

DRAFT consulting scope for Jackson Homestead Basement Rehabilitation Project

Phase 1: Feasibility Study

Qualifications

The prime consultant is to be experienced in the preservation of historic structures including wood-frame structures similar to the Jackson Homestead. The consultant team must be experienced in design and construction of museum spaces in buildings similar to the Jackson Homestead and able to propose high-performance mechanical solutions with estimates of associated temperature and humidity ranges that can be achieved in light of the proposed renovations.

Project Organization

The City of Newton will administer this contract through the Public Buildings Department (PBD), as managed by their project manager. The operating agency is the Historic Newton Department which operates the Museum and is directed by the Director. The Director will create a Review Committee of museum staff and members of the Joint Board of Historic Newton, along with PBD's Project Manager, which will provide information and review materials submitted by the Consultant. In addition, the Director, on behalf of the Owner's Review Committee, will commission a museum designer to develop a program and performance specifications for the exhibit on Newton History that will be housed in the proposed gallery.

Consultant Scope of Work

Task 1: Review of existing material, both historical information on the structure and information gathered as part of renovations and repair. Material to include:

1. HABS drawings of site, building plans, elevations and details, 1935
2. Photographs and drawings of the building and grounds
3. Plans and specifications of renovation of the building exterior performed by the city including:
 - a. Exterior and foundation prepared by TBA Architects, Inc., 1997
 - b. Renovation of the Jackson Room prepared by TBA Architects, Inc., **date**
 - c. Renovation of archive and access and safety system improvements to exterior prepared by Durkee, Brown, Viveiros & Werenfels Architects (D,B,V&W), 2011
 - d. HVAC repair and equipment most-recent replacement prepared by PBD's Contractor
 - e. Exterior envelope repair and repainting prepared by PBD, **date**
 - f. Record of relevant work orders performed recently

4. Prior master plans for JH reconfiguration and expansion
 - a. Space Needs Program Study for the Newton History Museum, prepared by Solomon+Bauer Architects, Inc., 2005
 - b. Long Range Plans for Maintenance and Operations of the Durant-Kenrick House and Jackson Homestead, 2017
 - c. Schematic studies by D,B,V&W, , date
5. Update/confirmation of existing conditions documents to assure that recommendations are based on the installed and dimensionally accurate conditions.

Task 2: Review of proposed program: work is to be coordinated with the consultant and Owner's Review Committee.

1. Building Stabilization
 - a. The building shows evidence of water infiltration from the fieldstone foundation walls and rising damp from below the existing concrete slab on grade, resulting in deterioration of the foundation wall, and of wood windows, frames and sills of the structure above. Brick walls and piers are deteriorating with spalling and crumbling due to rising damp. This has required exhibit materials be relocated to the main level, severely restricting the museum use of the lower level. Additionally, high humidity levels are migrating to the building above, damaging wood structural elements and compromising the museum's ability to properly store and preserve its collections.
 - b. Consultant is to recommend building system solutions to control water infiltration to the structure and building interior.
2. Exhibit Space
 - a. House a new exhibit on Newton history. Work will be coordinated with HN staff and an independent exhibit design consultant commissioned by the Newton Historical Society.
 - b. A goal of this aspect of the study is to maximize exhibit area and configure it to maintain flexibility. Reconfiguring existing utilities and service spaces can be considered.
 - c. Temperature and humidity control are critical components of the study. We recognize that the area under consideration is largely below grade with a fieldstone foundation and wood structure above. Alternative scopes of construction are to be considered in light of estimated temperature and humidity ranges that can be achieved.
3. Accessibility
 - a. Currently, the lower level is accessed from the back through a separate entrance, requiring either separate (street) parking or long walkway access. Main level access is provided by a ramp to the main entrance and reception. The building's upper level is currently not accessible.

- b. Explore options for providing access between two or three building levels. Options to consider include an interior lift, or a new lift constructed outside the historic building envelope. Reconfiguration of the existing lower-level stair access may be considered.
- 4. Storage
 - a. Identify areas for storage. Storage is to be configured for efficiency and flexibility. Consultant will identify the estimated range of temperature and humidity control for each proposed alternative.
- 5. Restroom
 - a. An existing, noncompliant restroom exists in the lower level (with a compliant restroom on the main floor). Consultant to consider building-wide compliance to determine whether this is required in the lower level.
- 6. Mechanical and Service
 - a. Currently, an existing mechanical closet houses a gas-fired boiler (installed **date**). Other utilities in the basement include an electrical panel, sprinkler valves and controls, and _____. Consultant to review existing systems and identify opportunities for higher performance to meet or advance the museum's goals for temperature and humidity control.

Task 3: Concept Plans and Outline Specifications: Consultant team is to provide draft conceptual plans and specifications and details sufficient to establish the parameters of a solution for final design and engineering.

1. Draft recommendations to include estimated costs for final design services and construction, with recommended spending priorities.
2. Meetings to discuss recommendations.
3. Revisions as required.
4. Final Report.

Schedule

Work on the feasibility study will commence immediately on award with progress milestones as follows:

Month	Scope	Deliverable
1	Contract Award	
2	Task 1	Confirmation Memo
3	Task 2	Draft Program Submitted
5	Task 3	Draft Plans and Cost Estimates
6		Final Report

Preapplication text on the project

The intent of this project is to stabilize and rehabilitate the basement of the Jackson Homestead, a Newton historical treasure. The end-goal is to achieve a space that is safe for artifacts, enjoyable for visitors, and structurally sound in support of the building for generations to come.

Existing Conditions

The existing space is used for whole building heating, air conditioning and ventilation (HVAC), electrical service, water service, main sprinkler system supply piping and valves, and a small non-accessible bathroom. Most of its area is used for museum gallery space, created in the 1980's. The below-grade space is relatively high-ceilinged and has fieldstone walls, brick structural piers and an unsealed concrete slab on grade. There is a compliant accessible entrance (but arguably sub-standard entrance from a Universal Design perspective) along the north wall. The basement space suffers from water infiltration through the foundation walls and floor. The brick structural piers show damage from creeping damp due to the infiltration. Water infiltration is also damaging the stone mortar, as well as the wood windows and frames. The space is inadequately conditioned resulting in wide swings in relative humidity during winter and summer seasons. The Museum has closed the basement to the public as it works to remove the City's collections from the space to avoid continuing damage. The basement needs to be renovated to eliminate or control water infiltration in order to stabilize and protect the structure. The gallery is obsolete and requires redesign and renewal to meet contemporary standards of collection preservation, museum display, and public engagement.

Project Organization

We propose to complete the project through two design and engineering contracts. The first contract, commissioned by the City and supported largely by the City's CPC funds, will provide detailed analysis of the existing conditions and result in structural repairs and stabilization, new interior structure and wall, floor and ceiling finishes, lighting, power and HVAC. The second contract, commissioned by the non-profit Newton Historical Society (NHS), will include gallery interior and exhibit design and installation. The redesign will also result in a small storage space to replace to replace three awkward, damp, and underutilized closets as well as allow for collection storage in exhibit furniture and elsewhere. The two design contracts will overlap in schedule and be coordinated by Public Buildings and Jackson Homestead staff, Historic Newton's Buildings and Grounds Committee, and supported by members of the Historic Newton community.

Scope of Construction

Although the final design approach has yet to be determined, our current expectation is that most of the construction work will be largely on the building interior. The fieldstone walls

and floor will be sealed on the interior by a continuous membrane. New wall and floor framing, and interior wall surfaces and flooring will create a sealed interior gallery space as well as enclosures for the various utilities. Access stairs from the main floor of the Museum will be modified as required to adjust for the new floor level. We will also install new sealed windows and properly flashed frames. The space between the new membrane and the interior face of the fieldstone walls and concrete floor will be configured to actively drain away any water that infiltrates the structure. Related site work will include modification of window wells to assure proper drainage and examination of the condition of previous infiltration efforts. Existing catch basins will be inspected, cleaned, and repaired if necessary. The building's overall HVAC system will be assessed, upgraded or an additional unit installed to achieve museum-quality climate control. Additional capacity will be designed with regard to the City's "green" goals, including increased efficiency and reduction of fossil fuel consumption. New ceilings and gallery lighting will be coordinated with the gallery design.

Jackson Homestead is truly an Historic Landmark, but with a deteriorating foundation it is at great risk. The main Newton history exhibit is sorely outdated (both in content and design). However, when this project is finalized, the entire building will be preserved through its foundational structures and new climate control, and the public will be served by an exhibit with more modern, diverse, and engaging presentations, for years to come.