DATE: October 28, 2019

AGENDA ITEM # 2

AGENDA REPORT

TO: Historical Commission

FROM: Sean Gallegos, Staff Liaison

SUBJECT: Receive an update on the Halsey House Historic Structures Report, and direct staff accordingly

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BACKGROUND

The Halsey House is located at 482 University Avenue in what is now the City-owned 6.12-acre Redwood Grove Nature Preserve. It was constructed in 1923 for notable Los Altos residents Theodore Vail Halsey and Emma Wright Halsey. An addition to the house was made in 1928 to accommodate Emma's mother, Myra E. Wright. The Halseys transplanted seedlings from the Santa Cruz Mountains to surround their home with Sequoia sempervirus, the ancient species of redwoods nearly wiped out in California. The Halsey House property was purchased by the City of Los Altos in 1974 as a nature preserve and for recreation programs. On May 26, 1981, the property was designated as a local historic resource by the Los Altos City Council due to the significant of its Spanish Eclectic architecture. For forty years, Halsey House was a meeting place, Nature Center and Ohlone Interpretive Center, but closed in 2008 due to disrepair.

On January 23, 2018, Council directed the Historical Commission to work with community members and staff to develop an application for the 2018 Santa Clara County Historical Heritage Grant. The grant's scope was to be limited to preserving the Halsey House and the Historical Commission was directed to make a recommendation on the next steps following the initial preservation measures. The commission was unable to apply for the 2018 Santa Clara County Historical Heritage Grant due to the grant deadlines and limited documented information about the property's history and existing condition, and the repairs required for rehabilitation and/or restoration.

In April 2018, the Los Altos Historical Commission Subcommittee for the Halsey House, the Los Altos History Museum, City staff and community members prepared an application for a Certified Local Government Grant for the Office of Historic Preservation to fund a historic structure report (HSR) for the Halsey House. On May 1, 2018, the City of Los Altos submitted an application to the Office of Historic Preservation for a Certified Local Grant for the preparation of HSR for the Halsey House.

An HSR provides documentary, graphic, and physical information about a property's history and existing condition. Broadly recognized as an effective part of preservation planning, a Historic Structure Report establishes goals for the use or re-use of the property. The planning document will provide a guide for budget and schedule planning for work on the historic structure. It provides a thoughtfully considered argument for selecting the most appropriate approach to treatment, prior to

the commencement of work, and outlines a scope of recommended work. The report serves as an important guide for decision-making regarding all changes made to a historic property during a project-repair, rehabilitation, or restoration-and can also provide information for maintenance procedures.

On August 2, 2019, the City of Los Altos was awarded a Certified Local Government Grant from United States Federal Trust funds for preparation of the HSR for the Halsey House.

DISCUSSION

In November 2014, the City of Los Altos issued a Request for Proposals to develop an HSR for the Halsey House. The City of Los Altos Community Development Department selected Architectural Resources Group (ARG) to prepare the HSR.

In September 2019, the Historical Consultant completed the draft HSR and Structural Assessment report. The HSR report was prepared in accordance with the National Parks Service publication, Preservation Brief #43 (Attachment C) and the California Office of Historic Preservation HSR format instructions where applicable.

Staff request the Historical Commission review, discuss, and develop recommendations to finalize the historic structures report.

Attachments:
A. Historic Structures Report
B. Structural Assessment of the Halsey House
C. National Parks Service Publication, Preservation Brief #43

ATTACHMENT A

HISTORIC STRUCTURE REPORT - DRAFT

Halsey House

City of Los Altos | *July 2019*

Architecture
Planning
Conservation

Architectural
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Table of Contents

Introduction

Part 1: Development History

Table of Contents *continued*

Part 2: Treatment and Work Recommendations

Table of Contents *continued*

Introduction

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Section One

Study Summary

PART I: STUDY SUMMARY

INTRODUCTION

At the request of the City of Los Altos Community Development Department, Architectural Resources Group (ARG) has prepared a Historic Structure Report (HSR) for the Halsey House at 482 University Avenue in Los Altos. The Halsey House, constructed in 1923, is a City designated Historic Landmark. The Spanish Revival style residence was constructed for Theodore Vail Halsey and Emma Wright Halsey, early residents of Los Altos. Emma Wright Halsey planted dozens of redwood trees from the Santa Cruz Mountains on the property, creating what is today known as Redwood Grove.

The City purchased the Halsey property, including Redwood Grove, in 1974 for use as a nature preserve; the Halsey House has most recently been used as a Nature Center. In 2008, the City closed the building to the public and the house has since suffered from vandalism and neglect.

Set in the 6.12-acre city-owned Redwood Grove Nature Preserve, the building is one of a small number of local landmarks owned by the City. The Los Altos Historical Commission, the Friends of Historic Redwood Grove, and the Los Altos History Museum have joined the City of Los Altos in support of the rehabilitation and adaptive reuse of the Halsey House for the enjoyment of future generations. This HSR will serve as a guide for the rehabilitation and ongoing maintenance of the building.

CONTENTS OF THE HISTORIC STRUCTURE REPORT

According to National Park Service ***Preservation Brief 43,*** an HSR provides documentary, graphic, and physical information about a property's history and existing conditions. Broadly recognized as an effective part of preservation planning, an HSR also provides a thoughtfully considered argument for selecting the most appropriate approach to treatment prior to the commencement of work and outlines a scope of recommended work. The report serves as an important guide for all changes made to a historic property during preservation, rehabilitation, restoration, or reconstruction.

The contents of this HSR comply with Preservation Brief 43: The Preparation and Use of Historic Structure Reports. This HSR conveys information about the design and construction of the Halsey House in two main sections: 1) Developmental History and 2) Treatment and Use. The Developmental History section includes a historical background and context, a chronology of development and use, a physical description, a list of character-defining features and materials, and a discussion of significance.

The second section provides a comprehensive set of treatment and use recommendations for the building. The proposed treatment was developed in accordance with ***The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Properties*** (The Standards).

METHODOLOGY

The Halsey House HSR has been developed using information gathered from interviews with interested parties, archival research, and field investigation. The methodology employed for this report meets the standards and requirements set forth in the following documents:

- Preservation Brief 43: The Preparation and Use of Historic Structure Reports

Study Summary

- The Secretary of the Interior's Standards for the Treatment of Historic Properties
- National Register Bulletin 15: How to Apply National Register Criteria for Evaluation
- National Register Bulletin 39: Researching a Historic Property
- California Office of Historic Preservation Historic Structure Report (HSR) Format standards

Background Research and Data Collection

To complete the Developmental History portion of this report, ARG conducted archival research in Los Altos on May 23, 2019. This included review and collection of primary and secondary source materials at the Los Altos History Museum and the City of Los Altos Planning Division. ARG also met and corresponded with Katherine Halsey Buss, granddaughter of T.V. and Emma Wright Halsey, to collect information on the house and the Halsey family. Additional archival research was conducted in June and July 2019. Materials gathered include oral history information, historical photographs, newspaper articles, biographical information, architectural sketches, and census data.

Field Investigation and Condition Assessments

The project team, including ARG staff and our structural, mechanical, electrical, and plumbing engineering subconsultants, conducted field investigations at the Halsey House on in May and June 2019 to document existing conditions. The team examined and photographed the building's interior, exterior and surrounding site at this time.

MAJOR ISSUES IDENTIFIED

The Halsey House is generally in fair to poor condition, with many deteriorated materials and systems beyond their useful life span. PPecific areas of deterioration and disrepair are further described in the Condition Assessment section of this report, major issues for the building include:

- The sloping site and grading are trapping moisture along the west side of the building.
- The existing roof has failed and water intrusion has caused extensive damage at interior finishes.
- Vandalism has damaged windows and doors that would otherwise be in good to fair condition. Due to both vandalism and general deterioration, the building is no longer weather tight and both water intrusion and pest infestation have occurred.
- There is no accessible path of travel to, around, or within the building.
- Mechanical, electrical, and plumbing systems are at the end of their useful service life and generally not safe to use in their existing condition.

RECOMMENDATIONS FOR TREATMENT AND USE

Rehabilitation is recommended as the overall treatment approach for the Halsey House. All future work shall be carried out in accordance with The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings (The Standards). Rehabilitation could include continuing the existing/recent use of the building as a community center or nature center, or could incorporate a new use. Continuation of the existing use of the building is recommended and would include the following scope of work:

- A new landscape and civil site design for the Halsey House, including improved drainage and an accessible path of travel.
- Roof replacement
- Repairs to exterior stucco walls
- Repairs to exterior doors and windows
- Repairs to interior finishes and minor interior renovations to create an accessible path of travel and accessible restrooms.

- Installation of a fire protection system.
- Installation of new mechanical, electrical, and plumbing systems throughout the building.

See section ten, Work Recommendations and Alternatives for further discription of work recommendations and recommended maintenance tasks.

BUILDING PLAN AND ORIENTATION

Throughout this report, rooms inside the Halsey House are identified as labelled on the plan on the following page. The north elevation is the shorter side, oriented along the top of the following page, adjacent to the north terrace.

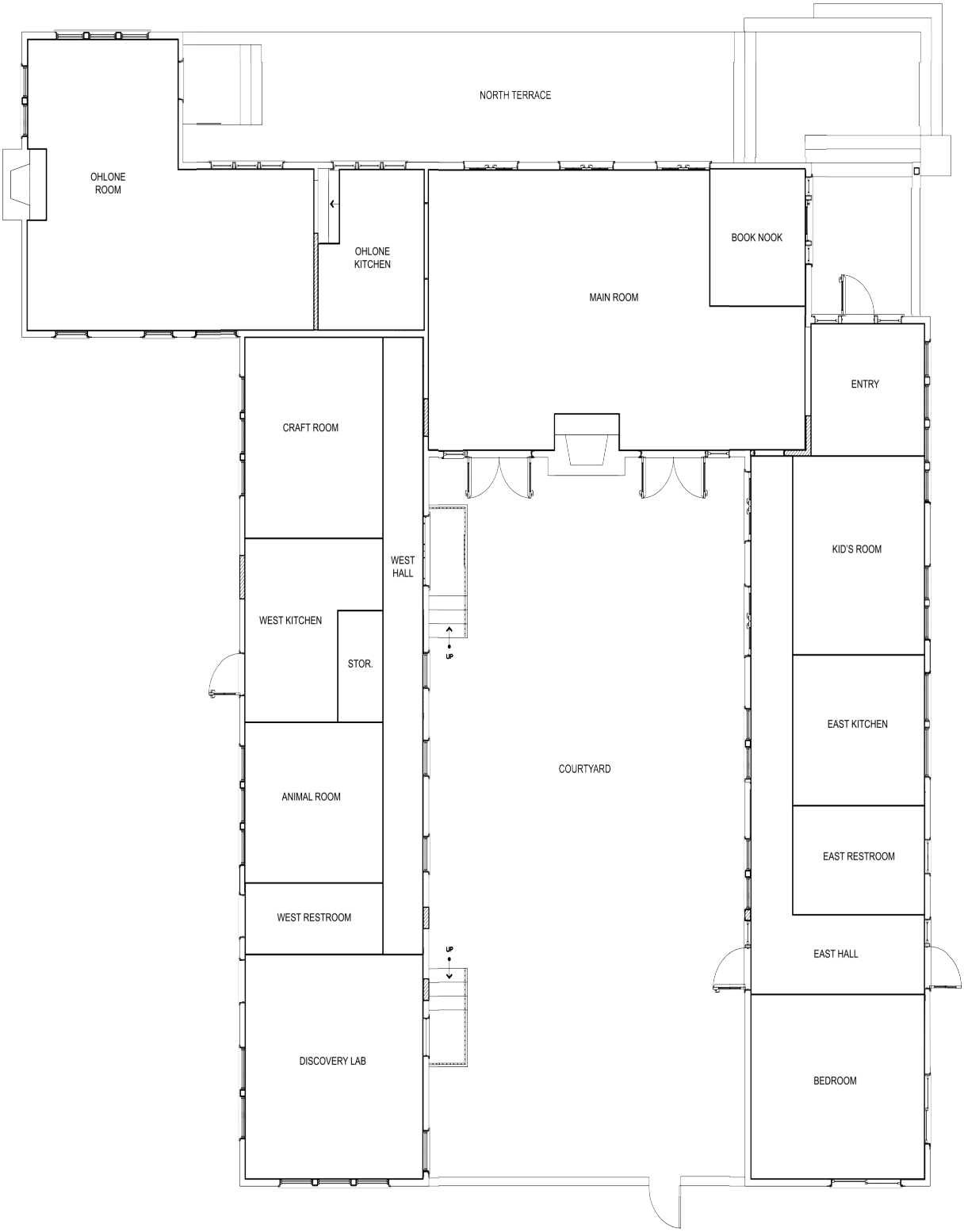

Figure 0. Existing floor plan of Halsey House (Drawing by ARG, 2019). Note that north, as referenced in the report, is up.

Part 1: Development History

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Section Three

Historical Background and Context

INTRODUCTION

The Halsey House at 482 University Avenue in Los Altos is listed in the City of Los Altos' Historic Resources Inventory as a Historic Landmark along with Redwood Grove. This chapter presents historical background information on the early development of Los Altos, the Halsey family, and the Halsey House.

LOS ALTOS[1]

Europeans first began settling in the Santa Clara Valley after Spanish explorer Don Gaspar de Portolá arrived in the area in 1769; Franciscan Friars established twenty-one missions along the El Camino Real that same year. Following Mexico's independence from Spain in 1821 and the Secularization Act of 1833, the Mexican government distributed land in the form of land grants to encourage settlement.[2]

The land grants that comprise present-day Los Altos and Los Altos Hills were awarded to citizens by the Mexican government in 1839 and 1840, respectively. The first was Rancho San Antonio, granted to Don Juan Prado Mesa in 1839, and extending from San Antonio Creek (now known as Adobe Creek) to Stevens Creek; the second was granted to Jose Gregorio and Jose Ramon in 1840.[3]

The 1848 Treaty of Guadalupe Hidalgo officially transferred the territory of California from Mexico to the United States.[4] Following the discovery of gold in California in 1848, an influx of Anglo-Americans came to the region; their presence would soon have a dramatic impact on land development in the Santa Clara Valley. American settlers first established large cattle ranches and grew wheat in the Santa Clara Valley, but after fruit producer Louis Pellier introduced the Santa Clara Valley Prune to the San Jose markets in 1856, the valley's "fruit era" was initiated.[5] Over the following decades, the ranchland that once covered the valley was slowly transformed by a booming for-profit fruit harvest and by 1890, most of the small ranches were producing fruit, including apricots, cherries, peaches, and prunes.[6]

The turn of the 20th century saw subdivision of the larger ranches in the Santa Clara Valley. Larger tracts were divided into parcels ranging in size from 40 to 100 acres and sold to individual property owners. Mrs. Sarah Winchester, widow of William Wirt Winchester of Winchester rifle fame, owned 100 acres of land that would become downtown Los Altos. The San Jose-Los Gatos Interurban Electric Railway Company purchased Mrs. Winchester's land in 1906.[7]

The Interurban Electric Railway Company purchased Winchester's property with the intention of developing a railroad and a town site then called "Banks and Braes." In 1907, the Peninsular Railway, a subsidiary of Southern Pacific Railroad, acquired the land "with the stipulation that the Altos Land Company [established in 1907] would lay out the lots for the townsite." The name of the town was changed to Los Altos that year.[8] Paul Shoup, president of Southern Pacific Railroad, was also founder and director of the Altos Land Company and the University Land Company (both incorporated on October 19, 1907). Shoup later

1 This section contains a brief history of Los Altos' early development, summarized from the City of Los Altos Historic Resources Inventory report completed for the City of Los Altos by Circa: Historic Property Development in April 2011.
2 City of Los Altos, City of Los Altos Historic Resources Inventory, Los Altos, April 2011: II-11.
3 Ibid, II-11.
4 Ibid, II-11.
5 Ibid, II-12.
6 Ibid, II-12.
7 Ibid, II-6 and II-13.
8 Ibid, II-6 and II-15.

became known as the "Father of Los Altos" for his essential role in establishing the City of Los Altos. Paul Shoup and his brother, Guy Shoup, an attorney for Southern Pacific, purchased a railroad right-of-way "from Palo Alto through Los Altos to run a connecting line through Los Gatos and points south."[9] The primary objectives of both the University Land Company and the Altos Land Company were the layout and sale of lots in nascent town of Los Altos.[10] According to the City of Los Altos Historic Inventory Report:

> [The rail line through Los Altos was dedicated on April 12, 1908] when two Southern Pacific steam trains brought prospective lot buyers to a land sale and barbeque in Los Altos. Regular service was established on April 19, 1908 with five trains per day passing through Los Altos. With the establishment of this regular rail service, more families could move outward into the 'country,' an many promotional brochures hailed this new lifestyle available to the middle-class. Lot prices ranged from $400 to $650 and homes could be built from $2,000 to $4,000. This era marks the beginning of small fruit farmers occupying 10 acre lots. With the movement of families to the Los Altos Area, comes the development between 1910 and 1930 of many small subdivisions and the establishment of additional roadways.[11]

The evolution of Los Altos as a railroad-centric community was typical of towns across America that were transitioning away from agriculture and towards industrial and urban development in the late 19th and early 20th centuries. In 1913, the Architectural Bureau of Southern Pacific installed a Craftsman style train depot at Los Altos as a symbol of the city's burgeoning growth and prosperity.[12]

Residential Development

In 1911, Los Altos boasted only fifty homes. Though the railroad prompted some early residential development in the area, the most notable period of early growth in Los Altos occurred in the 1920s and 1930s. A more complete roadway system had been developed by that time, as had the downtown business district, prompting increased settlement and residential construction.[13] The prevailing architectural styles found in Los Altos during this period included:

- Bungalows
- Mission
- Period Revival (Tudor, Colonial, Provincial)
- Prairie
- Italian Villa
- Spanish Colonial Revival[14]

Among the early neighborhoods in Los Altos was the University Avenue district, which was home to the city's most well-to-do citizens. Many of the homes in this neighborhood were architect-designed and incorporated a variety of architectural styles, with varied lot sizes and scales unified by a consistent street layout.[15] A second district, Los Altos Park, was subdivided in 1925 and consists mainly of small houses on small, evenly sized lots in a variety of architectural styles. A third district, Loyola Corners, was purchased and annexed from the larger Los Altos Park for the development of the Los Altos Country Club in 1926.[16]

HALSEY FAMILY AND LOS ALTOS ESTATE

The Halsey House in Los Altos was constructed in 1923 for Theodore Vail and Emma Wright Halsey. Before her marriage to T.V. Halsey, Emma Halsey was Emma Minerva

9 Ibid, II-15.
10 Ibid, II-15.
11 Ibid, II-15.
12 Ibid, II-13 to II- 15.
13 Ibid, II-8.
14 Ibid, II-8.
15 Ibid, II-7.
16 Ibid, II-8.

Wright, born in 1880 to William Hanford and Myra Elura (Quinby) Wright. T.V. Halsey was born in 1873 to Anthony Post Halsey and Emma (Vail) Halsey.

William Hanford Wright (b. 1850 – d. 1924) came to California in 1868 and settled with his parents and nine siblings on 48 acres of land on Summit Road in the Santa Cruz Mountains.[17] William's parents, Rev. James Richards Wright and Sarah Holmes (Vincent) Wright, were California pioneers that established a ranch and later a hotel and summer resort for tourists known as Arbor Villa south of present-day Los Gatos. The community around their ranch was officially known as Wrights after a post office was established in the local rail station in 1879.[18] William later became president of the San Jose Fruit Packing Company, the predecessor to Del Monte.[19] Myra Elura (Quinby) Wright (b. 9 August 1854 – d. 10 October 1944) was born in San Jose, attended the Normal School there, and worked as a schoolteacher in the Santa Cruz Mountains before marrying William H. Wright around 1877.[20]

William H. and Myra E. Wright moved to San Francisco around 1900 and had a house on Green Street. By this time, William Wright was working as a contractor in the dredging business. He later became president of Bay and River Dredging Company.[21] Around 1912, William Wright requested that his daughter, Emma M. Wright, then about 32 years old, drive down the Peninsula and find the family "a place in the sunshine." He requested that the property have creek and some redwood trees. The six-acre property that Emma found in Los Altos contained a section of Adobe Creek, some willow trees on the creek banks, live oaks, and one redwood tree. A small two-bedroom summer cottage had been built on the property. Soon thereafter, William and Myra Wright purchased the property for use as their summer retreat.[22]

Emma M. Wright married Theodore Vail Halsey, a telephone executive with San Francisco's Pacific Telephone and Telegraph Company in 1915. Theodore Halsey later served as the first president of the Philippine Long Distance telephone Company, and played a significant role in the introduction and development of telephone systems in the islands since 1906.[23] Emma and Theodore Halsey's wedding took place in front of an oak tree on the Los Altos property owned by Emma's parents. William and Myra Wright gave the Los Altos property to Emma and Theodore as a wedding present.[24]

Theodore and Emma Wright Halsey had two children, Theodore Vail, Jr. (born c.1917) and Myra Eugenia (born c.1919). The family lived at 1170 Green Street in San Francisco with Emma's parents before they moved to Los Altos in 1923. The Halseys had demolished the old summer cottage on the property and constructed a new Spanish

17 Stanford B. Vincent and Allen Rountree. Sunnyvale Historical Society, "Pen Pictures From the Garden of the World 1888." Accessed 2 July 2019. https://www.findagrave.com/memorial/151139271/james-richards-wright

18 Stanford B. Vincent and Allen Rountree. Sunnyvale Historical Society, "Pen Pictures From the Garden of the World 1888." Accessed 2 July 2019. https://www.findagrave.com/memorial/151139271/james-richards-wright

19 Robin Chapman. "Santa Clara Valley Lives: Revisit the story of Halsey House and its Pioneering Owners," Los Altos Town Crier, 14 March 2018. Accessed 11 July 2019. https://www.losaltosonline.com/news/sections/community/177-features/57335-santa-clara-valley-lives-revisit-the-story-of-halsey-house-and-its-pioneering-owners

20 Katherine Halsey Buss, email to author, 28 May 2019; Ancestry.com. California, Death Index, 1940-1997 [database on-line]. Provo, UT, USA: Ancestry.com Operations Inc., 2000.

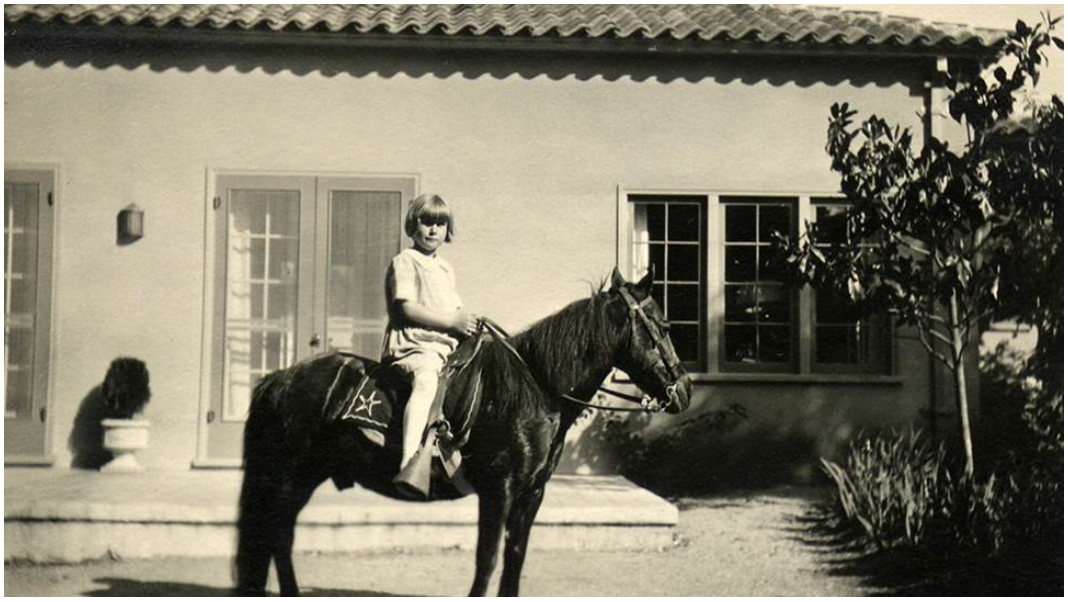
21 Ancestry.com. 1910 United States Federal Census [database on-line]. Lehi, UT, USA: Ancestry.com Operations Inc., 2006.; Katherine Halsey Buss, email to author, 28 May 2019; Crocker-Langley San Francisco City Directories, (San Francisco: H.S. Crocker Co.), 1914-1919.

22 Katherine Halsey Buss, email to author, 28 May 2019.

23 Lewis Francis Byington and Oscar Lewis, Supervising Eds. The History of San Francisco, California. (Chicago-San Francisco: The S.J. Clark Publishing Company, 1931). Accessed 27 June 2019. http://www.onlinebiographies.info/ca/sf/halsey-tv.htm

24 Katherine Halsey Buss, email to author, 28 May 2019.

Theodore Vail and Emma Wright Halsey's wedding on Los Altos property, 1915 (Los Altos History Museum).



Myra Eugenia Halsey in front of Halsey House, c.1920s (Los Altos History Museum).

Revival style residence.[25] In 1928, they constructed an addition to the house's west corner to accommodate Emma Halsey's mother, Myra E. Wright, who came to live with the family following the death of her husband in 1924.[26]

After the family had established in Los Altos, the willow trees along Adobe Creek had become diseased and were dying. To remedy the problem, Emma Halsey and her Japanese gardener Omori, removed the willows and planted dozens of redwood trees on the property. Emma and Omori transplanted the redwoods from the Wright family property in the Santa Cruz Mountains. Emma's Aunt Clara and Uncle Elizur, siblings of her father, were still in residence at the Wright family ranch on Summit Road in 1923, and they invited Emma to take as many redwood seedlings as she wanted from their property. Emma and Omori collected and transported truckloads of redwood seedlings from the Wright property to Los Altos where they planted them along the creek, creating what is today known as Redwood Grove.[27]

Omori was the Halsey's family's first gardener, and worked at the Los Altos property in the 1920s. When he retired and moved back to Japan, he recommended that Emma hire Yoshio (Frank) Hongo as his replacement.[28] Census records indicate that Frank Hongo, his wife Takiyo, and his four children lived on or adjacent to the Halsey property by the 1940s. Emma Halsey worked with Omori and later Frank Hongo to develop extensive gardens on the property

Emma Halsey and Omori, c.1920s (Los Altos History Museum).

through the 1920s, 1930s and early 1940s.[29] Plantings included rhododendrons, daffodils, roses, lavender, wisteria, azaleas, ferns, and fruit trees (apple, pear, apricot, cherry, almond, persimmon, and walnut). They placed small bridges across Adobe Creek and built a croquet court, which was later replaced with a tennis court.[30]

Theodore and Emma's daughter, Myra Eugenia Halsey, married Robert Rumsey Buss in the gardens of the Halsey House on August 12, 1939. The couple were wed in the same place as Emma's parents had been married in 1915. As reported by the San Francisco Examiner:

> At a garden ceremony at the Theodore V. Halsey estate in Los Altos, Myra Eugenia Halsey became the wife of Robert Rumsey Buss Saturday, August 12, in the presence of a small group of close friends and relatives.

25 Ancestry.com. 1920 United States Federal Census [database online]. Provo, UT, USA: Ancestry.com Operations, Inc., 2010. Images reproduced by FamilySearch; Katherine Halsey Buss, email to author, 28 May 2019. Note: the architect and builder of the Halsey House are unknown.
26 Friends of Historic Redwood Grove," History of the Halsey House and Redwood Grove," Accessed 11 July 2019. http://www.friendsofhistoricredwoodgrove.org/
27 Friends of Historic Redwood Grove," History of the Halsey House and Redwood Grove," Accessed 11 July 2019. http://www.friendsofhistoricredwoodgrove.org/
28 Los Altos History Museum Oral History Program, "Eugenia Halsey Buss Interview, August 26, 2001," interview by Don McDonald, transcribed from tape recording.
29 Ancestry.com. 1940 United States Federal Census [database online]. Provo, UT, USA: Ancestry.com Operations, Inc., 2012.
30 Los Altos History Museum Oral History Program, "Eugenia Halsey Buss Interview, August 26, 2001," interview by Don McDonald, transcribed from tape recording; Hand-drawn map by Helen Halsey from Katherine Halsey Buss, email to author, 30 May 2019.

Myra Eugenia Halsey and Robert Rumsey Buss wedding, August 12, 1939 (Los Altos History Museum).

> The bride wore a gown of lace and new with a full skirt that extended into a train which was carried by young Ralph Deur, relative of the bride, and little Marilyn Buss, a niece of the bridegroom.
>
> The newlyweds, who both attended Stanford University, will make their home in Palo Alto when they return from their honeymoon.[31]

Myra Eugenia stopped using her given first name after childhood and went by Eugenia Halsey Buss once she was married.[32] Robert Buss graduated from Stanford University with a Ph. D. in electrical engineering in 1939; Eugenia Halsey Buss also graduated from Stanford earlier that year.[33]

In 1942, the Hongo family was sent to Heart Mountain Relocation Center in Wyoming, one of a number of camps used for the internment of Japanese Americans following the bombing of Pearl Harbor in 1941. In 1943, Theodore Vail Halsey passed away, leaving Emma Halsey with her mother and two children at the Los Altos estate. Following the loss of both the Hongo family and her husband, Emma found the house to be too lonely. In 1945, she sold the property to the Bessey family for $25,000 and moved to Palo Alto.

(L to R) Emma E. Wright, Myra Eugenia Halsey, Emma Halsey, T.V. Halsey, and T.V. Halsey Jr., c.1930 (Los Altos History Museum).

Courtyard gardens prior to extension of east wing (Los Altos History Museum).

31 "Myra Halsey is Wedded to Robert Buss," ***San Francisco Examiner,*** 20 August 1939.
32 Katherine Halsey Buss, email to author, 28 May 2019.
33 "Myra-Gene Halsey Becomes Bride of R.R. Buss, Saturday," ***Los Altos News***, 17 August 1939.

After acquiring the land, the Besseys constructed six small houses on the property to rent during the wartime housing shortage; one of these cottages remains in the site today.[34]

In 1974, the City of Los Altos purchased the former Halsey House and surrounding property for recreational and educational use. The house itself functioned as a nature center for many years, serving summer camps and school groups. It was also used as a community meeting center. The City of Los Altos closed the house to public use in 2008

SPANISH REVIVAL STYLE

The Spanish Revival style emerged as a popular style for domestic architecture in America after its debut at the Panama-California Exposition held in San Diego in 1915. American architect Bertram Grosvenor Goodhue designed the exposition, which ushered the style into widespread adoption throughout the former outposts of New Spain, particularly in California and Florida, but also in Texas and Arizona. The style reached its zenith in the 1920s and early 1930s when many planned communities and neighborhoods designed in the Spanish Colonial style emerged in both Florida and Southern California. The style effectively went out of popular favor in the 1940s.[35]

The overall style of the Spanish Revival makes explicit reference to the Mission architecture of colonial New Spain, but many of its decorative gestures borrow from eras across the history of Spanish architecture. Typical character-defining features include low gabled roofs clad in red Spanish clay tiles, minimal eave overhangs, asymmetrical primary facades, exterior walls finished with textured stucco, and arched window and door openings. Other character-defining features include iron grilles and decorative ironwork, balconies and balustrades, and doorways emphasized by columns, pilasters, tiles, heavy wood paneled doors, or elaborately carved stonework.[36]

34 Don McDonald, "For the Oral History File: HALSEY, Cross-file: BUSS, REEDWOOD GROVE," undated summary of oral interview with Eugenia Halsey Buss on August 26, 2001. Los Altos History Museum Archives.
35 Virginia Savage McAllister, "Spanish Revival," in A Field Guide to American Houses, 2nd ed. (New York: Knopf, 2013): 522, 534.
36 McAllister, "Spanish Revival," 520-22.

Section Four

Chronology of Development and Use

CHRONOLOGY OF HISTORIC EVENTS[1]

1912	Per her father's request, Emma Minerva Wright (later Emma Wright Halsey) locates the 6.12-acre property at Los Altos, which includes a small cottage, one redwood tree, and a section of Adobe Creek. The family soon purchases the property for use as a summer retreat.
1915	Theodore Vail Halsey and Emma Minerva Wright wed at the Wright's Los Altos property; Emma's parents give the property to the newlyweds as a wedding gift.
1923	Theodore Vail Halsey and Emma Wright Halsey tear down the existing cottage and build a new Spanish Revival Style permanent residence at Los Altos; the couple move to Los Altos with their two children, Theodore Vail, Jr. and Myra Eugenia. Emma Wright Halsey and her Japanese gardener Omori plant redwoods along Adobe Creek that they brought from her family's property in the Santa Cruz Mountains.
1928	Myra E. Wright, Emma Wright Halsey's mother, moves to Los Altos to live with T.V. and Emma Wright Halsey; an extension is added to the west corner of the Halsey residence to accommodate her sleeping quarters.
1939	T.V. and Emma Wright Halsey's daughter, Myra Eugenia Halsey, weds Robert Rumsey Buss in the gardens of the Halsey estate in Los Altos.
1943	T.V. Halsey Sr. dies at age 69 (b. 12 April 1873 - d. 10 March 1943)
1945	Emma Wright Halsey sells the Los Altos property to the Bessey family for $25,000.
1974	The City of Los Altos purchases the former Halsey estate for use as a nature preserve and for recreation programs.
1975	Emma Wright Halsey dies at age 95 (b. 1880 - d. 1975)
1980	Redwood Grove Master Plan adopted to guide future use and preservation of the property.

[1] Friends of Redwood Grove, "History of Halsey House and Redwood Grove," http://www.friendsofhistoricredwoodgrove.org/ (accessed 11 July 2019; U.S. Federal Census Records; email communication from Katherine Halsey Buss, May –June 2019.

1981	(May 26) Halsey House designated a historic landmark by the Los Altos City Council, listed in the Los Altos Historic Resources Inventory.
2008	The Halsey House was closed to public use by the City of Los Altos. The building's state of disrepair was cited as the reason for the closure.
2009	City of Los Altos contracts with a local environmental nonprofit to restore Redwood Grove's ecosystem through invasive plant removal, introduction of native plants, and restoration of eroded creek banks.
2010	City of Los Altos acquires acreage connecting Redwood Grove and Shoup Park, providing a public trail along Adobe Creek.
2013	Los Altos City Council adopted Capital Improvement Project for the Halsey House. This entails an evaluation of the costs and benefits of renovating the Halsey House vs. demolishing it and replacing it with a new facility.
2014	Mark Sandoval Architects, Inc. selected to complete evaluative study on Halsey House for City of Los Altos.
2015	Mark Sandoval Architects, Inc. completes a study entitled "Feasibility Study for the Adaptive Reuse of the Historic Halsey House or Demolition and Construction of a New Nature Center at Redwood Grove Park 482 University Avenue, Los Altos, California," for the City of Los Altos Public Works Department in October 2015. This report provides various development options for the site, but ultimately determines that the Halsey House could be rehabilitated for continued use.

CHRONOLOGY OF PHYSICAL CONSTRUCTION[2]

1923	Halsey residence is constructed and former summer cottage demolished.
1928	Addition to west corner of house constructed for Emma's Mother, Myra E. Wright. Tinted and scored steps (similar to original terrace) added at entrance to addition.
2003	40 gallon hot water heater replaced (permit #69186)
2010	Seismic gas valve installed (permit application #656349)

[2] City of Los Altos Planning Division records; email communication from Katherine Halsey Buss, May –June 2019.

Chronology of Development and Use

A number of undated and unrecorded alterations are evident from on-site observations and comparison of existing conditions with historic photographs. These include the following:

- Concrete sidewalk linking north terrace to 1928 addition entrance
- South end of east wing extended (possibly for cook's quarters); small window enlarged and additional window added; arched courtyard entrance and door moved to south wall.
- Sunken courtyard infilled with concrete, plantings and stone edging removed; stepped area at south end (around benches and fountain) modified to existing rubble paving
- Concrete stair added to northernmost courtyard-facing French doors in west wing, replacing original balconette railing
- Wood framed fence structure added to southwest corner of courtyard
- Original exterior light fixtures removed
- Installation of two kitchens in the southwest wing of the residence
- Vandalism, including broken windows and interior graffiti, occurred throughout the building.

Section Five

Physical Description

SITE

The residence at 482 University Avenue, also known as the Halsey House, sits south and west of Foothill Expressway and downtown los Altos, in the Redwood Grove Nature Preserve. Footfaths and wooden walkways wind through the preserve, linking the Halsey House at the south to the Garden House rental facilities and Shoup Park at the north. Adobe Creek meanders through the heavily wooded site to the north of the residence. Note: See Appendix C for more existing conditions photographs.

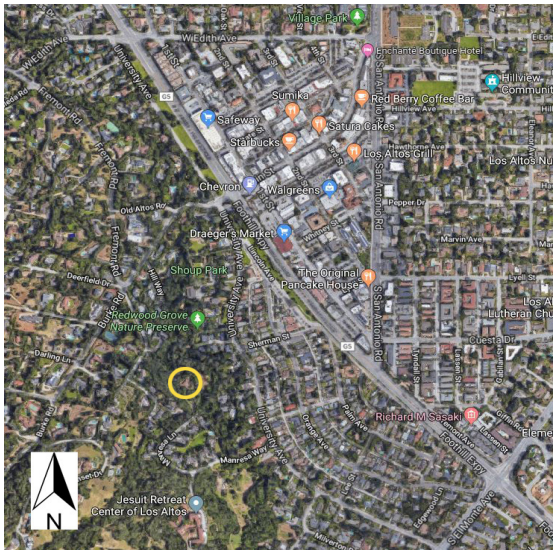


Figure 1. Aerial view of central Los Altos, location of Halsey house indicated with yellow circle (Google maps, amended by author).

EXTERIOR

The Spanish Revival style residence is generally U-shaped in plan and sits on a concrete foundation. Its wood frame wall construction is clad with stucco, and its converging hipped roof is covered in S-shaped Spanish clay tiles. The primary window type found throughout the house are three-over-one wood sash windows with ogee lugs; a small number of one-over-one wood double hung windows, and four pane wood casement windows are also present.

Figure 2. Aerial detail of Halsey House (Google maps, amended by author).

Figure 3 . Primary entry porch (photo: ARG, May 2019).

A stepped concrete terrace provides access to the primary entry porch at the north corner of the house; a wood trellis structure with a corrugated plastic roof shelters the porch. The concrete at the porch and terrace has a pinkish tint and is stamped to resemble square tiles. The terrace extends along the length of the north elevation connecting the primary entry porch to a secondary entrance at the house's west corner. Two doors open onto the primary entry porch: one is a set of French doors, and the other a single-leaf, multi-pane glazed door; both doors have multi-pane sidelights. Three sets of French doors open onto the terrace along the north elevation.

Figure 4. Concrete porch and terrace (photo: ARG, May 2019).

Figure 5. North elevation, 1929 addition at right (photo: ARG, May 2019).

At the west corner of the residence is an L-shaped addition that interrupts the plan's symmetry. This addition was constructed in 1928 to accommodate Emma Wright Halsey's mother, Myra E. Wright, who moved in with the family following the death of her husband, William H. Wright, in 1924. The addition has a separate entrance that opens onto the north terrace, and a brick chimney that attaches to the rear (west) wall of the addition. The remainder of the west elevation features windows of varying configuration, and a shed roofed extension adjacent to an exterior door.

Figure 6. Courtyard (photo: ARG, May 2019).

The south façade provides the access to the paved open-air courtyard, which is enclosed at this elevation by a stucco wall with an arched wooden doorway. A stucco-clad chimney attaches to the south wall at the north end of the courtyard. Two sets of French doors with sidelights flank the chimney. Two sets of French doors also access the courtyard from the east wall, and one set of French doors and a single multi-pane glazed door access the courtyard from the west wall. Concrete steps with simple metal railings access the doors on the west wall. A mix of three-over-one and smaller one-over-one wood windows also face the courtyard along these sidewalls.

The courtyard paving consists of tinted and scored concrete at the north end of the courtyard, plain concrete paving

flanked by rectangular planting areas in the center, and a rubble paved area at the south end, adjacent to the concrete seat walls that flank the wall-mounted fountain. The seats and fountain attach to the stucco-clad wall enclosing the south end of the courtyard. An arched opening with a wood panel door is set into this wall, providing access to the courtyard from the rear yard of the house. A set of curved stone stairs step down from the rear yard to the doorway.

Figure 7. Southeast (left) and northeast (right) elevations, looking west (photo: ARG, May 2019).

The east exterior wall consists of one set of French doors and four window openings of varying configuration. A brick footpath runs the length of this elevation, but is interrupted by a modern concrete sidewalk leading to the French doors near the rear of the house.

INTERIOR

In recent years, the interior of the residence has been subject to damage by vandals, pest infestations, and neglect. However, the basic floor plan of the original residence is intact and generally consists of a living wing and a bedroom wing connected by a large living room. When occupied by the Halsey family, the east wing housed the dining room adjacent to the front entrance, the kitchen and pantry areas, and the cook's quarters at the rear of the wing. The living room connected the dining room to the west wing of the house, which held the family's sleeping quarters and a library. The library was at the entrance to Myra Wright's bedroom addition at the western corner of the house. Down the hallway were two bathrooms, one for the men and one for the women, and bedrooms for T.V. and Emma Halsey and their two children.

Figure 8. Tiled fireplace in former living room (photo: ARG, May 2019).

The house has wood floors throughout, some of which have been covered with carpet or vinyl tile. The wood framed walls and ceiling are finished in lath and plaster. Simple, flat wood trim frames window and door openings, and lines the base of the walls throughout the residence. Some rooms feature molded picture rail trim or simple crown molding. Many single panel wood interior doors remain intact, some with original glass knobs and other hardware. The living

room at the center of the house features a brown tile clad fireplace, and the addition at the west corner of the house features a brick fireplace with a painted wood mantel.

Drop ceilings, non-original floor coverings, kitchen improvements (including two additional kitchens in the southwest wing), and other later interventions have obscured original materials, but the basic structure of the residence and its original features remain intact. Please see Chapter 4 (Chronology of Development and Use) and Chapter 7 (Condition Assessment) for additional information on alterations and existing conditions.

Section Six

Evaluation of Significance

SIGNIFICANCE SUMMARY

The Halsey House was constructed in 1923 for Theodore Vail and Emma Wright Halsey and is a City designated Historic Landmark. The property is significant for its association with the Halsey family, early Los Altos residents, and as a good local example of the Spanish Revival style of architecture popular in California during the early 20th century. The Period of Significance is 1923-1945, beginning with the construction of the Halsey House and ending when Emma Halsey sold the propoerty in 1945.

CHARACTER-DEFINING FEATURES

A character-defining feature is an aspect of a building's design, construction, or detail that is representative of the building's function, type, or architectural style. Character-defining elements include the overall shape of the building, its materials, craftsmanship, decorative details, interior spaces, and features, as well as the various aspects of the building's site and environment.

The character-defining features of the Halsey House reflect the Spanish Revival style in which it was designed and the features present during the time the house was occupied by the Halsey family.

Exterior Materials and Features

- Overall form and massing (low, horizontal emphasis)
- Converging hipped roof clad in Spanish clay tiles
- Stucco exterior cladding
- Three-over-one wood sash windows with ogee lugs, one-over-one wood double hung windows, and four pane wood casement windows
- Multi-light glazed french doors with sidelights
- Tinted and stamped concrete at front entry porch and terrace
- Enclosed courtyard with tinted and stamped concrete paving (north end), built-in bench seating, and fountain area, concrete stairs and metal railing at south end of west wing
- South courtyard wall with arched wood door

Interior Materials and Features

- Brick and tile hearth/fireplaces (2)
- Wood floors
- Plaster walls and ceilings
- Wood panel interior doors
- Original door and window hardware
- Original wood door and window trim
- Original wood base trim

EVALUATION OF SIGNIFICANCE

This section explains the significance ratings for the Halsey House's exterior and interior spaces and features as related to the building's overall historic context and character. For a historic resource to retain its significance, its character-defining features and spaces must be retained to the greatest extent possible. An understanding of a building's character-defining features is a crucial step in developing a rehabilitation plan that incorporates appropriate levels of restoration, rehabilitation, maintenance, and protection.

Evaluation of Significance

Management and treatment approaches may vary based on the relative level of importance of spaces. This section defines significance ratings and identifies areas by hierarchical importance.

SIGNIFICANCE RATING METHODOLOGY

Defining and assigning significance ratings to important spaces requires consideration of multiple factors: amount of original historic fabric, quality of materials and finishes, extent of prior modification, levels of integrity, and expression of original design intent.

The Halsey House's significance ratings fall into the following three categories: Primary, Secondary, and Non-Contributing.

Primary

Spaces and features rated Primary are the major components of interior areas or the exterior that exemplify the essence of the building's design and the reason for its significance. They are the areas that retain the highest degree of historic materials and features and are essential to establishing the character of the historic resource. Considered the building's most historically or architecturally important elements, these features must be retained. The exterior form and materials of the Halsey House are considered the only Primary features remaining.

Secondary

Secondary areas enhance the understanding of the overall character and importance of the building, its original design and historic contexts, but their modification over time has diminished their integrity. Alteration within these spaces may be necessary in the future to accommodate programmatic or building system requirements; however, change to these areas should be minimized. Secondary elements include modified areas of the building that still retain notable character-defining features reflecting the original design, including the main room, the Ohlone room, and the various rooms that were originally bedrooms but are now called the "Discovery Lab" or "Office".

Non-Contributing

Non-Contributing areas include spaces extensively altered after the period of significance or later additions that do not contribute to the historic character of the building. These areas have been modified over time to meet the use requirements of the building. Further alteration of these areas should focus on retaining the historic spatial organizations, including any remaining historic room/wall configurations. Alterations of these areas to return to original materials and/or detailing should be undertaken when the result will protect or enhance the overall historic character of the building. At the Halsey House, the kitchens and bathrooms are all non-contributing areas.

Section Seven

Condition Assessment

Existing exterior and interior material conditions at the Halsey House were surveyed on May 23, 2019 to determine the overall conditions of building materials and features, and to identify areas of extant historic fabric. The scope of the existing conditions assessment was limited to visual inspection and did not include any materials testing or destructive investigation. The walls, ceiling, and roof were visually inspected from the ground only. All of the windows and doors were covered with plywood at the exterior, meaning interior light was limited and visual inspection of doors and windows occurred primarily at the interior side.

Many individual materials and features have been given overall condition ratings of good, fair, or poor. Good condition indicates that the material does not show signs of active deterioration and is not currently in need of repair. Materials identified as being in fair condition exhibit active deterioration, but in limited quantities or locations. Poor condition means the material or feature will require extensive repair or possibly replacement in kind. The historic materials at the Halsey House are generally in fair to poor condition.

SITE AND EXTERIOR FEATURES

Grading and Site

The Halsey House is set on a sloping site with water directed toward the west/southwest side of the building. Plant growth and tree duff adjacent to the building further contribute to excess moisture retention at grade which in turn has caused biological growth to form at the base of the exterior stucco walls. Coir rolls are installed along the length of the west elevation as a stopgap measure to prevent soil erosion and excess moisture infiltration caused by improper grading.

There is no accessible path of travel to or around

View of north elevation looking west. Note the lack of handrails at both sets of stairs (ARG, 2019).

Plant growth along west elevation (ARG, 2019).

Coir rolls along west elevation (ARG, 2019).

Biological growth along base of exterior wall at east elevation (ARG, 2019).

Concrete path at the east elevation (ARG, 2019).

Detail view of brick path at east side of building. Note the soil erosion and uneven surface (ARG, 2019).

Paint stain at the north terrace stairs (ARG, 2019).

the building. Primary access to the interior is gained from a set of original concrete stairs located at the north terrace. These stairs lack handrails. Two sets of concrete stairs provide entry into the house from the courtyard at the west. The wrought iron handrails exhibit significant corrosion and lack compliant extensions. Exterior doors are typically elevated above exterior grade which further contributes to a lack of universal access.

Along the east elevation, a non-original concrete path adjoins a brick path and leads to the single exterior door on this side of the building. It is unknown when these paths were installed. While the concrete path is in overall good condition with some minor accumulation of tree duff present, the brick path is in fair to poor condition. This path is overgrown with plants, some pavers have settled creating an uneven walking surface, and there is significant soil erosion along and adjacent to the path.

North Terrace

The concrete terrace at the north elevation is in overall good condition. Minor deterioration includes staining and biological growth due to an accumulation of tree duff and what appears to be a paint spill. Material deficiencies include minor spalling and limited loss of material. A section of non-original concrete pavement links the original north terrace and the original exterior concrete stairs leading to the Halsey Family Room. It is unclear when this section of

pavement was added. While original portions of the north terrace and associated stairs are distinguished by a stamped grid pattern, the newer concrete is not stamped.

ROOF

Roofing

The low-pitched roof is covered with clay tiles that appear to match the roofing visible in historic photographs. From visual inspection and available records the house has never been re-roofed. The historic clay tiles should be reused during any future roofing projects. Inspection of the interior ceilings and walls revealed areas of water damage which indicates that the roof is no longer weather-tight.

The clay tiles are in overall fair condition, with what appears to be an accumulation of dirt and some biological growth particularly at the west elevation where several mature trees overhang the roof. There is also a heavy accumulation of tree debris and some discarded material on the roof. Some clay tiles are missing and should be replaced in-kind. The multiple layers of flashing at the brick chimney are not fully secured and are irregular in appearance.

An original wood pergola exists at the north terrace main entry. The painted wood structure is in good condition with no visible signs of deterioration. A corrugated plastic sheet covers the structure and pitches south toward the building where an aluminum gutter collects rainwater and directs it to a single rain leader at the northeast corner. The corrugated plastic is covered in biological growth with a heavy accumulation of dirt.

The metal roof gutters and rain leaders are generally in fair condition with some minor corrosion present. There is a section of gutter missing along the east elevation. Some of the rain leaders are not secured to the exterior wall as the bracket fasteners are either missing or corroded and some of the rain leaders exhibit corrosion and damage at grade. Corrosion is present at the gutter straps along the north elevation.


Clay tile roof (left); metal flashing at west chimney (right); (ARG, 2019).

Corrugated plastic roof at pergola (ARG, 2019).


Missing segment of roof gutter (left); damaged rain leader (right); (ARG, 2019).

Major stucco spall at the base of the northeast corner (ARG, 2019).

Crack along the base of the north elevation at the Main Entry (ARG, 2019).

Remains of ivy growth along the south elevation (ARG, 2019).

Dissimilar paint colors along the south elevation (left); biological growth at the west chimney (right); (ARG, 2019).

EXTERIOR WALLS

Stucco Walls

The stucco walls are in fair condition overall with some cracking and spalling present at all elevations. Major cracking and some material loss are present at the base of the northeast wall, beneath the windowsills at the south end of the west elevation, and where the low wall meets the house along the south elevation. Moderate biological growth is typical at all elevations and is heaviest at lower wall sections where plant growth and debris accumulate against the building.

Previous ivy growth is apparent at the east and south elevations where the remains of rootlets are still present along most wall surfaces. Removal of this plant matter typically results in loss of paint coatings.

Along the south elevation, the top of the low wall of the courtyard is covered in heavy biological growth due to moisture accumulation and shade produced by a mature overhanging tree. The paint coating along the south elevation is inconsistent with a dissimilar yellow paint coating a portion of the western section. Additionally, the arched wood door at the south wall of the Courtyard is significantly rotted at the base.

Brick Chimney

The brick chimney at the west appears to be in fair condition overall at the exterior. There is significant biological growth at the base and along the horizontal surfaces. The mortar appears to be in good condition overall and there are no loose or decaying bricks.

Windows

The Halsey House retains its historic wood windows throughout. They are generally in good condition with damage limited to glazing as a result of vandalism. One of the sash cords for the southernmost double-hung window in the Entry is damaged and requires replacement. Paint finishes require renewal throughout. Glazing is typically edged with excess paint and should be cleaned when the windows are rehabilitated.

Exterior Doors

The historic wood exterior doors are intact and in good condition overall. Similar to the windows, damage is primarily the result of previous vandalism and is mostly limited to broken glazing. Significant damage is isolated to areas where previous break-ins occurred. Portions of the muntins and frame are missing from the two pairs of French doors in the Main Room and a pair of French doors in the Discovery Lab. Paint finishes throughout require renewal and intact glazing should be cleaned to remove excess paint.

Typical original double-hung window in the Animal Room (left); damaged sash cord at Entry (right); (ARG, 2019).

Typical original French doors in the Main Room (left); damaged exterior door at the East Kitchen (right); (ARG, 2019).

INTERIOR FEATURES AND FINISHES

Ceilings

The ceilings throughout are in fair to poor condition. There are three ceiling types present: dropped acoustic tile, drywall with a knockdown plaster finish, and original plaster and lath. The majority of the ceilings feature a textured finish with the exception of the Entry and Kid's Room which feature a smooth plaster finish.

There is water damage visible at the East Restroom and the Discovery Lab. At the East Bathroom there is significant loss of the plaster finish which has exposed a large area of the

Water damage and exposed lath in East Restroom (ARG, 2019).

Delamination of plaster at the Discovery Lab (ARG, 2019).

Missing section of acoustic tile with underlying damaged plaster and lath in the Main Room (ARG, 2019).

Missing drywall in the Craft Room (ARG, 2019).

Missing drywall in the East Kitchen (ARG, 2019).

lath below. There are significant areas of delamination and sagging of the plaster in the Discovery Lab.

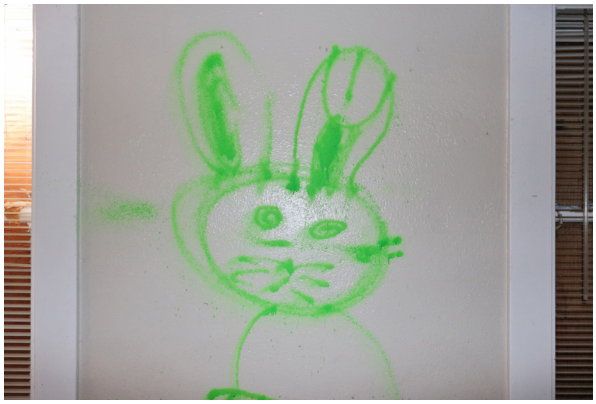
Dropped acoustic tile is present in the Main Room, Ohlone Room and East Kitchen. Many tiles are missing or damaged, exposing the original plaster ceiling. In the Main Room, the original textured plaster ceiling is visible and in poor condition. Large sections of lath are either exposed or missing, revealing the underlying structure.

The Craft Room and West Kitchen exhibit the most extensive damage to the ceilings. The majority of the drywall ceiling in these rooms is missing and the roof structure is entirely exposed.

In the Animal Room a small section of the plaster and lath is missing.

Interior Walls and Casework

The interior walls are plastered throughout and are in fair to poor condition. Both textured and smooth plaster finishes are present. The majority of damage to the interior walls is a result of previous vandalism with graffiti prevalent throughout. Mold growth was also noted on walls and trim in the Kitchen of the west wing, above the fireplace in the Main Room, and throughout the Craft Room. The plaster above the fireplace surround in the Main Room also exhibits stains and bubbling of the plaster finish due to water infiltration from the roof. Other conditions include bubbling



Graffiti on the east wall of the Animal Room (ARG, 2019).

Mold along the wall and door trim at the north wall of the West Kitchen (ARG, 2019).

Water damage above fireplace in the Main Room (left); damaged casework and tile of the West Kitchen (right); (ARG, 2019).

Painted wood built-in bookcase at the Book Nook (ARG, 2019).

of the plaster finish beneath the windowsill of the East Restroom, scuffing and several small gouges and holes, and a general accumulation of dirt and cobwebs throughout.

In the kitchens and East Restroom, ceramic tile is present and is generally in fair condition with the exception of the West Kitchen. The tile of this room is in poor condition with missing sections of tile and mold growth at tile joints.

There are two types of interior wood casework: the painted open wood shelves of the Kid's Room and the Book Nook, and the painted wood casework of the kitchens, West Restroom, and the East Hall. The painted wood shelves are in fair condition with light scuffing and paint loss present.

Large rodent nest at the sink base cabinet in the East Kitchen. Note the missing drawer and missing hardware (ARG, 2019).

Original wood flooring in the Entry (ARG, 2019).

Original wood floor beneath sheet vinyl in the Animal Room (ARG, 2019).

Burn damage at the floor of the Animal Room (ARG, 2019).

Plywood patch at the wood floor in the Kid's Room (ARG, 2019).

Vinyl tile in the West Kitchen (ARG, 2019).

Section of missing carpet revealing the original wood flooring beneath in the West Hall (ARG, 2019).

The painted wood casework of the West Kitchen and East Kitchen is in poor condition with significant scuffing and gouges, missing drawers and hardware, unsecure hinges, and soiling caused by pests. The East Kitchen in particular exhibits extensive damage at the sink base cabinet where a large rodent nest exists.

Interior Flooring

There are three floor finishes present throughout the Halsey House: original oak flooring, vinyl in either tile or sheet format, and broadloom carpet. The predominant finish is the original oak flooring which is in fair condition overall. This original flooring is present in the Entry, Kid's Room, Bedroom, Main Room, Ohlone Kitchen, Craft Room, and Animal Room. In the Animal Room the original wood floor is concealed by sheet vinyl that has been torn exposing the original finish beneath. This room also has small burn marks on the floor. In the Kid's Room, a large section of the original oak flooring is missing and replaced by a plywood patch. A large patch of non-original oak flooring is also present along the north wall of the Bedroom and some boards are missing from the floor hatch in the closet. A few floor boards are also missing from the Ohlone Kitchen and plywood patches are present.

Vinyl flooring throughout is in poor condition with significant staining present. Vinyl flooring is installed in the Animal Room, two of the kitchens, the East Hall, and the restrooms. The remainder of the rooms feature broadloom carpet that is heavily worn and due for replacement. In the West Hall, original wood floor was noted beneath the carpet.

Interior Doors

The historic interior doors are largely intact and in good condition. Original doors include panelled or French doors with some original glass door knobs intact. Damage is largely limited to paint loss and scuffing typical of everyday use. Graffiti is present on the paired doors of the Entry. The door of the pantry in the West Kitchen is missing and a large section of paint is missing from a door in the Animal Room.

Graffiti at the original paneled wood door of the Entry (ARG, 2019).

Note the missing door at the pantry of the West Kitchen (ARG, 2019).

Carpeted stairs at the West Hall (ARG, 2019).

Firebox and ceramic tile surround at the fireplace in the Main Room (ARG, 2019).

Fireplace in the Ohlone Room. Note the soot damage at the firebox (ARG, 2019).

Stairs

There are stairs in two locations at the interior. One set leads from the Main Room to the Ohlone Room, and the other is located in the West Hall off of the Ohlone Kitchen. Handrails are not present at either set of stairs, and not required when less than three risers are present. Although this means that the stairs leading to the Ohlone Room will not require handrails, if the stairs of the West Hall remain, the installation of handrails will be required.

Fireplaces

The fireplaces located in the Main Room and Ohlone Room are in fair condition. While the fireplaces are original they are in need of maintenance. Deteriorated items that should be addressed include the heavy soot at the interior of both fireboxes and cleaning of paint stains and soot damage from the ceramic tile fireplace surround at the Main Room. Mortar joints at the firebrick of both fireplaces appear to be in good condition.

Mechanical, Electrical, and Plumbing Service

All building systems are currently in poor condition. Electrical service has been disconnected at the building and all system inspections are based on a visual assessment only. Gas-fired heating units appear functional but are beyond a reasonable service life and in poor condition. Plumbing is typically in poor condition and does not meet plumbing codes. Existing plumbing is located too close to existing electrical service at several locations, creating a potential hazard if the electrical system is reconnected. A section of waste line at the exterior is exposed.

Both historic “knob and tube” style wiring and more modern Romex wiring are present, although it is unclear if the knob and tube wiring is still in active use. There are no GFCI outlets and the electrical system overall does not meet current codes.

Part 2: Treatment and Work Recommendations

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Section Eight

Historic Preservation Objectives

The Halsey House is a local historic landmark listed in the City of Los Altos Historic Resources Inventory. As such, it is important that all future work at the site be carried out in accordance with *The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Properties (The Standards).* The recommendations and guidelines set out in this HSR are based on *The Standards.*

The Standards provide general information for stewards of historic resources to determine appropriate treatments. They are intentionally broad in scope to apply to a wide range of circumstances and are designed to enhance the understanding of basic preservation principles. *The Standards* are neither technical nor prescriptive, but are intended to promote responsible preservation practices that ensure continued protection of historic resources. There are four basic treatments outlined in *The Standards*: preservation, rehabilitation, restoration, and reconstruction. Each level of treatment has its own set of standards that guide the approach to work. Generally, in planning for anticipated work on a historic structure, one of the four treatment levels is selected as the overall treatment approach.

Due to the needs related to the building's future use as a community recreation facility, the treatment selected for the Halsey House is rehabilitation. The Secretary of the Interior's *Standards for Rehabilitation* are included for reference in Appendix F. According to the Secretary of the Interior,

> **Rehabilitation** is defined as the act or process of making possible a compatible use for a property through repair, alterations, and additions while preserving those portions or features which convey its historical, cultural, or architectural values.[1]

Rehabilitation is further described as acknowledging "the need to alter or add to a historic property to meet continuing or changing uses while retaining the property's historic character."[2] Rehabilitation assumes that at least some repair or alteration of the historic resource will be needed in order to provide for an efficient contemporary use; however, these repairs and alterations must not damage or destroy materials, features, or finishes that are important in defining the resource's historic character. For example, certain treatments – if improperly applied – may cause or accelerate physical deterioration of the historic resource. This can include using improper repointing or exterior masonry cleaning techniques, or introducing insulation that damages historic fabric. In almost all of these situations, use of these materials and treatments will result in a project that does not meet the Standards.

In keeping with *The Standards*, interventions, structural improvements, and ongoing maintenance should be undertaken as necessary while minimizing the loss of historic fabric and retaining the existing form and appearance of the historic features. If possible, interventions should be designed to be reversible. Features should be thoroughly documented photographically before any work is undertaken in order to chronicle changes and to aid in reversing any alterations that become inappropriate in the future.

The proposed plans for the Halsey House mean that

[1] *Standards for Rehabilitation and Guidelines for the Treatment of Historic Properties*. Retrieved June 19, 2016, from https://www.nps.gov/tps/standards/four-treatments/treatment-rehabilitation.htm.
[2] *Four Approaches to the Treatment of Historic Properties*. Retrieved July 7, 2016, from https://www.nps.gov/tps/standards/four-treatments.htm.

Historic Preservation Objectives

the building will undergo a change in occupancy from residential use to assembly use. Due to a prolonged period of vacancy and lack of maintenance, there are several material deficiencies that should be addressed. In addition, alterations to the building are needed to provide a universally safe and accessible environment and to accomodate its new use. The following sections detail requirements and recommendations for the treatment of the Halsey House.

Section Nine

Requirements for Work

APPLICABLE CODES, LAWS, AND REGULATIONS

Compliance with prevailing building codes is not required for existing buildings, unless they undergo an addition, alteration, repair, or change in use or if a code deficiency presents a distinct hazard to life safety. This report assumes that the Design Scheme A work outlined in the Feasibility Study for the Adaptive Reuse of the Historic Halsey House, dated October 26th, 2015 (see App. --), will be undertaken in the future and provides guidance for this. The following preliminary analysis by Architectural Resources Group outlines the larger code, fire protection, life safety, and accessibility issues that currently exist at the Halsey House.

The governing building codes for any proposed work include:

- 2016 California Building Code (CBC)
- 2016 California Historical Building Code (CHBC)

Additional applicable codes, laws, and directives include:

- California Electrical Code
- California Mechanical Code
- California Plumbing Code
- California Energy Code
- California Fire Code
- California Existing Building Code
- 2010 ADA Standards for Accessible Design

The prevailing code, the CBC, prescribes solutions to conditions based on new construction models. When conformance with prevailing code would adversely affect the historic character of a qualified historic building, the CHBC may be invoked as a means to preserve historic fabric and explore solutions that meet the intent, but not necessarily the letter, of the prevailing codes. The CHBC is a performance-based code, which allows for alternative solutions to be condifered in achieveing the intended life-safety objectives of more prescriptive building codes in order to preserve historic features. As a local historic landmark listed within the City of Los Altos Historic Resources Inventory, the Halsey House is considered a historic building under the CHBC and the provisions within should apply.

Although not a building code, the Americans with Disabilities Act (ADA) is a federal civil rights law enacted in 1990 that prohibits discrimination based on disability. The ADA developed the ADA Standards for Accessible Design to implement the legislation through design requirements. In 2010, new design guidelines were released for new or altered facilities covered by the ADA. The 2010 ADA Standards for Accessible Design have been used in this analysis.

CODE REQUIREMENTS

Type of Construction

The Halsey House is constructed with a mix of combustible and non-combustible materials. The concrete foundation and roofing are constructed of non-combustible concrete and clay tile, respectively; however the roof and floor structure and interior walls are constructed of combustible wood framing. As such, the building is considered Type V construction. Type V-B is described in CBC Section 602.5 as “that type of construction in which the structural elements, exterior walls and interior walls are of any materials permitted by this code.” Type V-A requires 1-hour rated interior bearing walls, floor construction, and roof construction, while V-B requires no fire-resistance rating of these elements.

Occupancy Group

Chapter 3 of the CBC defines the different types of uses for each occupancy group. As a former residence with a proposed use as a community recreation facility, the Halsey House would fall into the Assembly (or A) occupancy group. The CBC further characterizes assembly occupancies by the density of the crowds to be expected in that use. Community halls, lecture halls, and other assembly uses intended for recreation purposes are categorized as Assembly Group A-3.

Allowable Area and Height

For non-sprinklered A occupancies of Type V-B construction per Table 504.3 of the CBC, the height limit is capped at one story with a maximum allowable building height, in feet above grade plane, of 40 feet and maximum allowable area of 6,000 square feet. At one story, 17 feet in height, and 3,400 square feet in size, Halsey House is currently below code limits.

Occupant Load and Egress Paths

Chapter 10 of the CBC establishes the number of allowable occupants in the building (the occupant load) based on the different building functions and the area of each within the building. The number of required exits and the required width for each exit path is then determined from the occupant loads being served.

The proposed reuse of the Halsey House has multiple functional uses: assembly spaces including the community, family, meeting, and kitchen/break rooms, business spaces which includes the offices, and smaller accessory storage and mechanical spaces. The Family Room has an occupant load of 30 net square feet per occupant, the meeting rooms and Kitchen have an occupant load of 15 net square feet per occupant, the Community Room has an occupant load of 7 net square feet per occupant, and the reception area has an occupant load of 5 net square feet per occupant. The accessory spaces have an occupant load of 300 gross square feet per occupant, while the offices have an occupant load of 100 gross square feet per occupant. Applying these ratios to the area of the building interior, the total occupant load for the proposed scheme is 202 occupants.

Floors of a building or individual rooms of Assembly occupancy type with an occupant load exceeding 49 are required to have two exits. An occupancy of 202 persons would require a minimum of two exit doors. Additionally, the occupant load of the community room exceeds 49 occupants and would require at least two exits from this room alone. This should not pose an issue, as the number of existing doors for the community room and the entire bulding exceeds these requirement for safe exiting. The building code also stipulates minimum required widths for the exiting doorways based on occupant load, and this is also far exceeded by the existing doors.

A minimum level of illumination and exit signage is required for all exit paths serving a discharge of more than 49 occupants. The illumination must be provided by lights connected to an emergency power system that will operate when the building power fails. There are no exit signs or emergency lighting at the building, although exit signs are not required in rooms or areas that only require one exit. Main exterior exit doors that are obviously and clearly identifiable as exits need not have exit signs where approved by the building official.

Exit doors also have technical requirements for thresholds to reduce tripping hazards and maximum opening force limits to operate the latching hardware and overcome any door-closer device. The existing doors appear to have raised wood thresholds that would need to be modified or replaced to meet current accessibility requirements. The existing hardware at any doors to be used for the purpose of exiting would also need to be replaced as twisting of the wrist to operate is not permitted. The existing exit hardware is standard residential door knobs.

Toilet Fixtures

Chapter 29 of the CBC provides the requirements for the minimum number of plumbing fixtures based on the occupancy group and the number of occupants

(Table 2902.1). Based on this table, if the Halsey House is converted to an A-3 occupancy with an occupant load at or below 260 individuals, the minimum plumbing fixture requirements will total three water closets, two lavatories, one drinking fountain, and one service sink.

Human Safety (Egress)

The means of egress from the Halsey House are generally compliant with the CBC. Compliant elements include hallway widths, doors, number of exits, and length of travel to the exits. As the interior will undergo extensive modifications for its new use, hallway widths will need to comply with regular code requirements. As previously noted, there are several existing exterior doors with sufficient width that when provided with appropriate hardware and thereshold modifications will allow for safe egress from the building. A minimum 32" clear width is required at doorways. Interior doors within the Halsey House provide 28-32" clear width currently. At the stairs along the north elevation terrace, handrails are not present. Per the CBC, new handrails with extensions are required.

Fire Protection

When a building undergoes a change in use, the installation of fire protection systems including fire alarms, smoke detectors, and sprinklers are required. Per section 8-403 of the CHBC, any new wall and ceiling finishes must conform to the regular code. Provided the installation of an automatic fire sprinkler system, existing finishes may remain without modification to increase their fire-resistance rating.

Energy Conservation

New buildings and major renovations are required to meet California's Title 24 Building Energy Efficiency Standards. Mechanical, electrical and plumbing throughout will require upgrading to meet current code requirements.

Hazardous Materials Abatement

Lead is typically an issue in buildings painted prior to 1978. Due to the building's age, lead paint is likely to be found throughout the interior and exterior finishes of the Halsey House. Lead testing and abatement should be undertaken prior to any demolition work. Asbestos is also potentially present, typically in insulation or previous floor coverings. As the materials are friable and will be further disturbed during demolition work, insulation and any resilient tiles or mastics should be tested before any work is conducted.

Mold growth was also noted within several areas of the interior. Remediation is recommended.

Universal Accessibility

Accessibility requirements are governed by chapter 11 of the CBC and by the ADA. Due to the extent of renovation required for the Halsey House, full accessibility is required by code.

Due to the change in level between the interior floor plate and exterior grades and the change in level between areas within the building, universal access does not exist to and within the Halsey House. The building currently does not provide a high level of physical access for visitors and staff and is not in compliance with the ADA.

Section Ten

Work Recommendations and Alternatives

ARCHITECTURAL RECOMMENDATIONS

The interior spaces at the north, the exterior envelope, and the north terrace of the Halsey House are of primary significance. The character-defining features of these elements should be retained to the greatest extent possible. Some character-defining features also remain throughout other portions of the residence. Although sensitive alteration of these areas is acceptable, character-defining features should remain intact.

Human Safety (Egress)

As previously noted, the means of egress from the Halsey House are generally compliant. The existing exterior doors provide more than adequate egress width for the proposed use, though door hardware should be upgraded for ease of passage. Handrails should be installed at all exterior stairs to ease access and provide safe egress.

Fire Protection

The building does not currently have a fire protection system installed. As the building will undergo a change in occupancy type, the addition of fire sprinklers, fire alarms, and smoke detectors is required.

Energy Conservation

A general approach to energy conservation at the Halsey House should include balancing performance with preservation of historic materials. As long as the exterior stucco, doors, and windows remain in repairable condition, they should remain in situ. The addition or improvement of weatherstripping at the exterior doors and any operable windows will improve thermal performance as will the replacement and routine maintenance of caulking. Additional improvements at windows and doors should include the repair of any damaged portions and the replacement of all broken panes of glass. The repair and periodic maintenance of the roof assembly could reduce air leakage and improve thermal efficiency, in addition to the installation of insulation within the attic space. A more efficient heating system and light fixtures should be provided throughout. Existing plumbing fixtures should be replaced with low-flow fixtures.

Hazardous Materials Abatement

Lead paint is likely present in the building, and will need to be removed as the paint coatings are not intact (i.e., they are crumbling and peeling from the wall surface). A survey to determine if asbestos is present in the building is recommended. As mold was noted in several interior areas, mold remediation is also recommended.

Universal Accessibility

The building currently does not provide a high level of physical access to visitors. It is recommended that at least one arrival point and two entrances be made accessible. Existing thresholds should be modified to comply with current ADA requirements.

MATERIAL CONSERVATION RECOMMENDATIONS

General Approach

The following materials conservation recommendations are based on conditions observed during a visual survey of the Halsey House. Recommendations are included for repair and maintenance, generally referred to as treatments. Treatments carried out on historic buildings typically respond to goals related to the preservation of materials and elements original to a building's construction. Original or historic building materials, also known as historic fabric, contribute to the significance of a building because they inform the degree of architectural integrity a building retains. Historic fabric is tied to historic integrity criteria of "feeling" and "workmanship," and often represents

traditional materials or building techniques which are no longer part of common construction practice. Retaining historic fabric increases the authenticity of character-defining elements and serves broader preservation goals of advancing knowledge about the history of building design and technology. Treatments need to be both visually appropriate to retain character-defining features, and physically compatible to minimize loss of and damage to historic building materials.

It is critical that all future work to the Halsey House shall be carried out in accordance with *The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings (The Standards and The Guidelines). The Standards* provide a framework for determining appropriate treatments for historic properties and are discussed elsewhere in this document. *The Guidelines* establish a hierarchy of treatments for materials and features that have been identified as character-defining and therefore should be retained and preserved:

- **Protection** generally involves the least degree of intervention possible, and includes the maintenance of historic material through preventive treatments such as cleaning, rust removal, caulking, and painting.
- **Repairing** is recommended when the physical condition of character-defining features and materials warrant additional work and should involve the least degree of intervention possible. Limited replacement in-kind or the use of substitute materials is also allowed.
- **Replacement** of a feature is permitted when it is missing or beyond repair, but only if sufficient evidence or documentation exists to reproduce the feature, and if it is desirable to re-establish the feature. Replacement with a new design may be acceptable if it is compatible with the character-defining features of the building.[1]

[1] *Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings*, retrieved August 17, 2011 from http://www.nps.gov/hps/tps/standguide/rehab/rehab_approach.htm.

Recommended exterior and interior treatments will focus on the preservation of existing historic fabric. Replacement will only be considered for severely deteriorated or compromised materials, and replacement materials should be selected and finished to match the historic materials (i.e., in-kind replacement).

Treating and Maintaining Historic Buildings

Architectural treatments recommended in this section encompass both repairs and conservation measures. Repairs refer to procedures associated with routine activities such as cleaning and painting, but also address standard maintenance measures that nonetheless require specialized skills and materials to address the needs of the historic buildings. Conservation treatments refer to methods that save or preserve existing historic materials rather than replacing them. Before they are implemented on historic features, new or unproven treatment materials and methods should be tested for physical, chemical, and visual compatibility with historic materials.

Proper and timely maintenance is crucial to the long-term preservation of historic buildings. The purpose of maintenance is to prolong the life of building materials and to protect the investments made in their construction and repair. Regular and well-timed preventive measures greatly reduce the cost of maintaining materials and systems by detecting deficiencies and deterioration before they become severe. A written Maintenance Plan can be useful to support planning and implementation of architectural treatments, including preventive maintenance. A Maintenance Plan should provide scoping and conceptual costs for repair projects, identify appropriate materials and methods for treating historic fabric, and establish inspection schedules for the continued upkeep and preventive care of building materials and systems.

Maintenance and repairs to the Halsey House should focus on retaining and preserving intact character-defining features such as the exterior stucco cladding, original doors and windows, tinted and stamped concrete of the north terrace, fireplaces, original wood floors, original plaster

finishes and wood trim. Preventive maintenance including the periodic renewal of protective coatings, glazing putty, and sealants is critical to the long-term durability of historic fabric besides cleaning to remove dirt, debris, stains and biological growth. If possible, deteriorated features should not be replaced; rather, they should be rehabilitated using small-scale patching, Dutchman repairs, or replacement of individual components.

Following are recommendations for treatment and maintenance of exterior and interior features of the Halsey House.

Site and Exterior Features

Grading and Site

- Regrade and restore the landscape of the west elevation to eliminate water infiltration and to create a positive slope away from the building. Conceal exposed utilities.
- Clear tree duff and plant growth from base of walls periodically. Accumulation of duff and plant growth retains moisture at masonry and stucco surfaces, while duff piles and related debris are a fire hazard in dry conditions.
- Existing walk path at the west should be redeveloped for accessibility. Connections should be provided to link this path to new accessible paths at the building perimeter and to the overall site.
- Provide roof drain splash pads and compatible rain leader extensions to match existing.

Concrete Terrace

- Monitor surface cracking at concrete entrance patio. Cracks should be repaired when they become large enough to inhibit drainage at the patio or create a tripping hazard.
- Wash concrete at low pressure to remove dirt, debris, and stains. Use chemical cleaners to remove difficult stains.
- Clean biological growth from concrete surfaces.
- Routinely sweep away dirt and debris to prevent staining.
- Routinely remove excess moisture or condensation accumulation to prevent weathering and mineral buildup.
- Clear tree duff away periodically. Accumulation of duff and other debris retains moisture at concrete surfaces.

Roofing

- Conduct a structural evaluation to determine any necessary improvements to the roof diaphragms.
- Provide new roofing and drainage system. Remove and salvage existing clay tiles for reuse.
- Frequently clean the roof to remove dirt accumulation.
- Provide new flashing around chimneys.
- Periodically clean flashing to remove dirt, debris and stains.
- Clean roof gutters and rain leaders to remove dirt and debris. Diligent maintenance is necessary to ensure good drainage.

Exterior Walls

Stucco Walls

- Clean to remove general soiling and biological growth.
- Remove plant growth and debris from the base of walls.
- Remove loose and deteriorated stucco.
- Patch stucco using matching materials and methods.
- Renew paint coating at entire exterior.

Brick Chimney

- Clear tree duff away periodically. Accumulation of duff and plant matter retains moisture and contributes to deterioration and biological growth.
- Clean brick to remove general soiling, biological growth, and stains. Clean periodically.

Exterior Windows

- Rehabilitate all original windows. Clean, lubricate, and ensure all windows operate smoothly and properly.
- Clean window sills to remove general soiling and biological growth.
- Remove any excess paint on glass surfaces.

Work Recommendations and Alternatives

- Replace cracked or broken glass and glazing compound.
- When window hardware is too damaged to be repaired or is missing, replace in kind.
- Remove unused hardware accessories.
- Provide weatherstripping at all windows.
- Provide insect screens at all windows.
- Conduct minor wood repairs of wood windows as required. Repair splits in the wood.
- Mitigate rot and moisture damage of historic wood windows through the use of wood preservative treatments, repairs, and epoxy fills. Losses may be filled as Dutchman repairs or with epoxy repair compound, shaped to match adjacent wood. Where historic wood is too damaged to be repaired, replace in-kind. New wood elements should be the same size and shape as the historic, and if possible be the same wood species.
- Monitor wood for insect and water damage; use resistograph to detect decay and cavities in all wood.
- Routinely clean all windows of dirt, debris, and cobwebs.

Exterior Doors

- Clean to remove dirt and cobwebs.
- Rehabilitate all original doors. Clean, lubricate, and ensure all doors operate smoothly and properly.
- Remove any excess paint on glass surfaces.
- Replace cracked or broken glass and glazing compound.
- Remove unused hardware accessories.
- Conduct minor wood repairs of wood doors as required. Repair splits in the wood.
- Mitigate rot and moisture damage of historic wood through the use of wood preservative treatments, repairs, and epoxy fills. Losses may be filled as Dutchman repairs or with epoxy repair compound, shaped to match adjacent wood. Where historic wood is too damaged to be repaired, replace in-kind. New wood elements should be the same size and shape as the historic, and if possible be the same wood species.
- Monitor wood for insect and water damage; use resistograph to detect decay and cavities in all wood.

Air Vents

- Repair damaged air vent covers. Replace missing or failing screens.

Interior Features and Finishes

Ceiling

- Clean to remove dirt and cobwebs.
- Remove acoustic ceiling tiles throughout.
- Patch and repair any areas of material loss and failure to match original plaster finish.
- Renew paint coatings throughout.

Walls

- Clean to remove dirt and cobwebs.
- Patch and repair areas of material loss or failure to match original plaster finish.
- Remove graffiti throughout and renew paint coatings.
- Patch and repair original wood trim throughout.

Floors

- Test resilient tile throughout for asbestos. Remove all resilient tile.
- Clean original oak floors to remove dirt, stains, and scuffs.
- Fill any gaps in wood floor boards and associated baseboard and repair any areas of material loss.
- Sand smooth and refinish wood floors throughout.
- Renew paint coatings at all original wood baseboard to remain.

Doors

- Rehabilitate all original doors to remain. Clean, lubricate, and ensure all doors operate smoothly and properly.
- Renew paint coatings at doors and associated trim.

Stairs

- Inspect flooring beneath carpet at Ohlone Room and Hall adjacent to the Craft Room. Rehabilitate wood treads and risers if present and if stairs are to remain.

Work Recommendations and Alternatives

- Provide handrails with compliant extensions at West Hall.

Fireplace and Chimneys

- Clean brick lining and chimneys to remove soot.
- Clean ceramic tile surround and remove surface paint at the Main Room fireplace.

Restrooms

- Provide new accessible restrooms for staff and visitors.

Building Systems Recommendations

- Provide newer energy-efficient heating and cooling systems. The ultimate building use may impact the type and scale of the HVAC system.
- Replace entire plumbing system, including all piping. Replace plumbing fixtures with low-water consumption fixtures.
- Provide a new fire protection system as required by code.
- Replace entire electrical service and distribution.
- Replace all light fixtures with new LED style lighting, modern digital dimmers, motion sensing lighting controls, and automatic daylight dimming.

Appendices

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Section 11

Bibliography

To be completed for 95% Draft

BOOKS

MANUSCRIPTS

ARCHIVES

Bibliography

Appendix C

Existing Condition Photographs

All photographs are by ARG, taken during May 2019.

EXTERIOR

View of the south elevation.

Existing Condition Photographs

View of east half of the south elevation. The arched opening on the left side of the image leads into the enclosed courtyard.

Existing Condition Photographs

Southwest corner.

Existing Condition Photographs

View looking north into enclosed courtyard.

Existing Condition Photographs

Looking west inside the enclosed courtyard.

Existing Condition Photographs

Detail view of stucco crack at south elevation.

Detail view of wood deterioration at courtyard gate.

Existing Condition Photographs

Overall view of east elevation.

Existing Condition Photographs

Views of the east elevation. Above left is the southeast corner; above right the northeast corner.

Existing Condition Photographs

View of walkway paving along east elevation.

Existing Condition Photographs

View of northeast corner of Halsey House, including main entrance.

Existing Condition Photographs

North elevation and patio adjacent to north wall.

Existing Condition Photographs

Overall view of north elevation from edge of redwood grove.

Existing Condition Photographs

Main entrance to Halsey House, at northeast corner of building.

Existing Condition Photographs

View of north elevation looking east.

Existing Condition Photographs

Existing stucco conditions at north elevation adjacent to main entrance.

Existing Condition Photographs

Views of entrance at northwest corner of building.

Existing Condition Photographs

Overall view at center of west elevation, looking southeast.

Existing Condition Photographs

Detail views from west elevation.

Existing Condition Photographs

Looking north along the west elevation.

Existing Condition Photographs

Looking south along the west elevation.

Existing Condition Photographs

INTERIOR

View looking south inside main entrance.

Looking north east inside the entry.

Existing Condition Photographs

View inside main room looking east toward entry.

View inside niche at east wall of main room, looking east toward entry.

Existing Condition Photographs

Overall view looking west inside main room.

Interior view of preschool room.

Existing Condition Photographs

Interior views of kitchen inside east wing.

Existing Condition Photographs

Above left: interior of hall in east wing. Above right: restroom in east wing.

Existing Condition Photographs

View looking south inside bedroom/ office at end of east wing.

View of access panel at floor inside closet at south end of east wing.

Existing Condition Photographs

Overall view looking west inside main room.

Looking south, including view of fireplace, inside main room.

Existing Condition Photographs

Overall view, looking west, of kitchen adjacent to main room and entrance to Ohlone room.

View of smal kitchen adjacent to main room and Ohlone room.

Existing Condition Photographs

Overall view inside Ohlone room.

Existing Condition Photographs

Above left: view looking south down hallway in west wing. Above right: view looking north inside west wing hallway, into Ohlone room entrance area.

Existing Condition Photographs

Craft room, view of partially collapsed ceiling and exposed roof framing.

Craft room, view of floor and walls.

Existing Condition Photographs

Animal room, overall view.

Animal room, view looking west.

Existing Condition Photographs

Kitchen in west wing.

View of exposed framing where west wing kitchen ceiling has partially collapsed.

Existing Condition Photographs

Interior views of restroom near the southern end of the west wing.

Existing Condition Photographs

View looking south inside Discovery Lab.

Looking north in Discovery Lab.

Appendix D

Existing Conditions Drawing

Existing Conditions Drawing

Architectural Resources Group
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HALSEY HOUSE

EXISTING CONDITION PLAN

LOS ALTOS, CA

SHEET TITLE

DATE

JULY 2019 D3

22"x34" SHEET SIZE. IF SHEET IS SMALLER, THEN DRAWING HAS BEEN REDUCED.

Appendix E

The Secretary of the Interior's Standards for Rehabilitation

The *Standards* are to be applied to specific rehabilitation projects in a reasonable manner, taking into consideration economic and technical feasibility. The Standards apply to historic buildings of all periods, styles, types, materials, and sizes. They apply to both the exterior and the interior of historic buildings. The *Standards* also encompass related landscape features and the building's site and environment as well as attached, adjacent, or related new construction.

1. The historic character of a property shall be retained and preserved. The removal of historic materials or alteration of features and spaces that characterize a property shall be avoided.
2. Each property shall be recognized as a physical record of its time, place, and use. Changes that create a false sense of historical development, such as adding conjectural features or architectural elements from other buildings, shall not be undertaken.
3. Most properties change over time; those changes that have acquired historic significance in their own right shall be retained and preserved.
4. Distinctive features, finishes, and construction techniques or examples of craftsmanship that characterize a historic property shall be preserved.
5. Deteriorated historic features shall be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature shall match the old in design, color, texture, and other visual qualities and, where possible, materials. Replacement of missing features shall be substantiated by documentary, physical, or pictorial evidence.
6. Chemical or physical treatments, such as sandblasting, that cause damage to historic materials shall not be used. The surface cleaning of structures, if appropriate, shall be undertaken using the gentlest means possible.
7. Significant archeological resources affected by a project shall be protected and preserved. If such resources must be disturbed, mitigation measures shall be undertaken.
8. New additions, exterior alterations, or related new construction shall not destroy historic materials that characterize the property. The new work shall be differentiated from the old and shall be compatible with the massing, size, scale, and architectural features to protect the historic integrity of the property and its environment.
9. New additions and adjacent or related new construction shall be undertaken in such a manner that if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.[1]

[1] *Secretary's Standards for Rehabilitation*, retrieved July 7, 2016 from https://www.nps.gov/tps/standards/rehabilitation.htm.

Appendix F

Mechanical, Electrical, and Plumbing Engineers' Report

The following report was created by List Engineering following a site visit to the Halsey House in June 2019. It summarizes existing mechanical, electrical, and plumbing conditions at the residence and includes recommendations for those building systems.

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F I E L D R E P O R T

PROJECT: Halsey House, Los Altos Historic

FINDINGS / CONCLUSIONS

Mechanical

1. No cooling equipment serves building.
2. No exhaust fans found in bathrooms. Adequate operable windows are present.
3. No kitchen range observed. Range hood not required or observed.
4. Heating is accomplished by four, natural gas fired, drop-in floor heaters and two wall heaters. Single wall flues serving floor units are routed in crawl space to flue stacks located on exterior wall and terminating above roof eave. All furnace units are old and in poor condition. Exhibit M2.1, M2.2

Plumbing

1. Sanitary sewer pipe is vitrified clay outside and cast iron, hub & spigot with lead oakum joints.
2. Domestic cold water piping is galvanized steel. Copper piping not observed.
3. Natural gas piping is galvanized.
4. Domestic water heater - gas fired tank type and located in exterior utility closet in poor condition. Gas branch serving WH is routed on top of soil from branch near meter, is not per California Plumbing Code (CPC) and appears to be a hazard. Exhibit P2
5. Kitchen - sink, faucet and piping is in poor condition and served by a small tank type electric water heater. Exhibit P3
6. Utility room - sink and piping is in poor condition. Water pipe utility hook up is close to ungrounded non-GFCI electrical outlet appears to be a hazard. Exhibit P4.1
7. West wing bathroom - tub and valving is in poor condition. Non-ADA, non-low flow water closet and lavatory is in fair condition. Shower stall water valves are old and not pressure temperature compensating. Exhibit P5.1, 5.2, 5.3
8. East wing bathroom – Non-ADA, non-low flow water closet is in poor condition. Wall hung lavatory is in fair condition, plumbing is poor. Exhibit P6
9. Piping serving kitchen enters bathroom thru exterior wall close to electrical junction box which appears to be a hazard. Exhibit P7

10. PG&E Smart Gas Meter and regulator is present but not mounted per CPC. Meter is partially buried. Gas service before meter branches from a 1-1/4" header with a second valve branch capped off.
11. Horizontal section of 4" clay sanitary waste line is installed not per code. Pipe is exposed on top of soil at building exterior serving an abandoned exterior mounted vertical waste branch from building with vent termination below roof eve. Exhibit 9

Electrical

1. The electrical service is disconnected. The PG&E meter has been removed. Exhibit E1
2. Electrical circuit breaker panel is present.
3. Original 'knob and tube' and more recent Romex wiring is observed. Without power to the building, it is not possible to determine if the original wiring is still in use.
4. GFCI outlets not observed.
5. Telephone service and wiring is in very poor condition.
6. Lighting fixtures and related wiring are old, poor condition and not per code. Exhibit E2

RECOMMENDATIONS

Mechanical

1. If the building is to be made usable as a private residence, the entire heating system should be replaced. If a range is added to the kitchen, a range hood will be required.
2. If the building is to be restored to exhibit status, furnaces can be abandoned in place. Note that exhaust and some form of heat should be provided as a means to control humidity and prevent mold in and otherwise unused facility.
3. If the building is to be re-purposed as a destination venue, the entire heating system needs to be replaced. If a commercial kitchen of any size is added, a proper range hood and make-up air system will be required.

Plumbing

1. If the building is to be made usable as a private residence, the entire plumbing system, including piping and fixtures, needs to be replaced.
2. If the building is to be restored to exhibit status, concealed piping can be abandoned in place, and fixtures refurbished and marked 'not in use'.
3. If the building is to be re-purposed as a destination venue, the entire plumbing system needs to be replaced to meet current CPC and ADA requirements.

Electrical

1. The entire electrical service and distribution needs to be replaced and brought up to the current California Electrical Code.
2. If building is to be made usable in any capacity, all lighting needs to be replaced.

Exhibits:


M2.1 Floor Heater


M2.2 Wall Heater


P2


P3

P4.1

P5.1

P5.2

P5.3

E1

E2

End of Report

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ATTACHMENT B

STRUCTURAL ASSESSMENT

of

Halsey House

Redwood Grove Park

482 University Avenue

Los Altos, California

September 2019

TRSE Reference Number: 2019.095.00

BY

TUAN AND ROBINSON,

STRUCTURAL ENGINEERS, INC.

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ARCHITECTURAL RESOURCES GROUP

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TABLE OF CONTENTS

1.0 INTRODUCTION

We performed a site visit on July 11, 2019 for our structural assessment of the Halsey House in Redwood Grove park at 482 University Avenue in Los Altos, CA. The building was assessed using the Tier 1 evaluation procedures of the *Seismic Evaluation and Retrofit of Existing Buildings* (ASCE 41-13)[1]. A Tier 1 evaluation consists of a checklist of structural evaluation statements for a particular building type. Statements that are deemed compliant identify structural issues that are acceptable to the criteria contained in ASCE 41-13. Non-compliant statements identify potential structural deficiencies that require further investigation using the Tier 2 evaluation procedures. A Tier 3 detailed evaluation is required for non-compliant statements identified by the Tier 2 evaluation procedures. Note that we only used the ASCE 41-13 Tier 2 analysis procedures where required for non-compliant statements in the Tier 1 evaluation and where we had adequate building information to complete the Tier 2 evaluation procedures. The subject building was evaluated to the Life Safety Performance Level of ASCE 41-13 that is defined as:

> Building performance that includes damage to both structural and nonstructural components during a design earthquake, such that: (a) at least some margin against either partial or total structural collapse remains, and (b) injuries may occur, but the overall risk of life-threatening injury as a result of structural damage is expected to be low.

A building which meets the goals of the Life Safety Performance Level may not be usable after a major seismic event, but the inhabitants should be able to exit the building safely. Conversely, if a higher performance level is desired ASCE 41-13 defines an Immediate Occupancy Performance Level as follows:

> Building performance that includes damage to both structural and nonstructural components during a design earthquake, such that: (a) after a design earthquake, the basic vertical and lateral force resisting systems retain nearly all of their pre-earthquake strength, and (b) very limited damage to both structural and nonstructural components is anticipated during the design earthquake that will require some minor repairs, but the critical parts of the building remain habitable.

Our structural assessment was based on conditions observed during our site visit, engineering judgment, and a non-detailed review of the following drawings and documents.

Feasibility Study for the Adaptive Reuse of the Historic Halsey House or Demolition and Construction of a New Nature Center at Redwood Grove Park, 482 University Avenue, Los Altos, CA prepared by M. Sandoval Architects, Inc., dated October 19, 2015

Structural Drawings adding new wall sheathing to the inside face of the exterior walls and new interior wood framed shear walls and new concrete footings in select locations, The Halsey House, Redwood Grove Park, 482 University Avenue, Los Altos, CA prepared by Duquette Engineering, dated July 15, 2009.

Note that no finishes were removed and no materials testing was done.

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[1] *Seismic Evaluation and Retrofit of Existing Buildings – ASCE Standard 41-13*, American Society of Civil Engineers, 2013

2.0 BUILDING DESCRIPTION

The Halsey House is a one-story U-shaped wood framed building over a crawl space with approximate overall plan dimensions of 85 feet (north-south) by 85 feet (east-west) on a lightly sloping site. There is a slope on the west side of the property that slopes towards the building. The original building was constructed in 1923 with an addition added in 1928. The north side of the building at the top of the "U" and is approximately 22 feet (north-south) by 55 feet (east-west) with an building appendage at the northwest corner of the top of the "U" that is approximately 22 feet (north-south by 20 feet (east-west). There are two wings (east wing and west wing) on each side of the "U" that are each approximately 54 feet (north-south) by 18 feet (east-west) with a 30 foot open courtyard in between the wings. See Figure 1 showing structural roof plan from 2009 structural drawings by Duquette Engineering. See Photo #1 through Photo #10 for exterior elevations of the building.

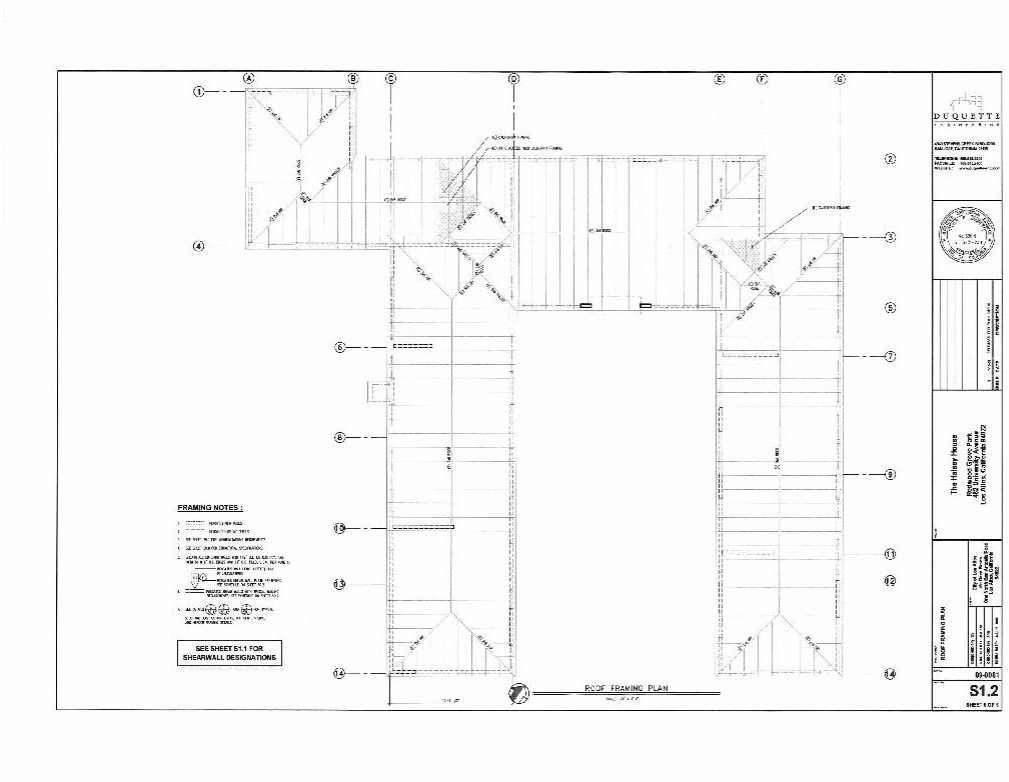

Figure 1: Halsey House Roof Framing Plan by Duquette Engineering

Photo #1 - North Elevation of the Building

Photo #2 - West Elevation of the Northwest Appendage of the Building

Photo #3 - North End of the West Elevation of the West Wing of the Building

Photo #4 - South End of the West Elevation of the West Wing of the Building

Photo #5 - South Elevation of the West Wing of the Building

Photo #6 - East Elevation of the West Wing of the Building

Photo #7 - South Elevation of the North Wing of the Building

Photo #8 - West Elevation of the East Wing of the Building

Photo #9 - South Elevation of the East Wing of the Building

Photo #10 - East Elevation of the East Wing of the Building

The roof framing was observed in the east wing and west wing of the building. The roof framing at the east wing of the building consisted of 1x straight roof sheathing over 2" x 5 1/2" roof rafters spaced at 18" on center with a 2" ridge board at the mid-span and supported by the perimeter wood framed bearing walls at the side walls. See Photo #11 and Photo #12. The roof framing at the west wing of the building consists 1x straight rood sheathing over 2" x 5 1/2" roof rafters spaced at 16" on center with a 1" ridge board at the mid-span and supported by the perimeter wood framed bearing walls at the side walls. See Photo #13 and Photo #14.

Photo #11: Roof Framing and Ridge Board at West Wing of the Building

Photo #12: Roof Framing and Ceiling Joist at West Wing of the Building

Photo #13: Roof Framing and Ridge Board at East Wing of the Building

Photo #14: Roof Framing and Ceiling Joist at East Wing of the Building

The floor framing was observed in a crawl space access hatch in the southwest corner of the east wing. See Photo #15. The floor framing at the east wing consists of 1x finished wood floor and 1x diagonal sheathing over 2" x 7 1/2" joists spaced at 16 inches on center that span to the perimeter foundation walls and a single line of interior wood beams. See Photo #16. The perimeter foundation consists of a continuous concrete foundation and the interior wood beams are supported on isolated concrete footings. Note that the interior beams and isolated concrete footings were not measured due to the approximately 12" crawl space height to the underside of the floor joists, but the Duquette structural drawings noted the interior beams were 4x6 and the isolated concrete footings were 1'-6" square. The building code requires 12" minimum clearance

between the underside of interior beams and exposed grade and 18" minimum clearance between the underside of floor joists and exposed grade in a crawl space. The floor framing over the crawl space in the remaining sections of the house were not observed.

There are two chimneys that extend above the roof, one is located on the south exterior wall of the north wing and the other is located on the west exterior wall of the northwest appendage of the building. The chimney at the northwest appendage is clearly an unreinforced brick (see Photo #2). The chimney located on the south exterior wall of the north wing is clad in stucco and it is unclear if the chimney is constructed with unreinforced brick (see Photo #7).

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Photo #15: Crawl Space Access Opening in Floor Framing at East Wing

Photo #16: Isolated Concrete Footing at North and South Sections of Lodge

The lateral force (seismic and wind) resisting system of the Halsey House consists of the roof sheathing serving as a horizontal diaphragm that transfer design lateral forces to the perimeter wood framed walls in the longitudinal and transverse directions. The design lateral forces are transferred from the perimeter wood framed walls into the continuous concrete foundations.

3.0 STRUCTURAL EVALUATION

The structural evaluation described herein reflects conditions observed during our site visit, engineering judgment, a review of available documents and a Tier 1 evaluation of the building. A Tier 1 evaluation consists of a checklist of structural evaluation statements for a particular building type. Statements that are deemed compliant identify structural issues that are acceptable to the criteria contained in ASCE 41-13. Non-compliant statements identify potential structural deficiencies that require further investigation using the Tier 2 evaluation procedures. A Tier 3 detailed evaluation is required for non-compliant statements identified by the Tier 2 evaluation procedures. Note that we only used the ASCE 41-13 Tier 2 analysis procedures where required for non-compliant statements in the Tier 1 evaluation and where we had adequate building information to complete the Tier 2 evaluation procedures.

The Tier 1 evaluation and Tier 2 analysis procedures of the buildings were completed using the Life-Safety Structural Checklist for Building Type W1: Wood Light Frames in a region of high seismicity.

The construction quality and materials used are good compared to other properties of similar age and construction type in the vicinity.

The liquefaction potential was not determined for this site. Liquefaction potential represents the likelihood that the site may suffer ground failure due to liquefaction. Liquefaction occurs when saturated, cohesionless soil below the groundwater table experiences a temporary loss of shear strength due to strong ground motion. Ground failure due to liquefaction may cause foundation failure, differential settlement and substantial structural damage. If the liquefaction potential is high, settlement of the foundation could occur during a seismic event. Our evaluation did not include completing the Geologic Site Hazards and Foundations, and Nonstructural Components checklists.

4.0 STRUCTURAL DEFICIENCIES

The existing building appears to have been constructed in accordance with the state and/or local governing regulations for building construction in place at the time of construction. The building may not meet current building code requirements, as there have been significant changes in code requirements for both design force levels and detailing since the wood framed building was constructed. Due to these changes in detailing and force levels, the existing lateral force resisting system and associated detailing may not have sufficient capacity to resist and transfer current code level lateral forces. However, it should be noted that buildings that are deemed in compliance with the criteria set forth in ASCE 41-13 might not necessarily be in conformance with current building code requirements.

The Tier 1 evaluation and Tier 2 analysis procedures identified the following statements that were non-compliant and might be potential structural deficiencies for a Life Safety Performance Level:

1. The existing wood shear walls in the longitudinal and transverse directions at the first floor are not adequate to resist ASCE 41-13 design earthquake lateral forces.
2. The longitudinal and transverse shear walls may not be bolted to the perimeter concrete foundation walls.
3. The roof diaphragm may not be adequate to resist ASCE 41-13 design earthquake forces.
4. There is not a positive connection between the wood beams and wood posts in the crawl space.
5. There is not a positive connection between the wood posts and isolated concrete footings in the crawl space.
6. The roof diaphragm top plate chord may not be continuous.
7. The unreinforced brick chimneys may not be adequately anchored and braced to the roof diaphragm.

5.0 CONCLUSIONS AND RECOMMENDATIONS

Our ASCE 41-13 evaluation indicates that during the design earthquake, structural damage to the existing one-story and two-story wood framed shear wall buildings may occur due to the structural deficiencies noted above. To mitigate the structural deficiencies of the lateral force resisting system of the existing one-story buildings noted above, we recommend the following for a Life Safety Performance Level assuming the existing building continues in its current use.

1. Strengthen the existing wood shear walls and add new wood shear walls in the longitudinal and transverse direction at the first floor to resist ASCE 41-13 design earthquake lateral forces.
2. Add sill bolts from the shear wall sill plates to the top of the concrete foundation walls to resist ASCE 41-13 design earthquake lateral forces.
3. Strengthen the roof diaphragm to resist ASCE 41-13 design earthquake lateral forces.
4. Add positive connections between the wood beams and wood posts in the crawl space.
5. Add positive connections between the wood posts and isolated concrete footings in the crawl space.
6. Provide continuous ties at the roof diaphragm chords of the building.
7. Provide positive anchorage of the unreinforced brick chimneys to the roof diaphragm and brace the top of the chimneys above the roof to the roof diaphragm.

The recommended strengthening measures are intended to meet the ASCE 41-13 Life Safety Performance Level. Our structural assessment was based on conditions observed during our site visit, engineering judgment, and a non-detailed review of available drawings and documents. Note that no finishes were removed and no materials testing was done. Please note that further building investigation should be completed to determine specific details of construction and material strengths to verify the extent of the structural deficiencies noted above and determine if additional deficiencies exist.

No geological information was available for our review. High liquefaction potential could cause additional damage during a seismic event. Site-specific investigation of liquefaction and slope failure potential by a Certified Engineering Geologist (CEG) or Registered Civil Engineer may show this hazard to be significant. If the ground failure hazard is significant, suitable mitigation measures may be proposed and implemented to reduce the hazard.

Appendix A

ASCE 41-13 Checklists

16.1.2LS LIFE SAFETY BASIC CONFIGURATION CHECKLIST

Low Seismicity

Building System

General

(C) NC N/A U LOAD PATH: The structure shall contain a complete, well defined load path, including structural elements and connections, that serves to transfer the inertial forces associated with the mass of all elements of the building to the foundation. (Commentary: Sec. A.2.1.1. Tier 2: Sec. 5.4.1.1)

C NC (N/A) U ADJACENT BUILDINGS: The clear distance between the building being evaluated and any adjacent building shall be greater than 4% of the height of the shorter building. This statement shall not apply for the following building types: W1, W1a, and W2. (Commentary: Sec. A.2.1.2. Tier 2: Sec. 5.4.1.2)

C NC (N/A) U MEZZANINES: Interior mezzanine levels are braced independently from the main structure, or are anchored to the seismic-force-resisting elements of the main structure. (Commentary: Sec. A.2.1.3. Tier 2: Sec. 5.4.1.3)

Building Configuration

C NC (N/A) U WEAK STORY: The sum of the shear strengths of the seismic-force-resisting system in any story in each direction is not less than 80% of the strength in an adjacent story above. (Commentary: Sec. A.2.2.2 Tier 2: Sec. 5.4.2.1)

C NC (N/A) U SOFT STORY: The stiffness of the seismic-force-resisting system in any story is not less than 70% of the seismic-force-resisting system stiffness in an adjacent story above or less than 80% of the average seismic-force-resisting system stiffness of the three stories above. (Commentary: Sec. A.2.2.3. Tier 2: Sec. 5.4.2.2)

(C) NC N/A U VERTICAL DISCONTINUITIES: All vertical elements in the seismic-force-resisting system are continuous to the foundation. (Commentary: Sec. A.2.2.4. Tier 2: Sec. 4.3.2.4)

(C) NC N/A U GEOMETRY: There are no changes in the net horizontal dimension of the seismic-force-resisting system of more than 30% in a story relative to adjacent stories, excluding one-story penthouses and mezzanines. (Commentary: Sec. A.2.2.5. Tier 2: Sec. 5.4.2.4)

(C) NC N/A U MASS: There is no change in effective mass more than 50% from one story to the next. Light roofs, penthouses, and mezzanines need not be considered. (Commentary: Sec. A.2.2.6. Tier 2: Sec. 5.4.2.5)

(C) NC N/A U TORSION: The estimated distance between the story center of mass and the story center of rigidity is less than 20% of the building width in either plan dimension. (Commentary: Sec. A.2.2.7. Tier 2: Sec. 5.4.2.6)

Moderate Seismicity: Complete the Following Items in Addition to the Items for Low Seismicity.

Geologic Site Hazards

C NC N/A (U) LIQUEFACTION: Liquefaction-susceptible, saturated, loose granular soils that could jeopardize the building's seismic performance shall not exist in the foundation soils at depths within 50 feet under the building. (Commentary: Sec. A.6.1.1. Tier 2: Sec.5.4.3.1)

C NC N/A (U) SLOPE FAILURE: The building site is sufficiently remote from potential earthquake-induced slope failures or rockfalls to be unaffected by such failures or is capable of accommodating any predicted movements without failure. (Commentary: Sec. A.6.1.2. Tier 2: Sec. 5.4.3.1)

C NC N/A (U) SURFACE FAULT RUPTURE: Surface fault rupture and surface displacement at the building site is not anticipated. (Commentary: Sec. A.6.1.3. Tier 2: Sec. 5.4.3.1)

High Seismicity: Complete the Following Items in Addition to the Items for Low and Moderate Seismicity

Foundation Configuration

(C) NC N/A U OVERTURNING: The ratio of the least horizontal dimension of the seismic-force-resisting system at the foundation level to the building height (base/height) shall be greater than $0.6S_a$. (Commentary: Sec. A.6.2.1. Tier 2: Sec. 5.4.3.3)

(C) NC N/A U TIES BETWEEN FOUNDATION ELEMENTS: The foundation has ties adequate to resist seismic forces where footings, piles, and piers are not restrained by beams, slabs, or soils classified as Class A, B, or C. (Commentary: Sec. A.6.2.2. Tier 2: Sec. 5.4.3.4)

16.2LS LIFE SAFETY STRUCTURAL CHECKLIST FOR BUILDING TYPES W1: WOOD LIGHT FRAMES AND W1A: MULTISTORY, MULTI-UNIT RESIDENTIAL WOOD FRAME

Low and Moderate Seismicity

Seismic-Force-Resisting System

(C) NC N/A U REDUNDANCY: The number of lines of shear walls in each principal direction is greater than or equal to 2. (Commentary: Sec. A.3.2.1.1. Tier 2: Sec. 5.5.1.1)

C **(NC)** N/A U SHEAR STRESS CHECK: The shear stress in the shear walls, calculated using the Quick Check procedure of Section 4.5.3.3, is less than the following values (Commentary: Sec. A.3.2.7.2. Tier 2: Sec. 5.5.3.1.1):

Structural panel sheathing	1,000 plf
Diagonal sheathing	700 plf
Straight sheathing	100 plf
All other conditions	100 plf

C NC **(N/A)** U STUCCO (EXTERIOR PLASTER) SHEAR WALLS: Multi-story buildings do not rely on exterior stucco walls as the primary seismic-force-resisting system. (Commentary: Sec. A.3.2.7.1. Tier 2: Sec. 5.5.3.6.1)

C NC **(N/A)** U GYPSUM WALLBOARD OR PLASTER SHEAR WALLS: Interior plaster or gypsum wallboard are not used as shear walls on buildings more than one story high with the exception of the uppermost level of a multi-story building. (Commentary: Sec. A.3.2.7.3. Tier 2: Sec. 5.5.3.6.1)

(C) NC N/A U NARROW WOOD SHEAR WALLS: Narrow wood shear walls with aspect ratio greater than 2-to-1 are not used to resist seismic forces. (Commentary: Sec. A.3.2.7.4. Tier 2: Sec. 5.5.3.6.1)

C NC **(N/A)** U WALLS CONNECTED THROUGH FLOOR: Shear walls have an interconnection between stories to transfer overturning and shear forces through the floor. (Commentary: Sec. A.3.2.7.5. Tier 2: Sec. 4.4.2.7.5)

C NC **(N/A)** U HILLSIDE SITE: For structures that are taller on at least one side by more than one-half story because of a sloping site, all shear walls on the downhill slope have an aspect ratio less than 1-to-1. (Commentary: Sec. A.3.2.7.6. Tier 2: Sec. 5.5.3.6.3)

C NC **(N/A)** U CRIPPLE WALLS: Cripple walls below first-floor-level shear walls are braced to the foundation with wood structural panels. (Commentary: Sec. A.3.2.7.7. Tier 2: Sec.5.5.3.6.4)

C **(NC)** N/A U OPENINGS: Walls with openings greater than 80% of the length are braced with wood structural panel shear walls with aspect ratios of not more than 1.5-to-1 or are supported by adjacent construction through positive ties capable of transferring the seismic forces. (Commentary: Sec. A.3.2.7.8. Tier 2: Sec. 5.5.3.6.5)

Connections

C **(NC)** N/A U WOOD POSTS: There is a positive connection of wood posts to the foundation. (Commentary: Sec. A.5.3.3. Tier 2: Sec. 5.7.3.3)

C **(NC)** N/A U WOOD SILLS: All wood sills are bolted to the foundation. (Commentary: Sec. A.5.4.1. Tier 2: Sec. 5.7.3.3)

C **(NC)** N/A U GIRDER/COLUMN CONNECTION: There is a positive connection utilizing plates, connection hardware, or straps between the girder and the column support. (Commentary: Sec. A.5.4.1. Tier 2: Sec. 5.7.4.1)

High Seimicity: Complete the Following Items in Addition to the Items for Low and Moderate Seismicity.

Connections

C **(NC)** N/A U WOOD SILL BOLTS: Sill bolts are spaced at 6 feet or less with proper edge and end distance provided for wood and concrete. (Commentary: Sec. A.5.3.7. Tier 2: Sec. 5.7.3.3)

Diaphragms

(C) NC N/A U DIAPHRAGM CONTINUITY: The diaphragms are not composed of split-level floors and do not have expansion joints. (Commentary: Sec. A.4.1.1. Tier 2: Sec. 5.6.1.1)

C NC N/A (U) ROOF CHORD CONTINUITY: All chord elements are continuous, regardless of changes in roof elevation. (Commentary: Sec. A.4.1.3. Tier 2: Sec. 5.6.1.1)

C (NC) N/A U STRAIGHT SHEATHING: All straight sheathed diaphragms have aspect ratios less than 2-to-1 in the direction being considered. (Commentary: A.4.2.1. Tier 2: Sec. 5.6.2)

C (NC) N/A U SPANS: All wood diaphragms with spans greater than 24 feet consist of wood structural panels or diagonal sheathing. (Commentary: Sec. A.4.2.2. Tier 2: Sec. 5.6.2)

C NC (N/A) U DIAGONALLY SHEATHED AND UNBLOCKED DIAPHRAGMS: All diagonally sheathed or unblocked wood structural panel diaphragms have horizontal spans less than 40 feet and have aspect ratios less than or equal to 4-to-1. (Commentary: Sec. A.4.2.3. Tier 2: Sec. 5.6.3)

(C) NC N/A U OTHER DIAPHRAGMS: The diaphragm does not consist of a system other than wood, metal deck, concrete, or horizontal bracing. (Commentary: Sec. A.4.7.1. Tier 2: Sec. 5.6.5)

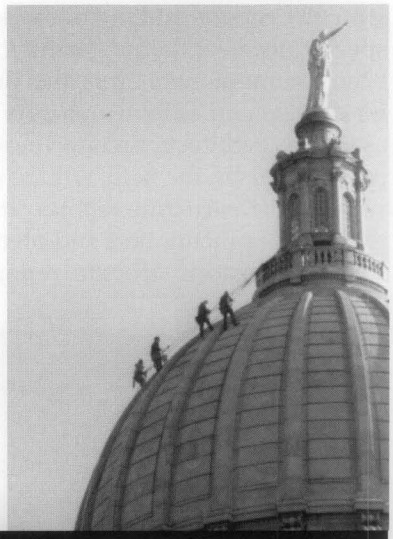
ATTACHMENT C

43 PRESERVATION BRIEFS

The Preparation and Use of Historic Structure Reports

Deborah Slaton

National Park Service
U.S. Department of the Interior
Heritage Preservation Services



A historic structure report provides documentary, graphic, and physical information about a property's history and existing condition. Broadly recognized as an effective part of preservation planning, a historic structure report also addresses management or owner goals for the use or re-use of the property. It provides a thoughtfully considered argument for selecting the most appropriate approach to treatment, *prior* to the commencement of work, and outlines a scope of recommended work. The report serves as an important guide for *all* changes made to a historic property during a project—repair, rehabilitation, or restoration—and can also provide information for maintenance procedures. Finally, it records the findings of research and investigation, as well as the processes of physical work, for future researchers.

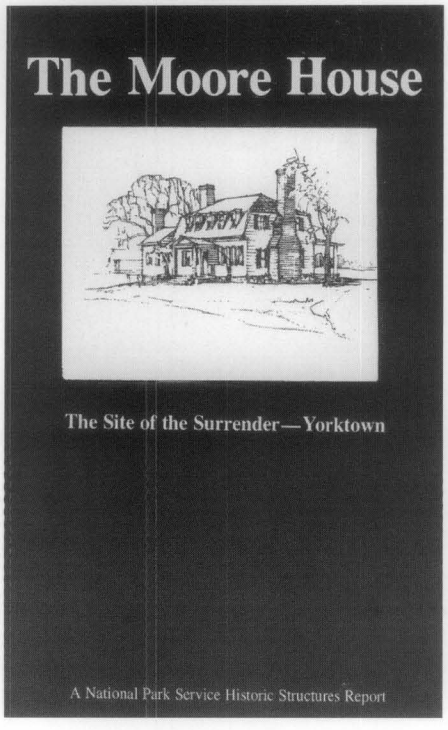


Figure 1. In the introduction to the first historic structure report in this country, Charles E. Peterson of the National Park Service wrote in 1935 "any architect who undertakes the responsibility of working over a fine old building should feel obligated to prepare a detailed report of his findings for the information of those who will come to study the structure in future years." Since then, thousands of historic structure reports (HSRs) have been prepared to help guide work on historic properties. Photo: National Parks and Conservation Association.

A historical "first." The first historic structure report prepared in the United States, *The Moore House: The Site of the Surrender—Yorktown*, was written by Charles E. Peterson of the National Park Service in the early 1930s (Fig. 1). In the decades since the Moore House report was completed, preservation specialists commissioned by owners and managers of historic properties have prepared thousands of reports of this type. Similar studies have also been used for many years as planning tools in France, Canada, Australia, and other countries, as well as in the United States. Although historic structure reports may differ in format depending upon the client, the producer of the report, the significance of the structure, treatment requirements, and budgetary and time restrictions, the essential historic preservation goal is the same.

> *Just as an art conservator would not intervene in the life of an artistic artifact before obtaining a thorough knowledge of its history, significance, and composition, so those engaged in the preservation of buildings . . . should proceed only from a basis of knowledge. Too often in the past, the cultural integrity of countless buildings . . . has been compromised by approaches to restorations grounded on personal whim, willful romanticism, and expedient notions of repair . . . . The preparation of a historic structure report is the first step in adopting a disciplined approach to the care of a historic building.*[1]

In response to the many inquires received on the subject, this Preservation Brief will explain the purpose of historic structure reports, describe their value to the preservation of significant historic properties, outline how reports are commissioned and prepared, and recommend an organizational format. The National Park Service acknowledges the variations that exist in historic

structure reports and in how these reports address the specific needs of the properties for which they have been commissioned. Thus, this Brief is written primarily for owners and administrators of historic properties, as well as architects, architectural historians, and other practitioners in the field, who have limited experience with historic structure reports. It also responds to the requests of practitioners and owners to help define the scope of a historic structure report study.

Guiding the Treatment of Significant Historic Properties

A historic structure report is generally commissioned by a property owner for an individual building and its site that has been designated as historically or architecturally significant, particularly buildings open to the public, such as state capitols, city halls, courthouses, libraries, hotels, theaters, churches, and house museums (Fig. 2). It is certainly possible, but is less common, to prepare a historic structure report for a privately owned residence.

Besides the building itself, a historic structure report may address immediate site or landscape features, as well as items that are attached to the building, such as murals, bas reliefs, decorative metalwork, wood paneling, and attached floor coverings. Non-attached items, including furniture or artwork, may be discussed in the historic structure report, but usually receive in-depth coverage in a separate report or inventory. One significant property may include multiple buildings, for example, a house, barn, and outbuildings; thus, a single historic structure report may be prepared for several related buildings and their site.

Historic structure reports can be prepared for other historic resource types as well, including bridges, canals, ships, mines, and locomotives, which are categorized as structures by the National Register of Historic Places; sculpture and monuments, which are categorized as objects; and college campuses and industrial complexes, which are categorized as districts (Fig. 3). For battlefields, gardens, designed landscapes, and cemeteries, which are categorized as sites, parallel evaluation and investigation is usually undertaken through a separate document called a cultural landscape report.

Figure 2. Historic structure reports are prepared for many types of structures with various intended uses. Examples include courthouses and state capitols still serving their historic function (upper left, Wisconsin State Capitol, Madison); significant properties that are to be rehabilitated and adaptively reused (center left, New York Merchants' Exhange, from former bank headquarters to hotel); and properties that are to be restored as house museums (lower left, Willa Cather Childhood Home, Red Cloud, Nebraska). The scope of such studies includes the interior as well as exterior of the historic structure (lower right, Stanley Field Hall, Field Museum, Chicago). Photos: upper and lower left, Wiss, Janney, Elstner Associates, Inc.; center left, Jan Hird Pokorny Associates, Inc.; lower right, McGuire Igleski & Associates, Inc.

Figure 3. The University of Vermont has more than thirty contributing buildings in four historic districts listed in the National Register of Historic Places. The Campus Master Plan recognizes a commitment to respect and maintain the historic integrity of these facilities. Historic structure reports are available for many of the University's historic structures. Photo: University of Vermont Historic Preservation Program.

A team approach. With such an array of subject matter, it is not surprising that preparation of a historic structure report is almost always a multi-disciplinary task. For a small or simple project, the project team may include only one or two specialists. For a complex project, a team may involve historians, architectural historians, archeologists, architects, structural engineers, mechanical engineers, electrical engineers, landscape architects, conservators, curators, materials scientists, building code consultants, photographers, and other specialists. The disciplines involved in a specific historic structure report reflect the key areas or issues to be addressed for the particular property. The project leader or designated principal author for the report is responsible for coordinating and integrating the information generated by the various disciplines. Designation of a principal author may depend on the goals of the historic structure report and on which disciplines are emphasized in the study.

Figure 4. For small or simple projects, the project team may include only one or two specialists while complex projects may involve a large number of investigators and specialists. For example, evaluation of this barn may primarily involve a historian, an architectural conservator, and a structural engineer. Photo: Wiss, Janney, Elstner Associates, Inc.

Value of the Historic Structure Report

The completed historic structure report is of value in many ways. It provides:

- A primary planning document for decision-making about preservation, rehabilitation, restoration, or reconstruction treatments
- Documentation to help establish significant dates or periods of construction
- A guide for budget and schedule planning for work on the historic structure
- A basis for design of recommended work
- A compilation of key information on the history, significance, and existing condition of the historic structure
- A summary of information known and conditions observed at the time of the survey
- A readily accessible reference document for owners, managers, staff, committees, and professionals working on or using the historic structure
- A tool for use in interpretation of the structure based on historical and physical evidence
- A bibliography of archival documentation relevant to the structure
- A resource for further research and investigation
- A record of completed work

Benefits for large-scale and long-term projects. In the development of any historic structure report, the scope of work and level of detail are necessarily adjusted to meet the requirements of a particular project, taking into account the property's significance, condition, intended use, and available funding. This does not mean that every significant historic property requires—or receives—a comprehensive investigation and detailed report. Some historic structure reports are of very limited scope. It may be necessary for a project to proceed without a historic structure report, either because of the cost of the report or a perceived need to expedite the work.

Most large-scale or long-term work projects would benefit greatly from the preparation of such a report—and not only from the value of the report as an efficient planning tool. (See box above.) If work proceeds without a historic structure report to guide it, it is possible that physical evidence important to understanding the history and construction of the structure may be destroyed or that inappropriate changes may be made. The preparation of a report prior to initiation of work preserves such information for future researchers. Even more importantly, prior

Figure 5. At the Hudson Opera House, a multi-arts center in Hudson, New York, the historic structure report was prepared incrementally. The first phase of the report focused on assessment and recommendations for repair of the roofing, the most critical issue in preservation of the building. Photo: Gary Schiro.

preparation of a report helps ensure that the history, significance, and condition of the property are thoroughly understood and taken into consideration in the selection of a treatment approach and development of work recommendations. One of the goals of a historic structure report is to reduce the loss of historic fabric or significance and to ensure the preservation of the historic character of the resource.

When to Prepare the Report

Optimal first phase. The historic structure report is an optimal first phase of historic preservation efforts for a significant building or structure, preceding design and implementation of preservation, rehabilitation, restoration, or reconstruction work. Information contained in the report documents existing conditions and serves as a basis for proposing physical changes. As additional information is learned relevant to the history of the building, and as work on the historic structure is implemented, the report can be amended and supplemented.

The length of time required to prepare a historic structure report and the budget established for its development will vary, depending on the complexity of the project, the extent and availability of archival documentation, and to what extent work has already been performed on the building. If the scope of a historic structure report for a simple building is limited to a brief overview of historic significance, a walk-through condition assessment, and general treatment, the study and report may be completed within a few months' time by an experienced investigator. On the other hand, a historic structure report for a larger building with numerous past alterations and substantive problems will require extensive research and on-site study by a multidisciplinary team. This type of report can often take up to two years to complete.

Determining the Scope of Work

The following questions should be answered to determine the scope of work required for the study:

- Is the building's history well understood?
- Has the period of significance been established?
- Does the building represent a variety of periods of construction, additions, and modifications, not all of which may be significant?
- What archival documentation is available?
- Does the building have physical problems that require repair? What construction materials and systems are known to exhibit distress or deterioration?
- Does the building have code or functional problems that interfere with its use?
- Is the building in use? Is a new or more intensive use planned?
- Is funding available to commission the report needed to address these requirements? If not, can the scope of the report be reduced to answer critical questions in a limited report?
- Has the time frame for the overall project been established?

Incremental preparation. If budgetary constraints preclude completing the historic structure report as one project, it can be prepared incrementally (Fig. 5). The work recommendations should not be developed or implemented prior to completion of research and investigation, except for emergency stabilization to prevent immediate failure or damage, or temporary measures to address critical health and safety issues. A partial historic structure report can be completed in preparation for anticipated work that must be initiated to preserve or protect the building. This type of report includes analysis of only those building elements and systems that may be affected by the proposed work, and involves only the specialists needed to address the types of investigation and work planned. For example, research and documentation of existing interior finishes may be required before undertaking localized structural stabilization that will require removal of interior materials.

In undertaking such work prior to the completion of a historic structure report, caution should be taken not to alter or unnecessarily remove changes to the building that had occurred over time. The completed report may conclude that such changes to the building may have acquired significance in their own right and therefore merit preservation.

Documenting past work. Sometimes a historic structure report is initiated when repair or restoration work on the historic building has already been completed. Although it is always recommended that the study be done prior to new work, in this case, the report needs

to document—as fully as possible—the condition and appearance of materials, elements, and spaces as they existed *prior* to the work performed. The extent to which this can be achieved depends on the quality of archival documentation available and physical recording undertaken prior to the completed work. The report should describe the nature and extent of the past repair or restoration work, and, if possible, should also document research performed, reasons for design decisions made, and the construction process for the work already completed on the structures.

Commissioning a Report

Commissioning a historic structure report requires answering a series of questions to establish the scope of work. (See sidebar.) The goals of the report need to be defined and the report should be designed to support planning for the future of the historic structure. This effort may involve gathering information to answer questions about what is significant about the building and site; what uses are appropriate for the building, or whether existing uses need to be modified; what known conditions require repair and whether those repairs are urgent; and what short-term and long-term goals need to be addressed. Finally the available budget for the historic structure report project should be established before a request for proposals is issued.

The procedures for preparing a historic structure report and the outline of report content and organization can serve as the basis to develop a scope of work for the study and also to solicit proposals for a report that reflects the requirements of the specific structure, and, of course, the available budget. Although the request for proposals should always establish such a scope of work, firms may be invited to suggest adjustments to the scope of work based on their past experience. The request for proposals should require a qualifications submittal from each proposer. This submittal should include resumes for the principal investigators and a description of experience in preparing historic structure reports or similar studies, as well as experience with buildings of similar type, age, and construction to the subject of the study. References and samples of work may be requested from the proposer as part of this submittal. An interview with one or more candidates is highly recommended, both so that the proposers can present their project approach and qualifications, and so that the client can ask questions in response to the submitted proposal.

How Much Will It Cost?

The cost of undertaking a historic structure report is determined by numerous factors, some of which may be unique to a particular property. Common to most projects, however, are seven factors that help determine the cost of a report:

1. The *level of significance* of the property will certainly influence the cost. That is, a property that is nationally significant would likely require a greater effort than a property that is only locally significant.

Figure 6. Historical photographs are an invaluable aid and time saver in establishing a building's original construction and evolution; in guiding the replication of missing features; and even in understanding existing material deterioration. The availability of information, such as archival photographs, surviving original architectural drawings, or HABS documentation, has a direct bearing on the cost of preparing a historic structure report. In this circa 1890 photo of the Rancho San Andrés Castro Adobe, the "lumbering up" on the south end is a character-defining feature of adobe construction, rarely seen today. Photo: Historic photograph from the Historic Structure Report for Rancho San Andrés Adobe by Edna Kimbro, State Historian, California State Parks, Monterey District.

2. The *treatment and use* for which the historic structure report information provides a basis is an important cost consideration. If the decision is reached to maintain a building in its current form, the level of effort required in preparing a historic structure report would be less than where the intended treatment is a comprehensive restoration. A change in building use likewise may increase the level of effort; for example, the additional work involved in addressing different building code provisions.

3. The *availability of information* about the historic resource has a direct bearing on costs. Some historic structures are well researched, and drawings may have been prepared to exacting standards, while others may require considerable original research and investigation to establish the evolution of the structure (Fig. 6). On occasion, a property owner's in-house staff or volunteers may undertake further research in advance of a contracted study as a way to reduce the cost of the report.

4. The *location of and access to a historic building* is a cost factor for some studies. A property in a remote mountain location can involve high travel costs relative to properties in or near an urban area. A structure requiring special techniques for exterior physical inspection would involve higher access costs than a small residential structure (Fig. 7).

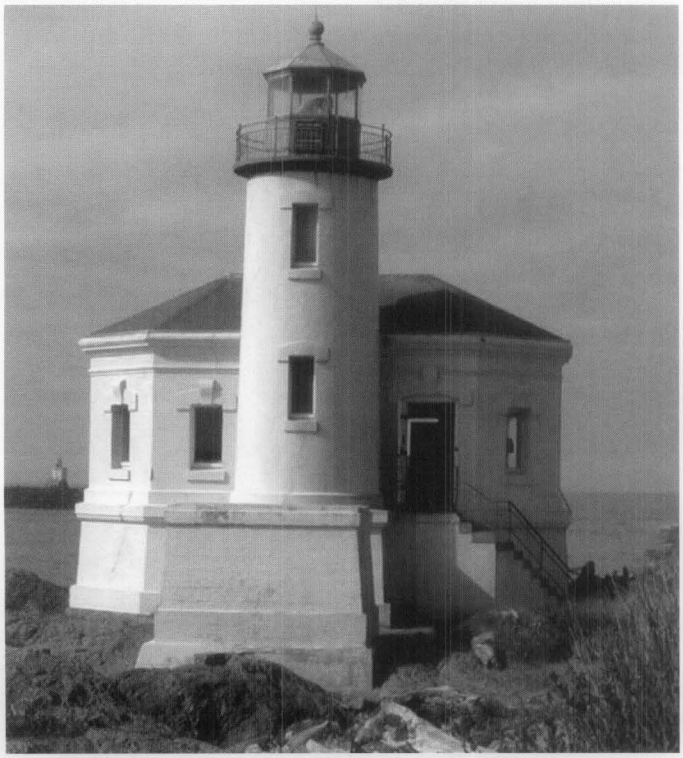


Figure 7. Numerous factors influence the cost of preparing a historic structure report including the level of significance, size, and complexity of the property; required treatment and use; existing condition; and the location and access to the structure. Historic structure reports were prepared for several small lighthouses along the Oregon coast, including the Coquille River Lighthouse, shown here. Photo: Wiss, Janney, Elstner Associates, Inc.

Collecting Information for the Report

A typical study involves:

- Preliminary walk through
- Research and review of archival documentation
- Oral histories
- An existing condition survey (including exterior and interior architectural elements, structural systems, mechanical and electrical systems, etc.)
- Measured drawings following the *Secretary of the Interior's Standards and Guidelines for Architectural and Engineering Documentation*
- Record photography
- Selected materials studies (e.g., mortar analysis, finishes analysis, etc.)
- Evaluation of significance
- Discussion with the owner and users about current and future intended uses for the structure
- Selection and rationale for the most appropriate treatment approach (preservation, rehabilitation, restoration, or reconstruction)
- Development of specific work recommendations

5. The *size and architectural character* of a property affect the time required to prepare a historic structure report. A simple four-room vernacular structure would usually involve less effort than a complicated high-style courthouse with many significant spaces.

6. The *physical condition of the structure* and also the *extent of physical fabric that is accessible for study* will be cost determinants as well. Obviously, a property in good condition is usually less problematic than one in a deteriorated state. For a structure that was continuously occupied and where alterations cover earlier fabric, the opportunity to extract information from physical fabric dating to early periods may be limited without extensive removals that are usually beyond the scope of the historic structure report study. Even where buildings are vacant, there are instances where certain physical investigations may need to be limited because of the destructive impact that will occur to historic fabric.

7. The *type of final report* that is required can significantly affect the cost of the project, but is an area where costs can readily be controlled. Historic structure reports do not necessarily need to be professionally bound and printed. In-house desktop publishing has become commonplace, and a formal work product can often be obtained without excessive costs. Overly sophisticated printing and binding efforts represent a misplaced funding allocation for most historic

properties. There are distinct advantages to having a report prepared in an appropriate electronic form, thus reducing the number of hard copies and facilitating future updates and additions to the report. For most properties where historic structure reports are prepared, ten or so hard copies should suffice. Providing one copy of the report in a three-ring binder is a helpful and inexpensive way to furnish the owner with a "working" copy of the document.

Suggested steps for collecting information prior to configuring the data into the actual report are as follows:

Preliminary walk through. A preliminary walk through of the building and its site with the owner or site manager, appropriate building staff representatives, and key members of the historic structure report team is important to review the project scope of work. During the walk through, a brief review of existing conditions can be performed to highlight user concerns and gather information about distress and deterioration observed. Building staff may also be able to provide information on recent repairs, current maintenance procedures, and specific areas of active deterioration. A brief review of existing documentation available on site is also useful. Site personnel may be able to recommend additional archival resources.

Historical research. Archival research should be directed toward gathering information on the building's history, original construction and later modifications, occupancies, and uses over time (Fig. 8). Research for the report is not intended to produce a large compendium of historical and genealogical material, but rather selected information necessary to understand the evolution of the structure, its significance, and justification for the treatment selected. For significant sites where other types of studies such as archeological investigations or a cultural landscape report have been completed or are underway, coordination is required to ensure that research information is shared and that the research effort is not duplicated.

If a National Register nomination or other inventory has already been completed for the building and its site, the bibliography of that document may suggest possible sources for further research. In addition, a completed National Register nomination can serve as a starting point for development of the historic structure report sections on history and significance, and can be included in the appendix of the report.

Public and university libraries, and state and local historical societies, are likely sources of relevant materials. Municipal records collections often contain deed and building permit information that is useful in developing a chronology of ownership and construction. Architectural, engineering, and construction documents, shop drawings, repair documents, and maintenance records are valuable sources of information. The original

Figure 8. Historical research is directed toward gathering information on a structure's history, original construction and later modifications, occupancies, and uses over time. Research may range from national repositories such as the Library of Congress to local collections or private family records. Old newspapers, architectural journals, and even manufacturing trade catalogs can be surprising sources of historical accounts and illustrations. This circa 1902 photograph of New York's Flatiron Building is of the construction in progress; such photographs are useful in understanding building chronology as well as concealed conditions of as-built construction such as building framing. Photo: Library of Congress, LC-D401-14278. The interior photograph of the former Bemir Drug Store in Rochester, New York, showcases a rubber tile floor as illustrated in a 1925 publication by the United States Rubber Company.

drawings and specifications, if extant, may be kept at the archives of the historic building but may also have been retained by the firm that designed the building or successor firms. Building records and other archival documentation may have remained with the structure or site, with previous owners, or with related properties.

Historic photographs are invaluable in developing a chronology of building changes and in determining the character and detailing of missing elements (Fig 9). Photographs in private collections, not intended as formal documentation, can often be useful. For example, family photographs taken outdoors can document a building that appears in the background. Renderings and paintings can also be useful, but these images must be carefully analyzed and compared with other information to ensure accurate interpretation. Correspondence and oral histories can be important additions to the overall information, but may be unreliable and should be confirmed, when possible, by comparison with photographic documentation and physical evidence.

Fire insurance maps, such as Sanborn maps, can provide information on type of construction materials. When maps from different years are available, these can be useful in developing a chronology of additions and other changes to the structure.

Existing condition survey. A survey is performed to document physical spaces and elements, and to assess the current condition of building materials and systems. In conjunction with historical research, the condition survey helps determine the historic integrity of a structure. The survey and inspection should address the building's exterior and interior materials, features and finishes; structural systems; interior spaces; mechanical, electrical, and plumbing systems; and fire detection and security systems. Further study may be required such as non-intrusive or intrusive investigation, field testing, sample removal, and laboratory testing and analysis of materials.

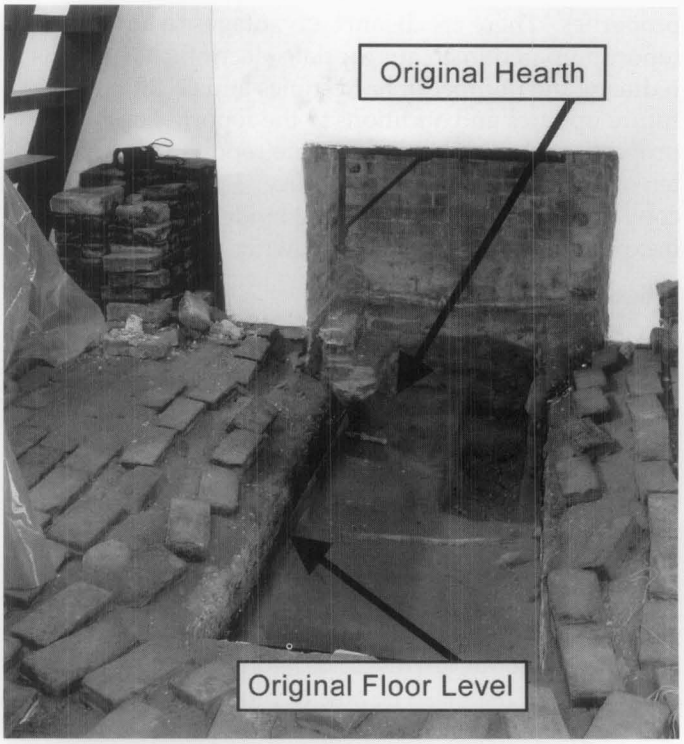


Figure 10. Archeological studies may be valuable in uncovering important evidence of changes to a historic structure. Following historical research and after several archeological soil probes, a decision was made to excavate an area in front of a mid-nineteenth century fireplace, revealing the original dirt floor and hearth undetected by earlier restoration efforts. Photo: Kaaren Staveteig, National Park Service.

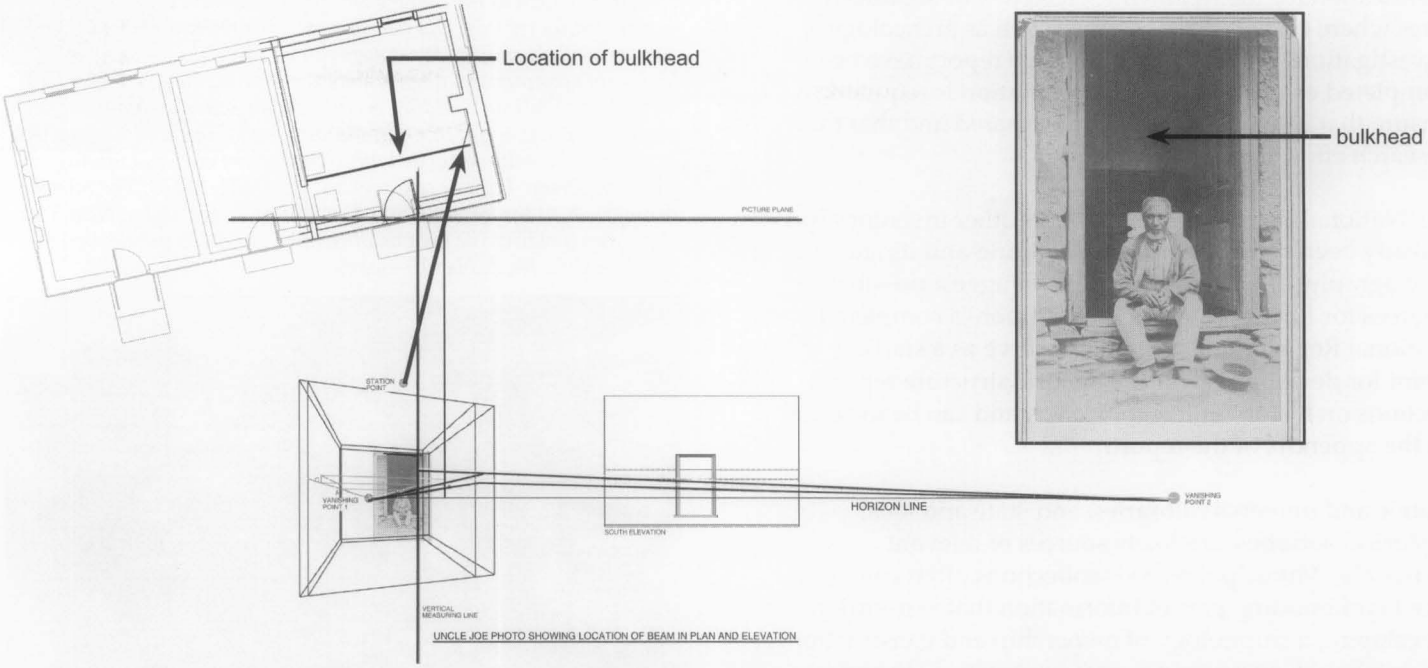


Figure 9. A CADD perspective analysis facilitated study of the location of a long removed interior bulkhead wall. The bulkhead appears in a historic exterior photograph of a man seated in the door entrance to a mid-nineteenth century plantation dependency. Drawing: John Volz & Associates, Inc.; historic photo: National Park Service files.

Archeological investigations can provide information on the locations of building foundations and other sub-grade building elements, and can also assist in developing information on the function of adjacent site areas, building elements, and previously unfinished floor spaces (Fig. 10). The survey may also address the immediate site landscape, if this is not covered in a separate cultural landscape report.

Information gathered during the survey can be documented with field notes on baseline drawings consisting of field sketches or measured drawings. In addition, documentation can include photographs (35-mm, large format, digital, perspective-corrected, and scale-rectified photographs; photogrammetry; and laser techniques), sketches and measured drawings, computer-aided design and drafting (CADD), video records, and written notes and field measurements. Depending upon project requirements, documentation may need to be prepared to archival standards regarding paper, photographs and negatives, electronic records, and backup data.

Measured drawings and record photography. The collection of the Historic American Building Survey/ Historic American Engineering Record (HABS/HAER) archive at the Library of Congress should be searched in case the property has been previously documented through drawings and photographs. While many historic properties have been documented since the start of this invaluable collection in the 1930s, it is still more likely that this type of documentation does not exist for a property for which a historic structure report is being undertaken. Preparation of such documentation to portray the current condition of a property can be an invaluable addition to the historic structure report. Besides serving as a documentary record of a structure, the recording documents can serve another purpose such as an easement document, information for catastrophic loss protection, interpretive drawings, or baseline drawings for proposed work. If undertaken as part of the current building study, the measured drawings and record photography should follow the *Secretary of the Interior's Standards and Guidelines for Architectural and Engineering Documentation.*

Materials investigation and testing. Field examination and testing of building material may include non-destructive (non-intrusive) or, where necessary, destructive (intrusive) examination and/or testing of materials, components, and systems (Fig. 11). Examples of non-destructive methods of field examination and testing include field microscopy, the use of a metal detector to locate concealed metal elements, and X-ray techniques to assess concealed conditions. Some examples of destructive methods of field examination and testing include structural testing, strain relief testing, and inspection openings (probes). Instruments such as a borescope, through which concealed conditions can be viewed through a small hole, permit

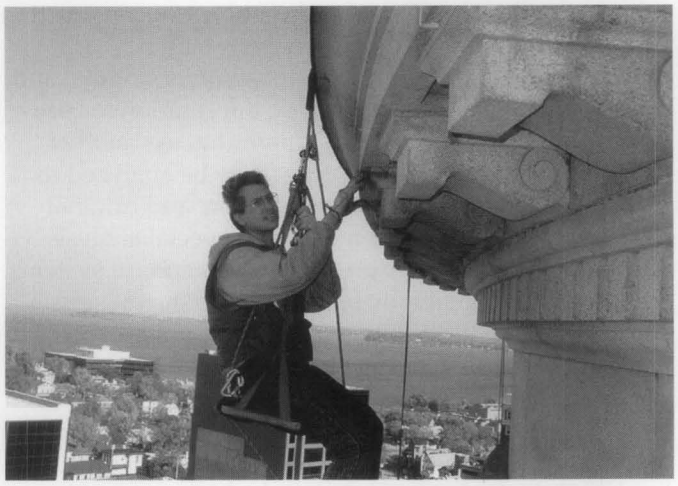
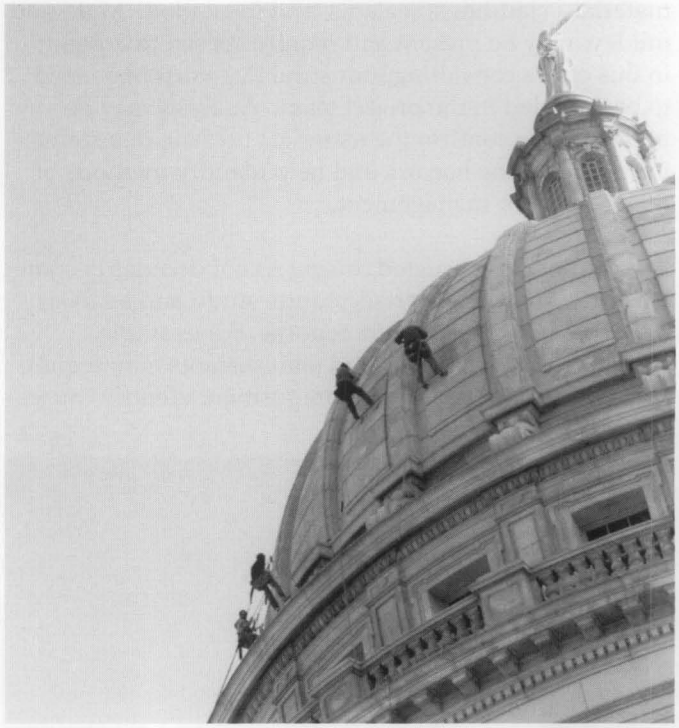


Figure 11. The use of special access methods may be necessary for close-up investigation of building elements. At the Wisconsin State Capitol, project architects and engineers used rappelling techniques. Photo: Wiss, Janney, Elstner Associates, Inc.



enhanced examination while limiting damage to the existing building fabric.

Depending upon existing conditions and the results of the site inspection, field monitoring may be required. Field monitoring can include humidity and temperature monitoring, documentation of structural movement and vibrations, light level monitoring, and other environmental monitoring.

In addition, materials samples may be removed for laboratory studies. A wide range of laboratory testing may be appropriate to establish the composition of various construction materials, determine causes of deterioration, and identify and assess appropriate conservation and repair measures (Fig. 12). Materials analysis may also be helpful in dating changes to the

structure and in developing a chronology of construction (Fig. 13). For example, mortar analysis may be performed to determine the composition of original and repointing mortars and to provide information for use in designing a mortar mix for repointing. As another example, paint and other coatings may be analyzed to determine finish types and composition, and original and subsequent color schemes, using special analysis techniques and comparison with color standard systems. Samples should generally be returned to the owner and retained in case future testing is required. In some cases, it may be appropriate to reinstall the samples after materials studies have been completed.

Sample removal and analysis may also be required to identify hazardous materials, which are present in many historic buildings. For example, lead and other heavy metals are components of many older paints and coatings, and asbestos is a constituent of some roofing materials, claddings, sealants, and insulation. Mold and mildew may be present and require special treatment; in this case a consulting industrial hygienist may need to be included in the project team. Analysis may be performed to confirm the materials present, determine the nature of the hazard, and help identify methods of remediation or management.

As buildings constructed during recent decades become "historic," newer materials require study and analysis as part of historic structure reports. For example, curtain wall components and joint sealants may require analysis to determine their composition, identify causes

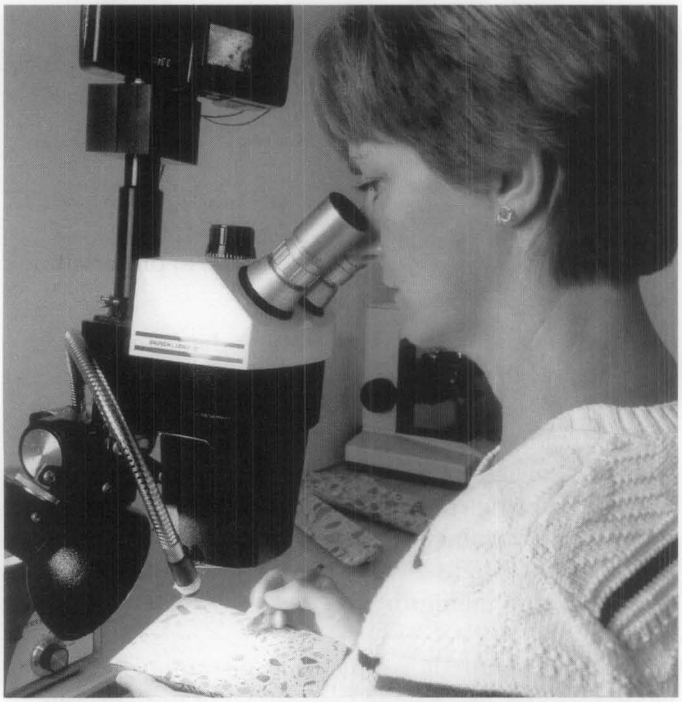


Figure 12. Field and laboratory studies of construction materials may be performed as part of a historic structure report. Laboratory studies of samples removed from the building may include a range of chemical and physical testing and evaluation. Here, a petrographer uses a stereomicroscope to examine concrete specimens. Photo: Wiss, Janney, Elstner Associates, Inc.

Figure 13. Paint studies may not only help establish the chronology of paints and paint colors used on a building but also may aid in the dating of existing architectural features. Examination of the paint layers on these modillions utilizing a hand-held microscope enabled an investigating team to confirm in the field which modillions were original and which were later replacements. Photo: Charles Fisher, National Park Service.

of deterioration, and select appropriate replacement sealants. Composite materials and plastics, present in post-World War II buildings, may also require special effort to determine repair techniques or appropriate materials for replacement.

All of the information gathered during the physical investigation, and through field testing and laboratory analysis, should be documented in field notes, sketches, photographs, and test reports. This information is incorporated in the historic structure report and provides a basis for the development of treatment recommendations.

Evaluation of significance. The process of evaluation occurs throughout the study of the historic structure as information is gathered, compared, and reviewed. Historical data and physical evidence are reviewed to help evaluate the historical, architectural, engineering, and cultural significance of the property, its construction and use, and occupants or other persons associated with its history and development. This evaluation includes determination of the period(s) of primary significance. An overview of the building's history and an assessment of its significance are included in the report.

Depending on the historical significance of the property, and whether a detailed history has already been written,

The Secretary of the Interior provides four distinct but interrelated approaches to the treatment of historic properties.

Preservation focuses on the maintenance and repair of existing historic materials and retention of a property's form as it has evolved over time.

Rehabilitation acknowledges the need to alter or add to a historic property to meet continuing or changing uses while retaining the property's historic character.

Restoration is undertaken to depict a property at a particular period of time in its history, while removing evidence of other periods.

Reconstruction re-creates vanished or non-surviving portions of a property for interpretive purposes.

a brief or more detailed history may be appropriate. A chronology of construction and changes to the building, developed through historic and physical research, is an effective approach to identifying original building elements, as well as modifications that have occurred over time. If a comprehensive National Register nomination or other inventory has been prepared, the significance may already be defined. In other cases, the significance of a building and even its treatment may have been established through authorizing legislation or through the charter of an organization or foundation that owns the historic property. Where appropriate, however, the building's significance should be re-evaluated in light of research performed for the historic structure report.

The results of the research, investigation, and field and laboratory testing are reviewed as a basis for developing specific work recommendations. The history and significance of the building and its site are evaluated to understand what spaces, elements, and finishes are of architectural or historical importance, and to confirm the overall project goals and treatment direction. The physical condition of the building and its systems is evaluated with regard to existing deterioration and distress, and needed repairs, as well as changes required to meet treatment goals. Attention is given to identification of life safety issues and code considerations. Conditions are also identified that could lead to future safety risks, loss of historic fabric, or loss of performance.

Selection of a treatment approach. Once the building's history, significance, and physical condition have been researched and investigated, an appropriate treatment is usually selected (Fig. 14). Depending upon the intended use of a property, funding prospects, and the findings of the investigation, it may be necessary in some cases to identify and discuss an alternate treatment as well. For example, a building currently occupied by caretakers that is a candidate for restoration and use as a museum may require such ambitious funding support that, for the foreseeable future, a more practical treatment could be to preserve the building and retain the caretakers. In this case, the treatment recommendation would be to restore the property and project work relevant to the restoration would be described. However, the alternate treatment (in this instance an interim one) of preserving the building in its current form would also be described, including discussion of work appropriate to preservation such as repairing the existing roof and installing a monitored fire detection system.

Figure 14. The treatment approach selected for a building usually is determined by the intended use of a property, funding prospects, and the findings of an investigation. The Wolf Creek Inn, operated by the Oregon Parks and Recreation Department, is among the most intact and oldest active travelers' inns in Oregon. The historic structure report outlined a rehabilitation treatment which included such work recommendations as repairs to specific historic fabric, landscape restoration and site improvements, and upgrading of the building's mechanical and electrical systems. Photo: Historic American Building Survey, 1934.

In selecting an appropriate treatment, the Secretary of the Interior's Standards for the Treatment of Historic Properties can be particularly helpful. (See sidebar.) In use for more than twenty-five years, the Standards are a widely accepted means of planning for and undertaking project work in a manner that preserves historic materials and elements. The Secretary's Standards have been adopted by many state and local review

entities for review of work proposals on historic structures.

The Standards and their accompanying Guidelines describe four different options for treatment and list recommended techniques for exterior and interior work consistent with each option. One treatment (preservation, rehabilitation, restoration, or reconstruction) is usually selected and followed throughout the course of a project involving a particular building. Application of a single treatment approach helps to avoid inappropriate combinations of work, such as restoring a building's appearance to an earlier time in history while simultaneously constructing a new addition.

Figure 15. The historic structure report for the Hotel Florence, shown here in 1886 (upper), 1963 (center), and 2004 (lower) views, provided a basis for stabilization and repair work which has been completed. Initial phases of work addressed preservation of the building envelope, structural repairs, and limited mechanical and electrical improvements. The report also provided recommendations for future rehabilitation work that will be implemented in phases as funding becomes available. Photos: upper and center, Historic American Building Survey; lower, Wiss, Janney, Elstner Associates, Inc.

Development of work recommendations. The work recommendations are a central feature of the report. They are developed only after the research and investigation has been completed and the overall project goal established as to whether a particular building should be preserved, rehabilitated, restored, or reconstructed. The specific work recommendations need to be consistent with the selected treatment. If analysis performed during the study suggests that the approach or use initially proposed would adversely affect the materials, character, and significance of the historic building, then an alternate approach with a different scope of work or different use may need to be developed. The process of developing work recommendations also needs to take into account applicable laws, regulations, codes, and functional requirements with specific attention to life safety, fire protection, energy conservation, abatement of hazardous materials, and accessibility for persons with disabilities.

In addition to project goals, the proposed work is also guided by the building's condition. The scope of recommended work may range from minor repairs to structural stabilization to extensive restoration. In addition, the scope of work may be very narrow (e.g., priming and painting of woodwork and repair of deteriorated roof flashings), or very extensive (e.g., stabilization of timber framing or major repair and repointing of exterior masonry walls). The result of implementing (or not implementing) the recommended work needs to be considered as the recommendations are developed.

Of course, the available project budget is also a factor in determining the extent of recommended work and whether it must be accomplished in several phases or projects. Whether or not available budget is the primary factor in determining the extent of work that can be performed, it is often useful to prioritize recommended work items. The recommended tasks can be examined in terms of relative importance and the time required for implementation. Prioritizing repairs can be critical where immediate or short-term work is needed to stabilize a building or structure, eliminate safety hazards, make the building weather tight, and protect it against further deterioration (Fig. 15).

Appropriate procedures for undertaking the recommended work items are described in the historic structure report and are intended to serve as a basis for planning the repair, rehabilitation, or restoration design. The level of detail to which the work items are defined should be limited in the historic structure report, as these

recommendations serve as the foundation for, rather than in place of, design and construction documents for the work. For example, baseline drawings annotated with existing condition notes can later serve as a starting place for development of construction drawings. Outline procedures provided in the report for recommended work items can be used later to develop specifications for the work. Finally, a general opinion of probable costs associated with the recommended work is often prepared. A cost estimate is useful to building owners and managers in budget planning and also assists in prioritizing the work. For large or complex projects, the services of a professional cost estimator may be helpful in this effort.

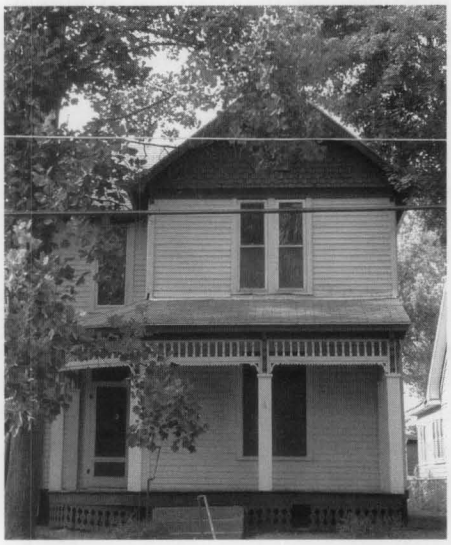
Report Preparation. Upon completion of the research, physical investigation, evaluation, and work recommendations, the historic structure report is compiled. The principal investigator may submit an outline of the report for owner review at the beginning of the report preparation. A draft report may also be submitted for review when the report is partially complete, especially if there are many new research findings, significant physical distress conditions to be addressed, or complicated choices to be made in determining the treatment.

The report should be prepared in a style and format that is readily accessible and user-friendly; however, it is not essential that a standardized method or format be followed for all historic structure reports. The report can be primarily narrative or graphic, but is most typically a combination of these formats. Ease and economy of report preparation should be considered but should not take precedence over clarity and thoroughness of documentation.

Meetings and presentations. In addition to meetings with site personnel early in the study process, it is helpful for the project team to meet at key points during the research, investigation, and development of the historic structure report. For example, it is useful for the project team members performing archival research to meet with site personnel to review documents and findings, and to help ensure that important archival sources have not been overlooked. Project team members may also walk through the building with site personnel during the investigation phase to review and discuss existing conditions and possible recommendation approaches. When the report is in draft form, a meeting of the project team with those personnel who will be reviewing and using the report is useful to discuss overall goals, treatments, and recommendations as these are being developed. Finally, when the study is complete, a presentation of the completed study by the project team helps to familiarize the owner and building personnel with the report, highlight key issues, answer questions, and provide a transition to the use of the report as a working document by the building's caretakers.

Report Organization

The scope of the study—historical research, condition survey, investigation and testing, evaluation, selection of appropriate treatment, and development of specific work recommendations—generates a wealth of information about the history and condition of the building and the specific work needed to preserve, rehabilitate, restore, or reconstruct it. This information is typically a combination of historical and technical data obtained by different members of the project team and presented as an integrated report in text, photographs, drawings, and tables (Fig.16). The project leader or principal author must guide the development of the report so that key issues are addressed, information is



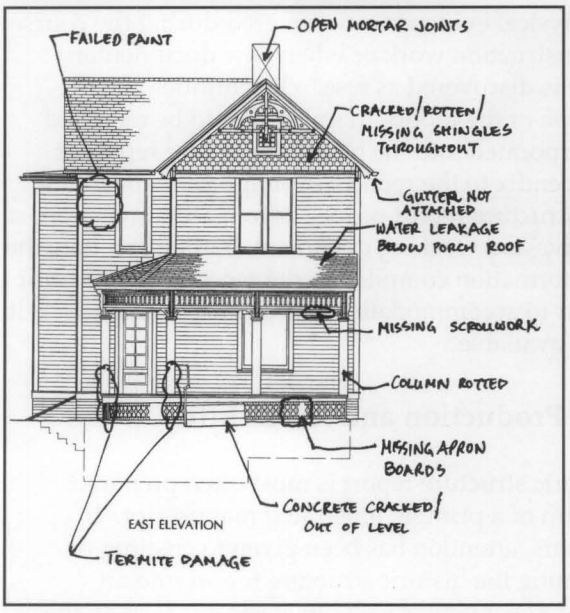


Figure 16. The historic structure report for the Noland House in Independence, Missouri, a vernacular house that is significant as part of the context of Harry S Truman's life and family in Independence, Missouri, includes photographs and measured drawings to record existing features and conditions of the building. The measured drawings will also provide a basis for construction documents for future preservation work. This photograph and drawing illustrate the front elevation of the house. Photo and drawing: Bahr Vermeer Haecker Architects.

documented and assimilated in the report findings and discussion, recommendations are clearly presented, and no information is lost or misinterpreted in the compilation process.

In order to integrate the many pieces of information into a coherent and comprehensive whole, the historic structure report is generally organized into two principal sections preceded by a brief introduction that summarizes overall findings and recommendations and provides project administrative data. The main sections of the report consist of (1) a narrative that documents the evolution of the building, its physical description, existing condition, and an evaluation of significance; and (2) a discussion of historic preservation objectives, together with recommendations for an overall treatment approach and for specific work. The report is usually supplemented with footnotes or endnotes, bibliography, and appendices of historical documentation and technical data.

It is highly recommended that a post project record of all work performed later be added as a supplement to the historic structure report. This record may consist of annotated drawings, photographs, and other documentation of the work performed. Site personnel may help coordinate this supplement or record if the principal author of the report is not involved in the later construction phase. Some organizations and government agencies consider the post project record to be a third part of a historic structure report and not just a supplement.

When physical evidence is discovered during the course of the construction work or when new documentary evidence is discovered as research continues after completion of the report, this also should be recorded and incorporated into the historic structure report or in an appendix to the report. An important goal of the historic structure report process is to maintain the report as an active and working document, both to facilitate the use of information compiled in the report and to permit the report to accommodate new information readily as it becomes available.

Report Production and Availability

The historic structure report is most often prepared in the form of a printed, illustrated manuscript. In recent years, attention has been given to creating or transforming the historic structure report into an electronic document as well. In electronic format, the report can easily be shared with interested parties and is readily updated.

However, because historic structure reports are still mostly produced in printed format (although sometimes concurrently with an electronic document), it is important that, after production, one or more copies be provided to the property owner and also made available to the project team. As the basis for design and construction documents, the historic structure report needs to be readily available and extensively used during implementation of the work. At least one site copy should be maintained in a physical format that can be readily updated, such as a three-ring notebook to which additional documentation can easily be added. Field documentation materials, including photographs and negatives, measured field drawings, condition reports and surveys, materials test reports, and other information gathered during the study can be stored in an archive by the building owner for future reference.

An archival copy should also be provided to the owner, and a minimum of one archival copy kept at the project site and at an appropriate local or regional archive, such as a state historical library. Copies of the historic structure report may also be provided to a local historical organization or university and the state historic preservation agency or historical society. In addition, a copy may be given to the National Trust for Historic Preservation Library at the University of Maryland at College Park, which has established a reference collection of historic structure reports.

Summary

Various agencies and organizations have employed historic structure reports as planning tools for many years, for example, the National Park Service, General Services Administration, New York State Office of Parks, Recreation and Historic Preservation, and the Society for the Preservation of New England Antiquities. These and other agencies and organizations may have specific requirements and procedures for reports prepared for properties under their stewardship that differ from those described in this Preservation Brief. All historic structure reports, however, share a common goal—the careful documentation and appropriate treatment of significant historic structures.

The historic structure report is an optimal first phase of historic preservation efforts for a significant building, preceding design and implementation of its preservation, rehabilitation, restoration, or reconstruction. If work proceeds without a historic structure report as a guide, physical evidence important to understanding the history and construction of the building may be destroyed. The preparation of a report prior to initiation of work provides documentation for future researchers. Even more importantly, prior preparation of a report helps ensure that the history, significance, and condition of the property are thoroughly understood and taken into consideration in the selection of an appropriate treatment and in the development of work recommendations. A well prepared historic structure report is an invaluable preservation guide.

Content and Organization of Report

Cover Page
Table of Contents
Introduction
    Study Summary
    Project Data
Part 1 - Developmental History
    Historical Background and Context
    Chronology of Development and Use
    Physical Description
    Evaluation of Significance
    Condition Assessment
Part 2 - Treatment and Work Recommendations
    Historic Preservation Objectives
    Requirements for Work
    Work Recommendations and Alternatives
Bibliography
Appendices
Supplemental Record of Work Performed
(section often added later)
    Completion Report
    Technical Data (on work completed)

Introduction. This section includes a concise account of research and investigation findings and recommendations for treatment and use, and a record of project administrative data.

- *Study Summary* - a brief statement of the purpose, findings, and recommendations of the study, including major research findings, key issues addressed by the study, and a summary of recommendations for treatment and use.
- *Project Data* - a summary of project administrative data (e.g., location, ownership, and landmark status of property) and the methodology and project participants.

Part 1 Developmental History. This section consists of a narrative report based on historical research and physical examination documenting the evolution of the building, its current condition and causes of deterioration, and its significance.

- *Historical Background and Context* - a brief history of the building and its context, its designers and builders, and persons associated with its history and development.
- *Chronology of Development and Use* - a description of original construction, modifications, and uses, based on historical documentation and physical evidence.
- *Physical Description* - a description of elements, materials, and spaces of the building, including significant and non-significant features of the building.
- *Evaluation of Significance* - a discussion of significant features, original and non-original materials and elements, and identification of the period(s) of significance (if appropriate).
- *Condition Assessment* - a description of the condition of building materials, elements, and systems and causes of deterioration, and discussion of materials testing and analysis (if performed as part of this study).

Part 2 Treatment and Work Recommendations. This section presents the historic preservation objective and selected treatment (preservation, rehabilitation, restoration, or reconstruction), requirements for work, and recommended work that corresponds with the defined treatment goal.

- *Historic Preservation Objectives* - a description and rationale for the recommended treatment and how it meets the project goals for use of the building, e.g., rehabilitation for a new use, restoration for interpretive purposes, etc.
- *Requirements for Work* - an outline of the laws, regulations, and functional requirements that are applicable to the recommended work areas (e.g., life safety, fire protection, energy conservation, hazardous materials abatement, and handicapped accessibility).
- *Work Recommendations and Alternatives* - a presentation of tasks recommended to realize the proposed treatment approach; evaluation of proposed solutions; and description of specific recommendations for work, including alternate solutions, if appropriate.

Notes, Bibliography and Appendices

- Footnotes or endnotes
- Bibliography, annotated if possible
- List of sources of information (e.g., archives, photograph collections)
- Appendices (e.g., figures, tables, drawings, historic and current photographs, reference documents, materials analysis reports, etc.)
- Index (if the report is particularly long or complex)

Supplemental Record of Work Performed. This section documents work performed, which may include planning studies, technical studies such as laboratory testing or structural analysis, or other investigation work that was not part of the scope of the original historic structure report, and records physical work on the building (construction documents, annotated drawings, photographs). The section is usually added later to update the report, as most historic structure reports are issued prior to implementation of the recommended treatment approach and specific work. It is sometimes referred to as Part 3 of the report.

- *Completion Report* - a record of the work accomplished, physical evidence discovered during construction, and how findings affect interpretation of the building.
- *Technical Data* - a collection of field reports, material data sheets, field notes, correspondence, and construction documents.

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[1] From the introduction to the *University of Virginia, Pavilion 1, Historic Structure Report*, Mesick Cohen Waite Hall Architects, 1988.

Acknowledgements

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The author gratefully acknowledges the following individuals for their assistance in the preparation and review of this brief: Alan W. O'Bright, National Park Service; John Volz, Volz & Associates; Philip D. Hamp, Vinci-Hamp Architects, Inc.; William G. Foulks; and Travis C. MacDonald, Jr., Thomas Jefferson's Poplar Forest. Additional thanks go to Jeffrey P. Koerber, Clark University, and Harry J. Hunderman, Joshua D. Freedland, and Kenneth M. Itle, Wiss, Janney, Elstner Associates, Inc. The following staff of the Technical Preservation Services, National Park Service, offered valuable comments during its development: Sharon Park, FAIA, Anne Grimmer, Michael Auer, and Chad Randl. Charles E. Fisher and Kay D. Weeks of the National Park Service's Heritage Preservation Services were the technical editors for this publication project.

This publication has been prepared pursuant to the National Historic Preservation Act, as amended, which directs the Secretary of the Interior to develop and make available information concerning historic properties. Comments about this publication should be directed to: Charles Fisher, Technical Publications Program Manager, Technical Preservation Services, National Park Service, 1849 C Street, NW, 2255, Washington, DC 20240. <www.cr.nps.gov/hps/tps> This publication is not copyrighted and can be reproduced without penalty. Normal procedures for credit to the authors and the National Park Service are appreciated. The photographs used in this publication may not be used to illustrate other publications without permission of the owners.

ISSN: 0885-7016
U.S. Government Printing Office 2004 024-005-01191-9 April 2005