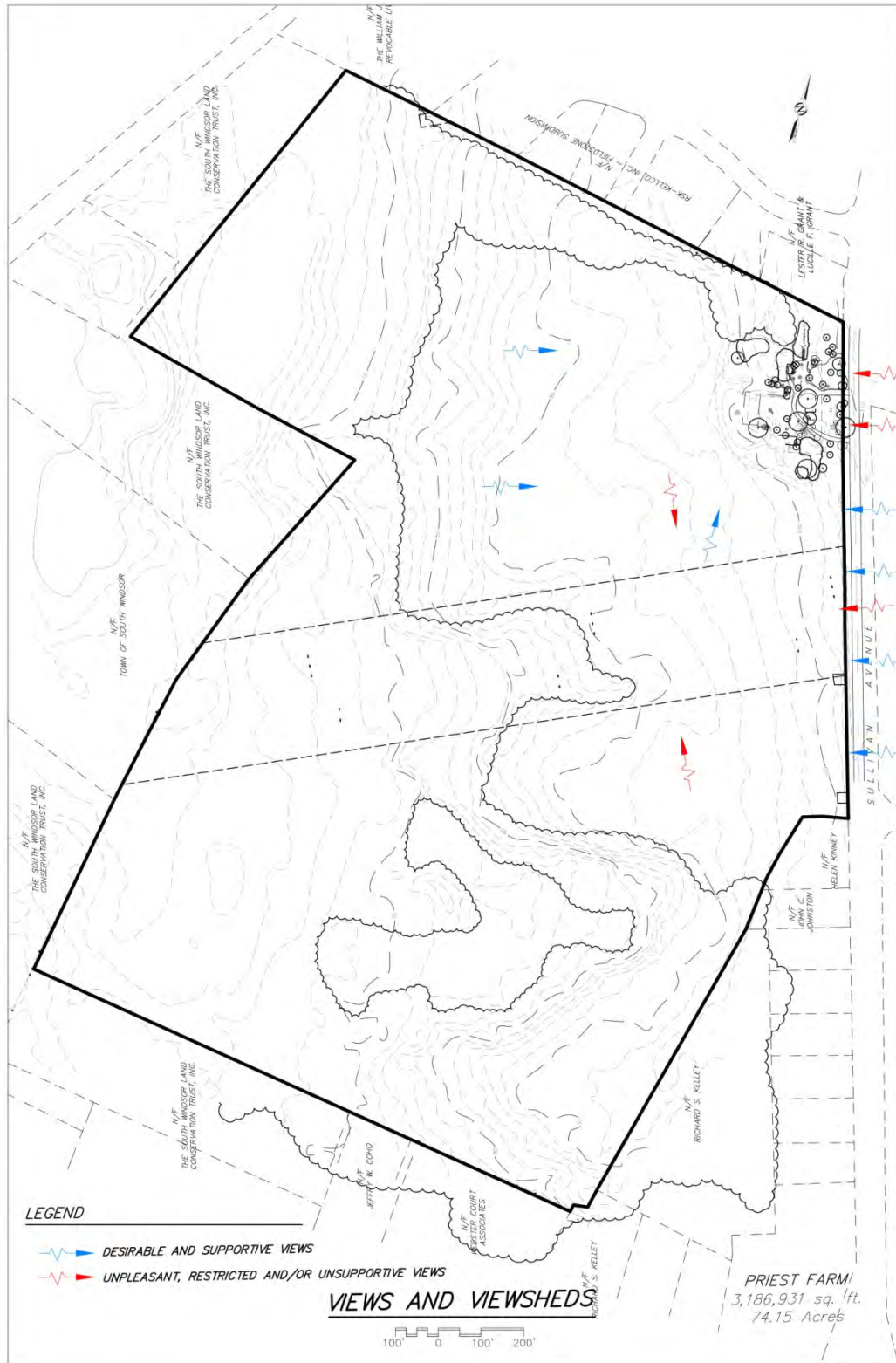
While changes have occurred, much historic integrity survives along with the overlay of the Town's ownership. Today, the significance of this landscape is better understood as a result of this assessment. As an outcome, the following recommendations have been established:

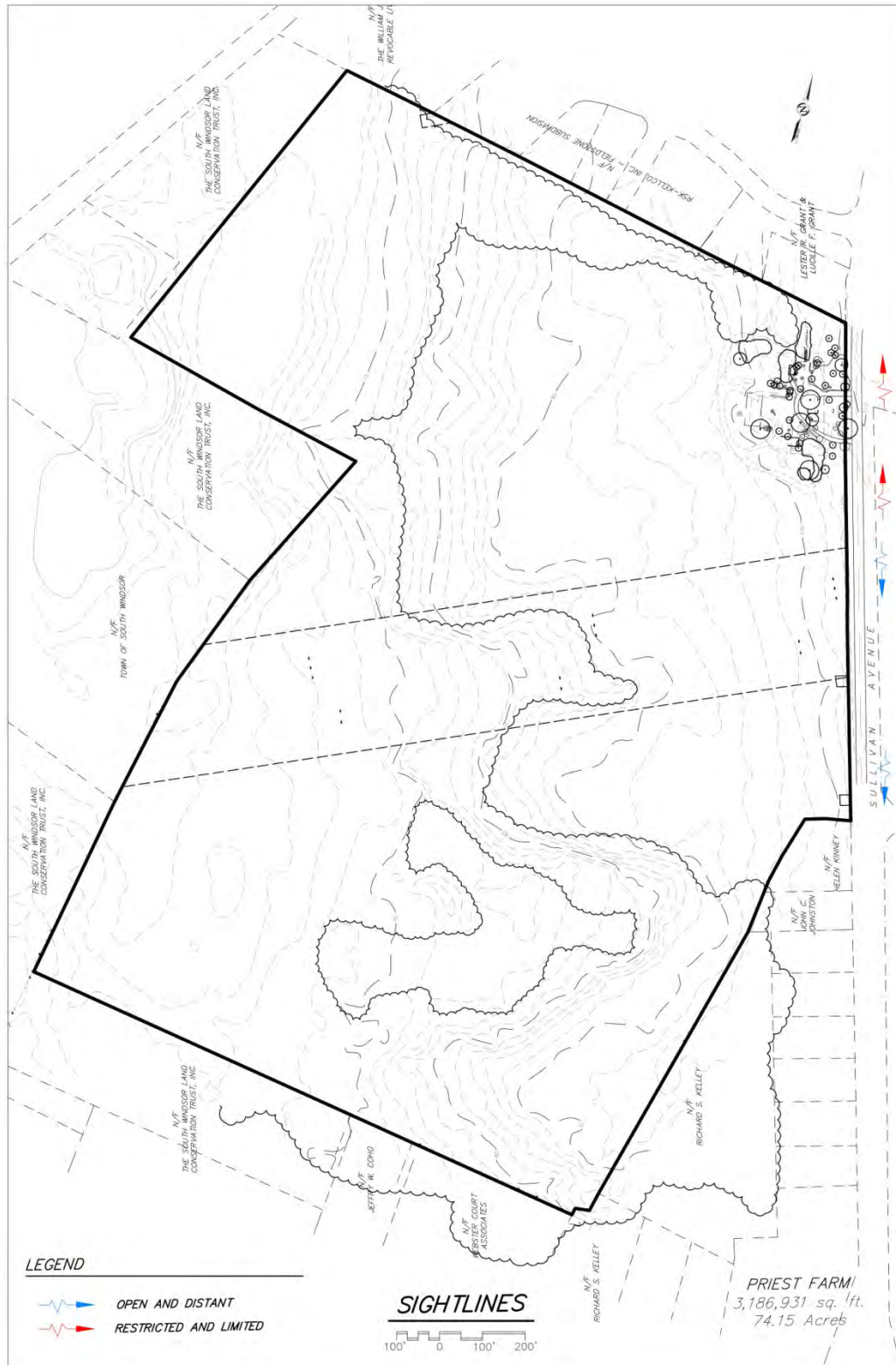
1. Maintain the unique character of this vernacular landscape, while preserving and improving its sense of place.
2. Develop facilities with programs that will interest every age group, from school kids to seniors, with both active and passive activities that will entice them to visit frequently.
3. Celebrate the farm's heritage by creating a vibrant, living, and active landscape.



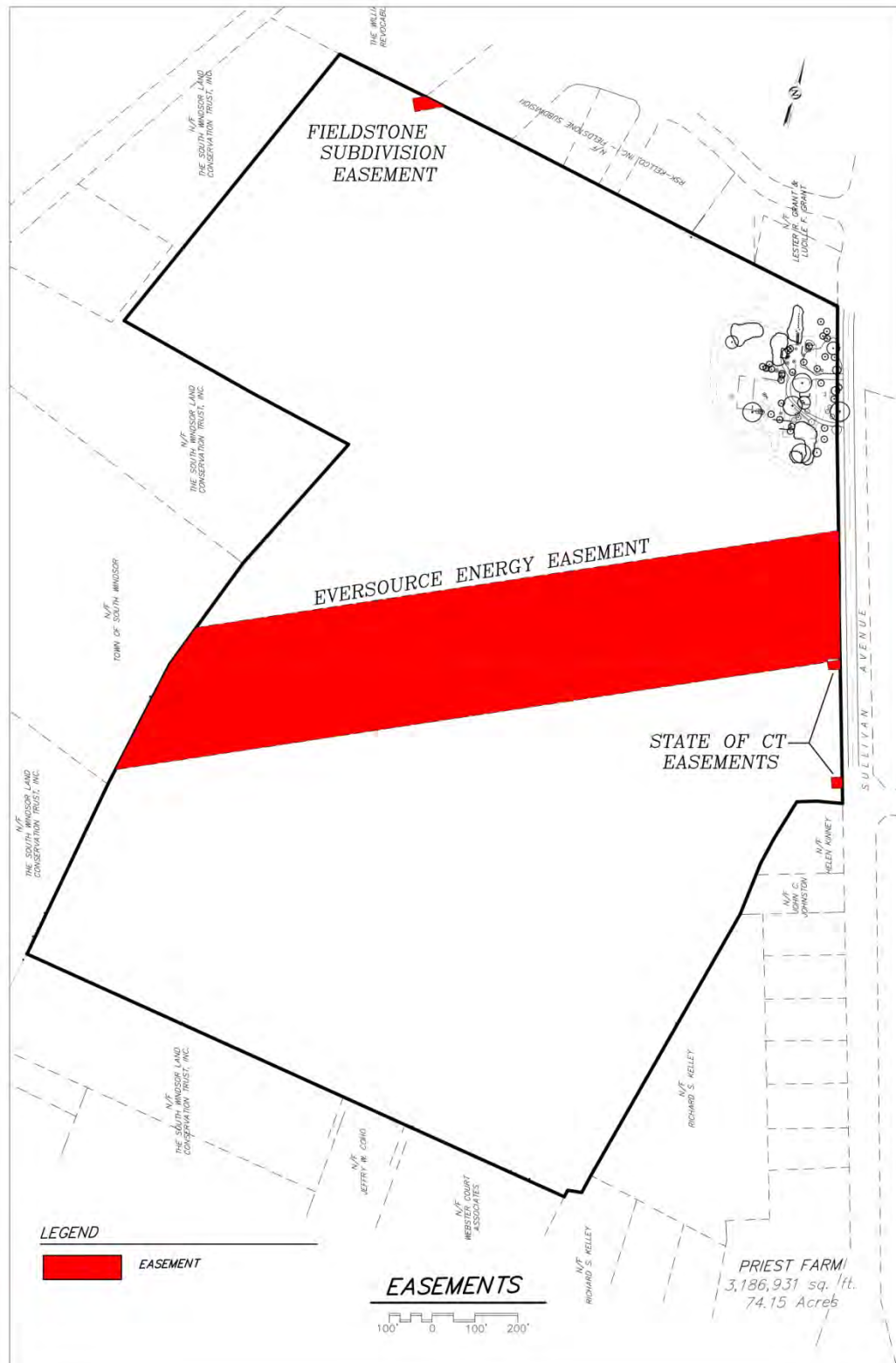












## **IV.B    ASSESSMENT OF EXISTING CONDITIONS STRUCTURAL**

GNCB CONSULTING ENGINEERS P.C.

TABLE OF CONTENTS FOR STRUCTURAL ASSESSMENT IS INCLUDED WITHIN CHAPTER





Consulting Engineers, P.C.

Structural Engineering  
Geotechnical Engineering  
Historic Preservation  
Construction Support

May 3, 2016

Nelson Edwards Company, LLC  
1156 Main Street  
Branford, CT 06405

Attn: Sara Nelson

Re: Priest Farm Structural Condition Assessment - Final

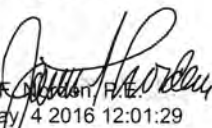
Dear Ms. Nelson:

GNCB Consulting Engineers, P.C. is pleased to produce our Final Structural Condition Assessment Report for Priest Farm in South Windsor, CT.

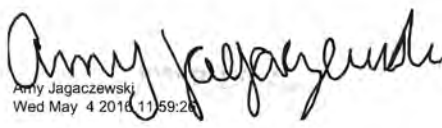
Based on the assessment, our report includes observations, photographs, and recommendations for the preservation of the Main House and Ell, and the six outbuildings on site. A limited structural analysis was performed on the structures' framing to confirm adequacy for allowable floor live loads and roof snow loads.

Thank you for selecting GNCB to provide engineering consulting services to initiate the necessary steps to preserve the structures at Priest Farm. We look forward to working with NEC to proceed with this project.

Very truly yours,

  
James F. Norden, P.E.  
Wed May 4 2016 12:01:29

James F. Norden, P.E.  
Principal in Charge

  
Amy Jagaczewski  
Wed May 4 2016 11:59:28

Amy Jagaczewski, E.I.T.  
Engineer

## Table of Contents

Introduction.....	2
Summary of Main House and Ell .....	2
1. Foundations.....	2
2. First Floor .....	2
3. Second Floor .....	3
4. Attic .....	3
5. Roof.....	4
Summary of Outbuildings .....	5
1. Outbuilding No. 1.....	5
2. Outbuilding No. 2.....	5
3. Outbuilding No. 3.....	6
4. Outbuilding No. 4.....	7
5. Outbuilding No. 5.....	7
6. Silo .....	8
Main House and Ell Survey Results .....	10
Outbuildings Survey Results.....	28
Prioritized Summary of Recommendations for the Main House and Ell ...	57
Summary of Recommendations for Outbuildings .....	59
SK-01: Main House Eave Reinforcement .....	61
Limitations .....	62
Appendix A: Cut Sheets for Recommended Concrete Repair Products ...	63

## **Introduction**

James F. Norden, P.E. and Amy Jagaczewski, E.I.T. of GNCB Consulting Engineers, P.C. (GNCB) conducted a structural condition assessment of the structures at Priest Farm in South Windsor, CT on December 21, 2015 (Main House and Ell) and February 18, 2016 (Outbuildings) at the request of Nelson Edwards Company Architects, LLC (NEC). This report documents the observations made during the site surveys and provides NEC with recommendations to stabilize and preserve the various structures at Priest Farm for future use.

## **Summary of Main House and Ell**

**(Refer to Photos P01 – E04 for observations and recommendations)**

### **1. Foundations**

The Main House and Ell foundations are a mix of mortared and loose granite and sandstone masonry walls in addition to brick masonry walls at some of the small additions. There are four brick masonry piers supporting the first floor framing in the Main House and brick masonry chimney bases. The basement floor consists of a concrete slab on grade. The slab-on-grade is in adequate condition but requires cleaning and patching. The foundation walls require cleaning of loose plaster and repointing in some areas.

### **2. First Floor**

The first floor is framed with a variety of log joists and modern sawn lumber joists framing into solid timber carrying beams and the perimeter first floor timber sills. The carrying beams frame into the first floor timber sills and are supported on the brick masonry piers in the Main House. The first floor has tongue-and-groove decking. A number of shoring beams and posts are present in the basement. The first floor of both the Main House and the Ell has severe deflections and these shoring elements appear to be an attempt to prevent further movement. Defects such as shear splits at member ends, and evidence of insect infestation are also present. The first floor framing will need to be reinforced in order to achieve a minimum recommended 40



pounds-per-square-foot (psf) 1<sup>st</sup>-floor live load capacity. If a higher live load is desired, the required reinforcement will be heavier.

### 3. Second Floor

The second floor of the Main House consists of two girts spanning east-to-west dividing the house into approximate thirds. The girts support 2" x 7 ¾" joists at 22"oc. The girts appear to be supported by posts in the east and west walls of the house and a flat post in the center wall. The flooring consists of ½-inch dustboards and ¾-inch decking.

The joists are capable of supporting the minimum recommended 30psf 2<sup>nd</sup>-floor live load capacity, but this may result in a bouncy floor that will create additional cracking in the first floor plaster ceiling. To control the cracking in the ceiling, the second floor joists can be reinforced with 2"x7" rough-sawn lumber, or the second floor live load can be restricted to 12psf.

To rate the second floor for the recommended 30psf, the girts will need to be reinforced with two, 1 ¾" x 7 ½" LVLs. The joists supported at the girders will need to be shored, cut, and reattached to the girts with two, Simpson Strong-Tie A35 clips after the girt sisters are installed.

The feasibility and acceptability of restricting the second floor live load will need to be reviewed based on the intended use of the structure.

### 4. Attic

The Main House attic has two 6 ½" x 6 ½" girts spanning east-to-west similar to the second floor. Each of the three bays has two summer beams spanning north-to-south which are located approximately 3 feet east and west of the brick masonry chimney. The 2 ¼" x 6 ½" floor joists span east-to-west between the summer beams and the top wall plates at 22"oc. The flooring is ¾-inch decking.

The attic joists are capable of supporting a typical 20psf attic live load, but this may result in a bouncy floor that will create additional cracking in the second floor plaster

ceiling. The attic should not be used for storage to prevent any further cracking in the second floor ceiling plaster.

The 6 ½" girts are supported along their length by the second floor stud partitions which transfers some of their load to the second floor girts. This is part of the reason the second floor girts require reinforcement. The attic girts are also supporting load from the roof. No work is required on the attic girts.

The Ell attic floor framing could not be documented due to the condition of the attic space. It appears to be framed with two north-to-south spanning tie girts, dividing the Ell into approximate thirds, and east-to-west spanning joists similar to the first floor framing.

## 5. Roof

The Main House roof consists of 3 ¼ inch x 4 ¼ inch rafters at 32 inches on-center supported at a 5-side ridge beam, the 7 inch x 6 inch east and west top plates and at their midspan with 6 ¼ inch x 6 ¼ inch purlins. The purlins are supported on 5 ¾ inch x 6 ¾ inch post struts down to the two attic girts. The roof rafters are adequate to support the required 30psf snow load for South Windsor, CT. The purlins are currently overstressed and require one, 4"x7" rough sawn sister each to support the required 30psf. The east and west eaves supporting the rafter ends are not sufficiently tied and require reinforcement to resist roof rafter thrusts.

The Ell roof is in poor condition and is severely deflected. The attic half-story projects approximately 4 feet above the attic to the roof top plate which is not tied. The lack of tying allowed the roof to thrust outward at the eaves and the ridge to severely drop. The roof rafters are 2 ¾ inches x 3 ½ inches at 36 inches on-center and are adequately sized to support the required 30psf snow load. To correct this lack of tying, the roof sheathing and roofing should be removed and the roof framing be repositioned and straightened as much as possible. The top plates should be tied with seven, evenly spaced steel rods to tie them together. The existing roof decking can be reused or replaced and the roofing should be replaced.



## Summary of Outbuildings

**(Refer to Photos P1.1 – PS.10 for observations and recommendations)**

### 1. Outbuilding No. 1

Outbuilding No. 1 is at the north side of the property and is approximately 14.5 feet wide x 25 feet long. The roof consists of 2"x4" untied rafters at 30"oc which sit on partially deteriorated top plates at the east and west stud walls. The rafters need to be reinforced and ties need to be provided at all rafters as well as proper anchorage to the top plates of the stud wall with Simpson A25 framing clips.

Interior finishes at the north and west walls prevented observation of the stud wall condition but the east wall is composed of 2"x4" studs at 32"oc and 4 ½" x 4 ½" corner posts. The structure has horizontal 1"x8" exterior sheathing and clapboards. There is a 3-inch slab-on-grade and there appears to be concrete foundations but a test pit should be dug to confirm.

The rafters are notched towards the south side of the structure where the garage door is anchored to them. The garage door will need to be temporarily removed to allow the rafters to be reinforced. The structure has widely spaced sheathing boards and 1x decking which is moderately deteriorated at the inside due to water infiltration. The deteriorated roof sheathing and decking will need to be replaced in kind. The north wall is pushed off its foundations and will need to be rebuilt.

### 2. Outbuilding No. 2

Outbuilding No. 2 is at the north side of the property and is approximately 12'8 feet wide x 21 feet long. The roof consists of 2"x4" rafters at 24"oc which are tied except for four pairs at the north side of the building. It appears that the northern 5 feet of the structure was added on to the building at a later time. The rafters need to be reinforced and ties need to be provided at the north side of the roof as well as proper anchorage to the top plates of the stud wall with Simpson A25 framing clips.

The walls are studs walls consisting of 2"x3" studs at 32"oc with a 5"x3" sill plate and a 4"x4" top plate. There exterior sheathing is 5/8" corrugated metal decking. The sill plate sits on hollow 8" concrete masonry unit (CMU) foundation walls. Minor anchorage of the sill plate was observed at the corners of the walls at two locations. New sill anchorage should be provided using threaded rods at 16"oc embed in grouted CMU blocks.

The CMU is damaged at the northeast corner of the building. A number of blocks are missing, broken, or severely weathered. This damage is possibly due to the types of plants that are surrounding this section of the building or due to water. The damaged sections of the wall can be repaired with new CMU block or by patching the deteriorated faces of the block with a concrete repair product such as SikaTop 123 Plus. The damage extends to a portion of the exterior metal sheathing which will need to be removed and replaced in kind.

### 3. Outbuilding No. 3

Outbuilding No. 3 is at the north side of the property and is approximately 10.5 feet wide x 17 feet long. The gambrel roof consists of 3"x3" untied upper rafters and 4"x4" lower rafters tied with 2"x5" members at 24 inches on-center. The upper rafters need new 2"x4" ties and the rafter tie connections at the lower rafters require some additional fastening at their connection. The rafters need proper anchorage to the top plates of the stud wall with Simpson A25 framing clips. The roof decking appears to have some water damage at the upper/lower rafter ridge and will need to be replaced in kind.

The walls consist of 3"x4" studs at 24"oc with 2"x4" top plates and 3"x5" sills. There is 1"x6" exterior horizontal sheathing and clapboards. The sills sit on hollow 8" CMU walls which are higher at the west side of the building and shorter at the east side. New sill anchorage should be provided using threaded rods at 16"oc embed in grouted CMU blocks.



#### 4. Outbuilding No. 4

Outbuilding No. 4 is at the south side of the property and is approximately 20'4 feet wide x 24'2 feet long. The roof consists of 2"x4" untied rafters at 26"oc and includes a gable roof and a shed roof at the south side of the structure. The gable rafters need to be reinforced with 2"x8" sisters and require new 2"x6" ties. The rafters need proper anchorage to the top plates and support girders with Simpson A25 framing clips. The north and south support girders are currently overstressed and need to be reinforced with two, 1 3/4" x 7 1/2" LVL sisters. The girders are supported on posts at the east and west walls and a center post which also supports a perpendicular tie girt. The bases of these posts are resting on the grade and are severely deteriorated and require repair by splicing in new post members and proper footings.

The roof consists of 1"x6" decking which is severely deteriorated in areas due to water, especially at the south shed. The current standing seam roof will need to be removed in order to repair this deck by either replacing deteriorated pieces or providing new plywood sheathing. This will provide an adequate diaphragm for the building. The standing seam roofing can then be replaced or a new roofing materials can be used.

The sill plates are not adequately supported since the foundation consists of rubble stones which can be moved around by hand. The structure requires a new foundation consisting of a legitimate masonry wall, a CMU wall, or a cast-in-place concrete wall and concrete footings. The sill plates will need to be adequately anchored to the new foundation as there is currently only minor anchorage at concrete corner blocks.

#### 5. Outbuilding No. 5

Outbuilding No. 5 is at the south side of the property and is approximately 14'6 feet wide x 24'2 feet long. The gable roof consists of 2"x5" rafters at 22"oc which need to be reinforced with 2"x4" sisters and require new 2"x6" ties. The rafters need proper anchorage to the top plates with Simpson A25 framing clips. Some of the 1"x4" roof decking appears to be damaged by water and should be replaced in kind.



The stud walls consist of 2"x6" studs at 22"oc with 1"x7" interior sheathing and 1"x7" exterior sheathing. Some of the interior sheathing is missing and can be replaced in kind. Exterior sheathing that is damaged due to water infiltration can also be replaced in kind. The stud bottoms are damaged from water infiltration and insect activity and require the studs to be reinforced with 2"x6" x 4'-0" sisters (this has already been done at some studs along the south wall). The deterioration of the studs is a continuation of the damage to the sills which appears to be due to water infiltration and some insect activity. Sections of the sill have already been replaced along the south wall, but the remaining sills need to be replaced in kind and anchored to the sandstone masonry foundation wall with threaded rods at 16"oc drilled and epoxied into the masonry foundation wall.

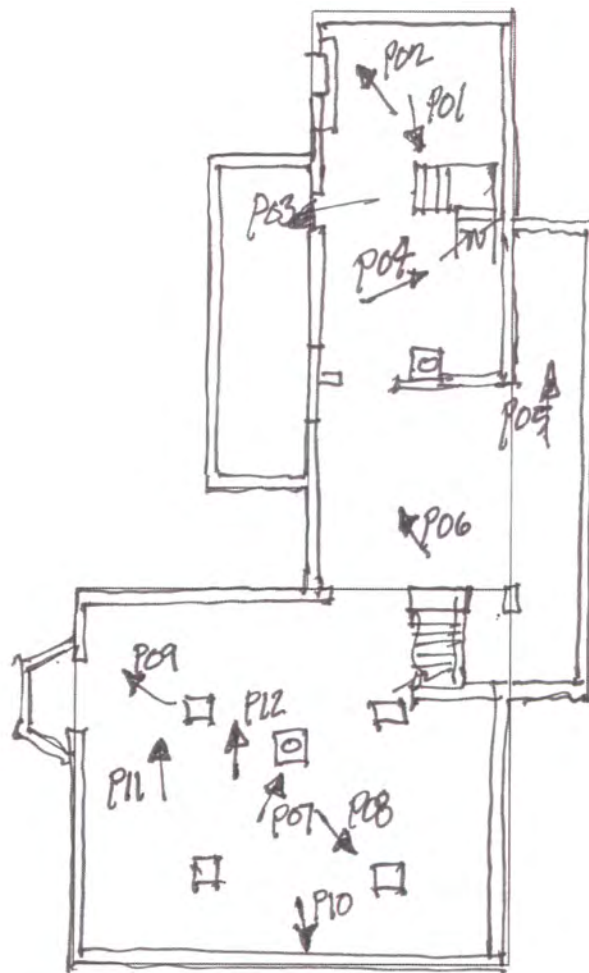
#### 6. Silo

The silo is at the west side of the property. It is a 12-foot inside-diameter cast-in-place concrete structure with a 2 ½ foot semi-circular projection at the east side. The concrete wall is 5 inches thick and appears to be reinforced with #6 bars at 12 inches on center. At the east projection, the concrete of the main circle is discontinuous and the continuous rebar bridges the gap at the silage drop tube. This rebar is mildly rusty and should be cleaned and sealed but should not be used as a functioning ladder any longer. The rebar cannot be cut to allow easier access through the doorway.

No cracking was observed at the inside or outside of the structure base, but close observation of the upper portions of the walls and what appears to be a cast-in-place concrete roof cannot be performed without scaffolding. Some rebar rusting was observed at the exterior and the bottom 15 feet of the interior is weathered leaving rebar exposed in one area on the south side.

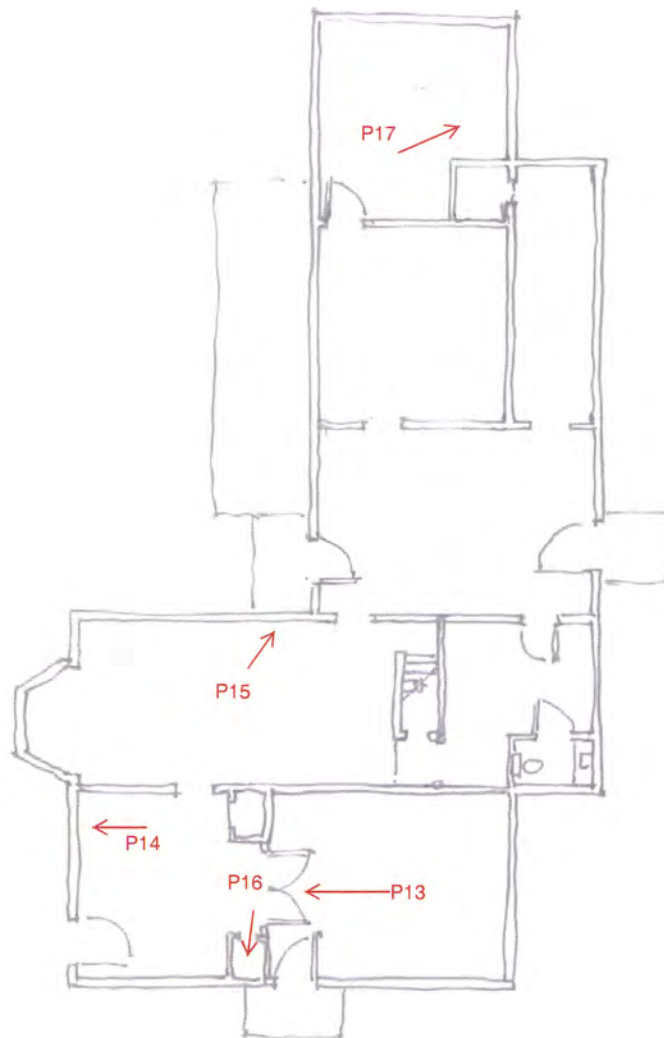
Exposed rebar should be cleaned and sealed with a product such as SikaTop Armatek 110 EPOCEM. The interior and the exterior of the concrete should be sealed with a breathable sealer for resistance to further weathering and abrasion with a product such as SikaTop 144.

The roof eave appears to be deteriorated at the south side of the structure and there is evidence of efflorescence around the roof perimeter at the exterior. It appears water infiltration might have been a past issue based on interior patching which was observed at the upper 6 feet of the interior. It is likely that the damaged eave concrete can be repair by doweling into sound concrete and reforming the edges and that water infiltration issues can be deterred using a concrete sealant as previous mentioned.



1 BASEMENT FLOOR PLAN  
 Scale: 1/8" = 1'-0"

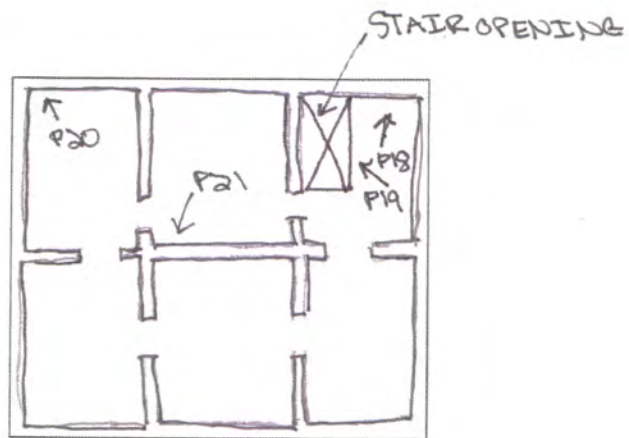
PLOT: PHOTO KEY PLAN (NO SCALE)



1 FIRST FLOOR PLAN  
Scale: 1/8" = 1'-0"



PK02: PHOTO KEY  
PLAN (NO SCALE)

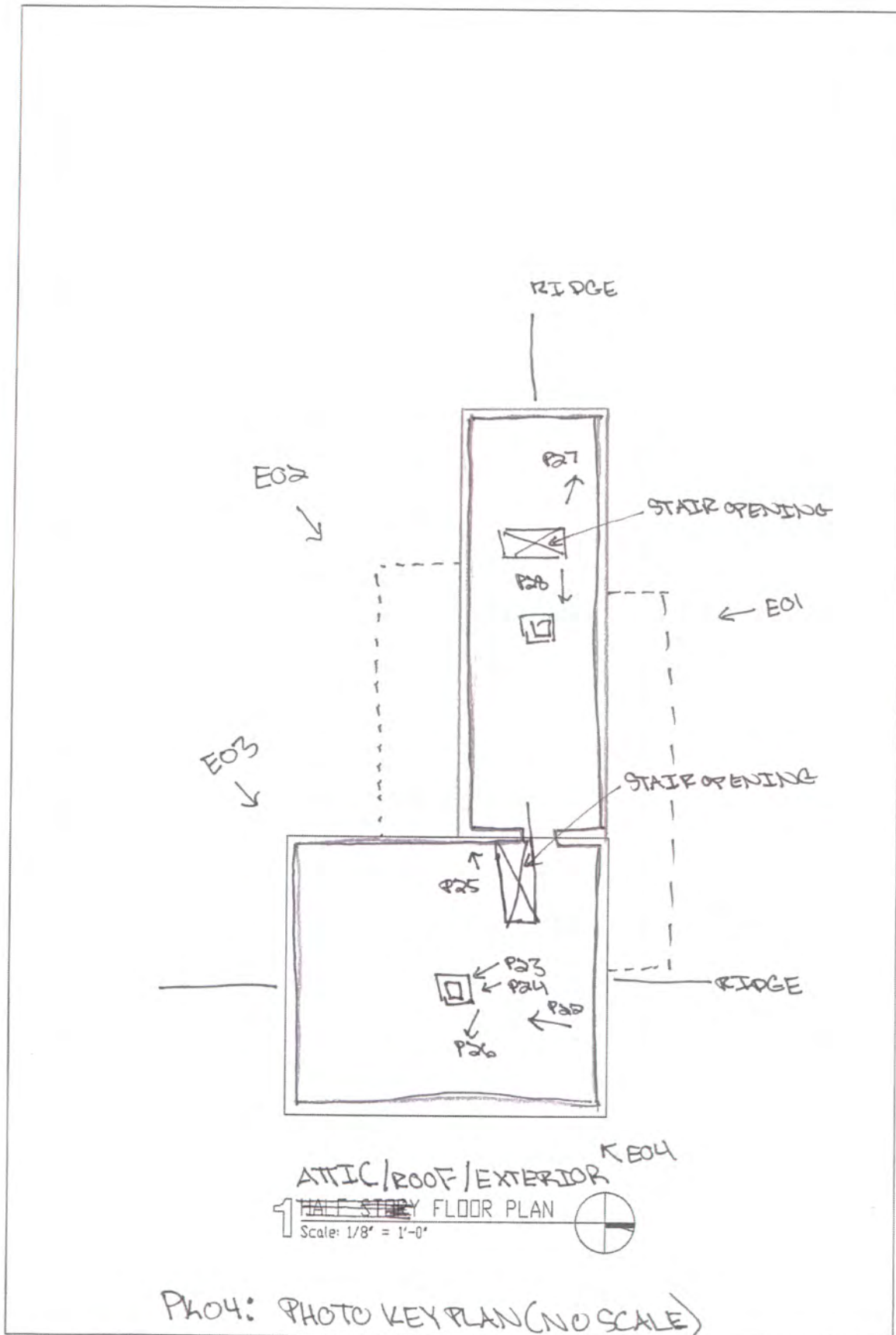


1 SECOND FLOOR PLAN  
Scale: 1/8" = 1'-0"



PH03: PHOTO KEY PLAN (NO SCALE)





## Main House and Ell Survey Results

### Basement



**Photo P01:** West end of Ell with 7 ½" dia. flat-top log joists at 24"-28"oc and a plank floor. 2x joist floor at next bay supported by north-to-south spanning drop beam with timber shore posts. Loose-laid stone walls for foundations in reasonably plumb condition. Stairs to first floor above.

#### **Recommendations:**

1. Sister timber drop beam with new LVLs or sawn timber and add permanent steel lally columns or pressure-treated posts to achieve 40psf 1<sup>st</sup>-floor load capacity.
2. Remove or reinforce inadequate and unsafe stairs and add proper handrail systems.



**Photo P02:** Log joists and plank floor at west end of Ell. Attempt at finishing stone walls with plaster at south side walk-out exit door.

#### **Recommendations:**

1. Remove superficial plaster on walls and reset loose stones. Add mortar pointing to limit water entry and to contribute to strength and stability of wall.
2. Sister flat-top joists with sawn timber to achieve 40psf 1<sup>st</sup>-floor load capacity. (6 joists).





**Photo P03:** Foundation for modern south greenhouse addition. 1<sup>st</sup> floor framed with 2x8 at 16 inches on-center. Fiberglass insulation is sagging and torn. Daylight shows around pressure-treated sill.

**Recommendations:**

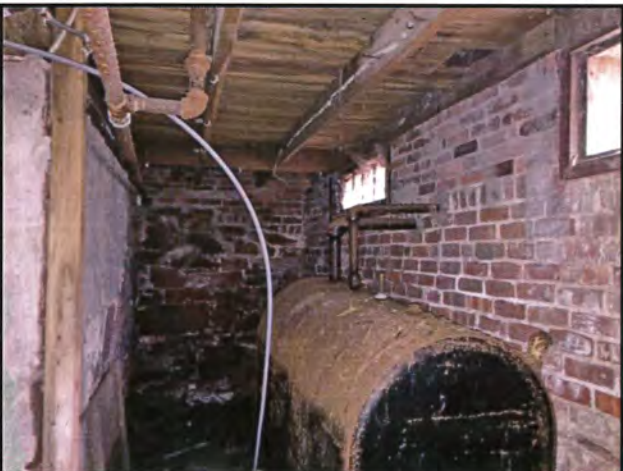
1. Remove old fiberglass insulation and patch any sill openings with expandable foam above the sill or cement mortar below the sill.
2. Clean loose plaster off foundation walls and reset loose stones.



**Photo P04:** Shoring beam in middle of EII floor supporting over-spanned 2x6 modern joists at 18" oc. Temporary lally jacks supporting 4x6 shoring beam. Mortared sandstone foundation walls.

**Recommendation:**

1. Remove shoring beam and sister 2x6 joists with LVLs or rough sawn timber to achieve 40psf 1<sup>st</sup>-floor load capacity.



**Photo P05:** Basement and lightly-framed first floor under north addition of EII. Brick masonry basement walls at this location in good condition.

**Recommendation:**

1. Sister 2x6 joists and single carrying beam with rough sawn lumber to achieve 40psf 1<sup>st</sup>-floor load capacity.





**Photo P06:** Flat-top log joists mixed with modern 2x8 joists plus tongue-and-groove decking. Some timber shoring beams and wood shoring posts added due to sagging floors from over-spanned joist conditions.

**Recommendations:**

1. Sister log and modern joists with LVLs or rough sawn timbers to achieve 40psf 1<sup>st</sup>-floor load capacity.
2. Remove temporary shoring beams and posts.
3. Clean old plaster off of masonry foundation walls.



**Photo P07:** Brick masonry chimney base with loose lime mortar in joints and deterioration of some soft brick due to excess dampness at the basement level.

**Recommendations:**

1. Clean and repoint all joints with a historic mortar mix and provide a limewash coating to provide adequate protection to masonry from damp atmosphere. (Applies to both chimneys and 4 brick piers).
2. Consider adding proper ventilation to this space to remove excess moisture.
3. Clean slab-on-grade of debris and patch spalls.



**Photo P08:** Main House first floor framed with a mix of older 7"x5" older joists with newer 2"x7" joists at 26"oc. 8"x8" timber beams. Some remnants of old foundation wall plaster or over-mortared joints on sandstone.

**Recommendations:**

1. Sister joists with rough sawn lumber to achieve a 40psf 1<sup>st</sup> floor load capacity.
2. Clean loose plaster/mortar off of foundation walls and repoint masonry where necessary.



**Photo P09:** Southwest area of basement and 1<sup>st</sup> floor framing with bay window basement walls at the south side. Past plaster and over-mortared joints in foundation walls.

**Recommendations:**

1. Sister joists with rough sawn lumber to achieve a 40psf 1<sup>st</sup> floor load capacity.
2. Clean loose plaster/mortar off of foundation walls and repoint masonry where necessary.



**Photo P10:** Front timber sill with some infestation damage visible from the interior. Upper foundation bricks with mortar in joints deteriorated.

**Recommendations:**

1. Inspect all sills from the exterior by removing lower trim/clapboards. Document damage and specify replacement sills as needed.
2. Repoint all deteriorated masonry mortar joints.





**Photo P11:** Main carrying timber with severe end split at mortise and tenon joint at end connection.

***Recommendation:***

- 1. Provide two vertical stitch bolts at end split and add side sister of 2 LVLs x 6'-0" long lag-screwed to exposed side of carrying beam as reinforcing.*



**Photo P12:** South side joist end split at dapped end into girder mortise.

***Recommendation:***

- 1. Provide a single vertical stitch bolt and one side LVL sister reinforcing x 6'-0" long lag-screwed to exposed side of joist.*

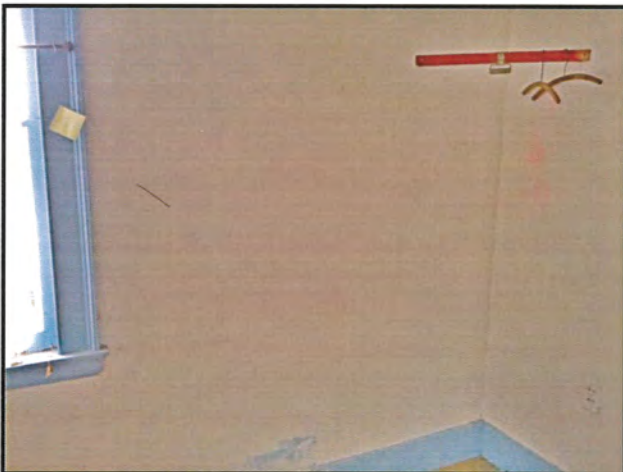
## First Floor



**Photo P13:** East side of Main House first floor looking south at first floor deflections.

**Recommendation:**

1. First floor reinforcement per earlier recommendations will prevent further movement in floor.



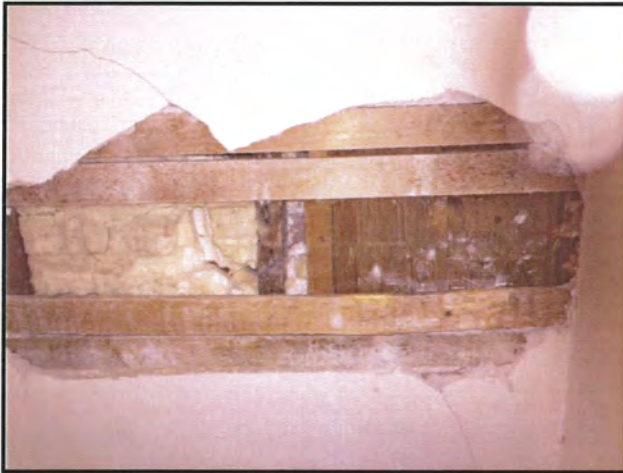
**Photo P14:** Tension cracks in south exterior first floor wall due to movement of first floor framing.

**Recommendation:**

1. First floor reinforcement per earlier recommendations will prevent further movement in floor so wall plaster can be repaired if desired.



**Photo P15:** Posts for second floor girts in west wall of Main House



**Photo P16:** Posts for second floor girts in east wall of Main House uncovered behind wall plaster.



**Photo P17:** Deflections in first floor at west end of Ell.

***Recommendation:***

- 1. First floor reinforcement per earlier recommendations will prevent further movement in floor.*



## Second Floor (Main House Only)



**Photo P18:** Damaged finishes at interior of bathroom walls and second floor decking.

**Recommendation:**

1. Second floor decking should be reinstalled where salvageable or replaced in kind.



**Photo P19:** Trimmer for stairs from second floor to attic is undersized for 30psf live load.

**Recommendation:**

1. Reinforce stair trimmers with a single 2x sister cut to match profile of existing trimmer and fastened with lag screws.



**Photo P20:** Existing damage to interior finishes allow stud wall framing to be observed.



**Photo P21:** Tension cracks in central wall of second floor.

**Recommendation:**

1. Reinforce both second floor girts with 2, 1  $\frac{3}{4}$ " x 7  $\frac{1}{2}$ " LVL sisters. Both sisters can be placed on one side of girt. Shore and cut joists to allow installation of girt sisters and refasten joists to sisters with 2 Simpson A35 framing clips.

## Roof and Attic



**Photo P22:** Overview of Main House roof framing



**Photo P23:** Deteriorated chimney brick masonry.

***Recommendation:***

- 1. Replace missing bricks.*
- 2. Clean and repoint all joints with a historic mortar mix.*





**Photo P24:** Top of chimney masonry no longer penetrates roof. Opening is enclosed with plywood and sisters scabbed onto rafters. Five-side ridge beam has no support where penetration is enclosed.

**Recommendation:**

1. Provide legitimate 2x sisters at cut rafters which extend 4'-0" past cut end and are fastened with lag screws (4 rafters total).
2. Provide solid blocking between complete rafter pairs and cut rafter pairs to be sistered to compensate for loss of ridge beam at this location.



**Photo P25:** Attic plank pulled up to observe attic joists and eave framing at Main House. Attic joists notch into 7"x6" wall top plate and cantilever to support the rafter-supporting 2x top plate.

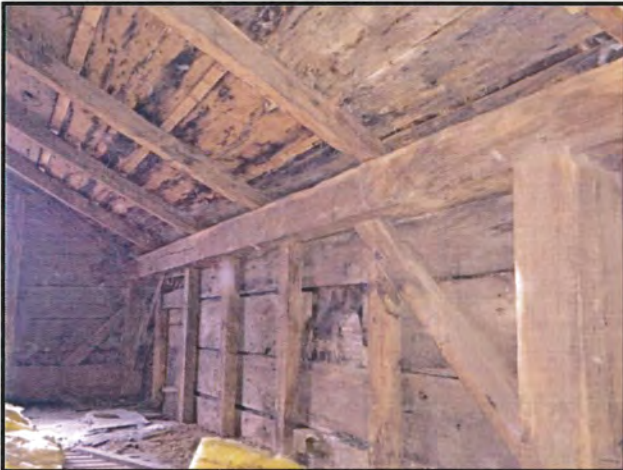
**Recommendation:**

1. Reinforce the eave by installing 2 Simpson A35 clips at each rafter and each floor joist – one each side – to the flat 2x plate. The eave trim will need to be removed to install the A35 clips at the joists. See SK-01.





**Photo P26:** Attic plank pulled up to observe attic framing around chimney.



**Photo P27:** Overview of Ell roof and half-story framing.

**Recommendations:**

1. Remove roof sheathing and roofing material to allow roof framing and walls to be re-plumbed as best as possible. Reuse or replace the existing roof sheathing and provide new roofing.
2. Provide 7 ties at the top plate (one at each wall posts and one between each wall post) to adequately tie the roof. Ties can be steel rods or timbers matching the dimensions of the existing wall posts.



**Photo P28:** Ell framing looking towards Main House.

***Recommendation:***

- 1. Remove loose and deteriorated insulation and other debris from the attic space.*

## Exterior



**Photo E01:** Severe deflections in Ell roof.

***Recommendation:***

- 1. Re-plumb and reinforce roof framing per previous recommendations to provide a straighter and more stable roof.*



**Photo E02:** South exterior of Ell.



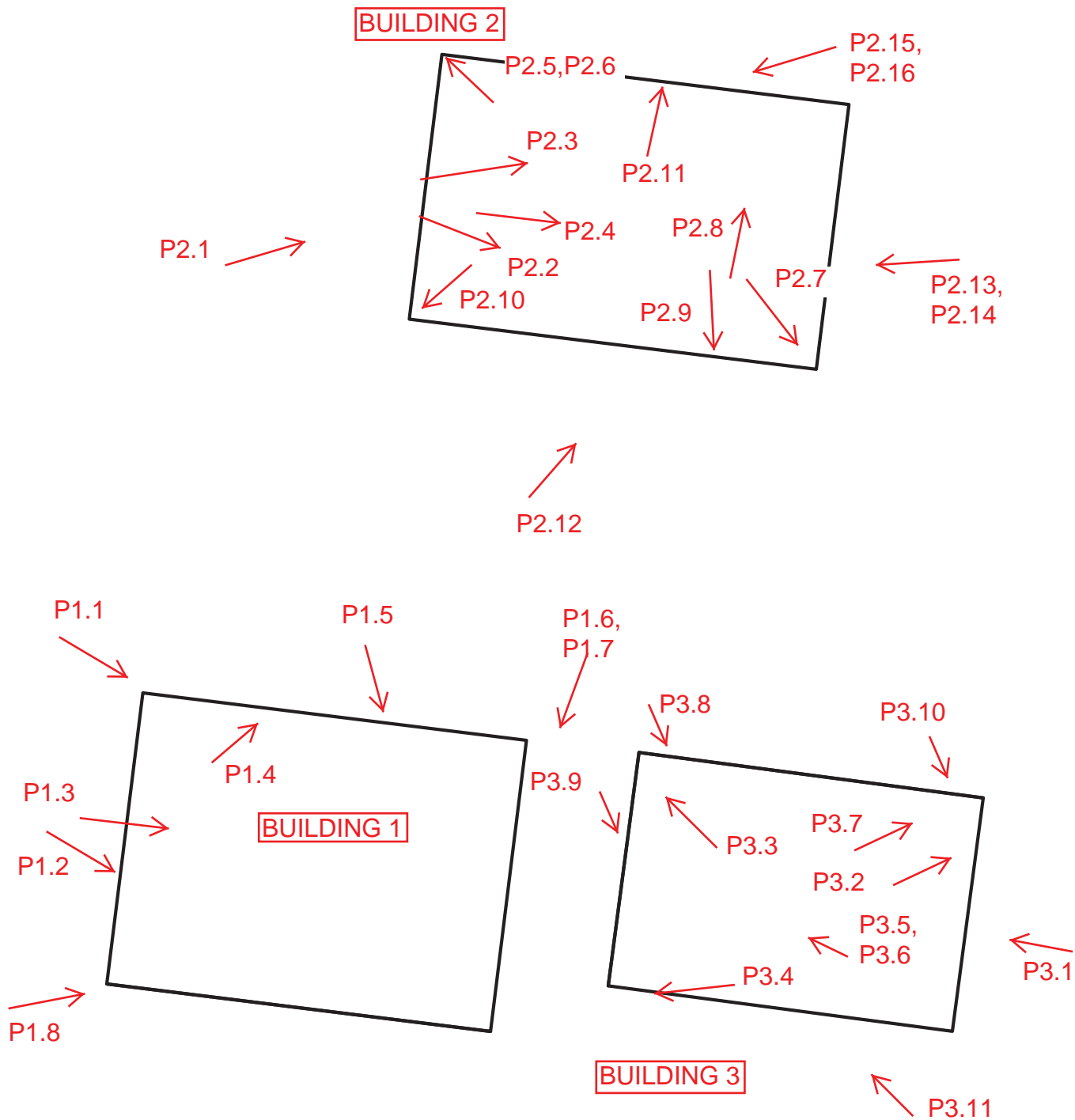
**Photo E03:** South Exterior of Main House.





**Photo E04:** East exterior of Main House.



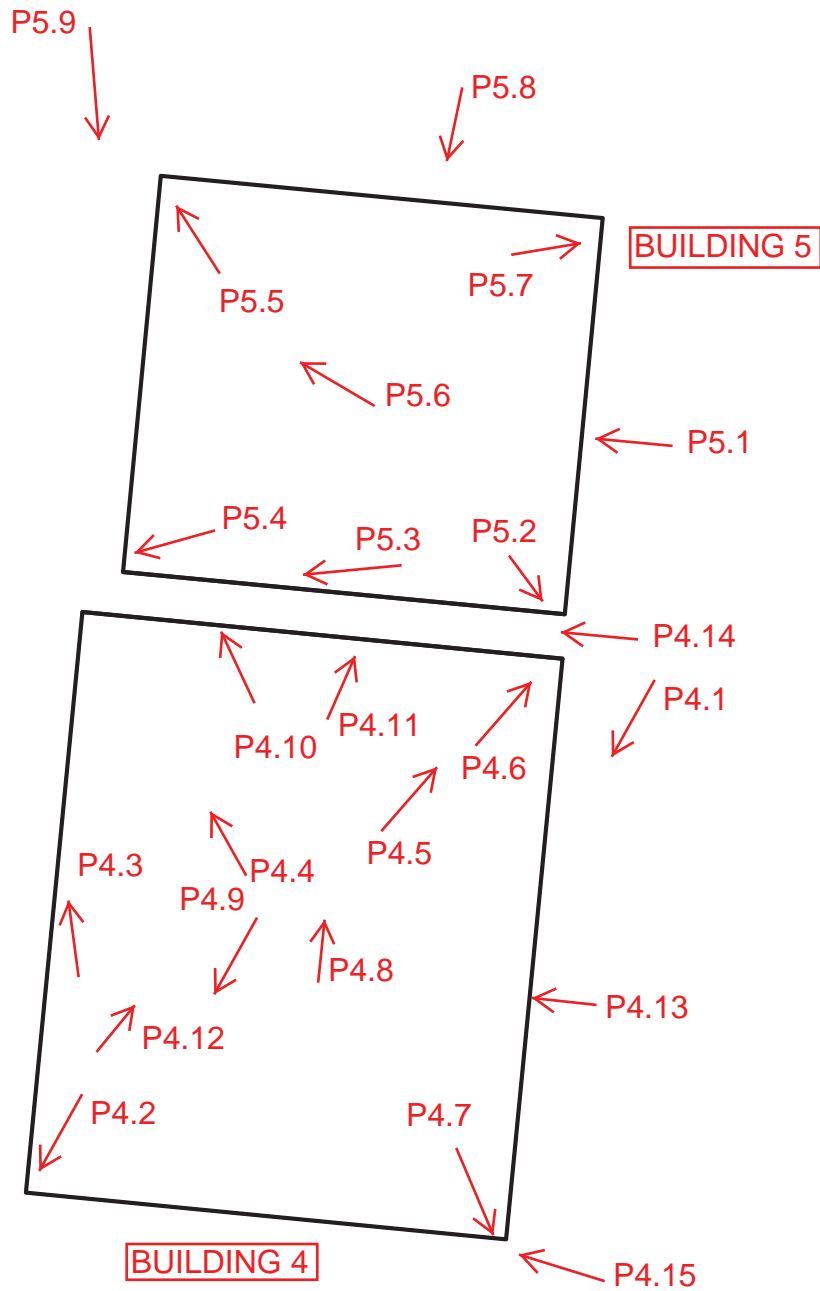


## PRIEST FARM OUTBUILDINGS 1, 2, AND 3 PHOTO KEY (NTS)

Priest Farm Feasibility Report & Concept Plan  
1407 Sullivan Avenue, South Windsor, CT

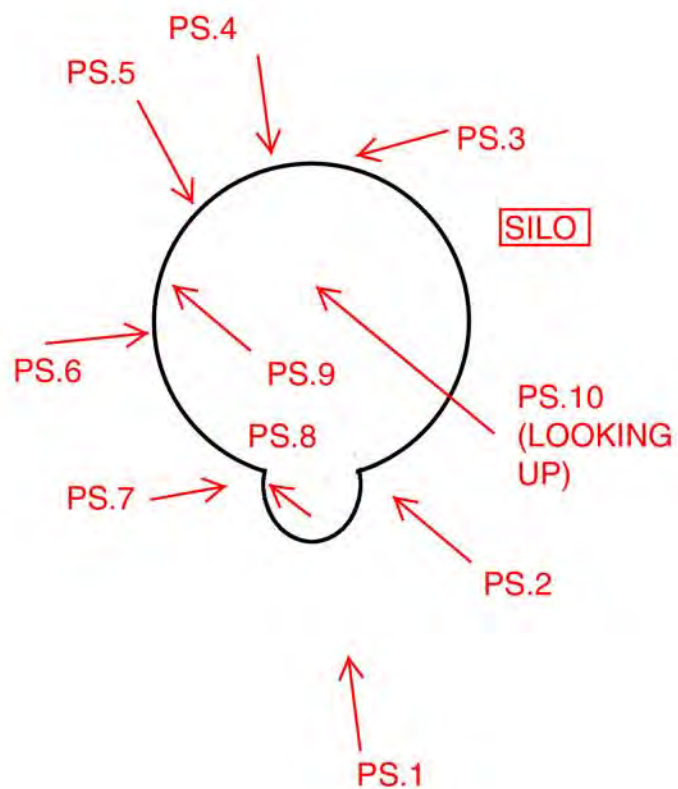
May 16, 2016  
Chapter IV.B, page 29 of 71





## PRIEST FARM OUTBUILDINGS 4 AND 5 PHOTO KEY (NTS)





### PRIEST FARM SILO PHOTO KEY (NTS)





## Outbuilding Survey Results

### Outbuilding No. 1



**Photo P1.1:** South gable exterior with opening for garage door. Exterior sheathing consists of 1"x8" horizontal sheathing and clapboards.

**Recommendations:**

1. Remove interior wall finishes to allow inspection of wall construction and make any needed repairs.



**Photo P1.2:** Edge of 3 1/2" slab-on-grade.

**Recommendations:**

1. Remove items currently being stored in Outbuilding to allow observation of slab-on-grade and anchorage of timber sills.
2. Slab-on-grade will require patching of cracks or spalls.
3. Timber sills will require post-installed anchorage for holdowns of walls.



**Photo P1.3:** Deflected 2"x4" rafters at 30"oc, mostly without rafter ties. North and west walls covered with finishes. East wall (not pictured) consists of 2"x4" studs at 32"oc.

**Recommendations:**

1. Reinforce rafters with 2"x6" RSL sisters. At rafters supporting garage door, reinforce with (2) 2"x4" sisters.
2. Provide 2"x6" RSL ties at each rafter.
3. Reinforce connection of wall studs to underside of top plate using Simpson A35 framing clips.





**Photo P1.4:** Damaged roof skip sheathing and decking at west side of Outbuilding along with deep notches in rafters for garage door anchorage.

**Recommendation:**

1. Remove roofing materials, damaged skip sheathing, and decking. Replace sheathing and decking in kind.
2. Anchor reinforced rafters to top plates with Simpson A35 framing clips.
3. Garage door will need to be temporarily removed to allow installation of rafter sisters. Reinstall garage door at reinforced rafters. Do not notch new rafter sisters.
4. East and west eaves may require reconstruction due to water damage and staining observed at interior.



**Photo P1.5:** West exterior showing clapboards and concrete foundations. Thin crack in foundation was observed but appears to be due to expansion, not settlement.

**Recommendation:**

1. Dig a test pit to confirm depth of foundations and condition of soil supporting these walls.



**Photo P1.6:** North exterior pushed off its base. Top plate viewed from interior appears to have moderate water damage.

**Recommendations:**

1. Remove exterior clapboards and sheathing.
2. Inspect condition of wall framing, sill, and concrete foundations to determine if structure can be salvaged for rebuilding.
3. Reconstruct wall using salvaged members, where possible, and new lumber.



**Photo P1.7:** North gable showing rake and rake return.

**Recommendations:**

1. Address base of wall per previous recommendations in Photo P1.6.



**Photo P1.8:** East exterior appears to be plumb. Top plate has mild deterioration due to water infiltration and insect activity.

**Recommendations:**

1. Reinforce connection of rafters to top plate per previous recommendation in P1.3.



## Outbuilding No. 2



**Photo P2.1:** South gable exterior with double doors.

**Recommendations:**

1. Refer to recommendations to follow.



**Photo P2.2:** Northeast corner of outbuilding showing damaged CMU foundation wall.

**Recommendations:**

1. Anchor sill plates to CMU providing  $\frac{1}{2}$ " threaded rods x 1'-4" embed at 24" c (and ends of each wall), and grouting cells solid at anchor points. (Applies to all walls)
2. Repair damaged CMU per recommendations in P2.7.



**Photo P2.3:** Northwest corner of outbuilding.

**Recommendations:**

1. Provide Simpson A35 framing clips from rafters to top plate.





**Photo P2.4:** 2" x 4" roof rafters with 2"x6" ties at 24"oc and original north gable along with plywood sheathing over original roof decking. Attempt to reinforce roof rafters by installing 1x6 kickers are overstressing ties.

**Recommendation:**

1. Reinforce roof rafters with 2"x4" RSL.
2. Reinforce connection of ties to original rafters with 6-Fastenmaster Headlok screws at each location.
3. Remove kickers where they are present.



**Photo P2.5:** Southwest corner of outbuilding showing outriggers for eave framing.

**Recommendation:**

1. Reinforce rafter/tie connections and rafter/top plate connections per previous recommendations in P2.3 and P2.4.



**Photo P2.6:** Door framing with evidence of squirrel damage. End of top member of door header is deteriorated.

**Recommendations:**

1. Provide new top header member at door framing to be spliced into existing member with damaged end.



**Photo P2.7:** Damaged CMU foundation wall at northeast corner.

**Recommendations:**

1. Missing blocks to be replaced with new 8" CMU to match existing. Sawcut broken blocks at joints and remove and replace with new 8" CMU.
2. Repoint joints with damaged mortar.
3. CMU blocks with face damage can be replaced or be coated with structural concrete repair product such as SikaTop 123 Plus.
4. Anchor plates to solid grouted blocks per previous recommendations.
5. Cut damaged portions of metal wall sheathing out up to face of wall framing and provide new in-kind sheathing with screw anchorage to wall framing.



**Photo P2.8:** Transition in framing showing untied roof rafters and different roof decking at north side of outbuilding.

**Recommendations:**

1. Reinforce all roof rafters and connection per previous recommendations.
2. Provide new 2x6 ties at untied north rafters.





**Photo P2.9:** Transition in wall framing between original building and north addition showing some squirrel damage at repair section of post.

**Recommendations:**

1. Reinforce spliced stud connections to top plate, original stud, and wall girt using Simpson A35 framing clips and solid blocking under stud splice to wall girt.



**Photo P2.10:** Sill in acceptable condition with  $\frac{1}{4}$ " threaded rod holddown at southeast corner.

**Recommendations:**

1. Provide new holddowns along walls per previous comments in P2.2.



**Photo P2.11:** Shrinkage crack at interior of west CMU foundation wall.

**Recommendations:**

1. No recommendations.





**Photo P2.12:** East exterior showing damaged CMU foundation wall.

**Recommendations:**

1. Repair block per previous comments in P2.7.
2. Seal exterior of CMU foundation wall with breathable concrete sealant such as SikaTop 144 for resistance to degradation from organics.



**Photo P2.13:** North gable and rake overhang.

**Recommendations:**

1. No recommendations.



**Photo P2.14:** North exterior showing damaged CMU foundation wall.

**Recommendations:**

1. Repair block and wall sheathing per previous comments in P2.7 and.
2. Coat exterior of CMU foundation wall with concrete sealant such as SikaTop 144 for resistance to degradation from organics.



**Photo P2.15:** West exterior of outbuilding.

**Recommendations:**

1. Seal exterior of CMU foundation wall with breathable concrete sealant such as SikaTop 144 for resistance to degradation from organics.



**Photo P2.16:** West eave overhang.

**Recommendations:**

1. Remove deteriorated trim/flushing to allow inspection of outrigger edges.
2. Reinforce outriggers with sisters if deficient.
3. Replace trim in kind.



### Outbuilding No. 3



**Photo P3.1:** North gambrel exterior with double doors and transition from low CMU foundation wall at east to high CMU foundation wall at west.

**Recommendations:**

1. Refer to recommendations to follow.



**Photo P3.2:** Northwest corner of outbuilding showing tall 8" hollow CMU foundation wall and wall stud framing.

**Recommendations:**

1. Anchor sill plates to CMU providing  $\frac{1}{2}$ " threaded rods x 1'-4" embed at 24" oc (and ends of each wall), and grouting cells solid at anchor points. (Applies to all walls)



**Photo P3.3:** Southwest corner of outbuilding

**Recommendations:**

1. Provide sill anchorage per previous recommendation.





**Photo P3.4:** Southeast corner of outbuilding showing short 8" hollow CMU foundation wall and wall stud framing.

**Recommendation:**

1. Provide sill anchorage per previous recommendation.



**Photo P3.5:** Gambrel roof framed with 4"x4" lower rafters, 3"x3" upper rafters, and 2"x5" rafter ties at 24"oc. Some rafter ties are spliced.

**Recommendation:**

1. Provide 2"x4" RSL rafter ties at upper rafters.
2. Reinforce lapped rafter ties with Fastenmaster Headlok screws at 6"oc top and bottom.



**Photo P3.6:** Some water staining/damage at lower/upper rafter ridge.

**Recommendations:**

1. Replace deteriorated decking in kind.
2. Inspect tops of rafters at location of water staining when decking is replaced to determine if there is a need for sistering.
3. Water-stained rafters can remain in place.



**Photo P3.7:** Rafter overhangs and top plates and interface of wall studs with rafter ties.

**Recommendations:**

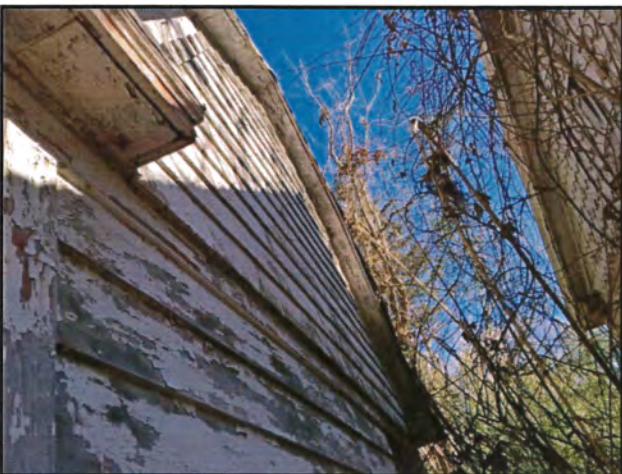
1. Provide Simpson A35 clips at rafters to top plate.
2. Reinforce connection of rafter tie to wall stud with 6-Fastenmaster Headloks.



**Photo P3.8:** South gambrel exterior.

**Recommendations:**

1. No recommendations.



**Photo P3.9:** South gambrel rake and rake return.

**Recommendations:**

1. No recommendations.





**Photo P3.10:** Settlement crack in foundation at west exterior.

**Recommendations:**

1. *Requires further investigation. Dig a test pit to confirm footing conditions and condition of soil supporting these walls.*



**Photo P3.11:** East exterior with low CMU foundation wall.

**Recommendations:**

1. *No recommendations.*



## Outbuilding No. 4



**Photo P4.1:** North exterior of outbuilding showing door openings, vertical exterior sheathing, and metal standing seam roofing.

**Recommendations:**

1. Reinforce girder over door openings with (2) 1  $\frac{3}{4}$ " x 7  $\frac{1}{2}$ " LVL sisters.
2. Remove standing seam roofing to allow repair of roof sheathing.
3. Repair or replace roofing material.



**Photo P4.2:** South corner of outbuilding showing deterioration at shed overhang, lack of support of sill, and damaged roof decking.

**Recommendations:**

1. Replace damaged decking in kind. Provide sisters at rafters to reconstruct deteriorated eave overhang and fasten to top plate with Simpson A35 framing clips.



**Photo P4.3:** Masonry foundation is deteriorated and is no longer providing support for sill plates.

**Recommendations:**

1. Rebuild masonry foundation wall with mortared joints or provide new foundation consisting of single course of solidly grouted 10" CMU or 10" cast-in-place concrete. New foundations will need to be placed in sections to prevent need to lift structure.
2. Anchor sills to new foundations with  $\frac{3}{4}$ " x 1'-4" threaded rods at 24"oc and at ends of all walls.





**Photo P4.4:** Southeast corner of outbuilding

**Recommendation:**

1. Provide Simpson A35 clips at gable rafters/shed rafters to reinforced girder.
2. Reinforce girder with (2) 1  $\frac{3}{4}$ " x 7  $\frac{1}{4}$ " LVL sisters.



**Photo P4.5:** Northwest corner of outbuilding showing one of four concrete corner foundations.

**Recommendation:**

1. Provide Simpson A35 clips at gable rafters to reinforced girder.



**Photo P4.6:**  $\frac{3}{4}$ " dia. threaded rod holddown at concrete corner foundation.

**Recommendations:**

1. Provide additional holddowns to new foundations per previous recommendations in P4.3.



**Photo P4.7:** Northeast corner of outbuilding with concrete corner foundation (no holddown observed). Stud wall is pushed north off of foundation.

**Recommendations:**

1. Provide new foundations and anchorage per previous recommendations in P4.3.



**Photo P4.8:** Typical 2" x 4" rafters at 26"oc with make-shift 1x truss at west side of structure.

**Recommendations:**

1. Reinforce roof rafters with 2"x8" RSL sisters.
2. Provide 2"x6" RSL rafter ties at all rafters to span between reinforced girders.



**Photo P4.9:** Center post at south side of gable roof supporting roof girder and tie girder at center of outbuilding.

**Recommendations:**

1. Reinforce roof girder supporting gable and shed rafters per previous recommendations in P4.4.
2. Tie gable roof rafters per previous recommendations in P4.8.
3. Repair base of post (not pictured) which is sitting on grade and is rotted. Insert new bottom post splice with half-lap and provide new CMU pier with concrete footing.





**Photo P4.10:** End of girder supporting gable/shed rafters deeply notched at top plate.

**Recommendations:**

1. Reinforce girder per previous recommendations in P4.4.
2. Anchor rafters to reinforced girder per previous recommendations in P4.8.



**Photo P4.11:** Rubble masonry along west perimeter no longer providing support for sill.

**Recommendations:**

1. Rebuild foundations per previous recommendations in P4.3.



**Photo P4.12:** Girder supporting gable and shed rafters and damage roof decking.

**Recommendations:**

1. Replace decking, secure rafters, and reinforce girder per previous recommendations in P4.1, P4.4, and P4.8.





**Photo P4.13:** Center post at north wall with door openings completely deteriorated at bottom 2'-6".

**Recommendations:**

1. *Splice in new post at bottom with half-lap connection and provide new CMU pier with concrete footing.*



**Photo P4.14:** West exterior of outbuilding (next to Outbuilding No. 5) with rake overhang.

**Recommendations:**

1. *Connection of outriggers to gable rafters to be inspected after removal of standing seam roofing to determine need for reinforcing/repair.*



**Photo P4.15:** East exterior and rake overhang.

**Recommendations:**

1. *Connection of outriggers to gable rafters to be inspected after removal of standing seam roofing to determine need for reinforcing/repair.*



### Outbuilding No. 5



**Photo P5.1:** North gable exterior with large opening for front door. Stud wall framing and interior sheathing is visible beyond.

**Recommendations:**

1. Refer to recommendations to follow.



**Photo P5.2:** Northeast corner of outbuilding with deteriorated wall studs, braces, and sill plate.

**Recommendations:**

1. Refer to recommendations to follow.



**Photo P5.3:** East wall base showing deteriorate 2"x6" stud bases, exterior sheathing, and sill plate with attempted repairs.

**Recommendations:**

1. Reinforce wall studs with 2"x6" RSL x 4'-0" sisters and provide Simpson A35 framing clips to new sill.
2. Replace sill in kind (approximately 6" x 6") and anchor to foundation with  $\frac{3}{4}$ " dia. x 1'-4" threaded rods at 24" oc and at ends of all walls.
3. Replace deteriorated exterior decking in kind.





**Photo P5.4:** South stud wall with sisters at stud bases and attempted sill repair.

**Recommendation:**

1. Provide Simpson A35 framing clips from reinforced wall studs to sill.
2. Anchor sill to foundation per previous comments in P5.3.



**Photo P5.5:** Southwest corner of outbuilding showing sistered studs at south wall and deteriorated stud bases, sill, and sheathing at west wall.

**Recommendation:**

1. Reinforce wall studs with 2"x6" RSL x 4'-0" sisters and provide Simpson A35 framing clips to new sill.
2. Replace sill in kind (approximately 6" x 6") and anchor to foundation with  $\frac{3}{4}$ " dia. threaded rods at 1'-4" oc and at ends of all walls.
3. Replace missing or deteriorated interior/exterior sheathing in kind.



**Photo P5.6:** Southwest corner of outbuilding showing 2"x5" roof rafters at 22"oc and south gable stud wall framing. Outriggers for south rake are visible and do not extend back to adjacent rafter.

**Recommendations:**

1. Replace damaged roof decking, interior sheathing, or exterior sheathing in kind.
2. Provide 2"x4" rafter sisters and 2"x6" rafter ties at each rafter. Sisters will need to extend to reconstruct water-damaged eave.
3. Provide Simpson A35 framing clips where rafters bear on top plates.
4. Sister rake outriggers with 2"x4" members which span back to adjacent reinforced rafter.



**Photo P5.7:** Deteriorated stud bases, interior and exterior sheathing, and sill along west wall.

**Recommendations:**

1. Reinforce wall studs with 2"x6" RSL x 4'-0" sisters and provide Simpson A35 framing clips to new sill.
2. Replace sill in kind (approximately 6" x 6") and anchor to foundation with  $\frac{3}{4}$ " dia. x 1'-4" threaded rods at 24"oc and at ends of all walls.
3. Replace deteriorated interior/exterior in kind.





**Photo P5.8:** West exterior of outbuilding showing deflection in roof ridge.

**Recommendations:**

1. Reinforce roof framing per previous recommendations in P5.6 for prevent further deflections.



**Photo P5.9:** Southwest exterior of outbuilding.

**Recommendations:**

1. Reinforce rake per previous recommendations in P5.6.



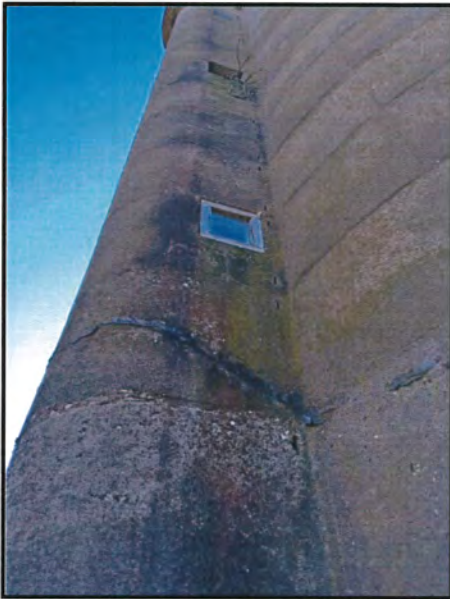
## Silo



**Photo PS.1:** East exterior of silo showing silage tube bump-out, entrance, and roof.

**Recommendations:**

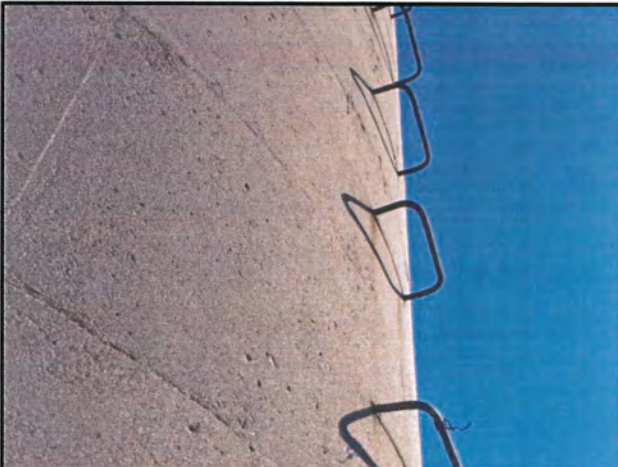
1. Refer to following recommendations.
2. Provide breathable concrete sealant for resistance to weathering at interior and exterior. Use product such as SikaTop 144.



**Photo PS.2:** Exterior of bump-out.

**Recommendations:**

1. Seal concrete per previous recommendations.



**Photo PS.3:** West exterior with ladder to roof.

**Recommendations:**

1. Seal concrete per previous recommendations.



**Photo PS.4:** Visibly empty void spaces at the surface, commonly known as bugholes, and organic growth at southwest side of exterior.

**Recommendation:**

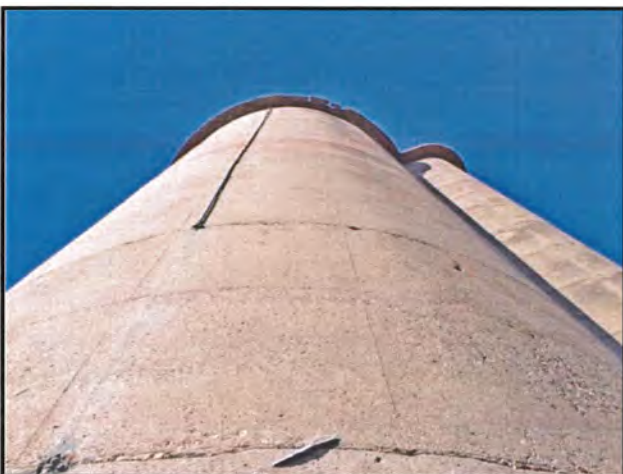
1. Seal concrete exterior per recommendations in PS.1



**Photo PS.5:** Minor rusting at southwest side of silo.

**Recommendation:**

1. Clean concrete of rust stain and clean any exposed rebar before applying surface sealant.



**Photo PS.6:** South roof overhang deteriorated.

**Recommendations:**

1. Roof to be inspected from above using scaffolding to determine structural adequacy.
2. Repair roof overhang by saw cutting damaged area, providing dowels into sound concrete and reforming edges with cast-in-place concrete.





**Photo PS.7:** South side of bump-out exterior.

**Recommendations:**

1. Seal concrete per previous recommendations.



**Photo PS.8:** Rebar ladder for access to silo.

**Recommendations:**

1. Rebar to remain, be cleaned, and be sealed.
2. Ladder should not be used for access to silo any longer.



**Photo PS.9:** South interior showing typical condition at bottom 15 feet of structure. Interior face of concrete is deteriorated due to weathering and some rebar is exposed and rusted.

**Recommendations:**

1. Clean rebar and seal with product such as SikaTOP Armatek 110 EPOCEM for repair and rust inhibition.
2. Seal interior of concrete for resistance to weathering. Use product such as SikaTop 144.





**Photo PS.10:** Roof of silo from inside showing possible evidence of water damage and previous attempts at patching.

***Recommendations:***

- 1. Roof to be inspected from below using scaffolding to determine structural adequacy.*
- 2. Patching and sealing of concrete for resistance to weathering will likely be required.*

### **Prioritized Summary of Recommendations for the Main House and Ell**

**Immediate (I):** In danger of failing - address within 1 year;\*

**Urgent (U):** Should be done within 1 to 3 year-period to maintain integrity;\*

**Necessary (N):** Accomplish within 3 to 5 year-period but not currently urgent;

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

**Cosmetic (C):** Improvement to general building performance.

\* Items in these categories to be completed before space is occupied.

- Sister all first floor framing with rough sawn lumber or LVLs and provide legitimate steel and timber posts with concrete footings to achieve recommended 40psf live load capacity (or higher capacity based on intended use of structure. Provide stitch bolts at identified shear failures in first floor girder and joist at Main House. **(U)**
  - Remove temporary shoring beams and posts after installation of first floor reinforcement.
- Inspect all first floor timber sills from the exterior by removing the lower clapboards and trim. Document damage and specify replacement sills as needed. **(U)**
- Remove and replace or reinforce stairs from basement to first floor in Ell. Provide legitimate hand-rails. **(U)**
- Reinforce second floor girts with 2, 1 ¾" x 7 ½" LVL sisters. Second floor joists will need to be shored, cut, and refastened to sistered girts with 2, Simpson A35 framing clips. **(U)**
- If crack control of the first floor plaster ceilings is necessary, second floor joists will require sistering with 2"x7" rough sawn lumber to support the recommended 30psf live load. *Intended use of structure must be reviewed to determine feasibility of alternative of restricting second floor live load.* **(U)**
- Reinforce stair trimmers with 2x6s at stairs leading from first floor to second floor and from second floor to attic in Main House. Provide legitimate handrails. **(U)**
- Reinforce Main House eave detail to provide adequate roof tying. Provide 2, Simpson A35 Clips at each roof rafter and attic joist – one each side – to flat 2x

plate. Exterior eave trim will need to be removed to install A35 clips at joists. Refer to SK-01. **(U)**

- Remove loose and deteriorated insulation and other debris from the Ell attic. **(U)**
- Remove Ell roof sheathing and roofing and re-plumb roof framing and walls as best as possible. Provide 7 ties at the top plate (one at each wall post and one between each wall post) to adequately tie the roof. Ties can be steel rods or timbers matching the dimensions of the existing wall posts. Replace sheathing and install new roofing. **(U)**
- Where roof opening for chimney is enclosed, sister cut rafters with 2x's extending 4'-0" past cut end of rafters. Provide solid blocking between rafters where ridge beam is cut. **(N)**
- Clean basement slab-on-grade of debris and patch spalls. **(M)**
- Clean brick and stone masonry walls of loose plaster and excess mortar. Reset loose stones and repoint as necessary. **(M)**
- Clean and repoint base of brick piers and chimneys in Main House with a historic mortar mix and provide a limewash coat. **(M)**
- Replace second floor decking in Main House bathroom. **(M)**
- Replace missing chimney bricks in attic and clean and repoint all joints with a historic masonry mix. **(M)**
- Consider adding dehumidification to basement to remove excess moisture. **(C)**



### **Summary of Recommendations for Outbuildings**

A number of recommendations have been provided for the preservation and stabilization of each of the outbuildings based on their continued use as Utility Buildings. The CT Building Code defines Utility Buildings to be *“buildings and structures of an accessory character and miscellaneous structures not classified in any specific occupancy...[and] shall include, but not be limited to, the following: Agricultural buildings,... barns,... carports,... grain silos... livestock shelters,... [or],... sheds...”*

In general, these recommendations involve the stabilization and repair of concrete elements and foundations, repair and reinforcement of wall and roof framing, reinforcement of connections using mechanical anchorage, and replacement of damaged wall and roof sheathing. All of these recommendations should be considered **Necessary** for the future use of these structures.

The amount of work involved with preserving and stabilizing each of these outbuildings may be less than, equivalent to, or more extensive than the amount of work involved in demolishing the existing structures and providing new sheds or barns as necessary for the property. The following is a list of the outbuildings in ascending order of the amount of work required based on the recommendations in this report:

- 1) Outbuilding No. 3: Outbuilding No. 3 appears to be in the best condition of the outbuildings and requires minor work to be functional. It can likely be preserved and stabilized at less cost than providing a new structure.
- 2) Outbuilding No.5: Outbuilding No. 5 is in adequate condition but requires work such as sill replacement, installation of new roof ties, and reinforcement of wall and roof framing. A sill replacement is typically one of the more expensive requirements of those recommended in this report. It is possible that the preservation and stabilization of this structure would be comparable to providing a new structure. However, the historic nature of this structure should lend itself to preservation.
- 3) Outbuilding No. 2: Outbuilding No. 2 requires repair of the CMU foundation and some reinforcement of the roof framing. The repair work at the foundation is likely to

be the more expensive item of those recommended for this building. It is possible that the preservation and stabilization of this structure would be comparable to providing a new structure.

- 4) Silo: The silo is a unique and stable structure which should be preserved based on its historic significance. The concrete repair and sealing recommended for the silo and the additional investigation of the roof will require a fair amount of work, but would likely be less expensive than providing a new cast-in-place concrete silo which would be a specialized and labor-intensive project. The historic nature of this structure should lend itself to preservation.
- 5) Outbuilding No. 1: Outbuilding No. 1 is in poor condition and requires rebuilding of the north wall, removal of the garage door in order to reinforce the roof as required, and possible repair of the concrete slab-on-grade. It is likely that it would be less expensive to provide a new structure with the same function than to preserve and stabilize this structure.
- 6) Outbuilding No. 4: Outbuilding No. 4 is in poor condition and requires new foundations, reinforcement of most elements of the structure, and repair and replacement of a significant portion of the wall and roof sheathing. In addition, this structure does not appear to have as much historic significance as the other outbuildings. It is likely that it would be less expensive to provide a new structure with the same function than to preserve and stabilize this structure.

This list should be reviewed by a qualified cost estimator before making any decisions about which structures to preserve and stabilize, and which should be demolished and replaced as necessary. The recommendations made here may change based on alternative proposed future uses for the buildings.





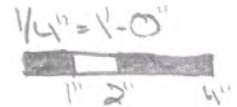
130 Elm Street Post Office Box 802  
OLD SAYBROOK, CONNECTICUT 06475

PROJECT NAME: HILLES FARM MAIN HOUSE

PROJECT NO: 15251 SHEET NO. 1 OF 1

BY: ASAC DATE 1/11/2016

SCALE: \_\_\_\_\_





## **Limitations**

This report has been prepared exclusively for the specific application to the structures at Priest Farm in South Windsor, CT in accordance with generally accepted engineering and historic preservation practices. No other warranty, express or implied, is made.

In the event that any changes in condition of the building, or site areas occur following the preparation of our report, the conclusions and recommendations contained in this report should not be considered valid unless the changed conditions are reviewed and conclusions of this report modified or verified in writing.

The analysis and recommendations in this report are based upon data obtained from limited field observations. These observations are limited to the exposed building's elements and to a visual assessment of damage seen at the interior and exterior of the House. If discrepancies, unforeseen conditions or undesirable conditions more extensive than originally thought become evident in the field, it will be necessary to re-evaluate the recommendations contained in this report.

The details described and shown are general recommendations to be instituted to provide safe, long term structural integrity and stability. If work is to proceed, GNCB is available to provide the necessary bid-level contract drawings and technical specifications to allow this work to be accomplished by a competent restoration contracting firm.

## **Appendix A: Cut Sheets for Recommended Concrete Repair Products**

## SikaTop® Armatec® 110 EpoCem®

Epoxy-Cement Based, Bonding Agent and Anti Corrosive Rebar Coating

<b>Product Description</b>	SikaTop® Armatec® 110 EpoCem® is a cement-based, epoxy-modified, three-component, anti-corrosive coating and bonding agent. . Suitable for use in tropical and hot climatic conditions.	
<b>Uses</b>	<p>As an anti-corrosion coating for reinforcement steel:</p> <ul style="list-style-type: none"> <li>■ For repairs to reinforced concrete where there is corrosion of the underlying reinforcement steel.</li> <li>■ For the preventive protection of reinforcement steel in thinly reinforced concrete sections.</li> </ul> <p>As a bonding agent for use on concrete, mortar or steel:</p> <ul style="list-style-type: none"> <li>■ For repairs to concrete using Sika Monotop and SikaTop patching and repair mortars</li> <li>■ For bonding new concrete to old</li> </ul>	
<b>Advantages</b>	<p>SikaTop® Armatec® 110 EpoCem® provides the following advantages:</p> <ul style="list-style-type: none"> <li>■ Excellent adhesion to steel and concrete</li> <li>■ Acts as an effective barrier against penetration of water and chlorides</li> <li>■ Contains corrosion inhibitors</li> <li>■ Provides an excellent bonding coat for subsequent application of repair mortars (cement and epoxy-based)</li> <li>■ Not affected by moisture</li> <li>■ High degree of mechanical strength</li> <li>■ Pre-measured, ready-to-use packs</li> <li>■ May be spray-applied</li> <li>■ Non-flammable</li> </ul>	
<b>Test Report</b>	<p>Issued by the Official Building Materials Testing Institute (Technical University of Braunschweig). Laboratory for Preparation and Methodology (Beinwil am See, Switzerland).</p>	

### Product Data

<b>Type</b>	Cementitious, Epoxy composition	
<b>Form</b>	Comp. A:	White liquid
	Comp. B:	Whitish liquid
	Comp. C:	Grey powder
	Mixed:	Grey mortar / slurry
<b>Packaging</b>	20 kg units	
	Component A:	1.14 kg pail
	Component B:	2.86 kg pail
	Component C:	16 kg bag





<b>Storage Condition</b>	Store in a dry area between 5°C and 35°C. Protect from direct sunlight
<b>Shelf life</b>	12 months minimum from production date if stored properly in original unopened packaging
<b>Technical Data</b>	
<b>Pot life (30°C)</b>	90 - 180 minutes
<b>Density</b>	Approximately = 2.00 kg/ltr. (Fresh mortar)
<b>Adhesion (Pull-off)</b>	2.0 N/mm <sup>2</sup> (concrete failure)
<b>Index of Vapor diffusion</b>	Approximately $\mu$ H <sub>2</sub> O = 100
<b>Index of CO<sub>2</sub> diffusion</b>	Approximately $\mu$ CO <sub>2</sub> = 14,000
<b>Yield</b>	Approximately 10 liters per 20kg unit
<b>Consumption</b>	<b>Bonding agent</b> Not less than 1.0 kg per m <sup>2</sup> , depending on the roughness of the concrete substrate. <b>Anti-corrosion coating</b> 2 - 4 kg per m <sup>2</sup> (for two coats), depending on the method of application.
<b>Application Details</b>	
<b>Substrate preparation</b>	Substrate must be sound, free from dust, loose particles, cement laitance, curing compounds, oil, grease or any other contamination. <b>Metal surfaces (steel and iron)</b> should be free from scale, rust, oil and grease. Large spalled areas, cracks and pot holes should be raked out and cleaned. Use Sika MonoTop-612 for substrate repairs, which can be applied in thicknesses from 5 - 30 mm per layer. <b>Pre-wet substrate to a saturated surface dry condition prior to application.</b> Avoid puddles and standing water.
<b>Mixing</b>	Shake Component A and B vigorously before opening. Pour both liquids into a suitable mixing pan and mix for 30 seconds. Add Component C slowly while continuing to stir the mixture. Mix mechanically for 3 minutes, using a slow-speed electric stirrer (250 rpm) in order to entrain as little air as possible. Leave to stand for 3-5 minutes, until the mixture exhibits a brushable, slow-dripping consistency. <b>Always use full kits only.</b>
<b>Application</b>	<b>When used as an anti-corrosion coating:</b> Apply a coating approx. 0.5 - 1 mm thick to the cleaned and de-rusted reinforcement steel, using a stiff paintbrush, roller or spray gun. Leave to dry for 1 - 2 hours (at an ambient temperature of 30°C), then apply a second coat of similar thickness. Leave to dry for a similar period of time before applying patching mortar to the repair. In the course of application, some of the coating material will inevitably be deposited on the surrounding concrete, but this has no detrimental effect on the finished repair. <b>When used as a bonding agent for repair mortar or concrete:</b> Wet down the prepared substrate until the concrete is fully saturated with water, apply a bonding coat not less than 0.5 mm thick, using a stiff paintbrush, roller or suitable spray gun. For best results, work the bonding slurry well into the substrate to ensure complete coverage of all surface irregularities. Apply the freshly mixed patching mortar or concrete wet on wet over the bonding slurry. Maximum waiting times between application of slurry coat and application of patching mortar or concrete: 30°C      8 hrs. 20°C      12 hrs. 10°C      16 hrs. 5°C      20 hrs.
<b>Curing</b>	Standard concrete curing practices must be followed.
<b>Cleaning</b>	Use water to remove uncured material from tools and mixing equipment. Once cured, <b>SikaTop® Armatec® 110 EpoCem®</b> can only be removed mechanically.



<b>Remarks</b>	<ul style="list-style-type: none"> <li>■ Minimum Application temperature (ambient air and substrate ) +5°C</li> <li>■ Maximum Application temperature (substrate ) +40°C</li> <li>■ The recommended dosage should be strictly adhered to</li> <li>■ On no account should water be added to the mix</li> </ul>
<b>Notes</b>	All technical data stated in this Product Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.
<b>Safety</b>	For information and advice on the safe handling, storage and disposal of chemical products, users should refer to the most recent Material Safety Data Sheet containing physical, ecological, toxicological and other safety-related data.

## Legal Notes

The information, and, in particular, the recommendations relating to the application and end-use of Sika products, are given in good faith based on Sika's current knowledge and experience of the products when properly stored, handled and applied under normal conditions in accordance with Sika's recommendations. In practice, the differences in materials, substrates and actual site conditions are such that no warranty in respect of merchantability or of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any written recommendations, or from any other advice offered. The user of the product must test the product's suitability for the intended application and purpose. Sika reserves the right to change the properties of its products. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users must always refer to the most recent issue of the local Product Data Sheet for the product concerned, copies of which will be supplied on request.

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## Product Data Sheet

Edition 7.15.2014

SikaTop® 123 Plus

**SikaTop® 123 PLUS**

Two-component, polymer-modified, cementitious, non-sag mortar plus FerroGard 901 penetrating corrosion inhibitor

<b>Description</b>	SikaTop® 123 PLUS is a two-component, polymer-modified, portland cement, fast-setting, non-sag mortar. It is a high performance repair mortar for vertical and overhead surfaces, and offers the additional benefit of FerroGard® 901, a penetrating corrosion inhibitor.
<b>Where to Use</b>	<ul style="list-style-type: none"> <li>■ On grade, above, and below grade on concrete and mortar.</li> <li>■ On vertical and overhead surfaces.</li> <li>■ As a structural repair material for parking structures, industrial plants, water/waste water treatment facilities, roads, walkways, bridges, tunnels, dams, ramps, etc.</li> <li>■ Approved for repairs over cathodic protection systems.</li> </ul>
<b>Advantages</b>	<ul style="list-style-type: none"> <li>■ High compressive and flexural strengths.</li> <li>■ High early strengths.</li> <li>■ Increased freeze/thaw durability and resistance to de-icing salts.</li> <li>■ Compatible with coefficient of thermal expansion of concrete - Passes ASTM C-884 (modified).</li> <li>■ Increased density - improved carbon dioxide resistance (carbonation) without adversely affecting water vapor transmission (not a vapor barrier).</li> <li>■ Enhanced with FerroGard® 901, a penetrating corrosion inhibitor - reduces corrosion even in the adjacent concrete.</li> <li>■ Not flammable, non-toxic.</li> <li>■ Conforms to ECA/USPHS standards for surface contact with potable water.</li> <li>■ USDA certifiable for incidental food contact.</li> <li>■ ANSI/NSF Standard 61 potable water approved.</li> </ul>
<b>Coverage</b>	0.39 cu. ft./unit.
<b>Packaging</b>	<b>Component 'A'</b> - 1 gal. plastic jug; 4/carton. <b>Component 'B'</b> - 44 lb. multi-wall bag.

**Typical Data (Material and curing conditions @ 73°F (23°C) and 50% R.H.)**

RESULTS MAY DIFFER BASED UPON STATISTICAL VARIATIONS DEPENDING UPON MIXING METHODS AND EQUIPMENT, TEMPERATURE, APPLICATION METHODS, TEST METHODS, ACTUAL SITE CONDITIONS AND CURING CONDITIONS.

Shelf Life	One year in original, unopened packaging.		
Storage Conditions	Store dry at 40°-95°F. Condition material to 65°-75°F. before using. Protect Component 'A' from freezing. If frozen, discard.		
Color	Concrete gray when mixed.		
Mixing Ratio	Plant-proportioned kit.		
Application Time	Approximately 15 min. after adding Component 'B' to Component 'A'. Application time is dependent on temperature and relative humidity.		
Finishing Time	20 to 60 min after combining components: depends on temperature and relative humidity, and type of finish desired.		
Density (wet Mix)	132 lbs./cu. ft. (2.2 kg./l)		
Flexural Strength (ASTM C-293)	28 days	2,000 psi (13.8 MPa)	
Splitting Tensile Strength (ASTM C-496)	28 days	900 psi (6.2 MPa)	
Bond Strength* (ASTM C-882 modified)	28 days	2,200 psi (15.2 MPa)	
Compressive Strength (ASTM C-109)			
1 day	>2,500 psi	(24.1 MPa)	
7 days	>5,000 psi	(41.4 MPa)	
28 days	>6,000 psi	(48.3 MPa)	
Permeability (AASHTO T-277)			
28 days	Approximately 500 Coulombs. Electrical resistivity (ohm-cm) 27,000		
Freeze/Thaw Resistance (ASTM C-666)	300 cycles	98%	
Corrosion Testing for FerroGard 901			

**Cracked Beam Corrosion Tests:**

Reduced corrosion rates 63% versus control specimens. ASTM G109 modified after 400 days

\* Mortar scrubbed into substrate.



PRIOR TO EACH USE OF ANY SIKA PRODUCT, THE USER MUST ALWAYS READ AND FOLLOW THE WARNINGS AND INSTRUCTIONS ON THE PRODUCT'S MOST CURRENT PRODUCT DATA SHEET, PRODUCT LABEL AND SAFETY DATA SHEET WHICH ARE AVAILABLE ONLINE AT [HTTP://USA.SIKA.COM/](http://USA.SIKA.COM/) OR BY CALLING SIKA'S TECHNICAL SERVICE DEPARTMENT AT 800.933.7452 NOTHING CONTAINED IN ANY SIKA MATERIALS RELIEVES THE USER OF THE OBLIGATION TO READ AND FOLLOW THE WARNINGS AND INSTRUCTIONS FOR EACH SIKA PRODUCT AS SET FORTH IN THE CURRENT PRODUCT DATA SHEET, PRODUCT LABEL AND SAFETY DATA SHEET PRIOR TO PRODUCT USE.



## How to Use

<b>Substrate</b>	Concrete, mortar, and masonry products.
<b>Surface Preparation</b>	<p><b>Concrete/Mortar:</b> Remove all deteriorated concrete, dirt, oil, grease, and all bond-inhibiting materials from surface. Be sure repair area is not less than 1/8 inch in depth. Preparation work should be done by high pressure water blast, scabblor, or other appropriate mechanical means to obtain an exposed aggregate surface with a minimum surface profile of <math>\pm 1/16</math> in. (CSP-5) Saturate surface with clean water. Substrate should be saturated surface dry (SSD) with no standing water during application.</p> <p><b>Reinforcing Steel:</b> Steel reinforcement should be thoroughly prepared by mechanical cleaning to remove all traces of rust. Where corrosion has occurred due to the presence of chlorides, the steel should be high-pressure washed with clean water after mechanical cleaning. For priming of reinforcing steel use Sika® Armatec® 110 EpoCem (consult Technical Data Sheet).</p>
<b>Priming</b>	<b>Concrete Substrate:</b> Prime the prepared substrate with a brush or sprayed applied coat of Sika® Armatec® 110 EpoCem (consult Technical Data Sheet). Alternately, a scrub coat of Sika Top 123 can be applied prior to placement of the mortar. The repair mortar has to be applied into the wet scrub coat before it dries.
<b>Mixing</b>	Pour Component 'A' into mixing container. Add Component 'B' while mixing continuously. Mix mechanically with a low-speed drill (400 - 600 rpm) and mixing paddle or mortar mixer. Mix to a uniform consistency, maximum 3 minutes. Manual mixing can be tolerated only for less than a full unit. Thorough mixing and proper proportioning of the two components is necessary.
<b>Application</b>	SikaTop® 123 PLUS must be scrubbed into the substrate, filling all pores and voids. Force material against edge of repair, working toward center. After filling repair, consolidate, then screed. Material may be applied in multiple lifts. The thickness of each lift, not to be less than 1/8 inch minimum or more than 1.5 inches maximum. Where multiple lifts are required score top surface of each lift to produce a roughened surface for next lift. Allow preceding lift to reach final set, 30 minutes minimum, before applying fresh material. Saturate surface of the lift with clean water. Scrub fresh mortar into preceding lift. Allow mortar or concrete to set to desired stiffness, then finish with wood or sponge float for a smooth surface.
<b>Tooling &amp; Finishing</b>	As per ACI recommendations for portland cement concrete, curing is required. Moist cure with wet burlap and polyethylene, a fine mist of water or a water based*, compatible curing compound. Curing compounds adversely affect the adhesion of following lifts of mortar, leveling mortar or protective coatings. Moist curing should commence immediately after finishing. If necessary protect newly applied material from direct sunlight, wind, rain and frost. *Pretesting of curing compound is recommended.
<b>Limitations</b>	<ul style="list-style-type: none"> <li>■ Application thickness: Minimum 1/8 inch (3 mm). Maximum in one lift - 1.5 in. (38 mm).</li> <li>■ Minimum ambient and surface temperatures 45°F (7°C) and rising at time of application.</li> <li>■ Do not use solvent-based curing compound.</li> <li>■ Size, shape and depth of repair must be carefully considered and consistent with practices recommended by ACI. For additional information, contact Technical Service.</li> <li>■ For additional information on substrate preparation, refer to ICRI Guideline No. 03732 Coatings, and Polymer Overlays".</li> <li>■ If aggressive means of substrate preparation is employed, substrate strength should be tested in accordance with ACI 503 Appendix A prior to the repair application.</li> <li>■ As with all cement based materials, avoid contact with aluminum to prevent adverse chemical reaction and possible product failure. Insulate potential areas of contact by coating aluminum bars, rails, posts etc. with an appropriate epoxy such as Sikadur® Hi-Mod 32.</li> </ul>

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**Product Data Sheet**

Edition 7.25.2014

SikaTop® 144

**SikaTop® 144****Polymer-modified portland-cement coating**

<b>Description</b>	SikaTop® 144 is a polymer-modified, 2-component, cementitious coating. Designed for use on concrete, mortar, and masonry substrates. Easily applied by brush, roller, or spray equipment. This fine-textured, abrasion-resistant coating is used for protection against deicing salts and for damp-proofing/waterproofing.
<b>Where To Use</b>	<ul style="list-style-type: none"> <li>■ Use on grade, above, and below grade on concrete, masonry, and mortar.</li> <li>■ Use on horizontal, vertical, and overhead surfaces, both interior and exterior.</li> <li>■ Potable water tanks.</li> <li>■ Use as a coating over newly repaired concrete to provide a monolithic/uniform appearance.</li> <li>■ Use as a protective coating to reduce the affect of deicing salt on concrete.</li> <li>■ Use as a protective coating for waterproofing, damp-proofing, and improved resistance to weathering.</li> <li>■ Use on concrete and masonry substrates to improve abrasion resistance to foot traffic and light pneumatic-tire traffic.</li> <li>■ Use to coat the backside of architectural curtain wall panels to prevent water intrusion from the outside.</li> </ul>
<b>Advantages</b>	<ul style="list-style-type: none"> <li>■ Bond strength ensures superior adhesion.</li> <li>■ Increases resistance of substrate to deicing salts.</li> <li>■ Does not create a vapor barrier.</li> <li>■ No mix water needed, liquid co-polymer triggers special blend of cements, fillers, and admixtures.</li> <li>■ Superior abrasion resistance.</li> <li>■ No batching, factory proportioned unit ensures consistent composition and high quality. Non-flammable; low odor.</li> <li>■ Easily applied to clean, sound substrates.</li> <li>■ Approved for use in contact with potable water.</li> <li>■ USDA-approved for incidental food contact.</li> <li>■ May be overcoated with Sikagard® protective coatings.</li> </ul>
<b>Coverage</b>	First Coat      100-150 ft./gal. Second Coat    150-200 ft./gal. Coverage is dependent upon substrate texture and porosity.
<b>Packaging</b>	5-gal. unit consisting of 3.5-gal. plastic pail of Component 'A' and a 45-lb. multi-wall bag of Component 'B'.

**Typical Data (Material and curing conditions @ 73°F and 50% R.H.)**

RESULTS MAY DIFFER BASED UPON STATISTICAL VARIATIONS DEPENDING UPON MIXING METHODS AND EQUIPMENT, TEMPERATURE, APPLICATION METHODS, TEST METHODS, ACTUAL SITE CONDITIONS AND CURING CONDITIONS.

<b>Shelf Life</b>	1 year in original, unopened packaging.
<b>Storage Conditions</b>	Store dry at 40°-95°F (4°-35°C). Condition material to 60°-75°F before using. Component 'A' must be protected from freezing. If frozen, discard.
<b>Color</b>	White and cement-gray.
<b>Mixing Ratio</b>	Factory proportioned unit. Mix entire contents.
<b>Pot Life</b>	Approximately 4 hours.
<b>Tack-Free Time</b>	Approximately 30 minutes.
<b>Recoat Time</b>	Allow 2 hours minimum between coats.
<b>Application Thickness</b>	8-16 mils/coat.
<b>Abrasion Resistance (ASTM D-968 modified)</b>	
7 day	55 liters/mil
<b>Bond Strength (Elcometer)</b>	
7 day	concrete substrate failure
<b>Water-Vapor Transmission: (ASTM E-96)</b>	
7 day	1 coat      27 grains/hr./ft. <sup>2</sup>
	2 coats      24 grains/hr./ft. <sup>2</sup>



PRIOR TO EACH USE OF ANY SIKA PRODUCT, THE USER MUST ALWAYS READ AND FOLLOW THE WARNINGS AND INSTRUCTIONS ON THE PRODUCT'S MOST CURRENT PRODUCT DATA SHEET, PRODUCT LABEL AND SAFETY DATA SHEET WHICH ARE AVAILABLE ONLINE AT [HTTP://USA.SIKA.COM/](http://USA.SIKA.COM/) OR BY CALLING SIKA'S TECHNICAL SERVICE DEPARTMENT AT 800.933.7452 NOTHING CONTAINED IN ANY SIKA MATERIALS RELIEVES THE USER OF THE OBLIGATION TO READ AND FOLLOW THE WARNINGS AND INSTRUCTIONS FOR EACH SIKA PRODUCT AS SET FORTH IN THE CURRENT PRODUCT DATA SHEET, PRODUCT LABEL AND SAFETY DATA SHEET PRIOR TO PRODUCT USE.



**How to Use****Substrate**

Concrete, mortar, and masonry.

**Surface Preparation**

All surfaces to be coated must be clean, sound, and saturated surface dry with no standing water at the time of application.

Remove all dust, laitance, grease, oils, curing compounds, waxes, impregnations, and other contaminants. Should substrate require repair, patch with appropriate SikaTop® PLUS repair system. Preparation work must be done by mechanical equipment, i.e., blast cleaning, water blasting, or a combination of the two.

**Mixing**

All mixing must be done mechanically using a low-speed drill (400-600 rpm) and Sika paddle. Place approximately 1/2 Component 'A' into a clean mixing container. While mixing, slowly add all of Component 'B' and continue to mix until you achieve a uniform paste with no lumps. Be sure to scrape down sides of the mixing container at this time. Add remainder of Component 'A' and continue to mix until uniformly blended.

**Application**

SikaTop® 144 should only be applied over properly prepared surfaces with high-quality brushes, rollers, or "hopper-type" spray equipment. Surface should be saturated surface dry prior to application. Two coats are recommended for maximum performance. Recommended thickness per coat is 8 to 16 mils. Apply thoroughly mixed coating generously with loaded brush or roller. Always finish off with light strokes blending back into coated area for uniform appearance. For application in direct sun or on a hot substrate, pre-wet surface and allow surface water to dissipate before coating.

**Tooling & Finishing**

Protect newly applied SikaTop® 144 from direct sunlight, wind, rain and freezing.

**Limitations**

- Maximum thickness of applications is 16 mils/coat, thicker application can result in cracking.
- Do not apply when rain is expected.
- Minimum ambient and substrate temperature is 45°F and rising at the time of application.
- For spray application, coating must be screened prior to loading of the spray hopper.
- Coating may chalk and show water marks due to weathering.
- For applications where coating will be subjected to immersion, a 3-day cure is recommended.
- Coating will slightly yellow with age and exposure to UV light.
- As with all cement based materials, avoid contact with aluminum to prevent adverse chemical reaction and possible product failure. Insulate potential areas of contact by coating aluminum bars, rails, posts etc. with an appropriate epoxy such as Sikadur® Hi-Mod 32.

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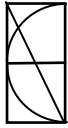
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#### **IV.C ASSESSMENT OF EXISTING CONDITIONS ARCHITECTURAL ENVELOPE**

NELSON EDWARDS COMPANY ARCHITECTS, LLC

FARMHOUSE  
OUTBUILDINGS  
PHOTO PAGES  
DIAGRAMS



### INTRODUCTION

Site visits to conduct assessments of the existing architectural building envelope conditions of the main Farmhouse and six barnyard Outbuildings were conducted by Laura Boyer, AIA, of NEC Architects, LLC on December 21, 2015 and February 18, 2016, respectively.

Note: our report covers the exterior envelopes of the buildings. We did not review plumbing, mechanical or electric systems, other than some brief notes at the end of the Farmhouse section of the report.

### FARM HOUSE

#### I. General Background

Built 1823, the Farmhouse at Priest Farm is a modest colonial w/ later Victorian embellishments (see photos 01 and 02) which typifies Connecticut Valley farmhouses of the era as a quintessential, rather than exemplary, illustration of the type; it is neither lavish nor substandard in style or construction quality.

Ornament visible in early photographs but currently hidden behind the vinyl siding includes fine dentil molding at the eaves, cornice eave return and rakes; figured Victorian brackets at the bay window, and Victorian barge board with figured brackets and fancy cut shingle details at the two gabled entry overhangs of Doors 'A' and 'B' (see photo 03). At the gable ends of the main block, there is a continuous eave return from cornice to cornice. The Farmhouse currently has no shutters but they are shown in the early photographs. Although today shutters are usually treated strictly as ornament and have no functional capability on contemporary buildings, it is clear from the old photos that the shutters were routinely deployed to provide shade or protection for windows in rooms that were not in use.

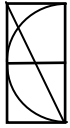
The bay window on the South elevation appears in the earliest photos of the house, while the gabled entry roofs were installed later at the East (front) and South (side) entries.

The living area of the building is 2,780 square feet, according to the tax assessor's property card.

#### II. Foundations

Foundation wall types are indicated on Sketch Diagram SK-1. The Main block has red-brown sandstone foundation walls where they are exposed to the exterior, and rubble stone below grade, which appears to have been whitewashed at some point. The West Ell and North Ell Additions have brick foundations. There are also brick foundations at the bay window, which appear to be of the same vintage as the West Ell, while the brick work at the North Ell Addition appears to be of a later vintage.

*Recommendations: re-point stone and brick foundations as needed, and rebuild the exterior wythe of brick masonry in the areas shown on the diagram.*



### III. Grade

Existing grade relative to the building's wood framing is high at the East elevation (see photo 04), and this condition has contributed to deterioration of the timber sill in that location (see IV. Sills, below).

Large steps made from the same red brown sandstone as the foundation walls of the Main Block of the Farmhouse are located outside Doors 'A' and 'B', although they are both somewhat sunken into the ground. The existing grade may have been adversely modified when Sullivan Road was modernized. It also is possible that when House was built, the large heavy stone steps may have been laid on the disturbed [excavated] earth adjacent to the foundations without properly compacting it first; the sunken steps appear in early photographs and appear to predate the road modernization.

Hand wrought iron boot scrapers were set into the stone outside these doors.

*Recommendations: re-grade site to direct surface water away from building and to increase the distance between grade level and the timber sill.*

### IV. Sills

At the Main House, the large solid timber sills, which are framed together at the corners and set on the stone foundation walls, carry the wall framing and floor joists. At the East side of the main block, some decay can be seen from on the interior (see photo 05), however the full extent of decay cannot be determined by visible inspection from the interior. Decay typically originates toward the exterior of the sill and observation of wood decay in sill plates from the interior almost never gives the full picture. Siding and sheathing in the vicinity of the sill must be removed to document extent of decay.

Wood will provide centuries of service under the proper circumstances. However, certain conditions will permit development of wood-degrading organism - principally fungi, insects and bacteria. Serious decay occurs only when the moisture content of the wood is above 30%.

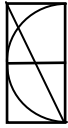
*We recommend removing the siding and sheathing near the sill at the East elevation and around the SE and NE corners, moving west until sound wood is identified. The deteriorated wood sills should be repaired or replaced as necessary.*

### V. Basement

The basement is not unusually damp, given the condition of the building. Several of basement windows have been removed by vandals and are open to the weather. They were not yet secured as of our second field visit on February 19, 2016.

*We recommend cleaning the debris and sand, repointing and repairing foundations where needed; ensuring that the roof drainage is directed away from building, and lowering the grade to redirect surface water away from building to a drainage swale as noted above. Openings at basement level should be closed to keep out animals and prevent air infiltration (assuming the mechanical equipment is adequately*





## EXISTING CONDITION ASSESSMENT - ARCHITECTURAL ENVELOPE

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ventilated). Dehumidification is much more effective than 'ventilation' of basements in inhabited buildings. [Drawing warm moist air into a cool basement in the summertime actually contributes to moisture problems rather than mitigating them.] Once these items are complete, a dehumidifier with pump can be installed to keep the basement nice and dry.

### VI. Exterior Closure - Siding

The original siding on the house is painted wood clapboard. On top of that, clapboard - style vinyl siding, along with a layer of extruded polystyrene insulation approximately 3/8" thick, was installed on top of the original wood siding (see INSULATION, below).

In certain areas, the vinyl siding has been damaged and in one area on the West elevation, there is a hole in the wall which has not yet been closed off, where vandals apparently tried to remove metal cable (see photo 06). The locations are indicated on Diagram SK-1.

The paint on the wood clapboard below the vinyl siding is in failure, and almost certainly contains lead.

*We recommend removing the vinyl siding, the pink colored extruded polystyrene insulation behind the vinyl; and the original wood clapboard siding. New wall insulation should be properly installed so as not to cause condensation, and new painted wood clapboard siding. The original ornamental wood trim should be prepared and repainted.*

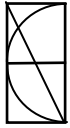
### VII. Openings – Windows

A preliminary window schedule is shown on Sketch Diagram SK-2. In general, we observed the following.

There are a total of 37 windows (not including openings into the basement at the foundations. Of these, 21 windows are wood double hung, '2 over 2' windows, some of which appear to be original, and some of which appear to be replacements made to match the originals. Five windows are wood double hung '6 over 6', and five more are replacement windows where a new frame with new sash has been installed within the existing opening, changing the proportions of the windows and reducing the amount of daylight.

A few windows have storm windows, either aluminum triple track or wood, but a number of storm windows have been removed and many of these are strewn around the interior, with broken glass all over the floor. Most of the existing windows do not have storm windows, and they are not weather-stripped.

Cracks, peeling of wallpaper and other evidence of moisture infiltration are visible at a number of the windows, including several along the North and East walls of the Main Parlor (see photo 07). Whether this is due to current or past water infiltration, and whether the damage occurred because



## EXISTING CONDITION ASSESSMENT - ARCHITECTURAL ENVELOPE

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a window was left open in the rain or because the windows are not tight to the weather should be identified when the windows are individually assessed prior to restoration. Some windows were open at the time of our site visit, and a number of them had broken glazing. In general, the windows on the East elevation are more weathered than those on the other elevations, but they had not been damaged by vandalism at the time of our visit.

Approximately 8 to 10 windows have been damaged by vandals. In some cases, the glazing has simply been smashed, and in other cases, the muntins have been broken and need to be replaced. In addition, some windows have been damaged by squirrels (see photo 08). We have observed similar squirrel damage in other uninhabited older houses. In general, these types of repairs are straightforward for a window restoration contractor.

The Bay window comprises three double hung windows. The central one has a wood storm window and the two angled ones each have a pair of aluminum triple track storm windows subdivided on the exterior with a central vertical mullion (see photo 09). These windows have sash cords and pulleys, unlike most of the other windows on the building. On the second floor, the 2 over 2 wood windows are unpainted on the interior and use plastic sash tracks instead of ropes and pulleys. They appear to be in-kind wood replacement sash which match the profiles and dimensions of the original wood windows on the first floor, but with modernized sash lifting apparatus.

*We recommend repairing and restoring the original wood windows and the newer wood windows on the second floor, and removing the 'replacement' windows and installing windows that match the appearance of the original windows. In addition, new weatherstripping should be installed on all windows along with new storm windows designed for application on historic buildings, which use a low profile frame.*

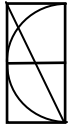
### VIII. Openings - Doors

Door locations are indicated on Sketch Diagram SK-I.

Both Door 'A' at the front (East) and Door 'B' at the side (South) entry doors are solid wood, four-panel, stile and rail with 2-lite glazed, arched openings at the upper panels. There is no weatherstripping on either door. Both appear to be original based on early photos, and both have been somewhat protected from the weather by gabled overhangs with figured brackets and other Victorian ornamental detailing that is hidden under the siding.

Door 'A' is in poor condition (see photos 10A & 10B). The midrail /stile joints are separating, the exterior paint is peeling and the door is warped. The door also appears to have been covered with vines at one time, which can be quite destructive, although they have been removed. The condition of the door sill should be reviewed when the timber sills are investigated (see IV. Sills, and Structural report).

Door 'B' is protected on the exterior with a modern aluminum storm door, which has been installed at the exterior with a head height that is lower than the door head height (see photos 11A & 11B). From the exterior, the top stile is not completely visible through the transparent glazed panel of the



## EXISTING CONDITION ASSESSMENT - ARCHITECTURAL ENVELOPE

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storm door. It is in acceptable condition and could probably be restored for less than it would cost to replace it. It has warped somewhat in the vertical dimension. It is currently painted red on the exterior and blue on the interior.

Door 'C', at the North Ell, is a six-panel solid wood stile and rail with solid panels (see photo 12). It has an aluminum storm door and some shelter from a soffit overhang at the roof. Some of the original hardware is missing.

Door 'D', next to the solarium greenhouse is a six panel solid wood stile and rail with 6 glazed panels (see photo 13). It has an aluminum storm door and is under a sheltered overhang. The lockset has been removed and the door stile damaged.

*Recommendations: Restore and refinish/repaint Doors 'B', 'C', & 'D'. Restore or replace-in-kind Door 'A'. Install new correctly-sized storm doors at all four doors, of a style appropriate for use on historic buildings.*

### IX. Insulation

The extruded polystyrene insulation just behind the vinyl siding (see photo 14) provided an R-value of approximately 1.8 when it was first installed, but this type of insulation tends to absorb moisture over time so it does not retain its insulation value over the term. Because of this low R-value, this insulation is not sufficient to keep the wall warm enough in this climate to prevent condensation behind the vapor impermeable vinyl siding, and under these circumstances, the vinyl/insulation cladding will actually be doing more harm than good when the building is occupied.

At West Ell attic, there is fiberglass batt insulation in both floor and rafters, but it is almost all dislocated and/or hanging in ribbons (see photo 15). It should all be removed prior to stabilization work in the attic.

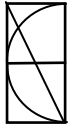
There is no insulation in the floor or rafters of the Main block (see photo 16).

*Recommendations: Remove all insulation from the West Ell attic prior to stabilization work. Install new fire retardant blown cellulose between the floor joists of both West Ell, which has no attic floor boards, and the at Main block attic, where the attic floor boards will need to be removed and reinstalled to place the insulation.*

### X. Roofs

The Farmhouse roof area is approximately 2500 s.f. Older photographs show the building roofed with wood shingles. With the exception of a low slope metal roof at the bay window, the existing roof system is three-tab asphalt shingles. The asphalt shingle roof system is not in total failure, but it is well near the end of its lifespan. According to the SW Building Department, the most recent record for a reroofing permit on the building is from 1992. The typical lifespan for a three-tab





## EXISTING CONDITION ASSESSMENT - ARCHITECTURAL ENVELOPE

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asphalt shingle system is 15-18 years; this roof is 24 years old. The low slope roof at the bay window is corroded ferrous metal, which has left iron oxide drip stains (see photo 17)

*Recommendations: Remove the existing asphalt shingle roof and replace with cedar shingles. Remove and replace gutters and downspouts. Replace low slope metal roof with flat seam copper over high temperature ice and water shield.*

### **XI. Chimneys**

There is a chimney centered at the ridge of the main house block, although it is no longer visible from the exterior because it was capped and the exterior portion was removed. The remedial framing at the closed off hole may appear to be not completely flush with the original roof, so there is a 'divot' in the ridge line at this location (see photo 18 and Structural report). In addition, appears from the ground that there may have been a lightning rod adhered in that location with roof cement, which may have been stolen by vandals for the value of the copper, along with its grounding cables.

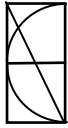
The exterior of the brick chimney at the West Ell appears to be in decent condition. A metal pipe chimney was installed near the brick chimney, but is no longer connected to a wood stove (see photo 19)

*Recommendation: The exterior of chimney at the West Ell should be repointed when work is done on the brick masonry at the foundation walls. The chimneys, both metal and masonry, should be cleaned and the condition of the linings investigated by a chimney sweep or contractor when the mechanical system is being repaired.*

### **XII. Other observations, notes and recommendations - Farmhouse**

We made limited observations of the mechanical, electrical and plumbing systems though they were not formally reviewed as part of this study. Deferred maintenance, disuse, and incidental observation of condition and damage from vandals suggest that plans should be made for their replacement. The existing heating system is steam radiators using oil fuel. There is a fuel oil tank in the basement under the North Ell addition. The plumbing mechanical, and lightning protection systems have been raided by vandals searching for metals to sell. The upstairs bathroom has been smashed and the floor pulled up for the piping (see photo 20). Cast iron radiators have been disconnected and moved. The cover on the existing steam boiler has been torn off.

Interior finishes of the floors, walls and ceilings have been affected by deferred maintenance, vandalism, and the condition of the exterior building envelope. Also, they will be disrupted in some locations when structural and MEP refurbishment is undertaken, and they will require repairs and refurbishment.



## EXISTING CONDITION ASSESSMENT - ARCHITECTURAL ENVELOPE

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*Recommendations: Monitored smoke detectors should be installed as soon as possible to mitigate arson risk. MEP systems should be replaced. Also, a pest inspection should be performed and the building fumigated if any active infestation is identified.*

*In general, the Farmhouse should be restored and inhabited as soon as possible to reverse the accelerating cycles of deterioration and vandalism.*

### OUTBUILDINGS:

#### GENERAL

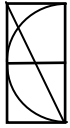
The barnyard currently comprises four small barns, one shed and a silo, located in the vicinity of the Farmhouse and laced with foundations of former barnyard structures which no longer exist (see Diagram SK-3). In the much the same way that the Farmhouse is basically a plain and sensible modest structure with some carefully considered ornamentation; the remaining barnyard buildings also exhibit a range from unprepossessing, ordinary utilitarian buildings to some with unostentatious ornament. From a preservation perspective, we do not place an inherently higher value on the fancier buildings than the plainer ones. All of the buildings contribute to the spatial quality of the working barnyard, the hub of activity and of densely-occupied human and domestic animal habitat in the open rural landscape. And they all embody a functional purpose and way of life that is deeply rooted in the history of the region.

Recommendations are included for some of the outbuildings, but not for all of them. An evaluation has been made by the Engineer as to whether the approximate cost of restoration would be greater than, equal to, or less than the cost of replacement, and this information is noted in the Structural chapter. The decision to restore, replace or remove any of these buildings should be weighed by the Owner, taking into account the future uses,

With regard to the Architectural significance of the buildings, our opinion is that Buildings 3 and 5, as well as the Silo, should be restored; Buildings 1 and 4 should be replaced-in-kind (salvaging and re-using elements such as the antique double hung windows on Building 1) and Building 2 might be removed or replaced with a structure appropriate to the functional requirements of the farm once it is again actively operated.

#### XIII. Building No. 1 (see photo 21)

Among the cluster of three existing Outbuildings to the North of the Main house, building No. 1 is a wood stud frame gable front form with a single bay, overhead garage door opening to the South, and a simple board and batten, single leaf, in-swinging door to the North. It measures 15'-5" on the shorter gable ends, 20'-4" on the long side, and is mostly clad with horizontal wood clapboard siding but has an ornamental combination of straight and fancy cut 'half-cove' wood shingles on the gable ends from the eave returns up to the ridge. There are a pair of '6 over 6' double hung windows on both the East and West elevations (see photo 22). They are glazed with drawn sheet glass which has the small wavy distortions typical of windows found in old houses. The exterior of the building and



## EXISTING CONDITION ASSESSMENT - ARCHITECTURAL ENVELOPE

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the windows are painted barn red on the east, south and west sides. The red color was over-painted with white on the north side.

The foundation is concrete, and the building has a concrete slab. There is board sheathing on the roof and the roof system is asphalt shingles.

The building appears to have been used as a work shed. On the interior, the West and North walls are finished with un-taped, unpainted, paper-faced plaster board. There is a built-in work bench along the east wall, as well as some built-storage shelving. An electric light fixture is located over the work bench. This appears to be the only existing outbuilding with power service. Other forms of lighting control include remnants of roller shades at the east windows.

This pleasing, carefully-detailed building appears in the periphery on several of the historic photographs in the Wood Memorial Library collection (the dates of which are to be verified). Unfortunately it is in very poor condition, and it is open to the weather, so it will continue to deteriorate on an escalating basis. It would require extensive work, both to stabilize and to restore. There is significant damage to the roof system, roof sheathing and framing (see photo 23). The clapboard siding is eroded, split and cupped, and is rotting in some places. Also, the back wall structure is partly dislocated to the north, as if by an impact load applied from the interior.

### **XIV. Building No. 2 (see photo 24)**

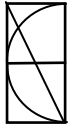
Building No. 2 is also a simple, gable-front form with a one-bay, vehicle sized opening to the south, but the construction method is of a later vintage. Foundations and slab are concrete. The wall structure comprises four courses of concrete block, surmounted by a wood stud wall that is clad with corrugated metal panels.

The corrugated metal panels appear to be anodized aluminum because of the pattern of pitting and because there is no evidence of the rusty red stains associated with corrosion of ferrous metals (see photo 25). Anodized aluminum was not used for architectural elements until the 1950s.

There is an inner gable end about 3/4s of the way to the back of the building (see photo 26). The fact that the concrete foundations and block walls appear to be of a uniform vintage suggests that the roof structure was salvaged from a different building during the initial construction rather than added to afterward. Overall, the building measures 14'-0" by 21'-7".

The vehicular entrance is a 2-leaf, board and batten hinged gate door with simple pole-type hold open devices that may have been home-made. A single sliding window at the north gable elevation illuminates the interior.





## EXISTING CONDITION ASSESSMENT - ARCHITECTURAL ENVELOPE

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The roof system visible beneath a thick layer of pine needles is asphalt shingle, with face-nailed drip edges at the eaves and rakes which may have been formed from a sliced-up piece of corrugated siding.

In places, the concrete block itself is severely eroded, particularly at the North elevation, and the NW end of the West elevation (see photo 27). It is not the mortar that is eroding, but the cement within the block itself which has dissolved and left the aggregate without a matrix to bind it.

### **XV. Building No. 3 (see photo 28)**

This building is positioned closely to the North of Building 1, and is hard to see from the house, since it is obscured by not only by the adjacent building but also by a thick cover of bamboo to the east and by a closely spaced overgrown yew hedge and white pine grove to the NW. It is aligned with Building No. 1 along the west sides, but is narrower, at 12'-5", in overall width by several feet. It measures 18'-3" long and is the only building on the Priest Farm site with a gambrel roof. It has a concrete block foundation with concrete block walls of unequal height on the East and West: to the East, there are six courses of block above grade, and to the West, there are two [which is odd, because the ground is fairly level but slopes down somewhat from East to West.] There is a dirt floor, no slab. Currently, the floor is covered with a large quantity of sand.

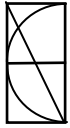
A pair of board and batten hinged doors open out on the North gambrel side, which is the 'front' of the building. To the south is a single leaf door leading to the narrow exterior space between Building 3 and the adjacent Building 1. There is one hopper window with hardware cloth fastened to the exterior on the East wall as well as two fixed (?) windows on the West wall with hardware cloth fastened to the inside.

The existing roof is a finely corrugated metal panel installed over top of wood shingle (see photo 29). Straight wood shingles clad the exterior from the eave to the roof ridge on the gambrel elevations. The wood clapboard siding on the rest of the wood-framed portions of the building is in reasonably good condition.

The color of the exterior trim is eroded barn red over white on the North and East elevations, and white on the South and West elevations. Paint on the South elevation, in particular, is eroded.

*We recommend maintenance work such as spot repointing of the concrete block wall; some repair of wood trim; and repainting. In addition, the existing layers of roofing should be stripped to the deck so it can be re-roofed with wood shingles. The building is generally in good condition and well worth preserving.*

Although the scale of the building and the presence of hardware cloth on the windows suggests that this building may have been used for domestic poultry, there is no evidence of any roosting structures inside the building. If it was used for poultry, they were probably domestic geese, which do not roost.



### **XVI. Building No. 4 (see photo 30)**

Building No. 4 is clustered strangely close to Building 5 on the south side of the barnyard areas; with just enough space to walk between them. It is a side-gabled structure with a shed roof along the south side. The timber frame superstructure for the building sits on a rubble stone foundation, with barn red vertical board exterior siding fastened directly to the timber frame. There is a dirt floor with no slab. The building measures 24'-4" x 20'-1" and opens along the front (North) side with two vehicle-size bays. It probably served as a garage for passenger cars. There are two glazed openings each with a single 6-lite, fixed sash along the south wall, although one of these has fallen out. On the North wall, all but one leaf from the two pairs of hinged board and batten doors are missing. On the East wall, there is a single leaf (missing) pedestrian door, and a hinged ventilation panel at the peak of the gable there.

The roofing is a corrugated metal panel system with small v-shaped ridges spaced approximately 12" on center, from which pieces have been torn and twisted by the wind, or dislocated by trees growing too close to the structure at the SE corner.

This building is generally in fair to poor condition (see photo 31). See *Structural Engineer's report for recommendations*.

### **XVII. Building No. 5 (see photo 32)**

Building No. 5, located immediately adjacent to Building No. 4, is framed with wood stud on the same type of mortared rubble stone foundation as Building 4. Its gable front faces North with a single wide gated opening (the doors are missing) and an opening in the gable front wall near the ridge.

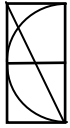
There is a small ventilation cupola at the roof ridge (see photo 33). The roof is asphalt shingle similar to what is on the Farmhouse. On the exterior, horizontal clapboard siding is fastened over asphalt felt paper on top of board sheathing. The clapboards are in rough condition and would need to be replaced if the building is salvaged.

On the interior, there are horizontal boards fastened to the wall studs on the inside surface, and narrower boards fastened to the underside of the roof rafters (see photo 34). The efforts to close the stud spaces suggest that the building may have been built for livestock such as horses.

Timber sills are in poor condition; see notes in Structural chapter (see photo 35).

### **XVIII. Silo (see photo 36)**

The silo is formed of poured concrete (also called 'monolithic') and was built in 1942 (see photo 37). This construction technique was developed in the Midwest around the turn of the century and first



## EXISTING CONDITION ASSESSMENT - ARCHITECTURAL ENVELOPE

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gained popularity in southern New England some years later, where a popular design featured poured concrete caps such as the one on this structure.

The roof structure of the Priest Farm silo is a poured concrete dome with a small ventilated cupola and a rectangular opening. There is no additional roof system over the concrete and at least one crack is visible from the ground (see photo 38). There has been some spalling at the roof overhang (see photo 39) and there is some efflorescence visible on the underside of the dome which suggests water infiltration.

A lightning protection system remains more-or-less intact on the silo; apparently the copper-thieving vandals have not noticed it, or else they were too put off by the thorny brambles surrounding the silo to steal it.

*We recommend closer inspection of the concrete roof dome in accordance with the recommendations of the structural engineer, repair of the concrete roof overhang, and repair of the cracks in the concrete roof dome. Also, as noted by the structural engineer, the reinforcing bar visible in each concrete lift at the slot for the silage conveyor is structural and should not be cut.*

### **XIX. Other observations, notes and recommendations - Outbuildings**

*The outbuildings should be documented with measured drawings as soon as practicable.*

*Note: The CT Trust for Historic Preservation maintains a survey documenting significant historic barns in CT for inclusion on their barns website (<http://connecticutbarns.org/>). One of the Barns listed there, Kubis Farm in Litchfield, includes two monolithic concrete silos, the older of which was built in 1947. The website states that the owners believe theirs is the first poured concrete silo in Connecticut, but the Priest Farm silo was built five years earlier.*





Historic photo of Priest Farmhouse, courtesy of Wood Museum  
**Photo No. 1**



Priest Farmhouse, December 2015  
**Photo No. 2**



Figured brackets and fancy cut shingles at entry  
**Photo No. 3**



Grade is too close to sill at the East elevation (even without the pile of sand)  
**Photo No. 4**



Awl pushed into deteriorated stretch of timber sill.  
**Photo No. 5**



Hole in wall at West elevation  
**Photo No. 6**





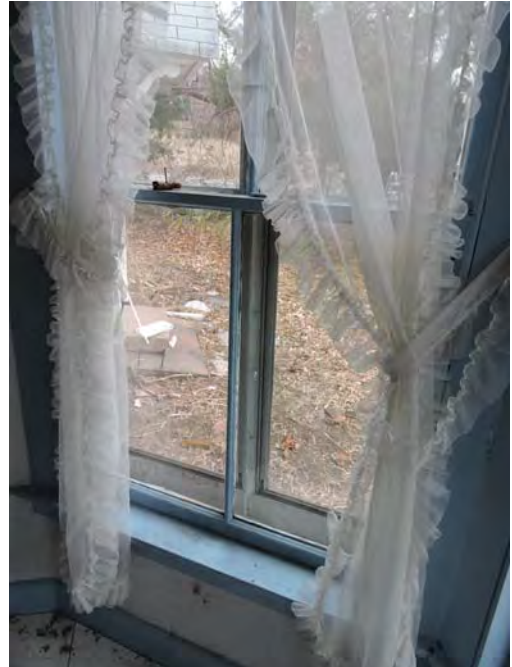
Front Parlor. Evidence of water infiltration below windows.  
**Photo No. 7**



Squirrel damage at window muntin. Note 2nd floor windows are not painted on the interior..  
**Photo No. 8**

## PHOTOGRAPHS

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Bay window at South elevation.  
Side by side storm units in one window opening.  
**Photo No. 9**



Front Door 'A' at East elevation - exterior  
**Photo No. 10A**



Front Door 'A' at East elevation - interior  
**Photo No. 10B**



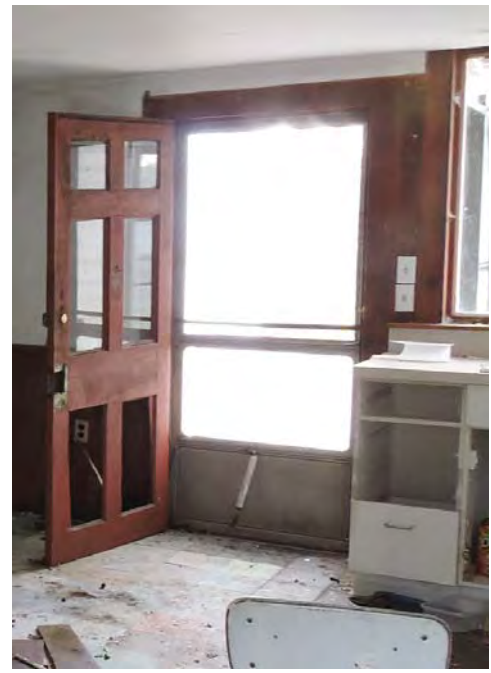
Door 'B' at South Entry - exterior  
**Photo No. 11A**



Door 'B' at South Entry  
storm door head lower than door head  
**Photo No. 11B**



Door 'C' at North Ell - interior finish.  
**Photo No. 12**



Door 'D' at South Elevation, near greenhouse  
**Photo No. 13**



## PHOTOGRAPHS

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Photo No. 14



West Ell attic - batt insulation in disarray  
Photo No. 15

## PHOTOGRAPHS

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Main Attic - no insulation below floorboards of main attic.  
**Photo No. 16**



**Photo No. 17**



'Divot' at ridge where original chimney was roofed over  
**Photo No. 18**



Metal pipe chimney connection; wood stove previously removed or stolen.  
**Photo No. 19**





Plumbing in upstairs bathroom was raided by vandals.  
**Photo No. 20**



Building No. 1 - South elevation.  
**Photo No. 21**



Building No. 1 - Double hung window on West elevation  
**Photo No. 22**



Building No. 1 - Roof  
**Photo No. 23**





Building No. 2 - South elevation  
**Photo No. 24**



Building No. 2 at NE corner.  
Noted pitted metal siding, damaged foundation.  
**Photo No. 25**



Building No. 2 - interior 'gable end' suggesting the roof  
structure may have been salvaged from another building.  
**Photo No. 26**





Building No. 2 - Erosion at concrete block foundation walls.  
**Photo No. 27**



Building No. 3 - North elevation.  
**Photo No. 28**



Building No. 3 - Existing corrugated metal roof  
**Photo No. 29**



Building No. 4 - North elevation.  
**Photo No. 30**





Building No. 4 - interior  
**Photo No. 31**



Building No. 5 - North elevation  
**Photo No. 32**





Building No. 5 - ventilation cupola  
**Photo No. 33**



Building No. 5 - interior  
**Photo No. 34**



Building No. 5 - Note condition of timber sills.  
**Photo No. 35**



Silo - view from East.  
**Photo No. 36**



Silo - date of construction molded onto concrete roof dome.  
**Photo No. 37**



Silo roof dome. Note crack to the right of the date, as well as existing lightning protection system.  
**Photo No. 38**

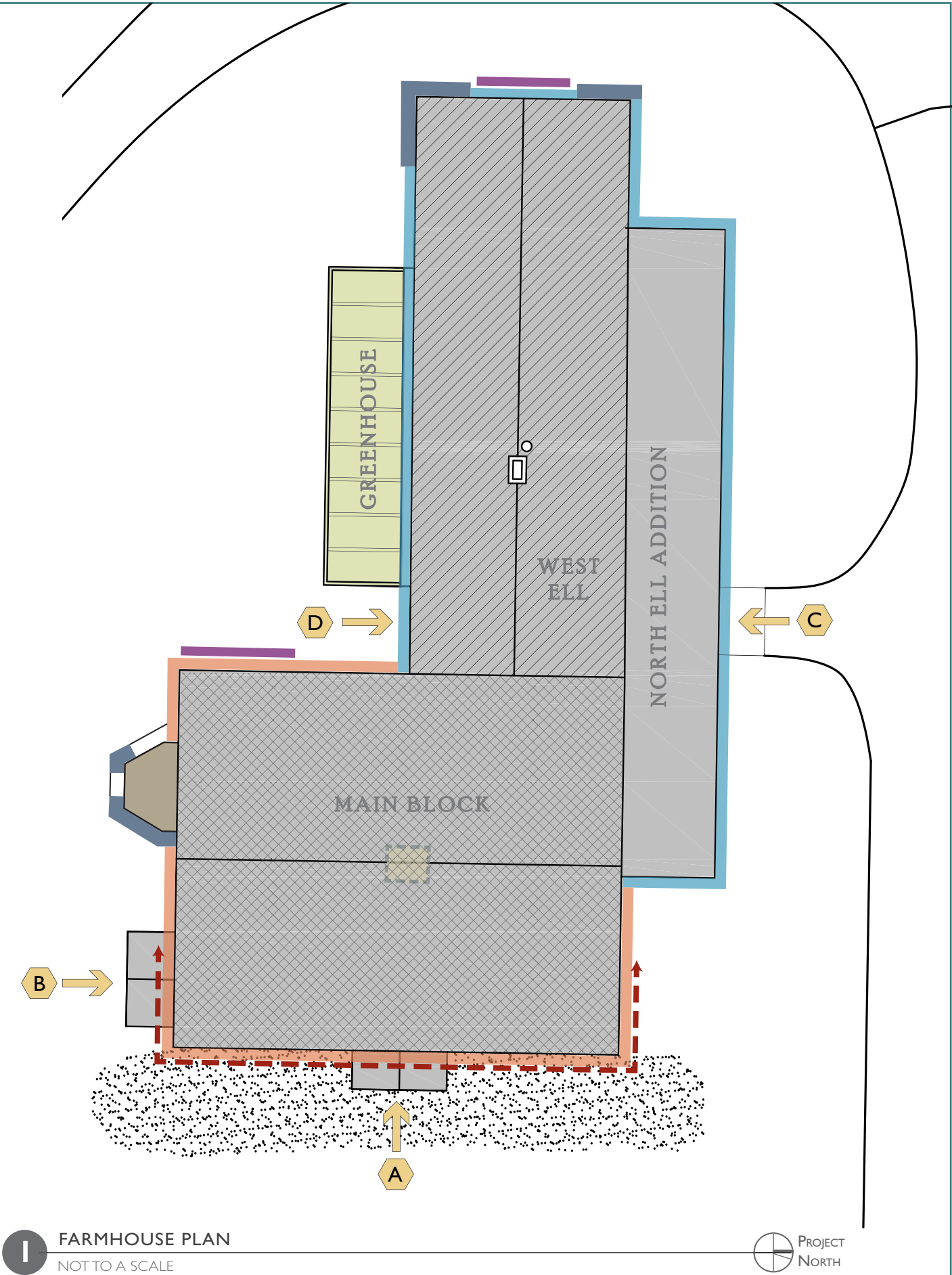




Silo - spalling at the roof overhang.  
**Photo No. 39**

LEGEND

- Entrance & door tag - see report
- Asphalt shingle roof to be replaced
- Remedial structural work required at West Ell roof, Replace exist. attic insulation
- Install attic insulation
- Original chimney was removed to below sheathing & roofed over
- Grade is high & contributing to deterioration of sill
- Metal roof, remove & replace
- Greenhouse - repair or remove
- Brick masonry foundation - maintenance & some repointing required
- Brick masonry - retore outer wythe
- Damaged vinyl siding
- Red sandstone foundation - repoint
- Investigate timber sills, continue west until sound



NELSON EDWARDS COMPANY ARCHITECTS, LLC  
ELMORE DESIGN COLLABORATIVE, INC.  
ECONOMIC STEWARDSHIP, INC.  
GNCB CONSULTING ENGINEERS, P.C.

**PRIEST FARM**  
**FEASIBILITY REPORT & CONCEPT PLAN**  
1407 SULLIVAN AVENUE, SOUTH WINDSOR, CT  
MARCH XX, 2016

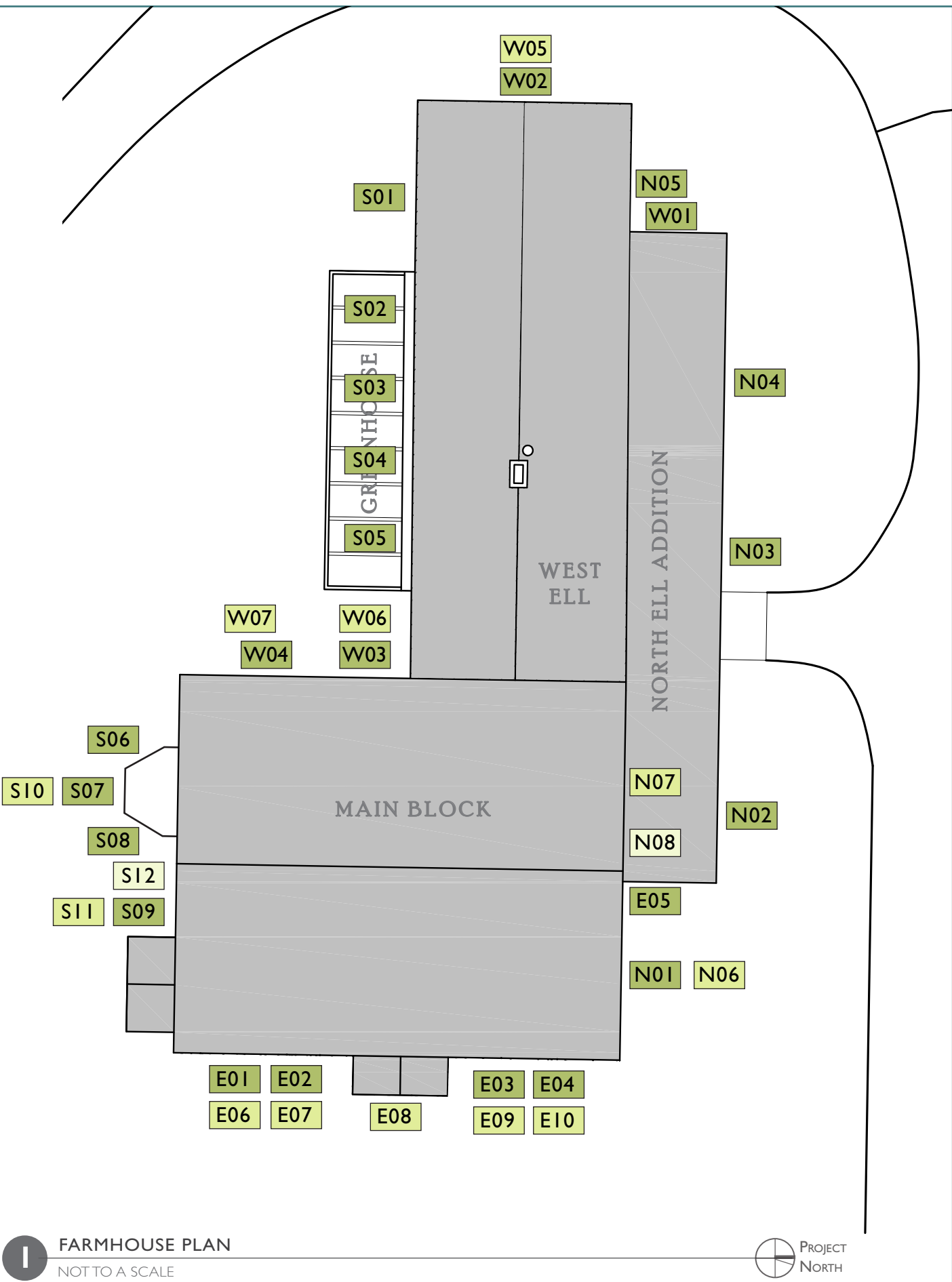
DRAWING  
NAME

**SK-1**

LEGEND

- N01Window Callout - First Floor
- E07Window Callout - Second Floor
- S12Window Callout - Attic

FARMHOUSE - PRELIMINARY WINDOW SCHEDULE											
TAG	WINDOWS					STORMS				VANDALIZED	
	DH 2/2	DH 6/6	REPLCMT	FIXED INTERIOR	OTHER	ALUM TRIPTRK	WOOD	NONE	OTHER	Y/N/?	
EAST											
E01	x							x		N	
E02	x							x		N	
E03	x							x		N	
E04	x							x		N	
E05			x					x		N	
E06	x							x		N	
E07	x							x		N	
E08	x							x		N	
E09	x							x		N	
E10	x							x		N	
NORTH											
N01			x					x		N	
N02			x					x		N	
N03			x					x		N	
N04			?					?		?	
N05					a.				a.	N	
N06	x							x		N	
N07	x							x		Y	
N08		x						x		N	
WEST											
W01		x						x		Y	
W02		?			b.				?	?	
W03	x							x		N	
W04	x							x		Y	
W05		x						x		N	
W06	x							x		Y	
W07	x							x		Y	
SOUTH											
S01		x				x				Y	
S02			x	x				N/A		N	
S03			x	x				N/A		N	
S04			x	x				N/A		N	
S05			x	x				N/A		N	
S06	x				BAY	x				N	
S07	x				BAY		x			N	
S08	x				BAY	x				N	
S09	x							x		N	
S10	x							x		Y	
S11	x							x		Y	
S12		x						x		N	
TOTAL COUNT											
	37	21	5?	8?	4	3	1	31?	2		8-10?
REMARKS:											
a. Inside: wood storm window (with squirrel damage); outside: triple track aluminum storm window, too small, with infill panel.											



I FARMHOUSE PLAN  
NOT TO A SCALE



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ELMORE DESIGN COLLABORATIVE, INC.  
ECONOMIC STEWARDSHIP, INC.  
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PRIEST FARM

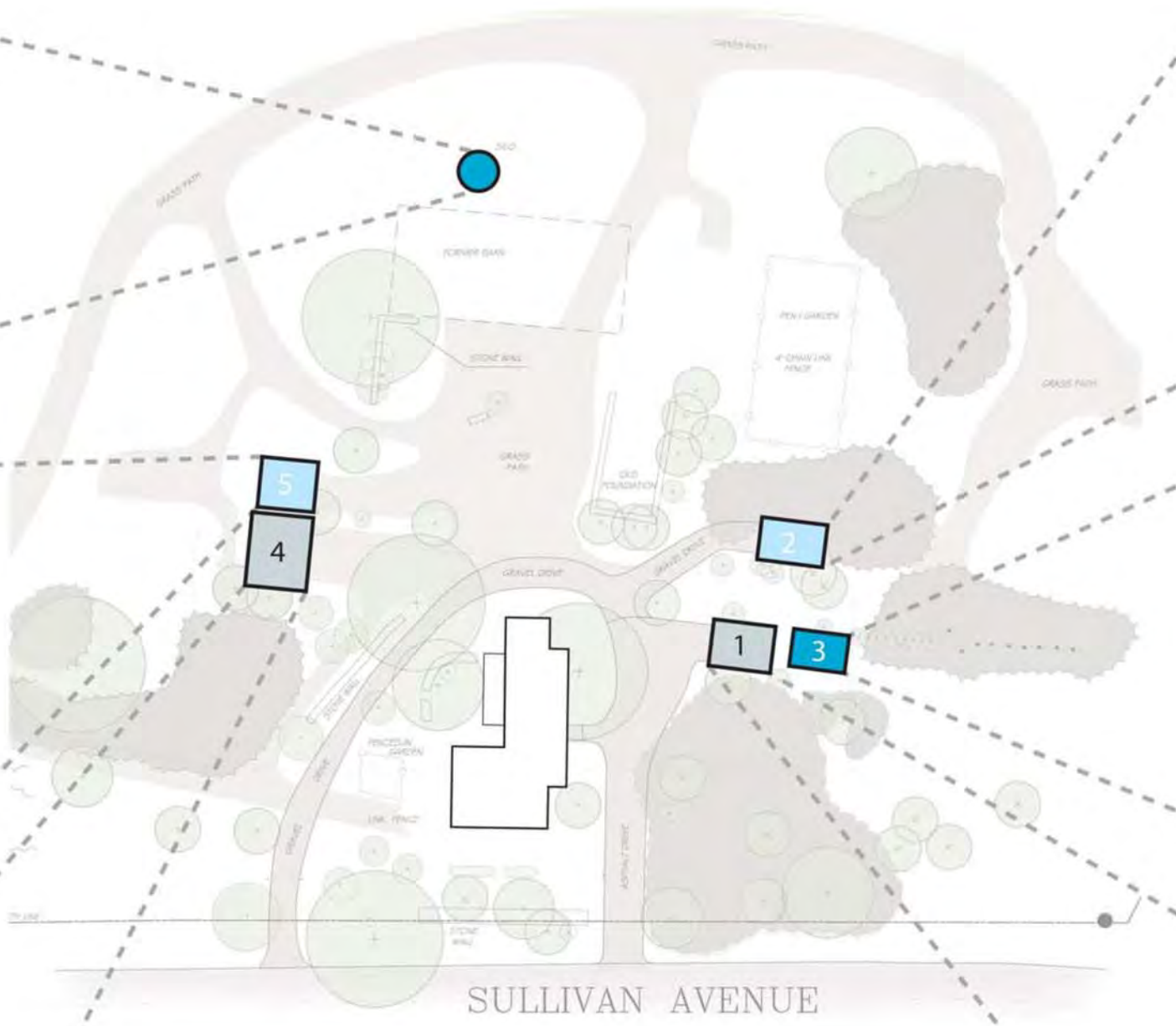
FEASIBILITY REPORT & CONCEPT PLAN

1407 SULLIVAN AVENUE, SOUTH WINDSOR, CT  
MARCH XX, 2016

DRAWING NAME

SK-2





### CONDITION OF BUILDING

- GOOD CONDITION - BUILDING REQUIRES LITTLE WORK
- FAIR CONDITION - BUILDING REQUIRES SIGNIFICANT WORK
- POOR CONDITION - BUILDING REQUIRES EXTENSIVE WORK

**VA. ASSESSMENT OF ECONOMIC OPPORTUNITIES:  
LEVERAGING PRIEST FARM FOR COMMUNITY WELL-BEING**

ECONOMIC STEWARDSHIP, INC.

SUMMARY OF RECOMMENDATIONS

ABOUT PRIEST FARM

CONTEXTS FOR IDENTIFYING USES FOR PRIEST FARM

COMMUNITY OBJECTIVES

COMMUNITY WELL BEING TENETS

PHYSICAL AND PROGRAMMATIC IMPROVEMENTS TO LEVERAGE PRIEST FARM

MARKET CONSIDERATIONS

WORKING WITH A COMMUNITY FARM MANAGER PARTNER





Where shall we raise our family? Is this the right location for our business? Should I shop here or there for food? Are there things to see and do here? Places to eat, sleep and shop? Will I find meaningful connections in this town? Should I stay or should I go?

All of these questions concern investments of time, money and creative energy that are largely informed by community character. Economic development practitioners have long recognized that much more drives place-based investments than tax incentives and the cost of land at the local industrial park. Consequently, contemporary economic strategies encompass cultural facilities, downtown revitalization, school quality, tourism activity, etc. Similarly, when it comes to a community's existing stakeholders, progress and prosperity encompass much more than economic growth. Communities have come to understand that quality of life enhancements—physical improvements to the built and natural environments—are most effective when coupled with initiatives geared towards the improved personal well-being of its citizenry. Community well-being considers the local economy but also addresses social, environmental, cultural, and health factors that together comprise a more holistic view of prosperity.

South Windsor should be proud of its efforts to attend to the well-being of its citizenry and incorporate strategies supporting healthy minds, bodies and relationships. Priest Farm presents South Windsor with an incredible opportunity to foster community well-being, consistent with past investment and policy decisions as set forth in its Plan of Conservation and Development (POCD) and elsewhere. Priest Farm, however, can fulfill these roles while also contributing to South Windsor's economy and lending it distinctiveness... which translates into increased community competitiveness as a place to live, work and visit.

### **I. ABOUT PRIEST FARM**

Priest Farm consists of about 75 acres on Sullivan road; an additional 14 acre parcel connects the property to Pierce Road and an adjacent 19 acres are held in friendly hands by the local land trust. The farm dates to 1823 and remained in the same family until the Town of South Windsor purchased the property in 1998. While much of the farm is suitable for cultivation, wetlands comprise about 25.2 acres of the site, including a small pond. Over the years, the property's farm house and cluster of outbuildings remained largely intact, even as the agricultural uses evolved, from raising tobacco to keeping horses, pigs, chickens, and growing vegetables to sustain the family's needs. One of the barns served the community as a gathering spot; South Windsor residents of a certain age fondly recall attending dances there. Norman Priest, the farm's last owner and an avid horticulturalist, raised dairy cows and cultivated a variety of rare plants and trees, some of which remain today.

The Town's purchase of Priest Farm reflected the community's willingness to invest in an historically significant property that advanced heritage appreciation, farmland preservation, and open space conservation. Its central location made it even more worthy of inclusion in projects funded by a bond issue. More recently, the Town has taken steps to identify uses and reuses for Priest Farm that will be consistent with other community objectives.





### 2. OVERVIEW OF RECOMMENDATIONS FOR ADAPTIVE REUSE

Recommendations for the adaptive reuse of Priest Farm include:

- Let community well-being considerations—physical, social, cultural, and economic, all - informed by South Windsor's Plan of Conservation and Development (POCD) and its appreciation for enjoyable, productive and sustainable outdoor space---guide Priest Farm's future;
- Mix new construction and adaptive reuse;
- Balance community serving uses with off-limits space in the service of enhancing South Windsor's access to healthy locally grown foods;
- Strive for flexibility in all site improvements and building investments;
- Seek programmatic and physical improvements that reinforce South Windsor's brand identity and improve its competitiveness;
- Build organizational capacity to strengthen partnerships around shared Priest Farm goals.
- Create the organizational mechanisms that will enable Priest Farm to benefit from both not-for-profit status and affiliation with the Town.
- Develop success metrics that value both community impacts and performance.
- Organize the path to full implementation around the site's upcoming 200th birthday in 2023.

### 3. CONTEXTS FOR IDENTIFYING USES FOR PRIEST FARM

Contexts for evaluating potential future uses for Priest Farm include: physical characteristics, consistency with community objectives and elements of community well-being. Other considerations to be addressed later include energy and support from stakeholder organizations and the citizenry, availability of market support and attractiveness vis-à-vis grantsmanship and fundraising.

#### a. Physical Characteristics

Priest Farm's size and significance suggest a wide array of potential uses. From a physical perspective:

- Priest Farm's buildings have become somewhat ramshackle and will require extensive remediation work regardless of their ultimate use;
- Overgrown vegetation, including bamboo and other invasive species, characterizes much of the property and obscures some of its original features;



- The site's location on busy Sullivan Road and single improved access point pose traffic issues, particularly for any uses that entail mass arrivals and departures.

In short, while future uses can celebrate Priest Farm's historic uses and pay homage to South Windsor's agricultural heritage, the site, its buildings and its linkage to the community will all require remediation regardless of use. Beyond responsible attentiveness to the site's integrity as both an agricultural landscape and a natural ecosystem and the buildings' history and care, there are no particular barriers to use.

### **b. Community Objectives**

South Windsor's *Plan of Conservation and Development (POCD)*, adopted in 2013 after lengthy consultation with the community and subsequently amended in 2014, sets forth goals and strategies to: preserve important resources; guide future development; enhance community character, and; promote quality of life. As a tool to guide land use decisions and detail programmatic ambitions, the POCD is a key touchstone for decisions affecting Priest Farm. Two POCD subsections deserve particular attention:

- Chapter 7, *Farmland*, recognizes the importance of agriculture as an economic driver and source of locally grown food. It also treats farmland that, for whatever reason, is no longer as potential open space worthy of conservation. Subsection D—Help Support and Expand the Market for Locally Grown Products—includes nine strategies with particular salience for Priest Farm:
  - D.1 Determine approach for marketing locally-grown products (e.g., web, at town events, etc.);
  - D.2 Coordinate and promote the use of locally grown food in schools, senior center, and restaurants and at town events;
  - D.3 Continue to promote the farmers market;
  - D.4 Expand the farmers market to include a winter market;
  - D.5 Help farmers determine if Community Supported Agriculture might be an option;
  - D.6 Work with farmers to determine potential agri-tourism activities;
  - D.7 Publicize agri-tourism activities;
  - D.8 Implement the South Windsor Food Alliance Master Plan, and;
  - D.9 Support the creation of additional community gardens.
- Chapter 9, *South Windsor Center*, addresses strategies for strengthening the central business district. In a survey of community residents, 69 percent of respondents deemed Town Center “very” or “somewhat” important. Moreover, 62 percent felt that the crossroads area near Town Hall and just up Sullivan Avenue from Priest Farm should



serve this function. Chapter 9 sets forth four strategies for Town Center (none with sub-tasks):

- A Reinforce a “South Windsor Center” brand;
- B Draw more people to the Center;
- C Enhance the Center through physical improvements, and;
- D Convey a vision for longer term redevelopment.

We also note that Chapter 8, Business Development, calls for encouraging new enterprises that are consistent with South Windsor’s established community character and commercial districts. It recommends a Town Center Overlay Zone that snugs up against Priest Farm’s southern border.

Priest Farm can advance all of the COPD strategies excerpted above.

### **c. Community Well Being Tenets**

Community well-being concerns the nexus between private citizens’ health (mind, body and spirit) and public investments in the built and natural environment as well as programming. South Windsor’s commitment to open space and decision to implement the Food Alliance Master Plan and advance related strategies, like launching the summer and winter farmers’ markets, attest to its concern about community well-being.

Community well-being may include a wide range of economic, social, environmental, and health factors, from affordable housing to racial harmony which, as those examples imply, may be measured quantitatively or qualitatively. Some contributors to community well-being lend themselves to investments in infrastructure or other physical improvements, whereas others require intervention in the form of programs, outreach efforts and activities that foster inclusivity.

Based on this framework, Priest Farm’s potential contribution’s to South Windsor revolves around three dimensions of community well-being:

- Personal health and well-being is influenced by exercise and access to fresh fruits, vegetables and safe protein sources, along with life-long learning opportunities that expand perspectives and foster growth;
- Vibrant cultural amenities that help people feel rooted in their communities, forging connections to one another, developing an appreciation for community history and sharing it with others as in through agri-tourism;
- Resilience vis-à-vis how the local economy functions, including capturing resident spending, which keeps local dollars circulating close to home, setting the stage for entrepreneurs to achieve success, and encouraging the development of market magnets, which draw consumers and businesses, and;





- Natural Resource management geared towards improving community character and quality of life, e.g., ensuring open space access, monitoring for bio-diversity (thwarting invasive species and encouraging native vegetation), and protecting wetlands and healthy water systems.

Priest Farm's physical features, taken in the context of their potential contribution to community wellbeing and consistency with the POCD strategies excerpted above, suggests both a framework for future uses and site management.

#### 4. MARKET CONSIDERATIONS

National trends suggest that South Windsor's interest in restoring Priest Farm to its healthy food roots is on the right track. Farmers markets—and organic food in general—are becoming increasingly popular as consumer demand for both the experience and the health benefits of obtaining fresh products directly from the farm increases. With obesity, cancer and other health issues on the rise, more and more people are seeking wholesome alternatives to food produced by big agriculture.

Organic food is free of man-made additions and is raised in ways intended to reduce the impact of agriculture on the environment. To be certified as organic, a given food product must comply with stringent regulations promulgated by the U.S. Department of Agriculture. Eschewing chemical pesticides, relying on natural fertilizers and doing without antibiotics often results in more expensive food, but advocates seek out organic foods for both their health benefits and to support environmentally sensitive agricultural practices.

The organic food sector is healthy and growing as more and more Americans (including aging baby boomers and concerned parents) seek to improve the choices they make about how to fuel their minds and bodies. Of all the produce now sold in the United States, 12 percent is organic, a market share that has doubled in the past ten years. As a result of rising demand, the food industry struggled to keep pace and supplies of many organic ingredients were tight. All in all, organic sales now total about 5 percent of the total food market. Organic fruits and vegetables represent the biggest-selling category within the sector, with \$13 billion in sales (up 12 percent). Other growing categories include dairy products, organic fiber and organic personal care products.

In 2014, U.S. consumers broke previous records for spending on organic food and non-food products, spending \$39.1 billion, up 11 percent from the previous year; food spending comprised \$35.9 billion of the total and rose 11.3 percent. That compares well with the 3 percent growth rate posted by the industry as a whole. The majority of American households throughout the country choose organic products at a wide range of outlets, from mass retailers like WalMart and Target, to specialty stores like Whole Foods, the nearby supermarket and, of course, hyper-local venues like farmers markets. With 90 percent of households consuming organic food, New England leads the country in terms of penetration.

All in all, 45 percent of Americans actively try to include organic foods in their diets, while 15 percent avoid them. The remaining 38 percent “don't think about it either way.” Organic foods can be pricy compared to their non-organic counterparts, which keeps some people from including them



in their diets; about a quarter (24 percent) of people with household incomes below \$30,000 avoid organic food. Household income is a factor in food choices; since organic foods typically cost at least 20 percent more (and sometimes much more) than non-organic foods, lower income people could be avoiding them to save money, rather than due to dietary preference or health reasons. Convenience is another; the biggest problem consumers report experiencing with farmers markets is lack of access: distance, hours, etc.

Americans living in cities large and small are more likely to eat organic foods than those who describe their location as a town or rural setting; 46 percent of suburban dwellers actively try to include organic foods in their diets. Access to organic foods varies with degree of urbanization. Priest Farm offers South Windsor an opportunity to provide its residents with convenient supplies of healthy foodstuffs.

Growth in the organic foods sector should continue, since young people are increasingly drawn to the products. Just over half (53 percent) of 18-29 year old Americans actively try to include organic foods in their diets, as compared to just a third (33 percent) of people age 65 or older.

### 5. PHYSICAL, PROGRAMMATIC AND PLACEMAKING IMPROVEMENTS TO LEVERAGE PRIEST FARM

Investing in Priest Farm entails identifying viable physical improvements that are true to the site, reflect community goals, and support a wide array of programming: attractive, functional and flexible spaces.

#### a. Physical Improvements

Threshold physical improvements for Priest Farm include restoring its natural ecosystems and habitats—its forested areas, grasslands and wetlands---and also ensuring that its agricultural heritage is legible on the land and functional. As a town-owned property acquired in part for its benefits as a significant expanse of open space, Priest Farm's future must encompass community access. However, honoring Priest Farm's heritage means including a productive agricultural operation which cannot function as a purely public realm. This development program balances these two facets of Priest Farm's rejuvenation.

#### i) Community Access – Site Enhancements

Improvements to Priest Farm geared towards accommodating community access include:

- **Community Gardens** – Community gardens, already oversubscribed elsewhere in South Windsor, empower people to grow and consume organic food. Providing access to land for gardening builds community, creates educational opportunities and promotes health, vitality and self-reliance.
- **Walking Trails** – Hiking and walking are among the most accessible forms of exercise and recreation. Trails help people connect to the land by facilitating bird watching, snowshoeing, photography, etc. and enlist users in monitoring the condition of natural resources. Trails build community, increase property values, and instill a conservation



ethic that can last a lifetime. A trail system crisscrossing Priest Farm can connect with pathways on adjacent property, creating the beginnings of a town-wide network.

- **Parking, Circulation and Site Access** – Ensuring safe and equitable access for people arriving at Priest Farm on foot or by school bus, car, or bicycle is part of ensuring an enjoyable visitor experience and encouraging frequent use. As discussed elsewhere, the circulation hierarchy and parking location can also be used to separate the site's public and private realms. Lastly, creating a secondary access point, as shown in the accompanying drawings, helps address through-put, traffic flow and related safety issues that arise whenever peak demand resulting from onsite events occurs.

### ii) Community Access – New Construction

Restoring Priest Farm to its agricultural roots will require the full complement of existing structures on site, as discussed in later pages. Consequently, accommodating indoor community-serving uses will entail new construction. Fortunately, compatible new construction that creates flexible spaces is possible.

This plan envisions a new “barn” a facility designed to be sympathetic to the forms and building materials present in and around South Windsor: architecture that respects (if not reflects) the character of the region's built environment. As discussed in the section on implementation, the structure could be built piecemeal as money became available and champions emerged for the following purpose-built spaces:

- **Shared Use Commercial Kitchen** - A shared-use community commercial kitchen can create economic opportunities while supporting community health by improving the supply of locally produced food products. Community commercial kitchens enable small scale food entrepreneurs—who often lack the capital to invest in their own production facilities or the knowhow to ensure that they don't run afoul of local health regulations—the ability to develop their products. For South Windsor, a commercial food kitchen is also a means to strengthen the community's brand identity, help area farmers create products for sale through the existing markets and on-site at Priest Farm, improving their financial stability.

Community commercial kitchens can function as incubator space, but they can also generate revenue, especially if they become popular options for small catering companies, food trucks, and cooking classes. The Priest Farm facility can also do double duty as prep space for events on-site.

- **Public Event Venue** – Priest Farm can become a venue where area organizations and individuals can host events, from family celebrations (weddings, retirement parties, reunions, etc.) to product unveilings to corporate retreats to social occasions. Public meetings at Priest Farm Accommodating these uses harkens back to dances and other festivities held at in Priest Farm barns. Note: The space might also emerge as a suitable location for the winter farmer's market if funds to address site circulation issues materialize.





- **Classroom Space** – Multi-purpose activity rooms fulfill a wide array of community needs, including meeting space appropriate for educational programs offered on a periodic or on-time basis by a variety of organizations. These facilities and the programs they accommodate bring members of the community together around shared interests.
- **Office Space/Incubator for Not-for-Profit Organizations** – Enabling established and new not-for-profit organizations to co-locate at Priest Farm delivers benefits beyond the provision of an office space and shared services. For many not-for-profit enterprises, the availability of affordable office space enables them to make the leap from all-volunteer to professionally-staffed organization. Proximity begets joint projects and more effective organization and sharing space tends to improve all participants' business skills, especially when the incubator includes help with accounting, strategic planning, etc.

For Priest Farm, the office space/incubator will also serve an important function: nurturing the organizations that must take primary responsibility for programming its activities. Ensuring a steady stream of appealing things to see and do that attract audiences is the best way to secure ongoing community support.

- **Exhibition Space** – Temporary and informal exhibits can certainly be accommodated by the public event and classroom space. However using Priest Farm to showcase and interpret farm implements (or other thematically consistent collections) requires proper exhibition space, including possibly climate control, and knowledgeable people to care for them. As Priest Farm becomes active in the community, organizations that envision a museum aspect to their mission will be better able to plan, including evaluating the prospects for feasibility.
- **Shop/Market** – A year 'round store—a permanent farm stand—would fulfill several functions on Priest Farm. Here people could purchase locally-produced goods—including fruits, vegetables and proteins raised on Priest Farm, jams, cheeses, sauces, spreads and other foodstuffs prepared in the community commercial kitchen and other goods with a connection to South Windsor---would create year 'round agricultural opportunities, improve access to healthy foods and help the community distinguish itself from other greater Hartford towns.





Although these uses can function all on their own, together they reinforce each other and create a synergy around Priest Farm.

### **b. Programmatic Improvements**

Programmatic improvements are geared towards establishing Priest Farm as a community resource and restoring the historic relationship between South Windsor residents and the property, while advancing the wellness goals detailed above.

#### **i Community Farm-Manager**

Ensuring that Priest Farm returns to agricultural production appeals to many South Windsor stakeholders, especially since a tenant farmer arrangement has worked well on other Town lands. Priest Farm's intended program calls for more than expertise raising commodity crops and a landlord-tenant relationship: it requires an individual interested in and talented at facilitating the community's relationship to and understanding of food matters—from field to table—and South Windsor's agricultural heritage. The ideal Community Farm Manager would be interested in raising a wide array of fruits, vegetables and animals, accommodating school groups and other visitors, distributing food via a CSA or similar arrangement, on a year 'round schedule, essentially functioning as a demonstration farm for sustainable approaches to farming. A Community Farm Manager with an interest in cultivating relationships with the community on- and off Priest Farm itself would be an enormous asset to South Windsor's health food goals. Although the community farm-manager would have domain over the entire Priest Farm site, some areas are presumed to be off limits to non-guests:

- **House** – Returning the main house to residential use by the Community Farm Manager is both satisfying and practical.
- **Crops and Gardens** – New fencing will be required
- **Animal Pens and Shelters** – Raising poultry, fowl and other animals for food and fiber, chosen for their resilience in a pasture environment, is a means of maintaining visitor interest year round, increasing the products available via the CSA or the store, and prompting further educational opportunities. Moreover, animals have an important role to play vis-à-vis sustainable organic farming. While some of the existing buildings may be repurposed, accommodating animals will entail new fencelines and other construction.





One intriguing notion: choosing historic and endangered livestock breeds. Heritage breeds are traditional livestock varieties that were once common but have been eclipsed by modern agriculture. Heritage animals exhibit traits that made them well-adapted to the local environment. Heritage breeds, or even specialty breeds, create a competitive advantage for Priest Farm and its food products. The miniature cows at right, for example, require only one acre apiece which works well with Priest Farm's small size.

Although Priest Farm could raise animals as food or fibre sources, the variety that makes for an interesting visitor experience often (poultry excepted) makes for an inefficient farming operation. The heritage breeds hold appeal as visitor attractions. Moreover, the animals themselves can be the product, with Priest Farm selling offspring to other interested parties.

- **Indoor Farming** – Reaching year round productivity will likely entail pursuing either aquaculture (also useful as a source of fertilizer), hydroponics or high tunnel/greenhouse crops. New construction is necessary.
- **Machinery and Other Equipment** – Rehabilitating the site's outbuildings as storage and workshop space may be adequate, but the Town should be prepared for the need for some compatible new construction.





## LEVERAGING PRIEST FARM FOR COMMUNITY WELL-BEING

The chart below depicts how these ideas support South Windsor's POCD and healthy community tenets.

### Physical Improvements to Priest Farm

		Community Access										Private Access - Tenant Farm				
		Site Improvements				New Multi-Purpose Barn						Restored Facilities				
		Environmental Restoration	Walking Trails	Community Gardens	Parking, Circulation and Site Access	Commercial Kitchen	Non-Profit Incubator	Public Event Venue	Classroom Space	Exhibition Space	Shop	Animal Facilities	Crops and Gardens	Indoor Aquaculture	House and Office	Machinery Sheds
Elements of Community Well Being	Personal Health and Well Being	Exercise		•	•											
		Access to Fresh Fruits and Vegetables			•	•					•		•			
		Safe Protein Sources				•					•	•		•		
		Lifelong Learning Opportunities		•	•	•	•	•	•	•	•	•	•	•		
	Vibrant Cultural Amenities	Community Connections		•			•	•	•							
		Heritage Appreciation			•	•				•	•	•	•	•	•	•
		Agri-Tourism		•		•					•	•	•	•	•	•
	Resilient Local Economy	Retained Retail Spending			•	•					•	•	•	•		
		Opportunities for Entrepreneurs			•	•					•	•	•	•		
		Market Magnets			•	•		•	•	•	•	•	•	•		
	Sustainable and Enjoyable Natural	Open Space Access		•												
		Bio-diversity and Native Vegetation	•													
		Water Systems and Wetlands Protection	•													
Elements of South Windsor's CO PD	Strategies for Town Center	A. Reinforce a "South Windsor Center" brand				•						•	•	•		
		B. Draw More People to the Center		•	•	•	•	•	•			•	•	•		
		C. Enhance Center Via Physical Improvements		•	•											
		D. Convey Vision Via Longer Term Redevelopment	•	•	•											
	Farmland Strategy D: Help Support and Expand the Market for Locally Grown Products	1. Market Locally Grown Products				•						•	•	•		
		2. Use Locally Grown Products Around Town			•	•						•	•	•		
		3. Promote the Farmer's Market				•						•	•	•		
		4. Operate a Winter Farmers Market				•						•	•	•		
		5. Help Farmers Assess if CSA is a Viable Option				•						•	•			
		6. Work with Farmers on Agri-Tourism Activities				•						•	•	•		
		7. Publicize Agritourism Activities				•						•	•	•		
		8. Implement the Food Alliance Master Plan			•	•						•	•	•		
		9. Support Creating Additional Community Gardens			•	•										

• Primary Benefit

• Secondary Benefit

□ Mission Support Space

### ii Programmatic and Placemaking Offerings

In addition to the events and other activities suggested by the recommended improvements, such as community celebrations in the barn, Priest Farm can:

- Develop interpretive programming around the farm itself and its activities, perhaps working with the local school systems to ensure that offerings complement the curriculum;



- Create annual community events that take advantage of the site's character and heritage, e.g., fall harvest festivals, "fun runs" and other silent sports activities on the trail system, summer movies with an inflatable screen on an unused pasture, cooking and canning competitions, etc.;
- Enlist project-specific help from other organizations devoted to community betterment, e.g., scouting groups, master gardeners, birders, etc.;
- Use the barn for community meetings that are too large for Town Hall or the Library's public meeting rooms;
- Establish a Priest Farm brand for foodstuffs and related products raised and/or processed on site, e.g., honey, herb-infused personal care products, etc.;
- Take preliminary steps towards developing a food hub by aggregating produce from area farmers for use in a CSA (participants share the revenue) and/or creating customer relationships with area restaurants and institutional food operations (e.g., hospitals, schools, senior residence communities, corporate kitchens, incarceration facilities, etc.);

### 6. IMPLEMENTATION

Preliminary recommendations vis-à-vis implementing the redevelopment of Priest Farm include:

- Air the Priest Farm plans with community stakeholders to refine them and gain public support;
- For each phase of the project, anticipate and plan for the need for further study vis-à-vis design, market and financial feasibility assessment, fundraising/grantsmanship/budgeting strategies, contracting, and construction management;
- Solicit proposals from potential Community Farm Managers, setting forth threshold requirements and requiring prospective operators to detail the crops and animals they anticipate raising, the related physical improvements required, qualifications for the position's managerial and educational roles, the conditions necessary for a CSA operation, etc. Regarding compensation, it may make sense for the Community Farm Manager to be a Town employee or to have a guaranteed minimum income stream, at least during the early years of the venture. After the solicitation process concludes, let the Community Farm Manager help with site design, e.g., the location and size of pens and paddocks, the adaptive reuse of existing out-buildings, etc.
- Investigate organizational alternatives for each aspect of the project, e.g., where it should reside within the Town's department structure, if an independent not-for-profit friends group is useful (particularly for fundraising and grantsmanship), how to structure partnerships with other groups, and what the liability implications are for each approach and activity.



## LEVERAGING PRIEST FARM FOR COMMUNITY WELL-BEING

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- Manage community expectations about the scope, scale, timing, and costs (both capital and operating) associated with each phase and activity of the project.

The strategies set forth for Priest Farm comprise an action agenda that requires strong leadership, bold vision and persistent effort to achieve... but it's a path that responds to community desires: improved access to open space, connections to South Windsor's agricultural heritage and the opportunity to consume locally-raised foods and to know the people who produced them. Community wellness--healthier lifestyles that reflect access to wholesome, nutritious foods, opportunities for exercise and vehicles for strengthening relationships with neighbors--is an important goal for investing in Priest Farm, but the benefits of implementing this plan pay economic development dividends as well. Priest Farm's ultimate return on investment can also be measured in its contributions to South Windsor's distinctiveness, character and competitiveness: a Town with a stake in ensuring that both its people and economy thrive.



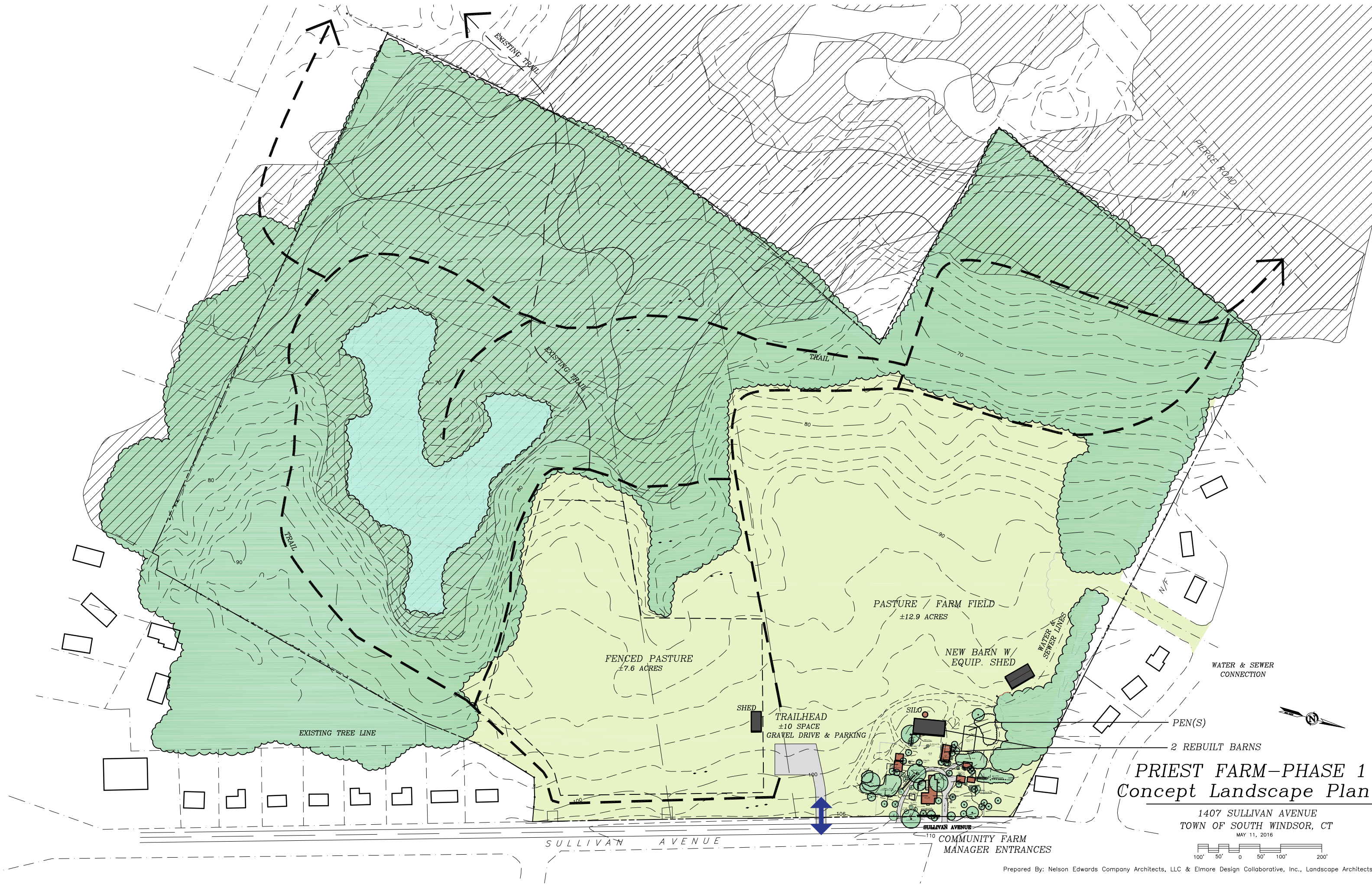
**VB. CONCEPTUAL PLANS AND DRAWINGS - LANDSCAPE**

ELMORE DESIGN COLLABORATIVE

CONCEPT LANDSCAPE PLAN - PHASE 1

CONCEPT LANDSCAPE PLAN - PHASE 2

CONCEPT LANDSCAPE PLAN - PHASE 3



**PRIEST FARM—PHASE 1**  
**Concept Landscape Plan**

1407 SULLIVAN AVENUE  
TOWN OF SOUTH WINDSOR, CT  
MAY 11, 2016

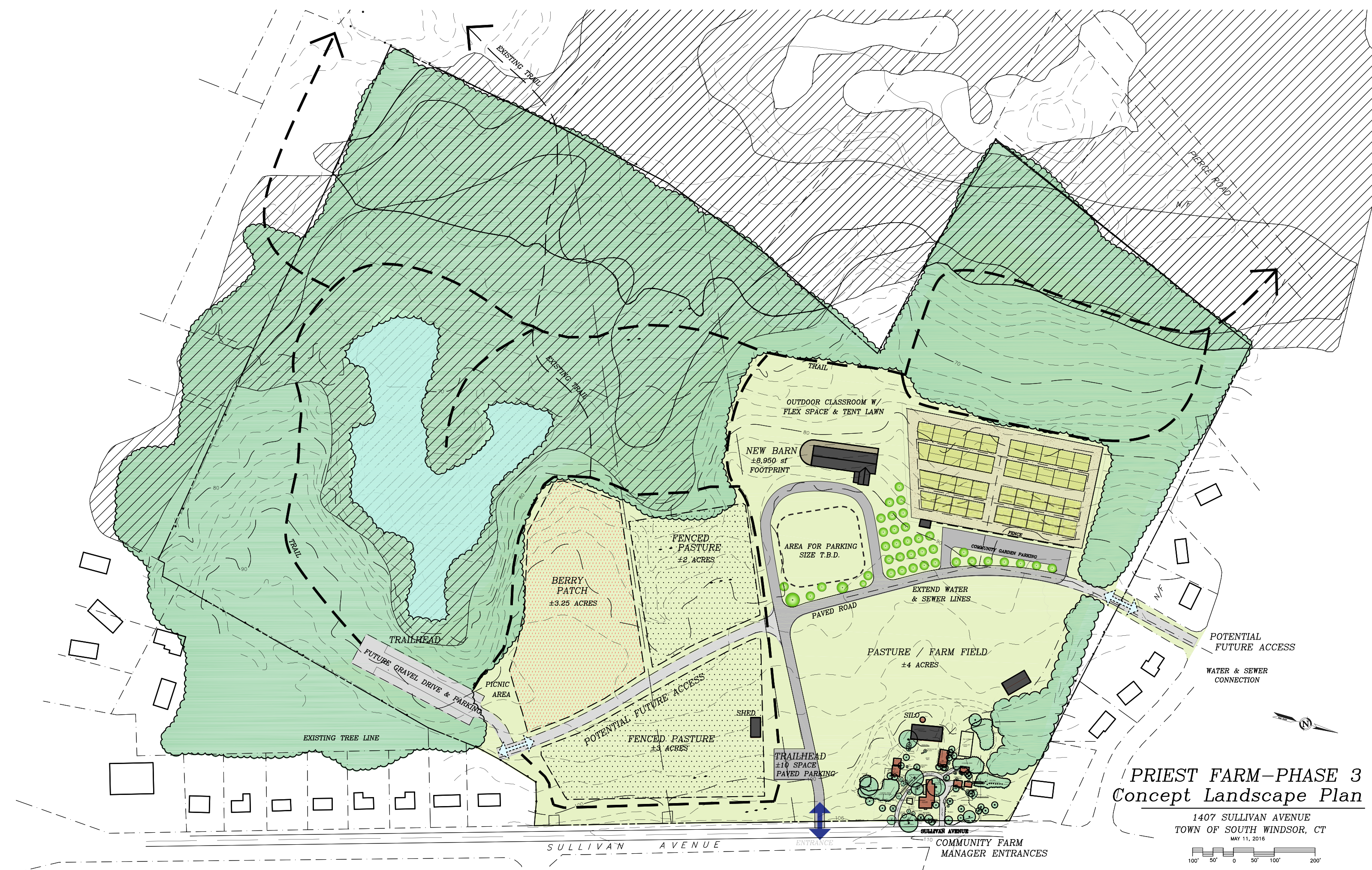




# PRIEST FARM—PHASE 2 Concept Landscape Plan

1407 SULLIVAN AVENUE  
TOWN OF SOUTH WINDSOR, CT  
MAY 11, 2016





# PRIEST FARM—PHASE 3 Concept Landscape Plan

1407 SULLIVAN AVENUE  
TOWN OF SOUTH WINDSOR, CT  
MAY 11, 2016



COMMUNITY FARM  
MANAGER ENTRANCES

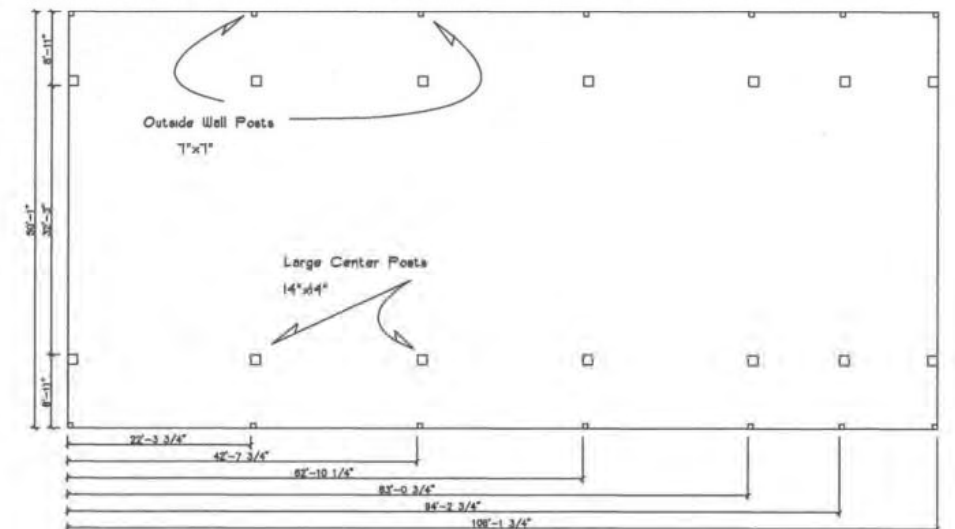
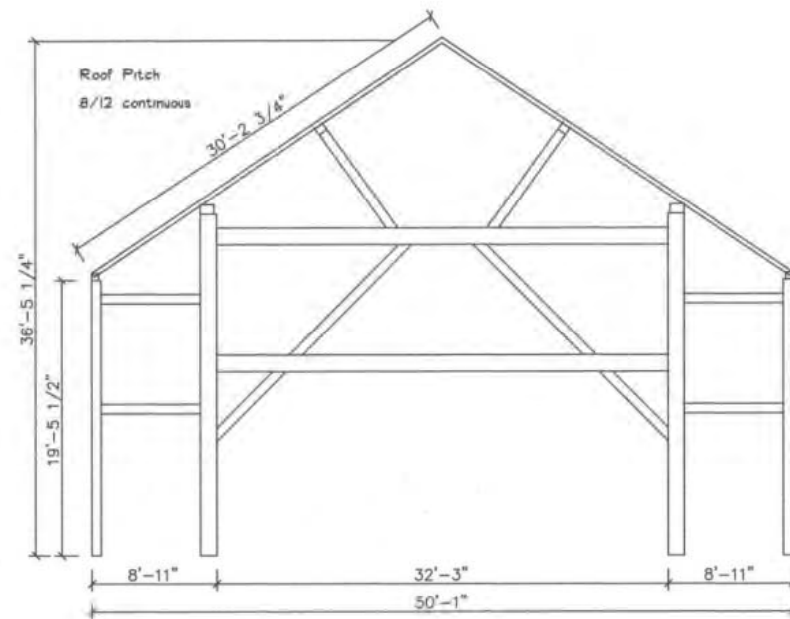
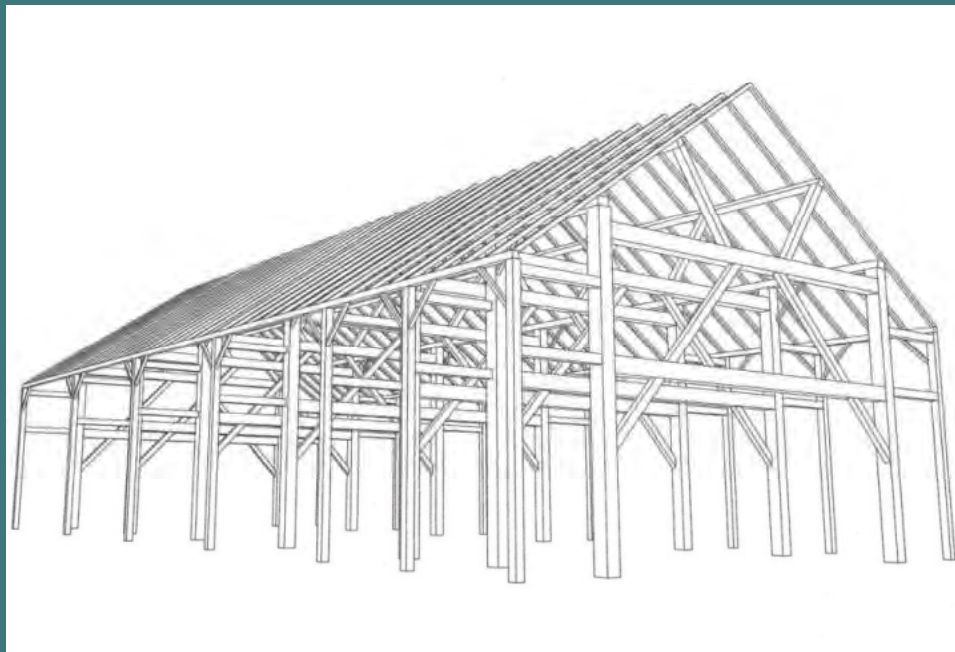
**VC. COMMUNITY BARN - CONCEPTUAL IMAGES**

NELSON EDWARDS COMPANY ARCHITECTS, LLC









An example of an actual salvaged barn that is available for sale, including restoration, fumigation, transportation and erection [of timber frame only]:  
 Historic Timber Frame Structure: Heritage Restorations "1051 Maryland Barn" 50W x 106'L x 44' H"

## **IX. APPENDICES**

APPENDIX A:	TEMPORARY STABILIZATION MEASURES AT WEST ELL ROOF GNCB CONSULTING ENGINEERS, P.C. NELSON EDWARDS COMPANY ARCHITECTS, LLC
APPENDIX B:	FARM HOUSE – RECOMMENDATIONS FOR MOTHBALLING PROPERTY NELSON EDWARDS COMPANY ARCHITECTS, LLC
APPENDIX C:	MODEL LOW IMPACT TRAIL: PARMALEE FARM, KILLINGWORTH, CT ELMORE DESIGN COLLABORATIVE, INC.
APPENDIX D:	UTILITIES REPORT TOWN OF SOUTH WINDSOR

## APPENDIX A: TEMPORARY STABILIZATION AT WEST ELL ROOF

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### RECOMMENDATIONS:

The following work is recommended as a temporary measure to stabilize the sagging roof structure at the West Ell:

- In both the attic and at the ground floor of the West Ell, install temporary stud walls to shore up ridge and transfer the structural load to framing of ground floor. It will not be necessary to shore from first floor to the basement slab.
- Stud wall: 2x4, 16" o.c.; double top plate; ¼" plywood (interior) on one side. Assume for each of the walls that the height is 8' and length is 43'.
- Provide temporary power; there is no power in the building.
- Prior to the work, the deteriorated and dislodged fiberglass insulation in the attic should be removed, and/or respirators and tyvek suits used by workers.
- Also, because there is debris on the first floor, some cleaning will be required before the wall plate can be installed.



Mothballing Checklist - Priest Farm						
Category	Item	Recommended	Not Applicable	Underway	Completed	Remarks
Structure	Shore unsafe areas		X			
	Provide closure for any openings presenting safety hazard		X			
Moisture	Roof Watertight	X				
	Gutters clean	X				
	Downspouts intact	X				
	Drain unobstructed	X				
	Windows and Doors in weathertight condition	X				
	Wood siding in good condition	X				
	Site grading properly pitched	X				
	Vegetation cleared from foundation			X		Ongoing efforts needed.
Pests	Nests and Pest Removed from Building eave					
	Screens in place to guard against pests	X				
	Inspect building for insects and rodents	X				
	If bat / pigeon droppings present / remove		X			
Security	Notify Fire and Police Department building is mothballed	X				
	Monitored smoke detectors present and in working order	X				Note, smoke detectors to be connected to centrally monitored station
	Secure Exterior doors and windows	X				
	Plan for periodic monitoring	X				
	Keys in accessible / secure location (lockbox)	X				
	Keep landscape vegetation from becoming overgrown	X				
Utilities	Verify wiring in safe condition to the extent wiring remains activated		X			
	If building will not be heated have all pipes been drained and glycol added?		X			
	Have utility companies disconnected / shut off or fully inspected water, gas and electric lines?				X	
	Activate telephone line for monitored security / fire	X				
Ventilation	Have steps been taken to ensure proper ventilation	X				
	Are all interior doors left in open position to maintain air flow?	X				
	Check buidling for interior dampness / excessive humidity	X				

APPENDIX C  
MODEL LOW IMPACT TRAILS: PARMALEE FARM, KILLINGWORTH, CT

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Stone water crossing



Trail with wayside bench



Trail markings



Trail



Trail signage



Wood timber water crossing

## Priest Farm Utilities Options

The existing house was examined by Town Staff with the development of the property as a cultural/agricultural education facility in mind. Anticipated occupancy numbers are unknown at this time, but the assumption is that the facility will be open to the general public.

Currently, the house is serviced by a dug well for water supply and a septic system for waste water. The location of the well is undetermined at this time, but past reports by the previous sanitarian identify it as a shallow well located very close to the house foundation and would not be suitable to supply the facility either with water quantity or quality.

The Town purchased the property in 1996 and the then owner, Edna Priest, had life use of the house. She passed in 2000 and the house has been unused since then.

The current septic system was installed in 1990, and designed to service a two bedroom house. In October of 2014, the septic system was inspected and evaluated by Skips Wastewater Services via a sub-surface camera and was found to be in good shape with minor maintenance suggested.

The closest proximity of available public utilities is in Heritage Lane located 850 linear feet to the northwest (neither are available in Sullivan Ave in front of the house). Both public water, supplied by Conn. Water Co. and public sanitary sewer, supplied by the Town are present. A right-of-way from Heritage Lane to the property is present and Town owned. Excavation into the road would be necessary to connect the utilities. The conveyance lines could then be placed on Town owned land, avoiding the crossing of any private property.

The cost of this option has been estimated by our Engineering Dept.

6" Sanitary Sewer line	\$44/linear foot	x886 feet	\$38,984.00
1" Copper Water service	\$50/linear foot	x 850 feet	\$42,500.00
Pavement Patching	\$25/square foot	x120 sqft	\$3000.00
Sub-Total			\$84,484.00
Contingency		25%	\$21,121.00
Total			<b>\$105,605.00</b>

Other options will include utilizing a on-site septic system and a well. A septic system could be constructed based upon an anticipated waste stream. There is sufficient room to place a large system. The soil characteristics will dictate the size and cost. Future expansion will be limited and potentially costly, as additional systems would have to be added. The cost of installing a septic system would be approximately ----- on the low end.







END PAGE