



Pioneer Village Living History Museum and Visitor's Center

Oudens Ello Architecture
Public Archaeology Laboratory
Structures North
Object IDEA

Salem Historic Commission
February 22, 2023

Camp Naumkeag Structures

- Structural assessment
- Options for restoration and re-use of one cabin

Pioneer Village

- Update on Massachusetts Historic Commission Consultation
- Secretary of the Interior's Guidelines for Flood Adaptation
- Structural assessment and moving recommendations
- Environmental threat in current and proposed locations
- Examples of relocated historic buildings
- Parking and pedestrian circulation at new site

Next Steps

Camp Naumkeag Structures

- Structural assessment
- Options for preservation and re-use of one cabin
- Next Steps: Cost estimate for reuse of structure and determination of financial viability

Pioneer Village

- Update on Massachusetts Historic Commission Consultation
- Secretary of the Interior's Guidelines for Flood Adaptation
- Structural assessment and recommendations for relocation
- Environmental threat in current and proposed locations
- Examples of relocated historic buildings
- Parking and pedestrian circulation at new site
- Next Steps: Complete Interpretive and Operations Plans

- Structures North evaluated four Camp Naumkeag cabins in January 2022
- The cabins are supported on elevated foundations composed of scattered timber posts and stacked concrete masonry units (CMU). Many of the posts are missing footings, the CMU is out of plumb, and the beams are deteriorating at foundation attachment points. These foundations are inadequate for building support and require complete replacement.
- Beams supported by the foundations are sagging, resulting in significant unevenness in the floors
- Trusses supporting roofs are in poor condition, with collar ties that are separating from the rafters or missing altogether, resulting in notable sagging of the roofs
- Significant deterioration of wood cladding from weathering and rot, with large gaps appearing between siding boards
- The work that would be required to restore and preserve them on the present site would approach the cost of totally reconstructing them
- Moving the buildings would exceed the cost of replacing them with new facilities





Photo 10: Rotted wood posts and shifted CMU piers



Photo 15: Overall view of Building B's foundation system



Photo 36: Collar tie and rafter connection failure in Building C



Photo 32: Failed rafter and collar tie connection (facing north)

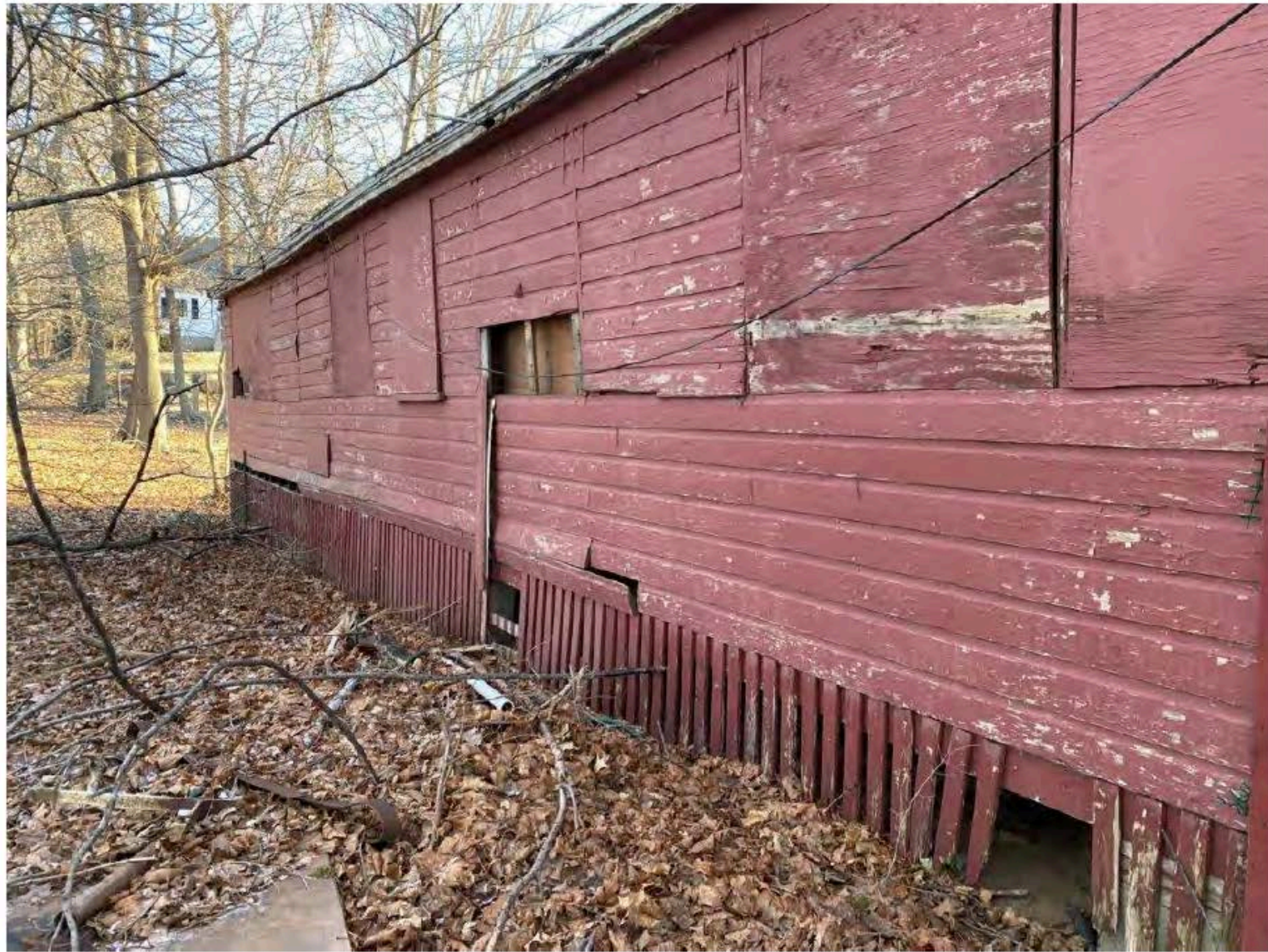


Photo 13: Missing siding, sagging roof, and wall structure (north elev.)



Photo 18: Sagging roof and eroded flashing around chimney (west elev.)



Photo 8: Deteriorated roof, sill and stairs (east elev.)





- Option A:**
- Move Men's Cabin southeast
 - Well positioned for flexible program use.
 - Visible from street.
 - Views to water through trees
 - Close to Pioneer Village buildings; requires robust landscape screening



Option B:

- Rework parking layout and preserve lodge in existing location
- Visible from street
- Difficult to access from rest of site and not well positioned for flexible program use.



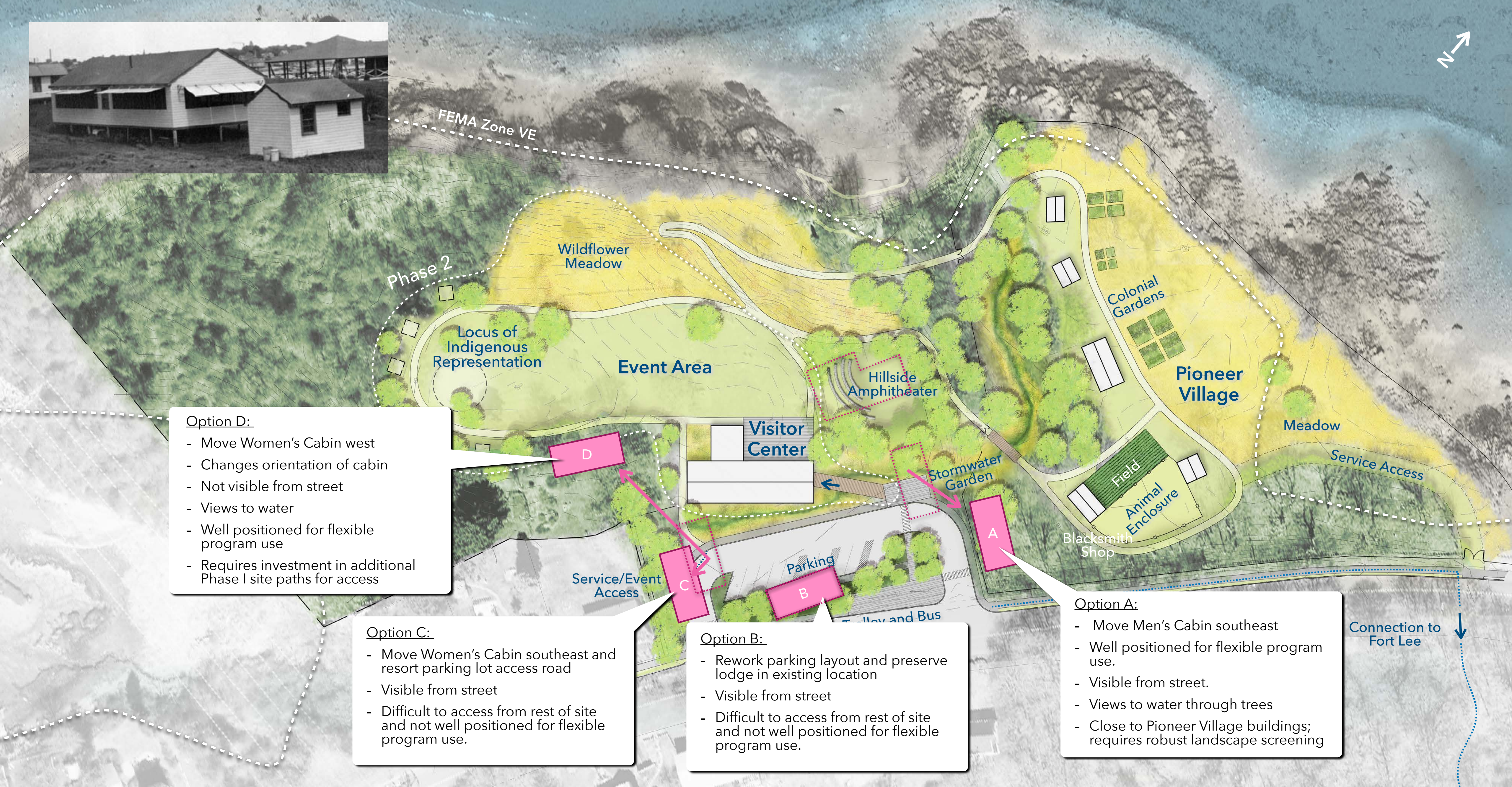
Option C:

- Move Women's Cabin southeast and resort parking lot access road
- Visible from street
- Difficult to access from rest of site and not well positioned for flexible program use.



Option D:

- Move Women's Cabin west
- Changes orientation of cabin
- Not visible from street
- Views to water
- Well positioned for flexible program use
- Requires investment in additional Phase I site paths for access



Option D:

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Option C:

- Move Women's Cabin southeast and resort parking lot access road
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Option B:

- Rework parking layout and preserve lodge in existing location
- Visible from street
- Difficult to access from rest of site and not well positioned for flexible program use.

Option A:

- Move Men's Cabin southeast
- Well positioned for flexible program use.
- Visible from street.
- Views to water through trees
- Close to Pioneer Village buildings; requires robust landscape screening



Pioneer Village

- Update on Massachusetts Historic Commission Consultation
- Secretary of the Interior's Guidelines for Flood Adaptation
- Structural assessment and moving recommendations
- Environmental threat in current and proposed locations
- Examples of relocated historic buildings
- Parking and pedestrian circulation at new site

Project Notification Form (PNF) Submitted to MHC in October 2022

Materials Included:

- Existing site plan at Forest River Park noting all structures to be moved
- Existing and proposed site plans and aerial renderings (phases 1 and 2) at Camp Naumkeag
- Pioneer Village area form prepared by Public Archaeology Laboratory (PAL)
- Camp Naumkeag area form prepared by Public Archaeology Laboratory (PAL)

The project currently involves no Federal funds or State funds, permitting or licensing under which MHC review is required, but the City requested a consultation with MHC

MHC has no comment on the project at this time



- Temporary Protective Measures
- Site and Landscape Adaptations
- Protect Utilities
- Dry Floodproofing
- Wet Floodproofing
- Fill the Basement
- Elevate the Building on a New Foundation
- Elevate the Interior Structure
- Abandon the Lowest Floor
- Move the Historic Building



- Temporary Protective Measures
- Site and Landscape Adaptations
- ~~• Protect Utilities~~
- ~~• Dry Floodproofing~~
- ~~• Wet Floodproofing~~
- ~~• Fill the Basement~~
- ~~• Elevate the Building on a New Foundation~~
- ~~• Elevate the Interior Structure~~
- ~~• Abandon the Lowest Floor~~
- Move the Historic Building

Technical Limitations:

- The building must be structurally stable to move safely or feasibly disassembled and reassembled on the new site.
- Masonry buildings can be more difficult to move.
- The new site must be located outside of the established flood risk area but similar in character to the original setting.
- Routes between the historic location and the new proposed site must be suitable for transporting a building.



[109] At times, moving a house over water may provide more space to maneuver and facilitate keeping the building in one piece as it is moved. Photo: Courtesy of myvvhhome.com

- Structures North evaluated four one-story cottages, the Governor's Fayre House, and the Blacksmith shop in July 2022
- Identified structural deficiencies and recommended repairs
- Governor's Fayre House, Blacksmith Cottage, Lady Arabella Cottage are sturdy enough to be moved whole with structural repair prior to move. Chimneys would be dismantled and reconstructed at new site.
- Blacksmith shop and Admissions and Gift Shop buildings would be dismantled into wall and roof slabs and re-assembled at new site
- Woodbury cottage is not stable enough to be moved in one piece and is inaccessible because a large tree is growing through the front foundation wall. It should be completely dismantled and reconstructed at new site
- Recommended methods for lifting structures from foundations and for moving via barge to new site

29 November 2022

Oudens Ello Architecture
46 Waltham Street, Suite 4A
Boston, MA 02118

Attention: Chris Genter, AIA, LEED AP
Senior Associate

Reference: Pioneer Village Evaluation Reference: Pioneer Village Conditions
Assessment

Dear Chris:

On July 27 we performed interior and exterior structural conditions evaluation of six structures at Pioneer Village in Salem, MA. The assessment also included a study of the feasibility of re-locating the structures to present site of Camp Naumkeag's near the Salem Willows. Figure 1 below shows the overall view of the cottage layout; please note that elevations facing Salem Harbor will be referenced as east facing throughout this report.

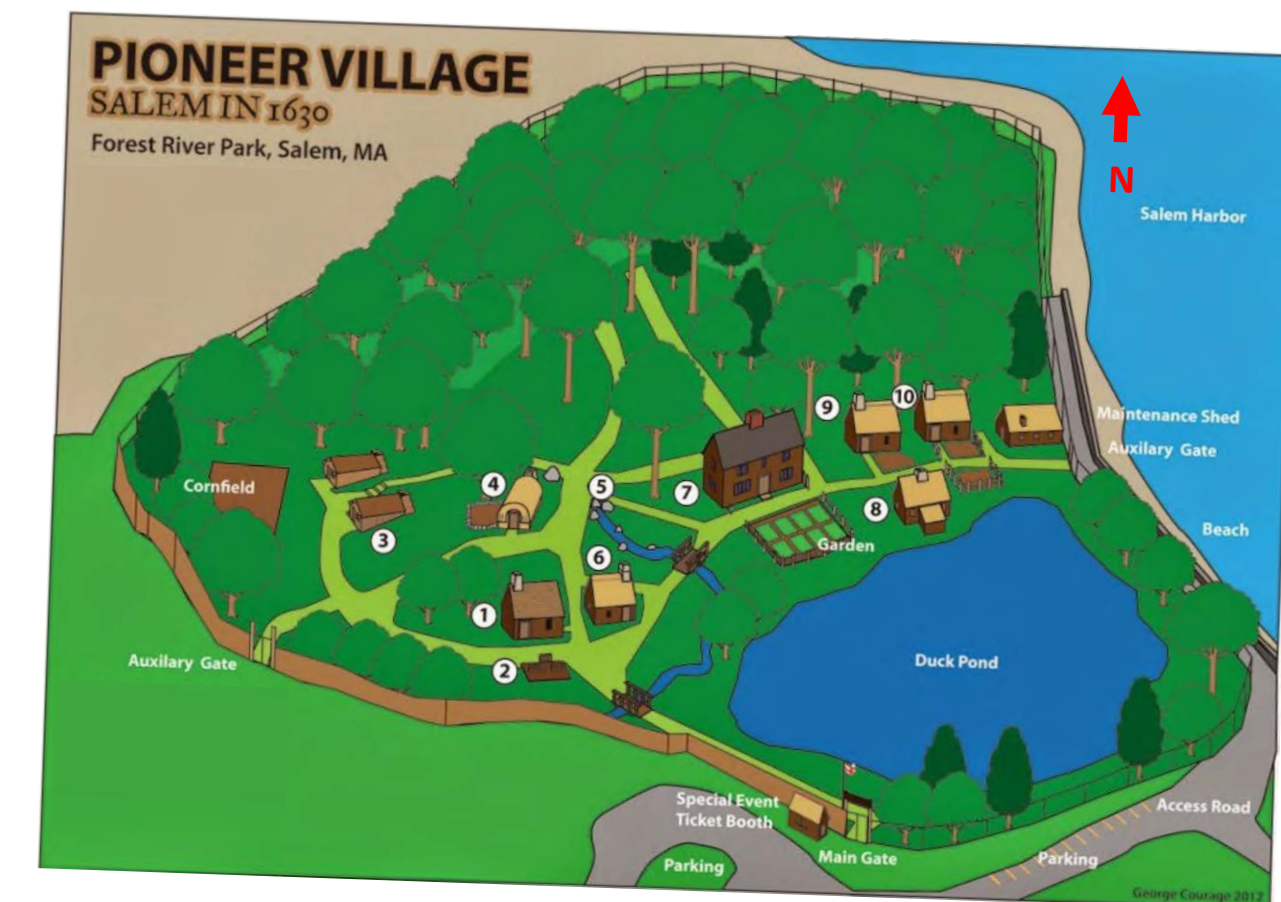
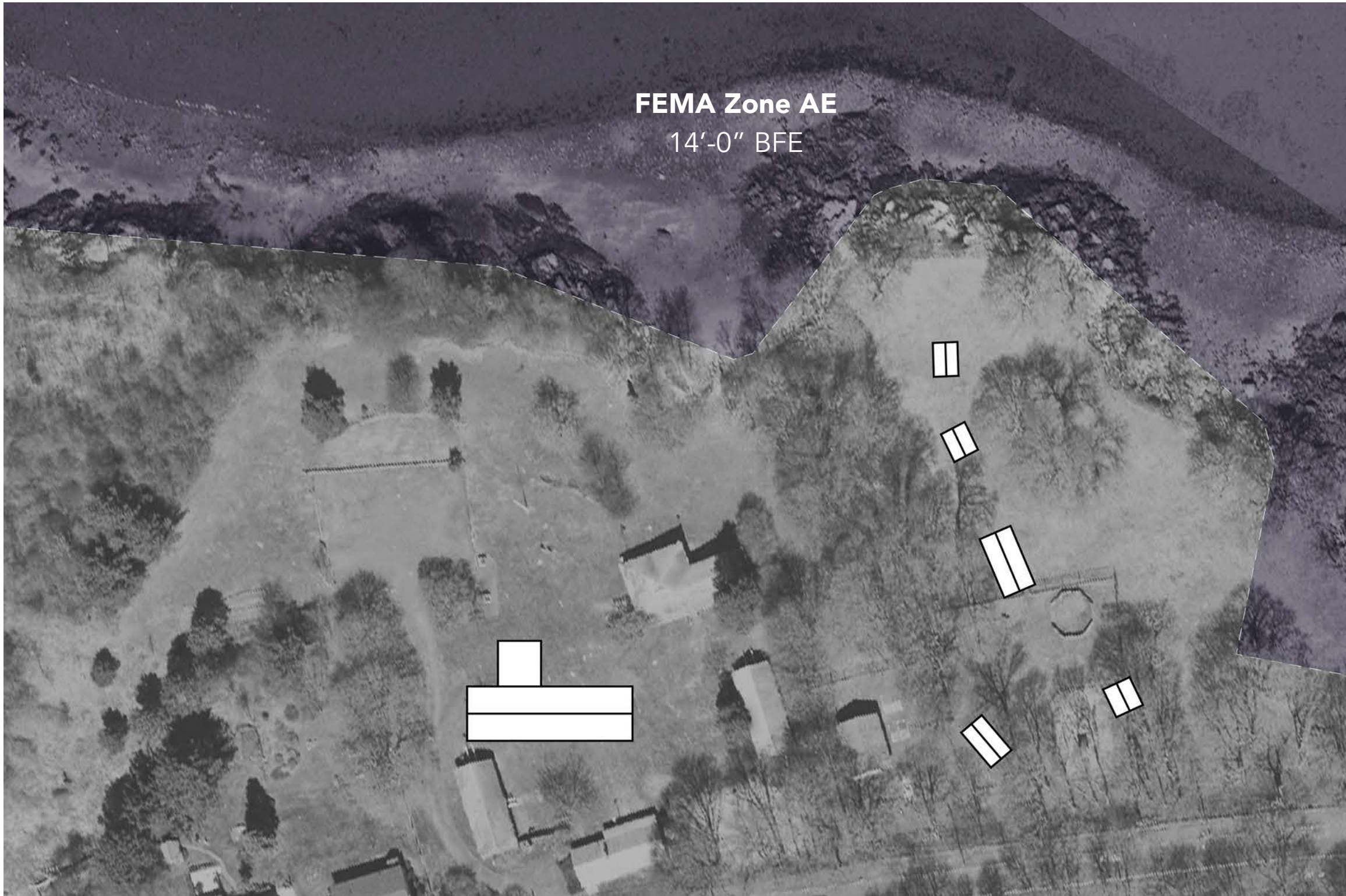


Figure 1: Overall view of the surveyed cottages

Forest River Park (Existing)

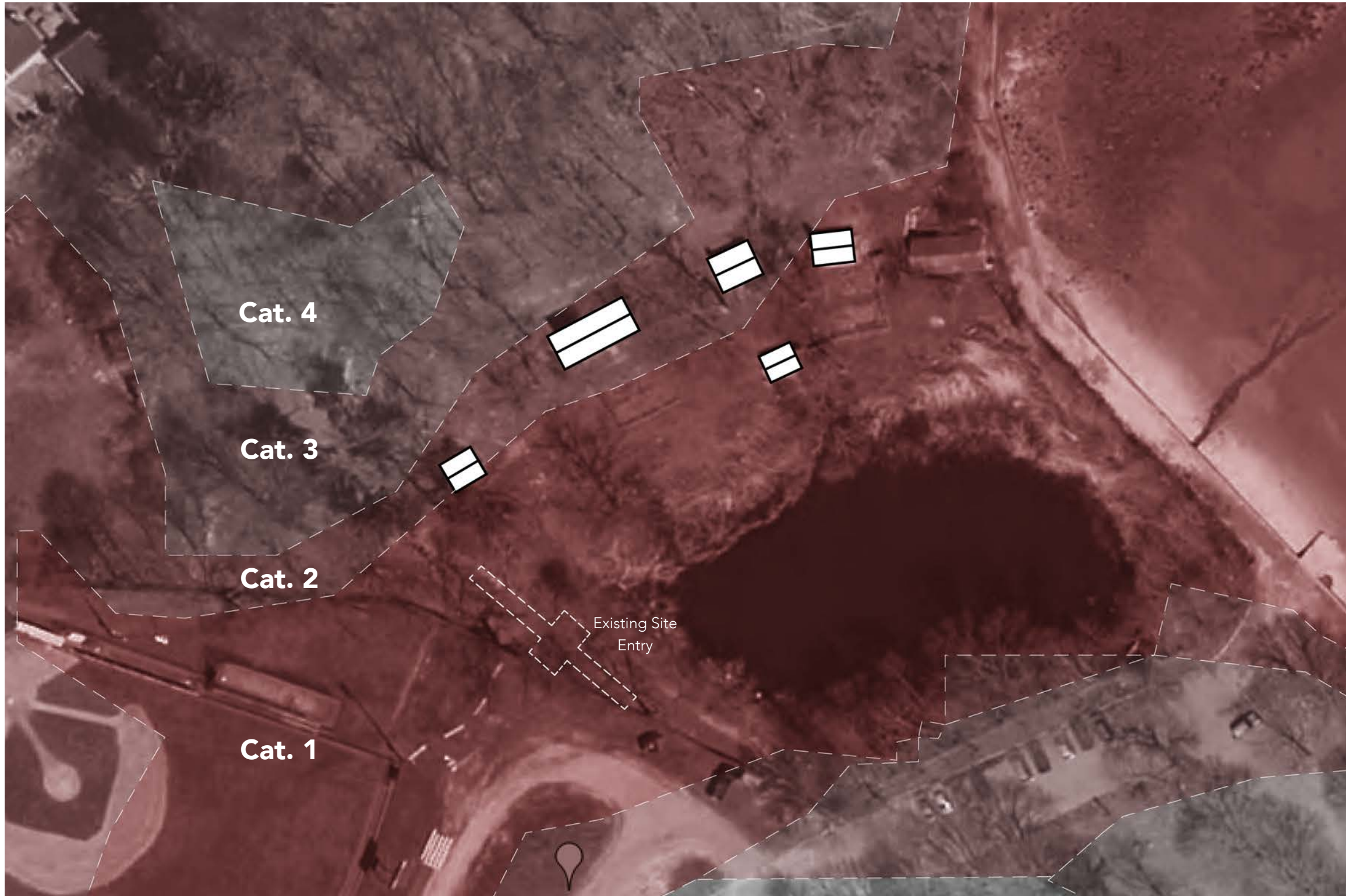


Proposed Site

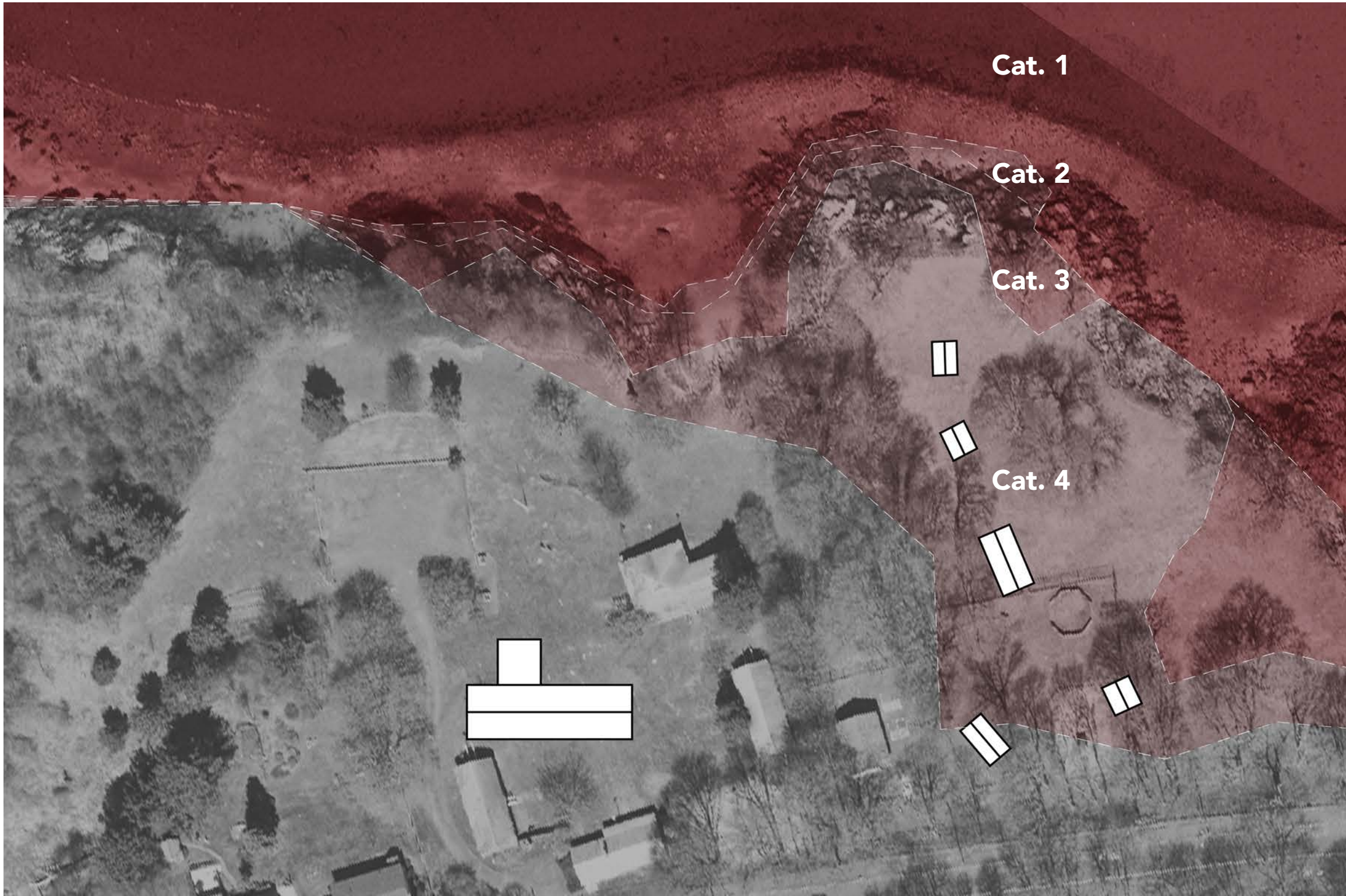


* Data from Massachusetts Office of Coastal Zone Management's
Massachusetts Sea Level Rise and Coastal Flooding Viewer

Forest River Park (Existing)

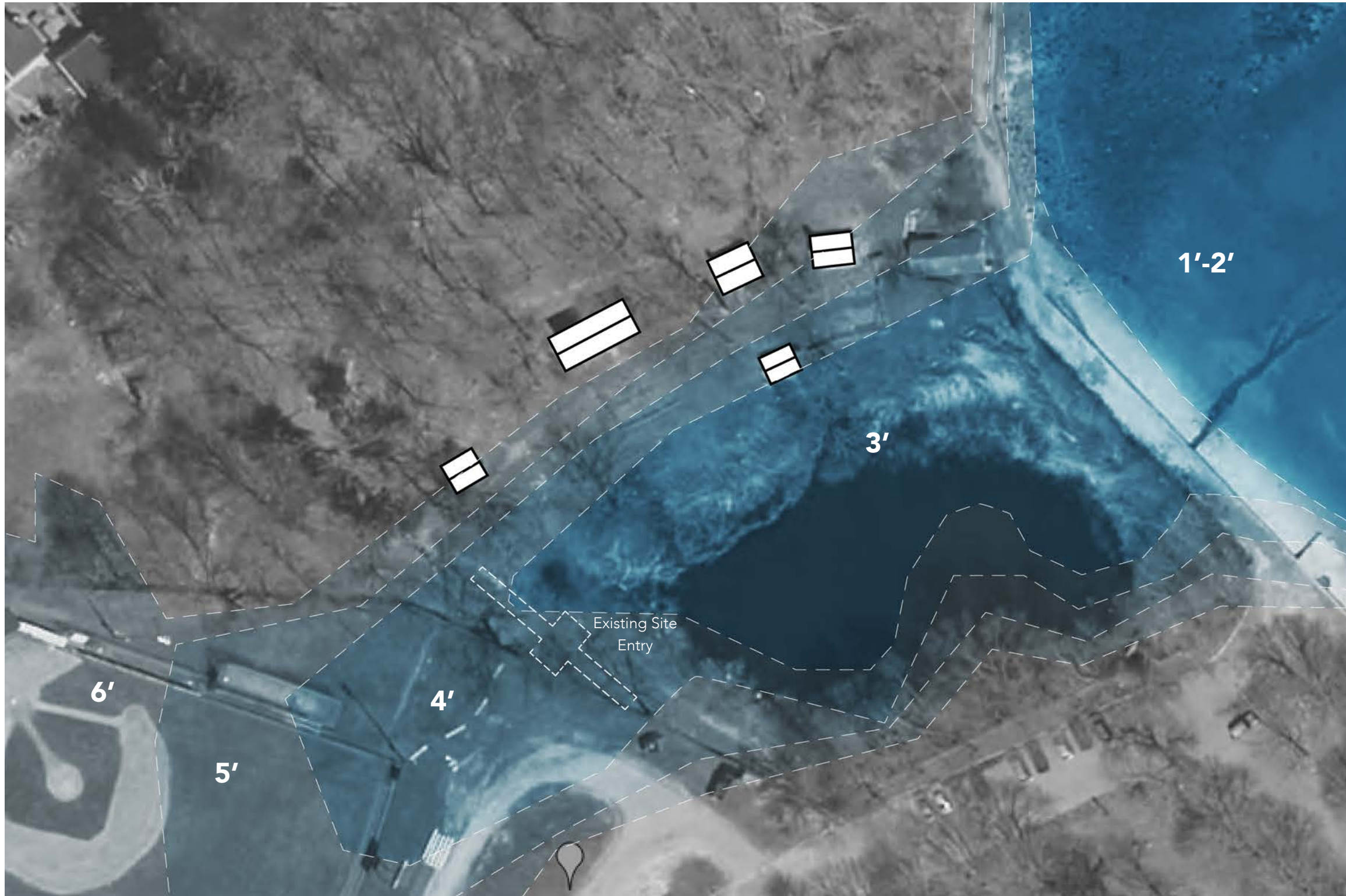


Proposed Site

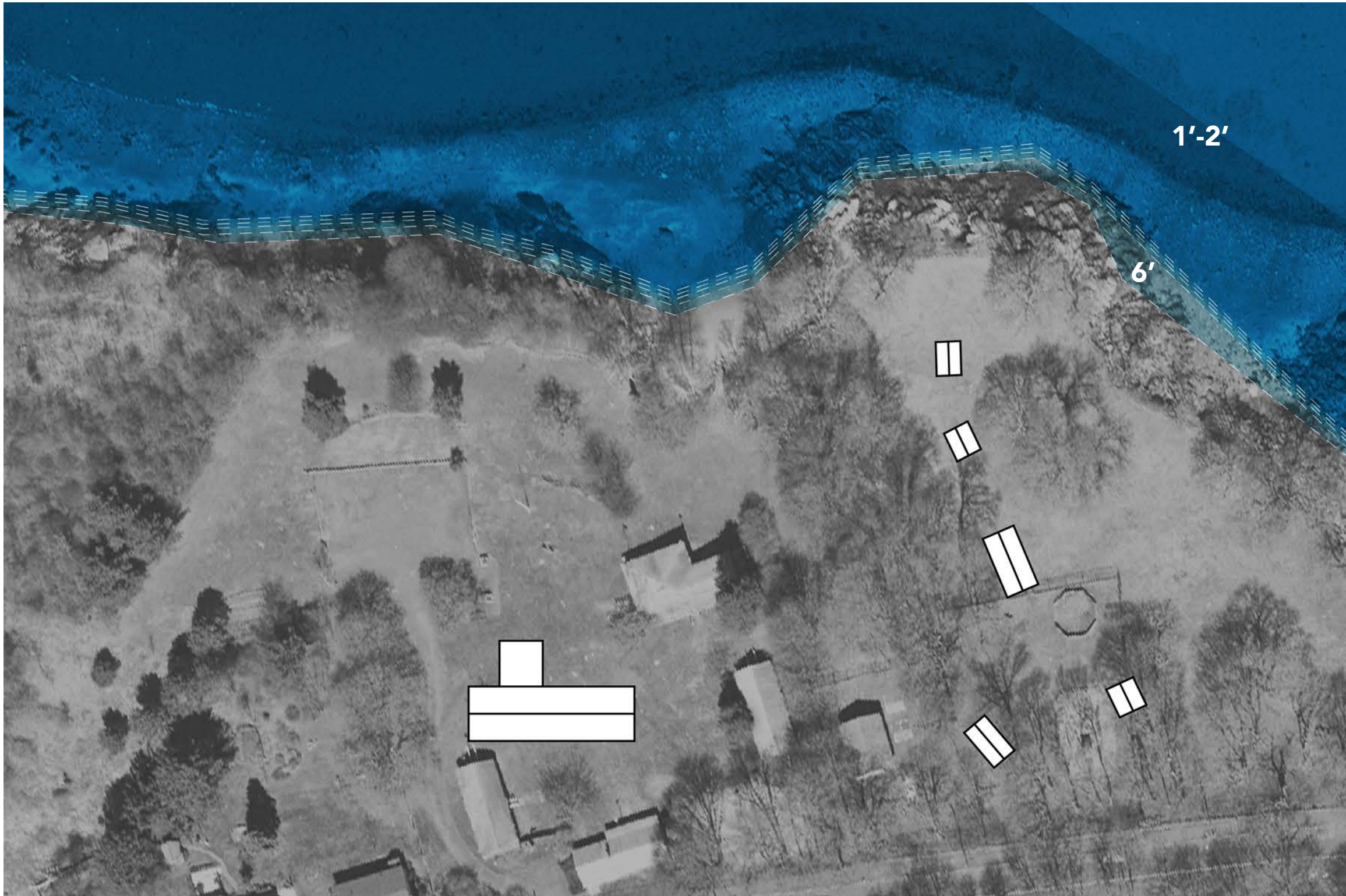


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Forest River Park (Existing)



Proposed Site



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Historic Building
Relocation Precedents

Project: Pioneer Village
Date: 02.10.2023

Examples of Various Buildings Moved into or within a Village Museum

The following are examples of prior relocations of historic and historically designated buildings which are precedents for the proposed relocation of Pioneer Village.

Individual Buildings

Pedrick Store House, Salem, MA

- NRHP listed in 1984 as a contributing structure to the Marblehead Historic District; boundaries are coterminous with Marblehead Local Historic District.
- in Salem Maritime National Historic Site, NHS established 1938, NRHP listed 1976; MHC signed off on move and then relisted building in NRHP

Powderhouse, Kingston, MA

- never left NRHP district

Hoyt-Barnum House, Stamford, CT

- NRHP listed 1969; re-listed in NRHP after move

Groups of Buildings

Old Sturbridge Village, Sturbridge, MA

- many buildings built and moved within; buildings moved to and within. Not NRHP evaluated

Historic Deerfield, Deerfield MA

- NRHP listed 1966; NHL 1960

Strawbery Banke Museum, Portsmouth, NH

- NRHP listed 1975; partially a product of urban renewal threats; also within Portsmouth Downtown HD listed in NRHP

Plimouth Pawtuxet, Plymouth, MA

- all built buildings and structures. Not NRHP evaluated

Storowton, West Springfield, MA

- 9 buildings moved from across NH and MA 1929–1931 to form exhibit at Eastern States Exhibition fairgrounds. Not NRHP evaluated.

Willowbrook Historic District/19th Century Curran Village/Curran Homestead, Newfield and Orrington, ME

- Newfield (Willowbrook) HD NRHP listed 1985; partially moved to different town in 2020 as Curran Homestead

Note: built refers to reproductions of historic buildings

Pedrick’s Storehouse
Salem, MA

The Pedrick Store House, originally located on Marblehead Harbor, was built by Marblehead merchant Thomas Pedrick (1736-1802) in about 1770. It was first used as a storehouse for salt and goods from the cod fish trade, with a sail loft on the second floor. Later, during the American Revolution, goods seized by Pedrick’s privateers were stored here. As the local maritime economy changed in the 19th and 20th centuries, so did the building’s uses.

In 2003, the National Park Service acquired the structure and dismantled the frame. After repair, the frame was reassembled on Salem’s Derby Wharf (Salem Maritime National Historic Site), using period building techniques. A new roof, windows, and clapboards restored the structure to its 19th century appearance by 2007.

Pedrick’s storehouse was listed on the National Register of Historic Sites as a contributing structure to the Marblehead Historic District. It was re-listed on the National Register of Historic Sites following its move to the National Historic Site in Salem.



Hoyt-Barnum House
Stamford, CT

The Hoyt-Barnum house was built by Samuel Hoyt in 1699 in preparation for his marriage. In 1753 the house and its 5-acre tract were sold to a James St. John, and was eventually inherited by his sons upon his death in 1781. The house was auctioned off in 1826 and sold to David Barnum for \$1,292. Barnum's wife, Betsey Hoyt Barnum, was a descendant of the house's builder and it remained with Betsey Hoyt Barnum's descendants until 1922. The Stamford Historical Society, now known as the Stamford History Center, purchased the Hoyt-Barnum house from a local bank in 1942, opening it to the public in 1950. In November of 2016 it was moved from its original location to a new one next to the Stamford History Center where it is open for tours. The house was divided into sections and moved 5 miles in a procession of trucks to its new location. The relocation was completed at a price of \$2 million. Following the move it is the first structure permitted to remain on the National Register of Historic Places after being dismantled, relocated, and restored.



KEY

- Existing Paths
- New/Improved Paths
- Parking Lots
- Proposed Directional/Interpretive Signage
- Proposed Crosswalks



Next Steps

- Cost estimate for restoration of Camp Naumkeag cabin
- Business and Operations Plan (ConsultEcon)
- Interpretive Plan (ObjectIdea)