Historic Structures Report

APPOMATTOX DEPOT

APPOMATTOX, VIRGINIA

JANUARY 8, 2019

DALGLIESH GILPIN PAXTON ARCHITECTS
ARCHITECTURE + HISTORIC PRESERVATION + PLANNING + INTERIOR DESIGN


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Acknowledgements

Content under development.

Design Partners

Content under development.


APPOMATTOX

Introduction and Purpose

The Town of Appomattox has commissioned Dalgliesh Gilpin Paxton Architects, in collaboration with Landmark Preservation LLC (Landmark), to perform a thorough building assessment of the Appomattox Train Depot located in the center of the downtown district of Appomattox, Virginia. The purpose of this assessment is to provide a master plan for future treatment of the structure. This master plan provides a framework for the short and long-term maintenance, care, and preservation of the building.

The Train Depot has many of the original architectural features and fixtures from the 1920s construction period. The building has had several uses since it was gifted to the town by Norfolk and Western Railroad, however some areas of the Depot are seemingly frozen in time. These areas provide a rare look into how the space was used when the railroad station was in full operation.

During our assessment of the building we noticed several deficiencies that will need to be addressed to prevent further degradation of the historic material of the building. Due to the historic nature of the building, the recommendations of this assessment should be thoroughly read and considered to prevent any more loss of historic fabric. Any future work on the building should also carefully consider the recommendations made in this document, and should be performed to the highest level of workmanship by craftsmen familiar with the *Department of the Interior Standards for the Treatment of Historic Properties (Preservation & Rehabilitation Sections)*. All proposed work conforms to the aforementioned standards and the Code of Ethics of the American Institutes for the Conservation of Historic Works.

Generally speaking, the master plan is to provide a framework for future preservation efforts, as well as preventative maintenance. The recommendations of this report support the period of significance and the notion that all decisions should be made with the goal of preserving the building in the most accurate way possible. A working copy of the plan and all addendum should be kept in a safe, dedicated, on-site location. It is important to assign the general management of the master plan to a competent member of the city or committee that will oversee decisions in regard to the preservation, rehabilitation, and maintenance of the Train Depot.

History

The Town of Appomattox has a deep-rooted history with the Train Depot located in the heart of the downtown area. The Southside Railroad began building a railway to connect Petersburg, VA to Lynchburg, VA in the 1840s. This rail line passed through Appomattox and opened the door to new regional markets for the area's agricultural goods as well as to communication with the rest of the country. During the 1850s, the area experienced an economic boost due to the new transportation vein that carried tobacco and goods to other places, and brought industry and people to the Town of Appomattox.

During the Civil War, the rail lines were strategic ways to transport supplies to both the Northern and Southern troops, and the Train Depot of Appomattox was written into history because of its role in the war. Supply cars en route to feed and restock a withering Confederate Army were captured by the Union soldiers just before they could reach the starving Southern troops. This supply interception led Confederate General Lee to request a meeting for surrender to Union General Grant, which many herald as the end of the Civil War. The wooden structure that was the Train Depot during this time was destroyed by a fire in 1898. According to historic photographs, The Southside Railroad rebuilt another depot closer to the tracks after the original burned. This second, wooden train depot stood for twenty-five years before it was also destroyed by fire. By this time the Southside Railroad had become Norfolk-Western Railroad, and in 1924 they rebuilt the train depot out of brick. This is the structure that still stands in the heart of Appomattox.

Over the years, the Norfolk-Western Railway has made concessions and alterations to its property that have benefited the Town of Appomattox. A sewage line was added in 1939, and a water line was laid in 1940 under the railroad lines near the Depot with deeds of easement. The railway also leased space in their freight warehouse to individuals and businesses beginning in 1940. In 1959 the railroad company gave the Town of Appomattox the right to control parking and traffic situations on the western end of the property, and in 1960 they also gave the town the parking rights alongside Main Street (northern length of the building). In 1971, the last passenger train, "Pocahontas," stopped in Appomattox. By 1973, the Norfolk-Western Railroad was no longer using the Train Depot as a stop along its route and leased the building to the town. One year later, in 1974, the Norfolk-Western Railroad Company gifted the Town of Appomattox with the building and the surrounding land - except for the active rail lines. At this point in

ORIGINAL HISTORIC DEPOT

SECOND HISTORIC DEPOT

CURRENT HISTORIC DEPOT

1840 1850 1860 1870 1880 1890 1900 1910 1920 1930 1940 1950 1960 1970 1980 1990 2000 2010 2020

1840S CONSTRUCTION

1898 FIRE

1890S RECONSTRUCTION

1920S FIRE

1924 RECONSTRUCTION

2018 CONDITIONS ASSESSMENT

our nation's history, railroads were being replaced with more efficient means of travel for the general public. When the railroad company deeded the train depot to the town of Appomattox, the citizens of Appomattox held a festival to commemorate the era of the railroad and its historic importance to the growth and prosperity of the town. The annual, Historic Appomattox Railroad Festival still takes place every October.

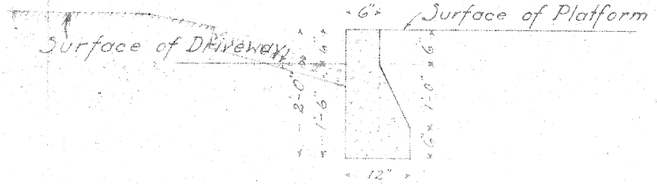
The Town of Appomattox has kept the depot in use by leasing it to various businesses and groups in the community. In 1992, Appomattox was accepted into the State of Virginia's new Tourism Accreditation program. This program led to the Train Depot being renovated with modern upgrades to be handicap accessible and tourist friendly in 1993. It was after this renovation that the town placed the Chamber of Commerce and the Visitors Information Center in the freight area (western side) of the depot. Even with the renovations in the 1990s, many architectural elements remain intact; the ticket booth and waiting areas on the eastern side of the building remain virtually untouched. Today, the building stands as a testament to the enduring qualities of period transportation architecture, and serves as a lasting symbol of significant historic events of national importance.

FOUNDATION PLAN

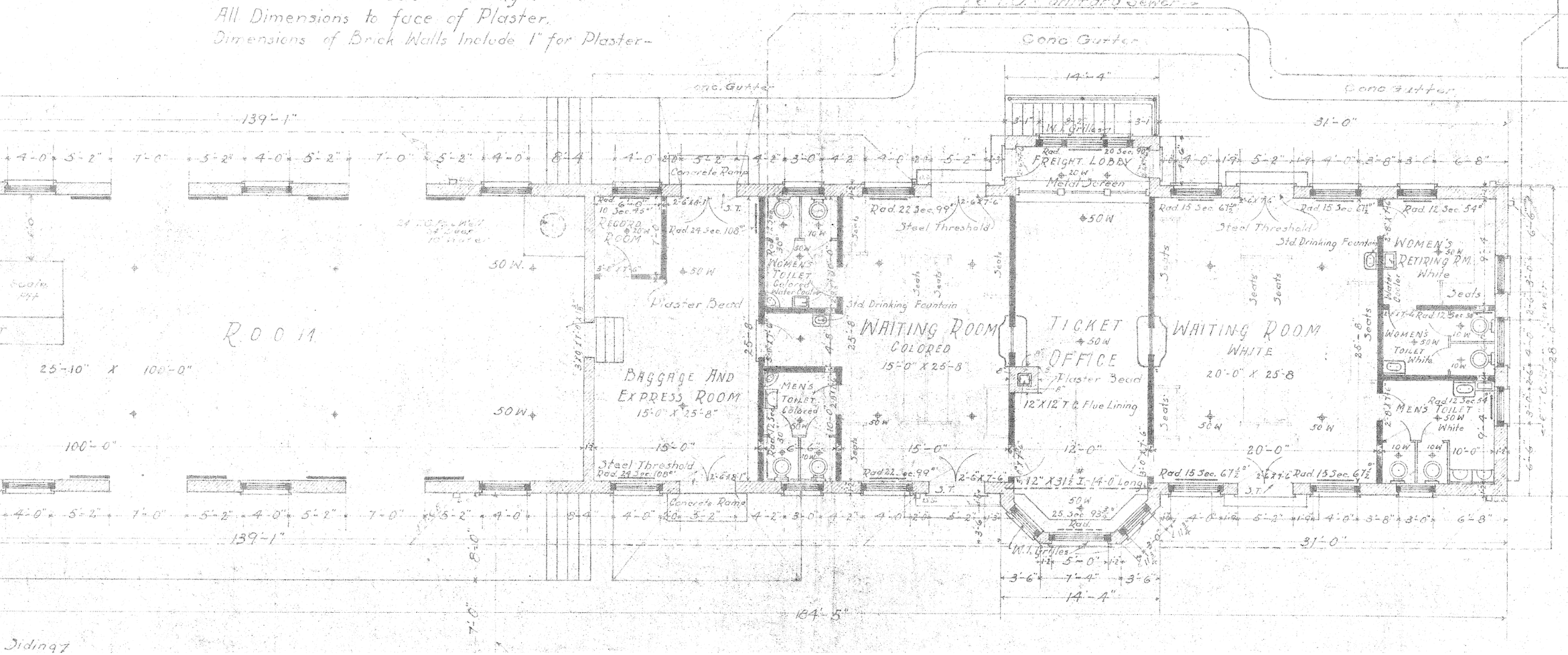
Scale $\frac{1}{8}$ In. = 1 ft.

NOTE-

All Radiators to be Three Column, 32" high except in White Womens Toilet and Colored Toilets, which are to be Single Column, 32" high, and Ticket Office which is to be 3 Column 26" high.
All Dimensions to face of Plaster.
Dimensions of Brick Walls Include 1" for Plaster-



DETAIL OF CONCRETE CURB & GUTTER
Scale $\frac{1}{2}$ in. = 1 ft.



Period of Significance

The period of significance of any building is the time period that is deemed the most influential or important in the life of the structure. This carefully defined time frame then becomes the focus of all preservation efforts and the standard against which treatment decisions will be measured. The Appomattox Train Depot was built in 1924 by the Norfolk-Western Railroad to replace the previous structure that had burned down.

This Depot is a highly typical railroad structure for the 1920s. The striated brick and raked joints were common masonry practice, and the slate roof was also very usual for the time period. This current brick building was designed by the railroad company's architects based on a standard layout that met the functional needs of the railroad, its passengers, and freight at the time. The ticketing and passenger sections remain largely unaltered and even retain a separation of "White" and "Colored" spaces that are an intact physical reminder of the reality and ramifications of segregation. Overall, the building preserves the general flow and distribution of spaces that accurately reflects the railroad industry and realities of life for people in Virginia in the 1920s. For these reasons, the period of significance for the Appomattox Train Depot should be the mid 1920s, shortly after the structure was built.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Physical Description

OVERALL

The Appomattox Train Depot stands in the heart of the town of Appomattox Historic District in central Virginia. In the midst of a region saturated with historically significant structures, the train depot still stands out as an exceptional example of early twentieth century railroad architecture. The 1923 depot runs parallel to the railroad tracks within one block of the original two depots that were lost to fire. The current depot is bordered on the north by Main Street, on the east by Church Street; and it continues to serve as an impressive visual and historic anchor in the town.

The 2002 National Register Nomination Form for the Appomattox Historic District describes the significance of the railroad and depot to the development of the city and even underscores its importance by continuously using the tracks as a point of reference in navigating the city.

> *"The Appomattox Historic District includes a total of 306 contributing resources and 144 noncontributing resources within a large portion of the incorporated area of the county seat of Appomattox County. The district consists of the Courthouse Square, the commercial blocks surrounding the railroad tracks and 1923 Appomattox depot, and the enveloping residential areas dating from the middle of the 19th century to the present. The railroad dictated the growth pattern of the village, which is divided almost equally north and south of the track. The presence of the tracks inhibited the feasibility of a grid plan as few streets could cross them. Early buildings and growth were oriented toward the tracks rather than around the Court Square because the railroad industry preceded the presence of the county seat. Later development spread somewhat organically from the main residential arteries of Church and Lee-Grant streets. which respectively run perpendicular and parallel to the tracks."*

The Appomattox Train Depot is a wonderfully intact example of typical train depot architecture. The 185-foot-long linear brick structure is one story topped by a hipped, slate roof with a dormer on each end and cast iron finials marking each end of the roof ridge. The deep eaves are supported by double wooden brackets that run the entire perimeter of the building. These wide, white-painted eaves house the historic copper gutters that are connected to the original cast iron footers by modern aluminum downspouts. Just under the eaves, a soldier course of brick marks the top of the masonry wall. The entire depot is built of striated, red bricks that rise from a concrete foundation. A rowlock belt course wraps the structure, and the walls are slightly battered from this course down to the concrete foundation wall which is visible above grade.

The building's designation as a combination station in the 1923 plans refers to the depot's original design to house both passenger areas and freight receiving under the same roof. This division between passenger and freight areas is marked by a stepped fire wall that runs north-south and projects approximately three feet above the roofline. This bisecting wall divides the building roughly in half across its width. The freight portion of the depot comprises the west side of the building and currently houses the Appomattox Visitor Information Center. To the east lies the passenger side of the building. According to the 1923 plans, this east side was home to the "Baggage and Express Room" and to the ticket office which separates the "White" and "Colored" waiting rooms and their respective bathrooms.

The entire building sits on a concrete foundation wall with a small basement and furnace room located under the ticket office. This furnace room is marked visually by the brick chimney that projects from the southern slope of the roof and is accessed by a narrow stairway that descends from the sidewalk along the north facade of the ticket office.

The ground immediately surrounding the building has been altered through the years. The building is now surrounded by recent landscaping, and a street and sidewalk grade to the north and east that sit higher than the depot's original surroundings. Loose gravel separates the historic depot from the train tracks to the south that remain in use. A reconstructed platform with modern aluminum railing wraps the freight side of the building on the south and west. Steps lead up to the platform from the parking lot immediately to the west, and an ADA ramp on the north side of the building ties into this platform and provides access to the Visitor Information Center entrance on the west facade.

EXTERIOR

WEST ELEVATION

The west elevation is twenty-five feet wide and exhibits three bays and a raised platform which is accessed from by a centered stair from the adjacent parking lot. The center bay contains a pair of wooden sliding doors with X-bracing in the upper and lower panels. Above the door is a painted wood sign which bears the name of the station, “Appomattox,” in block capitals. Two flagpoles are inserted into blocking on either side of the entry. The doorway is flanked on either side by a window. The windows each contain a single-hung wood sash with four-over-four lights. The doorway and both windows are topped with steel lintels and a soldier course of bricks. The windows have cast stone sills, and the doorway is flanked by five-foot-high, cast iron guards.

A centered, hipped dormer projects from the middle of the slope on the western end of the roof. The dormer serves as an attic vent and is outfitted with seven, fixed, white-painted wood louvers backed by a mesh screen. The cheek walls of the dormer are also sheathed with slate. A single, modern light fixture hangs from the eave above the doorway, and motion-detecting floodlights are affixed to the underside of the eaves on both the north and south side of the elevation.

SOUTH ELEVATION

The south elevation runs along the railroad tracks and presents the most visible facade to passing locomotives. Upon observation, the long facade is divided into two distinct sections based on door and window type; these sections correspond to the distinct freight and passenger designations of the aforementioned 1923 plans. The left (western) portion of the facade corresponds to the historic freight section, and the right (eastern) portion of the facade corresponds to the historic passenger section. The change between these two sections is also clearly delineated by the stepped firewall which stands above the roofline.

The south elevation exhibits twenty-two door and window openings. All of these openings are topped with steel lintels and a soldier course of brick. The historic freight portion of the south facade exhibits nine bays of alternating windows and doors. All five of these windows contain a single-hung wood sash with four-over-four lights. The four door openings each contain a pair of wooden sliding doors with X-bracing in the upper and lower panels. The windows all have cast stone sills, and the doorways are flanked by five-foot-high, cast iron guards. A modern wooden platform with aluminum railing wraps from the west facade and runs along the south facade. There are two, modern air-conditioning condensers on the platform, and numerous pipes that now snake up the side of the building and puncture the historic masonry. Four modern light fixtures hang from the eaves over each set of doors. The raised wooden platform steps down to grade at the transition from the historic freight to passenger side.

The passenger side of the south elevation contains thirteen door and window openings. There are three door openings which each contain a set of double doors with a fixed transom spanning the opening. The set of doors closest to the freight side are wooden, two-panel doors flanked by five-foot-high cast iron guards. This set of doors corresponds to the “Baggage and Express Room” on the 1923 plans, and is noteworthy for the concrete ramp that leads up to the door and the wooden bumpers at the base of each of the cast iron guards. The other two pairs of doors on this side of the elevation correspond to the historic “Colored” and “White” waiting rooms. These doors all contain half lights. These lights are a mix of historic, beveled glass and modern replacements.

The ten window openings on the passenger side are all wood, single-hung, one-over-one lights with fixed transoms. The only two windows without transoms have higher sills and correspond to the historic bathrooms. The ticket office exhibits a bay window with pigeonhole corners and a double window in the center. The ground directly below this center ticket office window contains the opening for the coal chute into the basement. The basement furnace is evidenced by the masonry chimney that protrudes from the slope of the roof near the ridge in a location that corresponds to the historic interior division between the ticket office and the Colored Waiting Room.

Numerous non-historic system components line this portion of the southern facade. Two air-conditioning condensers and three gas tanks occupy spaces right against the building. Modern pipes, gas lines, conduits, and electrical meters cover the passenger portion of the southern facade in an obtrusive manner.

EAST ELEVATION

The east elevation exhibits three windows topped with steel lintels and a soldier course of brick. The windows have cast stone sills and each contain a single-hung wood sash with four-over-four lights. The three windows correspond to the historic “Women’s Retiring Room (White),” “Women’s Toilet (White),” and “Men’s Toilet (White),” per the 1923 plans. All of these windows have the higher sills that match the specifications of the other historic bathrooms. Centered above the windows is a painted wood sign which bears the name of the station, “Appomattox,” in block capitals.

A centered, hipped dormer projects from the middle of the roof slope, and mirrors the dormer on the west elevation. The dormer serves as an attic vent and is outfitted with seven, fixed, white-painted wood louvers backed by a mesh screen. The cheek walls of the dormer are also sheathed with slate.

NORTH ELEVATION

The north elevation runs parallel to Main Street and presents the most visible facade to both pedestrian and vehicular traffic. Upon observation, the long facade is divided into two distinct sections based on door and window type; these sections correspond to the distinct freight and passenger designations of the historic 1923 plans. The left (eastern) portion of the facade corresponds to the historic passenger section, and the right (western) portion of the facade corresponds to the historic freight section. The change between these two sections is also clearly delineated by the stepped firewall which stands above the roofline.

The north elevation exhibits twenty-three door and window openings. All of these openings are topped with steel lintels and a soldier course of brick. The passenger (east) side of the north elevation contains fourteen door and window openings. There are three door openings which each contain a set of double doors with a fixed transom spanning the opening. The set of doors closest to the freight side are wooden, two-panel doors flanked by five-foot-high cast iron guards and correspond to the “Baggage and Express Room” on the 1923 plans. The other two pairs of doors on this side of the elevation correspond to the historic Colored and White Waiting Rooms. These doors all contain half lights; and these lights are a mix of historic, beveled glass and modern replacements. A modern light fixture hangs from the eaves above both of these waiting room entrances.

The north elevation exhibits a projected, gabled entrance at the location of the historic ticket office on the passenger (eastern) part of the facade. The projection creates small, door-width entrances facing east and west on either side of the projection to access the historic freight lobby. These two, wood, half-light doors have fixed transoms overhead. The west-facing door still contains historic, bevel glass, but the light in the east-facing door has been replaced with modern glass. The projected face of the freight lobby contains three, wood, single-hung, one-over-one windows with fixed transoms. The masonry face contains a decorative, concrete circle in the gable end.

Directly north of this projection, between the building and the sidewalk, is the entrance to the basement and furnace room. This entrance is encircled by a historic, cast iron railing and non-historic gate that are attached directly to the projected face of the freight lobby. The poured concrete entrance stair to the basement descends east from grade along the projection, past a fixed window, to the solitary basement door (this door and window are not included in the count for the north facade).

The remaining eleven window openings on the passenger side are all wood, single-hung, one-over-one lights with fixed transoms. The only two windows without transoms have higher sills and correspond to the historic bathrooms.

The historic freight (western) portion of the north facade exhibits nine bays of alternating windows and doors. All five of these windows contain a single-hung wood sash with four-over-four lights. The four door openings each contain a pair of wooden sliding doors with X-bracing in the upper and lower panels. The windows all have cast stone sills, and the doorways are flanked by five-foot-high, cast iron guards. Four modern light fixtures hang from the eaves over each set of doors. A modern, concrete ADA ramp with aluminum railing runs against the depot on the westernmost portion of the facade and wraps to the entrance platform on the west elevation.

INTERIOR

HISTORIC FREIGHT SIDE

In its current use, the freight side of the building is home to the Appomattox Visitor Information Center. The center is accessed by a set of double doors on the west facade. These historic, sliding doors have been altered to swing outward, and they open to reveal a tiled, non-historic hallway with a drop ceiling, sheetrock walls, a water fountain, and rooms opening off both sides.

On the left (north) side are two restrooms. These restrooms are both ADA accessible with modern drop ceilings and fixtures. The historic masonry wall has been been painted white in both restrooms, and the floors have been finished in gray linoleum tiles. The window in the women's restroom retains its original, cast-iron interior grate, but the window has been obscured with non-historic mini-blinds. The interior opening for the historic freight doors has been filled in with sheetrock in the men's restroom, and the iron rails for the original sliding doors have been removed.

On the opposite (south) side of the hallway from the bathrooms are a committee room and a media viewing room. The committee room is accessed from the hallway, but the viewing room is accessed from the main space. Both of these rooms also have drop ceilings, non-historic floor treatments, and white-painted masonry walls. The hallway ends in a set of modern French doors, which open into the main space of the historic freight room.

The historic freight room is now the Visitor Information Center for the Town of Appomattox. The majority of the space is open with the exception of several moveable displays, furniture, and a fixed, non-historic information desk in the center of the room. Overhead, the open trusses have been painted white; and modern fixtures including lighting, ceiling fans, HVAC ducts, and conduits outfit the space. The interiors of the north and south masonry walls remain in their original, unfinished state. The door and window openings retain their original components as well. The windows all retain their historic, interior grills; and the freight doors and rails are in place, although they have been secured in the closed position and several of the doors are currently utilized as display walls.

The original concrete floors of the freight room are on display, although they appear to have been sealed. These floors are only interrupted by the original Fairbanks freight scale which sits behind (just east of) the current information desk.

The far (east) end of the freight room is currently occupied by three non-historic rooms: a conference room and two smaller offices. A full partition wall with two doors, and a set of three large windows runs from the north wall to the south wall to designate the conference room. The conference room and the offices all contain modern wood paneling, drop ceilings, baseboards, and carpeting. The original freight door opening on the north side of the conference room has been filled in, its doors and rails have been removed, and the opening has been blocked by modern cabinetry. The original freight door on the south wall of the conference room has also been filled in and had its doors and rails removed. However, this opening has been fitted with a modern, outward-swinging exit that leads to the platform on the southern facade.

The conference room also provides the only access to the two smaller offices. These two offices, one to the north and one to the south, each claim the original, masonry firewall as their eastern boundary. The office on the north side contains the blocked-off, historic doorway to the Baggage and Express Room on the Passenger side of the depot.

HISTORIC PASSENGER SIDE - CURRENT RETAIL

The passenger portion of the depot immediately to the east of the firewall is the original Baggage and Express Room. A local shop now occupies the group of spaces that were defined on the original plans as the Record Room, the Baggage and Express Room, the Colored Waiting Room, the Colored Men's Restroom, and the Colored Women's Restroom. All these spaces remain in their original configuration and retain many of the original fixtures, including chair-rails and other millwork. However, the spaces have been finished with non-historic colors, lighting fixtures, and temporary wooden structures. These wooden structures include lofted platforms, false beams; and various, non-historic elements that divide the spaces and significantly alter the original flow and visual impact of the rooms. Entrance to this portion of the building is through the doorway to the right (west) of the historic Freight Lobby on the north facade.

The double doors into the shop were originally the doors to the Colored Waiting Room. This historic waiting room is now full of furniture and merchandise belonging to the shop that occupies the space. Entering from the north, the original window to the ticket office sits centered on the wall to the left (east). A locked door at the far (southern) end of the wall still provides access to the office. The ticket window retains its original, cast-iron grate and obscured glass, single-hung window and transom. The trim, counter, and grate have all been painted; and the fixed transom exhibits a crack. The floors in the historic waiting room have been covered in linoleum and extensive temporary wooden fixtures have been installed.

Proceeding to the west through the waiting room, original bathrooms flank a central hall that leads to the Baggage and Express Room. To the left (south) is the original Colored Men's Toilet and to the right (north) is the original Colored Women's Toilet. The historic men's room is now utilized as a storage room for the shop. One original urinal and corner sink remain, as well as one original bathroom stall. The second stall and toilet have been removed, and the toilet in the original stall is not historic. Holes in the wall and repaired millwork in the window above the modern toilet suggest a higher-tank toilet at some point in history. A modern electrical panel now occupies the western wall of the bathroom. The original urinal on this same wall exhibits non-sympathetic PVC pipe and sits over a large hole in the plaster wall. Overhead, a modern HVAC duct cuts across the space and pierces the east wall into the waiting room.

The original Colored Women's Restroom is currently used as a display room for shop merchandise. One original bathroom stall and corner sink remain. The second stall and toilet have been removed, and the toilet in the original stall is not historic. Holes in the wall and repaired millwork in the window above the modern toilet suggest a higher-tank toilet at some point in history. The remaining corner sink has been covered with a wooden, built-in cabinet and shelf. The top of a drain projects one inch out of the painted concrete floor and indicates the location of the original Water Cooler designated in the 1923 plans. Overhead, a modern HVAC duct cuts across the space and pierces the east wall into the waiting room.

The centered hall leading west from the Colored Waiting Room opens through a doorway (that is missing its door) into the original Baggage and Express Room. Directly opposite this entrance is the blocked-off doorway in the firewall that originally led into the historic Freight Room. Shelves now fill the doorway, and the original steps that led up from the Baggage and Express Room to the entrance have been removed. The room is currently filled with store merchandise; and extensive, modern lighting fixtures, HVAC components, and wooden structures clutter with overhead space. Notably, the exterior doors to this portion of the building contain no lights, and the windows have interior grills.

To the right (north), the original Record Room is built out of the corner created by the firewall and the northern exterior masonry wall. This room also currently serves as retail space, but the upper walls of the room are lined with possibly original shelves. A small panel in the ceiling also provides attic access for the passenger half of the depot.

HISTORIC PASSENGER SIDE - UNOCCUPIED

The easternmost portion of the Appomattox Train Depot is currently unoccupied. This largely untouched portion is defined on the 1923 plans as the Ticket Office, Freight Lobby, White Waiting Room, White Women's Retiring Room, White Women's Toilet, and White Men's Toilet. Entrance to the White Waiting Room is afforded by the double doors on the north facade along Main Street. The room is entirely clear, with bathrooms to the left (east) and the Ticket Office to the right (west). The original concrete floors are painted a deep red. The plaster walls and millwork are all in good condition, although they have all been painted with non-historic finishes. Several non-original wooden boards have been attached to the east and west walls, and conduits snake up the walls to accommodate modern electrical switches, outlets, and signage. The ceiling also exhibits two modern light fixtures and a ceiling fan. Original fixtures include radiators under each of the four windows and a water fountain affixed to the bathroom wall next to the entrance to the White Women's Retiring Room.

The bathroom wall on the east side of the room contains two entrances: one on the north side of the room and one on the south. The doorway on the north side of the wall is the entrance into the White Women's Retiring Room. This room contains the original wooden seats from the 1923 plans. The walls of the room have been lined with non-historic quilt racks, and the plaster exhibits cracking. A doorway in the south wall of this room provides the only entrance into the White Women's Toilet. The door is missing from the opening, but the hinges and a portion of the closer are still in place. The bathroom itself retains an original sink, an original radiator, an original stall, and a possibly original toilet paper holder. The second stall and toilet have been removed, and the toilet in the original stall is not historic. Holes in the wall and repaired millwork in the window above the modern toilet suggest a higher-tank toilet at some point in history. Non-historic PVC pipes are presently connected to the toilet and the sink.

Access to the original White Men's Toilet is gained through the doorway on the southern end of the bathroom wall in the White Waiting Room. The bathroom retains an original sink, an original urinal, an original stall, an original radiator, and an original mop sink. The second stall and toilet have been removed, and the toilet in the original stall is not historic. Holes in the wall and repaired millwork in the window above the modern toilet suggest a higher-tank toilet at some point in history. Non-historic PVC pipes are presently attached to the toilet and the sink, and a modern electrical panel sits on the wall just inside the door.

Across the waiting room from the bathrooms is the historic Ticket Office. The ticket window is centered on the wall and topped by a non-historic, wooden, shingled awning which conceals the original transom. Access to the ticket office is to the left (south) of the window, through a doorway that is missing its original door.

The ticket office exhibits painted concrete floors and a drop ceiling. The office is accessed through the open doorway from the White Waiting Room and by a locked door from the historic Colored Waiting Room (now a retail space). The south end of the office is the Station Master's Desk, the north end is the Freight Lobby Desk, and the east and west walls contain the ticket windows.

Just to the right, inside the doorway from the White Waiting Room, a historic fusebox sits over a historic electrical box that is still being utilized to house modern wiring. Facing south, the ticket office ends in the bay window that projects towards the train tracks and houses the Station Master's Desk. This wooden desk stands over an original radiator. Facing north, a chimney projects from the west wall with a modern radiator below the chair rail. A small, circular plate approximately six feet up the chimney covers a hole from a stove that once tied into the chimney. The outline of a stove is still visible in the red-painted concrete floor, approximately four feet from the chimney towards the center of the room.

The ticket windows for the Colored and White Waiting Rooms sit opposite each other in the center of their respective walls. The White Ticket Window on the right (east) wall is topped by a non-historic, wooden, shingled awning which conceals the remaining glass transom. The wooden counter is topped by a brass plate that spans from inside the ticket office out into the waiting room. This original wooden counter and its drawers and hardware have all been finished with a non-historic paint. Notably absent from this window are the cast iron counter brackets, the cast iron grate, and the single-hung wooden sash that correspond to the same elements in the Colored Ticket Window on the opposite wall. The Colored Ticket Window to the left (west) is blocked by painted, wood shelves. However, the original, wooden counter below the window remains operable. The counter retains it original, cast-iron brackets and hardware; but they have all been covered with a non-historic paint finish.

The east and west walls of the office are partially covered with non-historic boards and shelves. A mix of original and historic shelves have been finished with non-historic paint and occupy the space between the Colored Ticket Window and the Freight Counter.

The Freight Counter comprises the entire north wall of the Ticket Office. Wooden wainscoting rises to the counter height, and the original tripartite wire-mesh screen comprises the rest of the wall. The mesh continues past the drop ceiling to the original ceiling above. The Freight Lobby itself can only be accessed from the projected entrance on the north elevation.

The small projection that marks the entrance to the Freight Lobby contains a door on the east and west, and a full wall of windows on the north face. The lobby is currently used for supply storage. The interior walls and ceiling are entirely covered in flaking lead paint. The grate above the Freight Counter has been covered in plastic sheeting, and the mesh 'transom' portions of the grate above the interior drop ceiling are covered in plywood.

HISTORIC PASSENGER SIDE - BASEMENT

The basement sits directly under the Ticket Office, and its entrance is below grade between the Freight Lobby and the sidewalk along Main Street. Concrete stairs descend east from grade along the building. The stairway ends at a single, half-light door that is partially obscured by foliage. Inside, poured concrete walls form the outline of the room. To the right, a horizontal, timber wall designates a smaller space that is illuminated by a single below-grade window in the concrete stairwell. The west wall of the basement contains a brick chimney, and the south wall of the basement exhibits an opening for the coal chute. Pairs of concrete pipe trenches open off both sides of the room and run the length of the passenger side of the Depot.

Treatment Standards and Guidelines

This project is going to be categorized as a Rehabilitation Project according to *The Secretary of the Interior's Standards for the Treatment of Historic Properties* based on the proposed vision and uses for this property. Those rehabilitation efforts should be pursued with all diligence. However, due to the incredibly intact nature of the details of the building, particularly on the passenger side, that side should perhaps be considered worthy of preservation and interpretation (as defined by the *Secretary of the Interior's Standards*). **Regardless of treatment standards, every effort should be made to preserve all existing historic materials, details, features, spaces, and spatial relationships.**

PRESERVATION

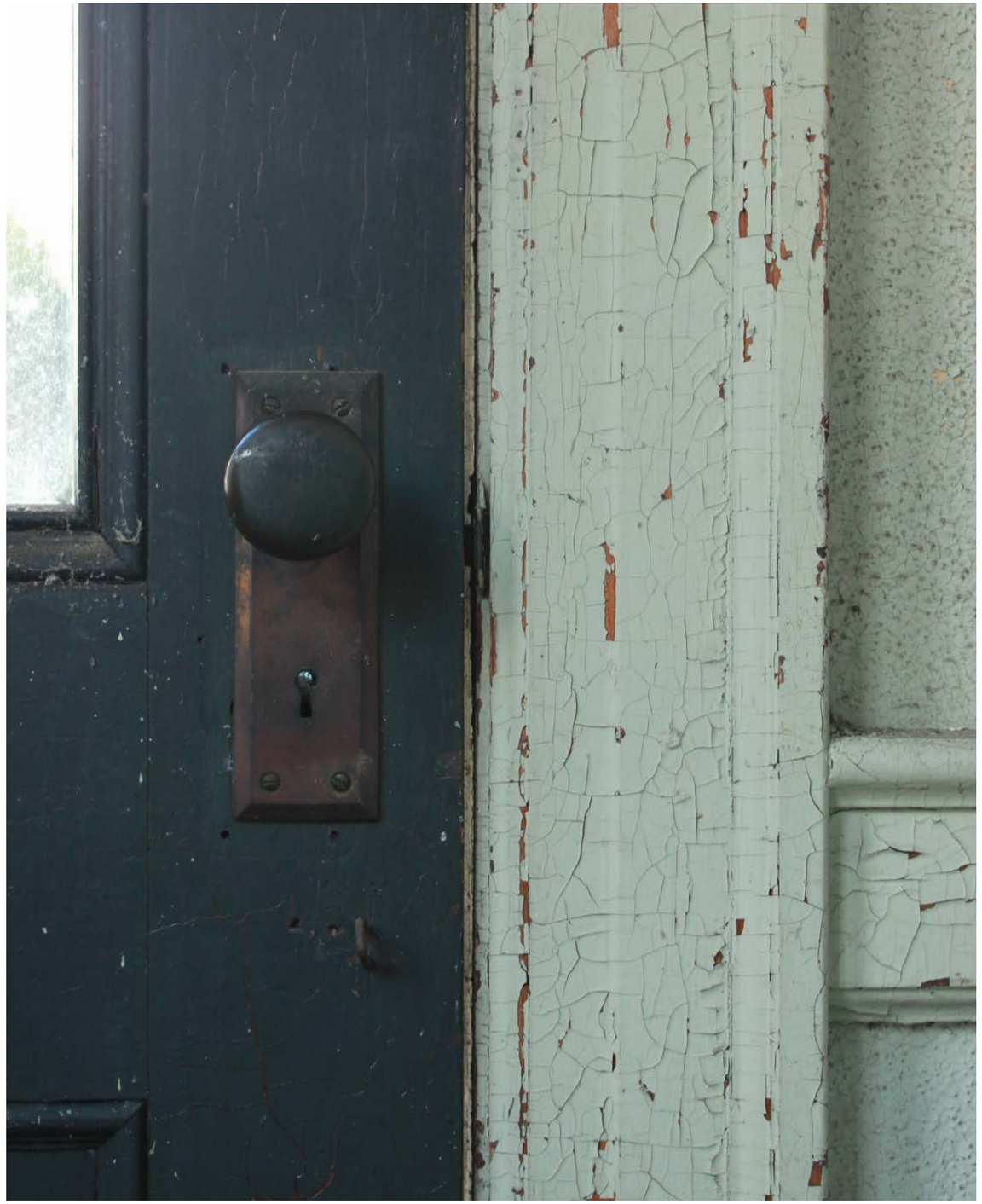
Preservation is defined as the act or process of applying measures necessary to sustain the existing form, integrity, and materials of an historic property. Work, including preliminary measures to protect and stabilize the property, generally focuses upon the ongoing maintenance and repair of historic materials and features rather than extensive replacement and new construction. New exterior additions are not within the scope of this treatment; however, the limited and sensitive upgrading of mechanical, electrical, and plumbing systems and other code-required work to make properties functional is appropriate within a preservation project.

- The Secretary of the Interior's Standards for the Treatment of Historic Properties

REHABILITATION

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

- The Secretary of the Interior's Standards for the Treatment of Historic Properties



PRESERVATION STANDARDS

1. A property will be used as it was historically, or be given a new use that maximizes the retention of distinctive materials, features, spaces and spatial relationships. Where a treatment and use have not been identified, a property will be protected and, if necessary, stabilized until additional work may be undertaken.

2. The historic character of a property will be retained and preserved. The replacement of intact or repairable historic materials or alteration of features, spaces and spatial relationships that characterize a property will be avoided.

3. Each property will be recognized as a physical record of its time, place and use. Work needed to stabilize, consolidate and conserve existing historic materials and features will be physically and visually compatible, identifiable upon close inspection and properly documented for future research.

4. Changes to a property that have acquired historic significance in their own right will be retained and preserved.

5. Distinctive materials, features, finishes and construction techniques or examples of craftsmanship that characterize a property will be preserved.

6. The existing condition of historic features will be evaluated to determine the appropriate level of intervention needed. Where the severity of deterioration requires repair or limited replacement of a distinctive feature, the new material will match the old in composition, design, color and texture.

7. Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.

8. Archeological resources will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.

- The Secretary of the Interior's Standards for the Treatment of Historic Properties

REHABILITATION STANDARDS

1. A property will be used as it was historically or be given a new use that requires minimal change to its distinctive materials, features, spaces and spatial relationships.

2. The historic character of a property will be retained and preserved. The removal of distinctive materials or alteration of features, spaces and spatial relationships that characterize a property will be avoided.

3. Each property will be recognized as a physical record of its time, place and use. Changes that create a false sense of historical development, such as adding conjectural features or elements from other historic properties, will not be undertaken.

4. Changes to a property that have acquired historic significance in their own right will be retained and preserved.

5. Distinctive materials, features, finishes, and construction techniques or examples of craftsmanship that characterize a property will be preserved.

6. Deteriorated historic features will be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature will match the old in design, color, texture and, where possible, materials. Replacement of missing features will be substantiated by documentary and physical evidence.

7. Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.

8. Archeological resources will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.

9. New additions, exterior alterations, or related new construction will not destroy historic materials, features, and spatial relationships that characterize the property. The new work will be differentiated from the old and will be compatible with the historic materials, features, size, scale and proportion, and massing to protect the integrity of the property and its environment.

10. New additions and adjacent or related new construction will be undertaken in such a manner that, if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.

- The Secretary of the Interior's Standards for the Treatment of Historic Properties

Conditions Assessment and Recommendations

In general, the Appomattox Train Depot is found to be in sound structural condition. The historic characteristics and details are predominantly intact, further supporting the Period of Significance. The methodologies described below are derived from the best preservation practices that offer the most historically accurate treatments possible for the maintenance, care, and preservation of the building. All proposed work conforms to the guidelines established by the *Department of the Interior Standards for the Treatment of Historic Properties (Preservation & Rehabilitation Sections)* and the *Code of Ethics of the American Institutes for the Conservation of Historic Works*. The recommendations are based on existing physical and documentary evidence. Where possible, historic photographs and the original 1923 architectural drawings should be referenced for clarification. For the sake of maintaining historic accuracy, conjectural interpretation of the building's attributes is avoided.

Exterior

Masonry Cleaning

DEFICIENCIES

There is dirt, atmospheric grime, and biological growth present in various locations on all elevations of the building.

RECOMMENDATIONS

Gently remove foliage by hand or small hand tools, if present. Care will be taken to remove as much root matter as possible. Clean all facades using D/2 Biological Solution (or equivalent), and then rinse with water (low pressure). This process should be repeated in order to ensure that dirt and grime has been removed, and that biological growth has been stunted. **Under NO circumstances shall sandblasting be implemented to removed undesirable paint from masonry surfaces, as irreversible damage to the brick faces will occur.**

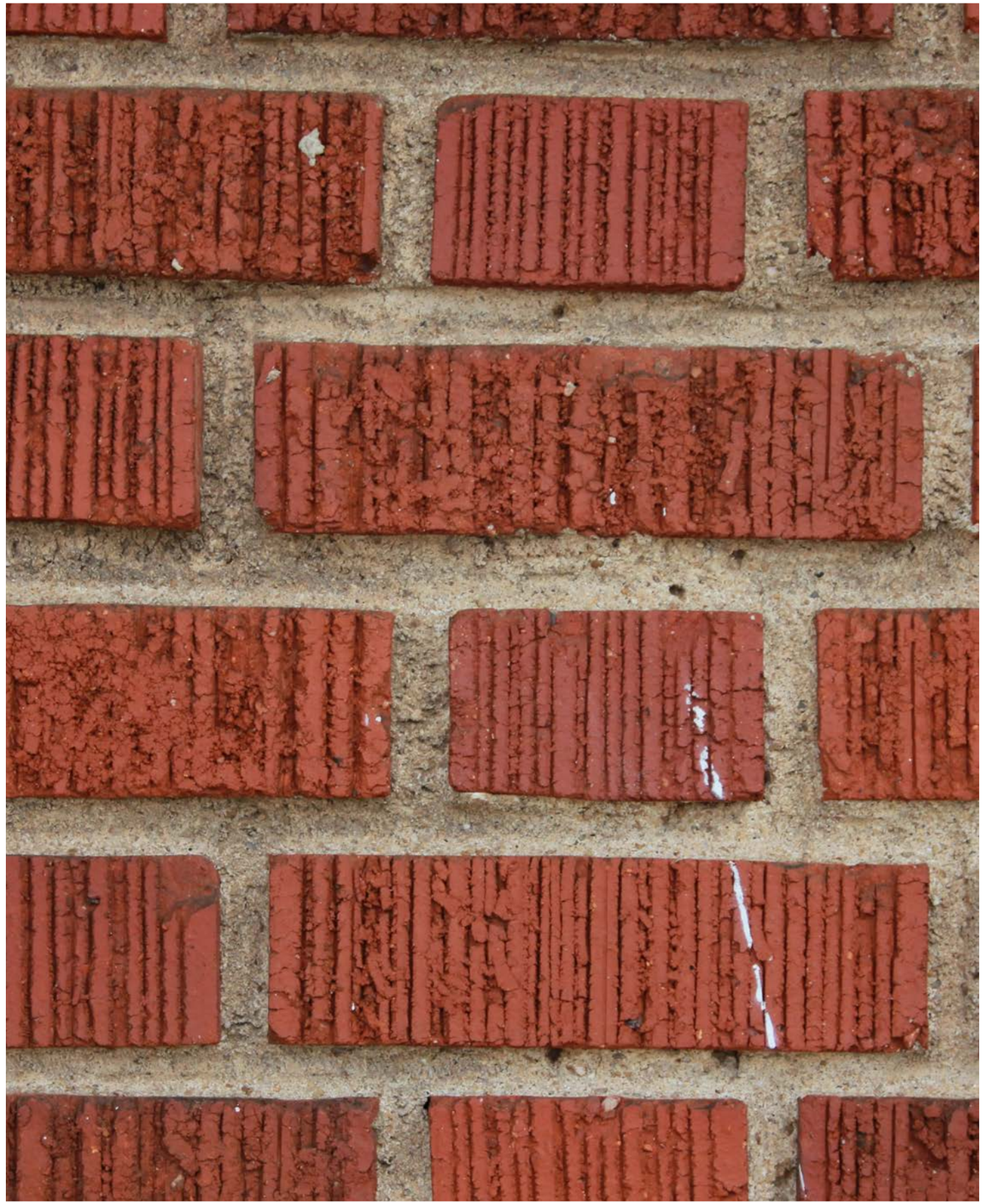
Paint Removal

DEFICIENCIES

Paint overspray, drips, etc. are present on the masonry in various locations on all elevations of the building.

RECOMMENDATIONS

Employ a chemical paint stripper to remove paint from surfaces of masonry. A determination as to the precise stripper to be used should be made after testing is performed on the building in an inconspicuous area. In general, the gentlest means/stripper should be employed to ensure no damage to the masonry occurs. **Under NO circumstances shall sandblasting be implemented to removed undesirable paint from masonry surfaces, as irreversible damage to the brick faces will occur.**



Exterior

Inapproriate Mortar

DEFICIENCIES

Inappropriate mortar from previous repointing efforts is present on all elevations in various, isolated locations. Inappropriate mortar does not match existing historic mortar in color, texture, joint profile, or compressive strength.

RECOMMENDATIONS

Carefully remove inappropriate mortar to a minimum depth of one and one-half times the width of the joint to achieve a solid substrate. Great care should be taken not to damage the brick faces. Attempts should not be made to remove Portland-rich mortar from brick faces as irreversible damage will likely occur. Repointing should ensue as required using in-kind mortar. New mortar should match existing historic mortar in compressive strength, texture, color, and joint profile as closely as possible. The mortar joint should retain its raked profile.

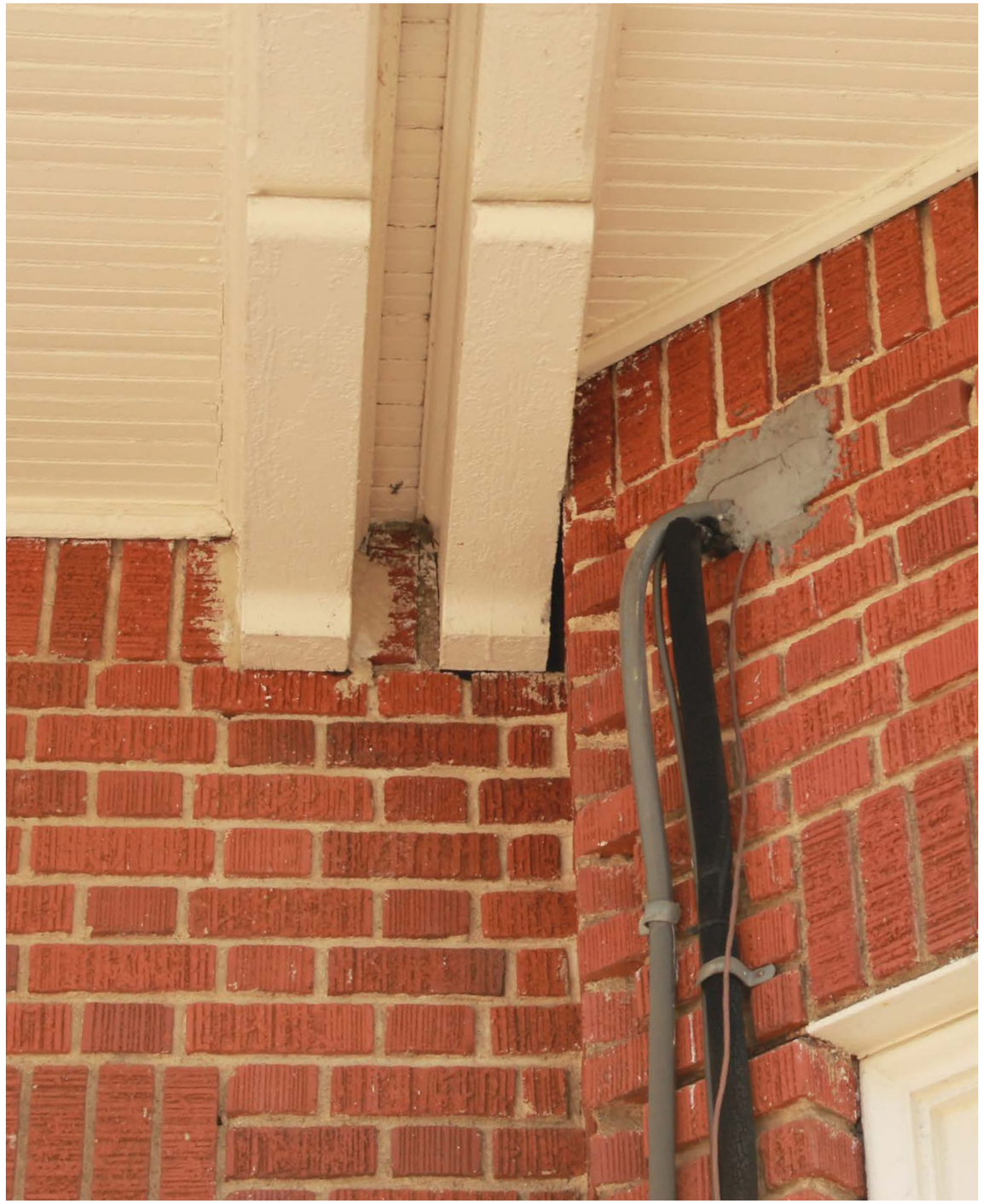
Staining of Previous Repairs

DEFICIENCIES

Poor previous mortar repairs are visually incompatible in color. Following the removal of inappropriate mortar, as described in the “Inappropriate Mortar” section above, it is likely that remnants of said mortar may remain, particularly on brick faces.

RECOMMENDATIONS

Stain areas of visually incompatible mortar with a mineral masonry stain to match historic mortar and/or brick color as accurately as possible. It should be noted that this process should not take place until the masonry is cleaned as described in the “Cleaning” section of this document. This will help ensure that an accurate color match is achieved.



Exterior

Selective Repointing

DEFICIENCIES

Areas of moderate mortar degradation and/or loss are present on all elevations, resulting in the settling of bricks and possible water intrusion into the masonry substrate. It should be noted that deterioration will accelerate if left un-checked, causing further serious damage to the structural integrity of the building.

RECOMMENDATIONS

Areas of failed and missing mortar should be re-pointed to ensure soundness. Failed mortar should be carefully removed to a minimum depth of one and one-half times the width of the joint to achieve a solid substrate. Great care should be taken not to damage the brick faces. Repointing should ensue as required using in-kind mortar. New mortar should match existing historic mortar in compressive strength, texture, color, and joint profile as closely as possible. The mortar joint should retain its raked profile. Once repointed, masonry should be cleaned with Prosoco Enviro Klean Masonry Cleaner to remove residual mortar staining.

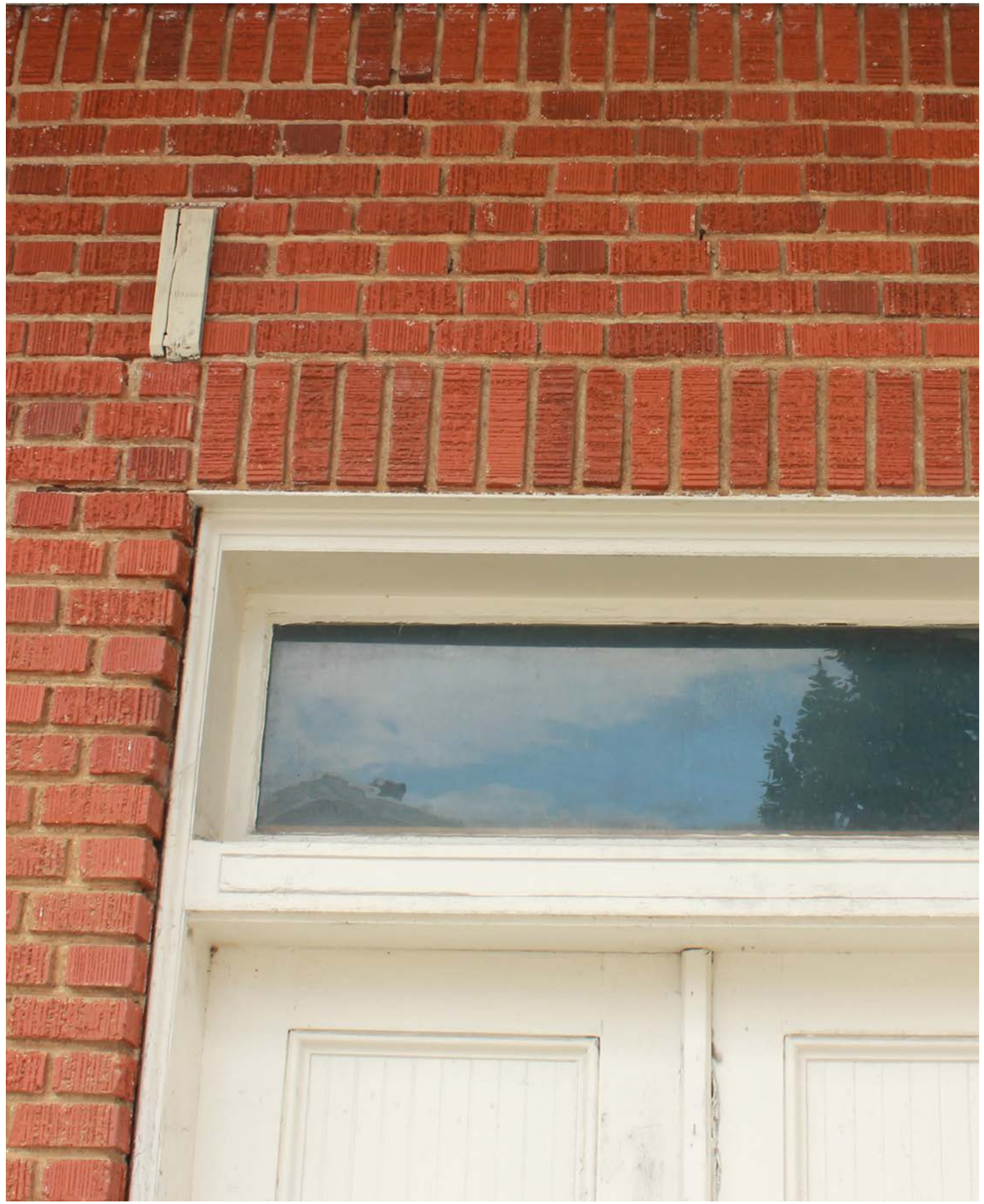
Crack Repair

DEFICIENCIES

General masonry cracking is present in multiple locations on all elevations. These cracks are generally caused by mortar failure, water intrusion, structural deficiencies, etc.

RECOMMENDATIONS

Deficient mortar at crack locations should be carefully removed to a minimum depth of one and one-half times the width of the joint to achieve a solid substrate. Great care should be taken not to damage the brick faces. Cracks narrower than 3/16” should be stabilized using Jahn M30 Micro Injection Grout. Cracks between 3/16” and 9/16” in width should be stabilized using Jahn M40 Crack Injection Grout. Significant vertical and step cracks should be repaired using stainless steel stitching, which should be placed within the mortar joint at appropriate intervals. The stitching should span the cracks and be mortared into place beneath the surface so as to not impact the masonry’s historic appearance. Apply in-kind mortar in missing mortar joints. Mortar should possess compressive strength, texture, color, and joint profile to match adjacent existing material as closely as possible.



Exterior

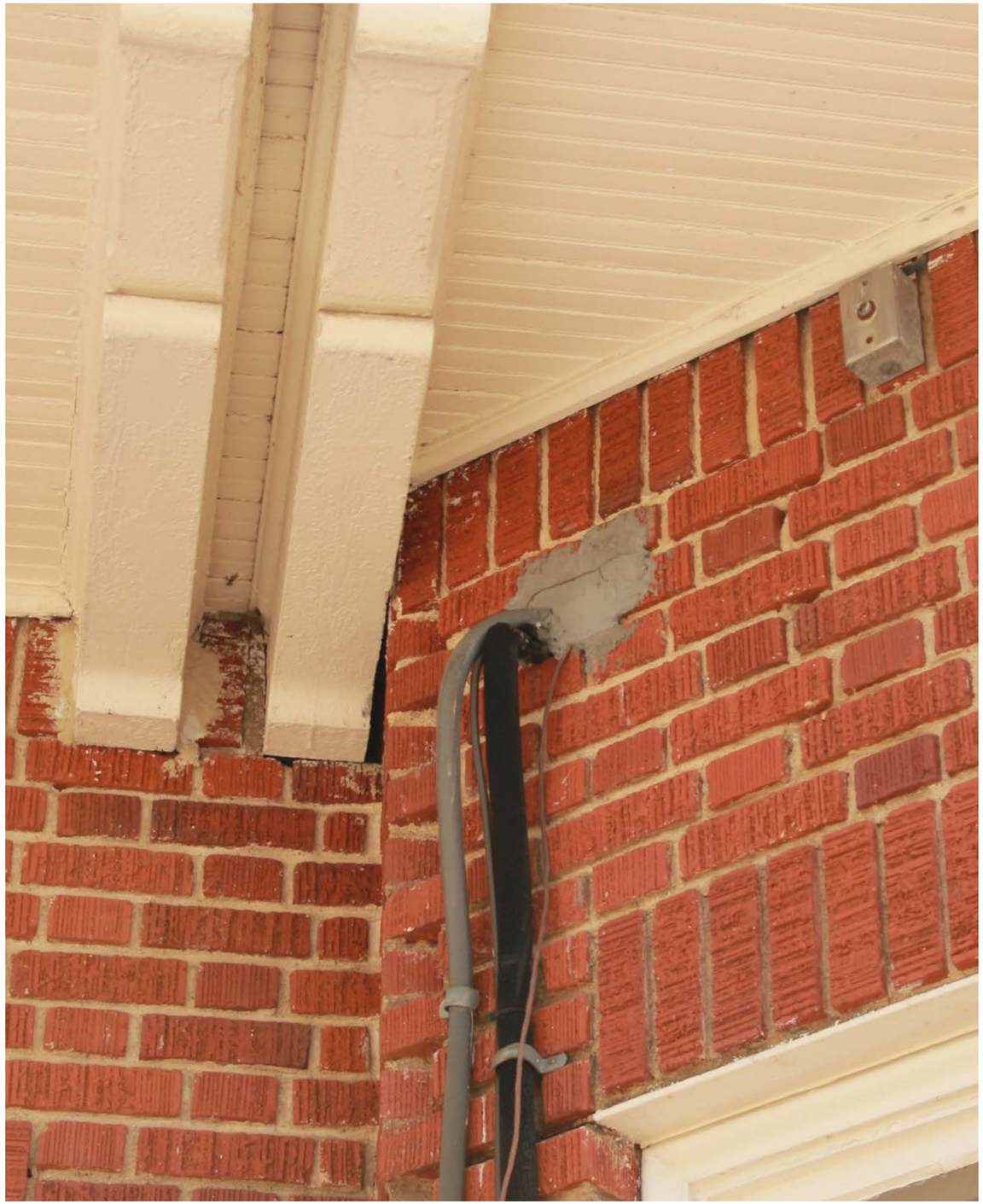
Brick Repair / Replacement

DEFICIENCIES

At various locations indicated on notated elevations, bricks have been damaged due to general wear, inappropriate penetrations (i.e. for condensate lines, electrical wiring, venting, etc,), cracking, etc.

RECOMMENDATIONS

Bricks with minor damage should be repaired using appropriate repair mortar (Jahn M100 – Terra Cotta and Brick Repair Mortar, or equivalent) that matches existing bricks in color and compressive strength as accurately as possible. Repairs should be finished in a manner that matches the existing profile and texture of the bricks as accurately as possible. Severely damaged bricks should be replaced where required using a compatible replacement. New bricks should match existing brick in dimension, color, and texture as accurately as possible. Bricks should then be pointed as described in “Selective Repointing” section above.



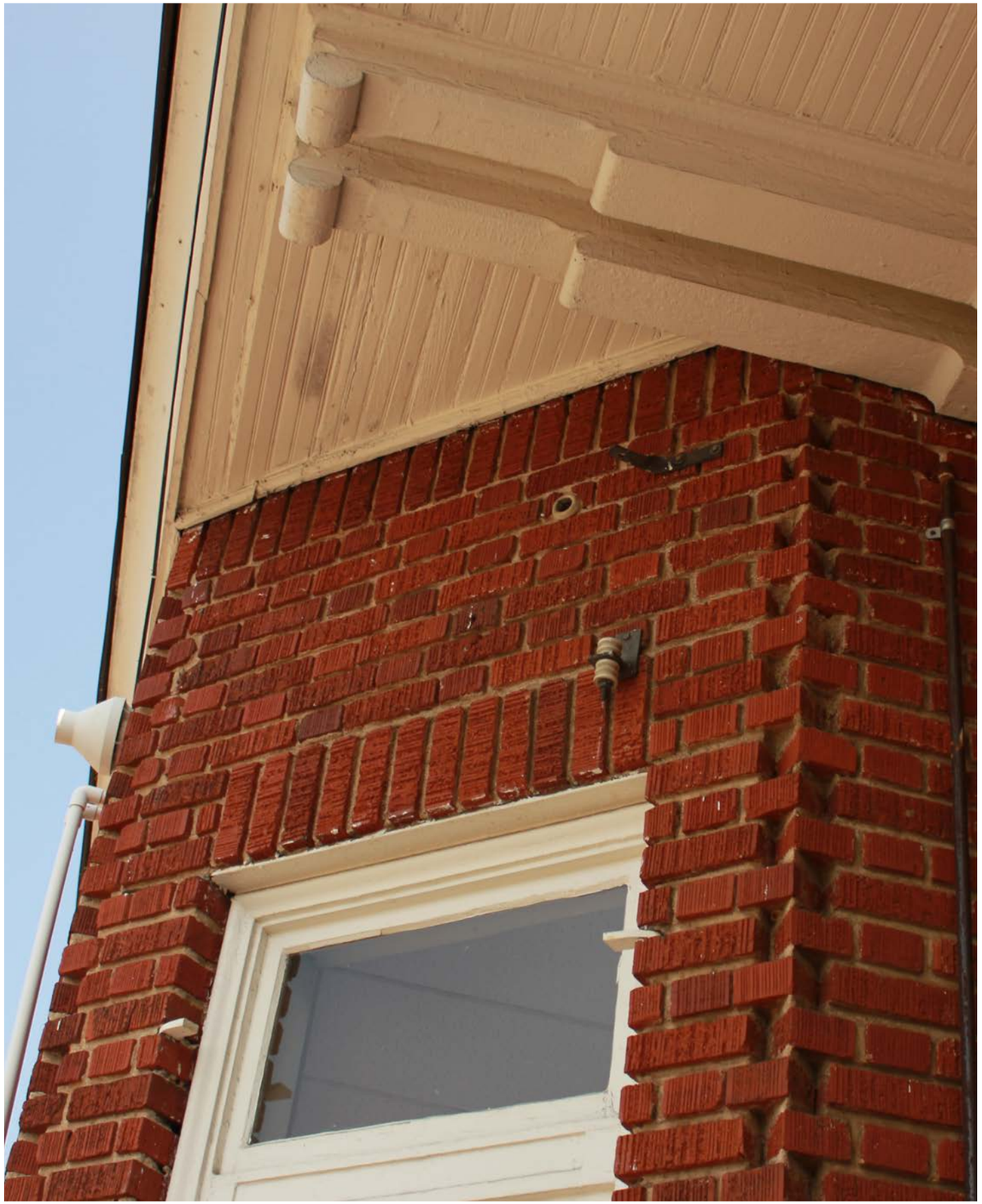
Abandoned Fasteners / Hardware

DEFICIENCIES

Abandoned, inappropriate, non-historic fasteners are in place in various locations on all elevations. Abandoned, non-historic fasteners pose a threat of oxidation, damage to adjacent masonry, and possible water intrusion.

RECOMMENDATIONS

Remove non-historic fasteners on east and north elevations, where possible without causing damage to adjacent masonry. Repoint masonry using in-kind mortar as necessary as described in masonry treatment sections above. Mortar will possess compressive strength, texture, color, and joint profile to match adjacent existing historic material as closely as possible. Any remaining historically significant fasteners (i.e. attachment points for window grilles on north elevation) should be treated with a rust converting/arresting treatment (Ospho or equivalent), coated with a rust inhibiting primer, and finished with two coats of finish (Sherwin Williams DTM or equivalent).



Exterior

Non-Sympathetic Objects

DEFICIENCIES

Numerous inappropriate and non-sympathetic objects have been installed into the surface of the exterior masonry on all elevations. These include wood blocking for signage, electrical receptacles, electrical conduit, venting, HVAC line-sets, etc. Many of these items, such as blocking for signage (*Note C* on notated elevations) are abandoned and no longer serve any purpose. Others, such as venting and HVAC line-sets, are still in service, having been installed in a manner that disregards the historic nature of the building.

RECOMMENDATIONS

All abandoned, non-sympathetic objects on the exterior should be carefully removed. All non-sympathetic, but in-service objects should be removed and reinstalled in a concealed manner, as further described in the "HVAC" and "Electrical" sections below. The appearance of the exterior of the building should remain as historically intended, without the addition of any non-sympathetic or incompatible objects, wiring, venting, etc. Once all inappropriate objects are removed, masonry should be repaired as described in the applicable masonry treatment sections above. It should be noted that historic objects should be retained where present, to include lighting fixtures, fasteners, signage, etc.

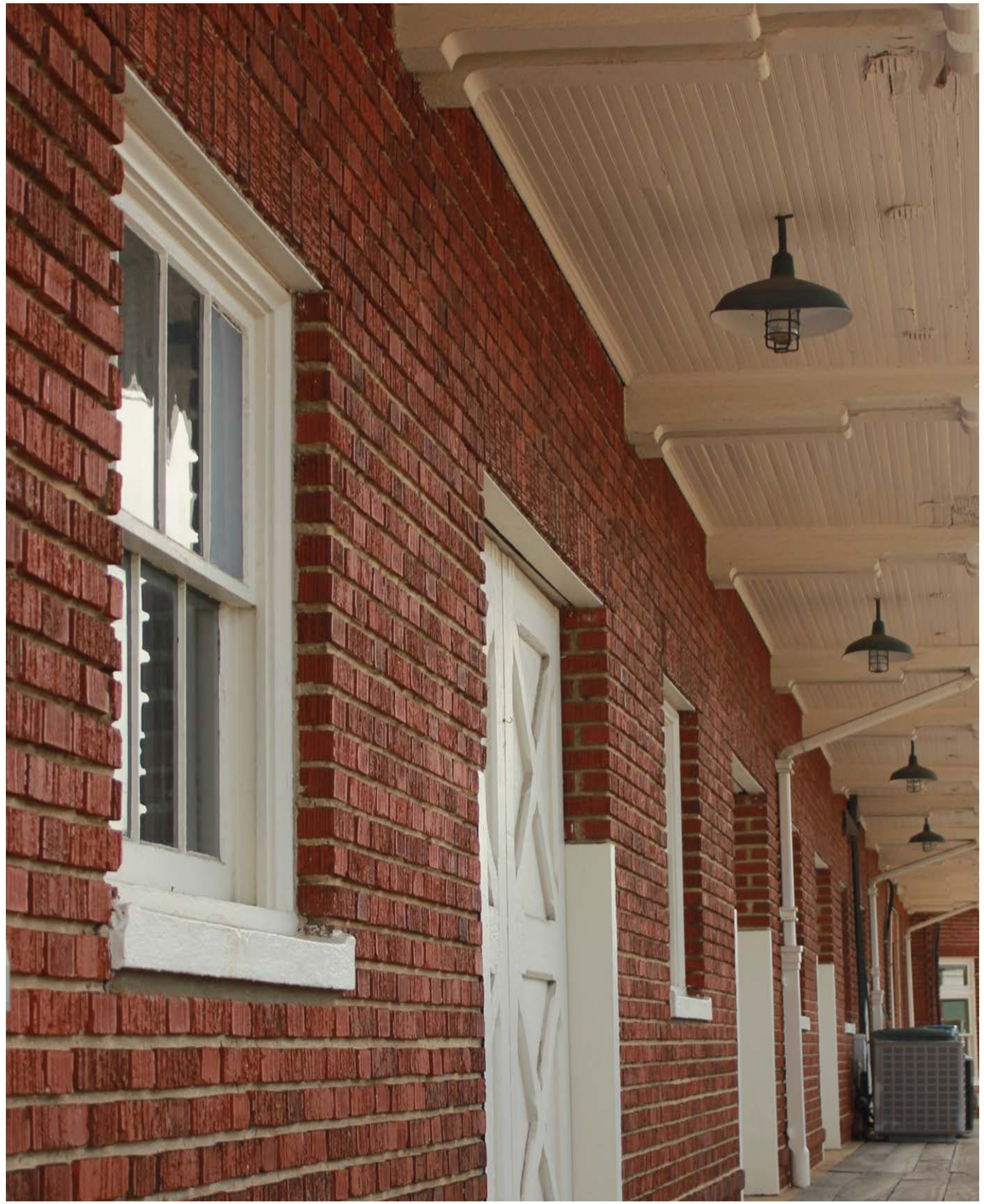
Cast Stone Window Sills

DEFICIENCIES

The existing cast stone sills exhibit cracking in various locations. Sills have been painted, which is likely a non-historic treatment.

RECOMMENDATIONS

Strip all paint from cast stone sills using Back to Nature Double-Duty VII (or equivalent). **Under no circumstances should sandblasting be employed, as damage to sills and surrounding surfaces will occur).** Selectively remove deteriorated stone material where required in order to establish a solid substrate. All cracks should be excavated in order to achieve a solid substrate. All cracks 3/16" or smaller will be stabilized using Jahn M30 Micro Injection Grout. All cracks between 3/16" and 9/16" will be stabilized using Jahn M40 Crack Injection Grout. Any cracks larger than 9/16" will be stabilized using Jahn Cast Stone Repair Mortar M90, or equivalent. Precise compressive strength to be determined upon analysis. All surfaces will be finished where required using Jahn Cast Stone Repair Mortar where needed to re-establish original profiles, finish texture, and color as accurately as possible. Sills should then be repointed at union with adjacent masonry where required. All mortar should match existing, adjacent, historic mortar in color, profile, texture, and compressive strength as accurately as possible.



Exterior

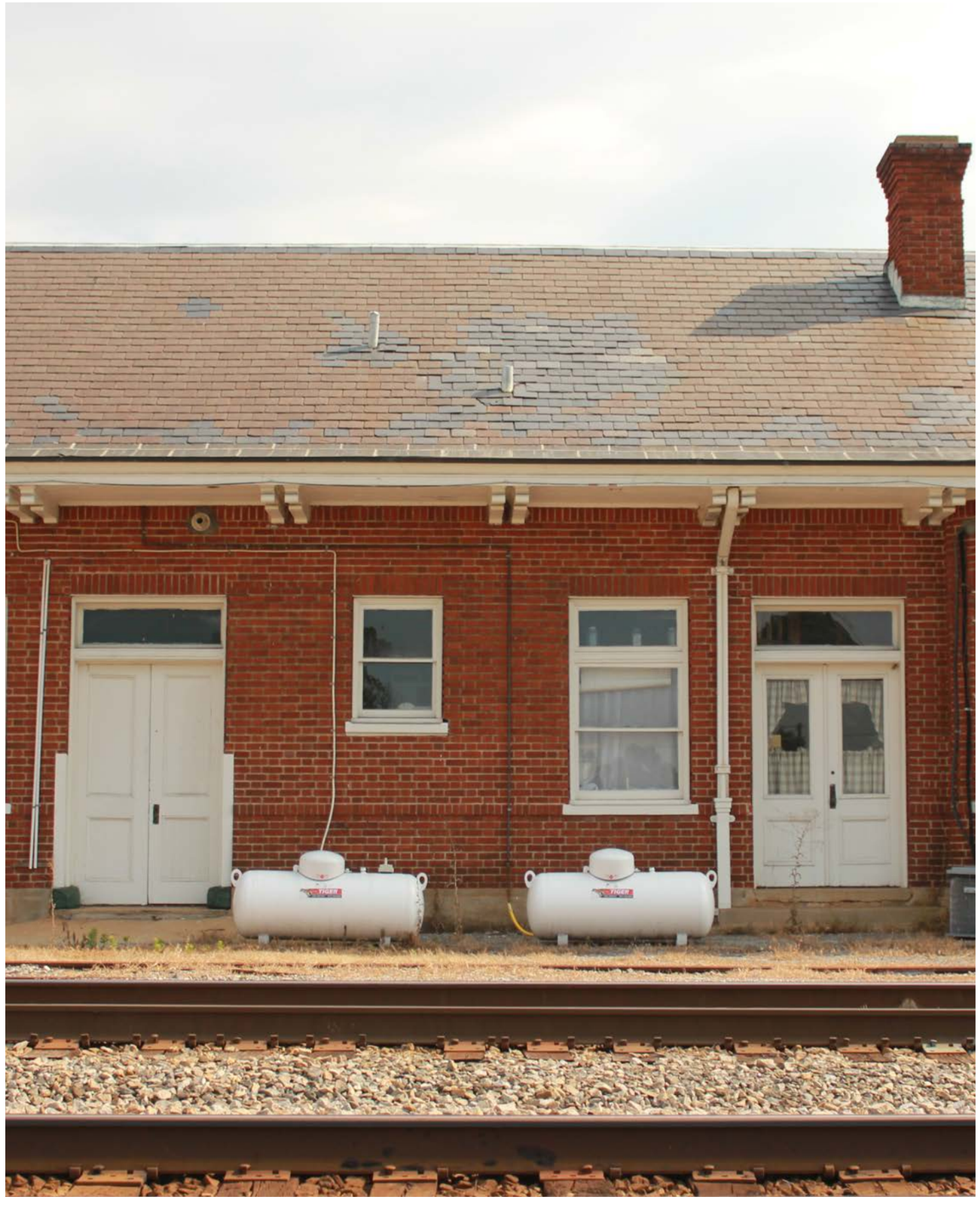
Historic Paint Analysis

DEFICIENCIES

Due to numerous repainting campaigns performed at innumerable times throughout the history of the building, it is unknown what color(s) the exterior woodwork (doors, windows, casings, fascia, soffit, brackets, etc.,) was painted during the Period of Significance.

RECOMMENDATIONS

Prior to the finishing of woodwork as described in the numerous treatment sections below, it is advised that historic paint analysis is performed to determine the original colors and finishes for exterior wood components. Where historic analysis is inconclusive due to a loss of period material, then historically sympathetic finishes should be employed. This analysis should be performed by a reputable historic finish specialist with thorough experience.



Windows & Transoms

DEFICIENCIES

Window glazing and paint finish on most windows and transoms on all elevations exhibits widespread deterioration and loss of integrity. Numerous sashes exhibit deterioration and failing joinery. Previous repair attempts are visible which include the inappropriate application of wood filler, flexible sealant, etc. Many lower window sashes have been painted/sealed shut and no longer appear to function. The north window of the Women's Retiring Room (White) no longer possesses obscured glass, as indicated on the original 1923 architectural drawings. Broken and inappropriate glass is present in numerous transoms.

RECOMMENDATIONS

Cut paint and/or sealant from perimeter of lower sashes and deteriorated upper sashes to ensure they can be opened and/or removed for proper repair. Document, label, and remove all lower window sashes and any deteriorated upper window sashes. Install temporary protection to prevent weather intrusion into building during restoration of sashes. Remove failed glazing where required. Clean frames and glass to remove all dirt deposits, residue, etc. Prepare wood window members to remove loose paint, scaling, etc. Hand sand to feather paint remnants and to ensure sound, paint-ready surface. Repair deteriorated sash, frame, and sill members where required in an in-kind manner. Repair should include consolidation and infill with wood epoxy where areas are smaller than one cubic inch in size, or in areas of thin material loss over a sound existing substrate. Areas larger in size should be repaired with a Dutchman fabricated using Sapele (or equivalent). Significantly deteriorated members should be replaced using Sapele (or equivalent). All repairs, Dutchmen, and replacement members should match existing historic members in dimension and profile as accurately as possible. All bare wood should be treated with a wood consolidant. All wood surfaces should be primed with an alkyd-based primer. Replace any broken panes of glass using double-strength glass. Re-glaze where required using DAP 33 Glazing Compound. Once glazing compound has "skinned over" (approximately three weeks), window glazing can be primed and painted as described herein. The interior and exterior surfaces should then be painted according to the results of the historic finish analysis (see "Historic Paint Analysis" section for further details). Install spring-bronze weather stripping into window openings in a manner that will not be visible when the sashes are in their closed positions. All sashes should then be re-installed into their respective, original openings. Lower sash windows should be weighted with existing weights and bronze sash chain. Existing, historic pulleys should be stripped of paint and returned to serviceable condition. Ensure that all sash locks are stripped of paint and properly functioning. All hardware should be installed with slotted screws. In no event should Phillips-head screws be implemented. Any required replacement screws should match their respective historic hardware in material. In no event should lacquered brass be implemented.

Glass in the north window of Women's Retiring Room (White) should be replaced with obscured glass as indicated in 1923 architectural drawings.

Exterior

Window Sealant

DEFICIENCY

Window sealant exhibits failure and inappropriate application providing a path for water intrusion at union of window frame and adjacent masonry.

RECOMMENDATION

Remove all failed and inappropriate sealant. Re-seal windows at the union of the outer window frame and adjacent masonry to ensure a proper seal using NP1 (or equivalent).

Ferrous Metal Window Lintels

DEFICIENCIES

Iron lintels are present above each window opening. Lintels exhibit moderate oxidation. Left untreated, oxidation could accelerate and cause damage to adjacent masonry.

RECOMMENDATIONS

Treat lintels with a rust converting/arresting treatment (Ospho or equivalent), coat with a rust inhibiting primer, and finish with two coats of finish (Sherwin Williams DTM or equivalent). Fill void between lintels and adjacent masonry with in-kind mortar where possible. Mortar should possess compressive strength, texture, color, and joint profile to match adjacent existing material as closely as possible.

Exterior

Window Grills

DEFICIENCIES

Ticket and Freight Office bay window openings possess the historic remnants of window grilles. In most instances, the grills have been cut off near the masonry jambs, leaving only small exposed “tab” remnants where the grills originally embedded into the masonry.

RECOMMENDATIONS

Remaining “tabs” should be treated with a rust converter (Ospho or equivalent), primed with a rust inhibiting primer, and finished with two coats of finish (Sherwin Williams DTM or equivalent). As the grills served an historic purpose, reinstallation of reproduction grills should be considered. Their design should be based on photographic documentation. Grills should be fabricated in a manner that allows them to be installed implementing the existing “tabs.”

Doors & Transoms Passenger Side

DEFICIENCIES

The existing, historic doors, transoms, and door jambs vary in condition overall, exhibiting joinery failure, general deterioration, broken raised panels, and general degradation of operation. Paint finish on the doors and door jambs is failing. The steel lintels above the jambs exhibit progressive oxidation. Door hardware no longer functions properly and in many cases is coated with paint. The existing, historic steel thresholds exhibit oxidation and require refinishing. The flexible sealant at the union of the wood jamb and masonry opening has failed or is non-existent. The glass in the transom above the south doors to the Waiting Room (White) has been painted.

RECOMMENDATIONS

Doors should be documented, labeled, and removed. Temporary infill should be installed to protect building from weather intrusion. Carefully remove existing doors and transfer to workshop. Existing hardware should be removed, stripped of paint (where applicable), and repaired to original function for reinstallation. Doors should be stripped to remove existing, failed paint finishes using Back to Nature Double-Duty VII (or equivalent). **Prior to paint removal, historic paint analysis should be performed as described in "Historic Paint Analysis" section above. Furthermore, as paint is removed, careful attention should be given to identifying original finish. Small samples of original finish should remain in place, without subsequent refinishing.** All stripped surfaces should be cleaned with denatured alcohol to remove residue. Re-attach loose door moldings where required using stainless steel fasteners and wood glue. Repair failed and deteriorated members and joinery to re-establish soundness. Repair should include consolidation and infill with wood epoxy where areas of deterioration are smaller than one cubic inch in size, or in areas of thin material loss over a sound existing substrate. Significant voids should be repaired with a Dutchman of durable species (sapele, cypress, red grandis, red cedar, or equivalent). All Dutchmen should match existing adjacent element in profile and texture as accurately as possible. Elements that are too deteriorated to repair will be replaced in-kind using a durable species (sapele, cypress, red grandis, red cedar, or equivalent). All replacement elements will match existing adjacent element in profile and texture as accurately as possible. All bare wood should be consolidated with alkyd resin prior to priming. All epoxy repairs and Dutchmen should be primed on all sides with an alkyd-based primer where possible. Apply three, hand-brushed finish coats of acrylic semi-gloss paint to doors. Exact color and sheen are to be determined. Clean and polish the original hardware and reinstall. Carefully reinstall doors into original door jambs at original locations.

Door jambs should be repaired as required. All surfaces should be scraped and sanded to removed failed paint. Hand sand to feather paint remnants and to ensure sound, paint-ready surface. Repair failed and deteriorated members and joinery to re-establish soundness. Repair should include consolidation and infill with wood epoxy where areas of deterioration are smaller than one cubic inch in size, or in areas of thin material loss over a sound existing substrate. Significant voids should be repaired with a Dutchman of durable species (sapele,

Exterior

Doors & Transoms Passenger Side

RECOMMENDATIONS (continued)

cypress, red grandis, red cedar, or equivalent). All Dutchmen should match existing adjacent element in profile and texture as accurately as possible. Elements that are too deteriorated to repair will be replaced in-kind using a durable species (sapele, cypress, red grandis, red cedar, or equivalent). All replacement elements will match existing adjacent element in profile and texture as accurately as possible. All bare wood should be consolidated with alkyd resin prior to priming. All epoxy repairs and Dutchmen should be primed on all sides with an alkyd-based primer where possible. Apply three, hand-brushed finish coats of acrylic semi-gloss paint to doors. Exact color and sheen are to be determined based on historic paint analysis results (see “Historic Paint Analysis” section above).

Install spring-bronze weather stripping in door jambs. Install concealed door sweeps on bottom edge of all doors. All weather stripping should be installed in manner that is not visible when doors are closed.

Repair or replace broken or inappropriate hardware to include floor bolts, kick plates, hinges, etc. to match existing historic hardware as accurately as possible.

Refinish all steel door thresholds. Strip all thresholds of paint, grime, and oxidation. Treat with rust converter (Ospho or equivalent). Prime with a two-part epoxy and finish with two coats of epoxy-finish (Sherwin Williams Kem Kromik or equivalent).

All door transoms should be repaired and refinished as detailed in the “Windows & Transoms” section within this document. Paint found on transom above south entry to Waiting Room (White) should be carefully removed in a manner that does not scratch the glass.
Remove failed paint from metal lintels at exterior of each door with hand tools to achieve sound, paint-ready surface. Treat lintel with rust converter (Ospho or equivalent). Prime lintel surfaces with a two-part epoxy or marine-grade primer. Paint lintel with two coats of Sherwin-Williams DTM semi-gloss finish. Remove all failed sealant from union of metal door frames and masonry jambs. Re-seal with a flexible, urethane-based sealant.

As the building is to undergo rehabilitation for a new use/uses, it should be expected that in order to meet code compliancy, it may be deemed necessary to install ADA or panic hardware. It is strongly suggested that all existing hardware be retained in place, and that any required new hardware be the most sympathetic and compatible in design. Every effort should be made to ensure that the historic integrity of the doors is not compromised.

Doors Freight Side

DEFICIENCIES

The existing, historic freight doors and door jambs vary in condition overall, exhibiting joinery failure, general deterioration, broken raised panels, and general degradation of operation. Paint finish on the doors and door jambs is failing. The steel lintels above the jambs exhibit progressive oxidation. Where interior sliding door hardware is still intact, doors no longer function properly. Numerous doors are missing most or all interior hardware. In many instances, door hardware is coated with paint. The flexible sealant at the union of the wood jamb and masonry opening has failed or is non-existent.

RECOMMENDATIONS

Doors should be documented, labeled, and removed. Temporary infill should be installed to protect building from weather intrusion. Existing hardware should be removed, stripped of paint (where applicable), and repaired to original function for reinstallation. Doors should be stripped to remove existing, failed paint finishes using Back to Nature Double-Duty VII (or equivalent). **Prior to paint removal, historic paint analysis should be performed as described in "Historic Paint Analysis" section above. Furthermore, as paint is removed, careful attention should be given to identifying original finish. Small samples of original finish should remain in place, without subsequent refinishing.** All stripped surfaces should be cleaned with denatured alcohol to remove residue. Re-attach loose door moldings where required using stainless steel fasteners and wood glue. Repair failed and deteriorated members and joinery to re-establish soundness. Repair should include consolidation and infill with wood epoxy where areas of deterioration are smaller than one cubic inch in size, or in areas of thin material loss over a sound existing substrate. Significant voids should be repaired with a Dutchman of durable species (sapele, cypress, red grandis, red cedar, or equivalent). All Dutchmen should match existing adjacent element in profile and texture as accurately as possible. Elements that are too deteriorated to repair will be replaced in-kind using a durable species (sapele, cypress, red grandis, red cedar, or equivalent). All replacement elements will match existing adjacent element in profile and texture as accurately as possible. All bare wood should be consolidated with alkyd resin prior to priming. All epoxy repairs and Dutchmen should be primed on all sides with an alkyd-based primer where possible. Apply three, hand-brushed finish coats of acrylic semi-gloss paint to doors. Exact color and sheen are to be determined. Clean and polish the original hardware and reinstall. Where hardware is missing, new historically sympathetic hardware should be installed that matches existing in design, function, and character as accurately as possible. Carefully reinstall doors into original door jambs at original locations.

Door jambs should be repaired as required. All surfaces should be scraped and sanded to removed failed paint. Hand sand to feather paint remnants and to ensure sound, paint-ready surface. Repair failed and deteriorated members and joinery to re-establish soundness. Repair should include consolidation and infill with wood epoxy where areas of deterioration are smaller than one cubic inch in size, or in areas of thin material loss over a sound existing substrate. Significant voids should be repaired with a Dutchman of durable species (sapele, cypress, red grandis, red cedar, or equivalent). All Dutchmen should match existing adjacent

Exterior

Doors Freight Side

RECOMMENDATION (continued)

element in profile and texture as accurately as possible. Elements that are too deteriorated to repair will be replaced in-kind using a durable species (sapele, cypress, red grandis, red cedar, or equivalent). All replacement elements will match existing adjacent element in profile and texture as accurately as possible. All bare wood should be consolidated with alkyd resin prior to priming. All epoxy repairs and Dutchmen should be primed on all sides with an alkyd-based primer where possible. Apply three, hand-brushed finish coats of acrylic semi-gloss paint to doors. Exact color and sheen are to be determined based on historic paint analysis results (see “Historic Paint Analysis” section above).

Remove failed paint from metal lintels at exterior of each window with hand tools to achieve sound, paint-ready surface. Treat lintel with rust converter (Ospho or equivalent). Prime lintel surfaces with a two-part epoxy or marine-grade primer. Paint lintel with two coats of Sherwin-Williams DTM semi-gloss finish. Remove all failed sealant from union of metal window frames and masonry jambs. Re-seal with a flexible, urethane-based sealant.

As the building is to undergo rehabilitation for a new use/uses, it should be expected that in order to meet code compliancy, it may be deemed necessary to install ADA or panic hardware. It is strongly suggested that all existing hardware be retained in place, and that any required new hardware be the most sympathetic and compatible in design. Every effort should be made to ensure that the historic integrity of the doors is not compromised.

Exterior

Wooden Cornice Soffit, Fascia, Crown Molding, Brackets

DEFICIENCIES

The decorative wood cornice present on all elevations of the building consists of large decorative brackets, tongue-and-grove bead-board soffit, and simple fascia with crown molding. In general, the wooden elements are in fair condition, exhibiting notable deterioration, cracking/checking (brackets), paint failure, and overall degradation. In numerous locations, deterioration of cornice members is indicative of water intrusion, and is a possible indicator of deterioration of the structural framing members. A counter-sunk lab bolt concealed by a painted sheet metal cover is present in the bottom facet of numerous brackets. Non-historic, round soffit vents are present.

RECOMMENDATIONS

Remove fascia and/or soffit at location of significant deterioration to expose cornice framing members. Repair cornice framing to ensure structural integrity using historically sympathetic methods. Repair deteriorated wood members (brackets, soffit, fascia, etc.) where possible. Repairs should include consolidation and infill with wood epoxy where areas of deterioration are smaller than one cubic inch in size, or in areas of thin material loss over a sound existing substrate. Larger sections of deterioration should be replaced with Dutchmen, where required, using new-growth heart-pine (or equivalent). Significantly deteriorated members should be replaced using new-growth heart-pine (or equivalent). New members should match existing historic members in dimension, design, and profile as accurately as possible.

All metal bolt covers should be removed. Bolt heads should be treated with a rust converter (Ospho, or equivalent), then coated with epoxy paint. Holes should be filled with wooden plugs and finished flush with fairing epoxy to adjacent, historic material.

All surfaces should be scraped and sanded to removed failed paint. Hand sand to feather paint remnants and to ensure sound, paint-ready surface. All bare wood should be consolidated with alkyd resin prior to priming. All surfaces should be primed on all sides with an alkyd-based primer. Apply two, hand-brushed finish coats of acrylic semi-gloss paint to doors. Exact color and sheen are to be determined based on historic paint analysis results (see “Historic Paint Analysis” section above).

Exterior

Depot Platforms / Ramps

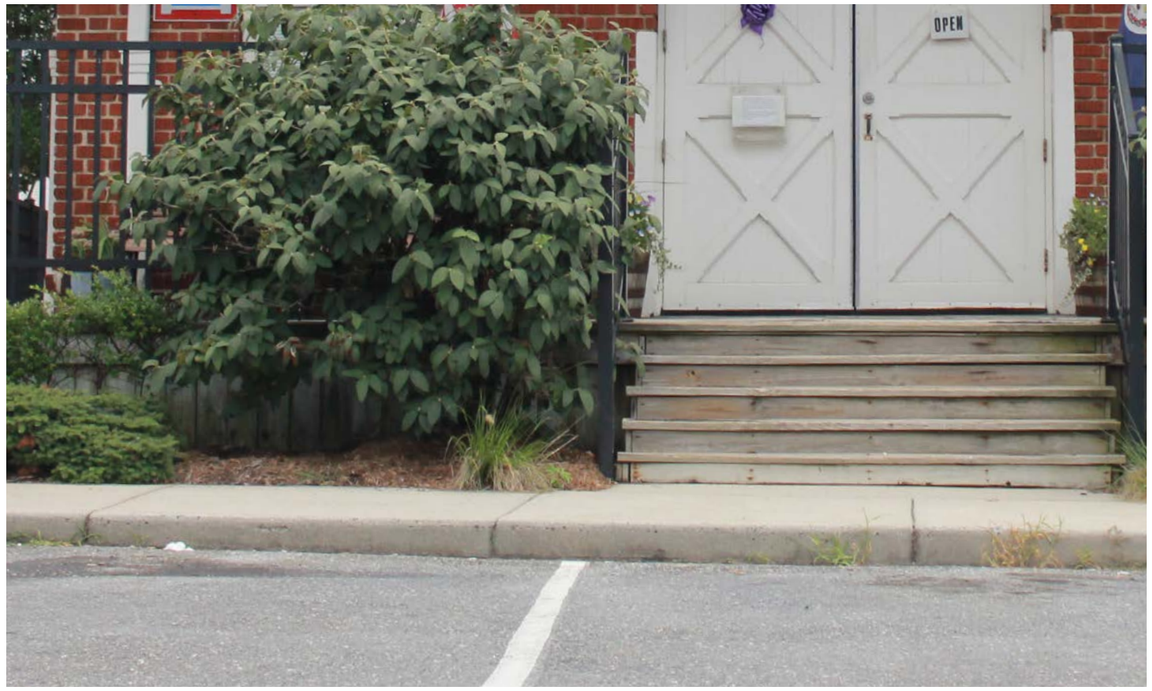
DEFICIENCIES

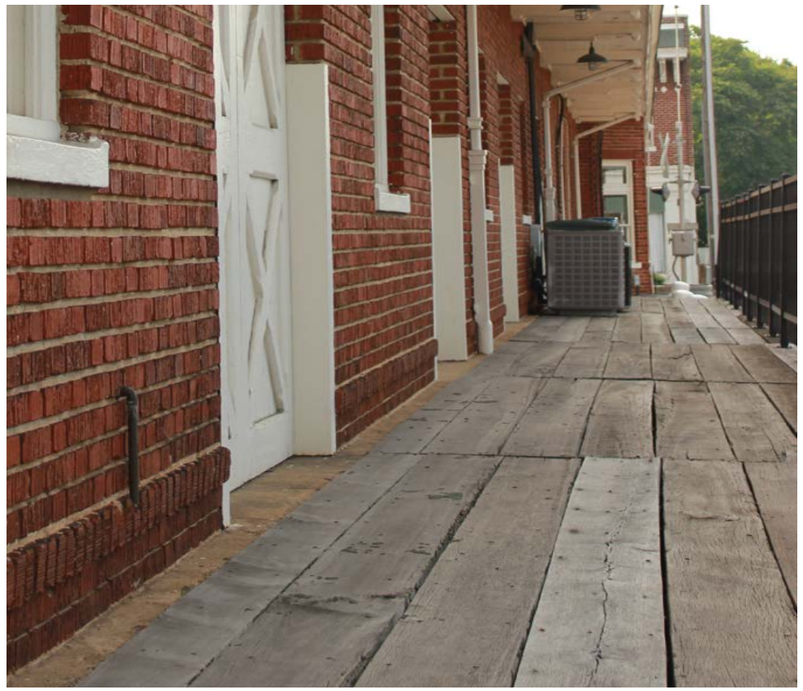
The original steps and platform on the north elevation of the building have been removed, and a concrete ramp has been installed. This has presumably been done to meet ADA requirements. The platform on the west and south elevations is still intact as are the stairs on the south elevation. The current stairs located on the west elevation are not original but are sympathetic in design. The platform and ramp possess a modern aluminum handrail system, which is loose in multiple locations. The original board-and-batten infill beneath the platforms is missing; modern framing and planking have been installed instead. Platform framing exhibits deterioration, particularly on the south elevation where previous, inadequate sistering of rotten joists has occurred.

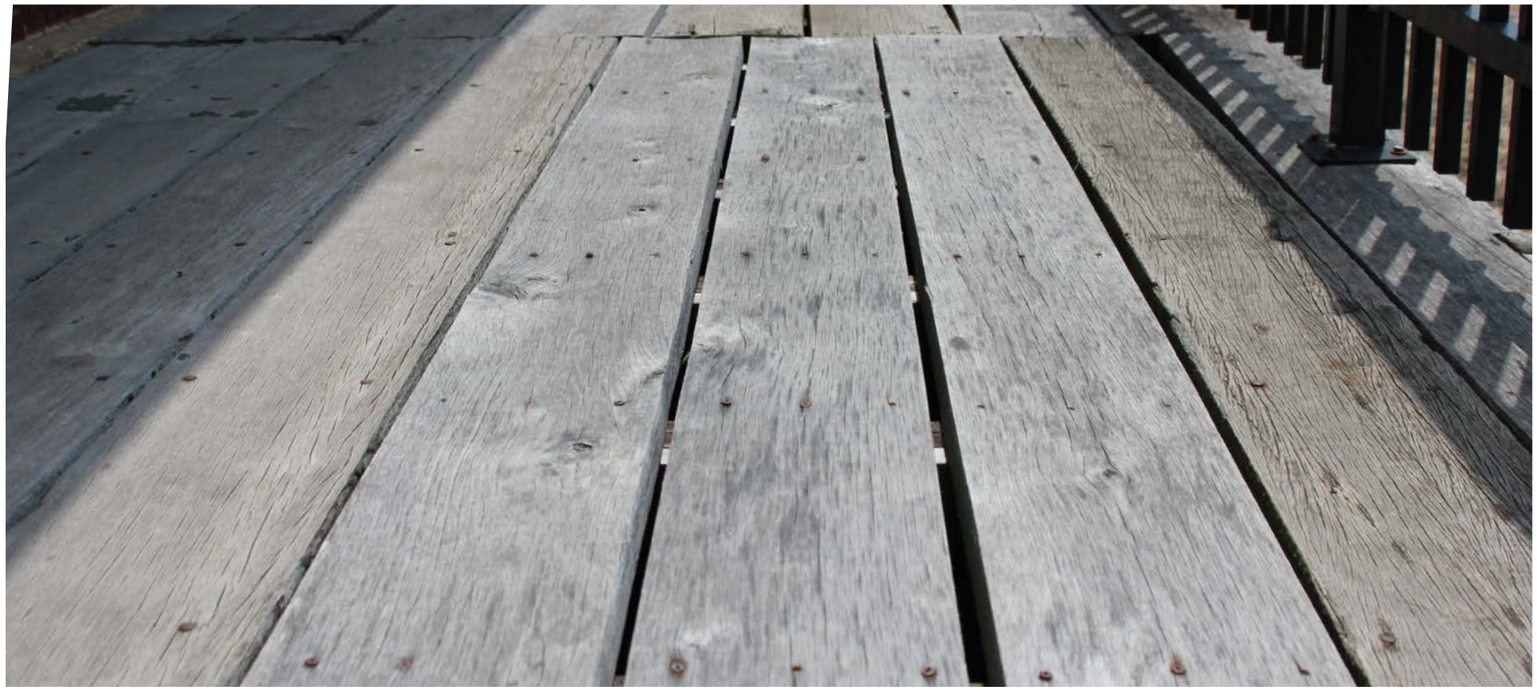
RECOMMENDATIONS

Prior to the commencement of repairs to the platform and handrail, code analysis must be performed to determine compliancy with the rehabilitated use of the spaces. As that determination is made, every effort should be made to program the removal of the existing ramp and reconstruction of the missing platform and stairs on the north elevation. The newly reconstructed platform and stairs should be constructed as detailed in the original 1923 architectural drawings. If an exterior ADA ramp is required for the new rehabilitated use, its design and construction should conform with all *Secretary of the Interior's Standards for Rehabilitation*.

Once that design determination has been made, repairs to the existing platform should ensue. Existing plank infill/skirting should be removed. Aluminum handrail system should be removed and retained, if deemed appropriate to the rehabilitated use of the building. Repairs to the existing framing should be made to ensure structural integrity is restored. All deteriorated joists and sills should be sistered where possible or replaced where necessary. Replacement members should match existing historic members in dimension where possible. Blocking should be installed at proper locations for anchoring of handrail system. If existing oak deck boards must be removed in order to make framing repairs, deck boards should first be documented, labeled, and removed. Removal should be done by cutting fasteners from below to avoid damage to the deck boards. Once repairs are made, deck boards should be re-installed in their proper location. Any required replacement (west and south elevations) or new (north elevation) deck boards should be in-kind white oak of the same dimension as existing boards. A clear, water-proof sealer should be applied to all deck boards. New board-and-batten infill/skirting should be installed as detailed in the original 1923 architectural drawings. For all repairs and reconstruction of the platforms, only stainless-steel fasteners should be employed. Install historically sympathetic, code compliant handrail system where required. All design and construction should conform with all *Secretary of the Interior's Standards for Rehabilitation*.







Exterior

Railings

DEFICIENCIES

Original handrail at cellar entrance on north elevation has been altered due to a change in original grade. The handrail was raised to a higher elevation and the lower rail no longer meets the masonry as originally designed. Damage to the brick where the handrail was originally anchored is still present. Existing gate is non-historic and does not match historic railing in style and dimension.

RECOMMENDATION

Remove handrail and extend lower rail section (with original flange) to a length that will make a proper connection to the building. Make repairs to masonry at old connection locations as described in masonry treatment sections. Install new gate that matches existing handrail in design and dimension. Clean all handrail and gate surfaces to remove surface grime. Prime all handrail and gate surfaces with a rust inhibiting primer, and paint with two coats of finish (Sherwin Williams DTM or equivalent).


246
K 158
BATTLE OF APPOMATTOX
STATION
1865
NEAR THIS BUILDING STOOD THE STATION
OF THE SOUTH SIDE RAILROAD WHERE ON
APRIL 9, 1865 THREE TRAINS UNLOADING
SUPPLIES FOR THE ARMY OF NORTHERN
VIRGINIA WERE CAPTURED BY UNITS OF
SHERIDAN'S UNION CAVALRY UNDER GEN. GEO.
CUSTER. SIGNIFICANT FOR ITS RELATION-
SHIP TO THE SURRENDER BY GEN. ROBERT
E. LEE AT APPOMATTOX COURT HOUSE. THIS
ACTION ALSO MARKED THE LAST STRATEGIC
USE OF RAIL BY CONFEDERATE FORCES

Exterior

Roof

DEFICIENCIES

The building possesses its original Buckingham slate roof, although numerous deficiencies have been observed. As noted in the roof assessment produced by W. A. Lynch Roofing Company, Inc. (see Appendix F – Roof Evaluation), slates are missing in various locations throughout the roof. While this may be due to the age of the slates, if ferrous fasteners have been employed, they are likely reaching the end of their useful lifecycle and will continue to fail at an accelerated rate. Vent pipe flashing and step flashing exhibit significant deterioration and are nearing the end of their useful lifecycle. While the flat seam roof areas have been recently replaced with copper, there is significant potential for expansion/contraction and seam breaches. Though copper gutters are in relatively good condition, all soldered seams are broken and have been sealed with EPDM. Considering the anticipated lifecycle of a slate and copper roof, EPDM represents a temporary remedy to expansion/contraction along the gutters. Furthermore, the original built-in gutters are not sloped properly at all locations. Original metal ridge caps with decorative finials are in place, however paint finish has failed leaving the metal susceptible to accelerated deterioration. Gaps are present in between hip slates and flashing beneath is missing in some locations. Although not specifically stated in the Lynch assessment, the deficiencies described above are such that the likelihood of water intrusion is imminent. Furthermore, the age of the roof and its components in conjunction with the significant deficiencies identified, signal the need for substantial repairs to be made.

RECOMMENDATIONS

Existing slate should be carefully removed and stored for re-use, saving as many original slates as possible. Existing metal ridge caps and finials should be carefully removed and stored for re-use. Flashings should be removed and discarded. Gutters and flat seam copper roofing should be removed and discarded. Roof substrate should be thoroughly inspected, and in-kind repairs should be made, where required. Framing for built-in gutters should be carefully inspected for structural integrity, and to ensure that proper slope to all downspouts exists. A new underlayment (Grace Ice & Water Shield, or equivalent) should be installed over entire decking surface. New copper gutters should be installed (see “Downspouts” section below for further system details) maintaining interlock expansion joints at proper intervals. All new copper step flashings should be installed into original brick reglets, where applicable. **Under no circumstances should step flashing be abandoned in favor of the modern termination bar method of flashing installation.** New copper flashing should be installed at all hip, ridge, and valley locations. Slate should be reinstalled with copper nails. Where additional slate is needed, new slate should match existing historic slate in dimension, thickness, color, and texture as accurately as possible. All fasteners should be copper. **Under no circumstances should ferrous fasteners be implemented.** Original finials and ridge cap should be cleaned to remove surface grime and failed paint, primed with an epoxy primer, then finished with two coats of (Sherwin Williams DTM or equivalent).

Exterior

Downspouts

DEFICIENCIES

Original cast iron rainwater boots are in place, although original copper downspouts from gutter to boots have been replaced with modern, inappropriate aluminum substitutes. Original downspout straps remain in place. The boot on the east elevation is damaged, and the middle boot on the north elevation has been repaired in a poor manner. Boots and downspout straps have been coated with numerous coats of paint. Evidence of clogged subgrade piping is present.

RECOMMENDATION

Damaged and improperly repaired boots should be properly repaired if possible or re-cast in-kind if absolutely necessary. All boots and straps should be stripped of paint using Back-To-Nature Double-Duty VII (or equivalent), taking great care to confirm original finish and color (see “Historic Paint Analysis” section). Once stripped, boots and straps should be treated with a rust converter (Ospho, or equivalent), primed with an epoxy primer, and painted with two coats of finish (Sherwin Williams DTM or equivalent). Color should match findings from historic paint analysis. Sub-grade drainage piping should be inspected and jetted to remove any obstructions. New, rectangular copper downspouts should be installed from the gutters to the boots using the original downspout straps still in place. A concealed barrier should be installed at the union of the copper downspouts and the cast iron boots and straps to prevent galvanic reaction.

Site Systems HVAC, Gas, Electrical

DEFICIENCIES

Numerous non-historic system components are in place on the exterior of the building. These components include air-conditioning condensers, line-sets, LP gas tanks, electrical meters, conduit, piping, communication consoles, communication wiring, etc. While aforementioned components are installed neatly, little effort was made to conceal them in a manner that preserves the historic appearance of the building.

RECOMMENDATIONS

Once new, rehabilitated uses for the building are determined, all planning and design efforts should strive to conceal these service components as much as possible. This effort serves to meet the *Secretary of the Interior's Standards for Rehabilitation*. The treatments for these service systems are more specifically described in the various, individual sections within this document. In general, piping, conduit, line-sets, etc. should be routed into basement, through interior wall systems, across attic spaces, etc. so that they are concealed as much as possible. Air-conditioning condensers, LP gas tanks, electrical meters, etc. should be installed in an unobtrusive location(s) or screened in a manner that is historically sympathetic. All original electrical components should be retained, where applicable.

Exterior

Landscaping

DEFICIENCIES

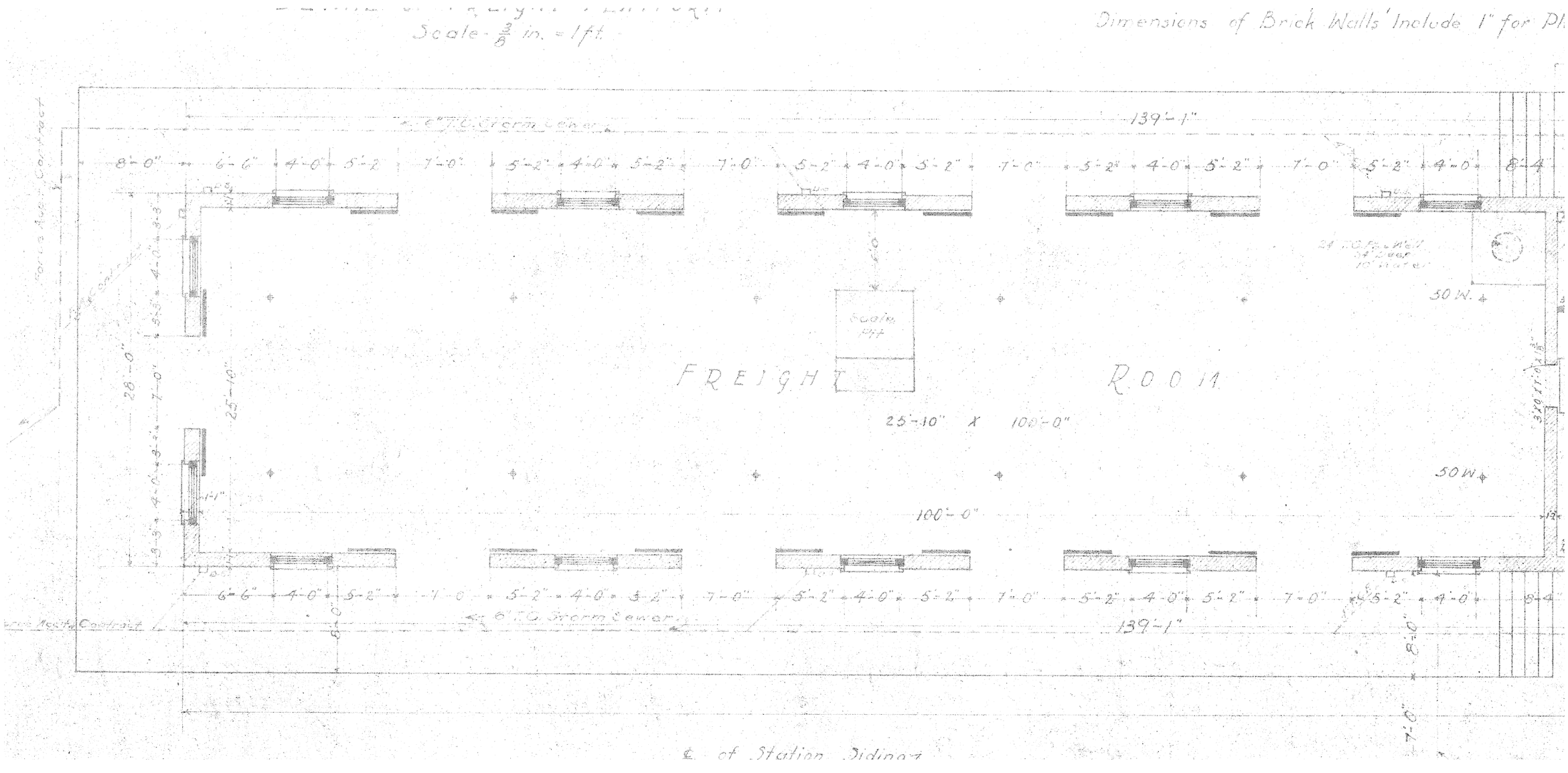
Existing landscaping is not historic and obstructs the historic appearance of the building, particularly on the north elevation. Invasive vegetation, vines, ivy, weeds etc. are present which adhere to the masonry causing advanced mortar deterioration. Shrubbery and hedges in place immediately adjacent to the building contribute to the deterioration of the building due to invasive roots and promotion of biological growth. Furthermore, they trap rainwater and general moisture by preventing proper drying following weather events. Existing irrigation system further saturates the conditions adjacent to the building. Original grade on the north elevation has been raised to accommodate the re-paving of the adjacent street over time.

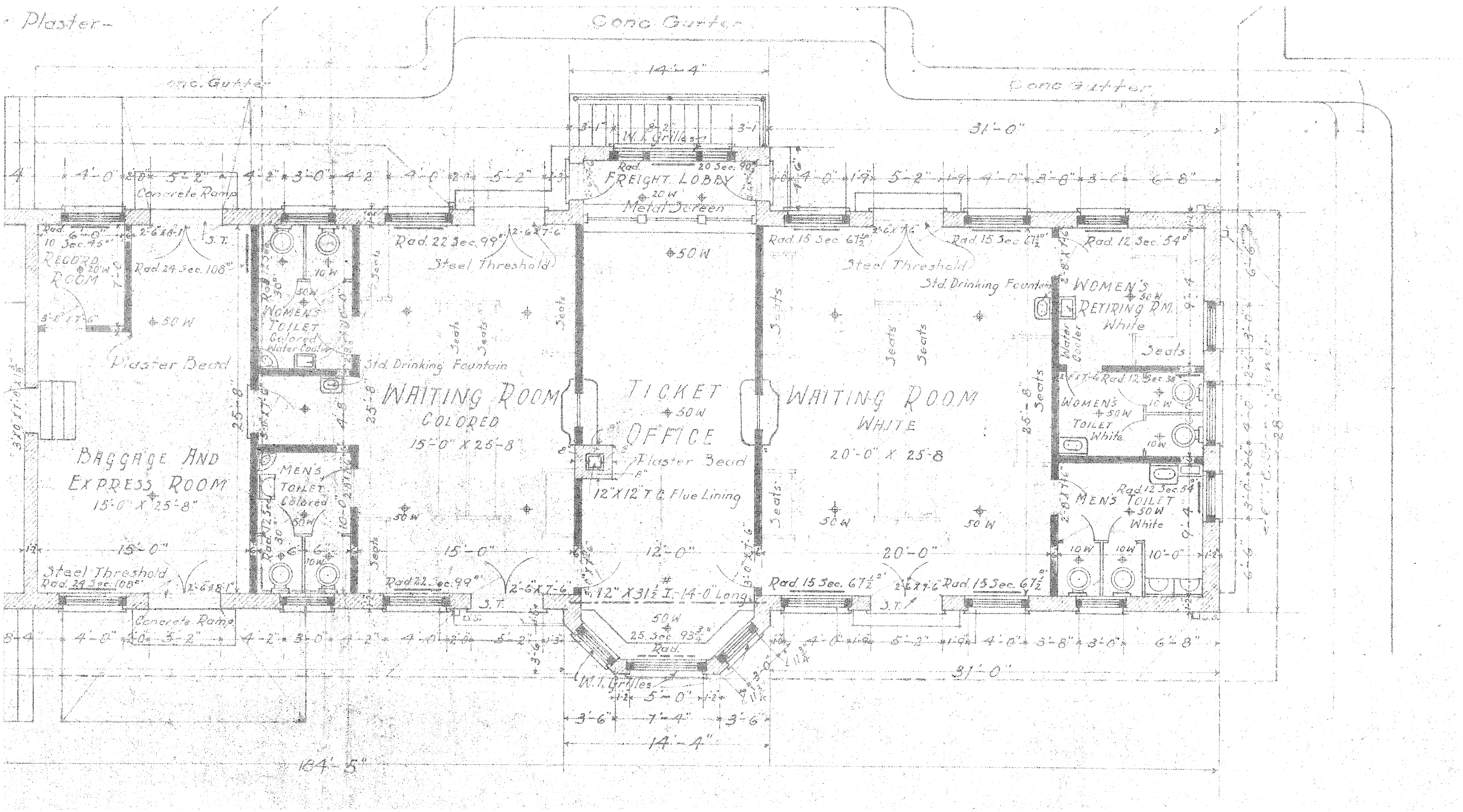
RECOMMENDATION

All existing landscaping should be removed to include vines, shrubbery, hedges, weeds, ivy, mulch, etc. Remove existing irrigation system. Regrade north elevation to re-establish a more historic grade, if possible. Install gravel at base of building on all elevations, where possible, to assist with drainage following rain events. In general, the absence of landscaping is in keeping with the historic appearance of the building and alleviates elements that exacerbate saturation and pre-mature deterioration of mortar and masonry.

Interior

The purpose of this assessment is to prescribe the proper treatment of the historic characteristics and materials of the building. It is recognized that this is being performed with the intent that a comprehensive rehabilitation of the building is to take place in the near future. The interior treatment recommendations herein aim to ensure that the existing, intact historic attributes are preserved to the fullest degree. However, as the new use(s) has not been determined, room references are based on the original uses of each space as designated on the 1923 architectural plans for the building.




Plaster
Conc. Gutter
14'-4"
W.I. Grilles
31'-0"
Rad. 20 Sec. 90"
FREIGHT LOBBY
20 W
Metal Screen
Concrete Ramp
Rad. 6'-0" 10 Sec. 45"
RECORD ROOM
20 W
Rad. 24 Sec. 108"
50 W
WOMEN'S TOILET Colored
Water Cooler
Rad. 22 Sec. 99"
Steel Threshold
Std. Drinking Fountain
WAITING ROOM COLORED
15'-0" X 25'-8"
Seats
TICKET OFFICE
50 W
Plaster Bead
12"X12" T.C. Flue Lining
WAITING ROOM WHITE
20'-0" X 25'-8
Rad. 15 Sec. 67½"
Rad. 12 Sec. 54"
WOMEN'S RETIRING RM. White
Water Cooler
WOMEN'S TOILET White
MEN'S TOILET White
10 W
BAGGAGE AND EXPRESS ROOM
15'-0" X 25'-8"
MEN'S TOILET Colored
15'-0"
12'-0"
20'-0"
10'-0"
12" X 31½ I-14'-0" Long
Rad. 25 Sec. 93¾"
S.T.
5'-0"
3'-6"
7'-4"
184'-5"

Interior

Selective Removals Non-Historic

DEFICIENCIES

While the original interior space configuration and detailing is nearly entirely intact, non-historic, non-sympathetic treatments have occurred. Various renovations have introduced non-historic partition walls, dropped ceilings, wall cladding, doorway infill, intrusive building systems (i.e. ductwork, conduit, wiring, etc.).

RECOMMENDATIONS

Prior to the treatment of intact historic elements, all non-historic, non-sympathetic additions should be removed. They include:

- Remove linoleum flooring in Waiting Room (Colored), Baggage and Express Room.
- Remove non-historic boards from east and west walls of Ticket Office and west wall of Waiting Room (White).
- Remove non-historic shelving from north, east, and west walls of Ticket Office.
- Remove non-historic, wall mounted heater from west wall of Ticket Office at chimney.
- Remove dropped ceilings and inappropriate light fixtures from Baggage and Express Room, Waiting Room (Colored), Ticket Office, and all non-historic spaces in Freight Room (i.e. offices, meeting rooms, restrooms, etc.).
- Remove quilt racks from Women's Retiring Room (White).
- Remove inappropriate shelving in Women's Toilet (White). Investigate mirror to determine historic qualities.
- Remove non-historic lofted platforms in Baggage and Express Room.
- Remove non-historic ceiling hardware in Baggage and Express Room.
- Remove non-historic duct from ceiling in Women's Toilet (Colored).
- Remove inappropriate ceiling fixtures in Waiting Room (White).
- Remove inappropriate shingle awnings from ticket window in Waiting Room (White) and Ticket Office.
- Remove all non-historic partition walls in Freight Room to include all offices, meeting rooms, restrooms, etc.

Interior

Selective Removals Non-Historic

RECOMMENDATIONS continued

- Remove dropped ceilings and inappropriate light fixtures from Baggage and Express Room, Waiting Room (Colored), Ticket Office, and all non-historic spaces in Freight Room (i.e. offices, meeting rooms, restrooms, etc.).
- Remove quilt racks from Women's Retiring Room (White).
- Remove inappropriate shelving in Women's Toilet (White). Investigate mirror to determine historic qualities.


EXIT

Interior

Selective Removals Non-Historic

RECOMMENDATIONS continued

- Remove non-historic lofted platforms in Baggage and Express Room.
- Remove non-historic ceiling hardware in Baggage and Express Room.
- Remove non-historic duct from ceiling in Women's Toilet (Colored).
- Remove inappropriate ceiling fixtures in Waiting Room (White).
- Remove inappropriate shingle awnings from ticket window in Waiting Room (White) and Ticket Office.
- Remove plywood infill from freight window once dropped ceiling is removed (Ticket Office side of window).
- Remove all non-historic partition walls in Freight Room to include all offices, meeting rooms, restrooms, etc.
- Remove all non-historic tile flooring from restrooms and conference room.


Free Hotel Coupons
VIRGINIA

Interior

Historic Finish Analysis

DEFICIENCIES

Due to numerous repainting campaigns performed at innumerable times throughout the history of the building, it is unknown what colors/finishes the interior features (doors, windows, casings, fascia, walls, ceilings, built-in, furniture, toilet partitions, ticket windows, freight window, Station Master's desk, etc.,) possessed during the period of significance.

RECOMMENDATIONS

Prior to the finishing of interior features as described in the numerous treatment sections below, it is advised that an historic finish analysis is performed to determine the original colors and finishes. Where historic analysis is inconclusive due to a loss of period material, then historically sympathetic finishes should be employed. This analysis should be performed by a reputable historic finish specialist with thorough experience.

Floors

DEFICIENCIES

Concrete floors in all spaces have been stained, painted, or covered in linoleum. Following the removal of inappropriate linoleum as recommended in the ‘Selective Removals” section above, it should be anticipated that residual adhesive will be present (Waiting Room (Colored) and Baggage and Express Room). Minor cracking has been observed in various locations throughout the building.

RECOMMENDATION

All concrete floors should be cleaned to remove surface grime. Residual adhesive beneath linoleum floors should be removed using a chemical stripper (Back-To-Nature Double-Duty VII, or equivalent). Cracks should be prepared and filled with Portland-based concrete patch material, matching adjacent surfaces in plane and texture as accurately as possible. All concrete floors should be prepared and primed to manufacturer’s recommendations to achieve a paint-ready surface. All concrete floors should be painted with a two-part, catalyst-based floor paint. Colors for each space should be determined based on the results of historic paint analysis.

Interior

Walls Plaster

DEFICIENCIES

Original plaster walls are in place in all rooms within the passenger portion of the building. Plaster exhibits cracking and failed paint. Inappropriate prior repairs are evident which do not match adjacent historic plaster in plane or texture. Isolated areas of water damage are present.

RECOMMENDATIONS

All deteriorated/damaged plaster should be repaired in-kind. Loose and deteriorated material should be gently removed using hand tools only. Removal should be done only to the extent that a sound substrate is achieved. Patching should occur using in-kind materials, taking great care to match existing adjacent surfaces in plane, texture, and profile as accurately as possible. All water-damaged plaster should be repaired in-kind. Loose and deteriorated material should be gently removed using hand tools only. Removal should be done only to the extent that a sound substrate is achieved. Patching should occur using in-kind materials, taking great care to match existing adjacent surfaces in plane, texture, and profile as accurately as possible.

General cracking should be repaired to restore stability. Areas of cracking should be sounded to determine if plaster keys are broken (loss of adhesion to substrate). In such instances a case-by-case determination should be made as to the extent of plaster removal. Only the minimum amount of plaster should be removed in an effort to preserve as much original material as possible. Where plaster is removed, new in-kind plaster should be installed. New plaster should occur using in-kind materials, taking great care to match existing adjacent surfaces in plane, texture, and profile as accurately as possible.

Where plaster is still well adhered to the substrate, cracks should be repaired. Cracks should be excavated to achieve sound substrate. Cracks should then be injected with an acrylic adhesive to ensure soundness. Plaster should then be installed to infill the excavated areas using a bonding agent. Surface of repaired cracks should match existing adjacent surfaces in plane, texture, and profile as accurately as possible.

Once all plaster repairs have been made, surfaces should be prepared to a paint-ready surface by hand scraping loose paint and feathering paint remnant edges. All walls should then be primed with a stain blocking, alkyd-based primer. Two coats of acrylic-latex finish should then be applied. Color and sheen should be determined based on historic paint/finish analysis (see “Historic Paint Analysis” section).

Walls Exposed Brick

DEFICIENCIES

Walls within the Freight Room portion of the building consist of exposed brick. Walls exhibit minor mortar deterioration, cracking, and general wear. Damaged bricks are present at the location of interior window grill fasteners in multiple locations. Brick walls in the existing restrooms and conference room have been painted.

RECOMMENDATIONS

All mortar deterioration and cracking should be addressed as described in the applicable masonry treatment sections within this document. All repairs should be performed in an in-kind manner, ensuring that all mortar matches existing historic mortar in texture, color, profile, and composition as accurately as possible.

Window grill fasteners at damaged brick locations should be removed and retained for re-use. Damaged bricks should be replaced with compatible new bricks and repointed, as required. All repairs should be performed in an in-kind manner, ensuring that all mortar matches existing historic mortar in texture, color, profile, and composition as accurately as possible. Window grill fasteners should be re-installed, ensuring that drilling into brick and/or mortar does not cause any damage to bricks.

All paint should be removed from brick and mortar surfaces in restrooms and conference room using Back-to-Nature Double-Duty VII (or equivalent). **As the bricks and mortar are porous, it should be expected that some paint will remain. Under no circumstances should sand blasting be employed, as irreparable damage to brick faces will occur.**

Interior

Ceilings Plaster

DEFICIENCIES

Original plaster ceilings are in place in all rooms within the passenger portion of the building. Plaster exhibits cracking and failed paint. Inappropriate prior repairs are evident which do not match adjacent historic plaster in plane or texture. Isolated areas of water damage are present.

RECOMMENDATION

All deteriorated/damaged plaster should be repaired in-kind. Loose and deteriorated material should be gently removed using hand tools only. Removal should be done only to the extent that a sound substrate is achieved. Patching should occur using in-kind materials, taking great care to match existing adjacent surfaces in plane, texture, and profile as accurately as possible. All water-damaged plaster should be repaired in-kind. Loose and deteriorated material should be gently removed using hand tools only. Removal should be done only to the extent that a sound substrate is achieved. Patching should occur using in-kind materials, taking great care to match existing adjacent surfaces in plane, texture, and profile as accurately as possible.

General cracking should be repaired to restore stability. Areas of cracking should be sounded to determine if plaster keys are broken (loss of adhesion to substrate). In such instances a case-by-case determination should be made as to the extent of plaster removal. Only the minimum amount of plaster should be removed in an effort to preserve as much original material as possible. Where plaster is removed, new in-kind plaster should be installed. New plaster should occur using in-kind materials, taking great care to match existing adjacent surfaces in plane, texture, and profile as accurately as possible.

Where plaster is still well adhered to the substrate, cracks should be repaired. Cracks should be excavated to achieve sound substrate. Cracks should then be injected with an acrylic adhesive to ensure soundness. Plaster should then be installed to infill the excavated areas using a bonding agent. Surface of repaired cracks should match existing adjacent surfaces in plane, texture, and profile as accurately as possible.

Once all plaster repairs have been made, surfaces should be prepared to a paint-ready surface by hand scraping loose paint and feathering paint remnant edges. All ceiling surfaces should then be primed with a stain blocking, alkyd-based primer. Two coats of acrylic-latex finish should then be applied. Color and sheen should be determined based on historic paint/ finish analysis (see “Historic Finish Analysis” section).

Interior

Millwork Baseboards, Casings, Chair Rail, etc.

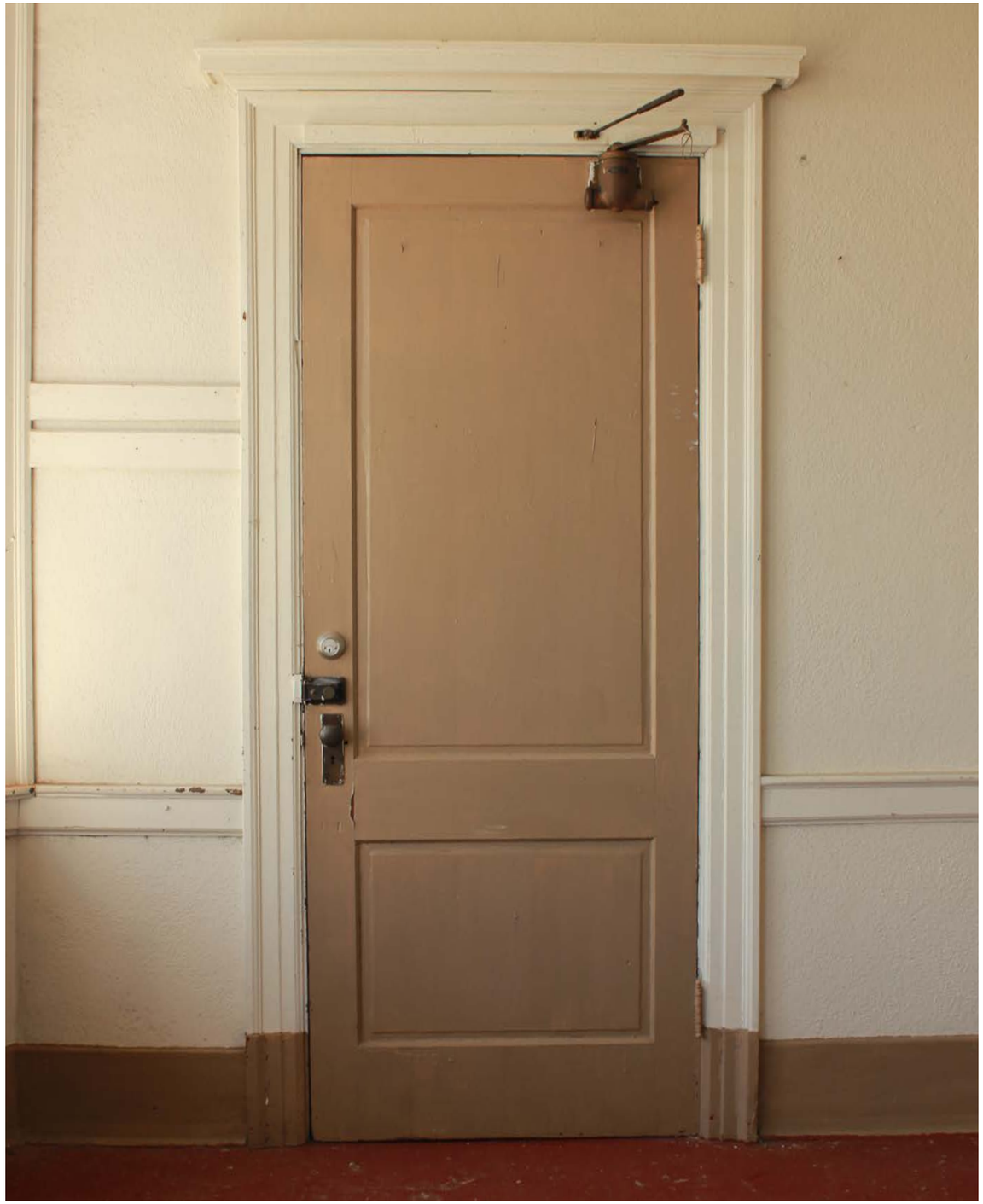
DEFICIENCIES

Original millwork including door casings, plinth blocks, window casings, baseboards, chair rails, soffit, crown molding, etc. are intact in the Passenger portion of the building. Overall, millwork elements are in good condition, exhibiting only paint failure and general wear. Breaks in chair elements in restroom areas identify the location of original stall partitions. Poorly infilled window casings in restrooms identify the location of early toilet tanks. Paint failure (crazing) is indicative of a poor bond between the paint and the substrate, and perhaps later paint coatings over early/original varnish or other clear finishes. Minor damage and/or missing elements is present in isolated locations.

RECOMMENDATIONS

Missing or poorly infilled millwork in restrooms will be alleviated when the restrooms are restored as further described in the “Restroom” section within this document. In general, any required repairs to existing millwork should be performed using in-kind materials, matching profiles of existing elements as accurately as possible. Re-finishing of millwork should not commence until historic paint/finish analysis is performed as further described in the “Historic Finish Analysis” section within this document. As original millwork finish may have been clear varnish or shellac, any repairs to millwork should be performed using in-kind species of wood, matching grain pattern as accurately as possible. Once original paint/finish has been determined, millwork will require throughout preparation to alleviate crazing prior to the application of any new finish. Millwork should be stripped to remove existing, failed paint finishes using Back to Nature Double-Duty VII (or equivalent). **Prior to paint removal, historic finish analysis should be performed as described in “Historic Finish Analysis” section above. Furthermore, as paint is removed, careful attention should be given to identifying original finish. Small samples of original finish should remain in place, without subsequent refinishing.** All stripped surfaces should be cleaned with denatured alcohol to remove residue. Millwork should then be finished per historic finish analysis findings.

Any new millwork required as a result of rehabilitation programming should be sympathetic to the historic characteristics of the building. New millwork should be wood and should possess similar detailing and scale as historic millwork but should not be a precise match.



Interior

Doors

DEFICIENCIES

The passenger portion of the building possess most of its original interior, two-panel wood doors. Doors are in good condition overall, exhibiting only moderate wear and isolated deterioration warranting repair. Paint finishes are worn, and all doors are poised for refinishing. While original door hardware is in place on most historic doors, hardware elements require cleaning. Original door closers are present but are not functioning. Doors the Women's Toilet (White) and Ticket Office (from the White Waiting Room) are missing.

RECOMMENDATIONS

Re-finishing of doors should not commence until historic paint/finish analysis is performed as further described in the "Historic Finish Analysis" section within this document. As original door finish may have been clear varnish or shellac, any repairs to doors should be performed using in-kind species of wood, matching grain pattern as accurately as possible. Once original paint/finish has been determined, doors will require throughout preparation to alleviate crazing prior to the application of any new finish. Doors should be stripped to remove existing, failed paint finishes using Back to Nature Double-Duty VII (or equivalent). **Prior to paint removal, historic finish analysis should be performed as described in "Historic Finish Analysis" section above. Furthermore, as paint is removed, careful attention should be given to identifying original finish. Small samples of original finish should remain in place, without subsequent refinishing.** All stripped surfaces should be cleaned with denatured alcohol to remove residue. Doors should then be finished per historic finish analysis findings.

New Women's Toilet (White) and Ticket Office (from the White Waiting Room) doors should be installed, matching existing doors in design, detailing, and finish. New hardware should likewise match exiting hardware as accurately as possible.

Clean all historic hardware (locksets, handles, and hinges), using great care to avoid scratching or otherwise marring the metal surfaces. Repair door closers to proper function, if possible. Any missing or irreparable hardware elements should be replaced in-kind where possible.

Interior

Stairs

DEFICIENCIES

The original staircase leading from the Baggage and Express Room into the Freight Room is missing.

RECOMMENDATIONS

Reconstruct missing staircase as indicated on the original 1923 architectural drawings. While the drawings do not provide detail, they indicate the location and approximate dimension of the stairs. Stairs should consist of enclosed risers and skirts with pine treads. Risers and skirts should be historically sympathetic in profile to other historic millwork found within the Baggage and Express Room. Risers and skirts should be finished in a manner that is consistent with the other historic millwork in the room based on historic finish analysis findings (see “Historic Finish Analysis” section). Treads should consist of 1-1/2” thick, new-growth heart pine with full bull-nosing and trimmed with a simple bed molding. Treads should be finished with a durable clear finish (urethane-based).

Restrooms

DEFICIENCIES

Four original restrooms are in place within the passenger portion of the building, and include men's and women's toilet rooms, with separate segregated spaces designated for "white" and "colored" patrons. Furthermore, there is a Women's Retiring Room (White) connected to the Women's Toilet (White). Much of the original detailing remains intact including stall partitions, stall doors, sinks, urinals, faucets, toilet paper holders, and a mop sink. The original benches in the Women's Retiring Room (White) are particularly notable for their intact condition, although they exhibit failed paint and general wear. All existing fixtures are in poor condition, requiring refinishing, with many fixtures altogether missing. Partitions, partition doors and hardware, where present, exhibit failed/crazed paint, missing louvers, general wear, etc.

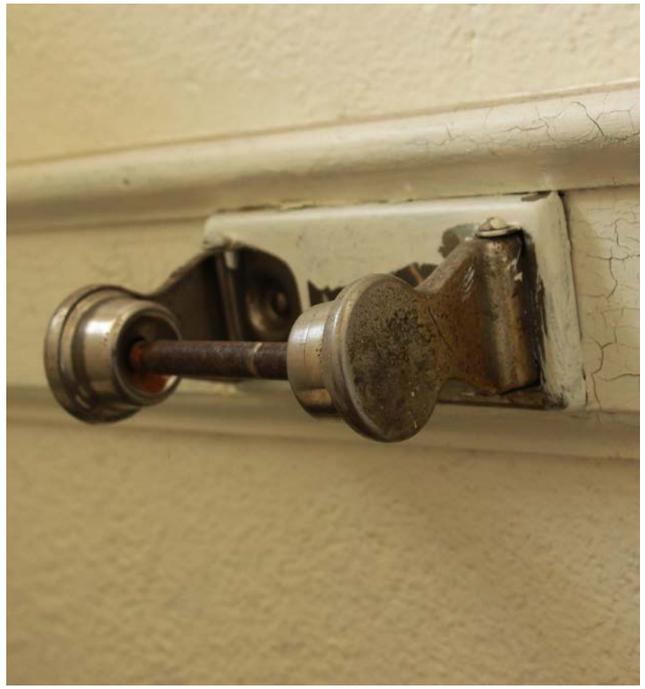
Interior

Restrooms

RECOMMENDATIONS

All historic restrooms and their detailing should be restored to their original appearance using original 1923 architectural drawings for fixture locations and general dimensional references. Historic fixtures still in place should be repaired and re-enameled, where possible. Missing fixtures should be replaced with period-correct substitutes. New plumbing should be installed in a concealed manner where possible. Existing partition frames and doors should be repaired in-kind where possible to include louver repairs, hardware repairs, and refinishing according to the results of the historic finish analysis (see “Historic Finish Analysis” section). Missing partitions should be reconstructed to match existing as accurately as possible (including design, materials, profiles, hardware, finishes, etc.). Existing, historic toilet paper holder should be repaired and polished/re-chromed and used as a design basis for replacing missing accessories. Any additional required accessories, fixtures, or features should be historically sympathetic.

The historic restrooms do not meet current ADA standards and are, therefore, not to code. The recommendations to restore the original restrooms assumes that the future rehabilitation program will include ADA compliant restrooms elsewhere within the building.



Interior

Ticket Windows

DEFICIENCIES

The original ticket windows (“White” and “Colored”) are in place and in fair condition. The colored ticket window is nearly entirely intact including an operable sash with transom, decorative cast iron window grill, built-in desk/drawers with decorative cast iron brackets, and counter with decorative wooden brackets. Its transom possesses cracked glass. The white ticket window is missing its decorative cast iron window grill, decorative cast iron desk/drawer brackets, and sash with transom. Existing features are in fair condition but exhibit general wear and failing paint.

RECOMMENDATIONS

Cracked glass found in the colored ticket window transom should be replaced, if possible, using sympathetic glass. The sash and transom should be repaired and refinished as described in the “Window & Transom” section of this documents. Elements missing from the white ticket window should be replicated to match those still intact in the colored ticket window, including the decorative cast iron window grill, decorative cast iron desk/drawer brackets, and sash with transom. All ticket booth window elements should be refinished. Wood and metal members should be stripped to remove existing, failed paint finishes using Back to Nature Double-Duty VII (or equivalent). **Prior to paint removal, historic finish analysis should be performed as described in “Historic Finish Analysis” section above. Furthermore, as paint is removed, careful attention should be given to identifying original finish. Small samples of original finish should remain in place, without subsequent refinishing.** All stripped surfaces should be cleaned with denatured alcohol to remove residue. Elements should then be finished per historic finish analysis findings.

Interior

Freight Window

DEFICIENCIES

The original freight window is in place at the north end of the Ticket Office. It is nearly entirely intact including decorative metal screens, built-in counter with decorative wooden bracket (Freight Lobby side), and recessed paneling. The counter and decorative wooden bracket is missing from the Ticket Office side. Existing features are in fair condition but exhibit general wear and failing paint.

RECOMMENDATIONS

Missing counter and decorative wooden bracket on the Ticket Office side of the window should be replaced to match the counter and bracket in place on the Freight Lobby side of the window. All freight window elements should be refinished. Wood and metal members should be stripped to remove existing, failed paint finishes using Back to Nature Double-Duty VII (or equivalent). **Prior to paint removal, historic finish analysis should be performed as described in "Historic Finish Analysis" section above. Furthermore, as paint is removed, careful attention should be given to identifying original finish. Small samples of original finish should remain in place, without subsequent refinishing.** All stripped surfaces should be cleaned with denatured alcohol to remove residue. Elements should then be finished per historic finish analysis findings.

Interior

Station Master's Desk

DEFICIENCIES

A built-in Station Master's desk with drawers is in place at the south end of the Ticket Office. While it is not believed to be original, it is sympathetic to the historically significant character of the building and its original use. Existing features are in fair condition but exhibit general wear, broken drawers, a missing drawer, deflection, and failing paint. Repairs, bracing, and refinishing are required.

RECOMMENDATIONS

Missing and broken drawers should be repaired or replace in an in-kind manner. Missing hardware should be replaced with in-kind substitutes where possible or sympathetic substitutes where required. Concealed reinforcements should be added to alleviate deflection. Legs should be plumbed to ensure integrity. All wooden elements should then be refinished. Wood should be stripped to remove existing, failed paint finishes using Back to Nature Double-Duty VII (or equivalent). **Prior to paint removal, historic finish analysis should be performed as described in "Historic Finish Analysis" section above. Furthermore, as paint is removed, careful attention should be given to identifying original finish. Small samples of original finish should remain in place, without subsequent refinishing.** All stripped surfaces should be cleaned with denatured alcohol to remove residue. Elements should then be finished per historic finish analysis findings.

Freight Scale

DEFICIENCIES

The original freight scale is in place within the Freight Room. It is in good condition overall.

RECOMMENDATIONS

As the scale is an original feature of the Depot, every effort should be made to keep it in place and in good condition. Future rehabilitation plans should be sensitive to the scale's presence and location. All future spatial programming should make provisions for proper interpretation of the scale and its relevance to the historic function of the Depot. **Under no circumstances should it be removed or altered from its original configuration or finish.**

Interior

Basement

DEFICIENCIES

The basement and pipe trenches are unused. The original coal chute located at grade on the south elevation of the building is still accessible, but it is not properly sealed to prevent water intrusion.

RECOMMENDATIONS

The basement and pipe trenches should remain unused except in a manner that aids in keeping building services concealed from view within the occupied spaces above. The future installation of HVAC, electrical, plumbing, and low voltage systems should utilize the basement and pipe trench spaces with strict adherence to building codes.

The coal chute lid located on the south elevation of the building should be properly waterproofed/sealed to prevent water intrusion into the basement. Waterproofing should consist of the installation of flashing and weather stripping beneath the lid. The lid should be cleaned to remove scaling, treated with rust converter (Ospho or equivalent), primed with an epoxy primer, and finished with two coats of paint (Sherwin Williams Kem Kromik or equivalent).

Attic

DEFICIENCIES

The attic space remains largely unused. The small, inadequately-sized access is present in the ceiling of the Records Room. Attic level louvers in the roof dormers require concealed screening to alleviate bird, rodent, and insect intrusion.

RECOMMENDATIONS

The attic should remain unused except in a manner that aids in keeping building services concealed from view within the occupied spaces below. The future installation of HVAC, electrical, plumbing, and low voltage systems should utilize the attic space with strict adherence to building codes. A code-compliant attic access should be installed in an inconspicuous location, and in the least intrusive manner possible. Screening should be installed behind the attic dormer louvers to alleviate bird, rodent, and insect intrusion.

General

Structural

DEFICIENCIES

Nolen Frisa Associates Consulting Engineers performed a structural assessment of the building's condition (see Appendix D). The report identifies multiple minor deficiencies but deems the building to be in good condition overall.

RECOMMENDATIONS

All of the deficiencies identified by the consulting engineer are addressed within the relative treatment recommendations within this conditions assessment. During the course of future preservation campaigns, any additional deficiencies identified should be brought to the engineer's attention immediately.

HVAC

DEFICIENCIES

Original radiators are in place in most rooms of the passenger side of the building, although they are no longer in use. While existing HVAC systems provide adequate service for existing building uses, the systems are aging and will likely be inadequate for rehabilitated building uses. Existing systems are installed in an historically unsympathetic manner that detracts from the historic character of the building (interior and exterior). A detailed technical assessment has been conducted by Suter Engineering, PC of Bridgewater, Virginia (see Appendix C). While the assessment is accurate, it does not consider the historic characteristics of the building or make specific recommendations for future enhancements.

RECOMMENDATION

Original radiators should be retained where present. Missing radiators should be replaced in-kind as shown on 1923 architectural plans. Ghost lines of original stove heater in Ticket Office should be documented and retained as an historic record of missing elements.

During the course of a future rehabilitation planning process, new HVAC systems should be engineered to meet current building and energy code requirements. Every effort should be made to design and install the systems in a concealed manner without harm to historic fabric and detailing. These efforts should serve to meet the Secretary of the Interior's Standards for Rehabilitation. The basement and attic spaces should be used where possible to keep system components concealed from view within the occupied spaces of the building. If deemed absolutely necessary, the soffit in the passenger section of the building could be implemented for chase ways. All exterior components should be installed in the least conspicuous manner possible and screened from view. All line-sets, conduit, piping, vents, tanks, etc. should be installed in a sensitive inconspicuous manner. Attaching equipment or components to the exterior of the building should be avoided. **Under no circumstances should historic fabric be removed in order to accommodate modern equipment.**

General

Electrical

DEFICIENCIES

A thorough assessment of the existing electrical system has been conducted by William R Jennings, Jr., Consulting Engineering, PC of Forest, Virginia (see Appendix E). Furthermore, Jennings identifies deficiencies with the current system that require immediate attention (see section 2.a. in Appendix E). Specifically:

> *The feeders consist of type SE cable which is partially installed in conduit on the outside of the building. There is no bushing on the conduit to protect the ends nor do those ends appear to be cut and trim properly to prevent abrasion of the cable. Some of the cables appear to be installed above return air plenum ceiling, which is not allow [sic] under the National electrical code.*

Although the existing electrical system is serviceable, it is aging, and it will likely not meet current building codes if new uses are introduced as part of a future rehabilitation.

The existing electrical systems and its components are installed in an historically unsympathetic manner that detracts from the historic character of the building (interior and exterior).

Some original electrical fixtures remain place, although they require repairs in order to be used in a safe manner. Most in-service lighting fixtures are historically inappropriate; lacking a style that is in keeping with the historic architectural significance of the building.

RECOMMENDATIONS

The feeder deficiency identified by Jennings should be remedied by replacing the existing feeders with “conductors in conduit as required by code.”

During the course of a future rehabilitation planning process, a new electrical system should be engineered to meet current building code requirements. Every effort should be made to design and install the systems in a concealed manner without harm to historic fabric and detailing. These efforts should serve to meet the Secretary of the Interior’s Standards for Rehabilitation. The basement and attic spaces should be used where possible to keep system components concealed from view within the occupied spaces of the building. If deemed absolutely necessary, the soffit in the passenger section of the building could be implemented for chase ways. All exterior components should be installed in the least conspicuous manner possible and screened from view. All meters, disconnects, conduit, piping, etc. should be installed in a sensitive, inconspicuous manner. Attaching equipment or components to the exterior of the building should be avoided. Under no circumstances should historic fabric be removed in order to accommodate modern equipment.

All historic lighting fixtures should be repaired and returned to service. All historically inappropriate lighting fixtures should be replaced with sympathetic substitutes that are in keeping with the historic architectural significance of the building.

Plumbing

DEFICIENCIES

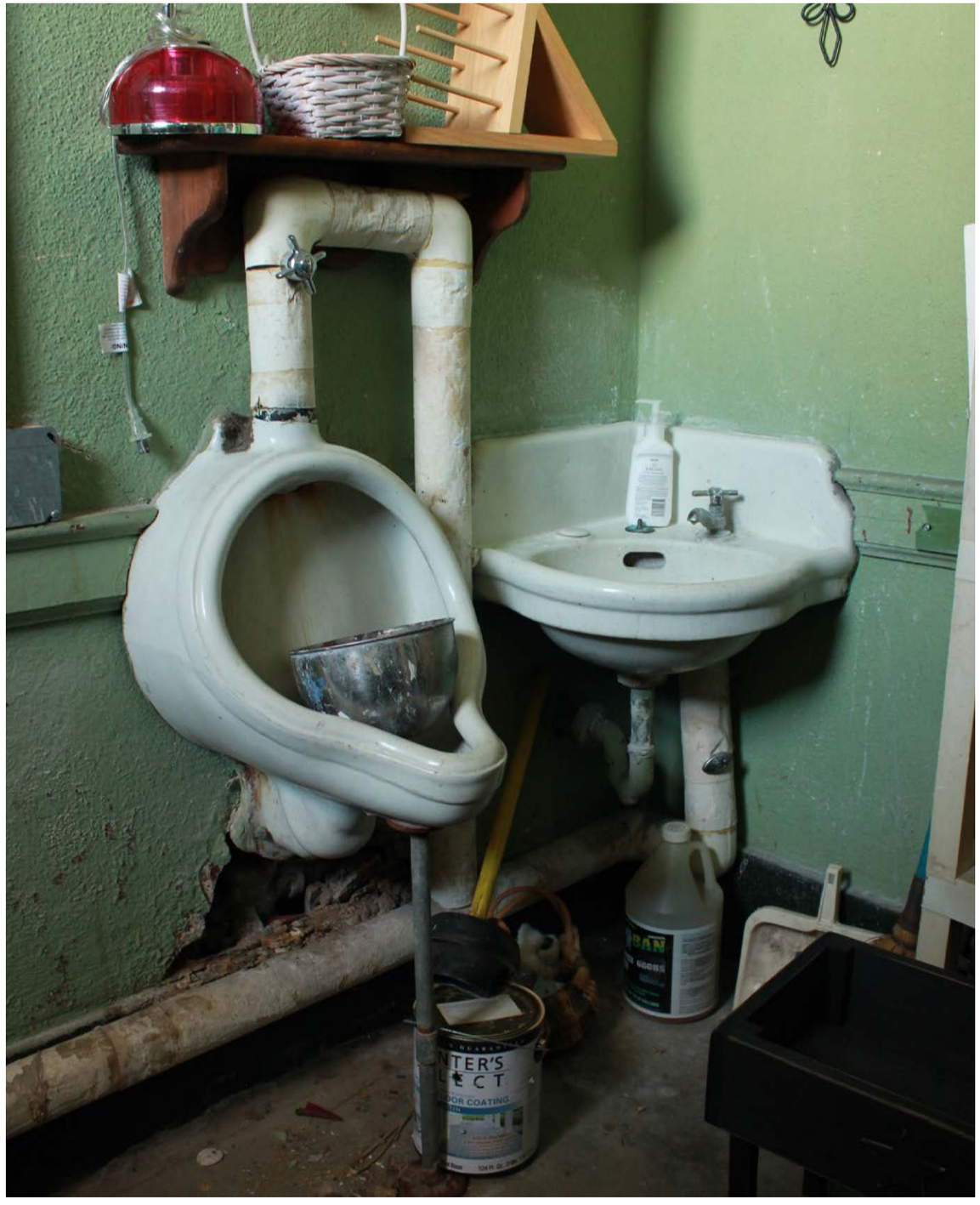
As described in the “Restroom” section within this document, original restrooms and fixtures are in place. They are in poor condition and are no longer in service. Modern, ADA-compliant restrooms are in service on the west end of the Freight Room. Historic drinking fountains are in place in the passenger portion of the building but are no longer in service. The original 1923 architectural drawings identify the location of a water cooler within the Women’s Retiring Room (White), which is no longer in place.

A detailed technical assessment has been conducted by Suter Engineering, PC of Bridgewater, Virginia (see Appendix C). While the assessment is accurate, it does not consider the historic characteristics of the building or make specific recommendations for future enhancements.

RECOMMENDATIONS

Historic restrooms in the passenger portion of the building should be restored as described in the “Restrooms” section of this document. New plumbing will be required and should be installed in a concealed, inconspicuous manner. Any new fixtures required should be historically sympathetic to the period of architectural significance.

During the course of a future rehabilitation planning process, new plumbing systems should be engineered to meet current building code requirements. Every effort should be made to design and install the systems in a concealed manner without harm to historic fabric and detailing. These efforts should serve to meet the *Secretary of the Interior’s Standards for Rehabilitation*. The basement and attic spaces should be used where possible to keep system components concealed from view within the occupied spaces of the building. If deemed absolutely necessary, the soffit in the passenger section of the building could be implemented for chase ways. All exterior piping should be installed in the least conspicuous manner possible and screened from view. All piping, vents, etc. should be installed in a sensitive inconspicuous manner. Attaching equipment or components to the exterior of the building should be avoided. The routing of all piping should be concealed from view both inside and outside the building. Under no circumstances should historic fabric be removed in order to accommodate modern equipment.



General

Insulation

DEFICIENCY

The attic does not possess adequate insulation, thereby increasing heating and cooling costs.

RECOMMENDATION

During the course of the rehabilitation design process, a determination should be made as to the insulation requirements for the building. In general, spray foam insulation in the attic should be avoided as the long-term compatibility with historic materials and assemblies is unknown and reversibility, while possible, is challenging.

Pest Control Wood Destroying Organisms

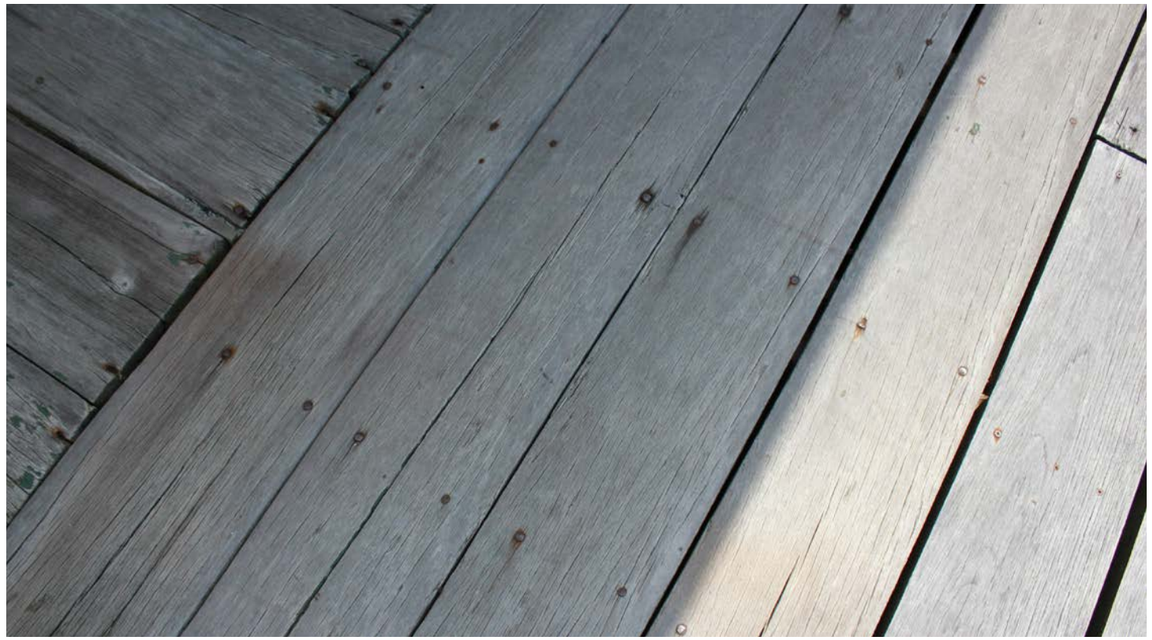
As with any historic structure, it is imperative to ensure that wood destroying organisms are not present. These include termites, powder post beetles, wood borers, carpenter bees, etc.

DEFICIENCIES

In general, very few signs of wood destroying organisms are evident, and no active infestation was observed. However, some damage is present in isolated locations, although not to the degree that there is a visible loss of structural or material integrity.

RECOMMENDATIONS

The building must have bonded treatment for wood destroying organisms with a reputable pest control company. A thorough inspection should be conducted yearly. Any signs of active infestation observed between inspections must be reported to the pest control company immediately.



Life Safety

DEFICIENCY

A thorough assessment of the existing electrical and life-safety systems has been conducted by William R Jennings, Jr., Consulting Engineering, PC of Forest, Virginia (see Appendix E). In general, existing emergency and exit lighting does not meet current code. The building also does not possess a fire alarm system.

RECOMMENDATION

Emergency and exit lighting should be brought up to current code immediately. A fire alarm system with remote monitoring should likewise be installed.

Once a desired rehabilitated use has been determined, exhaustive code analysis should be performed to ensure that the building meets current life safety codes.

All life safety systems should be installed in the least intrusive manner possible to ensure that the new systems are installed in an historically sympathetic manner. The removal of historic material should be avoided.

Prioritization Schedule

The proposed Prioritization Schedule and Budget allow the entirety of the Train Depot to be put back to use for the Town of Appomattox. The budget focuses on the most urgent maintenance items in the first year and suggests restoring the passenger portion of the Depot into usable condition. In doing so, it becomes economically and functionally viable to relocate the Visitor Information Center to the passenger portion of the building. This relocation would free the freight portion of the building to be used flexibly and at-will for markets, concerts, lectures, receptions, temporary exhibits, conventions, etc. The immediate recommendation for the freight portion is to retain the existing, non-historic restrooms and conference room at the west end, but to remove the non-historic partition walls/offices. The doorway connecting passenger and freight sides should also be re-opened to restore connectivity between the spaces. This schedule enables the Waiting Room (White) and the Ticket Booth to be utilized by the Visitor Center, and it leaves the Waiting Room (Colored) and the Baggage and Express Room available for rent and/or as a support space for the proposed multipurpose freight room.

Of note: the masonry rehabilitation and restoration is an important part of the work, but the later schedule date more accurately reflects its level of urgency. Additionally, several line items appear in the schedule across multiple years. Such phasing will allow for these items to be brought to an initially serviceable condition in one phase and gradually developed to the desired end, while maintaining usability throughout the process.

The proposed phasing outlined in this schedule addresses the most pressing issues immediately, while returning the entire building into active, income-producing service. This approach ensures that greatest flexibility in spatial use is achieved within the first year, while incurring the minimal amount of financial expenditure. All of the items suggested to occur in year one are restoration and rehabilitation tasks that would not have to be undone or redone during the course of a future rehabilitation effort (year six or seven). The immediate reconfiguration and restoration of spaces in no way precludes a future, more comprehensive rehabilitation plan to occur, which is shown on the schedule to take place in year seven.

2019

- **General Conditions**
- **Exterior**
  - Historic Finish Analysis
  - Windows
  - Window Sealant
  - Ferrous Metal Window Lintels
  - Exterior Doors (Passenger)
  - Exterior Doors (Freight)
  - Wooden Cornice (Soffit, Fascia, Crown Molding, Brackets)
  - Depot Platforms / Ramps
  - Downspouts
  - Address immediate exterior repairs
- **Interior**
  - Selective Removals
  - Historic Finish Analysis
  - Floors
  - Walls (Plaster)
  - Ceilings
  - Millwork (Baseboards, Casings, Chair Rail, etc.)
  - Interior Doors
  - Windows / Transoms
  - Stairs
  - Restrooms (Historic)
  - Ticket Booths
  - Freight Window
  - Station Master Desk
  - Basement
  - Attic
- **General**
  - HVAC
  - Electrical
  - Plumbing
  - Pest Control (Wood Destroying Organisms)
  - Life Safety and ADA
- **Contingency**

2021

- **General Conditions**
- **Exterior**
  - Masonry Cleaning
  - Paint Removal
  - Inappropriate Mortar
  - Staining of Previous Repairs
  - Selective Repointing
  - Crack Repair
  - Brick Repair / Replacement
  - Abandoned Fasteners / Hardware
  - Cast Stone Window Sills
- **Contingency**

2026

- **General Conditions**
- **Exterior**
  - Non-Sympathetic Objects
  - Windows
  - Window Grills
  - Exterior Doors (Freight)
  - Wooden Cornice (Soffit, Fascia, Crown Molding, Brackets)
  - Depot Platforms / Ramps
  - Railings (At Cellar Entry)
  - Roof & Gutters
  - Downspouts
  - Site Systems
  - Landscaping
- **Interior**
  - Selective Removals
  - Historic Finish Analysis
  - Walls (Brick)
  - Restrooms (Historic)
  - Paint (Misc.)
- **General**
  - HVAC
  - Electrical
  - Plumbing
  - Insulation
  - Life Safety & ADA
- **Contingency**

Capital Budget

The Appomattox Train Depot Preservation Budget is an integral facet of the overall plan for the preservation and rehabilitation of the building. Its purpose is to provide a clear understanding of the estimated costs associated with the preservation of the Depot and important preventative maintenance requirements. Moreover, the budget approximates the timing of projects by year in an effort to ensure that all work is performed proactively and not reactively. Most importantly, the budget allows for projects to occur in a planned, logical order, ensuring that work isn't being performed out of sequence. Therefore, funds will be spent in the most efficient means possible, without inadvertently duplicating expenditures. It is of the utmost importance to emphasize that this budget does not consider specific costs associated with a future rehabilitation program. Rehabilitated use and code-related requirements for future uses will likely increase the overall budget.

The scope of work budgeted for each item/component within the preservation budget is based on the description found in the Conditions Assessment portion of the master plan. It is important to note that the figures provided for each expenditure are estimates only. As a course of normal action, it should be the responsibility of an administrator/manager/curator to proactively solicit estimates from pre-qualified historic preservation companies as a planning strategy to ensure the availability of adequate funding. Funding requirements during the first ten years will be higher than normal, as preservation/rehabilitation campaigns are generally costlier than projected preventative maintenance efforts.

The anticipated average lifecycles for each item/component are provided for general planning purposes. Predicting the specific year in which an item/component will require attention will likely not occur with exacting precision. However, the allocation of funds should be based on the predicted life cycles. The fact that certain items/components may exceed their predictable lifespan contributes to the flexibility of the capital budget as a dynamic planning tool. As a basis for what will likely become a more developed budget, the capital budget projects forward ten years. If deemed necessary, it can easily be expanded to include an infinite number of years. However, it is important to note that inflation, as well as increases in labor and material costs, are likely to occur and should be accounted for accordingly.

The master plan and preservation budget require consistent management in order to be most effective. As described elsewhere within this document, one person should be the administrator/manager of the master plan and preservation budget. Due to many variables, it is difficult to predict the precise year when funding will be available to perform projects or exactly when certain items may require attention. Variables include the availability of funding, rate of deterioration of building elements, the timing of grants, newly discovered physical or documentary evidence, etc. Due to these typical characteristics of a phased preservation, the capital budget will require consistent updating to ensure that the figures and timing of projects is based on the realistic timing of events. If maintained with discipline, the capital budget will continue to be the vital component of the preservation and maintenance of the Appomattox Train Depot.

AREA	ITEM/COMPONENT	Useful Life Cycle in Years	PROJECTED PROJECT YEAR 2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	Item/Component Total
PRESERVATION													
GENERAL CONDITIONS													
	General Conditions	n/a	$ 32,109.00	$ -	$ 16,054.50	$ -	$ -	$ -	$ -	$ 112,381.50	$ -	$ -	$ 160,545.00
EXTERIOR													
	Masonry Cleaning	10	$ -	$ -	$ 10,525.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 10,525.00
	Paint Removal	n/a	$ -	$ -	$ 2,887.50	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,887.50
	Inappropriate Mortar	n/a	$ -	$ -	$ 4,687.50	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 4,687.50
	Staining of Previous Repairs	n/a	$ -	$ -	$ 1,847.50	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,847.50
	Selective Repointing	20	$ -	$ -	$ 20,475.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 20,475.00
	Crack Repair	20	$ -	$ -	$ 8,755.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 8,755.00
	Brick Repair/Replacement	n/a	$ -	$ -	$ 6,455.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 6,455.00
	Abandoned Fasteners/Hardware	n/a	$ -	$ -	$ 4,602.50	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 4,602.50
	Non-Sympathetic Objects	n/a	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 8,975.00	$ -	$ -	$ 8,975.00
	Cast Stone Window Sills	50	$ -	$ -	$ 10,115.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 10,115.00
	Historic Finish Analysis	n/a	$ 8,625.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 8,625.00
	Windows	20	$ 31,280.00	$ -	$ -	$ -	$ -	$ -	$ -	$ 46,920.00	$ -	$ -	$ 78,200.00
	Window Sealant	10	$ 9,724.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 9,724.00
	Ferrous Metal Window Lintels	20	$ 9,052.50	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 9,052.50
	Window Grills	20	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 11,790.00	$ -	$ -	$ 11,790.00
	Exterior Doors (Passenger)***	20	$ 32,200.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 32,200.00
	Exterior Doors (Freight)***	20	$ 20,700.00	$ -	$ -	$ -	$ -	$ -	$ -	$ 20,700.00	$ -	$ -	$ 41,400.00
	Wooden Cornice (Soffit, Fascia, Crown Molding, Brackets)	20	$ 6,525.00	$ -	$ -	$ -	$ -	$ -	$ -	$ 58,725.00	$ -	$ -	$ 65,250.00
	Depot Platforms/Ramps***	20	$ 23,250.00	$ -	$ -	$ -	$ -	$ -	$ -	$ 69,750.00	$ -	$ -	$ 93,000.00
	Railings (At Cellar Entry)	20	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 3,405.00	$ -	$ -	$ 3,405.00
	Roof & Gutters	20	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 323,625.00	$ -	$ -	$ 323,625.00
	Downspouts	20	$ 13,750.00	$ -	$ -	$ -	$ -	$ -	$ -	$ 41,250.00	$ -	$ -	$ 55,000.00
	Site Systems	n/a	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 20,000.00	$ -	$ -	$ 20,000.00
	Landscaping	n/a	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 25,000.00	$ -	$ -	$ 25,000.00
INTERIOR													
	Selective Removals	n/a	$ 6,775.00	$ -	$ -	$ -	$ -	$ -	$ -	$ 6,775.00	$ -	$ -	$ 13,550.00
	Historic Finish Analysis	n/a	$ 11,500.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 11,500.00
	Floors	10	$ 22,338.75	$ -	$ -	$ -	$ -	$ -	$ -	$ 22,338.75	$ -	$ -	$ 44,677.50
	Walls (Plaster)	20	$ 31,625.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 31,625.00
	Walls (Brick)	20	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 16,025.00	$ -	$ -	$ 16,025.00
	Ceilings	20	$ 23,325.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 23,325.00
	Millwork (Baseboards, Casings, Chair Rail, etc.)	20	$ 35,500.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 35,500.00
	Interior Doors	20	$ 11,500.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 11,500.00
	Windows/Transoms	20	$ 8,625.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 8,625.00
	Stairs	10	$ 3,965.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 3,965.00
	Restrooms (Historic)***	10	$ 42,000.00	$ -	$ -	$ -	$ -	$ -	$ -	$ 28,000.00	$ -	$ -	$ 70,000.00
	Ticket Booths	10	$ 5,992.50	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 5,992.50
	Freight Window	10	$ 3,405.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 3,405.00
	Station Master Desk	10	$ 2,542.50	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,542.50
	Paint (Misc.)	10	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 25,725.00	$ -	$ -	$ 25,725.00
	Basement	20	$ 5,750.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 5,750.00
	Attic	20	$ 8,625.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 8,625.00
GENERAL													
	HVAC***	15	$ 50,000.00	$ -	$ -	$ -	$ -	$ -	$ -	$ 50,000.00	$ -	$ -	$ 100,000.00
	Electrical***	30	$ 25,000.00	$ -	$ -	$ -	$ -	$ -	$ -	$ 75,000.00	$ -	$ -	$ 100,000.00
	Plumbing***	30	$ 25,000.00	$ -	$ -	$ -	$ -	$ -	$ -	$ 25,000.00	$ -	$ -	$ 50,000.00
	Insulation***	30	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 26,250.00	$ -	$ -	$ 26,250.00
	Pest Control (Wood Destroying Organisms)	1	$ 2,875.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,875.00
	Life Safety & ADA***	20	$ 10,000.00	$ -	$ -	$ -	$ -	$ -	$ -	$ 90,000.00	$ -	$ -	$ 100,000.00
CONTINGENCY (10%)			$ 52,355.93	$ -	$ 8,640.45	$ -	$ -	$ -	$ -	$ 110,763.53	$ -	$ -	$ 171,759.90
GENERAL MAINTENANCE													
	Roof	1	$ 10,000.00	$ 1,000.00	$ 1,000.00	$ 1,000.00	$ 1,000.00	$ 1,000.00	$ 1,000.00	$ -	$ -	$ -	$ 16,000.00
	Floors	1	$ -	$ -	$ -	$ -	$ -	$ 3,500.00	$ -	$ -	$ 3,500.00	$ -	$ 7,000.00
	Interior Paint (touch-ups)	1	$ -	$ 500.00	$ 500.00	$ 1,500.00	$ 1,500.00	$ 1,500.00	$ 1,500.00	$ 1,500.00	$ 1,500.00	$ 1,500.00	$ 11,500.00
	Exterior Paint (touch-ups)	1	$ -	$ 500.00	$ 500.00	$ 1,500.00	$ 1,500.00	$ 1,500.00	$ 1,500.00	$ 1,500.00	$ 1,500.00	$ 1,500.00	$ 11,500.00
	Windows	1	$ -	$ -	$ 500.00	$ 500.00	$ 1,500.00	$ 1,500.00	$ 2,000.00	$ 2,000.00	$ 2,500.00	$ 2,500.00	$ 13,000.00
	HVAC Maintenance	1	$ -	$ 1,000.00	$ 1,000.00	$ 1,000.00	$ 1,500.00	$ 1,500.00	$ 1,500.00	$ 1,500.00	$ 2,500.00	$ 2,500.00	$ 14,000.00
	Gutters & Downspouts	1	$ -	$ 1,000.00	$ 1,000.00	$ 1,000.00	$ 1,000.00	$ 1,000.00	$ 1,000.00	$ 1,000.00	$ 1,000.00	$ 1,000.00	$ 9,000.00
	Miscellaneous Repairs	1	$ -	$ 2,500.00	$ 2,500.00	$ 2,500.00	$ 3,000.00	$ 3,000.00	$ 3,000.00	$ 3,000.00	$ 3,000.00	$ 3,000.00	$ 25,500.00
	***These line items are subject to change based rehabilitated use programming and code analysis/engineering.												
TOTAL ESTIMATED YEARLY EXPENDITURES			**$ 585,915.18**	**$ 6,500.00**	**$ 102,044.95**	**$ 9,000.00**	**$ 11,000.00**	**$ 14,500.00**	**$ 11,500.00**	**$ 1,228,898.78**	**$ 15,500.00**	**$ 12,000.00**	**$ 1,996,858.90**
FINANCIAL SUMMARY													
Revenue													
	Revenue from Operations		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Grants		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Estimated Fundraising		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Funding from Town of Appomattox		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total Revenue			$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total Estimated Yearly Expenditures			$ 585,915.18	$ 6,500.00	$ 102,044.95	$ 9,000.00	$ 11,000.00	$ 14,500.00	$ 11,500.00	$ 1,228,898.78	$ 15,500.00	$ 12,000.00	$ 1,996,858.90
Total Yearly Funding Surplus/Shortfall			$ (585,915.18)	$ (6,500.00)	$ (102,044.95)	$ (9,000.00)	$ (11,000.00)	$ (14,500.00)	$ (11,500.00)	$ (1,228,898.78)	$ (15,500.00)	$ (12,000.00)	$ (1,996,858.90)
	Carry-Over from Previous Year		$ -	$ (585,915.18)	$ (592,415.18)	$ (694,460.13)	$ (703,460.13)	$ (714,460.13)	$ (728,960.13)	$ (740,460.13)	$ (1,969,358.90)	$ (1,984,858.90)	
	Cumulative Cash Flow		$ (585,915.18)	$ (592,415.18)	$ (694,460.13)	$ (703,460.13)	$ (714,460.13)	$ (728,960.13)	$ (740,460.13)	$ (1,969,358.90)	$ (1,984,858.90)	$ (1,996,858.90)	

Bibliography

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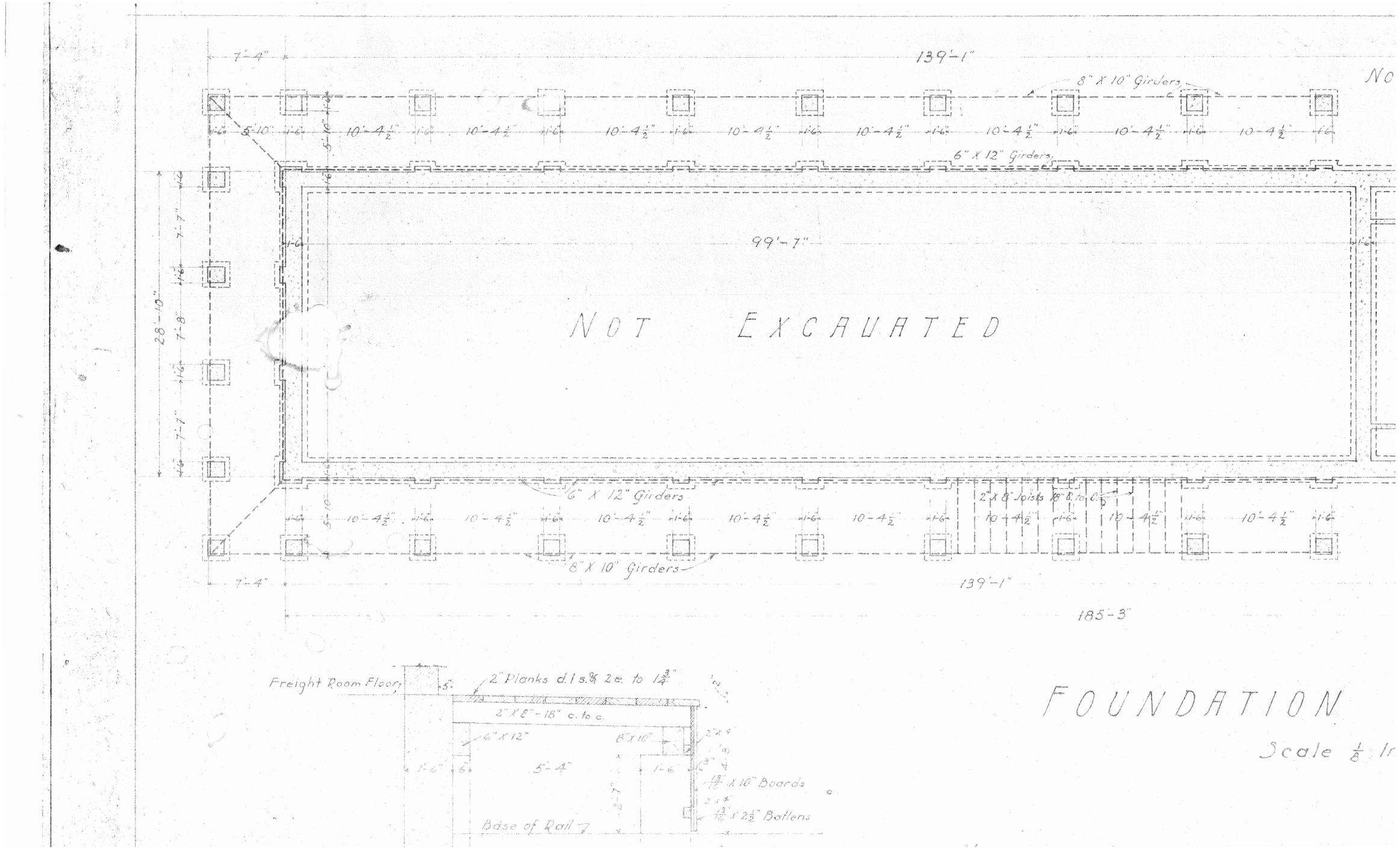


FOUNDATION

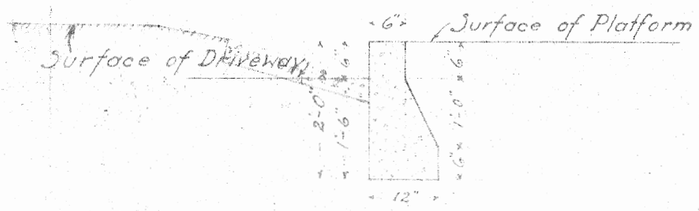
Scale ⅛" = 1'

NOTE-
Wood Blocks to be set in Brick or Concrete, for attaching Conduits or fixtures, at points shown by Electrician.

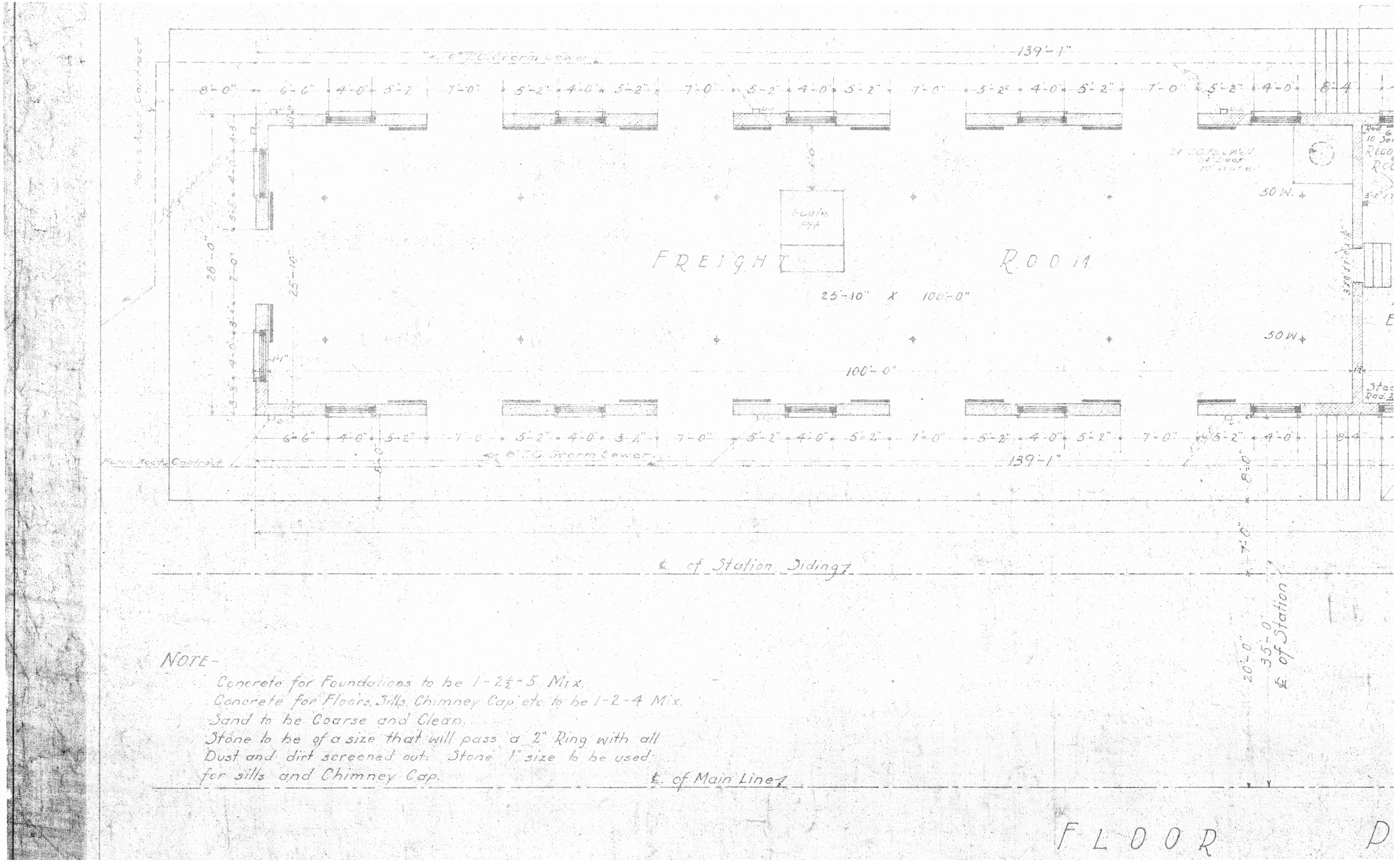
15'-2"
31'-0"
4'-6"
3'-9"
12'-0"
2'-10½"
Coal Shall be Brought Through this Window with Chute
50 W
Drain
PIPE TRENCH
37'-0"
3'-0"
NOT EXCAVATED
12'-2"
BOILER ROOM
8" Hot Water Boiler W-28-5 2150" Rad.
8'-4"
2'-0"
30'-0"
25'-10"
3'-8¾"
7'-8½"
1'-6"

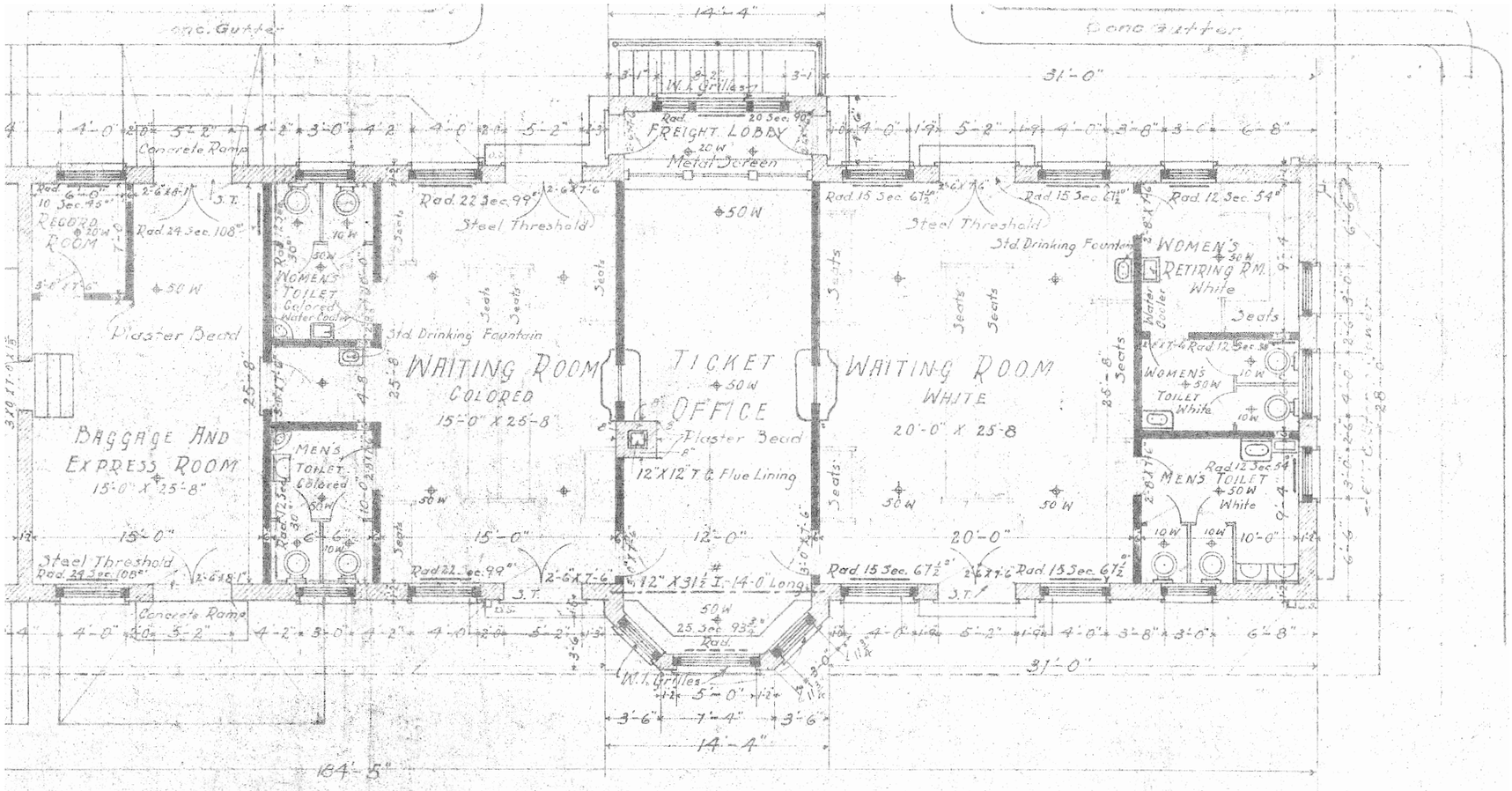
N PLAN

le ⅛ In. = 1 ft.



DETAIL OF CONCRETE CURB & Gutter


139'-1"
8'-0" 6'-6" 4'-0" 5'-2" 7'-0" 5'-2" 4'-0" 5'-2" 7'-0" 5'-2" 4'-0" 5'-2" 7'-0" 5'-2" 4'-0" 5'-2" 7'-0" 5'-2" 4'-0" 8'-4
6" C.I. Storm Sewer
Face North Contract
Scale Off
FREIGHT ROOM
25'-10" X 100'-0"
50 W.
28'-0"
25'-10"
100'-0"
139'-1"
8'-0"
7'-0"
℄ of Station Siding
℄ of Station
℄ of Main Line
20'-0"
35'-0"
NOTE-
Concrete for Foundations to be 1-2½-5 Mix.
Concrete for Floors, Sills, Chimney Cap etc to be 1-2-4 Mix.
Sand to be Coarse and Clean.
Stone to be of a size that will pass a 2" Ring with all
Dust and dirt screened out. Stone 1" size to be used
for sills and Chimney Cap.
FLOOR



MEMORANDUM – OCT. 8, 1931

Pump for well was ordered by Contractors, J. P. Pettyjohn & Co., from Noland Company, Inc., Roanoke, Virginia:

1 - Veile & Kimes Deep Well Pump, Capacity 200 Gallons per hour. Type 200-C-3, Serial Number 73337.

The Motor which drives this pump was shown with capacity of ½ H.P., wound for 110 Volts, 60 cycle, single phase, alternating current.

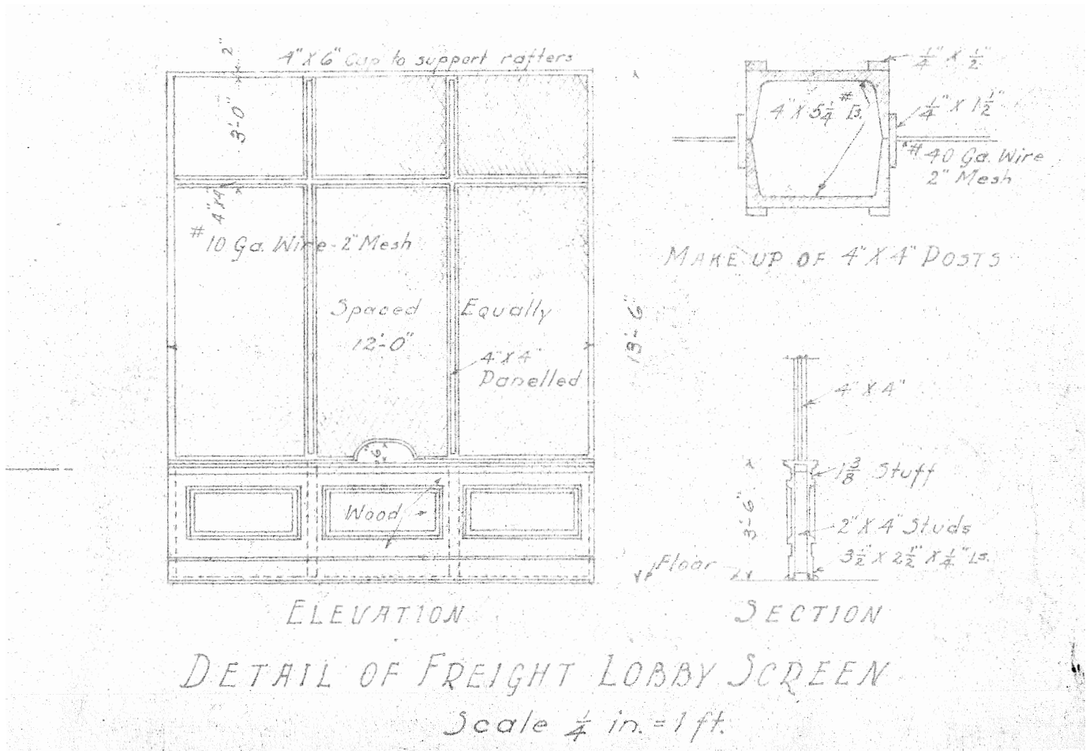
With this pump was ordered, as a separate item, 60 feet of 1⅛" suction pipe, with galvanized steel couplings.

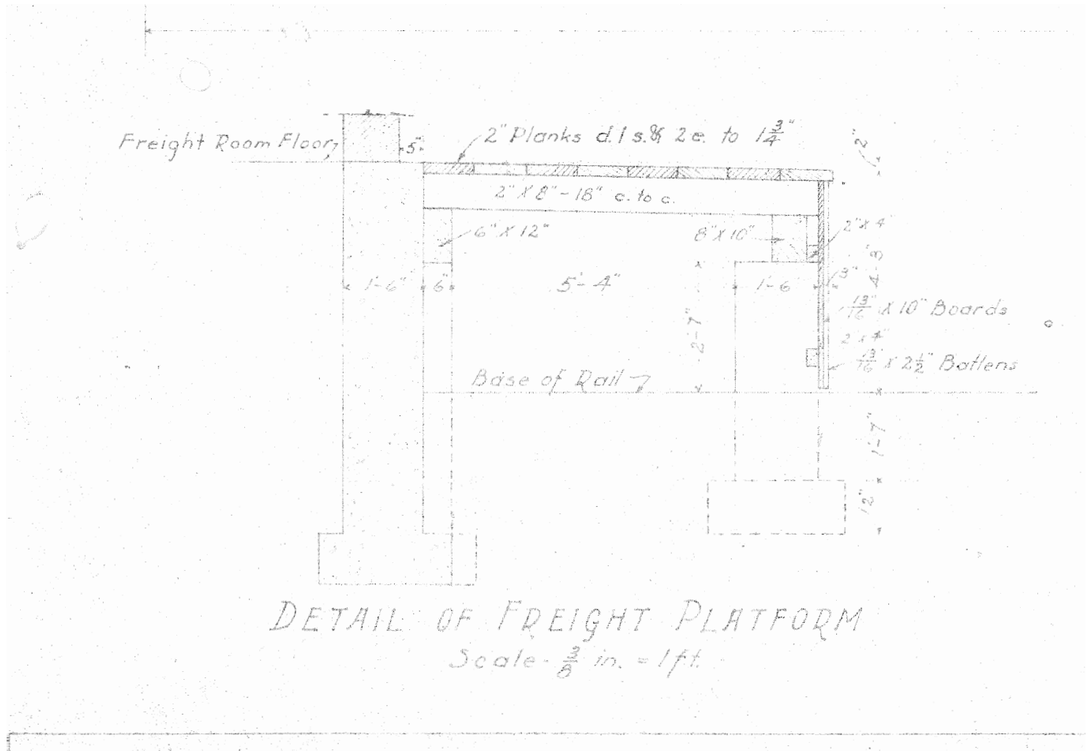
Norfolk Division Requisition #1202, dated Sept. 25, 1931, calls for:

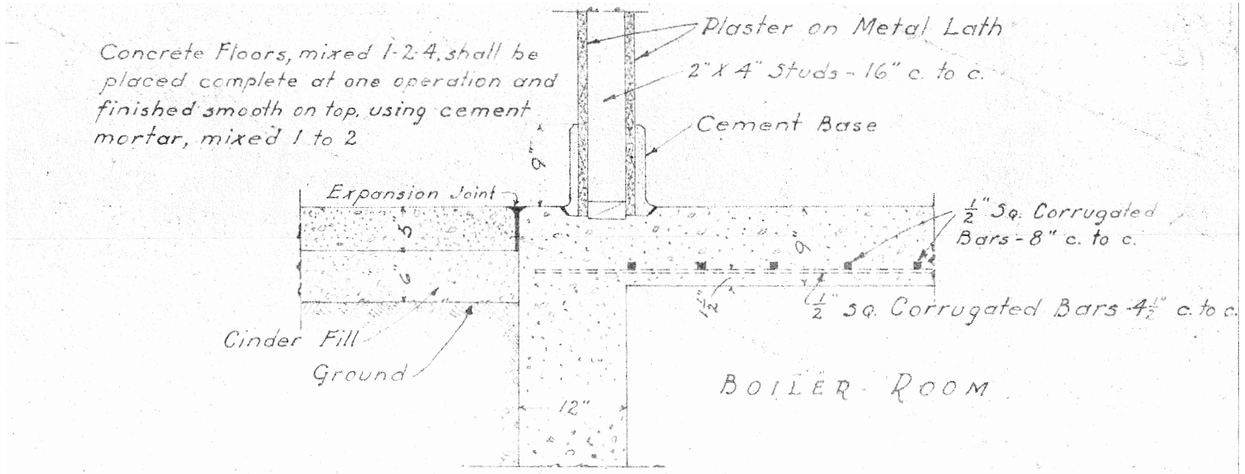
1 Large Pulley Wheel, for Pump Stand #1071.
2 Large Pulley Wheel Shafts for Pump Stand #1071.
1 Set of Two Pulley Shaft Bearings, for Pump Stand #1071.
1 Crank Shaft, for Pump Stand #1071.
6 Air Pump Leathers, for Pump Stand #1071.
6 Suction Valve Leathers, for Pump Stand #1071.

This Requisition shows that the material may also be obtained from The

PLAN

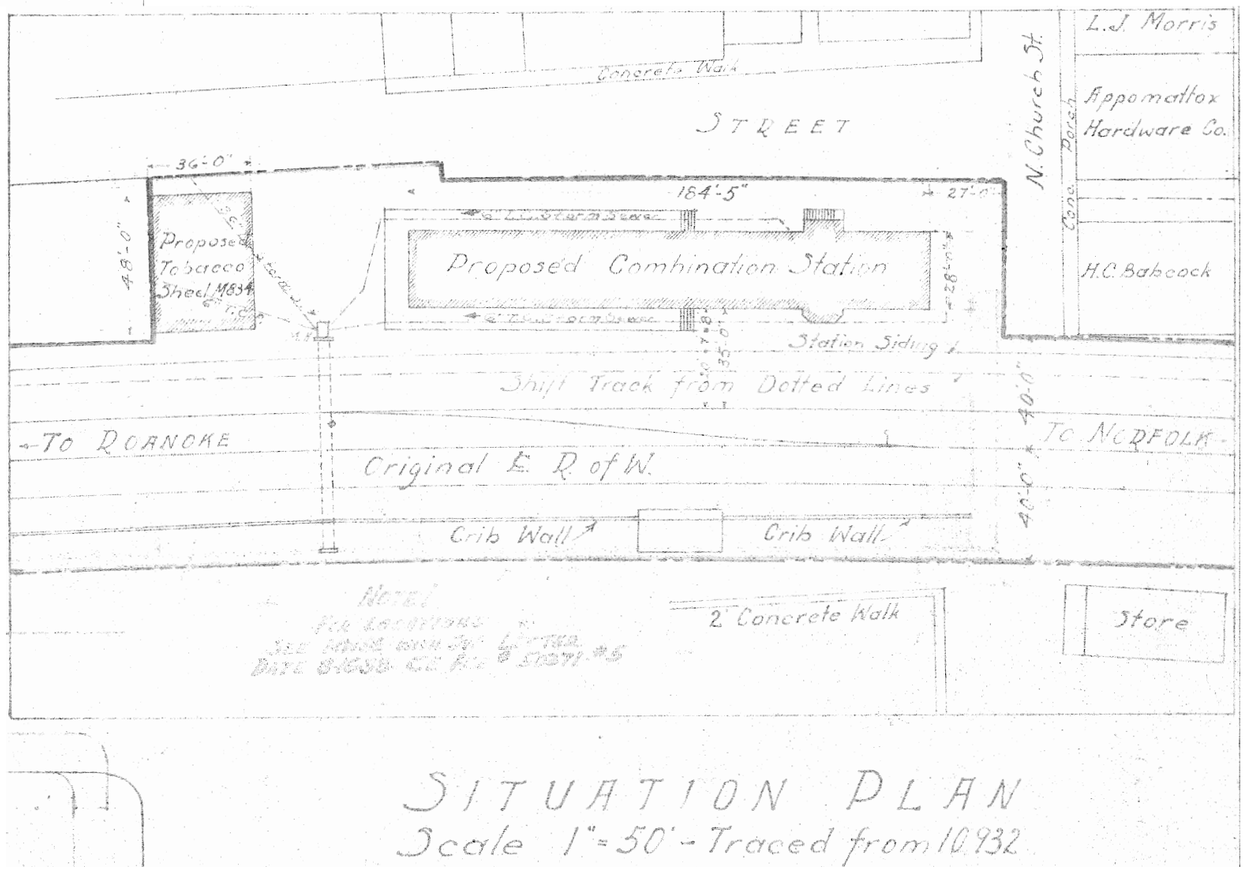

4"X6" Cap to support rafters
3'-0"
4"X4"
#10 Ga. Wire - 2" Mesh
Spaced 12'-0"
Equally
4"X4" Panelled
Wood
4"X5¼" #13.
¼"X½"
¼"X1½"
#40 Ga. Wire 2" Mesh
MAKE UP OF 4"X4" POSTS
4"X4"
13'-6"
1⅜" Stuff
2"X4" Studs
3½"X2½"X¼" L.
3'-6"
Floor
ELEVATION
SECTION
DETAIL OF FREIGHT LOBBY SCREEN
Scale ¼ in. = 1 ft.


Freight Room Floor
5"
2" Planks d.l.s.& 2 e. to 1¾"
2"X8"-16" c. to c.
6"X12"
8"X16"
5'-4"
1'-6"
6"
1'-6"
2"X4"
1⅜"X10" Boards
⅜"X2½" Battens
Base of Rail
2'-7"
1'-7"
12"
DETAIL OF FREIGHT PLATFORM
Scale ⅜ in. = 1 ft.



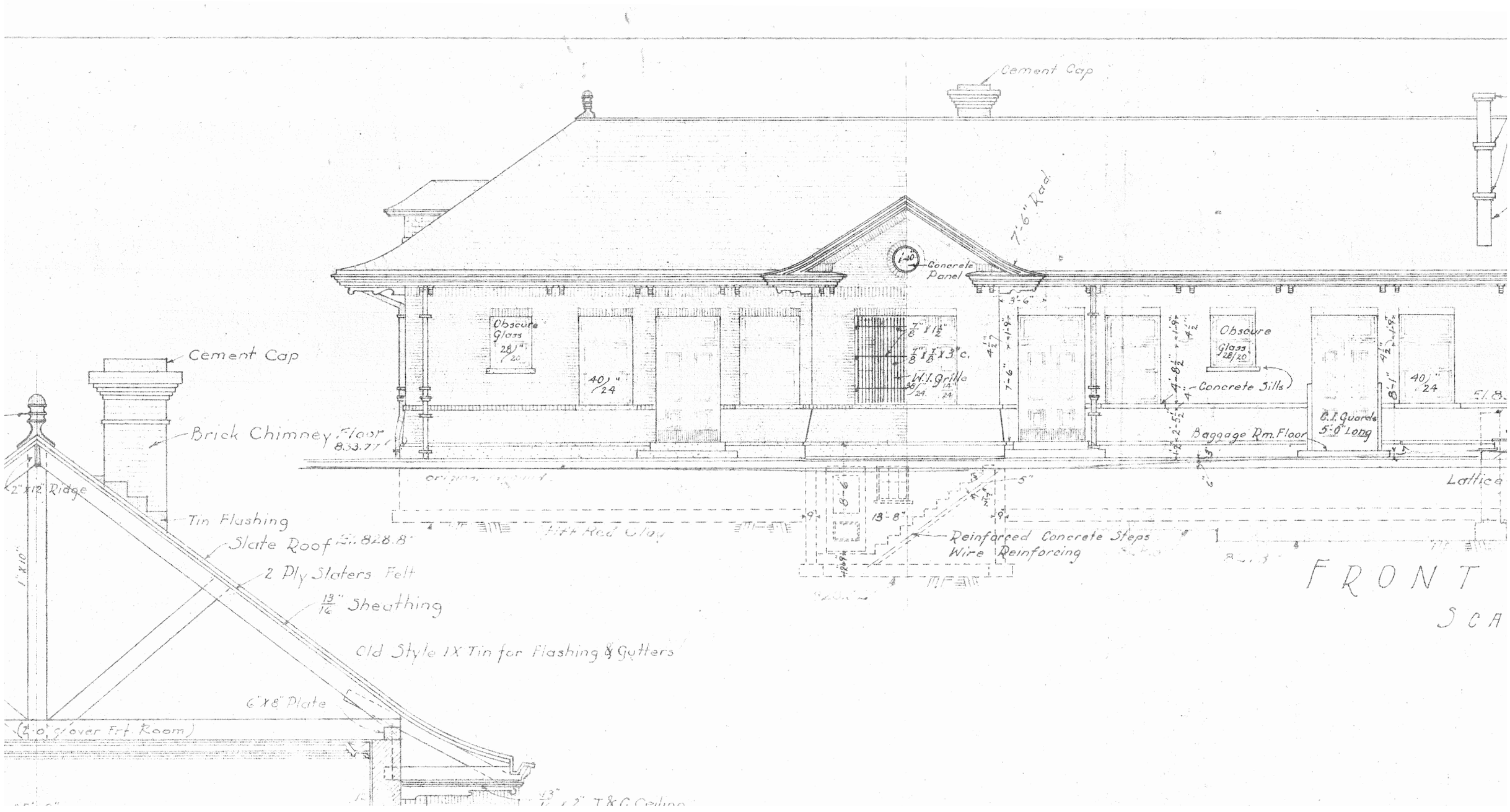
DETAIL OF REINFORCED-CONCRETE-FLOOR OVER-BOILER-ROOM

Scale - ¾ in. = 1 ft.



SITUATION PLAN

Scale 1"=50' - Traced from 10932


Cement Cap
Brick Chimney
Floor 833.77
2"x12" Ridge
Tin Flashing
Slate Roof
El. 828.8'
2 Ply Slaters Felt
13/16" Sheathing
Old Style IX Tin for Flashing & Gutters
6"x8" Plate
(2'-0" Over Frt. Room)
Cement Cap
7'-6" Rad.
1-40
Concrete Panel
Obscure Glass 28/20
40/24
7/8" x 1 1/2"
7/8" x 1 1/8" x 13" c.
W.I. Grille
36/24
14/24
Concrete Sills
Baggage Rm. Floor
B.I. Guards 5'-0" Long
Lattice
Original Ground
Tiff Red Clay
Reinforced Concrete Steps
Wire Reinforcing
FRONT
SCA

Concrete Coping

G.I. Ridge Roll

G.I. Finial

13" Brick Fire Wall

SLATE ROOF

C.I. Guards 5'-0" Long

13/16" X 3" T & G

7'-7½"

3'-5½" x 4'-2"

2"

3'-9"

1⅛" X 6"

⅛" X 8"

13/16" X 4" / 1/16" X 10"

Floor 835.17

El. 835.17

13/16" X 10" Boards

13/16" X 2½" Battens

Lattice

Original Ground

El. 828.17

El. 827.3

Stiff Red Clay

ELEVATION

SCALE ¼ IN. = 1 FT.

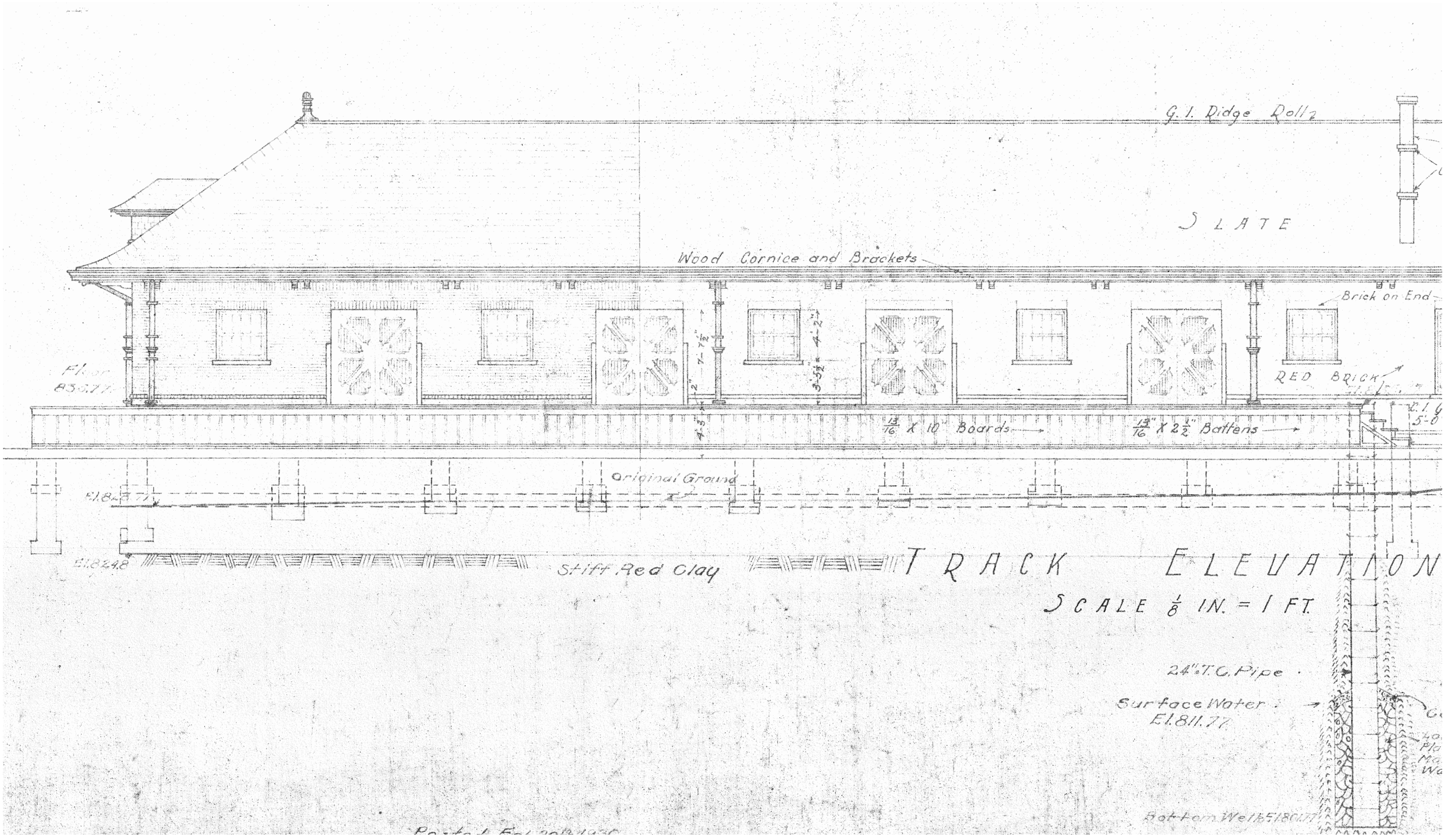
"Distribution of Quantities"

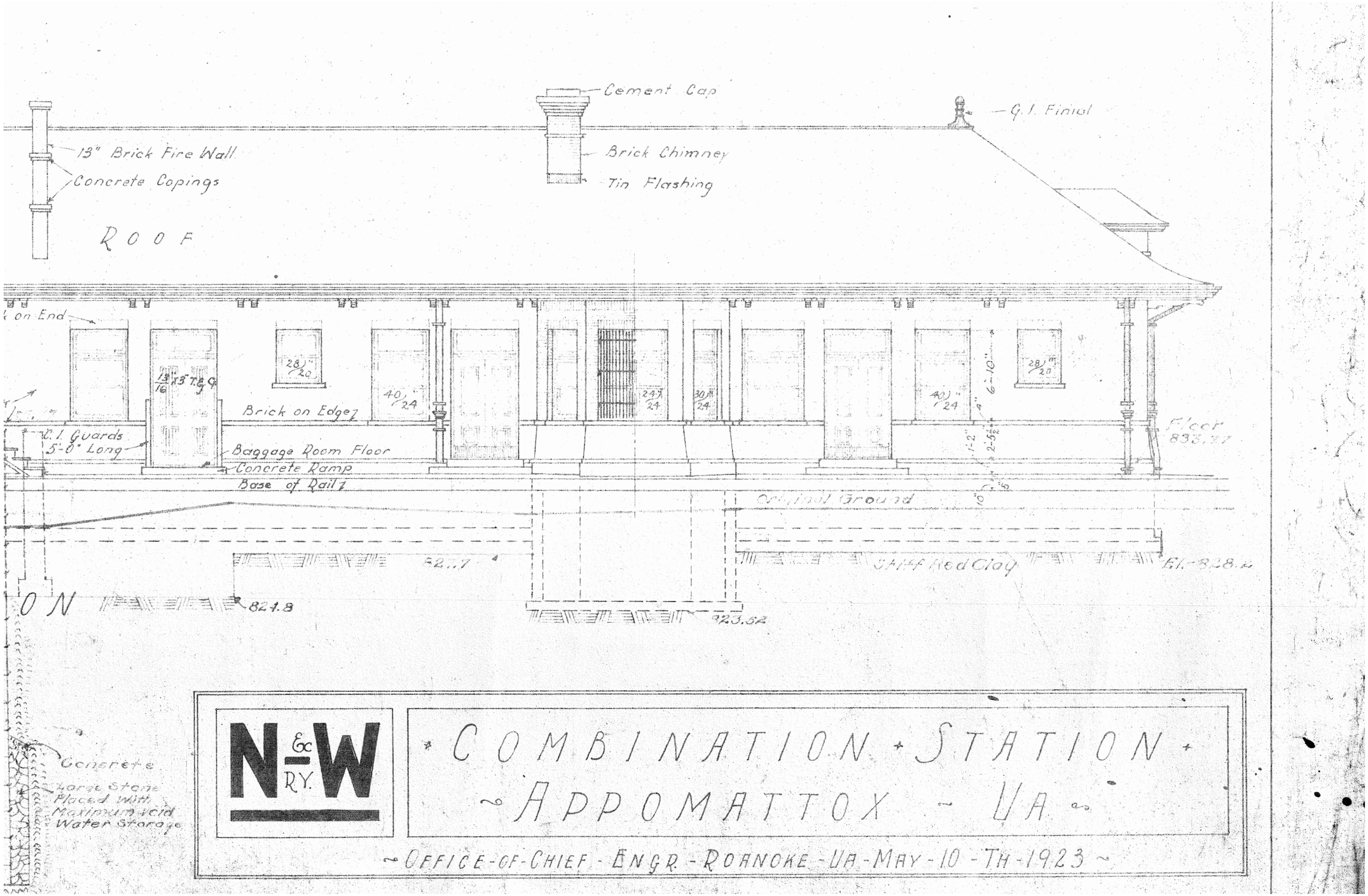
Excavation (Total) 373.77 Cu. Yds.

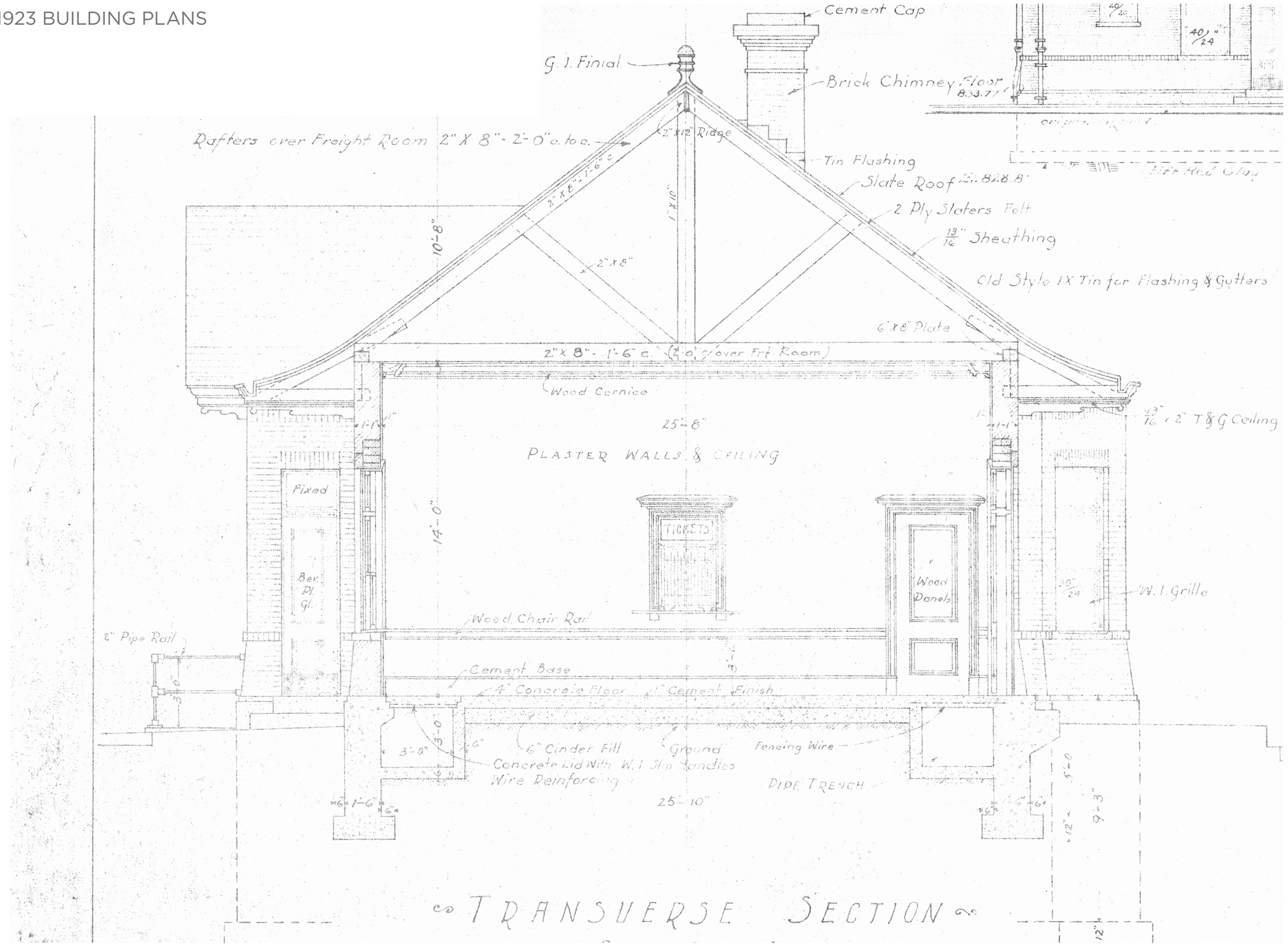
Concrete (Total) 408.16 " "

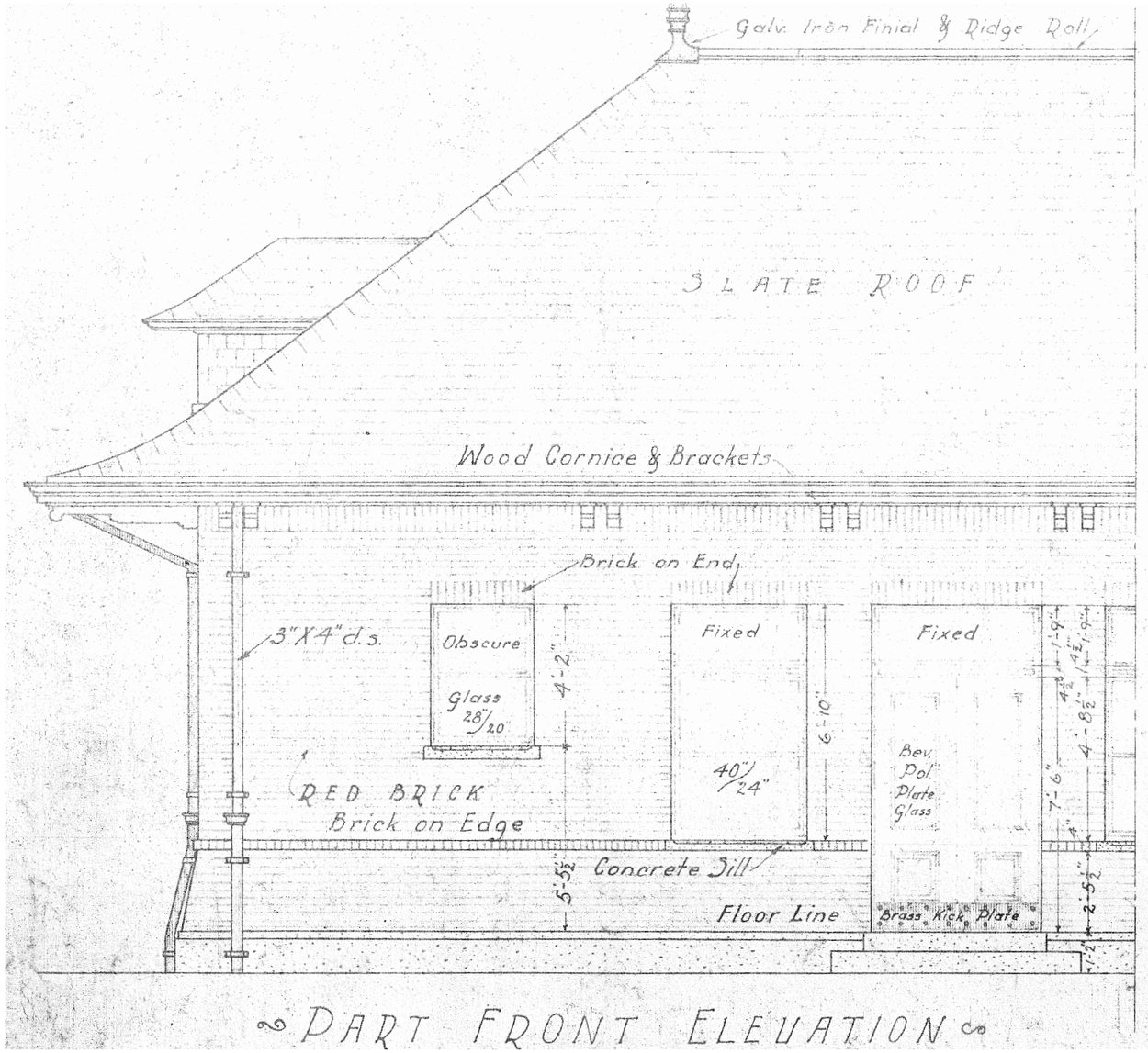
Miscellaneous Force Account "

Concrete for Scales Pit Foundation, Culvert

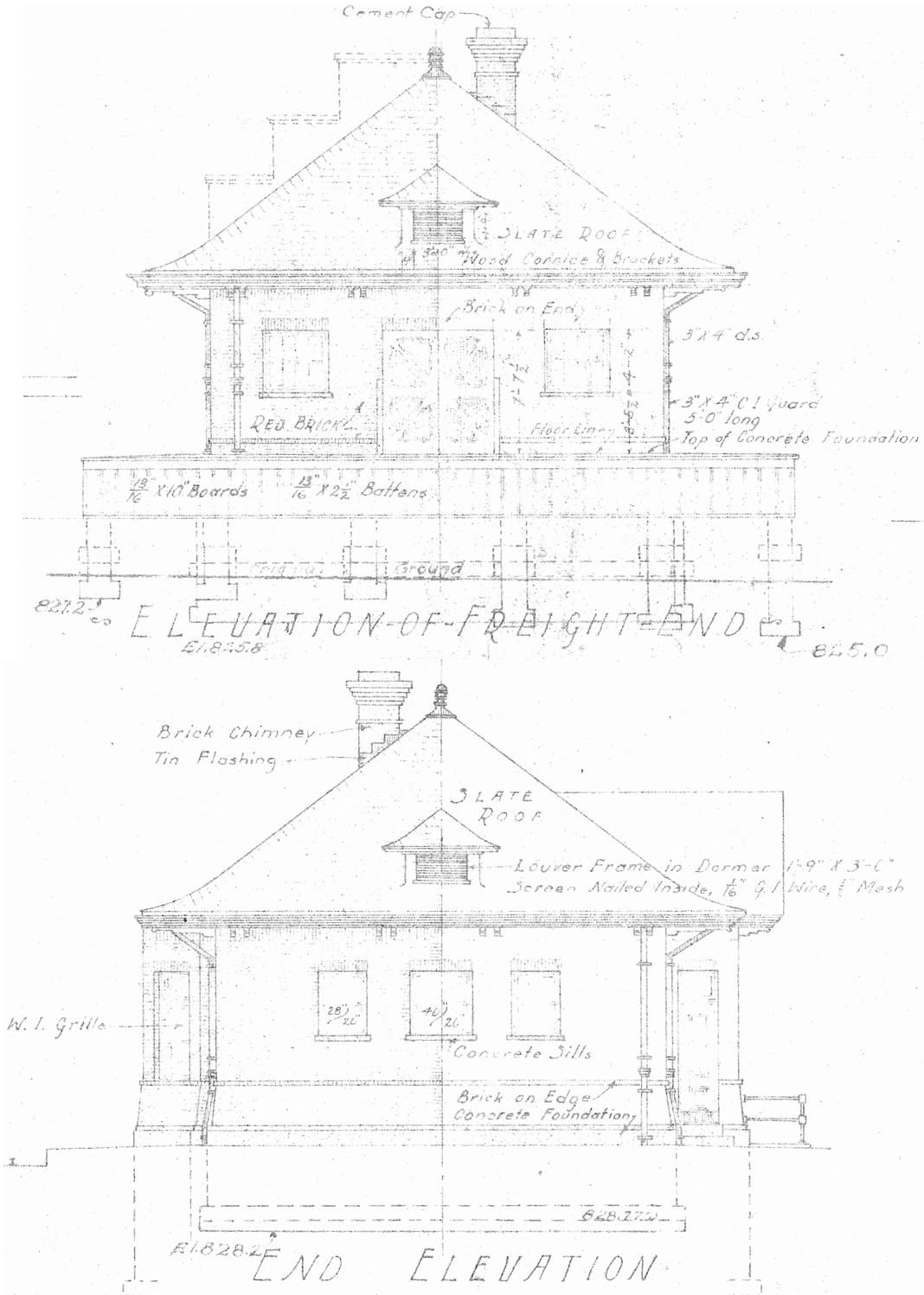

G.I. Ridge Roll
SLATE
Wood Cornice and Brackets
Brick on End
RED BRICK
13/16 X 10" Boards
13/16" X 2 1/2" Battens
Original Ground
Stiff Red Clay
TRACK ELEVATION
SCALE 1/8 IN. = 1 FT.
24" T.C. Pipe
Surface Water
El. 811.77
Bottom Well


Cement Cap
G.I. Finial
13" Brick Fire Wall
Concrete Copings
Brick Chimney
Tin Flashing
ROOF
Brick on Edge
C.I. Guards
5'-0" Long
Baggage Room Floor
Concrete Ramp
Base of Rail
Original Ground
Stiff Red Clay
824.8
823.62
Floor
833.17
Concrete
Large Stone
Placed with
Maximum void
Water Storage
N&W RY.
COMBINATION STATION
APPOMATTOX - VA
OFFICE OF CHIEF ENGR. ROANOKE VA MAY 10 TH 1923


Cement Cap
G.I. Finial
Brick Chimney
Floor 8.33.7"
Rafters over Freight Room 2"X 8"- 2'-0" c. to c.
2"x12" Ridge
Tin Flashing
Slate Roof
2 Ply Slaters Felt
13/16" Sheathing
Old Style IX Tin for Flashing & Gutters
6"x8" Plate
2"x 8"- 1'-6" c.
Wood Cornice
25'-8"
PLASTER WALLS & CEILING
13/16" x 2" T&G Ceiling
Fixed
Ber. Dl. Gl.
14'-0"
TICKETS
Wood Panels
W.I. Grille
Wood Chair Rail
2" Pipe Rail
Cement Base
4" Concrete Floor 1" Cement Finish
6" Cinder Fill
Concrete Lid With W.I. Slip Handles
Wire Reinforcing
Ground
Fencing Wire
DIPE TRENCH
25'-10"
9'-3"
TRANSVERSE SECTION

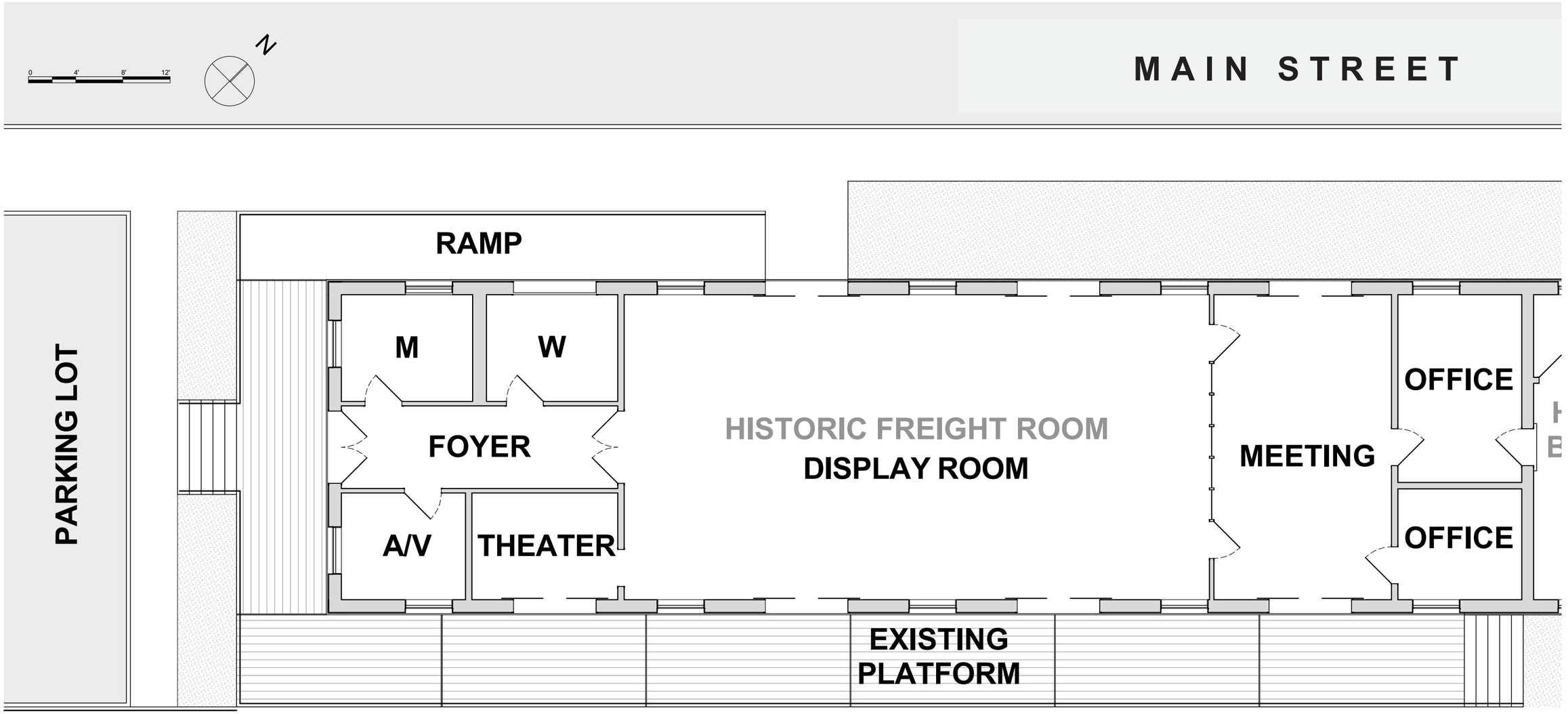


PART FRONT ELEVATION

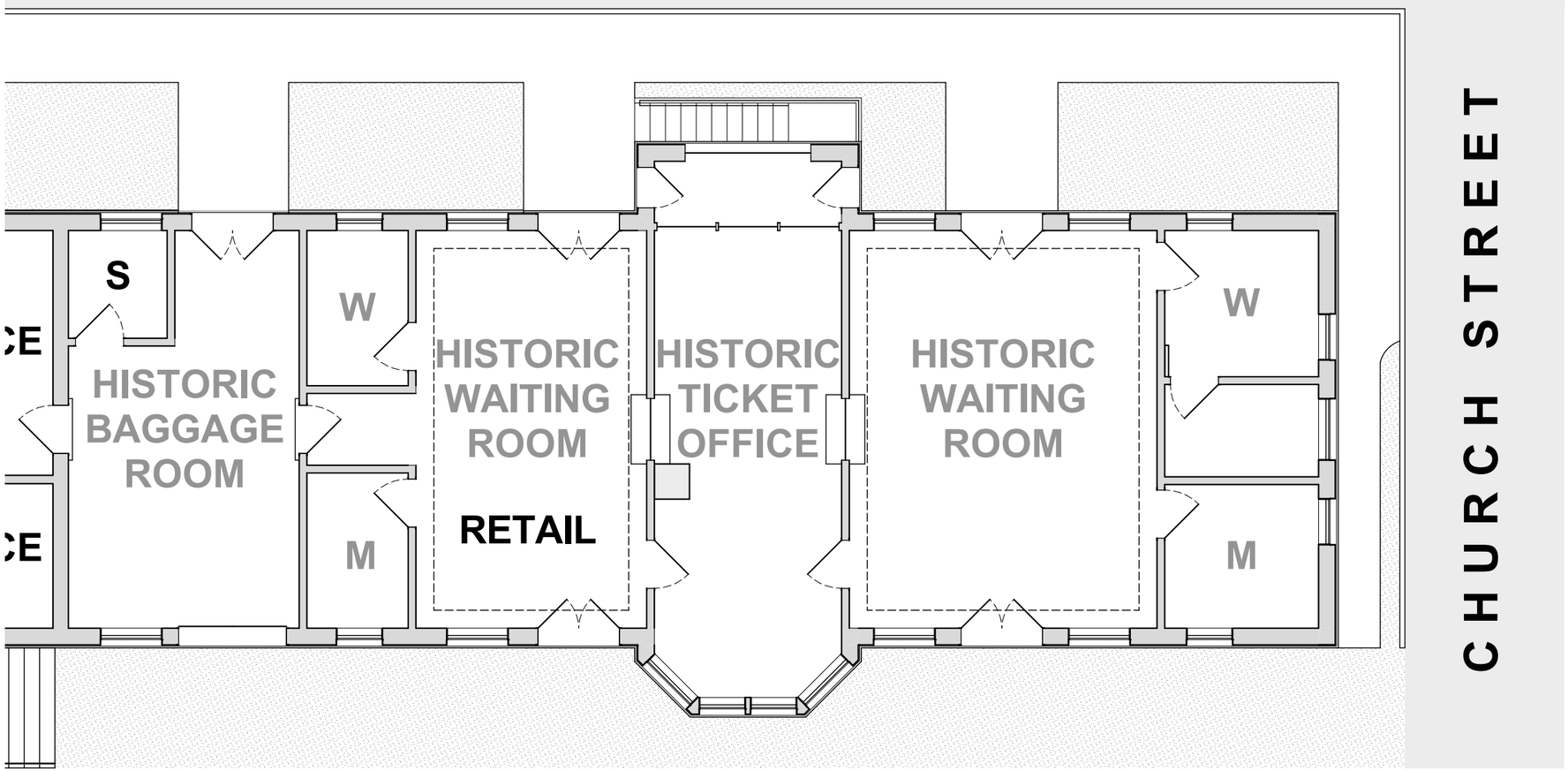


ELEVATION OF FREIGHT END

END ELEVATION


0
4'
8'
12'
N
MAIN STREET
PARKING LOT
RAMP
M
W
FOYER
A/V
THEATER
HISTORIC FREIGHT ROOM
DISPLAY ROOM
EXISTING
PLATFORM
MEETING
OFFICE
OFFICE
RAILROAD TRACKS

MAIN STREET



CHURCH STREET

RAILROAD TRACKS

Suter ENGINEERING, PC

205 Dry River Road, Bridgewater, VA 22812
ph(540)237-4636 cell(540)810-3239 fax(540)828-0508
eldie@suterengineering.com
www.suterengineering.com

November 9, 2018

Dalgliesh Gilpin Paxton Architects
206 Fifth Street
Charlottesville, VA 22902
ATTN: Garett Rouzer, AIA

Evaluation of existing Mechanical, Hvac & Plumbing
Appomattox Depot (Norfolk & Western Railroad Depot)

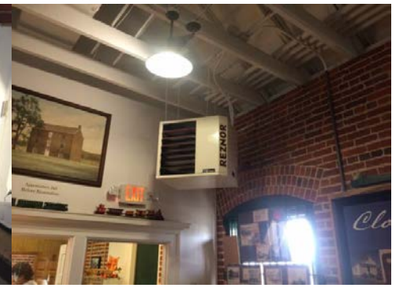
October 25, 2018 I visited the Appomattox Depot in Appomattox, Virginia to evaluate the Hvac and plumbing systems. What I found was a very solid looking older building with the Visitor Center having newer upgrades, a leased space with older but working systems, and unoccupied spaces with little or no heat or cooling and very old plumbing and plumbing fixtures.

Visitor Center

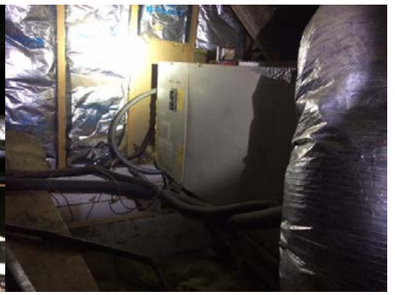
The Visitor Center or west end of the building is served by two heat pump systems, a 2011 13 SEER 3 ton Thermal Zone heat pump, and a 2018 Heil 14 SEER 2.5 ton heat pump system. Both seemed to be in good working order. The new Heil HP serves the back offices, and the meeting room. The Thermal Zone HP serves the larger front Display Room and appears to serve the restrooms, theater and A/V room, near the visitor's main entrance. The large front room also has an additional heater.

VISITOR CENTER HEAT PUMPS

VISITOR CENTER HEATER



NEW 2018 HEIL AHU



LENNOX AHU CONNECTED TO 2011 THERMAL ZONE HP UNIT

This additional, supplemental heater is a Reznor V3 Tcore-2. They are available in 45Mbh - 350 Mbh heating capacity. While a tag is not visible, this appeared to be in the 150-200Mbh range. Overall the visitor center appeared to have ample heating and cooling capacity and all equipment seemed to be in good working order.

The plumbing fixtures in the Visitor Center are all fairly new. The plumbing to the fixtures also looks to be fairly new. The building water supply and sanitary drain appear to be upgraded and very adequate for this space and use. The bathroom plumbing in the Visitor Center appeared to be in very good working order.

Middle Section, Retail Space, Antique Store

The middle part of the building is an antique shop (Historic baggage and historic waiting room). It has an older but functioning furnace and A.C. system. It has a duct system that serves both rooms. The furnace and ductwork are exposed and a little unsightly but high enough to be mostly out of line of sight.

The condenser units is old and tags are no longer legible. It appears to be a Heil 2.5 ton and probably about 25+ years old. It is an R-22 system, no longer made and expensive to service. The furnace appears to be in good working order and of the same vintage as the condenser unit. LP gas is furnished from a tank behind the building, between railroad tracks and the building.

Antique Shop Condenser Unit

Antique shop ductwork & furnace


Furnace in antique shop


Diffusers in other room of antique shop


Plumbing and plumbing fixtures in antique shop

The middle section, Antique Shop plumbing and plumbing fixtures are very old and are of little value. They seem to be barely adequate for the present tenant and would not meet present codes or standards.

Church St. end of building or Historic Waiting Room and Ticket Office

The church street end of the building is the Historic ticket office, waiting room and restrooms. This end of the building has not been occupied in a long time. The Hvac and plumbing in this end of the building is of little use or value. The plumbing fixtures and plumbing are very old and are of very little use or value.

Church Street end of building plumbing fixtures

The Hvac, heating and cooling appear to be mostly removed and mostly nonfunctioning. There are eight existing radiators for heating. But the boiler has been removed and only traces of the old boiler system still exist. This system is so antiquated that it would not be of real use today. The only heating source in this end of the building is a wall mounted gas heater in the historic ticket office. It has a 30,000 Btu/hr input, about 24,000 Btu/hr output. It appears to be about 21 years old. Its value or usefulness would be limited because of the small size. During this site visit we did not attempt to turn on the LP gas or operate this heater.

There is an old AC condenser unit setting just outside the historic ticket office. It does not appear to be working. Tags are no longer visible. It would appear to be 25+ year old Heil unit about 2-2.5 ton capacity. It is of no value.


Ticket Office Radiator


ticket office heater


ticket office condenser unit

Domestic Water Services

The building existing domestic water service is from two water meters, one near Church Street and one near the Visitor Center. The Church Street meter located at the NE corner of the building, is shown on the 1992 renovation drawings as an existing meter and a ¾" water service line. The water meter at the Visitor Center, NW corner of the building is shown as a 5/8" meter and a 1" water service. This service is feed from a town 6" water main, to a 2" PE service line, reducing to a 1" line before the meter.

These water meters and services look good and adequate for this building. But the service from NE end of the building and piping in the basement is very old. The Visitor Center end of the building appears to be upgraded and working very well.

Church Street Water Meter

NE corner at Church St. Water Meter Location

Domestic plumbing in basement

old pluming and piping in basement

Sanitary Connections

Sanitary appears to have been upgraded some years ago and is shown on the 1992 renovation drawings. Two 4" sanitary sewer lines are shown existing the building near the men's and women's restrooms at the visitor center. The two 4" lines wye into a single 6" line near a manhole and then the 6" line ties into the town 8" sanitary sewer line along Main Street.

Please call or email to the contact information on our letter head if any questions, comments, or clarifications are needed.

Sincerely,

Suter ENGINEERING, PC

Eldon (Eldie) Suter II, PE

NOLEN FRISA ASSOCIATES
CONSULTING ENGINEERS

November 9, 2018

Mr. Garett Rouzer
Dalgliesh Gilpin Paxton Architects
206 Fifth Street NE
Charlottesville VA 22902

SUBJECT: Appomattox Depot Structural Evaluation
NFA Comm. No. 18452

Dear Mr. Rouzer:

At your request, we examined the building noted above on October 25, 2018 to evaluate the structural condition of the building. The building is 139'-1" long and 28'-0" wide. It is constructed with solid brick walls 13" thick and wood roof trusses. Most of the building is built on a slab with a boiler room basement below the original ticket office. The original 1923 drawings show four pipe trenches below the slab and we were able to see the openings for these trenches from the boiler room. There are 12" concrete walls on each side of the boiler room and a 9" thick reinforced concrete floor slab above. There is a brick fire wall that separates the freight room on the west side from the passenger terminal on the east side and this wall extends above the roof. Finally, there is a wood-framed deck and aluminum handrail that covers the west end of the depot and runs along the south wall of the freight room. A concrete ramp runs along the Main Street side of the building at the NW corner and ties into the wood deck.

The portions of the building that we were able to see are in good condition.

Roof Framing
The roof trusses are spaced at 24" O.C. and are in good condition. The trusses on the east side of the firewall and sections on the west side of the firewall are concealed above a ceiling. We noticed some water stains from roof leaks but no structural damage. The trusses above the 50' long public reception area on the west side of the firewall are exposed and painted white with no visible damage. Plywood panels were painted and installed between the exposed trusses to conceal the wood sheathing above. Small wood strips were nailed to the trusses to hide the gaps between the new plywood and the trusses. The condition of the sheathing and the truss top chords could be evaluated during a roof replacement.

103 Homestead Drive, Forest, Virginia 24551
Tel: (434) 385-4390 Fax: (434) 385-4276

The 4'-6" overhangs are attached to the trusses and the framing was not visible for examination. The overhangs provide a lower sloped roof beyond the trusses and they contain a hidden gutter. Based on the condition of some of the soffit boards and downspout connections to the hidden gutter, there could be rotten wood framing in the overhang support framing.

Brick Walls
The brick is in good condition with a few exceptions. We found mortar eroded from the joints in a few places. We found significant mortar erosion near the two downspouts at the NE corner of the building. The outer wythe of the bottom 10 courses of brick is corbeled outward and down to the base course. The downspouts empty into drain pipes at the top of the corbeled brick. The drain pipes have been clogged enough to cause water to back up and overflow the tops of the drains. This has allowed the water to flow down the sloped brick faces long enough to cause the mortar erosion.

The outer wythe bottom course of brick above the windows and doors is turned on end and supported on a steel lintel. In most cases, the edge of the steel is exposed at the bearings instead of being covered by the mortar. The mortar could have covered the steel originally and eroded over the last 95 years or it may have been installed this way. We found light rust on the typical steel lintel. The rust would have been worse if the overhang was much shorter. The inner wythes of brick at the openings are supported by brick arches.

Basement Boiler Room Construction and Foundation Walls
We did not see any significant cracks in the concrete for the Boiler Room basement walls, the Boiler Room basement ceiling/floor slab, the pipe trenches or the foundation walls. We did see a few vertical cracks in the concrete foundation walls on the east end of the building. These cracks did not continue into the brick masonry above and we did not see any evidence of settlement. In our opinion, these cracks are probably shrinkage cracks that have been there a very long time.

Based on the original drawings, the pipe trenches are 3'-0" wide and they are covered with concrete and a removable concrete lid in at least one place. From below, we were able to see wood sheathing or wood planks spanning across the pipe trenches. The wood we discovered could be supporting the floor above or it could be formwork that was left in place. We found a few planks visible from the basement openings that were broken. We recommend that this should be investigated to determine if any repairs are needed for the floor above the pipe trenches.

Exterior Deck Framing
Much of the crawl space below the deck was not accessible during our site visit. However, we observed that many of the deck joists have rotten sections. As a result, these full-cut joists have been reinforced with modern lumber joists. Many of these reinforcements are not full length and may not be adequate to provide the 100 psf live load capacity required by our current building code. Also, the 51-inch tall aluminum handrails are not properly fastened down to the wood framing to provide the 200 pound load requirement found in our current building code. We recommend that a structural engineer investigate the deck framing and handrail attachments thoroughly and provide the necessary repair drawings to insure the public safety.

It has been a pleasure serving you. If you have any questions, please give us a call.

Very truly yours,
NOLEN FRISA ASSOCIATES, PC

Stephen V. Gregory, PE

SVG/s

Enclosure: photographs

COMMONWEALTH OF VIRGINIA
STEPHEN V. GREGORY
Lic. No. 017573
PROFESSIONAL ENGINEER

1. Roof Trusses East of Firewall Above Ceiling

2. Roof Trusses West of Firewall Above Office Ceiling

3. Exposed Roof Trusses with Plywood Panels and Loose Wood Strips Attached to Trusses

4. Water Damaged Overhang Soffit with Bad Downspout Connection at Internal Gutter

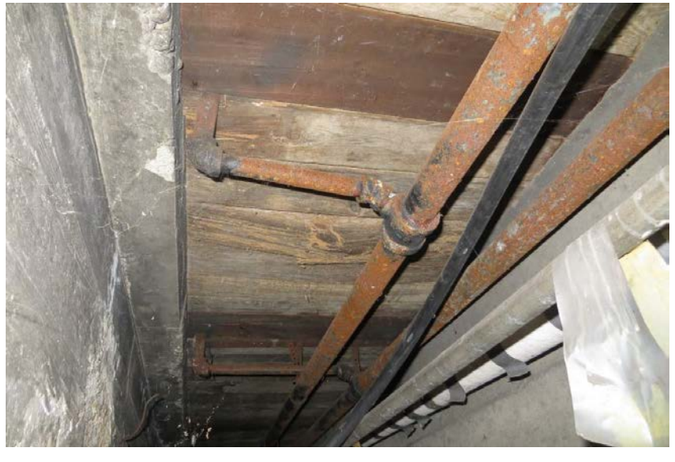
Appomattox Depot Structural Evaluation

5. Mortar Erosion at NE Corner Downspouts

6. Exposed Rusty Steel Lintels with No Mortar Cover

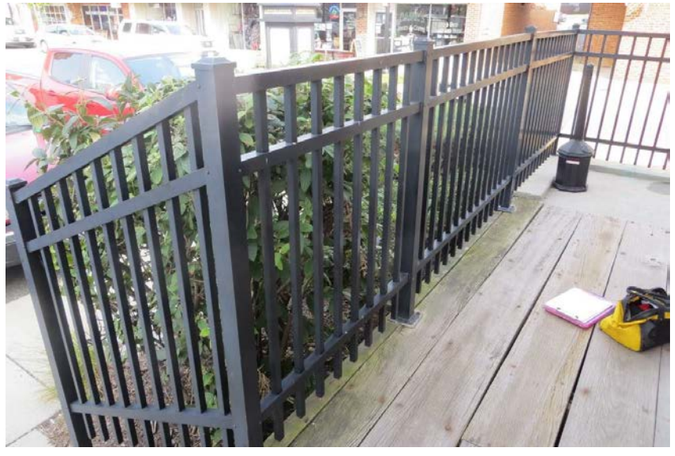
7. Typical Interior 8” Brick Arch at Door and Window Openings

8. Typical Foundation Wall Crack at East End

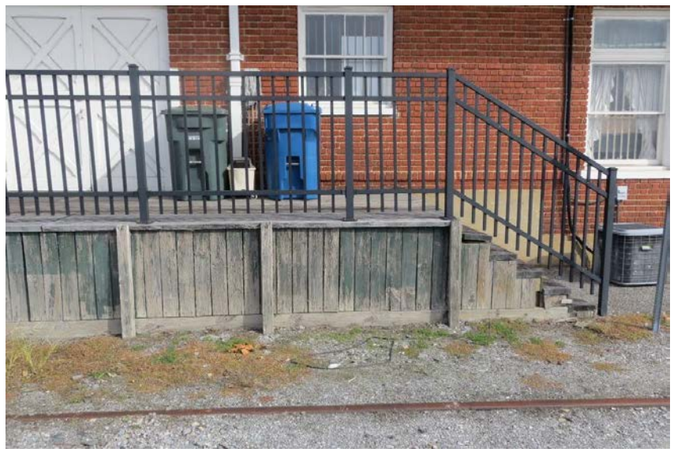


9. Pipe Trench Wood Plank Failure

10. Wood Deck Full-Cut Joists with Modern Lumber Partial Reinforcement



11. Aluminum Handrail at West Entrance



12. Aluminum Handrail at South Wall

William R Jennings, Jr.
Consulting Engineering, PC
316 Brook Park Place
Suite A3
Forest, VA 24551
Phone: (434) 525-7099
Fax: (757) 282-2636
Cell: (434) 941-4923
Email: bjennings@jenningspe.com

November 15, 2018

Dalgliesh Gilpin Paxton Architects
206 Fifth Street
Charlottesville, VA 22902
ATTN: Garett Rouzer, AIA

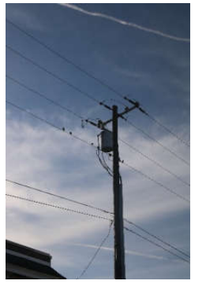
RE: Evaluation of existing Electrical System
Appomattox Depot
(Norfolk & Western Railroad Depot)
Appomattox, VA
Project No. 18184

Dear Mr. Rouzer:

Field Investigation:

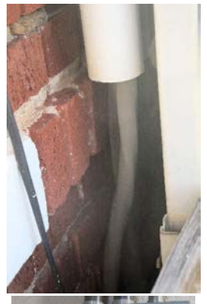
We visited the site on October 25th, 2018. We made the following observations:

1. Electrical Service:
   a. Electrical Service Description:
      i. The electrical service is at 120/240 volts, single phase and consists of a bank of 4 meters and circuit breaker disconnects fed underground from a pole mount transformer across the street.
         1. The service circuit breakers are labeled A, B, C and D.
         2. A is labeled “Railroad Committee” and is 200 amps.
         3. B is labeled “New Office and Display Room” and is 200 amps.



         4. C is Labeled “Existing Retail Area” and is 150 amps.
         5. D is labeled “Existing Retail Area” and is 125 amps.

      ii. This service equipment appears to have been put in with the renovation in 1992.
      iii. There is a panel located adjacent to the service disconnects labeled “Panel E for New Office & Display Room”. This appears to be tapped off or the service breaker D.
   b. Electrical Service Condition and Issues:
      i. The electrical equipment appears to be in adequate shape, although should there be a major renovation to the facility, it may not be adequate for the addition load requirement.
      ii. The metering arrangement may need to be to be modified to comply with the needs of new tenants.
   c. The electrical service is grounded to a ground rod at the service equipment. There does appear to be an extension of the ground to the buildings metallic water service.
2. Feeders and Panels:
   a. Feeder Description:
      i. The feeders consist of type SE cable which is partially installed in conduit on the outside of the building. There are no bushing on the conduit to protect the ends nor do those ends appear to be cut and trim properly to prevent abrasion of the cable. Some of the cables appear to be installed above return air plenum ceiling, which is not allow under the National electrical code.
      ii. The panelboards appear to be in relatively good condition.
   b. Recommendations:
      i. Replaced the feeders with conductor in conduit as required by code.



ii. The panelboards may need to be relocated or increase in size depending on the needs of the future occupants of the building.

3. Lighting:
   a. General:
      i. The lighting in the building is a mix of fluorescent and incandescent.
      ii. The exterior lighting is in poor condition and does not appear to be properly supported by code.
      iii. Emergency lighting consists of a few two head emergency wall packs in some of the spaces. These are not adequate to meet the code requirements of 1 foot-candle average.

   b. Recommendations:
      i. Replace all the lighting in the interior spaces when they are renovated and as repairs become necessary. Some fixtures in the visitor center appear to be period industrial or spot lighting. It is suggested that these should stay with incandescent lamps be replaced with equivalent LED at the earliest opportunity to save on energy and future maintenance cost.
      ii. Replace all the lighting on the exterior of the building to provide code required egress lighting, both normal and emergency.
      iii. Provide emergency lighting in all currently occupied spaces to meet the requirement of building code for 1 foot-candle average.
      iv. Replace current exit signs and add exit signs as required. New signs should be LED type.
4. Fire Alarm:
   a. General:
      i. There currently is not a fire alarm system in the building.
   b. Recommendations:
      i. Although a fire alarm system is not required by code based on the current occupancy, it is recommended that one be added for safety and to protect the historic structure with early detection. Recommend full smoke detector protection throughout the building to optimize the chance that a fire will be detected prior to it becoming significant. The alarm system should have remote reporting capability.

5. Lightning Protection:
   a. General:
      i. The building currently does not have lightning protection.
   b. Recommendations:
      i. Although lightning protection is not mandated by code, it is a good idea to include it with any renovations as it would add another layer of protection for the historical structure.

Sincerely,

William R Jennings, Jr. PE

W.A. LYNCH ROOFING CO., INC.

TO: Mr. Garett Rouzer, DGP Architects

FROM: Darren Lynch, VP

RE: Appomattox Train Depot Roof Evaluation

Main Slate Roof Areas: Per my site visit the slate roof appears to be in pretty good shape. Although I don't know when the original roof was installed, there have been minor repairs and individual slate replacements noted by the different color of old vs new slate.

Slate Roof


Missing or Damaged Slate: During the course of my inspection I only noticed a couple damaged or missing slate. These are simple repairs so the slate roof is not in need of major work. Buckingham slate will last a very long time with routine maintenance, so there's no reason the roof cannot continue to effectively serve the train depot for many years.

Missing Slate

Vent Pipes & Step Flashing: However, there are areas of the roof that will probably need addressing sooner. Some of the vent pipes and step flashing appear to be galvanized flashing that is rusting. There's no way for me to know when this flashing will play out or when a leak might develop; but I would recommend considering replacing with copper in the next 3-5 years.

Rusted Vent Pipe & Step Flashing


Valleys: Please note - all valley flashings have been replaced with copper. These will not need to be replaced or repaired and should last a long time.

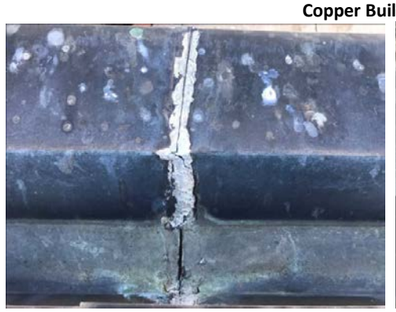
Copper Valley Flashing

Flat Seam Roof Areas: The curved eave and built-in gutter areas have been installed with flat lock (flat seam) copper. These areas appeared to be relatively new and in relatively good condition. However, there are concerns you should be aware of. First, we typically do not recommend flat lock on such large areas of roof. Expansion and contraction tends to put pressure on joints which could lead to cracks and/or issues down the road. We generally recommend an expansion joint for built-in gutter at least every 30 ft. Same with flat seam areas. The train station has some expansion, but not technically not enough. There's no way for me to know how well the joints were initially soldered or how long they will hold up. You may not have a problem for 15-20 years or a joint could develop a leak next year.

Flat Seam Roofing


Copper Built-In Gutter: All the joints in the copper built-in gutter have been stipped off with pressure sensitive EPDM (but one). This relates back to my point about expansion and contraction. These joints were stripped off probably because the joints started to crack and leak. The one joint that isn't stripped off needs to be (see below). The EPDM material can last 15-20 years so I don't think you need to do anything other than fix the one joint that isn't stripped off. I don't know if there are leaks at outlets or other areas. I didn't notice wet spots in the soffit when I was on site.

Copper Built-In Gutter Joints



Misc Items: The ridge areas all have metal flashing which seems to be functioning well. Some of it may need painting again in the future to prevent deterioration. However, the hip areas do not have metal cap installed. Most of these areas have appropriate flashing underneath the slate but there are a couple spots without. I recommend fixing these spots as water could eventually work it's way thru underlayment and cause a leak. In older buildings sometimes masonry issues such as old brick and deteriorated masonry joints can cause leaks. I only mention to be aware, the wall pictured below is older but doesn't appear to be in poor condition.

Hip Area and Masonry Joints

If you have additional questions please let me know. By and large, the slate roof doesn't need a lot of work. I don't think it's necessary to budget or consider replacement in the near future. Buckingham slate can last a very long time (75-100 years) so routine maintenance is all I'd recommend. If you want me to price some of the minor repairs I'm happy to do so. Either way, I'd recommend periodic inspection (maybe every couple years) of the older flashing and flat seam copper areas - just to make sure things are holding up well.

STANDARDS FOR PRESERVATION & GUIDELINES
FOR PRESERVING HISTORIC BUILDINGS

Preservation

Preservation is defined as the act or process of applying measures necessary to sustain the existing form, integrity, and materials of an historic property. Work, including preliminary measures to protect and stabilize the property, generally focuses upon the ongoing maintenance and repair of historic materials and features rather than extensive replacement and new construction. New exterior additions are not within the scope of this treatment; however, the limited and sensitive upgrading of mechanical, electrical, and plumbing systems and other code-required work to make properties functional is appropriate within a preservation project.

Standards for Preservation

1. A property will be used as it was historically, or be given a new use that maximizes the retention of distinctive materials, features, spaces and spatial relationships. Where a treatment and use have not been identified, a property will be protected and, if necessary, stabilized until additional work may be undertaken.
2. The historic character of a property will be retained and preserved. The replacement of intact or repairable historic materials or alteration of features, spaces and spatial relationships that characterize a property will be avoided.
3. Each property will be recognized as a physical record of its time, place and use. Work needed to stabilize, consolidate and conserve existing historic materials and features will be physically and visually compatible, identifiable upon close inspection and properly documented for future research.
4. Changes to a property that have acquired historic significance in their own right will be retained and preserved.
5. Distinctive materials, features, finishes and construction techniques or examples of craftsmanship that characterize a property will be preserved.
6. The existing condition of historic features will be evaluated to determine the appropriate level of intervention needed. Where the severity of deterioration requires repair or limited replacement of a distinctive feature, the new material will match the old in composition, design, color and texture.
7. Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.
8. Archeological resources will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.

GUIDELINES FOR PRESERVING HISTORIC BUILDINGS

INTRODUCTION

Preservation is the appropriate treatment when the objective of the project is to retain the building as it currently exists. This means that not only the original historic materials and features will be preserved, but also later changes and additions to the original building. The expressed goal of the **Standards for Preservation and Guidelines for Preserving Historic Buildings** is retention of the building's existing form, features, and materials. This may be as simple as maintaining existing materials and features or may involve more extensive repair. Protection, maintenance, and repair are emphasized while replacement is minimized.

Identify, Retain, and Preserve Historic Materials and Features

The guidance for the treatment **Preservation** begins with recommendations to identify the form and detailing of those architectural materials and features that are important in defining the building's historic character and which must be retained to preserve that character. Therefore, guidance on ***identifying, retaining, and preserving*** character-defining features is always given first.

Stabilize Deteriorated Historic Materials and Features as a Preliminary Measure

Deteriorated portions of a historic building may need to be protected through preliminary stabilization measures until additional work can be undertaken. ***Stabilizing*** may begin with temporary structural reinforcement and progress to weatherization or correcting unsafe conditions. Although it may not be necessary in every preservation project, stabilization is nonetheless an integral part of the treatment **Preservation**; it is equally applicable to the other treatments if circumstances warrant.

Protect and Maintain Historic Materials and Features

After identifying those materials and features that are important and must be retained in the process of **Preservation** work, then ***protecting and maintaining*** them are addressed. Protection generally involves the least degree of intervention and is preparatory to other work. Protection includes the maintenance of historic materials and features as well as ensuring that the property is protected before and during preservation work.

Repair (Stabilize, Consolidate, and Conserve) Historic Materials and Features

Next, when the physical condition of character-defining materials and features warrants additional work, ***repairing*** by ***stabilizing, consolidating, and conserving*** is recommended. The intent of **Preservation** is to retain existing materials and features while introducing as little new material as possible. Consequently, guidance for repairing a historic material, such as masonry, begins with the least degree of intervention possible, such as strengthening materials through consolidation, when necessary, or repointing with mortar of an appropriate strength. Repairing masonry, as well as wood and metal features, may include patching, splicing, or other treatments using recognized preservation methods. All work should be physically and visually compatible.

Limited Replacement in Kind of Extensively Deteriorated Portions of Historic Features

The greatest level of intervention in this treatment is the ***limited replacement in kind*** of extensively deteriorated or missing components of features when there are surviving prototypes or when the original features can be substantiated by documentary and physical evidence. The replacement material must match the old, both physically and visually (e.g., wood with wood). Thus, with the exception of hidden structural reinforcement, such as steel rods, substitute materials are not appropriate in the treatment **Preservation.** If prominent features are missing, such as an interior staircase or an exterior cornice, then a Rehabilitation or Restoration treatment may be more appropriate.

Code-Required Work: Accessibility and Life Safety

These sections of the **Preservation** guidance address work that must be done to meet accessibility and life-safety requirements. This work may be an important aspect of preservation projects, and it, too, must be assessed for its potential negative impact on the building's character. For this reason, particular care must be taken not to obscure, damage, or destroy character-defining materials or features in the process of undertaking work to meet code requirements.

Resilience to Natural Hazards

Resilience to natural hazards should be addressed as part of a **Preservation** project. A historic building may have existing characteristics or features that help to address or minimize the impacts of natural hazards. These should always be used to best advantage when planning new adaptive treatments so as to have the least impact on the historic character of the building, its site, and setting.

Sustainability

Sustainability should be addressed as part of a **Preservation** project. Good preservation practice is often synonymous with sustainability. Existing energy-efficient features should be retained and repaired. New sustainability treatments should generally be limited to updating existing features and systems so as to have the least impact on the historic character of the building.

The topic of sustainability is addressed in detail in *The Secretary of the Interior's Standards for Rehabilitation & Illustrated Guidelines on Sustainability for Rehabilitating Historic Buildings*. Although specifically developed for the treatment Rehabilitation, the Sustainability Guidelines can be used to help guide the other treatments.

Preservation as a Treatment. *When the property's distinctive materials, features, and spaces are essentially intact and thus convey the historic significance without extensive repair or replacement; when depiction at a particular period of time is not appropriate; and when a continuing or new use does not require additions or extensive alterations, Preservation may be considered as a treatment. Prior to undertaking work, a documentation plan for Preservation should be developed.*

MASONRY: STONE, BRICK, TERRA COTTA, CONCRETE, ADOBE, STUCCO, AND MORTAR

RECOMMENDED	NOT RECOMMENDED
Identifying, retaining, and preserving masonry features that are important in defining the overall historic character of the building (such as walls, brackets, railings, cornices, window and door surrounds, steps, and columns) and decorative ornament and other details, such as tooling and bonding patterns, coatings, and color.	Altering masonry features which are important in defining the overall historic character of the building so that, as a result, the character is diminished. Replacing historic masonry features instead of repairing or replacing only the deteriorated masonry. Applying paint or other coatings (such as stucco) to masonry that has been historically unpainted or uncoated. Removing paint from historically-painted masonry.
Stabilizing deteriorated or damaged masonry as a preliminary measure, when necessary, prior to undertaking preservation work.	Failing to stabilize deteriorated or damaged masonry until additional work is undertaken, thereby allowing further damage to occur to the historic building
Protecting and maintaining masonry by ensuring that historic drainage features and systems that divert rainwater from masonry surfaces (such as roof overhangs, gutters, and downspouts) are intact and functioning properly.	Failing to identify and treat the causes of masonry deterioration, such as leaking roofs and gutters or rising damp.
Cleaning masonry only when necessary to halt deterioration or remove heavy soiling.	Cleaning masonry surfaces when they are not heavily soiled to create a "like-new" appearance, thereby needlessly introducing chemicals or moisture into historic materials.
Carrying out masonry cleaning tests when it has been determined that cleaning is appropriate. Test areas should be examined to ensure that no damage has resulted and, ideally, monitored over a sufficient period of time to allow long-range effects to be predicted.	Cleaning masonry surfaces without testing or without sufficient time for the testing results to be evaluated.

[1] A test patch should always be done before using a chemical cleaner to ensure that it will not damage historic masonry, as in this instance, terra cotta.

MASONRY: STONE, BRICK, TERRA COTTA, CONCRETE, ADOBE, STUCCO, AND MORTAR

RECOMMENDED	NOT RECOMMENDED
Cleaning soiled masonry surfaces with the gentlest method possible, such as using low-pressure water and detergent and natural bristle or other soft-bristle brushes.	Cleaning or removing paint from masonry surfaces using most abrasive methods (including sandblasting, other media blasting, or high-pressure water) which can damage the surface of the masonry and mortar joints. Using a cleaning or paint-removal method that involves water or liquid chemical solutions when there is any possibility of freezing temperatures. Cleaning with chemical products that will damage some types of masonry (such as using acid on limestone or marble), or failing to neutralize or rinse off chemical cleaners from masonry surfaces.
Using biodegradable or environmentally-safe cleaning or paint-removal products.	
Using paint-removal methods that employ a poultice to which paint adheres, when possible, to neatly and safely remove old lead paint.	
Using coatings that encapsulate lead paint, when possible, where the paint is not required to be removed to meet environmental regulations.	
Allowing only trained conservators to use abrasive or laser-cleaning methods, when necessary, to clean hard-to-reach, highly-carved, or detailed decorative stone features.	

MASONRY: STONE, BRICK, TERRA COTTA, CONCRETE, ADOBE, STUCCO, AND MORTAR

RECOMMENDED	NOT RECOMMENDED
Removing damaged or deteriorated paint only to the next sound layer using the gentlest method possible (e.g., hand scraping) prior to repainting.	Removing paint that is firmly adhered to masonry surfaces.
Applying compatible paint coating systems to historically-painted masonry following proper surface preparation.	Failing to follow manufacturers' product and application instructions when repainting masonry features.
Repainting historically-painted masonry features with colors that are appropriate to the building and district.	Using paint colors on historically-painted masonry features that are not appropriate to the building or district.
Protecting adjacent materials when working on masonry features.	Failing to protect adjacent materials when working on masonry features.
Evaluating the overall condition of the masonry to determine whether more than protection and maintenance, such as repairs to masonry features, will be necessary.	Failing to undertake adequate measures to ensure the protection of masonry features.
Repairing masonry by patching, splicing, consolidating, or otherwise reinforcing the masonry using recognized preservation methods.	Removing masonry that could be stabilized, repaired, and conserved, or using untested consolidants, improper repair techniques, or unskilled personnel, potentially causing further damage to historic materials.
Repairing masonry walls and other masonry features by repointing the mortar joints where there is evidence of deterioration, such as disintegrating mortar, cracks in mortar joints, loose bricks, or damaged plaster on the interior.	Removing non-deteriorated mortar from sound joints and then repointing the entire building to achieve a more uniform appearance.
Removing deteriorated lime mortar carefully by hand raking the joints to avoid damaging the masonry.	

[2] **Not Recommended:** The use of inappropriate Portland cement mortar to repoint these soft 19th-century bricks has caused some of them to spall. *Photo: Courtesy Nebraska State Historic Preservation Office.*

MASONRY: STONE, BRICK, TERRA COTTA, CONCRETE, ADOBE, STUCCO, AND MORTAR

RECOMMENDED	NOT RECOMMENDED
Using power tools only on horizontal joints on brick masonry in conjunction with hand chiseling to remove hard mortar that is deteriorated or that is a non-historic material which is causing damage to the masonry units. Mechanical tools should be used only by skilled masons in limited circumstances and generally not on short, vertical joints in brick masonry.	Allowing unskilled workers to use masonry saws or mechanical tools to remove deteriorated mortar from joints prior to repointing.
Duplicating historic mortar joints in strength, composition, color, and texture when repointing is necessary. In some cases, a lime-based mortar may also be considered when repointing Portland cement mortar because it is more flexible.	Repointing masonry units with mortar of high Portland cement content (unless it is the content of the historic mortar).
Duplicating historic mortar joints in width and joint profile when repointing is necessary.	Using "surface grouting" or a "scrub" coating technique, such as a "sack rub" or "mortar washing," to repoint exterior masonry units instead of traditional repointing methods. Changing the width or joint profile when repointing.
Repairing stucco by removing the damaged material and patching with new stucco that duplicates the old in strength, composition, color, and texture.	Removing sound stucco or repairing with new stucco that is different in composition from the historic stucco. Patching stucco or concrete without removing the source of deterioration. Replacing deteriorated stucco with synthetic stucco, an exterior insulation and finish system (EIFS), or other non-traditional materials.
Using mud plaster or a compatible lime-plaster adobe render, when appropriate, to repair adobe.	Applying cement stucco, unless it already exists, to adobe.
Sealing joints in concrete with appropriate flexible sealants and backer rods, when necessary.	Repointing masonry units (other than concrete) with a synthetic caulking compound instead of mortar.

[3] **Not Recommended:** Cracks in the stucco have not been repaired, thereby allowing ferns to grow in the moist substrate which will cause further damage to the masonry.

MASONRY: STONE, BRICK, TERRA COTTA, CONCRETE, ADOBE, STUCCO, AND MORTAR

RECOMMENDED	NOT RECOMMENDED
Cutting damaged concrete back to remove the source of deterioration, such as corrosion on metal reinforcement bars. The new patch must be applied carefully so that it will bond satisfactorily with, and match, the historic concrete.	Patching damaged concrete without first removing the source of deterioration.
Using a non-corrosive, stainless-steel anchoring system when replacing damaged stone, concrete, or terra-cotta units that have failed.	

MASONRY: STONE, BRICK, TERRA COTTA, CONCRETE, ADOBE, STUCCO, AND MORTAR

RECOMMENDED	NOT RECOMMENDED
Applying non-historic surface treatments, such as water-repellent coatings, to masonry only after repointing and only if masonry repairs have failed to arrest water penetration problems.	Applying waterproof, water-repellent, or non-original historical coatings (such as stucco) to masonry as a substitute for repointing and masonry repairs.
Applying permeable, anti-graffiti coatings to masonry when appropriate.	Applying water-repellent or anti-graffiti coatings that change the appearance of the masonry or that may trap moisture if the coating is not sufficiently permeable.
The following work is highlighted to indicate that it represents the greatest degree of intervention generally recommended within the treatment ***Preservation****, and should only be considered after protection, stabilization, and repair concerns have been addressed.*	
Limited Replacement in Kind	
Replacing in kind extensively deteriorated or missing components of masonry features when there are surviving prototypes, such as terra-cotta brackets or stone balusters, or when the replacement can be based on documentary or physical evidence. The new work should match the old in material, design, scale, color, and finish.	Replacing an entire masonry feature, such as a column or stairway, when limited replacement of deteriorated and missing components is appropriate. Using replacement material that does not match the historic masonry feature.

WOOD: CLAPBOARD, WEATHERBOARD, SHINGLES, AND OTHER FUNCTIONAL AND DECORATIVE ELEMENTS

RECOMMENDED	NOT RECOMMENDED
Identifying, retaining, and preserving wood features that are important in defining the overall historic character of the building (such as siding, cornices, brackets, window and door surrounds, and steps) and their paints, finishes, and colors.	Altering wood features which are important in defining the overall historic character of the building so that, as a result, the character is diminished. Replacing historic wood features instead of repairing or replacing only the deteriorated wood. Changing the type of finish, coating, or historic color of wood features

[4] Hand scraping to remove peeling paint from wood siding in preparation for repainting is an important part of regularly-scheduled maintenance.

WOOD: CLAPBOARD, WEATHERBOARD, SHINGLES, AND OTHER FUNCTIONAL AND DECORATIVE ELEMENTS

RECOMMENDED	NOT RECOMMENDED
Stabilizing deteriorated or damaged wood as a preliminary measure, when necessary, prior to undertaking preservation work.	Failing to stabilize deteriorated or damaged wood until additional work is undertaken, thereby allowing further damage to occur to the historic building.
Protecting and maintaining wood features by ensuring that historic drainage features that divert rainwater from wood surfaces (such as roof overhangs, gutters, and downspouts) are intact and functioning properly. Finding and eliminating sources of moisture that may damage wood features, such as clogged gutters and downspouts, leaky roofs, or moisture-retaining soil that touches wood around the foundation.	Failing to identify and treat the causes of wood deterioration, such as faulty flashing, leaking gutters, cracks and holes in siding, deteriorated caulking in joints and seams, plant material growing too close to wood surfaces, or insect or fungal infestation.
Finding and eliminating sources of moisture that may damage wood features, such as clogged gutters and downspouts, leaky roofs, or moisture-retaining soil that touches wood around the foundation.	
Applying chemical preservatives or paint to wood features that are subject to weathering, such as exposed beam ends, outriggers, or rafter tails.	Using chemical preservatives (such as creosote) which, unless they were used historically, can change the appearance of wood features.

[5] Rotted wood shingles have been replaced in kind with matching wood shingles.

WOOD: CLAPBOARD, WEATHERBOARD, SHINGLES, AND OTHER FUNCTIONAL AND DECORATIVE ELEMENTS

RECOMMENDED	NOT RECOMMENDED
Implementing an integrated pest management plan to identify appropriate preventive measures to guard against insect damage, such as installing termite guards, fumigating, and treating with chemicals. Retaining coatings (such as paint) that protect the wood from moisture and ultraviolet light. Paint removal should be considered only when there is paint surface deterioration and as part of an overall maintenance program which involves repainting or applying other appropriate coatings	Stripping paint or other coatings from wood features without recoating.
Removing damaged or deteriorated paint to the next sound layer using the gentlest method possible (e.g., hand scraping and hand sanding) prior to repainting.	Using potentially-damaging paint-removal methods on wood surfaces, such as open-flame torches, orbital sanders, abrasive methods (including sandblasting, other media blasting, or high-pressure water), or caustic paint-removers. Removing paint that is firmly adhered to wood surfaces.
Using chemical strippers primarily to supplement other methods such as hand scraping, hand sanding, and thermal devices.	Failing to neutralize the wood thoroughly after using chemical paint removers so that new paint may not adhere. Removing paint from detachable wood features by soaking them in a caustic solution which can roughen the surface, split the wood, or result in staining from residual acid leaching out through the wood.
Using biodegradable or environmentally-safe cleaning or paint-removal products.	
Using paint-removal methods that employ a poultice to which paint adheres, when possible, to neatly and safely remove old lead paint.	Using a thermal device to remove paint from wood features without first checking for and removing any flammable debris behind them.
Using thermal devices (such as infrared heaters) carefully to remove paint when it is so deteriorated that total removal is necessary prior to repainting.	Using thermal devices without limiting the amount of time the wood feature is exposed to heat.

WOOD: CLAPBOARD, WEATHERBOARD, SHINGLES, AND OTHER FUNCTIONAL AND DECORATIVE ELEMENTS

RECOMMENDED	NOT RECOMMENDED
Using coatings that encapsulate lead paint, when possible, where the paint is not required to be removed to meet environmental regulations.	
Applying compatible paint coating systems to historically-painted wood following proper surface preparation.	Failing to follow manufacturers' product and application instructions when repainting wood features.
Repainting historically-painted wood features with colors that are appropriate to the building or district.	Using paint colors on historically-painted wood features that are not appropriate to the building or district.
Protecting adjacent materials when working on wood features.	Failing to protect adjacent materials when working on wood features.
Evaluating the overall condition of the wood to determine whether more than protection and maintenance, such as repairs to wood features, will be necessary.	Failing to undertake adequate measures to ensure the protection of wood features.
Repairing wood by patching, splicing, consolidating, or otherwise reinforcing the wood using recognized preservation methods.	Removing wood that could be stabilized, repaired, and conserved, or using untested consolidants, improper repair techniques, or unskilled personnel, potentially causing further damage to historic materials.
The following work is highlighted to indicate that it represents the greatest degree of intervention generally recommended within the treatment ***Preservation****, and should only be considered after protection, stabilization, and repair concerns have been addressed.*	
Limited Replacement in Kind	
Replacing in kind (i.e., with wood, but not necessarily the same species) extensively deteriorated or missing components of wood features when there are surviving prototypes, such as brackets, molding, or sections of siding, or when the replacement can be based on documentary or physical evidence. The new work should match the old in material, design, scale, color, and finish	Replacing an entire wood feature, such as a column or stairway, when limited replacement of deteriorated and missing components is appropriate. Using replacement material that does not match the historic wood feature.

METALS: WROUGHT AND CAST IRON, STEEL, PRESSED METAL, TERNEPLATE, COPPER, ALUMINUM, AND ZINC

RECOMMENDED	NOT RECOMMENDED
Identifying, retaining, and preserving metal features that are important in defining the overall historic character of the building (such as columns, capitals, pilasters, spandrel panels, or stairways) and their paint, finishes, and colors. The type of metal should be identified prior to work because each metal has its own properties and may require a different treatment.	Altering metal features which are important in defining the overall historic character of the building so that, as a result, the character is diminished. Replacing historic metal features instead of repairing or replacing only the deteriorated metal. Changing the type of finish, coating, or historic color of metal features.
Stabilizing deteriorated or damaged metal as a preliminary measure, when necessary, prior to undertaking preservation work.	Failing to stabilize deteriorated or damaged metals until additional work is undertaken, thereby allowing further damage to occur to the historic building.
Protecting and maintaining metals from corrosion by providing proper drainage so that water does not stand on flat, horizontal surfaces or accumulate in curved decorative features.	Failing to identify and treat the causes of corrosion, such as moisture from leaking roofs or gutters. Placing incompatible metals together without providing an appropriate separation material. Such incompatibility can result in galvanic corrosion of the less noble metal (e.g., copper will corrode cast iron, steel, tin, and aluminum).
Cleaning metals, when necessary, to remove corrosion prior to repainting or applying other appropriate protective coatings.	Failing to reapply coating systems after cleaning metals that require protection from corrosion. Removing the patina from historic metals. The patina may be a protective layer on some metals (such as bronze or copper) as well as a distinctive finish.
Identifying the particular type of metal prior to any cleaning procedure and then testing to ensure that the gentlest cleaning method possible is selected; or, alternatively, determining that cleaning is inappropriate for the particular metal.	Using cleaning methods which alter or damage the historic color, texture, and finish of the metal, or cleaning when it is inappropriate for the particular metal.

METALS: WROUGHT AND CAST IRON, STEEL, PRESSED METAL, TERNEPLATE, COPPER, ALUMINUM, AND ZINC

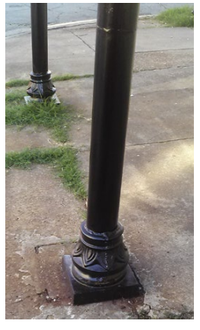
RECOMMENDED	NOT RECOMMENDED
Using non-corrosive chemical methods to clean soft metals (such as lead, tinplate, terneplate, copper, and zinc) whose finishes can be easily damaged by abrasive methods.	Cleaning soft metals (such as lead, tinplate, terneplate, copper, and zinc) with abrasive methods (including sandblasting, other media blasting, or high-pressure water) which will damage the surface of the metal.
Using the least abrasive cleaning method for hard metals (such as cast iron, wrought iron, and steel) to remove paint buildup and corrosion. If hand scraping and wire brushing have proven ineffective, low-pressure abrasive methods may be used as long as they do not damage the surface.	Using high-pressure abrasive techniques (including sandblasting, other media blasting, or high-pressure water) without first trying gentler cleaning methods prior to cleaning cast iron, wrought iron, or steel.
Applying appropriate paint or other coating systems to historically-coated metals after cleaning to protect them from corrosion.	Applying paint or other coatings to metals (such as copper, bronze or stainless steel) if they were not coated historically.
Repainting historically-painted metal features with colors that are appropriate to the building and district.	Using paint colors on historically-painted metal features that are not appropriate to the building or district.
Applying an appropriate protective coating (such as lacquer or wax) to a metal feature that was historically unpainted, such as a bronze door, which is subject to heavy use.	

[6] A standing-seam sheet metal roof, like the one on the turret of this late 19th century row house, must be kept painted to ensure its preservation.

METALS: WROUGHT AND CAST IRON, STEEL, PRESSED METAL, TERNEPLATE, COPPER, ALUMINUM, AND ZINC

RECOMMENDED	NOT RECOMMENDED
Protecting adjacent materials when working on metal features.	Failing to protect adjacent materials when working on metal features.
Evaluating the overall condition of metals to determine whether more than protection and maintenance, such as repairs to metal features, will be necessary.	Failing to undertake adequate measures to ensure the protection of metal features.
Repairing, stabilizing, and reinforcing metal by using recognized preservation methods	Removing metals that could be stabilized, repaired, and conserved, or using improper repair techniques, or untrained personnel, potentially causing further damage to historic materials.
The following work is highlighted to indicate that it represents the greatest degree of intervention generally recommended within the treatment ***Preservation,*** *and should only be considered after protection, stabilization, and repair concerns have been addressed.*	
Limited Replacement in Kind	
Replacing in kind extensively deteriorated or missing components of metal features when there are surviving prototypes, such as porch balusters, column capitals or bases, or porch cresting, or when the replacement can be based on documentary or physical evidence. The new work should match the old in material, design, scale, color, and finish.	Replacing an entire metal feature, such as a column or balustrade, when limited replacement of deteriorated or missing components is appropriate. Using replacement material that does not match the historic metal feature.

[7] (a) After the damaged portions of the base were repaired, (b) the cast-iron columns were cleaned and repainted to protect the metal from rusting.



ROOFS

RECOMMENDED	NOT RECOMMENDED
Identifying, retaining, and preserving roofs and their functional and decorative features that are important in defining the overall historic character of the building. The form of the roof (gable, hipped, gambrel, flat, or mansard) is significant, as are its decorative and functional features (such as cupolas, cresting, parapets, monitors, chimneys, weather vanes, dormers, ridge tiles, and snow guards), roofing material (such as slate, wood, clay tile, metal, roll roofing, or asphalt shingles), and size, color, and patterning.	Altering the roof and roofing materials which are important in defining the overall historic character of the building so that, as a result, the character is diminished. Replacing historic roofing material instead of repairing or replacing only the deteriorated material. Changing the type or color of roofing materials.
Stabilizing deteriorated or damaged roofs as a preliminary measure, when necessary, prior to undertaking preservation work.	Failing to stabilize a deteriorated or damaged roof until additional work is undertaken, thereby allowing further damage to occur to the historic building
Protecting and maintaining a roof by cleaning gutters and downspouts and replacing deteriorated flashing. Roof sheathing should also be checked for indications of moisture due to leaks or condensation.	Failing to clean and maintain gutters and downspouts properly so that water and debris collect and cause damage to roof fasteners, sheathing, and the underlying structure
Providing adequate anchorage for roofing material to guard against wind damage and moisture penetration.	Allowing flashing, caps, and exposed roof fasteners to corrode, which accelerates deterioration of the roof.
Protecting a leaking roof with a temporary waterproof membrane with a synthetic underlayment, roll roofing, plywood, or a tarpaulin until it can be repaired.	Leaving a leaking roof unprotected so that accelerated deterioration of historic building materials (such as masonry, wood, plaster, paint, and structural members) occurs.
Repainting a roofing material that requires a protective coating and was painted historically (such as a terneplate metal roof or gutters) as part of regularly-scheduled maintenance.	Failing to repaint a roofing material that requires a protective coating and was painted historically as part of regularly-scheduled maintenance.
Protecting a roof covering when working on other roof features.	Failing to protect roof coverings when working on other roof features.
Evaluating the overall condition of the roof to determine whether more than protection and maintenance, such as repairs to roof features, will be necessary.	Failing to undertake adequate measures to ensure the protection of roof features.
Repairing a roof by ensuring that the existing historic roof or compatible non-historic roof covering is sound and waterproof.	Removing historic materials that could be repaired or using improper repair techniques. Failing to reuse intact slate or tile when only the roofing substrate or fasteners need replacement.

[8] Regular maintenance includes removing leaves that can clog gutters and cause water damage to the exterior and interior walls of a house.

ROOFS

RECOMMENDED	NOT RECOMMENDED
Using corrosion-resistant roof fasteners (e.g., nails and clips) to repair a roof to help extend its longevity.	
The following work is highlighted to indicate that it represents the greatest degree of intervention generally recommended within the treatment ***Preservation,*** *and should only be considered after protection, stabilization, and repair concerns have been addressed.*	
Limited Replacement in Kind	
Replacing in kind extensively deteriorated or missing components of roof features when there are surviving prototypes, such as ridge tiles, roof cresting, or dormer trim, slates, or tiles, or when the replacement can be based on documentary or physical evidence. The new work should match the old in material, design, scale, color, and finish.	Replacing an entire roof feature, such as a chimney or dormer, when limited replacement of deteriorated or missing components is appropriate. Using replacement material that does not match the historic roof feature.

[9] Distinctively-shaped roofs are important in defining the historic character of these early 20th-century structures: (a) an asphalt shingle roof on a house; (b) and a concrete roof on Fonthill, Doylestown, PA (1908-1912), designed and built by Henry Chapman Mercer.

WINDOWS

RECOMMENDED	NOT RECOMMENDED
Identifying, retaining, and preserving windows and their functional and decorative features that are important to the overall historic character of the building. The window material and how the window operates (e.g., double hung, casement, awning, or hopper) are significant, as are its components (including sash, muntins, ogee lugs, glazing, pane configuration, sills, mullions, casings, or brick molds) and related features, such as shutters.	Altering windows or window features which are important in defining the historic character of the building so that, as a result, the character is diminished. Changing the appearance of windows that contribute to the historic character of the building by replacing materials, finishes, or colors which noticeably change the sash, depth of reveal, and muntin configuration; the reflectivity and color of the glazing; or the appearance of the frame. Obscuring historic wood window trim with metal or other material.
Stabilizing deteriorated or damaged windows as a preliminary measure, when necessary, prior to undertaking preservation work.	Failing to stabilize deteriorated or damaged windows as a preliminary measure, when necessary, prior to undertaking preservation work.
Protecting and maintaining the wood or metal which comprises the window jamb, sash, and trim through appropriate surface treatments, such as cleaning, paint removal, and reapplication of the same protective coating systems.	Failing to protect and maintain materials on a cyclical basis so that deterioration of the window results.
Protecting windows against vandalism before work begins by covering them and by installing alarm systems that are keyed into local protection agencies.	Leaving windows unprotected and subject to vandalism before work begins, thereby also allowing the interior to be damaged if it can be accessed through unprotected windows.
Installing impact-resistant glazing, when necessary for security, so that it is compatible with the historic windows and does not damage them or negatively impact their character.	Installing impact-resistant glazing, when necessary for security, that is not compatible with the historic windows and damages them or negatively impacts their character.
Making windows weathertight by recaulking gaps in fixed joints and replacing or installing weatherstripping.	Replacing windows rather than maintaining the sash, frame, or glazing.
Protecting windows from chemical cleaners, paint, or abrasion during work on the exterior of the building.	Failing to protect historic windows from chemical cleaners, paint, or abrasion when work is being done on the exterior of the building.
Protecting and retaining historic glass when replacing putty or repairing other components of the window.	Failing to protect the historic glass when making repairs.

[10] Historic exterior storm windows preserve and help to insulate wood windows.

[11] Old and brittle glazing putty should be removed carefully before reputtying to keep window glazing weathertight.

WINDOWS

RECOMMENDED	NOT RECOMMENDED
Sustaining the historic operability of windows by lubricating friction points and replacing broken components of the operating system (such as hinges, latches, sash chains or cords) or replacing deteriorated gaskets or insulating units.	Failing to maintain windows and window components so that windows are inoperable, or sealing operable sash permanently. Failing to repair and reuse window hardware such as sash lifts, latches, and locks
Adding storm windows with a matching or a one-over-one pane configuration that will not obscure the characteristics of the historic windows. Storm windows improve energy efficiency and are especially beneficial when installed over wood windows because they also protect them from accelerated deterioration.	
Protecting adjacent materials when working on windows.	Failing to protect adjacent materials when working on windows.
Evaluating the overall condition of windows to determine whether more than protection and maintenance, such as repairs to windows and window features, will be necessary.	Failing to undertake adequate measures to ensure the protection of windows.
Repairing window frames and sash by patching, splicing, consolidating, or otherwise reinforcing them using recognized preservation methods.	Removing window frames or sash that could be stabilized, repaired, and conserved, or using untested consolidants, improper repair techniques, or untrained personnel, potentially causing furthur damage to historic buildings.
Using corrosion-resistant roof fasteners (e.g., nails and clips) to repair a roof to help extend its longevity.	
The following work is highlighted to indicate that it represents the greatest degree of intervention generally recommended within the treatment ***Preservation****, and should only be considered after protection, stabilization, and repair concerns have been addressed.*	
Limited Replacement in Kind	
Replacing in kind extensively deteriorated or missing components of windows when there are surviving prototypes, such as frames or sash, or when the replacement can be based on documentary or physical evidence. The new work should match the old in material, design, scale, color, and finish.	Replacing an entire window when limited replacement of deteriorated or missing components is appropriate. Using replacement material that does not match the historic window.

ENTRANCES AND PORCHES

RECOMMENDED	NOT RECOMMENDED
Identifying, retaining, and preserving entrances and porches and their functional and decorative features that are important in defining the overall historic character of the building. The materials themselves (including wood, masonry, and metal) are significant, as are the features, such as doors, transoms, pilasters, columns, balustrades, stairs, roofs, and projecting canopies.	Altering entrances and porches which are important in defining the overall historic character of the building so that, as a result, the character is diminished. Replacing historic entrance and porch features instead of repairing or replacing only the deteriorated material.
Stabilizing deteriorated or damaged entrances and porches as a preliminary measure, when necessary, prior to undertaking preservation work.	Failing to stabilize a deteriorated or damaged entrance or porch until additional work is undertaken, thereby allowing further damage to occur to the historic building.

[13] It is important that exposed swallow tail porch rafters be kept painted to protect them from water damage.

[12] Repair and limited replacement in kind to match deteriorated wood porch features is always a recommended preservation treatment.

ENTRANCES AND PORCHES

RECOMMENDED	NOT RECOMMENDED
Protecting and maintaining the masonry, wood, and metals which comprise entrances and porches through appropriate surface treatments, such as cleaning, paint removal, and reapplication of protective coating systems.	Failing to protect and maintain historic materials on a cyclical basis so that deterioration of entrances and porches results.
Protecting entrances and porches against arson and vandalism before work begins by covering them and by installing alarm systems keyed into local protection agencies.	Leaving entrances and porches unprotected and subject to vandalism before work begins, thereby also allowing the interior to be damaged if it can be accessed through unprotected entrances.
Protecting entrance and porch features when working on other features of the building.	Failing to protect historic entrances and porches when working on other features of the building.
Evaluating the overall condition of entrances and porches to determine whether more than protection and maintenance, such as repairs to entrance and porch features, will be necessary.	Failing to undertake adequate measures to ensure the protection of entrance and porch features.
Repairing entrances and porches by patching, splicing, consolidating, or otherwise reinforcing them using recognized preservation methods.	Removing entrances and porches or their features that could be stabilized, repaired, and conserved, or using untested consolidants, improper repair techniques, or untrained personnel, potentially causing further damage to historic materials.
The following work is highlighted to indicate that it represents the greatest degree of intervention generally recommended within the treatment ***Preservation****, and should only be considered after protection, stabilization, and repair concerns have been addressed.*	
Limited Replacement in Kind	
Replacing in kind extensively deteriorated or missing components of entrance and porch features when there are surviving prototypes, such as railings, balustrades, cornices, columns, sidelights, stairs, and roofs, or when the replacement can be based on documentary or physical evidence. The new work should match the old in material, design, scale, color, and finish.	Replacing an entire entrance or porch feature when limited replacement of deteriorated and missing components is appropriate. Using replacement material that does not match the historic entrance or porch feature.

STOREFRONTS

RECOMMENDED	NOT RECOMMENDED
Identifying, retaining, and preserving storefronts and their functional and decorative features that are important in defining the overall historic character of the building. The storefront materials (including wood, masonry, metals, ceramic tile, clear glass, and pigmented structural glass) and the configuration of the storefront are significant, as are features, such as display windows, base panels, bulkheads, signs, doors, transoms, kick plates, corner posts, piers, and entablatures.	Altering storefronts and their features which are important in defining the overall historic character of the building so that, as a result, the character is diminished. Replacing historic storefront features instead of repairing or replacing only the deteriorated material.
Stabilizing deteriorated or damaged storefronts as a preliminary measure, when necessary, prior to undertaking preservation work.	Failing to stabilize a deteriorated or damaged storefront until additional work is undertaken, thereby allowing further damage to occur to the historic building.
Protecting and maintaining masonry, wood, glass, ceramic tile, and metals which comprise storefronts through appropriate treatments, such as cleaning, paint removal, and reapplication of protective coating systems.	Failing to protect and maintain historic materials on a cyclical basis so that deterioration of storefront features results.
Protecting storefronts against arson and vandalism before work begins by covering windows and doors and by installing alarm systems keyed into local protection agencies.	Leaving the storefront unprotected and subject to vandalism before work begins, thereby also allowing the interior to be damaged if it can be accessed through an unprotected storefront.
Protecting the storefront when working on other features of the building.	Failing to protect the storefront when working on other features of the building.

[14] The signage is an original and integral part of this historic Carrara glass storefront.

STOREFRONTS

RECOMMENDED	NOT RECOMMENDED
Evaluating the overall condition of the storefront to determine whether more than protection and maintenance, such as repairs to storefront features, will be necessary.	Failing to undertake adequate measures to ensure the protection of storefront features.
Repairing storefronts by patching, splicing, consolidating, or otherwise reinforcing them using recognized preservation methods.	Removing historic material that could be stabilized, repaired, and conserved, or using untested consolidants, improper repair techniques, or untrained personnel, potentially causing further damage to historic materials.
The following work is highlighted to indicate that it represents the greatest degree of intervention generally recommended within the treatment ***Preservation****, and should only be considered after protection, stabilization, and repair concerns have been addressed.*	
Limited Replacement in Kind	
Replacing in kind extensively deteriorated or missing components of storefronts when there are surviving prototypes, such as doors, transoms, kick plates, base panels, bulkheads, piers, or signs, or when the replacement can be based on documentary or physical evidence. The new work should match the old in material, design, scale, color, and finish.	Replacing an entire feature or storefront when limited replacement of deteriorated and missing components is appropriate. Using replacement material that does not match the historic storefront feature.

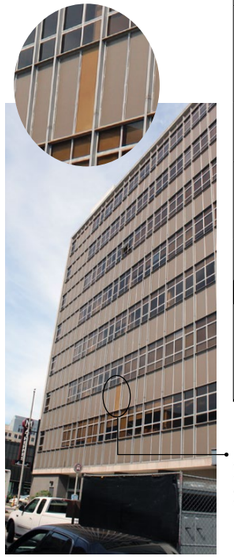
[15] Regular maintenance has helped to preserve this historic storefront, which retains all of its character-defining features, including the granite bulkhead, multi-paned transom glazing, and recessed entrance.

CURTAIN WALLS

RECOMMENDED	NOT RECOMMENDED
Identifying, retaining, and preserving curtain wall systems and their components that are important in defining the overall historic character of the building. The design of the curtain wall is significant, as are its component materials (metal stick framing and panel materials, such as clear or spandrel glass, stone, terra cotta, metal, and fiber-reinforced plastic), appearance (e.g., glazing color or tint, transparency, and reflectivity), and whether the glazing is fixed, operable, or louvered glass panels. How a curtain wall is engineered and fabricated, and the fact that it expands and contracts at a different rate from the building's structural system, are important to understand when undertaking the preservation of a curtain wall system.	Altering curtain wall components which are important in defining the overall historic character of the building so that, as a result, the character is diminished. Replacing historic curtain wall features instead of repairing or replacing only the deteriorated components.
Stabilizing deteriorated or damaged curtain walls as a preliminary measure, when necessary, prior to undertaking preservation work.	Failing to stabilize deteriorated or damaged curtain walls until additional work is undertaken, thereby allowing further damage to occur to the historic building.
Protecting and maintaining curtain walls and their components through appropriate surface treatments, such as cleaning and reapplication of protective coating systems; and by making them watertight and ensuring that sealants and gaskets are in good condition.	Failing to protect and maintain curtain wall components on a cyclical basis so that deterioration of curtain walls results. Failing to identify and treat the various causes of curtain wall failure, such as open gaps between components where sealants have deteriorated or are missing.
Protecting ground-level curtain walls from vandalism before work begins by covering them, while ensuring adequate ventilation, and by installing alarm systems keyed into local protection agencies.	Leaving ground-level curtain walls unprotected and subject to vandalism before work begins, thereby also allowing the interior to be damaged if it can be accessed through unprotected entrances.
Installing impact-resistant glazing in a curtain wall system, when necessary for security or to meet code requirements, so that it is compatible with the historic curtain walls and does not damage them or negatively impact their character.	Installing impact-resistant glazing in a curtain wall system, when necessary for security, that is not compatible with the historic curtain walls and damages them or negatively impacts their character.

CURTAIN WALLS

RECOMMENDED	NOT RECOMMENDED
Cleaning curtain wall systems only when necessary to halt deterioration or to remove heavy soiling.	Cleaning curtain wall systems when they are not heavily soiled, thereby needlessly introducing chemicals or moisture into historic materials.
Carrying out cleaning tests, when it has been determined that cleaning is appropriate, using only cleaning materials that will not damage components of the system, including factory-applied finishes. Test areas should be examined to ensure that no damage has resulted.	Cleaning curtain wall systems without testing first or using cleaning materials that may damage components of the system.
Evaluating the overall condition of curtain walls to determine whether more than protection and maintenance, such as repairs to curtain wall components, will be necessary.	Failing to undertake adequate measures to ensure the protection of curtain wall components.
Repairing curtain walls by ensuring that they are watertight by augmenting existing components or replacing deteriorated or missing sealants or gaskets, where necessary, to seal any gaps between system components.	Removing curtain wall components that could be stabilized, repaired, and conserved, or using improper repair techniques, or untrained personnel, potentially causing further damage to historic materials.
The following work is highlighted to indicate that it represents the greatest degree of intervention generally recommended within the treatment ***Preservation****, and should only be considered after protection, stabilization, and repair concerns have been addressed.*	
Limited Replacement in Kind	
Replacing in kind extensively deteriorated or missing components of a curtain wall system when there are surviving prototypes or when the replacement can be based on documentary or physical evidence. The new work should match the old in material, design, scale, color, and finish.	Replacing an entire curtain wall feature when limited replacement of deteriorated and missing components is appropriate. Using replacement material that does not match the historic curtain wall feature.



[16] Plywood provides temporary protection for an opening where a damaged spandrel panel was removed until a matching replacement panel can be installed.

STRUCTURAL SYSTEMS

RECOMMENDED	NOT RECOMMENDED
Identifying, retaining, and preserving structural systems and visible features of systems that are important in defining the overall historic character of the building. This includes the materials that comprise the structural system (i.e., wood, metal, and masonry), the type of system, and its features, such as posts and beams, trusses, summer beams, vigas, cast-iron or masonry columns, above-grade stone foundation walls, or load-bearing masonry walls.	Altering visible features of historic structural systems which are important in defining the overall historic character of the building so that, as a result, the character is diminished. Overloading the existing structural system, or installing equipment or mechanical systems which could damage the structure. Replacing a load-bearing masonry wall that could be augmented and retained. Leaving known structural problems untreated, such as deflected beams, cracked and bowed walls, or racked structural members.
Stabilizing deteriorated or damaged structural systems as a preliminary measure, when necessary, prior to undertaking preservation work.	Failing to stabilize a deteriorated or damaged structural system until additional work is undertaken, thereby allowing further damage to occur to the historic building. Failing to protect and maintain the structural system on a cyclical basis so that deterioration of the structural system results.
Protecting and maintaining the structural system by keeping gutters and downspouts clear and roofing in good repair; and by ensuring that wood structural members are free from insect infestation.	Using treatments or products that may retain moisture, which accelerates deterioration of structural members.

[17] Distinctive examples of traditional construction techniques should be preserved, such as this wooden peg, which is part of the structural system of this late-19th-century warehouse.

[18] A massive, exposed, concrete structural system defines the historic character of the interior of St. John's Abbey, Collegeville, MN, designed by Marcel Breuer and constructed in 1961.

STRUCTURAL SYSTEMS

RECOMMENDED	NOT RECOMMENDED
Evaluating the overall condition of the structural system to determine whether more than protection and maintenance, such as repairs to structural features, will be necessary.	Failing to undertake adequate measures to ensure the protection of structural systems.
Repairing the structural system by augmenting individual components, using recognized preservation methods. For example, weakened structural members (such as floor framing) can be paired or sistered with a new member, braced, or otherwise supplemented and reinforced.	Upgrading the building structurally in a manner that diminishes the historic character of the exterior (such as installing strapping channels or removing a decorative cornice) or that damages interior features or spaces. Replacing a structural member or other feature of the structural system when it could be augmented and retained.
The following work is highlighted to indicate that it represents the greatest degree of intervention generally recommended within the treatment ***Preservation****, and should only be considered after protection, stabilization, and repair concerns have been addressed.*	
Limited Replacement in Kind	
Replacing in kind those visible portions or features of the structural system that are either extensively deteriorated or missing when there are surviving prototypes, such as cast-iron columns and sections of load-bearing walls, or when the replacement can be based on documentary or physical evidence. The new work should match the old in material, design, scale, color, and finish.	Replacing an entire curtain wall feature when limited replacement of deteriorated and missing components is appropriate. Using replacement material that does not match the historic curtain wall feature.
Considering the use of substitute material to replace structural features that are not visible. Substitute material must be structurally sufficient and physically compatible with the rest of the system.	Using substitute material that does not equal the load-bearing capabilities of the historic material or is physically incompatible with the structural system.

MECHANICAL SYSTEMS:
HEATING, AIR CONDITIONING, ELECTRICAL, AND PLUMBING

RECOMMENDED	NOT RECOMMENDED
Identifying, retaining, and preserving visible features of early mechanical systems that are important in defining the overall historic character of the building, such as radiators, vents, fans, grilles, and plumbing and lighting fixtures.	Removing or altering visible features of mechanical systems that are important in defining the overall historic character of the building so that, as a result, the character is diminished.
Stabilizing functioning mechanical systems as a preliminary measure, when necessary, prior to undertaking preservation work.	Failing to stabilize a functioning mechanical system and its visible features until additional work is undertaken.
Protecting and maintaining functioning mechanical, plumbing, and electrical systems and their features through cyclical maintenance.	Failing to protect and maintain functioning mechanical, plumbing, and electrical systems on a cyclical basis so that their deterioration results.
Improving the energy efficiency of existing mechanical systems to help reduce the need for a new system by installing storm windows, insulating attics and crawl spaces, or adding awnings, if appropriate.	
Evaluating the overall condition of functioning mechanical systems to determine whether more than protection and maintenance, such as repairs to mechanical system components, will be necessary.	Failing to undertake adequate measures to ensure the protection of structural systems.
Repairing mechanical systems by augmenting or upgrading system components (such as installing new pipes and ducts), rewiring, or adding new compressors or boilers.	Replacing a mechanical system when its components could be upgraded and retained.

MECHANICAL SYSTEMS:
HEATING, AIR CONDITIONING, ELECTRICAL, AND PLUMBING

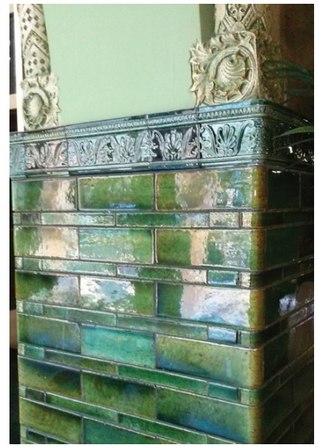
RECOMMENDED	NOT RECOMMENDED
The following work is highlighted to indicate that it represents the greatest degree of intervention generally recommended within the treatment ***Preservation****, and should only be considered after protection, stabilization, and repair concerns have been addressed.*	
Limited Replacement in Kind	
Replacing in kind those extensively deteriorated or missing visible features of mechanical systems when there are surviving prototypes, such as ceiling fans, radiators, grilles, or lighting fixtures.	Installing a visible replacement feature that does not convey the same appearance.
The following work should be considered in a ***Preservation*** *project when the installation of new mechanical equipment or an entire system is required to make the building functional.*	
Installing a new mechanical system, if required, so that it results in the least alteration possible to the historic building and its character-defining features.	Installing a new mechanical system so that character-defining structural or interior features are radically changed, damaged, or destroyed.
Providing adequate structural support for new mechanical equipment.	Failing to consider the weight and design of new mechanical equipment so that, as a result, historic structural members or finished surfaces are weakened or cracked.
Installing new mechanical and electrical systems and ducts, pipes, and cables in closets, service areas, and wall cavities to preserve the historic character of the interior space.	Installing ducts, pipes, and cables where they will obscure character-defining features or negatively impact the historic character of the interior. Concealing mechanical equipment in walls or ceilings in a manner that results in extensive loss or damage or otherwise obscures historic building materials and character-defining features.

INTERIOR SPACES, FEATURES, AND FINISHES

RECOMMENDED	NOT RECOMMENDED
Identifying, retaining, and preserving a floor plan or interior spaces, features, and finishes that are important in defining the overall historic character of the building. Significant spatial characteristics include the size, configuration, proportion, and relationship of rooms and corridors; the relationship of features to spaces; and the spaces themselves, such as lobbies, lodge halls, entrance halls, parlors, theaters, auditoriums, gymnasiums, and industrial and commercial interiors. Color, texture, and pattern are important characteristics of features and finishes, which can include such elements as columns, plaster walls and ceilings, flooring, trim, fireplaces and mantels, paneling, light fixtures, hardware, decorative radiators, ornamental grilles and registers, windows, doors, and transoms; plaster, paint, wallpaper and wall coverings, and special finishes, such as marbleizing and graining; and utilitarian (painted or unpainted) features, including wood, metal, or concrete exposed columns, beams, and trusses and exposed load-bearing brick, concrete, and wood walls.	Altering a floor plan, interior spaces (including individual rooms), features, or finishes which are important in defining the overall historic character of the building so that, as a result, the character is diminished. Replacing historic interior features and finishes instead of repairing or replacing only the deteriorated portion. Installing new material that obscures or damages character-defining interior features and finishes. Removing paint, plaster, or other finishes from historically-finished interior surfaces and leaving the features exposed (e.g., removing plaster to expose brick walls or a brick chimney breast, stripping paint from wood to stain or varnish it, or removing a plaster ceiling to expose unfinished beams). Applying paint, plaster, or other coatings to surfaces that have been unfinished historically, thereby changing their character. Changing the type of finish or its color, such as painting a historically-varnished wood feature, or removing paint from a historically-painted feature.
Stabilizing deteriorated or damaged interior features and finishes as a preliminary measure, when necessary, prior to undertaking preservation work.	Failing to stabilize a deteriorated or damaged interior feature or finish until additional work can be undertaken, thereby allowing further damage to occur to the interior.
Protecting and maintaining historic materials (including plaster, masonry, wood, and metals) which comprise interior features through appropriate surface treatments, such as cleaning, paint removal, and reapplication of protective coating systems.	Failing to protect and maintain interior materials and finishes on a cyclical basis so that deterioration of interior features results.

INTERIOR SPACES, FEATURES, AND FINISHES

RECOMMENDED	NOT RECOMMENDED
Protecting interior features and finishes against arson and vandalism before project work begins by erecting temporary fencing or by covering broken windows and open doorways, while ensuring adequate ventilation, and by installing alarm systems keyed into local protection agencies.	Leaving the building unprotected and subject to vandalism before work begins, thereby allowing the interior to be damaged if it can be accessed through unprotected openings.
Protecting interior features (such as a staircase, mantel, flooring, or decorative finishes) from damage during project work by covering them with plywood, heavy canvas, or plastic sheeting.	Failing to protect interior features and finishes when working on the interior.



[19] The sweeping staircase with its metal railing, chandelier, and terrazzo floor in the lobby of the 1954 Simms Building, Albuquerque, NM, are character-defining features. *Photo: Harvey M. Kaplan.*

[20] It is important to protect decorative interior features, such as this highly-glazed tile wainscoting in a historic train station, when painting the walls above it.

INTERIOR SPACES, FEATURES, AND FINISHES

RECOMMENDED	NOT RECOMMENDED
Removing damaged or deteriorated paint and finishes only to the next sound layer using the gentlest method possible prior to repainting or refinishing using compatible paint or other coating systems.	Removing paint that is firmly adhered to interior materials and features.
Using abrasive cleaning methods only on the interior of industrial or warehouse buildings with utilitarian, unplastered masonry walls and where wood features are not finished, molded, beaded, or worked by hand. Low-pressure abrasive cleaning (e.g., sand-blasting or other media blasting) should only be considered if test patches show no surface damage and after gentler methods have proven ineffective.	Using abrasive methods anywhere but utilitarian and industrial interior spaces or when there are other cleaning methods that are less likely to damage the surface of the material.
Evaluating the overall condition of the interior materials, features, and finishes to determine whether more than protection and maintenance, such as repairs to features and finishes, will be necessary.	Failing to undertake adequate measures to ensure the protection of interior materials, features, and finishes.
Repairing interior features and finishes by patching, splicing, consolidating, or otherwise reinforcing the materials using recognized preservation methods.	Removing interior features or finishes that could be stabilized, repaired, and conserved, or using untested consolidants, improper repair techniques, or untrained personnel, potentially causing further damage to historic materials.
The following work is highlighted to indicate that it represents the greatest degree of intervention generally recommended within the treatment ***Preservation****, and should only be considered after protection, stabilization, and repair concerns have been addressed.*	
Limited Replacement in Kind	
Replacing in kind extensively deteriorated or missing components of interior features when there are surviving prototypes (such as stairs, balustrades, wood paneling, columns, decorative wall finishes, and ornamental plaster or pressed-metal ceilings); or when the replacement can be based on documentary or physical evidence. The new work should match the old in material, design, scale, color, and finish.	Replacing an entire interior feature when limited replacement of deteriorated and missing components is appropriate. Using replacement material that does not match the historic interior feature or finish.

BUILDING SITE

RECOMMENDED	NOT RECOMMENDED
Identifying, retaining, and preserving features of the building site that are important in defining its overall historic character. Site features may include walls, fences, or steps; circulation systems, such as walks, paths, or roads; vegetation, such as trees, shrubs, grass, orchards, hedges, windbreaks, or gardens; landforms, such as hills, terracing, or berms; furnishings and fixtures, such as light posts or benches; decorative elements, such as sculpture, statuary, or monuments; water features, including fountains, streams, pools, lakes, or irrigation ditches; and subsurface archeological resources, other cultural or religious features, or burial grounds which are also important to the site.	Altering buildings and their features or site features which are important in defining the overall historic character of the property so that, as a result, the character is diminished.
Retaining the historic relationship between buildings and the landscape.	Removing or relocating buildings or landscape features, thereby destroying the historic relationship between buildings and the landscape.

[21] (a) The formal garden on the property of the 1826 Beauregard-Keyes House in New Orleans (b) is integral to the character of the site.

BUILDING SITE

RECOMMENDED	NOT RECOMMENDED
Stabilizing deteriorated or damaged building and site features as a preliminary measure, when necessary, prior to undertaking preservation work.	Failing to stabilize a deteriorated or damaged building or site feature until additional work can be undertaken, thereby allowing further damage to occur to the building site.
Protecting and maintaining buildings and site features by providing proper drainage to ensure that water does not erode foundation walls, drain toward the building, or damage or erode the landscape.	Failing to ensure that site drainage is adequate so that buildings and site features are damaged or destroyed; or, alternatively, changing the site grading so that water does not drain properly.
Minimizing disturbance of the terrain around buildings or elsewhere on the site, thereby reducing the possibility of destroying or damaging important landscape features, archeological resources, other cultural or religious features, or burial grounds.	Using heavy machinery or equipment in areas where it may disturb or damage important landscape features, archeological resources, other cultural or religious features, or burial grounds.
Protecting (e.g., preserving in place) important site features, archeological resources, other cultural or religious features, or burial grounds.	Leaving known site features or archeological material unprotected so that it is damaged during preservation work.
Planning and carrying out any necessary investigation before preservation begins, using professional archeologists and methods when preservation in place is not feasible.	Allowing unqualified personnel to perform data recovery on archeological resources, which can result in damage or loss of important archeological material.
Preserving important landscape features through regularly-scheduled maintenance of historic plant material.	Allowing important landscape features or archeological resources to be lost, damaged, or to deteriorate due to inadequate protection or lack of maintenance.
Protecting the building site and landscape features against arson and vandalism before preservation work begins by erecting temporary fencing and by installing alarm systems keyed into local protection agencies.	Leaving the property unprotected and subject to vandalism before work begins so that the building site and landscape features, archeological resources, other cultural or religious features, or burial grounds can be damaged or destroyed.
Installing protective fencing, bollards, and stanchions on a building site, when necessary for security, that are as unobtrusive as possible.	Installing protective fencing, bollards, and stanchions on a building site, when necessary for security, without taking into consideration their location and visibility so that they negatively impact the historic character of the site.
Providing continued protection and maintenance of buildings and landscape features on the site through appropriate grounds or landscape management.	Removing or destroying features from the site, such as fencing, paths or walkways, masonry balustrades, or plant material.

BUILDING SITE

RECOMMENDED	NOT RECOMMENDED
Protecting building and landscape features when working on the site.	Failing to protect building and landscape features during work on the site.
Evaluating the overall condition of the site to determine whether more than protection and maintenance, such as repairs to materials and features, will be necessary.	Failing to undertake adequate measures to ensure the protection of the site.
Repairing building and site features which have damaged, deteriorated, or missing components to reestablish the whole feature and to ensure retention of the integrity of historic materials.	Failing to repair damaged or deteriorated site features.
The following work is highlighted to indicate that it represents the greatest degree of intervention generally recommended within the treatment ***Preservation****, and should only be considered after protection, stabilization, and repair concerns have been addressed.*	
Limited Replacement in Kind	
Replacing in kind extensively deteriorated or missing features of the site when there are surviving prototypes, such as part of a fountain, portions of a walkway, or a hedge, or when the replacement can be based on documentary or physical evidence. The new work should match the old in material, design, scale, and color.	Replacing an entire feature of the building or site when limited replacement of deteriorated or missing components is appropriate. Using replacement material that does not match the historic site feature.

[22 a-b] The 1907 Commander General's Quarters facing Continental Park is one of many important structures that contribute to the historic significance and character of Fort Monroe, a National Monument, in Hampton, VA.

SETTING (DISTRICT / NEIGHBORHOOD)

RECOMMENDED	NOT RECOMMENDED
Identifying, retaining, and preserving building and landscape features that are important in defining the overall historic character of the setting. Such features can include circulation systems, such as roads and streets; furnishings and fixtures, such as light posts or benches; vegetation, gardens, and yards; adjacent open space, such as fields, parks, commons, or woodlands; and important views or visual relationships.	Altering those building and landscape features of the setting which are important in defining its historic character so that, as a result, the character is diminished.
Retaining the historic relationship between buildings and landscape features in the setting. For example, preserving the relationship between a town common or urban plaza and the adjacent houses, municipal buildings, roads, and landscape and streetscape features.	Altering the relationship between the buildings and landscape features in the setting by widening existing streets, changing landscape materials, or locating new streets or parking areas where they may negatively impact the historic character of the setting. Removing or relocating historic buildings or landscape features, thereby destroying the historic relationship between buildings and the landscape in the setting.

[23] The city square is important in defining the character of the historic setting in this small town.

[24] Cast-iron porches and wrought-iron fences from the late 19th century typify this block in an urban historic district.

[25] Street names in tile set into the sidewalk are distinctive features in this historic district.

SETTING (DISTRICT / NEIGHBORHOOD)

RECOMMENDED	NOT RECOMMENDED
Stabilizing deteriorated or damaged building or landscape features in the setting as a preliminary measure, when necessary, prior to undertaking preservation work.	Failing to stabilize a deteriorated or damaged building or landscape feature in the setting until additional work can be undertaken, thereby allowing further damage to occur to the setting.
Protecting and maintaining historic features in the setting through regularly-scheduled maintenance and landscape management.	Failing to protect and maintain materials in the setting on a cyclical basis so that deterioration of building and landscape features results. Stripping or removing historic features from buildings or the setting, such as a porch, fencing, walkways, or plant material.
Installing protective fencing, bollards, and stanchions in the setting, when necessary for security, that are as unobtrusive as possible.	Installing protective fencing, bollards, and stanchions in the setting, when necessary for security, without taking into consideration their location and visibility so that they negatively impact the historic character of the setting.
Protecting building and landscape features when undertaking work in the setting.	Failing to protect building and landscape features during work in the setting.
Evaluating the overall condition of materials and features to determine whether more than protection and maintenance, such as repairs to materials and features in the setting, will be necessary.	Failing to undertake adequate measures to ensure the protection of materials and features of the setting.
Repairing features in the setting by reinforcing the historic materials, using recognized preservation methods.	Removing material that could be repaired or using improper repair techniques.
The following work is highlighted to indicate that it represents the greatest degree of intervention generally recommended within the treatment **Preservation,** *and should only be considered after protection, stabilization, and repair concerns have been addressed.*	
Limited Replacement in Kind	
Replacing in kind extensively deteriorated or missing components of building and landscape features in the setting when there are surviving prototypes, such as balustrades or paving materials, or when the replacement can be based on documentary or physical evidence. The new work should match the old in material, design, scale, and color.	Replacing an entire feature of the building or landscape when limited replacement of deteriorated or missing components is appropriate. Using replacement material that does not match the historic building or landscape feature.

CODE-REQUIRED WORK

RECOMMENDED	NOT RECOMMENDED
Sensitive solutions to meeting code requirements are an important part of protecting the historic character of the building and site. Thus, work that must be done to meet accessibility and life-safety requirements in the treatment **Preservation** *must also be assessed for its potential impact on the historic building and site.*	
ACCESSIBILITY	
Identifying the historic building's character-defining exterior features, interior spaces, features, and finishes, and features of the site and setting which may be affected by accessibility code-required work.	Undertaking accessibility code-required alterations before identifying those exterior features, interior spaces, features, and finishes, and features of the site and setting which are character defining and, therefore, must be preserved.
Complying with barrier-free access requirements in such a manner that the historic building's character-defining exterior features, interior spaces, features, and finishes, and features of the site and setting are preserved or impacted as little as possible.	Altering, damaging, or destroying character-defining exterior features, interior spaces, features, and finishes, or features of the site and setting while making modifications to a building, its site, or setting to comply with accessibility requirements.
Working with specialists in accessibility and historic preservation to determine the most sensitive solutions to comply with access requirements in a historic building, its site, and setting.	Making changes to historic buildings, their sites, and setting without first consulting with specialists in accessibility and historic preservation to determine the most appropriate solutions to comply with accessibility requirements.
Providing barrier-free access that promotes independence for the user while preserving significant historic features.	Making access modifications that do not provide independent, safe access or preserve historic features.
Finding solutions to meet accessibility requirements that minimize the impact of any necessary alteration for accessibility on the historic building, its site, or setting, such as compatible ramps, paths, and lifts.	Making modifications for accessibility without considering the impact on the historic building, its site, and setting.

CODE-REQUIRED WORK

RECOMMENDED	NOT RECOMMENDED
Using relevant sections of existing codes regarding accessibility for historic buildings that provide alternative means of compliance when code-required work would otherwise negatively impact the historic character of the property.	
Minimizing the visual impact of accessibility ramps by installing them on secondary elevations when it does not compromise accessibility or by screening them with plantings.	
Adding a gradual slope or grade to the sidewalk, if appropriate, to access the entrance rather than installing a ramp that would be more intrusive to the historic character of the building and the district.	
Installing a lift as inconspicuously as possible when it is necessary to locate it on a primary elevation of the historic building.	Installing a lift at a primary entrance without considering other options or locations.

[26] A temporary ramp–unobtrusive and easily removed–facilitates access to the entrance of this museum and does not affect its historic character.

[27] The access ramp at the left of the entrance is concealed by a hedge which minimizes its visibility and impact on the character of the historic apartment building.

CODE-REQUIRED WORK

RECOMMENDED	NOT RECOMMENDED
LIFE SAFETY	
Identifying the historic building's character-defining exterior features, interior spaces, features, and finishes, and features of the site and setting which may be affected by life-safety code-required work.	Undertaking life-safety code-required alterations before identifying those exterior features, interior spaces, features, and finishes, and features of the site and setting which are character defining and, therefore, must be preserved.
Complying with life-safety codes (including requirements for impact-resistant glazing, security, and seismic retrofit) in such a manner that the historic building's character-defining exterior features, interior spaces, features, and finishes, and features of the site and setting are preserved or impacted as little as possible.	Altering, damaging, or destroying character-defining exterior features, interior spaces, features, and finishes, or features of the site and setting while making modifications to a building, its site, or setting to comply with life-safety code requirements.
Removing building materials only after testing has been conducted to identify any hazardous materials, and using only the least damaging abatement methods.	Removing building materials without testing first to identify any hazardous materials, or using potentially damaging methods of abatement.
Providing workers with appropriate personal equipment for protection from hazards on the worksite.	Removing hazardous or toxic materials without regard for workers' health and safety or environmentally-sensitive disposal of the materials.
Working with code officials and historic preservation specialists to investigate systems, methods, or devices to make the building compliant with life-safety codes to ensure that necessary alterations will be compatible with the historic character of the building.	Making life-safety code-required changes to the building without consulting code officials and historic preservation specialists, with the result that alterations negatively impact the historic character of the building.
Using relevant sections of existing codes regarding life safety for historic buildings that provide alternative means of code compliance when code-required work would otherwise negatively impact the historic character of the building.	
Upgrading historic stairways and elevators to meet life-safety codes so that they are not damaged or otherwise negatively impacted.	Damaging or making inappropriate alterations to historic stairways and elevators or to adjacent spaces, features, or finishes in the process of doing work to meet code requirements.
Installing sensitively-designed fire-suppression systems, such as sprinklers, so that historic features and finishes are preserved.	Covering character-defining wood features with fire-retardant sheathing, which results in altering their appearance.
Applying fire-retardant coatings when appropriate, such as intumescent paint, to protect steel structural systems.	Using fire-retardant coatings if they will damage or obscure character-defining features.

[28] A simple railing added on the inner side of an elaborate wood and cast-iron stair railing meets life-safety code requirements without greatly impacting its historic character.

[29] A safety cone outside of a house where lead paint is being removed warns of the hazardous conditions on the site.

RESILIENCE TO NATURAL HAZARDS

RECOMMENDED	NOT RECOMMENDED
Resilience to natural hazards should be addressed as part of a ***Preservation*** *project. A historic building may have existing characteristics or features that help to address or minimize the impacts of natural hazards. These should always be used to best advantage when considering new adaptive treatments so as to have the least impact on the historic character of the building, its site, and setting.*	
Identifying the vulnerabilities of the historic property to the impacts of natural hazards (such as wildfires, hurricanes, or tornadoes) using the most current climate information and data available.	Failing to identify and periodically reevaluate the potential vulnerability of the building, its site, and setting to the impacts of natural hazards.
Assessing the potential impacts of known vulnerabilities on character-defining features of the building, its site, and setting, and reevaluating and reassessing potential impacts on a regular basis.	
Documenting the property and its character-defining features as a record and guide for future repair work, should it be necessary, and storing the documentation in a weatherproof location.	Failing to document the historic property and its character-defining features with the result that such information is not available in the future to guide repair or reconstruction work, should it be necessary.
Ensuring that historic resource inventories and maps are accurate, up to date, and accessible in an emergency.	
Maintaining the building, its site, and setting in good repair, and regularly monitoring character-defining features.	Failing to regularly monitor and maintain the property and building systems in good repair.
Using and maintaining existing characteristics and features of the historic building, its site, setting, and larger environment (such as shutters for storm protection or a site wall that keeps out flood waters) that may help to avoid or minimize the impacts of natural hazards.	
Undertaking work to prevent or minimize the loss, damage, or destruction of the historic property while retaining and preserving significant features and the overall historic character of the building, its site, and setting.	Allowing loss, damage, or destruction to occur to the historic building, its site, or setting by failing to evaluate potential future impacts of natural hazards or to plan and implement adaptive measures, if necessary to address possible threats.
Ensuring that, when planning work to adapt for natural hazards, all feasible alternatives are considered, and that options requiring the least alteration are considered first.	

RESILIENCE TO NATURAL HAZARDS

RECOMMENDED	NOT RECOMMENDED
Implementing local and regional traditions (such as elevating residential buildings at risk of flooding or reducing flammable vegetation around structures in fire-prone areas) for adapting buildings and sites to specific natural hazards, when appropriate. Such traditional methods may be appropriate if they are compatible with the historic character of the building, its site, and setting.	Implementing a treatment traditionally used in another region or one typically used for a different property type or architectural style which is not compatible with the historic character of the property.
Using special exemptions and variances when adaptive treatments to protect buildings from known hazards would otherwise negatively impact the historic character of the building, its site, or setting.	
Considering adaptive options, whenever possible, that would protect multiple historic resources, if the treatment can be implemented without negatively impacting the historic character of the setting or district, or archeological resources, other cultural or religious features, or burial grounds.	

[30] Historic window shutters still serve their original function as protection in hurricane-prone areas.

Sustainability

Sustainability should be addressed as part of a **Preservation** project. Good preservation practice is often synonymous with sustainability. Existing energy-efficient features should be retained and repaired. New sustainability treatments generally should be limited to updating existing features and systems to have the least impact on the historic character of the building.

The topic of sustainability is addressed in detail in ***The Secretary of the Interior's Standards for Rehabilitation & Illustrated Guidelines on Sustainability for Rehabilitating Historic Buildings***. Although specifically developed for the treatment Rehabilitation, the Sustainability Guidelines can be used to help guide the other treatments.

[31] An interior screen door at the entrance to individual apartments is a historic feature traditionally used to help circulate air throughout the building.

STANDARDS FOR REHABILITATION & GUIDELINES
FOR REHABILITATING HISTORIC BUILDINGS

Rehabilitation

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

Standards for Rehabilitation

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

GUIDELINES FOR REHABILITATING HISTORIC BUILDINGS

INTRODUCTION

In **Rehabilitation,** historic building materials and character-defining features are protected and maintained as they are in the treatment Preservation. However, greater latitude is given in the **Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings** to replace extensively deteriorated, damaged, or missing features using either the same material or compatible substitute materials. Of the four treatments, only **Rehabilitation** allows alterations and the construction of a new addition, if necessary for a continuing or new use for the historic building.

Identify, Retain, and Preserve Historic Materials and Features

The guidance for the treatment **Rehabilitation** begins with recommendations to identify the form and detailing of those architectural materials and features that are important in defining the building's historic character and which must be retained to preserve that character. Therefore, guidance on ***identifying, retaining, and preserving*** character-defining features is always given first.

Protect and Maintain Historic Materials and Features

After identifying those materials and features that are important and must be retained in the process of **Rehabilitation** work, then ***protecting and maintaining*** them are addressed. Protection generally involves the least degree of intervention and is preparatory to other work. Protection includes the maintenance of historic materials and features as well as ensuring that the property is protected before and during rehabilitation work. A historic building undergoing rehabilitation will often require more extensive work. Thus, an overall evaluation of its physical condition should always begin at this level.

Repair Historic Materials and Features

Next, when the physical condition of character-defining materials and features warrants additional work, ***repairing*** is recommended. **Rehabilitation** guidance for the repair of historic materials, such as masonry, again begins with the least degree of intervention possible. In rehabilitation, repairing also includes the limited replacement in kind or with a compatible substitute material of extensively deteriorated or missing components of features when there are surviving prototypes features that can be substantiated by documentary and physical evidence. Although using the same kind of material is always the preferred option, a substitute material may be an acceptable alternative if the form, design, and scale, as well as the substitute material itself, can effectively replicate the appearance of the remaining features.

Replace Deteriorated Historic Materials and Features

Following repair in the hierarchy, **Rehabilitation** guidance is provided for ***replacing*** an entire character-defining feature with new material because the level of deterioration or damage of materials precludes repair. If the missing feature is character defining or if it is critical to the survival of the building (e.g., a roof), it should be replaced to match the historic feature based on physical or his-

toric documentation of its form and detailing. As with repair, the preferred option is always replacement of the entire feature in kind (i.e., with the same material, such as wood for wood). However, when this is not feasible, a compatible substitute material that can reproduce the overall appearance of the historic material may be considered.

It should be noted that, while the National Park Service guidelines recommend the replacement of an entire character-defining feature that is extensively deteriorated, the guidelines never recommend removal and replacement with new material of a feature that could reasonably be repaired and, thus, preserved.

Design for the Replacement of Missing Historic Features

When an entire interior or exterior feature is missing, such as a porch, it no longer plays a role in physically defining the historic character of the building unless it can be accurately recovered in form and detailing through the process of carefully documenting the historic appearance. If the feature is not critical to the survival of the building, allowing the building to remain without the feature is one option. But if the missing feature is important to the historic character of the building, its replacement is always recommended in the **Rehabilitation** guidelines as the first, or preferred, course of action. If adequate documentary and physical evidence exists, the feature may be accurately reproduced. A second option in a rehabilitation treatment for replacing a missing feature, particularly when the available information about the feature is inadequate to permit an accurate reconstruction, is to ***design*** a new feature that is compatible with the overall historic character of the building. The new design should always take into account the size, scale, and material of the building itself and should be clearly differentiated from the authentic historic features. For properties that have changed over time, and where those changes have acquired significance, reestablishing missing historic features generally should not be undertaken if the missing features did not coexist with the features currently on the building. Juxtaposing historic features that did not exist concurrently will result in a false sense of the building's history.

Alterations

Some exterior and interior alterations to a historic building are generally needed as part of a **Rehabilitation** project to ensure its continued use, but it is most important that such alterations do not radically change, obscure, or destroy character-defining spaces, materials, features, or finishes. Alterations may include changes to the site or setting, such as the selective removal of buildings or other features of the building site or setting that are intrusive, not character defining, or outside the building's period of significance.

Code-Required Work: Accessibility and Life Safety

Sensitive solutions to meeting code requirements in a **Rehabilitation** project are an important part of protecting the historic character of the building. Work that must be done to meet accessibility and life-safety requirements must also be assessed for its potential impact on the historic building, its site, and setting.

Resilience to Natural Hazards

Resilience to natural hazards should be addressed as part of a **Rehabilitation** project. A historic building may have existing characteristics or features that help to address or minimize the impacts of natural hazards. These should always be used to best advantage when considering new adaptive treatments so as to have the least impact on the historic character of the building, its site, and setting.

Sustainability

Sustainability should be addressed as part of a **Rehabilitation** project. Good preservation practice is often synonymous with sustainability. Existing energy-efficient features should be retained and repaired. Only sustainability treatments should be considered that will have the least impact on the historic character of the building.

The topic of sustainability is addressed in detail in *The Secretary of the Interior's Standards for Rehabilitation & Illustrated Guidelines on Sustainability for Rehabilitating Historic Buildings*.

New Exterior Additions and Related New Construction

Rehabilitation is the only treatment that allows expanding a historic building by enlarging it with an addition. However, the **Rehabilitation** guidelines emphasize that new additions should be considered only after it is determined that meeting specific new needs cannot be achieved by altering non-character-defining interior spaces. If the use cannot be accommodated in this way, then an attached exterior addition may be considered. New additions should be designed and constructed so that the character-defining features of the historic building, its site, and setting are not negatively impacted. Generally, a new addition should be subordinate to the historic building. A new addition should be compatible, but differentiated enough so that it is not confused as historic or original to the building. The same guidance applies to new construction so that it does not negatively impact the historic character of the building or its site.

Rehabilitation as a Treatment. *When repair and replacement of deteriorated features are necessary; when alterations or additions to the property are planned for a new or continued use; and when its depiction at a particular time is not appropriate, Rehabilitation may be considered as a treatment. Prior to undertaking work, a documentation plan for Rehabilitation should be developed.*

MASONRY: STONE, BRICK, TERRA COTTA, CONCRETE, ADOBE, STUCCO, AND MORTAR

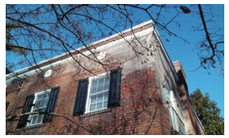
RECOMMENDED	NOT RECOMMENDED
Identifying, retaining and preserving masonry features that are important in defining the overall historic character of the building (such as walls, brackets, railings, cornices, window and door surrounds, steps, and columns) and decorative ornament and other details, such as tooling and bonding patterns, coatings, and color.	Removing or substantially changing masonry features which are important in defining the overall historic character of the building so that, as a result, the character is diminished. Replacing or rebuilding a major portion of exterior masonry walls that could be repaired, thereby destroying the historic integrity of the building. Applying paint or other coatings (such as stucco) to masonry that has been historically unpainted or uncoated to create a new appearance. Removing paint from historically-painted masonry.
Protecting and maintaining masonry by ensuring that historic drainage features and systems that divert rainwater from masonry surfaces (such as roof overhangs, gutters, and downspouts) are intact and functioning properly.	Failing to identify and treat the causes of masonry deterioration, such as leaking roofs and gutters or rising damp.
Cleaning masonry only when necessary to halt deterioration or remove heavy soiling.	Cleaning masonry surfaces when they are not heavily soiled to create a "like-new" appearance, thereby needlessly introducing chemicals or moisture into historic materials.
Carrying out masonry cleaning tests when it has been determined that cleaning is appropriate. Test areas should be examined to ensure that no damage has resulted and, ideally, monitored over a sufficient period of time to allow long-range effects to be predicted.	Cleaning masonry surfaces without testing or without sufficient time for the testing results to be evaluated.

[1] An alkaline-based product is appropriate to use to clean historic marble because it will not damage the marble, which is acid sensitive.

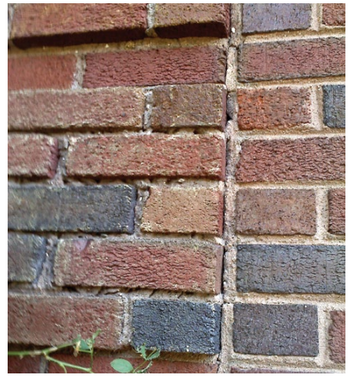
[2] Mid-century modern building technology made possible the form of this parabola-shaped structure and its thin concrete shell construction. Built in 1961 as the lobby of the La Concha Motel in Las Vegas, it was designed by Paul Revere Williams, one of the first prominent African-American architects. It was moved to a new location and rehabilitated to serve as the Neon Museum, and is often cited as an example of Googie architecture. *Credit: Photographed with permission at The Neon Museum, Las Vegas, Nevada.*

MASONRY: STONE, BRICK, TERRA COTTA, CONCRETE, ADOBE, STUCCO, AND MORTAR

RECOMMENDED	NOT RECOMMENDED
Cleaning soiled masonry surfaces with the gentlest method possible, such as using low-pressure water and detergent and natural bristle or other soft-bristle brushes.	Cleaning or removing paint from masonry surfaces using most abrasive methods (including sandblasting, other media blasting, or high-pressure water) which can damage the surface of the masonry and mortar joints. Using a cleaning or paint-removal method that involves water or liquid chemical solutions when there is any possibility of freezing temperatures. Cleaning with chemical products that will damage some types of masonry (such as using acid on limestone or marble), or failing to neutralize or rinse off chemical cleaners from masonry surfaces.



[3] **Not Recommended:**
The white film on the upper corner of this historic brick row house is the result of using a scrub or slurry coating, rather than traditional repointing by hand, which is the recommended method.



[4] **Not Recommended:**
The quoins on the left side of the photo show that high-pressure abrasive blasting used to remove paint can damage even early 20th-century, hard-baked, textured brick and erode the mortar, whereas the same brick on the right, which was not abrasively cleaned, is undamaged.

MASONRY: STONE, BRICK, TERRA COTTA, CONCRETE, ADOBE, STUCCO, AND MORTAR

RECOMMENDED	NOT RECOMMENDED
Using biodegradable or environmentally-safe cleaning or paint-removal products.	
Using paint-removal methods that employ a poultice to which paint adheres, when possible, to neatly and safely remove old lead paint.	
Using coatings that encapsulate lead paint, when possible, where the paint is not required to be removed to meet environmental regulations.	
Allowing only trained conservators to use abrasive or laser-cleaning methods, when necessary, to clean hard-to-reach, highly-carved, or detailed decorative stone features.	
Removing damaged or deteriorated paint only to the next sound layer using the gentlest method possible (e.g., hand scraping) prior to repainting.	Removing paint that is firmly adhered to masonry surfaces, unless the building was unpainted historically and the paint can be removed without damaging the surface.
Applying compatible paint coating systems to historically-painted masonry following proper surface preparation.	Failing to follow manufacturers' product and application instructions when repainting masonry features.
Repainting historically-painted masonry features with colors that are appropriate to the historic character of the building and district.	Using paint colors on historically-painted masonry features that are not appropriate to the historic character of the building and district.
Protecting adjacent materials when cleaning or removing paint from masonry features.	Failing to protect adjacent materials when cleaning or removing paint from masonry features.
Evaluating the overall condition of the masonry to determine whether more than protection and maintenance, such as repairs to masonry features, will be necessary.	Failing to undertake adequate measures to ensure the protection of masonry features.
Repairing masonry by patching, splicing, consolidating, or otherwise reinforcing the masonry using recognized preservation methods. Repair may include the limited replacement in kind or with a compatible substitute material of those extensively deteriorated or missing parts of masonry features when there are surviving prototypes, such as terra-cotta brackets or stone balusters.	Removing masonry that could be stabilized, repaired, and conserved, or using untested consolidants and unskilled personnel, potentially causing further damage to historic materials. Replacing an entire masonry feature, such as a cornice or balustrade, when repair of the masonry and limited replacement of deteriorated or missing components are feasible.

MASONRY: STONE, BRICK, TERRA COTTA, CONCRETE, ADOBE, STUCCO, AND MORTAR

RECOMMENDED	NOT RECOMMENDED
Repairing masonry walls and other masonry features by repointing the mortar joints where there is evidence of deterioration, such as disintegrating mortar, cracks in mortar joints, loose bricks, or damaged plaster on the interior.	Removing non-deteriorated mortar from sound joints and then repointing the entire building to achieve a more uniform appearance.
Removing deteriorated lime mortar carefully by hand raking the joints to avoid damaging the masonry.	
Using power tools only on horizontal joints on brick masonry in conjunction with hand chiseling to remove hard mortar that is deteriorated or that is a non-historic material which is causing damage to the masonry units. Mechanical tools should be used only by skilled masons in limited circumstances and generally not on short, vertical joints in brick masonry.	Allowing unskilled workers to use masonry saws or mechanical tools to remove deteriorated mortar from joints prior to repointing.
Duplicating historic mortar joints in strength, composition, color, and texture when repointing is necessary. In some cases, a lime-based mortar may also be considered when repointing Portland cement mortar because it is more flexible.	Repointing masonry units with mortar of high Portland cement content (unless it is the content of the historic mortar). Using "surface grouting" or a "scrub" coating technique, such as a "sack rub" or "mortar washing," to repoint exterior masonry units instead of traditional repointing methods. Repointing masonry units (other than concrete) with a synthetic caulking compound instead of mortar.
Duplicating historic mortar joints in width and joint profile when repointing is necessary.	Changing the width or joint profile when repointing.
Repairing stucco by removing the damaged material and patching with new stucco that duplicates the old in strength, composition, color, and texture.	Removing sound stucco or repairing with new stucco that is different in composition from the historic stucco. Patching stucco or concrete without removing the source of deterioration. Replacing deteriorated stucco with synthetic stucco, an exterior finish and insulation system (EFIS), or other non-traditional materials.

MASONRY: STONE, BRICK, TERRA COTTA, CONCRETE, ADOBE, STUCCO, AND MORTAR

RECOMMENDED	NOT RECOMMENDED
Using mud plaster or a compatible lime-plaster adobe render, when appropriate, to repair adobe.	Applying cement stucco, unless it already exists, to adobe.
Sealing joints in concrete with appropriate flexible sealants and backer rods, when necessary.	
Cutting damaged concrete back to remove the source of deterioration, such as corrosion on metal reinforcement bars. The new patch must be applied carefully so that it will bond satisfactorily with and match the historic concrete.	Patching damaged concrete without removing the source of deterioration.

[5] Rebars in the reinforced concrete ceiling have rusted, causing the concrete to spall. The rebars must be cleaned of rust before the concrete can be patched.

[6] Some areas of the concrete brise soleil screen on this building constructed in 1967 are badly deteriorated. If the screen cannot be repaired, it may be replaced in kind or with a composite substitute material with the same appearance as the concrete.

[7] (a) J.W. Knapp's Department Store, built 1937-38, in Lansing, MI, was constructed with a proprietary material named "Maul Macotta" made of enameled steel and cast-in-place concrete panels. Prior to its rehabilitation, a building inspection revealed that, due to a flaw in the original design and construction, the material was deteriorated beyond repair. The architects for the rehabilitation project devised a replacement system (b) consisting of enameled aluminum panels that matched the original colors (c). Photos and drawing (a-b): Quinn Evans Architects; *Photo (c): James Haefner Photography.*

MASONRY: STONE, BRICK, TERRA COTTA, CONCRETE, ADOBE, STUCCO, AND MORTAR

RECOMMENDED	NOT RECOMMENDED
Using a non-corrosive, stainless-steel anchoring system when replacing damaged stone, concrete, or terra-cotta units that have failed.	
Applying non-historic surface treatments, such as water-repellent coatings, to masonry only after repointing and only if masonry repairs have failed to arrest water penetration problems.	Applying waterproof, water-repellent, or non-original historic coatings (such as stucco) to masonry as a substitute for repointing and masonry repairs.
Applying permeable, anti-graffiti coatings to masonry when appropriate.	Applying water-repellent or anti-graffiti coatings that change the historic appearance of the masonry or that may trap moisture if the coating is not sufficiently permeable.
Replacing in kind an entire masonry feature that is too deteriorated to repair (if the overall form and detailing are still evident) using the physical evidence as a model to reproduce the feature or when the replacement can be based on historic documentation. Examples can include large sections of a wall, a cornice, pier, or parapet. If using the same kind of material is not feasible, then a compatible substitute material may be considered.	Removing a masonry feature that is unrepairable and not replacing it, or replacing it with a new feature that does not match. Using substitute material for the replacement that does not convey the same appearance of the surviving components of the masonry feature.
The following work is highlighted to indicate that it is specific to **Rehabilitation** *projects and should only be considered after the preservation concerns have been addressed.*	
Designing the Replacement for Missing Historic Features	
Designing and installing a replacement masonry feature, such as a step or door pediment, when the historic feature is completely missing. It may be an accurate restoration based on documentary and physical evidence, but only when the historic feature to be replaced coexisted with the features currently on the building. Or, it may be a new design that is compatible with the size, scale, material, and color of the historic building.	Creating an inaccurate appearance because the replacement for the missing masonry feature is based upon insufficient physical or historic documentation, is not a compatible design, or because the feature to be replaced did not coexist with the features currently on the building. Introducing a new masonry feature that is incompatible in size, scale, material, or color.

WOOD: CLAPBOARD, WEATHERBOARD, SHINGLES, AND OTHER FUNCTIONAL AND DECORATIVE ELEMENTS

RECOMMENDED	NOT RECOMMENDED
Identifying, retaining and preserving wood features that are important in defining the overall historic character of the building (such as siding, cornices, brackets, window and door surrounds, and steps) and their paints, finishes, and colors.	Removing or substantially changing wood features which are important in defining the overall historic character of the building so that, as a result, the character is diminished. Removing a major portion of the historic wood from a façade instead of repairing or replacing only the deteriorated wood, then reconstructing the façade with new material to achieve a uniform or "improved" appearance. Changing the type of finish, coating, or historic color of wood features, thereby diminishing the historic character of the exterior. Failing to renew failing paint or other coatings that are historic finishes. Stripping historically-painted surfaces to bare wood and applying a clear finish rather than repainting. Stripping paint or other coatings to reveal bare wood, thereby exposing historically-coated surfaces to the effects of accelerated weathering. Removing wood siding (clapboards) or other covering (such as stucco) from log structures that were covered historically, which changes their historic character and exposes the logs to accelerated deterioration.
Protecting and maintaining wood features by ensuring that historic drainage features that divert rainwater from wood surfaces (such as roof overhangs, gutters, and downspouts) are intact and functioning properly.	Failing to identify and treat the causes of wood deterioration, such as faulty flashing, leaking gutters, cracks and holes in siding, deteriorated caulking in joints and seams, plant material growing too close to wood surfaces, or insect or fungal infestation.

WOOD: CLAPBOARD, WEATHERBOARD, SHINGLES, AND OTHER FUNCTIONAL AND DECORATIVE ELEMENTS

RECOMMENDED	NOT RECOMMENDED
Applying chemical preservatives or paint to wood features that are subject to weathering, such as exposed beam ends, outriggers, or rafter tails.	Using chemical preservatives (such as creosote) which, unless they were used historically, can change the appearance of wood features.
Implementing an integrated pest management plan to identify appropriate preventive measures to guard against insect damage, such as installing termite guards, fumigating, and treating with chemicals.	
Retaining coatings (such as paint) that protect the wood from moisture and ultraviolet light. Paint removal should be considered only when there is paint surface deterioration and as part of an overall maintenance program which involves repainting or applying other appropriate coatings.	Stripping paint or other coatings from wood features without recoating.

(8) Rotted clapboards have been replaced selectively with new wood siding to match the originals.

WOOD: CLAPBOARD, WEATHERBOARD, SHINGLES, AND OTHER FUNCTIONAL AND DECORATIVE ELEMENTS

RECOMMENDED	NOT RECOMMENDED
Removing damaged or deteriorated paint to the next sound layer using the gentlest method possible (e.g., hand scraping and hand sanding) prior to repainting.	Using potentially-damaging paint-removal methods on wood surfaces, such as open-flame torches, orbital sanders, abrasive methods (including sandblasting, other media blasting, or high-pressure water), or caustic paint-removers. Removing paint that is firmly adhered to wood surfaces.
Using chemical strippers primarily to supplement other methods such as hand scraping, hand sanding, and thermal devices.	Failing to neutralize the wood thoroughly after using chemical paint removers so that new paint may not adhere. Removing paint from detachable wood features by soaking them in a caustic solution, which may roughen the surface, split the wood, or result in staining from residual acids leaching out of the wood.
Using biodegradable or environmentally-safe cleaning or paint-removal products.	
Using paint-removal methods that employ a poultice to which paint adheres, when possible, to neatly and safely remove old lead paint.	
Using thermal devices (such as infrared heaters) carefully to remove paint when it is so deteriorated that total removal is necessary prior to repainting.	Using a thermal device to remove paint from wood features without first checking for and removing any flammable debris behind them. Using thermal devices without limiting the amount of time the wood feature is exposed to heat.
Using coatings that encapsulate lead paint, when possible, where the paint is not required to be removed to meet environmental regulations.	
Applying compatible paint coating systems to historically-painted wood following proper surface preparation.	Failing to follow manufacturers' product and application instructions when repainting wood features.
Repainting historically-painted wood features with colors that are appropriate to the building and district.	Using paint colors on historically-painted wood features that are not appropriate to the building or district.

WOOD: CLAPBOARD, WEATHERBOARD, SHINGLES, AND OTHER FUNCTIONAL AND DECORATIVE ELEMENTS

RECOMMENDED	NOT RECOMMENDED
Protecting adjacent materials when working on other wood features.	Failing to protect adjacent materials when working on wood features.
Evaluating the overall condition of the wood to determine whether more than protection and maintenance, such as repairs to wood features, will be necessary.	Failing to undertake adequate measures to ensure the protection of wood features.

[9] Smooth-surfaced cementitious siding (left) may be used to replace deteriorated wood siding only on secondary elevations that have minimal visibility.

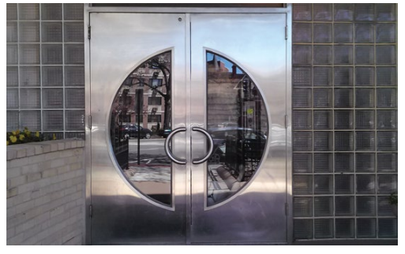
[10] **Not Recommended:** Cementitious siding with a raised wood-grain texture is not an appropriate material to replace historic wood siding, which has a smooth surface when painted.

WOOD: CLAPBOARD, WEATHERBOARD, SHINGLES, AND OTHER FUNCTIONAL AND DECORATIVE ELEMENTS

RECOMMENDED	NOT RECOMMENDED
Repairing wood by patching, splicing, consolidating, or otherwise reinforcing the wood using recognized conservation methods. Repair may include the limited replacement in kind or with a compatible substitute material of those extensively deteriorated or missing components of wood features when there are surviving prototypes, such as brackets, molding, or sections of siding.	Removing wood that could be stabilized, repaired, and conserved, or using untested consolidants and unskilled personnel, potentially causing further damage to historic materials. Replacing an entire wood feature, such as a cornice or balustrade, when repair of the wood and limited replacement of deteriorated or missing components is feasible.
Replacing in kind an entire wood feature that is too deteriorated to repair (if the overall form and detailing are still evident) using physical evidence as a model to reproduce the feature or when the replacement can be based on historic documentation. Examples of such wood features include a cornice, entablature, or a balustrade. If using wood is not feasible, then a compatible substitute material may be considered.	Removing a wood feature that is unrepairable and not replacing it, or replacing it with a new feature that does not match. Using substitute material for the replacement that does not convey the same appearance of the surviving components of the wood feature.
Replacing a deteriorated wood feature or wood siding on a *primary or other highly-visible* elevation with a new matching wood feature.	Replacing a deteriorated wood feature or wood siding on a *primary or other highly-visible elevation* with a composite substitute material.
The following work is highlighted to indicate that it is specific to **Rehabilitation** *projects and should only be considered after the preservation concerns have been addressed.*	
Designing the Replacement for Missing Historic Features	
Designing and installing a replacement masonry feature, such as a step or door pediment, when the historic feature is completely missing. It may be an accurate restoration based on documentary and physical evidence, but only when the historic feature to be replaced coexisted with the features currently on the building. Or, it may be a new design that is compatible with the size, scale, material, and color of the historic building.	Creating an inaccurate appearance because the replacement for the missing masonry feature is based upon insufficient physical or historic documentation, is not a compatible design, or because the feature to be replaced did not coexist with the features currently on the building. Introducing a new wood feature that is incompatible in size, scale, material, or color.

METALS: WROUGHT AND CAST IRON, STEEL, PRESSED METAL, TERNEPLATE, COPPER, ALUMINUM, AND ZINC

RECOMMENDED	NOT RECOMMENDED
Identifying, retaining, and preserving metal features that are important in defining the overall historic character of the building (such as columns, capitals, pilasters, spandrel panels, or stairways) and their paints, finishes, and colors. The type of metal should be identified prior to work because each metal has its own properties and may require a different treatment.	Removing or substantially changing metal features which are important in defining the overall historic character of the building so that, as a result, the character is diminished. Removing a major portion of the historic metal from a façade instead of repairing or replacing only the deteriorated metal, then reconstructing the façade with new material to achieve a uniform or "improved" appearance.
Protecting and maintaining metals from corrosion by providing proper drainage so that water does not stand on flat, horizontal surfaces or accumulate in curved decorative features.	Failing to identify and treat the causes of corrosion, such as moisture from leaking roofs or gutters. Placing incompatible metals together without providing an appropriate separation material. Such incompatibility can result in galvanic corrosion of the less noble metal (e.g., copper will corrode cast iron, steel, tin, and aluminum).
Cleaning metals when necessary to remove corrosion prior to repainting or applying appropriate protective coatings.	Leaving metals that must be protected from corrosion uncoated after cleaning.



[11] The stainless steel doors at the entrance to this Art Deco apartment building are important in defining its historic character and should be retained in place.

METALS: WROUGHT AND CAST IRON, STEEL, PRESSED METAL, TERNEPLATE, COPPER, ALUMINUM, AND ZINC

RECOMMENDED	NOT RECOMMENDED
Identifying the particular type of metal prior to any cleaning procedure and then testing to ensure that the gentlest cleaning method possible is selected; or, alternatively, determining that cleaning is inappropriate for the particular metal.	Using cleaning methods which alter or damage the color, texture, or finish of the metal, or cleaning when it is inappropriate for the particular metal. Removing the patina from historic metals. The patina may be a protective layer on some metals (such as bronze or copper) as well as a distinctive finish.
Using non-corrosive chemical methods to clean soft metals (such as lead, tinplate, terneplate, copper, and zinc) whose finishes can be easily damaged by abrasive methods.	Cleaning soft metals (such as lead, tinplate, terneplate, copper, and zinc) with abrasive methods (including sandblasting, other abrasive media, or high-pressure water) which will damage the surface of the metal.
Using the least abrasive cleaning method for hard metals (such as cast iron, wrought iron, and steel) to remove paint buildup and corrosion. If hand scraping and wire brushing have proven ineffective, low-pressure abrasive methods may be used as long as they do not abrade or damage the surface.	Using high-pressure abrasive techniques (including sandblasting, other media blasting, or high-pressure water) without first trying gentler cleaning methods prior to cleaning cast iron, wrought iron, or steel.
Applying appropriate paint or other coatings to historically-coated metals after cleaning to protect them from corrosion.	Applying paint or other coatings to metals (such as copper, bronze or stainless steel) if they were not coated historically, unless a coating is necessary for maintenance.
Repainting historically-painted metal features with colors that are appropriate to the building and district.	Using paint colors on historically-painted metal features that are not appropriate to the building or district.
Applying an appropriate protective coating (such as lacquer or wax) to a metal feature that was historically unpainted, such as a bronze door, which is subject to heavy use.	

METALS: WROUGHT AND CAST IRON, STEEL, PRESSED METAL, TERNEPLATE, COPPER, ALUMINUM, AND ZINC

RECOMMENDED	NOT RECOMMENDED
Protecting adjacent materials when cleaning or removing paint from metal features.	Failing to protect adjacent materials when working on metal features.
Evaluating the overall condition of metals to determine whether more than protection and maintenance, such as repairs to metal features, will be necessary.	Failing to undertake adequate measures to ensure the protection of metal features.

[12] This historic steel window has been cleaned, repaired, and primed in preparation for painting and reglazing.

[13] The gold-colored, anodized aluminum geodesic dome of the former Citizen's State Bank in Oklahoma City, OK, built in 1958 and designed by Robert Roloff, makes this a distinctive mid-20th century building.

[14] Interior cast-iron columns have been cleaned and repainted as part of the rehabilitation of this historic market building for continuing use.

[15] New enameled-metal panels were replicated to replace the original panels, which were too deteriorated to repair, when the storefront of this early 1950s building was recreated.

METALS: WROUGHT AND CAST IRON, STEEL, PRESSED METAL, TERNEPLATE, COPPER, ALUMINUM, AND ZINC

RECOMMENDED	NOT RECOMMENDED
Repairing metal by reinforcing the metal using recognized preservation methods. Repair may include the limited replacement in kind or with a compatible substitute material of those extensively deteriorated or missing components of features when there are surviving prototypes, such as column capitals or bases, storefronts, railings and steps, or window hoods.	Removing metals that could be stabilized, repaired, and conserved, or using improper repair techniques, or unskilled personnel, potentially causing further damage to historic materials.
Replacing in kind an entire metal feature that is too deteriorated to repair (if the overall form and detailing are still evident) using the physical evidence as a model to reproduce the feature or when the replacement can be based on historic documentation. Examples of such a feature could include cast-iron porch steps or steel-sash windows. If using the same kind of material is not feasible, then a compatible substitute material may be considered.	Replacing an entire metal feature, such as a column or balustrade, when repair of the metal and limited replacement of deteriorated or missing components are feasible. Removing a metal feature that is unrepairable and not replacing it, or replacing it with a new metal feature that does not match. Using a substitute material for the replacement that does not convey the same appearance of the surviving components of the metal feature or that is physically or chemically incompatible.
The following work is highlighted to indicate that it is specific to **Rehabilitation** *projects and should only be considered after the preservation concerns have been addressed.*	
Designing the Replacement for Missing Historic Features	
Designing and installing a replacement metal feature, such as a metal cornice or cast-iron column, when the historic feature is completely missing. It may be an accurate restoration based on documentary and physical evidence, but only when the historic feature to be replaced coexisted with the features currently on the building. Or, it may be a new design that is compatible with the size, scale, material, and color of the historic building.	Creating an inaccurate appearance because the replacement for the missing metal feature is based upon insufficient physical or historic documentation, is not a compatible design, or because the feature to be replaced did not coexist with the features currently on the building. Introducing a new metal feature that is incompatible in size, scale, material, or color.

ROOFS

RECOMMENDED	NOT RECOMMENDED
Identifying, retaining, and preserving roofs and their functional and decorative features that are important in defining the overall historic character of the building. The form of the roof (gable, hipped, gambrel, flat, or mansard) is significant, as are its decorative and functional features (such as cupolas, cresting, parapets, monitors, chimneys, weather vanes, dormers, ridge tiles, and snow guards), roofing material (such as slate, wood, clay tile, metal, roll roofing, or asphalt shingles), and size, color, and patterning.	Removing or substantially changing roofs which are important in defining the overall historic character of the building so that, as a result, the character is diminished. Removing a major portion of the historic roof or roofing material that is repairable, then rebuilding it with new material to achieve a more uniform or "improved" appearance. Changing the configuration or shape of a roof by adding highly visible new features (such as dormer windows, vents, skylights, or a penthouse). Stripping the roof of sound historic material, such as slate, clay tile, wood, or metal.
Protecting and maintaining a roof by cleaning gutters and downspouts and replacing deteriorated flashing. Roof sheathing should also be checked for indications of moisture due to leaks or condensation.	Failing to clean and maintain gutters and downspouts properly so that water and debris collect and cause damage to roof features, sheathing, and the underlying roof structure.
Providing adequate anchorage for roofing material to guard against wind damage and moisture penetration.	Allowing flashing, caps, and exposed fasteners to corrode, which accelerates deterioration of the roof.
Protecting a leaking roof with a temporary waterproof membrane with a synthetic underlayment, roll roofing, plywood, or a tarpaulin until it can be repaired.	Leaving a leaking roof unprotected so that accelerated deterioration of historic building materials (such as masonry, wood, plaster, paint, and structural members) occurs.
Repainting a roofing material that requires a protective coating and was painted historically (such as a terneplate metal roof or gutters) as part of regularly-scheduled maintenance.	Failing to repaint a roofing material that requires a protective coating and was painted historically as part of regularly-scheduled maintenance.
Applying compatible paint coating systems to historically-painted roofing materials following proper surface preparation.	Applying paint or other coatings to roofing material if they were not coated historically.
Protecting a roof covering when working on other roof features.	Failing to protect roof coverings when working on other roof features.
Evaluating the overall condition of the roof and roof features to determine whether more than protection and maintenance, such as repairs to roof features, will be necessary.	Failing to undertake adequate measures to ensure the protection of roof features.

ROOFS

RECOMMENDED	NOT RECOMMENDED
Repairing a roof by ensuring that the existing historic or compatible non-historic roof covering is sound and waterproof. Repair may include the limited replacement in kind or with a compatible substitute material of missing materials (such as wood shingles, slates, or tiles) on a main roof, as well as those extensively deteriorated or missing components of features when there are surviving prototypes, such as ridge tiles, dormer roofing, or roof monitors. Using corrosion-resistant roof fasteners (e.g., nails and clips) to repair a roof to help extend its longevity.	Replacing an entire roof feature when repair of the historic roofing materials and limited replacement of deteriorated or missing components are feasible.

[16] The deteriorated asphalt shingles of this porch roof are being replaced in kind with matching shingles.

ROOFS

RECOMMENDED	NOT RECOMMENDED
Replacing in kind an entire roof covering or feature that is too deteriorated to repair (if the overall form and detailing are still evident) using the physical evidence as a model to reproduce the feature or when the replacement can be based on historic documentation. Examples of such a feature could include a large section of roofing, a dormer, or a chimney. If using the same kind of material is not feasible, then a compatible substitute material may be considered.	Removing a feature of the roof that is unrepairable and not replacing it, or replacing it with a new roof feature that does not match. Using a substitute material for the replacement that does not convey the same appearance of the roof covering or the surviving components of the roof feature or that is physically or chemically incompatible.
Replacing only missing or damaged roofing tiles or slates rather than replacing the entire roof covering.	Failing to reuse intact slate or tile in good condition when only the roofing substrate or fasteners need replacement.
Replacing an incompatible roof covering or any deteriorated non-historic roof covering with historically-accurate roofing material, if known, or another material that is compatible with the historic character of the building.	
The following work is highlighted to indicate that it is specific to **Rehabilitation** *projects and should only be considered after the preservation concerns have been addressed.*	
Designing the Replacement for Missing Historic Features	
Designing and installing a new roof covering for a missing roof or a new feature, such as a dormer or a monitor, when the historic feature is completely missing. It may be an accurate restoration based on documentary and physical evidence, but only when the historic feature to be replaced coexisted with the features currently on the building. Or, it may be a new design that is compatible with the size, scale, material, and color of the historic building.	Creating an inaccurate appearance because the replacement for the missing roof feature is based upon insufficient physical or historic documentation, is not a compatible design, or because the feature to be replaced did not coexist with the features currently on the building. Introducing a new roof feature that is incompatible in size, scale, material, or color.

ROOFS

RECOMMENDED	NOT RECOMMENDED
Alterations and Additions for a New Use	
Installing mechanical and service equipment on the roof (such as heating and air-conditioning units, elevator housing, or solar panels) when required for a new use so that they are inconspicuous on the site and from the public right-of-way and do not damage or obscure character-defining historic features.	Installing roof-top mechanical or service equipment so that it damages or obscures character-defining roof features or is conspicuous on the site or from the public right-of-way.
Designing rooftop additions, elevator or stair towers, decks or terraces, dormers, or skylights when required by a new or continuing use so that they are inconspicuous and minimally visible on the site and from the public right-of-way and do not damage or obscure character-defining historic features.	Changing a character-defining roof form, or damaging or destroying character-defining roofing material as a result of an incompatible rooftop addition or improperly-installed or highly-visible mechanical equipment.
Installing a green roof or other roof landscaping, railings, or furnishings that are not visible on the site or from the public right-of-way and do not damage the roof structure.	Installing a green roof or other roof landscaping, railings, or furnishings that are visible on the site and from the public right-of-way.

[17] New wood elements have been used selectively to replace rotted wood on the underside of the roof in this historic warehouse.

WINDOWS

RECOMMENDED	NOT RECOMMENDED
Identifying, retaining, and preserving windows and their functional and decorative features that are important to the overall character of the building. The window material and how the window operates (e.g., double hung, casement, awning, or hopper) are significant, as are its components (including sash, muntins, ogee lugs, glazing, pane configuration, sills, mullions, casings, or brick molds) and related features, such as shutters.	Removing or substantially changing windows or window features which are important in defining the overall historic character of the building so that, as a result, the character is diminished. Changing the appearance of windows that contribute to the historic character of the building by replacing materials, finishes, or colors which noticeably change the sash, depth of the reveal, and muntin configurations; the reflectivity and color of the glazing; or the appearance of the frame. Obscuring historic wood window trim with metal or other material. Replacing windows solely because of peeling paint, broken glass, stuck sash, or high air infiltration. These conditions, in themselves, do not indicate that windows are beyond repair.
Protecting and maintaining the wood or metal which comprises the window jamb, sash, and trim through appropriate treatments, such as cleaning, paint removal, and reapplication of protective coating systems.	Failing to protect and maintain window materials on a cyclical basis so that deterioration of the window results.
Protecting windows against vandalism before work begins by covering them and by installing alarm systems that are keyed into local protection agencies.	Leaving windows unprotected and subject to vandalism before work begins, thereby also allowing the interior to be damaged if it can be accessed through unprotected windows.
Making windows weathertight by recaulking gaps in fixed joints and replacing or installing weatherstripping.	
Protecting windows from chemical cleaners, paint, or abrasion during work on the exterior of the building.	Failing to protect historic windows from chemical cleaners, paint, or abrasion when work is being done on the exterior of the building.
Protecting and retaining historic glass when replacing putty or repairing other components of the window.	Failing to protect the historic glass when making window repairs.

WINDOWS

RECOMMENDED	NOT RECOMMENDED
Sustaining the historic operability of windows by lubricating friction points and replacing broken components of the operating system (such as hinges, latches, sash chains or cords) and replacing deteriorated gaskets or insulating units.	Failing to maintain windows and window components so that windows are inoperable, or sealing operable sash permanently. Failing to repair and reuse window hardware such as sash lifts, latches, and locks.
Adding storm windows with a matching or a one-over-one pane configuration that will not obscure the characteristics of the historic windows. Storm windows improve energy efficiency and are especially beneficial when installed over wood windows because they also protect them from accelerated deterioration.	
Adding interior storm windows as an alternative to exterior storm windows when appropriate.	

[18] The historic metal storm windows in this 1920s office building were retained and repaired during the rehabilitation project.

[19] Installing a mockup of a proposed replacement window can be helpful to evaluate how well the new windows will match the historic windows that are missing or too deteriorated to repair.

[20 a-d] The original steel windows in this industrial building were successfully repaired as part of the rehabilitation project (left).

WINDOWS

RECOMMENDED	NOT RECOMMENDED
Installing sash locks, window guards, removable storm windows, and other reversible treatments to meet safety, security, or energy conservation requirements.	
Evaluating the overall condition of the windows to determine whether more than protection and maintenance, such as repairs to windows and window features, will be necessary.	Failing to undertake adequate measures to ensure the protection of window features.
Repairing window frames and sash by patching, splicing, consolidating, or otherwise reinforcing them using recognized preservation methods. Repair may include the limited replacement in kind or with a compatible substitute material of those extensively deteriorated, broken, or missing components of features when there are surviving prototypes, such as sash, sills, hardware, or shutters.	Removing window features that could be stabilized, repaired, or conserved using untested consolidants, improper repair techniques, or unskilled personnel, potentially causing further damage to the historic materials. Replacing an entire window when repair of the window and limited replacement of deteriorated or missing components are feasible.
Removing glazing putty that has failed and applying new putty; or, if glass is broken, carefully removing all putty, replacing the glass, and reputtying.	
Installing new glass to replace broken glass which has the same visual characteristics as the historic glass.	
Replacing in kind an entire window that is too deteriorated to repair (if the overall form and detailing are still evident) using the physical evidence as a model to reproduce the feature or when the replacement can be based on historic documentation. If using the same kind of material is not feasible, then a compatible substitute material may be considered.	Removing a character-defining window that is unrepairable or is not needed for the new use and blocking up the opening, or replacing it with a new window that does not match. Using substitute material for the replacement that does not convey the same appearance of the surviving components of the window or that is physically incompatible.

[21] The windows on the lower floor, which were too deteriorated to repair, were replaced with new steel windows matching the upper-floor historic windows that were retained.

WINDOWS

RECOMMENDED	NOT RECOMMENDED
Modifying a historic single-glazed sash to accommodate insulated glass when it will not jeopardize the soundness of the sash or significantly alter its appearance.	Modifying a historic single-glazed sash to accommodate insulated glass when it will jeopardize the soundness of the sash or significantly alter its appearance.
Using low-e glass with the least visible tint in new or replacement windows.	Using low-e glass with a dark tint in new or replacement windows, thereby negatively impacting the historic character of the building.
Using window grids rather than true divided lights on windows on the upper floors of high-rise buildings if they will not be noticeable.	Using window grids rather than true divided lights on windows in low-rise buildings or on lower floors of high-rise buildings where they will be noticeable, resulting in a change to the historic character of the building.
Ensuring that spacer bars in between double panes of glass are the same color as the window sash.	Using spacer bars in between double panes of glass that are not the same color as the window sash.
Replacing all of the components in a glazing system if they have failed because of faulty design or materials that have deteriorated with new material that will improve the window performance without noticeably changing the historic appearance.	Replacing all of the components in a glazing system with new material that will noticeably change the historic appearance.
Replacing incompatible, non-historic windows with new windows that are compatible with the historic character of the building; or reinstating windows in openings that have been filled in.	
The following work is highlighted to indicate that it is specific to **Rehabilitation** *projects and should only be considered after the preservation concerns have been addressed.*	
Designing the Replacement for Missing Historic Features	
Designing and installing a new window or its components, such as frames, sash, and glazing, when the historic feature is completely missing. It may be an accurate restoration based on documentary and physical evidence, but only when the historic feature to be replaced coexisted with the features currently on the building. Or, it may be a new design that is compatible with the size, scale, material, and color of the historic building.	Creating an inaccurate appearance because the replacement for the missing window is based upon insufficient physical or historic documentation, is not a compatible design, or because the feature to be replaced did not coexist with the features currently on the building. Installing replacement windows made from other materials that are not the same as the material of the original windows if they would have a noticeably different appearance from the remaining historic windows.

(a)

(b)

(c)

[22] **Not Recommended:** (a-b) The original wood windows in this late-19th-century building, which were highly decorative, could likely have been repaired and retained. (c) Instead, they were replaced with new windows that do not match the detailing of the historic windows and, therefore, do not meet the Standards (above).

[23] (a)This deteriorated historic wood window was repaired and retained (b) in this rehabilitation project.

WINDOWS

RECOMMENDED	NOT RECOMMENDED
Alterations and Additions for a New Use	
Adding new window openings on rear or other secondary, less-visible elevations, if required by a new use. The new openings and the windows in them should be compatible with the overall design of the building but, in most cases, not duplicate the historic fenestration.	Changing the number, location, size, or glazing pattern of windows on primary or highly-visible elevations which will alter the historic character of the building. Cutting new openings on character-defining elevations or cutting new openings that damage or destroy significant features. Adding balconies at existing window openings or new window openings on primary or other highly-visible elevations where balconies never existed and, therefore, would be incompatible with the historic character of the building.
Replacing windows that are too deteriorated to repair using the same sash and pane configuration, but with new windows that operate differently, if necessary, to accommodate a new use. Any change must have minimal visual impact. Examples could include replacing hopper or awning windows with casement windows, or adding a realigned and enlarged operable portion of industrial steel windows to meet life-safety codes.	Replacing a window that contributes to the historic character of the building with a new window that is different in design (such as glass divisions or muntin profiles), dimensions, materials (wood, metal, or glass), finish or color, or location that will have a noticeably different appearance from the historic windows, which may negatively impact the character of the building.
Installing impact-resistant glazing, when necessary for security, so that it is compatible with the historic windows and does not damage them or negatively impact their character.	Installing impact-resistant glazing, when necessary for security, that is incompatible with the historic windows and that damages them or negatively impacts their character.
Using compatible window treatments (such as frosted glass, appropriate shades or blinds, or shutters) to retain the historic character of the building when it is necessary to conceal mechanical equipment, for example, that the new use requires be placed in a location behind a window or windows on a primary or highly-visible elevation.	Removing a character-defining window to conceal mechanical equipment or to provide privacy for a new use of the building by blocking up the opening.

ENTRANCES AND PORCHES

RECOMMENDED	NOT RECOMMENDED
Identifying, retaining, and preserving entrances and porches and their functional and decorative features that are important in defining the overall historic character of the building. The materials themselves (including masonry, wood, and metal) are significant, as are their features, such as doors, transoms, pilasters, columns, balustrades, stairs, roofs, and projecting canopies.	Removing or substantially changing entrances and porches which are important in defining the overall historic character of the building so that, as a result, the character is diminished. Cutting new entrances on a primary façade. Altering utilitarian or service entrances so they compete visually with the historic primary entrance; increasing their size so that they appear significantly more important; or adding decorative details that cannot be documented to the building or are incompatible with the building's historic character.
Retaining a historic entrance or porch even though it will no longer be used because of a change in the building's function.	Removing a historic entrance or porch that will no longer be required for the building's new use.
Protecting and maintaining the masonry, wood, and metals which comprise entrances and porches through appropriate surface treatments, such as cleaning, paint removal, and reapplication of protective coating systems.	Failing to protect and maintain entrance and porch materials on a cyclical basis so that deterioration of entrances and porches results.
Protecting entrances and porches against arson and vandalism before work begins by covering them and by installing alarm systems keyed into local protection agencies.	Leaving entrances and porches unprotected and subject to vandalism before work begins, thereby also allowing the interior to be damaged if it can be accessed through unprotected entrances.
Protecting entrance and porch features when working on other features of the building.	Failing to protect materials and features when working on other features of the building.
Evaluating the overall condition of entrances and porches to determine whether more than protection and maintenance, such as repairs to entrance and porch features, will be necessary.	Failing to undertake adequate measures to ensure the protection of entrance and porch features.
Repairing entrances and porches by patching, splicing, consolidating, and otherwise reinforcing them using recognized preservation methods. Repair may include the limited replacement in kind or with a compatible substitute material of those extensively deteriorated features or missing components of features when there are surviving prototypes, such as balustrades, columns, and stairs.	Removing entrances and porches that could be stabilized, repaired, and conserved, or using untested consolidants, improper repair techniques, or unskilled personnel, potentially causing further damage to historic materials. Replacing an entire entrance or porch feature when repair of the feature and limited replacement of deteriorated or missing components are feasible.

[24] Rotted boards in the beaded-board porch ceiling are being replaced with new matching beaded board.

ENTRANCES AND PORCHES

RECOMMENDED	NOT RECOMMENDED
Replacing in kind an entire entrance or porch that is too deteriorated to repair (if the overall form and detailing are still evident) using the physical evidence as a model to reproduce the feature or when the replacement can be based on historic documentation. If using the same kind of material is not feasible, then a compatible substitute material may be considered.	Removing an entrance or porch that is unrepairable and not replacing it, or replacing it with a new entrance or porch that does not match. Using a substitute material for the replacement that does not convey the same appearance of the surviving components of entrance or porch features or that is physically incompatible.

[25] The new infill designs for the garage door openings in this commercial building (a) converted for restaurant use and in this mill building (b) rehabilitated for residential use are compatible with the historic character of the buildings.

ENTRANCES AND PORCHES

RECOMMENDED	NOT RECOMMENDED
The following work is highlighted to indicate that it is specific to **Rehabilitation** *projects and should only be considered after the preservation concerns have been addressed.*	
Designing the Replacement for Missing Historic Features	
Designing and installing a new entrance or porch when the historic feature is completely missing or has previously been replaced by one that is incompatible. It may be an accurate restoration based on documentary and physical evidence, but only when the historic entrance or porch to be replaced coexisted with the features currently on the building. Or, it may be a new design that is compatible with the size, scale, material, and color of the historic building.	Creating an inaccurate appearance because the replacement for the missing entrance or porch is based upon insufficient physical or historic documentation, is not a compatible design, or because the feature to be replaced did not coexist with the features currently on the building.
Alterations and Additions for a New Use	
Enclosing historic porches on secondary elevations only, when required by a new use, in a manner that preserves the historic character of the building (e.g., using large sheets of glass and recessing the enclosure wall behind existing posts and balustrades).	Enclosing porches in a manner that results in a diminution or loss of historic character by using solid materials rather than clear glazing, or by placing the enclosure in front of, rather than behind, the historic features.
Designing and constructing additional entrances or porches on secondary elevations when required for the new use in a manner that preserves the historic character of the building (i.e., ensuring that the new entrance or porch is clearly subordinate to historic primary entrances or porches).	Constructing secondary or service entrances and porches that are incompatible in size and scale or detailing with the historic building or that obscure, damage, or destroy character-defining features.

[26] **Not Recommended:** Installing a screened enclosure is never recommended on a front or otherwise prominent historic porch. In limited instances, it may be possible to add screening on a porch at the rear or on a secondary façade; however, the enclosure should match the color of the porch and be placed behind columns and railings so that it does not obscure these features.

STOREFRONTS

RECOMMENDED	NOT RECOMMENDED
Identifying, retaining, and preserving storefronts and their functional and decorative features that are important in defining the overall historic character of the building. The storefront materials (including wood, masonry, metals, ceramic tile, clear glass, and pigmented structural glass) and the configuration of the storefront are significant, as are features, such as display windows, base panels, bulkheads, signs, doors, transoms, kick plates, corner posts, piers, and entablatures. The removal of inappropriate, non-historic cladding, false mansard roofs, and other later, non-significant alterations can help reveal the historic character of the storefront.	Removing or substantially changing storefronts and their features which are important in defining the overall historic character of the building so that, as a result, the character is diminished. Changing the storefront so that it has a residential rather than commercial appearance. Introducing features from an earlier period that are not compatible with the historic character of the storefront. Changing the location of the storefront's historic main entrance. Replacing or covering a glass transom with solid material or inappropriate signage, or installing an incompatible awning over it.
Retaining later, non-original features that have acquired significance over time.	Removing later features that may have acquired significance.

[28] This new storefront, which replaced one that was missing, is compatible with the historic character of the building.

STOREFRONTS

RECOMMENDED	NOT RECOMMENDED
Protecting and maintaining masonry, wood, glass, ceramic tile, and metals which comprise storefronts through appropriate treatments, such as cleaning, paint removal, and reapplication of protective coating systems.	Failing to protect and maintain storefront materials on a cyclical basis so that deterioration of storefront features results.
Protecting storefronts against arson and vandalism before work begins by covering windows and doors and by installing alarm systems keyed into local protection agencies.	Leaving the storefront unprotected and subject to vandalism before work begins, thereby also allowing the interior to be damaged if it can be accessed through unprotected entrances.
Protecting the storefront when working on other features of the building.	Failing to protect the storefront when working on other features of the building.
Evaluating the overall condition of the storefront to determine whether more than protection and maintenance, such as repairs to storefront features, will be necessary.	Failing to undertake adequate measures to ensure the protection of storefront features.

[27] This original c. 1940s storefront, with its character-defining angled and curved glass display window and recessed entrance with a decorative terrazzo paving, is in good condition and should be retained in a rehabilitation project.

STOREFRONTS

RECOMMENDED	NOT RECOMMENDED
Repairing storefronts by patching, splicing, consolidating, or otherwise reinforcing them using recognized preservation methods. Repair may include the limited replacement in kind or with a compatible substitute material of those extensively deteriorated or missing components of storefronts when there are surviving prototypes, such as transoms, base panels, kick plates, piers, or signs.	Removing storefronts that could be stabilized, repaired, and conserved, or using untested consolidants, improper repair techniques, or unskilled personnel, potentially causing further damage to historic materials.
Replacing in kind an entire storefront that is too deteriorated to repair (if the overall form and detailing are still evident) using the physical evidence as a model to reproduce the feature or when the replacement can be based on historic documentation. If using the same kind of material is not feasible, then a compatible substitute material may be considered.	Replacing a storefront feature when repair of the feature and limited replacement of deteriorated or missing components are feasible. Using a substitute material for the replacement that does not convey the same appearance of the surviving components of the storefront or that is physically incompatible. Removing a storefront that is unrepairable and not replacing it or replacing it with a new storefront that does not match.
The following work is highlighted to indicate that it is specific to **Rehabilitation** *projects and should only be considered after the preservation concerns have been addressed.*	
Designing the Replacement for Missing Historic Features	
Designing and installing a new storefront when the historic storefront is completely missing or has previously been replaced by one that is incompatible. It may be an accurate restoration based on documentary and physical evidence, but only when the historic storefront to be replaced coexisted with the features currently on the building. Or, it may be a new design that is compatible with the size, scale, material, and color of the historic building.	Creating an inaccurate appearance because the replacement for the missing storefront is based upon insufficient physical or historic documentation, is not a compatible design, or because the feature to be replaced did not coexist with the features currently on the building. Using new, over-scaled, or internally-lit signs unless there is a historic precedent for them or using other types of signs that obscure, damage, or destroy character-defining features of the storefront and the building.

STOREFRONTS

RECOMMENDED	NOT RECOMMENDED
Replacing missing awnings or canopies that can be historically documented to the building, or adding new signage, awnings, or canopies that are compatible with the historic character of the building.	Adding vinyl awnings, or other awnings that are inappropriately sized or shaped, which are incompatible with the historic character of the building; awnings that do not extend over the entire length of the storefront; or large canopies supported by posts that project out over the sidewalk, unless their existence can be historically documented.
Alterations and Additions for a New Use	
Retaining the glazing and the transparency (i.e., which allows the openness of the interior to be experienced from the exterior) that is so important in defining the character of a historic storefront when the building is being converted for residential use. Window treatments (necessary for occupants' privacy) should be installed that are uniform and compatible with the commercial appearance of the building, such as screens or wood blinds. When display cases still exist behind the storefront, the screening should be set at the back of the display case.	Replacing storefront glazing with solid material for occupants' privacy when the building is being converted for residential use. Installing window treatments in storefront windows that have a residential appearance, which are incompatible with the commercial character of the building. Installing window treatments that are not uniform in a series of repetitive storefront windows.

[29] The rehabilitation of the 1910 Mā'alaea General Store (a), which served the workers' camp at the Wailuku Sugar Company on the Hawaiian island of Maui, included the reconstruction of the original parapet (b).

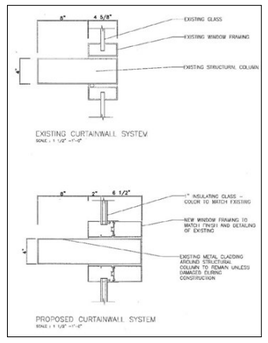
CURTAIN WALLS

RECOMMENDED	NOT RECOMMENDED
Identifying, retaining, and preserving curtain wall systems and their components (metal framing members and glass or opaque panels) that are important in defining the overall historic character of the building. The design of the curtain wall is significant, as are its component materials (metal stick framing and panel materials, such as clear or spandrel glass, stone, terra cotta, metal, and fiber-reinforced plastic), appearance (e.g., glazing color or tint, transparency, and reflectivity), and whether the glazing is fixed, operable or louvered glass panels. How a curtain wall is engineered and fabricated, and the fact that it expands and contracts at a different rate from the building's structural system, are important to understand when undertaking the rehabilitation of a curtain wall system.	Removing or substantially changing curtain wall components which are important in defining the overall historic character of the building so that, as a result, the character is diminished. Replacing historic curtain wall features instead of repairing or replacing only the deteriorated components.
Protecting and maintaining curtain walls and their components through appropriate surface treatments, such as cleaning, paint removal, and reapplication of protective coating systems; and by making them watertight and ensuring that sealants and gaskets are in good condition.	Failing to protect and maintain curtain wall components on a cyclical basis so that deterioration of curtain walls results. Failing to identify, evaluate, and treat various causes of curtain wall failure, such as open gaps between components where sealants have deteriorated or are missing.
Protecting ground-level curtain walls from vandalism before work begins by covering them, while ensuring adequate ventilation, and by installing alarm systems keyed into local protection agencies.	Leaving ground-level curtain walls unprotected and subject to vandalism before work begins, thereby also allowing the interior to be damaged if it can be accessed through unprotected glazing.
Protecting curtain walls when working on other features of the building.	Failing to protect curtain walls when working on other features of the building.
Cleaning curtain wall systems only when necessary to halt deterioration or to remove heavy soiling.	Cleaning curtain wall systems when they are not heavily soiled, thereby needlessly introducing chemicals or moisture into historic materials.

CURTAIN WALLS

RECOMMENDED	NOT RECOMMENDED
Carrying out cleaning tests, when it has been determined that cleaning is appropriate, using only cleaning materials that will not damage components of the system, including factory-applied finishes. Test areas should be examined to ensure that no damage has resulted.	Cleaning curtain wall systems without testing or using cleaning materials that may damage components of the system.
Evaluating the overall condition of curtain walls to determine whether more than protection and maintenance, such as repair of curtain wall components, will be necessary.	Failing to undertake adequate measures to protect curtain wall components.
Repairing curtain walls by ensuring that they are watertight by augmenting existing components or replacing deteriorated or missing sealants or gaskets, where necessary, to seal any gaps between system components. Repair may include the limited replacement of those extensively deteriorated or missing components of curtain walls when there are surviving prototypes.	Removing curtain wall components that could be repaired or using improper repair techniques. Replacing an entire curtain wall system when repair of materials and limited replacement of deteriorated or missing components are feasible.
Applying sealants carefully so that they are not readily visible.	
Replacing in kind a component or components of a curtain wall system that are too deteriorated to repair (if the overall form and detailing are still evident) using the physical evidence as a model to reproduce the feature. If using the same kind of material is not feasible, then a compatible substitute material may be considered as long as it has the same finish and appearance.	Removing a curtain wall component or the entire system, if necessary, that is unrepairable and not replacing it or replacing it with a new component or system that does not convey the same appearance.
Replacing masonry, metal, glass, or other components of a curtain wall system (or the entire system, if necessary) which have failed because of faulty design with substitutes that match the original as closely as possible and which will reestablish the viability and performance of the system.	Using substitute material for the replacement that does not convey the same appearance of the surviving components of the curtain wall or that is physically incompatible.

[30] Rather than replace the original curtain wall system of the 1954 Simms Building in Albuquerque, NM, with a different color tinted glass or coat it with a non-historic reflective film, the HVAC system was updated to improve energy efficiency. *Photo: Harvey M. Kaplan.*



[31 a-c:] *(a)* The rehabilitation of the First Federal Savings and Loan Association building in Birmingham, AL, constructed in 1961, required replacing the deteriorated historic curtain wall system because the framing and the fasteners holding the spandrel glass and the windows had failed. *(b)* Comparative drawings show that the differences between the replacement system, which incorporated new insulated glass to meet wind-load requirements, and the original system are minimal. *(c)* The replacement system, shown after completion of the project, has not altered the historic character of the building.

CURTAIN WALLS

RECOMMENDED	NOT RECOMMENDED
The following work is highlighted to indicate that it is specific to **Rehabilitation** *projects and should only be considered after the preservation concerns have been addressed.*	
Designing the Replacement for Missing Historic Features	
Designing and installing a new curtain wall or its components when the historic feature is completely missing. It may be an accurate restoration based on documentary and physical evidence, but only when the historic feature to be replaced coexisted with the features currently on the building. Or, it may be a new design that is compatible with the size, scale, material, and color of the historic building.	Creating an inaccurate appearance because the replacement for the missing curtain wall component is based upon insufficient physical or historic documentation, is not a compatible design, or because the feature did not coexist with the features currently on the building. Introducing a new curtain wall component that is incompatible in size, scale, material, color, and finish.
Alterations and Additions for a New Use	
Installing new glazing or an entire new curtain wall system, when necessary to meet safety-code requirements, with dimensions, detailing, materials, colors, and finish as close as possible to the historic curtain wall components.	Installing new glazing or an entire new curtain wall system, when necessary to meet safety-code requirements, with dimensions and detailing that is significantly different from the historic curtain wall components.
Installing impact-resistant glazing, when necessary for security, so that it is compatible with the historic windows and does not damage them or negatively impact their character.	Installing impact-resistant glazing in a curtain wall system, when necessary for security, that is incompatible with the historic curtain walls and damages them or negatively impacts their character.

STRUCTURAL SYSTEMS

RECOMMENDED	NOT RECOMMENDED
Identifying, retaining, and preserving structural systems and visible features of systems that are important in defining the overall historic character of the building. This includes the materials that comprise the structural system (i.e., wood, metal and masonry), the type of system, and its features, such as posts and beams, trusses, summer beams, vigas, cast-iron or masonry columns, above-grade stone foundation walls, or load-bearing masonry walls.	Removing or substantially changing visible features of historic structural systems which are important in defining the overall historic character of the building so that, as a result, the character is diminished. Overloading the existing structural system, or installing equipment or mechanical systems which could damage the structure. Replacing a load-bearing masonry wall that could be augmented and retained. Leaving known structural problems untreated, such as deflected beams, cracked and bowed walls, or racked structural members.
Protecting and maintaining the structural system by keeping gutters and downspouts clear and roofing in good repair; and by ensuring that wood structural members are free from insect infestation.	Failing to protect and maintain the structural system on a cyclical basis so that deterioration of the structural system results. Using treatments or products that may retain moisture, which accelerates deterioration of structural members.

[33] Retaining as much as possible of the historic wood sill plate and replacing only the termite-damaged wood is always the preferred and recommended treatment.

STRUCTURAL SYSTEMS

RECOMMENDED	NOT RECOMMENDED
Evaluating the overall condition of the structural system to determine whether more than protection and maintenance, such as repairs to structural features, will be necessary.	Failing to undertake adequate measures to ensure the protection of structural systems.
Repairing the structural system by augmenting individual components, using recognized preservation methods. For example, weakened structural members (such as floor framing) can be paired or sistered with a new member, braced, or otherwise supplemented and reinforced.	Upgrading the building structurally in a manner that diminishes the historic character of the exterior or that damages interior features or spaces. Replacing a historic structural feature in its entirety or in part when it could be repaired or augmented and retained.

[32] (a-b) The rehabilitation of the 1892 Carson Block Building in Eureka, CA, for its owner, the Northern California Indian Development Council, included recreating the missing corner turret and sensitively introducing seismic reinforcement (c) shown here (opposite page) in a secondary upper floor office space. *Photos: Page & Turnbull.*

STRUCTURAL SYSTEMS

RECOMMENDED	NOT RECOMMENDED
Installing seismic or structural reinforcement, when necessary, in a manner that minimizes its impact on the historic fabric and character of the building.	
Replacing in kind or with a compatible substitute material large portions or entire features of the structural system that are either extensively damaged or deteriorated or that are missing when there are surviving prototypes, such as cast-iron columns, trusses, or masonry walls. Substitute material must be structurally sufficient, physically compatible with the rest of the system, and, where visible, must have the same form, design, and appearance as the historic feature.	Using substitute material that does not equal the load-bearing capabilities of the historic material; does not convey the same appearance of the historic material, if it is visible; or is physically incompatible. Installing a visible or exposed structural replacement feature that does not match.
Replacing to match any interior features or finishes that may have to be removed to gain access to make structural repairs, and reusing salvageable material.	

STRUCTURAL SYSTEMS

RECOMMENDED	NOT RECOMMENDED
The following work is highlighted to indicate that it is specific to **Rehabilitation** *projects and should only be considered after the preservation concerns have been addressed.*	
Alterations and Additions for a New Use	
Limiting any new excavations next to historic foundations to avoid undermining the structural stability of the building or adjacent historic buildings. The area next to the building foundation should be investigated first to ascertain potential damage to site features or archeological resources.	Carrying out excavations or regrading land adjacent to a historic building which could cause the historic foundation to settle, shift, or fail, or which could destroy significant archeological resources.
Correcting structural deficiencies needed to accommodate a new use in a manner that preserves the structural system and individual character-defining features.	Making substantial changes to significant interior spaces or damaging or destroying features or finishes that are character defining to correct structural deficiencies.
Designing and installing new mechanical or electrical equipment, when necessary, in a manner that minimizes the number and size of cuts or holes in structural members.	Installing new mechanical or electrical equipment in a manner which reduces the load-bearing capacity of historic structural members.
Inserting a new floor when required for the new use if it does not negatively impact the historic character of the interior space; and if it does not damage the structural system, does not abut window glazing, and is not visible from the exterior of the building.	Inserting a new floor that damages or destroys the structural system or abuts window glazing and is visible from the exterior of the building and, thus, negatively impacts its historic character.
Creating an atrium, light court, or lightwell to provide natural light when required for a new use only when it can be done in a manner that preserves the structural system and the historic character of the building.	Removing structural features to create an atrium, light court, or lightwell if it negatively impacts the historic character of the building.

MECHANICAL SYSTEMS: HEATING, AIR CONDITIONING, ELECTRICAL, AND PLUMBING

RECOMMENDED	NOT RECOMMENDED
Identifying, retaining, and preserving visible features of early mechanical systems that are important in defining the overall historic character of the building, such as radiators, vents, fans, grilles, and plumbing and lighting fixtures.	Removing or substantially changing visible features of mechanical systems that are important in defining the overall historic character of the building so that, as a result, the character is diminished.
Protecting and maintaining mechanical, plumbing, and electrical systems and their features through cyclical maintenance.	Failing to protect and maintain a functioning mechanical system, plumbing, and electrical systems and their visible features on a cyclical basis so that their deterioration results.
Improving the energy efficiency of existing mechanical systems to help reduce the need for a new system by installing storm windows, insulating attics and crawl spaces, or adding awnings, if appropriate.	
Evaluating the overall condition of mechanical systems to determine whether more than protection and maintenance, such as repairs to mechanical system components, will be necessary.	Failing to undertake adequate measures to ensure the protection of mechanical system components.
Repairing mechanical systems by augmenting or upgrading system components (such as installing new pipes and ducts), rewiring, or adding new compressors or boilers.	Replacing a mechanical system when its components could be upgraded and retained.
Replacing in kind or with a compatible substitute material those extensively deteriorated or missing visible features of mechanical systems when there are surviving prototypes, such as ceiling fans, radiators, grilles, or plumbing fixtures.	Installing a visible replacement feature of a mechanical system, if it is important in defining the historic character of the building, that does not convey the same appearance.

MECHANICAL SYSTEMS: HEATING, AIR CONDITIONING, ELECTRICAL, AND PLUMBING

RECOMMENDED	NOT RECOMMENDED
The following work is highlighted to indicate that it is specific to **Rehabilitation** *projects and should only be considered after the preservation concerns have been addressed.*	
Alterations and Additions for a New Use	
Installing a new mechanical system, if required, so that it results in the least alteration possible to the historic building and its character-defining features.	Installing a new mechanical system so that character-defining structural or interior features are radically changed, damaged, or destroyed.
Providing adequate structural support for the new mechanical equipment.	Failing to consider the weight and design of new mechanical equipment so that, as a result, historic structural members or finished surfaces are weakened or cracked.
Installing new mechanical and electrical systems and ducts, pipes, and cables in closets, service areas, and wall cavities to preserve the historic character of the interior space.	Installing systems and ducts, pipes, and cables in walls or ceilings in a manner that results in extensive loss or damage or otherwise obscures historic building materials and character-defining features.
Concealing HVAC ductwork in finished interior spaces, when possible, by installing it in secondary spaces (such as closets, attics, basements, or crawl spaces) or in appropriately-located, furred-down soffits.	Leaving HVAC ductwork exposed in most finished spaces or installing soffits in a location that will negatively impact the historic character of the interior or exterior of the building.
Installing exposed ductwork in a finished space when necessary to protect and preserve decorative or other features (such as column capitals, pressed-metal or ornamental plaster ceilings, coffers, or beams) that is painted, and appropriately located so that it will have minimal impact on the historic character of the space.	Installing exposed ductwork in a finished space when necessary to protect and preserve decorative or other features that is not painted, or is located where it will negatively impact the historic character of the space.
Lowering ceilings, installing a dropped ceiling, or constructing soffits to conceal ductwork in a finished space when this will not result in extensive loss or damage to historic materials or decorative and other features, and will not change the overall character of the space or the exterior appearance of the building (i.e., lowered ceilings or soffits visible through window glazing).	Lowering ceilings, installing a dropped ceiling, or constructing soffits to conceal ductwork in a finished space in a manner that results in extensive loss or damage to historic materials or decorative and other features, and will change the overall character of the space or the exterior appearance of the building.

MECHANICAL SYSTEMS: HEATING, AIR CONDITIONING, ELECTRICAL, AND PLUMBING

RECOMMENDED	NOT RECOMMENDED
Installing appropriately located, exposed ductwork in historically-unfinished interior spaces in industrial or utilitarian buildings.	
Installing a split system mechanical unit in a manner that will have minimal impact on the historic character of the interior and result in minimal loss of historic building material.	Installing a split system mechanical unit without considering its impact on the historic character of the interior or the potential loss of historic building material.
Installing heating or air conditioning window units only when the installation of any other system would result in significant damage or loss of historic materials or features.	
Installing mechanical equipment on the roof, when necessary, so that it is minimally visible to preserve the building's historic character and setting.	Installing mechanical equipment on the roof that is overly large or highly visible and negatively impacts the historic character of the building or setting.
Placing air conditioning compressors in a location on a secondary elevation of the historic building that is not highly visible.	Placing air conditioning compressors where they are highly visible and negatively impact the historic character of the building or setting.

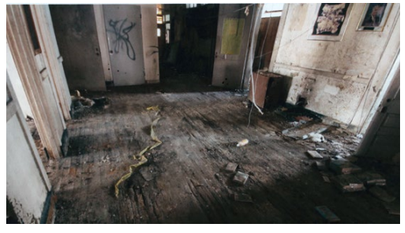
[34] The new ceiling ducts installed during the conversion of this historic office building into apartments are minimal in design and discretely placed above the windows.

INTERIOR SPACES, FEATURES, AND FINISHES

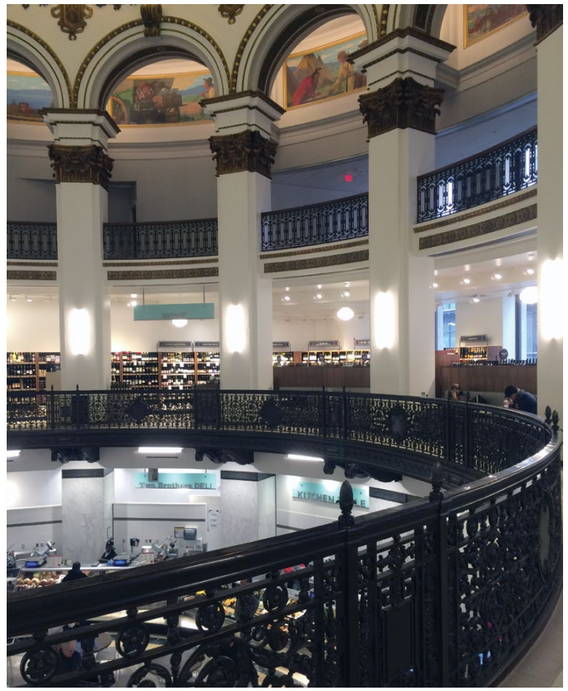
RECOMMENDED	NOT RECOMMENDED
Identifying, retaining, and preserving a floor plan or interior spaces, features, and finishes that are important in defining the overall historic character of the building. Significant spatial characteristics include the size, configuration, proportion, and relationship of rooms and corridors; the relationship of features to spaces; and the spaces themselves, such as lobbies, lodge halls, entrance halls, parlors, theaters, auditoriums, gymnasiums, and industrial and commercial interiors. Color, texture, and pattern are important characteristics of features and finishes, which can include such elements as columns, plaster walls and ceilings, flooring, trim, fireplaces and mantels, paneling, light fixtures, hardware, decorative radiators, ornamental grilles and registers, windows, doors, and transoms; plaster, paint, wallpaper and wall coverings, and special finishes, such as marbleizing and graining; and utilitarian (painted or unpainted) features, including wood, metal, or concrete exposed columns, beams, and trusses and exposed load-bearing brick, concrete, and wood walls.	Altering a floor plan, or interior spaces (including individual rooms), features, and finishes, which are important in defining the overall historic character of the building so that, as a result, the character is diminished. Altering the floor plan by demolishing principal walls and partitions for a new use. Altering or destroying significant interior spaces by inserting additional floors or lofts; cutting through floors to create lightwells, light courts, or atriums; lowering ceilings; or adding new walls or removing historic walls. Relocating an interior feature, such as a staircase, so that the circulation pattern and the historic relationship between features and spaces are altered. Installing new material that obscures or damages character-defining interior features or finishes. Removing paint, plaster, or other finishes from historically-finished interior surfaces to create a new appearance (e.g., removing plaster to expose brick walls or a brick chimney breast, stripping paint from wood to stain or varnish it, or removing a plaster ceiling to expose unfinished beams). Applying paint, plaster, or other coatings to surfaces that have been unfinished historically, thereby changing their character. Changing the type of finish or its color, such as painting a historically-varnished wood feature, or removing paint from a historically-painted feature.

INTERIOR SPACES, FEATURES, AND FINISHES

RECOMMENDED	NOT RECOMMENDED
Retaining decorative or other character-defining features or finishes that typify the showroom or interior of a historic store, such as a pressed-metal ceiling, a beaded-board ceiling, or wainscoting.	Removing decorative or other character-defining features or finishes that typify the showroom or interior of a historic store, such as a pressed-metal ceiling, a beaded-board ceiling, or wainscoting.
Protecting and maintaining historic materials (including plaster, masonry, wood, and metals) which comprise interior spaces through appropriate surface treatments, such as cleaning, paint removal, and reapplication of protective coating systems.	Failing to protect and maintain interior materials and finishes on a cyclical basis so that deterioration of interior features results.
Protecting interior features and finishes against arson and vandalism before project work begins by erecting temporary fencing or by covering broken windows and open doorways, while ensuring adequate ventilation, and by installing alarm systems keyed into local protection agencies.	Leaving the building unprotected and subject to vandalism before work begins, thereby allowing the interior to be damaged if it can be accessed through unprotected entrances.
Protecting interior features (such as a staircase, mantel, flooring, or decorative finishes) from damage during project work by covering them with plywood, heavy canvas, or plastic sheeting.	Failing to protect interior features and finishes when working on the interior.



[35] (a) Although deteriorated, the historic school corridor, shown on the left, with its character-defining features, including doors and transoms, was retained and repaired as part of the rehabilitation project (b).



[36] The elaborate features and finishes of this historic banking hall in the Union Trust Company Building, in Cleveland, OH, were retained and repaired as part of its conversion into a food market.

INTERIOR SPACES, FEATURES, AND FINISHES

RECOMMENDED	NOT RECOMMENDED
Removing damaged or deteriorated paint and finishes only to the next sound layer using the gentlest method possible prior to repainting or refinishing using compatible paint or other coating systems.	Using potentially damaging methods, such as open-flame torches or abrasive techniques, to remove paint or other coatings. Removing paint that is firmly adhered to interior surfaces.
Using abrasive cleaning methods only on the interior of industrial or warehouse buildings with utilitarian, unplastered masonry walls and where wood features are not finished, molded, beaded, or worked by hand. Low-pressure abrasive cleaning (e.g., sand-blasting or other media blasting) should only be considered if test patches show no surface damage and after gentler methods have proven ineffective.	Using abrasive methods anywhere but utilitarian and industrial interior spaces or when there are other methods that are less likely to damage the surface of the material.
Evaluating the overall condition of the interior materials, features, and finishes to determine whether more than protection and maintenance, such as repairs to features and finishes, will be necessary.	Failing to undertake adequate measures to ensure the protection of interior materials, features, and finishes.
Repairing interior features and finishes by patching, splicing, consolidating, or otherwise reinforcing the materials using recognized preservation methods. Repairs may include the limited replacement in kind or with a compatible substitute material of those extensively deteriorated or missing parts of interior features when there are surviving prototypes, such as stairs, balustrades, wood paneling, columns, decorative wall finishes, and ornamental pressed-metal or plaster ceilings. Repairs should be physically and visually compatible.	Removing materials that could be repaired or using improper repair techniques. Replacing an entire interior feature (such as a staircase, mantel, or door surround) or a finish (such as a plaster) when repair of materials and limited replacement of deteriorated or missing components are feasible.

[37] Exposed and painted ducts were appropriately installed here in a retail space in Denver's historic Union Station after considering other options that would have impacted the ceiling height, or damaged or obscured the ornamental plaster crown molding. *Photo: Heritage Consulting Group.*

[39] Leaving the ceiling structure exposed and installing exposed ductwork where it does not impact the windows, are appropriate treatments when rehabilitating an industrial building for another use.

[38] The rehabilitation project retained the industrial character of this historic factory building, which included installation of a fire-rated, clear glass enclosure that allows the stairway, an important interior feature, to remain visible.

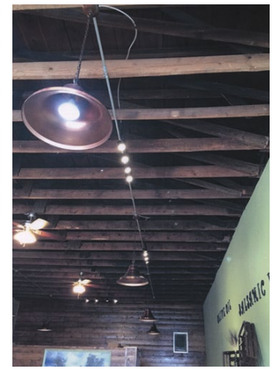
INTERIOR SPACES, FEATURES, AND FINISHES

RECOMMENDED	NOT RECOMMENDED
Replacing in kind an entire interior feature that is too deteriorated to repair (if the overall form and detailing are still evident) using the physical evidence as a model to reproduce the feature. Examples could include wainscoting, window and door surrounds, or stairs. If using the same kind of material is not feasible, then a compatible substitute material may be considered.	Removing a character-defining interior feature that is unrepairable and not replacing it, or replacing it with a new feature or finish that does not match the historic feature. Using a substitute material for the replacement that does not convey the same appearance of the interior feature or that is physically incompatible. Using a substitute material for the replacement that does not convey the same appearance of the interior feature or that is physically incompatible.
The following work is highlighted to indicate that it is specific to **Rehabilitation** *projects and should only be considered after the preservation concerns have been addressed.*	
Designing the Replacement for Missing Historic Features	
Designing and installing a new interior feature or finish when the historic feature or finish is completely missing. This could include missing walls, stairs, mantels, wood trim, and plaster, or even entire rooms if the historic spaces, features, and finishes are missing or have been destroyed by inappropriate alterations. The design may be an accurate restoration based on documentary and physical evidence, but only when the feature or finish to be replaced coexisted with the features currently in the building. Or, it may be a new design that is compatible with the size, scale, material, and color of the historic building.	Creating an inaccurate appearance because the replacement for the missing feature is based upon insufficient physical or historic documentation; is not a compatible design; or because the feature did not coexist with the feature currently on the building. Introducing a new interior feature or finish that is incompatible in size, scale, material, color, and finish.
Alterations and Additions for a New Use	
Installing new or additional systems required for a new use for the building, such as bathrooms and mechanical equipment, in secondary spaces to preserve the historic character of the most significant interior spaces.	Subdividing primary spaces, lowering ceilings, or damaging or obscuring character-defining features (such as fireplaces, windows, or stairways) to accommodate a new use for the building.

INTERIOR SPACES, FEATURES, AND FINISHES

RECOMMENDED	NOT RECOMMENDED
Installing new mechanical and electrical systems and ducts, pipes, and cables in closets, service areas, and wall cavities to preserve the historic character of interior spaces, features, and finishes.	Installing ducts, pipes, and cables where they will obscure character-defining features or negatively impact the historic character of the interior.
Creating open work areas, when required by the new use, by selectively removing walls only in secondary spaces, less significant upper floors, or other less-visible locations to preserve primary public spaces and circulation systems.	
Retaining the configuration of corridors, particularly in buildings with multiple floors with repetitive plans (such as office and apartment buildings or hotels), where not only the floor plan is character defining, but also the width and the length of the corridor, doorways, transoms, trim, and other features, such as wainscoting and glazing.	Making extensive changes to the character of significant historic corridors by narrowing or radically shortening them, or removing their character-defining features.
Reusing decorative material or features that had to be removed as part of the rehabilitation work (including baseboards, door casing, paneled doors, and wainscoting) and reusing them in areas where these features are missing or are too deteriorated to repair.	Discarding historic material when it can be reused to replace missing or damaged features elsewhere in the building, or reusing material in a manner that may convey a false sense of history.
Installing permanent partitions in secondary, rather than primary, spaces whenever feasible. Removable partitions or partial-height walls that do not destroy the sense of space often may be installed in large character-defining spaces when required by a new use.	Installing partitions that abut windows and glazing or that damage or obscure character-defining spaces, features, or finishes.
Enclosing a character-defining interior stairway, when required by code, with fire-rated glass walls or large, hold-open doors so that the stairway remains visible and its historic character is retained.	Enclosing a character-defining interior stairway for safety or functional reasons in a manner that conceals it or destroys its character.
Locating new, code-required stairways or elevators in secondary and service areas of the historic building.	Making incompatible changes or damaging or destroying character-defining spaces, features, or finishes when adding new code-required stairways and elevators.

[41] **Not Recommended**: Leaving fragments of deteriorated or "sculpted" plaster is not a compatible treatment for either finished or unfinished interior spaces.



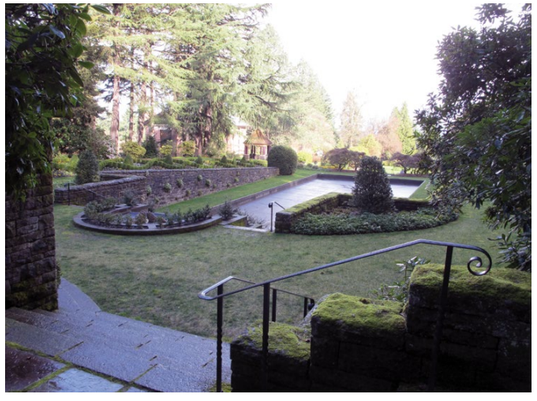
[40] **Not Recommended:** Removing a finished ceiling and leaving the structure exposed in a historic retail space does not meet the Standards for Rehabilitation.

INTERIOR SPACES, FEATURES, AND FINISHES

RECOMMENDED	NOT RECOMMENDED
Creating an atrium, light court, or lightwell to provide natural light when required for a new use only when it can be done in a manner that preserves significant interior spaces, features, and finishes or important exterior elevations.	Destroying or damaging character-defining interior spaces, features, or finishes, or damaging the structural system to create an atrium, light court, or lightwell.
Inserting a new floor, mezzanine, or loft when required for a new use if it does not damage or destroy significant interior features and finishes and is not visible from the exterior of the building.	Inserting a new floor, mezzanine, or loft that damages or destroys significant interior features or abuts window glazing and is visible from the exterior of the building, and, thus, negatively impacts its historic character.
Inserting a new floor, when necessary for a new use, only in large assembly spaces that are secondary to another assembly space in the building; in a space that has been greatly altered; or where character-defining features have been lost or are too deteriorated to repair.	Inserting a new floor in significant, large assembly spaces with distinctive features and finishes, which negatively impacts their historic character.
Installing exposed ductwork in a finished space when necessary to protect and preserve decorative or other features (such as column capitals, ornamental plaster or pressed-metal ceilings, coffers, or beams) that is designed, painted, and appropriately located so that it will have minimal impact on the historic character of the space.	Installing exposed ductwork in a finished space when necessary to protect and preserve decorative or other features that is not painted, or is located where it will negatively impact the historic character of the space.
Lowering ceilings, installing a dropped ceiling, or constructing soffits to conceal ductwork in a finished space when they will not result in extensive loss or damage to historic materials or decorative and other features, and will not change the overall character of the space or the exterior appearance of the building (i.e., lowered ceilings or soffits visible through window glazing).	Lowering ceilings, installing a dropped ceiling, or constructing soffits to conceal ductwork in a finished space in a manner that results in extensive loss or damage to historic materials or decorative and other features, and will change the overall character of the space or the exterior appearance of the building.
Installing a split system mechanical unit in a manner that will have minimal impact on the historic character of the interior and will result in minimal loss of historic building material.	Installing a split system mechanical unit without considering its impact on the historic character of the interior or the potential loss of historic building material.

BUILDING SITE

RECOMMENDED	NOT RECOMMENDED
Identifying, retaining, and preserving features of the building site that are important in defining its overall historic character. Site features may include walls, fences, or steps; circulation systems, such as walks, paths or roads; vegetation, such as trees, shrubs, grass, orchards, hedges, windbreaks, or gardens; landforms, such as hills, terracing, or berms; furnishings and fixtures, such as light posts or benches; decorative elements, such as sculpture, statuary, or monuments; water features, including fountains, streams, pools, lakes, or irrigation ditches; and subsurface archeological resources, other cultural or religious features, or burial grounds which are also important to the site.	Removing or substantially changing buildings and their features or site features which are important in defining the overall historic character of the property so that, as a result, the character is diminished.



[42] This garden is an important character-defining landscape feature on this college campus.

BUILDING SITE

RECOMMENDED	NOT RECOMMENDED
Retaining the historic relationship between buildings and the landscape.	Removing or relocating buildings or landscape features, thereby destroying the historic relationship between buildings and the landscape. Removing or relocating buildings on a site or in a complex of related historic structures (such as a mill complex or farm), thereby diminishing the historic character of the site or complex. Moving buildings onto the site, thereby creating an inaccurate historic appearance. Changing the grade level of the site if it diminishes its historic character. For example, lowering the grade adjacent to a building to maximize use of a basement, which would change the historic appearance of the building and its relation to the site.
Protecting and maintaining buildings and site features by providing proper drainage to ensure that water does not erode foundation walls, drain toward the building, or damage or erode the landscape.	Failing to ensure that site drainage is adequate so that buildings and site features are damaged or destroyed; or, alternatively, changing the site grading so that water does not drain properly.
Correcting any existing irrigation that may be wetting the building excessively.	Neglecting to correct any existing irrigation that may be wetting the building excessively.
Minimizing disturbance of the terrain around buildings or elsewhere on the site, thereby reducing the possibility of destroying or damaging important landscape features, archeological resources, other cultural or religious features, or burial grounds.	Using heavy machinery or equipment in areas where it may disturb or damage important landscape features, archeological resources, other cultural or religious features, or burial grounds.
Surveying and documenting areas where the terrain will be altered to determine the potential impact to important landscape features, archeological resources, other cultural or religious features, or burial grounds.	Failing to survey the building site prior to beginning work, which may result in damage or loss of important landscape features, archeological resources, other cultural or religious features, or burial grounds.

BUILDING SITE

RECOMMENDED	NOT RECOMMENDED
Protecting (e.g., preserving in place) important site features, archeological resources, other cultural or religious features, or burial grounds.	Leaving known site features or archeological material unprotected so that it is damaged during rehabilitation work.
Planning and carrying out any necessary investigation before rehabilitation begins, using professional archeologists and methods, when preservation in place is not feasible.	Allowing unqualified personnel to perform data recovery on archeological resources, which can result in damage or loss of important archeological material
Preserving important landscape features through regularly-scheduled maintenance of historic plant material.	Allowing important landscape features or archeological resources to be lost, damaged, or to deteriorate due to inadequate protection or lack of maintenance
Protecting the building site and landscape features against arson and vandalism before rehabilitation work begins by erecting temporary fencing and by installing alarm systems keyed into local protection agencies.	Leaving the property unprotected and subject to vandalism before work begins so that the building site and landscape features, archeological resources, other cultural or religious features, or burial grounds can be damaged or destroyed. Removing or destroying features from the site, such as fencing, paths or walkways, masonry balustrades, or plant material.
Installing protective fencing, bollards, and stanchions on a building site, when necessary for security, that are as unobtrusive as possible.	Installing protective fencing, bollards, and stanchions on a building site, when necessary for security, without taking into consideration their location and visibility so that they negatively impact the historic character of the site.
Providing continued protection and maintenance of buildings and landscape features on the site through appropriate grounds and landscape management.	Failing to protect and maintain materials and features from the restoration period on a cyclical basis so that deterioration of the site results.
Protecting buildings and landscape features when working on the site.	Failing to protect building and landscape features during work on the site or failing to repair damaged or deteriorated site features.

BUILDING SITE

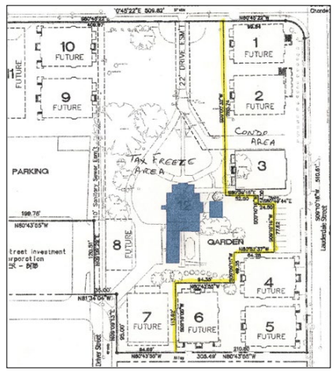
RECOMMENDED	NOT RECOMMENDED
Evaluating the overall condition of materials and features to determine whether more than protection and maintenance, such as repairs to site features, will be necessary.	Failing to undertake adequate measures to ensure the protection of the site.
Repairing historic site features which have been damaged, are deteriorated, or have missing components order reestablish the whole feature and to ensure retention of the integrity of the historic materials. Repairs may include limited replacement in kind or with a compatible substitute material of those extensively deteriorated or missing parts of site features when there are surviving prototypes, such as paving, railings, or individual plants within a group (e.g., a hedge). Repairs should be physically and visually compatible.	Removing materials and features that could be repaired or using improper repair techniques. Replacing an entire feature of the site (such as a fence, walkway, or drive) when repair of materials and limited replacement of deteriorated or missing components are feasible.

[43] The industrial character of the site was retained when this brewery complex was rehabilitated for residential use.

[44] **Not Recommended:** (a-b) The historic character of this plantation house (marked in blue on plan on opposite page) and its site was diminished and adversely impacted when multiple new buildings like this (#3 on plan) were constructed on the property (c).

BUILDING SITE

RECOMMENDED	NOT RECOMMENDED
Replacing in kind an entire feature of the site that is too deteriorated to repair (if the overall form and detailing are still evident) using the physical evidence as a model to reproduce the feature. Examples could include a walkway or a fountain, a land form, or plant material. If using the same kind of material is not feasible, then a compatible substitute material may be considered.	Removing a character-defining feature of the site that is unrepairable and not replacing it, or replacing it with a new feature that does not match. Using a substitute material for the replacement that does not convey the same appearance of the surviving site feature or that is physically or ecologically incompatible. Adding conjectural landscape features to the site (such as period reproduction light fixtures, fences, fountains, or vegetation) that are historically inappropriate, thereby creating an inaccurate appearance of the site.



BUILDING SITE

RECOMMENDED	NOT RECOMMENDED
The following work is highlighted to indicate that it is specific to **Rehabilitation** *projects and should only be considered after the preservation concerns have been addressed.*	
Designing the Replacement for Missing Historic Features	
Designing and installing a new feature on a site when the historic feature is completely missing. This could include missing outbuildings, terraces, drives, foundation plantings, specimen trees, and gardens. The design may be an accurate restoration based on documentary and physical evidence, but only when the feature to be replaced coexisted with the features currently on the site. Or, it may be a new design that is compatible with the historic character of the building and site.	Creating an inaccurate appearance because the replacement for the missing feature is based upon insufficient physical or historic documentation, is not a compatible design, or because the feature did not coexist with the features currently on the site. Introducing a new feature, including plant material, that is visually incompatible with the site or that alters or destroys the historic site patterns or use.
Alterations and Additions for a New Use	
Designing new onsite features (such as parking areas, access ramps, or lighting), when required by a new use, so that they are as unobtrusive as possible, retain the historic relationship between the building or buildings and the landscape, and are compatible with the historic character of the property.	Locating parking areas directly adjacent to historic buildings where vehicles may cause damage to buildings or landscape features or when they negatively impact the historic character of the building site if landscape features and plant materials are removed.
Designing new exterior additions to historic buildings or adjacent new construction that are compatible with the historic character of the site and preserves the historic relationship between the building or buildings and the landscape.	Introducing new construction on the building site which is visually incompatible in terms of size, scale, design, material, or color, which destroys historic relationships on the site, or which damages or destroys important landscape features, such as replacing a lawn with paved parking areas or removing mature trees to widen a driveway.
Removing non-significant buildings, additions, or site features which detract from the historic character of the site.	Removing a historic building in a complex of buildings or removing a building feature or a landscape feature which is important in defining the historic character of the site.
Locating an irrigation system needed for a new or continuing use of the site where it will not cause damage to historic buildings.	Locating an irrigation system needed for a new or continuing use of the site where it will damage historic buildings.

[45] Undertaking a survey to document archeological resources may be considered in some rehabilitation projects when a new exterior addition is planned.

SETTING (DISTRICT / NEIGHBORHOOD)

RECOMMENDED	NOT RECOMMENDED
Identifying, retaining, and preserving building and landscape features that are important in defining the overall historic character of the setting. Such features can include circulation systems, such as roads and streets; furnishings and fixtures, such as light posts or benches; vegetation, gardens and yards; adjacent open space, such as fields, parks, commons, or woodlands; and important views or visual relationships.	Removing or substantially changing those building and landscape features in the setting which are important in defining the historic character so that, as a result, the character is diminished.

[46] The varied size, shapes, and architectural styles of these historic buildings are unique to this street in Christiansted, St. Croix, USVI, and should be retained in a rehabilitation project.

[47] Original paving stones contribute to the character of the historic setting and distinguish this block from other streets in the district.

SETTING (DISTRICT / NEIGHBORHOOD)

RECOMMENDED	NOT RECOMMENDED
Retaining the historic relationship between buildings and landscape features in the setting. For example, preserving the relationship between a town common or urban plaza and the adjacent houses, municipal buildings, roads, and landscape and streetscape features.	Altering the relationship between the buildings and landscape features in the setting by widening existing streets, changing landscape materials, or locating new streets or parking areas where they may negatively impact the historic character of the setting. Removing or relocating buildings or landscape features, thereby destroying the historic relationship between buildings and the landscape in the setting.

[48] Old police and fire call boxes, which are distinctive features in this historic district, have been retained, and now showcase work by local artists.

[49] Low stone walls are character-defining features in this hilly, early-20th-century residential neighborhood.

SETTING (DISTRICT / NEIGHBORHOOD)

RECOMMENDED	NOT RECOMMENDED
Protecting and maintaining historic features in the setting through regularly-scheduled maintenance and grounds and landscape management.	Failing to protect and maintain materials in the setting on a cyclical basis so that deterioration of buildings and landscape features results. Stripping or removing historic features from buildings or the setting, such as a porch, fencing, walkways, or plant material.
Installing protective fencing, bollards, and stanchions in the setting, when necessary for security, that are as unobtrusive as possible.	Installing protective fencing, bollards, and stanchions in the setting, when necessary for security, without taking into consideration their location and visibility so that they negatively impact the historic character of the setting.
Protecting buildings and landscape features when undertaking work in the setting.	Failing to protect buildings and landscape features during work in the setting.
Evaluating the overall condition of materials and features to determine whether more than protection and maintenance, such as repairs to materials and features in the setting, will be necessary.	Failing to undertake adequate measures to ensure the protection of materials and features in the setting.
Repairing features in the setting by reinforcing the historic materials. Repairs may include the replacement in kind or with a compatible substitute material of those extensively deteriorated or missing parts of setting features when there are surviving prototypes, such as fencing, paving materials, trees, and hedgerows. Repairs should be physically and visually compatible.	Failing to repair and reinforce damaged or deteriorated historic materials and features in the setting. Removing material that could be repaired or using improper repair techniques. Replacing an entire feature of the building or landscape in the setting when repair of materials and limited replacement of deteriorated or missing components are feasible.

SETTING (DISTRICT / NEIGHBORHOOD)

RECOMMENDED	NOT RECOMMENDED
Replacing in kind an entire building or landscape feature in the setting that is too deteriorated to repair (if the overall form and detailing are still evident) using the physical evidence as a model to reproduce the feature. If using the same kind of material is not feasible, then a compatible substitute material may be considered.	Removing a character-defining feature of the building or landscape from the setting that is unrepairable and not replacing it or replacing it with a new feature that does not match. Using a substitute material for the replacement that does not convey the same appearance of the surviving building or landscape feature in the setting or that is physically or ecologically incompatible.
The following work is highlighted to indicate that it is specific to **Rehabilitation** *projects and should only be considered after the preservation concerns have been addressed.*	
Designing the Replacement for Missing Historic Features	
Designing and installing a new feature of the building or landscape in the setting when the historic feature is completely missing. This could include missing steps, streetlights, terraces, trees, and fences. The design may be an accurate restoration based on documentary and physical evidence, but only when the feature to be replaced coexisted with the features currently in the setting. Or, it may be a new design that is compatible with the historic character of the setting.	Creating an inaccurate appearance because the replacement for the missing feature is based upon insufficient physical or historic documentation; is not a compatible design, or because the feature did not coexist with the features currently in the setting. Introducing a new building or landscape feature that is visually or otherwise incompatible with the setting's historic character (e.g., replacing low metal fencing with a high wood fence).
Alterations and Additions for a New Use	
Designing new features (such as parking areas, access ramps, or lighting), when required by a new use, so that they are as unobtrusive as possible, retain the historic relationships between buildings and the landscape in the setting, and are compatible with the historic character of the setting.	Locating parking areas directly adjacent to historic buildings where vehicles may cause damage to buildings or landscape features or when they negatively impact the historic character of the setting if landscape features and plant materials are removed.
Designing new exterior additions to historic buildings or adjacent new construction that are compatible with the historic character of the setting that preserve the historic relationship between the buildings and the landscape.	Introducing new construction into historic districts which is visually incompatible or that destroys historic relationships within the setting, or which damages or destroys important landscape features.
Removing non-significant buildings, additions, or landscape features which detract from the historic character of the setting.	Removing a historic building, a building feature, or landscape feature which is important in defining the historic character of the setting.

CODE-REQUIRED WORK

RECOMMENDED	NOT RECOMMENDED
Sensitive solutions to meeting accessibility and life-safety code requirements are an important part of protecting the historic character of the building and site. Thus, work that must be done to meet use-specific code requirements should be considered early in planning a ***Rehabilitation*** *of a historic building for a new use. Because code mandates are directly related to occupancy, some uses require less change than others and, thus, may be more appropriate for a historic building. Early coordination with code enforcement authorities can reduce the impact of alterations necessary to comply with current codes.*	
ACCESSIBILITY	
Identifying the historic building's character-defining exterior features, interior spaces, features, and finishes, and features of the site and setting which may be affected by accessibility code-required work.	Undertaking accessibility code-required alterations before identifying those exterior features, interior spaces, features, and finishes, and features of the site and setting which are character defining and, therefore, must be preserved.
Complying with barrier-free access requirements in such a manner that the historic building's character-defining exterior features, interior spaces, features, and finishes, and features of the site and setting are preserved or impacted as little as possible.	Altering, damaging, or destroying character-defining exterior features, interior spaces, features, and finishes, or features of the site and setting while making modifications to a building, its site, or setting to comply with accessibility requirements.

[50] This kitchen in a historic apartment complex was rehabilitated to meet accessibility requirements.

[51] A new interior access ramp with a simple metal railing is compatible with the character of this mid-century-modern building.

CODE-REQUIRED WORK

RECOMMENDED	NOT RECOMMENDED
Working with specialists in accessibility and historic preservation to determine the most sensitive solutions to comply with access requirements in a historic building, its site, or setting.	Making changes to historic buildings, their sites, or setting without first consulting with specialists in accessibility and historic preservation to determine the most appropriate solutions to comply with accessibility requirements.
Providing barrier-free access that promotes independence for the user while preserving significant historic features.	Making modifications for accessibility that do not provide independent, safe access while preserving historic features.
Finding solutions to meet accessibility requirements that minimize the impact of any necessary alteration on the historic building, its site, and setting, such as compatible ramps, paths, and lifts.	Making modifications for accessibility without considering the impact on the historic building, its site, and setting.

[52] The access ramp blends in with the stone façade of the First National Bank in Stephenville, TX, and is appropriately located on the side where it is does not impact the historic character of the building. *Photo: Nancy McCoy, QuimbyMcCoy Preservation Architecture, LLP.*

[53] This entrance ramp (right) is compatible with the historic character of this commercial building.

[54] The gently-sloped path in a historic park in Kansas City, MO, which accesses the memorial below, includes a rest area part way up the hill. *Photo: STRATA Architecture + Preservation.*

CODE-REQUIRED WORK

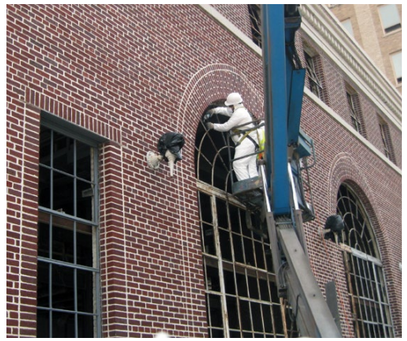
RECOMMENDED	NOT RECOMMENDED
Using relevant sections of existing codes regarding accessibility for historic buildings that provide alternative means of code compliance when code-required work would otherwise negatively impact the historic character of the property.	
Minimizing the impact of accessibility ramps by installing them on secondary elevations when it does not compromise accessibility or by screening them with plantings.	Installing elevators, lifts, or incompatible ramps at a primary entrance, or relocating primary entrances to secondary locations to provide access without investigating other options or locations.
Adding a gradual slope or grade to the sidewalk, if appropriate, to access the entrance rather than installing a ramp that would be more intrusive to the historic character of the building and the district.	
Adding an exterior stair or elevator tower that is compatible with the historic character of the building in a minimally-visible location only when it is not possible to accommodate it on the interior without resulting in the loss of significant historic spaces, features, or finishes.	
Installing a lift as inconspicuously as possible when it is necessary to locate it on a primary elevation of the historic building.	
Installing lifts or elevators on the interior in secondary or less significant spaces where feasible.	Installing lifts or elevators on the interior in primary spaces which will negatively impact the historic character of the space.

[55] The lift is compatible with the industrial character of this former warehouse.

CODE-REQUIRED WORK

RECOMMENDED	NOT RECOMMENDED
LIFE SAFETY	
Identifying the historic building's character-defining exterior features, interior spaces, features, and finishes, and features of the site and setting which may be affected by life-safety code-required work.	Undertaking life-safety code-required alterations before identifying those exterior features, interior spaces, features, and finishes, and features of the site and setting which are character defining and, therefore, must be preserved.
Complying with life-safety codes (including requirements for impact-resistant glazing, security, and seismic retrofit) in such a manner that the historic building's character-defining exterior features, interior spaces, features, and finishes, and features of the site and setting are preserved or impacted as little as possible.	Altering, damaging, or destroying character-defining exterior features, interior spaces, features, and finishes, or features of the site and setting while making modifications to a building, its site, or setting to comply with life-safety code requirements.
Removing building materials only after testing has been conducted to identify hazardous materials, and using only the least damaging abatement methods.	Removing building materials without testing first to identify the hazardous materials, or using potentially damaging methods of abatement.
Providing workers with appropriate personal equipment for protection from hazards on the worksite.	Removing hazardous or toxic materials without regard for workers' health and safety or environmentally-sensitive disposal of the materials.
Working with code officials and historic preservation specialists to investigate systems, methods, or devices to make the building compliant with life-safety codes to ensure that necessary alterations will be compatible with the historic character of the building.	Making life-safety code-required changes to the building without consulting code officials and historic preservation specialists, with the result that alterations negatively impact the historic character of the building.
Using relevant sections of existing codes regarding life safety for historic buildings that provide alternative means of code compliance when code-required work would otherwise negatively impact the historic character of the building.	

[56 a-b] In order to continue in its historic use, the door openings of this 1916 Colonial Revival-style fire station had to be widened to accommodate the larger size of modern fire trucks. Although this resulted in some change to the arched door surrounds, it is minimal and does not negatively impact the historic character of the building. (a) Above, before; *Photo: Fire and Emergency Medical Services Department (FEMS), Washington, D.C.;* below, after.



[57] Workers wear protective clothing while removing lead paint from metal features.

[59] (a-b) The decorative concrete balcony railings on this 1960s building did not meet life-safety code requirements. They were replaced with new glass railings with a fritted glass pattern matching the original design–a creative solution that satisfies codes, while preserving the historic appearance of the building when viewed from the street (c-d). *Photos: (a, b, d) ERA Architects, Inc.; (c) Nathan Cyprys, photographer.*

CODE-REQUIRED WORK

RECOMMENDED	NOT RECOMMENDED
Upgrading historic stairways and elevators to meet life-safety codes so that they are not damaged or otherwise negatively impacted.	Damaging or making inappropriate alterations to historic stairways and elevators or to adjacent features, spaces, or finishes in the process of doing work to meet code requirements.
Installing sensitively-designed fire-suppression systems, such as sprinklers, so that historic features and finishes are preserved.	Covering character-defining wood features with fire-retardant sheathing, which results in altering their appearance.
Applying fire-retardant coatings when appropriate, such as intumescent paint, to protect steel structural systems.	Using fire-retardant coatings if they will damage or obscure character-defining features.
Adding a new stairway or elevator to meet life-safety code requirements in a manner that preserves adjacent character-defining features and spaces.	Altering, damaging, or destroying character-defining spaces, features, or finishes when adding a new code-required stairway or elevator.
Using existing openings on secondary or less-visible elevations or, if necessary, creating new openings on secondary or less-visible elevations to accommodate second egress requirements.	Using a primary or other highly-visible elevation to accommodate second egress requirements without investigating other options or locations.
Placing a code-required stairway or elevator that cannot be accommodated within the historic building in a new exterior addition located on a secondary or minimally-visible elevation.	Constructing a new addition to accommodate code-required stairs or an elevator on character-defining elevations or where it will obscure, damage, or destroy character-defining features of the building, its site, or setting.
Designing a new exterior stairway or elevator tower addition that is compatible with the historic character of the building.	

[58] Fire doors that retract into the walls have been installed here (not visible in photo) preserve the historic character of this corridor.

RESILIENCE TO NATURAL HAZARDS

RECOMMENDED	NOT RECOMMENDED
Resilience to natural hazards should be addressed as part of the treatment ***Rehabilitation.*** *A historic building may have existing characteristics or features that help address or minimize the impacts of natural hazards. These should be used to best advantage and should be taken into consideration early in the planning stages of a rehabilitation project before proposing any new treatments. When new adaptive treatments are needed they should be carried out in a manner that will have the least impact on the historic character of the building, its site, and setting. .*	
Identifying the vulnerabilities of the historic property to the impacts of natural hazards (such as wildfires, hurricanes, or tornadoes) using the most current climate information and data available.	Failing to identify and periodically reevaluate the potential vulnerability of the building, its site, and setting to the impacts of natural hazards.
Assessing the potential impacts of known vulnerabilities on character-defining features of the building, its site, and setting; and reevaluating and reassessing potential impacts on a regular basis.	
Documenting the property and character-defining features as a record and guide for future repair work, should it be necessary, and storing the documentation in a weatherproof location.	Failing to document the historic property and its character-defining features with the result that such information is not available in the future to guide repair or reconstruction work, should it be necessary.
Ensuring that historic resources inventories and maps are accurate, up to date, and accessible in times of emergency.	
Maintaining the building, its site, and setting in good repair, and regularly monitoring character-defining features.	Failing to regularly monitor and maintain the property and the building systems in good repair.
Using and maintaining existing characteristics and features of the historic building, its site, setting, and larger environment (such as shutters for storm protection or a site wall that keeps out flood waters) that may help to avoid or minimize the impacts of natural hazards	Allowing loss, damage, or destruction to occur to the historic building, its site, or setting by failing to evaluate potential future impacts of natural hazards or to plan and implement adaptive measures, if necessary to address possible threats.
Undertaking work to prevent or minimize the loss, damage, or destruction of the historic property while retaining and preserving significant features and the overall historic character of the building, its site, and setting.	Carrying out adaptive measures intended to address the impacts of natural hazards that are unnecessarily invasive or will otherwise adversely impact the historic character of the building, its site, or setting.

[60] In some instances, it may be necessary to elevate a historic building located in a floodplain to protect it. But this treatment is appropriate only if elevating the building will retain its historic character, including its relationship to the site, and its new height will be compatible with surrounding buildings if in a historic district. The house on the right, which has been raised only slightly, has retained its historic character. The house on the left has been raised several feet higher, resulting in a greater impact on the historic character of the house and the district.

RESILIENCE TO NATURAL HAZARDS

RECOMMENDED	NOT RECOMMENDED
Ensuring that, when planning work to adapt for natural hazards, all feasible alternatives are considered, and that the options requiring the least alteration are considered first.	
Implementing local and regional traditions (such as elevating residential buildings at risk of flooding or reducing flammable vegetation around structures in fire-prone areas) for adapting buildings and sites in response to specific natural hazards, when appropriate. Such traditional methods may be appropriate if they are compatible with the historic character of the building, its site, and setting.	Implementing a treatment traditionally used in another region or one typically used for a different property type or architectural style which is not compatible with the historic character of the property.
Using special exemptions and variances when adaptive treatments to protect buildings from known hazards would otherwise negatively impact the historic character of the building, its site, and setting.	
Considering adaptive options, whenever possible, that would protect multiple historic resources, if the treatment can be implemented without negatively impacting the historic character of the district, or archeological resources, other cultural or religious features, or burial grounds.	

Sustainability

Sustainability is usually a very important and integral part of the treatment **Rehabilitation**. Existing energy-efficient features should be taken into consideration early in the planning stages of a rehabilitation project before proposing any energy improvements. There are numerous treatments that may be used to upgrade a historic building to help it operate more efficiently while retaining its character.

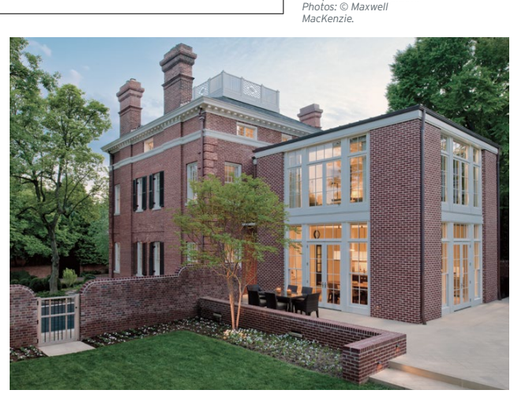
The topic of sustainability is addressed in detail in **The Secretary of the Interior's Standards for Rehabilitation & Illustrated Guidelines on Sustainability for Rehabilitating Historic Buildings.**

NEW EXTERIOR ADDITIONS TO HISTORIC BUILDINGS AND RELATED NEW CONSTRUCTION

RECOMMENDED	NOT RECOMMENDED
New Additions	
Placing functions and services required for a new use (including elevators and stairways) in secondary or non-character-defining interior spaces of the historic building rather than constructing a new addition.	Expanding the size of the historic building by constructing a new addition when requirements for the new use could be met by altering non-character-defining interior spaces.
Constructing a new addition on a secondary or non-character-defining elevation and limiting its size and scale in relationship to the historic building.	Constructing a new addition on or adjacent to a primary elevation of the building which negatively impacts the building's historic character.
Constructing a new addition that results in the least possible loss of historic materials so that character-defining features are not obscured, damaged, or destroyed.	Attaching a new addition in a manner that obscures, damages, or destroys character-defining features of the historic building.
Designing a new addition that is compatible with the historic building.	Designing a new addition that is significantly different and, thus, incompatible with the historic building.
Ensuring that the addition is subordinate and secondary to the historic building and is compatible in massing, scale, materials, relationship of solids to voids, and color.	Constructing a new addition that is as large as or larger than the historic building, which visually overwhelms it (i.e., results in the diminution or loss of its historic character).

NEW EXTERIOR ADDITIONS TO HISTORIC BUILDINGS AND RELATED NEW CONSTRUCTION

RECOMMENDED	NOT RECOMMENDED
Using the same forms, materials, and color range of the historic building in a manner that does not duplicate it, but distinguishes the addition from the original building.	Duplicating the exact form, material, style, and detailing of the historic building in a new addition so that the new work appears to be historic.
Basing the alignment, rhythm, and size of the window and door openings of the new addition on those of the historic building.	
Incorporating a simple, recessed, small-scale hyphen, or connection, to physically and visually separate the addition from the historic building.	
Distinguishing the addition from the original building by setting it back from the wall plane of the historic building.	



[61 a-b] The materials, design, and location at the back of the historic house are important factors in making this a compatible new addition. *Photos: © Maxwell MacKenzie.*

NEW EXTERIOR ADDITIONS TO HISTORIC BUILDINGS AND RELATED NEW CONSTRUCTION

RECOMMENDED	NOT RECOMMENDED
Ensuring that the addition is stylistically appropriate for the historic building type (e.g., whether it is residential or institutional).	
Considering the design for a new addition in terms of its relationship to the historic building as well as the historic district, neighborhood, and setting.	

[62] The stair tower at the rear of this commercial building is a compatible new addition.

NEW EXTERIOR ADDITIONS TO HISTORIC BUILDINGS AND RELATED NEW CONSTRUCTION

RECOMMENDED	NOT RECOMMENDED
Rooftop Additions	
Designing a compatible rooftop addition for a multi-story building, when required for a new use, that is set back at least one full bay from the primary and other highly-visible elevations and that is inconspicuous when viewed from surrounding streets.	Constructing a rooftop addition that is highly visible, which negatively impacts the character of the historic building, its site, setting, or district.

[63] (a) A mockup should be erected to demonstrate the visibility of a proposed rooftop addition and its potential impact on the historic building. Based on review of this mockup (orange marker), it was determined that the rooftop addition would meet the Standards (b). The addition is unobtrusive and blends in with the building behind it.

New addition

NEW EXTERIOR ADDITIONS TO HISTORIC BUILDINGS AND RELATED NEW CONSTRUCTION

RECOMMENDED	NOT RECOMMENDED
Limiting a rooftop addition to one story in height to minimize its visibility and its impact on the historic character of the building.	Constructing a highly-visible, multi-story rooftop addition that alters the building's historic character. Constructing a rooftop addition on low-rise, one- to three-story historic buildings that is highly visible, overwhelms the building, and negatively impacts the historic district. Constructing a rooftop addition with amenities (such as a raised pool deck with plantings, HVAC equipment, or screening) that is highly visible and negatively impacts the historic character of the building.

[64] **Not Recommended:**
It is generally not appropriate to construct a rooftop addition on a low-rise, two- to three-story building such as this, because it negatively affects its historic character.

NEW EXTERIOR ADDITIONS TO HISTORIC BUILDINGS AND RELATED NEW CONSTRUCTION

RECOMMENDED	NOT RECOMMENDED
Related New Construction	
Adding a new building to a historic site or property only if the requirements for a new or continuing use cannot be accommodated within the existing structure or structures.	Adding a new building to a historic site or property when the project requirements could be accommodated within the existing structure or structures.
Locating new construction far enough away from the historic building, when possible, where it will be minimally visible and will not negatively affect the building's character, the site, or setting.	Placing new construction too close to the historic building so that it negatively impacts the building's character, the site, or setting.

[65] (a) This (far left) is a compatible new outbuilding constructed on the site of a historic plantation house (b). Although traditional in design, it is built of wood to differentiate it from the historic house (which is scored stucco) located at the back of the site so as not to impact the historic house, and minimally visible from the public right-of-way (c).

NEW EXTERIOR ADDITIONS TO HISTORIC BUILDINGS AND RELATED NEW CONSTRUCTION

RECOMMENDED	NOT RECOMMENDED
Designing new construction on a historic site or in a historic setting that it is compatible but differentiated from the historic building or buildings.	Replicating the features of the historic building when designing a new building, with the result that it may be confused as historic or original to the site or setting.
Considering the design for related new construction in terms of its relationship to the historic building as well as the historic district and setting.	
Ensuring that new construction is secondary to the historic building and does not detract from its significance.	Adding new construction that results in the diminution or loss of the historic character of the building, including its design, materials, location, or setting. Constructing a new building on a historic property or on an adjacent site that is much larger than the historic building. Designing new buildings or groups of buildings to meet a new use that are not compatible in scale or design with the character of the historic building and the site, such as apartments on a historic school property that are too residential in appearance.
Using site features or land formations, such as trees or sloping terrain, to help minimize the new construction and its impact on the historic building and property.	
Designing an addition to a historic building in a densely-built location (such as a downtown commercial district) to appear as a separate building or infill, rather than as an addition. In such a setting, the addition or the infill structure must be compatible with the size and scale of the historic building and surrounding buildings—usually the front elevation of the new building should be in the same plane (i.e., not set back from the historic building). This approach may also provide the opportunity for a larger addition or infill when the façade can be broken up into smaller elements that are consistent with the scale of the historic building and surrounding buildings.	

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ARCHITECTURE + HISTORIC PRESERVATION + PLANNING + INTERIOR DESIGN

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