

Conceptual Design for the Expansion of the Salem Museum



Prepared for the Salem Historical Society
October 2004

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College of Architecture and Urban Studies
Virginia Polytechnic Institute and State University

The Community Design Assistance Center (CDAC) is an outreach of the College of Architecture and Urban Studies at Virginia Tech that assists communities, neighborhood groups and non-profit organizations in improving the natural and built environments through design, planning, policy, and research. Through the integration of the learning and working environment, the Center will execute projects that link instruction and research and share its knowledge base with the general public.

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John Long, curator, Salem Museum;

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Members of the Salem Museum and Salem Historical Society who provided comment and input on the conceptual designs.

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Appendix A: Considerations for Historic Properties

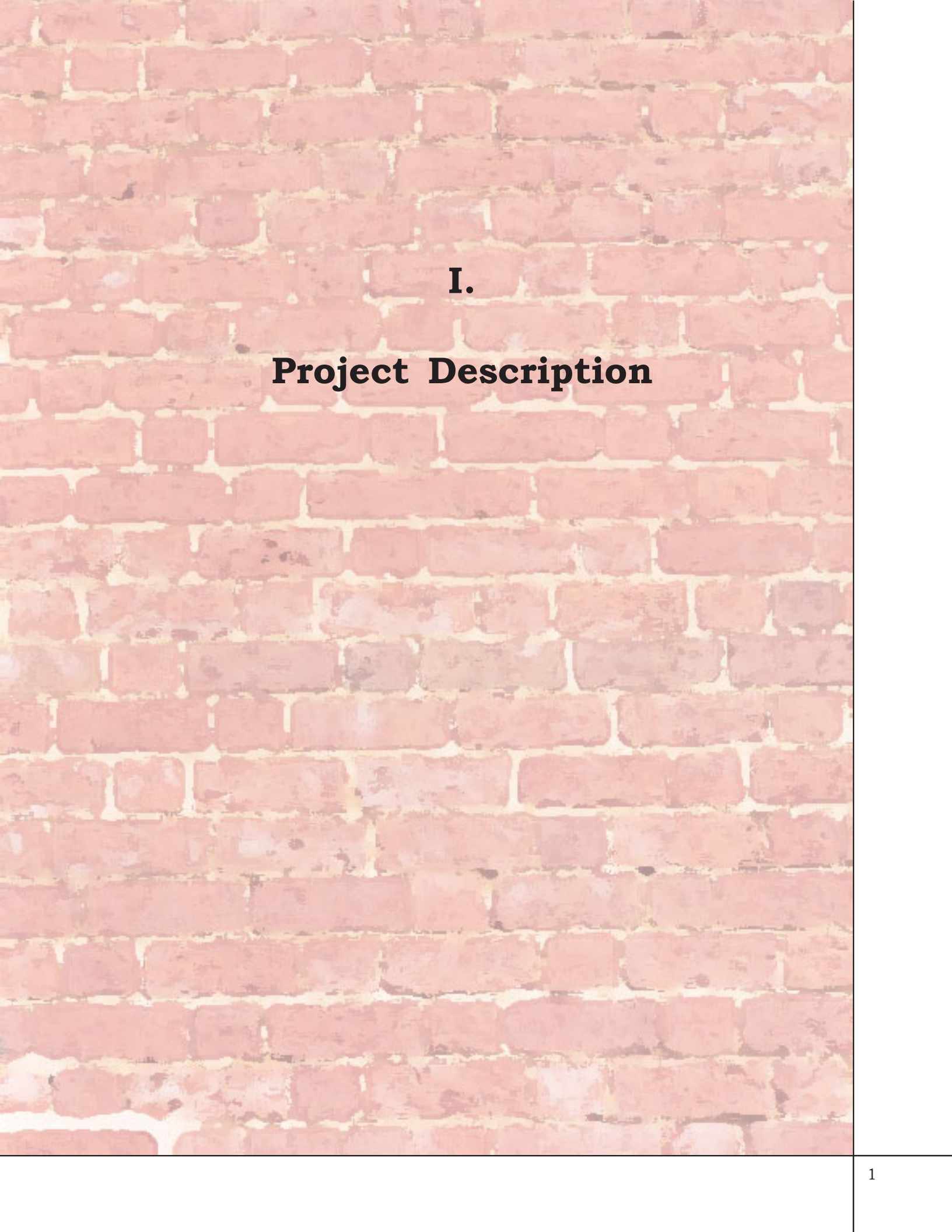
Appendix B: New Exterior Additions to Historic Buidings

Appendix C: Making Historic Properties Accessible

Appendix D: Protecting a Historic Structure During Adjacent Construction

Appendix E: Building Code Requirements

Appendix F: Green Roofs

The background of the page is a red brick wall with a repeating pattern of bricks and mortar joints. The bricks are a reddish-brown color, and the mortar is a lighter, yellowish-tan color. The pattern is consistent across the entire page.

I.

Project Description



Early painting by Edward Beyer showing Williams/Brown House/Store in its original location among other buildings of Main Street. Image from <http://www.salemmuseum.org/SHHistory.html>.



Painting showing the Williams-Brown House/Store at its original location in the mid-twentieth century. Photograph of painting in the Salem Museum collection.

A. Introduction

The Salem Museum, located in the historic Williams-Brown House/Store in Salem, Virginia, requires expansion to improve the public and operational spaces as well as to bring the museum into compliance with ADA requirements.

B. Project Description

The Salem Historical Society operates the Salem Museum in the historic Williams-Brown House/Store in Salem, Virginia. The Williams-Brown House/Store was originally built around 1837 at 423 East Main Street by William C. Williams. Main Street was known locally as the Great Road or the Wilderness Road which early pioneers followed to reach the frontiers of Kentucky and Tennessee. The building is a surviving example of the early



Early map of Salem showing original location of the Williams/Brown House Store (labelled "J. R. C. Brown" and marked with a red circle near the intersection of Cove Road and Main Street). Image from Middleton, Salem: A Virginia Chronicle.

commercial structures that were once common along the Great Wagon Road. Historically, the House was located within a streetscape including houses, a blacksmith's shop, and a livery. The building was placed on the National Register of Historic Places in 1971.

The house was removed from its original site to its current site at 801 East Main Street in Longwood Park by the Society in 1987 when the structure faced demolition. The original site is now a parking lot. The house has been restored for use as a local history museum that has been in operation since 1992.

The mission of the Salem Historical Society is “to encourage the discovery and preservation of historic homes, buildings, and other significant sites in this area; to meet regularly for sharing research and historical interests; to publish historical findings and preserve artifacts of local interest; and to create interesting educational exhibits at the Salem Museum.”¹ Increased use and collections have made it necessary for expansion beyond the current historic museum building. This need for more space necessitates careful rethinking of the existing museum by appraising the Museum’s future needs and purpose. For example, the Museum could also include other significant and larger artifacts of Salem’s history that cannot be housed within the building including the Portico of Intervale, as well as the two cemeteries separated by the museum.

The Salem Museum expansion project explores alternative building designs, additional programmatic requirements, and overall site design while preserving and working with the existing building. The site design includes the building complex, associated exterior spaces and their connections between adjoining sites, pedestrian access (including access from rear areas and parking) and significant surrounding sites (two cemeteries).

¹<http://www.salemmuseum.org/SMHistoricalSociety.html>



The Williams-Brown House/Store at its original location at 423 East Main Street at the time of its Historic American Buildings Survey in 1940. From HABS photograph: VA, 81-SAL 1-1.



The Williams/Brown House Store being moved to its current location at 801 East Main Street in 1987. Photograph of image in the Salem Museum collection.



This portico apparently is the only feature still existing from the Intervale house once on Midland Road in Salem. Photo courtesy of the Salem Museum.



The Nathaniel Burwell Cemetery, behind the Salem Museum, is one of two historic cemeteries near the Salem Museum.

C. Program

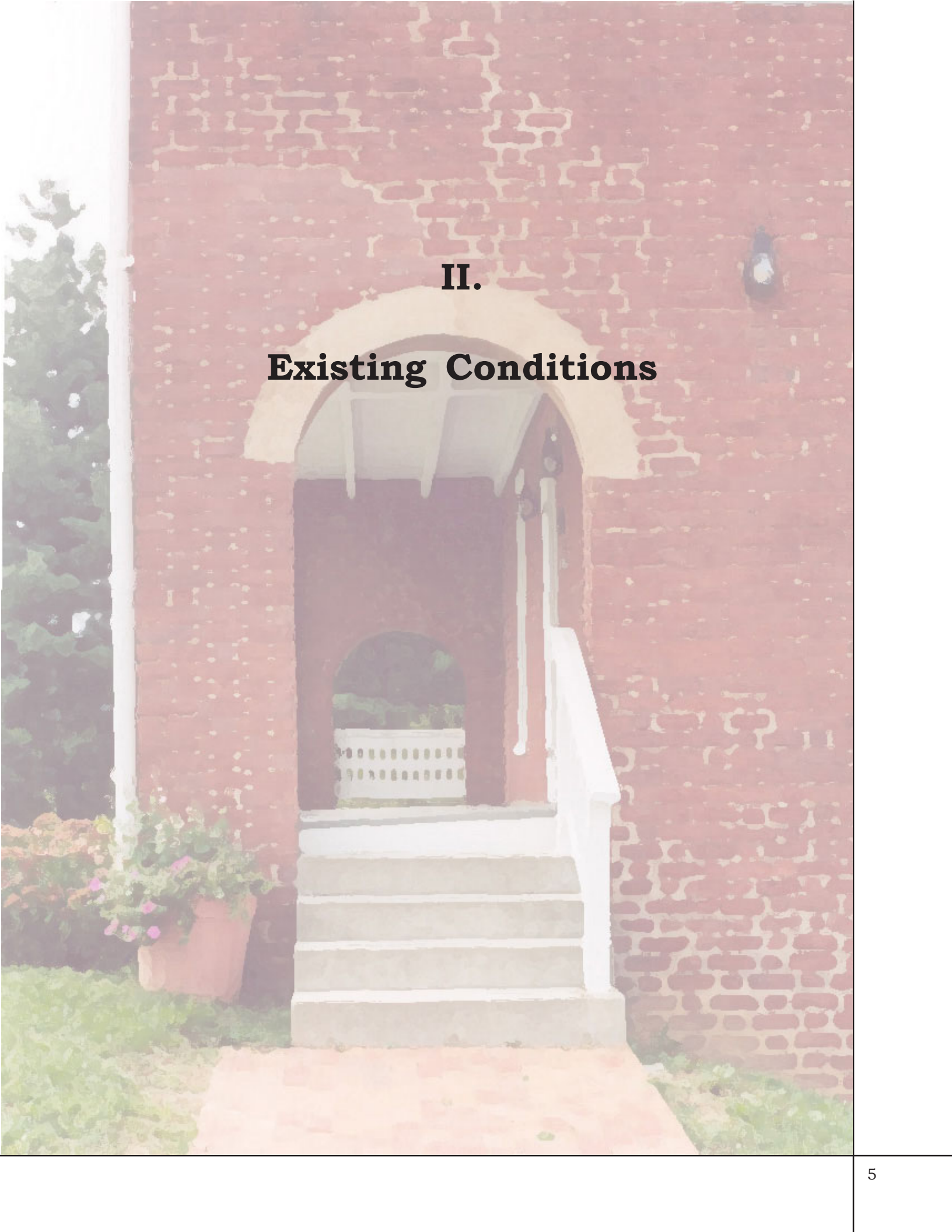
The Salem Museum has amassed a collection that is of interest to school groups from Salem and beyond as well as to tourists from throughout Virginia and other states. This collection includes Native American artifacts, Civil War relics, and items from daily life in and around Salem. The Museum also hosts a rotating gallery of local artwork.

Specific programmatic wishes expressed by the client include:

- ♦ elevator access to the second floor, but not the attic;
- ♦ restrooms accessible to persons with disabilities;
- ♦ a conference room with table, chairs, projection system, and storage to provide a place for Museum board meetings as well as school groups viewing movies or slide shows;
- ♦ spaces for both permanent and rotating exhibits;
- ♦ a reception area;
- ♦ a coat and storage room for visitors;
- ♦ public exterior meeting spaces and gardens;
- ♦ expanded office and workspace for the Curator, Director, and docents;
- ♦ air-conditioned archives with appropriate storage space for those portions of the collection not being exhibited; and
- ♦ appropriate on-site storage spaces for awkwardly shaped equipment including cleaning supplies, chairs, tables, and exhibit cases.

D. Process

CDAC analyzed conditions existing at the Salem Museum and on its .619 acre site. Three initial concepts were designed keeping in mind the Museum's mission, wish list, and most importantly, an elevator to access the basement through second floor levels. These concepts were named using an identifying feature of each: the Terrace Concept, the Tower Concept, and the Streetscape Concept. Based on client feedback, three more concepts were defined, using a replica of the lost Intervale building as the additional structure in one of the concepts. The final conceptual design and model are a result of the six conceptual designs and meetings with the client. All of the concepts are presented in this report.



II.

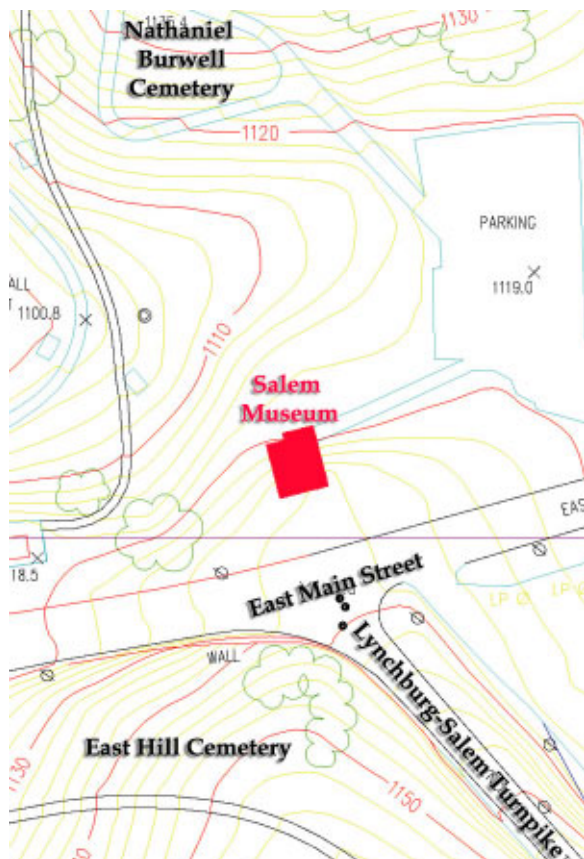
Existing Conditions



The location of Salem in Southwestern Virginia.



The location of the Salem Museum within the City of Salem.



Location of Salem Museum on East Main Street within Longwood Park and at the terminus of the Lynchburg Salem Turnpike.

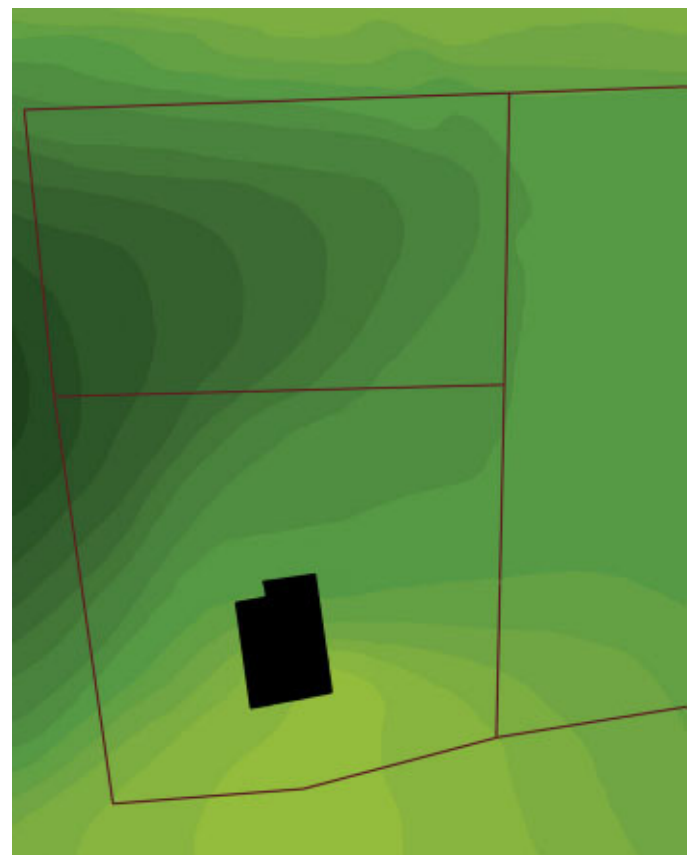
A. Introduction

The Williams-Brown House/Store, which houses the Salem Museum, was moved to its current site in 1987. Its current location at the intersection of several historic roads and between several historic cemeteries may be used to expand the Museum's interpretation of the history of Salem, Virginia.

B. Site

Salem is located in southwestern Virginia, southwest of Roanoke. Founded in 1802 as a small town of several hundred within Roanoke County, through annexation, Salem is now a city of 25,000.

The Salem Museum, located at 801 East Main Street within Longwood Park, marks the beginning of Salem's historic downtown area for eastbound



Map showing the Salem Museum's lot and lots bounding the site.

travellers. Longwood Park, bought by Salem in 1942, was originally the estate of Thomas H. Cooper. Longwood mansion, when completed in 1905, was a Salem landmark. The mansion was used for civic purposes for a number of years before it was lost to fire in 1968. The view from the Salem Museum to the west, through Longwood Park reveals historic Salem, Roanoke College, and the mountains beyond. In its current location, the approximately 4,000 square foot Museum is at the terminus of the Lynchburg-Salem Turnpike on Main Street/US 460. Salem was designated the terminus of this Turnpike in 1818.

The Museum is located between two historic cemeteries. To the north is the Nathaniel Burwell Cemetery, developed on land from Nathaniel Burwell's estate. The cemetery is an early African American burial ground dating from 1871. To the south, just across the street, at the corner of the



View from Longwood Park to the west elevation of the Salem Museum.



View from the Salem Museum site west through Longwood Park to downtown Salem.



Lynchburg-Salem Turnpike terminus at Main Street below East Hill Cemetery and in front of the Salem Museum.



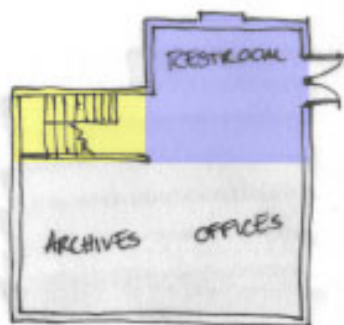
View of the North (rear) elevation of the Salem Museum from the Nathaniel Burwell Cemetery.



View of unknown confederate grave sites and the South (front) elevation of the Salem Museum from East Hill Cemetery.



Northeast elevation of the Salem Museum showing brick and clapboard additions and the basement level created to accommodate the site's slope.



Salem Museum basement plan.

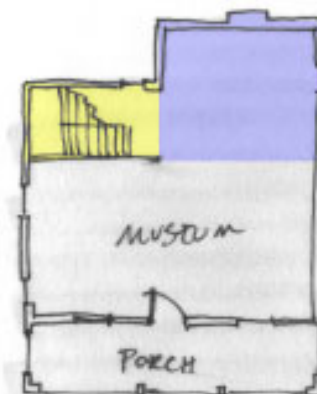
Lynchburg-Salem Turnpike and Main Street, is East Hill Cemetery. Though officially purchased by the town in 1869, there are known and unknown Confederate soldiers who were casualties battle of Hanging Rock and winter quarters laid to rest here as early as 1863. Many bodies were moved to East Hill Cemetery from the old Methodist Church Yard and the old Presbyterian burial ground by 1889. Famous Salem residents including General Andrew Lewis and the builder of the Williams/Brown House Store, William C. Williams are buried in East Hill Cemetery.

C. Building Description

The Williams/Brown House Store is made up of three parts. The original building is the rectangular brick front section shown in grey below. At some time in its history, the brick ell to the north, shown in blue,



Iron fence gate from Main Street sidewalk.



Salem Museum first floor plan.

was added. Finally, when the building was moved to become the Museum, the clapboarded stair addition, shown in yellow, was built to the northwest of the existing building. An exterior basement level was added as well when the building was moved due to the much steeper slope of the land at its current site than on its flat original site.

D. Entry Conditions

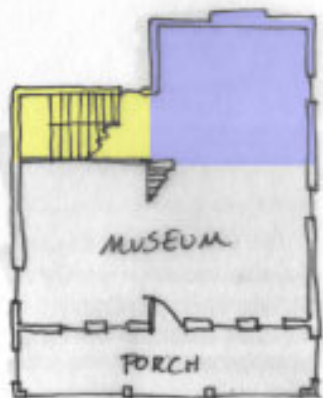
Visitors currently park to the east at the basement level and walk up a brick path to street level or enter the Museum grounds through an iron gate from the Main Street sidewalk. The path leads to the first floor, south-facing porch via a set of steps through an arched entry. Visitors enter the Museum directly off the porch and into a large room housing the Museum's rotating exhibits. This room leads to the docent's station and gift shop. From here, the main



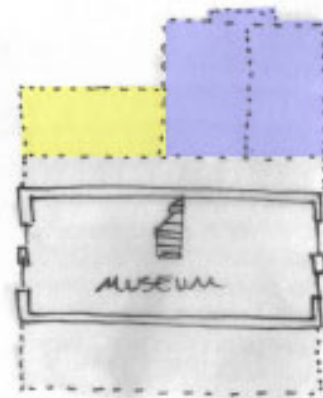
Arched entry to porch.



Southeast elevation of the Salem Museum showing the parking lot, path to front porch, and front door visitor's entry to Museum.



Salem Museum second floor plan.



Salem Museum attic plan.



Entry to the current gift shop area shows some of the original trim and what may have been a window trimmed out to the right of the door.



Stairs from the attic and additional exhibit space.

stairs lead downward to staff offices or upward to the second floor exhibit spaces. From the second floor, another set of stairs leads to the attic and further exhibit space. No ramps or elevators provide accessibility to all visitors. The staff currently parks in a driveway that accesses the basement doors. These doors are the main access to the building, from which employees disarm the alarm system. Within the private basement are several offices, archival storage for the Museum, and restrooms. Stairs from this lowest level provide access to the public Museum spaces.

E. Building Details

The Salem Museum is built of brick with stone lintels above the second floor porch windows and front door. The brick is a variety of colors due to the addition of the basement level, necessary repairs when the building was moved, and the removal of newer additions. The two-story porch features an arched entry at the first floor level and double hung windows on the second floor. The building currently has a metal, standing seam roof. The main portion of the building has two brick chimneys, one on either end and built flush with the walls of the building. The brick addition to the rear has a chimney that protrudes from the exterior wall. On the interior, these chimneys once translated to fireplaces on each floor. The interior features wood flooring of wide



East elevation of the Salem Museum showing staff parking and basement access.



Metal roof with metal ice stoppers.



The ends of the structural iron rods helping to support the brick wall and attach it to the main building, are visible on the rear addition.



Original exterior brick wall.



The small fenced garden.



Original wood flooring.



Attic fireplace and window.



The brick arched end of the porch opposite the entry is too low now to support pedestrian traffic.



Intervale, front right, shows the porticoed front entry.



The right side of Intervale shows the many appendages that were added to the rear. The original portion of the building is shown by the yellow circle.



The rear of Intervale shows the appendages, but due to the trees, shows little of the rear of the original house. It appears, however, that the rear had a portico of its own.



The front left of Intervale shows the simplicity of the original structure.

boards as well as wood panelling and wainscotting. The original stair to the second floor has been replaced, however there remains a narrow stair to the attic and exhibits there.

F. Intervale

“Intervale” was built by the Houtz family in 1854 on Midland Road in Salem. The house was built in the Greek Revival style: a rectangular brick structure with corner pilasters, a large portico, and wide cornices. It was said to be similar to “Lone Oaks” built by Benjamin Deyerle. Later additions appear to have made the building L-shaped.² The building seems to have been placed in an estate-like setting with a significant amount of open land surrounding the structure.

Intervale was torn down in the 1980’s to make way for an industrial park. Apparently, the building was not properly documented prior to its demolition. Therefore, it does not appear that there are any measured drawings of the plans, elevations, or other character-defining features. The several photographs available are not clear enough to reveal exact details of the building. The portico was apparently saved and is in storage at Explore Park in Roanoke.

G. Historical Considerations

Because the Salem Museum is located in the Brown-Williams House/Store, which is listed on the National Register of Historic Places, much care must be taken in the design of an addition to this building. An unsympathetic addition could ruin the historical integrity of the building as well as result in its removal from the National Register. Included in Appendices A through D are historic considerations from the *Secretary of the Interior’s Standards and Guidelines for Rehabilitation and Reconstruction*.

² Kagey, When Past is Prologue: A History of Roanoke County.



View from Longwood Park at Nathaniel Burwell Cemetery (Northwest Elevation)



View from Site West to Downtown Salem

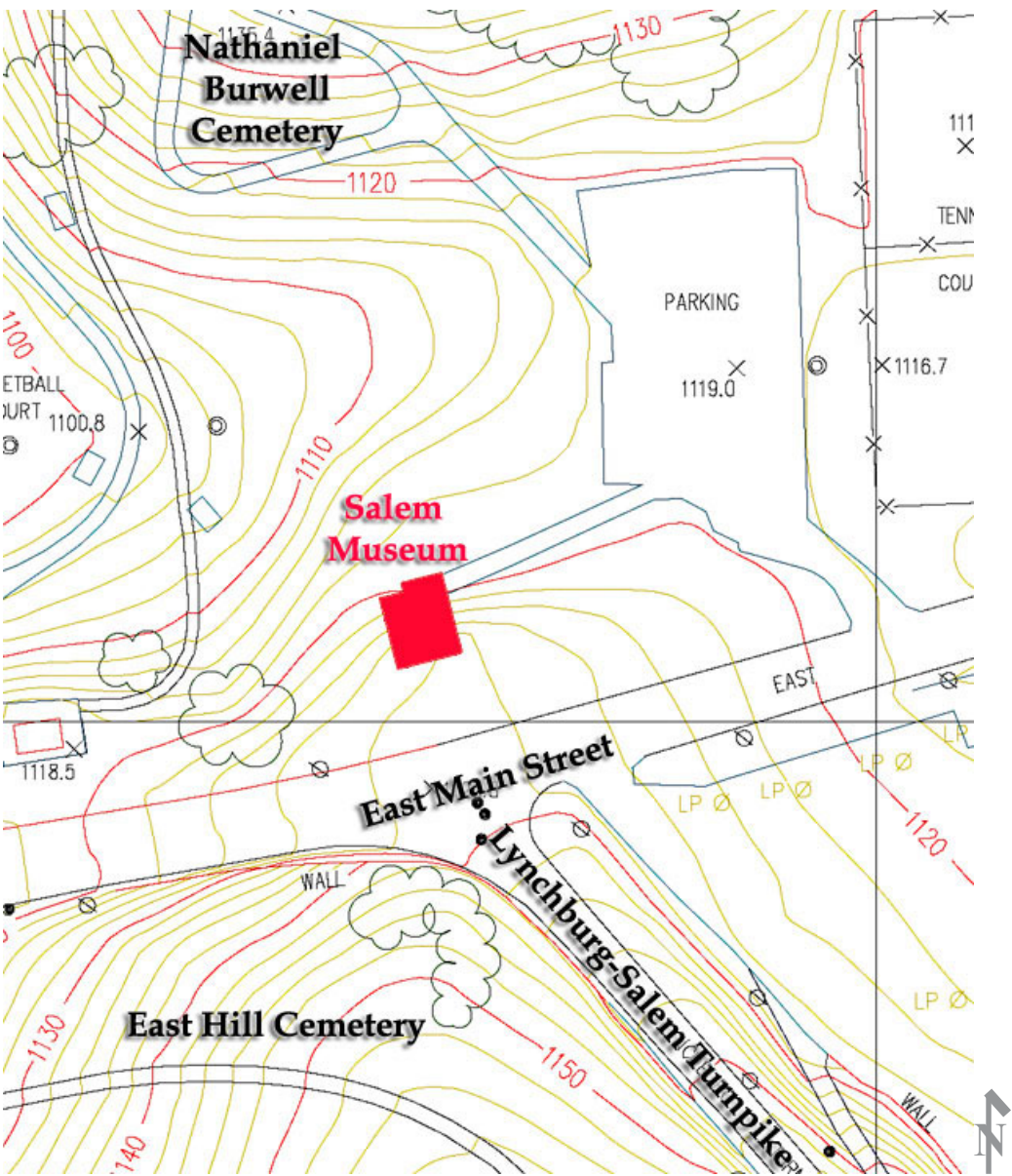


View from Longwood Park Fitness Course (West Elevation)



View from East Hill Cemetery Unknown Confederate Grave Sites (South Elevation)

Salem Museum Existing Conditions



View from Nathaniel Burwell Cemetery (North Elevation)



View from Salem Museum Parking Lot (Northeast Elevation)



View from Salem Museum Entry Path (East Elevation)



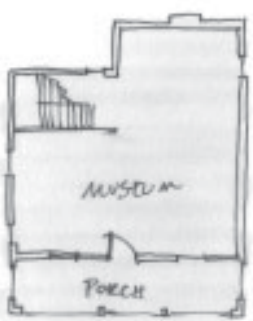
View from Main Street Travelling West (Southeast Elevation)

Wish List

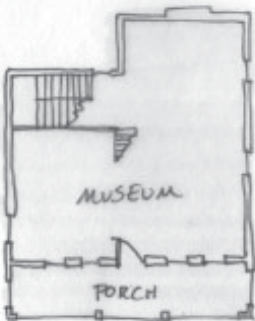
- Elevator and handicapped-accessible restrooms.
- Conference room with table, chairs, projection system, and storage to provide a place for Museum board meetings as well as for school groups to view movies or slide shows.
- Permanent and rotating exhibit spaces.
- Reception area.
- Visitor coat and storage spaces.
- Public exterior meeting spaces and gardens.
- Expanded office and work space for the Curator, Director, and docents.
- Air conditioned archives with appropriate storage space for portions of the collection not being exhibited.
- Appropriate on-site storage spaces for awkwardly shaped equipment, cleaning supplies, chairs, tables, and exhibit cases.



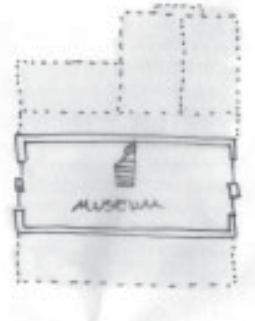
Basement



Floor 1



Floor 2



Attic

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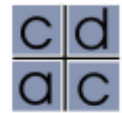
College of Architecture and Urban Studies
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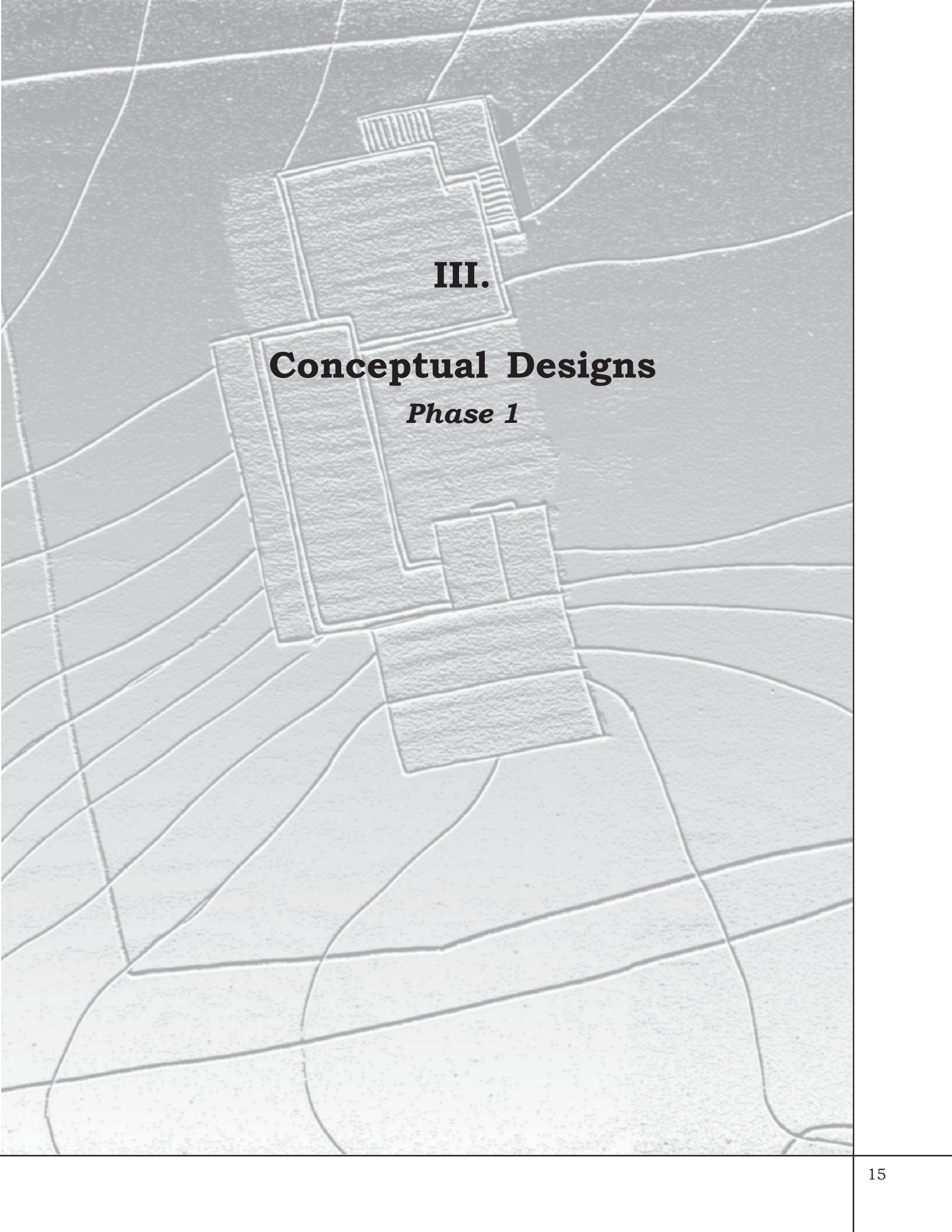
These drawings are conceptual and were prepared to show approximate location and arrangement of site features. They are subject to change and are not intended to replace the use of construction documents. The client should consult appropriate professionals before any construction or site work is undertaken. The Community Design Assistance Center is not responsible for the inappropriate use of these drawings.

Existing Conditions

Salem Museum
Salem, Virginia

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The background of the page is a detailed architectural drawing in a light gray tone. It depicts a multi-story building with a complex, stepped roofline and several rectangular volumes. The building is situated on a hillside, with contour lines indicating the slope. The drawing style is technical and precise, typical of architectural plans or sections.

III.

Conceptual Designs

Phase 1



The view of the Salem Museum from the East Hill Cemetery. The historic building should remain the focal point of any addition to the Museum.



The view east from Longwood Park shows the vegetation that blocks views to the Salem Museum from Main Street.



The slope of the land that will make any addition very visible from Longwood Park. The new stair is clearly delineated architecturally.

A. Introduction

Three initial conceptual designs, in the form of massing models, were presented November 14, 2002 to David Foster and David Robbins of the Salem Museum Board of Directors. These were the Terrace Concept, the Tower Concept, and the Streetscape Concept. The concepts, design considerations, client feedback, and CDAC concerns are presented here.

B. Design Considerations

Several factors drove the initial conceptual designs for the Salem Museum expansion. These factors were related to the historic nature of the building, the building's sloping site, and building code requirements.

1. The historic building should be the focal point.

The Brown-Williams House/Store is on the National Register of Historic Places and should remain the focal point of the Salem Museum and should not be hidden by any additions.

2. The Museum's visibility from Main Street and Longwood Park must be considered.

The Museum's invisibility when travelling east on Main Street is due to the topography and vegetation in Longwood Park meaning that additions to the west side of the building will be least visible from Main Street. However, also due to the slope of the land, any addition to the rear of the existing building will be extremely visible from within Longwood Park.

3. New construction should be clearly identifiable, but architecturally compatible with the old.

People should not be confused that the new addition was an original part of the building. The delineation can be made using different materials, newer construction techniques, or a more modern design.

4. The attic does not need to be made accessible to persons with disabilities.

5. Don't touch the existing, historic building any more than is necessary. As the building is historic, changes made should be minimal and to non-character-defining features.

6. Try to attach at the existing stairs rather than penetrating the building further. When the building was moved, new stairs were added in the ell of the building. Since this area has already been changed from the original building, any new attachments to the building should be placed here as well.

7. The stairs must be upgraded to meet life safety codes. The current stairs exit into the basement rather than to the exterior of the building. If changes are to be made to the building, life safety codes need to be addressed. If the addition has more than one story, a second fire stair will be necessary.

8. A tall element housing the elevator is needed for access to the old building and possibly the new addition. An elevator must be, by necessity, a tall element to reach from the basement to the second floor of the building. A fire exit stair is also a tall element that must be attached to the existing building.

9. Take advantage of slope if possible. The Salem Museum currently sits on a rather steep slope. This slope can be an advantage, used to hide a basement level or to create exterior space.

10. Use additions to create exterior spaces. The additions can be sited such that an exterior plaza space is created between elements of the building.

11. The models are rough massing models. As stated in the proposal, the models for the first phase were massing models which "can be constructed using simple means and easily-worked materials to show the overall shape and spatial effect" dealing "mainly with the overall external shape".



The white portion of the building houses the new stairs. Any connections should be made here rather than through a brick wall with no existing openings such as the one shown.



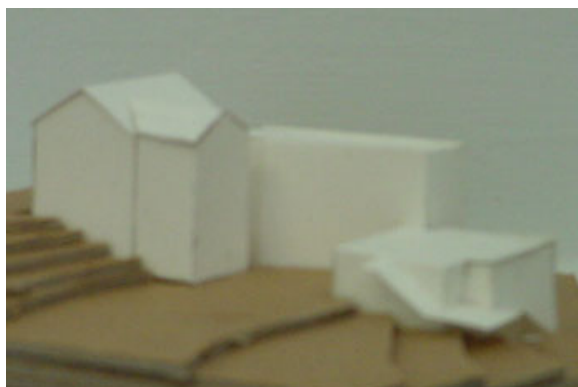
A view of the front facade of the Salem Museum shows slope to the north-the basement opens out to ground level in the rear. The slope can be used to make an addition less conspicuous.



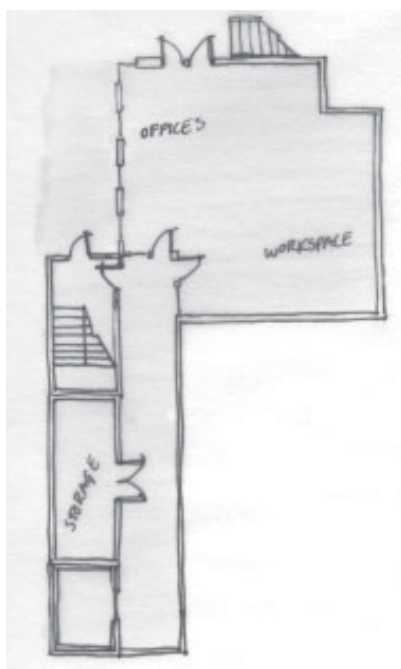
An example of a rough massing model showing the shape and spatial effect of a design.



Southeast elevation viewed from Main Street travelling west.



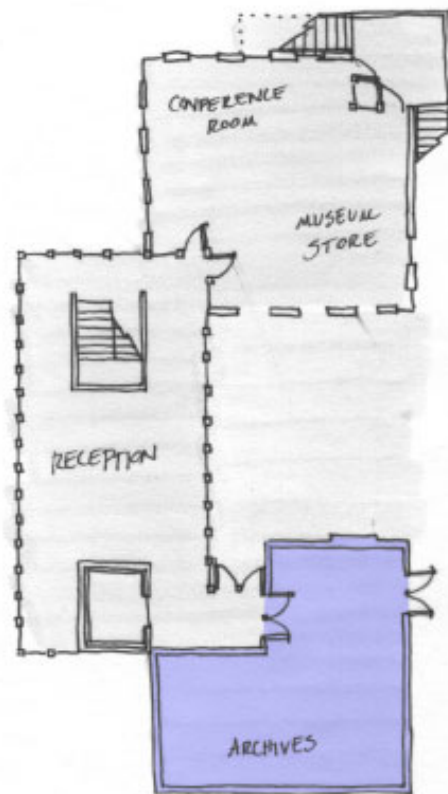
Northeast elevation viewed from entrance to Nathaniel Burwell Cemetery showing slope of land about terrace addition.



Terrace Concept sub-basement plan.

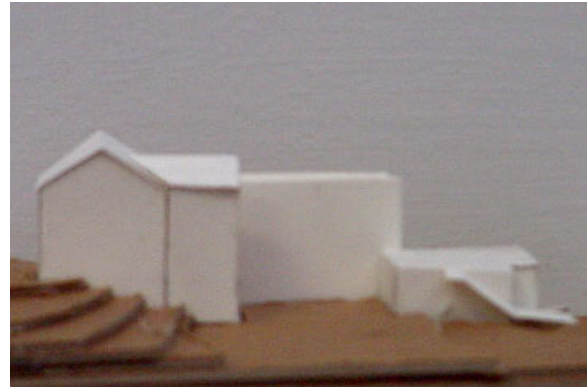
C. Terrace Concept

The Terrace Concept features a low addition topped with an outdoor terrace for meetings, gardens, or exhibits. This concept allows views to the historic cemeteries and historic Salem. The low addition is set back from the existing Museum, making it barely visible from Main Street, becoming a part of the landscape. Accessible from both inside and outside, the terrace can easily be used when the Museum is closed. The lowest floor of the terrace addition, grows from the earth with a stone or masonry foundation. Because this addition is on a slope, the section below ground contains workspace for developing exhibits. The addition is filled with windows above ground level in the office space and on the higher level where the public conference room and Museum Store are located.



Terrace Concept basement plan. The existing building is shown in blue.

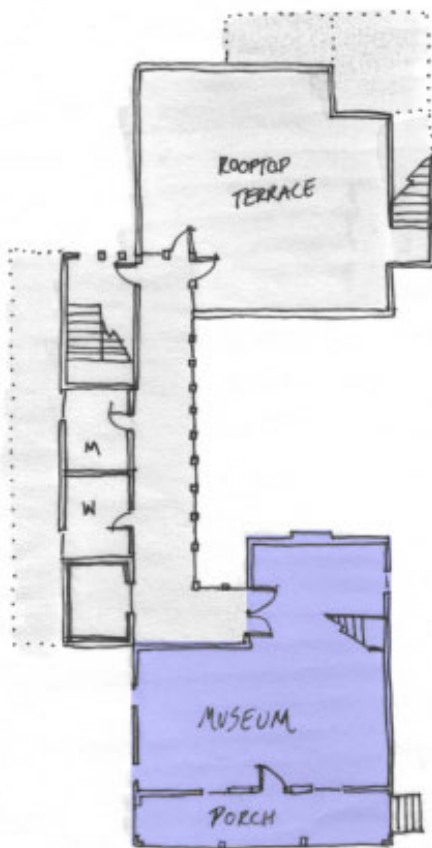
A taller connecting element housing reception space, the elevator, new fire stairs, and accessible restrooms bridges the Museum (the past) to the offices and conference room (the future). This taller connector element is transparent glass where it is connecting the two buildings and solid shafts for the fire stair and elevator on the west side. A new entry court and main entrance is created by the placement of the terraced addition and connector element. The main entrance, replacing the current entrance from the first floor porch, is at the current parking lot or basement level and opens into a large, sunny, reception area. At this level, the public conference room and museum store in the terrace addition are accessible as is the more private archival space in the existing Museum building. The stairs and elevator lead downward to connect to the terrace addition's private offices and exhibit workspace or



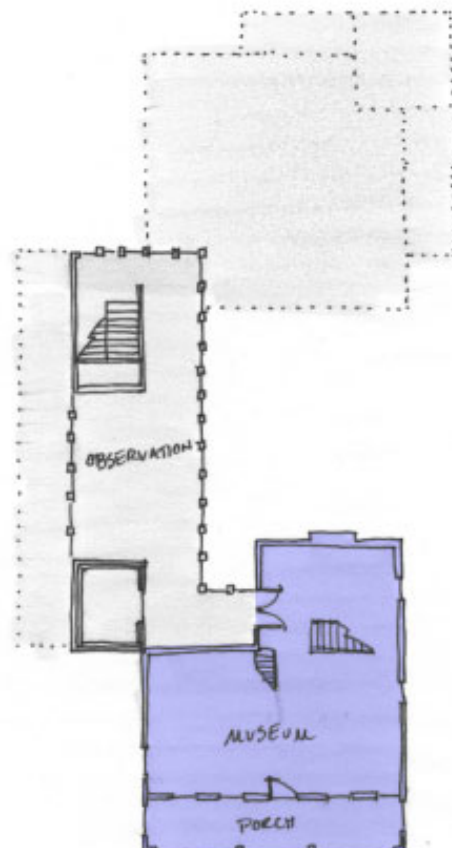
East elevation view from the parking lot showing proposed entrance court connecting the historic building with the new building.



Northwest elevation viewed from Longwood Park.



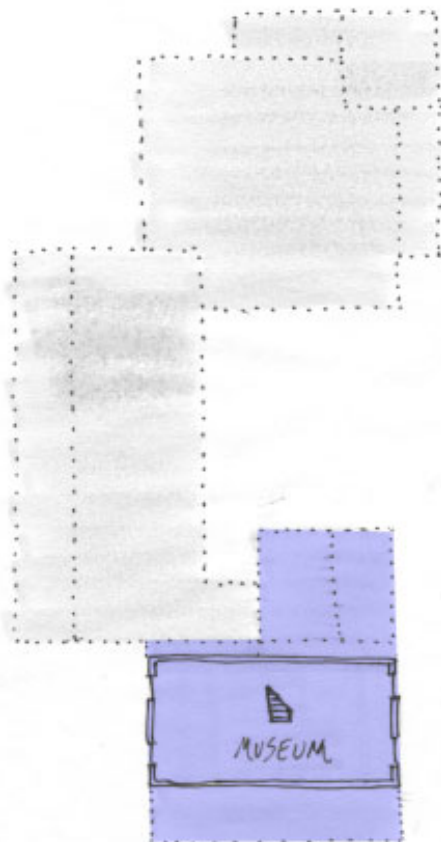
Terrace Concept first floor plan.



Terrace Concept second floor plan.



Site plan for the Terrace Concept for the Salem Museum expansion.



Terrace Concept attic plan.

upward to connect to accessible restrooms, the exterior terrace, and the main Museum level on the first floor. Additional exhibit space is created in the existing museum by moving the Museum Store to the new terraced building. The stairs and elevator also travel upward to the second floor for access to further Museum space. The Museum attic is only accessible using the existing stairs.

The connector's access to the historic Museum building is through the opening created for the stairs during the most recent renovation. The newer existing stair is removed and an older stair is reinstated within the Museum for access between the first and second floors.

The Terrace Concept results in approximately 6,000 more square feet of exhibit, administration, and storage space for the Salem Museum, while allowing the historic Williams-Brown House Store remain the centerpiece of the new complex.

Salem Museum Expansion Terrace Concept



Proposed View from Main Street and the Lynchburg Salem Turnpike (South Elevation)



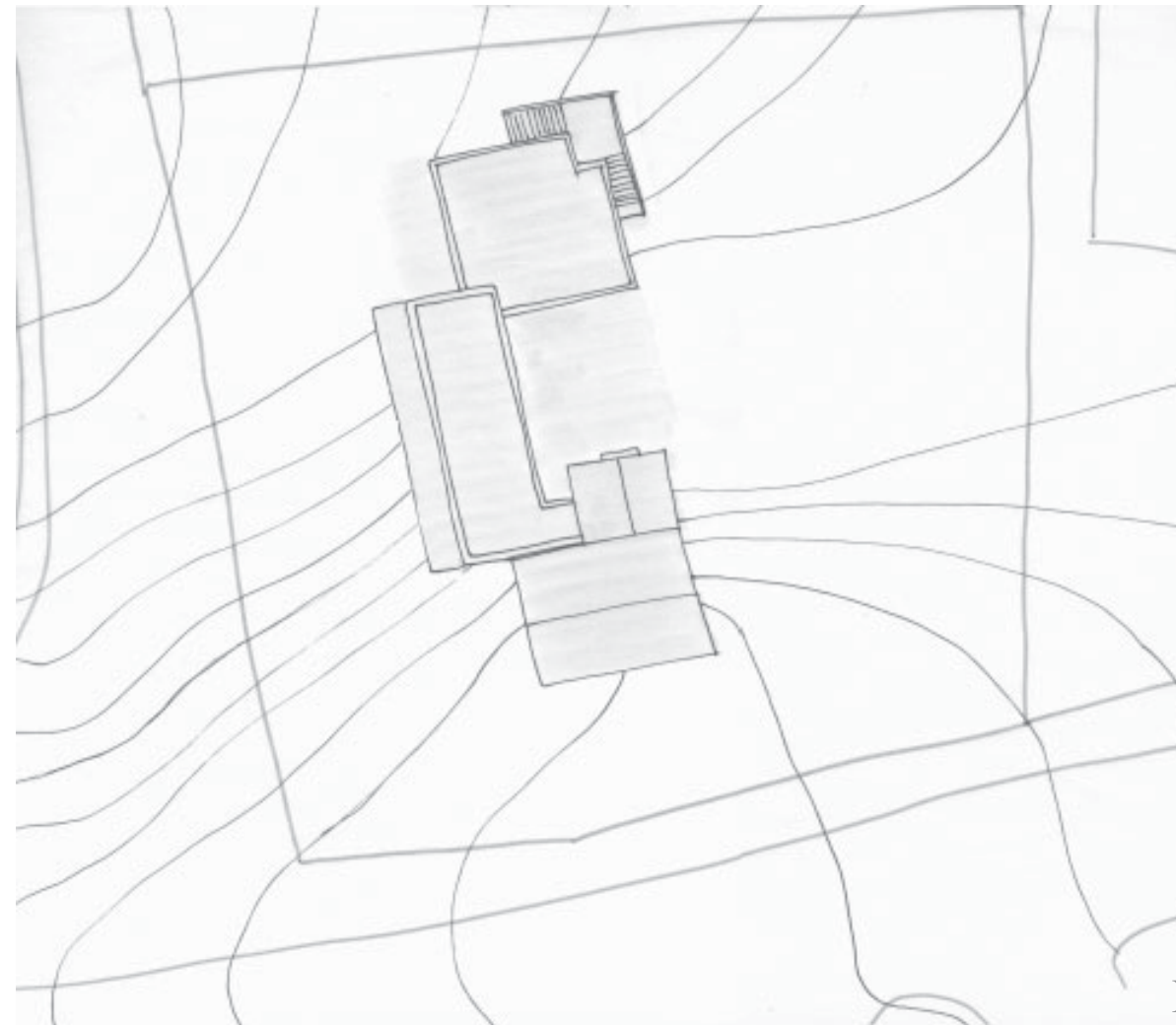
Proposed View from Main Street Travelling West (Southeast Elevation)



Proposed View from Salem Museum Parking Lot (Northeast Elevation)



Proposed View from the Nathaniel Burwell Cemetery (North Elevation)



Existing View from Main Street and the Lynchburg Salem Turnpike (South Elevation)



Existing View from Main Street Travelling West (Southeast Elevation)



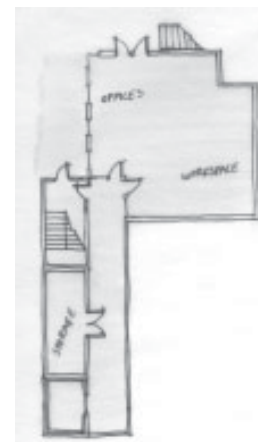
Existing View from Salem Museum Parking Lot (Northeast Elevation)



Existing View from the Nathaniel Burwell Cemetery (North Elevation)

Features

- Low addition topped with an exterior terrace space provides views to cemeteries and historic Salem.
- Taller element housing elevator, new fire stairs, and accessible restrooms bridges the museum to offices and conference room.
- New entry court at current basement level is created by the placement of the additions.
- Low addition is barely visible from Main Street, becoming a part of the landscape.
- Historical entry is no longer main entry.
- New connection to addition is through opening created for stairs during most recent renovation.
- Old stairs within existing museum reinstated for passage between first and second floor.
- Museum store removed to addition creating more exhibit space in existing museum.



Sub-basement



Basement



Floor 1



Floor 2



Attic

Approximate Gross Square Footage:	
Exhibit space:	2728 sq. ft.
Administration space:	1752 sq. ft.
Storage space:	1280 sq. ft.
Total:	10776 sq. ft.

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Conceptual Design Phase 1

Roof Terrace Concept

Salem Museum
Salem, Virginia

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D. Tower Concept

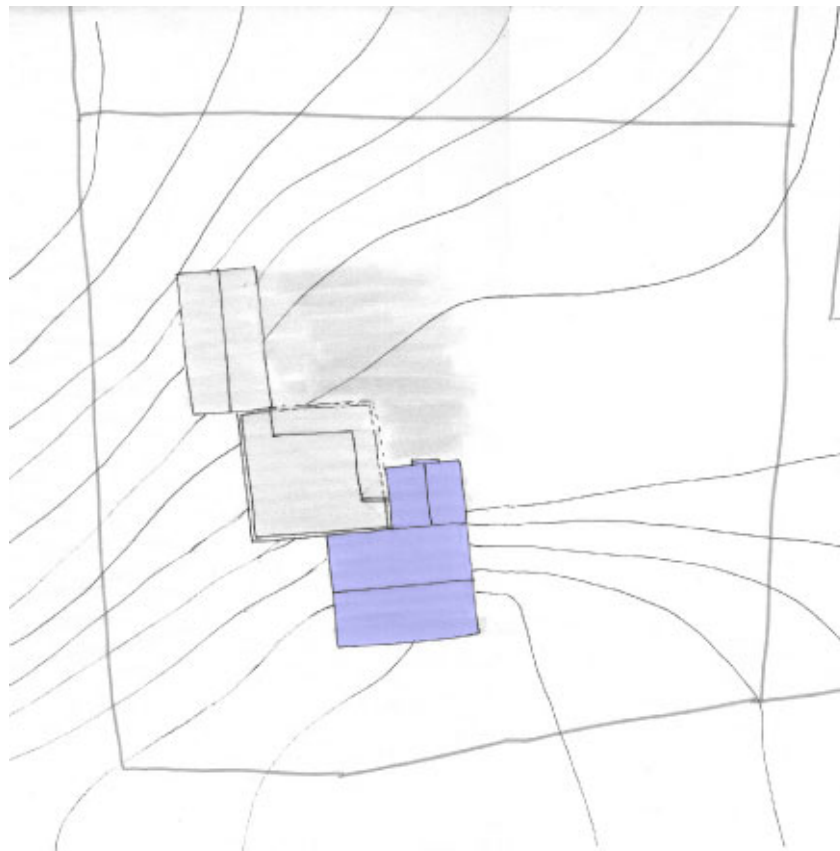
In the Tower Concept, a tall tower element housing the elevator and new fire stairs rises beyond the height of the current Museum to provide “a view to history” including the Nathaniel Burwell Cemetery, East Hill Cemetery, and historic Salem. The tower appears to be solid although it houses a new fire stairs and elevator. On the west side of the tower a transparent connection bridges the existing Museum and a new gabled addition. Encircling the top of the tower is a transparent observation deck providing space to view the surrounding area.



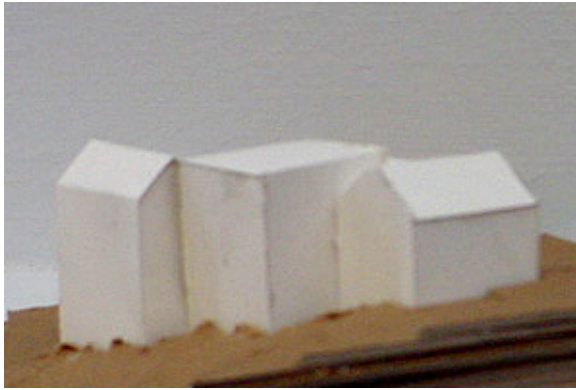
The view from Main Street shows the tower and new gabled addition behind the existing Salem Museum.



Nathaniel Burwell Cemetery is just one of the views from atop the tower element.



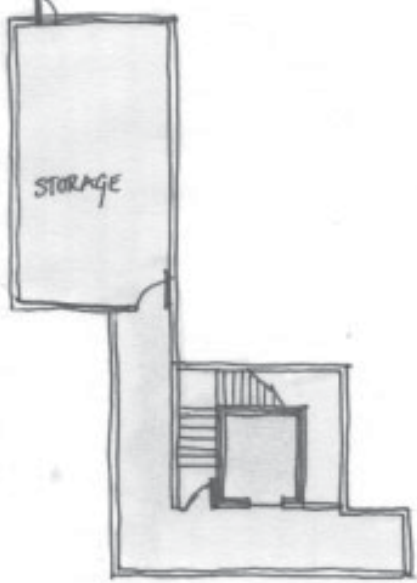
Tower Concept site plan.



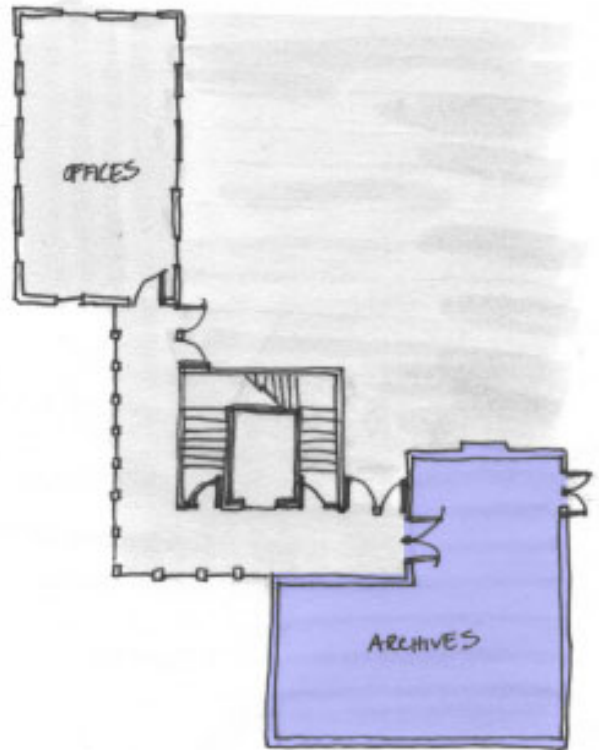
Southwest elevation viewed from Main Street travelling east showing the outside corner created by the tower.



Northeast elevation viewed from the entrance to Nathaniel Burwell Cemetery showing the inside corner and entrances created by the tower.



Tower Concept sub-basement plan.



Tower Concept basement plan.

The tower, set back from the existing Museum on the Main Street and parking lot elevations, creates a corner on the site affording exterior spaces for gardens and an entry court. The entry court at the parking lot or basement level is created by the placement of the tower connector and the new addition. Entry opportunities are created on either side of the tower to access the building at basement level. The tower observation deck overhangs these entries to provide protection from the elements. These new entries, replacing the current entry from the first floor porch, open into a glassy connector hallway surrounding the stair and elevator shaft. At this level, the connection is between offices in the new addition and archives in the basement level of the existing Museum building.

Due to the slope of the land surrounding the new addition, there is an opportunity for storage space at a sub-basement level. The stairs and elevator lead downward to this storage space or upward to the main Museum level on the first floor.

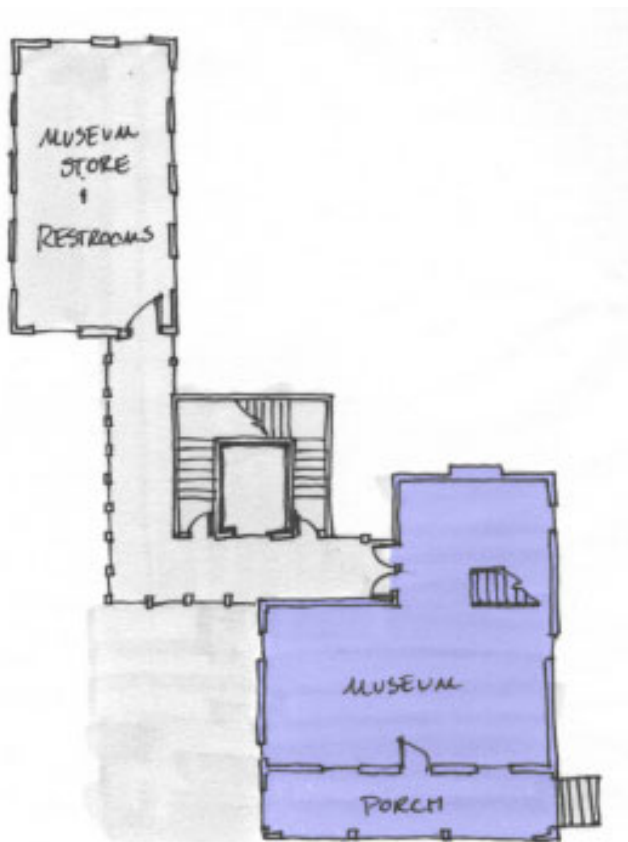
Additional exhibit space is created in the existing Museum on the first floor level by moving the Museum Store to the new addition. Accessible restrooms are also included here. The stairs and elevator travel upward to the second floor and more exhibit space in the existing Museum and a conference room in the new addition. Though the stairs and elevator continue to an observation deck on the third level, the Museum attic is only accessible using the existing stairs.



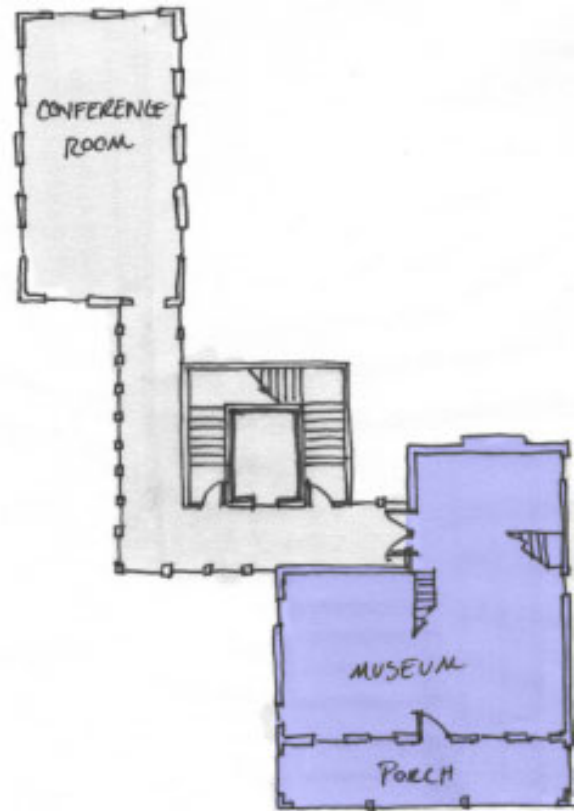
North elevation viewed from the Nathaniel Burwell Cemetery showing one of the main entries and the observation deck overhang of the tower and the sub-basement level of the addition.



East elevation viewed from the parking lot showing that the tower connector and addition are in the background of the more prominent historic Museum building.

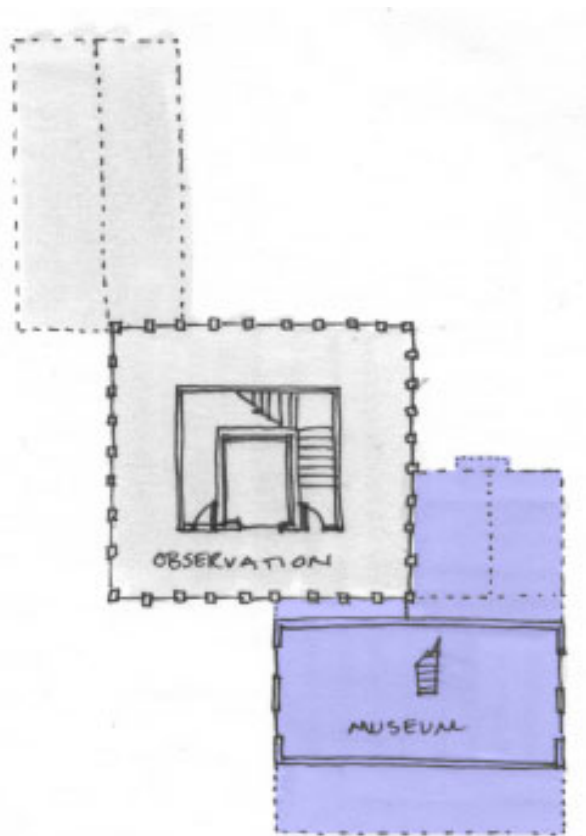


Tower Concept first floor plan.



The tower connector's access to the historic Museum building is through the opening created for the stairs during the most recent renovation. Because the newer existing stair is removed, an older stair is reinstated within the Museum for access between the first and second floors.

The Tower Concept results in approximately 10,000 more square feet of exhibit, administration, and storage space for the Museum while allowing the historic Williams/Brown House Store to remain the centerpiece of the Museum's expansion.



Tower Concept attic plan.

Salem Museum Expansion Tower Concept



Proposed View from Main Street and the Lynchburg Salem Turnpike (South Elevation)



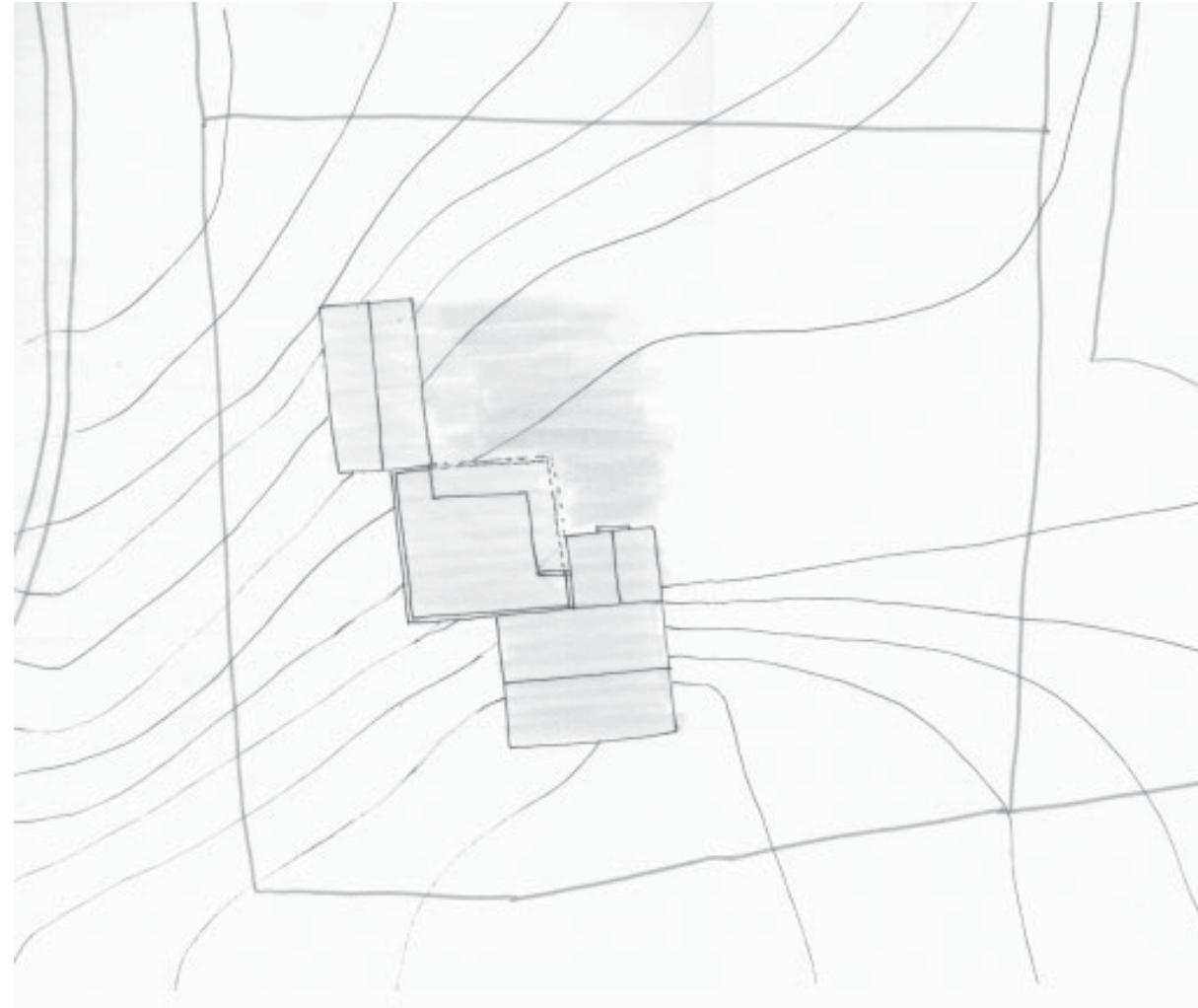
Proposed View from Main Street Travelling West (Southeast Elevation)



Proposed View from Salem Museum Parking Lot (Northeast Elevation)



Proposed View from the Nathaniel Burwell Cemetery (North Elevation)



Existing View from Main Street and the Lynchburg Salem Turnpike (South Elevation)



Existing View from Main Street Travelling West (Southeast Elevation)



Existing View from Salem Museum Parking Lot (Northeast Elevation)



Existing View from the Nathaniel Burwell Cemetery (North Elevation)

Features

- Tower element housing elevator and new fire stairs rises beyond the height of the current museum to provide view to history (cemeteries and downtown Salem).
- Creates a corner on the site affording new exterior spaces.
- New entry court at current basement level is created by the placement of the additions.
- Historical entry is no longer main entry.
- New connection to addition is through opening created for stairs during most recent renovation.
- Old stairs within existing museum reinstated for passage between first and second floor.
- Museum store removed to addition creating more exhibit space in existing museum.
- Offices, conference room, and accessible restrooms are in addition.



Approximate Gross Square Footage:	
Exhibit space:	2728 sq. ft.
Administration space:	1440 sq. ft.
Storage space:	1760 sq. ft.
Total:	14896 sq. ft.

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Conceptual Design Phase 1

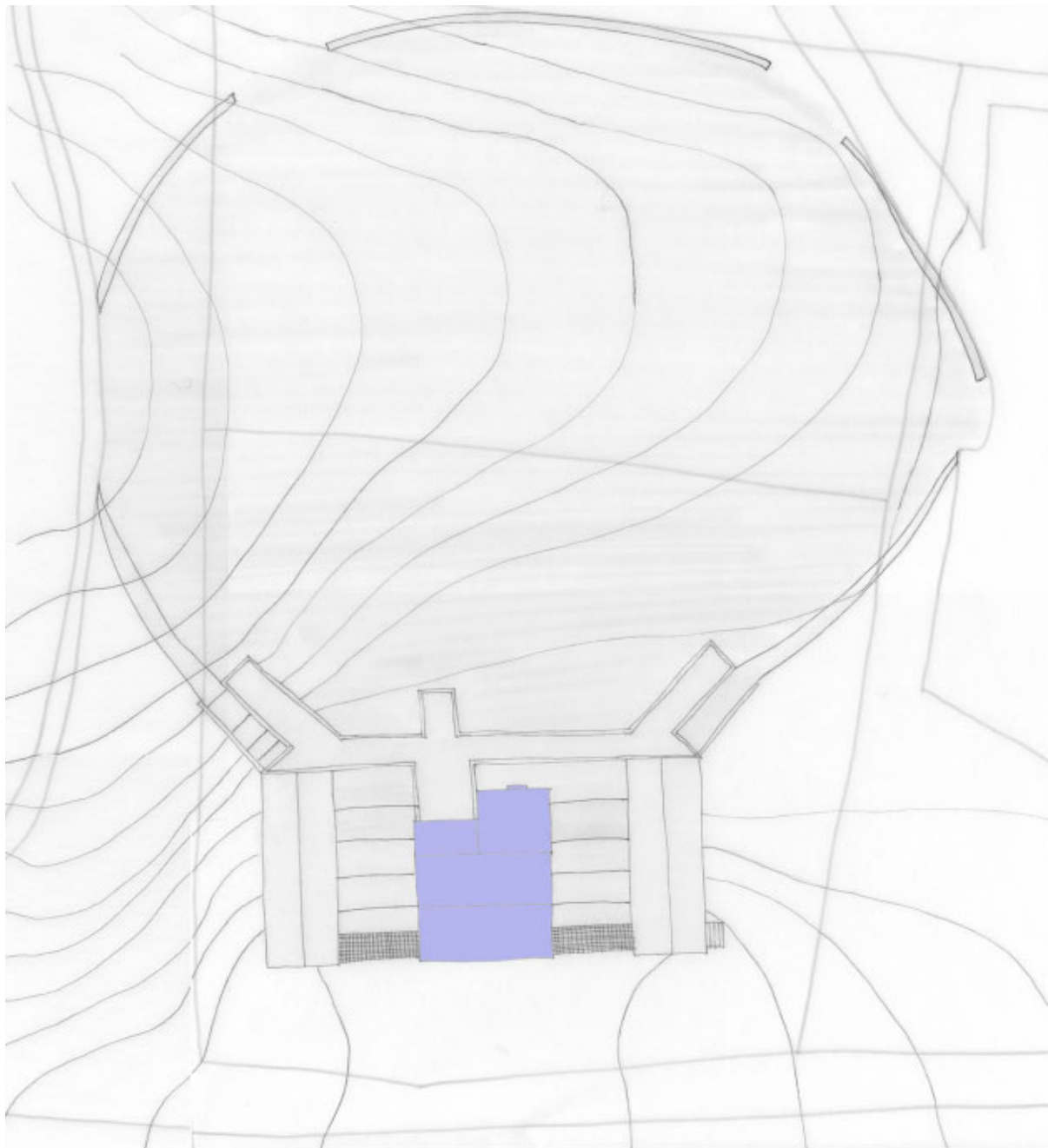
Tower Concept

Salem Museum
Salem, Virginia

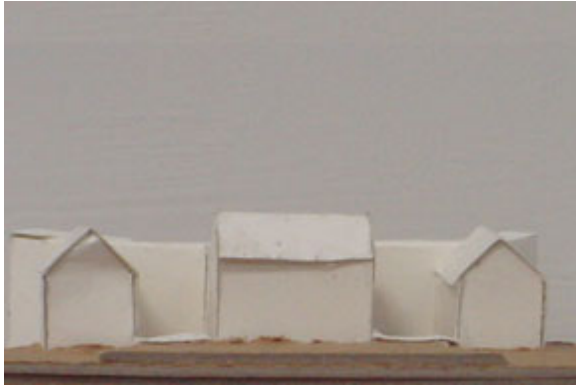
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E. Streetscape Concept

The Streetscape Concept adds two additional buildings to the Main Street elevation embracing the jewel that is the historic Williams/Brown House Store. This changes the Museum from a single building to a collection of buildings marking the entry to Salem's historic district.



The Streetscape Concept site plan extends into the landscape of Longwood Park.



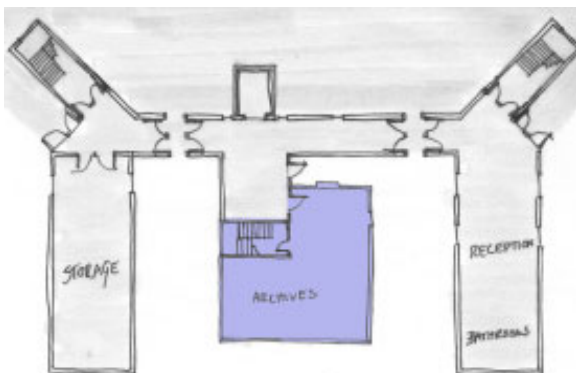
South elevation viewed from the Lynchburg-Salem Turnpike intersection with Main Street showing the storefront additions embracing the existing Museum.



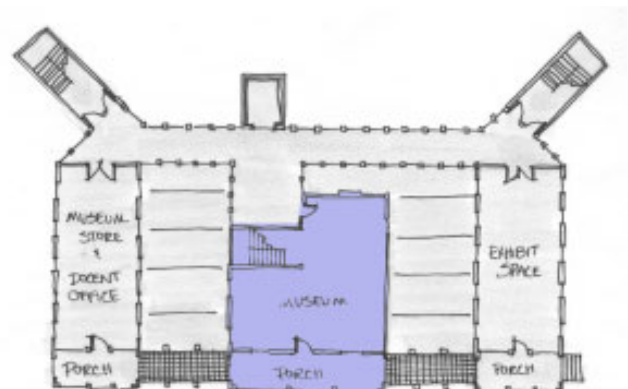
Stone retaining wall of the East Hill Cemetery at the intersection of the Lynchburg-Salem Turnpike and Main Street.



North elevation as viewed from the Nathaniel Burwell Cemetery showing arched openings for passage to the rear garden space.



Streetscape Concept basement floor plan.



Streetscape Concept first floor plan.

The existing Museum remains the focal point on Main Street placed symmetrically between two clapboarded storefront-type additions, embracing the building as it might have been historically. At street level, the porches of the store buildings are connected to the porch of the existing Museum via their own local sidewalk. The porches provide access to these buildings at street level keeping the original entry to the Williams-Brown House/Store intact.

Following the slope of the land, two terraced gardens are located between the Museum and each of the store buildings. At ground level, the connector and store buildings have stone foundations growing from the ground in the manner of the retaining wall of the East Hill Cemetery, visible across Main Street. Arched openings in the connector enable a pedestrian to pass through the connector to the garden space beyond or into the basement level of the expanded Museum. The upper levels of the connector are transparent for views to the exterior meeting and garden spaces to the north and the terraced garden spaces and Main Street to the south.

The connector creates an axis and contains several solid shafts: the elevator opposite the existing Museum stairs and two “wings” containing fire stairs. These “wings” angle out into the landscape, extending into Longwood Park, and embracing the site. The

“wings” become undulating walls in the land that focus views of interest.

The “wings” also provide a place for a basement level entry from the parking lot or Longwood Park. Entry from the parking lot to the eastern store building via the connector is into a reception area including restrooms. The western store building contains storage space while the Museum at this level is used for archival space. The connector’s access to the historic Museum building is through a new opening created in the brick wall of its northern addition, next to the more recent clapboarded stair addition. The first floor can be reached by employees from within the existing Museum using the existing stairs or by the general public using the elevator or either of the stair “wings”.

Additional exhibit space exists on the first floor in the eastern store building as well as by the movement of the Museum Store from the existing Museum to the western store building with accompanying docent space. Each of the buildings is accessible on the first floor from the street. The Museum Store then becomes a true storefront available for the window shopper. A visitor can pass between the Museum and the store buildings either to the north using the connector or to the south, outside, using the porches and new sidewalk.



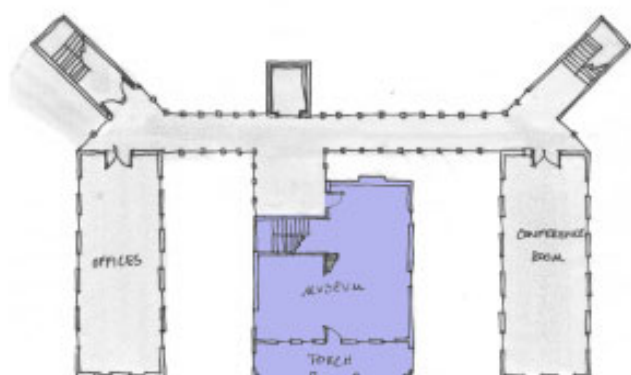
This model shows an example of a wall curving, rising, and falling as it undulates through the land.



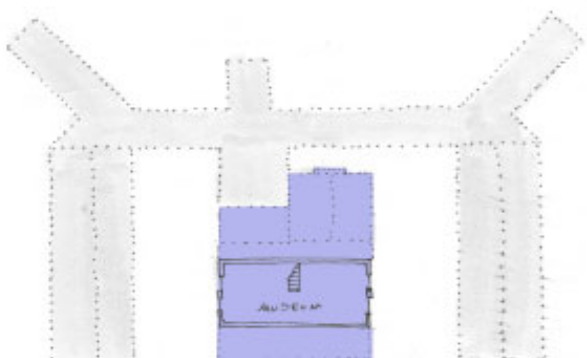
Eastern elevation viewed from the parking lot showing the basement level entrance created between the stair “wing” and the eastern store building.



Southwest elevation viewed travelling east on Main Street showing the western store building in which the Museum Store has a storefront presence at street level.



Streetscape Concept second floor plan.



Streetscape Concept attic floor plan.

Access to the second floor is via the existing stair, the elevator, or stair “wings” in the connector. A conference room is in the eastern store building on the second floor while offices are housed in the western store building. Additional exhibit space is located in the existing Museum building on the second floor and in the attic which is only accessible via the existing stairs.

The Streetscape Concept results in approximately 9,000 more square feet for exhibit, administration, and storage space for the Salem Museum.

Salem Museum Expansion Streetscape Concept



Proposed View from Main Street and the Lynchburg Salem Turnpike (South Elevation)



Proposed View from Main Street Travelling West (Southeast Elevation)



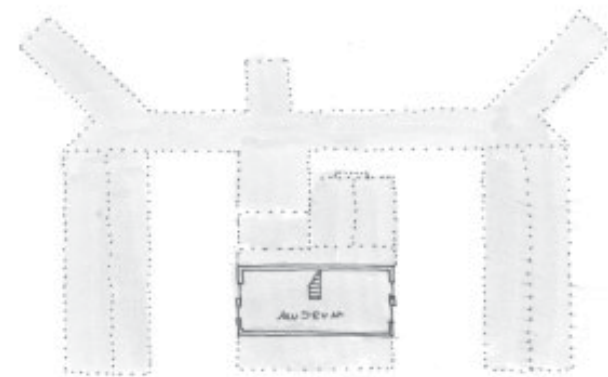
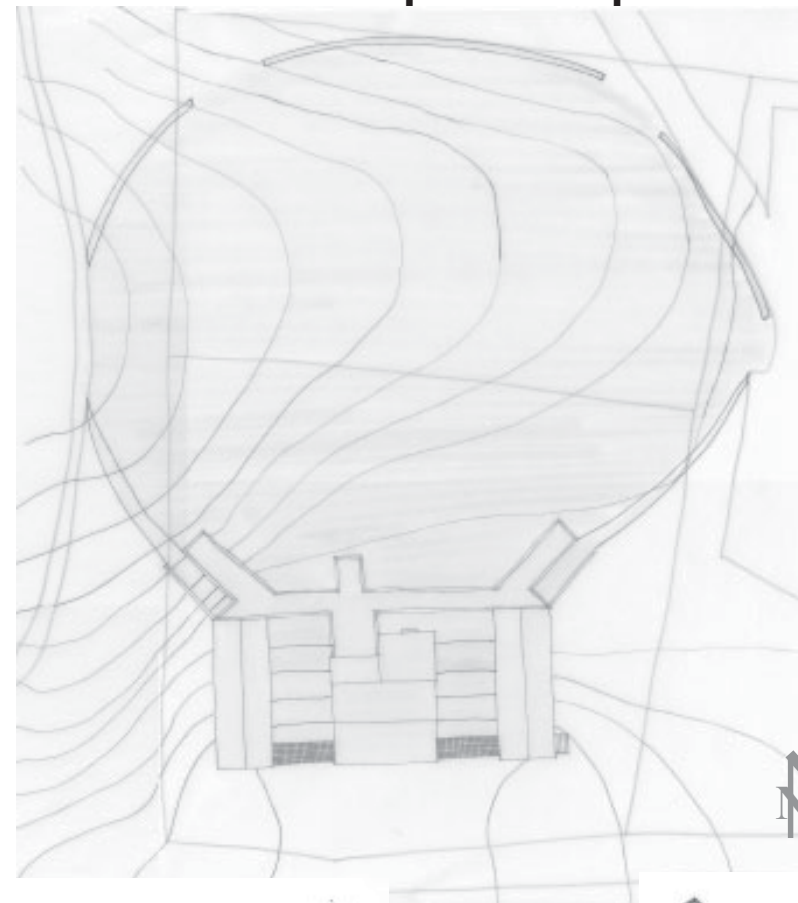
Proposed View from Salem Museum Parking Lot (Northeast Elevation)



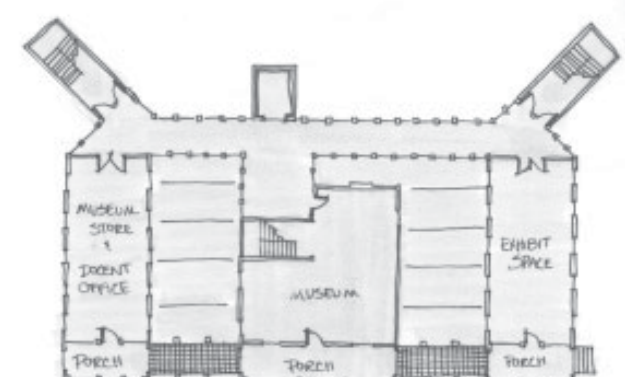
Proposed View from the Nathaniel Burwell Cemetery (North Elevation)

Features

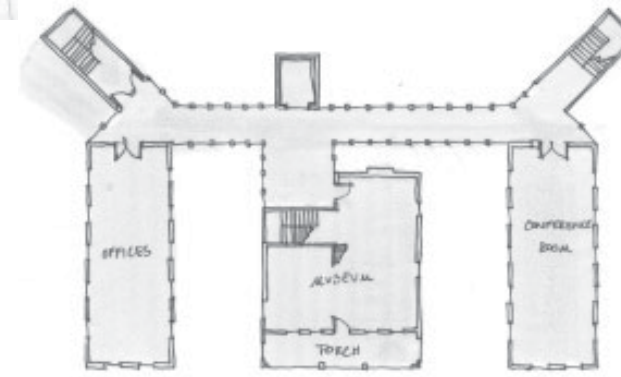
- Two storefront-type additions create a street front along Main Street embracing the Brown-Williams House/Store as it might have been historically.
- Two terraced gardens between the new buildings and the existing museum lead to passages to the rear of the site.
- Rear connector creates an axis to embrace the site, becoming undulating walls in the land to focus views.
- Streetfront porches are connected via a sidewalk at street level providing access to the museum through its historical entrance.
- Additional exhibit space is provided in the addition and by moving the museum store into the addition.
- New entry at basement level leads to a new reception space.



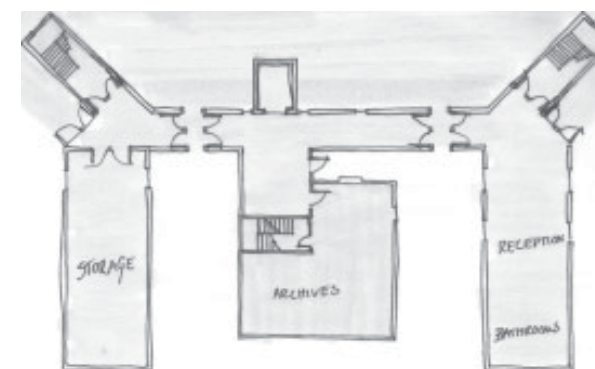
Attic



Floor 1



Floor 2



Basement



Existing View from Main Street and the Lynchburg Salem Turnpike (South Elevation)



Existing View from Main Street Travelling West (Southeast Elevation)



Existing View from Salem Museum Parking Lot (Northeast Elevation)



Existing View from the Nathaniel Burwell Cemetery (North Elevation)

Approximate Gross Square Footage:	
Exhibit space:	3608 sq. ft.
Administration space:	2080 sq. ft.
Storage space:	2080 sq. ft.
Total:	13648 sq. ft.

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Conceptual Design Phase 1

Streetscape Concept

Salem Museum
Salem, Virginia

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F. Client Feedback

The two clients present were generally dissatisfied with the concepts, presented as massing models, at the November 2002 meeting. The meeting resulted in a second phase of conceptual design being added before the final design phase of the project.

In general, the clients were concerned that the conceptual designs provided a “jarring juxtaposition” to the existing historic building. They wanted to be sure that the addition is historically compatible with the Williams-Brown House/Store and that sprawl is minimized. In particular, they were unhappy with the perceived flat roofs, which they associate with “flat-roofed modern box(es)” although much of the old commercial architecture in Salem appears, from the main facade, to have flat roofs.

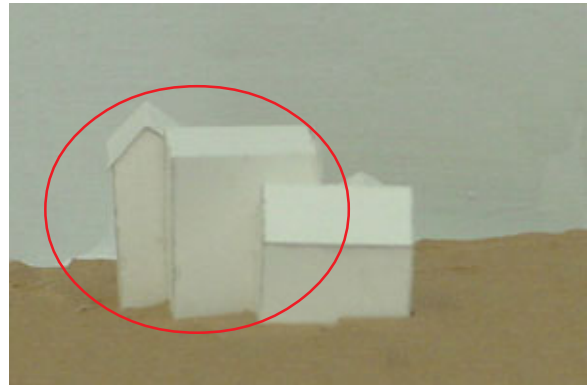
The clients had specific comments regarding the three conceptual designs presented. They absolutely did not like the Tower Concept due to its perceived size and height. They liked the compactness of the Terrace Concept, but not its flat roof. They suggested that the Streetscape Concept could include Intervale and the Williams-Brown House/Store rather than having 3 buildings. The clients liked the idea of entering a reception area.

The height of the element housing an elevator to reach from the basement to the second floor of the existing Salem Museum is a problem. Due to the slope of the site, the element appears quite high. There is not enough room within the existing stairway to add an elevator, use the existing stair, and pass to a new addition.

The client suggested looking at the Martha Washington Inn breezeways in Abingdon, Virginia as inspiration for the element connecting the existing Museum to its addition. They were concerned that the undetailed, conceptual models showed an “ugly wall”. They suggested creating a



The “flat-roofed modern box” of the Terrace Concept was unacceptable to the client although the roof was to become a landscaped terrace for outdoor meetings.



The height of the Tower Concept was unacceptable because the client felt that the historic museum building was dwarfed by the size of the tower used to view the surrounding area.



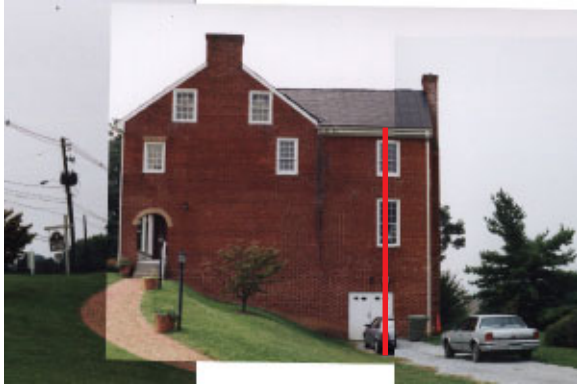
The lost building “Intervale”, whose portico still exists, was torn down in the 1980’s to make room for an industrial park. It was suggested to be used as the addition to the Salem Museum.



The client suggested breezeways like those at the Martha Washington Inn in Abingdon as a potential connecting element.



One of the porch arches that the client suggested be used in the openings of the breezeway connecting the Salem Museum and the new addition.



A possible place for connection to the old building is at the line of windows above the current basement access door.

curved breezeway between the buildings using arches similar to those used on the porch of the Museum.

The clients had several ideas and comments to guide the second phase of conceptual design. They requested that the addition be a re-creation of the lost Intervale house, however, they were more concerned that it look like Intervale on the outside than that its interior plan be in any way tied to the original Intervale plan. It was suggested that the Intervale house be placed in an L-shape, around the corner from the Museum building or next to the Museum in a Main Street setting. The clients suggested putting the exhibit spaces in the new building and keeping the existing museum building as space for offices and storage. The addition may spread beyond the existing boundary lines and into Longwood Park if necessary. The client would accept replacing the windows above the basement access on the east side of the building with doors to make a connection to an addition.

G. CDAC Concerns

CDAC team members had several concerns after this meeting and review of client feedback regarding the conceptual models, the use of Intervale in the design, the draw of the existing building, and life safety codes.

1. Conceptual Models

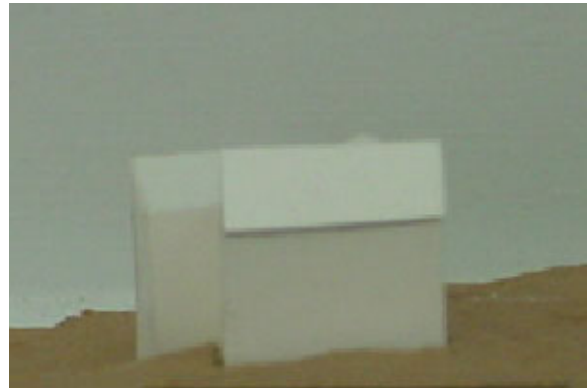
The primary reason for the clients' dissatisfaction may have been due to the conceptual models presented. These models did not convey the level of detail necessary for the clients to fully understand the initial design concepts. Windows, doors, and materials are not shown in these models. Representation of these features would likely have kept the clients from seeing an "ugly wall" in the Streetscape Concept rather than a stone wall filled with windows.

2. Intervale

Very little appears to be known about the lost Intervale building other than from several photographs and the existence of its portico. The Secretary of the Interior's Standards for Reconstruction state that "Reconstruction will be based on the accurate duplication of historic features and elements substantiated by documentary or physical evidence rather than on conjectural designs..." Furthermore, the document states that it is not recommended "Undertaking a reconstruction based on insufficient research, so that, as a result, an historically inaccurate building is created." or "Reconstructing a building unnecessarily when an existing building adequately reflects or explains the history of the property, the historical event, or has the same associative value." or "Altering the documented appearance of interior features and finishes so that, as a result, an inaccurate depiction of the historic building is



The conceptual design models were rough massing models showing approximate scale and mass rather than architectural features such as glass and stone contributing to the "ugly wall" above.



The front elevation of the existing Salem Museum is difficult to decipher as a rough massing model.



The portico of Intervale apparently has been saved and is in storage at Explore Park. However, no measurements of the portico or building are available.



This view of the rear of Intervale is all that was provided to re-create the rear of the lost building.



Intervale appears to have been in an estate setting with open land surrounding the house.



Interior details such as this fireplace with the accompanying low window would be inaccessible to the public if the Salem Museum were no longer located in its historic building.



The attic stairs are an interesting feature of the original building, but do not meet current life safety codes.

created.” or “Giving the building’s site a false appearance by basing the reconstruction or conjectural designs on the availability of features from other nearby sites.” Please see Appendix A for more information regarding the Secretary of the Interior’s Standards and Guidelines.

An additional concern is that Intervale appears to have been in an estate-like setting. Placing a copy of Intervale in a streetscape setting or even near the Williams-Brown House/Store removes the structure from its original context and, hence, is inaccurate and historically incompatible.

3. The Existing Building

If the existing museum building were used for offices and storage, as suggested by the client, one of the reasons that people visit the Salem Museum would be removed. Features of the interior of the Williams-Brown House/Store are historical and interesting to visit in themselves. If the building were no longer open to the public, the draw of the historic building disappears, making the Salem Museum a less desirable destination.

4. Life Safety Codes

While historic buildings are generally exempt from modern life safety codes, any additions or renovations to an historic building must meet the Virginia Statewide Building Code and the International Code of Building. In particular, this means that the exit stairs will need to be upgraded and a second exit stair added if the addition has more than one floor. Such codes are necessary for the safety of visitors and staff in case of fire or other emergency. Please see Appendix E for more information regarding the application of life safety codes to historic buildings.

IV.
Conceptual Designs
Phase II

A. Introduction

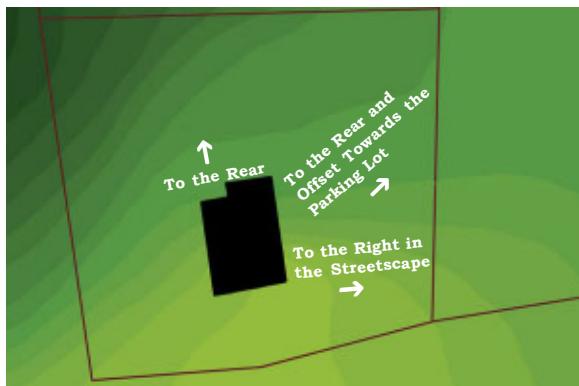
A second set of three conceptual designs including conceptual models were presented October 20, 2003 at CDAC's office in Blacksburg, Virginia to David Foster and David Robbins of the Salem Museum Board of Directors. The designs, as specified by the client at the previous presentation were: addition to the rear and offset towards the parking lot, addition to the right in a streetscape, and addition to the rear. Design considerations, client feedback, and CDAC concerns are also presented.



The Martha Washington Inn in Abingdon, Virginia provides an example of an inconspicuous breezeway connecting different buildings of a larger complex.



The Intervale home, torn down in the 1980's, should be used as a model for the addition in one of the concepts.



The various orientations requested by the client for the orientation of the Salem Museum addition.

B. Additional Design Considerations

The design considerations include factors from Phase I as well as other factors resulting from the client feedback of the November 2002 meeting. The first nine factors are described in more detail in Chapter III, but are enumerated here for reference.

- 1. Consider the Martha Washington Inn breezeway as an option for the connection between the Museum and the addition.** Multi-windowed breezeways at the Martha Washington Inn in Abingdon, Virginia connect the main building with wings on either side. These breezeways contain hallways only and are nearly invisible due to vegetation and the siting of the wings.
- 2. The lost Intervale building should be used as the addition in one concept.** The clients would like to recreate the Intervale home which was torn down in the 1980's to make room for an industrial park.
- 3. The orientation of the addition should be directly to the rear and offset towards the parking lot, to the right in the streetscape, or to the rear.** As specified by the client.

C. Concept 1: Addition To the Rear and Offset Towards the Parking Lot

Concept 1 features a building whose exterior is similar to the lost Intervale building. This structure serves as the main addition and is connected to the Brown-Williams House/Store by a curved element. A central building containing the new fire stairs and elevator is of white clapboard with similar features to the Intervale building including the hip roof, wide cornices, and corner pilasters. The connection to the existing building is through the current basement entry and the two windows directly above this door. From Main Street, the existing Brown-Williams House/Store building remains dominant in the facade with the other elements set back and lower.

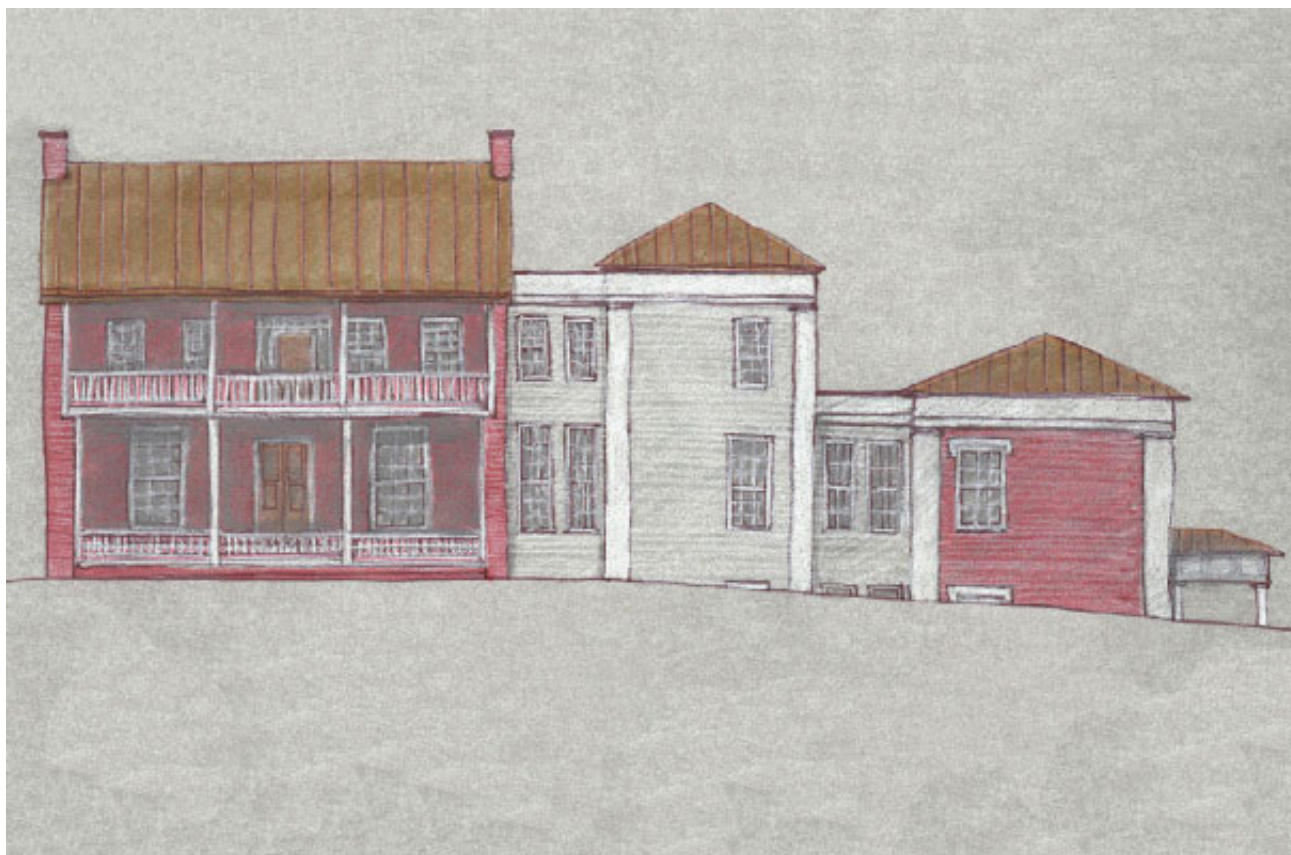
While entry through the front door of the Brown-Williams House/Store off of Main Street is still



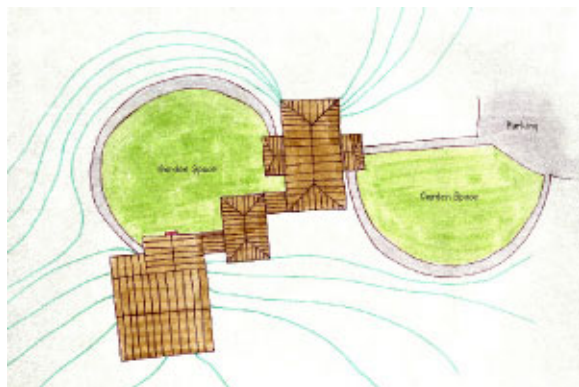
The roof, cornices, and corner pilasters from Intervale were used to design the central building in the complex. The above drawing of Intervale was estimated using available photographs.



The addition connects to the existing building through the windows and lower door marked above by the yellow line.



Main Street or south elevation showing the retained prominence of the Brown-Williams House/Store. The central structure contains an elevator and fire stairs while the rightmost structure looks similar to the lost Intervale building on the exterior and contains administrative functions.



The site plan showing the curved garden space and terraced landscape.



Carter's Grove, near Williamsburg, shows an example of a terraced landscape sloping downward from the main building similar to the idea proposed in Salem Museum Concept 1.

possible, the Intervale-like building faces the existing Salem Museum parking lot and becomes the preferred entry. Its columned front portico provides a welcoming entrance to visitors. The gift shop, reception area, and restrooms are placed at this main level. Access to the exterior garden space nestled in the rear of the new complex is possible through a columned rear portico similar to the front entry. The curves of the hallway and central stair/elevator building help to define the exterior garden space as a circular area with a rounded path connecting the rear exit from the Brown-Williams House/Store to the rear columned portico of the Intervale-like building. The rounded paths also create an accessible ramp that descends from each of the porticos.

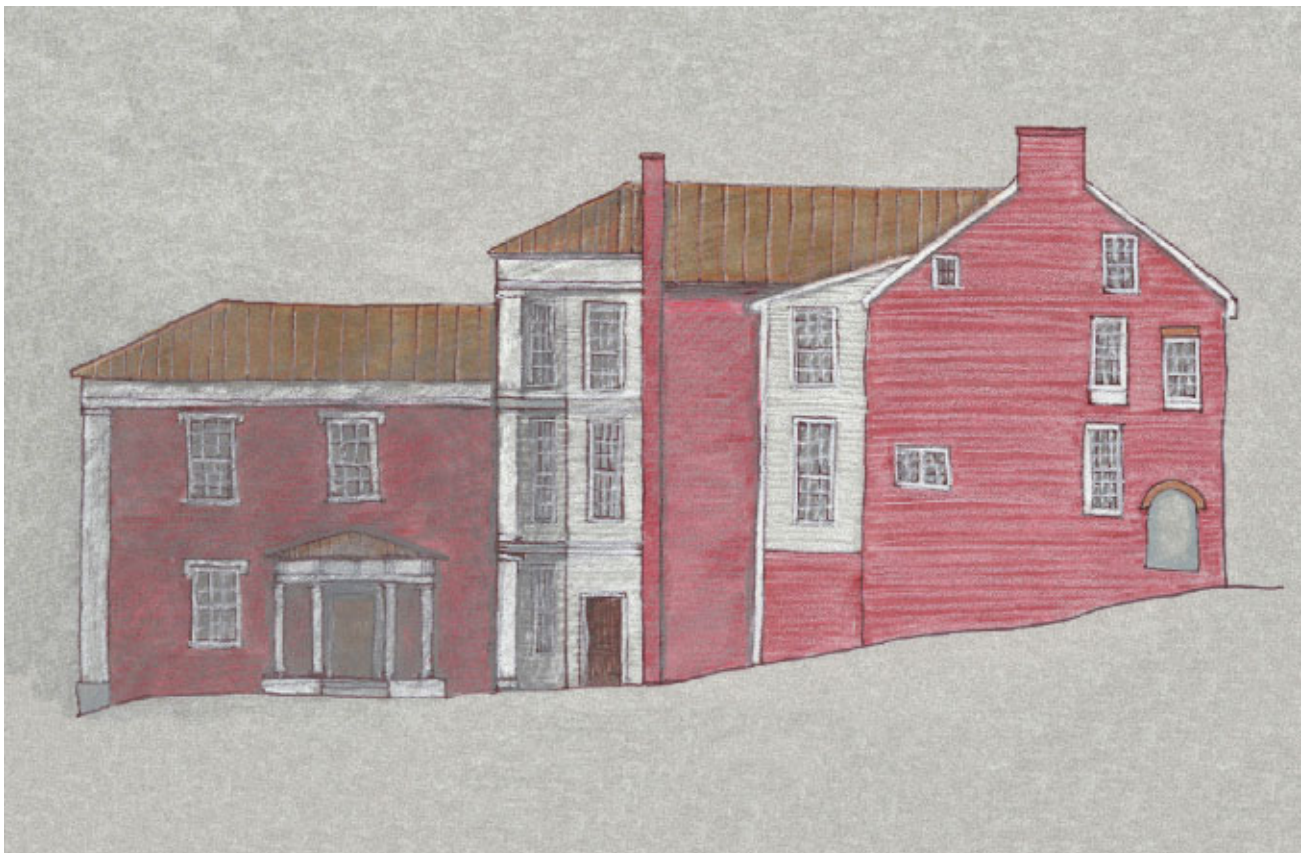
The circular space to the rear of the complex is a platform or outdoor terrace with the land sloping downward from there into Longwood Park similar to



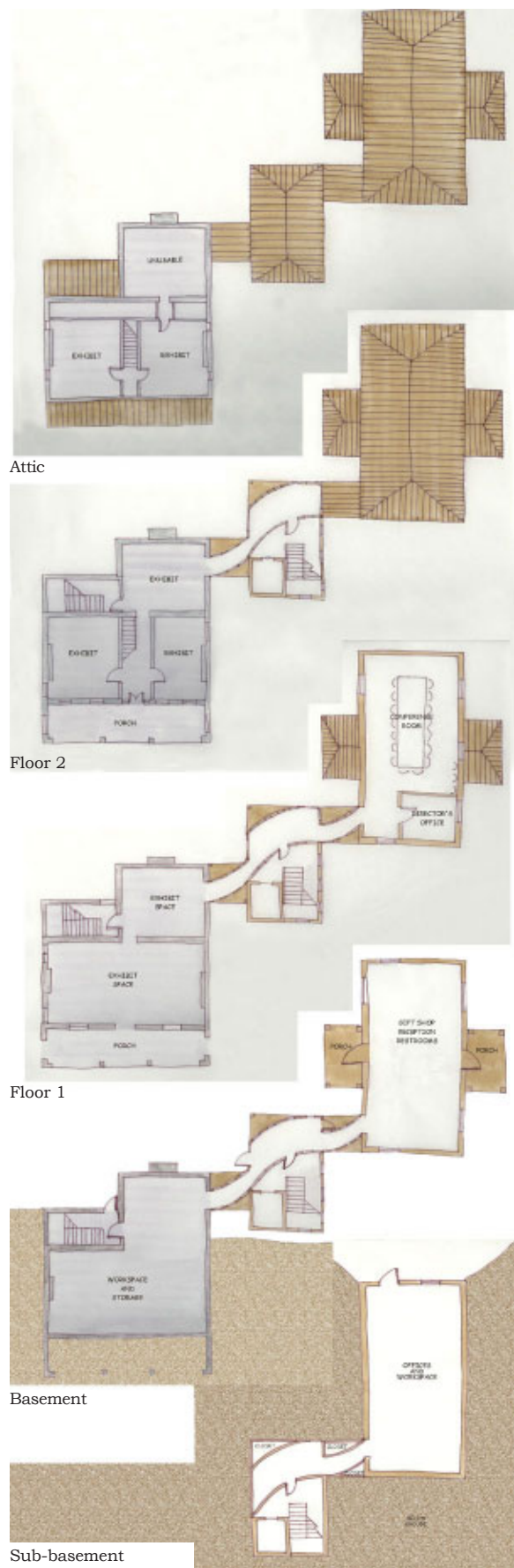
The columned portico of the Intervale-like addition welcomes visitors to the Salem Museum from the parking lot or east side.



The rear, or south, elevation of the Salem Museum shows the sloping landscape created to enable basement access to the offices in the Intervale-like portion of the addition.



The side facing Longwood Park, the west elevation, shows the rear portico to the Intervale-like addition, providing access from the terraced garden area.



Floor plans from the sub-basement level at the bottom to the attic at top.

the landscape at Carter's Grove near Williamsburg. The land is graded a bit to provide exterior access and daylighting to the basement level of the Intervale-like building. This creates office and additional workspace for the Salem Museum director and curator which is directly accessible from the outside or via the stairs or elevator in the central building.

A second circular space is created on the parking lot side of the building by a ramp and direct access to the parking lot. The space would be a landscaped garden area that creates a beautiful entry to the Salem Museum.

The existing Brown-Williams House/Store and upper floors of the complex are accessed through the multi-windowed, curved hallway, the middle of which, contained in the central building, is a wider curved area providing access to a fire stair and elevator. Continuing on through the curved hallway places one in the basement of the Brown-Williams House/Store consisting of workspace for the curator and storage of artifacts. A second fire stair and emergency exit is placed in the existing stairway.

Travelling up the elevator or stairs of the central building, gives the visitor access to the conference room and director's office on the second level of the addition or the exhibit space on the first floor of the Brown-Williams House/Store. Because the current gift shop has been moved to the addition, this creates additional exhibit space in the existing building. The second floor of the Brown-Williams House/Store, containing further exhibit space, is also accessible via the stairs and elevator in the central building. The attic remains exhibit space as well, however, it does not meet fire code or accessibility requirements due to its single stairway access.

Concept 1 adds almost 2,800 square feet of usable space to the Salem Museum on three floors.

Addition to the Rear and Offset Towards the Parking Lot



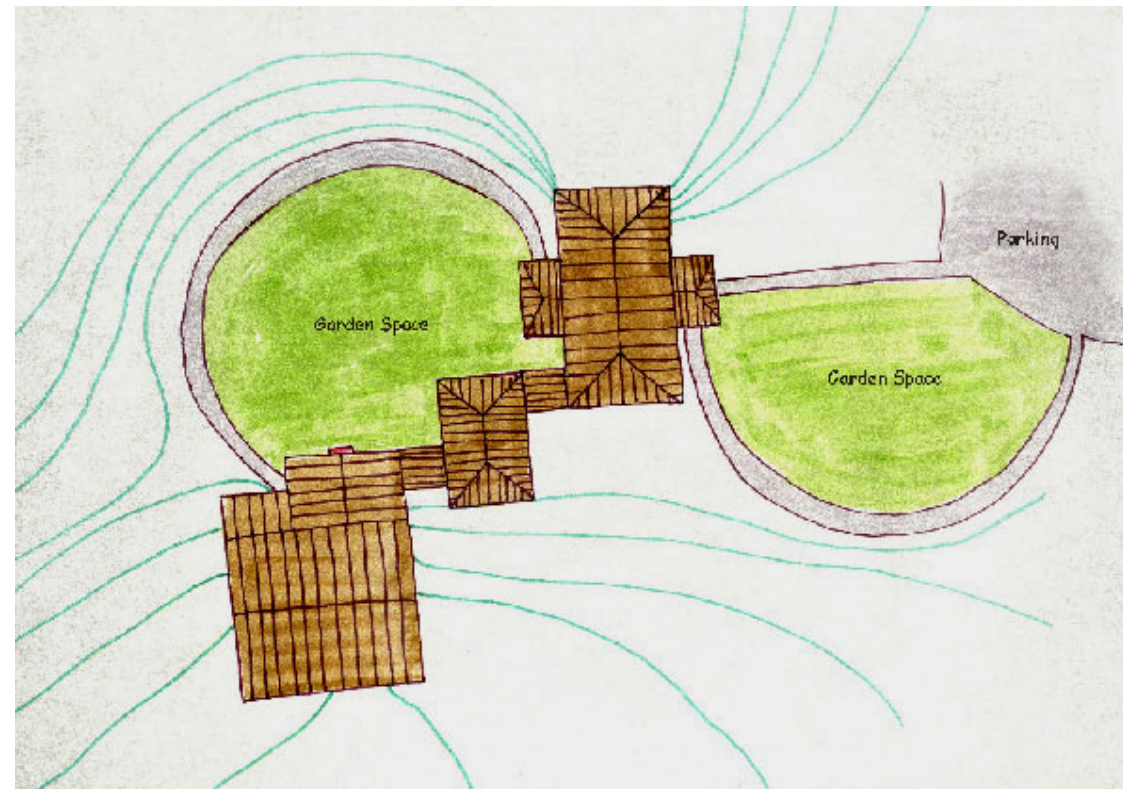
Intervale and its portico, prior to its demolition



Intervale, front facade, drawing based on photographic evidence

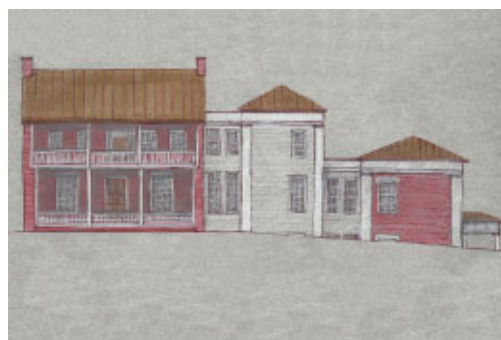


Carter's Grove, near Williamsburg, example of terraced grounds



Features

- ◆ The historic Salem Museum is connected to a replica of the lost building, Intervale.
- ◆ Entry from the parking lot is through the Intervale portico.
- ◆ A curved connector houses a fire exit stair and elevator.
- ◆ The curve of the connector helps to create an outdoor reception area bounded by the steeply terraced site. The bowl created allows natural light to reach the interior of the lowest level of the Intervale addition.
- ◆ Ramps in the landscape from the Intervale addition help to create the curve in the landscape.
- ◆ 2772 sq. ft. are added on three levels.



Proposed View from Main Street and the Lynchburg Salem Turnpike (South Elevation)



Proposed View from Salem Museum Parking Lot (East Elevation)



Proposed View from Nathaniel Burwell Cemetery (North Elevation)



Proposed View from Main Street Travelling East (West Elevation)

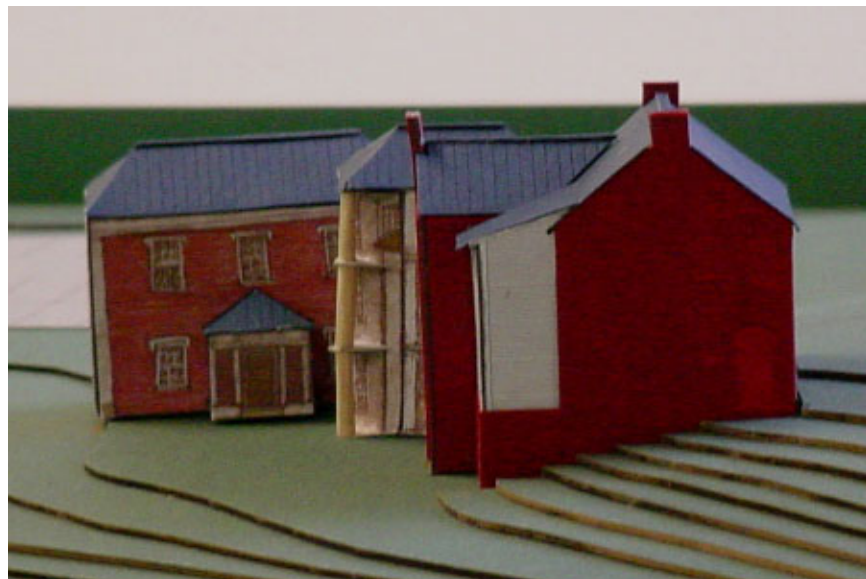
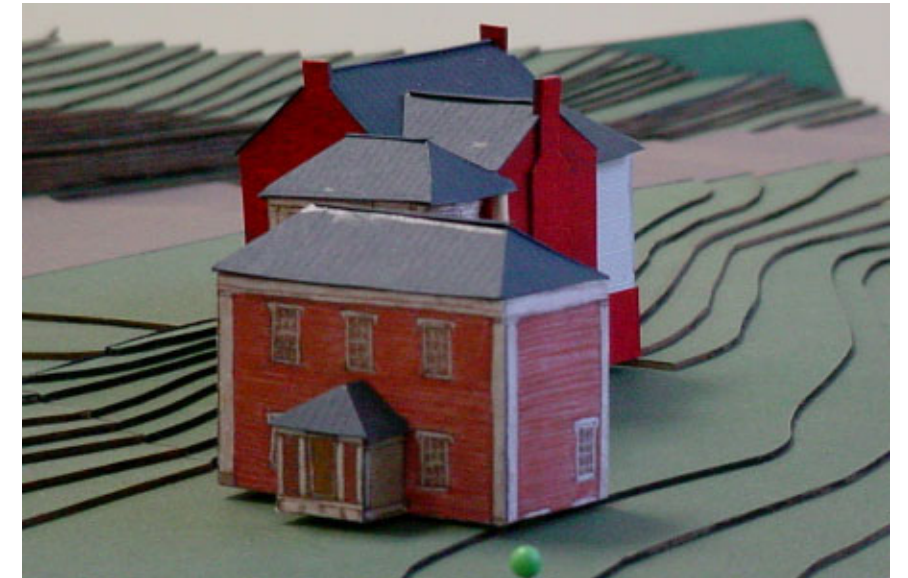
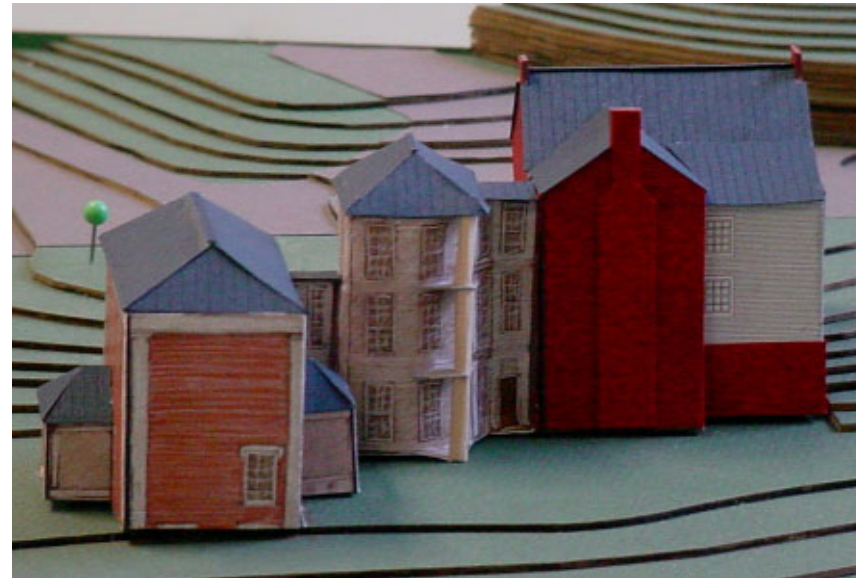


Conceptual Design Phase 2

Addition To the Rear and Offset
Towards the Parking Lot
(Concept 1)

Salem Museum
Salem, Virginia

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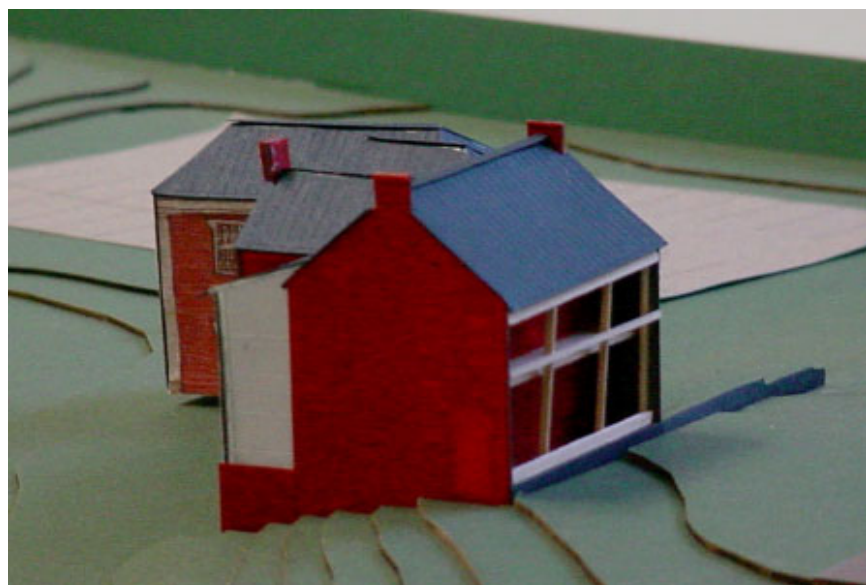
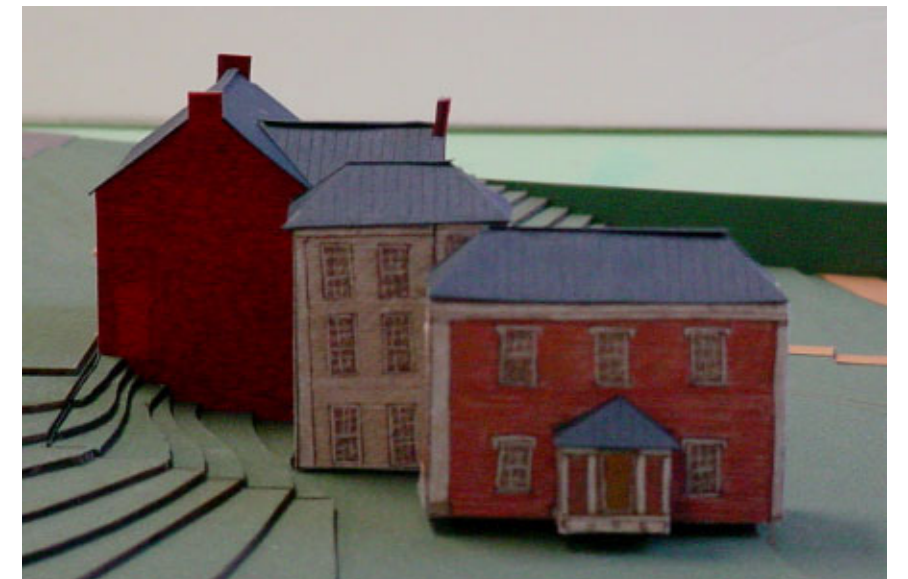


**Addition “To the Rear
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Conceptual Design Phase 2

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D. Concept 2: Addition To the Right in a Streetscape

In Concept 2, the addition is placed to the right of the existing Brown-Williams House/Store as it might have been in an original streetscape. The Beyer painting of Main Street shows a white, gable-fronted building to the right of the Brown-Williams House/Store in its original location. This form was used to create a new building with a storefront presence on Main Street. The two buildings are connected via a breezeway similar to that at the Martha Washington Inn. The connection to the existing building is through the current basement entry and the two windows directly above this door.

Visitors enter the new building at the Main Street level into the gift shop and visitor's information area. The gift shop could be open even when the Salem Museum is not. Its large display windows can be



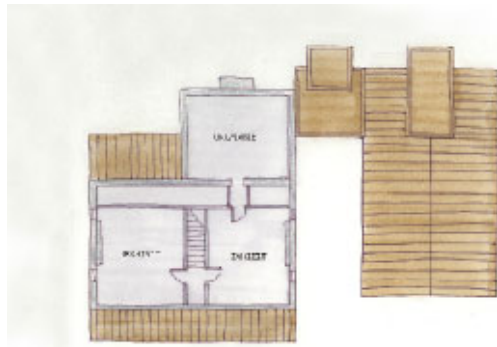
The yellow circle highlights the Brown-Williams House/Store and a white, two story, gabled building to its left in this 1855 painting by Edward Beyer.



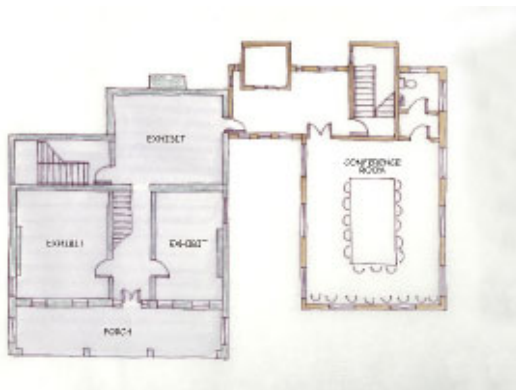
The breezeway at the Martha Washington Inn, Abingdon, Virginia connecting different buildings in the larger complex.



The Main Street, south facade, shows the existing Brown-Williams House/Store, the new gable-fronted storefront building similar to that in the Beyer painting, and the connector, similar to that at the Martha Washington Inn.



Attic plan.



Floor 2 plan.

decorated to lure visitors to the shop from Main Street and the Lynchburg-Salem Turnpike. After entering the gift shop, visitors could enter the historic portion of the Museum either by leaving the shop through the front door, walking across a boardwalk to the porch of the Brown-Williams House/Store, and entering the front door of the building or they could use the breezeway, elevator, or stairs at the rear of the gift shop.

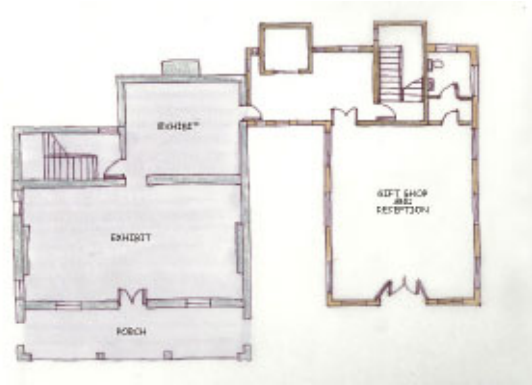
Tall, narrow brick elements resembling chimneys are placed at the rear of the breezeway and new store building to house the elevator and stairs respectively. These elements are similar to the actual chimney found at the rear of the Brown-Williams House/Store and blend in architecturally. These "chimneys" are at least as high as the portions of the building to which they are attached though the elevator or stair may not go that high. The extra height is for mechanical space to house HVAC equipment or



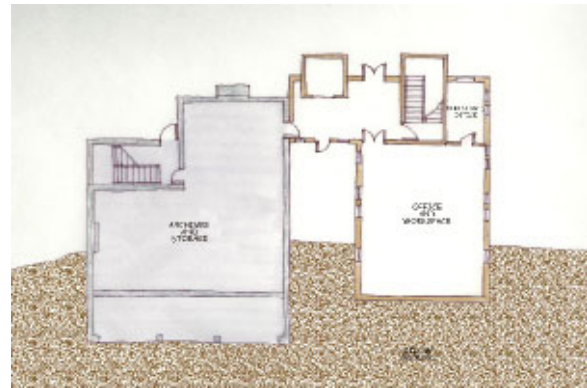
The parking lot, or east, elevation shows the main entry remaining at the historic building. The rear chimney-like element contains a fire stairs to exit from the new addition.

observation space to overlook the area surrounding the Musuem.

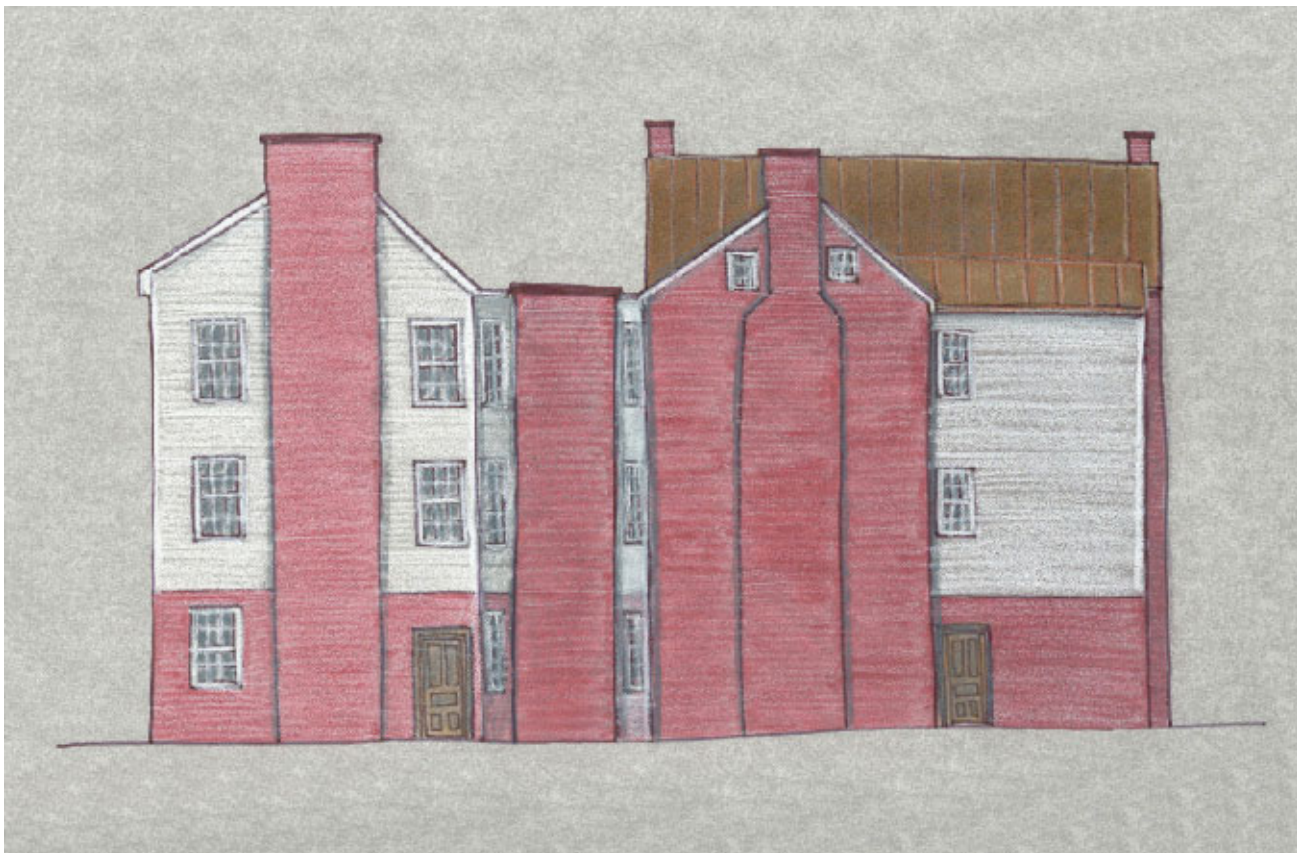
The new addition contains offices and workspace with a separate office for the Museum Director at the basement level. This allows easy connection to the basement of the existing building and the archive and storage space there. The existing stairway in the Brown-Williams House/Store remains, but a new doorway is opened to the outdoors at the basement level to create a fire exit. A second door at the basement level creates an exit between the two “chimney” elements that is also accessible. The first floor of the new addition contains the giftshop, reception area, and a unisex, accessible bathroom. More exhibit space opens up in the existing building with the removal of the giftshop to the new addition. A conference room and a second unisex, accessible bathroom is located on the second floor of the new addition. The second floor and attic of the existing



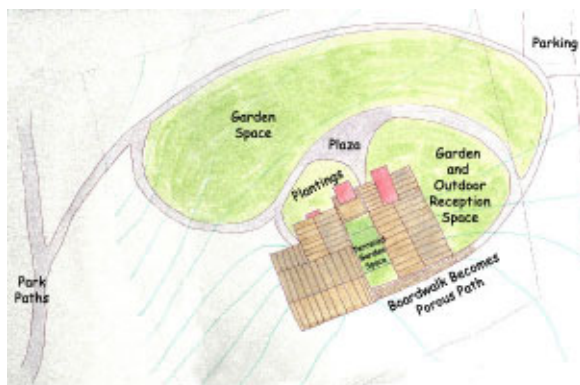
Floor 1 plan.



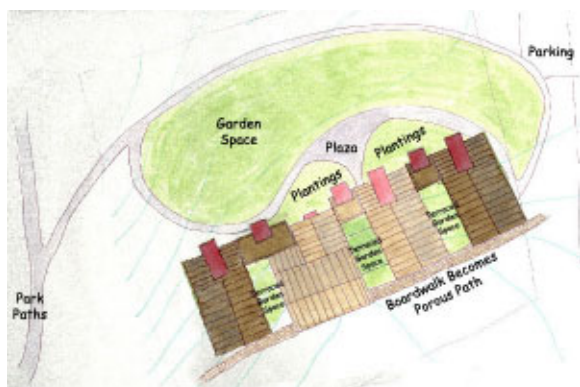
Basement plan.



The rear, north, elevation shows the three “chimneys” to the rear of the streetscape. The leftmost “chimney” is the exit stairs and the middle “chimney” is the elevator, while the rightmost element was originally built as a chimney.



Site plan showing the exterior garden and reception spaces created by the new path system connecting to the paths of Longwood Park.

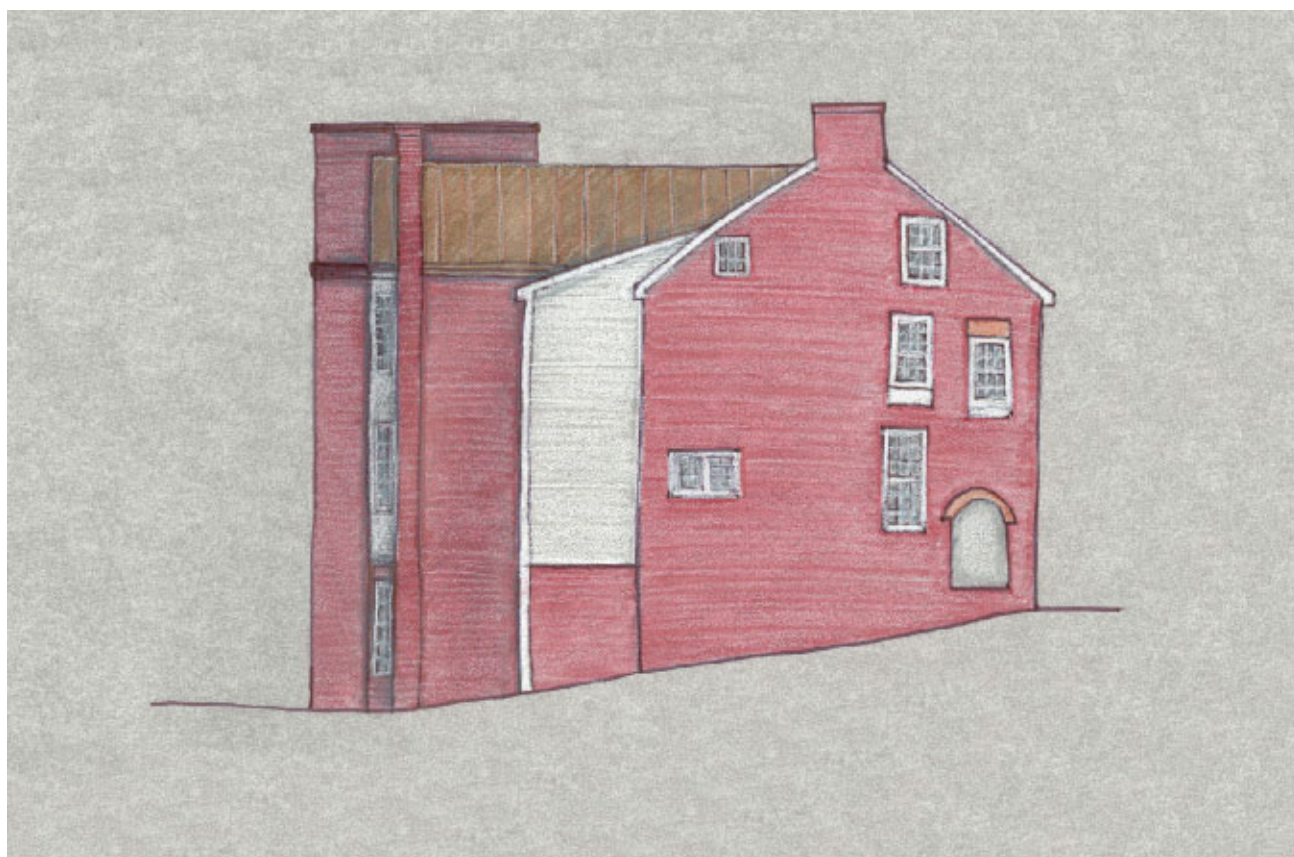


The darker shaded elements of the above plan show potential ways in which the streetscape could be extended to further enlarge the Salem Museum in the future.

building remain exhibit space. The attic space does not meet fire code or accessibility requirements due to its single stairway access.

The site plan is envisioned as creating several garden and outdoor reception spaces. A terraced garden fills the space between the existing building and the new addition allowing natural light into and a view out of the portions of the building fronting the terrace. A path system links the main floor of the building to the parking lot, the rear entrance at the basement level, and the paths of Longwood Park beyond. The paths create a border for the new garden and reception spaces.

Concept 2 adds 2,300 square feet of usable space to the Salem Museum. If further expansion is desired in the future, another building could be added to this newly created streetscape in a continuation to either the right or the left of this configuration.



West elevation, or the view from Longwood Park, shows the compact complex created by the addition described in Concept 2.

Addition to the Right in a Streetscape



Beyer Painting Shows Original Streetscape



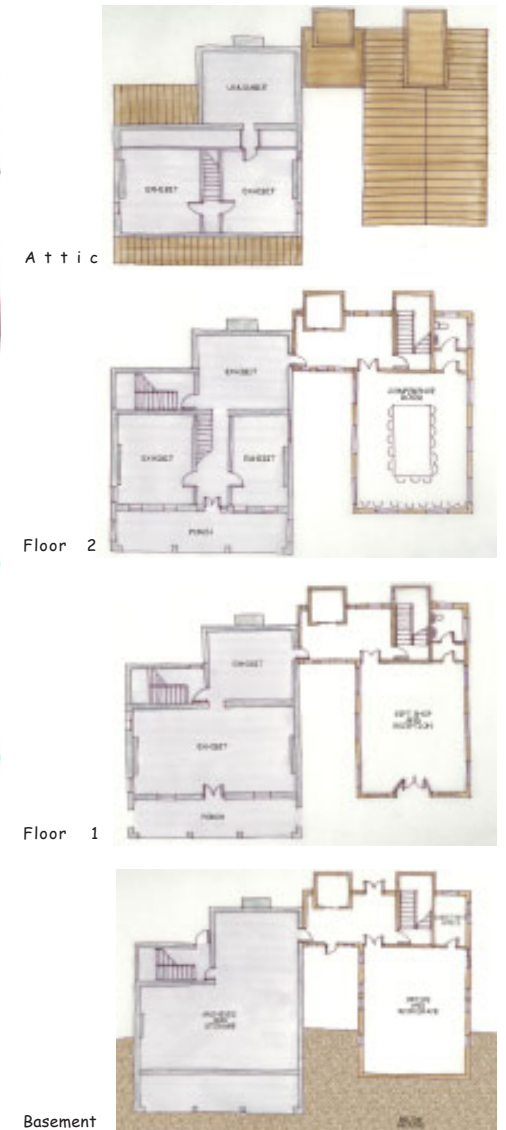
Martha Washington Inn, breezeway, rear



Martha Washington Inn, breezeway, closeup

Features

- The historic Salem Museum is placed in a streetscape resembling that of its original location as shown in the Beyer painting.
- The new Main Street storefront building, a gift shop and reception area at street level, can entice visitors to window shop and be open even when the Museum is not.
- Museum entry is through the front door.
- The breezeway connecting the buildings is similar to that at the Martha Washington Inn.
- "Chimneys" at the rear of the buildings are second fire exit stair and elevator.
- Other buildings could be added later in the streetscape if further expansion is desired.
- Terraced garden follows land slope between buildings.
- Site plan uses vegetation and paths connecting to the Park to create exterior meeting spaces.
- 2304 sq. ft. are added on three levels.



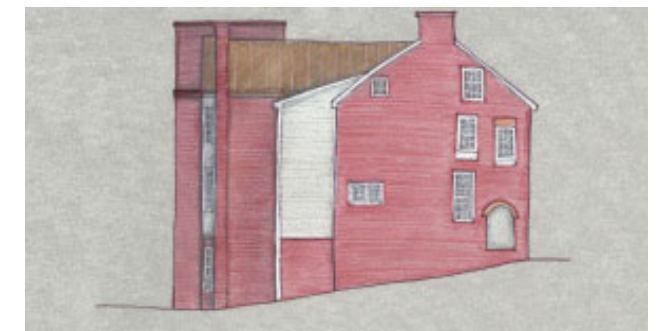
Proposed View from Main Street and the Lynchburg Salem Turnpike (South Elevation)



Proposed View from Salem Museum Parking Lot (East Elevation)



Proposed View from Nathaniel Burwell Cemetery (North Elevation)



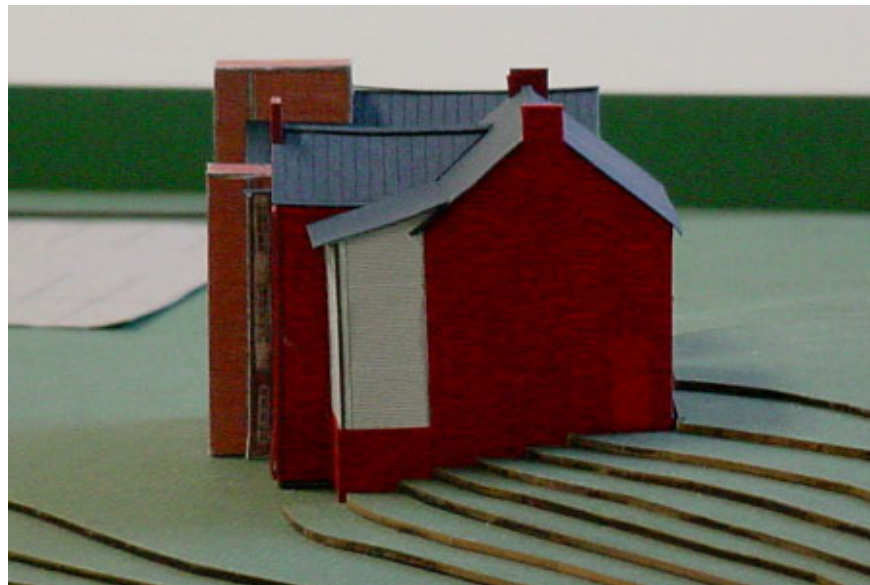
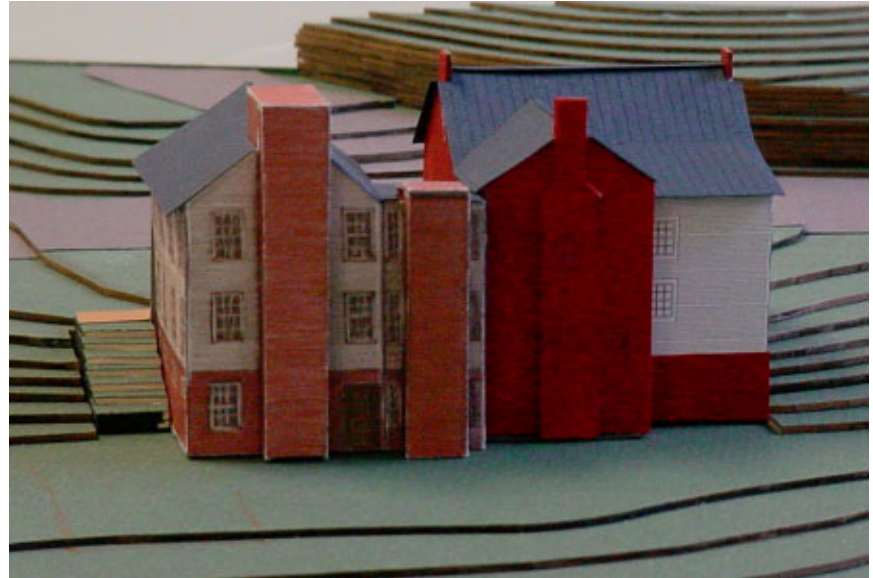
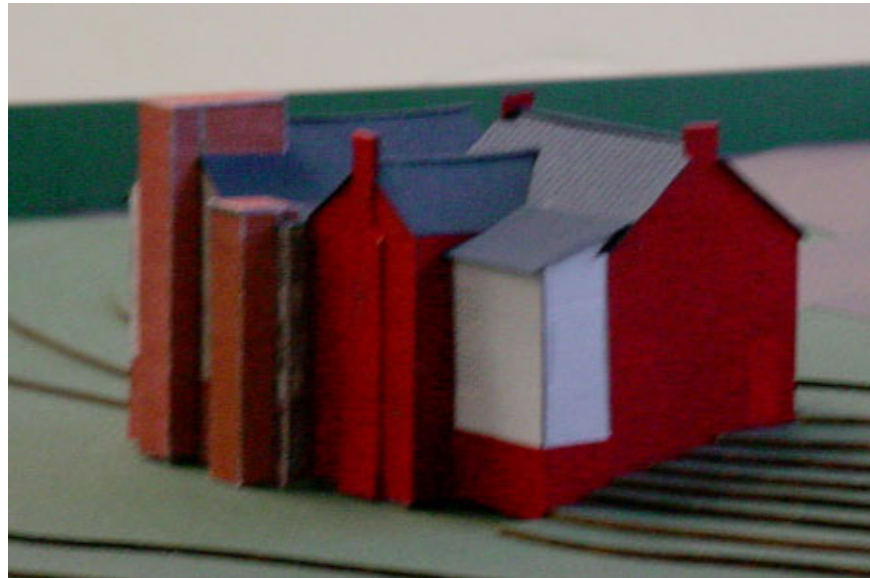
Proposed View from Main Street Travelling East (West Elevation)

Conceptual Design Phase 2

Addition To the Right in a
Streetscape
(Concept 2)

Salem Museum
Salem, Virginia

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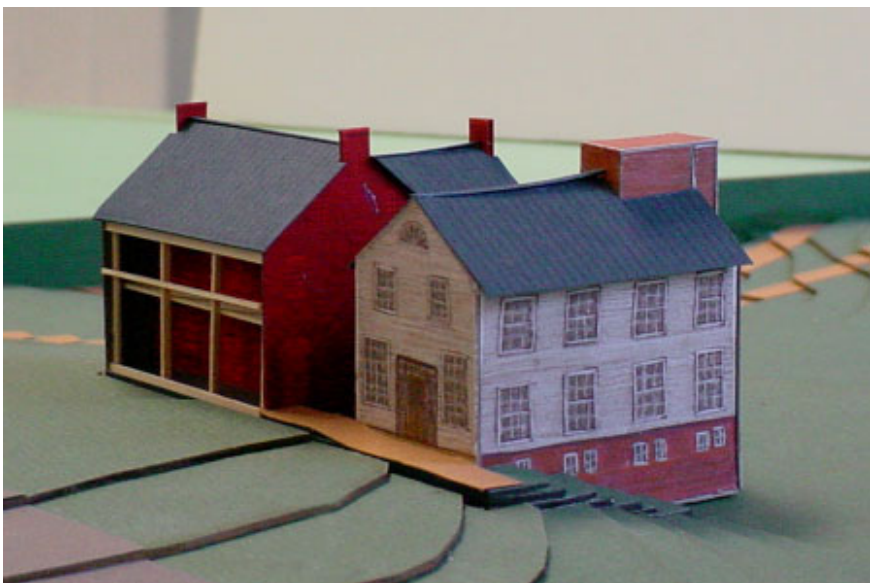
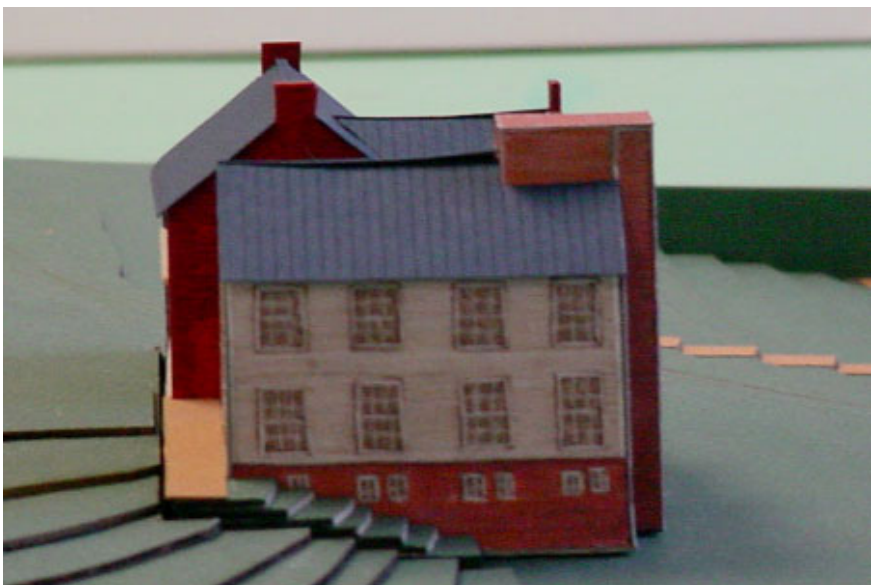


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E. Concept 3: Addition Directly to the Rear

In Concept 3, the existing Brown-Williams House/Store is a “jewel” placed on a “tray” at the basement level. This “tray” allows the building to remain the focal point and to retain its place of prominence in the landscape while providing needed administrative space for the Salem Museum on a single level. The precedent for this design is Thomas Jefferson’s Monticello where low wings extend from the main building. These wings do not detract from the majesty of the main building. Their flat roofs provided a place for Jefferson to stroll and survey his land from above. Small buildings at the ends of the wings completed the view and provided additional rooms - one was Jefferson’s “honeymoon cottage”.

Essentially, the basement of the Brown-Williams House/Store is extended to create a large, green,



Monticello showing wings to the rear. From Llewellyn, pp. 86-87.



One of the wings at Monticello leading to the “honeymoon cottage”. From Lautman, plate 51.



The Main Street, or south, elevation shows the retained prominence of the Brown-Williams House/Store in the landscape. Two small gazebo-like structures are visible on either side providing additional focus to the addition.



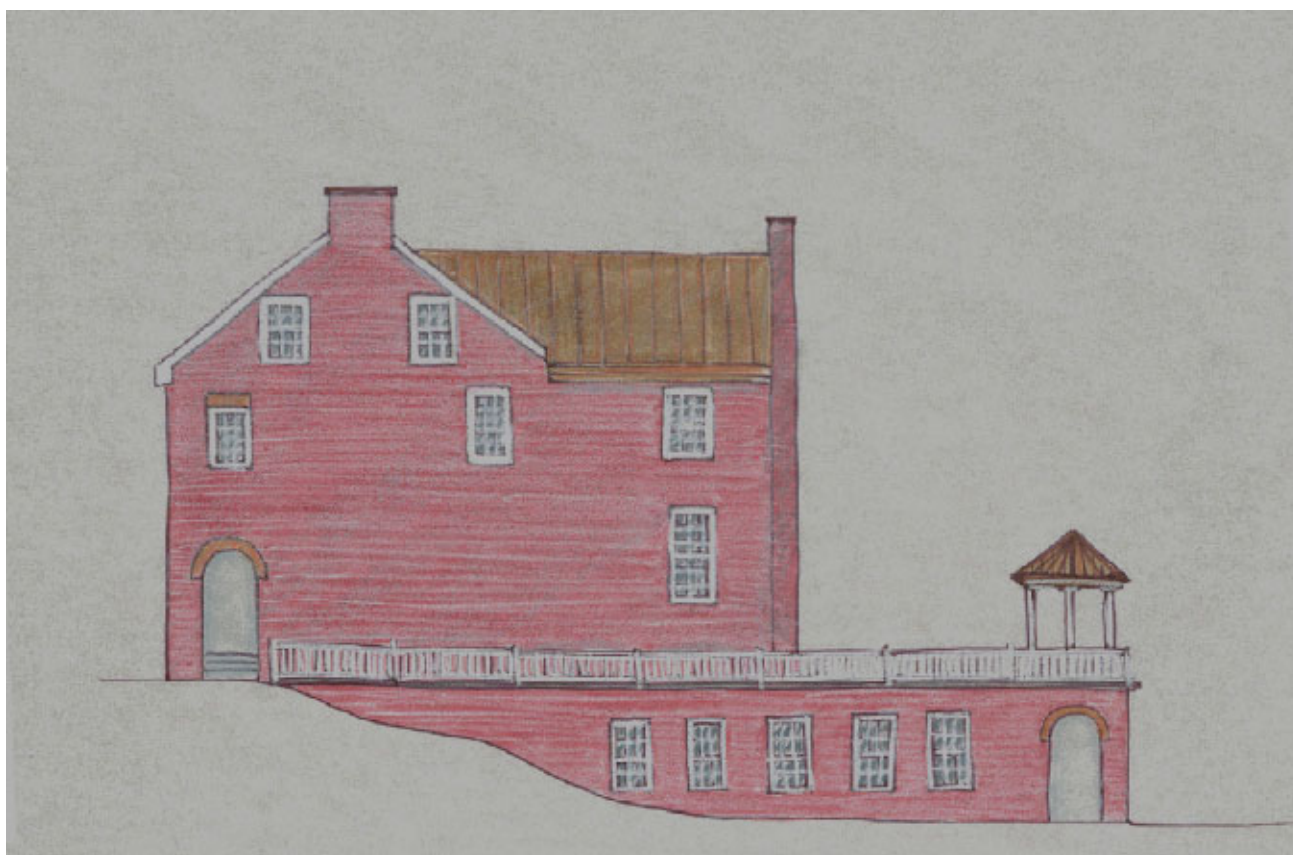
An example of a landscaped rooftop or "green" roof including paths, water features, and vegetation. From <http://www.greenroofs.com/803%20Construction%20S>.



Site plan showing a second set of gazebos in the landscape creating additional exterior meeting space and garden opportunities.

terrace at the first floor level of the existing building. From the Main Street facade, the building appears as it has since its move to Longwood Park, however, the lawn appears to extend further to the rear of the lot at the same elevation as the front lawn rather than sloping downward behind the building. The roof of the new addition would be planted to create a landscaped garden space. For more information regarding "green" roofs such as those on the Ford Motor plant and Chicago City Hall, please see Appendix F.

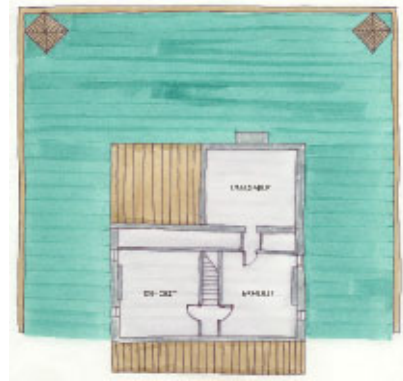
To either side of the front porch, a small gazebo is visible in the distance as is white protective fencing similar to that of the existing building's porches. These gazebos invite visitors to explore the site and stroll along the roof of the addition to experience the cozy gazebos and see the view. The structures would also provide a wedding or reception focal point. The view from this level is to a ground level, landscaped



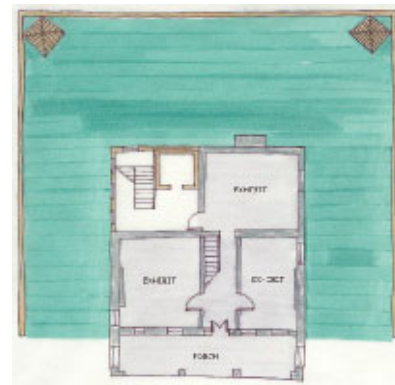
The parking lot, or east view, shows the new addition with a gazebo topping access to the entry colonnade. The area surrounding the gazebo is landscaped garden space.

space, echoing the above and flanked with two more gazebos. Paths surrounding the site help to enclose the space while the gazebos focus views and create smaller spaces within the larger expanse.

While entry to the Salem Museum can be gained through the existing front door of the Brown-Williams House/Store, a colonnade, visible from the parking lot and Longwood Park, announces the preferred entry to the building at the lower level. Upon entering the lower level, the elevator and stairs are immediately accessible, while the gift shop and reception area are immediately to the left enabling staff to monitor those who enter the building. Staff offices are immediately behind the gift shop area and provide access to the existing Brown-Williams House/Store basement where workspace and artifact storage are located. The offices are also accessible from the exterior of the building for fire safety and easy access. The conference room is



Attic plan.



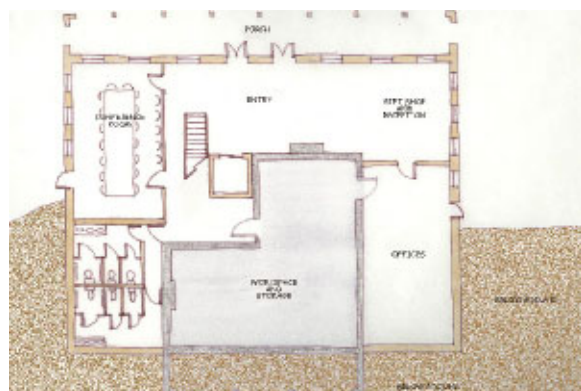
Floor 2 plan.



The rear, or north, elevation, shows the colonnaded entry to the new addition. The Brown-Williams House/Store remains prominent in the landscape.



Floor 1 plan.

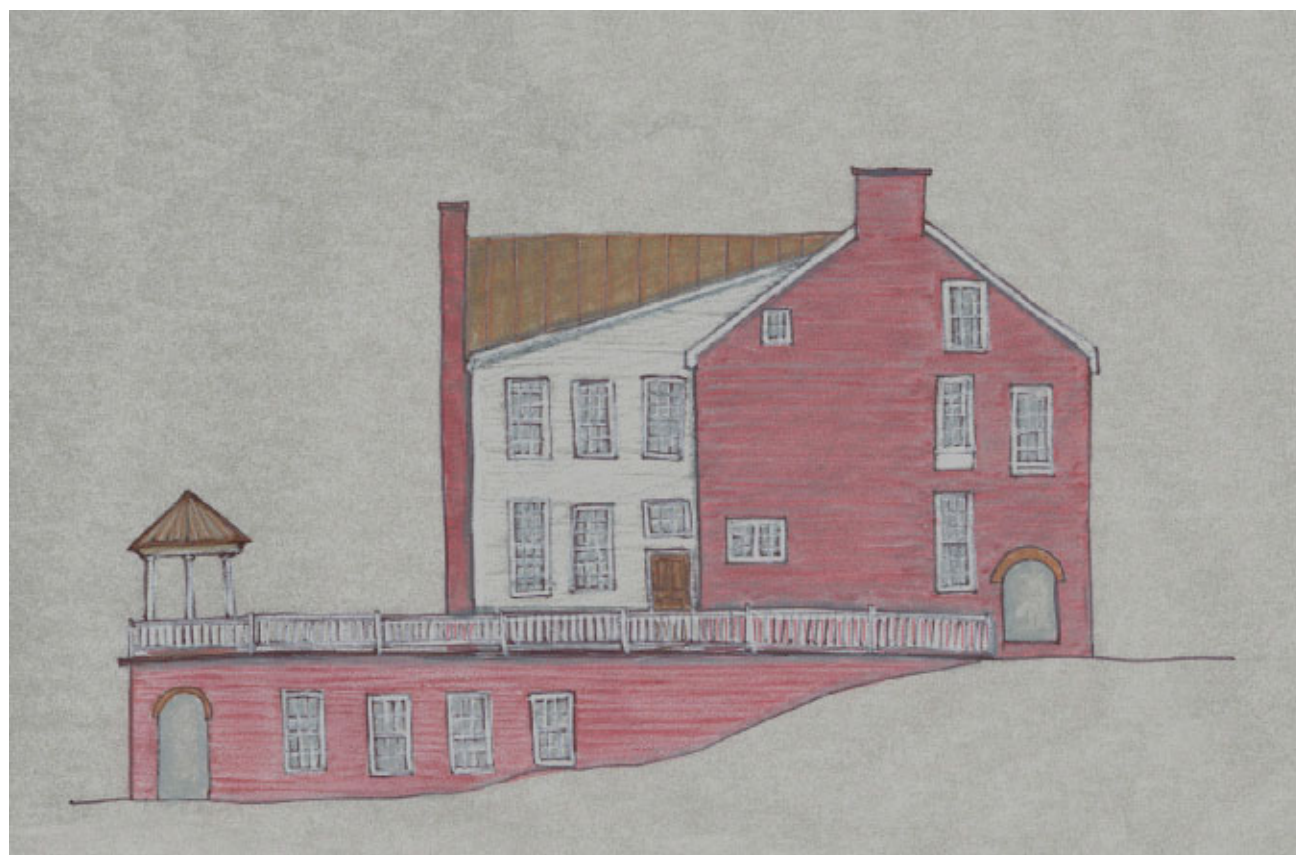


Basement plan.

located to the right of the entry also with exterior access for fire safety and to enable access to the conference room only after hours. Restrooms are located to the rear of the building, behind the conference room and stairs.

No new penetrations are required in the existing building; the existing basement doors to the exterior and to the stairs are used to access the new building. The stairs and elevator are placed within the slightly enlarged and reoriented existing stair addition providing access to the first and second floor exhibit spaces of the existing building. The attic space does not meet fire code or accessibility requirements due to its single stairway access.

Concept 3 adds approximately 2,800 square feet of usable space to the Salem Museum at the basement level. The square footage could be easily increased at design time if additional area is required.



The western elevation, visible from Longwood Park, shows that the existing stair addition has been enlarged to accommodate the elevator.

Addition Directly to the Rear



Thomas Jefferson's Monticello, wing



Thomas Jefferson's Monticello, the roof of a wing

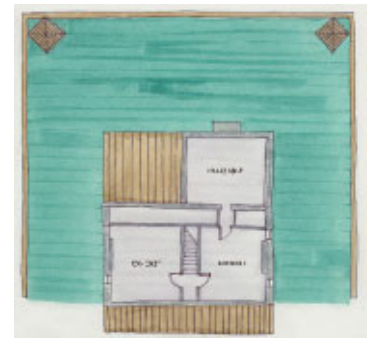


Mountain Equipment, Toronto, rooftop meadow landscape



Features

- ♦ The historic Salem Museum is "jewel" placed on a "tray" or the focal point of the museum complex.
- ♦ From the Main Street side, the addition is an extension of the lawn - a landscaped roof space with 2 gazebos.
- ♦ A colonnade announces entry to the building at the lower level.
- ♦ The lower landscape echos the upper landscape with 2 more gazebos and paths enclosing the space.
- ♦ The gazebos focus views and create smaller spaces within the larger expanse.
- ♦ The precedent is Monticello. The roofs of the wings provided a space for Jefferson to survey his land. A small building at the end of the wing completes the view.
- ♦ Stair addition enlarged and reoriented to include elevator.
- ♦ 2792 sq. ft. are added at the basement level.



Attic



Floor 2



Floor 1



Proposed View from Main Street and the Lynchburg Salem Turnpike (South Elevation)



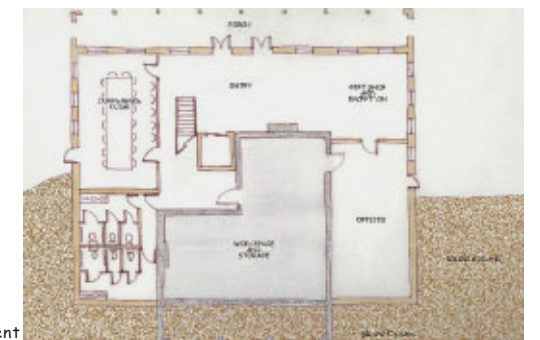
Proposed View from Salem Museum Parking Lot (East Elevation)



Proposed View from Nathaniel Burwell Cemetery (North Elevation)



Proposed View from Main Street Travelling East (West Elevation)



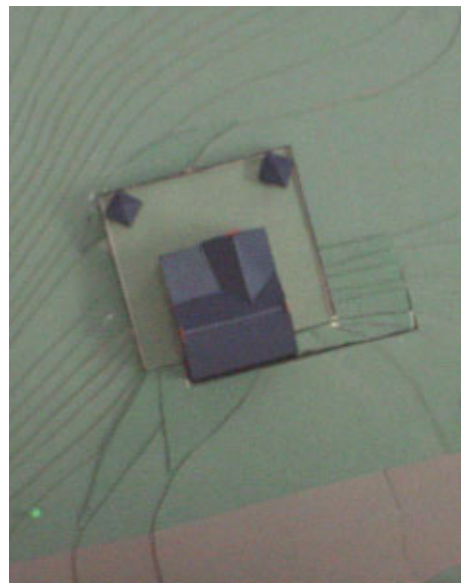
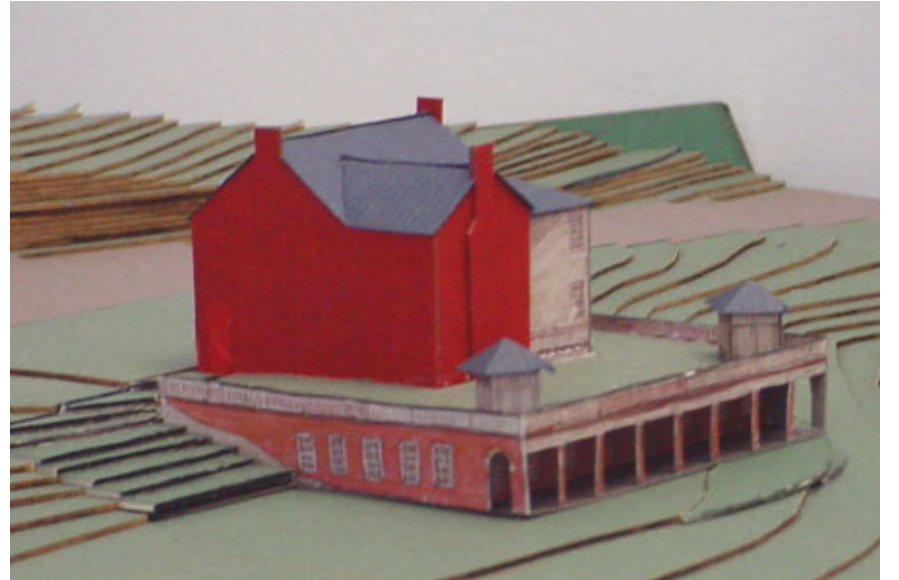
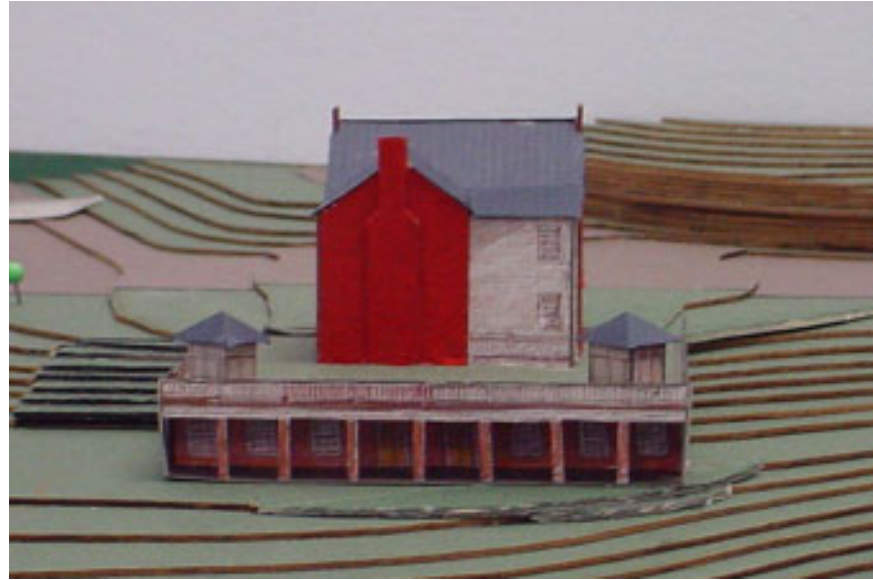
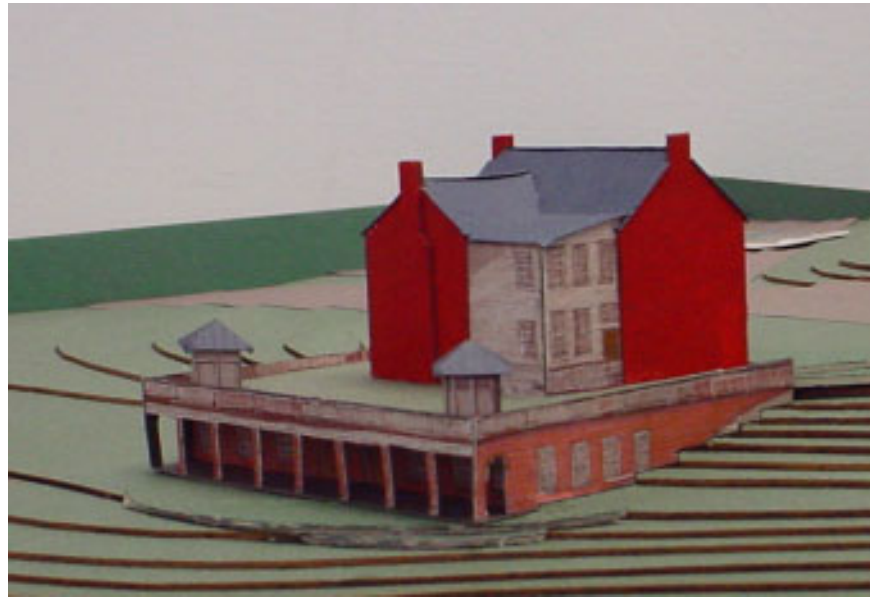
Basement

Conceptual Design Phase 2

Addition Directly To the Rear
(Concept 3)

Salem Museum
Salem, Virginia

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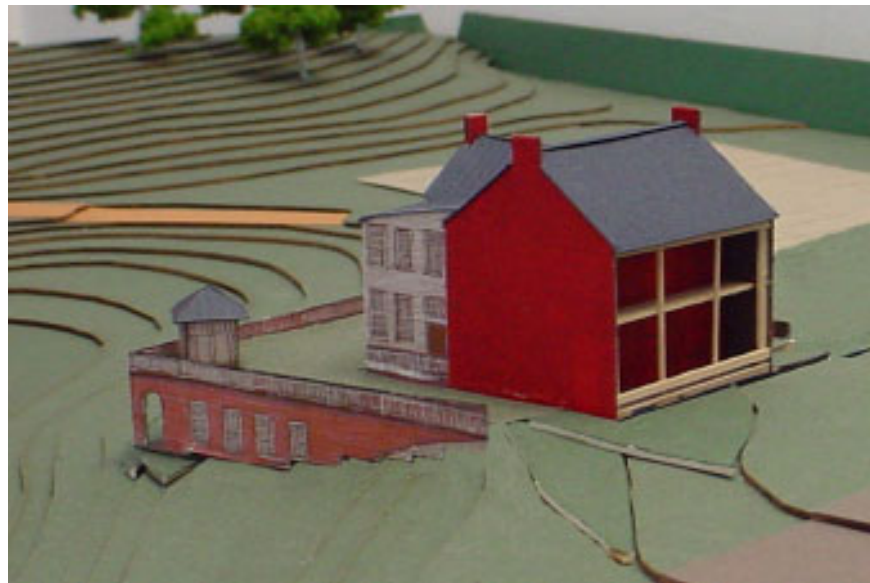


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F. Client Feedback

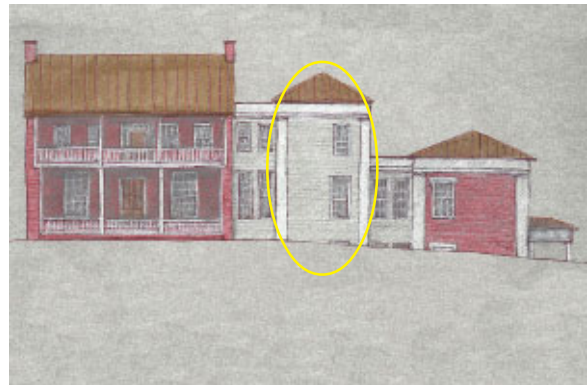
The client had general concerns regarding the conformity of the concepts to the Brown-Williams House/Store's existing National Register listing. While Appendix B provides some guidelines regarding additions to historic structures, the local Virginia Division of Historic Resources representative should be contacted for further guidance. A non-conforming addition could result in the Brown-Williams House/Store's removal from the National Register of Historic Places.

1. Concept 1: Addition To the Rear and Offset Towards the Parking Lot

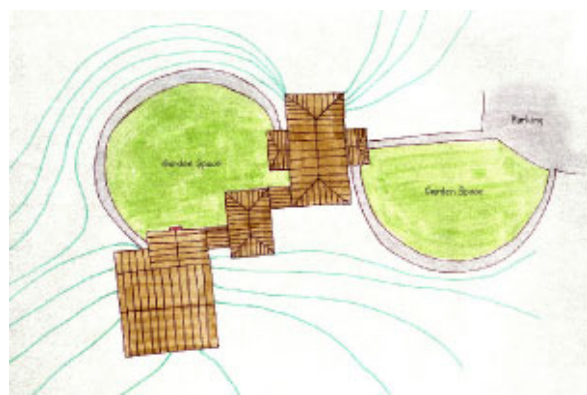
While the clients thought that the concept flowed well, they were concerned about the asymmetrical windows on the Main Street facade that are necessary due to the location of the elevator in the central building. They were also concerned about the large, circular handicapped ramps used as landscape elements and asked if the entries could be placed at ground level eliminating the need for ramps. Additionally, the clients requested that the row of trees remain at the east side of the parking lot to retain a buffer between the museum and the tennis courts and other parts of the park.

2. Concept 2: Addition To the Right in a Streetscape

There was a concern that if the main entry remained through the Main Street entrance of the Brown-Williams House/Store that the building would not be easily entered. These concerns were mitigated by the rear entry between the elevator and stairs enabling easy accessibility and access to the elevator. The clients liked the idea of a cathedral ceiling in the top floor of the addition with a half window to add extra light. They were concerned, however, about drainage, particularly in the breezeway section housing the elevator because of the downward slope towards the building.



The Main Street facade of Concept 1 showing the asymmetrical facade of the central building.



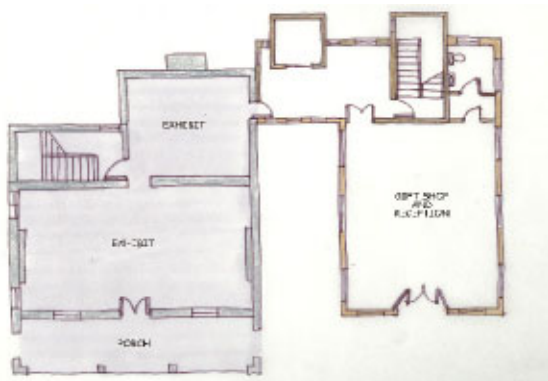
The site plan for Concept 1 shows the two curved ramps creating garden spaces in the landscape as well as accessibility to the porch that is accessed by several steps.



The Main Street facade of Concept 2 shows the main entry and the half window adding natural light to the second floor of the addition.



The side and front elevations of the lost Intervale building used in the requested concepts 2a and 2b.



The first floor plan for Concept 2 shows the connection between the existing and new buildings as well as locations of elevators and fire stairs that must be designed in Concepts 2a and 2b.

The clients requested that CDAC sketch this concept with Intervale in two different orientations: one with the main facade of Intervale facing Main Street, the other with the main facade of Intervale facing the parking lot. Because these were just sketches to give the client an understanding of how these alternatives might look, they have not been fully designed and, as such, do not necessarily work in plan or other elevations.

Concept 2a: Streetscape with Addition Similar to Intervale with Facade to Main Street

In this alternative, the addition similar to Intervale is placed next to the Brown-Williams House/Store in the streetscape. Because of its broader features, this re-created structure begins to compete with the existing historic building for precedence in the facade. Due to the requirements to connect the



Concept 1's Main Street facade shows the new Intervale-like building's broad features competing for attention with the historic Brown-Williams House/Store.

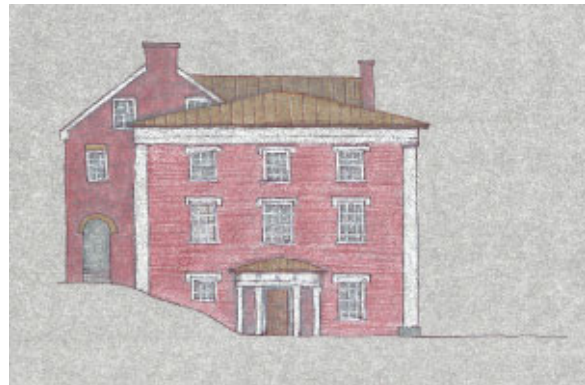
buildings, make them accessible, and include the proper fire exits, further design work, including full exploration of all facades and floor plans, is necessary to make this alternative viable. For example, the parking lot view shows the narrowness of Intervale, necessitating a change in the connection between the old and new buildings and a change in the proposed location of the second fire stairs. Furthermore, the slope of the land causes Intervale to become a three story building, making the rear elevation much different than the front.

Concept 2b: Streetscape with Addition Similar to Intervale with Side to Main Street

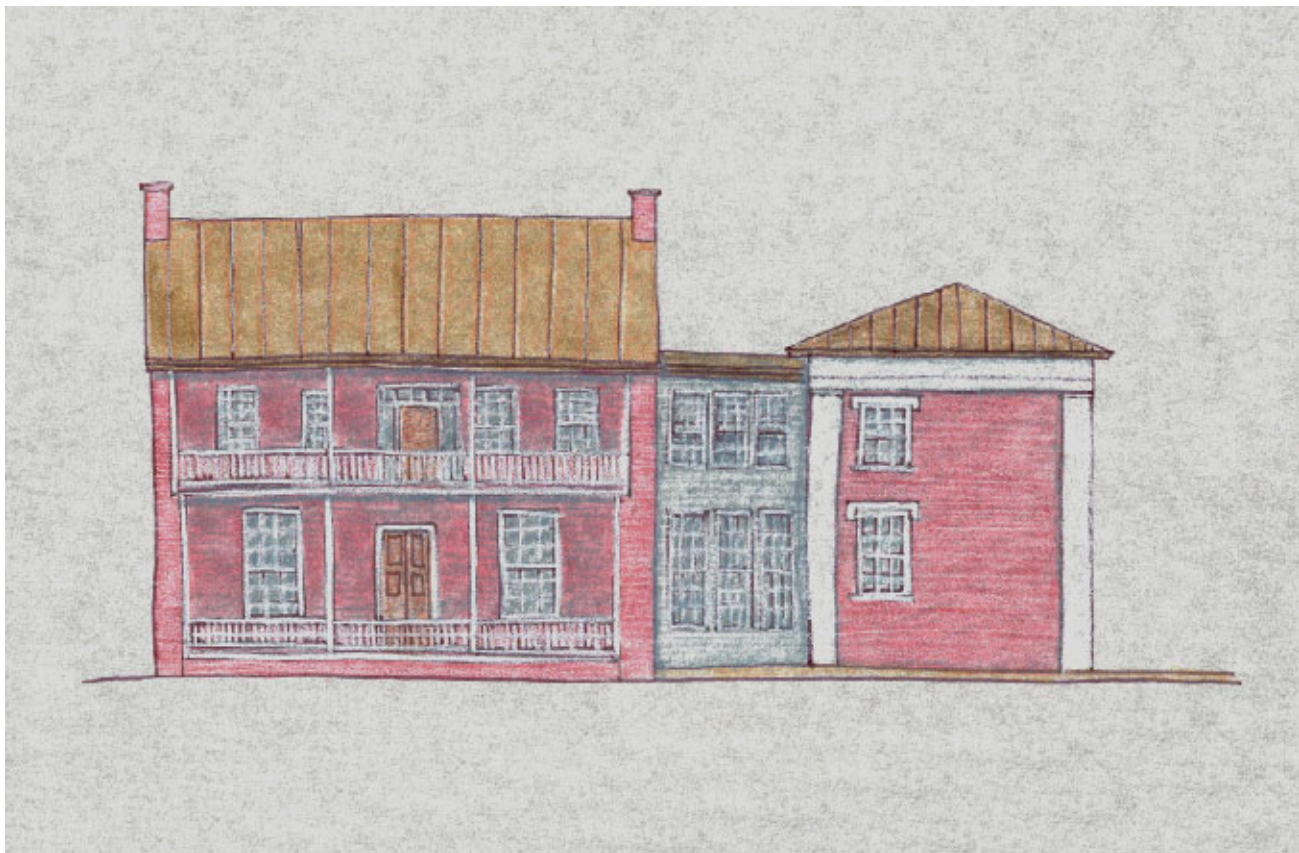
The second requested alternative places the addition similar to Intervale so that its side faces Main Street and its main facade faces the parking lot. Here, if the building is to be two stories high facing Main



The view from the parking lot of Concept 2a shows the difficulty created by the narrowness of the Intervale-like structure.



If the Intervale-like building is two stories on the Main Street facade, it becomes three stories on the parking lot facade, thus no longer resembling Intervale.



The Main Street facade of Concept 2 shows the two story, asymmetrical side view of the Intervale-like addition.



The Main Street facade of Concept 3 retains the prominence of the Brown-Williams House/Store while creating an outdoor landscaped area on the roof of the addition.



The rear, or north, elevation of Concept 3 shows the upper level green roof for reception space and the lower level colonnade that the client would like to see with arches.

Street, then, do to the slope of the land, the facade facing the parking lot will be three stories high. The building, then, is no longer a replica of Intervale. It is also unclear where the additional fire stairs would be added in this alternative.

3. Concept 3: Addition Directly to the Rear

The clients generally liked this alternative, but were concerned about the cost of creating a flat roof that could support vegetation and engineering required to keep the roof from leaking. They thought the plan would create a nice area for weddings and receptions and to generally view the surrounding area. A suggestion was made to create arches in the colonnade similar to the arched entry to the porch of the Brown-Williams House/Store.

Addition to the Right in a Streetscape: Alternative Designs

Design Presented October 20, 2003

Addition is Similar to Neighboring Building in Beyer Painting



Beyer painting shows Brown-Williams House/Store in original streetscape.

Requested Alternative 1:

Addition is Similar to Intervale with Facade to Street



Comments Regarding Requested Alternative 1:

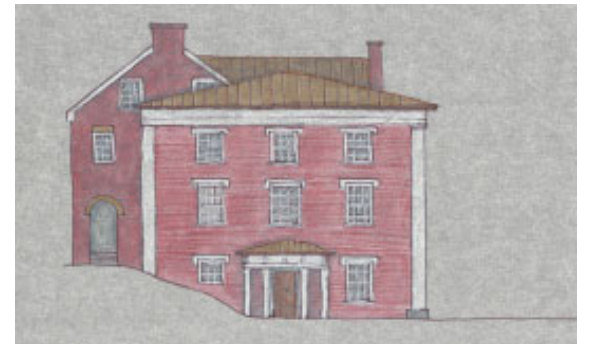
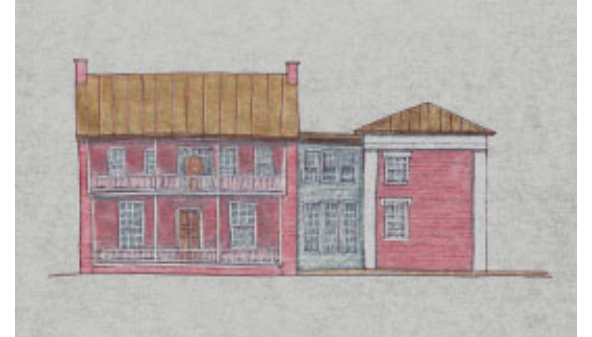
- Due to the slope of the land, Intervale would be 2 stories in front and 3 on the other facades.
- Intervale is quite narrow. The design of the connector would need to be changed or Intervale set farther back from the street for the connection to be made between the existing building and the new addition using the line of windows over the current basement door.
- It is unclear where the additional fire stair would be added in this alternative.
- Further design is necessary to make this alternative work. The main facade may seem attractive, but, due to the requirements to connect the buildings, make them accessible, and include the proper fire exits, this is not the complete picture. All elevations and plans need to be designed for this alternative to be viable.

As requested in a meeting on 20 October 2003, CDAC developed two additional streetscape designs that reflect how the Intervale building might look situated to the right of the Brown-Williams House/Store facing Main Street and facing the existing Salem Museum parking lot. Following are general notes regarding the two additional alternative designs:

- More must be considered than just how the Main Street facade looks in the streetscape. The site is sloped to the rear so that a building that appears to be 2 stories high from the front, will be 3 stories high in the rear.
- As requested by the client, floor plans and elevation drawings have not been generated for these two alternatives. If one of these designs is preferred, such plans are necessary however to make sure that the design would include the necessary fire exits, elevator, and spaces requested.
- The Brown-Williams House/Store and Intervale have different proportions (floor-to-floor heights) making it difficult for the buildings to fit together in a coherent manner.
- A lost building should not be reconstructed unless it is essential to the public's understanding of a particular time period or historical event. Nor should a building be reconstructed if insufficient documentation, including photographs and measurements exists, to ensure an accurate reproduction.
- Intervale was located in an estate-like setting. It was not originally on a street located close to other buildings. Hence, portraying Intervale as a Main Street building is inaccurate and historically incompatible to the Brown-Williams House/Store which houses the Salem Museum, and is not recommended by CDAC.

Requested Alternative 2:

Addition is Similar to Intervale with Side to Street



Comments Regarding Requested Alternative 2:

- Due to the slope of the land, Intervale would be 2 stories in front and 3 on the other facades. This means that if the side of Intervale facing the street is 2 stories high, then its main facade facing the parking lot, must be 3 stories. The building, then, is no longer Intervale.
- It is unclear where the additional fire stair would be added in this alternative.
- Further design is necessary to make this alternative work. All elevations and plans need to be designed for this alternative to be viable.



Conceptual Design Phase 2

Addition to the Right in a
Streetscape Using and Intervale-like
Building for the Addition
(Concepts 2a and 2b)

Salem Museum
Salem, Virginia

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G. CDAC Concerns

The CDAC team expressed concerns about cost, engineering issues, and the Intervale-like addition that are worth reiterating at this time.

1. Cost Issues

The client inquired about the implementation cost of various concepts or which concept would have the greatest cost. CDAC does conceptual designs and does not have estimating capabilities. CDAC works with the client to create a design that meets the client’s programmatic and aesthetic needs. Once the client chooses a design alternative that is most appealing, that design should then be taken to a registered architect for refined design, construction drawings, and cost estimates. The client can then work with the architect to determine if and how building costs can be reduced.

2. Engineering Issues

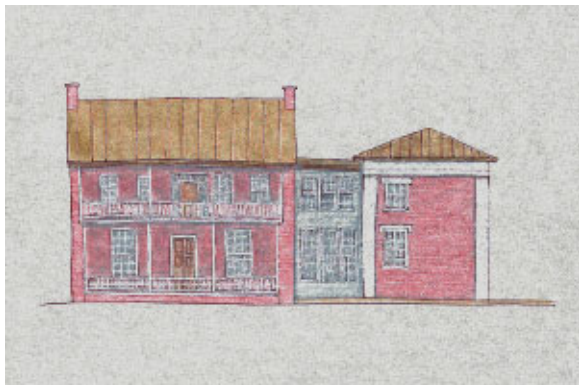
Any of CDAC’s designs chosen by the client and taken to a registered architect will be further refined. Issues such as the possibility of leaks via a flat roof or slopes draining water into the building will be referred by the architect to a professional engineer. When engineered and constructed with care, flat roofs and sloping landscapes should not cause water to enter a building. A green roof may even aid in water issues, because the water remains on the roof to feed the vegetation, rather than running off into the landscape or pooling on the roof. Additionally, the vegetation covers the roofing material, protecting it from decay from weathering and ultra-violet radiation.

3. Intervale

As mentioned earlier in this document, Intervale was built in an estate setting with plenty of surrounding open space. Reconstruction of Intervale in this setting is inaccurate and historically incompatible to the Brown-Williams House/Store. It was not built in a Main Street setting where the buildings are much closer together. If the building is to be reconstructed, it is not appropriate to do so as an addition to the Salem Museum, but should be recreated on its own site or one similar. Furthermore, a lost building should not be reconstructed unless it is essential to the public’s understanding of a particular time period or historical event. Nor should a building be reconstructed if insufficient documentation exists, including photographs and measurements, to ensure an



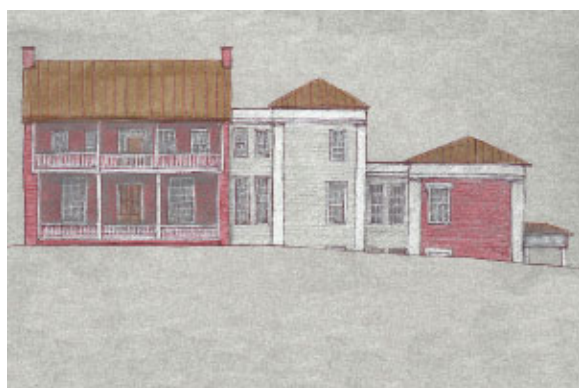
This view of a rear and side of Intervale shows the estate-like setting the building inhabited.



Concept 2b shows what appears to be the two story Intervale-like addition in the Main Street facade with the rest of the building hidden by the slope of the land.



The parking lot view of Concept 2b shows what becomes a three story building no longer resembling the lost Intervale building.



Concept 1 shows the Intervale-like addition being a story lower than the existing building so that its main facade on the parking lot side is similar to the lost Intervale building.



Intervale becomes proportionally incorrect due to the differences in heights between the floors of it and the existing building.

accurate reproduction. Appendix A has more details regarding the reconstruction of no longer existing buildings.

More must be considered than whether a building similar to Intervale would look appropriate in any of these concepts. The slope of the land surrounding the Brown-Williams House/Store differs greatly from the original siting of Intervale. This means that if the Intervale-like building is the same height as the existing Salem Museum, as in Concepts 2a and 2b, it will need to have three floors. This third floor creates a building that is not like the original Intervale and so, begs the question, why should Intervale be re-created. If the Intervale-like building is on a lower level than the Brown-Williams House/Store, as in Concept 1, this creates another dilemma. These two buildings are of different proportions meaning that the floor-to-floor heights do not appear to be the same for the first floor of the existing Salem Museum and the second floor of Intervale. This means that the building must be stretched or expanded to create the matching heights resulting in an Intervale-like addition that is out of proportion.



A "correct" view of the main facade of Intervale based on measurements estimated from photographs that were taken just before the building's demise.

Low wall of evergreen shrubs
clearly separating the Museum from the park

Gazebos, accessible via brick paths,
mark corners of site

Herb
garden

V.

Final Concept

Low seat walls with planters

Low seat walls with planters

Entry

Green roof with gazebos

Entry

Opportunity
for flower
garden

Opportunity
for flower
garden

Entry

Opportunity
for flower
garden



Frankie Robbins and another Salem Historical Society member discuss the merits of the three, Phase 2 concepts.



A Salem Historical Society member reviews information about the three, Phase 2 concepts.



Salem Museum curator, John Long, and a Salem Historical Society member review the "Addition to the Rear" concept model.



The final concept site plan.

A. Introduction

The three, Phase 2 concepts, "Addition to the Rear and Offset Towards the Parking Lot", "Addition to the Right in a Streetscape", and "Addition Directly to the Rear", were presented at the Salem Historical Society holiday party in December where members were able to view the models and ask questions about the designs. The models were also on display at the Salem Museum for further feedback. The Salem Museum board ultimately chose the "Addition Directly to the Rear" Concept for the final design concept. The final design concept is presented here in text and drawings. Larger scale versions of the drawings are placed at the end of this chapter.

B. Concept

As described in Chapter IV, the final design concept continues to allow the existing historical Salem Museum building to be the focal point of the site by surrounding the Museum (a jewel) with a one story building (the tray). As well as creating an outdoor gathering place for Museum festivities, the green roof of the one story addition creates a place for visitors to view the surrounding Museum site and park. This is a similar thought to the one story "wings" of Thomas Jefferson's Monticello that provided servant facilities below while providing a place for Jefferson to stroll and survey his property from above.

C. Design Description

With a conceptual design, the drawings do not completely describe the design. A narrative can be helpful in understanding the designer's view of a visit to the Museum, describing important features and the feeling of entering the site and building spaces. This section describes a visit to the expanded Salem Museum as envisioned by the designer.

1. Approaching the Site

Whether approaching the Salem Museum by foot or car, from the east, west, or south, the historic Brown-Williams House/Store appears as the focal point in the Museum complex. Sitting at the top of a rise on East Main Street, at the intersection of the Lynchburg Salem Turnpike, the Museum is hidden from view by the trees lining the road until one has almost mounted the hill. Centered on its own green lawn, with small gazebo-like structures flanking the corners, the Museum invites visitors to enter and learn more about the City of Salem.

2. Entering the Site

Entry to the site differs depending on whether the visitor is walking or driving.

a. Foot

Visitors walking from downtown Salem enter the park on a brick sidewalk through a wrought iron gate. A semicircular flower garden fronts the Museum's porch and follows the curve of the path leading to either side of the porch. The leftward path leads to garden areas surrounding and behind the Museum while the rightward path leads to the entry to the Museum via the first floor porch or a further path to the main entry at the basement level.

b. Vehicle

Via automobile, a tree lined driveway marks entry to the Salem Museum site. The trees and different texture of the driveway slow traffic and signal entry to a special place. The driveway widens and splits at a directional sign pointing right to parking for the Longwood Park tennis courts or left to Salem Museum parking. In either direction, drivers cross brick crosswalks, further slowing traffic. A tree-lined



The proposed view of the Salem Museum from the street.



Visitors entering the site by foot would come through the front gate of the wrought iron fence in front of the Salem Museum.



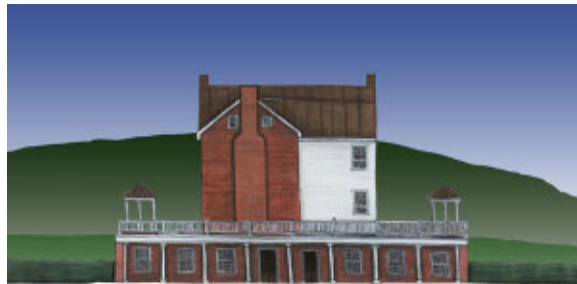
Automobile visitors enter the site via a tree-lined driveway.



An example of the directional signage that could greet visitors entering the Salem Museum site.



The parking lot serving the Salem Museum on the left and the Longwood Park tennis courts on the right.



Entry through the new, lower level at the rear of the Salem Museum is through a columned portico providing glimpses to the interior.



Entry through the front porch at the front door would be the same as in the Museum's current configuration.



A view of the building from the parking lot.

median separates the parking lot, providing shade for parked vehicles. Brick sidewalks surround the parking lot leading to the Museum and tennis courts. Entry to the Nathaniel Burwell Cemetery is at the rear of the parking lot. Upon leaving the car, pedestrians follow a brick pathway passing herb gardens and evergreens. The two evergreens flanking one of the brick pathways from the parking lot can be decorated for the holidays to create a festive entry to the site. Visitors follow the pathway to either the lower, main entry to the Museum or the upper, porch entry.

3. Entering the Museum

Following the brick path to the lower level of the Salem Museum, visitors enter a covered portico that stretches the length of the building. Windows along the pathway provide glimpses to the interior space of the new addition. At the center are two entry doors leading to a grand entry way with direct access to the elevator and stairs as well as the gift shop and reception area.

Visitors can also enter the museum from the front porch at the first floor level. This entry would be through the Brown-Williams House/Store's front door and would be consistent with the historical entry sequence of the building and current entry to the Museum.

4. Visiting the Museum

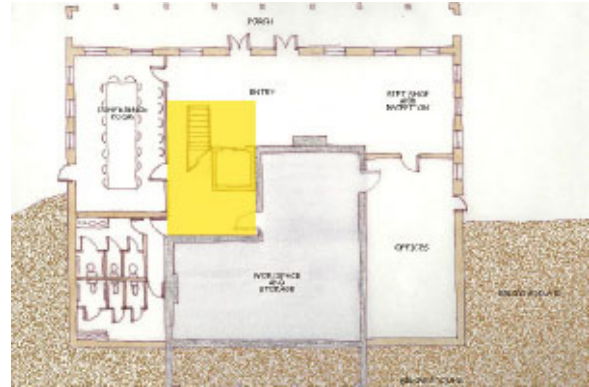
Visitors entering the Museum at the new, lower level could either travel up the stairs or elevator to the first and second floor exhibit spaces or go outside and up the brick path to the front porch to enter the Museum. Exhibit spaces within the historical building would remain as they are now. The exhibit space in the attic, would not have elevator access, but would remain as it is today.

A public conference room on the new, lower level is available for board meetings as well as school groups and other tour groups. This bright room has many windows, but also provides space for a screen to show slides or videos. The room can be accessed from the outside so that it could be used when the Museum is not open. Public restrooms are available next door to the conference room.

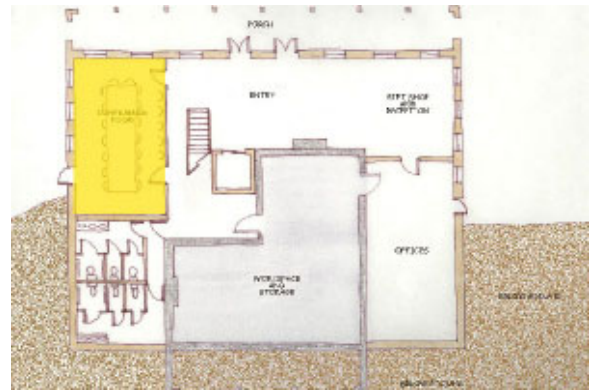
Office space for the director, curator, and docents is placed behind the gift shop and reception space on the new, lower level as well. The offices are accessible from the outside and provide direct access to the workspace and storage space of the existing Salem Museum basement. A second door from the workspace leads to the restroom and conference room area as well as providing access to the elevator for moving new exhibits throughout the building.

5. Visiting the Site

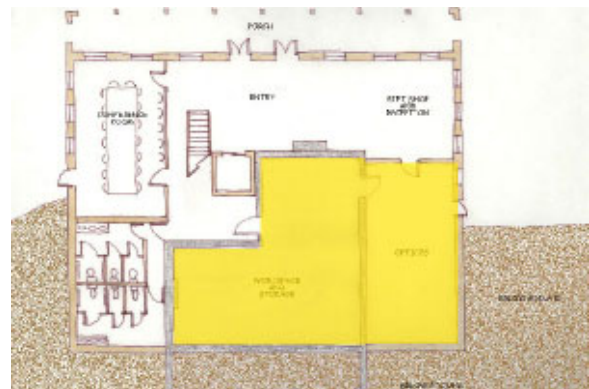
Upon leaving the Museum, a visitor can follow the brick paths around the site to explore the grounds. Flower gardens flank the building. Following the path to the front porch leads the visitor to the roof of the new addition. Planted with grass and flowers, the green roof is surrounded by a white fence similar to that on the front porches of the historical building. The corners are marked with small gazebos, providing shade and visual interest. A visitor can look from here down to the rear part of the site where



The new, lower level addition, showing the location of the stairs and elevator.



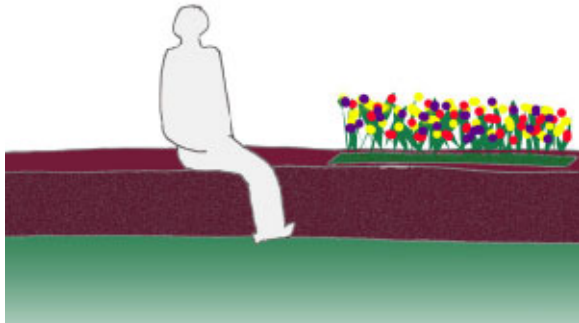
The conference room in the new addition has plenty of natural light from exterior windows.



The new office space and workspace and museum storage in the existing building are connected for ease of access.



The green roof on top of the new addition and surrounding the existing building is a great vantage point.



The brick planter walls provide visual interest while breaking up the large space in the rear of the Museum and providing a place to sit.



Shown is a meadow with flowers growing on a green roof in Canada. The Salem Museum roof would be a more manicured lawn. Image from <http://www.greenroofs.com/803%20Meadows%20Above.pdf>.



A view of the Museum from Longwood Park.



A view to the site from the Nathaniel Burwell Cemetery. What is now an empty green lawn space could be further landscaped to provide structure and outdoor meeting space for parties and weddings.

the brick paths connect to the trails of Longwood Park. Brick walls, low enough to sit on, break up the rear grassy area providing a place to rest. The walls are interspersed with planters providing additional visual interest. Two larger gazebos mark the rear corners of the site, providing focal points and additional shady spots to rest. Surrounding the back part of the site from the rear of the building to the farthest brick pathway, are a low wall of evergreen shrubs. These shrubs are two to three feet high, providing a sense of enclosure, but not blocking the Museum or its visitors from view in such a way that might invite criminal activity.

6. Attending a Party

The expansion to the Salem Museum provides a wonderful place for Museum celebrations or weddings. The green roof becomes a place, close to the Museum, where visitors can mill about, getting drinks and food from stations at the gazebos, and viewing the surrounding Museum site and Longwood Park. The Museum can be accessed through a door on the roof that brings visitors directly to the stairs or elevator. A larger party can spill out to the lower grounds with additional food and drink stations in the farther gazebos and places for party goers to sit on the low brick walls. Further plantings on the roof and in the rear space can provide additional interest and beauty in creating a beautiful outdoor activity space.

D. Comments

Presented here are several comments about the design and things that should be discussed among the Salem Museum board and with the architect when proceeding with this design.

1. Entry Through the Front Door

Though possibly requiring additional staff to be stationed within the first floor entry area to watch and route visitors through the building, it would be unfortunate to lose this historical front door entry. It may be necessary to determine the types of exhibits the Museum will host, to determine whether a primary entry through the front door should be maintained. For example, if an exhibit were to pay homage in some way to the historic Brown-Williams House/Store building's origins, it may make sense to maintain this entry, otherwise it may make sense to keep it as a fire exit only.

2. Size

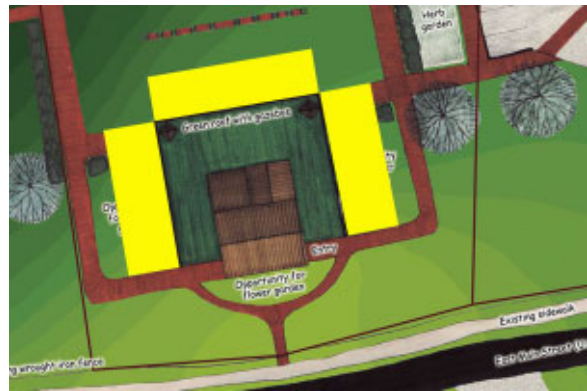
It should be considered in advance how large the addition should be for now and for future needs. While this design keeps the historic building as the focal point of the site, it may be more difficult to extend the Museum later in an equally unobtrusive way. Creating a larger addition now, even if it is not immediately filled, may solve future expansion problems.

3. No Additional Penetrations

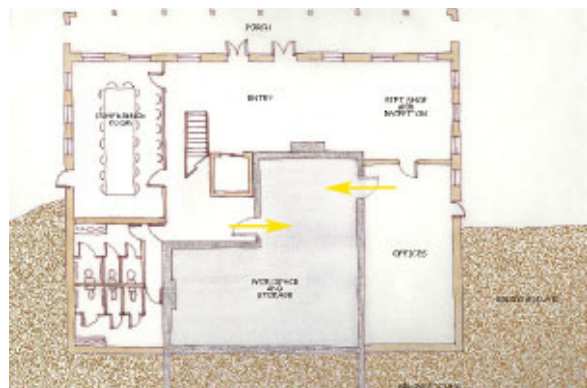
This design only penetrates the existing Brown-Williams House/Store through existing doors. No new holes were put in the building for access. It is important, given the historic character of the building, to use only the existing doors and windows and not create additional, non-historic holes.



The traditional entry to the Brown-Williams House/Store was through this archway onto the porch and through the front door.



If a larger expansion is needed now or in the future, the proposed plan should be expanded now rather than waiting until after the addition is built and new space is needed.



The only penetrations into the existing building are through existing doorways.



An example of grass pavers in a Florida parking lot. Image from <http://floridaturf.com/hillsbo.jpg>.



Monticello's flanking wings provided inspiration for the conceptual design for the expansion of the Salem Museum. Image from Llewelyn, page 60-61.



The slope of the land allows windows within the addition.



The many windows and green roof provide an exciting environment for the Salem Museum moving into the 21st century.

4. Parking

The parking lot is shown as having lines in the proposed site plan only to make the number of spaces clear. A cooler and more environmentally parking lot, would not be asphalt, but grass pavers or gravel. As well as reducing rain water runoff into sewers and heat absorption, a non-asphalt parking lot would help make the transition from the 21st century, busy world of U.S. 460 to the earlier times evident in the Salem Museum.

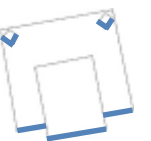
E. Conclusion

Taking a cue from Thomas Jefferson in his design of Monticello's wings, this concept provides an opportunity for the Salem Museum to expand and still keep the existing, historic building as the focal point of the site. The green roof, though often found in Europe, is relatively new to the United States. Creating a roof such as this in Salem, would likely bring visitors interested in seeing this new structure, possibly bringing national recognition to the Museum and the architect. Not only would the green roof be an environmentally sound roofing option, but it would be a wonderful space for outdoor meetings, weddings, and parties. The slope of the land surrounding the Salem Museum which enables the single story addition's roof to be accessible from the first floor level also enables naturally lit, inviting entry, reception, gift shop, and conference room areas within the addition. The new addition truly lets the historic Brown-Williams House/Store continue to be a "jewel" while displayed on the "tray" of the green roof.



Scale: 1" = 10'

0' 1' 2' 4' 6' 10'



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Proposed View from Main Street and the Lynchburg Salem Turnpike (South Elevation)
Prepared for the Salem Museum, Salem, Virginia
July 2004

This drawing is conceptual and was prepared to show approximate location and arrangement of site features and approximate building measurements. It is not intended to replace the use of construction documents by a licensed professional. Appropriate professionals should be consulted before any construction or site work is undertaken. The Community Design Assistance Center is not responsible for the inappropriate use of this drawing.

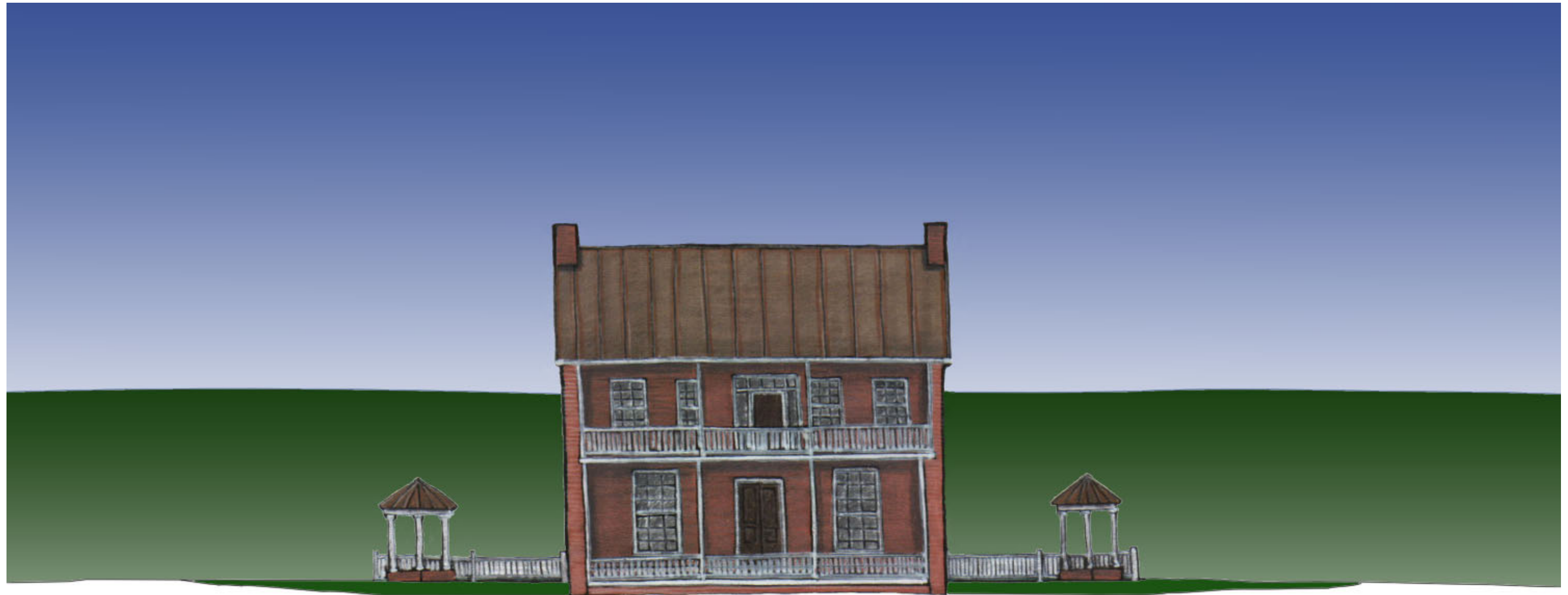
Final Conceptual Design

Addition to the Rear

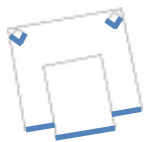
Proposed View from Main Street
and the
Lynchburg Salem Turnpike
(South Elevation)

Salem Museum
Salem, Virginia

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 0' 1' 2' 4' 6' 10'



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Proposed View from Main Street and the Lynchburg Salem Turnpike (South Elevation)
 Prepared for the Salem Museum, Salem, Virginia
 August 2004

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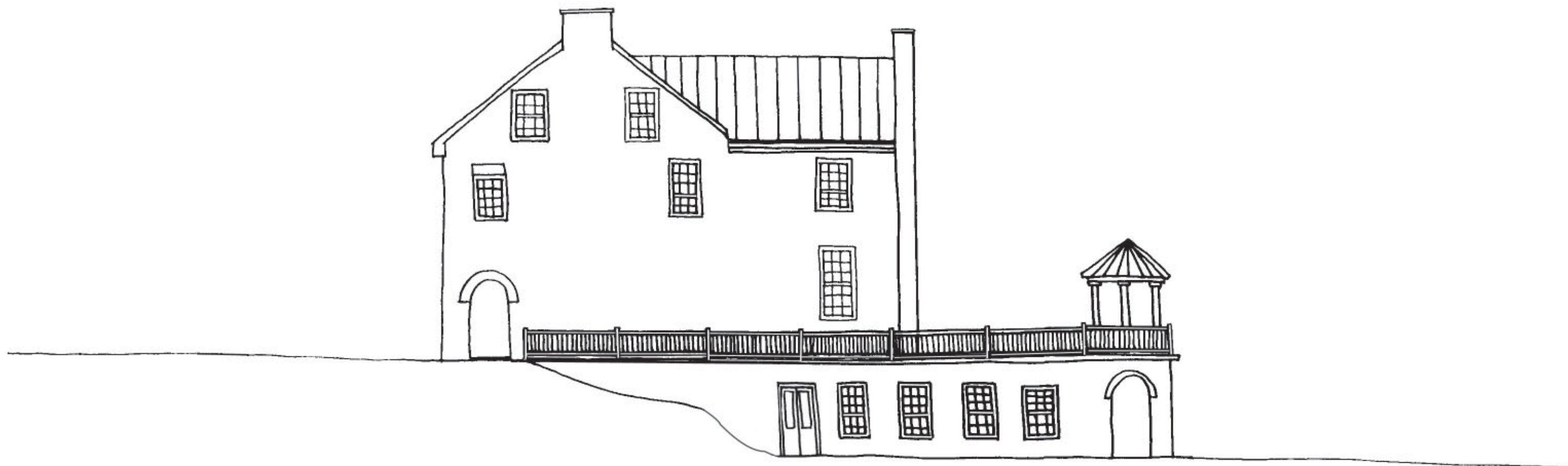
Final Conceptual Design

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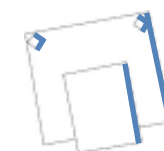
Proposed View from Main Street
and the
Lynchburg Salem Turnpike
(South Elevation)

Salem Museum
Salem, Virginia

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Scale: 1" = 10'



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Proposed View from Salem Museum Parking Lot (East Elevation)
Prepared for the Salem Museum, Salem, Virginia
August 2004

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Final Conceptual Design

Addition to the Rear

Proposed View from
Salem Museum Parking Lot
(East Elevation)

Salem Museum
Salem, Virginia

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Scale: 1" = 10'
 0' 1' 2' 4' 6' 10'

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Proposed View from Salem Museum Parking Lot (East Elevation)
 Prepared for the Salem Museum, Salem, Virginia
 August 2004

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Final Conceptual Design

Addition to the Rear

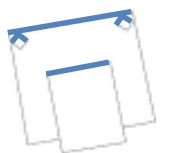
Proposed View from
Salem Museum Parking Lot
(East Elevation)

Salem Museum
Salem, Virginia

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Scale: 1" = 10'
 0' 1' 2' 4' 6' 10'



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Proposed View from Nathaniel Burwell Cemetery (North Elevation)
 Prepared for the Salem Museum, Salem, Virginia
 August 2004

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Final Conceptual Design

Addition to the Rear

Proposed View from
Nathaniel Burwell Cemetery
(North Elevation)

Salem Museum
Salem, Virginia

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Scale: 1" = 10'
 0 1' 2' 4' 6' 10'

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 College of Architecture and Urban Studies
 Virginia Polytechnic Institute and State University

Proposed View from Nathaniel Burwell Cemetery (North Elevation)
 Prepared for the Salem Museum, Salem, Virginia
 August 2004

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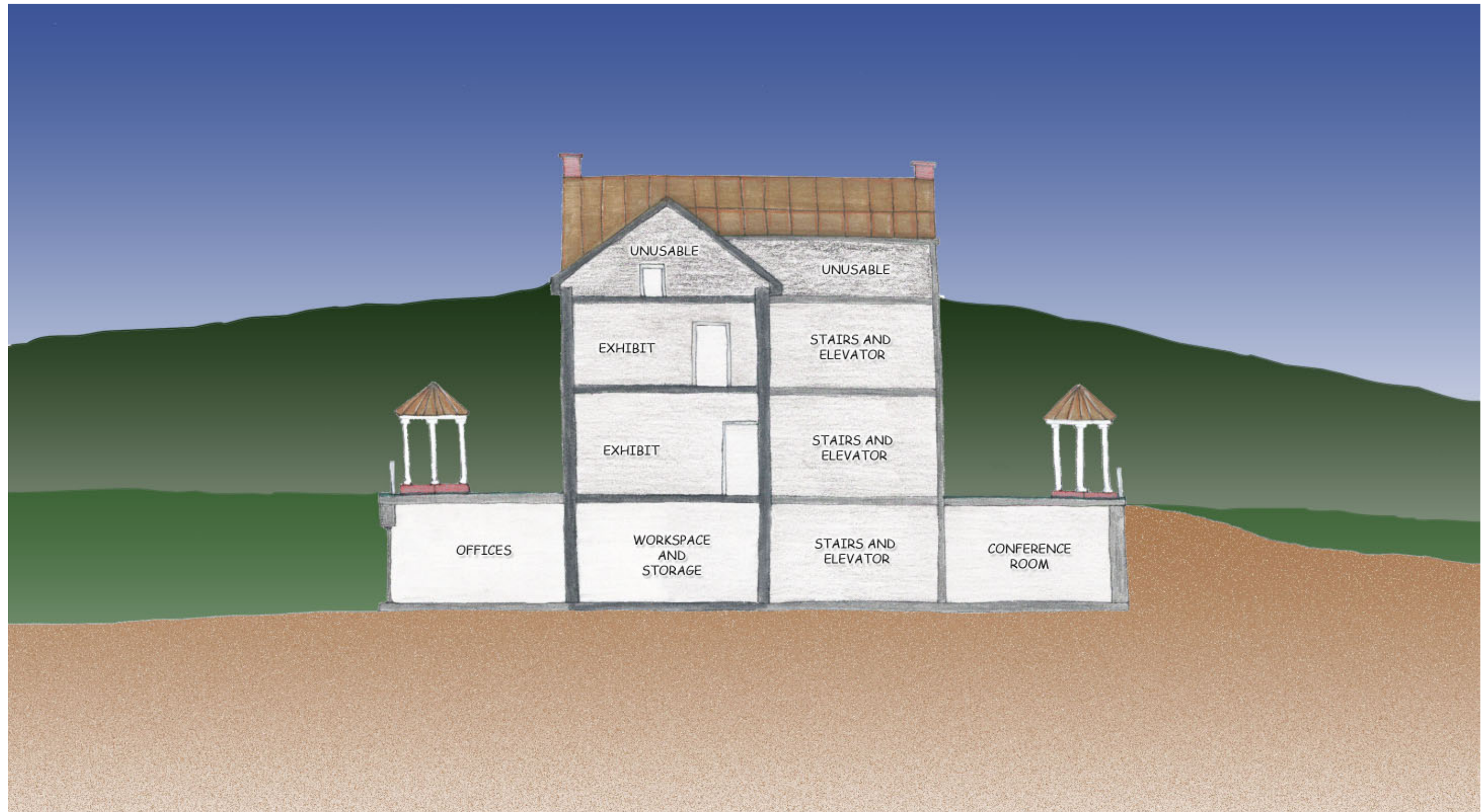
Final Conceptual Design

Addition to the Rear

Proposed View from
Nathaniel Burwell Cemetery
(North Elevation)

Salem Museum
Salem, Virginia

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Scale: 1" = 10'

0' 1' 2' 4' 6' 10'

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College of Architecture and Urban Studies
Virginia Polytechnic Institute and State University

Proposed Longitudinal Section (North Elevation)
Prepared for the Salem Museum, Salem, Virginia
August 2004

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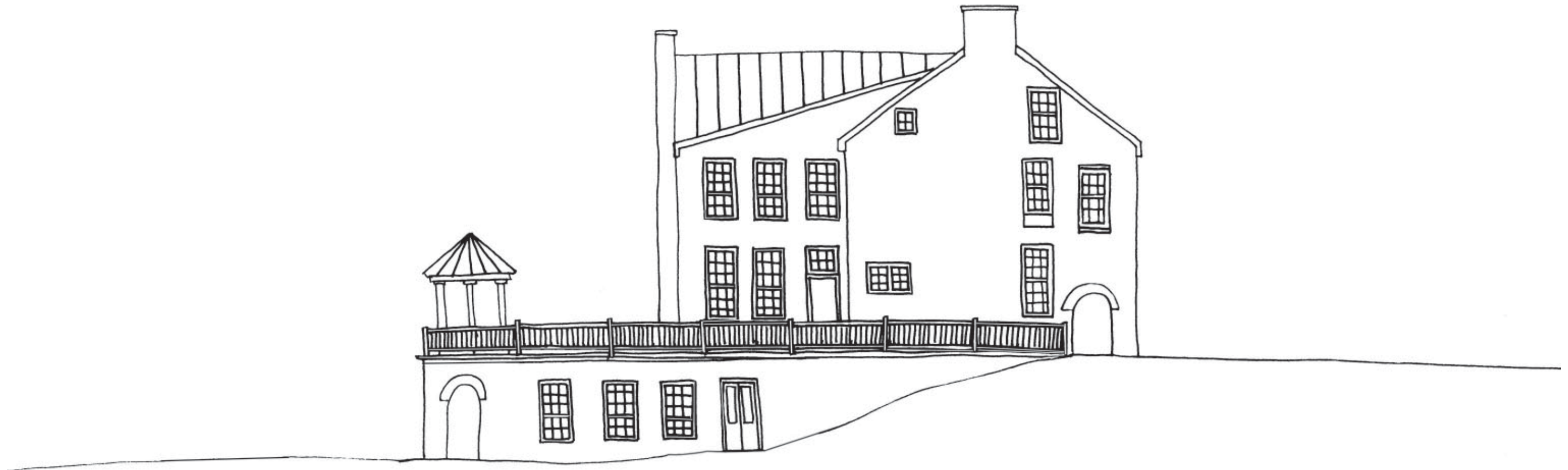
Final Conceptual Design

Addition to the Rear

Proposed Longitudinal Section
(North Elevation)

Salem Museum
Salem, Virginia

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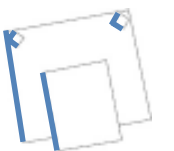
Scale: 1" = 10'



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Proposed View from Main Street Travelling East (West Elevation)
Prepared for the Salem Museum, Salem, Virginia
August 2004

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Final Conceptual Design

Addition to the Rear

Proposed View from
Main Street Travelling East
(West Elevation)

Salem Museum
Salem, Virginia

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 0 1' 2' 4' 6' 10'

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Proposed View from Main Street Travelling East (West Elevation)
 Prepared for the Salem Museum, Salem, Virginia
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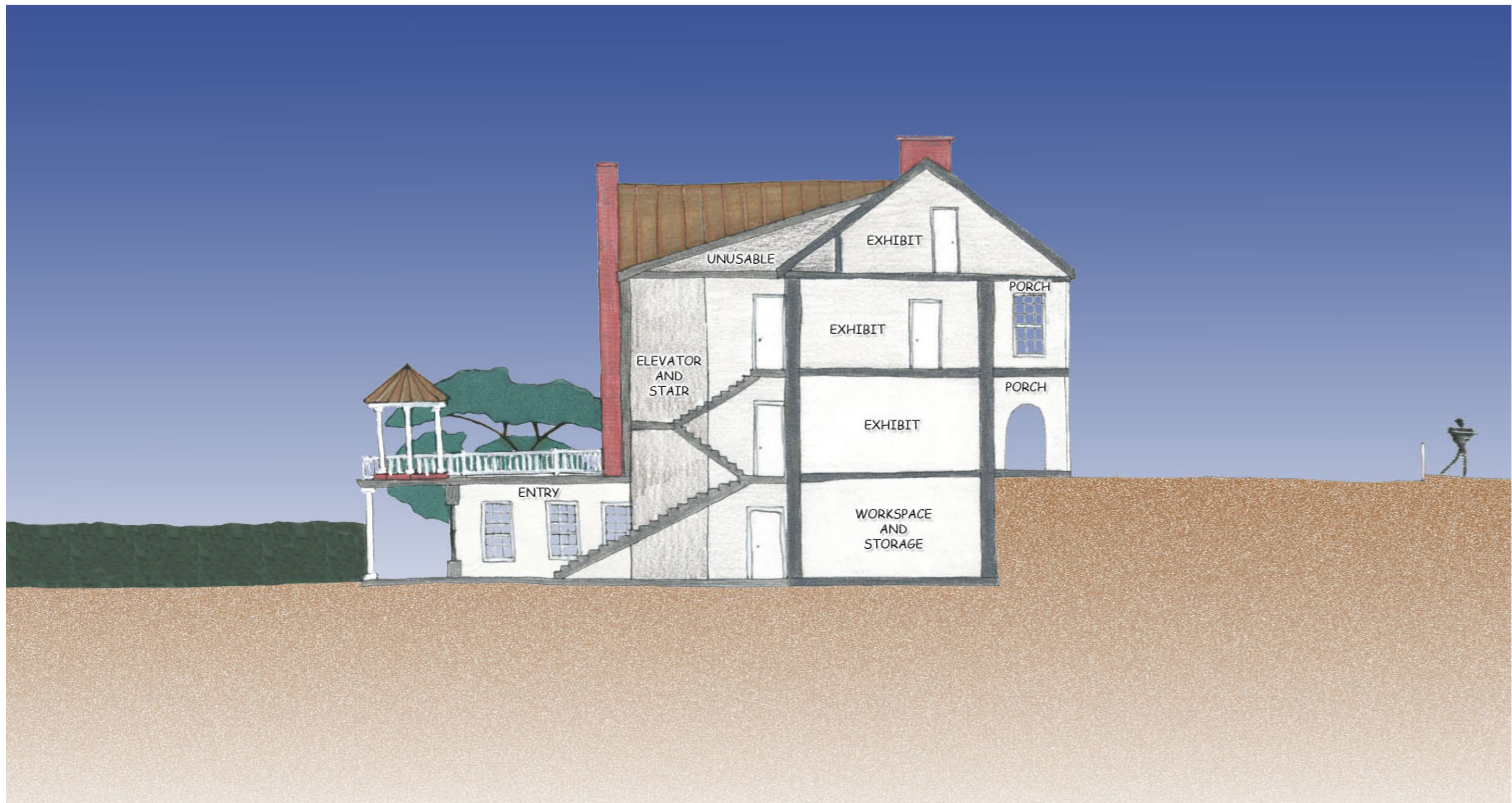
Final Conceptual Design

Addition to the Rear

Proposed View from
Main Street Travelling East
(West Elevation)

Salem Museum
Salem, Virginia

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Scale: 1" = 10'



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Proposed Transverse Section (West Elevation)
Prepared for the Salem Museum, Salem, Virginia
August 2004

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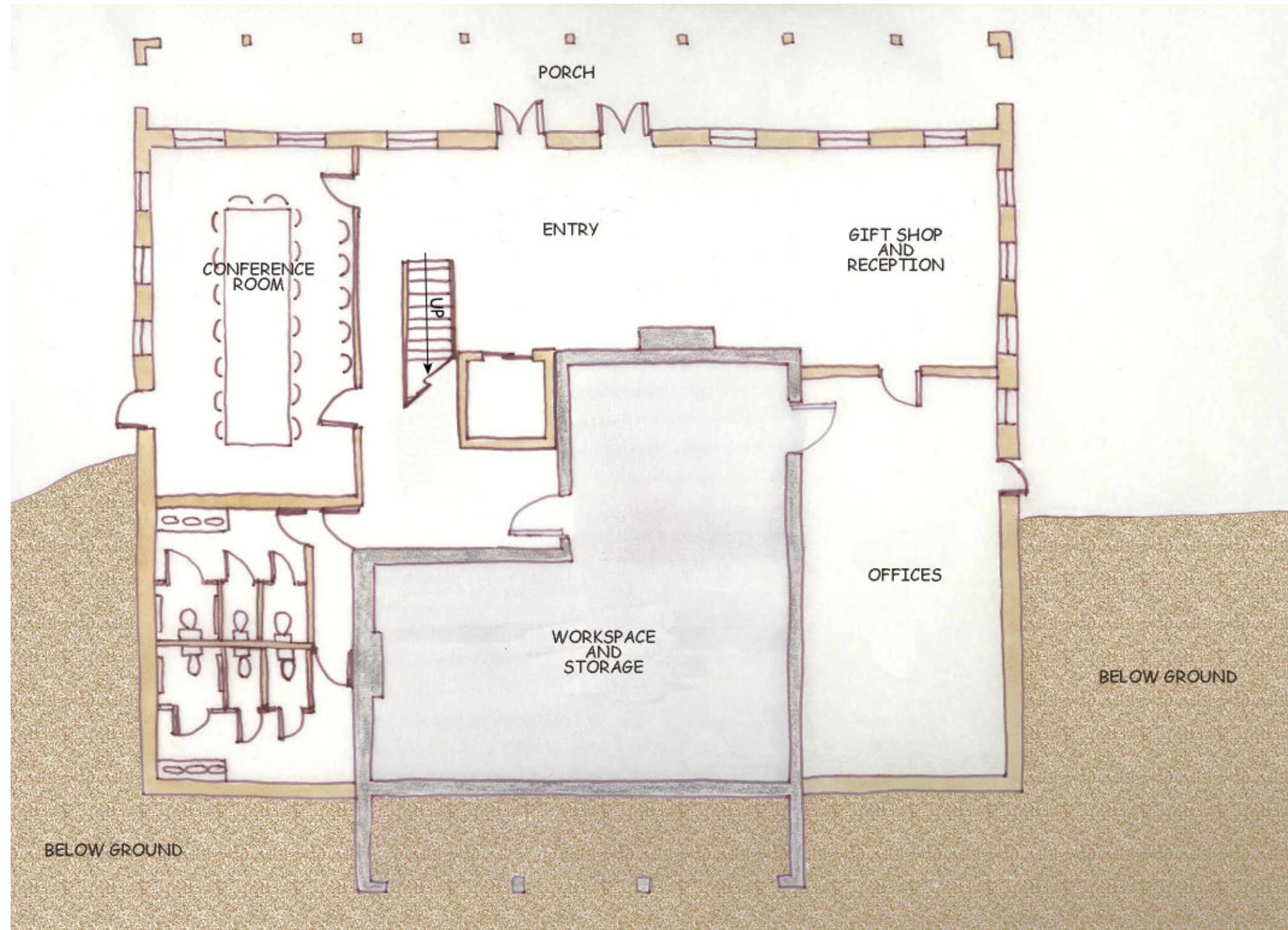
Final Conceptual Design

Addition to the Rear

Proposed Transverse Section
(West Elevation)

Salem Museum
Salem, Virginia

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Scale: 1" = 10'
 0' 1' 2' 4' 6' 10'



Final Conceptual Design

Addition to the Rear

Proposed Basement Plan

Salem Museum
Salem, Virginia

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Scale: 1" = 10'



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Proposed Floor 1 Plan
Prepared for the Salem Museum, Salem, Virginia
August 2004

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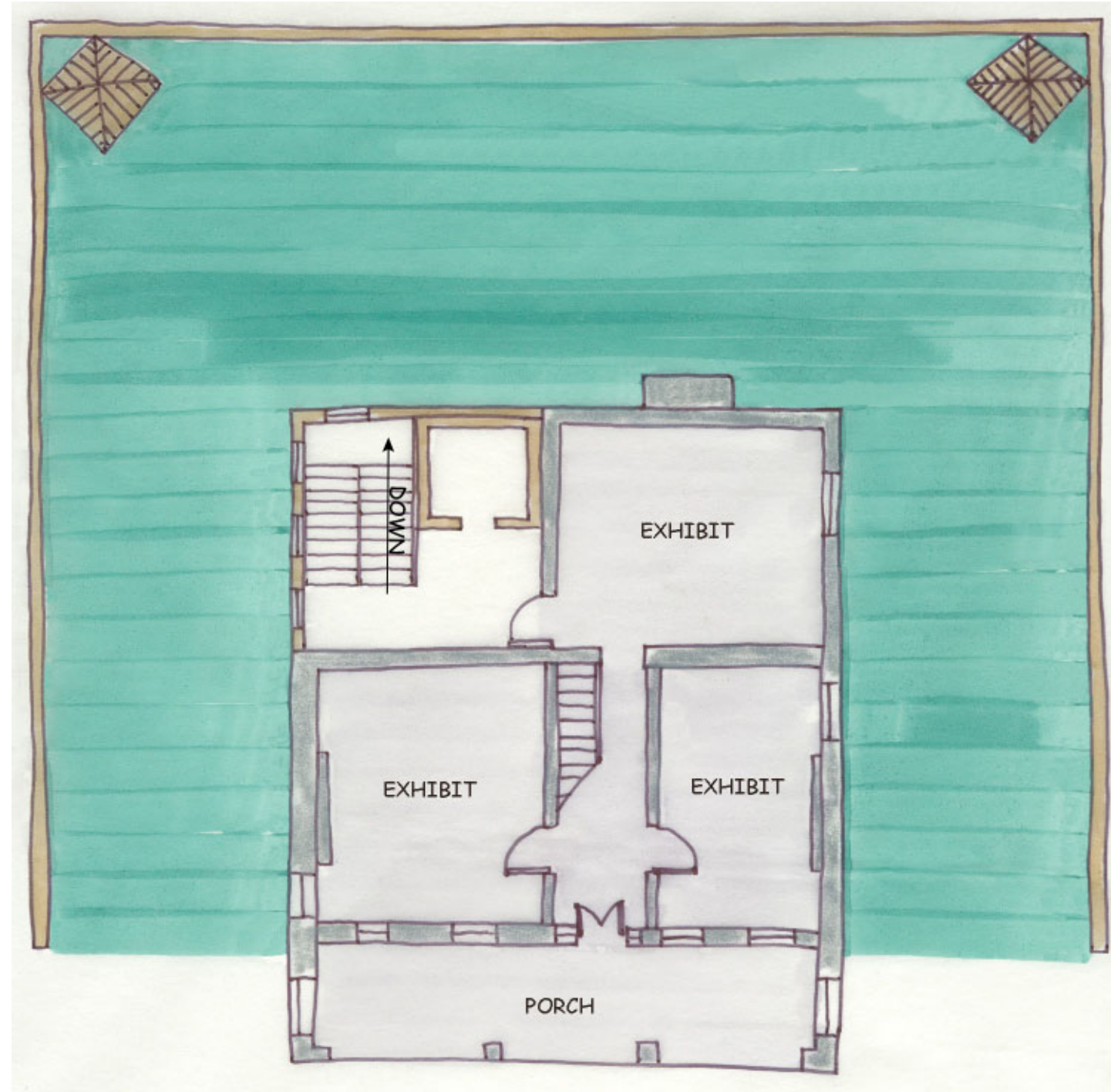
Final Conceptual Design

Addition to the Rear

Proposed Floor 1 Plan

Salem Museum
Salem, Virginia

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Scale: 1" = 10'
 0' 1' 2' 4' 6' 10'

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Proposed Floor 2 Plan
 Prepared for the Salem Museum, Salem, Virginia
 August 2004

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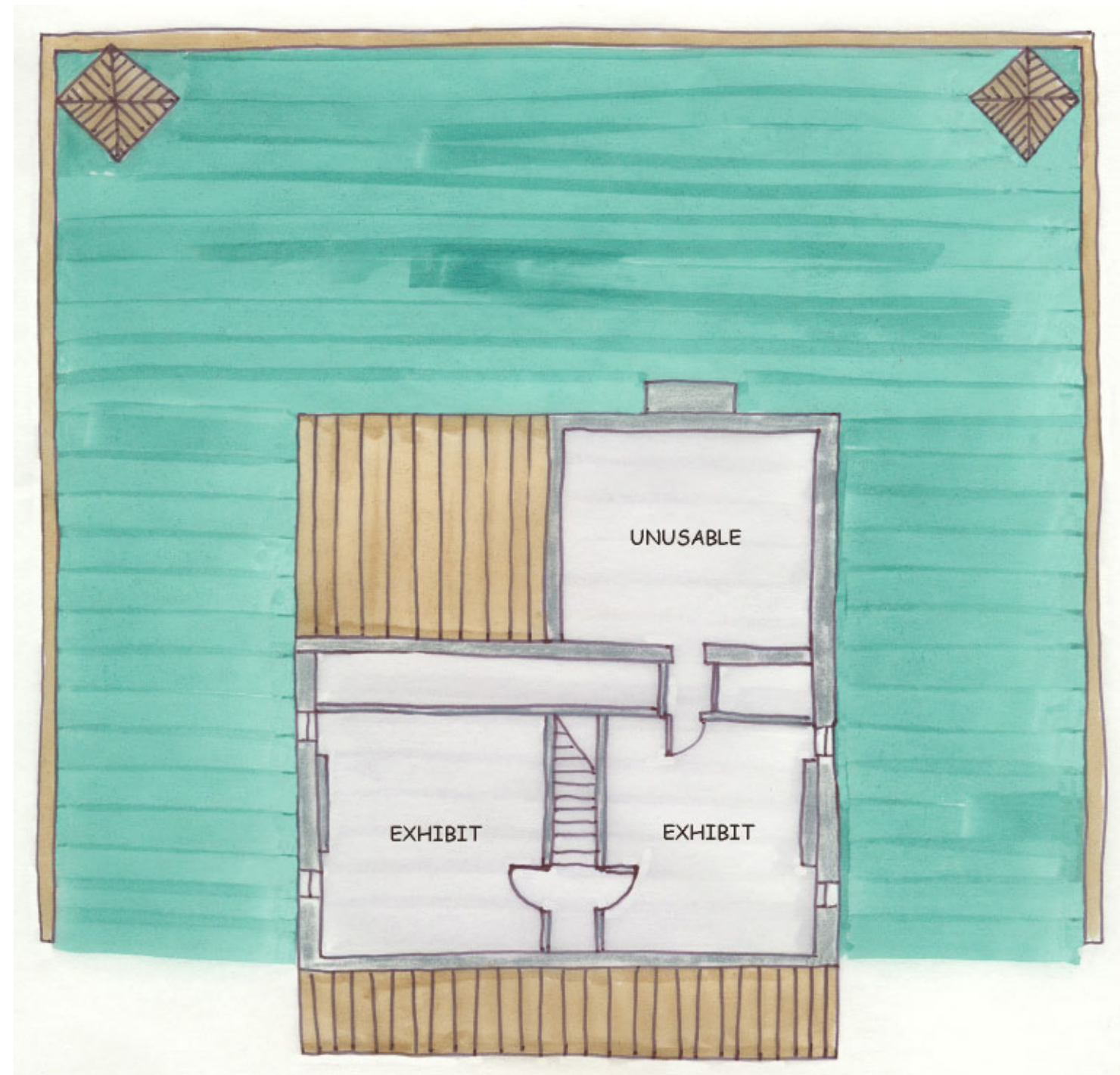


Final Conceptual Design
Addition to the Rear

Proposed Floor 2 Plan

Salem Museum
Salem, Virginia

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Scale: 1" = 10'
 0' 1' 2' 4' 6' 10'



Final Conceptual Design
Addition to the Rear

Proposed Attic Plan

Salem Museum
Salem, Virginia

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Scale: 1" = 40'
0 4' 8' 16' 24' 40'

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Proposed Site Plan
Prepared for the Salem Museum, Salem, Virginia
August 2004

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Final Conceptual Design
Addition to the Rear

Proposed Site Plan

Salem Museum
Salem, Virginia

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A. Building Codes

International Building Code Council. International Building Code. 2000. Inc. 2000.

International Building Code Council. International Building Code. 2000. Inc. 2000.

VI.

References

B. Green Roofs

Perspectives On Line - The Magazine of the College of Agriculture and Life Sciences. NC State University. Spring 2003. <http://www.cals.ncsu.edu/agcomm/magazine/spring03/roof.htm>.

Living Roof System That Cuts Energy Use". The Washington Post. August 28, 2003. <http://www.washingtonpost.com/wp-dyn/articles/A52324-2003Aug27.html>.

rooftop community in downtown Toronto". Landscape Architecture Magazine. August 2003.

environmentally friendly alternative". Plant Engineering Magazine. Perry, Michael D. "Green roofs offer". <http://www.manufacturing.net>.

and Wendy W. Wark. "Green Roof Specifications and Standards". The Construction Specifier. Vol. 58, No. 8, August 2003.

C. Historic Preservation

Historic Preservation. 1991. <http://www.nps.gov/hp/>.

Historic Preservation. 1991. <http://www.nps.gov/hp/>.

A. Building Codes

International Code Council. *International Building Code*. Falls Church, VA: International Code Council, Inc., 2000.

International Code Council. *ICC Supplement Provisions Used in the Virginia Uniform Statewide Building Code – 2000 Edition*. Falls Church, VA: International Code Council, Inc., 2003.

Virginia Department of Housing and Community Development. *Virginia Uniform Statewide Building Code “USBC” (2000 Edition)*. Richmond, VA: Commonwealth of Virginia, 2003.

B. Green Roofs

Emory Knoll Farms. <http://www.greenroofplants.com>.

Fisher, Andy. “Up on the Roof”. *Perspectives On Line - The Magazine of the College of Agriculture and Life Sciences*. NC State University. Spring 2003. <http://www.cals.ncsu.edu/agcomm/magazine/spring03/roof.htm>.

The Green Roof Industry Portal. <http://www.greenroofs.com>.

Higgins, Adrian. “Going Green on Top - A Living Roof System That Cuts Energy Use”. *The Washington Post*. August 28, 2003. <http://www.washingtonpost.com/wp-dyn/articles/A52324-2003Aug27.html>.

Johnson, Lorraine. “Meadows Above: A rooftop community in downtown Toronto”. *Landscape Architecture Magazine*. August 2003.

Perry, Michael D. “Green roofs offer environmentally friendly alternative”. *Plant Engineering Magazine*. <http://www.manufacturing.net/ple/index.asp?layout=articlePrint&articleID=CA313925>.

Wark, Christopher G. and Wendy W. Wark. “Green Roof Specifications and Standards”. *The Construction Specifier*. Vol. 56, No. 8, August 2003.

C. Historic Preservation

Jester, Thomas C. and Sharon C. Park. “Making Historic Properties Accessible.” (Preservation Briefs 32), Washington, DC: Technical Preservation Services Division, US Department of the Interior, 1993. <http://www2.cr.nps.gov/tps/briefs/brief32.htm>.

Randl, Chad. "Protecting a Historic Structure During Adjacent Construction". Preservation Tech Notes. Washington, DC: Technical Preservation Services Division, US Department of the Interior, 2001. <http://www2.cr.nps.gov/tps/technotes/PTN42/intro.htm>.

Secretary of the Interior. *The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings*. <http://www2.cr.nps.gov/tps/standguide/index.htm>.

Weeks, Kay D. "New Exterior Additions to Historic Buildings: Preservation Concerns". (Preservation Briefs 14), Washington, DC: Technical Preservation Services Division, US Department of the Interior, 1986. <http://www2.cr.nps.gov/tps/briefs/brief14.htm>.

D. Monticello

Guinness, Desmond and Julius Trousdale Sadler, Jr. *Mr. Jefferson, Architect*. NYC: The Viking Press, Inc., 1973.

Lautman, Robert C. *Thomas Jefferson's Monticello: A Photographic Portrait*. NYC: The Monacelli Press, Inc., 1997.

Llewellyn, Robert. *Thomas Jefferson's Monticello*. Charlottesville, VA: Thomasson-Grant, Inc., 1983.

Nichols, Frederick Doveton. *Thomas Jefferson's Architectural Drawings*. Charlottesville, VA: The University Press of Virginia, 1961.

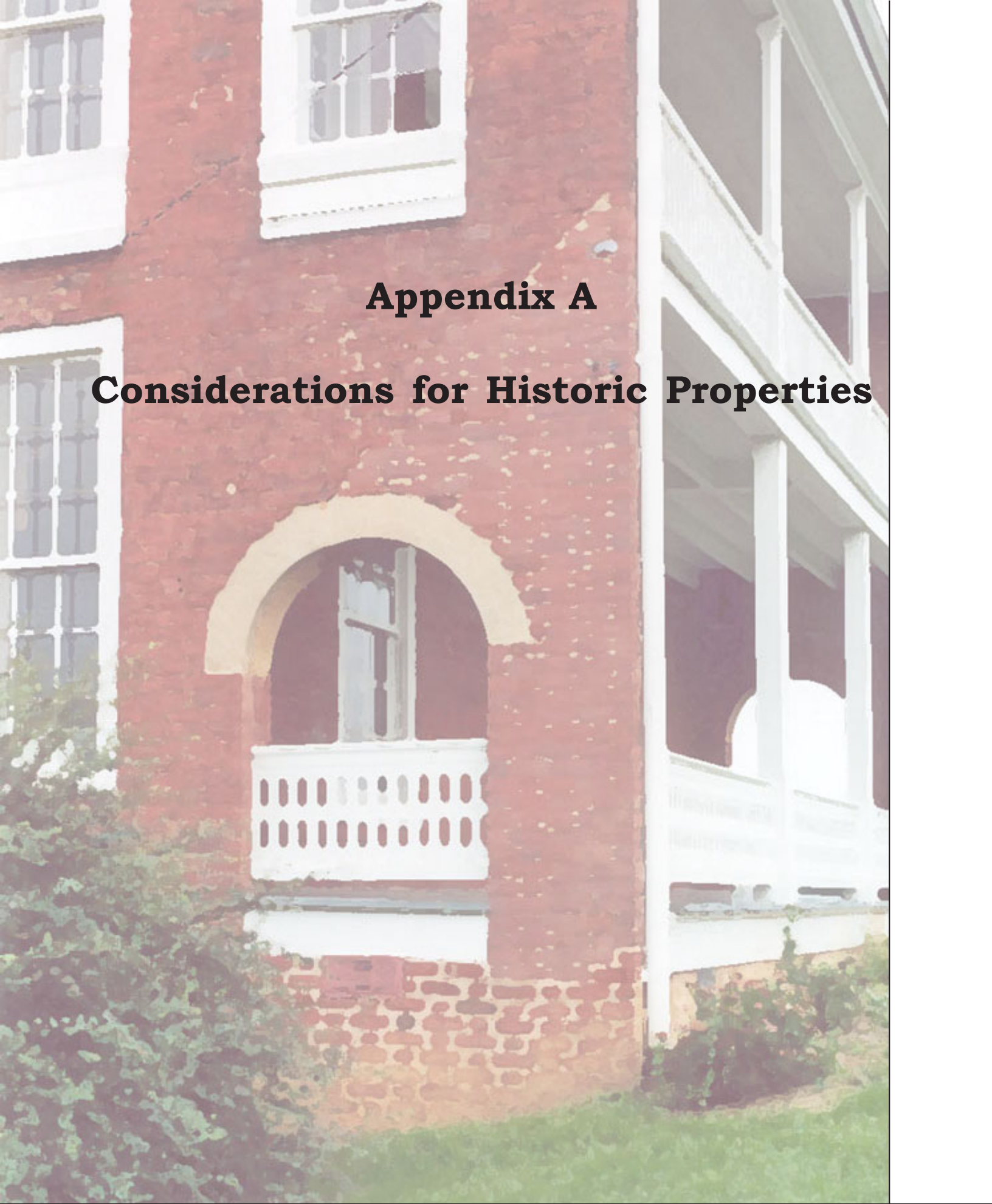
E. Salem

Kagey, Deedie Dent. *When Past is Prologue: A History of Roanoke County*. Marceline, Missouri: Walsworth Press, Inc., 1988.

Middleton, Norwood C. *Salem: A Virginia Chronicle*. Salem, Virginia: Salem Historical Society Inc., 1986.

Topographic maps of Salem. http://www.ci.salem.va.us/depts/engineering/topographic_maps.html.

Salem Museum website. <http://www.salemmuseum.org>.



Appendix A

Considerations for Historic Properties

A. Introduction

Appendix A provides the information about the treatment of historic properties including the Secretary of the Interior's definitions for preservation, rehabilitation, restoration, and reconstruction; standards for rehabilitation; recommendations for additions; and standards and guidelines for reconstruction. This information is all relevant in discussions pertaining to a proposed addition to the Salem Museum. The following appendices include information about preservation concerns when making new exterior additions to historic buildings, making historic properties accessible to people with disabilities and considerations for protecting an historic structure during adjacent construction.

B. Definitions for the Treatment of Historic Properties

The Secretary of the Interior defines four approaches for the treatment of historic properties: preservation, rehabilitation, restoration, and reconstruction. For more information see The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings, <http://www2.cr.nps.gov/tps/standguide/index.htm>.



Drayton Hall near Charleston, South Carolina is an example of preservation.

1. Preservation

Preservation is used to retain changes made to a building over time. A building's historic character is preserved through maintenance, repair, and conservation. Drayton Hall, built in 1742 near Charleston, South Carolina, is probably the best example of a building that has been preserved. The building, currently a house museum, has not been plumbed or wired for electricity and retains its original interior paint. The roof has been replaced and the brick work repaired as needed to maintain the building in excellent condition. The landscape has changed over the years and has not been returned to its historical grandeur, but now reflects the needs of a house museum.

2. Rehabilitation

Rehabilitation is the most common treatment. Here historic materials are retained where possible, but it is recognized that it may be necessary to replace deteriorated materials as long as the historic character of the building is not compromised. The building may be used as it was historically or a new use may be found that retains the building's distinctive features. The Salem Museum is an example of a rehabilitation.



The Salem Museum, in its change from house and store to a museum is an example of rehabilitation.

3. Restoration

Restoration involves returning a building to the state that it was in in the most significant time period of the building's history and requires adequate documentation of the building during this era. This treatment allows the removal of materials from later periods. A building's significant time period might be when a prominent resident lived there or when a significant event occurred or the building itself may have been a significant feat of architecture or engineering. Thomas Jefferson's Monticello is an example of a restoration.



Monticello, Thomas Jefferson's home near Charlottesville, Virginia, is an example of restoration.

4. Reconstruction

Reconstruction is seldom recommended and requires substantial documentation of a lost building or landscape in order to recreate it using new materials. It is generally recommended that a lost building be interpreted in other ways than its reconstruction unless it is necessary for better understanding of history. Colonial Williamsburg is an example of a reconstruction.



The Governor's Palace at Colonial Williamsburg, Virginia is an example of a reconstruction of a lost building.

C. The Secretary of the Interior's Standards for Rehabilitation

The Standards for Rehabilitation are presented here because an addition to the Salem Museum falls into the category of rehabilitation. The following information is available from the U.S. Department of the Interior at http://www2.cr.nps.gov/tps/standguide/rehab/rehab_standards.htm.

1. A property will be used as it was historically or be given a new use that requires minimal changes 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 one 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. Archaeological 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 shall 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.

D. The Secretary of the Interior's Standards for Rehabilitation: New Additions

The following, more specific recommendations regarding new additions are available at <http://www2.cr.nps.gov/tps/tax/rhb/new01.htm>.

An attached exterior addition to a historic building expands its “outer limits” to create a new profile. Because such expansion has the capability to radically change the historic appearance, an exterior addition should be considered only after it has been determined that the new use cannot be successfully met by altering non-character-defining interior spaces. If the new use cannot be met in this way, then an attached exterior addition is usually an acceptable alternative. New additions should be designed and constructed so that the character-defining features of the historic building are not radically changed, obscured, damaged, or destroyed in the process of rehabilitation. New design should always be clearly differentiated so that the addition does not appear to be part of the historic resource.

1. Recommended

- a. Placing functions and services required for the new use in non-character-defining interior spaces rather than installing a new addition.
- b. Constructing a new addition so that there is the least possible loss of historic materials and so that character-defining features are not obscured, damaged, or destroyed.
- c. Locating the attached exterior addition at the rear or on an inconspicuous side of a historic building; and limiting its size and scale in relationship to the historic building.
- d. Designing new additions in a manner that makes clear what is historic and what is new.
- e. Considering the attached exterior addition both in terms of the new use and the appearance of other buildings in the historic district or neighborhood. Design for the new work may be contemporary or may reference design motifs from the historic building.
- f. In either case, it should always be clearly differentiated from the historic building and be compatible in terms of mass, materials, relationship of solids to voids, and color.
- g. Placing new additions such as balconies and greenhouses on non-character-defining elevations and limiting and size and scale in relationship to the historic building.
- h. Designing additional stories, when required for the new use, that are set back from the wall plane and are as inconspicuous as possible when viewed from the street.

2. Not Recommended

- a. Expanding the size of the historic building by constructing a new addition when the new use could be met by altering non-character-defining interior space.
- b. Attaching a new addition so that the character-defining features of the historic building are obscured, damaged, or destroyed.
- c. Designing a new addition so that its size and scale in relation to the historic building are out of proportion, thus diminishing the historic character.
- d. Duplicating the exact form, material, style, and detailing of the historic building in the new addition so that the new work appears to be part of the historic building.
- e. Imitating a historic style or period of architecture in new additions, especially for contemporary uses such as drive-in banks or garages.
- f. Designing and constructing new additions that result in the diminution or loss of the historic character of the resource, including its design, materials, workmanship, location, or setting.
- g. Using the same wall plane, roof line, cornice height, materials, siding lap or window type to make additions appear to be a part of the historic building.
- h. Designing new additions such as multi-story greenhouse additions that obscure, damage, or destroy character-defining features of the historic building.
- i. Constructing additional stories so that the historic appearance of the building is radically changed.

E. The Secretary of the Interior's Standards for Reconstruction

The Secretary of the Interior's Standards for Reconstruction are presented here due to the suggestion that the Salem Museum addition mimic the lost Intervale house. More information about reconstruction is available at http://www2.cr.nps.gov/tps/standguide/reconstruct/reconstruct_index.htm.

Reconstruction is defined as the act or process of depicting, by means of new construction, the form, features, and detailing of a non-surviving site, landscape, building, structure, or object for the purpose of replicating its appearance at a specific period of time and in its historic location.

1. Standards

- a. Reconstruction will be used to depict vanished or non-surviving portions of a property when documentary and physical evidence is available to permit accurate reconstruction with minimal conjecture, and such reconstruction is essential to the public understanding of the property.
- b. Reconstruction of a landscape, building, structure, or object in its historic location will be preceded by a thorough archeological investigation to identify and evaluate those features and artifacts which are essential to an accurate reconstruction. If such resources must be disturbed, mitigation measures will be undertaken.
- c. Reconstruction will include measures to preserve any remaining historic materials, features, and spatial relationships.
- d. Reconstruction will be based on the accurate duplication of historic features and elements substantiated by documentary or physical evidence rather than on conjectural designs or the availability of different features from other historic properties. A reconstructed property will re-create the appearance of the non-surviving historic property in materials, design, color, and texture.
- e. A reconstruction will be clearly identified as a contemporary re-creation.
- f. Designs that were never executed historically will not be constructed.

2. The Approach

When a contemporary depiction is required to understand and interpret a property's historic value (including the re-creation of missing components in a historic district or site); when no other property with the same associative value has survived; and when sufficient historical documentation exists to ensure an accurate reproduction, reconstruction may be considered as a treatment. Prior to undertaking work, a documentation plan for reconstruction should be developed.

a. Choosing Reconstruction as a Treatment

Whereas the treatment Restoration provides guidance on restoring--or re-creating--building features, the Standards for Reconstruction and Guidelines for Reconstructing Historic Buildings address those aspects of treatment necessary to re-create an entire non-surviving building with new material. Much like restoration, the goal is to make the building appear as it did at a particular--and most significant--time in its history. The difference is, in Reconstruction, there is far less extant historic material prior to treatment and, in some cases, nothing visible. Because of the potential for historical error in the absence of sound physical evidence, this treatment can be justified only rarely and, thus, is the least frequently undertaken. Documentation requirements prior to and following work are very stringent. Measures should be taken to preserve extant historic surface and subsurface material. Finally, the reconstructed building must be clearly identified as a contemporary re-creation.

b. Research and Document Historical Significance

Guidance for the treatment Reconstruction begins with researching and documenting the building's historical significance to ascertain that its re-creation is essential to the public understanding of the property. Often, another extant historic building on the site or in a setting can adequately explain the property, together with other interpretive aids. Justifying a reconstruction requires detailed physical and documentary evidence to minimize or eliminate conjecture and ensure that the reconstruction is as accurate as possible. Only one period of significance is generally identified; a building, as it evolved, is rarely re-created. During this important fact-finding stage, if research does not provide adequate documentation for an accurate reconstruction, other interpretive methods should be considered, such as an explanatory marker.

c. Investigate Archaeological Resources

Investigating archeological resources is the next area of guidance in the treatment Reconstruction. The goal of physical research is to identify features of the building and site which are essential to an accurate re-creation and must be reconstructed, while leaving those archeological resources that

are not essential, undisturbed. Information that is not relevant to the project should be preserved in place for future research. The archeological findings, together with archival documentation, are then used to replicate the plan of the building, together with the relationship and size of rooms, corridors, and other spaces, and spatial relationships.

d. Identify, Protect, and Preserve Extant Historic Features

Closely aligned with archeological research, recommendations are given for identifying, protecting, and preserving extant features of the historic building. It is never appropriate to base a Reconstruction upon conjectural designs or the availability of different features from other buildings. Thus, any remaining historic materials and features, such as remnants of a foundation or chimney and site features such as a walkway or path, should be retained, when practicable, and incorporated into the reconstruction. The historic as well as new material should be carefully documented to guide future research and treatment.

e. Reconstruct Non-Surviving Building and Site

After the research and documentation phases, guidance is given for Reconstruction work itself. Exterior and interior features are addressed in general, always emphasizing the need for an accurate depiction, i.e., careful duplication of the appearance of historic interior paints, and finishes such as stencilling, marbling, and graining. In the absence of extant historic materials, the objective in reconstruction is to re-create the appearance of the historic building for interpretive purposes. Thus, while the use of traditional materials and finishes is always preferred, in some instances, substitute materials may be used if they are able to convey the same visual appearance. Where non-visible features of the building are concerned--such as interior structural systems or mechanical systems--it is expected that contemporary materials and technology will be employed. Re-creating the building site should be an integral aspect of project work. The initial archeological inventory of subsurface and aboveground remains is used as documentation to reconstruct landscape features such as walks and roads, fences, benches, and fountains.

f. Energy Efficiency, Accessibility, Health and Safety Code Considerations

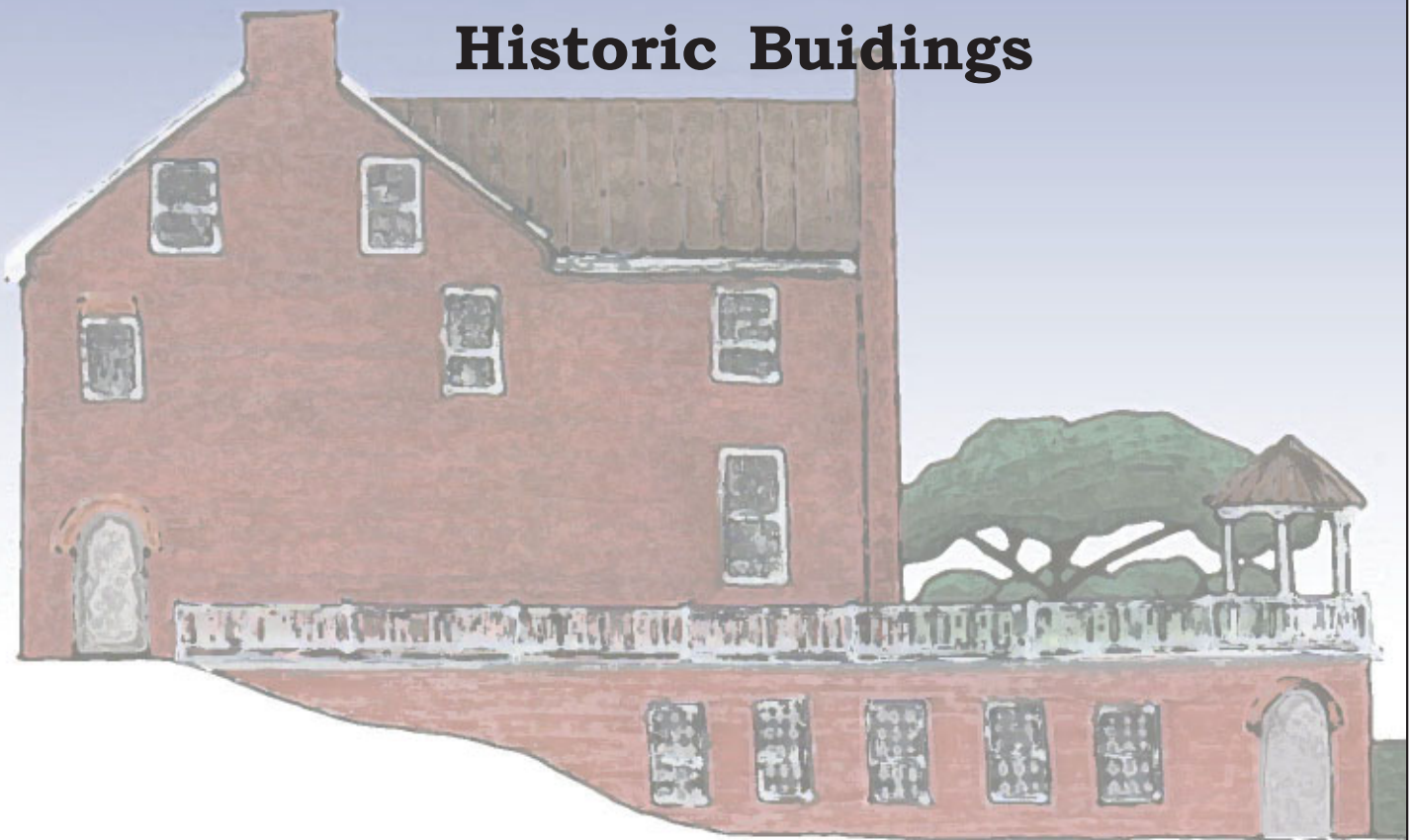
Code requirements must also be met in Reconstruction projects. For code purposes, a reconstructed building may be considered as essentially new construction. Guidance for these sections is thus abbreviated, and focuses on achieving design solutions that do not destroy extant historic features and materials or obscure reconstructed features.

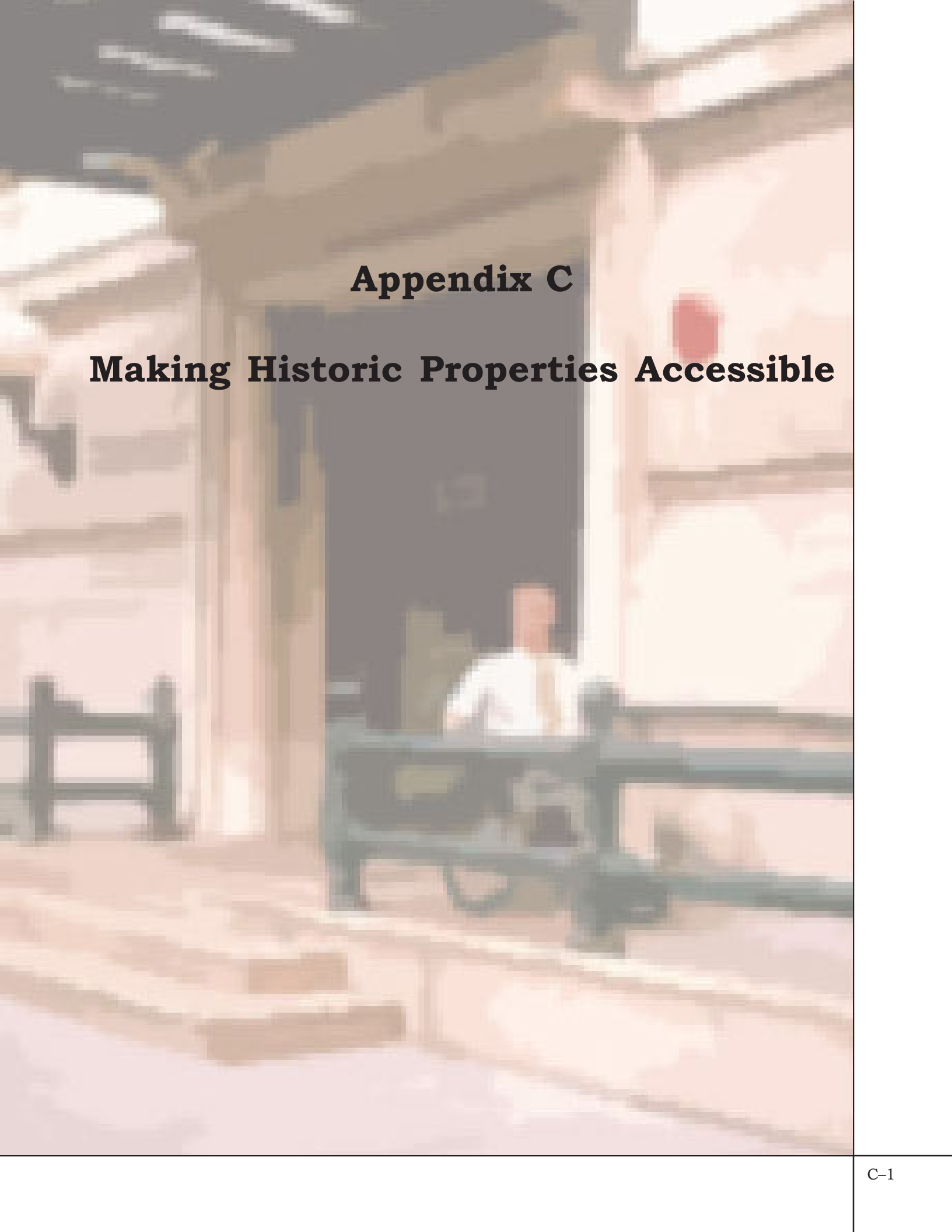
F. Conclusion

Much care and consideration must be taken when creating an addition to an historic structure. These and other publications from the Secretary of the Interior can aid in making sympathetic design decisions and retaining the historic character of the Salem Museum.

Appendix B

New Exterior Additions to Historic Buildings



A photograph of a historic building with a man sitting on a bench in the foreground. The building has a light-colored facade and a dark doorway. The man is wearing a white shirt and a tie. The image is slightly blurred, giving it a vintage feel.

Appendix C

Making Historic Properties Accessible

An aerial photograph showing a construction site. In the foreground, there is a large, chaotic pile of debris, including wooden planks, concrete fragments, and other construction materials. To the right of the debris, a historic building with a red-tiled roof and a small porch is visible. In the background, there are modern multi-story buildings and some greenery. The text "Appendix D" is overlaid in the center of the image.

Appendix D

Protecting a Historic Structure During Adjacent Construction

Appendix E

Building Code Requirements

WITH SPRINKLER SYSTEM (feet)		Exceptions:	
200	250 ^b	1. The length of a common path of egress travel for an occupancy in Groups B, F and more than 100 feet (30 480 mm) if the building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.	
200	300 ^c	2. Where a tenant occupancy in Groups B, S and U is less than 100 feet (30 480 mm) from the exit, the length of the common path of egress travel shall not exceed 75 feet (22 860 mm).	
300	400 ^d		
Not Permitted	75 ^e		
Not Permitted	100 ^f		
Not Permitted	150 ^g		
Not Permitted	175 ^h		
Not Permitted	200 ⁱ		
Not Permitted	150 ^j		

A. Introduction

As an existing and historic structure, the Salem Museum has a slightly different relationship with the building codes than does an entirely new structure. Included here are relevant snippets of the Virginia Uniform Statewide Building Code (USBC) and International Building Code. The City of Salem has additional building code requirements. An architect, building professional, or the City code inspector should be consulted for exact code requirements and interpretation of the Code.

B. International Building Code

Presented here are sections and parts of sections from the *2000 International Building Code* that are relevant to the conceptual designs for the expansion of the Salem Museum. The code is here for reference only and should not be applied to other projects. The Salem Museum is Use and Occupancy Classification A-3. Included here is code information about egress, accessibility and historic structures.

1. Chapter 3: Use and Occupancy Classification

a. Section 303: Assembly Group A

303.1 ASSEMBLY GROUP A. Assembly Group A occupancy includes, among others, the use of a building or structure, or a portion thereof, for the gathering together of persons for purposes such as civic, social or religious functions, recreation, food or drink consumption or awaiting transportation...Assembly occupancies shall include the following:

A-3: Assembly uses intended for worship, recreation or amusement and other assembly uses not classified elsewhere in Group A, including, but not limited to...Museums.

2. Chapter 10: Means of Egress

a. Section 1001: Administration

1001.1 GENERAL. Buildings or portions thereof shall be provided with a means of egress system as required by this chapter. The provisions of this chapter shall control the design, construction and arrangement of means of egress components required to provide an approved means of egress from structures and portions thereof.

1001.2 MINIMUM REQUIREMENTS. It shall be unlawful to alter a building or structure in a manner that will reduce the number of exits or the capacity of the means of egress to less than required by this code.

b. Section 1002: Definitions

EXIT: That portion of a means of egress system which is separated from other interior spaces of a building or structure by fire-resistance-rated construction and opening protectives as required to provide a protected path of egress travel between the exit access and the exit discharge. Exits include exterior exit doors at ground level, exit enclosures, exit passageways, exterior exit stairs, exterior exit ramps and horizontal exits.

EXIT ACCESS: That portion of a means of egress system which leads from any occupied point in a building or structure to an exit.

EXIT DISCHARGE: That portion of a means of egress system between the termination of an exit and a public way.

EXIT ENCLOSURE: An exit component that is separated from other interior spaces of a building or structure by fire-resistance-rated construction and opening protectives, and provides for a protected path of egress travel in a vertical or horizontal direction to the exit discharge or the public way.

MEANS OF EGRESS: A continuous and unobstructed path of vertical and horizontal egress travel from any point in a building or structure to a public way. A means of egress consists of three separate and distinct parts: the exit access; the exit; and the exit discharge.

PUBLIC WAY: A street, alley or other parcel of land open to the outside air leading to a street, that has been deeded, dedicated or otherwise permanently appropriated to the public for public use and which has a clear width and height of not less than 10 feet.

c. Section 1003: General Means of Egress

1003.2.3.1 DOOR ENCROACHMENT. Doors opening into the path of egress travel shall not reduce the required width to less than one-half during the course of the swing. When fully open, the door shall not project more than 7 inches into the required width.

1003.3.1 DOORS. Means of egress doors shall meet the requirements of this section. Where additional doors are provided for egress purposes, they shall conform to the requirements of this section.

Means of egress doors shall be readily distinguishable from the adjacent construction such that the doors are easily recognizable as means of egress doors. Mirrors or similar reflecting materials shall not be used on means of egress doors. Means of egress doors shall not be concealed by curtains, drapes, decorations or similar materials.

1003.3.1.1 SIZE OF DOORS. The minimum width of each door opening shall be sufficient for the occupant load thereof and shall provide a clear width of not less than 32 inches. The height of doors shall not be less than 80 inches.

1003.3.3.1 STAIRWAY WIDTH. The width of stairways shall...not be less than 44 inches.

1003.3.3.2 HEADROOM. Stairways shall have a minimum headroom clearance of 80 inches measured vertically from a line connecting the edge of the nosings. Such headroom shall be continuous above the stairway to the point where the line intersects with the landing below, one tread depth beyond the bottom riser. The minimum clearance shall be maintained the full width of the stairway and landing.

1003.3.3.3 STAIR TREADS AND RISERS. Stair riser heights shall be 7 inches maximum and 4 inches minimum. Stair tread depths shall be 11 inches minimum. The riser heights shall be measured vertically between the leading edges of adjacent treads. The tread depth shall be measured horizontally between the vertical planes of the foremost projection of adjacent treads and at right angle to the tread's leading edge.

1003.3.3.3.1 DIMENSIONAL UNIFORMITY. Stair treads and risers shall be of uniform size and shape. The tolerance between the largest and smallest riser or between the largest and smallest tread shall not exceed 0.375 inch in any flight of stairs.

1003.3.3.4 STAIRWAY LANDINGS. There shall be a floor or landing at the top and bottom of each stairway. The width of landings shall not be less than the width of stairways they serve. Every landing shall have a minimum dimension measured in the direction of travel equal to the width of the stairway. Such dimension need not exceed 48 inches where the stairway has a straight run.

EXCEPTIONS:

2. Doors opening onto a landing shall not reduce the landing to less than one-half the required width. When fully open, the door shall not project more than 7 inches into a landing.

1003.3.3.6 VERTICAL RISE. A flight of stairs shall not have a vertical rise greater than 12 feet between floor levels or landings.

1003.3.3.11 HANDRAILS. Stairways shall have handrails on each side.

d. Section 1004: Exit Access

1004.2.1 EXIT OR EXIT ACCESS DOORWAYS REQUIRED. Two exits or exit access doorways from any space shall be provided where one of the following conditions exist:

- 1.** The occupant load of the space exceeds the values in Table 1004.2.1 (i.e., the maximum occupant load for Assembly Group A is 50).
- 2.** The common path of egress travel exceeds the limitations of Section 1004.2.5 (i.e., 75 feet).

1004.2.2 EXIT OR EXIT ACCESS DOORWAY ARRANGEMENT. Required exits shall be located in a manner that makes their availability obvious. Exits shall be unobstructed at all times.

1004.2.2.1 TWO EXIT OR EXIT ACCESS DOORWAYS. Where two exits or exit access doorways are required, from any portion of the exit access, the exit doors or exit access doorways shall be placed a distance apart equal to not less than one-half of the length of the maximum overall diagonal dimension of the building or area to be served measured in a straight line between exit doors or exit access doorways.

1004.2.4 EXIT ACCESS TRAVEL DISTANCE. Exits shall be so located that the maximum length of exit access travel, measured from the most remote point to the entrance to an exit along the natural and unobstructed path of egress travel, shall not exceed the distances given in Table 1004.2.4 (i.e., the maximum exit access travel distance for Assembly Group A in a building without a sprinkler system is 200 feet and with a sprinkler system is 250 feet).

e. Section 1005: Exits

1005.1 GENERAL. An exit shall not be utilized for any purpose that interferes with its function as a means of egress. Once a given level of exit protection is achieved, such level of protection shall not be reduced until arrival at the exit discharge.

1005.2.1 MINIMUM NUMBER OF EXITS. Every floor area shall be provided with the minimum number of approved independent exits as required by Table 1005.2.1 based on occupant load (i.e., an occupant load of 1–500 requires a minimum of 2 exits). For the purposes of this chapter, occupied roofs shall be provided with exits as required for floors. The required number of exits from any story, basement or individual space shall be maintained until arrival at grade or the public way.

1005.2.3 EXIT CONTINUITY. Exits shall be continuous from the point of entry into the exit to the exit discharge.

1005.3.1.2. ARRANGEMENT. Exterior exit doors shall lead directly to the exit discharge or the public way.

1005.3.2 VERTICAL EXIT ENCLOSURES. Interior exit stairways shall be enclosed. Vertical exit enclosures less than four stories shall be 1 hour fire-resistance rated. The number of stories shall be computed as all floor levels, including basements. An exit enclosure shall not be used for any purpose other than means of egress. Vertical exit enclosures shall be constructed as fire barriers.

EXCEPTIONS:

4. Stairways that are not a required means of egress element are not required to be enclosed where such stairways comply with Section 707.2.

7. Means of egress stairways as required by Section 410.5.4 are not required to be enclosed.

1005.3.3 EXIT PASSAGEWAY. An exit passageway shall not be used for any purpose other than as a means of egress.

1005.3.3.1 WIDTH. The width of exit passageways...shall not be less than 44 inches except that exit passageways serving an occupant load of less than 50 shall not be less than 36 inches. The required width of exit passageways shall be unobstructed.

EXCEPTION: Doors, when fully opened, and handrails, shall not reduce the required width by more than 7 inches. Doors in any position shall not reduce the required width by more than one-half. Other nonstructural projections such as trim and similar decorative features may project into the required width 1.5 inches on each side.

1005.3.4 OPENINGS AND PENETRATIONS. Elevators shall not open into an exit passageway.

3. Chapter 11: Accessibility

a. Section 1104: Accessible Route

1104.1 SITE ARRIVAL POINTS. Accessible routes within the site shall be provided from public transportation stops, accessible parking and accessible passenger loading zones, and public streets or sidewalks to the accessible building entrance served.

1104.2 WITHIN A SITE. At least one accessible route shall connect accessible buildings, accessible facilities, accessible elements, and accessible spaces that are on the same site.

1104.3 CONNECTED SPACES. When a building, or portion of a building, is required to be accessible, an accessible route shall be provided to each portion of the building, to accessible building entrances, connecting accessible pedestrian walkways, and the public way. Where only one accessible route is provided, the accessible route shall not pass through kitchens, storage rooms, restrooms, closets or similar spaces.

1104.4 MULTILEVEL BUILDINGS AND FACILITIES. At least one accessible route shall connect each accessible level...in multistory buildings and facilities.

EXCEPTIONS:

1. An accessible route is not required to floors above and below accessible levels that have an aggregate area of not more than 3,000 square feet.

b. Section 1105: Accessible Entrances

1105.1 REQUIRED. At least 50 percent, but not less than one entrance to each building and structure, ...shall comply with the accessible route provisions of this chapter.

c. Section 1106: Parking and Passenger Loading Facilities

1106.1 REQUIRED. Where parking is provided, accessible parking spaces shall be provided in compliance with Table 1106.1 (i.e., if 1–25 total parking spaces are provided, there must be at least 1 accessible space; if 26–50 parking spaces are provided, there must be at least 2 accessible spaces).

1106.4 VAN SPACES. For every eight or fraction of eight accessible parking spaces, at least one shall be a van-accessible parking space.

1106.5 LOCATION. Accessible parking spaces shall be located on the shortest accessible route of travel from adjacent parking to an accessible building entrance.

d. Section 1109: Other Features and Facilities

1109.2 TOILET AND BATHING FACILITIES. Toilet rooms and bathing facilities shall be accessible. Where a floor level is not required to be connected by an accessible route, the only toilet rooms or bathing facilities provided within the facility shall not be located on the inaccessible floor. At least one of each type of fixture, element, control or dispenser in each accessible toilet room and bathing facility shall be accessible.

4. Chapter 34: Existing Structures

3401.1 SCOPE. The provisions of this chapter shall control the alteration, repair, addition and change of occupancy of existing structures.

a. Section 3402: Additions, Alterations or Repairs

3402.2 STRUCTURAL. Additions or alterations to an existing structure shall not increase the force in any structural element by more than 5 percent, unless the increased forces on the element are still in compliance with the code for new structures, nor shall the strength of any structural element be decreased to less than that required by this code for new structures. Where repairs are made to structural elements of an existing building, and uncovered structural elements are found to be unsound or otherwise structurally deficient, such elements shall be made to conform to the requirements for new structures.

3402.3 NONSTRUCTURAL. Alterations or repairs to an existing building or structure that are nonstructural and do not adversely affect any structural member or any part of the building or structure having required fire resistance are permitted to be made with the same materials of which the building or structure is constructed.

3402.4 STAIRWAYS. An alteration or the replacement of an existing stairway in an existing structure shall not be required to comply with the requirements of a new stairway...where the existing space and construction will not allow a reduction in pitch or slope.

b. Section 3406: Historic Buildings

3406.1 HISTORIC BUILDINGS. The provisions of this code relating to the construction, repair, alteration, addition, restoration and movement of structures, and change of occupancy shall not be mandatory for historic buildings where such buildings are judged by the building official to not constitute a distinct life safety hazard.

c. Section 3408: Accessibility for Existing Buildings

3408.1 Scope. The provisions of Sections 3408.2 through 3408.8.5 apply to maintenance, change of occupancy, additions and alterations to existing buildings, including those identified as historic buildings.

3408.2 MAINTENANCE OF FACILITIES. A building, facility or element that is constructed or altered to be accessible shall be maintained accessible during occupancy.

3408.4 ADDITIONS. Provisions for new construction shall apply to additions. An addition that affects the accessibility to, or contains an area of primary function, shall comply with the requirements of Section 3408.6 for accessible routes.

3408.5 ALTERATIONS. A building, facility or element that is altered shall comply with the applicable provisions in Chapter 11, unless technically infeasible. Where compliance with this section is technically infeasible, the alteration shall provide access to the maximum extent technically feasible.

EXCEPTIONS:

1. The altered element or space is not required to be on an accessible route, unless required by Section 3408.6.
2. Accessible means of egress required by Chapter 10 are not required to be provided in existing buildings and facilities.

3408.5.1 EXTENT OF APPLICATION. An alteration of an existing element, space, or area of a building or facility shall not impose a requirement for greater accessibility than that which would be required for new construction. Alterations shall not reduce or have the effect of reducing accessibility of a building, portion of a building, or facility.

3408.6 ALTERATIONS AFFECTING AN AREA CONTAINING A PRIMARY FUNCTION. Where an alteration affects the accessibility to, or contains an area of primary function, the route to the primary function area shall be accessible. The accessible route to the primary function area shall include toilet facilities or drinking fountains serving the area of primary function.

EXCEPTIONS:

1. The costs of providing the accessible route is not required to exceed 20 percent of the costs of the alterations affecting the area of primary function.
4. This provision does not apply to alterations undertaken for the primary purpose of increasing the accessibility of an existing building, facility, or element.

3408.7.3 STAIRS AND ESCALATORS IN EXISTING BUILDINGS. In alterations where an escalator or stair is added where none existed previously an accessible route shall be provided.

3408.8 HISTORIC BUILDINGS. These provisions shall apply to buildings and facilities designated as historic structures that undergo alterations or a change of occupancy, unless technically infeasible. Where compliance with the requirements for accessible routes, ramps, entrances, or toilet facilities would threaten or destroy the historic significance of the building or facility, as determined by the authority having jurisdiction, the alternative requirements of Section 3408.8.1 through 3408.8.5 for that element shall be permitted.

3408.8.1 SITE ARRIVAL POINTS. At least one accessible route from a site arrival point to an accessible entrance shall be provided.

3408.8.2 MULTILEVEL BUILDINGS AND FACILITIES. An accessible route from an accessible entrance to public spaces on the level of the accessible entrance shall be provided.

3408.8.3 ENTRANCES. At least one main entrance shall be accessible.

EXCEPTION: If a main entrance cannot be made accessible, an employee or service entrance that is unlocked while the building is occupied shall be made accessible. The accessible entrance shall have a notification system or be provided with remote monitoring.

3408.8.4 TOILET AND BATHING FACILITIES. Where toilet rooms are provided at least one accessible toilet room complying with Section 1108.2.1 shall be provided.

C. Virginia Uniform Statewide Building Code (USBC)

The USBC references the 2000 International Building Code, but adds provisions that are specific to the Commonwealth of Virginia. In some cases, sections of the International Building Code are modified by the USBC. Presented here are sections and parts of sections from the *2000 USBC* that are relevant to the conceptual designs for the expansion of the Salem Museum. The code is here for reference only and should not be applied to other projects.

1. Introduction

The Virginia Uniform Statewide Building Code (USBC) is a state regulation promulgated by the Virginia Board of Housing and Community Development, a Governor-appointed board, for the purpose of establishing minimum regulations to govern the construction and maintenance of buildings and structures.

The provisions of the USBC are based on nationally recognized model building and fire codes published by the International Code Council, Inc. The model codes are made part of the USBC through a regulatory process known as incorporation by reference. The USBC also contains administrative provisions governing the use of the model codes and establishing requirements for the enforcement of the code by the local building departments and other code enforcement agencies.

In keeping with the designations of the USBC used previously, since the 2000 edition of the International Codes are incorporated by reference into this version of the USBC, it is known as the 2000 edition of the USBC.

2. Arrangement

The USBC is part of the Virginia Administrative Code (VAC), the official compilation of state regulations published under the authority and guidance of the Virginia Code Commission.

3. Part I. General Regulations. Chapter 1. Administration.

a. Section 101.0: Administration; Scope

101.4 PURPOSE. The purpose of the USBC is to ensure safety to life and property from all hazards incident to structure design, construction, occupancy, repair, maintenance, renovation, removal or demolition. Structures shall be permitted to be constructed, repaired, maintained or renovated at the least possible cost consistent with nationally recognized standards for health, safety, energy conservation, water conservation, adequate egress facilities, sanitary equipment, light and ventilation, fire safety, structural strength, and accessibility for the physically disabled.

4. Part II. Construction. Article 1. Administration.

- a. Section 108.0: Adoption and Use of Model Codes and Standards

108.1 ADOPTION. The following document, as amended by the Virginia Board of Housing and Community Development (BHCD), is adopted and incorporated by reference to be an enforceable part of the USBC:

The International Building Code 2000, hereinafter referred to as “IBC”, published by the International Code Council, Inc. (ICC).

5. Part II. Construction. Article 2. Rehabilitation.

- a. Section 122.0: Administration

122.5. ADDITIONS. Additions to any structure shall conform to the requirements of this code for new construction. Additions shall not be made to an existing structure that will cause the existing structure to be in violation of this code. Any portions of the structure not altered and not affected by alterations or additions are not required to comply with the USBC requirements for a new structure.

6. Part II. Construction. Article 4. Technical Amendments.

- a. IBC Chapter 34: Existing Structures

Change subsection 3402.1 to read:

3402.1 RECONSTRUCTION, ALTERATION, OR REPAIR. Reconstruction, alterations, and repairs shall not result in an increase in hazard to the occupants. Portions of the structure not altered and not affected by the alteration are not required to comply with the code requirements for a new structure. Work shall be done in such a way so as not to lower existing levels of health and safety.

Add subsection 3402.1.1 to read:

3402.2.1 ADDITIONS. Additions to any structure shall conform to the requirements of the USBC for new construction. Additions shall not be made to the existing structure that will cause the existing structure to be in violation of the USBC. Any portions of the structure not altered and not affected by alterations or additions are not required to comply with the USBC requirements for a new structure.



Appendix F

Green Roofs



Sedum. Image from <http://www.succulent-plant.com/semperivum/semperivum01.jpg>.



Sedum. Image from <http://www.cactus-mall.com/sedum/2.jpg>



Semperivum or "hens and chickens" is similar to jovibarba and rosularia. Image from <http://www.succulent-plant.com/semperivum/semperivum01.jpg>.



Lavender. Image from <http://www.beyond.fr/naturephotos/lavstoP2.jpg>.

A. Introduction

Many large corporations and municipalities throughout the world have embraced the green roof idea including the Ford Motor Company at a 2,000,000 square foot plant in Michigan and the cities of Chicago and Seattle at their respective City Halls. A green roof is an environmentally responsible method for roofing small and large buildings with roof slopes of up to 45 degrees. Included in this Appendix are the advantages of green roofs, design and plant considerations, and several articles describing green roofs in more detail. Some plants appropriate for green roof growth are also shown in this Appendix. For more information regarding green roofs, please see the references in Chapter 7.

Due to structural and horticultural considerations, a green roof should be designed by a group of trained professionals including a licensed architect, structural engineer, and green roof specialist.

B. Advantages

Green roofs provide many environmental advantages over typical roofing materials. These advantages include longevity, storm water retention, reduced energy costs, and reduced pollution.

1. Longevity

A green roof costs more in the short run due to additional structural needs of the soil and the layers of components needed to create a watertight roof. However, because of the plant material, the roof is protected from the harmful ultraviolet rays that cause typical roofs to break down over time. This enables green roofs to last two to three times longer than a typical roof. Not only does that cost less for the owner, but it means that less roofing material is sent to landfills.

2. Storm Water Retention

With most roofing systems, all of the water runs off the roof filling, and sometimes overflowing, sewers and storm drains. Green roofs retain 70–90% of rain water in the plants and soil where it is put to natural use. However, care still must be taken to provide proper drainage for the additional 10–30% of rain water that is not absorbed by the soil.

3. Reduced Energy Costs

As the plants on a green roof grow, they release storm water as humidity, cooling the area around them. The plants absorb the energy of the sun, and rather than reradiating this energy and further heating the area around the building as a traditional roof does, use the energy to grow. The plants help to insulate the roof from the heat of the sun, thus lowering its temperature and reducing the cooling load of the building.

4. Reduced Pollution

The plants on a green roof help to reduce the surrounding pollution by naturally collecting it through the leaves and filtering the pollution through the roots. Plants naturally generate oxygen as well, helping to reduce the carbon dioxide load in the environment.

C. Design Considerations

When designing for a green roof, the extra weight needed to support soil and plants must be considered in the roof structure. It is important to consider how the roof will be used. In the case of the Salem Museum, the green roof is at ground level and is envisioned as an extension of the lawn in front of the historic building and place for people to gather.



Cerastium tomentosum or “snow in summer”. Image from http://www.freefoto.com/preview/jsp?id=12-53-2/12_53_2_web.jpg.



A lawn of Kentucky bluegrass. Image from http://www.osnet.ksu.edu/dp_hfrr/newslet2001/ksht0135/Kentucky%20Blugrass%20Lawn.jpg.



Calendula or “potted marigold”. Image from http://www.ces.ncsu.edu/depts/hort/consumer/factsheets/herbs/calendula_officinalis/calendula.jpg.



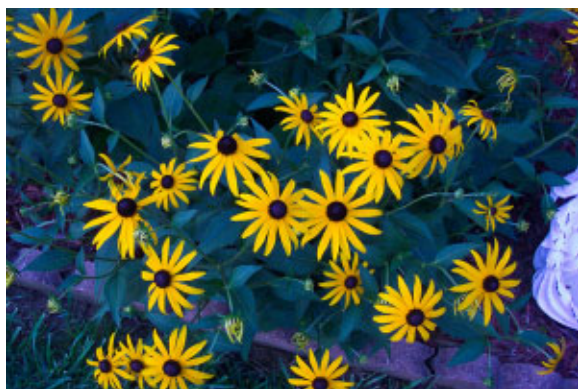
Bellflower. Image from <http://aoki2.si.gunma.u.ac.jp/appendix/photo/shokubutu/images/bellflower.jpg>.



Lance-leaved coreopsis. Image from [http://www.main.nc.us/graham/wildflowers/Lance-leaved Coreopsis.jpg](http://www.main.nc.us/graham/wildflowers/Lance-leaved%20Coreopsis.jpg).



Flax. Image from <http://www.prairiefontier.com/pages/natvpics/nativea3/blueflax.jpg>.



Black-eyed Susan. Image from <http://kdfalin.topcities.com/graphics/camera%20pictures/black%20eyed%20susan.jpg>.



Evening primrose. Image from http://www.cdilandis.com/html/photos/photos_plants2/x8905105.jpg.

This will make a difference as to the types of plants chosen and, ultimately, the type of roof used. It is likely that the roof on the Salem Museum extension will be an intensive green roof, built for the extra weight involved to plant lawns and plants with deeper roots that can grow from 3–15 feet tall. An extensive green roof, which is a popular choice on many corporate buildings where green roofs are built more for the environmental benefits than for human enjoyment, is almost maintenance free, providing just 2 to 4 inches of soil for plants that reach a height of no more than 3–6 inches.

D. Plant Considerations

Plants that are appropriate for green roofs must be able to grow in drought-like conditions, in very little soil, and intense sunlight. Plants should be fast growing to fill in the roof quickly, but non-invasive. Plants also need to be appropriate to the climate of southwest Virginia. North Carolina State University is studying green roofs and has found the following plants to grow well in these conditions: sedum; sempervivum, jovibarba, and rosularia (hens and chickens); delsperma; lavender; chives; iris primula; cerastium tomentosum (snow in summer); gypsophila (baby's breath); kentucky bluegrass; calendula (pot marigold); bellflower; lance-leaved coreopsis; flax; black-eyed susan; evening primrose; and thyme.