Conservation Management Plan

GROPIUS HOUSE

68 Baker Bridge Road
Lincoln, Massachusetts

Historic New England
Baseline Report: 2016

Table of Contents

Note: Historic New Englandôs Gropius House conservation management plan typically exists as a series of documents. This table of contents identifies the documents that make up the plan by section and not by page number. Each section is paginated separately.

Gropius House Conservation Management Plan – Executive Summary

The goal of the project was to create a comprehensive conservation management plan (CMP) for the property that includes all three contributing resourcesô house, garage, and landscape. This plan catalogues individual features, outlines the past treatment of these features physically and philosophically, and includes relevant historical and interpretive information to help Historic New England make appropriate management decisions. The CMP was created with support from the Keeping It Modern grant program through the Getty Foundation.

Historic New England believes that the most effective and successful management plans are those that contain all of the important decision-making elements in a single location, and are structured in a manner that matches the organizationôs use of the data for project planning and review. Flexibility is key - unlike traditional bound documents that sit on a bookshelf, the plans must be easy to expand and update, and can begin with as little or as much information as is currently available.

The plan consists of a series of editable documents stored in a specific section of the organizationôs network server. Designated staff will be given read/write access to the digital repository so that the documents can be kept up-to-date as projects take place, conditions change, or new information is learned. When a comprehensive stand-alone report is required, one can be generated by merging the various documents and saving in PDF format. For archival purposes, Historic New England will merge the appropriate documents into a single report at least once every five years.

The Gropius House Conservation Management Plan includes the following sections:

- Brief History of the Gropius Property: Focusing on Walter Gropius and the construction of his home.
- Statements of Significance: An internal Historic New England task force identifies statements of significance for the property in 1996. These were updated by that task force in 2016.
- Vision Statement: An internal task force at Historic New England determines how properties are presented to the public and creates a Vision Statement that sets the interpretive goals and outlining the overall conservation approach. The first statement for the Gropius House was developed in 2000 and was updated by the task force in 2016.
- Historic New England Preservation Philosophy: A short document outlining the traditional philosophical approach taken towards the conservation of the historic properties with notes developed specific to the Conservation Master Plan.
- Ati Johanssonôs Basic Design Philosophy for the Gropius House: a document created by Ati Johansson, Walter Gropiusô daughter, in 2000 to help guide the preservation and maintenance of the interiors and furnishings by providing core design principles.
- Designations: A list of designations that have been awarded the property.
- Restrictions: A listing of restrictions that may be active upon the property.
- Additional Research: Questions that arose during the course of the 2016 Conservation Management Plan project that could not be answered in the time or resources available were identified in this section.

- Maintenance and Repair Approval Plan: A document that identifies the levels of approvals necessary for different preservation and maintenance protocols as identified in the feature catalogue.
- Landscape Maintenance Plan: A single document synthesizing the maintenance needs in the landscape.
- Annual Maintenance Calendar: A simple chart with the basic maintenance protocol identified by month.
- Preservation Priority Plan: A listing of the top projects identified both by outside consultants and Historic New England staff through the course of developing the CMP.
- Catalogue of individual features: The core component of the conservation management plan is a feature-by-feature inventory of the Gropius House containing all the pertinent information Historic New England reviews as part of any planning process. The macro approach will look at the features using the categories identified in the Historic New England standard conditions assessment documents (roof, chimney, cladding, windows). Any feature that has been the subject of study or treatment will be given an additional unique entry (within reason). Each entry will include the following:
  - Name of the feature,
  - Historical images from 1938 and during the interpretive period (if available),
  - Contemporary image,
  - History and construction details (if available). This includes excerpts from building specifications, drawings, and other resources.
  - Character-defining details from the interpretive period,
  - Details on how the vision statement affects the treatment,
  - History of conservation and maintenance practices,
  - Analysis of past conservation protocols (if possible),
  - Recommended maintenance and conservation protocols for future work,
  - Special considerations as appropriate (longer-term cyclical conservation efforts, estimates on material life span, etc.), and
  - Additional information that supports the ongoing care of the features.

Additional Resources: The following additional resources are included with the full version of the report.

- Historic New Englandôs Preservation Philosophy
- Original Plans for the Gropius House from 1938
- Existing Conditions plans developed in 2016
- Historic Designations
- Window and door schedules
- Site conditions assessments
- Tree Assessment
- Environmental monitoring & assessments
- Conservation Report for Glass Block, Acoustic Plaster, and Exterior Siding developed in 2016.

THE GROPIUS HOUSE: A Brief History

The history of the hill where Gropius built his house began long before the arrival of the famous architect. European settlement followed Native American occupation of the region, and agricultural tradition is very strong on the site. Gropius considered the latter characteristic important, and he retained preexisting features such as the traditional stonewalls and apple orchard. However, the interpretive focus for the property is on Gropiusôs interventions. The following is a short summary of Walter Gropiusôs professional life and the construction of his house in Lincoln, Massachusetts.

Walter Gropius founded the Bauhaus School in 1919 in the belief that architecture had become too academic and disconnected from the communities it served. He and his colleagues rejected many long-held conventions of design, such as ornamentation and symmetry. Gropius asserted that ornamentation was superficial and held the architect back from developing new ideas, and that symmetry often forced a building into an impractical form. In contrast, the shapes of Gropiusôs structures were intended to display the rhythmic logic of their designs. He considered the incorporation of new technology important in his work, and argued that it enabled the modern designer to create buildings with a pleasant sense of lightness. He preferred to use standardized materials, because he believed that modern machines provided architects with the opportunity to think less about the burdens of labor and more about what they needed and wanted from a building. The use of machine-made products also brought architects together with craftsmen and industrialists. This was central to Gropiusôs Bauhaus vision, which included the creation of community in a field which he felt had become elitist. While the Bauhaus School was closed in 1928, its legacy had an extraordinary impact on modern architecture of the twentieth century.

By 1937 the dean of Harvardôs School of Design responded to these modern movements by seeking to revitalize architectural teaching at the university. He offered Gropius a faculty position at the School of Design, and Gropius accepted on the condition that he would be allowed to form an architectural practice in the area. The timing was excellent for Gropius and his family, who were living in London as the Nazis rose to power in Germany. In order to get the German governmentôs permission to retrieve his belongings from Berlin, Nazi Minister of Propaganda Joseph Goebbels had to be persuaded that a German presence at Harvard was beneficial for the country. After Goebbels agreed to let Gropius move without negative press, despite his strong dislike for the architect, Gropius brought his Bauhaus furniture to the Boston area along with his wife Ise and his daughter Ati.

While colleagues suggested that Gropius find a home among the historic buildings of areas such as Beacon Hill, he and his family preferred the landscape and history of the countryside and sought to avoid the darkness and narrowness of old buildings. After short-term rentals on Cape Cod and a country lake, one of Gropiusôs architect friends connected him with Helen Storrow, a prominent philanthropist with landholdings in Lincoln, Mass. Mrs. Storrow believed in giving immigrants a chance to display the trends and tastes of their own culture. Mrs. Storrow agreed to finance the construction of a house designed by Gropius for himself and his family. Gropius chose from the areas of her estate the site upon which the Gropius House sits today, which he preferred for its hill with excellent views as well as its proximity to the historic and beautiful Walden Pond. The Gropiuses traveled around New England before the houseôs construction in order to familiarize

themselves with the traditional architecture of the region. This research formed the basis for the design of a house that helped bring the Bauhaus style to America while simultaneously reflecting the surrounding areaôs traditions.

Information on the Bauhaus School was taken from Walter Gropiusôs 1923 article ñThe Theory and Organization of the Bauhaus,ò which was first published in German in *Bauhausverlag*. Details concerning Gropiusôs invitation from the School of Design and the development of the Gropius House come from Ise Gropiusôs 1977 work entitled ñGropius House: A History.ò

Gropius House – Statements of Significance

Historic New Englandôs internal interpretation group, the Proactive Preservation, Interpretation, and Planning task force, develops the statements of significance for the properties. This group reviewed and updated the statements of significance in 2016.

Architectural Significance:

- Significant for its association with the architect Walter Gropius (1883-1969) and for presenting an outstanding and influential example of Modern architectural design.
- House was clearly inspired by the principles of the Bauhaus movement that Gropius helped establish. These principles can be summarized as: the incorporation of a sense of volume rather than solidity; the use of regularity as opposed to symmetry; and the achievement of detail through technical perfection, fine proportions, and the intrinsic elegance of materials instead of applied ornament.[1]
- The house was designed for Gropiusôs family using traditional New England materials.

Collections Significance:

- Number of objects: 1670
- Most important collection of Bauhaus furnishings outside of Germany.
- Furniture designed by Marcel Breuer and made for the Gropiusôs in the Bauhaus workshops. Additional furniture by Sori Yanagi, Eero Saarinen, and the hand crafted wooden desk designed by Walter Gropius for his office in the Weimar Bauhaus in 1923. Art by Herbert Bayer, Henry Moore, and Laszlo Moholy-Nagy.
- Gropiusôs intent for the interior was to incorporate the Bauhaus-designed furniture that the Gropius family brought from Germany.

Landscape Significance:

- The landscape was designed by Walter Gropius to function for the welfare of the propertyôs inhabitants. Immediately outside the house, it was organized by interconnecting geometric shapes at various degrees of connection and transparency. The views and the links between the indoor and outdoor spaces were vital.
- The use of pre-made, economical building materials such as the lolly column posts and vernacular plants were representative of GropiusôModern ideals.
- The orchard pre-dated Gropiusôs development of the property, and was retained because it was evocative of the New England landscape.
- The property contributes to the Woods End Road National Register Historic District, which is a complex of significant Modern houses.

Archaeological Significance:

- There are three pre-historic sites within a mile of the historic district. With limited known construction having taken place in the area, the probability is high that prehistoric sites exist on the property. There is also high probability that the remnants of 18th-20th century agricultural features could be found.

[1] Henry Russell Hitchcock, Jr. and Phillip Johnson, *The International Style*, 1932, 13. As cited by 2001 NHL nomination, 15.

PPIP Vision Statements: Gropius House
Original 2000; reviewed and updated 2016

Historic New Englandôs internal interpretation group, the Proactive Preservation, Interpretation, and Planning task force, develops the vision for how a property will be presented to the public and monitors to ensure that there is an overall consistency to the approach from all the teams within the organization. This group developed a draft vision for the property in 2000. In 2016, the vision statements for the property were updated.

Overall
The Gropius House illustrates the Bauhaus philosophy and the concepts propagated by its owners and builders, Walter and Ise Gropius. The principles of the Bauhaus and those of traditional New England design are balanced throughout the property.

Period of presentation: 1965-1969, before W. Gropiusôs death
Zone of interpretation: The east edge of the driveway (see map), and official property boundaries to the south, north, and west

Setting and Landscape
The Gropius landscape will reflect the period circa 1965-1969, when the landscape that the Gropius family developed was mature. By this period, the stone terracing had been established (1940) and the Japanese Garden was installed (1958). In all future preservation efforts, the views, the woodland edge, and the connection between the landscape and the building must be maintained due to the significance of their design. If replacements are considered when plant material is either dangerous or is thought to be out of scale, the original 1938 size of the plantings should be considered. The site has limited accessibility for those with mobility impairments. Any future landscape project should consider enhancing access to the property (or a feature), realizing that such enhancements may not be in keeping with the original design intent.

Building Exterior
The Gropius House will reflect the period circa 1965-1969, a time when the house was in good condition and represented the complete span of Walter Gropiusôs interventions. The house served as a marketing tool for Gropius and it was clearly important to him that it be well maintained and in good repair. As a result, the exterior appearance of the building should be kept in excellent condition and a patina of age or deterioration should be minimized.

Building Interior
The Gropius House interior will represent, with few exceptions, the house as it appeared between 1965 and 1969 during the last years of Walter Gropiusôs life. Furnishing will be arranged according to documentation, and will illustrate a ñmodern house in operation.ò A balance will be struck, where original material still exists, between retaining the original finishes of the interiors and collections and presenting them as a crisp modern house.

Archaeology

The Gropius site has not been studied for sub-surface resources. The close proximity of three prehistoric sites indicates a high probability of prehistoric artifacts within the property. There is also a potential for finds relating to 18th through early 20th century agricultural practices. Any project involving ground disturbance should involve an archeologistôs assessment of the locationôs sensitivity.

Historic New England's Preservation Philosophy

If buildings, landscapes, and objects are to convey their full meaning, it is essential that their authenticity be protected and cherished. The patterns of wear, methods of construction, historic materials, and irregularities of age communicate the uses to which these structures have been put and document the changes made to it over time. Because this physical evidence is valuable, and can be exceedingly fragile, Historic New England believes that the collections in its care must be treated in the most conservative manner possible, whenever possible through stabilization and traditional maintenance rather than restoration and reconstruction.

Terms like preservation, stabilization, restoration, and reconstruction are often loosely used in connection with caring for old buildings, but for professionals these terms define actions with specific and distinct meanings. For organizations that own and manage historic museum structures, for example, responsible conservation demands careful and consistent implementation of specific actions to maintain its collections. Historic New England strives to retain all materials as they were when the property came into museum use. When materials must be replaced, either to safeguard the life of the object or building, or because they are beyond repair, the first priority is to replace them with the same kind of material. If in-kind replacement is impossible, the reasons for making a change must be clearly articulated and a treatment protocol developed. All conservation measures are thoroughly documented.

The full statement of Historic New Englandôs philosophy towards preservation can be found at http://www.historicnewengland.org/preservation/copy_of_preservation-philosophy. In brief, the preservation philosophy, as approved by the Board of Trustees in 2008, is to:

- *Research and document the history, evolution, features, materials, integrity and areas of significance of resources prior to undertaking any repair or conservation work. Research should be considered a continuum that serves to direct the overall management approach for resources, and records Historic New England's contribution to their care and maintenance;*
- *Monitor usage to prevent irreparable loss of historic fabric;*
- *Choose maintenance and conservation treatments that reflect a commitment to retaining and preserving historic material;*
- *Recognize and preserve the design and craftsmanship that has uniquely shaped a resource over time;*
- *Disseminate the experiences and information associated with resources to internal and external audiences; and*
- *Follow or exceed nationally-accepted professional standards and guidelines, as appropriate for each discipline, in order to ensure the longevity of resources and maintain a reputation for innovation and the highest quality of work.*

Some key concepts that have been the core of the preservation philosophy since our founder, William Sumner Appleton, established the organization in 1910. These concepts include documentation, in kind replacement, and respecting change over time. The Gropius House has sometimes challenged some of the more traditional approaches used at the other sites. For example, in an effort to retain paint layers and that history of change in a building, layers of paint were left on the building which inevitably led to a cratered/textured surface that offended no one

and conveyed a sense of age. That same sense of age is strongly felt by many to be inappropriate on the Gropius House where clean lines and a clean appearance is valued in keeping with Walter Gropiusô design philosophy. During the course of the 2016 Conservation Management Plan (CMP) project staff focused on some of these areas to make sure management in the future could be simplified.

After discussion in 2016 by Historic New Englandôs internal interpretive group, the Proactive Preservation, Interpretation, and Planning task force, it was determined that the many of the difficult decisions had been made, whether on purpose or by accident, in the 1990s. On the exterior, after years of discussion the majority of the facades had to be stripped of paint because of the surfaceôs inability to hold paint. A question of retaining paint layers for the historical record had been resolved. Recognizing that the exterior of the house is the first impression for the visitor and to set the stage for the interpretation of not just the Gropius House but a whole style of architecture, the following guidelines were developed for the care of the exterior:

- Minor maintenance of finishes and the materials should occur on a regular basis
- Once evidence of repairs and maintenance becomes obvious, replacement of finishes or materials should be considered

These statements allow for minor maintenance and repairs to continue on the exterior features following methodologies familiar to the staff. The CMP then identifies for many of the features when that moment of replacement might arrive.

The interior conservation of the house follows a more traditional approach for house museums focusing on the retention of original materials.

- A balance must be struck between preserving the original finishes and presenting them in the crisp style that they were designed. There is a cascade effect on collections after restoration of wall finishes; if the walls look perfect, patina on the objects will stand out.
- Overall, however, an effort must be made to keep the interior finishes of the Gropius House in good repair so that the simplicity and clean lines fundamental to their design are maintained.

Plenty of room to maneuver within those statements but the underlying intent of both the interior and the exterior is that these decisions to make drastic change are undertaken in conjunction with the interpretive task force.

Supplementary information on the preservation philosophy can be found in the Additional Resources section.

BAUHAUS DESIGN PHILOSOPHY – ATI GROPIUS JOHANSEN

Ati Gropius Johansen (1926-2014), daughter of Walter and Ise Gropius, was in the Boston area with her parents during the construction of the Gropius House. While her influence on the buildingôs design was minor, she was privy to some of her parentsô processes and requested the addition of the spiral stair that stands out on its front façade. Johansen eventually became a childrenôs book illustrator, and she also spent considerable time teaching American and German students about the Bauhaus movement. For these reasons she was an ideal advisor to the Society for the Preservation of New England Antiquities (SPNEA) from the time it acquired the Gropius House. For almost thirty years Johansen was actively involved in the preservation of the property, defining priorities, providing advice on the appropriateness of conservation work, and more. In 2000 she wrote a formal statement about her fatherôs design philosophy so that her expertise would always be available to Historic New England. While no one source of information can ever dictate the preservation philosophy of a building on its own, the ability to speak directly with a propertyôs former inhabitant is a rare and fascinating opportunity for the staff of a house museum. Thus, the following statement should always be considered in preservation efforts at the Gropius House.

GROPIUS HOUSE
Interiors and Furnishings

BASIC DESIGN PHILOSOPHY: An approach to restoration, maintenance and interpretation.

The interiors, furnishings, artworks and personal collection in the Gropius House each equally reflect a unified visual approach, and illustrate the design principles of the modern movement with which Walter Gropius was identified. These principles expressed originally in the workshops of the Bauhaus, continued to inform the Gropius House in all its living aspects and evolving changes over the years of its occupancy. In fact, Gropius continued the same philosophy in his house as in the Bauhaus. He said, ñthe aim of the Bauhaus was not a style, or a system, not a dogma, or a canon, not a prescription or fashion. It will be alive as long as it does not cling to form but seeks the fluidity of life behind all mutable form.ò

In contrast to style, basic design principles were the underlying and guiding force. Some of these are briefly indicated below.

I. Design solutions (forms) were to be evolved out of problem-solving, and expressive of their function, process, or structure.

II. Material - manmade or organic - was to be recognized for its intrinsic characteristics, and its inherent potentials realized to the maximum.

III. The esthetic criterion was to be: directness and eloquence of design solutions (based on the above principles), and their ñeconomy,ò i.e.: the high ratio of psychic effect to effort.

IV. Contemporary technology and contemporary materials were to be vital components in design for contemporary needs.

V. There was to be a consistent and unifying approach to both the indoor and outdoor œenvironment,ô applicable equally to functional or art elements.

The Gropius House interiors are a realization of these principles. Ongoing changes during the years of occupancy in furnishings, furniture, art and plant material were made in accordance with the philosophy of Walter Gropius. In the design policy that was followed, contrast and oppositional relationships were used as an important device to achieve its esthetic aims.

These were: Contrasts of materials: natural vs. manmade
organic vs. inorganic

Contrasts of forms: geometric vs. free form
angular vs. curved

	flat vs. round
Contrasts of surfaces and textures:	soft, rough vs. smooth, shiny
Contrasts of spacial arrangements:	symmetric vs. asymmetric dense vs. open complex vs. simple
Contrasts of colors	
Contrasts of light and dark	

To express principle II, these distinct differences were emphasized in the selection, placement and maintenance of all the furnishings.

Some illustrations: The living room

Form contrasts:			
Rectilineal elements:	walls, windows fireplace cabinets etc.	vs.	curved glass wall curved furniture (Brever, Saannen Japanese) objects dôart table-settings, etc.
Surface and texture contrasts:			
	carpets, curtains, fabrics, sheepskin	vs.	chrome, steel, glass, linoleum, formica, smooth leather
Contrasts of materials:			
	Indoor and outdoor plant life	vs.	architecture and furniture
	organic objects dôart (the white coral)	vs.	inorganic (the kite)

The hall and bedrooms illustrate other contrasts as well:

light	vs.	dark surfaces
bright, accent colors	vs.	neutral, black or white
pattern	vs.	blankness

The living room shelf of objects dôart, dressing table and study desk area illustrate in their arrangements contrasts of complexity of detail vs. spatial simplicity.

This total ñenvironmental approachò (Ise Gropius on Walter Gropius) meant that every visual

form and relationship in the house had significance and was illustrative of a coherent vision. An understanding of this view is altogether essential not only for the correctness of restoration and maintenance, but essential for the total composite effect that shows the spirit of the house.

-Ati Gropius Johansen, 2000

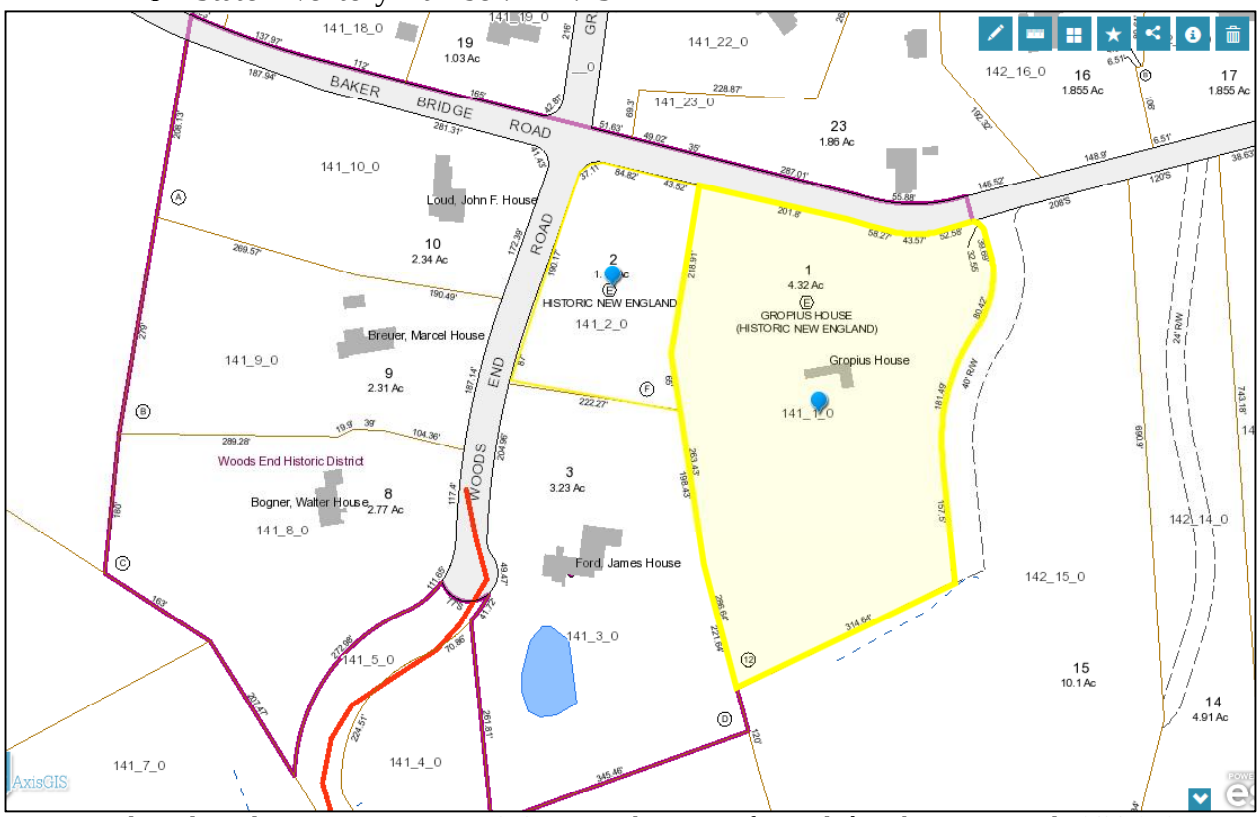
Designations

The following is a list of historic or natural designations for the Gropius House property.

Local

- Baker Bridge Road ï Scenic Road Designation

- Woods End Road Historic District (03/28/1981)
  - State Inventory Number: LIN.13



Woods End Road Historic District in a GIS map on the Town of Lincolnôs website, accessed 10/9/2016. The district is outlined in purple, and the two lots of the Gropius House are highlighted in yellow.

State

- State Inventory Number: LIN.14
  - Significance: Architecture; Art; Invention; Landscape Architecture

National

- Woods End Road National Register Historic District (07/08/1988)

- National Historic Landmark (05/16/2000)
  - Designated as an individual property; ñGropius Houseò
  - A Property that is associated importantly with the lives of persons nationally significant in the history of the United States.
  - A property that embodies the distinguishing characteristics of an architectural type specimen exceptionally valuable for a study of a period, style, or method of

construction, or that represent a significant, distinctive and exceptional entity whose components may lack individual distinction.

- Received Exception 8: Properties that have achieved national significance within the past 50 years
- NHL Themes: IIII. Expressing Cultural Values; 1. Education; 2. Visual Arts; 5. Architecture, Landscape Architecture
- Areas of Significance:
  - Architecture: Modern architecture
  - Landscape Architecture: Modern Landscape Design
- Periods of Significance: 1938-1969

Property Restrictions

Approval for most site and building work may be required locally and/or at the state level. The local historic district has review over exterior elements in the public view while the state holds more encompassing restrictions on the interior and exterior as well as the landscape. Additionally, the land is bordering on wetlands and is on a scenic road and so work within the wetlands buffer or along the stonewalls may require local review. Due to the potential for archaeological resources and the preservation restriction held by the state historic preservation office, any excavation work will require archaeological review. Additional excavation restrictions are associated with the state environmental protection because of a previous leak of an underground oil storage tank.

Woods End Road Local Historic District

The Gropius House is within a local historic district. A Certificate of Appropriateness (or Non-Applicability) must be secured from the Lincoln Historic District for any work.

- *If the project falls within a Historic District, you will be required to file an application with the Historic District Commission for most exterior alterations of a building or other man-made structures visible from a 'public way" or for the demolition of a building or structure within the district.*[1]

Massachusetts Historic Commission Preservation Restriction

Massachusetts Historic Commission has held a preservation restriction on the Gropius House in perpetuity since March 31, 1986. The restriction requires Historic New England to:

1) assume the cost of maintenance so as to preserve the architectural and historical integrity of the features, materials, appearance, workmanship, and environment;
2) maintain the landscaped environment consistent with the historical character of the building;
3) agree that the Commission may inspect the premises; and
4) make no alterations unless a) they are clearly of minor nature and do not affect the architectural and historical values of the site, b) the Commission has reviewed plans and specifications submitted by the Grantor and determined that they will not seriously impair the architectural and historical values of the site, c) required by casualty or other emergency promptly reported to the Commission.[2]

Although not specifically called out in the above statement, archaeological resources are protected as part of the restriction and any project that requires excavation will require state approvals.

Massachusetts Department of Environmental Protection

As a result of remediation activities associated with a leaking underground oil tank removed from the property in 2003, the DEP holds an Activity and Use Limitation (AUL) on the property. The extent of the AUL restricts excavations greater than 10ô deep and removal of the concrete floor in the basement of the house. This AUL is registered with the deed.

[1] Lincoln, MA Land Use Permitting Guide, February 20, 2016
[2] Preservation Restriction dated March 31, 1986

Scenic Roads

Baker Bridge Road is a designated Scenic Road. The Planning Board must review any work on a Scenic Road that impacts stone walls or trees within the streetôs Right Of Way but only if the project involves work is in connection with repair, maintenance, reconstruction or paving of a scenic road. As further clarified, zoning allows for the trimming or cutting of trees and destruction of stonewalls with no permit required as long as there was no road work involved.[3]

Signage

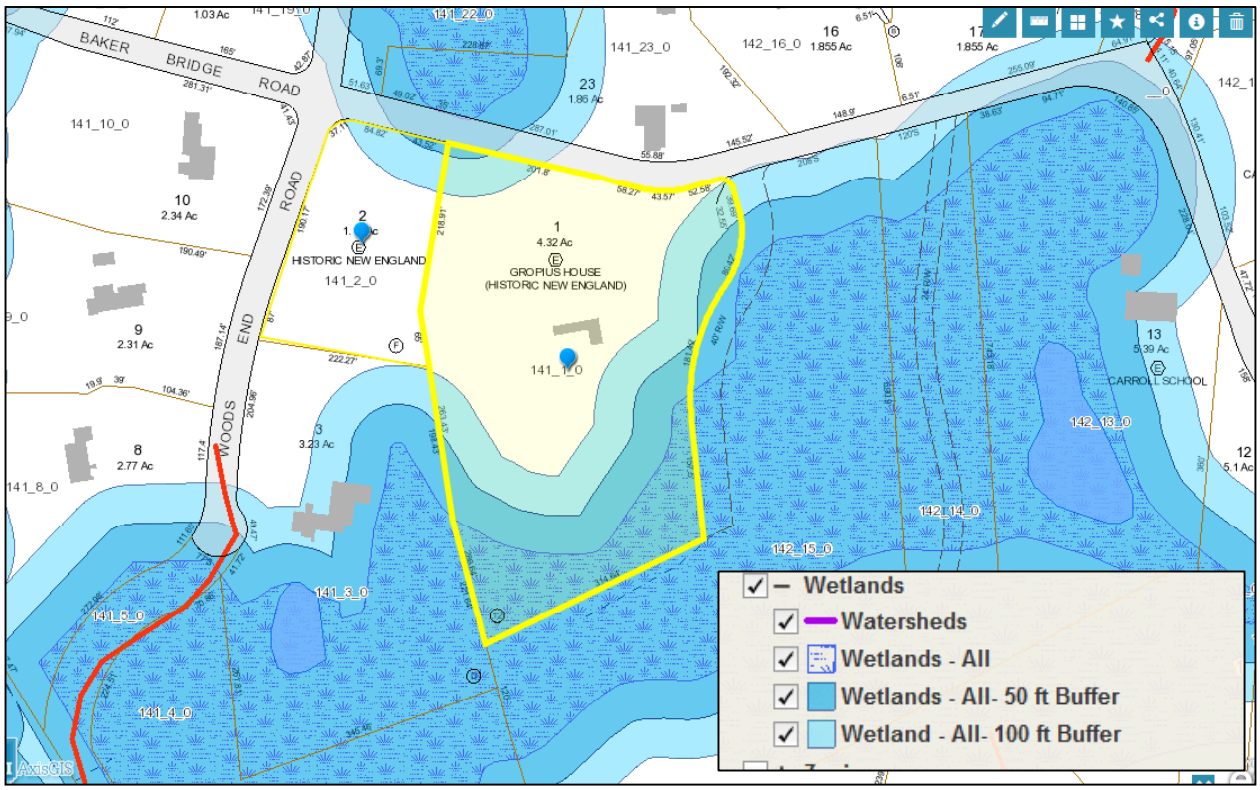
All signs that are not described in Sections 16.2, 16.3 or 16.4 of the Zoning Bylaw require approval by the Planning Board of Lincoln.[4]

> *16.2 Signs Permitted by Right*
> *(a) One accessory sign for each building used in whole or in part for residential purposes identifying the name(s) of the residential occupants and/or the address of the building, such sign not to exceed an area of 2 square feet.*
> *(b) In R-1, R-2, R-3 or R-4 Districts, one unlit accessory sign per lot advertising a use described in and complying with Section 6.1(f), such sign not to exceed an area of 2 square feet.*
> *(c) <not applicable>*
> *(d) Signs related to community-based events or town-sponsored events at the following intersections:*
> *Sandy Pond Road and Lincoln Road; Ballfield Road and Lincoln Road; Lincoln Road and South Great Road; Bedford Road and Morningside Lane; and Codman Road and Concord Road.*
>
> *16.3 Signs Requiring a Permit from the Building Inspector*
> *(a) Any sign shown on a site plan approved by the Planning Board pursuant to Section 17 of this By-law.*
> *(b) One temporary accessory sign per lot for a period of not more than 14 days from the effective date of the permit, such sign not to exceed an area of 6 square feet.*
>
> *16.4 Signs Requiring Approval from the Board of Selectmen and a Permit from the Building Inspector*
> *Temporary signs on Town property for a period of not more than 14 days from the effective date of the permit, such signs not to exceed an area of 6 square feet.*

A signage permit is recorded from 4/28/2005. This timing is in keeping with the updating of all signs from SPNEA to Historic New England. Local by-laws should be consulted before any new signage is added or existing signage is changed in size or color.

[3] General By-Laws of the Town of Lincoln, March 16, 1959, and thereafter amended, through the March 23,2013 Annual Town Meeting.
[4] Town of Lincoln Zoning By-Law, Last Amendment March 19, 2016

Conservation Commission of Lincoln



Wetlands and buffers, GIS map from the Town of Lincolnôs website, accessed 10/9/2016

Lincoln Conservation Commission posted the following guidelines online (accessed 10/9/2016):

- Activities that will remove, fill, dredge, or alter ponds, wetlands or buffer zones are prohibited without a permit from the Conservation Commission. Regulated activities include, but are not limited to: Building Construction; Vegetation Removal; Grading or Excavation; Depositing Yard Waste; Septic System Installation; Discharging Stormwater.
- Regulated resource areas include wetlands and ponds and their associated buffer zones, which extends 100' beyond these protected areas. In addition, riverfront is a regulated resource area that extends 200' from perennial streams of any size.
- The Town's bylaw provides greater protection than State law. The inner 50' of the wetland buffer zone is a no-disturb area. Isolated areas of flooding, including vernal pools, are protected and so are the bodies of water themselves.
- The following is an outline of a typical timeline for filing, and brief descriptions of frequently used permit applications. Each project is unique and we welcome you to visit us in the Conservation Office to discuss the details of your project.

Additional Research

During the creation of the Gropius House Conservation Management Plan (CMP) in 2016 many questions were identified or inconsistencies were noted but time did not allow for all of them to be fully explored. The following are subjects that deserve more attention at a time in the future.

1. A paint analysis completed in 1986 by Sara B. Chase and Kathryn M. Carey suggests that paint composition in the master bedroom shifted to aluminum in its second generation. Chase and Carey did not specify the type of paint used originally, but further study should be carried out in order to determine whether this documentation is evidence of a change from titanium dioxide to aluminum silicate.[1]
2. In the introductory section of her 1987 Gropius House paint analysis, conservator Andrea Gilmore wrote that the paint originally applied to the sash of the second floor bathroom window was oil while the first paint on the windowôs sill was lead-based. However, in a more detailed description she seems to indicate that the original paint on the sash was lead-based like that of the sill. She also wrote that there was a primer beneath this sash layer that did not contain lead. It is unclear why this discrepancy in the report exists, and research should be conducted for clarification of the issue.[2]
3. A paint analysis undertaken on the exterior of the Gropius House in 1993 resulted in the conclusion that the four oldest layers of exterior paint were tempera. The report acknowledges that this composition is unusual, and future research should look further into the matter.[3]
4. The history and management of the orchard still has some questions associated with it:
    a. The interpretation and management of the orchard would be enhanced by a better understanding of early twentieth-century orchard tree pruning methods.
    b. There is a primary philosophical question about the management of the orchard - is it Historic New Englandôs role to help preserve Baldwin apple trees or is the primary goal to preserve the concept of the orchard.
    c. There is historical information missing about the management of the orchard and it is tied to the ownership. Additional research is needed into the management as well as research in the Storrow archives.
5. A structural analysis of the roof and load would be helpful for understanding how much snow the flat roof can support.
6. Petrographic and chemical analysis of the historic Portland material that remains of the exterior stair as well as the mortar pointing within the chimney should be included as part of a future project.
7. As of 2016, staff are concerned about the safety of the deck because the boards have been cracking with increasing frequency in recent years. While repairs and modifications to the deck have been carried out several times, the exact layout of the underlying sleepers is unclear. There are also few details available about the widening of the spaces between

[1] See Sara B. Chase and Kathryn M. Carey, *Gropius House Paint Study*, report (Waltham, MA: Society for the Preservation of New England Antiquities, 1986) in the Additional Resources section of this document.
[2] See Andrea M. Gilmore, *Gropius House, Lincoln, Massachusetts: Paint Study, Second Floor - Guest Bathroom*, report (Waltham, MA: Society for the Preservation of New England Antiquities, 1987) in the Additional Resources section of this document.
[3] See *Gropius House Exterior Painting and Paint Analysis: North Elevation Siding,* report (Boston: Society for the Preservation of New England Antiquities, 1993) in the Additional Resources section of this document.

the boards, which was carried out by the Society for the Preservation of New England Antiquities (SPNEA) in 1986. These questions could be answered during the replacement of the feature, which should happen soon. The work would be most cost effective if it took place at the same time as a roof replacement.

8. It should be noted that in 2016 Historic New Englandôs interpretive task force, PPIP, reviewed the options for the glass block and determined that it was very important to match the aesthetic of both sides of the block. Additional research is needed regarding the viability of cutting and re-adhering salvaged blocks so that the patterning matched or to discuss with Owens-Corning the viability of re-establishing the block pattern.
9. The CMP focused on the physical care of the buildings and landscape. The care and treatment of the collections was not a focus but should be for future inclusion in this report.
10. The housekeeping guidelines developed by the collections team and the guide cleaning checklist should be cross-referenced to the maintenance protocols identified in this CMP

Gropius House Maintenance and Repair Plan

The purpose of the maintenance and repair plan is to summarize the maintenance recommendations from the conservation management plan and to identify the level of review required for different repair protocols in one location.

General guidelines for the care of the property:

- The exterior should be kept in good repair.
- Once evidence of repairs and maintenance becomes obvious, replacement of finishes or materials should be considered.
- Interior finishes should be kept in good repair in order to maintain clean aesthetic of house. However, condition of all elements in space should be considered in discussions about treatment options. There is a cascade effect on collections after restoration of wall finishes; if walls look perfect, patina on objects will stand out.
- Treatment decisions for interior finishes will most likely require interpretive review by preservation task force.
- Any work classified as more than maintenance are considered projects and will need to be reviewed and budgeted for as part of a typical planning cycle.

Conservation and preservation efforts have been divided into three categories identifying the levels of review required for exterior work. The three categories are as follows:

- Maintenance Protocol. Basic maintenance activities do not require extensive approvals. All maintenance activities, however, should be approved through the budget, scheduled appropriately with the site staff or any other staff that have an interest, and documented properly.

- Abbreviated Review Process. The abbreviated review process can be used if the repairs are classified as minor, with in kind with no material changes or detail changes identified. The abbreviated review process is outlined in the property care teamôs guidelines for project management.

- Full Review Process. The full review process will be followed for any major repair project or when any detail changes, changes in material, or changes that affect the interpretation of the site are being suggested. The full review process is outlined in the property care teamôs guidelines for project management.

Exterior Features

Wooden Elements with Painted Finish: Cladding, Trellises and Other Features

- Maintenance Protocol. Some examples include but are not limited to:
    - Inspect the condition of the paint annually paying specific attention to biological growth.
    - Frequent blooms of biological growth have resulted in need of annual or bi-annual cleaning with D/2 Biological Solution
    - Spot maintenance of failing paint should occur in between major painting projects. Clean areas of cracked or peeling paint with D/2 before rinsing, sanding, and recoating. Scrape if paint has become detached.

- Abbreviated Review Process. Some examples include but are not limited to:
    - Painting projects can follow the abbreviated review process as long as they specify Historic New Englandôs current standard painting protocol. Previous removal of the paint layers has minimized the need to be selective about the preparation process, but the wall and window trim inside the screen porch area should be protected because these areas still retained historic paint layers as of 1995.
    - A minor intervention project such as the use of approved fillers or epoxies for minor cracks or areas of deterioration to wooden surfaces.
    - A medium intervention project where less than 50% of individual wooden element is damaged. In kind splice repairs are pre-approved for areas of minimal damage.

- Full Review Process. Some examples include but are not limited to:
    - Changes to the painting material. Currently the exterior finish is a latex paint and, while these changes have been previously approved, modern latex has the potential to present a different aesthetic appearance over oil. Future consideration may be made about switching from latex to a different type of paint that more accurately reflects the aesthetics of the paint. Additionally, consultants in 2016 recommended using a coating with both mildewstatic pigment such as zinc oxide and mildewcide additive.
    - Stripping or otherwise aggressive removal of paint: There is a point where the evidence of paint layering becomes obvious and visually distracting to the clean aesthetic that should be dominant. The full replacement of paint should be considered when there are a multitude of visible layers. It is expected that around six layers of paint a more aggressive preparation phase should be undertaken to prepare the building for paint. Consultation with the interpretive task force would be advised starting around layer four to determine if the paint layering is not distracting to the eye. Additionally, the wall and window trim inside the screen porch area should be protected because these areas still retained historic paint layers as of 1995.

- Replacement of cladding: Although individual splice repairs are acceptable there is a point where the evidence of repairs and maintenance becomes obvious and visually distracting to the clean aesthetic that should be dominant. The full replacement of materials should be considered when there are a multitude of repairs.

Roofing

- Approved Maintenance Protocol.
  - Inspect the roof system annually looking for areas of potential failure such as blisters, areas of exposed asphalt, ponding, deteriorating or cracking asphalt, damage to the flashing, and evidence of interior leaks.
  - The garage roof should be swept clean twice a year.
  - Inspect roof drains and scuppers and ensure they are clear before any major rain or snow storm.
  - After snow accumulation of 8 inches or more, carefully clear snow off roof. Leave about one inch of snow in order to avoid damaging roof surface.

- Abbreviated Review Process. Some examples include but are not limited to:
  - If minor damage is discovered, work with a roofing contractor on repair of the system elements.

- Full Review Process. Some examples include but are not limited to:
  - Replacement of the roof system and cornices.

Structural Wood Framing

- Approved Maintenance Protocol.
  - Inspect the building annually for signs of structural deterioration such as cracking in plaster or around doors and window frames.

- Abbreviated Review Process. Some examples include but are not limited to:
  - Any project involving the repair of the wood framing will need a full review.

- Full Review Process. Some examples include but are not limited to:
  - Any project involving the repair of the wood framing will need a full review.

Window Frames and Glazing

- Approved Maintenance Protocol.
    - Inspect annually looking for areas of paint loss, glazing loss, or signs of rust staining.
    - Spot maintenance of failing paint should occur in between major painting projects.
    - As long as there is a paint finish, there is no specific maintenance protocol for the putty itself.

- Abbreviated Review Process. Some examples include but are not limited to:
    - Field replacement of glazing including spot treatment of rust on the steel frames

- Full Review Process. Some examples include but are not limited to:
    - Removal of frames for conservation.
    - Replacement of glass.

Specialty Glass

- Approved Maintenance Protocol. Some examples include but are not limited to:
    - Inspect the specialty glass annually looking for new cracks or breaks.
    - Snow should be promptly cleared away from the base of the glass block wall to minimize water penetration into the support system that has resulted in rust jacking in the past.

- Abbreviated Review Process. Some examples include but are not limited to:
    - The use of epoxy to secure broken specialty glass windows.

- Full Review Process. Some examples include but are not limited to:
    - The initial treatment of the glass block system
    - Replacement of any of the specialty glass

Stone Stairs

- Approved Maintenance Protocol.
  - Inspect stairs annually to review conditions.
  - The mortar has proven susceptible to deterioration by salts or products used for melting of snow and ice. These products are not ideal for any historic environment, but using pure sand creates additional issues within house. Whichever product is used, it should be swept off stones as soon as it is no longer performing.

- Abbreviated Review Process. Some examples include but are not limited to:
  - Spot repairs of the mortar.

- Full Review Process. Some examples include but are not limited to:
  - Major repair campaign to repair or conserve the stairs.

Steel Elements including the Spiral Stair and the Lally columns/Support Columns

- Approved Maintenance Protocol.
  - Inspect the paint surface on an annual basis looking for deteriorated paint or signs of rusting.

- Abbreviated Review Process. Some examples include but are not limited to:
  - Integrity of finish must be maintained, as it protects steel from exposure. If bare steel is not treated as quickly as possible, it will start to rust. Wire brush area to remove any oxidization or corrosion, spot-apply a rust converter, and apply finish paint.
  - When the clean look of stairs is marred despite maintenance activities, it is time to discuss a larger project

- Full Review Process. Some examples include but are not limited to:
  - Any project recommending grit blasting of the steel whether in situ.
  - Deconstruction of the stair to facilitate a larger conservation and preservation project.

Screens on Porch

- Approved Maintenance Protocol.
  - Inspect annually for holes and overall condtion.
  - Holes in screens should be patched until they become an aesthetic distraction

- Abbreviated Review Process.
  - No repair protocols that meet this criteria have been identified at this time

- Full Review Process. Some examples include but are not limited to:

    - Full replacement: Although all screens were likely replaced in 2002, any project involving replacement will require full review because of the nature of the intervention because of the means in which the system is attached.

Porch deck

- Approved Maintenance Protocol.
    - Inspect annually for signs of deterioration. Test floor boards specifically looking for signs of weakness.

- Abbreviated Review Process. Some examples include but are not limited to:
    - Minor repairs maybe undertaken to splice new wood in to repair broken deck boards. Care should be taken as to make sure joints in the boards are over deck supports.

- Full Review Process. Some examples include but are not limited to:
    - Major repairs (more than 5 boards) or replacement of entire flooring system.

Stone Paths and Porch Floor

- Approved Maintenance Protocol.
    - Inspect annually for uneven stones. Stones should be level for safety reasons

- Abbreviated Review Process. Some examples include but are not limited to:
    - Resetting of less than 5 stones.

- Full Review Process. Some examples include but are not limited to:
    - Resetting of more than 5 stones.

Stone Walls

- Approved Maintenance Protocol.
    - In spring, walk rubble stone walls and replace singleton stones that have been knocked off. Try to position stones on top of wall so that they fit in place.
    - If more than three stones have fallen in a specific location a mason may be required.
    - Walk the formal walls annually as well and look for signs of dislodged stones and deteriorated mortar.
    - Spot pointing of walls in discrete locations to address minor mortar loss or to secure capstones.

- Abbreviated Review Process. Some examples include but are not limited to:
    - Minor Fieldstone Wall Repair Project: When no more than two sections of walls or 40 linear feet are being repaired a project should be developed with a qualified mason.
    - Minor Formal Stone Wall Repair Project: When less than 40 square feet of wall is being pointed.

- Full Review Process. Some examples include but are not limited to:
    - Major Fieldstone Wall Repair Project: When more than two sections of walls or more than 40 linear feet are being repaired.
    - Major Formal Stone Wall Repair Project: When more than 40 square feet of wall is being pointed or any section of the wall is being rebuilt.

Trees and Woody Shrubs

- Approved Maintenance Protocol.
    - Inspect annually for overall condition and after major storms for damage.
    - Maintenance pruning

- Abbreviated Review Process. Some examples include but are not limited to:
    - Hazard pruning
    - Treatment protocols being established for the first time

- Full Review Process. Some examples include but are not limited to:
    - Major pruning for rejuvenation of a woody shrub.
    - Removal or planting of a tree or woody shrub.

Driveway

- Approved Maintenance Protocol.
    - Filling potholes
    - Staff regrading driveway as part of maintenance protocol

- Abbreviated Review Process. Some examples include but are not limited to:
    - Using outside contractors to provide material and grade driveway

- Full Review Process. Some examples include but are not limited to:
    - Changing driveway material or color of material
    - Removal or replacement of the edging material.

Mechanical, Electrical, Plumbing (MEPs)

Electrical

- Approved Maintenance Protocols
  - Test all exterior lighting annually and change lightbulbs as necessary.
  - Lightbulbs may be replaced by site staff or property care staff.
  - Lightbulbs are to be replaced ñin-kindò, matching the existing style and wattage.
  - Service calls for faulty outlets or fixtures.
- Abbreviated Review Process. Some examples include but are not limited to:
  - Electrical assessment and survey
  - Rewiring of a light fixture
  - Change in lightbulb type (e.g., change from incandescent to fluorescent or LED) is to be reviewed by Historic New Englandôs interpretive task force.
- Full Review Process. Some examples include but are not limited to:
  - Removal of electrical components
  - Replacement of a light fixture

Plumbing

- Approved Maintenance Protocols
  - Inspection and cleaning of main septic drain line should be performed every other year to clear any tree roots from the pipe.
  - Septic tank pumping shall be periodically scheduled so as not to exceed one pump every three years.
  - Inspect active water lines on a weekly basis to ensure there are no leaks in the system. If a leak is discovered, turn off related valve to stop leaking and contain leak with the use of absorption pads or buckets. The plumber listed on the emergency call sheet should be contacted and property care notified.
  - Service calls for leaks.
- Abbreviated Review Process. Some examples include but are not limited to:
  - Repairs of existing features
- Full Review Process. Some examples include but are not limited to:
  - Replacement of fixtures or faulty piping
  - Replacement of the septic field

HVAC

- Approved Maintenance Protocols
  - Filters should be replaced on a semi-annual basis by property care staff.
  - Temperature settings are to be set according to the season. Summer air conditioning will be set no lower than 75oF; winter heating will be set no higher than 65oF in the museum and 68oF in the office space. Programmable thermostats are to be set to allow for temperature setbacks (80oF and 58oF respectively) during non-open hours.
  - Data loggers tracking temperature and relative humidity should be collected and processed bi-annually, once in January and once in July
  - The gas fired boiler is to be inspected annually in compliance with insurance requirements. This inspection is scheduled by the insurance company.

  - The gas meter is to be inspected as necessary by the utility supplier.
  - The landscape should be kept clear around the outdoor condensing unit.
  - Prior to the use of the AC in the spring, the outdoor condensing unit should be cleaned of gravel that may have been pushed off the driveway due to plowing activities.
  - Emergency service
- Abbreviated Review Process. Some examples include but are not limited to:
  - In kind replacement of equipment
- Full Review Process. Some examples include but are not limited to:
  - Replacement of a system or system component

Communications

- Approved Maintenance Protocols
  - Maintenance to existing communications services
  - Maintenance to existing security services
- Abbreviated Review Process. Some examples include but are not limited to:
  - Installation of new equipment or systems with no damage proposed to historic fabric
- Full Review Process. Some examples include but are not limited to:
  - New services requiring additional trenching for conduit access
  - New services requiring penetrations to the historic fabric

Interior

Assume that any work beyond the designated maintenance protocols could have a major effect on the historic finishes and the interpretation of the site and will require the full review process.

Acoustical Plaster

- Approved Maintenance Protocols.
    - Once the walls have been treated with desired whitewash application, maintenance requirements should be minimal
    - Avoid rubbing or abrading surface in order to remove any spot staining, as this will likely remove applied limewash and possibly the substrate and results of such a cleaning attempt are not likely to be visibly noticeable.
    - Areas that require cleaning should be monitored over time

Chimneys and Fireplace

- Approved Maintenance Protocols.
    - Both chimneys should be regularly inspected:
        - Monitor chimney for water ingress or signs of dampness
        - Debris falling to hearth may be sign of interior issue
        - Open flue damper of fireplace chimney yearly in order to check for any fallen debris
        - Inspect finishes for signs of degradation that may be caused by underlying issues such as moisture penetration
    - The chimney stack used by the furnace should be inspected once a year by a trade professional for soundness, freedom from deposits, and correct clearances. Cleaning, maintenance, and repairs shall be done if necessary.

Cork Floor

- Approved Maintenance Protocols.
    - When cleaning, use mild detergent with damp mop
    - Do not flood as excess water causes damage
    - Clean daily with dry or damp mop, occasionally using a liquid solvent wax
    - For major cleaning on Standard Cork Tile, use electric buffing with 00 steel wool discs, then apply several thin coats of paste wax, buffing each with lambôs wool pads
    - For major cleaning on Polyurethane Coated Tile, use liquid wax and buffing. Paste is NOT to be used on Polyurethane Coated Tile.
    - To refinish Polyurethane Tile, use a power floor machine with 00 steel wool discs and apply urethane as directed on container labels.
    - Avoid abrasive, alkaline or cheap cleaners
    - Keep surface free of grit, sand and cinders
    - Use an entrance mat to prevent the floor from getting dirty and wet. Do not allow a soaking mat to sit on the cork for extended periods of time.

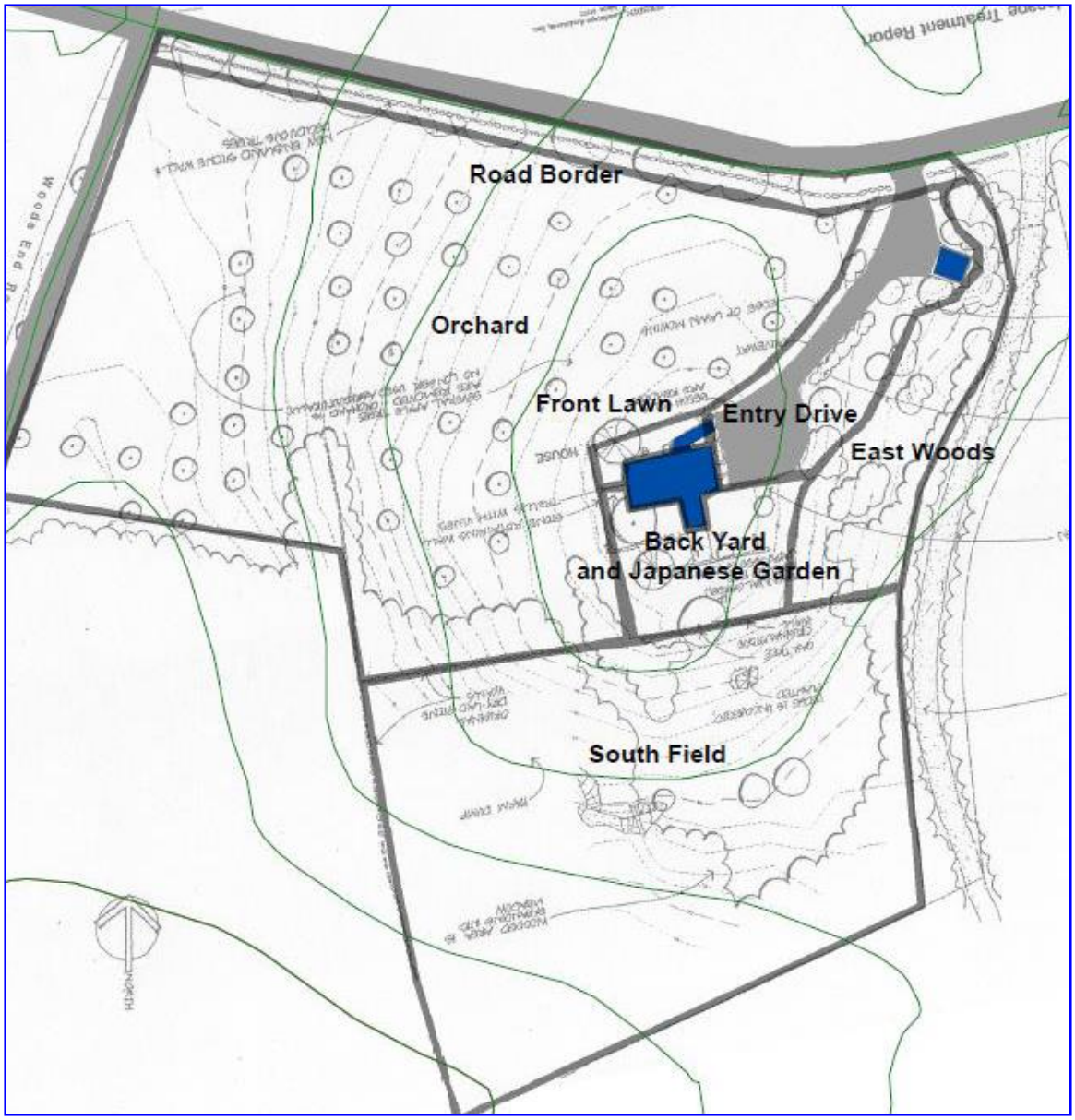
Door Hardware

- Approved Maintenance Protocols.
    - Annually tighten set screws in doorknobs and ensure hinges are secured tight to frames.
    - Locksmith work to fix poorly functioning lock hardware.

Gropius Landscape Maintenance Plan

The purpose of the maintenance plan is to summarize the conservation management plan recommendations into a simple landscape maintenance plan for the site. The numbering system for the trees used within corresponds to the 2009 tree inventory.

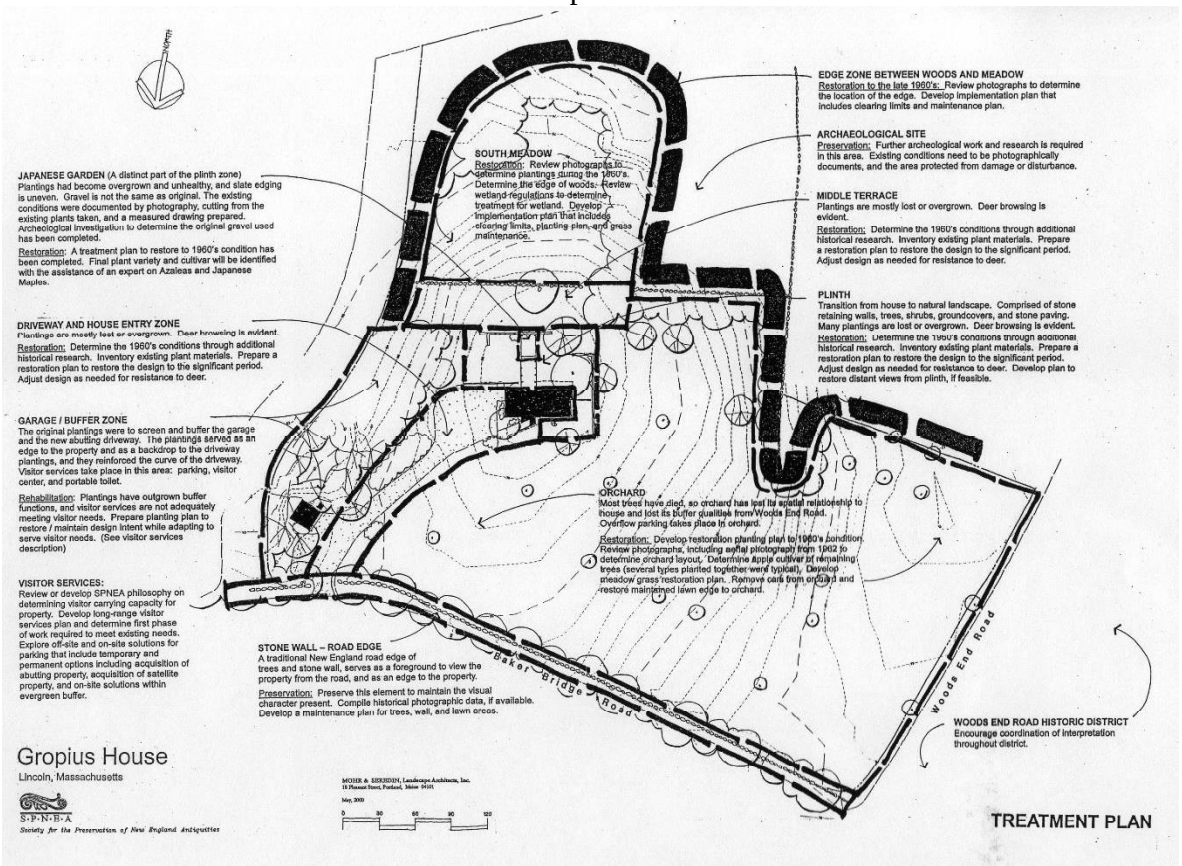
The Gropius House property is split into management zones to make the identification of the areas easier. The below zones were identified in 2009 and closely match the 2001 Cultural Landscape Report which also identified the zones. A complete listing of the two zone names is on the following page.



Management Zones

Maintenance Plan Name	Cultural Landscape Name
Orchard	Zone 1 ï Orchard
Back Yard and Japanese Garden	Zone 2 ï Japanese Garden
South Field	Zone 3 ï South Meadow
Entry Drive	Zone 4 ï Driveway and House Entry
Entry Drive and East Woods	Zone 5 ï Garage / Buffer Zone
Front Yard and Back Yard and Japanese Garden	Zone 6 ï Plinth
Back Yard and Japanese Garden	Zone 7 ï Middle Terrace
No zone (beyond South Field)	Zone 8 ï Woodland / Meadow Edge
Road Border	Zone 9 ï Stone Wall ï Road Edge
No Zone	Zone 10 ï Archaeological Site
No Zone	Zone 11 ï Visitor Services
No Zone	Zone 12 ï Woods End Road Historic District

Cultural Landscape Treatment Plan



Mohr & Seredin Landscape Architects, Inc., *Cultural Landscape Report*, 2001

Entry Drive

Driveway, 1963
Historic New England Archives, Binder of Slides

The Gropius House landscape was designed as a series of outdoor ñroomsò that reflect the architecture of the house. The driveway and other systems of circulation provide a means of traveling between these spaces. They are the ñhallwaysò of the landscape, guiding inhabitants or visitors through the site in a logical manner.

Lawn Care/Mowing/Field and Brush Management

- Mow a 10ô-wide strip weekly along the edge of the drive at a height of 3ò
- See mowing map in the appendix.

Herbaceous Plants/Garden Beds

N/A

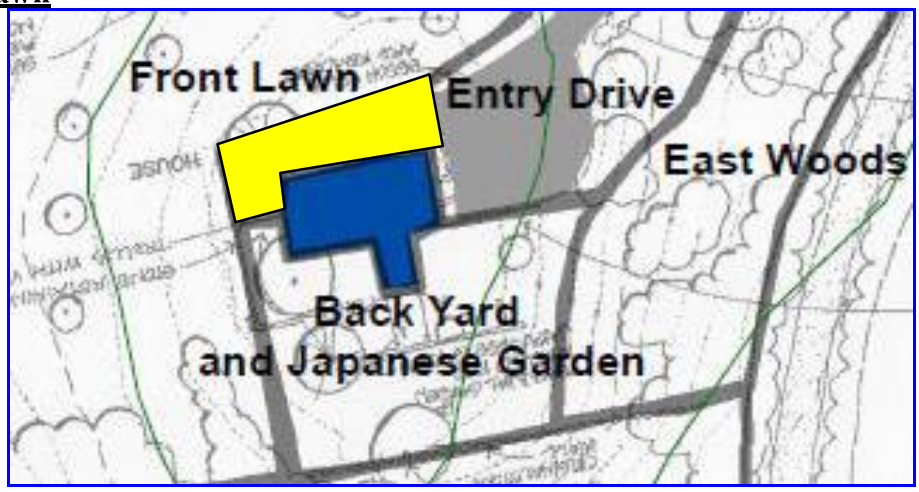
Woody Plants/Trees

- Junipers (#12) encroach into driveway. Keep pruned back but with natural shapes.
- Keep hemlocks (#17 and #18) pruned over garage and drive. Monitor for wooly adelgid.
- Monitor trees (#13 through #25) over visitor center. Pines are cabled and should be reviewed every couple years for continued stability.
- Keep Zelkova (#1) pruned away from house. It is too stout and rubs house, while original elm towered over building. Continue the maintenance protocol however the Zelkova should *not* be replaced and can be removed if it threatens building.

Hardscape/Structures

- Visitor center (garage) frequently becomes covered with vines and poison ivy. Cut back several times a year. Do not pull off vines as it may ruin or damage the paint and/or wood.
- The landscape should be kept clear around the outdoor condensing unit.
- Prior to the use of the AC in the spring, the outdoor condensing unit should be cleaned of gravel that may have been pushed off the driveway due to plowing activities.
- The front walk has a tendency to become uneven. Do not repair without consulting preservation manager. Do not add new stones, and keep existing ones in same orientation and location. Grass should be between the stones, but it has been difficult to establish in this area.
- Driveway Notes
    - The driveway takes a beating from plowing. It is also at a steep grade and will wash out during heavy rain. Use crusher-run base for wash out repairs. Top layer should be a ½ inch washed pea-stone. Match existing color.
    - Due to general erosion and the inevitable winter plow work, driveway should be regraded annually (ideally in April). Regrading will re-establish drive at level consistent with metal edging, establish appropriate coverage of oil inspection port in driveway, and fill assorted ruts and potholes. This work would include area to north of garage (visitor center), which takes the heaviest parking toll and thus tends to generate depressions which result in large puddles. Raking of stone pushed into adjacent grass areas by plows should be done at this time as well.
    - Driveway should have a center crown
    - Potholes should be filled and hand-tamped as they develop
    - Driveway has a metal edge that is not historic, but provides a clean edge between lawn and drive. Edge should be maintained, but discussion should take place before replacement. Do not remove edge without consulting preservation manager. Try to straighten in place if possible.
    - An oil test well cover is located in the drive. It has been dislodged by the plow in the past.

Front Lawn



Lawn Care/Mowing/Field and Brush Management

- Mow weekly to height of 3ò
- All areas around the house foundation, poles, or the spiral stairs should be hand trimmed. These features are at or near grade and a string trimmer will damage historic material.
- See mowing map above

Herbaceous Plants/Garden Beds

- Daylily bed in front of glass block wall should be maintained and thinned as needed. Deadhead during summer and cut back in fall.
- Agave should be maintained and thinned as needed. Cut back spike when it passes. Clean out leaves and keep neat.

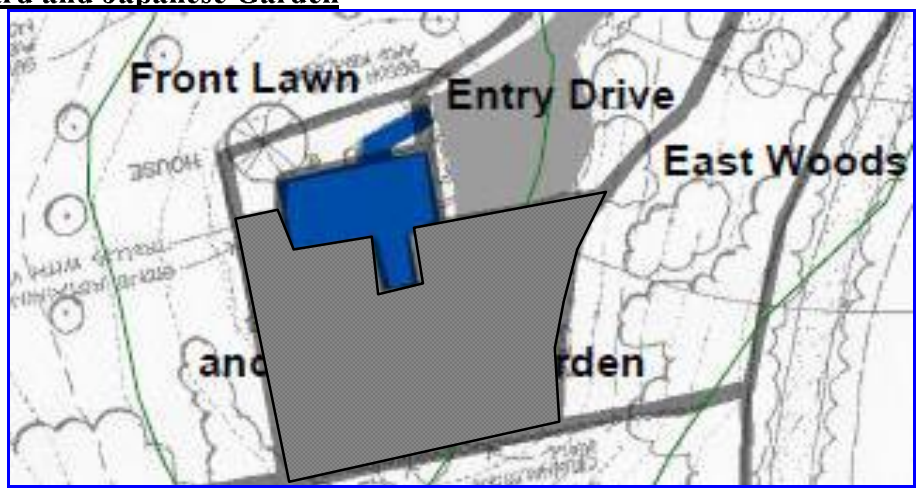
Woody Plants/Trees

- Keep pine (#2) pruned away from house
- Bed under pine fills with poison ivy and bittersweet

Hardscape/ Structures

- Report any damage to sculpture, walls, or spiral stairs to preservation manager.

Back Yard and Japanese Garden



Lawn Care/Mowing/Field and Brush Management

- Mow weekly to height of 3ò
- See mowing map for detail

Herbaceous Plants/Garden Beds

- Roses should be reestablished on both trellises. While historic material is no longer extant, the fact that roses were robust enough to block view through trellises was important aspect of Gropiusôs original design. Preference will be given to fast-growing climbing roses with a deep red or pinkish color. They can then be cut or staked back when maintenance on trellis is required.
- Trumpet vine should be cut back periodically to prevent damage to house
- There are several perennial beds in lawn areas around rock outcroppings. These should be maintained and thinned as needed.

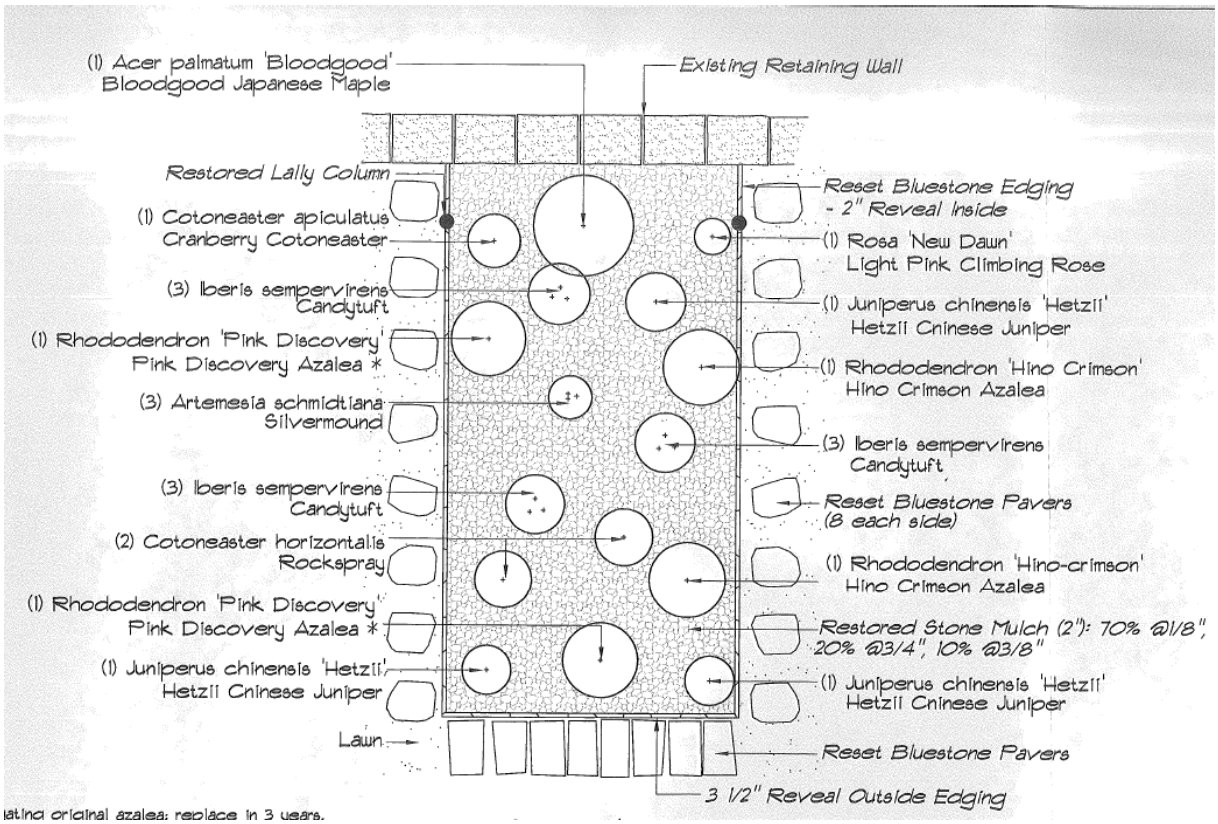
Japanese Garden

- Plantings in Japanese Garden should match exact placement and type as planting plan
- Overall appearance of garden should emphasize a low horizontal profile
- Japanese maple is a focal point of garden and should be pruned to maintain a low profile as well as a degree of transparency
- Shrubs will require pruning to keep horizontal profile and to maintain harmonious effect among shrubs and herbaceous plants maintained[1]
- All plants in Japanese Garden are replacements from 2001 or later, so material can be replaced if plants suffer from poor health or if pruning is not achieving expected visual character

[1] *Japanese Garden Record of Treatment, Summer 2001*, report (Portland, ME: Mohr & Seredin, Landscape Architects, Inc., 2001), 4.

Japanese Garden Maintenance[2]

- Hino-Crimson Azalea: Prune to maintain low profile but allow to spread horizontally
- Rhododendron ôPink Discoveryô: Prune to maintain low profile but allow to spread horizontally
- *Acer palmatum* ôBloodgoodô: Requires careful pruning every year to keep low horizontal profile and openness through tree
- Rosa ôNew Dawnô: Keep tied to lally column for support; prune and fertilize in spring
- Cotoneaster *apiculatus*: Prune to keep plant at 3ôï 4ôspread
- Cotoneaster *horizontalis*: Prune to 3ôheight
- *Juniperous chinensis* ôhetziô: Prune every year as necessary to maintain a height of 3ô
- *Iberis sumpervirens* ôCandytuftô: Shear back hard after flowering to encourage bushy growth
- *Artemesia schmidtiana*: Cut back hard for late summer refoliation.



[2] All maintenance recommendations for the plant material came from the *Japanese Garden record of Treatment, Summer 2001*, 5.

Japanese garden, 1958
Historic New England Archives, Binder of Slides

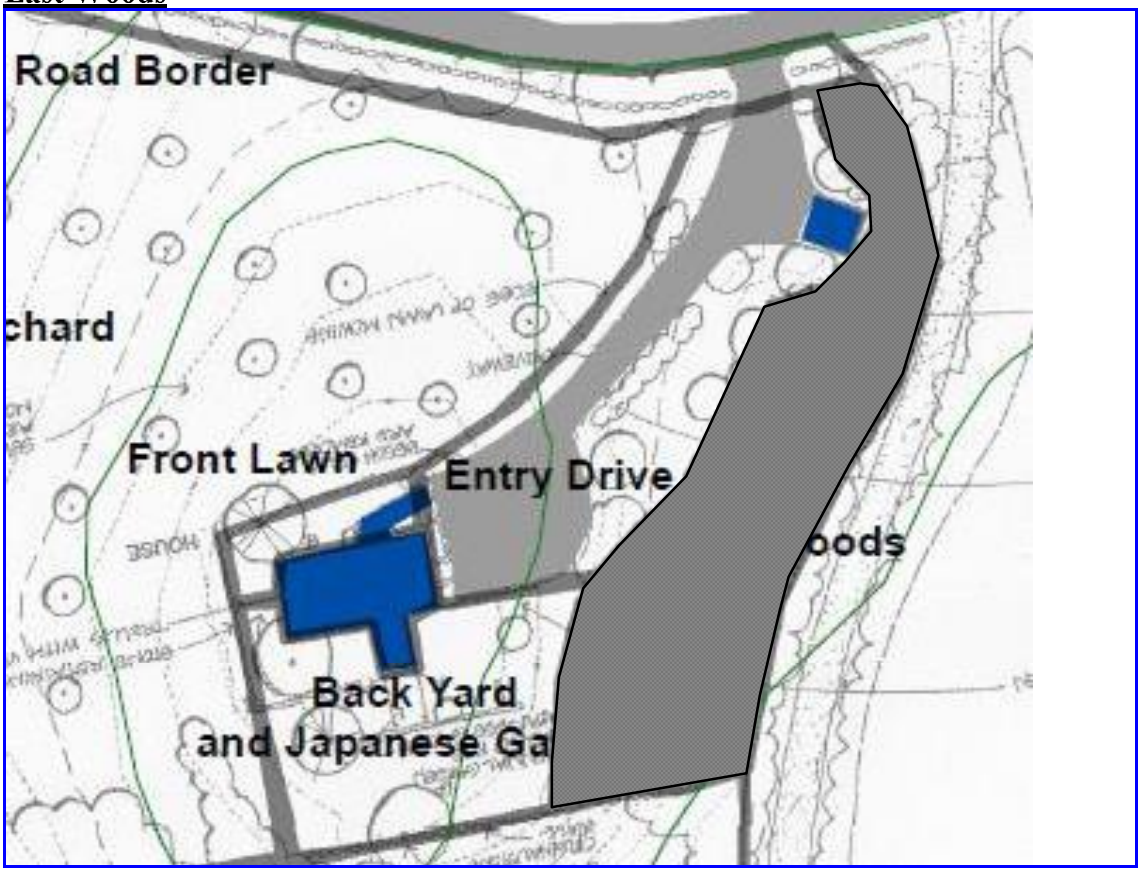
Woody Plants/Trees

- Oak tree (#3) adjacent to house should be pruned and inspected every other year by professional arborist. Needs to be pruned away from the house but kept close. The tree is historic and important to interpretation of the landscape and house.
- Pine (#3) is cabled and should be maintained and inspected in conjunction with the adjacent oak
- Oak tree (#5) and ornamental trees (#6, #7 and #8) along old stone wall are all historic and should be maintained
- Keep bittersweet out of trees and woody shrubs

Hardscape/Structures

- The stone path/patio on the south side of the living room is bound by flagstones set vertically to provide a stable boundary against which the horizontally bedded flagstones have been set. The vertical stones should be inspected annually to ensure that they have not subsided thus allowing the horizontal flagstones to ñcreepò towards the building.
- The flagstone paths should be top dressed at least annually (April) to minimize trip hazards.
- Do not repair without consulting preservation manager. Do not add new stones. Keep stones in existing orientation and location.

East Woods



Lawn Care/Mowing/Field and Brush Management
N/A

Herbaceous Plants/Garden beds

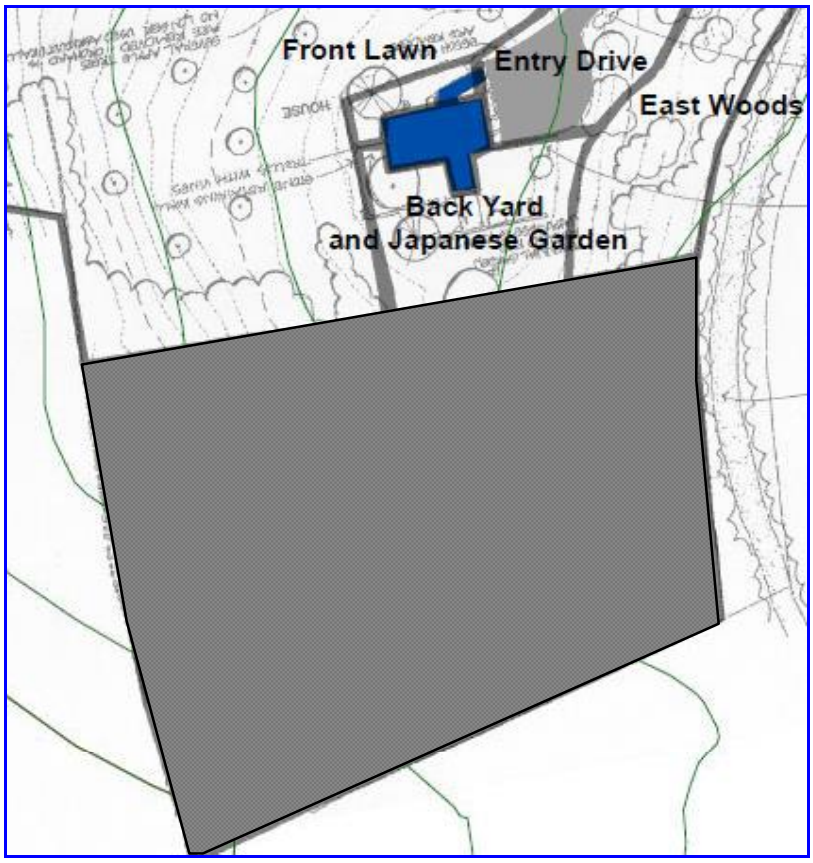
- Garlic mustard must be pulled. Neighbors complain because garlic is an invasive species. Town of Lincoln has developed high community interest in attempting to halt continued spread. Volunteers throughout Lincoln consistently encourage Historic New England to actively participate by removing it in spring before it goes to seed.

Woody Plants/Trees

- Bittersweet grows up and on all of the trees. Winter is a good time to go in and cut back the vines.

Hardscape/Structures
N/A

South Field



Lawn Care/Mowing/Field and Brush Management

- Let grass grow and brush mow it once per year, sometime between August and October. August 1 represents end of grassland-breeding bird season, but waiting until later in year allows late-flowering wildflowers such as aster and goldenrod to provide nectar for migrating butterflies. Key is to avoid letting the woody growth take over field.
- Do not let woody growth take over the area. Make sure the woodland edge is pushed back every 2-3 years.
- Old pines should be standing in field. Clear beyond pine trees at least 10 feet past edge of canopy.

Herbaceous Plants/Garden Beds

- There are several perennial beds in south field around rock outcroppings and along stone wall. These should be maintained and thinned as needed.

Woody Plants/Trees

- Old pines (#s 72 & 73) should be standing in field. Clear beyond pine trees at least 10 feet past edge of canopy.
- Keep bittersweet out of trees and woody shrubs

Hardscape/Structures

N/A

Orchard and Road Border

Lawn care/Mowing/Field and Brush Management

- Let orchard grass grow and brush mow it once per year, sometime between August and October. August 1 represents end of grassland-breeding bird season, but waiting until later in the year allows late-flowering wildflowers such as aster and goldenrod to provide nectar for migrating butterflies. Key is to avoid letting the woody growth take over field.
- String trim with caution around apple trees after mowing
- Mow a 10ô path 3ò high from garage down to Woods End Road at same time as maintenance of path around meadow, adjacent to the stone wall along Baker Bridge Road.
- Mow a 10ô path along Woods End Road for extent of property line, creating clean edge
- String trim along stone wall on a weekly basis
- Remove volunteer woody shrubs and trees from stone wall on an annual basis

Herbaceous Plants/Garden beds

- Garlic mustard here should be pulled/mowed before it goes to seed. Garlic mustard is point of emphasis with Lincoln Conservation Commission and community, which includes some Historic New England members

Woody Plants/Trees

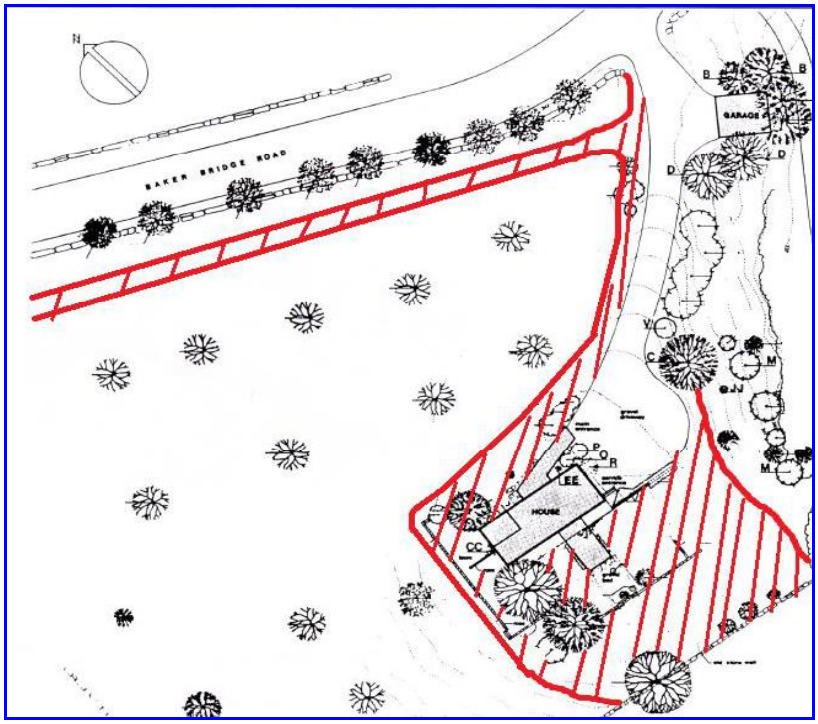
- Orchard should be restored to 1960s grid appearance. Gaps in grid do not necessarily need to be filled.
- Trees should be pruned and maintained, but apple production is not the goal. More research needs to be conducted on proper pruning methods for early twentieth-century orchards so they can be put into practice on site.
- Monitor trees for tent caterpillar and cedar apple rust
- Wrap bases of young trees before winter to guard against vole damage

Hardscape/Structures

- Keep both sides of wall along Baker Bridge Road clear of brush, vines and volunteer growth
- Replace small dislodged stones to wall. Report major wall damage to preservation manager

Mowing Maintenance Plan

The following is a summary of the mowing needs for the Gropius property. Mow areas highlighted below in red to a height of 3ò each week, including path down orchard.



Entry Drive and Orchard Path

- Mow a 10ô wide strip along the edge of the drive weekly at a height of 3ò
- Mow a 10ô path from garage down to Woods End Road at same time as maintenance of path around meadow, adjacent to the stone wall along Baker Bridge Road
- Mow a 10ô path along Woods End Road for extent of property line, creating clean edge
- String-trim along stone wall weekly

Front Lawn; Backyard and Japanese Garden

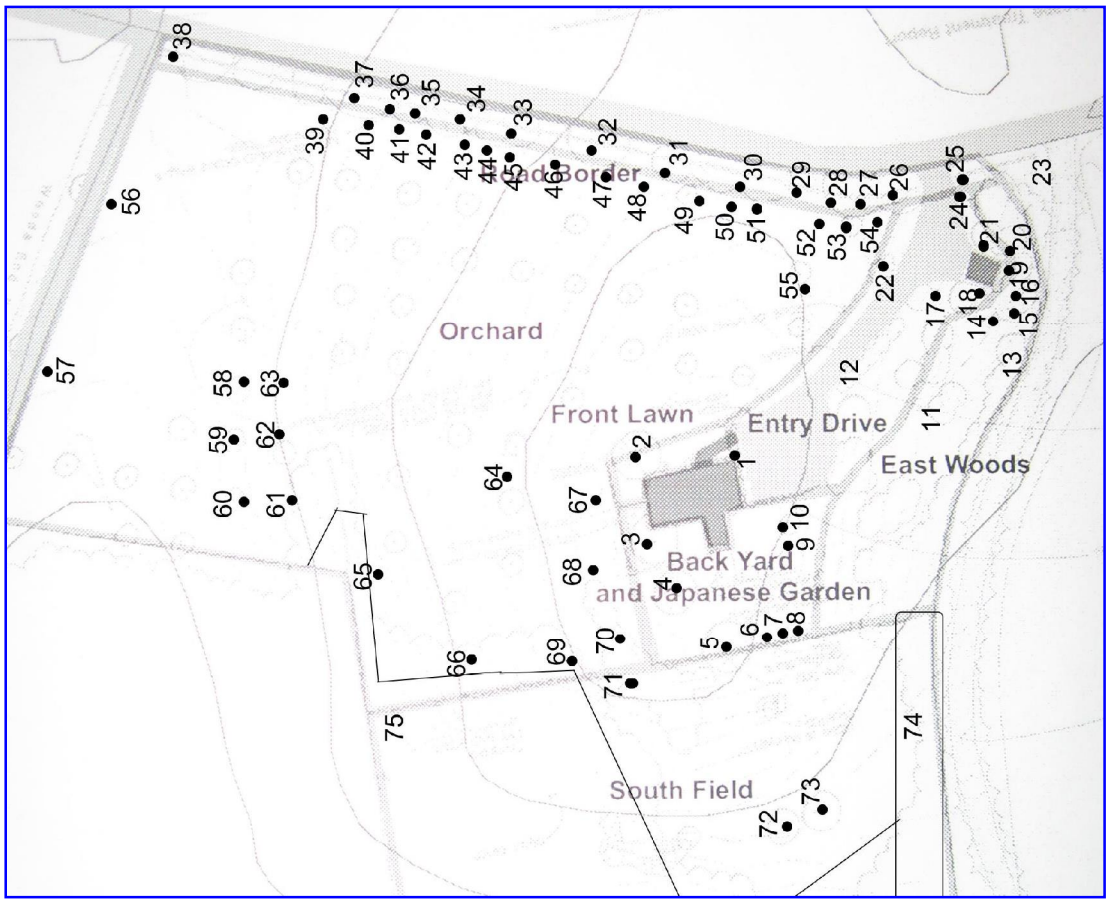
- Mow to a height of 3ò
- Hand-trim rather than string-trim near house, poles, and spiral stairs. These features are at or near grade and trimmer will damage historic material.

Orchard and South Field

- Let orchard grass grow and brush mow it once per year, sometime between August and October. August 1 represents end of grassland-breeding bird season, but waiting until later in the year allows late-flowering wildflowers such as aster and goldenrod to provide nectar for migrating butterflies. Key is to avoid letting the woody growth take over field.
- String trim with caution around apple trees after mowing

Woody Plants and Shrubs Maintenance Plan

The following is a summary of information on the woody plants and shrubs. References to trees should utilize the nomenclature developed in the 2009 Tree Inventory.



- Pruning and other maintenance should be performed by certified arborist in consultation with Historic New England staff. See also Historic New England White Papers on Arborcare.
- Work should first focus on trees surrounding structures and formal areas of the property in order to address hazards to public, historic buildings, and the landscape. Work can then extend to property lines.
- Trees within rights-of-way along Baker Bridge Road have been periodically, and poorly, maintained by utility companies. Pruning of hazardous or unsightly trees in right of way should be discussed with preservation manager. Some trees have also been removed, which affects the views to and from the north.
- References to trees should use numbering system developed in the 2009 Tree Inventory

Entry Drive

- Junipers (#12) encroach into driveway. Keep pruned back but with natural shapes.
- Keep hemlocks (#17 and #18) pruned over garage and drive. Monitor for wooly adelgid.

- Monitor trees (#13 through #25) over visitor center. Pines are cabled and should be reviewed every couple years for continued stability.
- Keep Zelkova (#1) pruned away from house. Original tree was an elm and Zelkova was an inappropriate replacement. It is too stout and rubs house, while original elm towered over building. Work with arborist to find classic, vase-shaped elm. Zelkova should *not* be replaced and can be removed if it threatens building.

Front Yard

- Keep pine (#2) pruned away from the house
- Bed under pine fills with poison ivy and bittersweet

Back Yard and Japanese Garden

- Oak tree (#3) adjacent to house should be pruned and inspected every other year by professional arborist. Needs to be pruned away from the house but kept close. The tree is historic and important to interpretation of the landscape and house.
- Pine (#3) is cabled and should be maintained and inspected in conjunction with the adjacent oak
- Oak tree (#5) and ornamental trees (#6, #7 and #8) along old stone wall are all historic and should be maintained
- Keep bittersweet out of trees and woody shrubs

South Field

- Old pines (#s 72 & 73) should be standing in field. Clear beyond pine trees at least 10 feet past edge of canopy.
- Keep bittersweet out of trees and woody shrubs

Orchard

- Orchard should be restored to 1960s grid appearance. Gaps in grid do not necessarily need to be filled.
- Trees should be pruned and maintained, but apple production is not important. More research needs to be conducted on proper pruning methods for early twentieth-century orchards so they can be put into practice on site.
- Monitor trees for tent caterpillar and cedar apple rust
- Wrap bases of young trees before winter to guard against vole damage

Snow Removal Plan

The following is a summary of the snow removal guidelines for Gropius House.

- Stake drive edges before ground freezes. Stakes should be installed inside metal edge.
- Four-foot buffer should be staked at top of the drive and at wall connected to rose trellis. In the past, the plow pushed against wall and damaged it. This should also be communicated to contractor so they can avoid damage to the feature.
- An oil test well cover is located in the driveway. It has been dislodged by plow in past.
- Avoid use of ice melt on stairs. Clear them and use sand. Mortar is fragile and ice melt destroys it. Sweep stairs of sand when it is no longer needed.
- Snow should be promptly cleared away from the base of the glass block wall to minimize water penetration into the support system that has resulted in rust jacking in the past.

Annual Maintenance and Inspection Calendar

Note that routine spot inspections should be done after storms.

January	February	March
☐ Collect and process data loggers ☐ Semi-annual pest control	☐ Framing, stair, screens, deck and specialty glass inspection	☐ Inspect stone paths, walkways and stone walls; remediate as necessary
April	**May**	**June**
☐ Replace filter for air handler ☐ Sweep off and inspect visitor center roof ☐ Repair masonry rear entry stairs (if needed) ☐ Clean out gravel from condenser ☐ Regrade driveway; remove gravel from grassy areas	☐ Tighten doorknobs and hinges ☐ Wash exterior cladding ☐ Test all exterior lighting; remediate as necessary ☐ Verify summer thermostat programming ☐ Inspect and tighten deck screens ☐ Start seasonal mowing	☐ Inspect window glazing; remediate as necessary
July	**August**	**September**
☐ Collect and process data loggers ☐ Semi-annual pest control	☐ Inspect gutters, roof drains and roofs; remediate as necessary	☐ Inspect and clean boiler chimney; inspect fireplace chimney
October	**November**	**December**
☐ Replace filter for air handler ☐ HVAC inspection, cleaning, service ☐ Verify winter thermostat programming ☐ Complete seasonal mowing	☐ Sweep off visitor center roof ☐ Install plow stakes	☐ Verify winter thermostat programming

Preservation Priority Plan

The following priorities were developed for the Gropius House based on the intensive study that took place over the course of 2016 as part of the Conservation Management Plan. Historic New England will use this plan to prioritize the physical conservation and preservation efforts at the Gropius House.

1. Trellis repairs
    a. *Repair west trellis*
    b. *Repair east trellis*
    c. *Rejuvenate/Plant roses on trellises*
2. Electrical survey
    a. *Label all circuits; document locations and circuits on site plan*
    b. *Verify all bulbs work as expected*
    c. *Document bulb locations, types and access requirements*
3. Hazard pruning around Visitor Center / Garage
    a. *Includes hemlock management*
4. Replace first floor cork flooring
5. Prep, prime, paint all exterior cladding (house and garage)
6. Repair screens on rear porch
7. Modify dining room light fixture to accept Edison base bulb
8. Finalize glass block replacement plan
    a. *Source salvage material?*
    b. *Experiment with cutting perpendicular block?*
9. Apply limewash to fireplace alcove in living room as proof of concept
10. Implement annual cladding washing
11. Repair ceiling in maidôs room
12. Finalize and implement orchard management / restoration plan