

Part 2: Treatment Recommendations and Use

*“The best rehabilitation is one that preserves and protects those rooms, sequences of spaces, features and finishes that define and shape the overall historic character of the building”.*¹

Introduction

It is important to remember to do no harm. The Hall of Waters is a unique and historically significant building. The preservation of the varied historic materials will ensure the Art Deco features which contribute to the overall character of the building will survive to be enjoyed by future generations.

The *Secretary of the Interior’s Standards for the Treatment of Historic Properties* provides a guideline for potential treatment methodologies. These treatments are: preservation, restoration, rehabilitation, and reconstruction. A definition of each treatment and which buildings they apply to are summarized below.

Preservation: *Sustaining the existing form, integrity, and materials of a property.*

Restoration: *Accurately depicting the form, integrity, and materials of a property as it appeared during a particular period.*

Rehabilitation: *Compatible use of a property through repair, alterations, and additions while preserving significant historical features.*

Reconstruction: *Depicting, by means of new construction, the form, features, and detailing of a non-surviving site, landscape, building, structure, object as a specific period of time and in its historic location.*

All future design work and rehabilitation or repairs to the building and its significant materials should be made, per these Standards, with an emphasis on the *Rehabilitation* treatment approach. Rehabilitation is defined by the National Park Service is an approach that has as an emphasis on the retention and repair of historic materials while allowing for new design and construction and reconfiguration of spaces. This flexibility is why rehabilitation is recommended over the more stringent preservation or restoration approaches. Retention of the highly significant spaces with good historic integrity is recommended. When considering a rehabilitation project, the preservation treatment diagrams should be consulted in order to understand the effects of the proposed new construction on the historic integrity of the spaces (Pages 15-30). Preservation Brief No. 18 *Rehabilitating Interiors in Historic Buildings, Identifying and Preserving Character-Defining Elements* is also an excellent resource for guidelines on rehabilitation. Below are select excerpts from the brief:

Retain and preserve floor plans and interior spaces that are important in defining the overall historic character of the building.

Primary, 1B and some secondary spaces are identified on The Preservation Integrity Diagrams. Care shall be taken to preserve those areas indicated as primary with the goal of minimal to no great changes. (Figures 29–35).

¹ Preservation Brief 18 *Rehabilitating Interiors in Historic Buildings, Identifying and Preserving Character-Defining Elements*.

Avoid subdividing spaces that are characteristic of a building type or style.

Spaces such as the entrance foyer, the Hall of Springs, the pool, and pool mezzanine should not be subdivided, or in the case of the pool mezzanine, be in-filled. The volume of these spaces is important to the overall integrity and quality of the space.

Avoid making new cuts in floors and ceilings where such cuts would change character-defining spaces and the historic configuration of such spaces.

Avoid moving existing historic door openings or removing or relocating original walls.

Avoid installing dropped ceilings below ornamental ceilings or in rooms where high ceilings are part of the building's character.

Dropped ceilings or acoustical tile ceilings are not recommended in primary spaces where the volume of the space is an important character defining feature. Also, if dropped ceilings are unavoidable, install them in a way that does not cover the windows

Retain and preserve interior features and finishes that are important in defining the overall historic character of the building.

These features are discussed in the interior and exterior conditions assessment sections of this study. Care shall be taken to preserve as much of the original historic materials as possible. Original character defining features and finishes should also not be obscured or covered up. The decorative painting in the Entrance Foyer, for example, has been painted over and if the space is ever restored, it would be recommended to perform a paint analysis with paint exposures so that the decoration could be restored.

Retain stairs in their historic configuration and location.

Stairs are often considered to be primary spaces. The original stairs along the north entrance lobby wall are considered to be important and should be retained in their current configuration. There are many other interior stairs located in the secondary and tertiary spaces that allow more latitude for changes. The original stairs from the pool to the pool mezzanine level were previously removed, and consideration should be made to reconstruct a similar type of stair in these locations.

Retain and preserve visible features of early mechanical systems that are important in defining the overall historic character of the building, such as radiators, vents, fans, grilles, plumbing fixtures, switchplates, and lights.

All of these items are considered to be important to the original historic fabric of the building. Care shall be taken to preserve and restore as many of these items as possible. Examples of this are the historic light fixtures in the Hall of Springs, decorative metal grilles, and the enamel cast iron tubs in the historic hydrotherapy spas.

Avoid "furring out" perimeter walls for insulation purposes. Avoid removing paint and plaster from traditionally finished surfaces, to expose masonry and wood.

Exterior walls should not be furred out to install insulation. Also, plaster on the interior face of exterior walls should not be removed in order to expose the subsurface materials. For instance, the exposed stone walls in the City Manager's offices are not considered to be historic, in that the original walls were finished plaster and the stone was not meant to be exposed. Stained wood trim, as seen in the first floor primary spaces, should remain as

stained wood, and should not be painted. Also, historically painted trim should remain painted.

Avoid using destructive methods to remove paint or other coatings from historic features.

All removal and cleaning techniques for historic materials both inside and outside the building should be sensitive to and shall not damage the historic materials. The gentlest and least caustic methods for cleaning should always be explored prior to applying more potentially harmful solutions.

Future work on the historic Hall of Waters Building should be closely reviewed by the local Historic Preservation Commission and the City Council. In 2009, the City accepted a grant from the Missouri State Historic Preservation Office (SHPO) for the rehabilitation of the north and west exterior terraces. This grant funding required that the City sign a Memorandum of Agreement that all future construction work (interior and exterior) to the property be reviewed by the Missouri SHPO.

All future design and rehabilitation work should be performed by qualified historic consultants and contractors. Architects, engineers, interior designers, and other specialized consultants should be retained who have been educated and trained in historic preservation and have experience in working with buildings listed on the National Register of Historic Places. Contractors working on the building, including the building structure, envelope, and systems should also have experience in working on National Register buildings and sites. The contractors should also possess an understanding of the sensitivity of the work they are to perform. It is recommended that a thorough pre-qualification review be undertaken for any construction work to assist in evaluating the most qualified individual or firm to undertake the work.

Building Code/Life Safety/Accessibility Evaluation

Building Code

The existing building is located in the city limits of Excelsior Springs, Missouri. The Hall of Waters was reviewed utilizing the following codes. New building codes are adopted by the City of Excelsior Springs, Missouri over time; therefore, the building and codes departments should be consulted prior to the initiation of work to understand the most current adopted codes.

- 2003 International Building Code
- 2003 International Residential Code
- 2003 International Plumbing Code
- 2003 International Mechanical Code
- 2003 International Fuel Code
- 2002 National Electric Code
- 2003 International Fire Code

Life Safety

Materials Abatement: Particular care shall be taken if historic or hazardous materials are encountered during rehabilitation are removed from the building. Engage state and federally certified contractors to complete the removal and to ensure the historic fabric of the building is not irreversibly damaged. Coordinate work with contractors to understand the full scope of work required for the removal and disposal of such items, in order to guarantee a satisfactory outcome so historic finishes are not adversely impacted during the removal process.

Accessibility Evaluation

Future alterations to the building should be designed and constructed to meet current accessibility standards. Great care shall be taken to not irreversibly damage or make sweeping changes to the historic building in order to accommodate new ADA accessibility. New designs shall be complementary to the existing historic construction and shall be designed to minimize loss of historic building fabric.

Applicable Standard: 2010 ADA Standards for Accessible Design, US Department of Justice, September 15, 2010.

Preliminary Building Code Assessment

CHAPTER 3 - Use and Occupancy Classification:

- Occupancy Groups:
 - A2 Assembly (banquet hall) – Ground Floor leasable space;
 - A3 Assembly (Museum, Exhibit Hall, Art Gallery) – 1st Floor Water Bar and 2nd Floor Public Spaces;
 - B, Business – all office spaces and spa

CHAPTER 5 – General Building Heights and Areas

Basement – 12,833 sq.ft.

Ground Floor – 13,176 sq.ft.

Ground Mezzanine – 8,911 sq.ft.

First Floor – 9,871 sq.ft.

Second Floor – 3,543 sq.ft.

Penthouse – 760 sq.ft.

Total building gross square footage: 49,094 sq.ft.

CHAPTER 6 – Types of Construction
Construction Classification: IB, non-sprinklered

CHAPTER 9 – Fire Protection Systems

- Fire Extinguishers are provided in accordance with International Fire Code.
- The building is not currently sprinklered but would be recommended.
- Improvements are required at the existing stair enclosures to meet egress requirements and smoke and fire ratings.
- A fire alarm system with voice annunciation is not currently provided and would be recommended.
- Additional emergency lighting and upgrades to the existing elevator are required to meet current code.

The following assessment information assumes that the building is to be rehabilitated into an events space, heritage tourism hub, day spa and continued use as the City Hall.

CHAPTER 10 – Means of Egress

Occupant Load: Ground Floor = 391 persons (with fire sprinkler system)

- A2 Assembly (without fixed seats) Banquet Hall (5,480 sq.ft. net)
 - Concentrated (chairs only, not fixed) – 7 net = 783 persons
 - Standing Space – 5 net = 1,096 persons
 - Unconcentrated (tables and chairs) – 15 net = **365 persons**
 - **IF the building is not sprinklered a reduced maximum occupancy equivalent needs to be established.**
- Commercial Kitchen – 200 gross = *4 persons*
- Therapy Pool – 50 gross = *8 persons*
- Storage Areas – 300 gross = *3 persons*
- Mechanical Equipment Rooms – 300 gross = *11 persons*
- North Terrace – 300 gross = 4,058 sq.ft. gross = UNOCCUPIED

Occupant Load: Ground Mezzanine = 199 persons (with fire sprinkler system)

- A2 Assembly (without fixed seats) Balcony (2,072 sq.ft. net)
 - Concentrated (chairs only, not fixed) – 7 net = 296 persons
 - Standing Space – 5 net = 414 persons
 - Unconcentrated (tables and chairs) – 15 net = *138 persons*
- Locker Room 1 – 50 gross = *11 persons*
- Locker Room 2 – 50 gross = *10 persons*
- Restored Historic Spa (Business)– 100 gross = *36 persons*
- Reception/Office – 100 gross = *3 persons*
- Laundry Room – 300 gross = *1 person*

Occupant Load: First Floor = 193 persons

- A3 Assembly (without fixed seats) Exhibit Hall (2,196 sq.ft. net)
 - Concentrated (chairs only, not fixed) – 7 net = 314 persons
 - Standing Space – 5 net = 439 persons
 - Unconcentrated (tables and chairs) – 15 net = *146 persons*
- Offices (Business) – 100 gross = *46 persons*
- Storage Areas – 300 gross = *1 person*

Occupant Load: Second Floor = 285 persons

- A3 Assembly (without fixed seats) Courtroom (1,026 sq.ft. net)
 - Concentrated (chairs only, not fixed) – 7 net = 147 persons
 - Standing Space – 5 net = 205 persons
 - Unconcentrated (tables and chairs) – 15 net = 68 persons
- A3 Assembly (without fixed seats) Council Chambers (952 sq.ft. net)
 - Concentrated (chairs only, not fixed) – 7 net = 136 persons
 - Standing Space – 5 net = 190 persons
 - Unconcentrated (tables and chairs) – 15 net = 64 persons
- Offices (Business) – 100 gross = 2 persons

CHAPTER 29 – Plumbing Systems

Minimum Number of Required Plumbing Fixtures:

- A2 (banquet hall) – male: 1 per 75, female: 1 per 75, lavatories (m&f): 1 per 200, drinking fountain: 1 per 500, 1 service sink
- A3 (exhibition hall) – male: 1 per 125, female: 1 per 65, lavatories (m&f): 1 per 200, drinking fountain: 1 per 500, 1 service sink
- Business – male and female: 1 per 25 for the first 50 and 1 per 50 for the remainder exceeding 50, lavatories (m&f): 1 per 40 for the first 80 and 1 per 80 for the remainder exceeding 80; drinking fountain: 1 per 100, 1 service sink

Future Treatment Recommendations

The formulation of recommendations for the future rehabilitation for the Hall of Waters must take into account the building's existing conditions, extant historic materials and features and the realities of the building's location adjacent to the Fishing River. First, of utmost concern, is the safety of the building occupants and the protection of the historic materials and features through instituting a methodology that preserves the remaining historic fabric to the greatest degree possible while allowing for a modern amenities and upgrades. In conjunction with that approach, there are programmatic functions that can be reorganized to allow for a more efficient work environment for City employees and provide opportunities for adaptive re-use of the building.

A Hall of Waters Steering Committee was formed by the City in late 2012 in order to gather input about potential adaptive re-use alternatives. Proposed uses provide insight for revenue sources and help provide heritage tourism opportunities for visitors to experience. It is imperative to maintain the historic presence of the building through its sense of place, materials, and setting. Even though the Water Bar no longer serves various mineral waters and the pool is closed, the Hall of Waters continues to tell the story of the development of Excelsior Springs like no other structure and is an exceptional example of an Art Deco style WPA building.

Schematic design drawings of the proposed future rehabilitation of the building were created from the ideas generated with the Hall of Waters Steering Committee and from interviews with City Staff about their work space functions and requirements. Below is a synopsis of the Work Space Study and proposed floor plans for the rehabilitation of the Hall of Waters.



Susan Richards Johnson & Associates, Inc.
818 Grand Boulevard, Suite 1150
Kansas City, MO 64106
■ www.srjarch.com ■ t: 816.474.0900 ■ f: 816.474.0909

MEMORANDUM

Date: June 6, 2014
Project: **Hall of Waters Assessment and Feasibility Study – Work Space Needs**

Overview of Findings

The Design Team lead by Susan Richards Johnson & Associates, Inc. interviewed currently City Staff to determine what their current work space is and how it could be improved while accommodating for future growth.

- Current Total Number of Employees: 13
 1. City Manager: Dave Haugland
 2. City Manager Office Assistant: Shannon
 3. Finance Director: Steve Marriott
 4. Payroll/Finance: Lois
 5. Accounts Payable/Finance: Kimberly
 6. Billing/Water/finance: Jane
 7. Human Resources: Stephanie
 8. Building Inspections Department Director/Building Official: Larry Murry
 9. Building Department Office Assistant: Jaime
 10. Building Inspector: Mike
 11. Planning and Zoning Director: Bill
 12. Codes Enforcement: Corey
 13. Building Maintenance: Ed
- Future Total Number of Employees: 15
 - Downtown Excelsior Partnership (DEP, as part of the Excelsior Springs Chamber of Commerce)
 - Economic Development Director
 - Will need separate office
- Private Offices
 - ✓ City Manager
 - ✓ Finance Director
 - ✓ Building Department Director
 - ✓ Human Resources
 - ✓ Planning and Zoning Director
- Large Conference Room Space – 10+ people
- Medium Conference Room Space – 6 people
- May be able to move the Christmas decorations to the fire station.
- The various storage areas within the building were reviewed except for one room which was locked. This room serves as storage for the ES Police Department.

- It is unknown if this storage could move to another building or needs to remain within the building.
- The Design Team will provide a separate locked storage room for the ES Police storage.

WORK SPACE NEEDS

- **GENERAL**

- Blinds on all windows
- Heating and Cooling for all spaces
- Better office aesthetics/colors
- Better way-finding in the building (visitors and the general public have a hard time finding their way around the building currently)
- New office chairs for all staff
- Better copier with Fiery or other buffering system to speed up printing
- A/V equipment upgrade in Council Chambers for larger meetings and training sessions
- A/V equipment in the large conference room for presentations
- Full size drawing scanner/plotter
- Dual monitors for Building Department Staff
- ipads and iphones and software for building inspection and codes enforcement
- Central location for shared equipment (cameras, laptops, etc.)
- Additional security for the Building and Planning Departments may be something to look into if the need arises
- There are several refrigerators located throughout the building in addition to the standard size refrigerator in the kitchenette. It is recommended that these be consolidated down to one standard size refrigerator in the kitchenette, and an under counter fridge in the conference room for refreshments. If an additional staff refrigerator is needed for drinks or additional space (potluck events), it could be located in a closet on the first floor. It is recommended to keep the number of refrigerators to a minimum to conserve energy.
- Centrally located office supply cabinet near Building Department Administrative Assistant who oversees the distribution and recordation of office supplies used by department
- More plug-ins in halls and on 1st Floor and Ground Mezzanine especially in public spaces

- **City Manager**

- More outlets
- Additional storage within the office (file cabinets)
- Private restroom for City management

- **City Manager Office Assistant**

- More outlets
- Access to storage areas

- **Finance Director: Steve Marriott**

- The Finance Department was renovated in 2011-2012 and thus the work space needs were accounted for during the renovation.
 - Payroll/Finance: Lois
 - Accounts Payable/Finance: Kimberly

- Billing/Water/finance: Jane
- **Human Resources**
 - 2 desks
 - 1 credenza
 - 1 phone
 - 4 file cabinets (1 lateral, 3 regular)
 - 1 bookcase
 - Lockable storage is a must and be located within the office or an adjacent space
 - 1 computer
 - 1 desktop printer
 - 1 folding machine (uses it most, currently located on planning table)
 - MUST HAVES:
 - Acoustical separation and visual privacy so people feel comfortable visiting the office
 - Arrange so there is no direct line of site to the monitor &/or have a privacy polarizing film applied to the monitor
 - Position requires frequent contact with the public would be great to have a small waiting area or vestibule
 - Long counter for sorting/folding and preparing employee information would be great
 - Wishes:
 - Additional locked storage within the office (4 total lateral files) and file storage space adjacent to the office (must hold files for 5 years)
 - Privacy film for computer monitor
 - Private unisex restroom for drug screening adjacent to office
 - Additional storage for drug screening supplies
 - Small under counter fridge for drug screening
 - Lockable built-in cabinets with and without doors for storage of pamphlets, envelopes and employee materials
 - Would be great to be closer to Lois doing payroll
 - Would like a desktop scanner/copier to make scans and copies of employee information/ID's easier and faster
- **Building Inspections Department Director/Building Official**
 - 4 bookcases for department reference materials – need to be centrally located (currently located in open office)
 - 1 desk L shaped
 - 1 credenza
 - 2 chairs
 - 1 book case
 - 1 lockable 2 drawer file cabinet
 - 1 phone
 - 1 computer
 - 1 desktop printer
 - MUST HAVES:
 - Meetings occur regularly with up to 3 visitors in office
 - Additional locked file storage
 - Wishes:
 - Laptop or ipad for on-site inspections

- **Building Department Office Assistant**
 - 1 desk (large L shaped)
 - 3 to 4 file cabinets
 - 1 credenza
 - 4 chairs
 - 1 bookcase
 - 3 cabinets
 - 1 computer
 - 1 phone
 - 1 desktop printer
 - MUST HAVES:
 - Lockable storage adjacent to office space for office supplies for City employees, Fire and Police employees
 - Additional locked file storage

- **Building Inspector**
 - 1 large U shaped desk made up of several pieces
 - 1 desk topper with enclosed storage
 - 1 credenza
 - 1 small bookcase
 - 1 work table
 - Centralized file storage – ok
 - Open Office with cubicle - ok
 - Flat files – located in centralized location OK
 - MUST HAVES:
 - Storage within office space
 - Space for large drawings to be laid out in the office and near the plotter– Typical size of drawings are 48" wide
 - Space for 1 or 2 visitors for meetings
 - Space for drawing storage for active projects and projects that have been closed out
 - Wishes:
 - Laptop or ipad for on-site inspections (spends half time in the field and half in the office)
 - Full size drawing scanner/plotter

- **Planning and Zoning Director**
 - 1 desk
 - 1 work table
 - 1 credenza
 - 1 computer
 - 1 phone
 - 1 desktop printer
 - File cabinets under desk
 - 2 chairs
 - 1 shelf
 - Centralized file storage – ok
 - Open Office with cubicle - ok
 - MUST HAVES:
 - Space for up to 2 visitors for meetings
 - Uses conference room at least once a week for meetings (would like a smaller meeting space available.

- Wishes:
 - Scanner/Printer combo OR access to good copier
 - Full size drawing scanner/plotter
 - Printer with scanning function or close copier with scanning feature

- **Codes Enforcement**
 - 1 large U shaped desk made up of several pieces
 - 1 desk topper with enclosed storage
 - 4+ locked filing cabinets (all are located in the current shared open room)
 - 1 desktop scanner/printer
 - Centralized file storage – ok so long as there are some lockable files at desk and lockable storage in the centralized area
 - Open Office – ok so long as there is some privacy or availability of private conference rooms
 - MUST HAVES:
 - Locked storage for case sensitive records
 - Secure long term storage for records
 - Meeting space with privacy (may prefer an office with a door but current configuration working ok)
 - Wishes:
 - Laptop or ipad for on-site inspections (spends half time in the field and half in the office)

- **Building Maintenance**
 - 2 desks
 - 1 computer
 - 1 phone
 - 1 desktop printer
 - 2 bookcases
 - MUST HAVES:
 - Lockable Office on Ground Floor
 - Desk
 - Computer
 - Phone
 - Under Counter File Cabinets
 - Lockable Centralized Storage and satellite storage closets
 - Good Ventilation and open wire shelving for hazardous chemicals
 - Exterior walkway salt
 - Floor Stripper
 - 2 Mop Sinks and faucets
 - Workbench for tools and repairs
 - Satellite closets throughout the building for easy access to cleaning/maintenance supplies

SHARED EQUIPMENT

- Server – for entire building
- 2 copiers
- 2 fax machines
- Table top work area

OTHER

- **Council Chambers**
 - Improve A/V system and add additional Screens for large training sessions so HR does not have to go to the fire station.
 - Seating for 40 people +
- **Kitchenette**
 - Full-size fridge, stove, microwave, TV, table with 4 chairs, trashcan, recycling area, sink and faucet, grill (on patio outside)
 - WANTS: Under counter dish washer
 - NEEDS: space on the counter with no upper cabinets so the large Bunn coffee maker could sit properly on the countertop
 - There is one additional large fridge in the plans area and a smaller mini fridge within the building codes office as well – Could these be eliminated or consolidated into one additional large fridge?

Rehabilitation Recommendations and Project Phasing

The following rehabilitation recommendations are broken down into individual projects based upon the urgency of repairs needed (immediate, intermediate and future). The work related to these phases are divided up in such a way as to allow for the facility to remain open while work is being performed and to stage the work by floor so that City Hall functions get top priority followed by the renovations that will produce income for the upkeep of the building. The overall recommendations have been divided into the following categories of need. Costs are included at the end of this section.

- **Immediate Recommendations: (1-2 years, in order of priority)**
(Refer to the schematic plans for additional information)
 1. North Terrace Well Room Structural Repairs/Shoring
 - Installation of permanent shoring and concrete repairs to select columns, beams and structural slab.
 - *Refer to structural report in Appendix D for additional information.*
 2. Hall of Springs Water Bar Fountain and various Structural Repairs (Information provided by Structural Engineering Associates, Inc.)
 - Repair leak in fountain and associated piping.
 - Repair structural damage to concrete slab and beams.
 3. Boiler Stop-Gap Measure
 - Installation of a new, more efficient low pressure steam boiler (to replace the boiler that is out of commission) and provide redundancy of heating source.
 - - OR -Install new variable refrigerant flow system with indoor units (as a part of the Phase 1 Intermediate Rehabilitation work).
 4. Tower Rehabilitation
 - Remove deteriorated metal/wood fascias in their entirety and install new pre-finished metal fascias on exterior.
 - Remove and replace all glass block units with new glass block matching existing in-kind replicating block size, texture, pattern and profiles. (estimate 1,248 units) Salvage historic glass block for use during fundraising campaign. Install new treated wood framing and pre-finished metal cladding for glass block installation as-required.
 - Two companies to consider contacting for custom glass block to match existing are:
 - Cincinnati Glass Block (Quadra pattern, 4x8x4 size).
 - Pittsburgh Corning Block (Arque Block 6x8x4 size, Argus Premiere Series Pattern or similar).
 - 100% repoint grout/mortar between glass blocks.
 - 100% repoint limestone.
 - 100% Clean and apply a penetrating water repellent. Spot cleaning to remove metallic staining around windows, sills and tower capstones at roof.
 - Includes limestone areas below tower on East, South and West elevations extending down to second floor.
 - Spot application of stone consolidant.

- Replace tower flue, copper flashing and standing seam copper roofing (2 levels) with new pre-finished metal standing seam roofing and new capped flue as required for new HVAC system requirements.
 - *Removal of bird droppings and any other hazardous materials within the interior of the tower will need to be performed by a qualified company prior to the initiation of construction.*
5. Miscellaneous repointing of North and East elevations including caluking at parapets at Council Chambers walls to stop water infiltration.
 6. Install temporary emergency generator to run existing sump pumps. Locate generator higher than the documented flood elevation.
 7. Hazardous Materials Removal:
 - *Abatement should be completed by a qualified company contracted directly with the Owner prior to the start of any rehabilitation project. This can be completed in phases if necessary and only focus on areas under construction. Costs will be higher for the abatement if the company is required to mobilize multiple times.*
 8. Repair and/or cap leaking sanitary piping:
 - Pipes in basement are leaking near the original abandoned boilers
 - Inspect area to see if drain is present.
 - Infill depression in the floor around original boilers with concrete
 - Sanitary lines serving areas of the building which have been abandoned should be removed or capped to prevent p-traps from drying out and allowing noxious gas into the building
 9. Install oil minder for hydraulic fluid for elevator.
 10. Replace cracked and missing cast stone units on south façade.
 - (4) Four units located below the terrace balustrade.
 11. Secure and install new sealant at the parapet cap flashing and roof flashing/termination bars on all levels of roofs where sealants are deteriorated or missing.
 12. Install longer condensate hoses to existing rooftop A/C units so that they drain to roof drains.
 13. Clean debris (screws, wood scraps, animal remnants, plants and other biological growth) from roof areas and drains.
 14. Install cover over exposed GFCI outlet at Chambers Roof (R4) through the west Penthouse wall and install new roof flashing sealant at roof termination and outlet penetration.
 - If the outlet is not required, it should be removed and the hole through the concrete Penthouse wall should be repaired and the existing flashing patched or replaced.

15. Install rock ballast where roof membrane is exposed, especially around roof drains and on Penthouse Roof (R6). (approximately 100 sq.ft.)
 - Inspect existing roof membrane for UV and weathering deterioration where there is no ballast protecting the surface. Repair or replace deteriorated areas prior to installation of new rock ballast.
16. Study and inspect existing pump capabilities to handle a flood event.
17. Study removal of the current sump pump outflow pipe and create new discharge, freely, with redundancy, out of the building during a flood event.

- **Intermediate Recommendations: (2-5 years)**

- **Intermediate Phase 1** (Refer to the schematic plans for additional information)

1. Relocate City employees to single floor (First Floor):
 - Selective demolition of existing walls, install new gypsum board walls, patch existing plaster walls, restore terrazzo floor (select area), paint, new doors and frames, new door hardware, new carpeting, new acoustic ceiling tile, new water efficient restroom fixtures, new domestic water piping, new bath accessories and ADA grab bars, new rubber base, new signage, one overhead projector and recessed rolling screen, new built-in wood cabinets, new electrical, lighting, and new fabric curtain partitions in the storage area.
 - Continued use of the existing Kitchenette, Server Room, and Conference Room on Ground Mezzanine Floor with minor renovation:
 - Install new carpeting, paint walls.
 - Add ventilation to these spaces, consider adding these spaces onto the variable refrigerant flow system to be installed on the First and Second Floors.
 - Optional: Install new A/V equipment (overhead retractable projection screen, overhead projector, sound).
 - Continued use of the Exercise Room on the Ground Floor
 - Add a shower and move the lockers into the open space within the Exercise Room.
2. Expansion of existing Men's and Women's restrooms on First Floor:
 - Selective demolition of existing walls, plaster wall and ceiling restoration, restoration of terrazzo floor, new water efficient plumbing fixtures, new domestic water piping, new electrical and lighting, new toilet partitions, new bath accessories and ADA grab bars, paint and new rubber base.
 - Install new exhaust ducts and fan:
 - For restrooms and janitors closets on First and Second Floors to a centralized exhaust fan located on the roof (Serving First and Second Floors only).
 - The exhaust fan is to be controlled by a time clock or direct digital control system to be energized during occupied hours.
3. Install new lighting in First Floor space for offices, in the Entrance Foyer 103 (new fixtures around skylight).
 - Restore bronze fixtures with glass globes, re-lamp with new long life energy efficient bulbs, and add new fixtures in each room to supplement existing lighting.
4. Restore existing light fixtures and install additional new light fixtures within main stairs located along north wall of the building which serve all floors.
5. Install occupancy sensors for lighting in all rooms on First and Second Floors.
6. Install required components to create fire rated egress stair from Ground Floor Mezzanine to Ground Floor.

- Emergency egress lighting, exit signage, continuous handrails and new fire rated doors and frames.
7. Hall of Springs:
 - Installation of dedicated up light system with 'soft start' dimmers.
 - Re-lamp existing historic light fixtures with long life clear 'traffic signal' bulbs.
 - Replace Water Bar light fixtures with linear LED light bars. Restore metal and glass signage/above counter light.
 - Installation of interior automated roller sunshades for all windows with remote control system.
 - Install new bar sink, under counter refrigerators and new stainless steel base cabinets and countertop around the U shaped bar with stainless steel backsplash.
 8. Install new interior finishes in Council Chambers and County Courtroom (Second Floor):
 - New carpeting, window shades, painting, wall patching and new acoustic ceiling tile, and dimmable indirect fluorescent light fixtures.
 - Optional (but recommended): New A/V system and recessed, ceiling mounted, motorized screens.
 - Replace Council Chamber exterior door with a commercial grade steel door and frame. Paint to be consistent with other exterior doors found throughout the building.
 9. Install new variable refrigerant flow system with indoor units located in the various spaces and heat recovery variable refrigerant flow condensing units located on the roof for the (First and Second floor occupied spaces only).
 - Installation of new digital HVAC controls in the building to allow for automated operation of the heating and cooling system.
 10. Install ductwork serving Basement, First and Second floor spaces from central dedicated outdoor air unit(s) for ventilation and to provide positive pressure inside the building.
 11. Replace electrical panels and branch circuit conductors to all panels on the Ground Floor, Ground Floor Mezzanine, First Floor and Second Floor (8 Panels Total, original branch circuit conductors have brittle insulation that is falling off leaving the conductors exposed, creating a safety hazard and code violation).
 12. Install new conduit for electrical wiring where existing conduit/junction boxes are corroded.
 13. Install all new wiring, switches, and outlets on First and Second Floors for renovation work.
 14. Replace all sump pumps with new grinder pumps. (2 total pumps)

15. Exterior Rehabilitation:

- 100% repoint around the entire building. Include exposed brick and stone on back sides of parapets (can be phased with Intermediate Phase 2 work). (Information provided by Structural Engineering Associates, Inc.)
- 100% Clean and apply penetrating stone water repellent to all stone facades. Select application of stone consolidant. (can be phased with repointing work). (Information provided by Structural Engineering Associates, Inc.)
- Install new windows throughout the First and Second Floors (at a minimum) on all elevations.
 - 24 windows on First Floor (Hall of Springs windows remain and are not scheduled to be replaced).
 - 16 windows on Second Floor.
 - The steel windows on the second floor behind the decorative metal screen are significant historic fabric and should be preserved. Restore 4 existing steel windows and install interior storm windows on Second Floor.
- Repair or replace steel lintels as required for window installation. (40% repair, 60% replace). (Information provided by Structural Engineering Associates, Inc.)
- North and West Entrances:
 - Install new door thresholds and/or door sweeps to bottom of exterior doors to keep water out of the building during rainstorms.
 - Replace 2 broken mirrors and 2 broken reed textured glass panels (8"x8" each) in the north exterior and interior entrance transom windows above the pairs of doors.
- Replace missing cast steel elements at the exterior of the Hall of Springs. Install new sealant at windows and doors where missing and at door thresholds. (approximately 10 elements and 50 linear feet of sealant)
 - Touch up paint on windows and door surrounds. (approximately 100 sq.ft.)
- Patch damaged and/or delaminated stucco. Apply breathable elastomeric coating system to entire east wing of the building over existing stucco. (Information provided by Structural Engineering Associates, Inc.)
- Repair concrete structure and reinforcing steel repair and/or replacement throughout the exterior and interior of the building (including locations at loading dock and in basement at swimming pool foundation). (Information provided by Structural Engineering Associates, Inc.)
- Stabilize and repair west stone site walls at the south end of the building and miscellaneous repointing and cleaning of all site walls. (Information provided by Structural Engineering Associates, Inc.)

- Remove low stone wall and south stair near the west wing at grade. Replace with a new cast-in-place concrete wall and a metal stair.
 - Install new color changing LED lighting behind glass block (all sides) to illuminate tower at night.
16. Study storm piping system and look at constructing new pump outflow and redundant pipes to discharge freely during any flood event.
- Elimination of the existing storm flap gate.
 - Elimination of any storm piping system entering/exiting the building.
17. Study exterior pumping solution to protect building during a flood event (optional).

- **Intermediate Recommendations: (5-10 years)**

- **Intermediate Phase 2** (Refer to the schematic plans for additional information)

1. Rehabilitation of the Ground Floor and Ground Mezzanine areas for leasable event space

- Pool and Balcony Areas (Event Space):

- Install frosted structural glass floor (DuPont Sentry Glass or similar laminated glass) and steel structure over pool.
 - Optional: LED lighting system with color changing capability for 'water' effect.
- Install new glazed structural block walls or burnished CMU throughout the Ground Floor.
 - Gypsum board and plaster walls should be avoided if possible on this floor due to the potential for flooding.
- New acoustical tile ceiling throughout (including under mezzanine in aisles).
- Install fire sprinkler system and pump for assembly space (pool room and balcony spaces).
- Restore terrazzo pool deck.
- Restore porcelain tile around pool edge and install a terrazzo transition between the deck and the raised pool edge.
- Clean and repoint two-toned tan glazed masonry throughout room and accessory spaces as required. (clean all surfaces, allow for 500 sq.ft. of repointing)
- Remove existing glazed ceramic tile and install new glazed ceramic tile on cylindrical columns at south end of pool area.
- Repair and paint plaster walls at balcony.
- Restore and paint existing decorative metal handrails and install new 42" glass guardrails around the perimeter of the mezzanine and at the stairs to meet building code requirements.
- Install new steel and concrete pan stairs at south end of the pool area where old stairs were removed.
 - Paint steel and install new walls to enclose stair.
 - Install terrazzo tile to be inlaid in concrete treads.
- Remove and salvage diving board and related pool equipment/accessories (could be retained and installed in the building as part of a historical display or as historic artifact 'artwork').
- Install new Men's and Women's Restrooms on Ground Floor
 - New water efficient restroom fixtures, new domestic water piping, new bath accessories and ADA grab bars
- Install catering kitchen on Ground Floor
- Typical upgrades to interior finishes and lighting on Ground and Ground Mezzanine Floors:
 - Painting, new doors and frames, new door hardware, restore existing doors, new vinyl composite tile, restore terrazzo floor (select area), new glazed structural block walls, new acoustic ceilings, and new rubber base

- Install new exhaust ducts and fan in the restrooms and janitors closets on Ground and Ground Mezzanine Floors to a centralized exhaust fan located on the roof.
 - The exhaust fan is to be controlled by a time clock or direct digital control system to be energized during occupied hours.
- 2. Install ductwork serving pool and accessory spaces from central dedicated outdoor air unit(s) for ventilation and positive pressurization of the Ground Floor and limited Ground Mezzanine.
- 3. Install variable refrigerant flow system for Pool and accessory spaces (Ground Floor and limited Ground Floor Mezzanine)
- 4. Install new basement lighting occupancy sensors and damp rated fluorescent lighting in the basement.
- 5. Install occupancy sensors for lighting for all rooms on Ground and Ground Mezzanine Floors.
- 6. Install new interior finishes in elevator:
 - New flooring, base, dropped ceiling and new lighting
 - Clean and restore existing elevator wall panels and elevator controls
- 7. Exterior Rehabilitation:
 - Install new windows throughout the Ground and Ground Floor Mezzanine Spaces
 - 18 windows on the Ground Floor
 - 52 windows on the Ground Mezzanine Floor
 - Repair/replace steel lintels as required
 - Re-lamp 6 existing exterior light fixtures with LED lights (each fixture assume 4 bulbs each)
 - Restore skylight over Entrance Foyer
 - Replace cracked skylight exterior glazing (8 panes of glass)
 - Paint interior and exterior of skylight framing light color to reflect light
 - Clean interior glazing
 - Repair steel doors throughout the building, including the installation of new perimeter sealants and prepping, priming and painting of the doors and frames.
 - Install interior screens over existing louvers (7+ louvers) installed throughout the building. If louver is deteriorated, replace with new louver. Louvers should be individually inspected and maintained. All louvers should have the perimeter sealants maintained.
 - Remove plywood and existing louvers and install new louvers where needed or install appropriate masonry infill to match surrounding wall.

- Overhead doors are installed on the south, east and north elevations. These doors vary in ages and require varied maintenance.
 - Each door needs to be individually inspected and maintained to prevent deterioration, water and weather infiltration.
 - Prep, prime and paint north and east doors. (2 total doors)

- **Future Recommendations: (10 years and Beyond)**

- **Phase 3** (Refer to the schematic plans for additional information)

1. North Terrace Well Room Long-Term Treatment
 - Remove concrete sidewalks and soil/grass at outdoor terrace over well room only.
 - Demolish concrete slab and 2' of concrete columns.
 - Construction debris from removal could be retained within the North Terrace footprint.
 - Salvage concrete slab and columns around the existing mineral water well
 - Install new precast concrete walls and structural slab. Install membrane waterproofing on new smaller mineral water well room.
 - Relocate water service and backflow preventer connection to inside the new room created for the mineral water well.
 - Install sub grade drainage system for terrace area and connect to existing drainage system.
 - Backfill remaining well room area with crushed rock and soil to completely infill opening. (existing room is 15' high from floor to top of structure with an additional 2' of soil on top).
 - Install new lawn, landscaping and concrete sidewalks to replicate historic landscaping plan.
 - *Refer to structural report in Appendix D for additional information.*
2. Restoration of the Ground Mezzanine Hydrotherapy Spa (Final program to be determined by spa designer):
 - Install new plumbing and restoration of existing plumbing fixtures or installation of new historically appropriate plumbing fixtures
 - Install new massage therapy rooms (equipment and furnishings by others)
 - Install new locker room facilities (Men and Women)
 - Install hot water heating system for spa
 - Restoration of therapy pool (tile restoration, new piping and pump equipment, heated water system, water treatment system, dedicated ventilation and HVAC system, restored and new lighting and interior finishes upgrades)
3. Exterior Rehabilitation:
 - Optional: Install Lightning Protection System
 - Currently there is no visible lightning protection system installed.

Cost Estimates

The Design Team along with Construction Management Resources (CMR) has compiled probable construction cost estimates for the Immediate, Intermediate and Future rehabilitation phases outlined within this section. These cost estimates include costs for general conditions (contractor fees and general requirements-mobilization cost), escalation of construction costs (2014 to mid 2016), and a design/estimate contingency. The contingency cost is included due to the schematic nature of the plans associated with the study at this time. Once the design for the rehabilitation projects are refined into construction documents, the design contingency would be reduced. The escalation of construction costs percentage is included in order to accommodate the rise of construction costs due to inflation, labor rate increases, and costs of materials. Costs for professional design fees have not been included in the construction cost estimates; typically these costs range from 10% to 15% of the total construction cost.

Cost estimates for the three proposed mechanical system options were prepared in fall of 2013 and are presented separately from the overall building rehabilitation costs. Three options were discussed during a meeting with the advisory committee in October 2013. The preferred mechanical option was Option No. 1, Distributed Variable Refrigerant Flow (VRF) units with central condensing units located on the roof. It is recommended that the individual units would be heat pumps, which would provide both heating and cooling. This system is very efficient, requires minimal maintenance, and would provide excellent space conditioning. This system also minimizes costs and impact to interior finishes for installation of the new system, has lower operational cost than current systems, overall good life-cycle costs, and has the ability to be installed in multiple phases. Individual units potentially could be installed on a room-by-room basis after the main equipment has been installed. It should be noted however that the most efficient and cost effective installation is to install all units and equipment on all floors at once; or if that is not feasible, to install the units on a floor by floor basis. In order to calculate the total rehabilitation cost per rehabilitation phase, the Option No. 1 costs have been split in two phases and added to the total costs below.

Structural Engineering Associates, Inc. has assisted CMR with costs specifically for the exterior restoration of the masonry, structural and stucco building elements and materials, and for the various required interior structural repairs. These costs have been included within the cost estimate prepared by CMR with the notation (costs by SEA). The detailed estimate has been included within this section.

Total Costs for Immediate Rehabilitation Work (1-2 years): \$ 889,439

Total Costs for Intermediate Phase 1 Rehabilitation Work (2-5 years): \$ 2,642,902
(Includes First and Second Floor rehabilitation with associated new mechanical costs)

Total Costs for Exterior Rehabilitation Work (2-5 years): \$ 2,220,151
(Includes complete exterior masonry, stucco and structural repairs at interior and exterior of building)

Total Costs for Intermediate Phase 2 Rehabilitation Work (5-10 years): \$ 3,215,629
(Includes Ground Floor and Ground Mezzanine rehabilitation with associated new mechanical costs and select exterior rehabilitation components)

Total Costs for Future Phase 3 Rehabilitation Work (10 years and beyond): \$ 1,524,883
(Includes long-term fix for North Terrace Well Room, Restoration of Ground Mezzanine Hydrotherapy Spa and an optional Lightning Protection System)

Funding Strategies

Included within this section are ideas for fundraising opportunities for the ultimate goal of reactivating and restoring the Hall of Waters into a vibrant public space with income generating potential.

Options to boost foot traffic & revenue:

- Hail to the Hall tours - Charge or do a fund raiser that offers a behind the scenes peek at the Hall of Waters. Hard hat tour that includes the "below the pool" area. Guests not only see the history of the building but get a feel for what repairs are required and how critical the timeliness of the project is.
 - It should be noted that tours are not recommended on the Ground Floor in the pool area or Ground Mezzanine balcony around the pool until hazardous materials abatement has been completed.
- National Spa Museum

Fundraising Options

- Kickstarter Campaign:
 - Focused campaign fundraising for a specific room/area.
 - Example: Water Bar and Water Bar Fountain Restoration.
 - As a rule of thumb, there would be a reward and/or recognition for people's donation when the fundraising goals are completed.
 - Updates about the fundraising progress are also encouraged.
 - <https://www.kickstarter.com/hello>
- Missouri State Historic Preservation Office Grants
 - Excelsior Springs is a Certified Local Government (CLG) and therefore is eligible for CDBG funding.
 - Excelsior Springs is also a DREAM community since induction into the program in 2006.
- National Trust for Historic Preservation Grants
 - Typically are for planning or professional services, not for construction.
- Historic Rehabilitation Tax Credits
 - State and Federal Historic Tax Credits.
 - Apply only for income producing (for profit) entities.
 - <http://www.dnr.mo.gov/shpo/taxcrdts.htm>
 - <http://www.nps.gov/tps/tax-incentives.htm>
- Fundraising through donations for the purchase or restoration of specific items/spaces. Individuals will give more to campaigns which delineate exactly what their donation is going to purchase or provide.
 - Examples: light fixtures, fountains, windows, doors, decorative paving or landscaping, new floor over pool, rehabilitation of an entire floor with naming rights, etc.
 - As a thank you for their donation, naming plaques could be made and installed on the actual item gifted and/or incorporated into a plaque or digital donor recognition display.
 - <http://www.risedisplay.com/solutions/recognition-displays/>

- 'Selling' salvaged glass block from the tower or the original locker room baskets as a fundraising tool.
- Selling Gifts/Merchandise in the Hall of Waters:
 - Examples: T-shirts, pins, patches, books, bags, water samples, etc.
 - Some of these items are already on sale at the Water Bar in the Hall of Springs.
- Heritage Tourism Phone App (\$ per download):
 - Interactive digital media with video and sound to supplement the existing history display boards.
 - Provide information for a self-guided walking tour in and around the facility.
- Selling tickets to 'exclusive' events benefitting the restoration of the building.
 - Example: Dinner and Drinks in the Hall of Springs and surrounding patio.
- Renting out the Hall of Waters Pool and Hall of Springs as event space (future, after rehabilitation).

Additional Investigation and Research Recommendations:

- Investigate the extent of deterioration of the existing spalling concrete above the ceiling of the pool (directly under the Water Bar).
- Conduct an air quality study of the basement and occupied spaces.
- Study the existing mineral water lines that enter the building in the well pump room below the north terrace.
 - Clearly document the lines (photograph, drawings and measurements).
- Study the existing well pump structures east and north of the building. Clearly document the lines into the building.
- Produce a concise set of field-measured drawings of the building produced in AutoCAD format.
- Perform follow up research for the use of the mineral waters for human consumption and/or bottling at the Hall of Waters.
- Compile a complete history of the Hall of Waters Building, including historic photographs, drawings, and timelines of work.
- Perform additional research into flooding and building modifications at the Excelsior Springs Museum & Archives.
- Perform additional research into the mineral water wells located near the Hall of Waters. One spring source located just east of the building in a small pump house and the other was located to the north of the parking lot, built into the stone and concrete retaining wall.
- At this time, it is recommended that a drainage study be performed to determine the extent and expected frequency of flooding from East Fork Fishing River and to study possible channel improvements to prevent or alleviate flooding. Please note that any channel improvements or work within the floodway area would require a FEMA map revision.

Additional Civil and Study Recommendations

- Installation of new wells for mineral water:
 - Must install new wells per DNR guideline and cap the old wells, requires periodic water sampling.
 - *Refer to Appendix F for a letter from the DNR and a Mineral Water Report.*
- Study all exterior zones, elements and or conditions that cause the building to flood. (Army Corps of Engineers)
 - East Fork Fishing River and levee system.
 - Watershed improvements eliminating East Fork River flooding by use of Regional or Sub-Regional Lake Systems, Detention Cells, Infrastructure, etc.
- Study utilizing perimeter under drains system improvements to alleviate flood impact.
- Study additional comprehensive Site Drainage: repairs, piping, inlets and storm event improvements.
- Study a complete site grading and drainage solution that would eliminate any flooding event affecting the building.
- Study elevating the exterior of the site to eliminate building flooding.
- Study infilling unused portions of the basement and North Terrace Well Room area with to correct structure deficiencies.
- Study pavement failure occurring in west entrance lot pumps.