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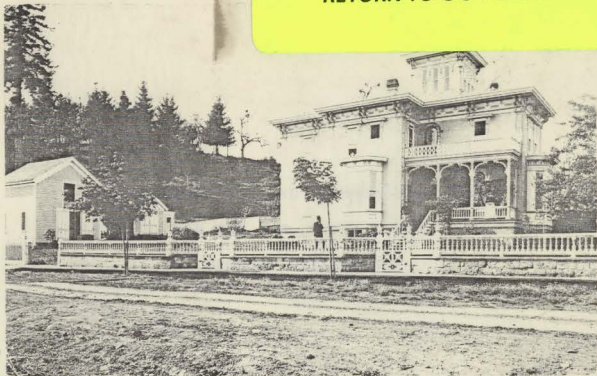
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A RESTORATION AND PRESERVATION PLAN
FOR THE J.M. MOYER HOUSE
BROWNSVILLE, OREGON

June 1987

by

SALLY DONOVAN



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FOR THE J.M. MOYER HOUSE
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SALLY DONOVAN

A TERMINAL PROJECT

Presented to the Interdisciplinary Studies Program:
Historic Preservation
(and the School of Architecture and Allied Arts)
and the Graduate School of the University of Oregon
in partial fulfillment of the requirements
for the degree of
Master of Science

June 1987

APPROVED BY:

Philip H. Dole

Philip H. Dole

ACKNOWLEDGMENTS

I would like to express my gratitude and thanks to the following organizations and individuals who helped me throughout this project: The Linn County Historical Museum and the Linn County Parks and Recreation Department for making me access to their historical records and the Moyer house, the Friends of Brownsville for printing the Moyer house brochure and for their enthusiasm, and Daryl Harrison of the Linn County Parks and Recreation Department for suggesting the need for this project. I would particularly like to thank Joni Nelson and Charlene Scott for their help and commitment to the Moyer house, and to all other individuals who shared their knowledge of the Moyer family and house.

Grateful thanks are due to my committee members: Alfred Daehli for his editing and technical knowledge of the preservation and maintenance of historic structures, and Phillip Dale and Arthur Ross for their own insights and expertise, enthusiasm and good humor throughout innumerable committee meetings. Bonnie Parks provided her expertise and assistance with the paint analysis, and Jill Johnson helped measure the house.

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bolstered my spirits throughout the duration of this project. Alba Conte for all her time and energy preparing the report, from editing to countless hours at the computer, but most of all for her friendship. Tyler Robinson's continual support and understanding, knowledge of architecture and hours of editing, in the midst of his own graduate career, were greatly appreciated.

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This report involves an in depth investigation and analysis of the Noyes House. Its purpose is to develop a restoration plan which will be used by the county and community as a guide for repairing and restoring the structure. The development of the restoration plan is a synthesis of research into the building's past history and use, the examination of its present condition, preservation research and professional consultation.

The investigation of the building was conducted in two distinct phases: the historical analysis and the architectural

1 INTRODUCTION

The Moyer house, located at 204 Main Street in Brownsville, Oregon survives as an excellent example of Italianate architecture in Oregon, displaying interior finish work rare in the state. The building is ranked as a primary resource in the 1983 Brownsville Cultural Resource Inventory and was listed in the National Register of Historic Places in 1974. Built in 1881, the house is significant for its architectural features as well as its association with the J.M. Moyer family, prominent citizens in the development of Brownsville. The building operates as a house museum and is owned by Linn County under the supervision of the Linn County Parks and Recreation Department. Several community organizations help staff and maintain the building.

This report involves an in depth investigation and analysis of the Moyer house. Its purpose is to develop a restoration plan which will be used by the county and community as a guide for repairing and restoring the structure. The development of the restoration plan is a synthesis of research into the building's past history and use, the examination of its present condition, preservation research and professional consultations.

The investigation of the building was executed in two distinct phases: the historical analysis and the architectural

analysis. The historical analysis was undertaken to determine the history of the Moyer family, the acquisition of property, construction history and subsequent alterations and additions to the original structure. Several research methods were used, including the search of newspapers, deeds and records, historical biographies, census and marriage records and Sanborn Fire Insurance Maps. A visual investigation of the building components and oral interviews were also employed. An extensive paint analysis was undertaken to determine the paint chronology, and to find original paint schemes so that the house can be accurately repainted.

The architectural investigation included the analysis of the existing building fabric to determine its present condition. Problems were recorded on building elevation drawings. Recommendations were derived from the historical and architectural analyses, preservation publications and consultations with Philip Dole, Arthur Hawn and Alfred Staehli. A restoration priority list and maintenance guidelines were then developed from the various report components to help direct the restoration and ongoing preservation and maintenance of the Moyer house.

This report is based on information and documentation collected and analyzed from a period between January, 1986 to May, 1987. Recommendations on the preservation and restoration of the Moyer house were based on this research. New

information or documentation, such as the addition of historic photographs, particular of the western elevation of the ell, could lead to a reevaluation of the preservation and restoration recommendations in this report.

The property qualified for listing in the Register under criteria b) that are associated with the lives of persons significant in our past, and c) that embody the distinctive characteristics of a type, period or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguished entity whose components may lack individual distinction.

The Meyer house is associated with a leading pioneer family in Brownsville and is a rare example of an Italianate Style dwelling. Elizabeth and John M. Meyer were early settlers in the area and were prominent in the community's development. J.M. Meyer was a civic leader and businessman who was credited with establishing many early industries in Brownsville (see section 2.1). The family of Elizabeth Brock Meyer were the first settlers in the area and established the first post office and general store. The town was named after Elizabeth's father, Hugh Brock. The size of the house and its quality reflect the prominence of the Meyer family.

The house embodies distinctive characteristics of the Italianate Style. Its asymmetric massing, bracketed cornices,



2 SIGNIFICANCE OF HOUSE

The Moyer house is located in North Brownsville and was listed in 1974 in the National Register of Historic Places. The property qualified for listing in the Register under criteria

b) that are associated with the lives of persons significant in our past, and c) that embody the distinctive characteristics of a type, period or method of construction or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguished entity whose components may lack individual distinction.

The Moyer house is associated with a leading, pioneer family in Brownsville and is a rare example of an Italianate Style dwelling. Elizabeth and John M. Moyer were early settlers in the area and were prominent in the community's development. J.M. Moyer was a civic leader and businessperson who was credited with establishing many early industries in Brownsville (see section 5.1). The family of Elizabeth Brown Moyer were the first settlers in the area and established the first post office and general store. The town was named after Elizabeth's father, Hugh Brown. The size of the house and its quality reflect the prominence of the Moyer family.

The house embodies distinctive characteristics of the Italianate Style. Its asymmetric massing, bracketed cornices,

bay windows, cupola and heavy molded window cornices are excellent representations of the style. The delicate window trim details, corner board strapwork and wooden roof cresting depict of innovative design and crafting. The interior stenciling, hand-painted detail work and paintings are extraordinary. This type of interior decoration was more commonly found in larger Oregon cities. Few residential examples from this period survive in Oregon.

This showplace, built as a residence for the Moyer family, is compatible to use as a house museum. The house expressed the comfort available in small towns in the Willamette Valley in the 1880s. Opening the house to the public increases awareness of the styles, trends, materials and detailing of the Victorian period, along with insights into the lives of the Moyer family. The future restoration, preservation and maintenance of the museum will ensure that the house endures as a tangible reminder of the Moyer legacy. It is an extremely important example of the Italianate Style in Oregon.

Located in North Brownsville, once a separate town, the Moyer house sits in its original location on property the family bought ca 1863. Much of the original site context still remains, including the millrace, low density buildings and several structures from the period.

The Brownsville location adds greatly to the significance of the house. Brownsville was one of the first settlements in the

development of the Willamette Valley. It is reported to have been the third oldest continuous settlement in Oregon. The town was known nationally for its high quality woolen products, manufactured at the Brownsville Woolen Mills, of which J.M. Moyer was president. The population has fluctuated little over the past one hundred years, preserving the historic sense of a small Willamette Valley community.

The house was raised through private donations and a grant from the Hill Family Foundation. The house was taken over by Linn County as part of the county's general services in 1955. Initial repairs were performed between 1960 and 1961. The seven member Linn County Museum Commission was formed in 1967 to advise and aid in the museum's operations, and is still functioning as the Linn County Museum Advisory Commission, holding monthly meetings.

The basic operating cost of the Super House is covered by the county which is working with a very limited budget and staff. There is no full time curator and the house is staffed by volunteers. Household cleaning and maintenance are carried out by a part-time staff person from the Linn County Museum and by volunteers. The county is basically in charge of the physical building fabric while maintenance of the interior and furnishings is performed by the various community organizations. There is no regular maintenance person or routine maintenance of the building by the county because of the limited budget and staff of the Parks Department. The

3 PRESENT OPERATIONS

The Moyer house has been operating as a house museum for over twenty years in conjunction with the Linn County Historical Museum, also in Brownsville. The house remained in private ownership until 1962 when it was purchased by the Linn County Historical Society with funds raised through private donations and a grant from the Hill Family Foundation. The house was taken over by Linn County as part of the county's general services in 1966. Initial repairs were performed between 1966 and 1969. The seven member Linn County Museum Commission was formed in 1969 to advise and aid in the museum's operations, and is still functioning as the Linn County Museum Advisory Commission, holding monthly meetings.

The basic operating cost of the Moyer house is covered by the county which is working with a very limited budget and staff. There is no full time curator and the house is staffed by volunteers. Household cleaning and maintenance are carried out by a part-time staff person from the Linn County Museum and by volunteers. The county is basically in charge of the physical building fabric while maintenance of the interior and furnishings is performed by the various community organizations. There is no regular maintenance person or routine maintenance of the building by the county because of the limited budget and staff of the Parks Department. The

deferred maintenance has caused many of the deterioration problems evident in the house's exterior condition.

The museum's livelihood depends on community volunteers who donate hundreds of hours to the care and promotion of the museum. The Friends of Brownsville, The Women's Study Club and the Linn County Historical Museum Trust are among the organizations which keep the house functioning as a museum. The Moyer house is open to the public year around with reduced hours during winter months. Admission is free. The various supporting organizations put on fundraising events which include teas, receptions, tours and interpretive functions. Special seasonal decorations and events also are held in the house. All the furnishings in the house were donated or loaned to the museum. Only a few pieces of furniture from the Moyer family remain. Furnishings comprise a mixture from different periods and styles. The house is part of downtown Brownsville's historic area, which draws thousands of visitors each year. The town is only five miles east of I-5 and is easily accessible to travelers. The Moyer house is one of the first historic structures clearly visible when crossing the river into the historic downtown area. Over 3,100 people visited the Moyer house last year. Donations amounted to \$1,062.

The operation of the Moyer estate as a small house museum has not compromised the home's integrity. A house museum of

this type is a valuable resource to the community and the state. It is a unique and vital means of preserving and increasing awareness of the past. The Moyer house has the potential to exemplify such a museum.

preservation, restoration, and maintenance of the J.M. Moyer house. The goal of the plan is to maintain the historic integrity and significance of the house while "restoration" occurs. (The terms preservation and restoration in this paper are used in their explicit professional preservation sense; see definition in section 1.1.)

When preparing a restoration plan, it is important to consider the use and the date to which the building will be restored. The use of the Moyer house as a large museum seems to be appropriate for the building. The house should be restored, with some exceptions, to a period of the Moyer residency: 1881 to 1904. It was during these years that the house achieved its historical significance. Services such as telephone and electricity also had been introduced in Knoxville by 1890, making the incorporation of these amenities appropriate to the restoration date. Work done over the last twenty years by various organizations and the county has been with the intention of restoring the building to its original state that time period.

A pure restoration to this period, 1881 to 1904, tends to be anachronistic, perhaps requiring compromise of the use of the



4 RESTORATION, PRESERVATION AND REPAIR PLAN AND GUIDELINES

The primary objective of this plan is to provide the Linn County Parks and Recreation Department and involved community organizations with a systematic guide for the repair, preservation, restoration, and maintenance of the J.M. Moyer house. The goal of the plan is to maintain the historic integrity and significance of the house while "restoration" occurs. (The terms preservation and restoration in this paper are used in their explicit professional preservation sense; see definitions in section 11).

When preparing a restoration plan, it is important to consider the use and the date to which the building will be restored. The use of the Moyer house as a house museum seems to be appropriate for the building. The house should be restored, with some exceptions, to a period of the Moyer residency, 1881 to 1904. It was during these years that the house achieved its historical significance. Services such as telephone and electricity also had been introduced in Brownsville by 1904, making the incorporation of these amenities appropriate to the restoration date. Work done over the last twenty years by various organizations and the county has been with the intention of restoring the building fabric within that time period.

A pure restoration to this period, 1881 to 1904, could be problematic, perhaps requiring compromise of the use of the

house as a museum. Alterations occurring after the Moyers' residency affect the building in various ways. Changes such as the installation of the Colonial Revival mantel and bookcase in the living room alter the character of the room, while other alterations, such as the widening of doorways, affect the overall spacial organization. Although these alterations do create a more pleasant space, they are not historically accurate. The alterations discussed below are an example of these features.

During the 1920s a number of the doors and doorways were changed: hall doorways to the living room and parlor were lowered and widened, giving a more open feeling than had the original narrow single doorways. If restored to their original width and height, possible circulation problems might develop especially when events are held at the house. Heating of the downstairs rooms might be impaired under the current heating system. Air circulation from the sitting room and hallway, where the registers are located, would be more difficult if the doorways were narrower. Analysis by an expert sympathetic to historic objectives and appropriate museum atmosphere might find a simpler resolution in support of an accurate interior restoration. The French doors in the dining room are presently used for handicapped access. If the dining room were restored to its original layout, the French doors would be removed and a single door built, inhibiting wheelchair accessibility. As

entrance for disabled persons is required by law, any future restoration plans must include such an access. The restoration of the western edge of the back ell itself would be problematic. The lack of documentation and evidence of original service room functions and layouts at this time would make accurate restoration difficult. Long range plans might include the restoration of the back ell only after a further investigation and analysis occurs.

Although it is recommended that most restoration efforts return the house to period between 1881 and 1904, it may not be feasible to restore the building completely to that period at this time. Some post-Moyer alterations, such as doorway size, may be appropriate for the museum's present needs and could be retained and noted as a later alteration. A full restoration of these elements could be undertaken in the future after further studies.

The restoration, preservation and repair of the Moyer house involves many levels of work, ranging from minor repairs to the complete reconstruction of missing features. These tasks require a variety of skills and expertise. Much of the work could be accomplished by using local skills, such as experienced carpenters, guided by professionals trained in various aspects of restoration work. It is recommended that the services of a restoration architect should be obtained for all aspects of the work involving reconstruction.

Architectural drawings and specifications should be made for all missing features to ensure an accurate restoration. Interior finish restoration and preservation of the paintings, stenciling, graining and marbleizing should only be undertaken by trained professionals. The use of both expert craftspeople and professional consultations will ensure that the Moyer house will retain its historic character and significance.

The preservation, restoration and repair of the Moyer house should be undertaken in the phased manner shown below. The eight phases are generalized specifications. Refer to the Restoration Priority Lists in section 10 for more detailed recommendations concerning individual areas or elements.

Phase I: The highest priority is the stabilization and preservation of the structure, which includes solving site and roof drainage problems which have caused the deterioration of elements. This phase of work is limited to the exterior of the building which is in need of immediate repairs. These areas include drainage systems associated with gutters, downspouts, basement/foundations and site. Although these areas are the least visible, their regular repair and maintenance is imperative.

Phase II: Repair, patch, or replace deteriorated areas and/or elements which have sustained damage from the deterioration of the elements described in Phase I. These

include such areas as the second floor porch decking, front porch decking, and entablatures, bay window roofing and watertable.

Phase III: Repair all minor deteriorated features or elements, re-fasten loose pieces and replace missing minor parts.

Phase IV: Prepare exterior wall surface, prime and paint. See section 9 for color scheme recommendations. Painting should only be undertaken after all the water problems have been corrected and deteriorated elements repaired.

Phase V: Exterior: Restore missing elements which are of major significance to the original character of the house such as reconstruction of the three chimney tops, crestings and finials, front stairs and main porch balustrade. The present cupola should be removed and a more accurate one reconstructed. Working drawings and specifications should be prepared for these elements.

Phase VI: Interior: Primary features of the interior are the paintings, stenciling and wood finishes such as marbledizing and graining. It is recommended that first one room be restored to the original wall surfaces, including wallpaper, paintings and stenciling and trim finishes. The parlor is suggested because of its detail and prominence. Professional

consultants should be hired for this work. The restored room could be used as a catalyst for the accurate restoration of other rooms. This may not only increase the quality of the building, but it could generate interest and subsequent funding for restoration. Further investigation of an appropriate heating system is recommended at this time.

Phase VII: Examine interior furnishings and light fixtures for their historical appropriateness. Investigate other interpretive programs for inclusion within the house. For example, displays depicting the history of the Moyer family, their businesses and life at the turn of the century could be set up in one of the rooms.

Phases VIII: Long term restoration plans should include restoration of the site and its plantings. The site has been compromised over the years by the influx of new development. The absence of the original outbuildings, fencing and landscaping has substantially altered the appearance of the site. Some of the trees, such as the wisteria, are the only reminders of the original plantings. It is recommended that a historic landscape architect be hired to research the site and make recommendations for appropriate landscaping and site restoration.

GUIDELINES: The following guidelines are designed to help in

planning and executing restoration and repair work:

1. Surface cleaning should be done using the gentlest possible means so not to damage the historic fabric. Cleaners should be chosen for their appropriateness for a particular material. Avoid harsh detergents and chemicals.

2. Make certain to repair only after the cause and source of the problem is known and remedied. An example is restoring the deteriorating roof cornice before repairing the gutters.

3. The repair or patching of deteriorating original features is preferable to replacement.

4. Replacement elements should match the original in material, design, texture, shape and dimension.

5. If replacing an original feature because of severe deterioration, it is recommended that samples of the removed sections be labeled as to locations and piece and stored in a designated area. These pieces are valuable for future investigations.

6. Leave evidence of the building's evolution in place. Paint lines, patches and existing wallpaper should be left in place and undamaged, even when new paint or paper is to cover them. These remnants will be a valuable resource in future investigations of the building.

3 HISTORICAL ANALYSIS

7. KEEP ACCURATE RECORDS OF RESTORATION OR REPAIRS which specify location, date and extent of the work. Keep documents in the Moyer files at the Linn County Museum.

8. Hire trained professionals to prepare working drawings and specifications for missing elements to ensure an accurate restoration and, in addition, supervise the work. Consultants are also recommended to set up restoration plans for interior finishes such as wallpaper, graining, marbleizing, stenciling and paintings, and for the development of a historic landscape and site plan.

5 HISTORICAL ANALYSIS

5.1 Biographical Sketch of the Moyer Family

The J.M. Moyer house remains an example of the home of one of Brownsville's leading families, displaying the comfort of houses located in larger towns. The house reflects both the prosperity of the early 1880's and stature of the Moyer family. They were instrumental in the development of North Brownsville and the upper Willamette Valley.

J.M. and Elizabeth Brown Moyer were early settlers in Linn County (see fig 1). The Brown and Moyer families contributed significantly to the establishment of Brownsville. The Browns migrated to Oregon from Tennessee in 1846 and were one of the earliest pioneering families in Linn County. Hugh Brown, for whom Brownsville was named, established the first post office and general store. J.M. Moyer, a carpenter by trade, came west from Ohio with a fellow carpenter, George F Colbert in a rapid three month journey, reaching the Oregon territory in August, 1852.¹ John M. Moyer met Elizabeth Brown while helping her father build his house. They were married in 1857 and settled on 160 acres near town and started farming. After a short period, Brownsville began to prosper, the family moved back into town and Moyer resumed his trade as a carpenter. In April of 1863 they moved to North Brownsville and purchased a door and sash factory.² Improving the business immensely with

the installation of the profitable enterprise until 1875 when poor health forced him and Edward D. Wooten Hills, with Wooten Hills after was later struck by lengthy litigation 1875 by a syndicate. The Brownsville Woolen Co. established and under Moyer's management as president became a major industry in the Willamette Valley. Moyer was very active in community affairs, serving as North Brownsville's first mayor and as school director. He is also credited with establishing the Moyer Water Works Co. 1863, which ran the town with water, organizing the Albany Woolen Co. and incorporating the Bank of Brownsville of which he became president. J. M. Moyer remained active until his death.

Elizabeth Brown Moyer was a woman of wit, elegance, and magnificence. She died in 1912, outliving her husband, John and Elizabeth had six children: four died before the age of three and two, H. B. and Edward, reached middle age. The family is interred in St. Mary's Cemetery in Portland.



Figure 1: Elizabeth and John M. Moyer. Linn County Historical Museum, Brownsville, Ore.



the installation of new machinery, they developed it into a profitable enterprise. Moyer ran the mill until 1875 when poor health forced him to rent out the business to his sons, H.B. and Edward D. He was also an early organizer of the Linn Woolen Mills, established in 1862, and later called the Eagle Woolen Mills after a fire in 1865 destroyed the mill. The mill was later struck by financial difficulties and involved in lengthy litigation when it was bought in an auction in October, 1875 by a syndicate organized by J.M. Moyer for \$7,100.00.³ The Brownsville Woolen Mill was then established and under Moyer's management as president became a major industry in the Willamette Valley. Moyer was very active in community affairs, serving as North Brownsville's first mayor and as school director. He is also credited with establishing the Moyer Water Works ca. 1900, which supplied the town with water, organizing the Albany Woolen Mill and incorporating the Bank of Brownsville of which he became president.⁴ J.M. Moyer remained active until his death on July 29, 1904.

Elizabeth Brown Moyer was known for her wit, elegance, and sophistication. She continued to live in her house until her death in 1922, outliving all of her children and her husband. John and Elizabeth had six children; four died before the age of three and two, H.B. and Edward, reached middle age.⁵ The family is interred in Mt. Scott Cemetery in Portland.

5.2 Acquisition of Property and the Moyers' First Dwelling

The town of North Brownsville was incorporated in 1876 but settlement began as early as 1853/54 when a grist mill was erected on the north bank of the Calaypooia River.⁶ In April 1863 the Moyer family moved to North Brownsville and established their first residence in the vicinity of the extant Moyer house (see fig 2). They purchased a door and sash factory located across Lebanon West Street (now Main Street), southeast of the residence (see App B).

The earliest map of North Brownsville from the Illustrated Historical Atlas of Marion and Linn Counties (1878) located the earlier Moyer house approximately 500 feet north of the Calaypooia River on the east side of Lebanon West Street (see fig 3). It is surrounded by a substantial amount of Moyer's land southeast and southwest of the house. The atlas also includes an early illustration of the house, outbuildings, and door and sash factory and surrounding landscape (see fig 4a). The house faced north with three outbuildings located to the south. One early photograph of the dwelling survives and is an interesting comparison to the atlas' illustration (see fig 4b).

5.3 Events Proceeding Construction of the New Residence

Although the current Moyer residence was not built until 1881, plans for a new dwelling were underway as early as 1878.

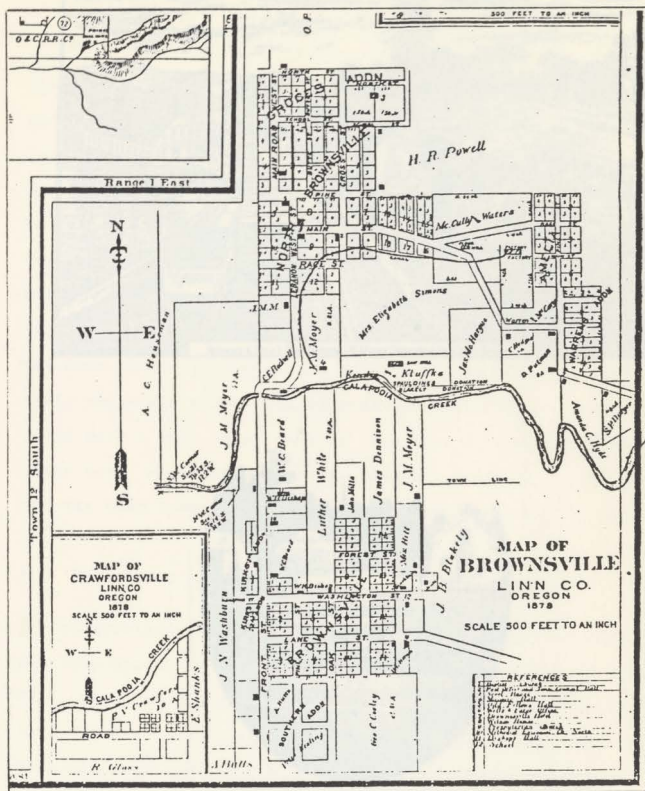


Figure 3: Map of Brownsville, Linn County, Oregon: Illustrated Historical Atlas of Marion and Linn Counties (1878).

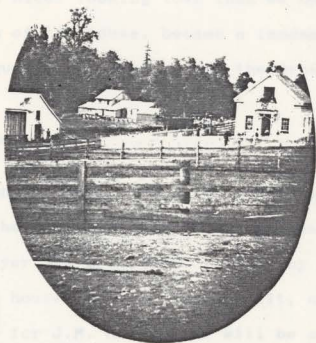


Figure 4: A. First Moyer residence. *Illustrated Historical Atlas of Marion and Linn Counties (1878)*.
 B. First Moyer residence, ca. 1875. Photograph courtesy of Frances Moyer Woodworth, Portland, Oregon.

The Brownsville "Advertiser" stated in February, 1878 that "We understand that Mr. J.M. Moyer is intending to build a fine new residence this summer" and an April, 1878 issue states "J.M. Moyer is soon going to begin his new residence." Possibly due to financial difficulties, construction on the new residence was temporarily delayed, but the Moyers remained in the public eye and were cited as models for the community: "Mr. Moyer has built a new walk from his door to the front gate, and has made other improvements. Mr. Moyer is always neat and tasty about his place, and we wish all our citizens were, we would have a much nicer looking town than we have." ⁷ The Moyer hill, south of the house, became a landmark in the town ⁸ and was used frequently as a stage for the Brownsville band.

5.4 Italianate House

Construction on the Moyer's new residence began in 1881 possibly due to the great success of the Brownsville Woolen Mill, of which Moyer was president. An Albany paper states that "several new houses are now being built, among which is a fine new dwelling for J.M. Moyer. It will be a two story frame, 35 x 50 feet, with ceiling 10 and 11 feet high. The basement is being built of brick by B.W. Condiff of Albany. When completed it will be one of the finest dwellings in the county." ⁸ George Kendig is said to have designed and overseen

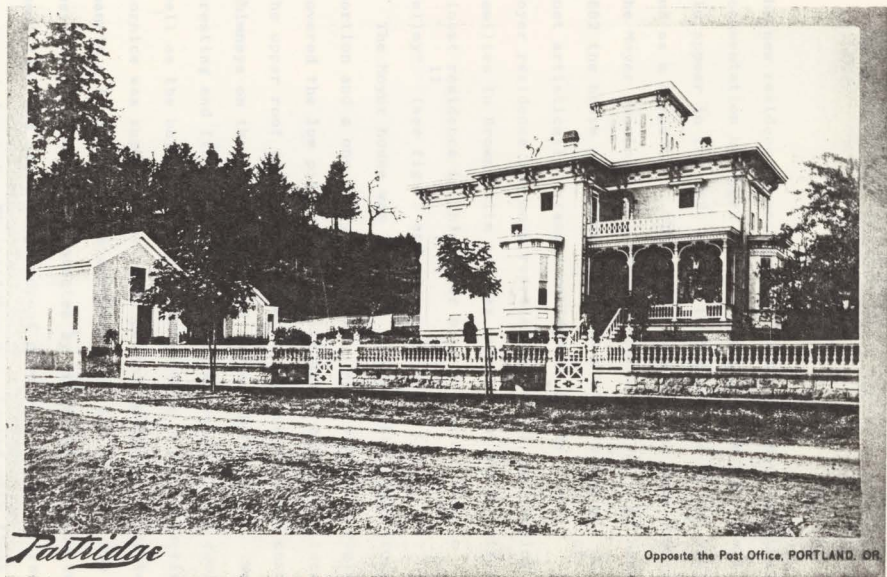


Figure 5: Moyer residence, east elevation;
ca. 1885. Linn County Historical
Museum.

the new residence, possibly due to Moyer's poor health, but no documentation has been found to substantiate this claim. Kendig did appear in the 1880 census in Brownsville at the age of 51 and as a carpenter.⁹ The lumber was said to have come from the Moyer planing mill with no expense spared. By December, 1882 the house and grounds were completed "being one of the most artistically arranged residences in the state."¹⁰ The Moyer residence not only represented one of the leading families in Brownsville and was "one of the finest, if not the finest residence in this upper part of the Willamette Valley"¹¹ (see figs 5 and 6).

The Moyer house was T-shaped in plan with a two story front portion and a one story back ell. Wood shingles originally covered the low pitch hipped roofs and a cupola was located on the upper roof slightly off center. There were two corbelled chimneys on the upper roof, and one on the back ell. Wood cresting and finials decorated the perimeter of the roof as well as the bay windows and cupola roofs. The projecting cornice was supported by large paired brackets and rectangular panels with center drops which made up the frieze. The windows were tall and narrow, protected by projecting cornice caps. A modillion and heart-shaped drops decorated the architrave band on the window trim. The building was covered with flush horizontal siding on the front portion of the house and wider



28

Figure 6: Moyer residence, south elevation;
ca. 1890. Linn County Historical
Museum.

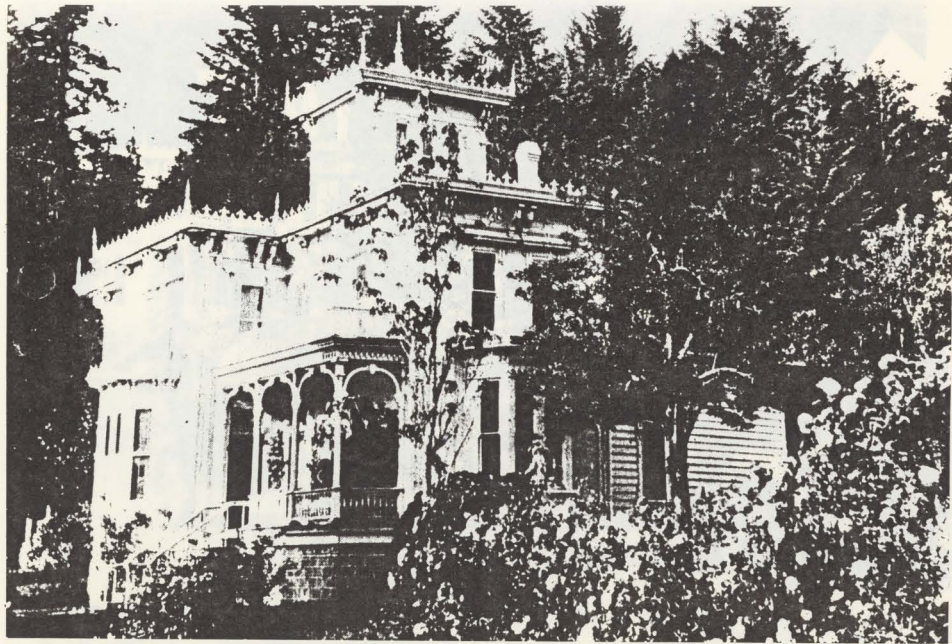
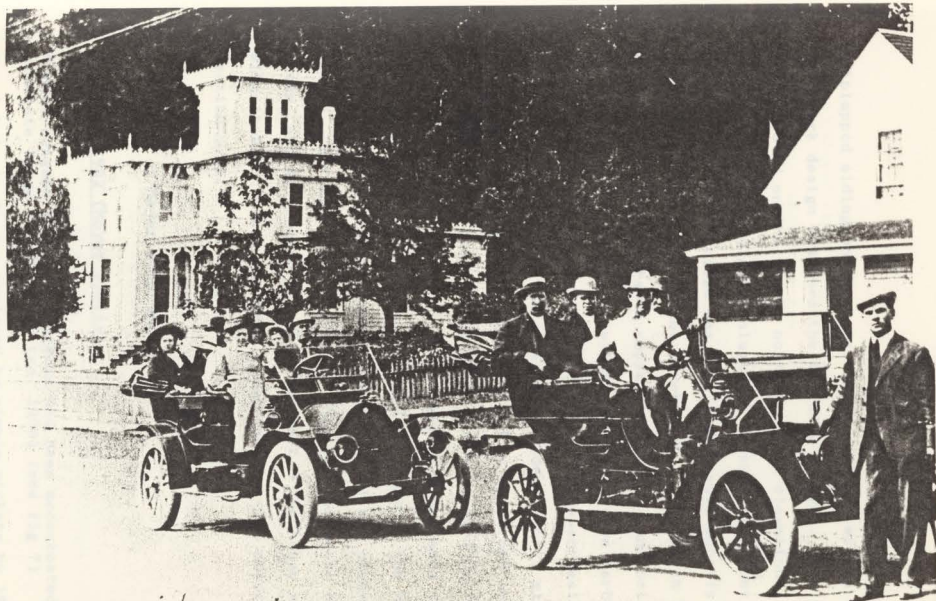


Figure 7: Moyer residence, looking southwest;
ca. 1900. Linn County Historical
Museum.



Large residence in background built by J.M. Moyer, Brownsville, Iowa
 (still standing) information from Mrs. G.I.
 R. W. Tripp - standing - 1910

Figure 8: Moyer residence, looking southeast;
 1910. Linn County Historical
 Society.

shiplapped siding on the rear. Corner boards with a central strapwork design finished the building's edges. Bay windows were located on the south, north and east elevations. A deck surrounded with a jigsaw balustrade crowned the front porch. The front porch's frieze was embellished with dentils and arched elements spanning the porch posts. The porch balusters were turned. A watertable capped the common bond brick foundation. The front and upper deck doors were marbleized and the front door transom announced the "J.M. Moyer Residence." A painted motif was located on the upper deck door's glass. The second entrance door on the south end of the front porch opened up to the living room. A porch was also located on the south side of the ell. An elaborately turned balustraded fence atop an ashlar rock retaining wall stood in front of the house. A simpler picket fence surrounded the rest of the property. The stable, carriage house and privy were located south of the house, and an orchard stood to the west. The house was painted with three colors: one body color and two trim colors (see section 9.6).

5.5 List of Major Alterations

Prior to 1922 (Moyer Family)

Mortar between foundation bricks had been accentuated to simulate large stone facing (ca. 1900) (see fig 7)

Front balustrade was replaced by simple pickets by 1909

House painted one color by 1909

Outbuilding taken down (ca. 1916)

Roof cresting and finials removed (between 1910-1919)

Concrete retaining wall with a single entrance walkway replaced earlier balustrade and stone wall

1922-1937 (Thompson Family)

Attic roof raised; back ell, dormer added

Bathroom and bedroom added in attic

South front door removed

Hall doorways to living room and parlor enlarged; French doors installed

Doorway built in west wall of parlor to dining room

Original mantel piece removed in living room

Colonial mantel piece and bookcase added in living room

Wall removed in western portion of dining room

Dining room enlarged, second window added to north wall

French doors added to dining room on west wall

Wall removed in western portion of kitchen

Door removed on north wall of kitchen, new one built on western portion of north wall

Sink and built-in cupboards installed along west wall of kitchen

Some of ceiling stenciling wallpapered or painted over

Interior wooden shutters removed

1937-1963 (multiple owners)

Cupola and stairway to cupola taken down

South hallway area enclosed for closet space

Bathroom built in kitchen

Firtex installed over horizontal boarding in bedrooms,
parlor, living room and sitting room

Linoleum installed in downstairs rooms

Chandeliers removed from house

Bathroom built onto back porch

West porch opened up from enclosed space

House converted to oil furnace

5.6 Restoration, Rehabilitation and Repair

1963-1969 (Linn County Historical Society)

Cresting and cupola rebuilt

Concrete footings replace rocks under posts in basement

Linoleum removed from floors

1969-1979 (Linn County General Services)

House repainted

New concrete block foundation with used brick facing built

Concrete footing laid

Upper roof reshingled

Attic rooms partially removed
Attic roof lowered and reshingled on back ell, cresting removed
Window rebuilt, south porch
Front porch column reconstructed, second post from south
Doorway on west wall of parlor removed, wainscoting reconstructed
Wainscoting rebuilt in dining room
Sheetrock installed over horizontal boarding in dining room
Removed bathroom and partitions in kitchen
Upper stairway opened up south of landing; balustrade and newel post reconstructed
Removed wallpaper and stripped paint from downstairs ceilings, exposed stenciling

1980-1987 (Linn County Parks and Recreation Department)

Drainage tiles installed in west and south yard
Perforated pipe installed in basement at east bay
Grounds tilled and reseeded
Shed removed, southwest of house
Replaced basement window, south side bay
Bathroom removed from south porch, window rebuilt
Siding replaced on north wall of south porch and southwest corner of main portion of house
Handicapped access ramp installed, west elevation
House insulated
Attic vents installed in ell
Circulation fan installed on east wall of attic

Wiring brought up to Code

1920's sink and cupboards removed from kitchen

Bathroom removed from kitchen

Stairs to basement removed in small room off kitchen, bathroom built

1. 1918.

2. Registry of Deeds, Linn Co. Courthouse, Des Moines, Ia. p. 227-228.

3. History of Oregon, Vol. 134, p. 22.

4. 1914, pp. 11-12.

5. Margaret Standish Dacey and Katherine Lee Swallow.

—Brownsville Brownsville Brownsville Brownsville Brownsville

1912. — The History of the State of Oregon

6. The Brownsville advertising, 17 December 1912.

7. Albany State Public Records, 17 May 1912.

8. Oregon Historical Society, 1912 copies of 1912 20.

9. Brownsville Record, 2 December 1912.

10. Albany State Public Records, 20 December 1912.

Endnotes

- 1 History of Oregon, Vol. III (Chicago: The Pioneer Historical Publishing Co, 1922), p. 11.
- 2 Ibid.
- 3 Registry of Deeds, Linn Co Courthouse, Deed Book Q, p 227-229.
- 4 History of Oregon, Vol III, p. 11.
- 5 Ibid, pp. 11-12.
- 6 Margaret Standish Carey and Patricia Hoy Hainline, Brownsville (Brownsville: Brownsville Times Newspaper, 1976).
- 7 The Brownsville Advertiser, 19 December 1878.
- 8 Albany States Rights Democrat, 27 May 1881.
- 9 Oregon Historical Society, 1880 Census of Linn Co.
- 10 Brownsville Banner, 2 December 1882.
- 11 Albany States Rights Democrat, 29 September 1882.

6 EXTERIOR ANALYSIS AND PRESERVATION RECOMMENDATIONS

ROOF

6.1 Gutters

The built-in gutters are an integral part of the building's cornice. Failing gutters may lead to water penetration into the inner roof structure or cause leakage into the interior of the building. It is important to regularly maintain the gutters on a year round basis to ensure proper water drainage.

Characteristics: The gutter on the front of the house slopes downward to the south and the north from a mid-point located above the front bay. The gutter at this point is approximately 1/2 inch in depth and slants downward to the back of the house where it reaches a 3 inch depth. Two downspouts are located in the back portion of the house which channel water to the lower ell gutters for drainage (see fig 9). The gutter is lined with galvanized metal which has a flange that fits under the shingles and a drip edge that fits over the cornice.

Condition: The gutters are in fair condition. Areas of the metal liner are beginning to rust and seams between the metal sections are not sealed properly.

Problems: Deterioration of the cornice molding, fascia and

soffit at various points indicate that the gutters are not soldered or draining properly (see fig 9). Interior leakage through the roof structure from backed-up gutters is evident in the middle upstairs bedroom which could lead to rot in the ceiling framing (see fig 33b).

RECOMMENDATIONS: It is recommended that the gutters be cleaned thoroughly of moss, dirt and debris and their seams re-soldered. Asphalt roofing compound should not be used to seal seams or holes in gutters; it creates a greater problem when it cracks or becomes brittle (see Old House Journal, March/April 1987). Metal gutters should be rust-proofed with a primer and painted.

6.2 Downspouts and Drains

Condition: The downspouts are in poor to fair condition and are the cause of many of the water problems on the wooden elements of the house.

Characteristics: There are three round downspouts located on the house, two on the upper portion of the main house body and two on the lower back ell. The two upper downspouts drain into the lower roof gutter which has two downspouts that are connected to underground rain drains which channel the water to the street.

Problems: Downspout connections from gutters are not sealed properly causing water to run down the side of the building.

The downspouts connecting the upper and lower roofs are not long enough and stop short of the lower roof gutters. This causes water to splash off the gutters and drain down the siding. Clogging occurs more readily in bent downspouts, causing the downspouts to back up.

RECOMMENDATIONS: It is recommended that all downspouts be thoroughly checked for cracks, holes, corrosion or loose joints and appropriate repairs be made. Excessively damaged or bent downspouts should be replaced. The drop outlet, the connection between the downspout and gutter, should be sealed properly to prevent water from leaking and causing potential rot on the building's surface. Check underground rain gutters for clogging. The addition of two new downspouts are recommended on the northeast and southeast corners of the two story portion of the house to improve water drainage. Evidence of an old downspout remains on the northeast corner of the house in the approximate desired position of a new one. New downspouts should be round in shape and placed in an unobtrusive place so not to detract from the building's appearance. See figure 9 for recommended placement.

6.3 Cornice, Soffit and Frieze

Characteristics: The cornice is made up of a ogee and an astragal molding and the fascia. Some of the ogee moldings

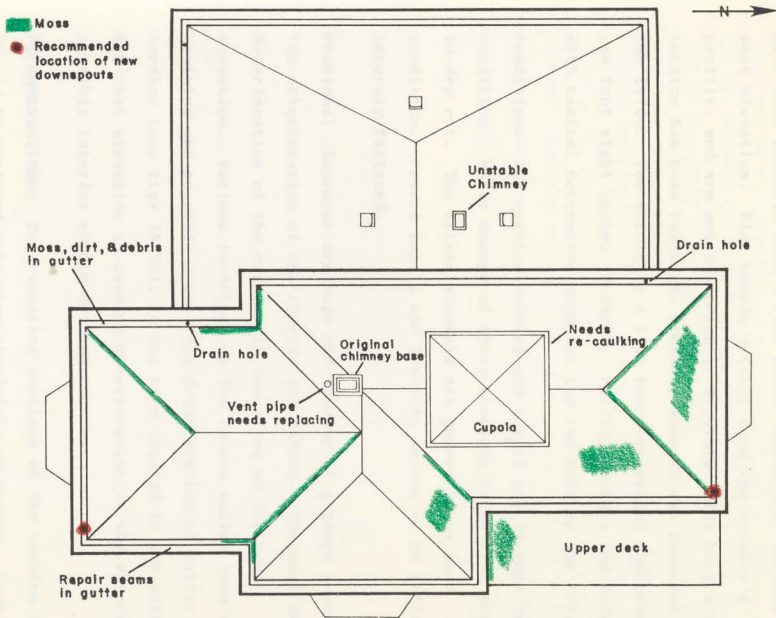


Figure 9: Roof plan. Areas of deterioration and recommended location of new downspouts.

have been replaced with a flat board, especially obvious on the west elevation. Flat boards detract from the cornice's profile, and are not historically accurate. The back ell cornice has been replaced, probably when it was reroofed in the 1970s. The soffit is a flat board measuring approximately one foot eight inches in depth. Paired brackets and panels with central decorative drops at the top make up the frieze.

Condition: The cornice molding and soffit are in poor to fair condition. Water damage of these elements range from staining to dry rot. The frieze elements are generally in good condition. Frieze panels and brackets appear to be solid and securely fastened.

Problems: Improper drainage and leaking of gutters have caused the deterioration of the cornice and soffit. The most severe deterioration of the cornice is occurring on the south elevation. Various locations on the frieze suffer from water staining and possible decay from deterioration of gutter and cornice (see figs 25-28). A bee hive located in the soffit on the east elevation is causing deterioration of the exterior and possibly interior wooden members.

RECOMMENDATIONS: Deteriorating sections of the cornice molding should be replaced only when absolutely necessary. Care should be taken to accurately replace deteriorated sections in dimension, size, profile and material. All new wood should be

shingles and blocking water drainage (see fig 23). The eaves pre-treated with preservatives and back-primed. The drip-edge of the cornice should be inspected for a proper lip which guides the water away from the cornice. It is recommended at this time that the bees located in the east elevation eaves be removed by a professional bee keeper and all the honey be thoroughly cleaned out. Any boarding taken off during the removal should be replaced in its original location if not deteriorated. Repair of the deteriorated frieze sections is recommended, especially on the west porch frieze (see figs 25-28).

6.4 Roofing

Characteristics: The 1884 Sanborn map of Brownsville indicates that the original roofing material was wood shingles (see App B). The roof is currently covered with black asphalt composition shingles. The front and back roofs were both replaced in the 1970s. The upper roof has two layers of asphalt shingles on top of a felt liner. The back ell has been most recently re-roofed and attic ventilation vents installed.

Condition: The roofing material is in good condition and does not need to be replaced at this time.

Problems: Organic material and debris are accumulating in the roof valleys, potentially causing the deterioration of the

shingles and blocking water drainage (see fig 10). The old, reconstructed cresting is laying in a pile on the west edge of the main roof and might damage the roofing material and interfere with drainage (see fig 9).

RECOMMENDATIONS: All organic material should be removed from the roof surface to ensure proper drainage and minimize deterioration of the shingles. Routine cleaning also will help keep gutters free from debris. The reconstructed cresting that is laying on the west side of the main roof should be removed (see section 6.5).

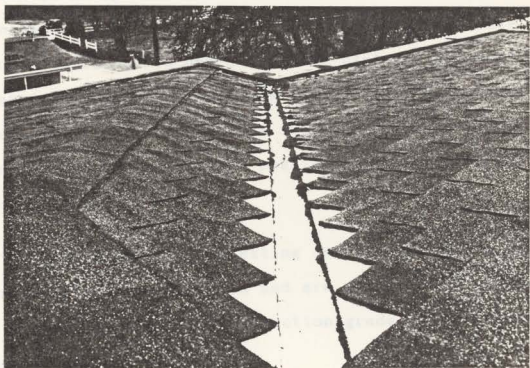


Figure 10: Roofing; looking southeast.

6.5 Cresting and Finials

Characteristics: None of the original cresting or finials remain on the house and were taken down sometime before 1919. It originally stood around the perimeter of all the roofs including the bay windows and cupola. Early restoration efforts included reconstructing the cresting and finials but only that on the cupola remains standing. Reconstructed crest points between the finials on the cupola per elevation number five while the original number of points per elevation was fourteen (see fig 11). The reconstruction was not an accurate restoration. Exactly how the cresting and finials were originally attached is unknown but an historic photograph indicates that it sat back a few inches from the outside edge of the gutter. It appears that it did not sit flush on top of the gutter but was raised up, possibly with wooden blocks spaced at intervals.

Conditions/Problems: The cresting and finials on the cupola are in poor to fair condition and are not original to the house. They are made of construction grade plywood and are weathering badly.

RECOMMENDATIONS: It is recommended that the cresting and finials be restored because they were an integral part of the

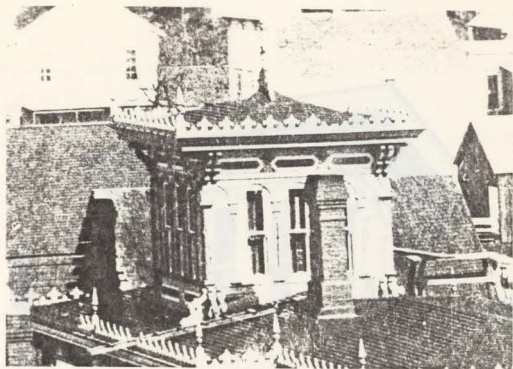
structure's design. Installation is problematic in that the gutters are made with a metal lining and penetration of the surface will be difficult without increasing the chances for water leakage. Professional consultation is recommended to specify a detail for its installation and working drawings should be made for the cresting and finials specifying the size, height, proportion and the number of crest points per elevation.

6.6 Cupola

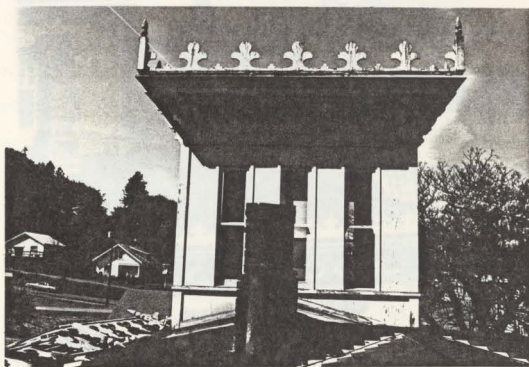
Characteristics: The cupola is not original and its details have not been accurately restored. The reconstructed cupola appears to be higher than the original, and the distance between its windows and cornerboards shorter (see fig 11b). The cupola originally was more ornate with arched trim-work above each window and cresting with corner and central finials atop the small structure.

Condition/Problems: The present cupola is in fair condition but in need of scraping and painting. The wood shingle roofing is deteriorating badly. Caulking around the flashing at the base of the cupola is cracking.

RECOMMENDATIONS: It is recommended that the cupola be repaired and not reconstructed at this time. The wood shingles on the roof should be replaced with asphalt composition shingles until

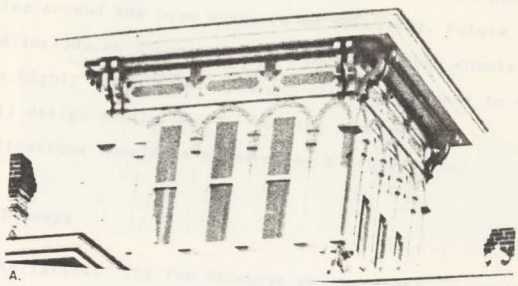


A.

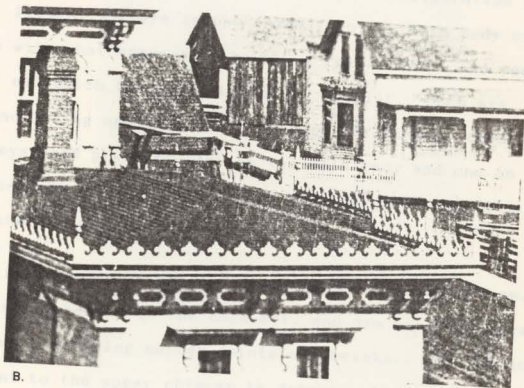


B.

Figure 11: A. Original cupola, ca. 1890. Linn
County Historical Museum.
B. Existing reconstructed cupola.



A.



B.

Figure 12: A. Original cupola, ca. 1885. Linn County Historical Museum.
 B. Detail of original crestring and finials, ca. 1890. Linn County Historical Museum.

the cupola is accurately restored. Windows need re-puttying. Flashing around the base needs to be recaulked. Future plans should include an accurate reconstruction of the cupola because of its highly visible location and its significance to the overall design of the house. Working drawings and specifications should be prepared by a professional.

6.7 Chimneys

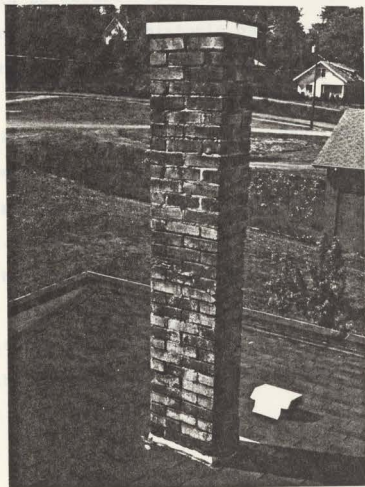
Characteristics: The two chimneys on the house are not representative of the original chimneys' configuration (see fig 13). Presently there is one chimney on the main body of the house with what appears to be the original base, and one on the lower ell which has been completely rebuilt. Both are nonfunctioning and sealed at the cap. Originally three chimneys were present: two on the main body and one on the ell (see fig 6). All had corbelled caps, much more distinctive than the present chimneys.

Conditions/Problems: Both chimneys are in bad condition, especially the one in the back ell, and are unstable because of their deteriorating mortar joints and bricks. The furnace vent adjacent to the upper chimney is deteriorating badly.

RECOMMENDATIONS: It is recommended that all the chimneys be restored, as they were a prominent feature of the original design. The chimney base on the main portion of the house



A.



B.

Figure 13: A. Furnace vent and original chimney base located on south end of main roof.
B. Chimney on back ell.

appears to be original (see fig 13a). It is recommended that this chimney be rebuilt from the top of the base up. Deteriorated mortar should be cleaned out and bricks repointed using compatible mortar. Original bricks on the base should be used as a guide for selecting the bricks for reconstruction. The chimney on the back of the ell should be removed and rebuilt. The third chimney, which is located on the main portion of the house, should also be reconstructed. Chimneys should be accurately restored in shape, height, proportions and materials: historic photographs showed all the original chimneys (see figs 5 and 6). An appropriate type of mortar should also be used in the restoration. Metal base and counter flashing should be installed at the time of restoration, minimizing the chance of interior water leakage. Nonfunctioning chimney stacks should be capped to prevent water from entering. The furnace vent pipe is deteriorating badly and needs to be replaced. New flashing is needed at the base of the pipe. When the new heating system is installed, it is suggested that the furnace vent pipe be re-routed into a chimney and the old pipe removed (see section 7.19).

PORCHES AND STEPS

6.8 General

The porches on the Moyer house are an integral part of the building's design and overall form. They are a prominent feature of the house and efforts should be made to restore and maintain them. The Secretary of the Interior's Standards for Rehabilitation states that:

Entrances and porches are quite often the focus of historic buildings, particularly when they occur on primary elevations. Together with their functional and decorative features such as door, steps, balustrades, pilasters and entablatures, they can be extremely important in defining the overall historic character of a building. Their retention, protection and repair should always be carefully considered when planning rehabilitation work.

Porches are also one of the most vulnerable components of a house and need constant maintenance and repair as is evident from the condition of the Moyer house front porch. Original features should be saved, whenever possible, when extensive repair or restoration work occurs. Missing features should be replicated based on historical, pictorial or physical descriptions supplied by professionals using detailed

specifications and architectural drawings. Old paint marks delineating original features should be left on the house and not be sanded or removed during repair or restoration work. The following section makes short range repair and restoration recommendations followed by full restoration recommendations that should be planned in the future as funds become available. (See Old House Journal, "Building a New Stoop", Aug/Sept 1983)

SECOND FLOOR PORCH DECK

6.9 General

Originally the balcony was probably a usable outside deck accessible from the upstairs hallway. Currently it is not open to the public because of liability problems and restrictions concerning adequate railing heights. All efforts should be made to retain deck railing height.

6.10 Balustrade

Characteristics: The top and bottom rails of the balustrade have been reconstructed. Originally the top rail molding piece extended around the outer edge of the post creating a cap-like effect. Paint lines delineating the original rail profiles can be seen at the two areas in which the posts butt up against the body of the house. Care should be taken not to destroy these

paint lines during restoration. Paint lines on the bottom of the jigsaw balusters also indicate the location of the original bottom rail.

Condition/Problems: The balustrade is in fair to good condition and does not need replacing at this time.

RECOMMENDATIONS: Rails and balusters need to be fastened together and posts fastened to the balcony floor at the time new decking material is installed. A more accurate restoration of the rails should be planned in the future using the paint profiles and historic photographs.

6.11 Decking

Characteristics: The balcony deck is presently covered with rolled asphalt roofing, sealed with patched areas of tar. Historically the deck was perhaps covered with a metal roofing material joined with flat soldered seams or covered with a canvas decking.

Condition: The deck is presently in poor to fair condition. The asphalt is cracked in areas with organic material covering portions of the deck. No flashing is present at the juncture of the house and asphalt roofing, creating a gap for water to penetrate through to the framing. Inadequate flashing surrounds the balustrade posts.

Problems: The asphalt roofing is deteriorating in some areas, causing warping of the deck floor. The screen on the upper deck door binds due to the condition of the asphalt. Inadequate flashing around the perimeter of the deck is allowing water to penetrate through to the framing and causing water damage to the porch cornice. The deterioration of the decking under the north porch post has caused the upper deck to become skewed. This has forced water to drain at the northeast corner of the upper deck, resulting in damage to the corner of the porch cornice.

RECOMMENDATIONS: It is recommended that the deck be resurfaced with canvas decking or a metal roofing material such as copper. Canvas decking is an economical way to cover flat roofs which are used as decks. It has a life span of forty to sixty years if properly maintained by painting and routine inspection of its caulking and flashing (see Old House Journal, "Canvassing a Deck", May/June 1987).² Before installation of the new decking, the old roofing material should be removed and the substructure inspected for rot and deteriorating members, and sections patched or replaced if necessary. Decking on the front porch which has caused settlement of the north porch post, should be replaced, and the porch should be shored up. The deck surface should then be furred up to achieve proper slope (1/8 to 1/4 inch per foot) to provide better water run-

off. Flashing should be installed at the juncture of the house and decking and new flashing with a drip edge installed around the perimeter of the balcony deck.

FRONT PORCH

6.12 Entablature

Characteristics: The entablature on the front porch is made up of a cornice (a reverse ogee and fascia board) and frieze with decorative dentils.

Condition/Problems: The entablature on the front porch suffers from excessive water damage which has led to dry rot and deterioration of many elements. Poor drainage from the balcony deck is the primary cause of the decay of the wooden cornice and some components of the frieze (see fig 25).

RECOMMENDATIONS: A new, slightly sloped balcony deck with a drip edge over the top edge of the cornice will help guide water away from the entablature (see section 6.11). Portions of the cornice molding, fascia and frieze need replacing but care should be taken to replace only pieces that are badly deteriorated, retaining as many of the original features as possible. Replacement members should be installed to duplicate the original as closely as possible. Original pieces may be used as a pattern to replicate size, profile and dimension.

Care should be taken in removing pieces to be used as patterns after which they should be re-fitted into their original locations.

6.13 Arches and Posts

Characteristics: The decorative arches span the distance between the posts. The posts have chamfered shafts and are topped with a molded cap. None of the original base or cap moldings remain except on the southern most post.

Condition/Problems: The arches and posts are in fair to good condition. The capitals and shafts of the posts appear to be sound with the exception of the central capital. Some of the post bases suffer from dry rot and deteriorated parts should be replaced. Original pedestal and pedestal caps are missing on all but the southern most post.

RECOMMENDATIONS: Restoration of all post bases and caps is recommended. The original remaining elements can be used to provide a profile for an accurate replication. Paint line profiles from original molding pieces can be seen on the north post against the house body (see fig 14a). Care should be taken not to remove any of these profiles in restoration or repair work.

6.14 Front Porch Balustrade

Characteristics: The present balustrade has been rebuilt and is not representative of the original design. The present balusters are 2 x 2 inch vertical members, while the original balusters were turned.

Condition/Problems: It is in fair condition. Balusters and rails are loose and in need of repainting.

RECOMMENDATIONS: In the interim period before an accurate restoration occurs it is recommended that the present balustrade be repaired. Balusters and rails need to be securely fastened and major joints need recaulking. When funds become available, skilled craftspeople should be employed to restore the balustrade. Examination of several historic photographs, original molding profiles still present on the posts, and surviving molding on the south post revealed that the rail was made up of two pieces: a wider top section and a narrower bottom section to which the balusters were secured. It is recommended that the existing pedestal cap should be used to create the top rail profile (see fig 14a). To ensure proper drainage the top section of the molding should be slightly sloped. The lower section of the top rail was probably the width of the unchamfered portion of the post extending approximately 2 1/2 inches down from the top section of the rail. Balusters should be reconstructed from historic

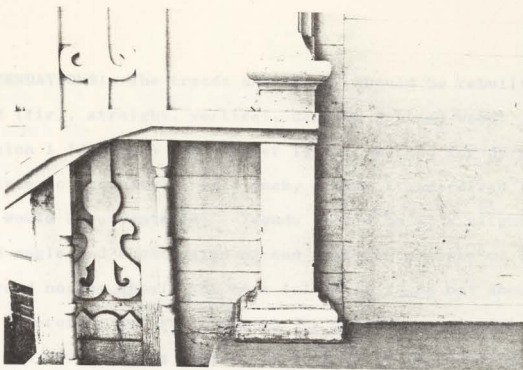
photographs as accurately as possible and dowelled into the top and bottom rail. The bottom rail's current position corresponds to the original rail because it appears that the rail has been notched into the post suggesting an original joint.

6.15 Steps, Newels and Railings

Characteristics: The steps are not original to the house and are made of 2 inch construction grade lumber. The nosing is squared and no cove molding is present. The newels, handrailing and stair balusters have been reconstructed. Although not accurately restored, they somewhat reflect the original design (see fig 14b).

Condition: The stair treads and risers are in poor to fair condition due to deterioration from excess moisture. The newels, handrails and balusters are in poor condition. Elements are loose and deteriorating, and in need of repair.

Problems: The treads and risers are deteriorating from excess moisture, primarily due to poor design and age. Fungal growth and insect infestation can be seen on the underside of the steps. The handrail and balusters are loose and suffer from dry rot. The newel post wooden members are splitting and warping, and the joints are loose.



A.



B.

Figure 14: A. North post pedestal and cap located on front porch.

B. Front porch stairs.

RECOMMENDATIONS: The treads and risers should be rebuilt with a hard (fir), straight, vertical, densely grained wood. Finish dimension 1 1/8-1 1/4 inch lumber is recommended for durability and historic accuracy (1 1/16 inch, a more standardized lumber size, would be acceptable). Treads should be at a slightly sloped angle and constructed of one continuous piece of lumber. The tread nosing should not be a full half round but should match in profile to the nosing on the interior staircase of the house. A cove molding similar in profile to the molding under the porch deck should be put underneath each tread. The cove molding should extend around the ends of the treads. All wood should be pretreated with preservative and back-primed. Loose boards on the newels should be fastened and missing elements replaced. It is important that joints be caulked, especially where the newels meet the handrail. In future reconstruction of the newel post, it is recommended that they be built from as few pieces as possible, minimizing the chance of joint failure. It is recommended that both the handrail and balustrades be reconstructed similar to their current design. When an accurate restoration occurs, they should be restored using historic photographs (see figs 5, 7 and 8) and scale drawings prepared by a professional.

6.16 Front Porch Decking

Characteristics: The tongue and groove porch decking measures

3/4 inch by 3 1/2 inches and runs east/west. The trim boards underneath the porch decking creates an unusual detail, adding to the overall historic character of the porch (see fig 15b).

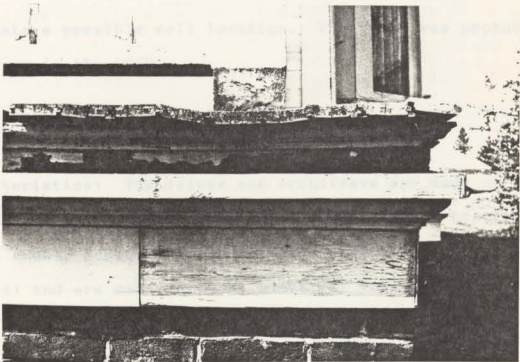
Condition: The porch decking is deteriorating badly and needs to be rebuilt, as do the trim boards and molding.

Problems: The deterioration of the decking is causing the front north porch column to settle which could lead to serious damage to the porch structure. This is evident in the north arch which is starting to pull away from the settling post. Sections of the top molding and trim boards are suffering from dry rot.

RECOMMENDATIONS: It is recommended that the decking be removed and the supporting joist inspected for dry rot. Preservative-treated full dimension 1 inch x 4 inch tongue and groove boarding running the full width of the porch should be used for the decking. Decking boards should be slightly sloped away from the body of the house, usually 1/8 inch to 1/4 inch per foot and laid in the direction of the slope. The trim detail under the decking should be maintained in the restoration. The top molding and trim boards need replacing. As the top molding trim piece does not appear to be original, the molding under the east bay window water table should be used as a guide for the molding profile.



A.



B.

Figure 15: A. Front porch decking.

B. Detail under front porch decking.

WEST PORCH

6.17 General

The west porch was originally an enclosed area probably used as a wash-room or woodshed and/or a maid's room.⁴ Figure 6 shows the enclosed back porch with a door and window on the west outer wall. An archway can still be seen in the attic which originally framed the southern entrance to the west porch. The ceiling was once the same height as the present south porch ceiling but was probably lowered to its present height in the 1920s. Paint lines south of the kitchen window delineate a possible wall location. The porch was probably opened up in the 1940s.

6.18 Frieze, Architrave and Ceiling

Characteristics: The frieze and architrave are made up of three narrow horizontal panels with four pairs of brackets spaced evenly supporting the cornice. The brackets are not original and are made of three pieces of wood rather than the two 1 1/2 inch pieces of wood used to build the original brackets. Some of the original brackets which appear to be from the back porch are located on the second floor of the garage. The porch ceiling is made up of beaded tongue and groove boarding.

Condition/Problems: The west porch frieze and architrave are in fair condition. The ceiling is in good condition except for a small hole where a light fixture was once installed.

Evidence of water damage is visible on frieze panels and trim boards and probably occurred before the back ell was re-roofed and portions of the cornice and soffit replaced (see fig 27). The southwest corner boards are separating from each other, probably due to settling occurring from the decking giving way under the corner post.

RECOMMENDATIONS: Some of the frieze panels and trim need repair, and wood elements should be inspected for dry rot. It is recommended that the southwest post be stabilized and the corner board fastened and caulked to minimize water penetration. The hole in the ceiling should be sealed to protect against insect or rodent infestation.

6.19 Arches and Posts

Characteristics: There is only one pair of arches located on the elevation which spans the upper portion of the posts. The posts are chamfered and measure approximately 7 x 7 inches. A molding surrounds the posts at the base and top of the arches.

Condition: The arches and posts are in good condition.

Problems: Some of the post capitals and base moldings are

loose or missing.

RECOMMENDATIONS: Missing molding pieces should be replaced and loose pieces fastened.

6.20 Decking

Characteristics: The tongue and groove decking measures $3/4$ inch by 3 $1/2$ inches and runs east/west.

Condition: The decking is deteriorating badly in some areas, particularly at each end of the porch (see fig 16a).

Problems: The decking's deterioration is causing the north and south corner posts to settle which could cause serious problems in the future (see fig 16a).

RECOMMENDATIONS: It is recommended that all deteriorating decking be replaced with tongue and groove boarding similar to the present boarding. The supporting joists should be inspected for water damage or dry rot after the removal of existing sections of decking. Future restoration should include plans for replacing the present porch decking on the south and west porch with full dimension size 1 inch x 4 inch tongue and groove decking (see section 6.16). New decking should be installed at a slight angle to ensure proper drainage and pretreated with a preservative and back primed. Ends of

tongue and groove boarding should be sealed and painted to prevent water from wicking into the ends of the boards.

South Porch

6.21 General

The south porch is built as an integral part of the roof's structure and retains its original configuration. The 1892 Sanborn maps indicate that a small building, most likely a privy, was located at the east end of the south porch (see Appendix B). In later years the privy was replaced by a bathroom which was built into the porch area.⁵ The bathroom was removed in the 1970s as part of the restoration effort, and a new bathroom was installed in the room adjacent to the kitchen (see Appendix F).

6.22 Frieze, Architrave and Ceiling

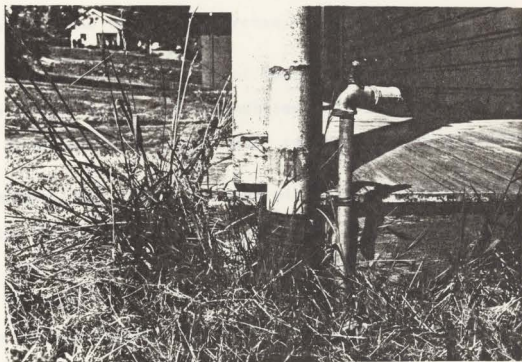
Characteristics: See section 6.18 for frieze and architrave characteristics. The ceiling on the south porch is made up of 5 1/4 inch boarding which differs from the narrower beaded boarding on the west porch.

Condition: The frieze, architrave and ceiling of the south porch are in good condition.

Problems: The wooden members of the frieze and architrave on



A.



B.

Figure 16: A. Decking and north post on west porch.
B. Drain pipe connection at southern post on west porch.

the southwest corner suffer from water staining associated with the downspout (see fig 26). Some of the ceiling boards are loose and need repair.

RECOMMENDATIONS: Inspect all wooden elements above the downspout for deterioration and fasten loose boards on ceiling.

6.23 Arches and Posts

Characteristics: Three pairs of arches project from the upper portion of the post. The posts are chamfered and measure approximately 7 x 7 inches. Molding surrounds the post at the base and at the top of the arches.

Conditions/Problems: Some of the arches have been replaced and generally are in good condition. The posts suffer from minor deterioration around their capitals and base moldings.

RECOMMENDATIONS: These molding pieces should be repaired or replaced if missing (see fig 26).

6.24 Decking

See recommendations for west porch decking (section 6.20).

DOORS

6.25 General

The front and upper deck doors are original to the house and were once marbled (see section 9.6). The doors located on the back ell appear to be from a later period. The exterior doors are generally in good condition with the exception of the binding problems associated with the upper deck and west porch screen doors (see sections 6.26 and 6.28). All the doors and doorways should be checked for gaps where air and water might enter. If gaps do exist, it is recommended that concealed weatherstripping be installed, which will also increase energy efficiency.

6.26 Second Floor Porch Door

Characteristics: The upper deck door is made of semi-circular, single pane light on the upper half and two vertical panels on the lower half. An arched casing capped with a projecting hood decorates the top of the doorway. A screen door is installed on the exterior. Through a study of early photographs and an historic paint analysis, it has been determined that the door and surrounds were marbled (see section 9.6). The upper glass portion appears to have been painted with a decorative

motif (see fig 17a). The hardware is original except for a new security lock installed on the interior of the door.

Condition: The door, hardware and screen generally are in good condition.

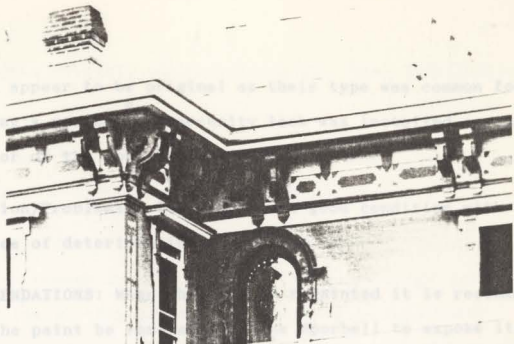
Problems: The screen door is difficult to open because it binds on the roofing covering the deck.

RECOMMENDATIONS: Care should be taken when re-roofing the upper deck to allow for proper clearance for the screen door (see section 6.9).

6.27 Front Door

Characteristics: The front door is typical of an Italianate Style door. It has a single glass light in the top half with two small octagonal panels and a circular doorbell on the middle rail. Heavy, molded casing surrounds the door.

Originally there were two front doors: one entering the living room, and one entering the hall. The doorway leading has been removed, but there is evidence of it at the south end of the main porch. With four panels and a transom, it was simpler in detail than the hall entrance door (see fig 17b). The present front door and surrounds are original and like the doorway to the upper deck above it, were originally marbleized. The doorbell housing patent is dated July 2, 1872 and the



A.



B.

Figure 17: A. Upper deck door detail, ca. 1885.
Linn County Historical Museum.

B. Entrance door on south side of
front porch, ca. 1920. Photograph
courtesy of Frances Moyer Woodworth.

hinges appear to be original as their type was common for the building's period.⁶ A security lock was installed on the exterior of the door in the 1970s.

Condition/Problems: The door is in good condition with no evidence of deterioration or binding.

RECOMMENDATIONS: When the door is repainted it is recommended that the paint be removed from the doorbell to expose its original finish. This can be accomplished with a commercial paint stripper after the doorbell has been removed from the door. See section 7.12 on removal of hardware and section 9.6 for recommendations on marbling.

6.28 West Porch French Doors

Characteristics: The French doors and exterior screen doors lead onto the west porch which is used as a handicapped access to the museum (see fig 18a). Originally a single door was⁷ located in this opening corresponding approximately with the south French door. Examination of the studs in the attic reveal a 2 foot 5 inch opening in that locations while other stud spacing ranged from 1 foot 9 inch to 2 foot 0 inches. The present French doors were probably added when the dining room was enlarged in the 1920s. The door, mortise and tenon lock and latch set is similar to one found in a 1916 hardware

catalogue, possibly substantiating the later installation
date.⁷

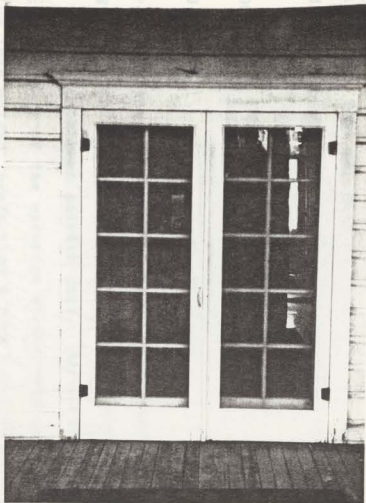
Condition: The doors are generally in good condition except for the door knobs and the exterior screen doors.

Problems: There is no door knob on the exterior of the northern French door. The inside knob can be pulled completely out of its fitting making the door knob nonfunctional. The screen doors bind badly on the west porch deck making them virtually impossible to open and close.

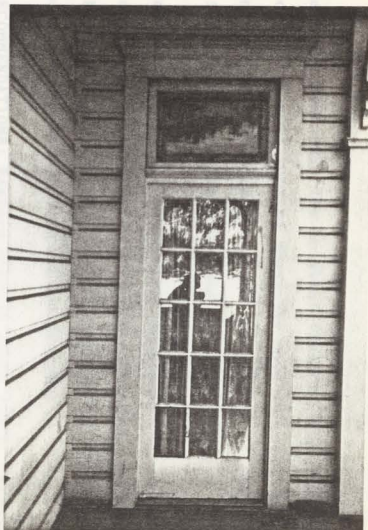
RECOMMENDATIONS: A knob similar in type to the interior one should be installed so the door functions properly, especially because the doors are used as a handicapped access. The screen doors may not bind after the north post on the porch is shored up and the decking replaced. If they continue to bind, the bottom of the screen doors should be planed until they open freely.

6.29 South Porch Doors

Characteristics: The French door on the east end of the south porch is not original. The original door was probably similar to the former living room entrance door (now removed) on the main porch: a simple four panel door (see fig 17b). The south porch French door is currently nailed in place, and the



A.



B.

Figure 18: A. French doors on west porch.
B. French door with transom at east
end of south porch.

hardware removed. The original transom, with a painted nature scene, is still located above the door (see fig 18b). The door on the north side of the porch which leads to the kitchen has a single pane of glass above and two panels below.

Condition/Problems: Both doors generally are in good condition: a gap exists between the decking and the bottom of the north door threshold which could be a liability and cause a more rapid deterioration of the decking.

RECOMMENDATIONS: Eastern door of south porch: Replace French door with a more appropriate four panel door which is functional and accesses the south porch. Northern door of the south porch: Seal gap between threshold and decking with a molding strip attached to the bottom of the threshold.

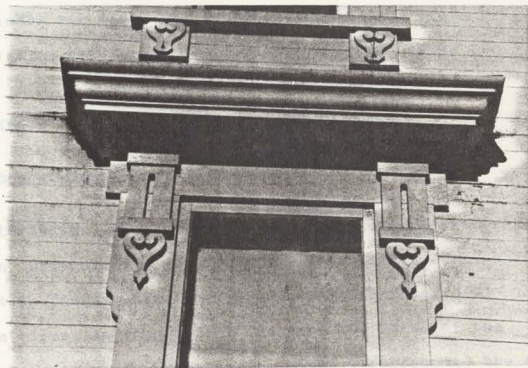
WINDOWS

6.30 General

Characteristics: The windows are tall one over one double hung sash with a decorative molded window stop (see fig 19). The windows have been painted shut. Decorative heart-shaped pieces are part of the exterior window trim (see fig 19). Twelve inch molded, projecting window cornices with metal flashing on top protect the lower window elements. Most of the original interior window hardware is still present (see section



A.



B.

Figure 19: A. Window; east elevation.
 B. Window detail; east elevation.

7.12). Wooden shutters, now removed, covered the windows on the interior (see figs 5 and 6). All windows and surrounds are original except the window trim on the south porch and the west dining room window which was added in the 1920s.

Condition/Problems: All the window components generally are in good condition but in need of routine maintenance and painting. Glazing putty is deteriorating and cracking.

RECOMMENDATIONS: Replace all deteriorating putty around windows. Scrape, sand and paint all windows (see section 9.2). The trim and cornice on the south porch window should be restored to match the windows on the north side of the ell. This window was taken out in the 1940s to facilitate installation of a bathroom and rebuilt in the 1970s.

BAY WINDOWS

6.31 Bay Window Roofs

Characteristics: Presently the bay roofs are covered with bitumen. Originally a metal roofing material was used which is evident in places where the bitumen has blistered off. Diagonal lines in the roofing indicate the seams of the original metal roof. Cresting originally surrounded the edges of the bay window roofs (see fig 20a).

Condition: The bay roofs are in poor condition. The roofing is cracking and blistering and no longer provides adequate protection (see fig 20b). Water pools in low spots on the roofs and does not drain.

Problems: Deteriorating roofing on the bays is causing water damages on the entablature below and is potentially damaging to the interior of the bays, particularly the frieze panel paintings. There are no gutters or downspouts on the bays or adequate slope to allow water run-off.

RECOMMENDATIONS: It is recommended that the roofing be replaced with a metal roofing material which extends over the cornice forming a drip edge. Copper is recommended because of its finish and long life span. Nails used in the copper roofing should also be copper because of the corrosive effect of incompatible metals. Galvanized sheet metal could also be used for roofing but it is subject to rusting if not maintained or painted regularly. Care should be taken in removing any previous roofing material or roof substructure so as to prevent damage to the interior bay frieze paintings. Replace any deteriorating elements of the roof's structure. Build the roof up to achieve a slight slope to help with water run-off. A 2 inch total rise is adequate.



A.



B.

Figure 20: A. Bay window detail, ca. 1890. Linn County Historical Museum.

B. Condition of bay window roofing; east elevation.

6.32 Entablature

Characteristics: The entablature of the bay windows is primarily made up of a projecting cornice, brackets and drop-like decorative elements on the frieze. They are virtually intact and original to the house.

Condition: The entablature is in fair condition. The cornices are deteriorating and areas of the soffits need repair (see fig 21). The brackets and frieze decorative elements are generally in good condition.

Problems: Improper drainage from the roof and leaking roofing material has caused the deterioration of the cornice and the soffit. A hole in the soffit on the north bay is causing some brackets to deteriorate (see fig 21).

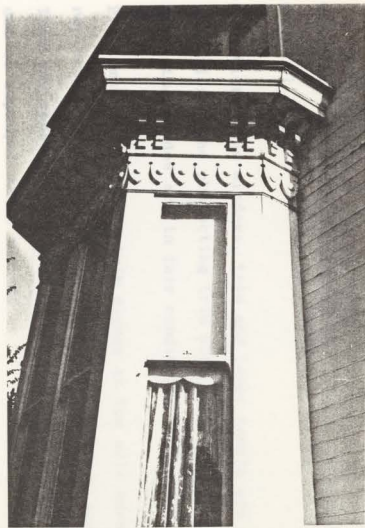
RECOMMENDATIONS: While re-roofing occurs (see section 6.31), deteriorated portions of the cornices should be repaired or replaced before new flashing is installed. Cornice profiles should be duplicated from existing moldings. Damaged sections of the soffits should be repaired and insect nests removed.

6.33 Body of Bay Window

Characteristics: The body of the bay is made up of four windows and a lower paneled portion. The windows are narrow,



A.



B.

Figure 21: A. Bay window; east elevation.
B. Detail of bay window's cornice; north elevation.

vertical, one over one double hung windows and are all original.

Condition: The windows, trim and lower panels are in good condition. The projecting trim pieces extending from the sills below the window are in fair condition.

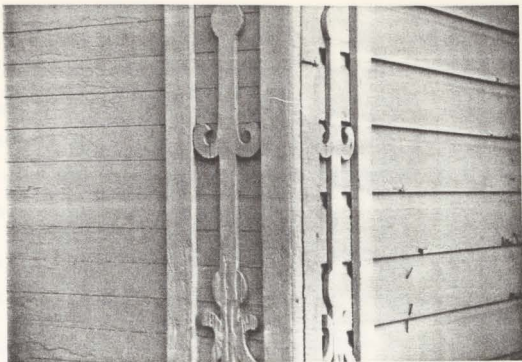
Problems: Some of the trim pieces at the sill have been replaced but were improperly positioned with no downward slope. This has caused a more rapid deterioration of these elements due to improper water run-off.

RECOMMENDATIONS: All cracked or deteriorating putty on the windows should be removed and re-applied. Loose trim boards should be fastened and deteriorated portions replaced. The new trim boards should be duplicated in material, slope and dimension to match original elements. The north side of the east bay retains original trim pieces which can be used as a guide.

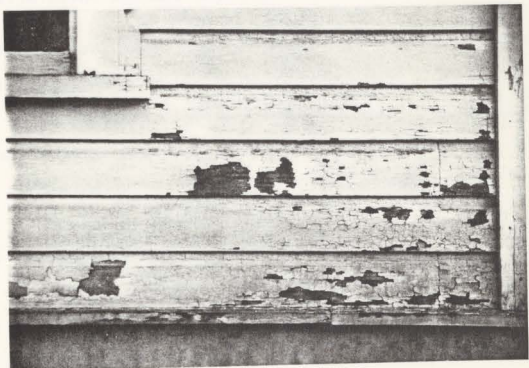
SIDING/CORNERBOARDS

6.34 General

Characteristics: There are two types of horizontal siding present on the body of the house: flush 3 1/4 inch tongue and groove boarding on the front portion and 6 3/4 inch beveled shiplap siding on the back portions of the house (see fig 22a).

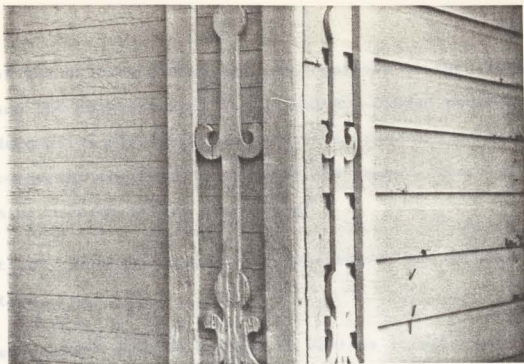


A.

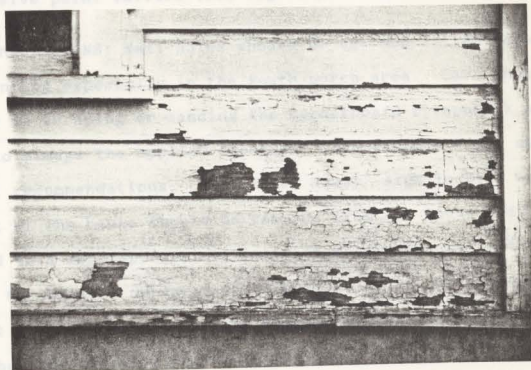


B.

Figure 22: A. Juncture of flush and shiplap sidings; north elevation.
B. Deterioration of paint on siding on ell; north elevation.



A.



B.

Figure 22: A. Juncture of flush and shiplap sidings; north elevation.
B. Deterioration of paint on siding on ell; north elevation.

Some of the shiplap siding has been replaced on the south porch wall and the adjacent wall to the south. Capped cornerboards with decorative strapwork enclosed in a frame are present at each corner on the front portion of the house. There is no sheathing present behind the siding.

Condition: Both the siding and cornerboards are in good condition.

Problems: Bare wood is exposed at various locations on the elevation, due primarily to exterior water problems leading to excessive paint failure (see fig 22b).

RECOMMENDATIONS: Nail holes should be set and filled before repainting especially in the south porch area. Care should be taken in scraping or sanding the cornerboard strapwork so as not to damage the applied elements. See section 9 for specific paint recommendations. The "Moyer House" sign located on the front of the house should be removed from the house body and moved to a more appropriate location which does not detract from the house's appearance. Suggested locations include: in front of the chestnut tree in the south front yard or attached to the face of the concrete retaining wall in front of the house.

WATERTABLE

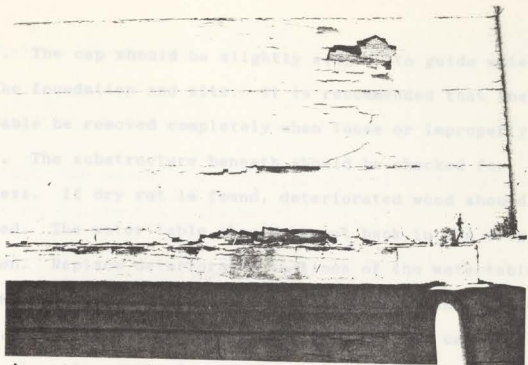
6.35 General

Characteristics: The watertable is 1 inch x 8 inch board with a 1 1/2 inch projecting, sloped cap including a cove molding which extends around the perimeter of the building.

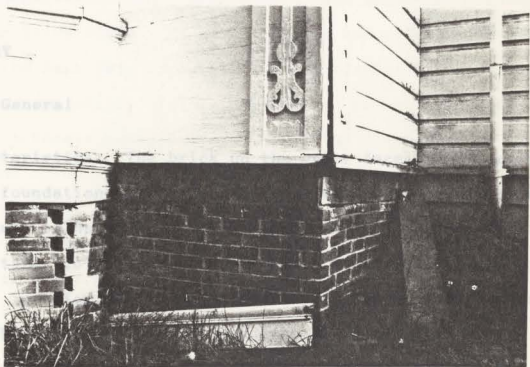
Conditions: It is in poor to fair condition, suffering primarily from water damage which is especially evident in the projecting cap (see fig 23a). Watertable caps are loose. Caulking, which is cracking, was added to the joints where the cap butts up against the house on the top and bottom.

Problems: The caulking underneath the watertable cap was added previously to secure the board. The caulking has leveled out the board, so that the board does not have the proper slope. This has caused the board's deterioration. Some portions of the watertable caps have been completely replaced by a board with inadequate slope; water does not run off properly. This is evident on the north elevation, especially on the bays, where the watertable caps are deteriorating. The watertable boards on the northwest corner of the front portion of the house have fallen off the building because of water damage (see fig 23b). These boards are not original, indicating a continuing problem. The watertable cap on the ell of the north elevation does not have a cove molding and is loose.

RECOMMENDATIONS: If installed properly, the watertable cap should interlock with the siding and no caulking should be



A.



B.

Figure 23: A. Watertable cap; east elevation.
 B. Deteriorating watertable and cap; north elevation.

needed. The cap should be slightly sloped, to guide water away from the foundation and site. It is recommended that the watertable be removed completely when loose or improperly sloped. The substructure beneath should be checked for soundness. If dry rot is found, deteriorated wood should be replaced. The water table should be put back in its original location. Replace deteriorated sections of the watertable, matching the slope, dimensions and materials of the original pieces. Portions of the original watertable and cap molding remain directly north of the east elevation bay and should be used as a model for the new elements.

MASONRY

6.36 General

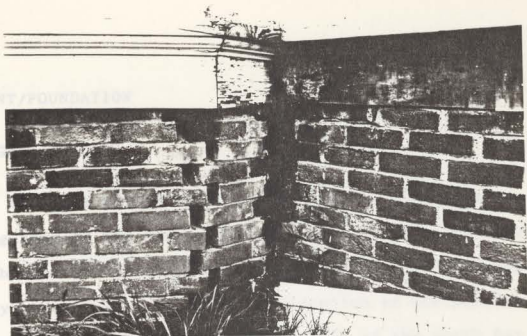
Characteristics: The brick on the outer face of the concrete block foundation wall, laid in a standard bond, was reconstructed in the early 1970s. Used brick was used which is not uniform in texture, color or quality. Bricks range from black to light orange in color and vary in textures. A hard, grey mortar (probably Portland cement) was used and flush joints were used. From examination of early photographs (figs 5 and 6), it appears that the original bricks were uniform in size and texture with crisp, sharp, even lines and possibly could have been painted. The corner detail on the bay windows was not

accurately reconstructed. Originally they were solid corner joints, not open joints (see fig 24b). Bricks in the basement are thought to be from the original foundation.

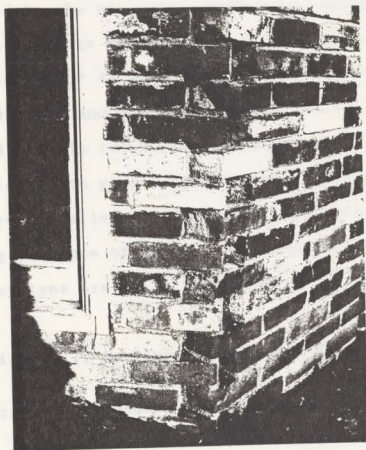
Condition: The masonry generally is in good condition except where a few bricks are spalling.

Problems: Moss is growing on some of the brick work around the front porch caused by high moisture content in the basement. A few bricks are starting to spall at the base of the porch and on the north elevation (see fig 24a).

RECOMMENDATIONS: It is recommended that all moss be cleaned off the brick surface by hand. Plants and grass clippings should be kept away from the brick foundation to allow for proper ventilation. Future restoration plans should include a more accurate restoration of the brick foundation facing. The type and color of the mortar, and the size, uniform color and the texture of the brick should be considered in restoration. The present foundation does not accurately represent the original brick foundation.



A.



B.

Figure 24: A. Condition of bricks and water-
table; north elevation bay.
B. Detail of open corner joints on
south bay window foundation.

BASEMENT/FOUNDATION

6.37 General

The basement of the Moyer house is an unfinished area housing some of the mechanical systems. The furnaces and hot water heater are located there as well as two of the original chimney bases. A stairway in the location of the present bathroom and a door in the lower portion of the north bay window once led to the basement. Both were removed in the 1970s. The basement has had a history of flooding with over a foot of standing water in it at times.⁹ In the mid-1970s the basement was drained and new footings and concrete block walls were installed. Drain tiles laid across the back of the house and a perforated drain pipe located in the basement in the east bay window were installed in 1980-81 to help water drainage.¹⁰ The continuing presence of water in the basement indicates that the drainage systems are still inadequate.

6.38 Foundation Wall, Footing and Basement Floor

Characteristics: The basement floor is an unfinished dirt surface. The grade slopes to the front: approximately 9 inches of crawl space exists under the west porch and increase to an 8 feet height in the front of the house. A 12 inch wide concrete footing, built in the mid-1970s, extends around the

perimeter of the house. Although it is not known whether a footing drain was installed when the footing was built, oral interviews indicate that one was not laid.¹¹ A perforated drain pipe, which drains into the street, is located in the east bay. This was installed in 1980/81 by the Linn County Parks and Recreation Department pursuant to recommendations from the Soil and Conservation Service. At the same time drain tiles were laid across the back and side yards to help with inadequate site drainage (see section 8). Concrete blocks faced with brick make up the foundation wall on top of the footing. The wall ranges in height from 6 feet in the front of the house to 8 inches in the back ell.

Condition: The house appears to be adequately supported on the present foundation system. The footings and wall are generally in good condition with the exception of rising damp in the blocks. The basement floor suffers from high moisture content with damp soil and standing water evident in various locations.

Problems: The problems in the basement are primarily due to inadequate water drainage. The high moisture content in the soil and standing water could stem from two major sources: ground water which is seeping through the soil or foundation and/or surface water entering the building. Most of the time there is standing water under the front porch causing some

rising damp in the concrete block. Water entering from a foundation vent underneath the back (west) porch is draining down grade and pools in the front of the building. There is over one foot of water standing under the south bay window, which could lead to settlement problems and deterioration of the wooden elements above.

RECOMMENDATIONS: Since the water could be coming from a number of sources, it is recommended that testing be done to determine its origin. Test holes should be dug in various locations around the footing and in the basement floor. Holes dug to the base of the footing will determine if a footing drain is present and the level of the ground water. If a working drain does not exist, it is recommended that a perforated pipe be installed at the base of the footing on the north, south and west elevations of the house (see section 8). This would also minimize the amount of water entering the vent located under the west porch. If ground water levels are high and a footing drain or old drain pipes are not present, it would indicate that some of the water problems in the basement are caused by ground water seepage through or under the foundation. Similarly, ground water close to the surface in the holes dug in the basement might indicate that ground water seepage is causing the damp soil. Ground water close to the surface on the basement floor can be minimized by digging a series of lateral trenches in the floor and back-filling them with pea

gravel. The trenches should be channelled to the east bay where the water would drain into the perforated pipe and out into the street. In addition to improper surface and ground water drainage, some of the water problems are due to inadequate roof drainage or clogging of gutters, downspouts and/or underground gutter drains. See section 6.1-6.2 for gutter and downspout recommendations.

Additional basement vents are recommended to decrease moisture content and to create better ventilation. Installation of louvered vents replacing the windows in the base of the bay on the north and south sides would provide excellent cross ventilation. Wooden louvers made of 2 inch horizontal slats installed in the windows would not detract from the appearance of the house, particularly if they were painted a dark color to simulate glass. A solid panel installed on the interior during the winter behind the louvers would keep the basement warmer and increase energy efficiency. Additional vents are recommended in the back ell, on the north elevation and the southern end of the west porch, and on the south face of the main portion of the house. Concrete blocks should be replaced with metal grates. The vent on the north side should be positioned in line with a window for aesthetic reasons. The vent under the west porch should be covered with a screen on the back side to prevent rodents or animals from entering the basement. A plastic or vinyl sheeting vapor barrier covered

with sand or pea gravel should be laid, covering the dirt surface only after the moisture problems have been corrected. The barrier will keep moisture confined to the ground so the upper wooden elements such as the floor boards and joists will stay dry, minimizing deterioration.

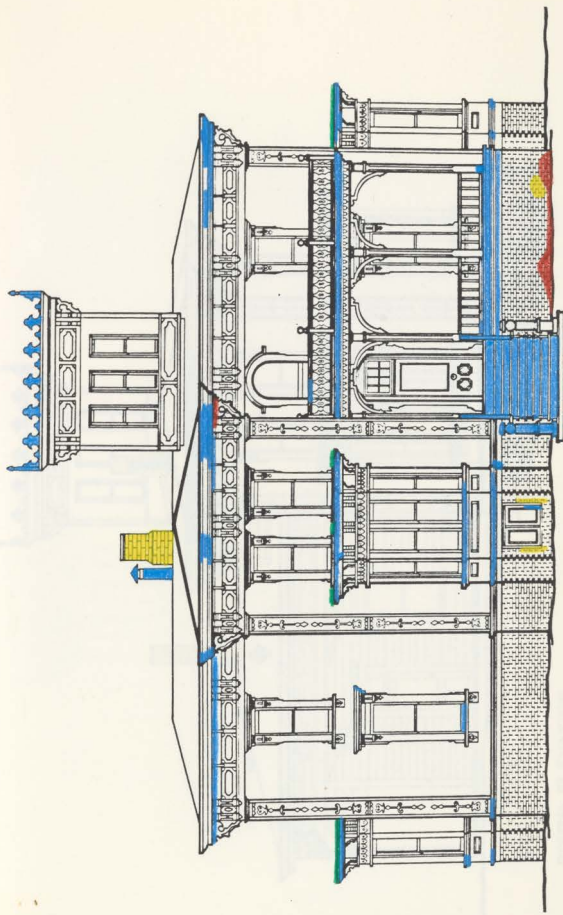
6.39 Sills, Posts and Girders

Characteristics: The sills are 8 x 8 inch and sit on the concrete block and brick foundation. The posts and girders are 8 x 8 inch with the exception of a 6 x 8 inch girder running east/west from the east bay windows. The girders run east/west on the front portion of the house and north/south on the back ell. Posts sit on 8 x 12 inch pre-cast pier blocks which rest on 2 foot square concrete footings. Sheet metal moisture or termite shields separate the posts from the pre-cast piers. Originally the posts rested on large rocks, but these were¹² replaced in 1969 with the present footings.

Condition: The sills, posts and beams are generally in good condition, except for the sill under the front porch. Other areas of the basement are inaccessible.

Problems/RECOMMENDATIONS: The front porch sill suffers from dry rot in some areas due to water penetration from

deteriorating decking. Repair and replacement of rotted sections of the sill should be undertaken when the front porch is redecked (see section 6.16).



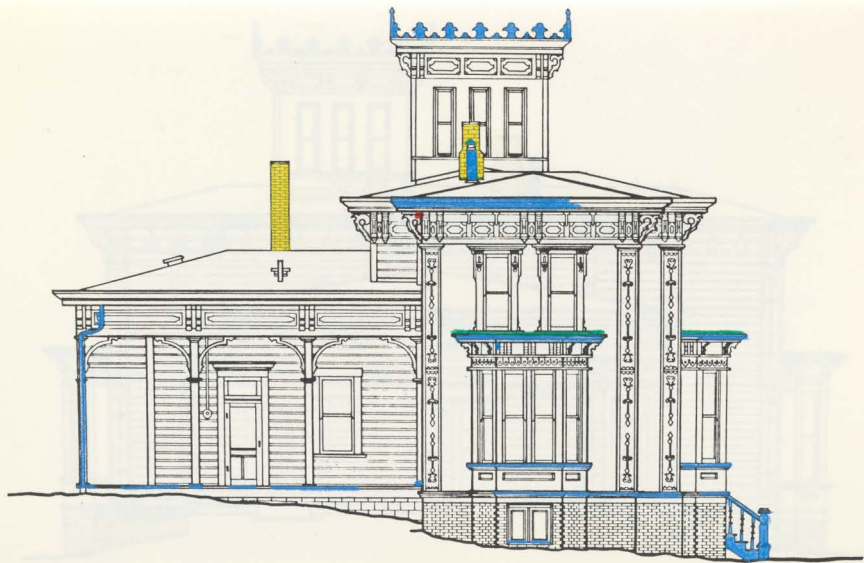
EAST ELEVATION

GENERAL PROBLEM AREAS

- REPAIR OR REPLACEMENT NEEDED
- BRICK OR MORTAR DETERIORATION
- INSECT INFESTATION OR MOSS GROWTH
- STANDING WATER

Figure 25

Figure 26
97

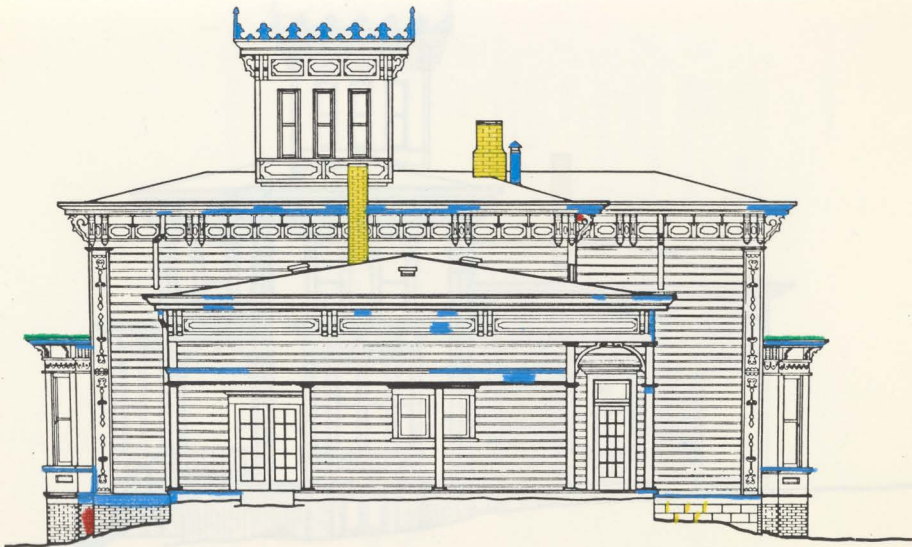


SOUTH ELEVATION
GENERAL PROBLEM AREAS

- REPAIR OR REPLACEMENT NEEDED
- BRICK OR MORTAR DETERIORATION
- INSECT INFESTATION OR MOSS GROWTH
- STANDING WATER

0 10
FEET

Figure 27
98



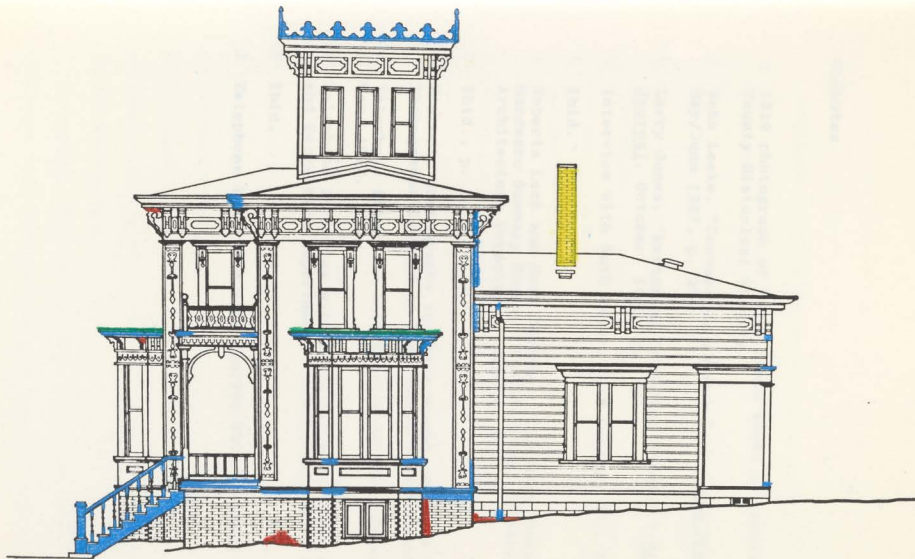
WEST ELEVATION

GENERAL PROBLEM AREAS

-  REPAIR OR REPLACEMENT NEEDED
-  BRICK OR MORTAR DETERIORATION
-  INSECT INFESTATION OR MOSS GROWTH
-  STANDING WATER

0 10
FEET

Figure 28
99



NORTH ELEVATION

GENERAL PROBLEM AREAS

- REPAIR OR REPLACEMENT NEEDED
- BRICK OR MORTAR DETERIORATION
- INSECT INFESTATION OR MOSS GROWTH
- STANDING WATER

0 ——— 10
FEET

Endnotes

- 1 1919 photograph of Moyer house shows no cresting. Linn County Historical Society.
- 2 John Leeke, "Canvassing a Porch Deck," Old House Journal, May/June 1987, p. 29.
- 3 Larry Jones, "Restoring Crumbling Porches," Old House Journal, October, 1981, p.. 224.
- 4 Interview with Ruth Moyer, Lake Oswego, Or., May, 1986.
- 5 Ibid.
- 6 Roberta Luck and Kurt Zielske, "The Moyer House Door and Hardware Summary Notes," Winter, 1982, University of Oregon Architecture Department, Eugene, Or., p. 1.
- 7 Ibid., p. 3.
- 8 Historic photographs indicate wooden shutters in the house. Photographs located at Linn County Historical Society.
- 9 Telephone interview with Charley Shipley, Brownsville, Or., May, 1987.
- 10 Telephone interview with Dyrol Burleson, Linn County Parks and Recreation Department, Albany, Or., May, 1987.
- 11 Ibid.
- 12 Telephone interview with Charley Shipley, May, 1987.

7 INTERIOR ANALYSIS AND PRESERVATION RECOMMENDATIONS

7.1 General

The interior of the Moyer house is a distinctive part of its overall significance. Interior finishes are primary features of the house. Stenciled patterns and paintings throughout the house are among the few remaining examples of this type of interior finish work in the state. Remnants of the original marbleizing and graining, indicating some of the original woodwork finish, can still be seen in obscure locations in the house. Fine crafting and use of materials are displayed in the diagonal wainscoting, newel post and curved stair railing.

The T-shaped plan contains nine rooms and is divided into two sections: the front two story block and the back one story ell (see Appendix F). The front or main portion of the building contains the living areas, including the parlor, living room and sitting room downstairs and the three bedrooms upstairs. The ell or service wing is made up of the dining room, kitchen, bathroom and attic. It is thought that originally the back ell contained a pantry, washroom, woodshed¹ and/or maid's room.

It appears that the two sections of the house are made up of different wall surfaces: flush tongue and groove and loosely

fitted vertical boarding. The front portion of the house, with exception of the hallways, are loosely fitted vertical boards which were most likely meant to be wallpapered. The back ell wall surfaces are tightly fitted vertical tongue and groove boarding, suggesting a surface for painting or stenciling.

The main hall is offset, creating an asymmetric floor plan. It opens into four principle rooms downstairs and the stairway to the upstairs rooms (see Appendix F). The main living areas, the parlor, living room and sitting room, line up on a north/south axis in the front portion of the house. The functions of these rooms are not clearly defined except for the parlor, which is more ornate in character and separate from the other two living areas. The living room suggests its name because it is centrally located and contains the fireplace. There is some question about the function of the sitting room. Elizabeth Moyer in later years used the room as a bedroom; in addition, the room's southern exposure, brightness, size and location, diagonal to the kitchen with a passageway between, suggest the possibility of a formal dining room.² The present dining room, adjacent to the kitchen, was a smaller room originally with one window which faced north. The absence of sunlight and smaller size do not lend themselves to entertaining large numbers of guests. The present dining room could have been used as a breakfast or informal dining room, as the stenciled fruit motif on the ceiling suggests an area for

dining. The back ell has gone through the most extensive alterations and does not reflect the original configuration. This occurred largely during the Thompsons' residency in the 1920s. The upstairs bedrooms have remained virtually intact in their layout with the exception of some minor alterations (see sections on individual room descriptions). Over the last twenty years, restoration, rehabilitation and repair have taken place in the house and currently the interior reflects both the Moyer and the Thompson residency.

The following sections include brief descriptions of each room, their original characteristics, alterations, previous restoration or rehabilitation and suggested recommendations for further investigation or restoration. Since the interior finishes are of primary significance to the house, separate sections on paintings and stenciling and woodwork are included. Refer to these separate sections as recommendations concerning these features are not included in the individual room recommendations. Sections on doors, hardware and wallpaper are also included.

7.2 Attic

Brief Description: The attic above the ell measures 21 feet 10 inches x 36 feet 0 inches and is currently used for storage. There are no windows in the attic. The door leading to the attic is at the top of the north branch of the stairs. This

door opens to a central hall with four doorways. The doorways on the north and south open to two large areas and the third door at the western end of the narrow hall opens to the western area of the attic which no longer has room divisions (see Appendix F). Unfinished floor areas of the attic occur above the south and west porch. The west porch ceiling joists are 2 feet 7 inches below the rest of the attic floor level. An archway visible in the southwest corner of the attic was once above the entrance to the west porch. Remnants of old wallpaper, linoleum and room partitions are still present.

Original Characteristics: The original function and configuration of the attic is not known but was probably a large open area used for storage.

Alterations: In the 1920s the attic was converted into a living space for hired help.³ At this time the roof was raised to accommodate the living spaces and a dormer built on the north side. The attic was divided into two rooms and a bathroom. The west porch ceiling was lowered at an unknown date.

Previous Restoration/Rehabilitation: The attic room partitions were removed and the roof was lowered to the original height in the early restoration. A circulation fan on the east wall of the attic and roof vents were installed in 1980-81 to improve circulation.

RECOMMENDATIONS: An original painted transom glass, now broken, is stored in the north attic room. This glass is thought to have come from the kitchen door transom. Future restoration of this transom is recommended.

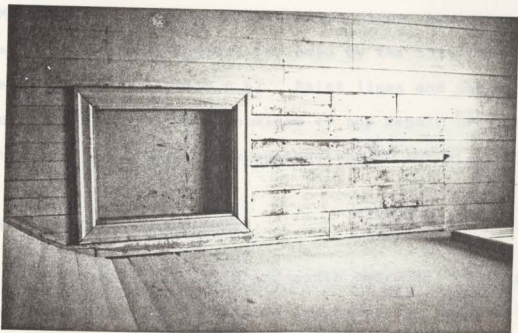
7.3 Second Floor Hallway

Brief Description: The west end of the hallway hall is curved, and is surfaced with 3 3/8 inch vertical boards. Flush horizontal boards measuring 3 3/8 inch line the rest of the flat wall surface on the north side of the hall while wider 5 1/4 inch horizontal boards line the southern side. The upper deck door is located at the east end of the hall (see Fig 29a). A portion of the original ceiling border can still be seen on the southern edge of the hall ceiling.

Original Characteristics: The hallway retains its original configuration except for the absence of the cupola stairway. A simple border painting decorates the ceiling. The cupola stairs were located in the second floor hallway. Paint lines on the floor and walls and patched ceiling boards indicate the location of the stairway (see fig 29b). Barbara Thompson McGill, who lived in the house in the 1920s, recalls the cupola stairway as being a "curved stairway...shakey...just a plain stairway" and states that "there were no seats in the cupola



A.



B.

Figure 29: A. Second floor hall looking east.

B. Patching in second floor hall's ceiling boards indicating original location of stairway to cupola.

when we played up there." Another recollection of Eva Wilson, who resided there in the early 1940s was that "there were stairs to the cupola and a banister just at the top...seems as if the stairs were enclosed with a banister at the top." Ruth Moyer, who visited the house when Mrs. Moyer was still living, recalls that there was "a door to the cupole and the stairway was enclosed." She also remembers seats built inside the cupola.

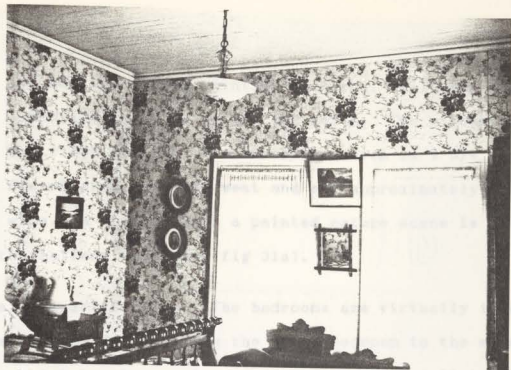
Alterations: The stairway to the cupola was taken down ca. 1945 and ceiling opening closed in.

Previous Restoration/Rehabilitation: None

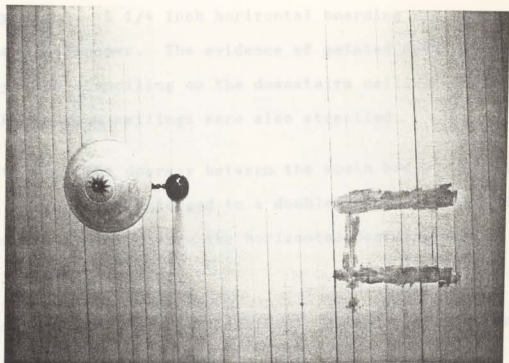
RECOMMENDATIONS: Long-term restoration plans should include reconstruction of the cupola, followed by the interior stairway to the cupola (see section 6.6). Paint lines and patch work in the ceiling should be maintained if any repair or repainting work is done to aid future reconstruction of the stairway.

7.4 North and South Bedrooms

Brief Description: The north and south bedrooms' ceiling boards are 3 inch wide and run north/south. In 1982, ceiling boards close to the center of both rooms were cut out and then patched so insulation could be blown into the attic space (see fig 30b). This has damaged the continuity of the ceiling



A.



B.

RECOMMENDATIONS: Future plans should include restoration of the wall paper to the original, installed in the north bedroom.

Figure 30: A. Interior of north bedroom; looking north.
 B. Patching in ceiling boards; should be north bedroom.

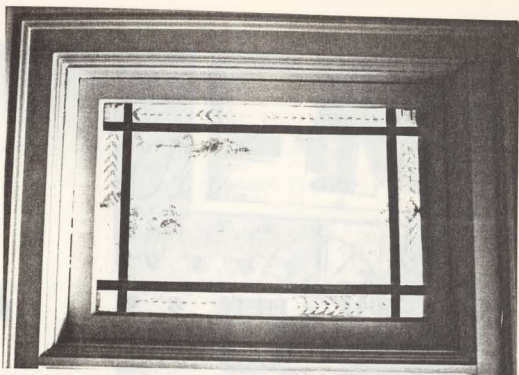
boards and any underlying painting patterns. Wallpaper on firtex composite boarding covers the walls. The windows are low to the floor and meet the baseboard which is 9 3/4 inches high. Floorboards run east/west and are approximately 4 1/4 inches wide. A transom with a painted nature scene is located above the hallway door (see fig 31a).

Original Characteristics: The bedrooms are virtually intact in plan except the doorway from the south bedroom to the middle bedroom which has been enlarged (see figs 30a and 32a). Patch marks on the floor indicate an opening the same size as the hallway doors. 5 1/4 inch horizontal boarding was covered with cloth and wallpaper. The evidence of painted ceilings in the hallways and stenciling on the downstairs ceilings indicates that the bedroom ceilings were also stenciled.

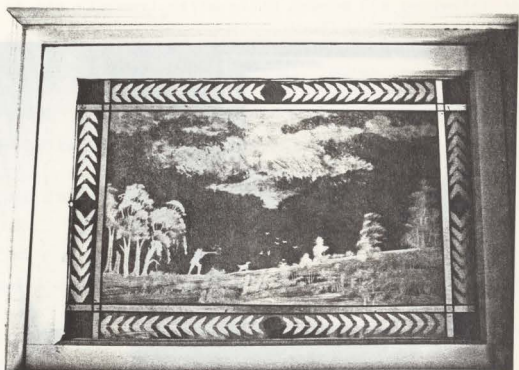
Alterations: The doorway between the south bedroom and the middle bedroom was enlarged to a double-doorway in the 1920s. More recent firtex covers the horizontal boarding and underlying wallpaper.

Previous Restoration/Rehabilitation: No major restoration of these bedrooms has occurred.

RECOMMENDATIONS: Future plans should include restoration of the wallpaper in the bedrooms. Samples of wallpaper, possibly the original, located behind the more recent firtex, should be



A.



B.

Figure 31: A. Transom painting above middle bedroom hall door.
 B. Transom painting above north bedroom hall door.



A.



B.

Figure 32: A. Interior of south bedroom; looking south.
B. Interior of middle bedroom; looking south.

extracted or exposed to be used as a pattern for new wall covering (see section 7.16, wallpaper recommendations). Ceiling stenciling or painting should be uncovered and restored (see section 7.15). Damage from insulation holes should be repaired to decrease their visibility.

7.5 Middle Bedroom

Brief Description: The bedroom's building material dimensions and features are the same as in the north and south bedrooms (see section 7.4). However, the middle bedroom differs in that it has diagonal wainscoting around its perimeter and a more finished baseboard with molded trim, similar to that of the downstairs rooms (see fig 33a). Water stains are present on the west wall and ceiling boards, attributed to leaks from backed-up gutters (see section 6.1 and fig 33b).

Original Characteristics See North and South Bedrooms (section 7.4).

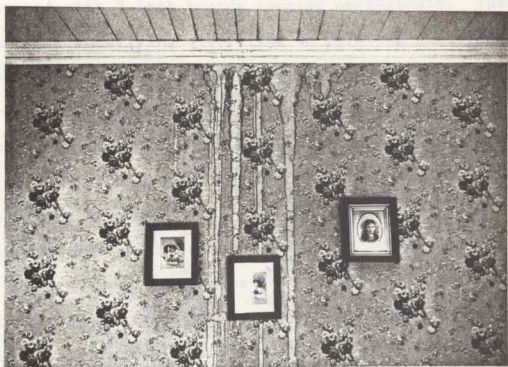
Alterations: See North and South Bedrooms (section 7.4).

Previous Restoration/Rehabilitation: No major restoration or rehabilitation has occurred in this room.

RECOMMENDATIONS: The water staining on the ceiling boards and west wall has been caused by water backing up in the gutters and water leaking through the roof framing and onto the



A.



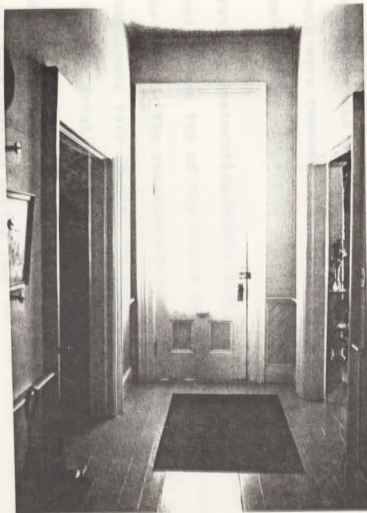
B.

Figure 33: A. Interior of middle bedroom; looking southeast.
 B. Water staining on west wall of middle bedroom.

interior surfaces (see fig 33b). Routine maintenance of the gutters and downspouts should be performed to guard against further interior water damage (see sections 6.1-6.2).

7.6 Hall and Stairs

The main hallway measures approximately 5 feet 0 inches x 15 feet 0 inches and opens to four of the six downstairs rooms. Diagonal wainscoting, measuring 33 inches high, appears along the lower part of the wall and 5 1/2 inch horizontal boards line the wall above (see fig 34a). The 10 feet 10 inch ceiling is covered with 3 inch boards running north/south. There is evidence of underlying stenciling or painting on the southwest corner of the hall ceiling and around the light fixture. The stairway to the second floor is set in an alcove near the end of the hallway on the south side. The tapered octagonal newel post is made from a dark hardwood with inlays of a lighter wood on each face (see fig 34b). The contrast of the wood is similar to that in the wainscoting. The curved railing is also made of dark wood. The balusters, treads and risers have been painted. The stairway divides into two flights near the top: a secondary straight flight leads to the south bedroom and the main flight leads to the upstairs hallway. The cupola stairway was located at the west end of the hall. Both flights have balustrades.



A.



B.

Figure 34: A. Hallway; looking east.
B. Staircase and newel post.

Original Characteristics: The hallway retains most of its original layout and materials. Single doorways with overhead transoms once stood where the double doorway presently open up to the living room and parlor. The stairway appears to be the original configuration.

Alterations: The doorways from the hall to the living room and the parlor were enlarged in the 1920s. French doors were installed in the double doorway leading to the parlor. They were removed in the 1940s. A large, rectangular heating register was installed at the base of the stairs, probably when the heating system was converted to oil. Older registers located in the downstairs rooms were removed and patched. The balustrade and newel post at the top of the stairway on the south were removed in the 1940s and a closet was built in the small hallway adjacent to the south bedroom.

Previous Restoration/Rehabilitation: The balustrade and newel post at the top of the stairs were reconstructed during the 1970s. The reconstructed balustrade and newel post components vary in size and shape from the original main stairway details.

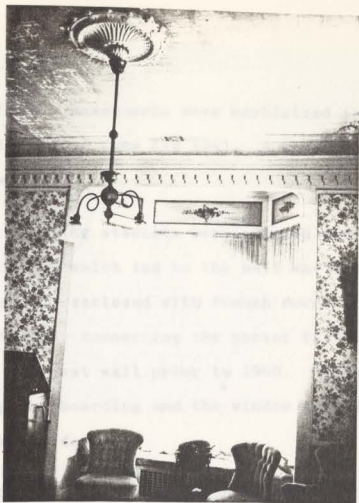
RECOMMENDATIONS: Future plans should include a more efficient heating system (see section 7.12). At the time of installation the present hallway register should be removed and boards patched. Less obtrusive heating registers which are

smaller in size are recommended.

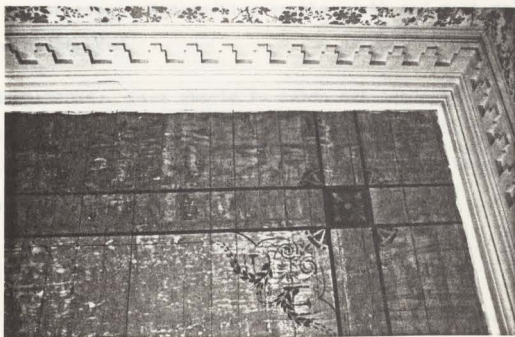
7.7 Parlor

Brief Description: The parlor is located off the hallway to the north and measures approximately 14 feet 3 inches x 15 feet 7 inches (see fig 35a) . Stenciling decorates the 3 inch ceiling boards which run north and south (see fig 35b). A molded plaster medallion holds a central light fixture. A wooden cornice, with dentils similar to those on the porch cornice, extends around the perimeter of the room. Wallpapered firtex boarding and diagonal wainscoting cover the walls. A patched, unpapered section of wallboard on the west wall indicates the location of a previous doorway built ca. 1940. A double wide doorway leads to the hall, added in the 1920s. The bay window, located on the north wall, has painted frieze panels rendering various flowers and fruit (see fig 43). Unpainted floor boards and a section of marbleized baseboards can be seen inside the window seat on the north bay window (see fig 42a). Patched floor boards indicate previous heating registers and heating stove location.

Original Characteristics: The room has maintained much of its original layout and details. A single door with a transom once led into the hall. Horizontal boarding covered with wallpaper over cloth made up the wall surfaces. Ceilings were painted



A.



B.

Figure 35: A. Interior of parlor looking north.

B. Ceiling stenciling on parlor.

and/or stenciled. Baseboards were marbled in a mottled greenish-yellow color (see fig 42a). A heating stove located on the west wall.

Alterations: Ceiling stencils were painted over in the 1920s. The single doorway which led to the hall was enlarged to a double doorway and enclosed with French doors in the 1920s. A double wide doorway connecting the parlor to the dining room was built in the west wall prior to 1940. Firtex was installed over the original boarding and the window seat added into the bay at an unknown date.

Previous Restoration/Rehabilitation: The door connecting the parlor with the dining room was removed and infilled during the 1970s restoration. Wainscoting on the south and west walls were reconstructed.

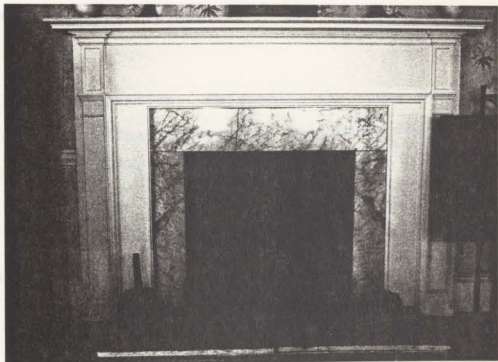
RECOMMENDATIONS: Care should be taken not to destroy the section of marbleizing under the window seat in the bay. This is valuable evidence which can be used in future interior finish restoration.

7.8 Living Room/Sitting Room:

Brief Description: The living room and sitting room are located south of the entry hall (see fig 36a). The living room measures approximately 14 feet 7 inches x 15 feet 0 inches and



A.



B.

Figure 36: A. Interior of livingroom; looking south.

B. Colonial Revival mantel piece; west wall of livingroom.

the sitting room approximately 13 feet 6 inches x 15 feet 3 inches. The 3 inch ceiling boards in both rooms are decorated with the same stenciled pattern. Each room has a bay window with interior panels which are painted with landscape scenes (see figs 44 and 45). A double wide doorway connects the two rooms. Wallpapered firtex covers the upper walls while diagonal wainscoting decorates the bottom surface. Painted boards measuring 4 3/8 inches running east/west make up the floor. A fireplace with a colonial revival style mantel piece is located on the west wall of the living room, and a bookcase decorated with split spindles is on the north wall (see fig 36b).

Original Characteristics: Originally the rooms were covered with cloth and wallpaper hung over horizontal boards. Ceilings were stenciled and it is thought that a border was painted around the perimeter of the floors. Pocket doors separated the living room from the sitting room. A second porch entrance was located on the north wall of the living room. The door leading to the hall was a single door with a transom. The original mantel piece was Italianate in character and was marbled. A handpainted screen is said to have been placed in front of the fireplace when not in use.⁴

Alterations: Stenciling on the ceilings was painted over in the 1920s. Firtex was installed over the horizontal boarding.

The front porch door was removed from the north wall and a bookcase took its place in the 1920s. Also at this time the original mantel was removed and the present one installed. The pocket doors between the sitting room and living room were removed in the 1940s.⁵

Previous Restoration/Rehabilitation: The stenciling on the ceilings was uncovered during work in the 1970s.

RECOMMENDATIONS: The original mantel piece is being stored in the garage (see fig 37). Marbleizing on the mantel matches the section of baseboard that is located under the window seat in the parlor. It is recommended that the mantel piece be brought inside the house for protection against further deterioration. It might be displayed as the Moyers' original mantel piece in one of the parlors or sitting room until future restoration occurs. Under no circumstances should the mantel be repainted. Cleaning with a mild soap and water is advised only after experimenting on small test areas. Further restoration of the piece should be undertaken only by a professional. Long range plans should include restoration of the mantel, removal of the bookcase in the north wall, reconstruction of the second entrance door and installation of the pocket doors between the living room and sitting room.



Figure 37: Original livingroom mantel piece dining
located in garage.

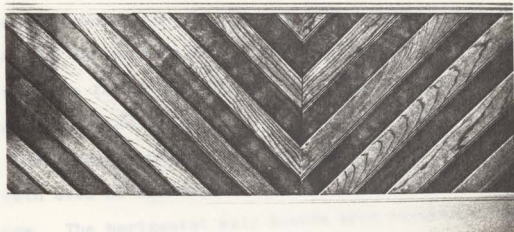
7.9 Dining Room

Brief Room Description: The dining room is rectangular in plan, measuring approximately 13 x 16 feet (see fig 38). Three inch tongue and groove flush ceiling boards run north/south and change to 4 inch boarding at the west end of the room. There are two windows on the north wall and French doors on the west wall. The French doors lead to the west porch and are used as a handicapped access. The upper walls are covered with gypsum board while the lower wall is decorated with diagonal wainscoting which alternates from light to dark color (see fig 38b). Flush floor boards change from 4 3/8 inch to 5 1/4 inch boards in the west portion of the room, which corresponds to an earlier subdivision of the room.

Original Characteristics: The dining room was originally divided into two separate rooms: a dining room and a smaller room approximately 4 feet 6 inches in width at the western end, which might have been used as a maid's room or china closet. Painting and border stenciling in a fruit motif decorated the dining room ceiling (see fig 47a). 1 x 6 inch horizontal tongue and groove boarding covered the walls with diagonal wainscoting below. There was a single window in the north wall and a single door led to the west porch area where the French doors are presently located. The door connecting the dining



A.



B.

Figure 38: A. Interior of diningroom; looking northwest.
 B. Detail of reconstructed wainscoting; north wall.

room and kitchen was located on the south wall adjacent to the present west dining room entrance door.

Alterations: The major alterations occurred in the 1920s during the Thompsons' ownership. The dining room was enlarged to its present size, the second north window, French doors and dining room/kitchen door were added and the wall partitioning off the small western room was removed. The ceiling paintings and stenciling were covered with wallpaper. Prior to 1940, a double entry door was built between the north parlor and the dining room. The west porch was still partially enclosed in the early 1940s and was used as a "sun room."⁶

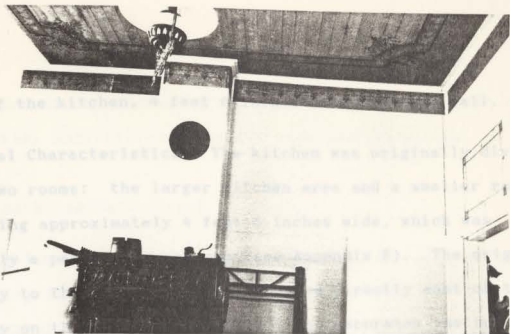
Previous Restoration/Rehabilitation: The ceiling painting and stenciling were uncovered in the 1970s. The ceiling border stenciling indicates the location of the wall which originally divided the room into two (see fig 47b). Boards used to patch the ceiling on the west end have remnants of wallpaper and stenciling on them. Stencil patterns from the kitchen and wallpaper from the sitting room are present on these boards. There are holes in the ceiling from tacks which once secured the cloth used as backing for the wallpaper that covered the ceilings. The horizontal wall boards were covered in the mid 1970s with gypsum board due to their deteriorating condition. Since only a portion of the wainscoting was left in the dining room, it was completely reconstructed. The wood and v-joint

between the diagonal members are of a different size and proportion than the original wainscoting. The double wide doorway between the north parlor and the dining room was removed.

RECOMMENDATIONS: If any future restoration of the wainscoting occurs, the hallway wainscoting should be used as a model for its detailing. Any paint lines on ceilings should not be covered or removed.

7.10 Kitchen

Brief Description: The kitchen is square in plan, measuring 16 feet 4 inches x 15 feet 8 inches (see fig 39). The walls are covered by 3 1/4 inch flush tongue and groove horizontal boards with stenciling along the top of the east, north and south walls. The ceiling is decorated with a stenciled border. The end of the stenciling on the west wall perimeter indicates the location of a previous wall. The room has three windows and four doors which lead to the hallway, bathroom, dining room and south porch. One window is located on the south wall and two smaller side by side double hung windows are located on the west wall. A chimney is on the north wall. The lower perimeter of the room is trimmed with a 7 1/4 inch high baseboard. Floor boards are 4 1/4 inch tongue and groove boarding except for some measuring 5 1/8 inches on the western



A.



B.

Figure 39: A. Interior of kitchen; looking north.
 B. Interior of kitchen; looking southwest.

side of the kitchen, 4 feet 6 inches from the west wall.

Original Characteristics: The kitchen was originally divided into two rooms: the larger kitchen area and a smaller room measuring approximately 4 feet 6 inches wide, which was probably a pantry or washroom (see Appendix F). The original doorway to the dining room was located directly east of the chimney on the north wall. Stenciling decorates the top of the walls and ceiling.

Alterations: Major alterations occurred in the 1920s during the Thompsons' residency. The wall separating the kitchen into two separate rooms was removed and built-in cupboards and a sink were installed along the western wall. The two small double hung windows were built at this time. Various other changes were made by subsequent owners and renters in the 1940s and 1950s, including partitioning a portion of the kitchen by the east wall and using it as a bathroom and removing the window on the south wall to enclose another bathroom on the south porch.

Previous Restoration/Rehabilitation: The bathroom by the east wall and the 1920s sink and cupboards along the west wall were removed during the early restoration in the early 1980s. The window on the south wall was also reconstructed at this time.

RECOMMENDATIONS: Paint lines or stenciled patterns should not

be destroyed or removed during any repainting or repair work, since they indicate the original room configurations.

7.11 Bathroom/Hall Closet

Description: The bathroom and closet abut one another and are centrally located. The bathroom, located off the kitchen, measures approximately 7 feet 0 inches x 7 feet 9 inches. The walls are made up of horizontal boards measuring approximately 3 3/8 inches which run along the east, west and south walls. Boards measuring 5 1/4 inches are located on the north wall. Two doors lead into the bathroom: one from the kitchen and one from the south parlor. The chimney is located in the northeast corner. A strip of graining exists on the door jam between the kitchen and the bathroom which appears to be original (see fig 42b). The closet is directly under the stairs in the main hallway and measures approximately 3 feet 0 inches x 5 feet 0 inches. Some of the interior surfaces have been wallpapered. The closet is currently used for storage.

Original Characteristics: The stairs to the basement/cellar were originally within the area of the present bathroom.

Framing in the basement indicates the original stair location. There was a passageway linking the closet and current bathroom area that was used to access the south parlor from the hall.⁷

Alterations: The "passageway" in the closet was infilled at an

unknown date. The stairs to the cellar were taken out in 1980-81 and the present bathroom facilities installed.

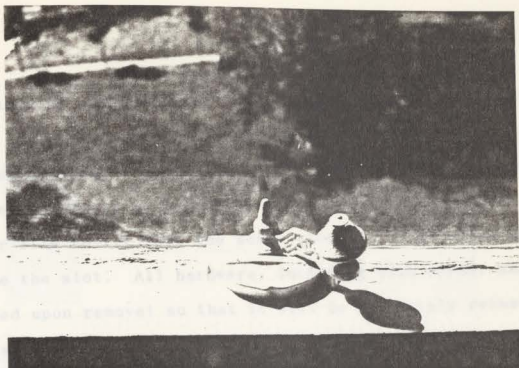
Previous Restoration/Rehabilitation: None

RECOMMENDATIONS: The example of graining on the bathroom door jamb should be preserved and should not be painted over or removed. This is the only remaining example of graining, a finish which is thought to have existed more extensively in the house at one time.

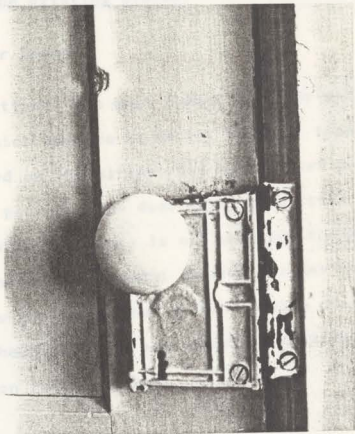
7.12 Hardware

Brief Description: The hardware on the doors and windows is in fair to good condition. A majority of the window locks are intact with the exception of a few broken pieces (see fig 40a). Approximately one half of the sash cords and pulleys are still present. Multiple layers of paint cover the hardware, rendering most of the window hardware inoperable. The bedroom door hinges are typical of most of those in the house (see fig 41a). Various types of door knobs and lock boxes were installed at different times. Ceramic knobs, located on the interior of the bedroom doors, seem to be original (see fig 40b). It is unknown whether the glass knobs, which appear on the exterior or hall-side of the bedroom doors, are original.

RECOMMENDATIONS: When individual rooms are being painted or restored it is recommended that the hardware be removed and stripped of paint to expose their original finish surface. Originally the hardware was probably either left unfinished or finished with a clear laquer. Movable parts should be lubricated and replaced in their original location. Care should be taken not to damage hardware or the surrounding area when removing pieces. Before attempting removal of painted hardware it is recommended that a razor be used to carefully cut an edge around the pieces through the paint layers. This will minimize the risk of breaking the hardware



A.



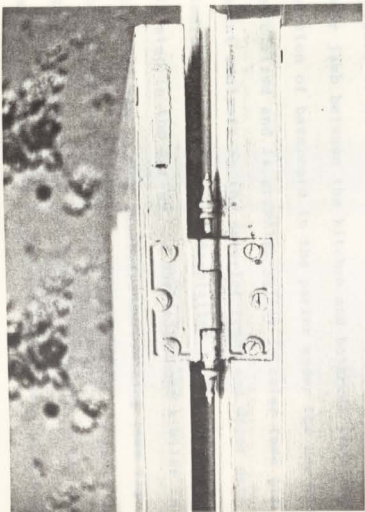
B.

Figure 40: A. Window lock; south bedroom.
B. Detail of ceramic door knob
and lock box; middle bedroom
door.

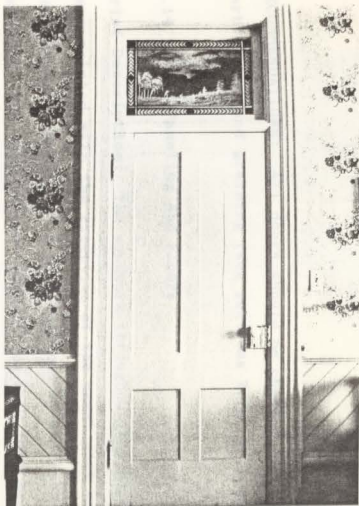
and chipping off substrate and paint. This procedure will allow for easier removal of the hardware. Use caution to prevent gouging of wood or hardware with the blade. When unscrewing pieces of hardware, make sure the screwdriver is the proper size to fit into the screw slot so not to strip or damage the slot. All hardware, including each screw, should be labeled upon removal so that it will be accurately reinstalled in its original location. Broken pieces, if functional, should be replaced with hardware that matches or is similar in style and type to the existing pieces.

7.13 Interior Doors

Brief Description: The most common interior door is a four panel door which appears to be the original type. Two panel doors, located on the kitchen and hall closet doorways, are from a later period. The door from the sitting room to the bathroom (now nailed shut) is not original to the house and was reported to have been brought in from another location.⁸ The bedroom doors are four panel doors, as is a door located in the attic. The bedroom doors all appear to be original, and are in good condition (see fig 41b).



A.



B.

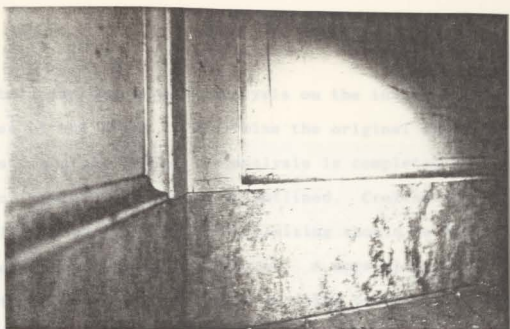
Figure 41: A. Door hinge; middle bedroom.
 B. Door and transom; middle bedroom.

RECOMMENDATIONS: All doors should be checked for underlying marbleizing and graining (see sections 7.12, 7.14 and 9).

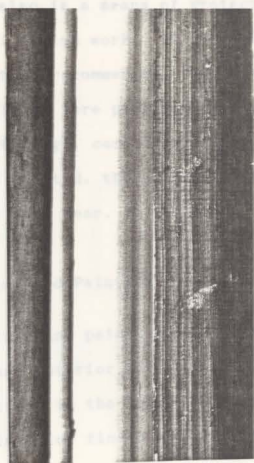
7.14 Trim, Paneling and Floors

Brief Description: The woodwork throughout the Moyer House has been painted with the exception of the newel post and stair railing, and the reconstructed sections of wainscoting. It is believed that some of the woodwork may have been originally grained with the exception of the floors. A strip of what appears to be some of the original graining is located on the door jamb between the kitchen and bathroom (see fig 42b). A portion of baseboard in the parlor under the bay window seat is marbled and is greenish-yellow in color (see fig 42a). (The paint analysis on the exterior front and upper deck doors indicate that they were marbled.) The original mantel, located in the garage, is marbled and similar in style and color to the parlor baseboard marbling (see fig 37). Floor boards throughout the house are painted. A patch of unpainted floor boards can be found under the parlor's bay window seat, suggesting that the floors throughout were originally unpainted and unfinished.

RECOMMENDATIONS: A further study of the original interior wood finishes is recommended. A professional consultant should be



A.



B.

Figure 42: A. Marbelizing on baseboard located under window seat in parlor.

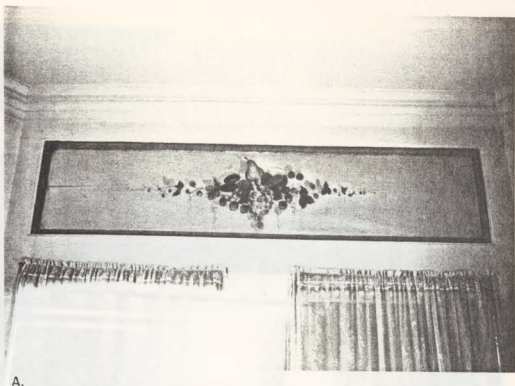
B. Strip of graining on door jamb between kitchen and bathroom.

hired to undertake a paint analysis on the interior wood surfaces of the house to determine the original finishes of the various features. After the analysis is completed a phased plan for restoration should be outlined. Craftspeople specializing in graining or marbleizing should be hired to undertake the woodwork restoration. A more cost effective way to restore finishes is to apply graining or marbleizing over painted surfaces instead of stripping the wood to the original finish. This also is a means of protecting and preserving the wood's original finish work. If stripping is done, a chemical stripping agent is recommended, rather than using such methods as sanding. Floors were probably left unpainted and untreated and covered with rugs, carpets or floor cloths. Because the floors are now painted, they should remain so indefinitely to prevent damage from wear.

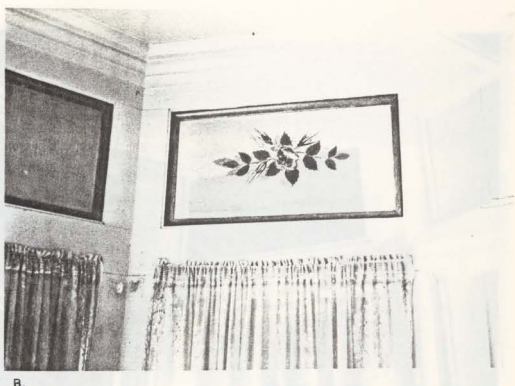
7.15 Stenciling and Painting

The stenciling and paintings are exceptional and are the most significant interior features of the Moyer house. Once common decorations in the homes of the wealthy, few examples of this type of interior finish work are left in Oregon. The preservation of these unique and distinctive finishes is imperative.

Brief Description: The decorative interior painted surfaces of



A.



B.

Figure 43: Fruit and floral painting above parlor bay window.

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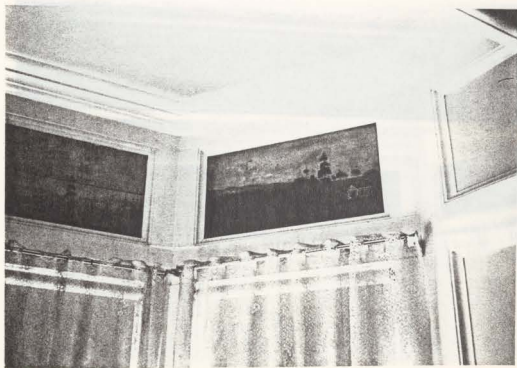
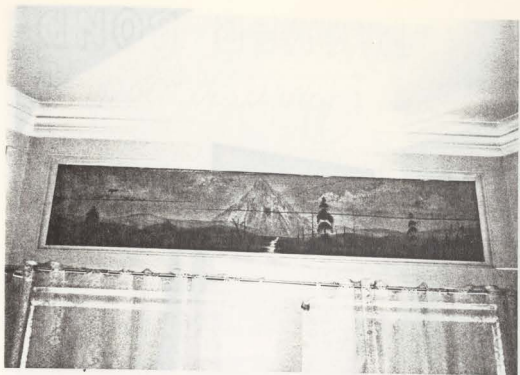
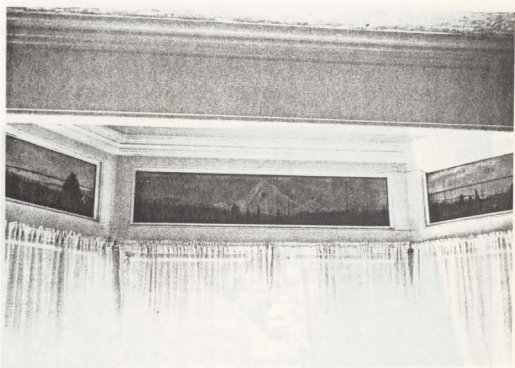


Figure 43: Landscape painting above
livingroom bay window.

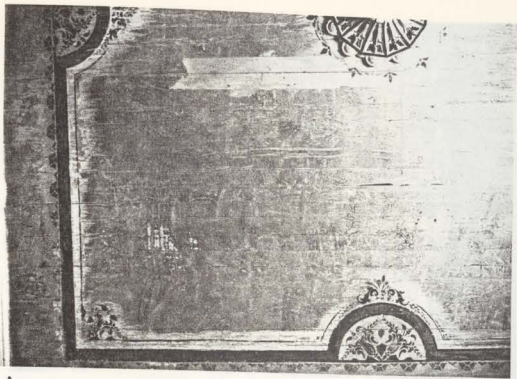


A.



B.

Figure 45: A. Landscape painting above livingroom bay window.
B. Landscape paintings above sitting room bay window.



A.

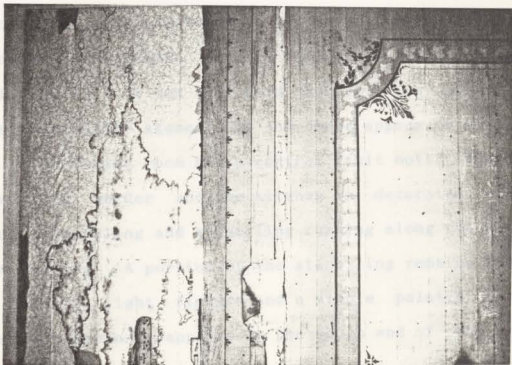


B.

Figure 46: A. Livingroom ceiling stenciling,
 B. Parlor ceiling stenciling and
 cornice.



A.



B.

Figure 47: A. Painted fruit motif in center of diningroom.
 B. Ceiling stenciling showing former location of wall; diningroom.

the house are presently located in three known areas: the board ceilings, the transoms and the bay window frieze panels. The bay window frieze panels in the sitting room and living room are painted landscape scenes while the parlor bays are decorated with floral and fruit motifs (see figs 43 - 45). All the ceilings in the downstairs rooms have stenciled patterns over a painted base. The living room and sitting room ceiling stenciling are identical in design. They consist of a geometric border design with a central motif which surrounds the molded plaster medallion. The parlor's stenciled ceiling is somewhat different with a linear border suggesting a Egyptian motif. It has been said that gold leaf paint was used on portions of the stenciling, and there appear to be traces of this. The dining room has a central fruit motif surrounded by a stenciled border and the kitchen is decorated with both ceiling stenciling and stenciling running along the top of the kitchen walls. A portion of the stenciling remains around the main hallway light fixture and a simple painted line with corner decorations appears on the south end of the upstairs hall.

Original Characteristics: Originally all the ceilings were decorated with stenciling, and the bay window frieze panel and transoms painted with wildlife or landscape scenes. Ruth Moyer

remembers the stenciled ceilings and paintings in the house and says that Elizabeth Moyer told her that a "German painter painted all the ceilings and scenes,...he travelled around to all the wealthy people's houses." No other information about the artist is known.

Alterations: Most of the ceiling stenciling was either wallpapered or painted over between the 1920s and 1930s during the Thompsons' residency.

Previous Restoration/Rehabilitation: Ceiling stenciling was uncovered in the 1970s by volunteers and county workers. Wallpaper paste and paint residue are still evident on the ceilings.

RECOMMENDATIONS: The exposed paintings and stenciling should be left undisturbed. Further restoration and preservation of the finishes should be undertaken only under the supervision and recommendations of a trained conservationist. Stability of these painted surfaces is important. Covered stenciling which is present in the upstairs and downstairs hallways and most likely in the bedrooms should only be exposed under the guidance of a professional. Other areas of investigation include determining the existence of any painted floor borders or wall paintings or stenciling in the dining room, kitchen or hallways.

7.16 Wallpaper

Brief Description: Wallpaper-covered Firtex wallboard is present in the parlor, living room, sitting room and all the bedrooms. The wallpaper patterns in all the rooms are floral and foliage motifs. Buckling and cracking of the wallpaper is occurring due to settling of the Firtex. Water stains are present in the middle bedroom (see section 6.1).

Original Characteristics: It appears that loosely fitted horizontal boards measuring 5 3/8 inches made up the original wall surfaces. It is thought that originally the rooms listed above were all wallpapered, since they were apparently not finished boarding and were not tightly fitted.

Alterations: The Firtex was installed over original horizontal boarding and wallpaper probably ca. 1930. Cracks in the Firtex in the sitting room, parlor and south bedroom expose layers of underlying floral wallpaper backed with cloth, possibly the original layers. The sitting room has several layers of wallpaper laid in the following sequence: Horizontal boards, cloth, one layer of light colored floral wallpaper with a dark border, a layer of cloth and three more layers of wallpaper, Firtex and finally the most recent wallpaper. The thickness of the Firtex, which is placed above the wainscoting or baseboards detracts from the depth and profile of the trim

moldings.

Previous Restoration/Rehabilitation: Re-wallpapered, dates unknown.

RECOMMENDATIONS: It is recommended that a small area of the underlying wallpapers be exposed until further wallpaper analysis and restoration occurs. This could be executed in one room and used as a model for the other wallpapered rooms. The north wall of the sitting room west of the doorway is a suggested location. It is not in the direct sight line when entering the room and is in an inconspicuous place which will not detract from the overall appearance of the room. A 12 x 16 inch rectangular section or "window" should be drawn on the Firtex at an appropriate sight line. With a metal straight edge and utility knife the rectangular piece of Firtex should be cut out using several strokes of the knife so not to cut through the underlying wallpaper. Remove Firtex. If several layers of wallpaper are present, try to expose a portion of the first layer of wallpaper, leaving subsequent layers intact. A piece of plexiglass screwed down to the surrounding Firtex will protect the exposed layers and frame the "window" for display purposes. This procedure can be duplicated in each wallpapered room. Restoration plans should include a further investigation of the underlying wallpaper by a trained specialist to determine an appropriate restoration plan for the wallpaper. A

professional will determine whether to restore the existing oldest layer of wallpaper, to replicate the oldest pattern or select new wallpaper which would create a similar spatial effect and color pattern of the original. It is highly recommended that the Firtex be removed from the walls. Not only does the thickness of the Firtex detract from the molding profile, but it is very combustible. The removal of the Firtex should be done with care, so not to damage the underlying wallpaper. For an accurate restoration, a new wallboard should not be laid over the original vertical boarding.

7.17 Electrical/Security

It is not known when the Moyers first received electricity, but in 1898 incandescent lights were just starting to be used in commercial buildings and in 1904 the Brownsville Times stated the "the contract for street lighting was signed with the Brownsville Lighting Company."⁹ The electrical system appears to be adequate for the museum's current use.

Characteristics: Wiring: A portion of the original knob and tube wiring system is still in use, along with wiring installed in more recent periods. In 1980, the Linn County Parks and Recreation Department took corrective measures to bring the electrical system in the house up to Code.¹⁰ The kitchen was completely rewired and separate circuits were established for the rest of the house. A new breaker box was installed in the south wall of the kitchen. The overhead main power line is located in the south yard and is not obtrusive. Lighting: The fixtures in the house are a mixture of styles, representing various time periods. The parlor, dining room and sitting room have similar fixtures, which appear to be the oldest in the house. Single, gold-colored shafts branch out into two arms holding glass shades. The living room contains decorative, suspended fixtures with a painted glass shade. The fixtures in

these main living areas all have molded plaster ceiling plates; the one in the living room has been brightly painted. The kitchen has a replica of an early period fixture. The remaining light fixtures are ceiling mounted and date ca. 1950-1960, with the exception of a wall-mounted fixture in the south upstairs hallway. Old light fixtures are on the south wall of the parlor and the east wall of the dining room. Updated electrical outlets are located in every room.

Security: A security alarm system was installed in 1983.¹¹ The main control box is located behind the front door in the hall. Sensor detector boxes are located in the parlor and sitting room and are unobtrusive.

Condition: The wiring and security system appear to be in good condition.

RECOMMENDATIONS: Wiring: Periodic checks of wiring are recommended to safeguard against fire hazard, especially the old knob and tube wiring. The knob and tube should be checked for flexibility of the insulation and if the sheathing is cracked the wire should be replaced and brought up to Code. Knob and tube circuits should not carry any loads other than their original lighting circuits and should not carry loads higher than 15 amps.¹² Long range planning should include complete re-wiring for safety as well as planning for expanded

functional needs of the house museum. Lighting: An inspection of the light fixture mountings is recommended to check for the presence of metal junction boxes. If no junction boxes were installed, it is recommended that the mountings be altered to include the boxes. Old wiring running directly through ceiling boards or framing without a box at the fixture connection is a fire hazard. Professionals should be consulted before installation of the boxes occurs to ensure that there is no damage to the plaster ceiling plates or ceiling stenciling. It is recommended that more appropriate period light fixtures be installed in the hallways and bedrooms. Any new fixtures should be residential in character. Security: The alarm system is only partially integrated into the house. It is recommended that the present alarm system be expanded to cover the doors in the back ell. Sensor detectors should be placed in inconspicuous areas in the dining room and kitchen.

7.18 Plumbing

Characteristics: The plumbing system serves the bathroom, which was built adjacent to the kitchen in 1980-81, where the basement stairs were previously located. No other functioning plumbing exists in the house. By 1892 a privy was located adjacent to the south porch¹³ (see Appendix B). A full bathroom was installed on a section of the south porch.

Another bathroom was built in the 1920s in the attic for the
live-in help.¹⁴ Both bathrooms were removed during early
restoration. An early well is said to have been located under
the south porch and a water pump stood in the south yard. The
bathroom appears to be in an inconspicuous location which does
not detract from the house's original interior room
arrangement.

Condition: The pipes are in good condition. Much of the old
plumbing was replaced and replumbed when the present bathroom
was installed. An old galvanized water pipe located under the
south porch burst in 1982 and was replaced with a plastic
pipe.¹⁵

RECOMMENDATIONS: The plumbing system is adequate for the
museum's current functions. Routine examination of pipes for
leakage and corrosion is recommended.

7.19 Heating

Characteristics: Two small oil-fired floor furnaces are
located in the basement, which are ducted to the sitting room
and main hall. Furnaces are vented through a smoke pipe. The
fuel line runs along the north side of the house to an oil tank
located in the carriage house. The house was heated by a wood
burning gravity furnace prior to 1922.¹⁶ A damper used to

regulate the heat, remains at the end of the downstairs hallway by the kitchen. Patches in the downstairs rooms indicate old floor register locations, and there is no evidence of patches upstairs except in the north bedroom, which is believed to be the location of a heating stove. The house was converted to oil ca. 1940. The remains of a concrete foundation for the oil tank is still present in the basement under the front porch. An access door used to deliver fuel to the basement tank, was located in the foundation beneath the present north bay window.¹⁷ It is not known if this was an original door, but it was removed in the 1970s. The building was insulated in 1981 in the upper attic, first floor ceiling space and in locations in the back ell's attic.¹⁸ No walls were insulated.

Condition/Problems: The furnaces are in fair to good condition. Filters in the floor furnace registers need cleaning. A portion of the fuel line exposed on the north elevation is oily, possibly indicating a leak in the line. The current heat registers are in two locations: in the front hall and the south parlor.

RECOMMENDATIONS: The current heating system does not provide continuous air circulation, even heat, or controlled humidity. Rapid changes of temperature or humidity may be damaging to the building and its contents. Controlled temperature and humidity is imperative in a museum of this type with interior finishes

such as the stenciling and paintings and interior furnishings. The installation of a more efficient forced air heating system would produce uniform air circulation which would reduce radical changes in temperature. Air movement, ventilation and filtering to reduce dirt and dust are important aspects of a heating system. It would also be more cost effective in the long run. Old floor registers could be reopened and used for the new system. Old duct work is still present in the basement and can be used as a guide for new duct work. Venting pipes could be run through chimneys when the chimneys are reconstructed. No apparent heating registers are located in the upstairs. It is recommended that the heating system be confined to the downstairs and basement area. Current registers in the hall and sitting room are obtrusive and patching is recommended. Further investigation of the humidity in the building is recommended.

- 12 1887 Eastern Fire Insurance Exp. Greenville, N.C.
- 13 Interview with Barbara Thomas Hill.
- 14 Lincoln County Historical Society records.
- 15 Interview with Barbara Thomas Hill.
- 16 Interview with Charley Hagley, Greenville, N.C. May, 1987.
- 17 Lincoln County Historical Society records.

Endnotes

- 1 Interview with Ruth Moyer, Portland, Or., May, 1987.
- 2 Ibid.
- 3 Interview with Barbara Thompson McGill, Redmond, Wa., May, 1986.
- 4 Interview with Ruth Moyer.
- 5 Interview with Elaine Poland, Shedd, Or., 8 March 1986.
- 6 Interview with Donna Crow, Brownsville, Or., 23 April 1986.
- 7 Ibid.
- 8 Interview with Bill Lewis, Corvallis, Or., 15 April 1986.
- 9 Brownsville Times Supplement, 12 Feb 1904.
- 10 Telephone interview with Dyrrol Burleson, Linn County Parks and Recreation Department, May, 1987.
- 11 Linn County Historical Museum records, Moyer house files, April, 1987.
- 12 Consultation with Alfred Staehli, Portland, Or., 12 May 1987.
- 13 1892 Sanborn Fire Insurance Map, Brownsville, Or.
- 14 Interview with Barbara Thompson McGill.
- 15 Linn County Historical Museum records.
- 16 Interview with Barbara Thompson McGill.
- 17 Interview with Charley Shipley, Brownsville, Or, May, 1987.
- 18 Linn County Historical Museum records.

8 SITE ANALYSIS

Brief Description: The Moyer house is located in North Brownsville in a mixed residential and commercial neighborhood. The house faces east and is situated between two knolls on a slightly sloping one-half acre lot (see fig 49). A 1920s garage is located west of the house, which is accessed by a driveway to the north (see fig 49). A two foot high concrete retaining wall separates the lot from Main Street and a dirt driveway is located on the north side of the property. A road leading to a newly developed subdivision runs along the southern boundary of the lot, in the location of the original outbuildings. Roses line the front edge of the property and junipers and rhododendrons are planted around the east elevation foundation. A large wisteria, a linden tree, a catalpa tree and a chestnut tree, which appear to be historic plantings, are located in the front yard. Old fruit trees grow in the north and west yards.

Original Characteristics: Eight acres originally surrounded the house with an orchard in the western portion of the property.¹ The hill located southwest of the house was known as the "Moyer hill" and was often the stage from which the Brownsville band played (see Appendix A). It also was the location of a water reservoir which J.M. Moyer used to power his planing mill.² Originally a stable, carriage house and

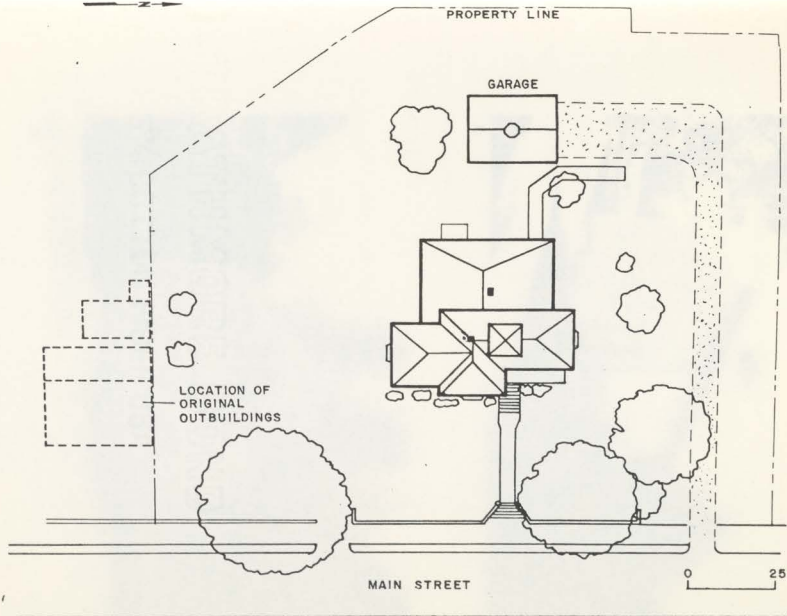


Figure 48: Moyer house; site plan.



A.



B.

Figure 49: A. Garage; looking northwest.
B. Garage; looking southeast.

privy stood directly south of the house (see figs 5 and 6). These buildings were associated with the first Moyer residence built ca. 1863. The outbuildings are depicted in a drawing in the Linn County Historical Atlas of 1878 (see fig 4a). The buildings are the same outbuildings which are shown in early photographs of the current Moyer house (see fig 4b). An ashlar rock retaining wall with a decorative turned baluster fence lined the front of the building while a simpler picket fence enclosed the rest of the yard. There were two front gates which opened to wooden plank sidewalks to the front and south porches.

Alterations: The acreage surrounding the house was slowly sold off over the years. The outbuildings were taken down ca. 1917, sold and reportedly used to construct a barn in South Brownsville, which may still stand.³ By 1919 the rock wall was replaced by a concrete retaining wall and the balustraded fence was removed.⁴ The double board sidewalks were also replaced by this time with a single concrete entrance sidewalk. A garage was built west of the house in the 1920s. The "Moyer hill" was sold at an unknown date but remained undeveloped until 1986 when the "hill" was resold. A new subdivision is currently being developed on the site. The road to the subdivision is adjacent to the property line⁵ of the house. A shed behind the house was torn down in 1980.

Previous Restoration/Rehabilitation: Under the direction of Marty Rosenson, a class from Linn-Benton Community College conducted an archeological field investigation on the Moyer house property to try to determine the location of the original outbuildings. The locations were never found but artifacts collected included an English china plate with a maker's mark of 1851, horseshoes, nails, buttons, broken glass and several unidentified wooden items. A thick layer of gravel in one area indicated the location of the driveway associated with the outbuildings. Neither a final map of the location of the trenches dug nor a list of the items found was made. Drain tiles were laid in 1980-81 between the garage and west porch to help direct water away from the basement. The drain extended diagonally across the south yard to an outfall in the street. The drain tiles were laid following recommendations from the Soil and Conservation Service.

RECOMMENDATIONS: Site drainage: The installation of the drain tiles along the back of the property has decreased the amount of water entering the basement but has not solved the problem. High moisture content and water in the basement could cause settlement of the house and deterioration of the wooden elements if not corrected. Water problems in the basement and proper site drainage should be considered a high priority. However, there are several questions concerning the site drainage systems which can be answered through further

investigation. These include determination of (1) the source of water entering the basement: ground water, surface water or both, (2) ground water levels around the foundation, (3) condition and location of drain pipes which lead from the downspouts, (4) possible evidence of an old drainage system around the perimeter of the foundation and, if present, its condition, and (5) the presence of a footing drain laid at the time the new foundation was built, and if present, why it fails to function. One method to determine the location or existence of drain pipes and ground water levels would be to dig test holes at various locations around the building. Other test holes should be dug near the downspouts to verify their connection to drain lines and the condition of those lines. If these lines are damaged, badly deteriorated or heavily clogged, it is recommended that they be replaced. Test holes should be left open long enough to determine the level of ground water. Water levels should be noted in each hole (see basement recommendations, section 6.38, for interior ground water testing). Care should be taken in digging test holes so underlying pipes will not be damaged. These holes, dug to the base of the footing, would determine the presence of any new or old footing drains, their condition, and the ground water level. If no drain pipes are found around the base of the foundation, it is recommended that a new drainage system be laid around the perimeter of the house on the north, south and

west sides. Perforated plastic pipe should be laid next to the base of the foundation, covered with filter fabric and backfilled with river rock, sand or pea gravel. Finished grading with topsoil over the backfill should be held 12 inches away from the foundation. Since a foundation vent is located under the west porch it is suggested that along the west portion of the house the soil be graded so it is not the level of the vent. This will help keep surface water from draining down the back slope to the west porch and into the vent (see section 6.38). If new drain pipes are not laid, a trench should be dug along the back of the west face of the porch extending north and south and filled with gravel to improve drainage.

Landscape: The site has changed drastically over the years due to new building and road encroachments. Historically the edges were defined by the outbuildings and fencing which surrounded the property. The treatment of the site and its landscape is important to the overall appearance and historic character of the house. It is recommended that a historic landscape architect be hired to plan for the restoration of the site and landscaping. Long range plans could include reconstruction of the outbuildings, although they would not be in their original locations because of the new subdivision road.

Endnotes

- 1 Interview with Eva Wilson, Lebanon, Or., 21 April 1986.
- 2 1884-1902 Sanborn Fire Insurance Map, Brownsville, Or.
- 3 Linn County Historical Museum Records, Moyer house files, April, 1987.
- 4 1919 photograph of Moyer house, Linn County Historical Museum.
- 5 Linn County Historical Museum records.
- 6 Telephone interview with Dyrol Burleson, Linn County Parks and Recreation Department, May, 1987.

9 PAINT AND PAINT MAINTENANCE PROGRAM

9.1 Brief Paint History

Paints in the nineteenth century were either water based or oil based. Water based paints were primarily used for white washes. Oil based paints, used as finish paints, were made from linseed oil, white lead and a coloring pigment. Earlier in the period, pigments were entirely handground by the painter¹ and then mixed with lead and oil.

As trends in exterior paint color began to shift from white to earth tones in the 1840s, new developments were occurring in the manufacturing of paint. Such books as A.J. Downing's The Architecture of Country Houses (1850) promoted gentle earth tones for exterior house colors, stating that "colour is more important than is usually supposed, since next to the form itself, the colour, is the first impression which the eye receives in approaching it--and, in some cases, the colour makes its impression², even before we fully comprehend the form of the building." After the Civil War paint companies such as Devoe, Lucas, Seeley Brothers, Fuller and Sherwin Williams³ began to manufacture and distribute ready-made paints. But handground paints were extensively used into the early twentieth century and it was possible that the painters of the Moyer house may have either ground their paints or bought ready-made paints. New technological innovations helped spread

color to American buildings. Machinery was developed to grind pigments in oil and containers were produced to make shipping more reliable and safe. The railroad spanned the country enabling the distribution of ready-made paints to the public. The invention of the high-speed press and inexpensive paper encouraged advertising and made pattern books, often with paint color samples, more accessible.⁴ By the 1870s, rich, dark greens, olives, browns, greys and ochres began replacing Downing's lighter earth tone colors. Paint not only was used as surface protection but to enhance the meaning of the building and to delineate its form. Devoe in Exterior Decoration (1885) describes the new multi-color or "parti-colour" paint schemes as "the most attractive and artistically valuable feature of modern house painting...."⁵ The Moyer house is an excellent example of an Italianate house which employed the "parti-colour" effect using the dark, rich earth tones associated with the later Victorian period.

9.2 House Preparation

Before repainting occurs, exterior wood features of the house should be inspected for deterioration and excessively rotted, decayed or split pieces should be replaced, restored or repaired. Loose boards should be fastened and nail heads set and filled. Fill or caulk joints abutting walls or other gaps

between wooden elements. Deteriorated or faulty gutters, roofing, eaves, and downspouts should be repaired to ensure that moisture problems are minimized before repainting (see sections 6.1-6.3).

Preparation of the paint surfaces should begin with a thorough cleaning to remove soot, dirt, pollution, insects or cobwebs. Most surface deposits can be loosened or removed by a strong direct stream of water from a garden hose. Stubborn dirt or soot should be removed by scrubbing the surface with a medium soft brush, using a combination of 1/2 cup household detergent to a gallon of water. Rinse surfaces thoroughly and allow to dry.

Professional painters should be employed who are experienced with and sensitive to the problems of historic houses. Hiring qualified professionals will be cost effective in the long run due to the costs of materials, equipment and time. The removal of historic paint should occur only when absolutely necessary not only because historic paints contain lead which is a toxic substance but removal of paint layers destroys evidence which may be valuable in later paint investigations.

The Moyer house displays a variety of paint surface conditions ranging from minor paint problems such as blemishes and dirt to areas which will require total paint removal. Each paint condition should be identified and appropriate action taken. Problems such as crazing, blistering, chalking and

wrinkling are paint conditions which need limited removal of paint layers due to failure of one or more of the top layers.⁷ These conditions may be remedied by scraping, or by hand or mechanical sanding, (if caution is used not to damage the substrate) followed by priming and repainting.

Conditions such as peeling and cracking are the most serious forms of paint failure often exposing the bare wood to moisture penetration. Recommended methods of paint removal include scraping, chemical stripping or water blasting if undertaken by a professional,⁸ Caution must be used when attempting these techniques and only undertaken by a professional. Rotary sanding disc, rotary wire strippers, or sandblasting should always be avoided in paint removal due to the damage these methods inevitably cause to the wood substrate. For more information on various types of paint surface conditions and recommended solutions see Preservation Briefs no. 10 (Appendix E).

9.3 Paints and Brushes

The type of paint (oil or latex) and brushes should be considered when repainting a historic house to ensure an accurate restoration of the paint surface. Oil base paints are recommended over latex paints for older buildings for several reasons: (1) they shrink less, minimizing the chance that the top coat will pull or separate the old paint loose from the

surface, (2) they reproduce the paint surface texture more with historical accuracy, and (3) they have excellent penetration ability and provide a harder surface. An oil based primer should be used over thinly painted areas and bare wood to create a porous, flat surface to which paint can adhere. ⁹ Two thin coats of oil base paints are recommended over the entire surface to provide maximum protection and adhesion. Under no conditions should paint be sprayed. Paint should be brushed onto the surface to replicate the historic surface texture more accurately and to allow the paint to be brushed into the surface more thoroughly.

9.4 List of Paint Manufacturers

The following is a partial list of manufacturers who currently produce historic paint colors or color match to Munsell samples. Sample charts can be obtained from local distributors such as Fuller-O'Brien, Sherwin Williams, Benjamin Moore, Miller, Rodda and Pratt and Lambert .

9.5 Paint Methodology

Analysis of the exterior of the Moyer house was undertaken in order to determine the original paint colors of the building. Linn County, the City of Brownsville, the Friends of the Museum and other organizations associated with the house

are interested in restoring the building to an original paint scheme. Repainting at this time would not only provide the house with badly needed protection but make the house more visible to visitors, perhaps stimulating financial backing.

Ninety paint samples were removed from the house in various locations. Samples were extracted with a scalpel, cutting through the paint layers including the substrate, then labeled and numbered according to architectural feature and location. Each sample was then microscopically analyzed to observe the paint layers. The corresponding Munsell color notations were recorded on paint analysis sheets (see Appendix C). Munsell color notations were taken from the Munsell Book of Color, a standardized notation system containing over 1500 color samples indexed to a color's hue, chroma, and value.

The following recommendations for exterior paint colors were drawn from an analysis of various historic resources in combination with the paint analysis.

9.6 Paint Analysis and Color Recommendations

The paint layering sequence in combination with two historic photographs dating prior to 1892 reveal that the Moyer house was painted two different paint schemes with an interim trim color revision before being painted white circa 1900. The first paint layer colors are olive, light brown and cream. The two photographs of the house do not correspond to the paint

scheme. The older of the two photographs (see fig 5) appears to show an "interim" color scheme in one of the trim accent colors changed from light to dark. The more recent photo (see fig 6) corresponds to the second paint layer: yellow, dark brown and cream. This is the last paint layer before multiple white layers occur in the sequencing. Figure 50 relates the paint layers with the corresponding architectural elements and associated photographs (see fig 51 for color rendering of recommended paint scheme and selected Munsell color samples).

It is recommended that the Moyer house be painted olive, the first body color, (5y 6/4), dark brown (5y 4/4), and cream (5y 9/2) the interim color scheme (see fig 51), for the following reasons: (1) it is shown in fig 5, which provides excellent documentation of the paint scheme in relationship to each architectural element, and (2) it represents the older of the two paint schemes depicted in the photographs which is more representative of the period of the house's construction and reflects a very popular color scheme used in the 1880s. Rich, dark greens, greys, browns and olives were common in the Victorian age, often referred to as the "muddying" or browning of America.

The front and second floor porch doors and trim were originally marbled as determined by the paint analysis and a historic photograph (see fig 17a). It is recommended that the doors be painted (5y 9/2) until a full restoration of the

marbleizing occurs. This includes an indepth color analysis of the base coat and glaze used on the doors.

A rendering of the recommended color scheme can be found in figure 51 and a list of architectural elements and their appropriate colors in Appendix D.

Architectural Element	Color	Material	Finish	Notes
Exterior Wall	White	Stucco	Smooth	
Interior Wall	White	Plaster	Smooth	
Door	Dark Green	Wood	Polished	
Window	White	Wood	Polished	
Floor	Light Green	Tile	Polished	
Ceiling	White	Plaster	Smooth	
Roof	Dark Green	Tile	Polished	

	BODY COLOR	SASH COLOR	TRIM ACCENT COLOR	TRIM COLOR	ASSOCIATED PHOTOGRAPH
LAYER I	Olive	Cream	Light Brown	Cream	None
INTERIUM LAYER	Olive	Cream	Dark Brown	Cream	Figure 5
LAYER II	Yellow	Cream	Dark Brown	Cream	Figure 6
MULTIPLE LAYER III	Whites	Whites	Whites	Whites	Figures 7 & 8
LAYER IV	Light Yellow	White	Light Yellow	Light Yellow	Appen. G

Figure 50: Paint layer sequencing chart.



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Figure 51: Recommended paint scheme.

Endnotes

- 1 Roger Moss, Century of Color-Exterior Decoration for American Buildings-1820/1920, (N.Y.:American Life Foundation, 1981) p. 10.
- 2 A.J. Downing, The Architecture of Country Houses, (N.Y.: D. Appleton and Co., 1850; reprinted ed., N.Y.: Dover Publications, 1969), p. 198.
- 3 Roger Moss, Century of Color-Exterior Decoration for American Buildings-1820/1920, p.11.
- 4 Ibid, p. 10
- 5 Exterior Decoration, (Philadelphia: The Athenaeum of Philadelphia, 1976), p. 19.
- 6 Kay D. Weeks and David W. Look, "Preservation Briefs: 10-- Exterior Paint Problems on Historic Woodwork", (Washington: National Park Service, U.S, Department of the Interior, 1982), p. 3.
- 7 Ibid.
- 8 Ibid, p. 6.
- 9 "Preservation Briefs", p. 11.
- 10 Alvah Horton Sabin, House Painting, (N.Y.: John Wiley and Sons, Inc, 1924) pp. 15, 39.
- 11 Roger Moss, A Century of Color, p.11.

10 PRESERVATION, RESTORATION AND REPAIR PRIORITY LIST

This table is a preservation and restoration priority list for the interior and exterior features of the Moyer house. The priorities are based on historical and architectural analyses and subsequent recommendations. Categories are as follows:

FEATURE refers to the work item.

PRE-CONDITION refers to any items which have to be repaired or restored before the feature can be worked on or completed.

PRIORITY is the urgency of the work in relation to the overall preservation of the building (1, 2, or 3 with "1" being the most important).

PRESERVATION SENSITIVITY involves the importance of a particular feature to the historic character of the building and to its visibility (A, B or C, with "A" being the most important).

SECTION refers to the section in which relevant observations and recommendations are found.

PRIORITY LIST AS OF JUNE, 1987

FEATURE	PRE-CONDITION	PRIORITY	PRESERVATION SENSITIVITY	SECTION
Chimneys	none	2	A	6.6
Roofing	Chimney/flashing	3	B	6.4
Gutters	Cresting/Finials	1	B	6.1
Downspouts/ Drains	Gutters	1	B	6.2
Cornice, Soffit, Frieze	Gutters, bee removal	1	A	6.3
Cupola	none	2	A	6.6
Cresting/Finials	Gutters	3	A	6.5
Balustrade/ Upper Porch Deck	Upper Porch Decking	2	A	6.9
Decking/Upper Porch Deck	Balustrade	1	B	6.10
Front Porch	Upper Porch Decking	1	A	6.11-.13
Front Porch Decking	Substructure	1	B	6.15
Steps, Newels, Railing	none	1	A	6.14
West Porch	none	2	B	6.16-.18
West Porch Decking	none	1	B	6.19
South Porch	none	3	B	6.21-.22
South Porch Decking	none	2	B	6.23
Windows/Doors	none	3	A	6.24-.28

FEATURE	PRE-CONDITION	PRIORITY	PRESERVATION SENSITIVITY	SECTION
Bay Windows	Roofing	1	A	6.30-.32
Siding/ Cornerboards	Gutters, Down- spouts, Drains	1	A	6.33
Watertable	Gutters, Down- spouts, Drains	1	A	6.34
Masonry	none	3	A	6.35
Basement/ Foundation	Gutters, Down- spouts, Drains	1	C	6.36-.38
Interior Spaces and Finishes	Services	3	A	7.1-.16
Electrical/ Security	none	2	B	7.17
Heating	none	2	B	7.19
Plumbing	none	3	C	7.18
Site/Grounds	none	1	B	8.0

The following list is made up of items which are the highest priority in terms of their need for repair or replacement and their effect on the preservation of the structure. The completion of these work items is recommended before the remainder of the Priority List in undertaken.

HIGH PRIORITY WORK ITEMS

Gutters

Downspouts/Drainage systems

Cornice

Soffit (includes bee removal)

Basement and foundation/water problems

Site drainage system

Second floor decking

Front porch entablature

Front porch decking

Front porch stairs, newels, railing

Bay window roofs

Bay window entablature

Siding/cornerboards

Watertable

11 MAINTENANCE GUIDELINES

Definitions:*

PRESERVATION is the application of measures designed to sustain the form and extent of a structure essentially as existing. Preservation aims at halting further deterioration and providing structural safety but does not contemplate significant rebuilding. Preservation includes techniques of arresting or slowing the deterioration of a structure, and improvement of structural conditions to make a structure safe, habitable, or otherwise useful.

RESTORATION is the process of accurately recovering, by the removal of later work and the replacement of missing original work, the form and details of a structure or part of a structure, together with its setting, as it appeared at a particular period of time.

REPAIRS involve the replacement of deteriorated materials which it is impractical to save, such as broken glass, severely rotted wood, etc. Repair activities also include the rehabilitation, strengthening or reclamation of items worn to the point that they can no longer perform their intended function. In historic buildings, stock used for repairs should be as close as possible to the original in composition of

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materials, in method of fabrication and in manner or erection.

MAINTENANCE in historic building terms is preservation maintenance consisting of all those day to day activities necessary to prolong the life of an historic property. The maintenance craftsman is an individual with the necessary skill to make minor repairs to and replacements of building elements; this skill also includes the knowledge of what not to do.

*Chamber, "Cyclical Maintenance for Historic Buildings"

Historic structure maintenance has preservation as its goal. A routine maintenance schedule helps preserve the building fabric, hinders deterioration and prolongs the life of the building. It is essential, particularly after restoration occurs, to develop and implement a cyclical maintenance plan.

Deferred maintenance on the Moyer house has caused damage and deterioration to some architectural features. Due to lack of funding and staff, maintenance of the museum is sporadic. There is no full or part-time maintenance person assigned to the house. Only lawn care, donated by the city of Brownsville, is performed on a regular basis. The county handles urgent repairs but does no routine maintenance, though volunteers have made some minor repairs. The interior house-

keeping is done weekly by the staffperson at the Linn County Museum and involves dusting and mopping the floors. There are no records of repairs or maintenance.

The following guidelines are designed to help maintain the Moyer house until a more detailed maintenance plan can be developed. It would be useful for one or two volunteers to be responsible for specific tasks until a larger staff is available. Annual inspections should be done by a professional to assess the building's condition. See J. Henry Chamber's "Cyclical Maintenance for Historic Buildings" for a more extensive analysis of maintenance plans.

1. Lawn care should be done weekly during the growing season. Shrub and grass clippings should be kept away from the foundation. Prune trees and shrubs seasonally.
2. Porches and steps should be kept clean of debris and dirt and maintained on a weekly basis. Stairs and porches should be painted every two to three years, due to wear.
3. Inspect all interior rooms on a monthly basis for any signs of deterioration or problems such as water staining.
4. Check and clean gutters and downspouts every two to three months. Annual cleaning for blockage and repairs is also recommended. Underground drain systems should be checked periodically for blockage.

5. Inspect roofing and flashing every six months for damage or deterioration. Clean moss or debris off roofing when gutters are checked.
6. Inspect heating system every three to four months for proper operation. Standard system maintenance is recommended. Change filters when necessary.
7. Inspect cornice, soffit, and frieze semi-annually for deterioration or water staining which could indicate failing gutter.
8. Chimneys and masonry should be inspected annually for deterioration of mortar and bricks. Inspect flashing around chimney.
9. Wash glass and inspect glazing annually on windows and doors. Inspect and maintain hardware.
10. Inspect siding, cornerboards and watertable periodically for any sign of deterioration or water staining.
11. Check basement/foundation quarterly for excess moisture. Inspect sills, posts, girders and floorboards for signs of deterioration.

12. Plumbing/electrical systems should be checked annually. Inspect condition and adequacy of the alarm system.

13. Clean painted wood trim periodically. Floors should be checked and repainted when necessary for protection against wear. Repainting should be limited to avoid excess paint build-up on surfaces. Painting should be undertaken under advisement from a restoration architect.

14. Check paintings and stenciling for further deterioration. Do not clean. Consult a conservator before attempting any maintenance.

15. Cleaning products should be carefully selected for their compatibility to various surfaces. Many popular cleaners can damage historic finishes and furnishings.

APPENDIX A
NEWSPAPER ARTICLE RELATING
TO HOUSE CONSTRUCTION

APPENDIX A

Newspaper article relating
to house construction

Feb 1878

"The contractor has just been
contracted to build a fine new residence with
screen." The Knoxville Chronicle

Apr 1878

"The contractor has just been
contracted to build a fine new residence with
screen." The Knoxville Chronicle

"The contractor has just been
contracted to build a fine new residence with
screen." The Knoxville Chronicle

May 1878

"The contractor has just been
contracted to build a fine new residence with
screen." The Knoxville Chronicle

"The contractor has just been
contracted to build a fine new residence with
screen." The Knoxville Chronicle

"The contractor has just been
contracted to build a fine new residence with
screen." The Knoxville Chronicle

Feb 1878

"We understand that Mr. J.M. Moyer is intending to build a fine new residence this summer." The Brownsville Advertiser

Apr 4, 1878

"Last Sunday was a lovely day, and in the afternoon the Brass Band went up on Mr. Moyer's hill, and a large crowd of ladies and children were present." The Brownsville Advertiser

"We understand Mr. Moyer intends to clear off the brush, and put up some seats, if so it will be one of the pleasantest resorts of this and the other towns." The Brownsville Advertiser

May 16, 1878

"Mr. J.M. Moyer is soon going to begin his new residence." The Brownsville Advertiser

"Last Sunday eve the Band played up on Moyer's hill again. Three members of the Halsey Band were up and assisted." The Brownsville Advertiser

"Mr. Moyer is trimming up the trees, and clearing the brush on the hill south of his house, so it begins to look splendid."

The Brownsville Advertiser

May 30, 1878

"Mr. Moyer, is bound to have things fixed up about right: he has been clearing the brush off the hill near his house, and now he is putting in new timbers to pile lumber on, and a new track over the race, leading from the yard and ___ house into the planer."

The Brownsville Advertiser

Dec 19, 1878

"Mr. Moyer has built a new walk from his door to the front gate, and has made other improvements, Mr. Moyer is always neat and tasty about his place, and we wish all our citizens were, we would have a much nicer looking town than we have."

The Brownsville Advertiser

"J.M. Moyer elected Treasurer."

The Brownsville Advertiser

May 27, 1881

"Several new houses are now being built, among which is a fine new dwelling for J.M. Moyer. It will be a two-story frame, 35 x 50, with ceilings 10 and 11 feet high. The basement is being built of brick by B.W. Condiff of Albany. When completed this will be one of the finest dwellings in the county." (Albany States Rights Democrat)

- Mar 9, 1882 "A painting of Mr. M. Moyer's residence, at
Brownsville is on exhibition at McCoy and
Eilert's drug store. Mr. Max Stocker is the
artist." (Albany Herald)
- Apr 20, 1882 "Mr. J.M. Moyer is getting out of the quarry
above the factory a lot of fine building
stone, and is having them dressed,
preparatory to building a foundation in front
of his residence." (Albany Herald)
- Sept 29, 1882 "Mr. Moyer is completing one of the most
artistically arranged residences in the
state." (Albany States Rights Democrat)
- Oct 20, 1882 "Mr. Moyer, has nearly completed the front
yard to his new residence, and he is going to
have something hard to beat when it grows.
(Albany States Rights Democrat)
- Dec 2, 1882 "N. Brownsville is an excellent point at
which to purchase property."

"The officers of the B.W.F. are: President,
J.M. Moyer, Superintendent, Thos. Kay;
Secretary, Joseph Galbraith."

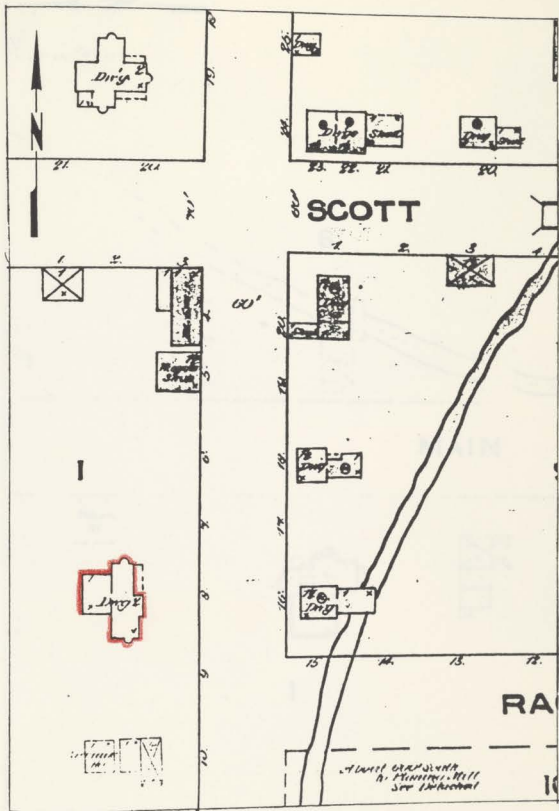
"Mr. J.M. Moyer lately completed one of the

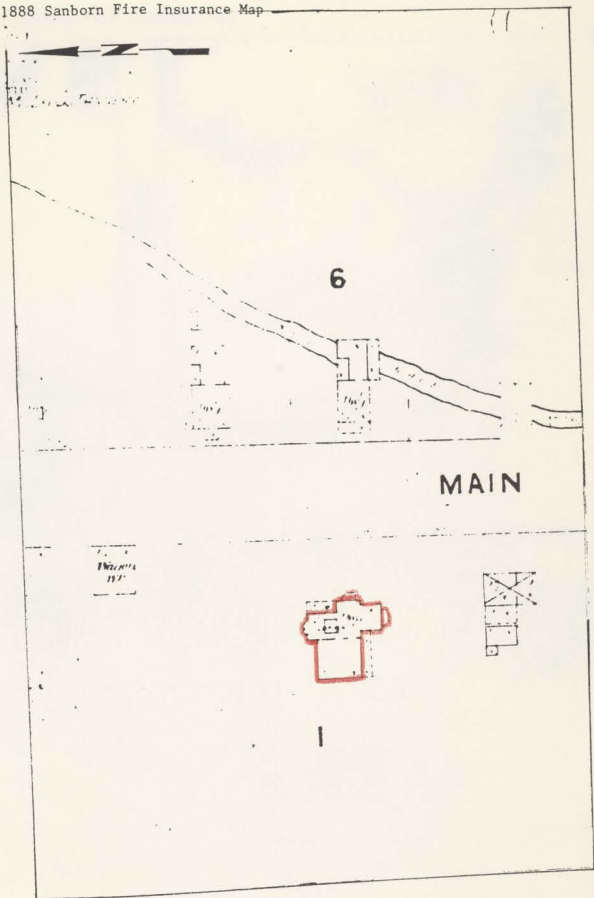
finest, if not the finest residence in this upper part of the Willamette Valley. We are informed that others contemplate building soon. Why not some one of means build some houses to rent. We do know that people would move here for schooling and other purposes, but cannot for want of houses to move into."

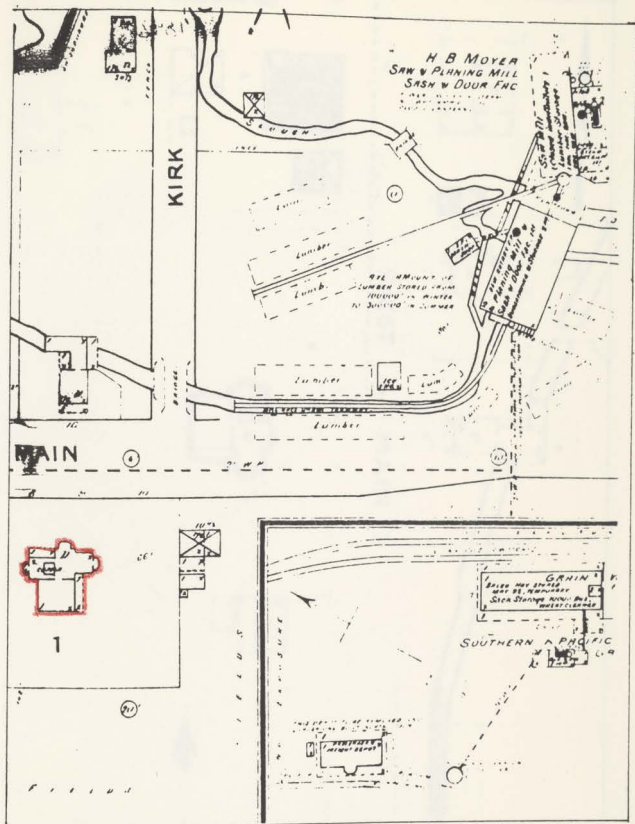
"Brownsville is favored with one of the best planing mills in the upper portion of the Willamette Valley. This mill supplies all kinds of mouldings, and does the best of work to order. It was for many years conducted by Mr. J.M. Moyer, who has since retired from the business. His sons are now proprietors. (Brownsville Banner)

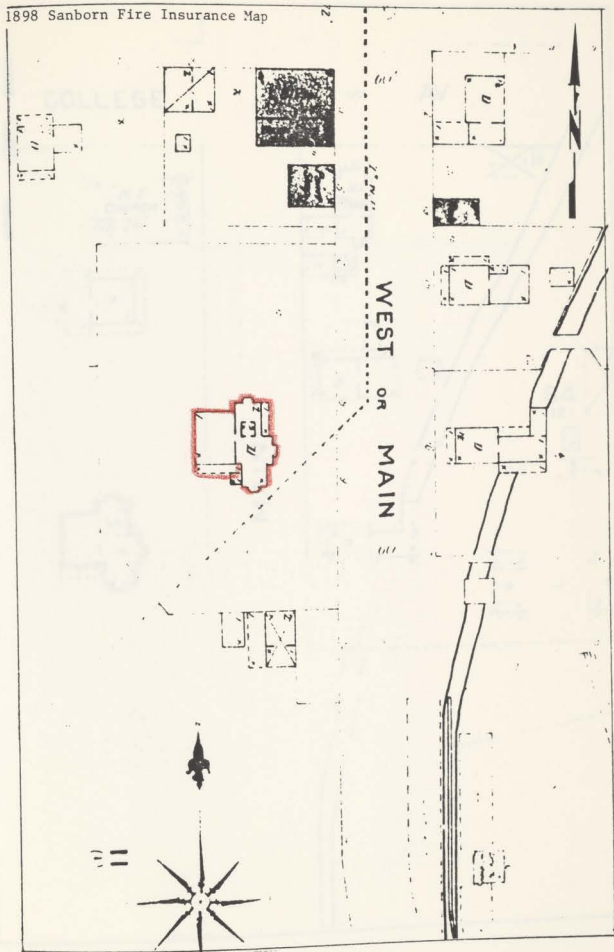
Mar 29, 1931

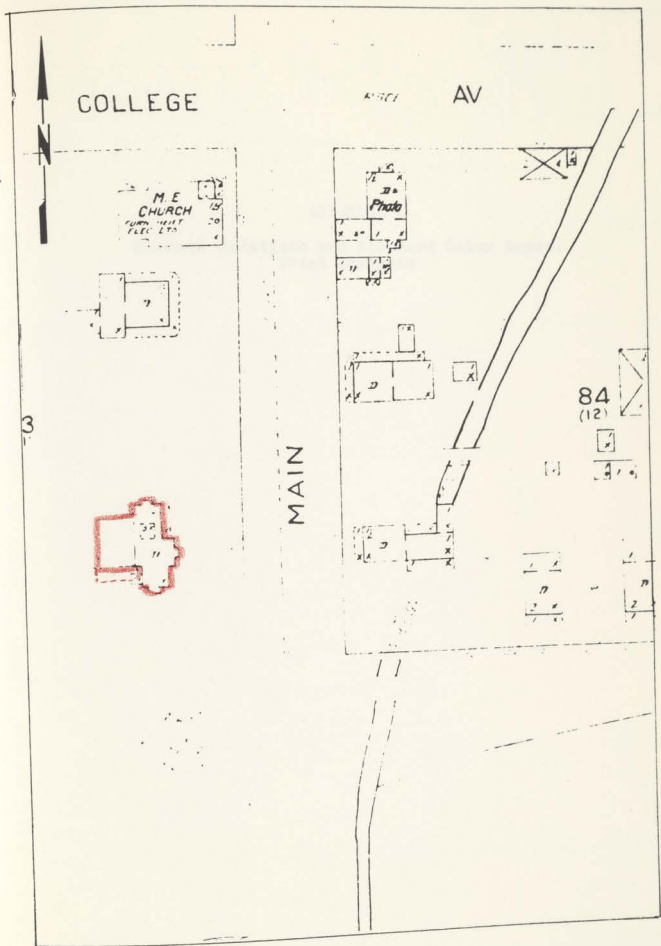
Mr. Moyer erected a residence here in the 1880's which was the pride of the city and was, in fact, one of the finest in the state. So well was it built that it is still the best and most serviceable edifice in town, and is occupied by the president of the local bank. The walls of the mansion were originally decorated with landscapes painted in oil by the best artists, and woodwork, inside and out, was the finest quality and workmanship. (Oregonian)












APPENDIX C

Munsell Notations and Standard Color Names:
Print Analysis



		SAMPLE NUMBER AND LOCATION						
		<u>EAST</u> <u>ELEVATION</u>	1 CORNICHE FACE E	2 FULL ROUND CORNICHE E	3 FASCIA E	4 SOFFIT E	5 BULLNOSE MOLDING - SOFFIT E	6 INNER FACE OF SOFFIT E
PAINT LAYER		MUNSELL NOTATION AND STANDARD COLOR NAME						
1		YELLOW 2.5Y 8/4	WOOD	WOOD	WOOD	WOOD	DK. BROWN 5YR 4/4	WOOD
2		WHITE MULTIPLE LAYERS	LT. BROWN 7.5YR 8/4	OFF WHITE 5.5Y 9/1	CREAM 5Y 9/2	LT. BROWN 7.5YR 8/4	CREAM 5Y 9/2	OFF WHITE 5.5Y 9/1
3		LT. YELLOW 5Y 8.5/2	DK. BROWN 5YR 4/4	LT. BROWN 7.5YR 8/4	WHITE MULTIPLE LAYERS	DK. BROWN 5YR 4/4	WHITE MULTIPLE LAYERS	LT. BROWN 7.5YR 8/4
4			WHITE MULTIPLE LAYERS	DK. BROWN 5YR 4/4	LT. YELLOW 5Y 8.5/2	WHITE MULTIPLE LAYERS	LT. YELLOW 5Y 8.5/2	DK. BROWN 5YR 4/4
5			LT. YELLOW 5Y 8.5/2	WHITE MULTIPLE LAYERS		LT. YELLOW 5Y 8.5/2		WHITE MULTIPLE LAYERS
6								LT. YELLOW 5Y 8.5/2
7								

	SAMPLE NUMBER AND LOCATION							
	8 TOP OF FRIEZE E	9 FRIEZE RECESSED PORTION OF PANEL E	10 TRIANGLE PIECE ON FRIEZE - OUTSIDE OF PANEL E	11 FRIEZE PANEL E	12 PROP AT TOP OF FRIEZE E	13 BRACKET - FRONT SECTION E	14 BRACKET SIDE E	15 BRACKET SUNK FACE E
PAINT LAYER	MUNSELL NOTATION AND STANDARD COLOR NAME							
1	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD
2	CREAM 5Y 9/2	OFFWHITE 5gy 9/1	OFFWHITE 5gy 9/1	OFFWHITE 5gy 9/1	CREAM 5Y 9/2	CREAM 5Y 9/2	OFF WHITE 5gy 9/1	YELLOW 2.5Y 8/4
3	YELLOW 2.5Y 8/4	CREAM 5Y 9/2	?	Lt. Brown 7.5YR 8/4	YELLOW 10YR 8/6	DK. BROWN 5YR 8/4	CREAM 5Y 9/2	DK. BROWN 5YR 8/4
4	WHITE MULTIPLE LAYERS	WHITE MULTIPLE LAYERS	DK. BROWN 5YR 4/4	DK. BROWN 5YR 4/4	WHITE MULTIPLE LAYERS	WHITE MULTIPLE LAYERS	WHITE MULTIPLE LAYERS	WHITE MULTIPLE LAYERS
5	Lt. YELLOW 5Y 8.5/2	Lt. YELLOW 5Y 8.5/2	WHITE MULTIPLE LAYERS	WHITE MULTIPLE LAYERS	Lt. YELLOW 5Y 8.5/2	Lt. YELLOW 5Y 8.5/2	Lt. YELLOW 5Y 8.5/2	Lt. YELLOW 5Y 8.5/2
6			Lt. YELLOW 5Y 8.5/2	Lt. YELLOW 5Y 8.5/2				
7								

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PAINT LAYER	SAMPLE NUMBER AND LOCATION							
	32 WINDOW TRIM - FRONT PORCH E	33 WINDOW SASH - FRONT PORCH E	34 WINDOW SASH - FRONT PORCH E	35 DECORATIVE HEART - LOWER TRIM F. PORCH WINDOW E	36 FRONT PORCH DOOR E	37 FRONT PORCH DOOR TRIM E	38 FRONT PORCH DOOR TRIM E	39 FRONT PORCH - ARCH E
MUNSELL NOTATION AND STANDARD COLOR NAME								
1	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD
2	OFF WHITE 5g4 9/1	OFF WHITE 5g4 9/1	WHITE MULTIPLE LAYERS	CREAM 5y 9/2	YELLOW W/ BLACK OVS 10y2 8/6	OFF WHITE 5g4 9/1	OFF WHITE 5g4 9/1	LT. BROWN 7.5y2 8/4
3	CREAM 5y 9/2	CREAM 5y 9/2	LT. YELLOW 5y 8.5/2	LT. BROWN 7.5y2 8/4	WHITE MULTIPLE LAYERS	YELLOW W/ BLACK OVS 10y2 8/6	CREAM 5y 9/2	DK. BROWN 5y2 4/4
4	DK. BROWN 5y2 4/4	WHITE MULTIPLE LAYERS		DK BROWN 5y2 4/4	LT. YELLOW 5y 8.5/2	WHITE MULTIPLE LAYERS	YELLOW W/ BLACK OVS 10y2 8/6	WHITE MULTIPLE LAYERS
5	WHITE MULTIPLE LAYERS	LT. YELLOW 5y 8.5/2		WHITE MULTIPLE LAYERS		LT. YELLOW 5y 8.5/2	WHITE MULTIPLE LAYERS	LT. YELLOW 5y 8.5/2
6	LT. YELLOW 5y 8.5/2			LT. YELLOW 5y 8.5/2			LT. YELLOW 5y 8.5/2	
7								

PAINT LAYER	SAMPLE NUMBER AND LOCATION							
	40	41	42	43	44	45	46	47
	FRONT PORCH - N. POST NEAR TO MOOSE	FRONT PORCH - S. POST BASE HOLDING	FRONT PORCH S. POST CHAMFERED EDGE	FRONT PORCH S. POST SHaft	WATERTABLE BELOW FRONT PORCH	FIELD OF CORNER BOARDS	CORNERBOARD STRAPWORK	WATER-TABLE CAP
	MUNSELL NOTATION AND STANDARD COLOR NAME							
1	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD
2	OFF WHITE 5Y 9/1	LT. BROWN 7.5YR 8/4	CREAM 5Y 9/2	OFF WHITE 5Y 9/1	OFF WHITE 5Y 9/1	WHITE MULTIPLE LAYERS	OFF WHITE 5Y 9/1	OLIVE 5Y 6/4
3	CREAM 5Y 9/2	DK. BROWN 5YR 4/4	DK. BROWN 5YR 4/4	LT. BROWN 7.5YR 8/4	LT. BROWN 7.5YR 8/4	LT. YELLOW 5Y 8.5/2	DK. BROWN 5YR 4/4	DK. BROWN 5Y 4/4
4	DK. BROWN 5YR 4/4	WHITE MULTIPLE LAYERS	WHITE MULTIPLE LAYERS	WHITE MULTIPLE LAYERS	WHITE MULTIPLE LAYERS		WHITE MULTIPLE LAYERS	WHITE MULTIPLE LAYERS
5	WHITE MULTIPLE LAYERS	LT. YELLOW 5Y 8.5/2	LT. YELLOW 5Y 8.5/2	LT. YELLOW 5Y 8.5/2	LT. YELLOW 5Y 8.5/2		LT. YELLOW 5Y 8.5/2	LT. YELLOW 5Y 8.5/2
6	LT. YELLOW 5Y 8.5/2							
7								

PAINT LAYER	SAMPLE NUMBER AND LOCATION							
	55 WOOD	56 BAY WINDOW LOWER Panel-inside	57 BAY WINDOW BODY	58 BAY WINDOW BODY	59 BAY WINDOW SASH	60 CORNERBOARD STRAPWORK	61 CORNERBOARD STRAPWORK BACKGROUND	62 CORNERBOARD STRAPWORK
	MUNSELL NOTATION AND STANDARD COLOR NAME							
1	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD
2	CREAM 5Y 9/2	CREAM 5Y 9/2	CREAM 5Y 9/2	CREAM 5Y 9/2	CREAM 5Y 9/2	OFFWHITE 5gy 9/1	WHITE MULTIPLE LAYERS	OFFWHITE 5gy 9/1
3	YELLOW 1.5Y 8/4	WHITE MULTIPLE LAYERS	YELLOW 2.5Y 8/4	YELLOW 2.5Y 8/4	YELLOW 2.5Y 8/4	Lt. BROWN 7.5YR 8/4	Lt. YELLOW 5Y 8.5/2	Lt. BROWN 7.5YR 8/4
4	WHITE MULTIPLE LAYERS	Lt. YELLOW 5Y 8.5/2	WHITE MULTIPLE LAYERS	WHITE MULTIPLE LAYERS	WHITE MULTIPLE LAYERS	DK. BROWN 5YR 4/4		DK. BROWN 5YR 4/4
5	Lt. YELLOW 5Y 8.5/2		Lt. YELLOW 5Y 8.5/2	Lt. YELLOW 5Y 8.5/2	Lt. YELLOW 5Y 8.5/2	WHITE MULTIPLE LAYERS		WHITE MULTIPLE LAYERS
6						Lt. YELLOW 5Y 8.5/2		Lt. YELLOW 5Y 8.5/2
7								

PAINT LAYER	SAMPLE NUMBER AND LOCATION							
	63 HOUSE BODY W. OF BAY	64 ARCHES S. Porch	65 HOUSE BODY S. BECH	66 HOUSE BODY	NORTH ELEVATION	67 N. BAY WINDOW TRIM	68 N. BAY WINDOW PANEL-MOLDING	69 N. BAY WINDOW PANEL-MOLDING
	S	S	S	S		N	N	N
	MUNSELL NOTATION AND STANDARD COLOR NAME							
1	WOOD	WOOD	WOOD	WOOD		WOOD	WOOD	WOOD
2	YELLOW 2.5Y 8/4	OFF WHITE 5Y 9/1	WHITE MULTIPLE LAYERS	OFF WHITE 5Y 9/1		CREAM 5Y 9/2	Lt. Brown 7.5YR 8/4	YELLOW 2.5Y 8/4
3	WHITE MULTIPLE LAYERS	OLIVE 5Y 6/4		OLIVE 5Y 6/4			DK. BROWN 5YR 4/4	DK. BROWN 5YR 4/4
4	Lt. YELLOW 5Y 8.5/2	YELLOW 2.5Y 8/4		YELLOW 2.5Y 8/4		YELLOW 2.5Y 8/4	WHITE MULTIPLE LAYERS	WHITE MULTIPLE LAYERS
5		WHITE MULTIPLE LAYERS		WHITE MULTIPLE LAYERS		WHITE MULTIPLE LAYERS	Lt. YELLOW 5Y 8.5/2	Lt. YELLOW 5Y 8.5/2
6		Lt. YELLOW 5Y 8.5/2		Lt. YELLOW 5Y 8.5/2		Lt. YELLOW 5Y 8.5/2		
7								

PAINT LAYER	SAMPLE NUMBER AND LOCATION							
	70 BAY WINDOW INSIDE PANEL N	71 BAY WINDOW ABOVE PANEL N	72 BAY WINDOW-MOLDING UNDER WINDOW N	73 BAY WINDOW-MOLDING UNDER WINDOW N	74 BAY WINDOW DECORATIVE SCALLOP N	75 BAY WINDOW CIRCULAR BEAD IN SCALLOP N	76 BACK ELL-WINDOW TRIM (E. WINDOW) N	77 BACK ELL-WINDOW TRIM N
MUNSELL NOTATION AND STANDARD COLOR NAME								
1	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD
2	OFF WHITE 5gy 9/1	OFF WHITE 5gy 9/1	LT. BROWN 7.5YR 8/4	LT. BROWN 7.5YR 8/4	CREAM 5Y 9/2	OFF WHITE 5gy 9/1	LT. YELLOW 5Y 8.5/2	OFF WHITE 5gy 9/1
3	CREAM 5Y 9/2	CREAM 5Y 9/2	DK. BROWN 5YR 4/4	DK. BROWN 5YR 4/4	DK. BROWN 5YR 4/4	CREAM 5Y 9/2	WHITE MULTIPLE LAYERS	CREAM 5Y 9/2
4	WHITE MULTIPLE LAYERS	WHITE MULTIPLE LAYERS	WHITE MULTIPLE LAYERS	WHITE MULTIPLE LAYERS	WHITE MULTIPLE LAYERS	DK. BROWN 5YR 4/4	LT. YELLOW 5Y 8.5/2	DK. BROWN 5YR 4/4
5	LT. YELLOW 5Y 8.5/2	LT. YELLOW 5Y 8.5/2	LT. YELLOW 5Y 8.5/2	LT. YELLOW 5Y 8.5/2	LT. YELLOW 5Y 8.5/2	WHITE MULTIPLE LAYERS		WHITE MULTIPLE LAYERS
6						LT. YELLOW 5Y 8.5/2		LT. YELLOW 5Y 8.5/2
7								

PAINT LAYER	SAMPLE NUMBER AND LOCATION							
	85 BODY OF HOUSE (W. PORCH) W	86 BODY OF HOUSE ABOVE BACK ELL W	87 CORNICÉ FACE W	88 BRACKET FACE W	89 MIDDLE OF FRIEZE PANEL W	90 DROP-TOP OF FRIEZE W		
	MUNSELL NOTATION AND STANDARD COLOR NAME							
1	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD		
2	OFF WHITE 599 9/11	CREAM 54 9/2	CREAM 54 9/2	LT. BROWN 7.5YR 8/4	LT. BROWN 7.5YR 8/4	LT. BROWN 7.5YR 8/4		
3	OLIVE 5Y 6/4	WHITE MULTIPLE LAYERS	YELLOW 2.5Y 8/4	DK. BROWN 5YR 4/4	DK. BROWN 5YR 4/4	DK. BROWN 5YR 4/4		
4	YELLOW 2.5Y 8/4	LT. YELLOW 5Y 8.5/2	WHITE MULTIPLE LAYERS	WHITE MULTIPLE LAYERS	WHITE MULTIPLE LAYERS	WHITE MULTIPLE LAYERS		
5	WHITE MULTIPLE LAYERS		LT. YELLOW 5Y 8.5/2	LT. YELLOW 5Y 8.5/2	LT. YELLOW 5Y 8.5/2	LT. YELLOW 5Y 8.5/2		
6	YELLOW 2.5Y 8/4							
7	WHITE LT. YELL. 5Y 8.5/2							

RECOMMENDED PAINT COLOR GUIDE
 List of architectural features and recommended paint colors and applications for the following features. See also the text.

APPENDIX D

Recommended Paint Colors for Architectural Features

Feature	Recommended Paint Color
1. Window sills	White
2. Cornices	White
3. Molding at top of window	White
4. Panels	White
5. Soffits	White
6. Inside face of window frames	White
7. Inside face of window frames	White
8. Sides of window	White
9. Molding at top of window	White
10. Panels	White
11. Decorative mold at top of window	White
12. Window panels	White
13. Triangular glass panels Window panels	White
14. Molding above window	White
15. Profiles	White
Upper Panels	
16. Soffits	White
17. Panels	White



RECOMMENDED PAINT COLOR SCHEME

List of architectural features with corresponding paint colors.
Three colors are recommended: olive (5y 6/4), dark brown (5yr 4/4), and cream (5y 9/2).

Cornice

- | | | |
|----|--------------------------------------|------------|
| 1 | Gutter-drip edge | dark brown |
| 2 | Cornice | cream |
| 3 | Molding at top of fascia | dark brown |
| 4 | Fascia | cream |
| 5 | Soffit | cream |
| 6 | Raised face of bracket (front) | cream |
| 7 | Sunk face of bracket (front) | dark brown |
| 8 | Side of bracket | dark brown |
| 9 | Molding at top of frieze | dark brown |
| 10 | Frieze | cream |
| 11 | Decorative drop at top of frieze | dark brown |
| 12 | Frieze panel | dark brown |
| 13 | Triangular block around frieze panel | dark brown |
| 14 | Molding below frieze | dark brown |
| 15 | Architrave | cream |

Corner Pilaster

- | | | |
|----|---------|------------|
| 16 | Capital | dark brown |
| 17 | Frame | dark brown |

- | | |
|-----------------------|------------|
| 18 Strapwork | dark brown |
| 19 Field of strapwork | cream |

Balcony Balustrade

- | | |
|----------------------------|------------|
| 20 Decorative ball on post | cream |
| 21 Top rail | dark brown |
| 22 Balusters | cream |
| 23 Post | cream |
| 24 Bottom Rail | cream |

Porch

- | | |
|---------------------------------|------------|
| 25 Cornice | dark brown |
| 26 Molding top of frieze | dark brown |
| 27 Frieze dentils | dark brown |
| 28 Frieze | cream |
| 29 Column capital | dark brown |
| 30 Decorative arches | dark brown |
| 31 Shaft of column | dark brown |
| 32 Chamfer edge of column | cream |
| 33 Top rail of porch balustrade | cream |
| 34 Balusters | cream |
| 35 Base of column | dark brown |
| 36 Porch floor | dark brown |
| 37 Trim above water table | olive |

Stairs

- | | |
|-----------|------------|
| 38 Treads | dark brown |
| 39 Risers | cream |

40	Handrail	cream
41	Balusters	cream
42	Top of Newell	cream
43	Trim at top of newell	dark brown
44	Newell post	cream
45	Base of newell	dark brown

Doors

46	Balcony	cream
47	Front Door	cream
48	Front door trim	cream
49	Rear porch doors	cream

Body of House

50	Flush boarding/shiplap	olive
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Window

51	Top of cornice	dark brown
52	Cornice face	cream
53	Decorative soffit	
54	Decorative drop and heart on trim	dark brown
55	Trim	cream
56	Sash	cream
57	Sill	cream
58	Decorative heart/lower trim	dark brown

Bay Window

59	Top of cornice	dark brown
60	Cornice	cream
61	Bracket	dark brown
62	Frieze	cream
63	Molding below the frieze	dark brown
64	Decorative scallops	cream
65	Circular piece in scallop	dark brown
66	Molding below frieze	dark brown
67	Face of bay	cream
68	Window trim	cream
69	Window sash	cream
70	Molding below windows	dark brown
71	Recessed panel	cream
72	Panel molding	dark brown
73	Molding at top of watertable	dark brown
74	Watertable	olive

Cupola

75	Corner finail	cream
76	Cresting	cream
77	Cornice	cream
78	Fascia	cream
79	Frieze panel corner pieces	dark brown
80	Raised panel	dark brown
81	Frieze	cream
82	Cupola body	cream
83	Window trim	dark brown
84	Window sash	cream

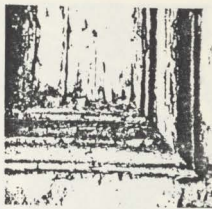
84	Window sash	cream
85	Molding below window	dark brown
86	Panels below window	dark brown
87	Recessed portion of panel	cream
88	Base	cream

Basement Window

89	Trim	dark brown
90	Sash	dark brown

* The Front and Second Floor Porch Doors were originally marbled (see Section 9.6 for recommendations).

10 PRESERVATION BRIEFS



Exterior Paint Problems on Historic Woodwork

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A cautionary approach to paint removal is included in the guidelines to "The Secretary of the Interior Standards for Historic Preservation Projects." Removing paints down to bare wood surfaces using harsh methods can permanently damage those surfaces; therefore such methods are not recommended. Also, total removal obliterates evidence of the historical paints and their sequence and architectural context.

This Brief expands on that advice for the architect, building manager, contractor, or homeowner by identifying and describing common types of paint surface conditions and failures, then recommending appropriate treatments for preparing exterior wood surfaces for repainting¹ to assure the best adhesion and greatest durability of the new paint. Although the Brief focuses on responsible methods of "paint removal," several paint surface conditions will be described which do not require any paint removal, and still others which can be successfully handled by limited paint removal. In all cases, the information is intended to address the concerns related to exterior wood. It will also be generally assumed that, because houses built before 1950 involve one or more layers of lead-base paint,² the majority of conditions warranting paint removal will mean dealing with this toxic substance along with the dangers of the paint removal tools and chemical strippers themselves.

Purposes of Exterior Paint

Paint applied to exterior wood must withstand yearly extremes of both temperature and humidity. While never expected to be more than a temporary physical shield—requiring re-application every 5-8 years—its importance should not be minimized. Because one of the main causes of wood deterioration is moisture penetration, a primary purpose for painting wood is to exclude such moisture, thereby slowing deterioration not only of a building's exterior siding and decorative features but, ultimately, its underlying structural members. Another important purpose for painting wood is, of course, to define and accent architectural features and to improve appearance.

Treating Paint Problems in Historic Buildings

Exterior paint is constantly deteriorating through the processes of weathering, but in a program of regular maintenance—assuming all other building systems are functioning properly—surfaces can be cleaned, lightly scraped, and hand sanded in preparation for a new finish coat. Unfortunately, these are ideal conditions. More often, complex maintenance problems are inherited by owners of

historic buildings, including areas of paint that have failed⁴ beyond the point of mere cleaning, scraping, and hand sanding (although much so-called "paint failure" is attributable to interior or exterior moisture problems or surface preparation and application mistakes with previous coats).

Although paint problems are by no means unique to historic buildings, treating multiple layers of hardened, brittle paint on complex, ornamental—and possibly fragile—exterior wood surfaces necessarily requires an extremely cautious approach (see figure 1). In the case of recent construction, this level of concern is not needed because the wood is generally less detailed and, in addition, retention of the sequence of paint layers as a partial record of the building's history is not an issue.

When historic buildings are involved, however, a special set of problems arises—varying in complexity depending upon their age, architectural style, historical importance, and physical soundness of the wood—which must be carefully evaluated so that decisions can be made that are sensitive to the longevity of the resource.

Justification for Paint Removal

At the outset of this Brief, it must be emphasized that removing paint from historic buildings—with the exception of cleaning, light scraping, and hand sanding as part of routine maintenance—should be avoided unless absolutely essential. *Once conditions warranting removal have*

¹ General paint type recommendations will be made, but paint color recommendations are beyond the scope of this Brief.

² Douglas R. Shier and William Hall, *Analysis of Housing Data Collected in a Lead-Based Paint Survey in Pittsburgh, Pennsylvania. Part 1. National Bureau of Standards. Inter-Report 77-1250. May 1977.*

³ Any pigmented liquid, liquefiable, or mastic composition designed for application to a substrate in a thin layer which is converted to an opaque solid film after application. *Paint and Coatings Dictionary. 1978. Federation of Societies for Coatings and Technology.*

⁴ For purposes of the Brief, this includes any area of painted exterior woodwork displaying signs of peeling, cracking, or alligatoring to bare wood. See descriptions of these and other paint surface conditions as well as recommended treatments on pp. 5-10.



Fig. 1 Excessive paint build-up on architectural details such as this ornamental bracket does not in itself justify total paint removal. If paint is cracked and peeling down to bare wood, however, it should be removed using the gentlest means possible. Photo: David W. Look, AIA.

been identified, the general approach should be to remove paint to the next sound layer using the gentlest means possible, then to repaint (see figure 2). Practically speaking as well, paint can adhere just as effectively to existing paint as to bare wood, providing the previous coats of paint are also adhering uniformly and tightly to the wood and the surface is properly prepared for repainting—cleaned of dirt and chalk and dulled by sanding. But, if painted exterior wood surfaces display continuous patterns of deep cracks or if they are extensively blistering and peeling so that bare wood is visible, then the old paint should be completely removed before repainting. The only other justification for removing all previous layers of paint is if doors, shutters, or windows have literally been "painted shut," or if new wood is being pieced-in adjacent to old painted wood and a smooth transition is desired (see figure 3).

Paint Removal Precautions

Because paint removal is a difficult and painstaking process, a number of costly, regrettable experiences have occurred—and continue to occur—for both the historic building and the building owner. Historic buildings have been set on fire with blow torches; wood irreversibly scarred by sandblasting or by harsh mechanical devices such as rotary sanders and rotary wire strippers; and layers of historic paint inadvertently and unnecessarily removed. In addition, property owners, using techniques that substitute speed for safety, have been injured by toxic lead vapors or dust from the paint they were trying to



Fig. 2 A traditionally painted bay window has been stripped to bare wood, then varnished. In addition to being historically inaccurate, the varnish will break down faster as a result of the sun's ultraviolet rays than would primer and finish coats of paint. Photo: David W. Look, AIA.

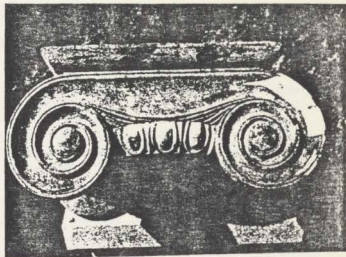


Fig. 3 If damage to parts of a wooden element is severe, new sections of wood will need to be pieced-in. When such piecing is required, paint on the adjacent woodwork should be removed so that the old and new woods will make a smooth profile when joined. After repainting, the repair should be virtually impossible to detect. Photo: Morgan W. Phillips.

remove or by misuse of the paint removers themselves.

Owners of historic properties considering paint removal should also be aware of the amount of time and labor involved. While removing damaged layers of paint from a door or porch railing might be readily accomplished within a reasonable period of time by one or two people, removing paint from larger areas of a building can, with-

out professional assistance, easily become unmanageable and produce less than satisfactory results. The amount of work involved in any paint removal project must therefore be analyzed on a case-by-case basis. Hiring qualified professionals will often be a cost-effective decision due to the expense of materials, the special equipment required, and the amount of time involved. Further, paint removal companies experienced in dealing with the inherent health and safety dangers of paint removal should have purchased such protective devices as are needed to mitigate any dangers and should also be aware of State or local environmental and/or health regulations for hazardous waste disposal.

All in all, paint removal is a messy, expensive, and potentially dangerous aspect of rehabilitating or restoring historic buildings and should not be undertaken without careful thought concerning first, its necessity, and second, which of the available recommended methods is the safest and most appropriate for the job at hand.

Repainting Historic Buildings for Cosmetic Reasons

If existing exterior paint on wood siding, eaves, window sills, sash, and shutters, doors, and decorative features shows no evidence of paint deterioration such as chalking, blistering, peeling, or cracking, then there is no *physical reason* to repaint, much less remove paint! Nor is color fading, of itself, sufficient justification to repaint a historic building.

The decision to repaint may not be based altogether on paint failure. Where there is a new owner, or even where ownership has remained constant through the years, taste in colors often changes. Therefore, if repainting is primarily to alter a building's primary and accent colors, a technical factor of paint accumulation should be taken into consideration. When paint builds up to a thickness of approximately 1/16" (approximately 16-30 layers), one or more extra coats of paint may be enough to trigger cracking and peeling in limited or even widespread areas of the building's surface. This results because excessively thick paint is less able to withstand the shrinkage or pull of an additional coat as it dries and is also less able to tolerate thermal stresses. Thick paint invariably fails at the weakest point of adhesion—the oldest layers next to the wood. Cracking and peeling follow. Therefore, if there are no signs of paint failure, it may be somewhat risky to add still another layer of unneeded paint simply for color's sake (extreme changes in color may also require more than one coat to provide proper hiding power and full color). When paint appears to be nearing the critical thickness, a change of accent colors (that is, just to limited portions of the trim) might be an acceptable compromise without chancing cracking and peeling of paint on wooden siding.

If the decision to repaint is nonetheless made, the "new" color or colors should, at a minimum, be appropriate to the style and setting of the building. On the other hand, where the intent is to restore or accurately reproduce the colors originally used or those from a significant period in the building's evolution, they should be based on the results of a paint analysis.⁵

Identification of Exterior Paint Surface Conditions/Recommended Treatments

It is assumed that a preliminary check will already have been made to determine, first, that the painted exterior surfaces are indeed wood—and not stucco, metal, or other wood substitutes—and second, that the wood has not decayed so that repainting would be superfluous. For example, if any area of bare wood such as window sills has been exposed for a long period of time to standing water, wood rot is a strong possibility (see figure 4). Repair or replacement of deteriorated wood should take place before repainting. After these two basic issues have been resolved, the surface condition identification process may commence.

The historic building will undoubtedly exhibit a variety of exterior paint surface conditions. For example, paint on the wooden siding and doors may be adhering firmly; paint on the eaves peeling; and paint on the porch balusters and window sills cracking and alligating. The accurate identification of each paint problem is therefore the first step in planning an appropriate overall solution.

Paint surface conditions can be grouped according to their relative severity: CLASS I conditions include minor blemishes or dirt collection and generally require *no* paint removal; CLASS II conditions include failure of the top layer or layers of paint and generally require *limited* paint removal; and CLASS III conditions include substantial or multiple-layer failure and generally require *total* paint removal. It is precisely because conditions will vary at different points on the building that a careful inspection is critical. Each item of painted exterior woodwork (i.e., siding, doors, windows, eaves, shutters, and decorative elements) should be examined early in the planning phase and surface conditions noted.

CLASS I Exterior Surface Conditions Generally Requiring No Paint Removal

- Dirt, Soot, Pollution, Cobwebs, Insect Cocoons, etc.

Cause of Condition

Environmental "grime" or organic matter that tends to cling to painted exterior surfaces and, in particular, protected surfaces such as eaves, do not constitute a paint problem unless painted over rather than removed prior to repainting. If not removed, the surface deposits can be a barrier to proper adhesion and cause peeling.

Recommended Treatment

Most surface matter can be loosened by a strong, direct stream of water from the nozzle of a garden hose. Stubborn dirt and soot will need to be scrubbed off using 1/2 cup of household detergent in a gallon of water with a medium soft bristle brush. The cleaned surface should then be rinsed thoroughly, and permitted to dry before further inspection to determine if repainting is necessary. Quite often, cleaning provides a satisfactory enough result to postpone repainting.

⁵ See the Reading List for paint research and documentation information. See also *The Secretary of the Interior's Standards for Historic Preservation Projects with Guidelines for Applying the Standards for recommended approaches on paints and finishes within various types of project work treatments.*

• Mildew

Cause of Condition

Mildew is caused by fungi feeding on nutrients contained in the paint film or on dirt adhering to any surface. Because moisture is the single most important factor in its growth, mildew tends to thrive in areas where dampness and lack of sunshine are problems such as window sills, under eaves, around gutters and downspouts, on the north side of buildings, or in shaded areas near shrubbery. It may sometimes be difficult to distinguish mildew from dirt, but there is a simple test to differentiate: if a drop of household bleach is placed on the suspected surface, mildew will immediately turn white whereas dirt will continue to look like dirt.

Recommended Treatment

Because mildew can only exist in shady, warm, moist areas, attention should be given to altering the environment that is conducive to fungal growth. The area in question may be shaded by trees which need to be pruned back to allow sunlight to strike the building; or may lack rain gutters or proper drainage at the base of the building. If the shady or moist conditions can be altered, the mildew is less likely to reappear. A recommend solution for removing mildew consists of one cup non-ammoniated detergent, one quart household bleach, and one gallon water. When the surface is scrubbed with this solution using a medium soft brush, the mildew should disappear; however, for particularly stubborn spots, an additional quart of bleach may be added. After the area is mildew-free, it should then be rinsed with a direct stream of water from the nozzle of a garden hose, and permitted to dry thoroughly. When repainting, specially formulated "mildew-resistant" primer and finish coats should be used.

• Excessive Chalking

Cause of Condition

Chalking—or powdering of the paint surface—is caused by the gradual disintegration of the resin in the paint film. (The amount of chalking is determined both by the formulation of the paint and the amount of ultraviolet light to which the paint is exposed.) In moderation, chalking is the ideal way for a paint to "age," because the chalk, when rinsed by rainwater, carries discoloration and dirt away with it and thus provides an ideal surface for repainting. In excess, however, it is not desirable because the chalk can wash down onto a surface of a different color beneath the painted area and cause streaking as well as rapid disintegration of the paint film itself. Also, if a paint contains too much pigment for the amount of binder (as the old white lead carbonate/oil paints often did), excessive chalking can result.

Recommended Treatment

The chalk should be cleaned off with a solution of ½ cup household detergent to one gallon water, using a medium soft bristle brush. After scrubbing to remove the chalk, the surface should be rinsed with a direct stream of water from the nozzle of a garden hose, allowed to dry thoroughly, (but not long enough for the chalking process to recur) and repainted, using a non-chalking paint.

• Staining

Cause of Condition

Staining of paint coatings usually results from excess

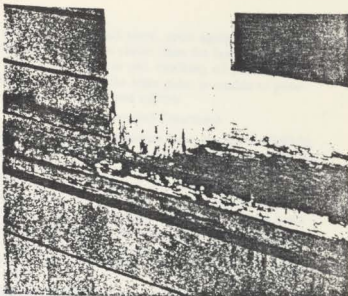


Fig. 4 Paint films wear unevenly depending on exposure and location. Exterior locations which are susceptible to accelerated deterioration are horizontal surfaces such as window sills. These and similar areas will require repainting more often than less vulnerable surfaces. In the case of this window sill where paint has peeled off and adjacent areas have cracked and alligatored, the paint should be totally removed. Prior to repainting, any weathered wood should be rejuvenated using a solution of 3 cups exterior varnish, 1 oz. paraffin wax, and mineral spirits/paint thinner/or turpentine to make 1 gallon. Liberal brush application should be made. This formula was tested over a 20-year period by the U.S. Department of Agriculture's Forest Products Laboratory and proved to be just as effective as water-repellent preservatives containing pentachlorophenol. After the surface has thoroughly dried (2-3 days of warm weather), the treated surface can be painted. A high quality oil-base primer followed by two top coats of a semi-gloss oil-enamel or latex-enamel paint is recommended. Photo: Baird M. Smith, AIA.

moisture reacting with materials within the wood substrate. There are two common types of staining, neither of which requires paint removal. The most prevalent type of stain is due to the oxidation or rusting of iron nails or metal (iron, steel, or copper) anchorage devices. A second type of stain is caused by a chemical reaction between moisture and natural extractives in certain woods (red cedar or redwood) which results in a surface deposit of colored matter. This is most apt to occur in new replacement wood within the first 10-15 years.

Recommended Treatment

In both cases, the source of the stain should first be located and the moisture problem corrected.

When stains are caused by rusting of the heads of nails used to attach shingles or siding to an exterior wall or by rusting or oxidizing iron, steel, or copper anchorage devices adjacent to a painted surface, the metal objects themselves should be hand sanded and coated with a rust-inhibitive primer followed by two finish coats. (Exposed nail heads should ideally be countersunk, spot primed, and the holes filled with a high quality wood filler except where exposure of the nail head was part of the original construction system or the wood is too fragile to withstand the countersinking procedure.)

Discoloration due to color extractives in replacement wood can usually be cleaned with a solution of equal parts denatured alcohol and water. After the affected area

been rinsed and permitted to dry, a "stain-blocking primer" especially developed for preventing this type of stain should be applied (two primer coats are recommended in severe cases of bleeding prior to the finish coat). Each primer coat should be allowed to dry at least 48 hours.

CLASS II Exterior Surface Conditions Generally Requiring Limited Paint Removal

Crazing

Cause of Condition

Crazing—fine, jagged interconnected breaks in the top layer of paint—results when paint that is several layers thick becomes excessively hard and brittle with age and is consequently no longer able to expand and contract with the wood in response to changes in temperature and humidity (see figure 5). As the wood swells, the bond between paint layers is broken and hairline cracks appear. Although somewhat more difficult to detect as opposed to other more obvious paint problems, it is well worth the time to scrutinize all surfaces for crazing. If not corrected, exterior moisture will enter the crazed surface, resulting in further swelling of the wood and, eventually, deep cracking and alligating, a Class III condition which requires total paint removal.

Recommended Treatment

Crazing can be treated by hand or mechanically sanding the surface, then repainting. Although the hairline cracks may tend to show through the new paint, the surface will be protected against exterior moisture penetration.



Fig. 5 Crazing—or surface cracking—is an exterior surface condition which can be successfully treated by sanding and painting. Photo: Courtesy, National Decorating Products Association.

Intercoat Peeling

Cause of Condition

Intercoat peeling can be the result of improper surface preparation prior to the last repainting. This most often occurs in protected areas such as eaves and covered porches because these surfaces do not receive a regular rinsing from rainfall, and salts from air-borne pollutants thus accumulate on the surface. If not cleaned off, the new paint coat will not adhere properly and that layer will peel.

Another common cause of intercoat peeling is incompatibility between paint types (see figure 6). For example, if oil paint is applied over latex paint, peeling of the top

coat can sometimes result since, upon aging, the oil paint becomes harder and less elastic than the latex paint. If latex paint is applied over old, chalking oil paint, peeling can also occur because the latex paint is unable to penetrate the chalky surface and adhere.

Recommended Treatment

First, where salts or impurities have caused the peeling, the affected area should be washed down thoroughly after scraping, then wiped dry. Finally, the surface should be hand or mechanically sanded, then repainted.

Where peeling was the result of using incompatible paints, the peeling top coat should be scraped and hand or mechanically sanded. Application of a high quality oil type exterior primer will provide a surface over which either an oil or a latex topcoat can be successfully used.

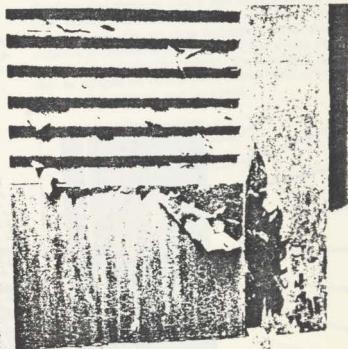


Fig. 6 This is an example of intercoat peeling. A latex top coat was applied directly over old oil paint and, as a result, the latex paint was unable to adhere. If latex is being used over oil, an oil-base primer should be applied first. Although much of the peeling latex paint can be scraped off, in this case, the best solution may be to chemically dip strip the entire shutter to remove all of the paint down to bare wood, rinse thoroughly, then repaint. Photo: Mary L. Oehrlein, AIA.

• Solvent Blistering

Cause of Condition

Solvent blistering, the result of a less common application error, is not caused by moisture, but by the action of ambient heat on paint solvent or thinners in the paint film. If solvent-rich paint is applied in direct sunlight, the top surface can dry too quickly and, as a result, solvents become trapped beneath the dried paint film. When the solvent vaporizes, it forces its way through the paint film, resulting in surface blisters. This problem occurs more often with dark colored paints because darker colors absorb more heat than lighter ones. To distinguish between solvent blistering and blistering caused by moisture, a blister should be cut open. If another layer of paint is visible, then solvent blistering is likely the problem whereas if bare wood is revealed, moisture is probably to blame. Solvent blisters are generally small.

Recommended Treatment

Solvent-blistered areas can be scraped, hand or mechanically sanded to the next sound layer, then repainted. In order to prevent blistering of painted surfaces, paint should not be applied in direct sunlight.

• Wrinkling

Cause of Condition

Another error in application that can easily be avoided is wrinkling (see figure 7). This occurs when the top layer of paint dries before the layer underneath. The top layer of paint actually moves as the paint underneath (a primer, for example) is drying. Specific causes of wrinkling include: (1) applying paint too thick; (2) applying a second coat before the first one dries; (3) inadequate brushing out; and (4) painting in temperatures higher than recommended by the manufacturer.

Recommended Treatment

The wrinkled layer can be removed by scraping followed by hand or mechanical sanding to provide as even a surface as possible, then repainted following manufacturer's application instructions.

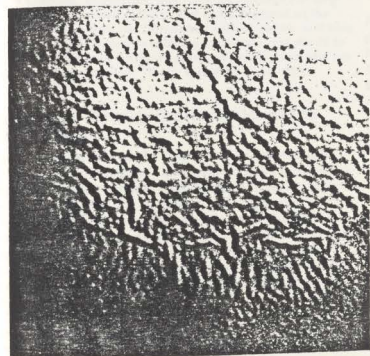


Fig. 7 Wrinkled layers can generally be removed by scraping and sanding as opposed to total paint removal. Following manufacturer's application instructions is the best way to avoid this surface condition. Photo: Courtesy, National Decorating Products Association.

CLASS III Exterior Surface Conditions Generally Requiring Total Paint Removal

If surface conditions are such that the majority of paint will have to be removed prior to repainting, it is suggested that a small sample of intact paint be left in an inconspicuous area either by covering the area with a metal plate, or by marking the area and identifying it in some way. (When repainting does take place, the sample should not be painted over). This will enable future investigators to have a record of the building's paint history.

• Peeling

Cause of Condition

Peeling to bare wood is most often caused by excess interior or exterior moisture that collects behind the paint

film, thus impairing adhesion (see figure 8). Generally beginning as blisters, cracking and peeling occur as moisture causes the wood to swell, breaking the adhesion of the bottom layer.

Recommended Treatment

There is no sense in repainting before dealing with the moisture problems because new paint will simply fail. Therefore, the first step in treating peeling is to locate and remove the source or sources of the moisture, not only because moisture will jeopardize the protective coating of paint but because, if left unattended, it can ultimately cause permanent damage to the wood. Excess interior moisture should be removed from the building through installation of exhaust fans and vents. Exterior moisture should be eliminated by correcting the following conditions prior to repainting: faulty flashing; leaking gutters; defective roof shingles; cracks and holes in siding and trim; deteriorated caulking in joints and seams; and shrubbery growing too close to painted wood. After the moisture problems have been solved, the wood must be permitted to dry out thoroughly. The damaged paint can then be scraped off with a putty knife, hand or mechanically sanded, primed, and repainted.

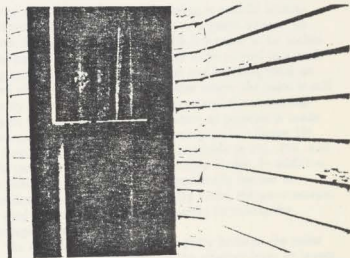


Fig. 8 Peeling to bare wood—one of the most common types of paint failure—is usually caused by an interior or exterior moisture problem. Photo: Anne E. Grimmer.

• Cracking/Alligatoring

Cause of Condition

Cracking and alligatoring are advanced stages of crazing (see figure 9). Once the bond between layers has been broken due to intercoat paint failure, exterior moisture is able to penetrate the surface cracks, causing the wood to swell and deeper cracking to take place. This process continues until cracking, which forms parallel to grain, extends to bare wood. Ultimately, the cracking becomes an overall pattern of horizontal and vertical breaks in the paint layers that looks like reptile skin; hence, "alligatoring." In advanced stages of cracking and alligatoring, the surfaces will also flake badly.

Recommended Treatment

If cracking and alligatoring are present only in the top layers they can next be scraped, hand or mechanically sanded to the next sound layer, then repainted. However, if cracking and/or alligatoring have progressed to

bare wood and the paint has begun to flake, it will need to be totally removed. Methods include scraping or paint removal with the electric heat plate, electric heat gun, or chemical strippers, depending on the particular area involved. Bare wood should be primed within 48 hours, then repainted.

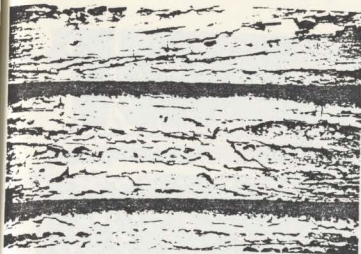


Fig. 9 Cracking, alligatoring, and flaking are evidence of long-term neglect of painted surfaces. The remaining paint on the clapboard shown here can be removed with an electric heat plate and wide-bladed scraper. In addition, unsound wood should be replaced and moisture problems corrected before primer and top coats of paint are applied. Photo: David W. Look, AIA.

Selecting the Appropriate/Safest Method to Remove Paint

After having presented the "hierarchy" of exterior paint surface conditions—from a mild condition such as mildew which simply requires cleaning prior to repainting to serious conditions such as peeling and alligatoring which require total paint removal—one important thought bears repeating: if a paint problem has been identified that warrants either limited or total paint removal, the gentlest method possible for the particular wooden element of the historic building should be selected from the many available methods.

The treatments recommended—based upon field testing as well as onsite monitoring of Department of Interior grant-in-aid and certification of rehabilitation projects—are therefore those which take three over-riding issues into consideration (1) the continued protection and preservation of the historic exterior woodwork; (2) the retention of the sequence of historic paint layers; and (3) the health and safety of those individuals performing the paint removal. By applying these criteria, it will be seen that no paint removal method is without its drawbacks and all recommendations are qualified in varying degrees.

Methods for Removing Paint

After a particular exterior paint surface condition has been identified, the next step in planning for repainting—if paint removal is required—is selecting an appropriate method for such removal.

The method or methods selected should be suitable for the specific paint problem as well as the particular wooden element of the building. Methods for paint removal can be divided into three categories (frequently, however, a combination of the three methods is used).

Each method is defined below, then discussed further and specific recommendations made:

Abrasive—"Abrading" the painted surface by manual and/or mechanical means such as scraping and sanding. Generally used for surface preparation and limited paint removal.

Thermal—Softening and raising the paint layers by applying heat followed by scraping and sanding. Generally used for total paint removal.

Chemical—Softening of the paint layers with chemical strippers followed by scraping and sanding. Generally used for total paint removal.

• Abrasive Methods (Manual)

If conditions have been identified that require limited paint removal such as crazing, intercoat peeling, solvent blistering, and wrinkling, scraping and hand sanding should be the first methods employed before using mechanical means. Even in the case of more serious conditions such as peeling—where the damaged paint is weak and already sufficiently loosened from the wood surface—scraping and hand sanding may be all that is needed prior to repainting.

Recommended Abrasive Methods (Manual)

Putty Knife/Paint Scraper: Scraping is usually accomplished with either a putty knife or a paint scraper, or both. Putty knives range in width from one to six inches and have a beveled edge. A putty knife is used in a pushing motion going under the paint and working from an area of loose paint toward the edge where the paint is still firmly adhered and, in effect, "beveling" the remaining layers so that as smooth a transition as possible is made between damaged and undamaged areas (see figure 10).

Paint scrapers are commonly available in 1 $\frac{1}{2}$, 2 $\frac{1}{2}$, and 3 $\frac{1}{2}$ inch widths and have replaceable blades. In addition, profiled scrapers can be made specifically for use on moldings. As opposed to the putty knife, the paint scraper is used in a pulling motion and works by raking the damaged areas of paint away.

The obvious goal in using the putty knife or the paint scraper is to selectively remove the affected layer or layers of paint; however, both of these tools, particularly the paint scraper with its hooked edge, must be used with care to properly prepare the surface and to avoid gouging the wood.

Sandpaper/Sanding Block/Sanding sponge: After manually removing the damaged layer or layers by scraping, the uneven surface (due to the almost inevitable removal of varying numbers of paint layers in a given area) will need to be smoothed or "feathered out" prior to repainting. As stated before, hand sanding, as opposed to harsher mechanical sanding, is recommended if the area is relatively limited. A coarse grit, open-coat flint sandpaper—the least expensive kind—is useful for this purpose because, as the sandpaper clogs with paint it must be discarded and this process repeated until all layers adhere uniformly.

Blocks made of wood or hard rubber and covered with sandpaper are useful for handsanding flat surfaces. Sanding sponges—rectangular sponges with an abrasive aggregate on their surfaces—are also available for detail work that requires reaching into grooves because the sponge easily conforms to curves and irregular surfaces. All sanding should be done with the grain.

Summary of Abrasive Methods (Manual)

Recommended: Putty knife, paint scraper, sandpaper, sanding block, sanding sponge.

Applicable areas of building: All areas.

For use on: Class I, Class II, and Class III conditions.

Health/Safety factors: Take precautions against lead dust, eye damage; dispose of lead paint residue properly.

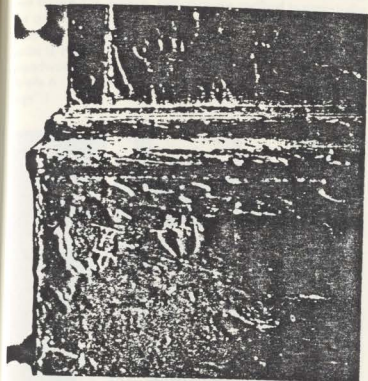


Fig. 10 An excellent example of inadequate scraping before repainting, the problems here are far more than cosmetic. This improperly prepared surface will permit moisture to get behind the paint film which, in turn, will result in chipping and peeling. Photo: Baird M. Smith, AIA.

• Abrasive Methods (Mechanical)

If hand sanding for purposes of surface preparation has not been productive or if the affected area is too large to consider hand sanding by itself, mechanical abrasive methods, i.e., power-operated tools may need to be employed; however, it should be noted that the majority of tools available for paint removal can cause damage to fragile wood and must be used with great care.

Recommended Abrasive Methods (Mechanical)

Orbital sander: Designed as a finishing or smoothing tool—not for the removal of multiple layers of paint—the orbital sander is thus recommended when limited paint removal is required prior to repainting. Because it sands in a small diameter circular motion (some models can also be switched to a back-and-forth vibrating action), this tool is particularly effective for “feathering” areas where paint has first been scraped (see figure 11). The abrasive surface varies from about 3×7 inches to 4×9 inches and sandpaper is attached either by clamps or sliding clips. A medium grit, open-coat aluminum oxide sandpaper should be used; fine sandpaper clogs up so quickly that it is ineffective for smoothing paint.

Belt sander: A second type of power tool—the belt sander—can also be used for removing limited layers of paint but,

in this case, the abrasive surface is a continuous belt of sandpaper that travels at high speeds and consequently offers much less control than the orbital sander. Because of the potential for more damage to the paint or the wood, use of the belt sander (also with a medium grit sandpaper) should be limited to flat surfaces and only skilled operators should be permitted to operate it within a historic preservation project.

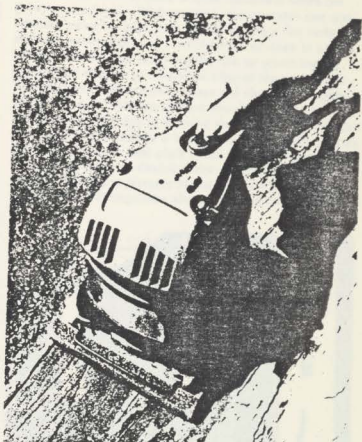


Fig. 11 The orbital sander can be used for limited paint removal, i.e., for smoothing flat surfaces after the majority of deteriorated paint has already been scraped off. Photo: Charles E. Fisher, III.

Not Recommended

Rotary Drill Attachments: Rotary drill attachments such as the rotary sanding disc and the rotary wire stripper should be avoided. The disc sander—usually a disc of sandpaper about 5 inches in diameter secured to a rubber based attachment which is in turn connected to an electric drill or other motorized housing—can easily leave visible circular depressions in the wood which are difficult to hide, even with repainting. The rotary wire stripper—clusters of metals wires similarly attached to an electric drill-type unit—can actually shred a wooden surface and is thus to be used exclusively for removing corrosion and paint from metals.

Waterblasting: Waterblasting above 600 p.s.i. to remove paint is not recommended because it can force water into the woodwork rather than cleaning loose paint and grime from the surface; at worst, high pressure waterblasting causes the water to penetrate exterior sheathing and damages interior finishes. A detergent solution, a medium soft bristle brush, and a garden hose for purposes of rinsing, is the gentlest method involving water and is recommended when cleaning exterior surfaces prior to repainting.

Sandblasting: Finally—and undoubtedly most vehemently “not recommended”—sandblasting painted exterior woodwork will indeed remove paint, but at the same time can scar wooden elements beyond recognition. As with rotary wire strippers, sandblasting erodes the soft porous fibers (spring wood) faster than the hard, dense fibers (summer wood), leaving a pitted surface with ridges and valleys. Sandblasting will also erode projecting areas of carvings and moldings before it removes paint from concave areas (see figure 12). Hence, this abrasive method is potentially the most damaging of all possibilities, even if a contractor promises that blast pressure can be controlled so that the paint is removed without harming the historic exterior woodwork. (For Additional Information, See *Preservation Briefs* 6, “Dangers of Abrasive Cleaning to Historic Buildings.”)



Fig. 12 Sandblasting has permanently damaged this ornamental bracket. Even paint will not be able to hide the deep erosion of the wood. Photo: David W. Look. AIA.

Summary of Abrasive Methods (Mechanical)

Recommended: Orbital sander, belt sander (skilled operator only).

Applicable areas of building: Flat surfaces, i.e., siding, eaves, doors, window sills.

For use on: Class II and Class III conditions.

Health/Safety factors: Take precautions against lead dust and eye damage; dispose of lead paint residue properly.

Not Recommended: Rotary drill attachments, high pressure waterblasting, sandblasting.

• Thermal Methods

Where exterior surface conditions have been identified that warrant total paint removal such as peeling, cracking, or alligatoring, two thermal devices—the electric heat plate and the electric heat gun—have proven to be quite successful for use on different wooden elements of the historic building. One thermal method—the blow torch—is not recommended because it can scorch the wood or even burn the building down!

Recommended Thermal Methods

Electric heat plate: The electric heat plate (see figure 13) operates between 500 and 800 degrees Fahrenheit (not hot enough to vaporize lead paint), using about 15 amps of power. The plate is held close to the painted exterior surface until the layers of paint begin to soften and blister, then moved to an adjacent location on the wood while the softened paint is scraped off with a putty knife (it should be noted that the heat plate is most successful when the paint is very thick!). With practice, the operator can successfully move the heat plate evenly across a flat surface such as wooden siding or a window sill or door in a continuous motion, thus lessening the risk of scorching the wood in an attempt to reheat the edge of the paint sufficiently for effective removal. Since the electric heat plate's coil is “red hot,” extreme caution should be taken to avoid igniting clothing or burning the skin. If an extension cord is used, it should be a heavy-duty cord (with 3-prong grounded plugs). A heat plate could overload a circuit or, even worse, cause an electrical fire; therefore, it is recommended that this implement be used with a single circuit and that a fire extinguisher always be kept close at hand.

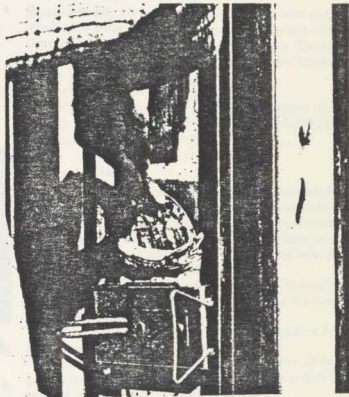


Fig. 13 The electric heat plate (with paint scraper) is particularly useful for removing paint down to bare wood on flat surfaces such as doors, window frames, and siding. After scraping, some light sanding will probably be necessary to smooth the surface prior to application of primer and top coats. Photo: David W. Look. AIA.

Electric heat gun: The electric heat gun (electric hot-air gun) looks like a hand-held hairdryer with a heavy-duty metal case (see figure 14). It has an electrical resistance coil that typically heats between 500 and 750 degrees Fahrenheit and, again, uses about 15 amps of power which requires a heavy-duty extension cord. There are some heat guns that operate at higher temperatures but they should not be purchased for removing old paint

because of the danger of lead paint vapors. The temperature is controlled by a vent on the side of the heat gun. When the vent is closed, the heat increases. A fan forces a stream of hot air against the painted woodwork, causing a blister to form. At that point, the softened paint can be peeled back with a putty knife. It can be used to best advantage when a paneled door was originally varnished, then painted a number of times. In this case, the paint will come off quite easily, often leaving an almost pristine varnished surface behind. Like the heat plate, the heat gun works best on a heavy paint build-up. (It is, however, not very successful on only one or two layers of paint or on surfaces that have only been varnished. The varnish simply becomes sticky and the wood scorches.)

Although the heat gun is heavier and more tiring to use than the heat plate, it is particularly effective for removing paint from detail work because the nozzle can be directed at curved and intricate surfaces. Its use is thus more limited than the heat plate, and most successfully used in conjunction with the heat plate. For example, it takes about two to three hours to strip a paneled door with a heat gun, but if used in combination with a heat plate for the large, flat area, the time can usually be cut in half. Although a heat gun seldom scorches wood, it can cause fires (like the blow torch) if aimed at the dusty cavity between the exterior sheathing and siding and interior lath and plaster. A fire may smolder for hours before flames break through to the surface. Therefore, this thermal device is best suited for use on solid decorative elements, such as molding, balusters, fretwork, or "gingerbread."



Fig. 14 The nozzle on the electric heat gun permits hot air to be aimed into cavities on solid decorative elements such as this applied column. After the paint has been sufficiently softened, it can be removed with a profiled scraper. Photo: Charles E. Fisher, III.

Not Recommended

Blow Torch: Blow torches, such as hand-held propane or butane torches, were widely used in the past for paint removal because other thermal devices were not available. With this technique, the flame is directed toward the paint until it begins to bubble and loosen from the surface. Then the paint is scraped off with a putty knife. Although this is a relatively fast process, at temperatures between 3200 and 3800 degrees Fahrenheit the open flame is not only capable of burning a careless operator and causing severe damage to eyes or skin, it can easily scorch or ignite the wood. The other fire hazard is more insidious. Most frame buildings have an air space between the exterior sheathing and siding and interior lath and plaster. This cavity usually has an accumulation of dust which is also easily ignited by the open flame of a blow torch. Finally, lead-base paints will vaporize at high temperatures, releasing toxic fumes that can be unknowingly inhaled. Therefore, because both the heat plate and the heat gun are generally safer to use—that is, the risks are much more controllable—the blow torch should definitely be avoided!

Summary of Thermal Methods

Recommended: Electric heat plate, electric heat gun.

Applicable areas of building: Electric heat plate—flat surfaces such as siding, eaves, sash, sills, doors. Electric heat gun—solid decorative molding, balusters, fretwork, or "gingerbread."

For use on: Class III conditions.

Health/Safety factors: Take precautions against eye damage and fire. Dispose of lead paint residue properly.

Not Recommended: Blow torch.

• Chemical Methods

With the availability of effective thermal methods for total paint removal, the need for chemical methods—in the context of preparing historic exterior woodwork for repainting—becomes quite limited. Solvent-base or caustic strippers may, however, play a supplemental role in a number of situations, including:

- Removing paint residue from intricate decorative features, or in cracks or hard to reach areas if a heat gun has not been completely effective;
- Removing paint on window muntins because heat devices can easily break the glass;
- Removing varnish on exterior doors after all layers of paint have been removed by a heat plate/heat gun if the original varnish finish is being restored;
- Removing paint from detachable wooden elements such as exterior shutters, balusters, columns, and doors by dip-stripping when other methods are too laborious.

Recommended Chemical Methods (Use With Extreme Caution)

Because all chemical paint removers can involve potential health and safety hazards, no wholehearted recommendations can be made from that standpoint. Commonly known as "paint removers" or "strippers," both solvent-base or caustic products are commercially available that, when poured, brushed, or sprayed on painted exterior woodwork are capable of softening several layers of paint at a time so that the resulting "sludge"—which should be remembered is nothing less than the sequence of historic

paint layers—can be removed with a putty knife. Detachable wood elements such as exterior shutters can also be “dip-stripped.”

Solvent-base Strippers: The formulas tend to vary, but generally consist of combinations of organic solvents such as methylene chloride, isopropanol, toluol, xylol, and methanol; thickeners such as methyl cellulose; and various additives such as paraffin wax used to prevent the volatile solvents from evaporating before they have time to soak through multiple layers of paint. Thus, while some solvent-base strippers are quite thin and therefore unsuitable for use on vertical surfaces, others, called “semi-paste” strippers, are formulated for use on vertical surfaces or the underside of horizontal surfaces.

However, whether liquid or semi-paste, there are two important points to stress when using any solvent-base stripper: First, the vapors from the organic chemicals can be highly toxic if inhaled; skin contact is equally dangerous because the solvents can be absorbed; second, many solvent-base strippers are flammable. Even though application out-of-doors may somewhat mitigate health and safety hazards, a respirator with special filters for organic solvents is recommended and, of course, solvent-base strippers should never be used around open flames, lighted cigarettes, or with steel wool around electrical outlets.

Although appearing to be the simplest for exterior use, a particular type of solvent-base stripper needs to be mentioned here because it can actually cause the most problems. Known as “water-rinsable,” such products have a high proportion of methylene chloride together with emulsifiers. Although the dissolved paint can be rinsed off with water with a minimum of scraping, this ultimately creates more of a problem in cleaning up and properly disposing of the sludge. In addition, these strippers can leave a gummy residue on the wood that requires removal with solvents. Finally, water-rinsable strippers tend to raise the grain of the wood more than regular strippers.

On balance, then, the regular strippers would seem to work just as well for exterior purposes and are perhaps even better from the standpoint of proper lead sludge disposal because they must be hand scraped as opposed to rinsed off (a coffee-can with a wire stretched across the top is one effective way to collect the sludge; when the putty knife is run across the wire, the sludge simply falls into the can. Then, when the can is filled, the wire is removed, the can capped, and the lead paint sludge disposed of according to local health regulations).

Caustic Strippers: Until the advent of solvent-base strippers, caustic strippers were used exclusively when a chemical method was deemed appropriate for total paint removal prior to repainting or refinishing. Now, it is more difficult to find commercially prepared caustic solutions in hardware and paint stores for home-owner use with the exception of lye (caustic soda) because solvent-base strippers packaged in small quantities tend to dominate the market.

Most commercial dip stripping companies, however, continue to use variations of the caustic bath process because it is still the cheapest method available for removing paint. Generally, dip stripping should be left to professional companies because caustic solutions can dissolve skin and permanently damage eyes as well as present serious disposal problems in large quantities.

If exterior shutters or other detachable elements are be-

ing sent out* for stripping in a caustic solution, it is wise to see samples of the company's finished work. While some companies do a first-rate job, others can leave a residue of paint in carvings and grooves. Wooden elements may also be soaked too long so that the wood grain is raised and roughened, requiring extensive hand sanding later. In addition, assurances should be given by these companies that caustic paint removers will be neutralized with a mild acid solution or at least thoroughly rinsed with water after dipping (a caustic residue makes the wood feel slippery). If this is not done, the lye residue will cause new paint to fail.

Summary of Chemical Methods

Recommended, with extreme caution: Solvent-base strippers, caustic strippers.

Applicable areas of buildings: decorative features, window muntins, doors, exterior shutters, columns, balusters, and railings.

For use on: Class III Conditions.

Health/Safety factors: Take precautions against inhaling toxic vapors; fire; eye damage; and chemical poisoning from skin contact. Dispose of lead residue properly

General Paint Type Recommendations

Based on the assumption that the exterior wood has been painted with oil paint many times in the past and the existing top coat is therefore also an oil paint,* it is recommended that for CLASS I and CLASS II paint surface conditions, a top coat of high quality oil paint be applied when repainting. The reason for recommending oil rather than latex paints is that a coat of latex paint applied directly over old oil paint is more apt to fail. The considerations are twofold. First, because oil paints continue to harden with age, the old surface is sensitive to the added stress of shrinkage which occurs as a new coat of paint dries. Oil paints shrink less upon drying than latex paints and thus do not have as great a tendency to pull the old paint loose. Second, when exterior oil paints age, the binder releases pigment particles, causing a chalky surface. Although for best results, the chalk (or dirt, etc.) should *always* be cleaned off prior to repainting, a coat of new oil paint is more able to penetrate a chalky residue and adhere than is latex paint. Therefore, unless it is possible to thoroughly clean a heavy chalked surface, oil paints—on balance—give better adhesion.

If however, a latex top coat is going to be applied over several layers of old oil paint, an oil primer should be applied first (the oil primer creates a flat, porous surface to which the latex can adhere). After the primer has thoroughly dried, a latex top coat may be applied. In the long run, changing paint types is more time consuming and expensive. An application of a new oil-type top coat on the old oil paint is, thus, the preferred course of action.

* Marking the original location of the shutter by number (either by stamping numbers into the end grain with metal numeral dies or cutting numbers into the end with a pen knife) will minimize difficulties when rehanging them.

* If the top coat is latex paint (when viewed by the naked eye or, preferably, with a magnifying glass, it looks like a series of tiny craters) it may either be repainted with new latex paint or with oil paint. Normal surface preparation should precede any repainting.

If CLASS III conditions have necessitated total paint removal, there are two options, both of which assure protection of the exterior wood: (1) an oil primer may be applied followed by an oil-type top coat, preferably by the same manufacturer; or (2) an oil primer may be applied followed by a latex top coat, again using the same brand of paint. It should also be noted that primers were never intended to withstand the effects of weathering; therefore, the top coat should be applied as soon as possible after the primer has dried.

Conclusion

The recommendations outlined in this Brief are cautious because at present there is no completely safe and effective method of removing old paint from exterior woodwork. This has necessarily eliminated descriptions of several methods still in a developmental or experimental stage, which can therefore neither be recommended nor precluded from future recommendation. With the ever-increasing number of buildings being rehabilitated, however, paint removal technology should be stimulated and, in consequence, existing methods refined and new methods developed which will respect both the historic wood and the health and safety of the operator.

Special thanks go to Baird M. Smith, AIA (formerly Chief, Preservation Technology Branch, TPS) for providing general direction in the development of the manuscript. In addition, the following individuals are to be thanked for their contributions as technical experts in the field: Royal T. Brown, National Paint and Coatings Association, Washington, D.C.; Dr. Judith E. Selwyn, Preservation Technology Associates, Boston, Massachusetts; and Dennis R. Vacca, Pratt & Lambert Co., Carlstadt, New Jersey. Finally, thanks go to several National Park Service staff members whose valuable comments were incorporated into the text and who contributed to the production of the brief: James A. Caulfield, Anne E. Grimmer, Jean E. Travers, David G. Battle, Sharon C. Park, AIA, Charles E. Fisher III, Sara K. Blumenthal, and Martha A. Gutrick.

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This publication has been prepared pursuant to The Economic Recovery Tax Act of 1981, which directs the Secretary of the Interior to certify rehabilitations of historic buildings that are consistent with their historic character; the advice and guidance in this brief will assist property owners in complying with the requirements of this law.

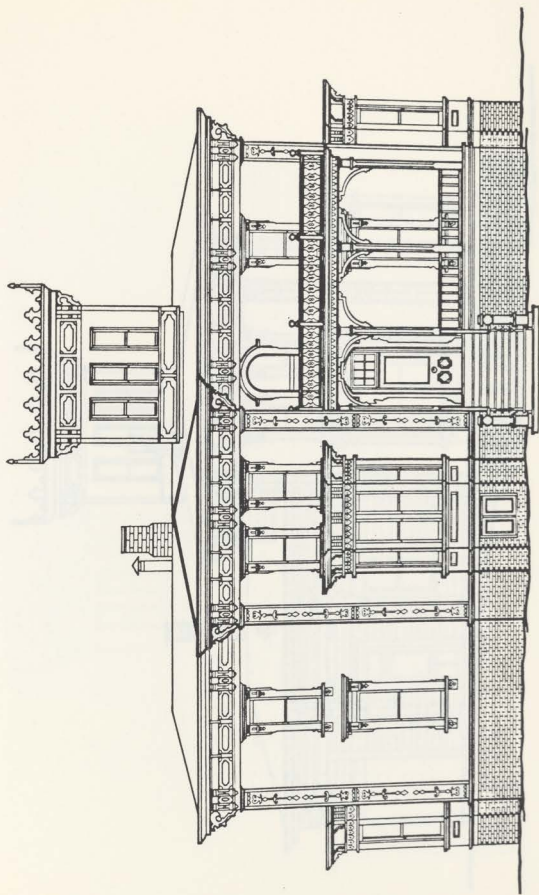
Preservation Briefs 10 has been developed under the technical editorship of Lee H. Nelson, AIA, Chief, Preservation Assistance Division, National Park Service, U.S. Department of the Interior, Washington, D.C. 20240. Comments on the usefulness of this information are welcomed and can be sent to Mr. Nelson at the above address.

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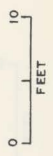
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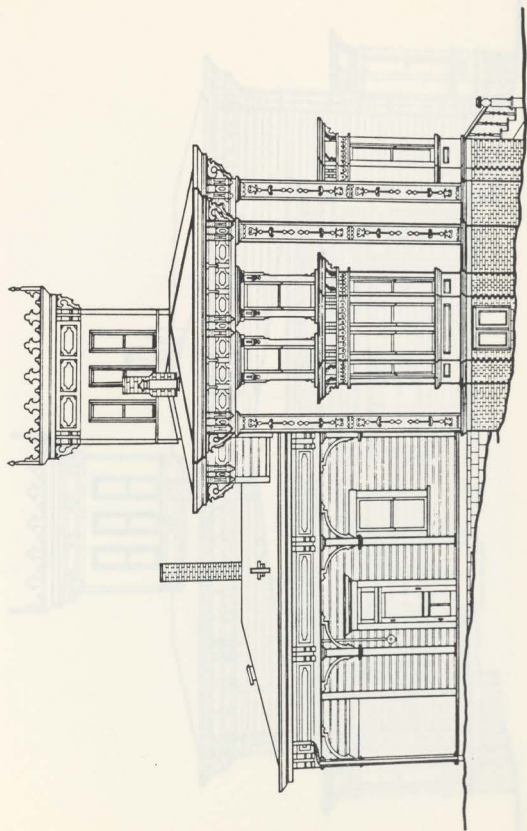
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APPENDIX F
Elevation and Floor Plans

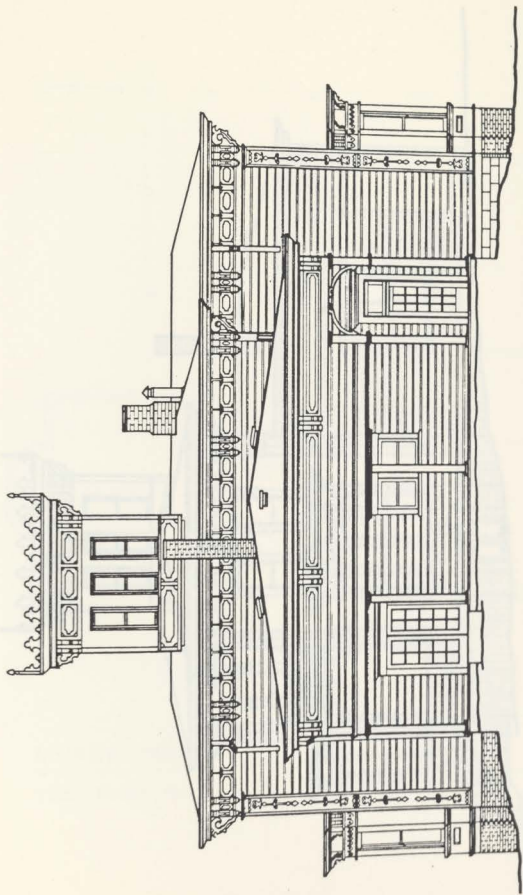


MOYR HOUSE
EAST ELEVATION



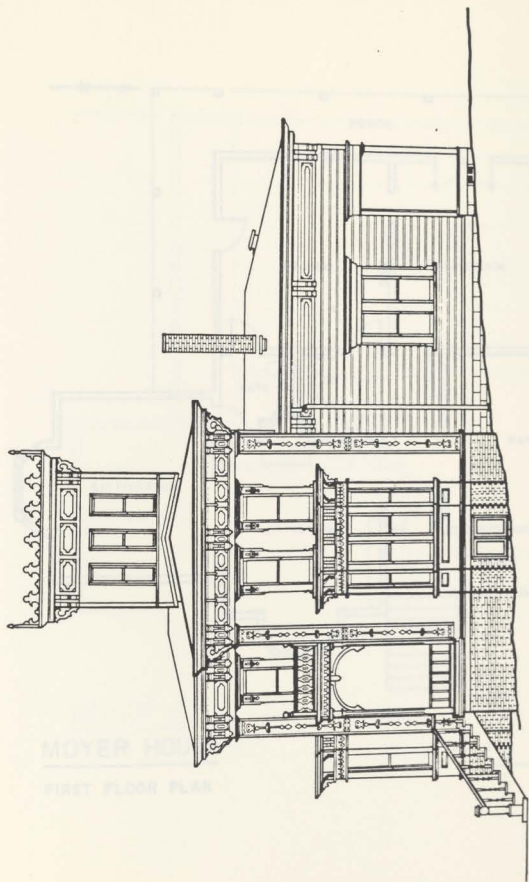


MOYER HOUSE
SOUTH ELEVATION



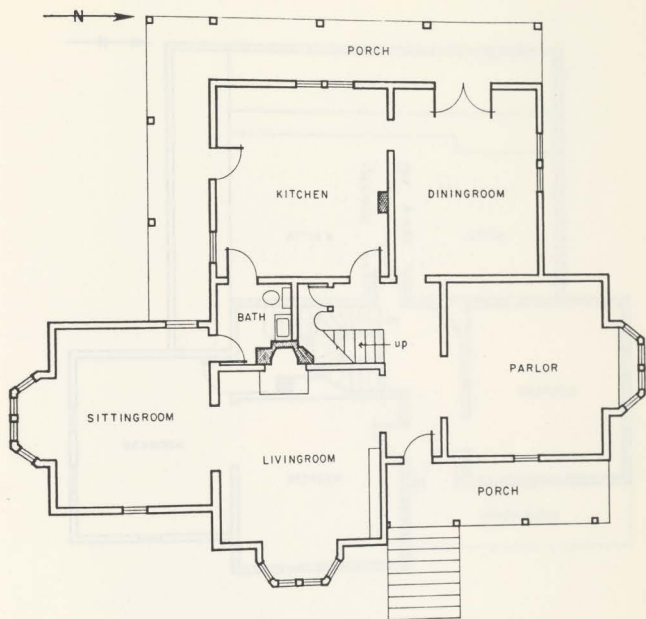
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NORTH ELEVATION

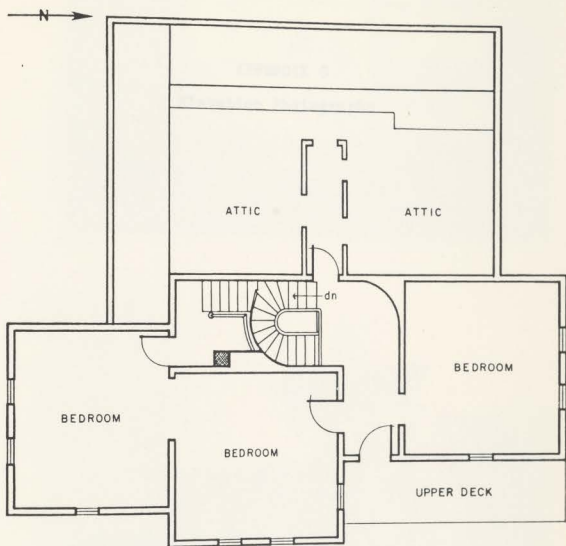
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MOYER HOUSE

FIRST FLOOR PLAN

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MOYER HOUSE
SECOND FLOOR PLAN



APPENDIX G
Elevation Photographs



A.



B.

- East Elevation; Moyer House
A. East Elevation; Moyer House
B. South Elevation; Moyer House



A.



B.

A. West Elevation; Moyer House
B. North Elevation; Moyer House

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APPENDIX H

Moyer House Brochure

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The Moyer House



THE MOYER HOUSE
1850-1855



Brownsville



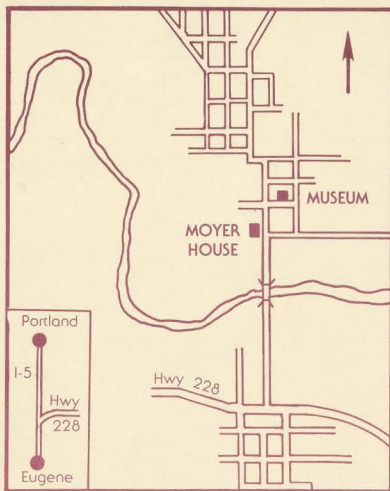
The site chosen in 1846 for the town of Brownsville was ideal, located in the fertile farmlands of the Calapooya Valley. The Cascade Range, to the east, contained rich timber resources needed for building, and the Calapooya River, which bisected the town, provided a water power source necessary for industry. Originally Brownsville was called Kirk's Ferry or Callapooya, but in May, 1859 the town officially changed its name in honor of Hugh L. Brown, who was credited with establishing the town's first general store.

Although the rich agricultural land and timber production played an important role in Brownsville's development it was the establishment of the woolen mill industry which put Brownsville on the map. The woolen mill ran from 1862 until 1955 when a disastrous fire put the mill out of business. The plant was known for the excellent quality of its woolen products and won first prize for blankets in the New Orleans World's Fair.

A narrow gauge railroad reached Brownsville in 1881, further stimulating the growth of the small valley community. The first brick building was constructed in 1903 from local clay and can still be seen at the north end of Main Street. By 1905 Brownsville boasted of "an opera house, seating 500; an electric light plant; a live newspaper; Wells Fargo and Co.'s Express; W. U. Telegraph; also telephone service and mail daily." The town also prided itself on having no saloons and a population of 1,200.

Brownsville's population has fluctuated little over the past 100 years and much of its historic character can still be seen. For over 20 years the city of Brownsville has promoted a community-wide program known as "Historic Brownsville" in an effort to preserve structures which played an important role in the town's early development. Restoration and rehabilitation have brought many of these historic buildings back to life, enhancing the unique sense of place and pride which surrounds one of Linn County's oldest settlements.

For further information or Group Tours, contact the Linn Co. Historical Museum located off Main Street on Park or call (503) 466-3390.



SUMMER HOURS (May 1-Sept. 30)
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The Moyer House

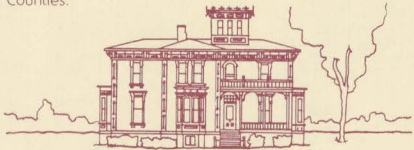


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Text and design by S. Donovan, 5/86



The House

"Mr. Moyer is completing one of the most artistically arranged residences in the state," exclaimed an 1882 Albany newspaper. John and Elizabeth Moyer started planning their Brownsville mansion as early as 1878 but construction did not begin until the spring of 1881. Although the house was inspired by contemporary Italianate Villa style architecture, it was original in its conception and is still considered to be one of the finest of its type in Linn and Benton Counties.



The Italianate house replaced the Moyer's first dwelling located on the same site. Three original outbuildings, later demolished, remained south of the new house, at the rear a more recent carriage house built in the late 1920's still stands. Eight acres surrounded the house including an orchard and Moyer's sash and door factory. "Moyer Hill," south of the house, was often used for recreation and provided an elevated stage from which the Brownsville Brass Band performed. A 100,000 gallon reservoir on the hill supplied the house, planing mill and eventually the whole town with water.

Much of the two story frame structure's lumber and wood detailing was thought to have come from Moyer's planing mill. No expense was spared in exterior details such as the delicate jig-saw corner boards, decorative frieze boards and massive eave brackets. Smooth matched wood siding, used to simulate stone, covered the front and sides of the house while less expensive shiplap siding covered the back. A cupola perched on top of the building provided a glass observatory. Wooden cresting with corner finials finished off the roof's edge. The house was originally painted in warm earthtones which accentuated the bay windows and ornate wood trim.

Perhaps the most unique features of the house's interior are the hand-painted landscapes, floral designs and stenciling. Some of the paintings on panels above the bay windows and transoms may depict wildlife and landscapes the Moyers experienced in their travels. Many of the ten foot ceilings are decorated with delicate floral designs and stenciled patterns, and ornate plaster medallions hold light fixtures. A house outside Peoria, Oregon, several miles west of Brownsville, had similar paintings that were reported to

have cost \$1,200.00 in 1874; this type of interior detailing was a costly venture. A marble fireplace embellishes the living room although the mantel is not original. The bookcase in the living room covers up a second entrance door which was originally used as a formal entryway. Fine woodworking which can be seen throughout the house includes diagonal wainscoting and a finely curved walnut banister and newel-post. The stairway leads to three upstairs bedrooms and an attic space. An arched doorway once decorated by stained glass opens to the second story balcony. Evidence of a narrow stairway which led to the cupola can still be seen on the upstairs hall ceiling and wall boards. The cupola was a favorite place to relax on warm summer nights when the windows were opened and the town could be viewed from overstuffed horsehair furniture.

After Elizabeth Moyer died in 1924, the house was sold to the local bank president, Harry Thompson. During the Thompsons' residency alterations occurred in the house. The kitchen and dining room were enlarged, doorways were widened, a new doorway connected the music room to the dining room and the back roof was raised to accommodate a bathroom and boarder/maid room. In the following years many people owned or rented the house and much of the original detailing was covered or destroyed. It wasn't until 1963 when the Linn County Historical Society bought the house that some of the original details were uncovered.



With a grant from the Hill Foundation and private donations the house was acquired, starting the time-consuming process of restoration. Many old families donated and loaned furnishings which decorate the house. The mantel clock, the hat tree stand and the south parlor bedroom set are the only furniture displayed which belonged to the Moyers. The house now belongs to Linn County and is designated as a museum, under the care of the Parks Department and a devoted group of volunteers.

Other important support comes from donations, both at the door and to the Linn County Historical Museum Trust. The Moyer House is listed on the National Register of Historic Places and is a lasting reminder of an early period of prosperity in Linn County.

The Moyers

John M. and Elizabeth Brown Moyer were early settlers in Linn County. Both the Moyer and Brown families contributed significantly to the development of Brownsville. The Browns migrated to Oregon from Tennessee in 1846, and were one of the earliest pioneering families in Linn County. The City of Brownsville was named for Hugh L. Brown, father of Elizabeth Moyer. John M.

Moyer came west from Ohio in a rapid three month journey, reaching the Oregon territory in August of 1852. Moyer quickly found his carpentry skills in demand in the growing Calapooia valley community. He met Elizabeth Brown while helping her father build his house. Elizabeth and John were married in 1857 and set up housekeeping in a sparsely furnished box house on 160 acres near town, and started farming.

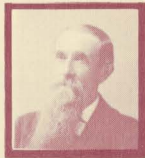
After the town of Brownsville began to prosper, the Moyer family moved into town and John Moyer resumed his trade as a carpenter. In April of 1863, he purchased a sash and door factory, improving it with new machinery and developing it into a profitable business. He ran the mill until 1875 when poor health forced him to rent out the business. Moyer was also an early organizer of the Linn Woolen Mills, later called the Eagle Woolen Mills. The Eagle Mill was struck by financial problems, and was again reorganized in October, 1875, as the Brownsville Woolen Mill. Under Moyer's management as president, the mill became a very successful enterprise. An 1881 Albany newspaper reported that the "Brownsville Woolen Mill, sold last year \$110,000.00 worth of goods. The company employs about 35 hands, who receive an average of \$2.00 per day." The article appeared the same year that John and Elizabeth built their elegant new house; the mill probably provided the financial backing for their grand effort. John Moyer remained active in business and civic affairs until



Elizabeth Moyer

cancer took his life in July, 1904, at the age of 75.

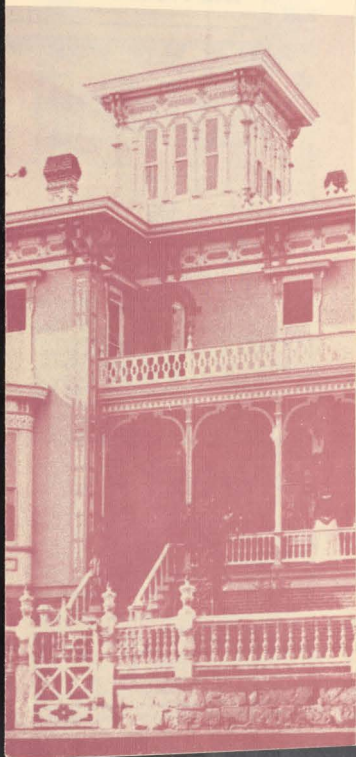
John and Elizabeth bore six children; four died before the age of three and two sons reached middle age. Elizabeth Brown Moyer outlived her husband and all her children, spending her remaining years in her Italianate home. She died at her home in July, 1924 and along with the rest of the Moyer family, is interred in Scott Cemetery in Portland.

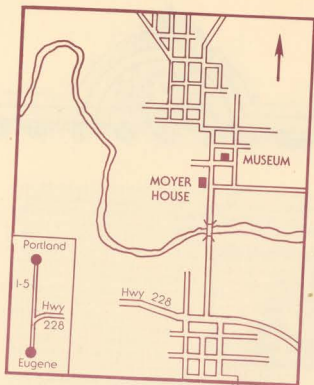


J.M. Moyer



The Moyer House

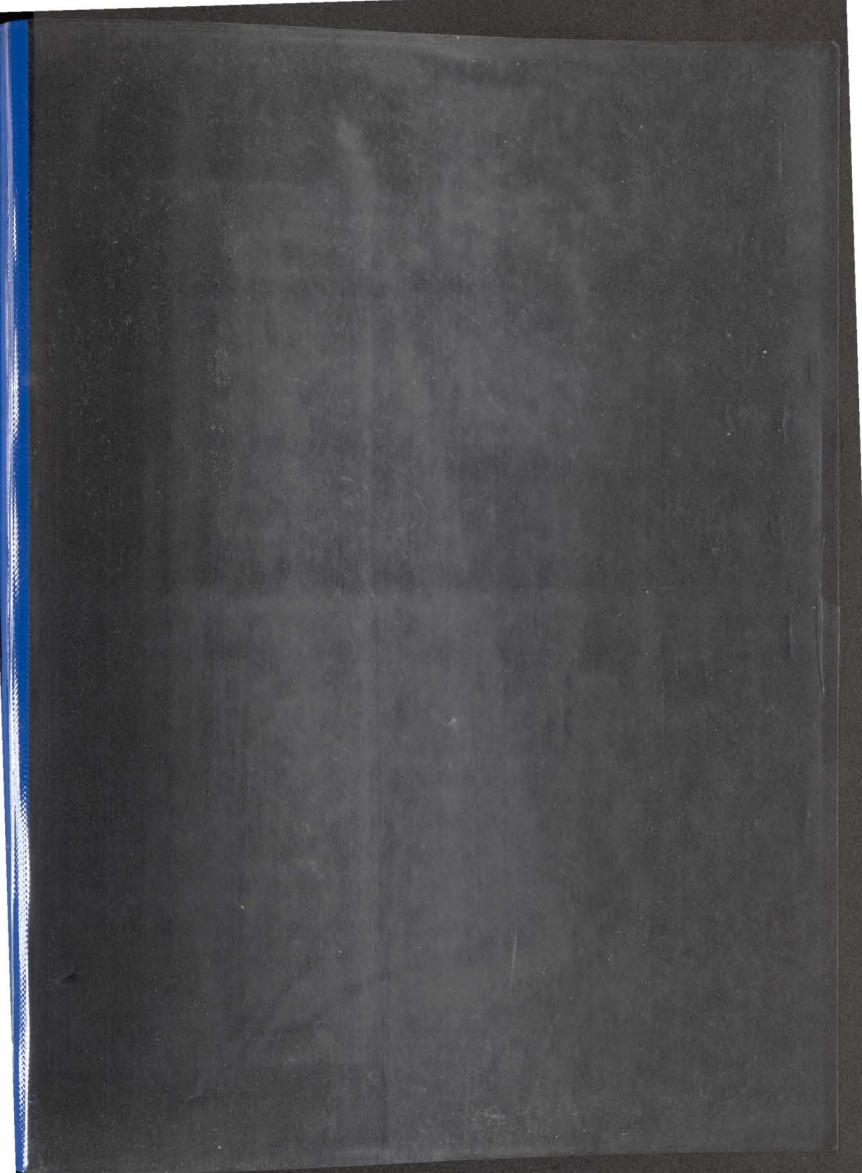


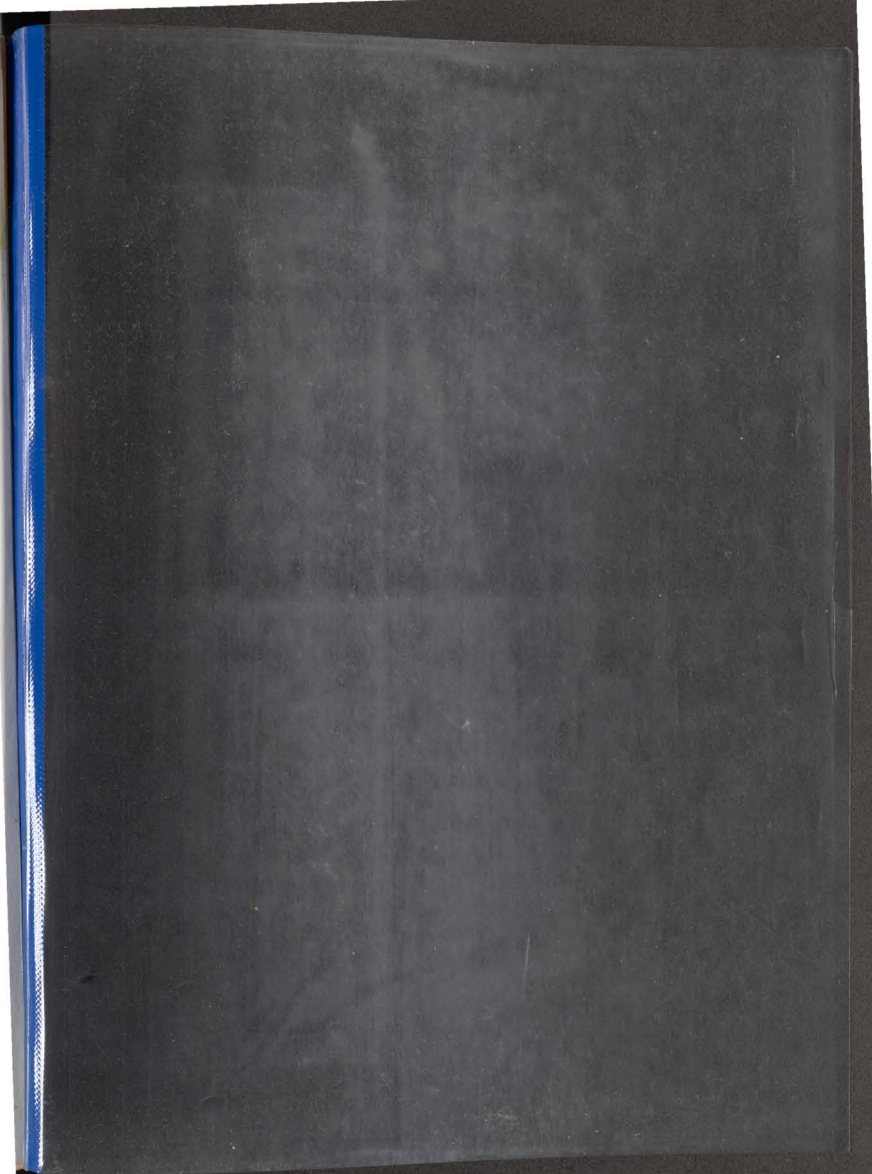


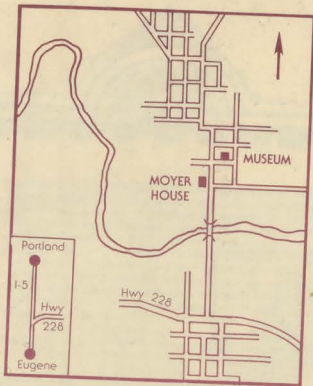
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