

**City of Waltham  
Community Preservation Act Funding Application**

**Submitted by**

**Historic New England**

**The Historic Greenhouses at The Vale  
(Theodore Lyman Estate)**



May 2, 2016

Waltham Community Preservation Committee  
Waltham City Hall  
610 Main Street  
Waltham, MA 02152

To the Honorable Members of the Waltham Community Preservation Committee:

On behalf of Historic New England, I am pleased to submit a Community Preservation Act funding application to the Waltham Community Preservation Committee, requesting \$165,900 toward a \$368,500 preservation project at The Vale, the 1793 Theodore Lyman Estate.

The project will focus on the historic greenhouses, which were built between 1804 and c. 1930 and are among the oldest continuously operating examples in the United States. Through this project, the City of Waltham will help preserve these fragile nationally significant structures, ensure the health of the historic plant collections, and provide better service to the nearly 10,000 individuals who visit every year for greenhouse tours and plant sales.

If sufficient funding is secured, this urgently-needed project can be carried out between April 1, 2017 and October 31, 2017.

Thank you very much for considering our application. Benjamin K. Haavik, our team leader for property care, looks forward to attending the next Committee meeting on May 10, 2016. If you have any questions beforehand, please feel free to contact me or Laura Gadbery, our Institutional Giving Officer, at 617.994.5975 or [lgadbery@historicnewengland.org](mailto:lgadbery@historicnewengland.org).

We appreciate the support of the City of Waltham and the Community Preservation Committee for the Lyman Estate. Thank you.

Sincerely yours,

Carl R. Nold  
President and CEO

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**FUNDING APPLICATION WCPA-1**

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8" x 10" Color Photo of the Greenhouses  
Letters of Support from John W. Cox, Stephen Parson, and Wayne T. McCarthy  
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# City of Waltham Massachusetts Community Preservation Act Historic, Open Space and Recreation Funding Application WCPA-1



## APPLICANT INFORMATION

Name of Applicant <sup>(1)</sup> \_\_\_\_\_

Name of Co-Applicant, if applicable <sup>(1)</sup> \_\_\_\_\_

Contact Name \_\_\_\_\_

Mailing Address \_\_\_\_\_

Daytime Phone (i.e. of Proposal Applicant) \_\_\_\_\_

## PROJECT BASICS

Address of Project (or Assessor's Parcel ID) \_\_\_\_\_

CPA Category (check all that apply):

- ☐ Open space
- ☐ Historic preservation
- ☐ Open space recreation
- ☐ Community Housing (You must also complete Application WCPA-2)

CPA Funding Requested \_\_\_\_\_

Total Cost of Proposed Project \_\_\_\_\_

## PROJECT DESCRIPTION

Attach answers to the following questions. Applications will be returned as incomplete if all requested information is not provided. Include supporting materials as necessary.

**GOALS:** What are the goals of the proposed project?

**COMMUNITY NEED:** Why is this project needed? Does it address needs identified in existing City plans?

**COMMUNITY SUPPORT:** What is the nature and level of support for this project? Include letters of support and any petitions.

**TIMELINE:** What is the schedule for project implantation? Include a timeline for all critical items for their



completion.

**CREDENTIALS:** How will the experiences of the Applicant(s) contribute to the success of this project?

Success Factors: How will the success of this project be measured? Be specific.

**BUDGET:** What is the total budget for this project? How will the CPA funds portion be spent? All items of expenditure must be clearly identified and justified. Detail the hard and soft costs. Identify contingencies.

**OTHER FUNDING:** What additional funding sources are available, committed, or under consideration? Include commitment letters if available. Identify all sources of other funding which have been sought for this project and the status of the requests.

**MAINTENANCE:** If ongoing maintenance is required for your project, how will it be funded? (Note that CPA Funds may not be used for maintenance, but maintenance is an important consideration for all projects.)

## ADDITIONAL INFORMATION

Provide the following additional information, *as applicable*.

**DOCUMENTATION:** Provide written documentation that you have control over the site, such as Purchase and Sale Agreement, option, or deed.

**CONSTRUCTION OR REHABILITATION:** <sup>(2)</sup> For projects with construction or rehabilitation, provide floor plans, elevations including the existing and proposed site plan(s), and any additional drawings or photographs which visually describe the project.

**ZONING:** Provide evidence that the project is in compliance with the current City Zoning Ordinance as Amended, as well as all other laws and regulations. If zoning relief is required, note the parts of the proposal not in compliance with the Zoning Ordinance, and when an application will be made to the Zoning Board of Appeals.

**CITY APPROVALS:** Provide evidence that the appropriate City Boards and Commissions approve of the project (Waltham Historical Commission for Historic, Conservation Commission for Open Space, Park & Recreation Board for Recreation, and Waltham Housing Authority for Community Housing). As an example, a project in a City park would require that the Park & Recreation Board accept the project.

**HAZARDOUS MATERIALS:** Provide evidence that the proposed site is free of hazardous materials or that there is a plan for remediation in place.

**PROFESSIONAL STANDARDS:** Provide evidence that appropriate professional standards will be followed if construction, restoration, or rehabilitation is proposed.

**LEVERAGED ADDITIONAL BENEFITS:** Provide information indicating how this project can be used to achieve additional community benefits.

Notes:

(1) City Property: If the proposal is located on City-owned land, either the Applicant or Co-Applicant must be the City Board, Commission or Department that has custody of the land.

(2) Appraisals: If the requested funds are for a real estate acquisition, an independent appraisal will be required which the Applicant will be required to fund. No funding decisions will be made without an independent appraisal. Additional appraisals may be required for final approval.

**FOR COMMUNITY PRESERVATION COMMITTEE USE ONLY**

Application received on \_\_\_\_\_

Application received by \_\_\_\_\_

Date Project presented to CPC for Submission Acceptance Process \_\_\_\_\_

Was Project accepted for Consideration? \_\_\_\_\_

If accepted for Consideration, Project Public Hearing date \_\_\_\_\_

Following meeting Date for decision to recommend for funding \_\_\_\_\_

Was project recommended for funding to the City Council? \_\_\_\_\_

Was project funded by the City Council? \_\_\_\_\_

If project funded by the City Council, for how much? \_\_\_\_\_

Date funding Contract signed with applicant \_\_\_\_\_

**APPLICATION SUBMISSION REQUIREMENTS**

Proposals for Community Preservation Act funding must be submitted using the City of Waltham's Application forms WCPA-1 and WCPA-2.

If the proposal is exclusively a community housing project, applicants must submit WCPA-2. If the proposal combines community housing with any other funding category, both WCPA-2 and the WCPA-1 must be submitted. Otherwise applicants can submit just WCPA-1.

All information requested on the application forms must be included with the proposal at the time of submission or it will not be accepted for consideration. Applications may not include any handwritten information.

Applications and all supporting documentation must be submitted as hardcopy with eleven (11) copies (including one unbound for reproduction) to the official mailing address as specified in Article VI. If an Application is recommended for funding by the CPC, then an additional 17 copies must be provided for use by the City Council.

Applicants are encouraged to include any maps, diagrams, and/or photographs pertaining to the project. Letters of support for the project from community organizations or other sources may also be submitted.

Applicants will also submit an electronic version of each and every document submitted in their application if available, either on CD or USB flash drive, preferably in Portable Document Format (PDF) or other commonly used file formats (eg. .doc, .docx, .xls, .xlsx, .jpeg).

Applicants should include actual quotes for project costs whenever possible. If not available, estimates may be used, provided the basis of the estimate is fully explained.

Applicants should pursue matching or supplemental funds from state, federal and/or private sources when available.

Applicants should detail who will be responsible for project implementation and management. Their relevant experience should be included in the narrative. Please be sure that project management costs have been included in the overall project budget.

## **BRIEF PROJECT SUMMARY**

Historic New England respectfully requests a grant of \$165,900 from the City of Waltham's Community Preservation Act Fund to support a \$368,500 project at The Vale, the 1793 Theodore Lyman Estate. The project will focus on the historic greenhouse complex, built between 1804 and c. 1930, and include the following five components: masonry repairs and repointing, heating system rehabilitation, window conservation, plant table repairs and associated asbestos removal, and accessibility improvements.

A grant from the City of Waltham will help preserve the character-defining features in these fragile glass structures, which are amongst the oldest continuously operating greenhouses in the country; provide adequate ventilation and more reliable heat for the historic plant collections; and better serve the nearly 10,000 individuals of all ages and abilities who visit the greenhouses every year for tours and plant sales.

If sufficient funding is secured, the project will take place April 1, 2017 and October 31, 2017.

## **PROJECT DESCRIPTION**

### **Property Overview and Significance**



*21<sup>st</sup>-century aerial view of The Vale, showing the mansion at lower right, the large greenhouse complex (1804-c. 1930) to the northwest, and the small “Ancient Greenhouse” (c. 1798) directly north.*





*Front (south) façade of the mansion, looking northwest. Photographer: Justin H. Goodstein-Aue, 2012. Courtesy Historic New England.*



*Ballroom, looking east. Photographer: Colleen Chapin, 2016. Courtesy Historic New England.*



*Stairway with Palladian window, looking north. Photographer: Collection Services, 2008. Courtesy Historic New England.*



*Library, looking west. Photographer: Collection Services, 2008. Courtesy Historic New England.*



*Front (south) façade of the greenhouse complex, looking north. Left: "Grape House" (1804); Middle: "Orchid House" (c. 1840); Right: "Camellia House" (1820s). The "Sales House" (c. 1930) is behind the "Orchid House." Photographer: Kristin Wood, 2014. Courtesy Historic New England.*



*Interior of the “Camellia House” (1820s), looking east. Photographer: Colleen Chapin, 2016. Courtesy Historic New England.*



*Interior of the “Sales House” (c. 1930), looking south. Photographer: Colleen Chapin, 2016. Courtesy Historic New England.*

The Vale, a National Historic Landmark, served as a warm-weather country estate for the Lyman family from the time it was constructed in 1793 by Theodore Lyman, a Boston merchant, until its donation to Historic New England in 1951 by the children of Arthur T. Lyman, Jr. and Susan Cabot Lyman. The property brilliantly merges late eighteenth-century architectural and landscape design into a single ideal. The Federal-style mansion, designed by architect Samuel McIntire, originally consisted of a two-story center section symmetrically flanked by a lower section. It was substantially enlarged in 1882. The naturalistic landscape, laid out by English gardener William Bell, contained a McIntire-designed stable/carriage house, greenhouse, kitchen garden, 600-foot wall for espaliered peaches, rolling pastures, lawns, ponds, rare specimen trees and shrubs, woodlands, and park stocked with Bengal deer imported from England. Though now much reduced in scale, The Vale is among a handful of eighteenth-century landscaped estates in New England that survive with its principal features nearly intact.

The Vale’s greenhouses are amongst the oldest continuously operating examples in the country. The “Ancient Greenhouse,” built no later than 1798, was heated with a firebox and flue system and may well be the nation’s sole surviving example of a bark-pit greenhouse. Four additional greenhouses, constructed between 1804 and c. 1930, now form an interconnected complex. They are as follows: an 1804 structure that provided exotic fruits and cut flowers before being transformed in the 1870s into a grapery, using cuttings from the royal greenhouses at Hampton Court in England (“Grape House”); a structure, believed to have been built in the 1820s, that initially was for the cultivation of peach trees and now houses one of only two historic collections of Camellia trees to survive in the metro Boston area, with some specimens over one hundred years old (“Camellia House”); a c. 1840 structure connecting these two previously independent greenhouses that originally was for the cultivation of roses and now displays hundreds of varieties of orchids (“Orchid House”); and finally, a c. 1930 structure designed by the noted greenhouse builder Lord & Burnham, which the family used for growing cut flowers and Historic New England currently allocates for retail services (“Sales House”). Collectively, these fragile structures provide vivid testimony to the family’s ongoing passion for horticulture and greenhouse engineering over the course of 153 years and to the careful stewardship of Historic New England since 1951.



## History of Individual Greenhouses

### *“Ancient Greenhouse” (by 1798)*

The “Ancient Greenhouse,” sometimes referred to as the “Bark Pit,” is assumed to be the greenhouse mentioned in the Direct Tax of 1798.<sup>1</sup> It is a wood-framed structure set on a brick foundation and built into the side of a small hill, facing south. The roof is comprised of large multi-lite sash made of wood and designed to be propped open for ventilation (*Photo 1*). In addition to passive solar gain, the house was heated via a fire box that vented to a horizontal flue running the full length of the structure and ultimately through a traditional vertical chimney at the east end (*Photo 2*). The heated air flowing through the flue system kept the brick mass warm and allowed this heat to be released.

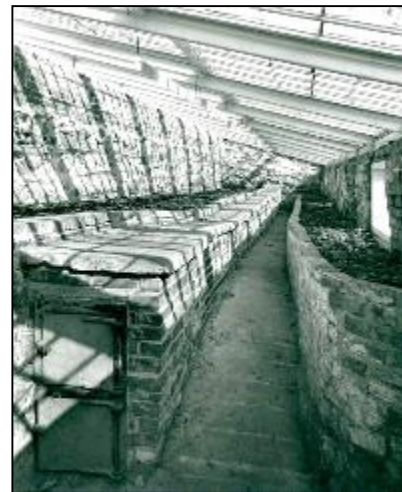


*Photo 1 – “Ancient Greenhouse,” looking northeast.  
Photographer: Colleen Chapin, 2014. Courtesy, Historic New England.*



*Site context for Photos 1 & 2.  
Bing maps, imagery date unknown,  
copied 2016.*

*Photo 2 – Interior view of the “Ancient Greenhouse,” showing the horizontal heating flue. Historic New England RS#17499.*



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<sup>1</sup> 1798 Direct Tax District #5 (Newton, Weston, Waltham), via transcription at Historic New England archives.

Four wood-and-steel-framed greenhouses were built between 1804 and c. 1930 southwest of the “Ancient Greenhouse.” They are now interconnected via steps and form a single complex.

*“Grape House” (1804)*

The westernmost and oldest section of the greenhouse complex is believed to have been constructed in 1804. It definitely existed by 1822, as Theodore Lyman sketched it on a map of Waltham of that date.<sup>2</sup> Although the “Grape House” originally was built for growing cut flowers and rare fruits, it was converted into a grapery in the 1870s, using cuttings imported from the royal greenhouses at Hampton Court in England. To accommodate the vines, the interior was provided with three-and-one-half-foot-high ground beds made of brick (*Photo 4*). These vines still bear large clusters of fruit that Historic New England offers for sale each summer.

The “Grape House” is an eccentric gable-shaped, brick structure built into a small hill, with a south-facing roof, operable sash at the peak, and walls containing two rows of operable sash (*Photos 3, 5-6*). The north side contains a basement that includes a potting area, modern heating mechanical system, additional storage, and a small office. The north roof is clad in black asphalt shingles and features three multi-lite wooden skylights and a chimney stack for the heating system (*Photo 6*). Truncated chimneys (*Photo 7*) and ghost lines in the brick work (*Photo 8*) indicate a change in heating function and roof shape over time.

The “Grape House” once had clerestory windows, a door at the east end, a central chimney, and a different window configuration. At some point after 1884, the clerestory windows were removed, and the roofline and chimney location were changed. Operable sash in plane with the roof were installed in the 1930s. The cast iron piping of a gravity hot-water system was likely installed at the same time.



*Photo 3 – South façade of the “Grape House.” Photographer: Colleen Chapin, 2014. Courtesy, Historic New England.*



*Site context for Photos 3-8. Bing maps, imagery date unknown, copied 2016.*

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<sup>2</sup> 1822 map of Waltham by E. Smith with Theodore Lyman’s sketch of The Vale at the upper right, showing the “Grape House,” McIntire stable/carriage house, and McIntire mansion. Historic New England RS # 1214.





*Photo 4 – Interior of the “Grape House,” showing the historic grapevines in the upper right corner. Photographer: Colleen Chapin, 2016. Courtesy, Historic New England.*



*Photo 7 – Interior of the “Grape House,” showing the truncated chimney from the early heating system. Photographer: Colleen Chapin, 2016. Courtesy, Historic New England.*



*Photo 5 – West façade of the “Grape House,” showing the eccentric gable. Photographer: Colleen Chapin, 2016. Courtesy, Historic New England.*



*Photo 6 – North façade of the “Grape House.” Photographer: Colleen Chapin, 2016. Courtesy, Historic New England.*



*Photo 8 – Interior of the “Grape House,” showing the physical evidence of changes in the roof line. Photographer: Colleen Chapin, 2016. Courtesy, Historic New England.*

*“Camellia House” (1820s)*

The easternmost section of the greenhouse complex was not sketched by Theodore Lyman on the 1822 map of Waltham and is therefore believed to have been constructed somewhat later.<sup>3</sup> Like the “Grape House,” it has a south-facing roof and wall formed from multi-lite sash. There is one row of operable sash at the peak of the roof; the south wall has two rows (*Photo 9*).

The “Camellia House” incorporates part of a pre-existing, 600-foot retaining wall commonly called the “Peach Wall” on account of the espaliered peach trees that once grew against its south face (*Photos 10-12*). The greenhouse was originally built to provide better protection for the trees from the harsh New England climate. The structure eventually became bowed and out of plumb. Arthur T. Lyman took down part of the structure in 1908 to correct these issues and subsequently rebuilt it wider and taller to house the family’s collection of Camellia trees, a genus native to Asia that was ill-suited to the New England climate and that required cultivation in glass houses where the temperature could be kept mild and the environment moist. The Vale’s Camellia collection includes specimens that are now more than 100 years old (*Photo 13*). Only one other historic collection of Camellias exists in the Boston area and it is not open to the public.<sup>4</sup>

The “Camellia House” is heated via a continuation of the cast iron piping of the gravity hot-water system installed in the 1930s.



*Photo 9 – South façade of the “Camellia House,” showing the operable sash. Photographer: Colleen Chapin, 2014. Courtesy, Historic New England.*



*Site context for Photos 9-13. Bing maps, imagery date unknown, copied 2016.*

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<sup>3</sup> See footnote 2.

<sup>4</sup> The only other historic collection of Camellias in the Boston area is at the privately-owned H.H. Hunnewell Estate in Wellesley.





*Photo 10 – East façade of the “Camellia House,” incorporating the existing “Peach Wall” at right. Photographer: Colleen Chapin, 2014. Courtesy, Historic New England.*



*Photo 11 – Ella Cabot Lyman next to the “Peach Wall” with espaliered fruit trees, ca. 1890. Photographer: Herbert Lyman Photograph Album. Historic New England RS # 178693.*



*Photo 12 – North façade of the “Camellia House,” with the “Peach Wall” at left. Photographer: Colleen Chapin, 2016. Courtesy, Historic New England.*



*Photo 13 – Interior of the “Camellia House,” with the historic Camellia collection. Photographer: Colleen Chapin, 2016. Courtesy, Historic New England.*

### *“Orchid House” (c. 1840)*

Around 1840, the “Grape House” and “Camellia House” were connected via a new structure featuring two rows of operable sash on the south face (*Photo 14*). Originally built for the cultivation of roses and other cut flowers for the mansion, it now houses more than 500 orchids (*Photos 15-16*).

The “Orchid House” retains the arched opening in the “Peach Wall” that initially served as a passageway from the “pleasure grounds” to the kitchen garden. It is heated via a continuation of the cast iron piping of the gravity hot-water system installed in c. 1930.



*Photo 14 – South façade of the “Orchid House,” with the “Grape House” at left and western end of the “Camellia House” at far right. Photographer: Colleen Chapin, 2014. Courtesy, Historic New England.*



*Site context for Photos 14-16. Bing maps, imagery date unknown, copied 2016.*



*Photo 15 – Interior of the “Orchid House,” with the arch in the “Peach Wall” leading to the “Sales House.” Photographer: Colleen Chapin, 2016. Courtesy, Historic New England.*



*Photo 16 – Interior of the “Orchid House,” with Greenhouse Manager Lynn Ackerman (right) and Assistant Manager Erin Dancy. Photographer: Olivia Gatti, 2015. Courtesy, Historic New England.*

### *“Sales House” (c. 1930)*

The fourth and final section of the greenhouse complex was commissioned from Lord & Burnham, the oldest greenhouse manufacturer in the United States, and built between 1928 and 1930. It is a gabled, steel-framed, split-level structure with multi-lite sash forming the roof and side walls. A single row of operable sash exists on the east and west walls, as well as one row on either side of the roof peak. The mechanical heating system installed at the outset meant that it did not require a south orientation. The greenhouse extends north from the “Orchid House” at an oblique angle and has a glass roof facing east and west (*Photos 17-18*).<sup>5</sup> There is direct access from the “Orchid House.”

<sup>5</sup>The building plans are housed in the Lord & Burnham collection in the New York Botanical Garden archives in the Bronx (Lord & Burnham, Detail Plans for Mr. A. Lyman, Waltham, MA – July 22, 1924).



Although the greenhouse was originally used for the cultivation of cut flowers for the mansion and homes of local relatives, it is currently allocated for retail services and commonly referred to as the “Sales House” (*Photo 19*).

A Community Preservation Act grant from the City of Waltham will enable an interior reorganization of the complex that will improve public accessibility by moving retail services from the c. 1930 structure to the c. 1840 structure, which is more easily accessed. The orchid collection, in turn, will move to the “Sales House.” The c. 1930 structure will continue to serve as the backdrop for Historic New England’s outdoor plant sales.



*Photo 17 – West façade of the “Sales House,” looking toward the “Grape House.” Photographer: Colleen Chapin, 2014. Courtesy, Historic New England.*



*Site context for Photos 17-19. Bing maps, imagery date unknown, copied 2016.*



*Photo 18 – Northeast corner of the “Sales House.” Photographer: Colleen Chapin, 2016. Courtesy, Historic New England.*



*Photo 19 –Interior of the “Sales House,” looking toward the “Orchid House.” Photographer: Colleen Chapin, 2016. Courtesy, Historic New England.*

## Property Use

The Vale is a major cultural and recreational resource for Waltham residents and a frequent destination for tourists who wish to visit this late eighteenth-century country estate with its McIntire-designed mansion and carriage house/stable, historic greenhouses, and landscaped

grounds. It is one of Historic New England's most popular properties, welcoming 21,276 visitors in 2015. Visitors can enjoy tours of the mansion and greenhouses; buy specialty plants and merchandise; receive expert horticultural advice; go to a variety of public programs; attend weddings, private parties, and corporate events; and wander leisurely through the extensive lawns and perennial gardens.

Of the 21,276 recorded visitors in 2015, 47% visited the greenhouses (9,968 individuals). The proposed project will ensure that The Vale continues to function as an essential part of the Waltham community and provide tangible benefits to its residents.

All Waltham residents receive free admission to tours of the mansion and greenhouses, and are offered a 10% discount on function rentals. The grounds, which total thirty-seven acres, are open daily for recreational purposes, from dawn to dusk, and frequently accessed. Historic New England is currently collaborating with the Waltham Land Trust on the Western Greenway Project, which will include a trail through The Vale.

Guided tours of the mansion are offered year round on the third Saturday of each month, on three additional days during Camellia Days (mid February–mid March), and by appointment. The first floor is open for self-guided exploration during most public programs.

Except for major holidays, the greenhouses are open year-round from 9:30 am to 4:00 pm on Tuesdays through Sundays between December 15 and July 15, and on Tuesdays through Saturdays between July 16 and December 14. Guided tours are available on weekdays by appointment. There is a brochure for self-guided tours and interpretive signage that visitors can use to understand the story of these remarkably rare greenhouses.

Historic New England offers a wide array of public programming at the estate. The most popular offerings include the following:

- *Movies at the Mansion*: Free family-friendly outdoor screenings on the grounds of the estate on four Thursdays in July. Movie-goers are encouraged to come early and set up blankets or lawn chairs, bring picnic suppers, enjoy musical entertainment by the Waltham High School show band, and explore the greenhouses and first floor of the mansion. The series has quickly become a signature event. Although attendance in 2015 was lower than in previous years owing to the fact that it rained on two of the four movie dates, 740 enthusiastic movie-goers attended the screenings. East Cambridge Savings Bank, Watertown Savings Bank, and the Waltham West Suburban Chamber of Commerce have been involved as community sponsors since the program's founding in 2012.
- *Plant Sales*: six major sales per year.
  - Houseplant and Begonia Sale (January), featuring a wide variety of plants that are not readily available elsewhere.
  - "Camellia Days" (mid-February to mid-March), with small- and medium-sized Camellias for sale. This is a much-anticipated event during winter when people

- are especially eager to see colorful flowers and foliage. Visitation in 2016 totaled 2,144.
- Two Orchid Sales (April and November). At each sale, hundreds of orchids are offered, with the staff assisting customers on the proper choice for their conditions. During the April 2016 sale, staff welcomed 960 people and sold 400 orchids.
  - Herb Plant Sale (May). Historic New England recently increased the variety of herbs that it offers for sale in order to serve diverse constituencies within the Waltham community and encourage experimentation with different cuisines. Among the newly introduced offerings are culantro (Caribbean and Latin American cuisine), shiso (Asian cuisine), and papalo (Mexican and South American cuisine), along with recipes that feature these herbs.
  - Hosta and Perennial Plant Sale (June).
- *Greenhouse Workshops*: annual workshops held in November and taught by Lynn Ackerman, the greenhouse manager. In 2016, Ms. Ackerman will teach *Beginning Orchid Growing* for individuals interested in learning the essentials, from selecting the right plants to proper lighting, watering, fertilizing, and repotting.
  - *Master Gardener Program*: a training program in partnership with the Massachusetts Master Gardeners Association, whereby amateur and professional horticulturalists from the Master Gardeners Association volunteer at The Vale and get credit toward their certificate. They receive horticultural training and learn how to give tours of the grounds, in combination with the greenhouses.
  - *Other*: In 2015, programming included talks on the history of Camellias in Boston, jewelry, the history of Christmas, invasive species, architecture, Rex Trailer, New England furniture, and servants.

Historic New England collaborates with a number of local businesses and organizations in addition to those mentioned above. They include the Waltham Historical Society, Waltham Public Library, Stonehurst, Olde Colony Civil War Roundtable, Pizzi Farm, Waltham Boys & Girls Club, Waltham Fields Community Farm, and Waltham Land Trust.

## **Project Goals**

The proposed project will ensure that the greenhouses are preserved and continue to benefit the residents of Waltham. There are four main goals:

- to preserve the character-defining features of these historic structures, which are amongst the oldest continuously operating greenhouses in the country;
- to ensure that the greenhouses can continue to serve the community without threat to public safety;
- to provide adequate ventilation and more reliable heating for the plants (some of which are over one hundred years old) and more comfortable conditions for the nearly 10,000 people who visit the greenhouses every year for tours and plant sales; and



- to better serve the public by improving accessibility and making the greenhouses more visitor-friendly.

The project has five main components, as follows: masonry repairs and repointing; heating system rehabilitation; window conservation; plant table repairs and associated asbestos removal; and accessibility improvements to the site and interior spaces. Additional project details are provided in the various Annotated Scope of Work documents (attached).

*Masonry Repairs and Repointing:* Various repairs to the brick masonry walls are necessary in order to preserve the historic fabric and prevent further damage. Mortar deterioration and loss can be seen in many locations on the “Grape House” and “Camellia House.” In some areas, vegetation has taken root and begun to penetrate the structure. A repointing campaign is planned, as well as structural rebuilding on several areas on the “Grape House.” The most serious deterioration is at the east end of the “Grape House,” where the corner and peak are losing integrity and must be rebuilt without harming the late nineteenth-century grapevine that is causing these issues.

*Heating System Rehabilitation:* The goal is to reduce the risk of catastrophic failure, significant flooding, and loss of historic plant material by replacing the existing pipes with a hydronic delivery system that is more compatible with today’s pressurized hydronic boilers and allows for precise temperature management. The existing 5” cast iron pipes, which were installed around 1930, are currently servicing a hydronic heating system that operates at a higher pressure than the original gravity-based heating system. Over the last several years, major leaks in the lead and oakum joints have developed and been repaired. Additional joints are actively leaking (at present, only moderately). The new delivery system will be installed under the plant tables and largely concealed from view. The 1930s piping will remain mostly in place.

*Window Conservation:* In 1997, Historic New England successfully conserved the operable sash in the “Grape House” and “Orchid House.” A similar project is now planned for the “Camellia House” and “Sales House.” The scope will include the following: sash removal and securing of the openings, conservation (typically Dutchman repairs), re-glazing, and re-installation. The work will ensure proper functioning of the operable sash, necessary ventilation for the plant collections, and more comfortable conditions for visitors.

*Plant Table Repairs and Associated Asbestos Removal:* In order to accommodate the new hydronic delivery system, Historic New England must dismantle the tables upon which the plants are displayed in the “Camellia House,” “Orchid House,” and “Sales House.” As discussed in the “Hazardous Materials” section, these tables contain Transite, an asbestos-cement product that insulates the plants from excessive heat. The goal is to safely remove the Transite insulation and reinstall the tables, replacing all deteriorated wood and metal components and incorporating a non-toxic insulation mat to protect the plants from excess heat.

*Accessibility Improvements to the Site and Interior Spaces:* Public accessibility is problematic owing to the fact that the greenhouses were built over the course of 126 years for private family use and are interconnected via a series of steps and sharp turns. Historic New England’s goal is

to provide the maximum amount of accessibility with the least amount of physical intervention, so that a larger number of people can be safely served.

The current entrance at the “Grape House” will be maintained and a second, more visitor-friendly entrance at the east end of the “Camellia House” will be improved. Historic New England will make the existing path to the “Camellia House” entrance wider and more stable to better accommodate individuals with mobility issues. Once the project is completed, visitors entering the complex at the “Camellia House” entrance will have full access to three of the five interior spaces (“Camellia House,” “Orchid House,” and lower section of the “Sales House”). Only one small ramp will be required.

Historic New England will also create a new path along the north elevation to provide greater accessibility and service for visitors attending the outdoor plant sales.

These pathway improvements will be accompanied by a reorganization of interior spaces. Retail operations will be relocated from the c. 1930 “Sales House” to the c. 1840 structure that currently houses the orchid collection. The lower section of the c. 1930 structure will become the new home for the orchid collection; the upper section will have a non-public function.

### **Community Need**

Historic New England is committed to the long-term preservation and management of The Vale in a manner that benefits the Waltham community. The proposed project will ensure uninterrupted and safe operation of the greenhouses, which are a treasured resource for residents and an important part of Waltham’s history. The project meets and/or exceeds a number of criteria and goals outlined in the City of Waltham’s Community Preservation Plan.

Historic New England will encourage Waltham-based contractors to bid on the various project components. Once the project begins, monies will be spent by these contractors at local gas stations, restaurants, and hardware-supply shops.

### **Community Support**

Three letters of support from interested members of the public are attached, as follows:

Mr. John W. Cox	History teacher at Waltham High School, lecturer at Lyman Estate, assistant treasurer of the Waltham Historical Society, board member of the Waltham Historical Commission
Mr. Stephen Parson	Lyman family descendant, author of <i>An American Family. The Lymans and The Vale: 1631 to 1951</i>
Mr. Wayne T. McCarthy	President of the Waltham Historical Society, Inc.

## Timeline

The proposed project is Historic New England's top preservation priority at The Vale for fiscal year 2018, which begins on April 1, 2017. It is eager to implement the project expeditiously and will move swiftly to carry out the various components once sufficient funding has been secured to ensure the project's success.

A \$165,900 grant from the City of Waltham and a \$50,000 grant from the Massachusetts Historical Commission will enable the project to begin on April 1, 2017 and to be completed by October 31, 2017. These dates have been carefully chosen. The heating system rehabilitation must take place outside of the heating season and the masonry repairs are best carried out during temperate conditions.

Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17	Oct-17
Accessibility Improvements						
Window Conservation						
	Masonry Repairs and Repointing					
	Plant Table Repairs and Associated Asbestos Removal					
		Heating System Rehabilitation				

## Credentials

Historic New England is in an excellent position to carry out the proposed project. Founded in 1910 as the Society for the Preservation of New England Antiquities, it is the oldest, largest, and most comprehensive regional heritage organization in the nation, and a leader in preservation, research, and innovative programming. It currently owns and operates thirty-six historic properties in five New England states and has a long history of successfully-implemented preservation projects, including other CPA-funded projects in Waltham, Quincy, Gloucester, Yarmouth, and Cambridge. Please see the section entitled "Professional Standards" for the organization's preservation philosophy and practices.

In 2011, the City of Waltham awarded Historic New England \$207,000 in CPA funding toward an award-winning preservation project at the mansion, which included repairs to the roof, veranda, electrical system, and the historic wood floors. This project complemented a comprehensive weatherization project that made the mansion 50% more energy-efficient without sacrificing its architectural integrity.

Historic New England is confident that it can implement the project within budget and on schedule. Detailed project-management and financial systems are in place to ensure timely and effective project completion. The Property Care team, led by Benjamin K. Haavik since 2004, is responsible for the design and implementation of all preservation projects. Additional assistance

and oversight is provided by staff from the organization's Business Services and Development teams.

Mr. Haavik will serve as project director. As the organization's Team Leader for Property Care, he is responsible for the preservation and maintenance of all thirty-six historic properties open to the public, and for developing and managing a \$1.66 million annual preservation budget for these sites. Additional responsibilities include the development and management of a \$4.61 million construction budget for the recently acquired Eustis Estate in Milton, which will open to the public in 2017. He oversees ten full-time staff, which includes preservation carpenters, preservation managers, and regional landscape managers. He has a master's degree in Historic Preservation from the University of Pennsylvania and meets the National Park Service Qualification Standards for: Architectural History, Architectural Conservation, Historic Architecture, and Historic Preservation.

Colleen Chapin will work under the supervision of Mr. Haavik and provide day-to-day oversight of the project. As Historic New England's Senior Preservation Manager for Metro Boston, Ms. Chapin is responsible for managing conservation, preservation, and maintenance projects at ten properties. She will maintain all records and prepare all required grant documents. Her previous experience includes management of the preservation and weatherization project at The Vale that received crucial support from the City of Waltham and a 2013 Preservation Award from the Massachusetts Historical Commission. Ms. Chapin is a graduate of the North Bennet Street School in Boston, is completing a master's degree in Historic Preservation at the University of Massachusetts, and has held a Massachusetts Construction Supervisor License since 2006.

Please see the organization's "501(c)(3) IRS Determination Letter," "Corporate Resolutions," and "Project Authorization" (attached).

Historic New England will measure the success of the project by accomplishing the over-arching objectives outlined in the Brief Project Summary, the individual goals described in the Project Goals section, and the specific component-related activities outlined in the Annotated Scope of Work documents.

## Budget

<b>Project Component</b>	<b>Waltham CPA Request</b>	<b>Historic New England Contribution</b>	<b>Total Cost</b>
Masonry Repointing	\$5,250		\$5,250
Masonry Repairs	\$21,000		\$21,000
Plant Table Repairs	\$24,150		\$24,150
Plant Table Repairs, Asbestos Removal		\$10,500	\$10,500
Heating System Rehabilitation	\$105,000		\$105,000
Accessibility Improvements, Exterior Pathways		\$33,600	\$33,600
Accessibility Improvements, Interior (Ramp)	\$10,500		\$10,500
Window Conservation		\$125,000	\$125,000
In-house professional project management fee (10% of project cost) for services provided by Benjamin Haavik and Colleen Chapin		\$33,500	\$33,500
<b>Totals</b>	<b>\$165,900</b>	<b>\$202,600</b>	<b>\$368,500</b>

Historic New England developed the budget in consultation with various vendors. The estimates provided above include a 10% contingency to allow for expected cost increases between the time of application to the Waltham Community Preservation Committee and the anticipated project start date, as well as possible budget adjustments for unanticipated complications. Please see the Annotated Scope of Work documents for the names of the vendors consulted (attached).

## Other Funding

The annual operating deficit for the greenhouses typically exceeds \$100,000 and is expected to total \$111,775 for the current fiscal year, which began on April 1, 2016.

\$111,306 Revenues (\$90,000 in plant sales, \$16,000 from a National Park Service grant, \$4,869 in miscellaneous income, and a draw of \$437 from a restricted endowment fund for the greenhouses, per the Board-approved spending policy)  
 (\$223,081) Expenses (utility costs, basic maintenance, small preservation projects, salaries/ fringe benefits for greenhouse employees, plant supplies and care, etc.)  
 (\$111,775) Deficit

Historic New England routinely funds basic maintenance and small preservation projects through its operating budget. Major preservation initiatives, such as the one proposed here, require additional sources of revenue from foundations, government agencies, and individual donors. If the City of Waltham is able to contribute \$165,900 to the project (45% of the total cost), Historic New England believes that it can raise the remaining \$202,600. It has already begun identifying potential sources for this funding. In April 2016, it submitted an application to the Massachusetts Historical Commission for a \$50,000 matching grant from Massachusetts Preservation Projects Fund for window conservation in the “Camellia House” (1820s) and “Sales House” (c. 1930). Announcement of the grants will be made in June 2016. No other state or federal funding for the project is anticipated.

Source	Funds to be Raised
Application submitted to the Massachusetts Historical Commission for a Massachusetts Preservation Projects Fund matching grant (pending)	\$50,000
Application submitted to the City of Waltham for a Community Preservation Act grant (pending)	\$165,900
Additional funds to be identified and secured (experienced projection)	\$152,600
<b>Totals</b>	<b>\$368,500</b>

Historic New England’s annual operating budget typically includes \$20,000 for basic maintenance and small preservation projects at The Vale. The organization has allocated additional resources this year through its capital budget—namely, \$190,000 for infrastructure improvements to the rotary and water/septic systems. Given the scale of these investments at the Lyman Estate and the ongoing needs of its thirty-five other properties, Historic New England respectfully asks for assistance with the greenhouse project. If the City of Waltham and Massachusetts Historical Commission are unable to contribute to the proposed project, it must be postponed or significantly reduced in scope.

## Maintenance

It is Historic New England’s philosophy and practice that long-term preservation is a result of

good maintenance. The prevention of damage and the assurance of long-term maintenance are undeniably better for the preservation of the site than any repair or replacement of historic material.

As previously stated, Historic New England budgets approximately \$20,000 annually for basic maintenance of The Vale, with approximately \$5,000 of this allocated specifically for the greenhouses. This does not include the cost of staff to manage, operate, and care for the property.

## **ADDITIONAL INFORMATION**

### **Documentation**

The property was donated in 1951 to Historic New England, at that time called the Society for the Preservation of New England Antiquities, by the five children of Arthur T. Lyman, Jr. and Susan Cabot Lyman. The deed, recorded on October 2, 1951, is attached.

The Massachusetts Historical Commission holds a preservation restriction in perpetuity on the property (attached) and will review all proposed work to ensure that it is in compliance with the Secretary of Interior's *Standards for the Treatment of Historic Properties*.

### **Construction or Rehabilitation**

Annotated Scope of Work documents and an updated Site Assessment are attached.

The project does not involve ground disturbance and will not have an impact on archaeological resources.

### **Zoning**

No change of use is expected as a result of this project.

### **City Approvals**

Benjamin K. Haavik and Colleen Chapin attended the March 14, 2016 meeting of the Waltham Historical Commission and shared detailed project plans with the members. A letter of approval from Clarence Darrow Richardson, Jr., Chairperson of the Commission, is attached.

Historic New England will seek other approvals, as necessary.

### **Hazardous Materials**

Lead Paint: It is known that the majority of the paint on the exterior and interior contain lead paint. Any work involving those items will follow current EPA and OSHA standards.



Asbestos: The plant tables in the “Grape House,” “Orchid House,” and “Sales House” contain approximately 1,000 square feet of corrugated Transite, an asbestos-cement product that insulates the plants from excessive heat. This material does not present a daily health hazard as it is in good condition and not friable.

Historic New England must remove the Transite to accommodate the new heating delivery system that will be installed under the tables. The removal will be handled by a licensed asbestos contractor whose employees wear protective clothing and respiratory protection, and the material safely disposed of in a manner that does not present a public health risk.

Fuel Oil: Above ground interior oil tanks serve two of the buildings on site. No known below grade tanks are on site.

Gasoline Storage: Minimal amounts of gasoline are stored on site in appropriate containers that are checked multiple times per year for integrity issues.

MSDS: MSDS Sheets are stored in or near the areas that contain hazardous materials.

Hazardous Material Storage: Metal cabinets are located in several interior spaces for the storage of hazardous materials, mostly a small selection of paints and solvents.

Material Disposal: Lead paint debris is collected and disposed of by outside contractors. Excess paints are stored for reuse until the determination is made that the material is not usable. Paints and other materials are collected by a Certified Hazardous Waste Removal company.

## **Professional Standards**

The preservation of historic buildings, landscapes, and objects is integral to Historic New England’s strategic vision. It follows an institutional preservation protocol that mandates continual assessment of its properties, long-range maintenance, and monitoring of property lines. The proposed project is based on a comprehensive baseline assessment of the greenhouse complex that the organization conducted in 2009 and updated in 2016 (attached).

Historic New England’s preservation projects meet or exceed the Secretary of the Interior’s *Standards for the Treatment of Historic Properties*. The organization’s customary treatment approach—and the one that will be used for the majority of the proposed project—is preservation. Maintenance and conservation treatments that retain and preserve historic material are consistently chosen. When repairs or replacement are necessary, Historic New England strives to match materials in-kind and to document the work fully. Although rehabilitation of the heating system is required, the goal is to retain the historic piping system and to hide the new heat distribution system as much out of view as possible.

A Preservation Restriction is held on the property by the Massachusetts Historical Commission. Their review is also required to ensure the project meets the Secretary of Interior’s Standards.

Historical Greenhouses:



March 10, 2016

Waltham Community Preservation Commission  
Waltham City Hall  
610 Main Street  
Waltham, MA 02452

Re: Historic New England's Grant Application for the Preservation of the Lyman Estate  
Greenhouses, Waltham, MA

To Whom It May Concern:

As a history teacher at Waltham High School and as a member of the Waltham Historical Society, I am writing this letter in support of Historic New England's grant application for Community Preservation Act funding to restore the greenhouses at the Lyman Estate in Waltham. The Lyman Estate greenhouses are an important component of Waltham's rich historical heritage. They were constructed over a 132-year period, from c. 1798 to 1930, and have the distinction of being among the oldest continually operating greenhouses in the nation. Every year, the greenhouses are visited by thousands of Massachusetts residents who have the opportunity to purchase unusual plants, view the historic collections, and learn about the Lyman family's long interest in promoting horticulture. For many people, the annual blooming of the Lyman Estate camellia trees in February is the first harbinger of springtime in New England.

I might also add that the staff at the Lyman Estate has been very accommodating to local residents, particularly our Waltham High School students. For the past 30 years, I have brought students to the Lyman Estate in October to tour the mansion and the greenhouses. The Lyman Estate staff has always gone out of its way to provide Waltham students with a wonderful educational experience – at no charge. The Lyman Estate is also involved in the community in many other ways – offering advice on the proper care of plants, sponsoring lectures on local history, instructing residents on the care of historic houses, opening the mansion and greenhouses on a regular basis for tours, participating in Historic Waltham Days, and holding movie nights at the estate during the summer months. Residents of Waltham are indeed fortunate to have such a wonderful historical and educational resource located in the midst of our community.

Please give your careful consideration to Historic New England's application for funds to restore the Lyman Estate greenhouses in Waltham. Your support will help preserve a unique historical resource that is open to the public and readily accessible to all residents of Waltham.

Sincerely,

John W. Cox, Ph.D.  
History Department, Waltham High School  
Assistant Treasurer, Waltham Historical Society

Mr. Stephen P. Parson  
P.O. Box 446  
Hamilton, MA 01936-0446

March 14, 2016

City of Waltham  
Community Preservation Committee  
City Hall  
610 Main Street  
Waltham, MA 02452-5580

To Whom It May Concern:

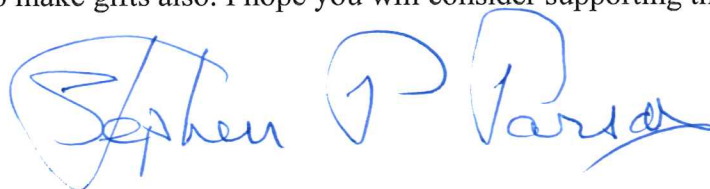
I am writing in support of Historic New England's proposal for Waltham Community Preservation Committee funding for the Lyman Estate Greenhouses.

The Vale, as I know it, was built by my ancestors, and was my grandparents' home. I spent much happy time there as a child, and it holds a special place in my heart. After my grandparents died, our family knew it was important to preserve the estate, and my mother and her siblings donated it to the Society for the Preservation of New England Antiquities in 1951. The house, the landscape, and the greenhouses tell important stories about the history of New England, and our family wanted that history preserved and shared with the community.

I couldn't be happier to see the commitment Historic New England has made to care for this special place and keep it hopping with activity and life! The greenhouse project is important to telling the story of The Vale. I have childhood memories of my grandparents chauffeur deliver camellias weekly to our home in Weston. The greenhouses were a showplace then and are still a treasure. I am thrilled that the Waltham community is able to experience this. I attend and enjoy many public programs there myself.

In order to assist with efforts to enhance the gardens and landscape at the Vale, I recently made a gift of \$100,000 for their improvement and upkeep, and hope to encourage other Lyman descendants to make gifts also. I hope you will consider supporting this important project.

Sincerely,



Stephen P. Parson

# The Waltham Historical Society Inc.

Waltham, Massachusetts

ORGANIZED 1913

March 8, 2016

City of Waltham  
Community Preservation Committee  
City Hall  
610 Main Street  
Waltham, MA 02452-5580

To Whom It May Concern:

As the President of the Waltham Historical Society, Inc., I am pleased to express our strong support for Historic New England's application for Community Preservation Act funds to conduct a major preservation project focused on the greenhouses at Waltham's Historic Lyman Estate. The Lyman Estate (also known as The Vale) mansion was built in 1793 and designed by the famed Salem architect Samuel McIntire. It was used as a country estate by five generations of the Lyman family before being donated to the Society for the Preservation of New England Antiquities (now Historic New England) in 1951.

As an advocate for Waltham's rich heritage, The Waltham Historical Society supports the efforts of Historic New England to thoughtfully preserve the significant features of the property. The scope of the proposed greenhouse preservation work for which Historic New England seeks support includes: basic accessibility upgrades, masonry repairs, rehabilitation of the heating distribution system, plus window conservation and associated work. A Community Preservation Fund grant will help Historic New England preserve the greenhouses, which were built between 1798 and 1930.

The story of the greenhouses began when, in 1798, Theodore Lyman began building a greenhouse on the property situated on the slope behind the mansion. Heated with a firebox and flue system it is believed to be one of the oldest greenhouses in the country.

In 1804 he erected a lean-to style greenhouse at the western end of the peach wall. This greenhouse grew a variety of hard-to-obtain fruits such as pineapples, lemons, and bananas. In the 1870s, Theodore's son George changed the greenhouse into a grapery with beds constructed to hold soil for the root systems. Since proper moisture levels were crucial, fires were built to reduce excessive humidity. Once ripened, grapes would be cut and brought indoors, where only the adults were allowed to eat them. The grape



houses were built in lean-to in style, with a glass roof facing southeast to take advantage of as much sunlight as possible.

Another greenhouse, originally built in 1820, was made wider and taller in 1908 to accommodate camellia trees, first introduced to America by French botanist Andre Michaux. The Lyman Estate has one of the few nineteen-century Camellia collections still in existence.

The last greenhouse on the property was built in 1930 and was originally constructed to grow cut flowers. Today's visitors to Waltham can purchase pieces of living history.

Historic New England was founded in 1910 for the purpose of preserving New England's rich heritage. The organization also has a mission of serving the public throughout the region. They have proven to welcome collaborative initiatives and have been very successful in bringing visitors to Waltham.

The Waltham Historical Society is pleased to endorse this important preservation and community service effort, and encourage all possible support for it. Thank you.

Sincerely,

A handwritten signature in black ink, reading "Wayne T. McCarthy". The signature is fluid and cursive, with the first name "Wayne" being more prominent.

Wayne T. McCarthy, President

Waltham Historical Society, Inc.

190 Moody Street, Waltham, MA 02453

**Internal Revenue Service  
District Director**

**Department of the Treasury**

**P. O. Box 2508  
Cincinnati, OH 45201**

**Date: April 21, 1999**

**Person to Contact:**  
Patty Dennis (31-01944)  
EP/EO Customer Service Rep.  
**Telephone Number:**  
877-829-5500  
**Fax Number:**  
513-684-5936  
**Federal Identification Number:**  
04-2104937  
**Accounting Period Ends**  
March

**Society for the Preservation of  
New England Antiquities, Inc.  
141 Cambridge St.  
Boston, MA 02114-2799 410**

Dear Sir or Madam:

This is in response to your request for a letter affirming your organization's exempt status.

In May 1928, we issued a determination letter that recognized your organization as exempt from federal income tax under section 103(6) of the Internal Revenue Code of 1939 (now section 501(c)(3) of the Internal Revenue Code of 1986). That determination letter is still in effect.

We classified your organization as a publicly supported organization, and not a private foundation, because it is described in sections 509(a)(1) and 170(b)(1)(A)(vi) of the Code. This classification was based on the assumption that your organization's operations would continue as stated in the application. If your organization's purposes, character, method of operations, or sources of support have changed, please let us know so we can consider the effect of the change on the organization's exempt status and foundation status.

Your organization is required to file Form 990, Return of Organization Exempt from Income Tax, only if its gross receipts each year are normally more than \$25,000. If a return is required, it must be filed by the 15th day of the fifth month after the end of the organization's annual accounting period. The law imposes a penalty of \$20 a day, up to a maximum of \$10,000, when a return is filed late, unless there is reasonable cause for the delay.

As of January 1, 1984, your organization is liable for taxes under the Federal Insurance Contributions Act (social security taxes) on remuneration of \$100 or more the organization pays to each of its employees during a calendar year. There is no liability for the tax imposed under the Federal Unemployment Tax Act (FUTA).

Organizations that are not private foundations are not subject to the excise taxes under Chapter 42 of the Code. However, these organizations are not automatically exempt from other federal excise taxes. If you have any questions about excise, employment, or other federal taxes, please let us know.

Donors may deduct contributions to your organization as provided in section 170 of the Code. Bequests, legacies, devises, transfers, or gifts to your organization or for its use are deductible for federal estate and gift tax purposes if they meet the applicable provisions of sections 2055, 2106, and 2522 of the Code.

Your organization is not required to file federal income tax returns unless it is subject to the tax on unrelated business income under section 511 of the Code. If your organization is subject to this tax, it must file an income tax return on Form 990-T, Exempt Organization Business Income Tax Return. In this letter, we are not determining whether any of your organization's present or proposed activities are unrelated trade or business as defined in section 513 of the Code.

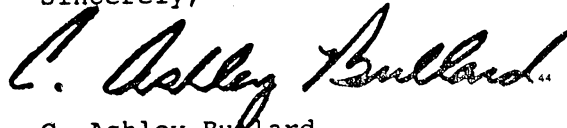


Society for the Preservation of New England Antiquities Inc  
04-2104937

Because this letter could help resolve any questions about your organization's exempt status and foundation status, you should keep it with the permanent records of the organization.

If you have questions, please call us at the telephone number shown in the heading of this letter.

Sincerely,

A handwritten signature in cursive script, reading "C. Ashley Buclard". The signature is written in dark ink and is positioned above the printed name and title.

C. Ashley Buclard  
District Director

# **HISTORIC NEW ENGLAND**

## **CORPORATE RESOLUTIONS**

It is hereby RESOLVED by the trustees of the Society for the Preservation of New England Antiquities, doing business as and hereafter referred to as Historic New England, that:

1. The president (CEO), executive vice president (chief operating officer, COO), director of finance, and/or treasurer of Historic New England, under the direction of the investment committee, are hereby authorized to buy, sell, assign and transfer stock, bonds, evidences of interest, evidences of indebtedness or of other obligations and all other securities, corporate or otherwise now and hereafter held by this corporation in its own right or in any fiduciary capacity, and to execute any and all instruments necessary, proper and desirable for that purpose. All instructions relating to these actions must be authorized in writing in advance of any actions by at least two of the above named individuals.
2. The president (CEO), executive vice president (chief operating officer, COO), director of finance, and/or treasurer, acting individually are hereby authorized to open and close bank accounts in the name of Historic New England, to make deposits, endorse and sign checks, to give written, telephonic, electronic and oral instruction with respect to the receipt and disbursement of funds in such accounts and to designate other individuals who shall have such authority; and until notified in writing to the contrary, designated banks shall be entitled to rely upon the continuing effect of this vote and of any certificate of the president as to the names and tenure of office of the particular persons authorized to draw upon said accounts or otherwise to transact business in the name of the organization with designated banks.
3. Checks drawn for an amount of \$10,000 or greater must be signed by any two individuals in the group consisting of the president (CEO), executive vice president (chief operating officer, COO), director of finance or treasurer and their designees.
4. The president (CEO) and executive vice president (chief operating officer, COO) are authorized on behalf of Historic New England to sign or to designate signature authority for any documents required to conduct normal business operations.
5. The president (CEO) and executive vice president (chief operating officer, COO) are authorized on behalf of Historic New England to apply for grant funds and donations from any sources, including but not limited to federal, state and local government, as well as private foundations, corporations and individuals, to assist in the implementation of programs that fulfill the mission of the organization.

## **CORPORATE RESOLUTIONS, continued**

6. The accounting firm of Bollus, Lynch and Company, of Worcester, Massachusetts is engaged to conduct an annual financial audit.
7. Any officer of Historic New England is hereby authorized to certify these resolutions to whom it may concern.
8. These resolutions supersede resolutions previously adopted.

June 16, 2011

## **SECTION II – PROJECT AUTHORIZATION**

### **B. Authorization – Name, title and address of who is authorized to:**

#### **1) Execute a contract with the MHC**

Carl R. Nold, President and CEO  
Historic New England  
141 Cambridge Street  
Boston, MA 02114-2702

#### **2) Oversee and report on procurement**

Benjamin K. Haavik, Team Leader, Property Care  
Historic New England  
185 Lyman Street  
Waltham, MA 02452-5645

#### **3) Enter into contracts for project work**

Carl R. Nold, President and CEO  
Historic New England  
141 Cambridge Street  
Boston, MA 02114-2702

#### **4) Prepare progress and completion reports**

Benjamin K. Haavik, Team Leader, Property Care  
Historic New England  
185 Lyman Street  
Waltham, MA 02452-5645

#### **5) Arrange for grant funding acknowledgment including the project sign**

Benjamin K. Haavik, Team Leader, Property Care  
Historic New England  
185 Lyman Street  
Waltham, MA 02452-5645

#### **6) Administer and disburse funds for project**

Benjamin K. Haavik, Team Leader, Property Care  
Historic New England  
185 Lyman Street  
Waltham, MA 02452-5645

#### **7) Sign the preservation restriction**

Carl R. Nold, President and CEO  
Historic New England  
141 Cambridge Street  
Boston, MA 02114-2702

6  
A

## Know all Men by these Presents

That I, Ray C. Johnson, of Boston, Suffolk County, Massachusetts,  
being unmarried

for consideration paid hereby grant unto The Society for the Preservation of New  
England Antiquities, a Massachusetts corporation,

with quitclaim covenants, a parcel of land with all buildings and other  
structures thereon, situated on the Southeasterly side of Lyman  
Street in Waltham, Middlesex County, Massachusetts, and shown as Lot  
4 on Plan of Land in Waltham, Mass. by William S. Crocker, Civil  
Engineer, dated Aug. 20, 1951, to be recorded herewith, bounded and  
described as follows:

WESTERLY and NORTHWESTERLY on Lyman Street about Thirteen Hundred  
Seventy-five (1375) feet;  
NORTHEASTERLY on lot 1 on said Plan about Eight Hundred Twenty (820) feet;  
EASTERLY on lot 3 on said Plan about Four Hundred Thirty-two (432) feet;  
EASTERLY again on land now or formerly of Ronald T. Lyman One Hundred  
Twenty-five and 48/100 (125.48) feet;  
SOUTHERLY on lot 2 on said Plan Two Hundred Fifty-one and 15/100 (251.15)  
feet;  
SOUTHEASTERLY on the same Two Hundred Three and 64/100 (203.64) feet;  
EASTERLY on the same Two Hundred Eighty-three (283) feet; and  
SOUTHWESTERLY on the location of the Boston and Maine Railroad Central  
Massachusetts Division by two lines measuring Four Hundred  
Forty-seven and 39/100 (447.39) feet and about Five Hundred  
Fifty-five (555) feet.

Containing according to said Plan about 29.22 acres.

Together with all of the Grantor's right, title and interest, if any,  
in said railroad location between the side lines of the granted premises  
extended across the same.

Or however otherwise said premises may be bounded, measured or  
described.

Being the same premises conveyed to the Grantor herein by Ella L.  
Lee and others by deed of even delivery and record herewith, and the  
same are hereby conveyed subject to a mortgage from the Grantor herein  
to Ella L. Lee and others to secure the payment of \$40,000 of even  
delivery and record herewith.

~~XXXXXXXXXXXXXXXXXXXX~~

~~hereby release unto the said grantees all rights of title and interest in~~  
~~in said premises~~

~~and other interests~~

Witness my hand and seal this 27<sup>th</sup> day of September A.D. 19 51, no  
revenue stamps being hereto affixed as none are required by law.

Ray C. Johnson

Commonwealth of Massachusetts.  
Suffolk, ss. September 2, 1951.

Then personally appeared the above named

Ray C. Johnson

and acknowledged the foregoing instrument to be  
his free act and deed, before me

HENRY HIXON MEYER  
Notary Public.

My commission expires April 25, 1956.

Rec'd & entered for record Oct. 2, 1951 at 2h. 40m. P.M. #246



EXTRACTS FROM ACTS OF 1912, CHAPTER 502.

SECTION 17. In a conveyance of real property the words "quitclaim covenants" or the words "limited covenants" shall have the full force, meaning and effect of the following words: "The grantor for himself and his heirs, executors, administrators and successors, covenants with the grantee and his heirs, successors and assigns that the granted premises are free from all encumbrances made by the grantor, and that he will and his heirs, executors, administrators and successors shall warrant and defend the same to the grantee and his heirs, successors and assigns forever against the lawful claims and demands of all persons claiming by, through or under the grantor, but against none other."

246

PHOTOSTATED

5

PLAN IN RECORD BOOK 78.07 PAGE 224

Quitclaim Deed

Ray C. Johnson

TO

The Society for the Preservation  
of New England Antiquities.

RECORDED  
OCT 2 1951  
240 P 25.00

Cambridge, Mass. Oct. 2, 1951  
at 2 o'clock and 40 minutes P.M.  
Received and Entered with Middlesex So.  
Dist. Deeds, Vol. 7807 Page 230

Attest:  
Albert D. Dickinson REGISTER

FROM THE OFFICE OF  
RACHEMANN, SAWYER & BREWSTER  
COUNSELLORS AT LAW  
83 STATE ST.  
BOSTON, MASSACHUSETTS

R., S. & B. 1948-2000

V10  
10  
20  
PRESERVATION RESTRICTION

The parties to this agreement are the COMMONWEALTH OF MASSACHUSETTS, by and through the MASSACHUSETTS HISTORICAL COMMISSION, which has an office at 80 Boylston Street, Boston, Massachusetts, 02116, hereinafter referred to as the Commission, and Society for the Preservation of New England Antiquities,  
141 Cambridge St., Boston, MA, hereinafter referred to as the Grantor.

For good and valuable consideration the Commission imposes and the Grantor accepts the following preservation restrictions which shall be recorded with and affect those premises described in a certain deed dated

Sept. 27, 1951 from Robert I. Lee and Harvy H. Bundy  
to the Grantor, recorded with the Middlesex  
Registry of Deeds at Book 7807, Page 224.

These preservation restrictions are set forth so as to ensure the preservation of the architectural and historical integrity of \_\_\_\_\_

The Vale, so called, located at  
185 Lyman Street, Waltham, Massachusetts

which premises have been listed on the National Register of Historic Places under the provisions of the National Historic Preservation Act of 1966 (80 Stat. 915) and/or the State Register of Historic Places. Architectural and historical integrity shall be defined as those significant characteristics which originally qualified the building for entry in the National Register of Historic Places and/or State Register of Historic Places.

PRESERVATION RESTRICTIONS

1. Maintenance of Premises: The Grantor agrees to assume the total cost of continued maintenance, repair, and administration of the premises so as to preserve the architectural and historical integrity of the features, materials, appearance, workmanship, and environment for a period in perpetuity from the date of execution of this instrument in a manner satisfactory to the Commission. Nothing herein shall prohibit the Grantor from seeking financial assistance from any sources available to him.

MARGINAL REFERENCE REQUESTED  
BOOK 7807 PAGE 224

2. Maintenance of Grounds: The Grantor agrees that the grounds around said building be maintained in a landscaped environment consistent with the historical character of the building. Nothing herein shall prohibit the parking on part of the premises of registered operating motor vehicles in use by the owner or occupants or visitors to the premises.

3. Inspection: The Grantor agrees that the Commission may inspect the premises from time to time during the length of the restrictions to ensure that the Grantor is in compliance with reasonable standards of maintenance and administration.

4. Alteration: The Grantor agrees that no alteration shall be made unless (a) clearly of minor nature and not affecting architectural and historical values, (b) the Commission has previously determined that it will not seriously impair architectural and historical values after reviewing plans and specifications submitted by the Grantor, or (c) required by casualty or other emergency promptly reported to the Commission.

5. Other Provisions:

The burden of these preservation restrictions, enumerated in paragraphs 1 through 5 inclusive, shall run with the land in perpetuity and be binding upon future owners of an interest therein. The right of enforcement of these restrictions shall be as provided in General Laws, Chapter 184, Section 32 as enacted by ACTS 1969, Chapter 666, Section 5, as it may be amended from time to time.

It is further agreed that the Commission in no way assumes any obligation for maintaining, repairing, or administering said property.

IN WITNESS WHEREOF, the Grantor has hereunto set his hand and seal this

ninth day of April, 1985.

THE SOCIETY FOR THE PRESERVATION  
OF NEW ENGLAND ANTIQUITIES

by Nancy R. Coolidge  
DIRECTOR

COMMONWEALTH OF MASSACHUSETTS

SUFFOLK SS

3 MAY, 1985

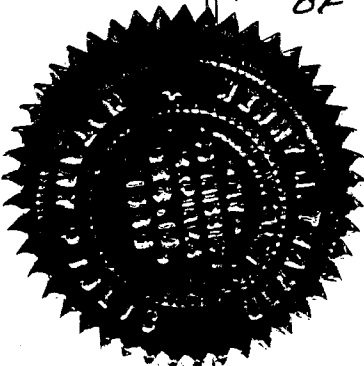
Then personally appeared the above named NANCY R. COOLIDGE AS  
DIRECTOR  
and acknowledged the foregoing instrument to be the free act and deed of

THE SOCIETY FOR THE PRESERVATION, before me,  
OF NEW ENGLAND ANTIQUITIES

Henry H. Thayer  
HENRY H. THAYER

Notary Public

My commission expires 19 DEC 1986



APPROVAL BY MASSACHUSETTS HISTORICAL COMMISSION

The undersigned Executive Director of the Massachusetts Historical Commission hereby certifies that the foregoing preservation restrictions have been approved pursuant to Massachusetts General Laws, Chapter 184, Section 32.

Valerie A. Talmage

Valerie A. Talmage  
Executive Director  
Massachusetts Historical Commission

COMMONWEALTH OF MASSACHUSETTS

Suffolk SS

October 17, 1984

Then personally appeared the above named Valerie A. Talmage, Executive Director and Secretary, and acknowledged the foregoing approval to be the free act and deed of the Massachusetts Historical Commission, before me,

Elsa H. Fitzgerald  
Notary Public

My Commission expires

November 3, 1989

### **Annotated Scope of Work for Masonry Repairs and Repointing**

*Budget: \$21,000 for Masonry Repairs and \$5,250 for Repointing (priced following consultation with Consigli Construction Company)*

The brick masonry walls of the greenhouse complex are mostly in good condition but there are several key areas of deterioration that require repointing and/or structural rebuilding.



*Masonry conditions at the door of the “Grape House.”*



*Typical masonry conditions along the south wall of all sections.*





*The east end of the "Grape House" requires significant masonry repairs where the corner and peak are losing structural integrity.*

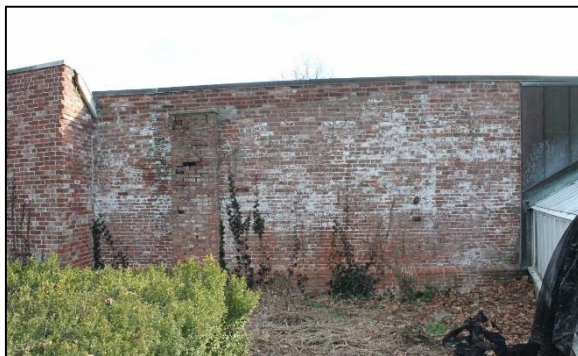




*Masonry damage to the west end of the "Grape House."*



*Deteriorated mortar on the north elevation of the "Grape House."*



*Deteriorated mortar on the north elevation of the "Orchid House."*

## **General Scope:**

### **Repointing**

- 150 square feet along south elevation of the "Camellia House"
- 80 square feet along south elevation of the "Grape House"
- 60 square feet at west end of the "Grape House"
- 25 square feet at south entry of the "Grape House"
- 25 square feet at north entry of the "Grape House"
- 60 square feet at north elevation of "Camellia House" and "Orchid House"
- Total: 400 sf

Masonry repairs / reconstruction to the "Grape House" (south east corner)

## **Annotated Scope of Work for Heating System Rehabilitation**

*Budget: \$105,000 (priced following consultation with G&G Mechanical, Inc. and Delta T Solutions)*

The greenhouse complex is currently heated by two hydronic boilers that are configured to fire in a lead/lag situation to share operating time and heat load. Under extreme cold, they will fire simultaneously. The system includes circulation pumps, zone valve controls, a draft inducer in the chimney, and 5" cast iron pipes through which the hot water circulates.

The cast iron pipes are thought to date to c. 1930, when wholesale upgrades were made to the heating system. They originally provided gravity-based heat with little pressure. The current low-pressure heating system, however, moves the water at a more pressure than the piping was intended to handle. Over the last several years, major leaks have developed in the lead and oakum joints and have been repaired with Dresser-style couplings. These repairs include a reduction of pipe from 5" to 1-1/2," which causes an increase in pressure. Additional joints are actively leaking (albeit moderately).

The net result is that the heating system is at high risk for catastrophic failure. Such a failure could result in significant flooding of the facility, even potential flooding of the mansion. If this were to occur during the heating season, it would likely result in significant and irreversible losses to the historic plant collections that have been a beloved destination for generations of Waltham residents.

Historic New England will reduce the threat of flooding by rehabilitating the heating system. It will replace the existing pipes with a modern fin-based hydronic system that is more compatible with modern hydronic boilers and capable of providing more efficient and manageable heat. The new delivery system will be installed under the plant tables, where it will be largely out of sight. The c. 1930 pipes will be preserved in place as much as possible given certain space considerations.



*Existing hydronic boiler setup.*



*Historic heating configuration, which is no longer in service.*





*Example of 5" cast iron runs with gate valves for control in the "Grape House"*



*Supply and return runs visible in the "Grape House."*



*Example of 5" cast iron runs in the "Sales House."*



*Example of repairs to existing piping in the "Camellia House."*

### **General Scope:**

Remove from service approximately 1,500 linear feet of 5" cast iron piping

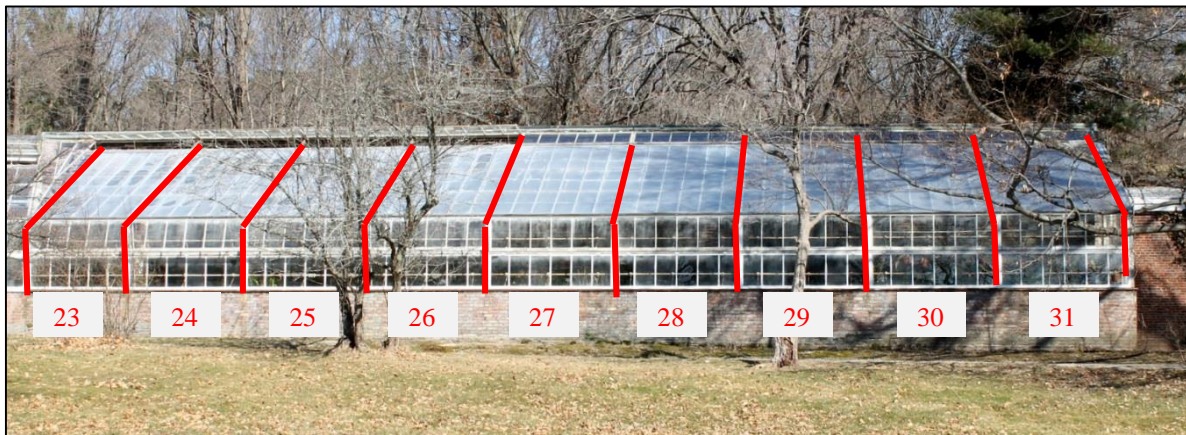
Install new hydronic heating delivery system throughout greenhouse complex

- New components to be minimally visible
- Heat loss calculations to determine exact length of runs throughout complex
- Remote-controlled zone and thermostatic controls to allow for precise temperature management throughout heating season.

## Annotated Scope of Work for Window Conservation

*Budget: \$125,000 (priced on the basis of Historic New England's prior experience, the extremely tight window of opportunity, which requires the project to be sourced to larger and more expensive companies, and the need for weather protection while the sash are removed)*

### "Camellia House"



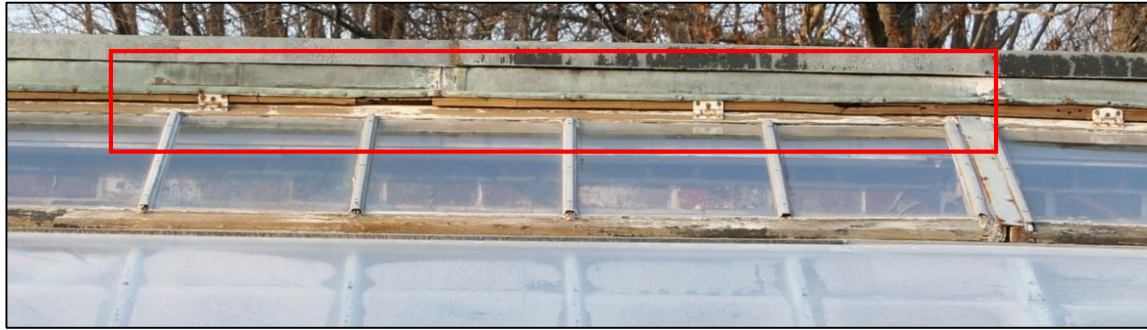
South Elevation.

The scope of work for each of the nine sections (Sections 23-31) is identical. The operable lower wall sash, which were restored in 2011, will be inspected to confirm paint and glazing sealing. Where deterioration has occurred, new paint/glazing will be applied. The operable roof and upper wall sash will be removed and undergo full conservation efforts. Conservation will include Dutchman repairs, joint stabilization, glass replacement where necessary, new glazing sealing and prime/paint. The sash will be reinstalled when conservation is completed.

While the sash are removed for conservation, the metal sills at the walls will be prepped and painted to provide necessary protection against ongoing oxidation. The wood "ridge board" (the attachment point for the roof sash) is unpainted and deteriorated, split, and missing in locations. This "ridge board" will be replaced. The scope will include priming, painting and careful integration with the existing copper flashing, which is between the back wall and roof of the "Camellia House."

All hardware associated with the sash will be cleaned (old paint and rust removed), appropriately prepped, and painted prior to installation. The original Lord & Burnham bar caps used for the roof sash are aluminum. They will be removed and cleaned but no repairs are anticipated.





Typical conditions of “ridge board,” showing cracks, old screw holes, missing sections and lack of paint.



Typical conditions of wall sash (left) and roof sash (above).



Typical conditions of metal sills/wall caps.



**Section 23:**

Wall bottom – repaint / reglaze  
Wall upper – remove, restore, paint, glaze  
Scrape and paint metal sills  
Roof – remove, restore, paint glaze  
Repair and paint mounting board



**Section 24:**

Wall bottom – repaint / reglaze  
Wall upper – remove, restore, paint, glaze  
Scrape and paint metal sills  
Roof – remove, restore, paint glaze  
Repair and paint mounting board



**Section 25:**

Wall bottom – repaint / reglaze  
Wall upper – remove, restore, paint, glaze  
Scrape and paint metal sills  
Roof – remove, restore, paint glaze  
Repair and paint mounting board





**Section 26:**

Wall bottom – repaint / reglaze  
Wall upper – remove, restore, paint, glaze  
Scrape and paint metal sills  
Roof – remove, restore, paint glaze  
Repair and paint mounting board



**Section 27:**

Wall bottom – repaint / reglaze  
Wall upper – remove, restore, paint, glaze  
Scrape and paint metal sills  
Roof – remove, restore, paint glaze  
Repair and paint mounting board



**Section 28:**

Wall bottom – repaint / reglaze  
Wall upper – remove, restore, paint, glaze  
Scrape and paint metal sills  
Roof – remove, restore, paint glaze  
Repair and paint mounting board





**Section 29:**

Wall bottom – repaint / reglaze  
Wall upper – remove, restore, paint, glaze  
Scrape and paint metal sills  
Roof – remove, restore, paint glaze  
Repair and paint mounting board



**Section 30:**

Wall bottom – repaint / reglaze  
Wall upper – remove, restore, paint, glaze  
Scrape and paint metal sills  
Roof – remove, restore, paint glaze  
Repair and paint mounting board



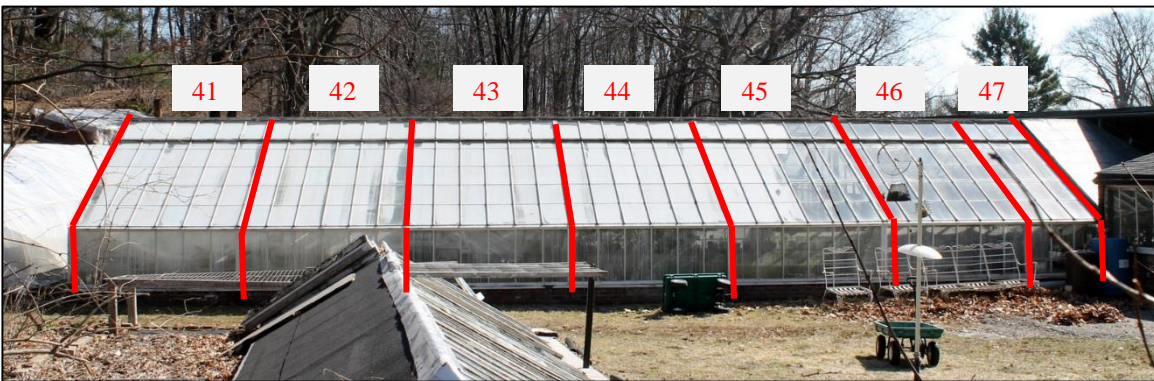
**Section 31:**

Wall bottom – repaint / reglaze  
Wall upper – remove, restore, paint, glaze  
Scrape and paint metal sills  
Roof – remove, restore, paint glaze  
Repair and paint mounting board

“Sales House”



East Elevation.



West Elevation.

The scope of work for each section is nearly identical. The twelve operable wall sash (Sections 34-46) and fourteen operable roof sash (Sections 33-47) will be removed and undergo full conservation. The two three-lite sections that are fixed in place (sections 33 and 47) will be repaired *in situ*. Conservation will include Dutchman repairs, joint stabilization, glass replacement where necessary, new glazing sealing, and prime/paint. When fully conserved, the sash will be reinstalled.

While the sash are removed for conservation, the metal sills at the side walls will be prepped and painted to provide necessary protection against ongoing oxidation. Additionally, the ridge assembly will be repaired and repainted as necessary to provide for secure attachment and operation of the roof sash.

All hardware associated with the sash will be cleaned (old paint and rust removed), appropriately prepped, and painted prior to installation. The original Lord & Burnham bar caps used for the roof sash are aluminum and require no additional intervention.





Typical conditions of roof vent sash and ridge assembly showing cracks, checks, old screw holes and paint failure.



Typical conditions of interior of roof vent sash showing deterioration at bottom rail



Sample conditions of side wall sash showing wood deterioration and paint failure



Typical conditions of metal sills / wall caps; note wear points indicating binding of sash hastening deterioration of operable sash



**Section 33:**

Side wall – remove, restore, paint, glaze  
Scrape and paint metal sills



Roof – remove, restore, paint glaze  
Repair and paint mounting board/ridge



**Section 34:**

Side wall – remove, restore, paint, glaze  
Scrape and paint metal sills



Roof – remove, restore, paint glaze  
Repair and paint mounting board/ridge



**Section 35:**

Side wall – remove, restore, paint, glaze  
Scrape and paint metal sills



Roof – remove, restore, paint glaze  
Repair and paint mounting board/ridge



**Section 36:**

Side wall – remove, restore, paint, glaze  
Scrape and paint metal sills



Roof – remove, restore, paint glaze  
Repair and paint mounting board/ridge





**Section 37:**

Side wall – remove, restore, paint, glaze  
Scrape and paint metal sills



Roof – remove, restore, paint glaze  
Repair and paint mounting board/ridge



**Section 38:**

Side wall – remove, restore, paint, glaze  
Scrape and paint metal sills



Roof – remove, restore, paint glaze  
Repair and paint mounting board/ridge



**Section 39:**

Side wall – remove, restore, paint, glaze  
Scrape and paint metal sills



Roof – remove, restore, paint glaze  
Repair and paint mounting board/ridge



**Section 41:**

Side wall – remove, restore, paint, glaze  
Scrape and paint metal sills



**Section 42:**

Side wall – remove, restore, paint, glaze  
Scrape and paint metal sills



**Section 43:**

Side wall – remove, restore, paint, glaze  
Scrape and paint metal sills



Roof – remove, restore, paint glaze  
Repair and paint mounting board/ridge



Roof – remove, restore, paint glaze  
Repair and paint mounting board/ridge



Roof – remove, restore, paint glaze  
Repair and paint mounting board/ridge





**Section 44:**

Side wall – remove, restore, paint, glaze  
Scrape and paint metal sills



Roof – remove, restore, paint glaze  
Repair and paint mounting board/ridge



**Section 45:**

Side wall – remove, restore, paint, glaze  
Scrape and paint metal sills



Roof – remove, restore, paint glaze  
Repair and paint mounting board/ridge



**Section 46:**

Side wall – remove, restore, paint, glaze  
Scrape and paint metal sills



Roof – remove, restore, paint glaze  
Repair and paint mounting board/ridge





**Section 47:**

Side wall – remove, restore, paint, glaze  
Scrape and paint metal sills



Roof – remove, restore, paint glaze  
Repair and paint mounting board/ridge

**General Scope:**

- A. Sash restoration component includes, but is not limited to, the following:
  - 1. Removal of operable sash on the “Camellia House” and “Sales House”
    - a. Installation of temporary covers for openings
    - b. Covers to be composed of wooden frames with ¼” thick Plexiglas® or solid exterior grade ½” plywood
    - c. Temporary covers to be affixed to arms to allow for operation
  - 2. Restoration of operable sash
    - a. Removal and labeling of glass
    - b. Removal of all failed paint
    - c. Identification and repair of damaged or deteriorated wood sections
    - d. Installation and sealing of glass
    - e. Prime and paint
  - 3. Installation of operable sash
    - a. Removal and disposal of temporary covers
    - b. Installation of restored sash
    - c. Verification of smooth and proper operation
  - 4. Add/Alternates
    - a. Prep, prime, paint metal sills associated with restored sash units
- B. Paint work is done in conjunction with sash restoration and includes the following:
  - 1. Prep and paint of operable sash
  - 2. Prep and paint of metal sill plates in conjunction with sash restoration
  - 3. Prep and paint of wood framing components adjacent to operable sash
- C. Carpentry repairs include, but may not be limited to the following scope of work:
  - 1. Repair and repaint all woodwork associated with operable sash
    - a. Ridge board at top of “Orchid House
    - b. Ridge assembly at top of “Sales House”

### **Annotated Scope of Work for Plant Table Repairs and Associated Asbestos Removal**

*Budget: \$24,150 for Plant Table Repairs (priced following consultation with Historic New England's in-house carpentry team and prior experience carpentry ); \$10,500 for Asbestos Removal (Historic New England's prior asbestos abatement experience)*

The tables on which the plants are displayed in the “Camellia House,” “Orchid House,” and “Sales House” consist of metal tubular legs that are tied into a base of corrugated Transite insulation and framed by wooden boards approximately 5-1/2” high by 3/4” thick with a 1” elliptical top molding.

The plant tables must be dismantled to provide access for the proposed heating system upgrades. Historic New England will safely dispose of the Transite insulation, which contains asbestos, and rebuild the existing tables. All deteriorated metal and wooden elements will be replaced and non-toxic insulation mats will be incorporated.

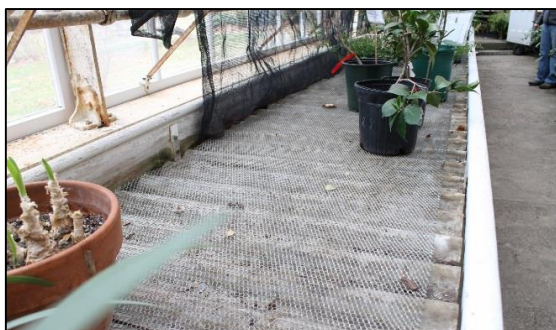
The Transite is not friable and thus does not present an active daily risk. A licensed asbestos abatement vendor must be hired to dismantle the tables, as the proposed activity will disturb the current conditions.



*General view of plant tables in the “Sales House.”*



*Corrugated Transite insulation under metal screening in the “Sales House.”*



*Corrugated Transite insulation under metal screening in the “Sales House.”*



*Typical plant table conditions in the “Sales House.”*

**General Scope:**

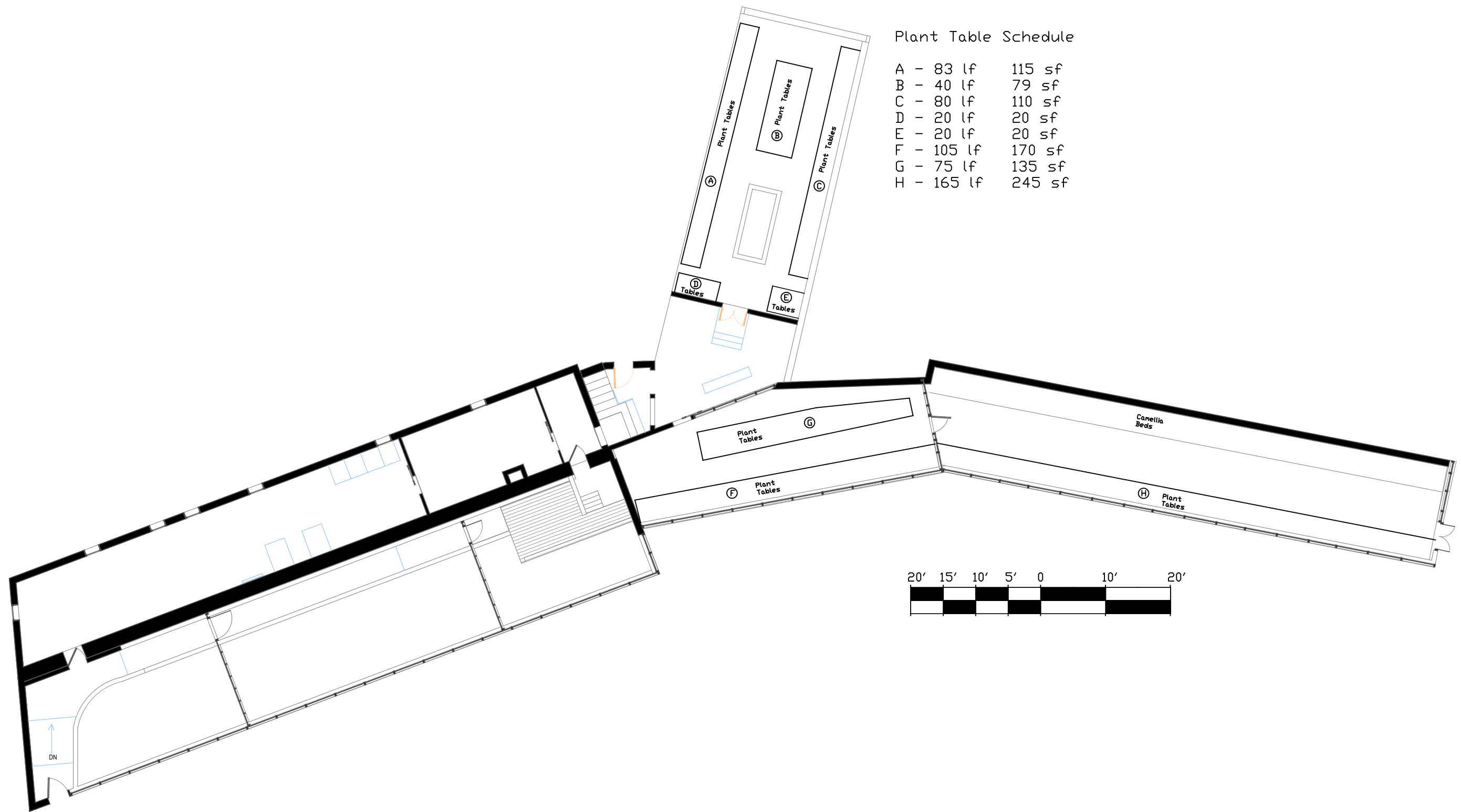
Dismantle approximately 600 linear feet (1,000 sf) of planting tables

Properly remove and dispose of approximately 900 sf of corrugated Transite insulation

Rebuild and install plant tables, incorporating new insulation layer as appropriate and replacing all deteriorated components:

- New wood to be cypress; primed and painted
- New hardware to be galvanized steel
- New table beds to be lined with insulating mats (exact material TBD based on heating implementation) to avoid burning plant material

See separate plans and drawings for additional work details.

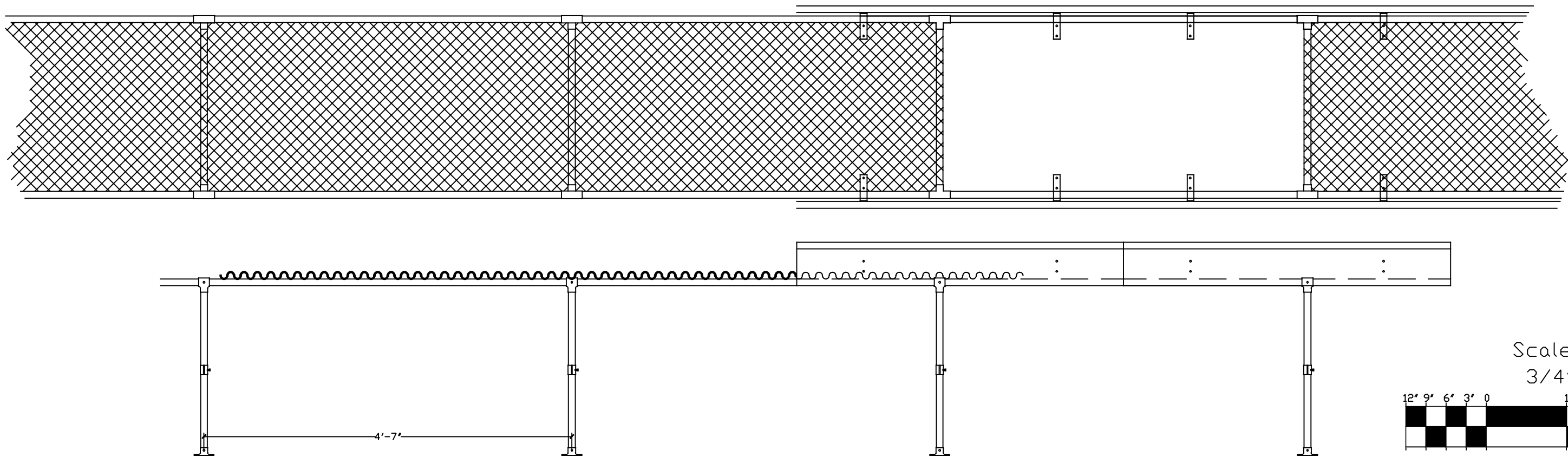


Plant Table Schedule

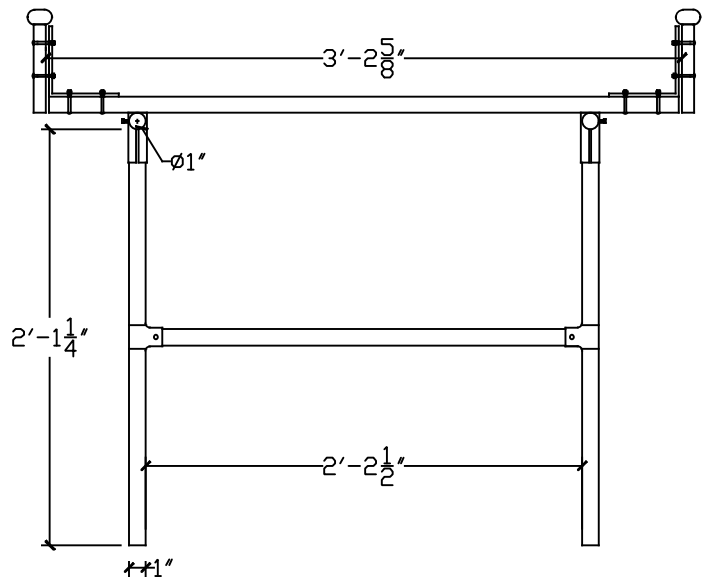
A	-	83 lf	115 sf
B	-	40 lf	79 sf
C	-	80 lf	110 sf
D	-	20 lf	20 sf
E	-	20 lf	20 sf
F	-	105 lf	170 sf
G	-	75 lf	135 sf
H	-	165 lf	245 sf







Scale  
3/4" = 1'



Scale  
1" = 1'

Typical Plan, Elevation and Cross Section of Greenhouse Plant Tables

Measurements are typical but do vary slightly from setup to setup

Scope of Work:

Work limited to plant tables located in c. 1820, c. 1840 and c. 1930 houses

Impacted area is approximately 600 lf of side boards and 900sf of flat surface

Existing tables to be labeled, dismantled, and set aside for reinstallation after heating work  
plant removal will be done by Historic New England staff  
transite insulating board to be removed and disposed of by asbestos removal firm

Existing galvanized metal components to be re-used

New wood side boards to be provided  
approximately 600 lf, cypress, heartwood, 1"x6" + 1-1/4"x1" molded top  
milled to match existing  
primed and painted (Benjamin Moore White, Aura, Eggshell)  
during the dismantling process select sections determined to be in good condition will be reused

Additional cross members to be provided in order to support metal grid throughout  
approximately 90  
galvanized, 1" tubular steel, with clamping and bolts necessary to secure to existing 1" tubular steel side rails

Note: Scope of work based on recreating existing table layout. Based on changes in services offered in each houses, slight changes in configuration of tables may occur.



Lyman Estate - Greenhouses

185 Lyman Street  
Waltham, MA 02452

Greenhouse Plant Tables

Drawing No.  
002

Date Plotted  
3/30/2016

Initials  
clc

### **Annotated Scope of Work for Accessibility Improvements**

*Budget: \$33,600 for exterior pathway improvements and \$10,500 for ramping on the interior (priced following consultation with JJ O'Brien & Sons)*

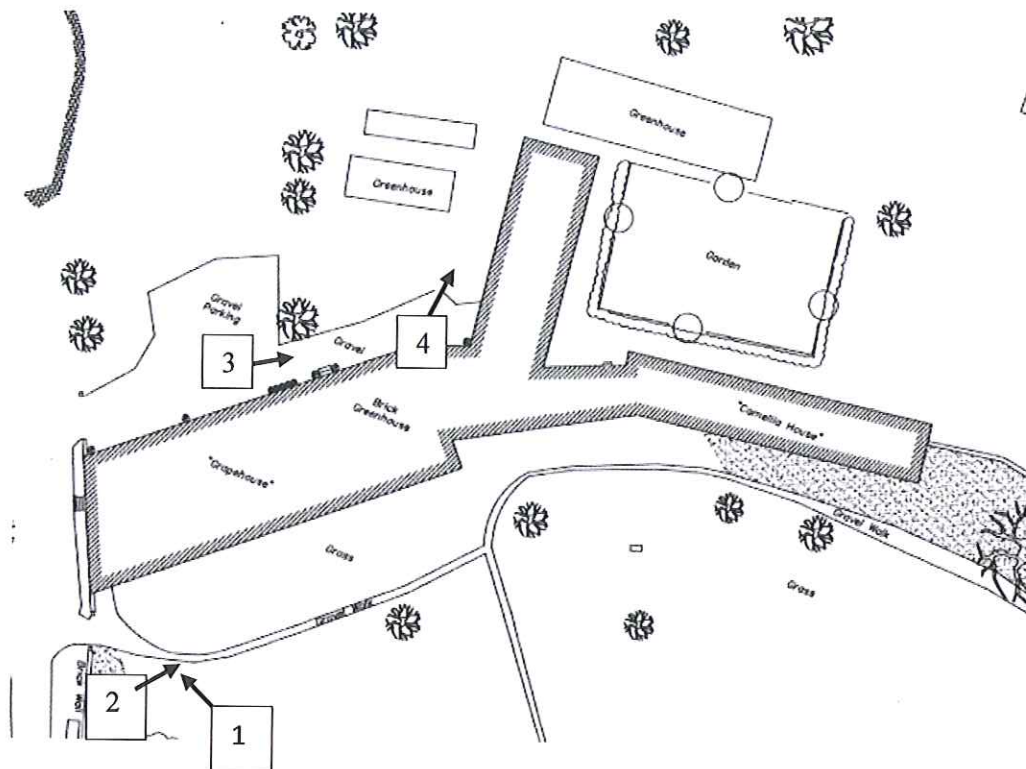
Greenhouse parking is located on Old Beaver Street to the west of the greenhouse complex. Most visitors currently enter through the "Grape House," the westernmost structure. Individuals who have difficulty using stairs, however, cannot easily negotiate the interior spaces from this entryway.

Historic New England has carefully studied various options for improving accessibility and come to the conclusion that adapting the "Grape House" to accommodate individuals with mobility issues will be very difficult to implement and destructive to the historic fabric. Its proposed solution will be comparatively simple to implement and have minimal impact on the historic structure. It will maintain the current entrance at the "Grape House" for visitors who prefer the quickest and most direct route from the parking area and provide a second, more visitor-friendly entrance at the east end of the "Camellia House." Visitors with mobility issues will be able to enter through the wide double doors of the "Camellia House" and gain full access to three of the five interior spaces (the "Camellia House," "Orchid House," and lower section of the "Sales House"). Only one small ramp will be required to make these interior spaces fully accessible.

The approach to the "Camellia House" entrance follows a historic path, which recent archaeological investigations suggest may have been originally laid out in the late eighteenth century. Historic New England will maintain the historic layout. While the existing pea stone gravel is easily maintained and provides a visually soft surface, it is not easy to navigate. Historic New England will replace the pea stone gravel with stabilized stone dust to provide visitors with a firmer surface and will widen the path to better accommodate wheelchairs.

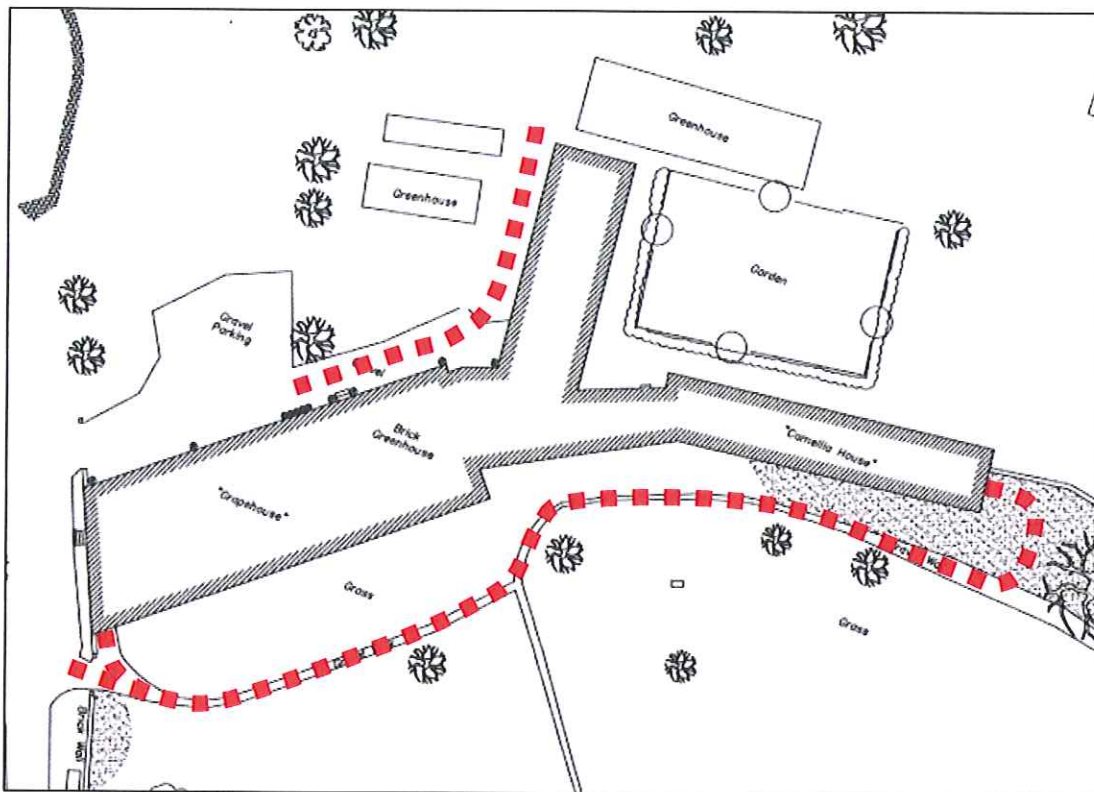
A new path will also be created along the north elevation of the greenhouse complex, using stabilized stone dust, to provide better service to the public during the outdoor plant sales. This area has historically been considered part of the "working" portion of the property, versus part of the formally designed landscape.

These pathway improvements will be accompanied by a reorganization of interior spaces to provide greater access to public services. Retail operations will be relocated from the c. 1930 "Sales House" to the c. 1840 structure that currently houses the orchid collection. The interior of the c. 1930 structure interior will become the new home for the orchid collection, with the upper section reserved for non-public activity.



*Existing path conditions*





*Path sections to be upgraded with a firm and stable packed stone surface*

### **General Scope of work**

The pathways identified in red in the above drawing will receive a new compacted stone dust surface.

Work includes:

- Removal of existing pea stone gravel path
- Existing subgrade base to be compacted to a level 4" below desired surface
- New stone dust path material to be built up and compacted to bring flush with existing grade
- Existing paths to be widened and edged for minimum 4' width
- New stone dust to match existing pea stone surface as closely as possible
- Paths to be edged with 1/16" edging; edging to be set flush with top of finish grade



## SITE ASSESSMENT



## LYMAN ESTATE GREENHOUSES

185 Lyman Street  
Waltham, MA 02452

*Baseline Assessment: March 2009*

*Re-assessment: February 2016*

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## GREENHOUSE COMPLEX OVERVIEW

The Lyman Estate greenhouse complex is composed of two separate principle historic components.

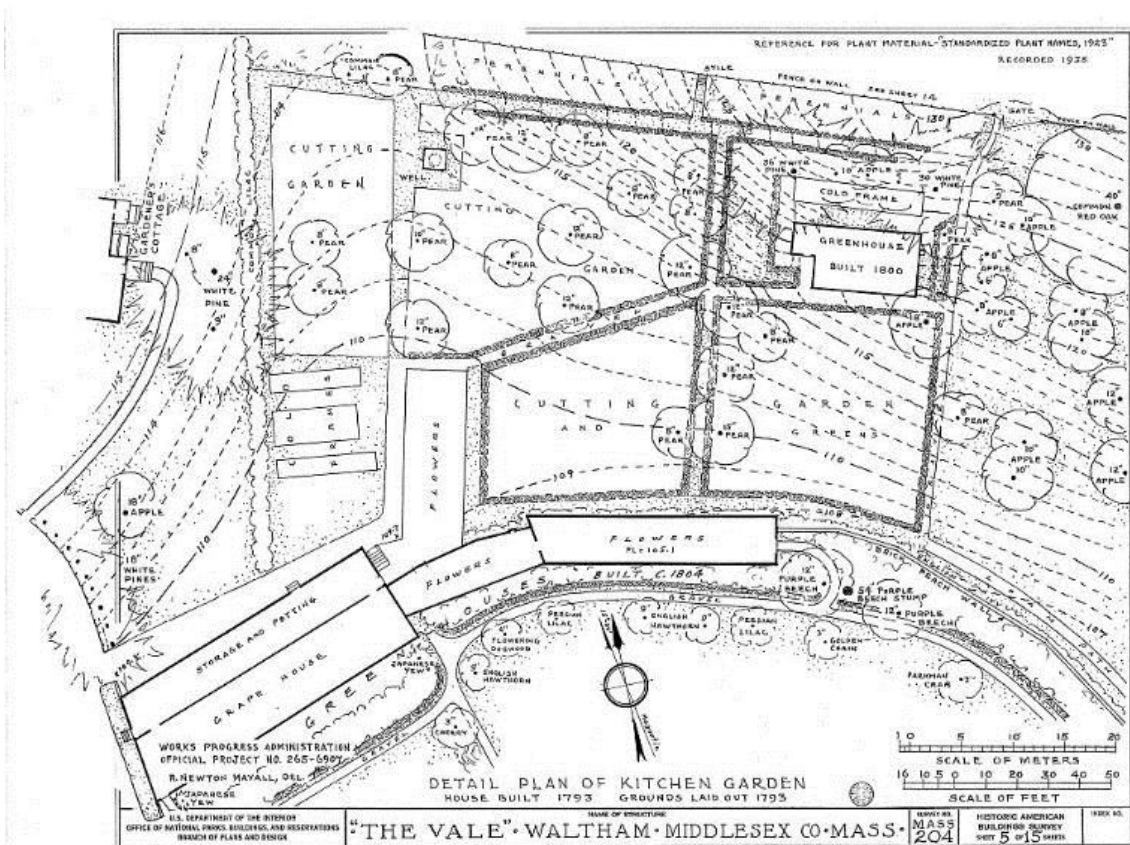
The Ancient Greenhouse (also referred to as the “Bark Pit”), dating to c. 1798 (*1798 Direct Tax documentation*), is a wood-framed structure set on a brick foundation in the form of a lean-to built into the side of a slight hill.

The second component of the complex encompasses a series of four (4) connected wood and steel framed greenhouses, each built at a different time period. The western and oldest greenhouse (c. 1804) serves as a grapery; the easternmost greenhouse (c. 1820) houses an historic collection of Camellias; the center greenhouse (c. 1840) originally housed cultivated roses and now provides space for orchid production and maintenance; and the greenhouse that extends to the north dates to circa 1930 and provided the family with a variety of cut flowers and now provides retail services.

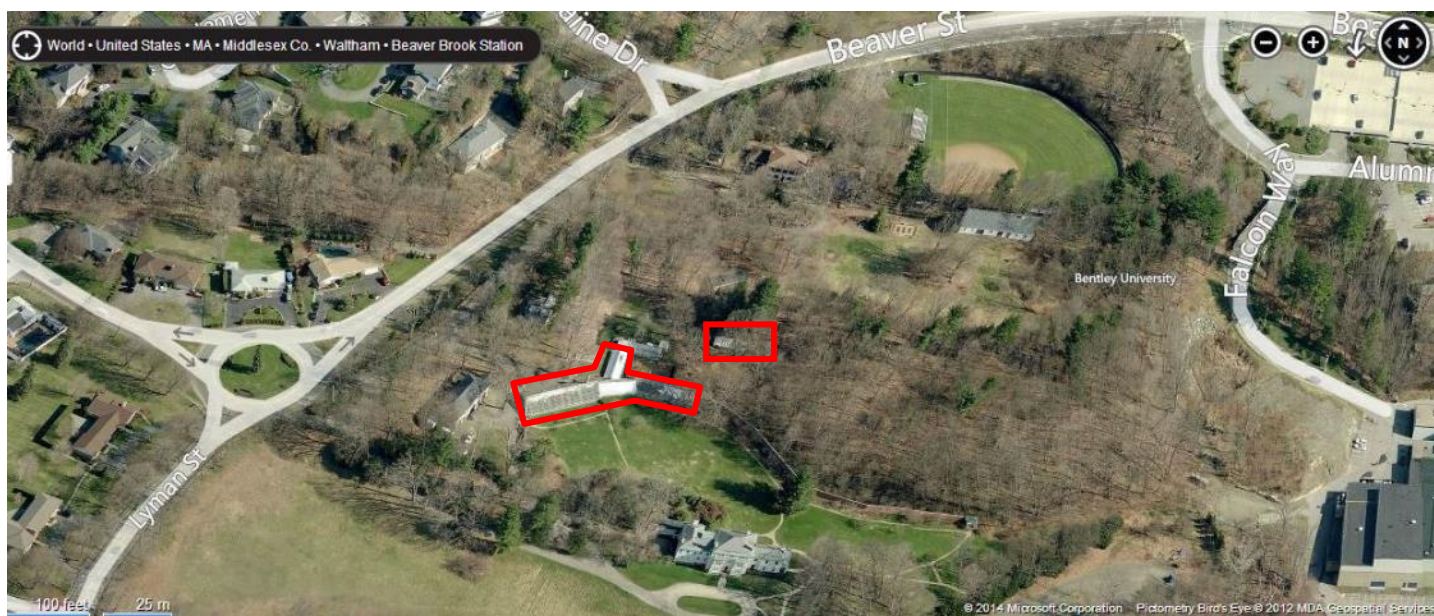
For the purposes of this assessment, the greenhouses will be referenced by their generally accepted original build dates so as not to confuse readers if (when) functions within the space change.



# Historic New England

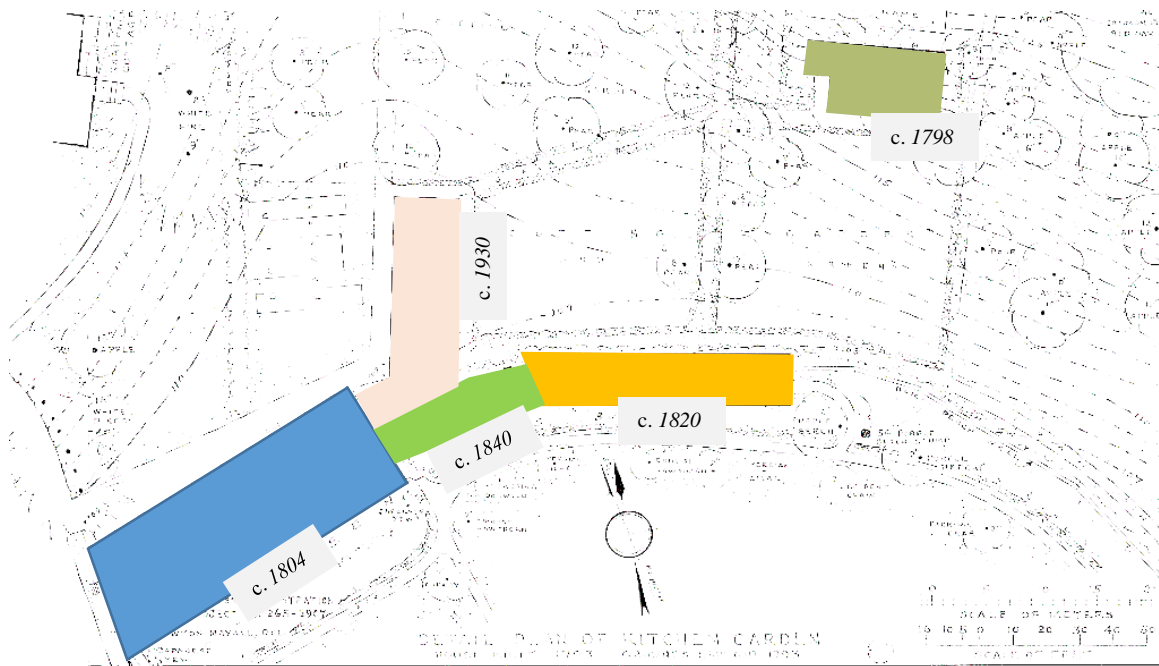


*HABS Drawing, Sheet 5 of 15, Data compiled 1933  
Plan shows all greenhouses.*



*21<sup>st</sup> century aerial view of Lyman Estate with Greenhouse complex highlighted.*





### ROOF SYSTEM

The c. 1804, c. 1820, and c. 1840 greenhouses as well as the c. 1798 bark pit face due south in order to take advantage of the natural heat source of the sun. The c. 1930 greenhouse runs north to south with its glass roof facing east and west. By this time, mechanical heating services allowed for this orientation of the building.

The roof of the c. 1804 greenhouse is an eccentric gable shaped structure of brick with the south facing roof and walls formed from columns of metal supported lapped glass with operable wood vent windows at the peak, typically featuring six individually glazed lites per vent section. All roof vents were restored in 1997. The north face of the roof is clad in black, three tab asphalt shingles and dates to 1997. There are three skylights, four passive air vents, one vent stack and one chimney penetrating the north elevation roof.

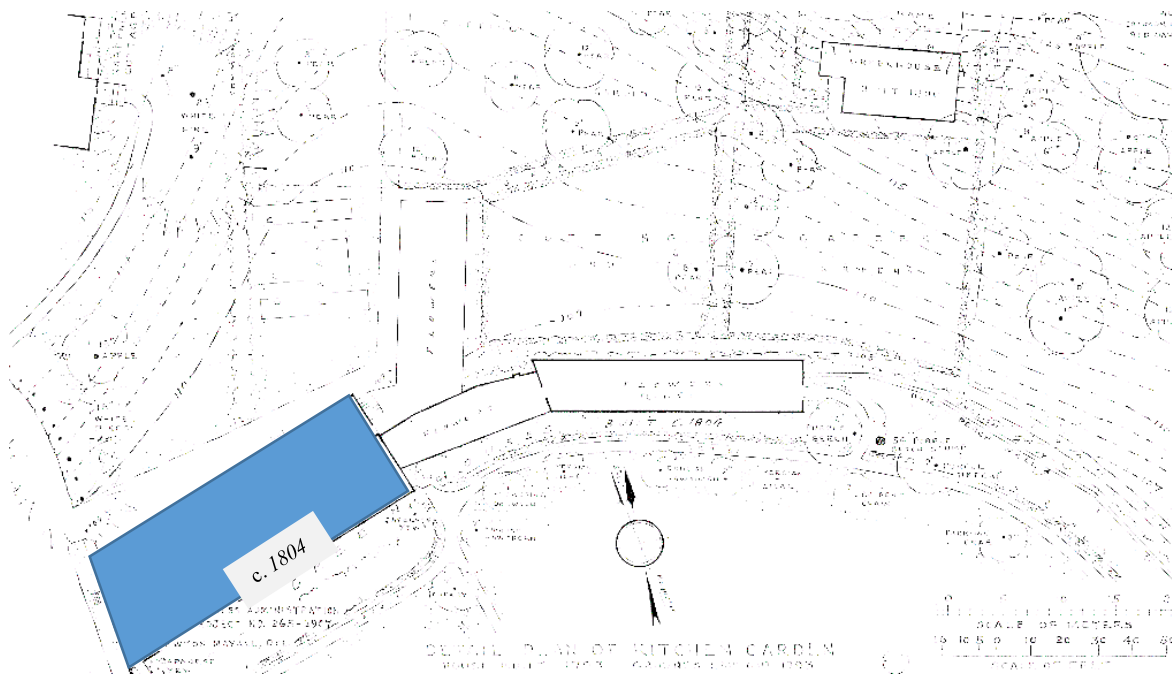


*c. 1804 greenhouse – south elevation.*



*c. 1804 greenhouse – north elevation.*

## Historic New England

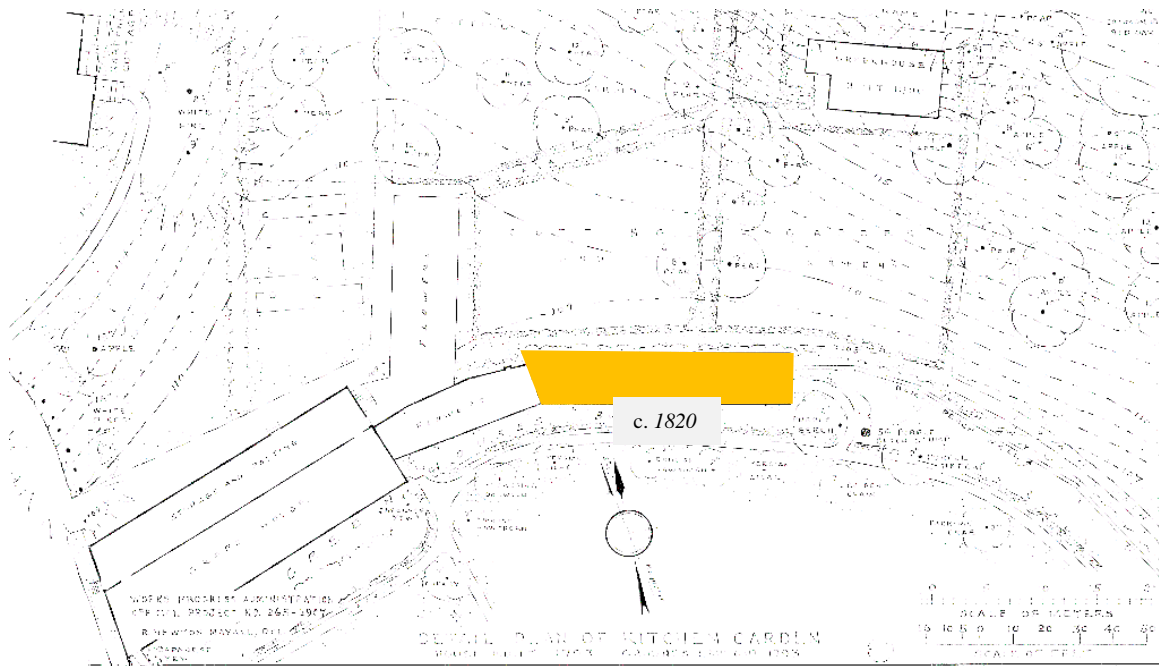


The roof of the c. 1820 greenhouse is a lean-to shaped structure built off the existing brick retaining wall. Like the western greenhouse, the south facing roof is composed of columns of metal supported lapped glass with operable wooden vent windows at the peak.



*c. 1820 greenhouse.*

## Historic New England



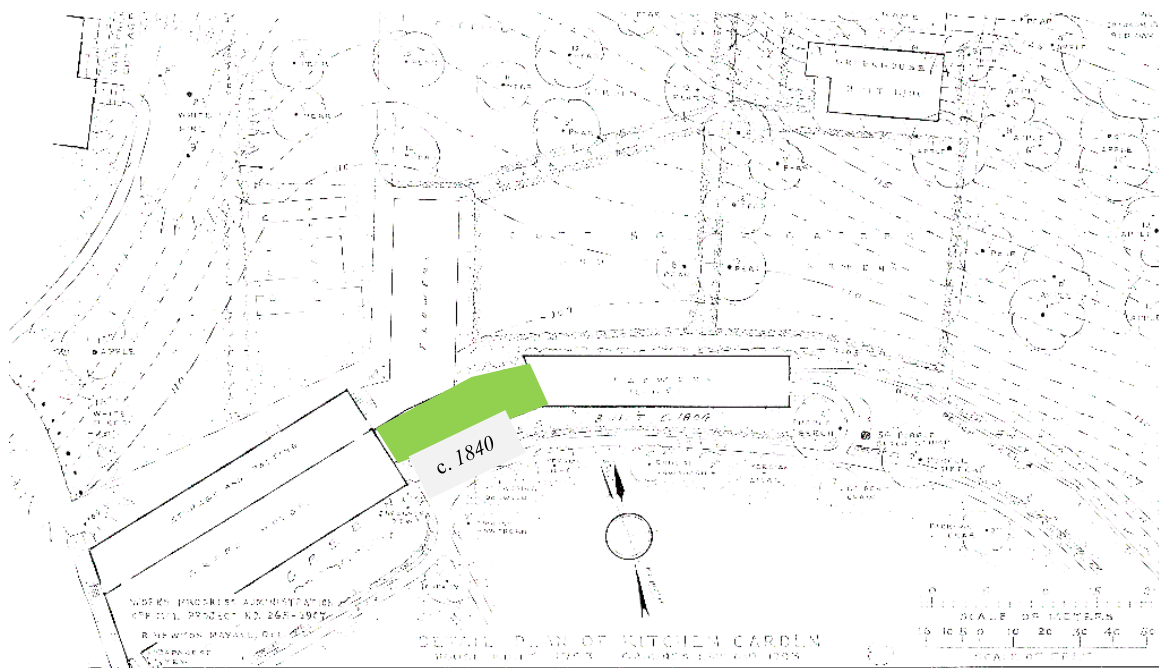
Due to the change in direction of the wall at the location of the c. 1840 greenhouse, there is a flat, copper clad roof that ties the brick wall to the lean-to shaped structure. At that point the c. 1840 greenhouse is configured the same as the c. 1820 greenhouse with columns of metal supported lapped glass with upper operable wooden vent windows at the peak. All roof vents were restored in 1997.



*c. 1840 greenhouse.*



## Historic New England



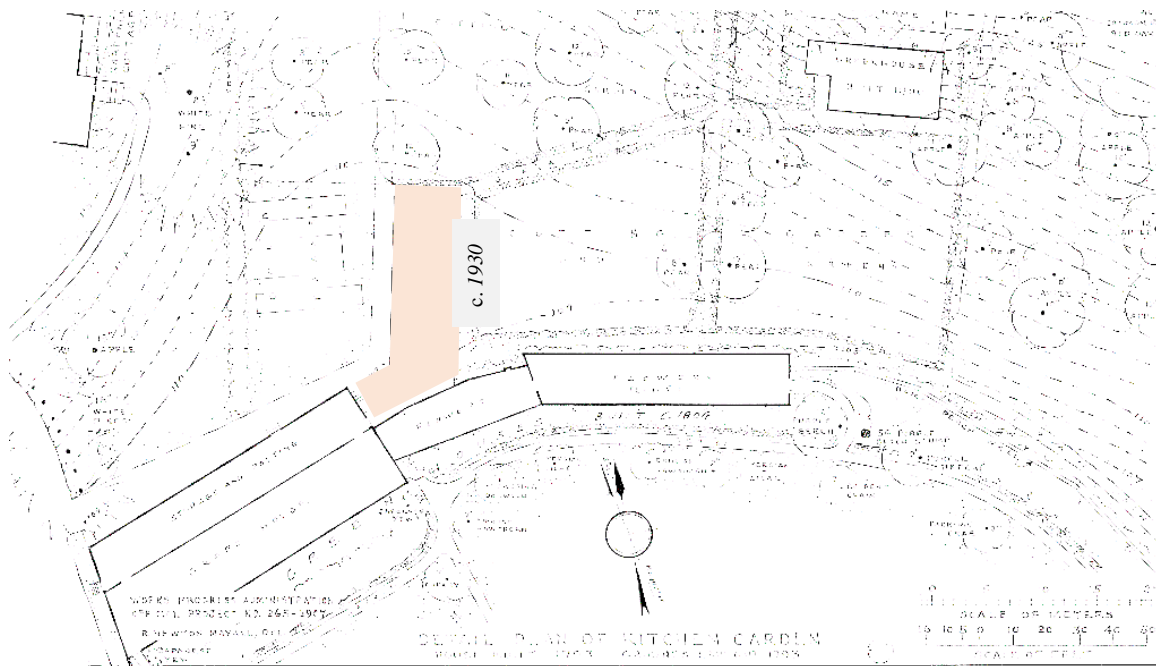
The c. 1930 greenhouse is a more traditional gable form with lapped glass supported by metal framing forming the entire roof structure. The c. 1930 greenhouse also features operable vent windows at the roof peak.



*c. 1930 greenhouse.*



## Historic New England

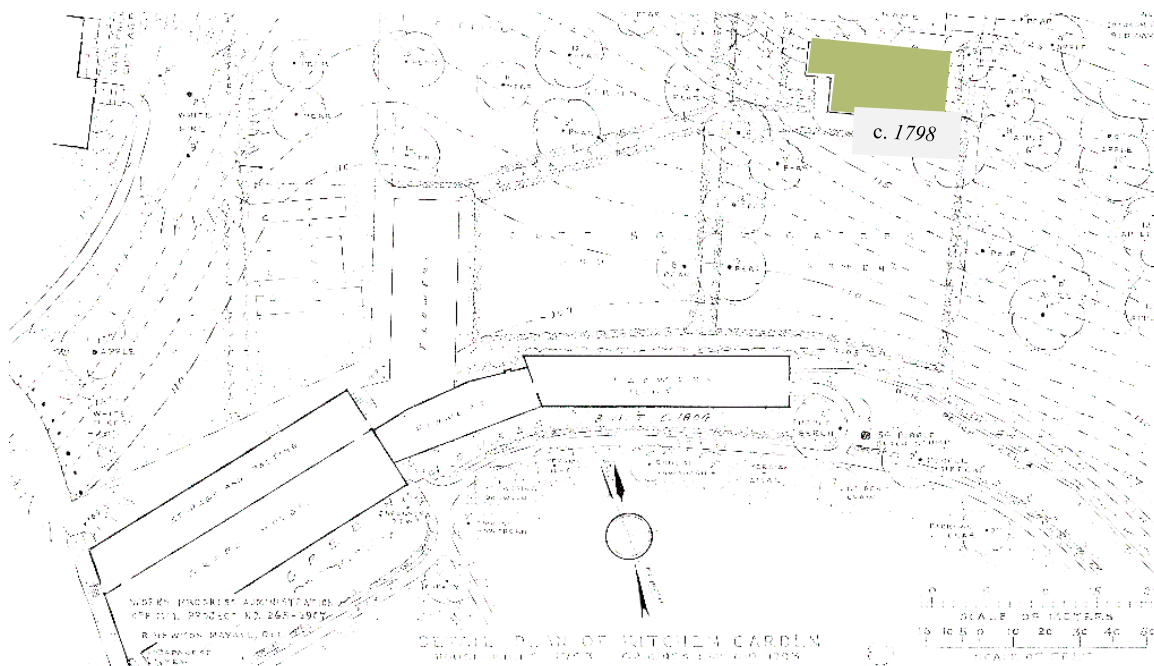


The c. 1798 “ancient greenhouse” is a separate, free standing structure. Its shed roof is covered by large wood framed sliding sash units (currently enshrouded in plastic). Each unit is composed of five columns of lapped glass (8 pieces per column). The units are designed to manually slide within large wooden mullions and thereby help regulate heat. This sash arrangement is different than that documented in the 1980s. Plastic covering has been placed over the structure to help keep water out of the building as some glass panels have broken.



*c. 1798 “ancient” greenhouse.*

## Historic New England



In general, the roofs are in fair to good condition. The operable vent sash located at the roof peaks are thermostatically controlled with the operation performed by motors connected to the armatures. There are ongoing issues with broken glass and lapped glass pieces that have slipped, thus creating gaps in the roof. There are jury rigged solutions throughout the complex in attempts to address broken and falling panes of glass. Some sections have had plastic covering attached to help with heat retention, but the plastic has torn and presents a shoddy appearance.

The wall between the c. 1804 greenhouse and the c. 1840 greenhouse is pulling away (towards the c. 1840 greenhouse) resulting in wider openings for the adjacent glass. In addition to stabilizing the wall, wider glass is needed in this area to compensate.

## Historic New England



*Leak protection in c. 1840 greenhouse.*



*Cracked glass in c. 1804 greenhouse – results in leak over walkway impacting visitors.*



*Tattered remnants of plastic over c. 1820 greenhouse.*

### AMENDMENTS

#### July/August 2010

- Roof vent sash #11 and #12 were removed for conservation work. A new roof vent sash was created for #10 as the existing had completely failed and was not considered repairable. For reference, these are the eastern most vent sash of the c. 1804 greenhouse. Upon completion all sash were re-installed.

## CHIMNEYS

There is currently one brick chimney located on the north side of the c. 1804 greenhouse. This is used for exhausting the HVAC system. The top of this chimney was rebuilt in 2004 in conjunction with the new heating system install. The chimney appears to be in good condition although could benefit from a repointing effort below the level of the work in 2004. There are the remains of other (earlier) chimneys in the c. 1804 greenhouse. These earlier chimney stacks are visible at the east and west ends of the c. 1804 greenhouse.



## Historic New England

There is one chimney on the c. 1798 greenhouse. This chimney has a conical dome as part of its brick construction. It appears to be in fair condition and in need of repointing.



*Chimney in c. 1804 greenhouse.*



*c. 1798 Chimney.*



*Remnants of chimneys in the c. 1804 greenhouse  
(top: west; bottom: east).*

## GUTTER SYSTEM

There are copper gutters on the rear of the grape house. These gutters are showing signs of splitting at the joints for the downspouts. There is heat tape applied to the roof to help alleviate ice damming in these gutters.

One section of wood gutter over visitor entrance door. Causing more harm than good at this point in time - Ice dams as previously illustrated and poor drainage from downspout location. Downspout outflow needs to be redesigned and should be cleaned out more diligently. Currently, all drainage from the gutter dumps on the wooden window sill, runs down the brick wall, and enters the grape house rather than being diverted from the building. The window, sill, and masonry are showing signs of this water “diversion”.

## Historic New England



*Typical downspout / gutter on north elevation of c. 1804 greenhouse.*



*Snow and icicle build up at visitor entry of c. 1804 greenhouse.*



*Snow and icicle build up at visitor entry of c. 1804 greenhouse.*



*Building impact due to drainage at entry of c. 1804 greenhouse.*

## CLADDING

The buildings are primarily constructed of brick walls. The bond is slightly varied but the common bond is most prevalent (five courses of stretchers between two courses of headers). The masonry is in generally good condition, although repointing is warranted in several areas. The brick wall between the c. 1804 greenhouse and the c. 1840 greenhouse is of a more pressing concern as it appears to be gradually pulling away from the grape house. There is definitely a need for masonry work in this location in addition to monitoring changes in the wall going forward.

All greenhouses except the c. 1798 “ancient” greenhouse have operable wooden 6 lite sash in the side walls. While the roof vents are thermostatically controlled and operate with the use



## Historic New England

of motor driven armatures, the side wall vents are manually operated with a hand crank. The side wall vents for the c. 1804 and c. 1840 greenhouses were restored in 1997.



*Conditions at east end of c. 1804 greenhouse.*

### *AMENDMENTS*

#### July/August 2010

- The western facing six side wall vent sash for the c. 1930 greenhouse were removed for conservation work. Upon completion of conservation work, all sash were re-installed.

#### September/October 2011

- Nine side vent sash on the c. 1820 greenhouse were removed for conservation work. These sash were the lower course of the two operable courses on this section. Upon completion of conservation work, all sash were re-installed.

#### September/October 2014

- Five side vent sash on the c. 1840 greenhouse were removed for conservation work. These sash were the upper course of the two operable courses on this section. Upon completion of conservation work, all sash were re-installed.

#### October 2015

- Masonry investigation at the east end of the c. 1804 greenhouse suggests that the failing conditions witnessed here may be directly related to the large grape vine growing inside this location.

## FRAMING

The framing visible in the c. 1804 greenhouse is timber framed of largely hewn members. The north elevation roof of the c. 1804 greenhouse features an alternating arrangement of common and principle rafters. In 1997, several structural repairs were performed in this section. New posts and concrete footings were set in the basement area. Rafter and plate repairs were performed on the north ground floor area of the c. 1804 greenhouse.





*Framing structural repair (c. 1997) in c. 1804 greenhouse basement.*



*Alternating principle and common rafters in c. 1804 greenhouse. Two principle rafters with “sisters” shown here illustrate 1997 repair work*

## WINDOWS

While these greenhouses are composed of glass roofs and side walls, this section will focus on the more traditional form of windows in the structure. The c. 1804 greenhouse features three skylights on the north face of the asphalt shingled roof, seven 3-lite horizontal fixed windows at the basement level and five 5-lite fixed windows at the ground floor level – all along the north elevation. There is one 5-lite fixed window at the basement level of the west end of the c. 1804 greenhouse. One of the three skylights (located in the office area) has water stains but is not actively leaking. There are no shutters, interior or exterior, no UV protection, storm windows or properly functioning weather-stripping.

## Historic New England



*Skylight and first floor windows of north elevation of c. 1804 greenhouse.*



*North elevation of c. 1804 greenhouse.*

### May 2013

- One basement level sash unit (#61) was replaced on north elevation of c. 1804 greenhouse.

### April 2014

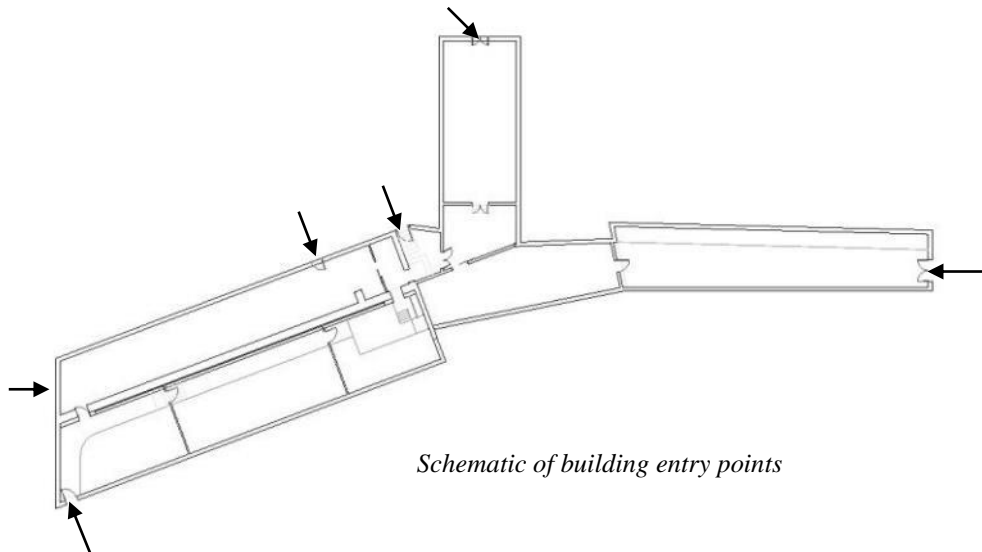
- One basement level sash unit (#62) on the north elevation of the c. 1804 greenhouse was damaged by a shopper's wagon. This sash has been removed and is awaiting repairs.
- The rotting window sills of the basement level sash (#61, #62, #63, #64) on the north side of the c. 1804 greenhouse were repaired.

### August/September 2014

- The easternmost skylight was removed for conservation work. This skylight was reinstalled following conservation.

## ENTRIES

There are six entries to the connected complex and one entry to the c. 1798 “ancient” greenhouse. Within the complex there are nine doors – two hinged doubles, five hinged singles and two sliders.



*Schematic of building entry points*

## Historic New England

The doors are in good to fair condition with key issues noted here.

- Entrance door into basement area from the greenhouse area in the c. 1804 greenhouse is rotten and missing its lower hinge and pintle.
- North elevation entry door handle/latch does not fully catch. This door was painted in 2008.
- Stairs leading into junction of c. 1804, c. 1840, and c. 1930 greenhouses have a leak in the bottom step that often floods the gift shop during spring rains and periods when the water table is high.
- Exit door from c. 1820 greenhouse is periodically blocked by a large potted tree
- The outer screen doors at this c. 1820 greenhouse entry are in extremely poor condition due to poor maintenance and location in an area that never dries out.
- Building is not ADA accessible.
- Security is an issue according to site staff who often feel uncomfortable in the building alone.
- None of the doors are properly weather-stripped or sealed off from the elements.



*Door to basement of c. 1804 greenhouse showing rot in trim.*



*Door to basement of c. 1804 greenhouse with lower strap hinge and pintle missing.*



## Historic New England



*North elevation entry door with handle/latch issues.*



*General location of leak at base of north entry steps.*



*Doors at east end of c. 1820 greenhouse blocked with plant material.*



*Screen doors at east end of c. 1820 greenhouse.*

### August 2011

- The end screen doors for the c. 1820 greenhouse were replaced in their entirety.

### June 2014

- The screen door for the primary visitor entry at the west end of the c. 1804 greenhouse was replaced in its entirety.

## Historic New England

- The door frame for the door between the east end of the c. 1804 greenhouse and the basement was repaired to allow for more reliable functionality of this door.
- The mortise lock in the entry door on the north elevation to the junction of the c. 1930 / c. 1804 / c. 1840 greenhouses was replaced to provide a more reliable function of the door.

### September 2016

- The screen doors on the end of the c. 1930 greenhouse have fully failed. They are required for proper southern ventilation of this structure. Plans are in place for their replication in 2016.

## INTERIOR

The interior spaces are mostly greenhouse spaces with plenty of actively growing plant material. The spaces are generally damp as a reflection of the routine watering for the operation. The flooring is a mix of concrete, brick, Trex decking, linoleum and wood depending on the location. The wood floor is located in the office / storage space in the c. 1804 greenhouse on the north elevation. The basement ceiling of the c. 1804 greenhouse is plastered. The lath is a mix of sawn and split types.

The northern side of the c. 1804 greenhouse features a long storage area as well as a separately defined office space (with bathroom).

The partition wall between the c. 1840 and c. 1930 greenhouses features the archway in the wall that would have been used to access the kitchen garden prior to 1840.

Specific issues associated with the interior include:

- Plaster ceiling in boiler room is falling in some sections.
- There are also lots of ‘trip and fall’ places in the building. Site Manager discourages people with a hard time walking from entering the greenhouses.



*Storage area on the north elevation of the c. 1804 greenhouse.*



*Office area on the north elevation of the c. 1804 greenhouse.*



## Historic New England



*Archway between c. 1840 and c. 1930 greenhouses.*



*Typical interior space (c. 1840 greenhouse).*



*Typical interior space (c. 1820 greenhouse).*



*Plaster failure in the boiler room ceiling of the c. 1804 greenhouse.*

### AMENDMENTS

#### May 2015

- The drywall ceiling of the gift shop in the basement of the c. 1804 greenhouse was repaired following a leak from the failed water heater located above this area.

## FOUNDATION

The foundation is brick and fieldstone.

The basement (c. 1804 greenhouse) is full height with a concrete floor and linoleum in the workspace / potting area.



## Historic New England

### DRAINAGE

During rainy periods, the storage area near boilers in the c. 1804 greenhouse is prone to water infiltration. The site gently slopes from north down to south so this water comes down that grade and into the building. There is a drain just outside the door for the c. 1930 greenhouse and a larger drain about 20' further north.

There is a sump pump in the basement area of the c. 1804 greenhouse, located near the boilers. This pump outlets under the stairs located at the western end of that section.

Due to gutter failure over the main visitor entrance water comes into the 1<sup>st</sup> Grape House and pools in the entry.



*Wet floor near boilers, 24 hours after heavy rains.*



*Water leaking back into the entry from ice dams at the c. 1804 greenhouse.*

### ELECTRIC & LIGHTING

The meter located on Carriage Barn; when facing the meters, the meter on the right. Meter # 2599225 The electricity is run in conduit underground and enters the c. 1804 greenhouse at the west end under the stairs.

There are instances of rusty metal clad conduit in basement which represents a potential hazard.

There are two circuit panels – one in the basement storage area in the c. 1804 greenhouse and one outside the office area on the first floor of the c. 1804 greenhouse. Only some of the circuits are labeled.

The roof vent sash are operated by electric motors and controlled by thermostats.

## Historic New England

The lighting available is largely natural light with fluorescent tube fixtures in the c. 1804 north section and basement. The c. 1930 greenhouse and c. 1804 basement have too little task lighting according to staff.

There is currently a generator on site (5000 watt, 30amp output) but it is unknown if the generator transfer switch is functioning and which circuits the switch controls. Equipment desired to be generator powered are the boilers and circulators to keep the buildings warm.



*Minimal task lighting in c. 1804 greenhouse.*



*Generator transfer switch next to panel at west end of c. 1804 basement.*



*Rusty outlet and conduit in c. 1804 storage area.*



*Dedicated circuits for auxiliary heaters  
(2) 50 amp, 240v, (1) 20 amp, 240v.*

## Historic New England



*Circuit panel at west end of c. 1804 basement.*



*Circuit panel outside office area of c. 1804 greenhouse.*

### *AMENDMENTS*

#### *November 2015*

- As the result of an insurance company inspection, it has been requested to provide outlets close to various circulating fans scattered throughout the complex. Currently these fans are operated by long extension cords run throughout.

## PLUMBING

The complex is serviced by water from the City of Waltham. The line comes to the cottage located to the northwest of the complex and then branches off to the greenhouse complex, entering at the northwest corner of the building. The water line then splits off to service the carriage barn.

There is an exterior faucet on the north elevation of the c. 1804 greenhouse as well as faucets located in the greenhouse spaces. These interior faucets are fed from an internal hot water loop from the boiler and run through a mixing valve to provide approximately 50° water during the winter. There is a small water heater located in the office area of the c. 1804 greenhouse. This is for domestic hot water in the bathroom sink and in the sink in the potting area in the basement.

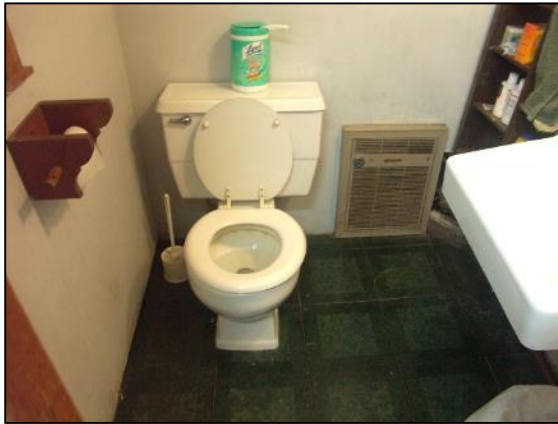
The greenhouse operation includes a watering system where fertilizer can be added to the water stream. Additionally there is a large (50 gallon?) holding tank to allow for a water reservoir for the heavy daily watering. This holding tank relies on a well pump to fill it.



## Historic New England

The greenhouse has a bathroom for staff. Occasionally, visitors use this bathroom as well.

Waste is handled by a septic system; shared with the cottage and the carriage barn.



*Staff bathroom.*



*Hot water heater in c. 1804 greenhouse.*

### *AMENDMENTS*

#### May 2013

- The cold water cartridge for the sink in the bathroom was repaired as the faucet would not turn off. Due to the age of the sink and faucet this repair required some searching for an appropriate cartridge.

#### June 2014

- The bathroom sink was resecured to the wall. This work required some adjustment of the drain line.

## HVAC

The heat is provided by two hydronic boilers (Burnham). They are configured to fire in a lead / lag situation to share the operating time and heat load. If necessary, they will both fire simultaneously to overcome extreme cold scenarios. The system includes circulation pumps and a draft inducer in the chimney. The hot water is circulated through 5" cast iron pipes throughout all greenhouses. This piping appears to date to c. 1930 when documents indicate wholesale upgrades were made to the heating system. Originally, the pipes would have provided gravity based heat with little pressure. Today's system is low pressure, but more pressure than originally planned. As a result, some repairs to the lead and oakum joints have been required with additional joints leaking moderately.

In the event of a complete failure of the heating system, there are propane fired auxiliary heaters that can be configured to provide heat. However, their efficacy is unknown as some windows will have to be opened for safe exhaust.

## Historic New England



*Greenhouse boilers  
Burnham low pressure V904A.*



*Typical 5" cast iron heating pipes.*

### AMENDMENTS

#### January 2016

- One boiler developed a crack in the chamber with the tankless hot water loop. This boiler was replaced with the same Burnham model. The burner suffered no damage and was re-used.

#### February 2016

- Valve in c. 1804 greenhouse (mid-span) is observed to be leaking. May just need to have a packing nut tightened.

## INSULATION

No insulation in building that was taken note of. Pipes are not insulated.

## MISCELLANEOUS ISSUES

There are insects, mice and ants that are on site. None pose a threat and animal waste is not an issue. Larger animals, such as raccoons, often enter greenhouse through broken vents.

There is some observed pest damage on an interior beam in store room of the c. 1804 greenhouse. It is unclear if this is active or not.

## SITE CIRCULATION

Parking area on the north elevation of the c. 1804 greenhouse was new in 2008. This parking area is used exclusively by greenhouse staff as access can be a little tricky for some drivers. Visitors must park on Old Beaver Street – to the west of the complex and carriage barn. This requires a long walk for some patrons. In poor weather, the walk can be somewhat

## Historic New England

dangerous. During annual Camellia days, there is a long path along the south elevation of the complex. This must be well maintained as it is considered the accessible route into the complex. The path leads to the door at the east end of the c. 1820 greenhouse and from there one can leverage a ramp into the c. 1840 greenhouse. During special spring sales, site circulation is directed to the north of the complex where outdoor plants are available for purchase.



*Parking area at greenhouse complex.*

## SITE SIGNAGE

The greenhouse complex has a sign at the rotary entrance that is used to announce sales and other special events. This sign is different than the standard Historic New England site sign. It is not lit and might benefit from lighting although the complex is only open during daylight hours.

Upon entry to the site, visitors are often confused on where to park and where to enter the greenhouses as there is only one small sign on Old Beaver Street and that is faced parallel to the traffic flow.

Improved exterior lighting is also requested to be installed at the visitor entrance at the c. 1804 greenhouse and along the driveway between Old Beaver Street and the greenhouse complex.



## Historic New England

### WALLS / GATES / FENCES

There was a granite post at the entry to the parking area of the greenhouse that was sheared off during the winter of '08-'09. This post needs to be reset and associated masonry repairs of adjacent wall are required.



*Granite post knocked over.*



*Loss bricks at entry wall.*

### LANDSCAPE FEATURES

There are additional features in the landscape surrounding the greenhouse complex. At one point there were three cold frames near the c. 1930 greenhouse (at the north elevation of the c. 1804 greenhouse). One foundation remains; one cold frame is actively used and the third foundation is hidden below grade.

The c. 1798 “ancient greenhouse” is located on the hill north of the complex. This is thought to be the oldest extant greenhouse in the country. Extensive renovation is required to make this greenhouse presentable as a visitor feature or usable as a greenhouse. What is thought to be the 2<sup>nd</sup> generation of sash frames have been located and stored in the greenhouse storage room.

There is also a large cold storage unit further up to the north on the other side of the stone wall. This unit received a new entry door in 2008. There is an old greenhouse roof ventilation system intact (albeit in disrepair) under this more recent (date unknown) rubber roof with skylights.

## Historic New England



*Foundation of old cold frame to west of c. 1930 greenhouse.*



*Active cold frame to west of c. 1930 greenhouse.*



*c. 1798 "ancient greenhouse".*



*Large cold frame north of complex.*

## BUILDING VEGETATION

There are many trees on site that seem hazardous or dangerous to both buildings and visitors.

There are a couple of areas where the brush seems to be out of control – kitchen garden area (north of the c. 1820 greenhouse), around the c. 1798 "ancient greenhouse" and up the hill towards the deep pit storage area.

### *AMENDMENTS*

#### August 2010

- The large copper beech at the east end of the c. 1820 greenhouse dropped a large limb on the roof of the building. Only a few panes of glass were broken and were subsequently replaced.

#### July 2014

- A large pine tree just to the east of the c. 1798 "ancient greenhouse" was heavily damaged in a storm. Fortunately, no damage was done to the structure.

#### December 2015

- The large pine tree just to the east of the c. 1798 "ancient greenhouse" was removed. Also in close proximity to the structure were two dead ash trees that were also removed at this time. The maple tree

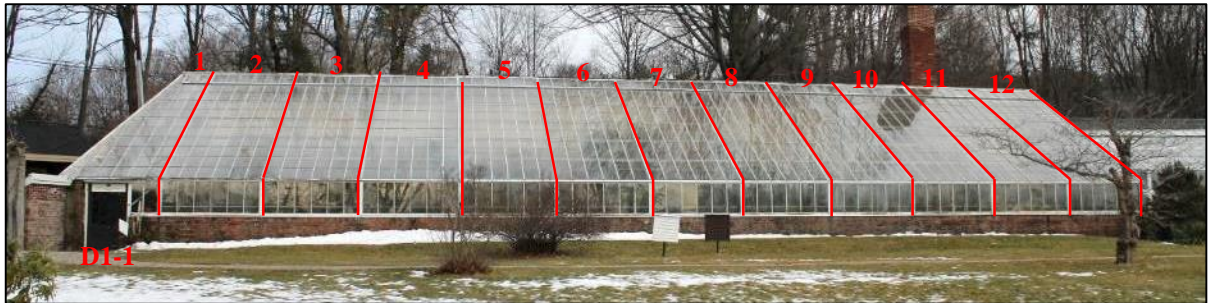


## Historic New England

just to the north of the c. 1804 greenhouse was pruned to avoid future damage to the c. 1804 greenhouse.

### APPENDIX A: DOOR AND WINDOW SCHEDULES

Due to the complex nature of the complex and where one might decide to call a window a window, the complex was broken up into glass panel sections as highlighted on the following pages.



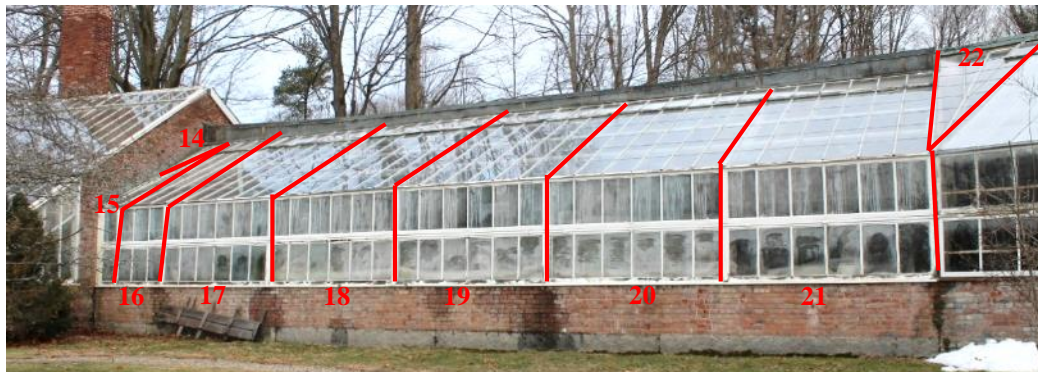
*c. 1804 greenhouse, south elevation.*



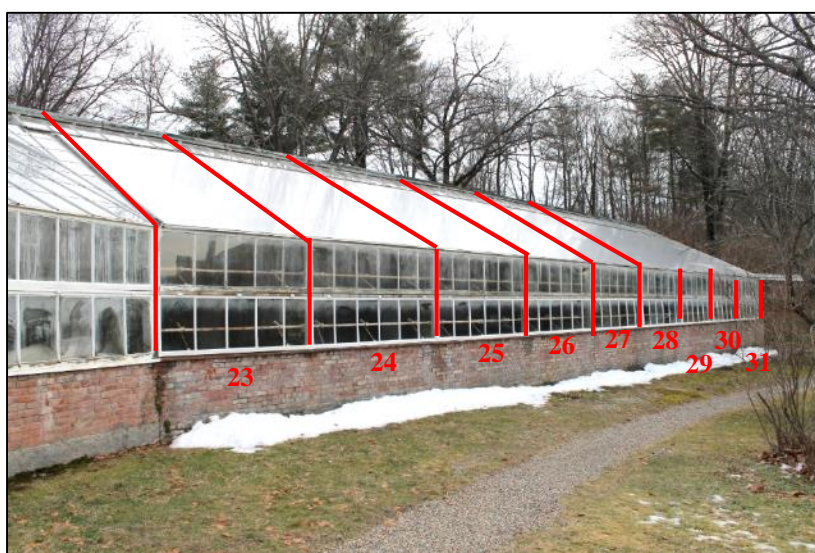
*c. 1804 greenhouse, east elevation.*



## Historic New England



*c. 1840 greenhouse, south elevation.*

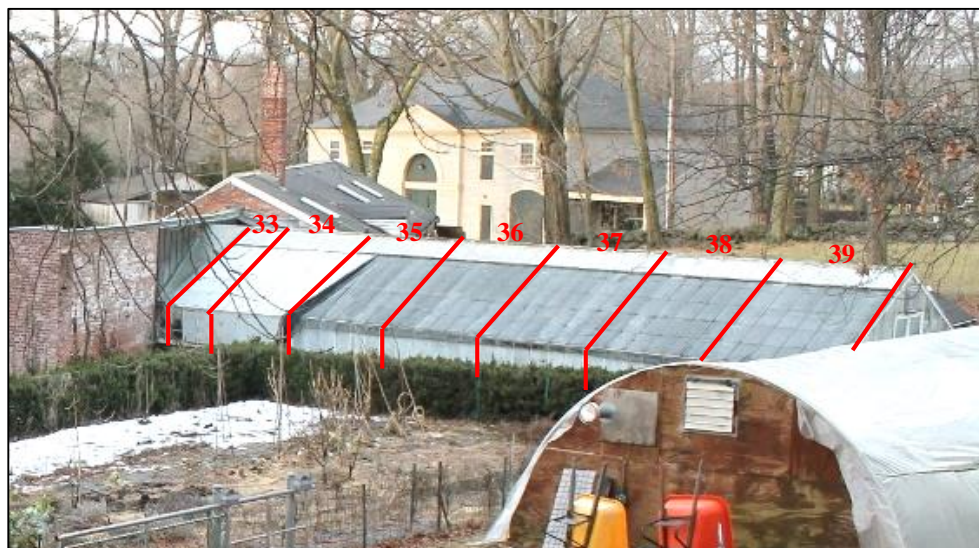


*c. 1820 greenhouse, south elevation.*



*c. 1820 greenhouse, east elevation.*

## Historic New England



*c. 1930 greenhouse, east elevation.*



*c. 1930 greenhouse, north elevation.*



*c. 1930 greenhouse, west elevation.*



## Historic New England



*c. 1804 greenhouse, north elevation.*

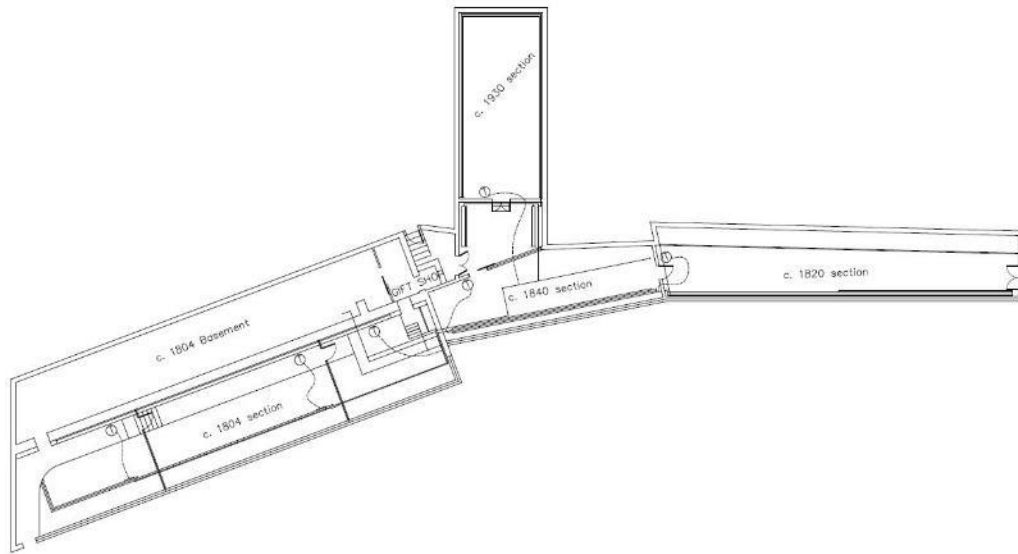


*c. 1804 greenhouse, west elevation.*

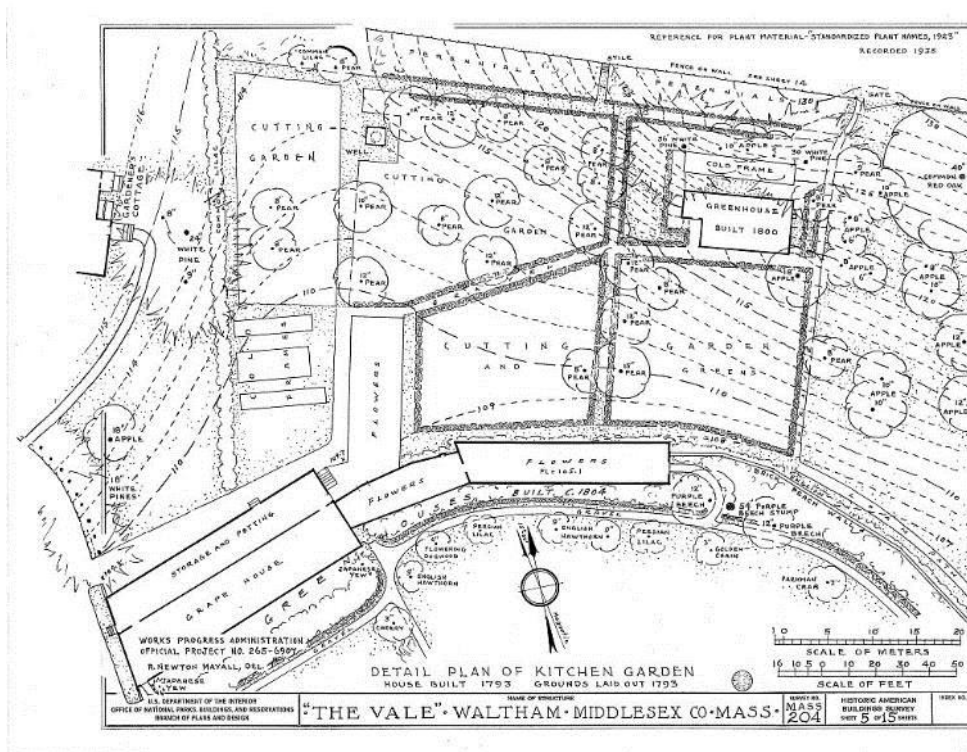


## Historic New England

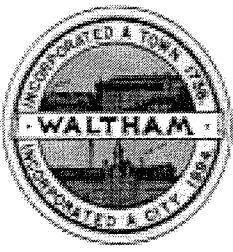
### APPENDIX B: FLOOR PLANS



### APPENDIX C: SITE PLAN



*HABS Drawing, Sheet 5 of 15, Data compiled 1933  
Plan shows all greenhouses.*



# Waltham Historical Commission

Community Preservation Committee  
City Hall  
610 Main Street  
Waltham, MA 02452-5580

Clarence Richardson, Jr.  
Chair

March 14, 2016

Mort Isaacson  
Vice Chair

To Members of the Committee:

John Cox  
Member

The Waltham Historical Commission (WHC) supports Historic New England's application to the Community Preservation Committee for Community Preservation Act funding from the City of Waltham. The project will help preserve the historic Lyman Estate greenhouses, which are among the oldest surviving greenhouses in the United States and a very valuable community resource.

Laurence "Alex" Green  
Member

Marie Daly  
Member, Secretary

Benjamin K. Haavik, Historic New England's team leader for property care, and Colleen Chapin, the organization's senior preservation manager for the Lyman Estate, attended the March 14, 2016 meeting of the WHC and provided an overview of the proposed project. The WHC expects that Historic New England's plan for window conservation, masonry repairs, rehabilitation to the heating system, and improvements to accessibility is appropriate and that all work will meet or exceed the Secretary of the Interior's Standards for the Treatment of Historic Properties.

Kathleen Dufromont  
Member

Sean Wilson  
Member, CPC Liaison

The Lyman Estate's 2013 CPC-supported weatherization project, which was overseen by the same team, was awarded the Massachusetts Historical Commission's Historic Preservation Award. Secretary of the Commonwealth William Galvin said of the project, "The unique Lyman Estate restoration and weatherization project has shown that, even in a highly significant landmark structure, historic preservation and energy conservation can work together to achieve real and measurable progress toward a sustainable future."

Since receiving that funding from the City of Waltham, the Lyman Estate has been an active community institution, offering free programming to the community year-round, including outdoor film screenings, tours to students from the schools, and of course, unparalleled greenhouses, open to the public year round, drawing visitors from across the nation.

The Waltham Historical Commission is pleased to support Historic New England's ongoing efforts to preserve the Lyman Estate greenhouses and ensure that they can continue serving the community in a safe and efficient manner.

Sincerely,

Clarence Darrow Richardson, Jr.  
Chairperson

Waltham Historical Commission