



# FACILITIES ASSESSMENT AND SPACE PLANNING RECOMMENDATIONS

How can Middletown get the best return on its investment in making its public library facilities future-ready for all?



- (A) Repair**  
repair + maintain existing site and facility
- (B) Renovate**  
renovate, demolish + build on existing site
- (C) Relocate**  
relocate + build elsewhere in Middletown
- (D) Repurpose**  
if "C" is done, repurpose the current Library site

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# Table of Contents

- 1.0** Executive Summary
  - 2.0** Comprehensive Facilities Assessment
    - 2.1** Architectural
    - 2.2** MEP/ FP
    - 2.3** Construction
    - 2.4** Facility Highlights Walkthrough
    - 2.5** Code Notes
  - 3.0** Project Costs
  - 4.0** Inspirational Images
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1.0

# Executive Summary

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# Introduction

**I**n many ways, the place of the modern public library is a descendant of the ancient Athenian Agora, whose flexible, open, and interconnected spaces birthed civic pride and democracy, bringing together people to formally and casually learn, exchange, create, and enjoy. The Russell Library is advancing that classic tradition with its newly defined mission “to empower people to grow, connect, strive and thrive.” Aristotle, who valorized the value of civic life in the Agora, would approve.

In modern times, the prime center of civic life is the free public library, designed and operated as the most inclusive place for the entire community, welcoming all age groups of all backgrounds to gather and learn. Afterall, what other place can leverage a relatively small footprint of real estate to serve 100% of the population?

## Background

Recently, the Russell Library set forth a bold new strategic plan to be “Future-Ready” for Middletown,” with goals to: 1) strengthen community; 2) create a safe and welcoming destination; 3) foster a thriving economic ecosystem; 4) promote a lifelong love of learning. “Future-ready” includes having a facility that is future-ready for staff and public needs, and for current cultural and climatic changes, and for inevitable uncertainties. For example, who could have predicted in the year 2000 how mobile technologies evolved, and then in 2020 how Covid would change the uses and design of physical space? Are the Russell Library’s existing 45,000 square foot assembly of aging buildings on an historic site adaptable enough to advance this strategic vision and be ready for current and future changes...and at what requisite level of design changes and capital improvement costs?

These inquiries led Middletown and the Russell Library in 2021 to commission a comprehensive facility conditions assessment and space planning recommendations project. HMA2 architects, in collaboration with Legacy Engineers, Maxine Bleiweis & Associates, and AP Construction, was hired to deliver assessments and recommendations to set the stage for the Russell Library going forward.

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## Process

Over the last four months, the HMA2 team inspected the Russell Library's facility conditions on numerous visits, reviewed past construction documents, became familiar with Middletown's extensive urban, suburban and rural settings, learned more about the history and visions for the future of Middletown and the Russell Library, met with various staff, community and municipal stakeholders, and jointly toured comparable Connecticut library facilities with the Russell Library team. The output is this report, intended to establish cost, function, expectations and parameters by which the Russell Library facility could be "future-ready," driven by this probing question for which there are multiple choice answers:

"How can Middletown get the best return on its investment in making the public library facilities future-ready for all?"

**A. Repair:** repair + maintain existing site and facility

**B. Renovate:** renovate, demolish + build on existing site

**C. Relocate:** relocate + build elsewhere in Middletown

**D. Repurpose:** if "C" is done, repurpose the current Russell Library site

While cost, function and location are key considerations to evaluate these choices, an important qualitative lens is the Vision Committee's five key themes for Middletown's library facilities:

- **Human Centered**
- **Accessible**
- **Fun, Dynamic, and Flexible**
- **Connected, Inspirational and Aspirational**
- **Sustainable**

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## Findings

**"A" (Repair)** is the least expensive in the short term but is the least desirable in the long term.

**"B" (Renovate)** is likely the most expensive to build and would be disruptive to ongoing operations.

**"C" (Relocate)** is the best choice to realize the strategy and vision. "C" (in concert with "D") relocates the Library to be sited and built elsewhere in Middletown. The existing historic property is positioned to become a reimagined cultural, civic, and educational destination, enjoying a central location between the Wesleyan campus and Main Street.

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While this Executive Summary presents choices A, B, C, and D, the bulk of the assessment report is within the sections that follow, providing supportive technical details, photo documentations, cost analyses, focused observations, and quantitative and qualitative data. Moreover, this report appreciatively reflects the insights and inspirations of previous and more current reports/documents including:

- *The Building Conditions Assessment of the Russell Library* completed in 2013 by TLB Architecture
- *Future-Ready for Middletown: A Strategic Plan for the Russell Library 2021-2025*
- *Middletown 2030. 2020-2030 Plan of Conservation & Development.* January 13, 2021
- *Russell Library Vision Committee: Findings and Recommendations* July 14, 2021

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## ...the next library for Middletown should distinctly reflect a future-ready Middletown.

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This report recognizes that the costs to relocate are substantial and the timing to make a new home for the library is urgent. Construction costs are high and generally increase every year. Ongoing investments in money and staff efforts to keep the existing facility in operation are not efficient or effective in the short term and will not pay off in the long term for either the future vision of the Library or for Middletown. Moreover, a new and relocated library facility presents an opportunity to bring the community

together to work on realizing a flexible design offering new services that reflect the distinct needs and pride of Middletown today and whatever the future holds.

While preparing for the unexpected is a key lesson of the pandemic, climate change and cultural shifts, the underlying message of this report is that the next library for Middletown should distinctly reflect a future-ready Middletown.

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## Space Planning to be future-ready

Library spaces that feel inclusive, work well, look great, and are cost effective have three qualities: they are Flexible, Visible and Connectible.

**1. Flexible** space leverages every square foot to adapt to multiple uses for different groups at various times. While many libraries have a designated “multi-purpose” room, what if the whole library were multi-purpose? A slightly wider hallway can be a study lounge, a café seating area, an exhibition gallery—all at the same time. Flexible space empowers people to feel in control. Furniture on wheels is an invitation to customize space with an added sense of ownership. Can a flexible space spawn a flexible mind, open to new ideas and diverse perspectives?

**2. Visible** space is inherently welcoming, with clear sightlines from one space to another. Seeing activity arouses curiosity to discover what is going on and is an invitation to participate. Participation activates learning and a sense of belonging. Moreover, visibility can provide comfort, orientation and security. Staff can openly see activities to engage and help others more efficiently. A visible space is a natural place to browse and find new learning opportunities.

**3. Connectible** space has blurred boundaries that actively and inclusively bring people together in expected and unexpected ways, energizing a place. A dynamic city is a mix of connectible spaces, whose overlapping streetscapes, parks, stores, and residences create chance encounters and serendipitous discoveries. A dynamic library with connectible spaces brings new people and learning experiences together like an ideal city.

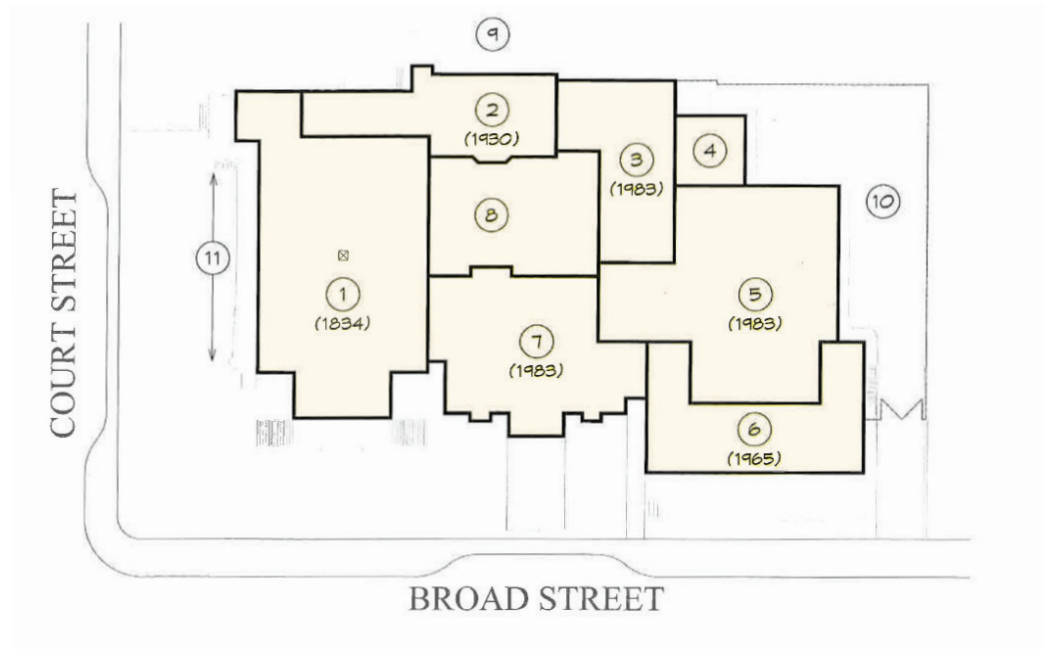
In summary, a library building with flexible, visible, and connectible spaces is a powerful place of learning and community building, thereby manifesting Russell Library’s strategic goals to strengthen community, create a welcoming and safe destination, foster a thriving economic system, and promote a lifelong love of learning. For similar reasons the location of the library in Middletown should also be flexible, visible, and connectible.

The current Russell Library facility and location cannot be adequately or cost effectively updated, renovated, or rebuilt to be flexible, visible, and connectible. Our recommendation, in conjunction with the Russell Library team, is to relocate and create a new library facility—a new city anchor, that can prove to be a great return on Middletown’s investment to be “future-ready.”



## Repair

repair + maintain existing site and facility



### BASE SCOPE: \$18 MILLION

- Replace outdated infrastructure (MEP/FP, elevator)
- Provide maintenance + updates to enclosure (roof, walls...)
- Update select architectural finishes (paint, floor, doors, signs...)
- Improve accessibility
- Renovate courtyard

### OPPORTUNITIES

- Less construction & soft costs in the short term
- Update MEP/FP/IT
- Preserve vision of Russell legacy
- Proximity to Wesleyan

### CHALLENGES

- Present configuration is too small, inflexible, inefficient, ineffectual to fulfill current and future strategy & vision
- MEP/FP/IT updates limited for future needs
- Historic place may not feel inclusive to all
- Location is not adjacent to other activities
- Lack of parking
- Low long-term return on investment
- Repairs will severely disrupt ongoing operations
- Larger cooling tower needs added structure and screening

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## Scheme A: Repair



he first choice (Scheme A) is to repair and update an already deteriorating facility whose infrastructure needs work ranging from maintenance to full replacement, in the short and long term. As accurately portrayed in the RFP prepared by Middletown for this project, “The deficiencies in the current facilities are many, ranging from ADA and code compliance issues: critical mechanical and equipment that are past end of life and have begun to fail; major inefficiencies in heating/cooling and safety/security due to the incremental way the building was constructed over time; crumbling building envelope elements (roofs, 150 year-old brownstone); an unwelcoming and awkward layout for visitors, inappropriate adjacencies (ex: Teen Room adjacent to “quiet reading room”); administrative offices located in a separate building; staff offices tucked away throughout the library...In short, the Library is doing its best to provide 21st century services, but is working in an outdated, 19th century environment.” Moreover, the neighboring and abandoned residence, originally built in 1860, which the Russell Library Company acquired in 1999, is decrepit, dangerous, and uninhabitable. A significant problem with the existing library site is the lack of free public parking, as the property has barely enough parking for staff. Further sections of this report provide engineering, construction and architectural evidence and amplification to this assessment summary.

On a positive note, the structural conditions of the existing buildings are sound. While the historic church’s roof and skin need replacement and repair, its structural “bones” are in decent shape. The structure of the other existing library buildings is in decent condition, though the floor of the 1983 addition was not engineered to adequately support book stacks, making the potential use of that space limited. The library staff have done a stellar job in making the most out of the challenging layouts and disorienting configurations of space. Displays of new books and an open circulation desk at the entry help to create a sense of welcome in an otherwise claustrophobic setting. Accents of biophilic colors that were added this past year help to create a sense of place, comfort, and orientation. The signature place in the library is the soaring space of main level of the original church building.

To help understand the assets and liabilities of the current Library facilities, it is worth understanding its long and interesting history, as this facility was never originally intended to be a library.

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The existing structure, set in an historic district of Middletown, has grown and evolved since the library first opened its doors in 1876 in a remodeled Episcopal Church, gifted by the Russell family. Responding to ever-changing needs and uses over the years, the library has expanded on its original pocket park site, adding the Hubbard wing for children's services in 1930 and then renovating a neighboring 1965 bank structure in 1972. In 1983, the last major construction date, church and these structures were all linked with a new "connector" building, which more than doubled the size of the library while providing one centralized public entry and forming a 2,400 square foot inner garden courtyard. Two later adjacent property purchases (on opposite corners of the library) are vintage residential structures: one built in 1825 now serves as an administrative office wing, and one built in 1860 is a vacant multi-family residence abandoned more than 20 years ago. In summary, the gross floor areas of connected library spaces on 3 levels and a basement consume about 45,000 square feet, out of which the historic Church and Hubbard room comprise nearly 15,000 sf. The two adjacent properties are 4,500 and 4,000 square feet respectively.

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### **...the current building's layout is inherently inefficient.**

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In more recent years, architectural concept plans to gain more useable space by enclosing the sunken courtyard were not advanced, though the tall trees in the courtyard which disrupt the building's walls and roofing are slated to be removed. Most of the physical plant repairs and updates recommended in the 2013 assessment report were not executed, and

ongoing delays could exacerbate expenses to repair going forward.

To better assess the spatial inefficiencies of Russell Library, we did a comparative analysis of the Russell Library to the Westport Library (CT). The Westport Library is a recently completed project of ours and is nearly identical in overall square footage. The comparison revealed the following:

- Russell Library has 5x more wasted space than the Westport Library (i.e., corridors, ramps). This does not include the administrative building.
- The Westport Library has 11x more usable outdoor area than the Russell Library
- Russell Library has around 3x the amount of staff/ administrative space than the Westport Library

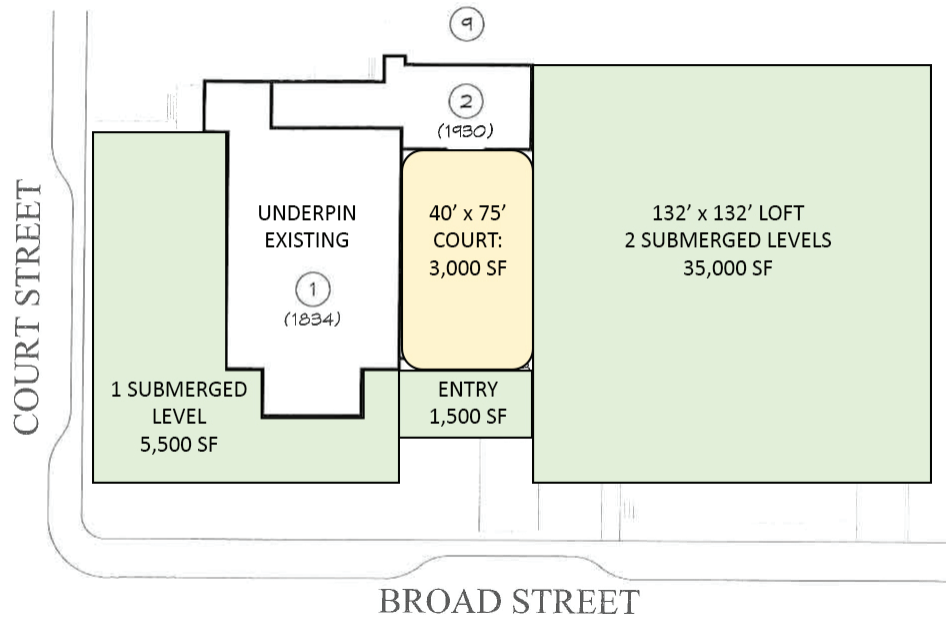
While the mechanical and electrical systems could be updated to maintain the existing building as a library, the current building's layout is inherently inefficient. This "Repair" scheme would require around \$18 million and would yield little return on the both the use and experience of the library, since all the current operational challenges would remain and worsen with the passage of time.





## Renovate

renovate, demolish + build on existing site



### SCOPE: \$55 MILLION

|  |           |
|--|-----------|
| Renovate Church and Hubbard Wing:      | 15,000 sf |
| Build new park roof structure + lofts: | 42,000 sf |
| New sunken court atrium:               | 3,000 sf  |

#### TOTAL

**60,000 sf**

#### OPPORTUNITIES

- Restores the church's historic visibility on site
- Restores open interior gathering place of the church
- Creates a new park for the community
- Land is already paid for
- Updated building infrastructure (MEP/FP/ IT)
- Expansion is highly flexible
- Sustainable and usable green roof structure

#### CHALLENGES

- Cost premiums may include:
  - Dealing with existing conditions
  - Demolition
  - Excavation/ Underpinning
  - Phasing and temporary library facilities
- Lack of parking
- Not adjacent to active city places
- Daylight + views compromised with below grade spaces
- Integrating the historic church for library needs
- Below grade/ water issues

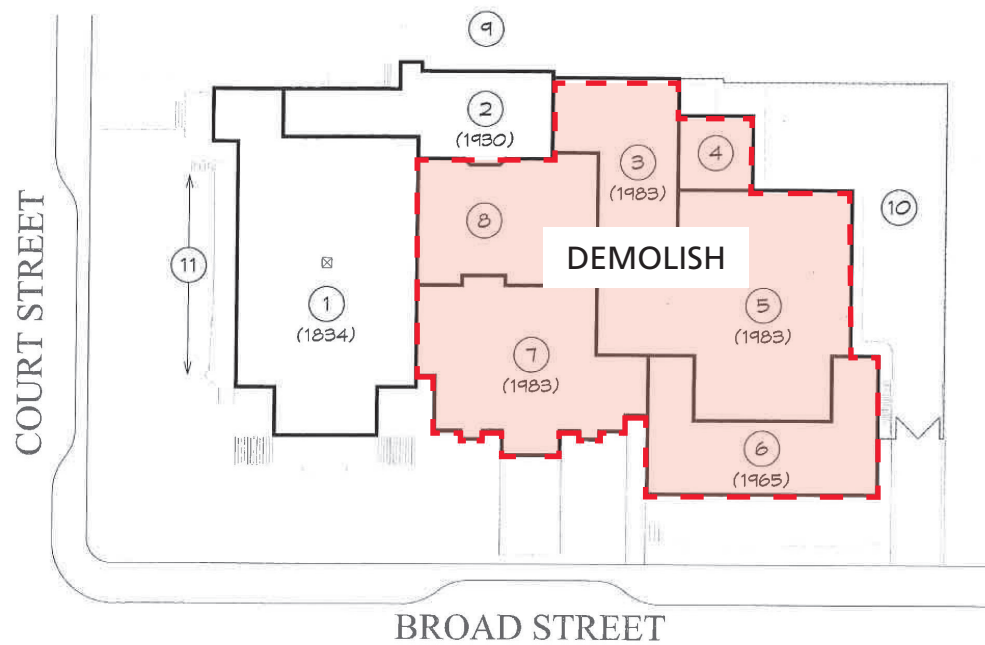
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## Scheme B: Renovate



he second choice (Scheme B) is to renovate the site by demolishing all of the connected buildings except for the 1834 Church building and the 1930 Hubbard Room, which would be restored into gathering spaces as they were originally intended, albeit for a different purpose (to be determined). By demolishing the adjacent buildings, the presence of the historic building on the site can be recaptured within a newly reestablished park. In this option, the new park is raised slightly but connected to the ground plane and streetscape. As the park is “peeled up” from the street level, daylight is filtered into the new submerged library spaces below. The new community park becomes the green roof of the library, supporting the library’s sustainable vision. The footprint of the existing site can be used both as a park and as a library, which takes full advantage of the site. The newly sculpted landscape and the existing historic buildings frame the centralized enclosed courtyard with glass ceiling. Daylight and views would need to be carefully orchestrated to maintain a visual connection to the outside from within.

While this option makes the most of the current site, it comes with some costly challenges, including underpinning the existing building, significant excavation, dealing with existing conditions, disruptive phasing, and temporary library facilities during construction. While there is no cost for land acquisition, the same challenges related to parking and the lack of community connections would remain. This option could potentially have the longest construction time and the most difficult logistics.



- |   |                           |
|---|---------------------------|
| 1. Original Church Building               | 7. Main Lobby/Circulation |
| 2. Hubbard Room                           | 8. Courtyard              |
| 3. Children's Library, West               | 9. West Parking Lot       |
| 4. Mechanical Space                       | 10. North Drive           |
| 5. Children's Library, North              | 11. South Walk            |
| 6. Bank Building/Children's Library, East |                           |



Conceptual rendering with farmer's market.







## Relocate

relocate + build elsewhere in Middletown



### SCOPE: \$52.5 MILLION

New construction:  
Locations:

60,000 sf  
TBD

#### OPPORTUNITIES

- Manifest the library's strategy and vision
- Anchor for Middletown's development plans
- Better return on longer term investment
- Sustainable design
- Partner with other institutions to fund and operate
- Suitable parking
- No costs for a temporary facility during construction
- Lower operating and maintenance costs

#### CHALLENGES

- Land purchase costs
- New construction costs
- Bylaws for library presence on existing Broad Street property
- Loss of library's identity in mixed use development
- Ownership rights
- Sense of inclusiveness

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## Scheme C: Relocate



he third choice (Scheme C) is to relocate the library to a new site. This option is the most ambiguous without having a specific site; however, we can make inferences about costs, opportunities, and challenges using construction industry standards, the City of Middletown's Plan of Conservation & Development, and the library's strategic plan and vision committee report.

The existing library is like the younger sibling, always getting hand me down buildings that do not fit. A new building would be specifically tailored and designed to the library's needs and would be reflective of the community of Middletown. The prominent new library is an investment in

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**...a clear identity and presence in Middletown**

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the future that benefits everyone in the community. The location should position the library as an anchor and asset to Middletown. Through its new adjacency the library could have the opportunity to partner with other institutions to supplement costs and add value to the building and its programs.

This relocation scheme was evaluated in two ways:

- **Scheme C:** The library builds a new stand-alone building
- **Scheme C.1:** The library partners with a developer who provides the core and shell of the building in which the library is responsible for the interior fit out within the context of a new mixed-use building or development

A new stand-alone building allows the library to have a clear identity and presence in Middletown and to be an independent destination. The library would be responsible for more of the construction and land acquisition costs but would have more ownership and independence. If the library was within a mixed-use development, the library would need to seek ways to differentiate itself while also respecting the overall vision of the development. The library would also need to find ways to be inclusive and welcoming to everyone beyond the immediate community of the mixed-use development. The ownership and leasing options for the long term may be challenging. Coordination, planning and timing could also be more difficult when there is dependency on the other parties involved. The partnership could also bring many benefits if there is a shared goal to activate the community and to potentially offset the costs.

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At the time of this report, the City of Middletown is in the early phases of a master planning initiative for its riverfront and adjacent areas, with robust public participation at the center of the process. The library has had some preliminary discussions with the city about including the library as a key anchor for downtown development, since a busy public library could draw upwards of 1,000 visitors per day and contribute substantially to the success of the area. At a recent “Return to the Riverbend” online public visioning session, participants expressed a strong desire for mixed-use applications that include safe and constructive spaces for youth, places that foster business incubation and connection, public art and gallery spaces, multimedia resources for community use, and places to learn about Middletown’s history. Participants also stressed that any new developments should be accessible and welcoming to all, and that spaces that naturally bring people together will inevitably lead to robust economic development down the road. This is in keeping with the words of the late urbanist William H. Whyte: “What attracts people most, it would appear, is other people.”

It is readily apparent that a well-appointed, modern public library could fulfill a great number, if not all these needs in a responsible and sustainable way. In fact, the best public libraries already do. At this current inflection point, Middletown now has a rare opportunity to invest in public infrastructure that will activate the community through flexible, visible, and connectible spaces, providing a public library where everyone feels a sense of belonging, connection, and inspiration.

The new library, whether part of or independent of a development, should meet the following criteria:

- 60,000 gross square feet minimum (per CT State Library Space Planning Guide/ Worksheet)
- Highly visible, including extensive street level presence and entry
- Separate service access
- Two floor levels for public functions
- Substantial daylight and open views
- Some high bay and long span spaces (approximately 50 feet)
- Access and use of outdoor areas

Relocating the library can also provide adequate parking, meet the library’s sustainability goals and have lower operating and maintenance costs. The building infrastructure, equipment and technology would be all new, state of the art, flexible and “future ready.” The building would be welcoming, efficient, easy to navigate and have ideal adjacencies. It would be designed specific to the needs of the library and be a destination to bring people together. In addition, the library would not need to rent a

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temporary facility since they are able to use their existing facilities during construction. The construction would be the least disruptive and would be faster, without needing to phase the project.

Relocating the library to a new site is the most viable option for Russell Library to realize the promise of its strategy and vision to serve the community and thereby leverage the investment to design and build a future-ready library.

Mixed-use library development examples:



Northtown Library and Apartments, Chicago, IL.



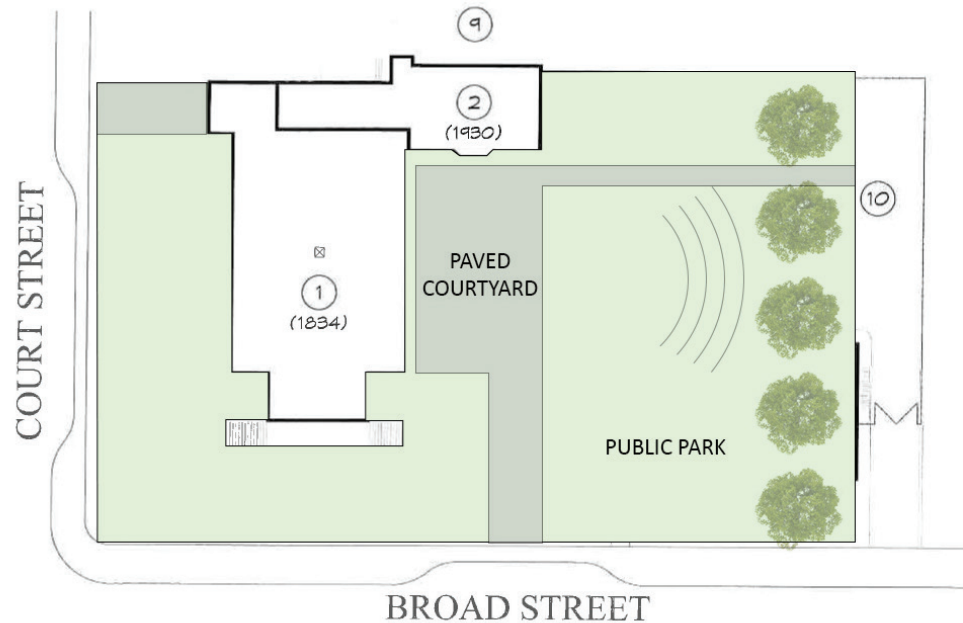
Taylor Street Apartments and Library, Chicago, IL.





## Repurpose

if "C" is done, repurpose the current Library site



### SCOPE: \$6.5 MILLION

|                                   |           |
|-----------------------------------|-----------|
| Renovate Church and Hubbard Wing: | 15,000 sf |
| Build new park                    | 25,000 sf |

#### OPPORTUNITIES

- New life to historic church
- New community park
- Revenue from sale of the building(s)
- Partner with other cultural & educational institutions
- Adjunct to library services

#### CHALLENGES

- Bylaws of existing church property
- Costs to renovate, build and maintain
- Securing a new owner and uses

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## Scheme D: Repurpose



If the library chooses scheme C, then the fourth choice (Scheme D) would be considered. Scheme D includes demolishing all the connected buildings except for the 1834 Church building and the 1930 Hubbard wing, and both would then be renovated. By demolishing the adjacent buildings, the presence of the historic building on the site can be recaptured within a newly re-established park. The new park may include a paved courtyard and/or a park amphitheater for everyday gatherings or events. The park can be used for concerts and farmer's markets bringing new life to the block.

The church section of the existing library is currently cluttered with book-stacks blocking the windows and obscuring the architectural assets of the space. The Church and Hubbard wing would be renovated back to their inherent use as gathering spaces that highlight the architecture.

After making the changes to the building and site, the library would have some opportunities as to how to repurpose it including the following:

- Adjunct services for local libraries
- Private development with public cultural use components

The benefit of repurposing the building is the added revenue from the sale of the building. Nearby related cultural or educational institutions, like Wesleyan University, may be interested in acquiring or partnering with the library to increase their connectiveness to downtown Middletown and blending the boundary of their campus.

The Russell Library Certificate of Incorporation may have provisions that could potentially limit the development or relocation of the library. Additional resources may be required to overcome or work around those hurdles.



Conceptual rendering with farmer's market.

# Russell Library Project Costs

2021.09.14

|   | SCHEME A:<br>REPAIR<br>(45,000 sf) | SCHEME B:<br>RENOVATE<br>(60,000 sf) | SCHEME C:<br>RELOCATE<br>(60,000 sf) | *SCHEME C.1:<br>RELOCATE<br>(60,000 sf) | SCHEME D:<br>REPURPOSE<br>(15,000 sf) |
|---|------------------------------------|--------------------------------------|--------------------------------------|---|---------------------------------------|
| <b>HARD COSTS</b>                         |                                    |                                      |                                      |   |                                       |
| CONSTRUCTION                              | \$12,075,000                       | \$38,610,000                         | \$37,550,000                         | \$20,540,000                            | \$4,570,000                           |
| FURN + EQUIP                              | \$1,000,000                        | \$1,500,000                          | \$1,500,000                          | \$1,500,000                             | TBD                                   |
| TECHNOLOGY                                | \$350,000                          | \$700,000                            | \$700,000                            | \$700,000                               | TBD                                   |
| TEMPORARY FACILITY                        |                                    | \$650,000                            |                                      |   |                                       |
| <b>TOTAL:</b>                             | <b>\$13,450,000</b>                | <b>\$41,460,000</b>                  | <b>\$39,750,000</b>                  | <b>\$22,750,000</b>                     | <b>\$4,570,000</b>                    |
| <b>SOFT COSTS</b>                         |                                    |                                      |                                      |   |                                       |
| •25% OF HC (FEES, ADMIN, MOVING, TESTING) | \$3,400,000                        | \$10,365,000                         | \$9,940,000                          | \$5,700,000                             | \$1,145,000                           |
| <b>SUBTOTAL:</b>                          | <b>\$17,000,000</b>                | <b>\$52,000,000</b>                  | <b>\$50,000,000</b>                  | <b>\$29,000,000</b>                     | <b>\$6,000,000</b>                    |
| 5% CONTINGENCY                            | \$850,000                          | \$2,600,000                          | \$ 2,500,000                         | \$ 1,450,000                            | \$ 300,000                            |
| <b>PROJECT TOTAL:</b>                     | <b>\$18,000,000</b>                | <b>\$55,000,000</b>                  | <b>\$52,500,000</b>                  | <b>\$30,500,000</b>                     | <b>\$6,500,000</b>                    |

## Excluded Costs :

- Parking: 70 spaces x \$30K (per space for structured parking) = \$2.1 million
- Extensive site working beyond building footprint for Scheme C
- 3% Annual escalation
- Cost of site acquisition for Scheme C
- 5-year maintenance costs (current site): \$2.6 million
- 139 Broad Street (\$2 million- restore) and 234 Court Street (\$60k allowance-improvements)

## Clarifications:

- \*Scheme C.1: Relocate- Fit out costs within core and shell provided by others
- Scheme C & C.1: Does not include developer negotiation aspects
- Construction costs include 10% contingency
- Subtotals and project totals were rounded up
- Schemes B, C & C.1 were rounded to 60,000 sf. Actual size would need to be informed by projected population size according to the Connecticut State Library Space Planning Guide and facility feasibility studies going forward

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2.0

# Comprehensive Facilities Assessment

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2.1

# Architectural

# Comprehensive Facilities Assessment

*Please refer to the supplemental Facility Walkthrough Highlights document for additional information and photos. The descriptions below reference the supplemental documents with corresponding section numbers (i.e. A1).*

## I. Site

The Russell Library is located on Broad Street, which is one block away from Main Street- the central downtown hub of the city. There are a lot of vacant, under-utilized parcels of land surrounding the library that makes the street front look undefined. The library is set back from the sidewalk and does not have a strong presence on the site. The scale of the library addition next to the historic church competes with, overpowers, and conceals the historic building. Main Street has a well-defined street edge with permeability between the streetscape and the businesses. This is unlike Broad Street, which is a hodgepodge of parking lots, office buildings and historic houses. The library should be a community anchor interwoven with and connected to the fabric of Downtown and a destination that activates the streetscape.

### 1. Topography

- i. Refer to Section 2.3 Construction

### 2. Irrigation and Drainage-

- i. Refer to section 2.2 MEP/ FP and Section 2.3 Construction

### 3. Access/ egress

- i. The main entrance to the library is located on Broad Street. There are crosswalks located in the middle of the street on Broad Street connecting the parking lot across the street and the main building entrance. There is also a crosswalk located on the corner of Broad Street and Court Street. The former has a stop for pedestrians sign and the latter has a stop sign. There is a curb cut at the main building entrances for truck loading and vehicular drop off. There are additional service driveways on the north between 119/131 Broad Street and 139 Broad Street and on Court Street between 119 Broad Street and 234 Court Street. For egress notes please refer to the supplemental 'Codes Notes Plans' document for potential code compliance egress issues at the library including but not limited to; the direction of door swings, number of required exits based on occupancy, distance between exits, blockage of egress paths, fire ratings, ADA compliance/ clearance, stair widths, tread depths, riser heights, railing heights, open stairways, dead ends, exit door hardware, fire separations, exit discharge, etc. A full code analysis would need to be conducted to determine the extent of the code violations and the challenges of updating the building to meet the code. The library was unable to provide the construction classification, user group and overall occupancy load document for the existing building at the time of this report. The library should further investigate these items if they decide to update the building.

### 4. Paving, curbing, and flatwork

- i. Refer to Section 2.3 Construction

## 5. Parking and transit

- i. Public Parking: There is no dedicated parking lot for the public and patrons of the library. Parking is provided only through a variety of municipal parking lots (including Broad Street Municipal Lot, Middle Oak Parking Garage and Melilli Municipal Lot) and on-street metered parking (on Broad Street and Court Street) and street side parking (on Pearl Street). The lack of free access to parking adjacent to the library creates a “roadblock” and hindrance for the public to access and use the library both physically and financially. The Middletown POCD community survey for the 2020-2030 Plan of Conservation and Development found that 534 responders traveled by car compared to 63 by walking when asked which type of transportation used most when traveling in Middletown. The results also indicated that parking was voted the biggest challenge in Downtown. The library should be a public amenity and is easily accessible to all.
  1. Handicap spaces: There is one handicap parking space on the street in front of the library in the form of parallel street parking. The parking is not fully accessible nor ADA compliant due to the sidewalk curbs and lack of access aisles and ramps adjacent to the parking space. Additional handicap parking spaces are provided in offsite parking lots not dedicated to the library, which is not ideal.
- ii. Staff Parking: There are few parking spots located on the property of the library that are used by staff. They include 18 parking spots in the west parking lot, 5 parking spots in the north parking lot and 8 on the adjacent lot 139 Broad Street.
- iii. Public Transportation:
  1. There are two bus systems that operate in Middletown, CT; The Middletown Area Transit (MAT) and the CTTransit commuter service. The closest bus stop to the library is located on Main Street between Court and Washington Street. The bus stop on the 55 route stop is located one block away from the library on Main Street. The bus is run by CTTransit and connects Middletown to Hartford, CT. The downtown terminal for the MAT bus lines is located 0.3 miles away from the library which is about a 6-minute walk. The adjacency to public transportation is a nice asset for the library for those who require alternate modes of transportation however it is not a free service and far for handicap users.
- iv. Walking: Since the Library is in downtown Middletown there is an abundance of sidewalks and traffic lights with crosswalks that makes walking to the library pedestrian friendly. According to the Middletown POCD community survey the results found that about 10% of responders used walking as the type of transportation used most when traveling in Middletown. This survey was not specific to the library and their patrons but gives a general sense of the percentage of people walking.
- v. Bicycle racks: During the site visits, bicycles were parked parallel to the guardrail along the covered entrance path into the library. It is not clear if this location was originally intended as a bicycle rack or has informally transformed into one.



However, if a patron were to park the bicycle perpendicular to the rail (as bike racks are typically used) then the bicycles would block the entrance and egress path. While it is a nice asset to have bicycle parking at the library as an additional mode of transportation, the bicycles should be well integrated into the architecture and landscape. Bicycle racks are also installed along the low wall in front of the Children's library patio. The pavers at this location are uneven and could be tripping hazard. No bicycles were parking at this location during our visits.



## II. Exterior Systems:

139 Broad Street is an abandoned apartment building adjacent to the main library building. Previously a 10-unit multi-family house, the building has been unoccupied since 1999. It is a 2 ½ story wood frame and stucco faced. The building is in complete disrepair and very hazardous. The roof of the building was destroyed in a storm and is being replaced and the roof of the detached garage has been replaced. The missing roof and length of time that the building has been abandoned has caused considerable damage on the interior. The property would need to be stripped down to the structure and completely rebuilt to become operational. The exterior façade is stucco is crumbling and windows are missing, damaged and boarded up. There is a

large elevation change in the topography between the 139 Broad Street and the main library so it would be challenging to connect these properties without doing significant excavation and regrading.

234 Court Street was previously a private residence built in 1825. It is a 2 ½ Story wood frame building with vinyl siding. It is currently being occupied on the first floor with administrative offices for the Russell Library, and the second floor is rented to a non-profit tenant. The first-floor offices are accessible by ramp. The office space shows considerable signs of aging and should be updated and maintained for long term use. Please refer to the AP Construction report for more information.

1. Foundation- Refer to Section 2.3- Construction
2. Roof- Refer to Section 2.2 MEP/ FP and Section 2.3- Construction
3. Walls and window systems- Refer to Section 2.3- Construction
4. Exterior doors- Refer to Section 2.3- Construction
5. Civil/ structural components- Refer to Section 2.3- Construction
6. Outbuildings- Refer to Section 2.3- Construction

### III. Utility systems and infrastructure

1. Plumbing: supply, water/ sewer, valving, fixtures- Refer to Section 2.2 MEP/ FP
2. Electrical: distribution, supply, fixtures- Refer to Section 2.2 MEP/ FP

### IV. Interior systems

1. Walls: The interior walls show significant signs of aging such as cracks, chipped surfaces, peeling paint and stains, particularly in the Main Reading rooms (D14), Hubbard room and Children's Program room. Maintenance is recommended.
2. Interior doors: The interior doors show significant signs of aging and require maintenance and refinishing. Additional considerations include visibility glass in certain areas to facilitate wayfinding and visibility. Door fire ratings would need to be confirmed if the building were to be updated. Fire separation doors may need to be added or could potentially be removed depending on the fire protection systems in place in the future.
3. Flooring: The flooring shows significant signs of aging such as stained and worn carpeting, cracked VCT, cracked glass flooring in the Main Reading room (D7), and peeling rubber stair treads/ risers which creates tripping hazard throughout the library (J8). The flooring should be replaced. However, the carpet tile in the teen area and the Info Department looked newer and in decent shape and does not need immediate replacement.
4. Ceiling: The ceilings are generally in good shape except for the Children's Program Room. The children's program room ceiling tiles are very old, stained and in disrepair. There are other areas in the library where ceilings have been damaged from water leakage from the roof and should be addressed and fixed accordingly.
5. Hardware: The door hardware is not consistent or composed throughout the library. Please refer to the Facility Walkthrough Highlights documents for specific egress hardware code issues (J3).

6. Lighting: While many of the artificial lights are in decent condition, the lighting does not highlight the architectural assets of the library. Some areas have utilitarian lighting that does not make the spaces feel comfortable. The library does not have an abundance of natural light, nor does it feel visually connected to the outside. The windows to the outside in many locations are small, recessed, tinted and/or at odd elevations. The library should harvest the daylight and provide views to the outside.

- V. Heating, ventilation, and air conditioning- Refer to Section 2.2 MEP/ FP
  1. Controls
  2. Mechanicals
  3. Terminal units
  4. Air flow and efficiency
- VI. Telecommunications, special equipment, and systems- Refer to Section 2.2 MEP/ FP
- VII. Health, safety, and security conditions; alarm systems; fire protection- Refer to Section 2.2 MEP/ FP
- VIII. Elevator systems- Refer to Section 2.3 Construction
- IX. Public service areas
  1. Accessibility, navigation, and wayfinding
    - i. Accessibility: While there are many ramps throughout the building, many areas of the library are still not ADA complaint including, but not limited to, the public desk (A1), courtyard (B1), main reading room bookstacks (D1), Hubbard hallway (D14), restroom, and kitchen. Ramps were added as a retrofit to bridge the different era buildings together but as a result create a lot of spatial inefficiencies and a navigational maze (D5, F2). Accessibility, however, goes beyond wheelchair access. According to the Russell Library Vision Committee Report Accessibility was defined as, “everyone can use the library, regardless of ability, language, gender expression, or any other lived experience.” A library should be intuitive and welcoming. Unfortunately, the layout of the library is not intuitive to navigate nor is the space welcoming upon arrival. Please see the section below for more information on Navigation/ Wayfinding. Another criterion for accessibility in the Vision Report was having a library that is ‘legible’ from the outside, to see what was happening inside. The monolithic front brick/ brownstone façade is a fortress with scarce openings that do not display the richness of what is happening on the inside. A library façade should spark curiosity, showcase the activities inside, be inviting, and be reflective of the character of the library and its community. The Russell library has multiple building entrances that are remnants of their previous uses prior to becoming a library. Now, these entrances are only used for emergency egress and are confusing for visitors. Due to the lack of hierarchy, the main entrance is undefined and looks like a dark exterior corridor rather than a bright gateway. Not knowing where to go and formidable entrance can intimidate people and deter them from using the library. The uses of the library should be brought out of the shadow and into the light so that it is welcoming to all.



- ii. Navigation/ Wayfinding: Since the library is formed of multiple buildings, not originally designed as a library, there are a lot of spatial inefficiencies and lack of orientation/ intuition on how to navigate the building. There is also a lack visibility between and within the spaces that makes it hard for patrons to explore and for staff to monitor and interact with patrons. When there is not a connectiveness of spaces, there is not a connectiveness of people. As previously mentioned, ramps were added as a retrofit to bridge the different era building elevations together but as a result created a navigational maze that is disorienting. While the courtyard is a central anchor to the building it is not perceived as one. Small, recessed and oddly placed windows as well as level changes limit the visibility between spaces. The courtyard divides the spaces rather than connecting them. There is limited signage to guide and inform the user in the library. Some of the signage is small and illegible (F1). Other areas have conflicting signage such as the entrance door to the Hubbard room from the main Reading room (Exit, To Hubbard Room, this area is closed to the public). The signage and wayfinding should be consistent with the identity of the library and work seamlessly with the spaces. The graphics should tell the story and represent the character of Russell Library. The library has implemented a biophilia palette with inviting and comforting colors to help mitigate this issue and give identity to different spaces which is challenging given the spatial complexities.



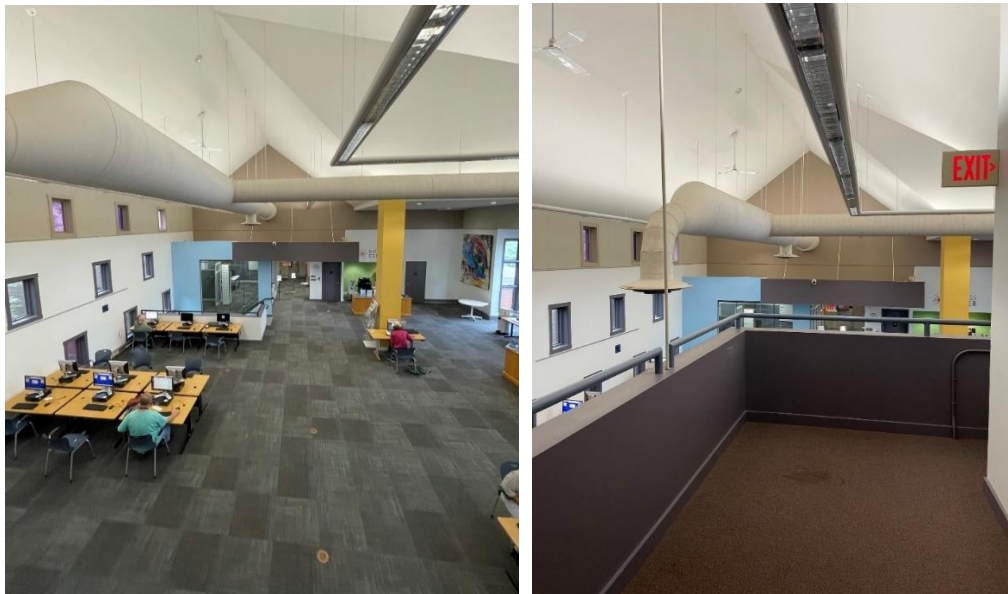


## 2. Flexibility and space utilization/ efficiency

- i. Flexibility: The existing furniture/ equipment, limited mechanical capacity to accommodate changing loads, and the absence of flexible 'plug and play' power and data, and structural floor limitations contribute to the lack of flexibility at the library. The existing furniture is not easily movable, with an abundance of built-ins, heavy furniture, and furniture without wheels. The main reading room, and former church, is the most ideal gathering space to hold large scale events; however, the bookstacks block the windows and architecture, are not mobile, and are structurally integral to the floor system above. The building does not have the flexibility to relocate the books because the floors in certain areas, such as the Info Dept, are not structural adequate to accommodate the loads (E3). The library should optimize and make the most with their spaces to be versatile for everyday and event gatherings. The building spaces and furniture should be flexible to empower its users to take ownership, to accommodate various uses throughout the day, and should be adaptable to the changing needs of the future.



- ii. Spatial inefficiencies: There are a lot of spatial inefficiencies at the Russell Library due to multiple buildings being combined and retrofitted. The rooms and spaces are not sized appropriately for their needs since the building was not originally designed for those uses. Many issues arise such as code compliance, egress, access, updating MEP FP AV/IT systems, structural loads, equipment size limitations, etc. Some building uses lend themselves better to retrofits, however, it is challenging for a library use where the spaces need to be open, connected and flow and has heavy structural loads. Spaces that have a dedicated use, without the flexibility to accommodate multiple functions, are also inefficient as described in the previous section. Many spaces at Russell Library are underutilized, such as the Business Center/ Info Dept and computer station areas, where furniture is scarce and uninviting (E2). Changing technology may make the Business Center space obsolete in the future. The mezzanine level overlooking the business center has a great view to see what is happening below, however it is very narrow and for egress and circulation only. Throughout the building there are also many leftover nooks and crannies that are hard to monitor and are not engaging between staff and patrons.



3. Adjacencies: There are many areas within the library that do not have ideal adjacencies. The administrative staff is currently located in a separate building on library property (H1). There is no covered or enclosed walkway to connect the two buildings so administration must go outside to travel between the buildings. This disengagement can deter face to face meetings and chance encounters, and hinders the ability to see what is going on in the library. The children and the young adult areas are on opposite sides of the library. While it can be good for these groups to have their own distinct areas, the young adult area can be a visual aspiration and bridge the gap for younger children. The young adult/ teen area is located beneath the Main Reading Room. This adjacency is not ideal, with lack of acoustical separation as the noise from the teen area travels to the adult reading area (C4). Staff offices are separated from the public in secluded offices and nooks and crannies all over the building. The glass doors and windows are covered, which prevents visibility and interaction with patrons (C2).

X. Staff and volunteer areas

1. Flexibility and space utilization/ efficiency: Around 25% of the library square footage is dedicated to staff and administrative areas, which makes the overall usage of the library spatially inefficient. The staff and administrative areas should be consolidated to give more space to the public and get better use of the space.
2. Adjacencies: Please see refer to the previous section for information on the adjacencies between the main library and the administrative area. In addition to the previous section, the volunteers and many staff areas are in the basement without any natural daylight or visibility to what is happening in the library. Staff and administrative areas should have windows with plenty of views and natural light for a healthier work environment. The staff spaces should not be squirrelled away and siloed, but connected to promote interaction.

Access current facilities

- I. Determine condition, estimated useful life, and projected ongoing maintenance costs of current assets, as compared with industry standards. Give preventative maintenance recommendations, including minimum standards of day-to-day upkeep and associated estimated costs based on industry standards, including but not limited to the following: ongoing building maintenance, equipment replacement, janitorial needs and staffing, basic cleaning/ deep cleaning, paint, flooring replacement, and lighting replacement:
  - a. Refer to the detailed project cost estimates for both Scheme A: Repair and the 5 year maintenance plan.
- II. Determine the level of repair necessary to restore or replace components to achieve optimal conditions.
  - a. Refer to the executive summary for Scheme A: Repair and the detailed corresponding project cost estimates
- III. Determine the optimal use of physical space to meet the library's current and projected 20-year needs.
  - a. Refer to the executive summary

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2.2

MEP/ FP





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## Existing Condition Assessment & Basis of Design Report

For

**Russell Library**  
123 Broad Street,  
Middletown, Connecticut, 06457

Heating, Ventilating, and Air Conditioning

Electrical

Plumbing

Fire Protection

LEGACY Project No.: 21-012-00

September 30, 2021

## TABLE OF CONTENTS

1. EXECUTIVE SUMMARY
2. INTRODUCTION
3. EXISTING CONDITION ASSESSMENT
  - A. HEATING, VENTILATION & AIR-CONDITIONING
  - B. ELECTRICAL
  - C. PLUMBING
  - D. FIRE PROTECTION
4. PROPOSED NEW SYSTEMS
  - A. GENERAL
  - B. HEATING, VENTILATION & AIR-CONDITIONING
  - C. ELECTRICAL
  - D. PLUMBING
  - E. FIRE PROTECTION

## 1. EXECUTIVE SUMMARY

In considering new building infrastructure systems that would serve Russell Library sustainably and resiliently for the next 40 years, we are guided by prevalent sustainable building/health & wellness certification rating systems; by Russell Library's 2021-25 Strategic Plan goals of being 'Future Ready, empowering people to grow, connect, strive and thrive'; and by the latest, most-innovative engineering thinking.

The prevalent sustainable building, and health & wellness certification rating systems include: LEED, WELL, Living Building Challenge and FITWELL. The following MEP design guidelines are based on criteria established to meet LEED v4 and WELL v2 Certifications.

Our recommendations for new building systems for Russell Library are based on goals for sustainable and resilient buildings and they fall into the following four (4) categories: Low Carbon, Operational Efficiency, Zero Waste and Wellbeing:

### A. Low Carbon/Carbon Neutral

- 1) To be "Future Ready" and to plan for the next 40 years, being a low carbon/carbon neutral facility has to be the goal. This is achieved by: eliminating onsite fossil fuel burning, switching to electrification using high-efficiency heat pump technologies, and deriving the electrical energy you do use from renewable energy sources.

### B. Operational Efficiency

- 1) Low energy consumption will be achieved by employing 'Smart Building' technologies for control of the HVAC systems.
- 2) Power over Ethernet (PoE) – LED lighting has gotten so efficient that I.T. ethernet cabling can be used as the power wiring. PoE systems can also utilize sensors attached to the lighting system to measure temperature, relative humidity (RH), occupancy, light level, and air quality. This allows for 'Smart Building' technologies and artificial intelligence (AI) for the building to learn how to optimize operation of its systems.
- 3) The building management system (BMS) shall employ artificial intelligence (AI) to allow the control system to learn from previous

patterns of building occupancy and loads to control the staging of the building's heat pump and air handling units.

- 4) Terminal variable air volume (VAV) units will be utilized to provide local zone control based on temperature, RH and occupancy.
- 5) Daylight controls shall be provided that minimizes the use of electric lighting in favor of natural daylight while meeting all required lighting level standards.
- 6) Plug load controls will be employed to reduce unoccupied miscellaneous vampire loads.
- 7) Electrical sub-metering will monitor the end use HVAC, separate from lighting, and separate from miscellaneous plug loads.
- 8) Low flow and ultra-low flow plumbing fixtures will be used and rainwater harvesting can be used as a source of water.

C. Well Being

1) Air

- Displacement ventilation/Underfloor Air Distribution delivers clean ventilation air directly to the breathing zone of the building occupants and draws the polluted air out of the space from overhead.
- Air quality will be monitored in real time for particulate matter and organic and inorganic compounds and controlled by use of filtration, increased outside air ventilation rates of 30-60%, and bi-polar ionization.
- Relative humidity shall be maintained between 30-60% installing a humidifier and a dehumidification control sequence in the air systems serving the space.
- All air supply systems shall be provided with MERV 8 and MERV 13 filtration, UV-C irradiation and bi-polar ionization air purification.

- Copy rooms, janitor closets, bathrooms and rooms for cleaning chemical storage shall be provided with exhaust ventilation.

2) Water

- Performance tests shall be provided to measure sediment, microorganism, and contaminant thresholds.

3) Thermal Comfort

- Local zones will be not more than 650 sf and 10 occupants or 320 sf and 5 occupants with occupants having control of the zone. Zones shall be at least 3.3 ft away from heat or cold sources.
- Radiant heating or cooling shall be employed for at least 50% of the occupied floor area.
- DOAS systems shall comply with ASHRAE Design Guide and be provided with a detailed design review by an independent professional mechanical engineer.
- Thermal comfort monitoring shall be provided that measures temperature, relative humidity, air speed and mean radiant temperature with an environmental display monitor every 10,000 sf or accessed by a website or phone application.
- Relative humidity control shall be provided and maintained between 30-60% during business hours.

4) Sound

- HVAC systems and spaces shall be designed to achieve maximum noise levels set by section S02 of the Well Building Standard.

## 2. INTRODUCTION

The Russell Library, located at 123 Broad Street in Middletown, CT, is comprised of three (3) buildings that were built over a century apart, repurposed into library space, and then interconnected to form a single facility. The original Episcopal Church building was built in 1830 and was converted into a public library in 1876. In 1930, the Hubbard wing was added to the building; and in 1972 the Library obtained the Bank building on the corner and remodeled it into the Children's Library. Finally, in 1983, the original church and the old bank were interconnected with the erection of the central building.

Russell Library embarking on their Library Strategic Plan 2021-25, has commissioned an architectural, engineering and construction team to perform a Comprehensive Facilities Assessment Study Report to identify the current state of their facilities infrastructure and to chart a vision for their upgrade to serve the facility for the next 40 years efficiently and reliably.

On July 13<sup>th</sup>, 2021, a team of engineers from Legacy Engineers surveyed Russell Library's facilities including mechanical, electrical, plumbing and life safety systems. This report provides an assessment of their existing condition and provides recommendations for their upgrade/replacement.

### 3. EXISTING CONDITION ASSESSMENT

#### A. HEATING, VENTILATION, AND AIR CONDITIONING

##### 1) Heating:

Russell Library is heated by a gas fired boiler plant located in a basement mechanical equipment room (MER). The heating plant consists of two (2) gas-fired, hot water boilers. The boilers are: a Weil McLain Model #: 588 cast iron boiler, installed in 1984; and a new Lochinvar Model FTX600N high efficiency, condensing boiler, installed in 2016. Two (2) base-mounted circulating pumps distribute hot water to heating coils in the building's air handling units, cabinet unit heaters and finned tube radiation located around the facility.



The older (1984) boiler appears in satisfactory operating condition, however, it has exceeded its useful life expectancy of 35-40 years and is of a lower operating efficiency of modern boilers and should be replaced. The newer boiler is a high-efficiency condensing boiler consistent with modern boiler standards and with useful life expectancy to serve the facility for decades to come. However, both boilers are fossil-fuel burning and the library's climate action goals consistent with their Strategic Plan to be "future ready ... and plan for change" will require their phase out in favor of electrification and renewable energy systems.

Finned tube perimeter heating is provided in the Main Reading Room and Virginia Hatch Room at the exterior wall facing the interior courtyard.

## 2) Air Conditioning

Air conditioning for the building is provided by a 130-ton chilled water plant consisting of a water-cooled chiller located in the Basement MER and a roof-mounted cooling tower. Two (2) base-mounted chilled water circulating pumps distribute chilled water to eleven (11) air handling units located in five (5) MER's throughout the facility.

The chiller is a Trane Model #: RTHA130A, rotary screw chiller and the cooling tower is a Baltimore Aircoil forced draft model, both were installed in 1981. The chiller plant serves cooling coils in the building's air handling units that serve all spaces in the facility.



The chiller appears in satisfactory operating condition. Its rotary screw compressor technology is still manufactured in modern chillers and capable of achieving high operational efficiencies, however, it has the downside of high-pitched noise levels and is not suitable to be located adjacent to occupied spaces because of unhealthy indoor environmental conditions. The chiller has also reached the end of its useful life expectancy and it utilizes R-22 refrigerant that has since been phased out because of its detriment to the environment.

The cooling tower shows visible signs of corrosion in its top water basin and has also exceeded its useful life expectancy. Also cooling towers can



be a health risk; they require extensive water treatment maintenance as they are a potential source of legionella.

The chiller plant should be replaced with new environmentally friendly systems as part of any building upgrade program.

### 3) Air Handling Units

A series of eleven (11) chilled water/hot water air handling units, located in five (5) MER's throughout the facility, provide heating, cooling and ventilation to all areas of the library. The air handling units contain a hot water preheat coil, chilled water coil, and supply air fan. The air handling units serve ductwork distribution systems serving each space in the facility, many of the spaces contain exposed round ductwork where it is a visible part of the interior design.



The building's piping distribution system serving the air handling units is a 2-pipe system, meaning the same pipes that distribute hot water to the units in heating mode, distribute chilled water to them in cooling mode. These 2-pipe distribution systems are not suitable for facilities like Russell Library where heat and cooling may be required simultaneously in different spaces in the building. We understand this has resulted in major temperature control problems and operational inefficiencies of having to drain all of the water out of the system for changeovers from heating to cooling.

The air handling units were mostly installed in 1981, making them 40-years old, obsolete and beyond their useful life expectancy. The following

is a table indicating the units, their location, make/model, age, and general condition:

|        | LOCATION                 | AREA SERVED   | CFM  | COOLING<br>CAPACITY<br>(MBH) | MOTOR<br>HP |
|--------|--------------------------|---|------|------------------------------|-------------|
| AHU-1  | BSMT MER                 | Bsmt. West Staff Areas                                    | 1650 | 45                           | 3/4         |
| AHU-2  | BSMT MER                 | 1st Floor Main Lobby &<br>Bsmt. SE Staff Areas            | 2360 | 49.4                         | 1           |
| AHU-3  | BSMT MER                 | 1st Floor Children's Library                              | 2000 | 44.2                         | 1           |
| AHU-4  | MEZZ. MER                | 1st Floor Virginia Hatch Room                             | 3180 | 79.8                         | 1.5         |
| AHU-5  | MEZZ. MER                | 2nd Floor Main Info Area                                  | 2700 | 66.7                         | 1           |
| AHU-6  | MEZZ. MER                | 2nd Floor Semi-Private<br>Meeting Space                   | 1920 | 42                           | 1           |
| AHU-7  | ORIG. BLDG<br>MEZZ. MER  | 1st Floor Teen/ Audio Video,<br>Admin Offices             | 2500 | 49.1                         | 1           |
| AHU-8  | ORIG. BLDG<br>1st FL MER | 2nd Floor Main Reading Room                               | 5400 | 134.8                        | 2           |
| AHU-9  | BSMT MER                 | Hubbard Room  | 1750 | 37.5                         | 3/4         |
| AHU-10 | BSMT AHU RM              | 1st Fl. Activity Rm/Staff<br>Borrowing, Discovery Offices |      |                              |             |
| AHU-11 | BSMT AHU RM              | Bsmt. B&D Staff Area                                      |      |                              |             |

4) Ventilation:

The eleven (11) air handling units each are provided with a source of outdoor air for ventilation to each space.

There are several approximately 6 exhaust fans located on the roof, that originally served toilet rooms, the elevator MER and workshop room. We understand are in different states of disrepair and require replacement.

5) Automatic Temperature Controls

The building is provided with a Honeywell EBI direct digital control (DDC) building management system (BMS) that controls and monitors all HVAC equipment and systems.

B. ELECTRICAL

1) Power:

The original main building Normal power is currently fed by "Middletown Connecticut Light & Power Inc" via an existing outdoor utility pad-mounted transformer. The Utility Normal power enters the building through the basement Mechanical/Boiler Electrical service room and terminates in a Service End Box that is tapped by one (1) 120/208V, 3phase,4wire 800A Bus Service-rated Switch #1; and one (1) 120/208V,3phase,4wire, 400A Main Service-rated Switch #2.

Service Switch #1 feeds Main service switchboard "MSB" and is metered by a Honeywell metered #08109478. The second Service Switch #2 is rated at 120/208V, 3phase, 4wire,400A Main, is tapped via the existing service end box. And is metered by ITRON SENTINEL meter #89 128 916. We were unable to determine what loads Service Switch #2 fed, but it appears to be original to the building.

Main Service Switchboard #1 Service Switch #1 and Service Switch #2 all appear to be original to the building, old and at the end of their useful life. Replacement service switchboard parts, like circuit breakers, are not always available and it makes any upgrades in the future difficult. Additionally, as noted above, there is no true electrical service room as the electrical service is shared with the mechanical services.

The Main Service Switchboard (MSB) circuit breakers feed local 120/208V, 3phase,4wire panelboards located throughout the 45,000 square feet facility. The "MSB" switchboard also feeds the building's chiller, Elevator and other miscellaneous equipment on the premises. The local AC Unit room on each floor typically house local 120/208V,3phase,4wire, Main lugs only Panels on the floor. These panels in most cases are original to the building and has met its useful life. On

the first floor of the library where they were minor renovation, the original existing panels were replaced.

The office building at the back of the library where the office staff resides, Electrical service in the basement consist of two (2) incoming utility services that each feed (2) 208V, 1Phase, 3wire, 2P-100ampere meter apartments panels. Each of the four panels are individually metered. One of the incoming services feed the first front and rear of the building and the second feeds the second-floor front and rear of the second floor. Each apartment panel is 208volt,1phase, (3)16pole and (1) 12pole main lugs only panels. The incoming service feeders, meters and associated load centers are original to the building.

The library also owns an abandoned historic apartment building located at 139 Broad Street. The electrical service to this building is fed via a utility pole at the front side of the building and terminates in the basement to feed a 120/208V,3phase, 4wire,400ampere service rated disconnect switch. The apartment panel single phase 208V,1Phase,3wire services are fed via a wiring trough from the 400ampere service rated disconnect switch. Each local apartment dwelling main circuit breaker, meters, wiring are original to the building and in poor condition and should be replaced.

2) Emergency Power:

There is no emergency power generator on the facility. Emergency and exit lighting with 90 minutes battery back-up, and remote two heads emergency battery back-up was noted in the means of egress of the premise. This condition was noted in areas within the library and throughout especially in the recently renovated areas of the library.

Emergency lighting in the office facility is equipped with 90 minutes of battery backup for exit and emergency lighting. Remote two heads emergency battery back-up was noted in the means of egress of the premise. This condition was noted in areas within the office space and throughout the office building.

3) Fire Alarm

The Fire alarm panel serving Russell Library is located in the MER/electrical service room on an adjacent wall from near the Main service Switchboard. The panel is a Notifier “AFP-200” Intelligent fire detection and alarm system. It is equipped with supervisory and central station monitoring and interfaces with the Russell Library’s Administration Office Building fire alarm panel in the basement.

The fire alarm system devices are Horn/strobe type and are placed centrally throughout the facility. The fire alarm devices in the basement and lower level are old and not ADA code compliant (i.e. higher than 48”) and should be replaced. The fire alarm system is monitored by “ITS” Technical services Department. It appears to be fairly maintained.

The fire alarm control panel for in the Administration Office Building is in the basement, it is a “FIRELITE MS-10UD” panel as manufactured by Honeywell. The fire alarm control panel interfaces with the library main building fire alarm control panel. The fire alarm panel monitors all initiation and notification devices within the building and appears to be well maintained and in good condition.

C. PLUMBING

1) Sanitary Drainage:

The existing sanitary system is a centralized sanitary system that is distributed throughout the building.

Sanitary waste is collected and drained via gravity through the building house drain to the sanitary system. The system is vented with terminations through the roof.

The building is equipped with a buried sanitary outlet, of an unknown size, exiting the building at Broad Street and connecting to the municipal sewer.

Sanitary waste from fixtures and equipment unable to drain via gravity are collected in existing sewage ejector pits, that pump effluent back into

the gravity system. The larger simplex sewage ejector, manufactured by Liberty Pumps, model PRG101A (1HP, 115V, single phase) is located on the first floor Mechanical room, adjacent to the AV / Teen Services Office room.



Despite the routine maintenance, the existing unit exceeds 15 years in age and appears to require replacement.

The second sump/sewage ejector is in the large cellar level mechanical room, collecting effluent from the respective room. The unit also requires replacement.

- 2) The building storm water drainage is collected on multiple roof levels and drained via gravity through interior leaders to a (2) trapped connections to the municipal system on Court Street.

The roof system is equipped with standard roof and overflow drains to collect storm water.

Due to the warping and improper pitching of the roof, several areas of pooling are prevalent, which in time will compromise the waterproofing and roof integrity. In addition, vegetation has developed along several areas of the roof.

The piping system is mixed between hubless service weight cast iron and hub and spigot in many areas, depending on where modifications on the



pipng distribution has taken place. Much of the existing drainage system is dated, with signs of heavy corrosion.



Portions of the horizontal stormwater piping were observed without insulation, which protects against condensation in ambient temperatures.

### 3) Domestic Hot & Cold Water:

The building is served by (2) 1-inch domestic cold water services from the municipal water system. The cold service enters the building from the southeast mechanical room from Broad Street and northwestern mechanical room from Broad Street. Both services are metered by Neptune Meters, however, are not equipped with a backflow device that protects the municipal system from potential cross-contamination.



The building is not equipped with a domestic booster pump, as the incoming water pressure exceeds 100 psi, providing enough capacity to support all fixtures and equipment.

Water is distributed through mains, risers and branches to fixtures and equipment. In this observation, portions of the distribution system were not insulated.

Hot water generation for the building is provided via (2) two electric water heaters (30 & 40-gallon units) and (1) 40-gallon gas-fired storage vessel.

The 40-gallon electric powered unit is manufactured by Bradford White, model RE340S6-1NCWW (S/N SA40755675), with a Taco circulator pump and an aquastat controller. The heater is powered at 208V, with an upper heating element @ 4500W, the lower element @ 3500W. The pump predates the water heater, appearing to be over 10 years in age. The heater



was installed in the 2010s in the mechanical room without a concrete pad.

The 40-gallon electric powered unit is manufactured by Bradford White, model MI40S6DS13 (S/N YG1766818). The heater is powered at 240V, with upper and lower heating elements @ 4500W each. The heater was installed in the 2010s in the mechanical room without a concrete pad.

The 30-gallon gas-fired unit is manufactured by AO Smith, model GCR-30 400 (S/N 1810109572964). This unit was installed in 2018, mounted on cinder blocks.

Each water heater delivers hot water to zoned portion of the building. All units appear to be uninsulated in some areas. The units should also be mounted on a housekeeping pad to minimize corrosion.



#### 4) Plumbing Fixtures:

Several existing bathroom fixtures observed are not in compliance with ADA requirements. Toilets/urinals are not mounted at heights in accordance with ADA standards. Several lavatories were not equipped with pipe coverings adhering to standards for ADA protection.

Fixtures are not equipped to meet current water conservation devices in compliance with U.S. Environmental Protection Agency (EPA) Water Sense program.



5) Natural Gas System:

The building is equipped with a 4-inch low pressure natural gas service, entering the site from northeastern corner from Broad Street. The service is equipped with a meter and regulating assembly in accordance with the utility company.

The natural gas serves the (2) two existing boilers in the cellar mechanical room, and (1) hot water heater in the mechanical room opposite the cellar Vault.

D. FIRE PROTECTION

1) Water Supply:

There is an incoming combined 4-inch fire sprinkler and standpipe service, entering the building from Court Street, off the municipal water main @ 115 psi static pressure. The existing service is not equipped with a backflow prevention device to protect the municipal water system from contamination.

Upon entering the building, the fire service connects to a 4-inch alarm check valve assembly, providing notification of fire activity.



Downstream of the alarm check valve, the 4-inch fire protection system splits to supply the automatic wet sprinkler / standpipe distribution for each floor, in addition to a feed for a dedicated 4-inch dry sprinkler valve assembly.



The 2-1/2-inch dry main serves the sprinkler distribution in the attic above the main circulation library on the Mezzanine level. This area is subject to freezing and constructed of combustible materials, therefore

dry sprinklers were required to ensure proper protection without the heads rupturing when subject to ambient temperatures in the winter.



The circulation area of the library in the old church, with the dry sprinkler distribution within the attic area is not equipped with sprinkler protection, despite the tiers of books stored in the facility.

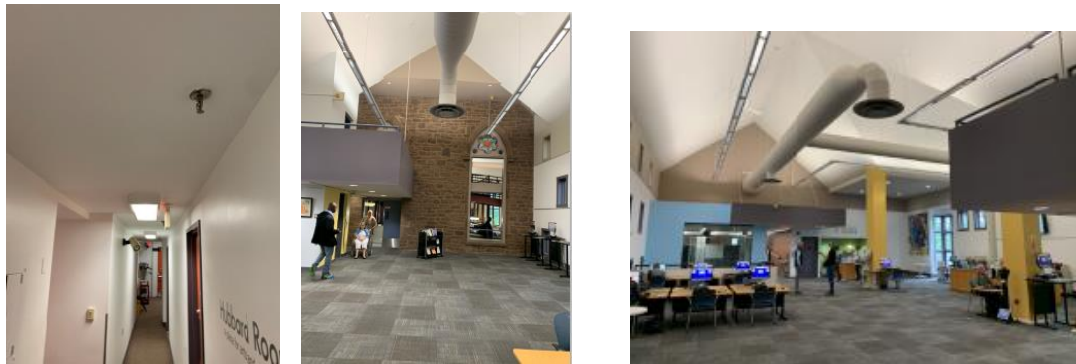


2) Automatic Sprinklers:

The facility is equipped with automatic wet sprinklers throughout the cellar level and second floor of the building.

The first floor and mezzanine area were not equipped with sprinklers to adequately protect the books, egress paths and critical systems within the building.

Many of the installed sprinkler heads appear aged, exceeding 30 years.



### 3) Hose Stations:

Hose stations are based on Class III standpipe systems, based on NFPA 14. The fire hose stations, supplied from 1-1/2-inch feeds are located in egress stairs of each building level and auxiliary locations where travel distance from the stairways exceeds code standard. The supply main serving these hose stations were not sized at 4-inches in accordance with code.





#### 4. PROPOSED NEW SYSTEMS

##### A. HEATING, VENTILATION, AND AIR CONDITIONING

###### 1) Heating & Air Conditioning

One of the central goals for Russell Library planning for the future will be to convert away from fossil fuel burning boilers to heat pump technology. And since heat pump units produce cooling as well as heating, this will also allow the replacement of the building's boilers, as well as the aging chiller and cooling tower.

Air-source heat pumps are virtually as efficient as geothermal during moderate temperatures (i.e. 40 - 80°F outdoor temperatures). The latest thinking in heat pump plant design is for the use of hybrid plants that utilize air-cooled heat pumps for most of the year and then switch to a geothermal ground-coupled loop, served from a much smaller wellfield, only in the extreme summer and winter conditions when air-source heat pumps drop in efficiency.

We are recommending installation of a new hybrid heat pump plant that produces chilled water in cooling season, and hot water for heating in the winter.

- Demolish the building's existing chiller, cooling tower and boilers.
- Provide a new 140-ton heat pump plant located on the roof of the building. The plant shall consist of two (2) MultiStack Model # ARA 60-ton modules and one 20-ton module with VME valve modules in between each module.
- Provide a separate CO<sub>2</sub> heat pump module for domestic water heating (and simultaneous chilled water in the cooling season).
- Provide new chilled water and hot water pump assemblies, including expansion tanks, air separators and all piping trim accessories.



- Provide a geothermal bore field consisting of approximately 26 - 30 closed-loop wells spaced 20 ft apart with an underground manifold and 4" glycol supply and return mains to the roof mounted heat pump plant.
- Convert the building's existing 2-pipe distribution system to a 4-pipe distribution system by providing new hot water supply and return piping to all air handling units and leave the building's existing piping to be dedicated to chilled water.
- Provide radiant floor heating in selected spaces such as the Children's Program Room and Main Reading Room.

2) Air Handling Units

- Replace the building's existing old and obsolete air handling units with new air handling units of similar capacity. Provide new units with supply fans with variable frequency drives (VFD's), chilled water coil, hot water pre-heat coil, humidification section, MERV 8 prefilters and MERV 13 filters, and energy recovery wheels. Provide UV-C irradiation on the chilled water coil section and bi-polar ionization in the supply air plenum section or ductwork.
- Clean all air distribution ductwork, perform leakage test and reseal or replace ductwork where necessary.

3) Ventilation

- Replace the building's six (6) roof exhaust fans with new fans of same exhaust airflow.

4) Controls

- Provide a new building management system (BMS) to control all building systems. BMS shall employ artificial intelligence (AI) to allow the control system to learn from previous patterns of building occupancy and loads to control the staging of the building's heat pump and air handling units.
- Provide sensors in the PoE system to monitor temperature, relative humidity, occupancy, and air quality.

## B. ELECTRICAL

### 1) Power:

- Provide the building with an electric service upgrade by replacing the Main Service Switchboard and Service Switches with a new 120/208V,3Phase ,4wire,1200 ampere Electric Service to match existing distribution. New service distribution switches will be replaced in kind.
- Replace the building's local panel boards except for the newer panel boards recently installed on the 1<sup>st</sup> Floor.

### 2) Emergency Power

- A new 120/208V,3phase,4wire 50 KW outdoor natural gas Emergency Generator is recommended for the Library to address emergency life safety and other selected standby loads (i.e. I.T./Wi-Fi). If Russell Library were to be used as a area of refuge for the community in the future then a 150 KW would be recommended to allow the community to occupy the building for longer periods of time.

### 3) Fire Alarm

- The existing fire alarm devices located in the Basement of Russell Library are old and shall be removed and replaced with code compliant devices. A fire alarm "Acceptance Pre-test" shall be performed upon completion of any modification to fire alarm system.

4) Lighting

- Connect the building lighting fixtures from a Power over Ethernet (PoE) integrated and converged I.T. network is recommended.

C. PLUMBING

1) Sanitary Drainage:

- All existing fixtures shall be removed with all associated drains, sanitary, vent, branch piping, drains etc. and cut back to vertical risers. Piping shown with corrosion shall be replaced as needed.
- Sump/Sewage ejectors shall be replaced with new units.

2) Storm water Drainage:

- The building roof system displays signs of warping, as many areas have pooling water, allowing for vegetation grown and waterproofing deterioration. Recommend roof placement and proper pitching. Roof drain bodies and associated piping to be replaced.
- For sustainability purposes, consider developing storm detention system, where effluent is filtered, processed and reused for potential grey water, irrigation or mechanical supply feeds.
- All horizontal storm water piping shall be insulated. Sections of piping shown with corrosion shall be replaced as needed.

3) Domestic Hot and Cold Water:

- All incoming water service feeds shall be equipped with approved backflow assemblies in accordance with the authority having jurisdiction.
- In an effort to implement Sustainability initiatives, it is recommended to replace the gas-fired water heater with a more efficient unit. In coordination with the mechanical team, develop an air-source heat pump system with indirect heat exchanger feed for hot water generation.

- Sections of domestic water piping shall be replaced as needed, exhibiting signs of corrosion or damage. All domestic water piping shall be insulated in accordance with Energy Code requirements.

4) Natural Gas

- Per Sustainability initiatives proposed for the next 30 years, it is recommended the existing natural fossil fuel feeding all equipment (water heaters, boilers, stoves, unit heaters, etc.) be removed. Energy efficient units to be installed.

5) Plumbing Fixtures:

- All existing fixtures, including but not limited to faucets, flush tanks/valves, hot and cold-water branch piping, valves, and other appurtenances shall be removed and replaced as required.
- All exposed metal parts are to be chromium plated brass. All supply valves to have renewable seats. All handles to be metal.
- Fixtures not complying with ADA shall be substituted where required.

6) Floor/Area/Roof Drains:

- All drains and associated piping immediately downstream of fixture shall be replaced.

7) Tests

- Plumbing system and equipment shall be tested in accordance with the International Plumbing Code and local authorities.

D. FIRE PROTECTION:

1) Water Supply:

- All incoming water service feeds shall be equipped with approved backflow assemblies in accordance with the authority having jurisdiction. Service and control valves shall be replaced due to age, corrosion or functionality issues. Replace components associated with fire alarm notification.

- Dry sprinkler assembly and associated piping shall be removed and replaced. Upon replacement of roof area, new distribution, with adequate sizing, to be provided in areas subject to freezing.

2) Automatic Sprinklers:

- The building to be equipped with automatic sprinkler distribution throughout the building. New sprinkler supplies to extend the first and mezzanine level, in addition to back-of-house areas. Areas with combustible construction and materials shall be properly protected. The 4-inch main shall be extended from service room to the highest level.
- Sprinkler head exceeding 30 years in age shall be replaced.

3) Hose Stations:

- Class III standpipe systems, serving hose station, shall be adequately sized in accordance with NFPA 14. 4-inch distribution mains to extend to all levels and areas of the building to adequately serve hose station locations.
- The fire hoses shall be replaced.

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2.3

# Construction



# Russell Library

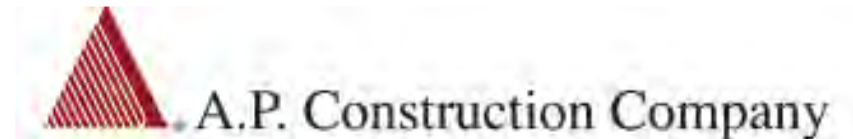
123 Broad St, Middletown CT 06457

## Exterior Assessment Study

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EXTERIOR CONDITIONS COMPREHENSIVE INSPECTION

AUGUST 26, 2021



# Landscaping

1. Reseed lawn of Original Church Building.
2. Edge existing planting beds and around trees.
3. Create new planting bed on slope near front entrance of Main Lobby to prevent erosion.
4. Cut back overgrown landscaping on property line of West Parking Lot and rear of North Drive. Remove old abandoned fencing.
5. Prune large tree encroaching on Admin Building located on Court Street.
6. Cut back Ivy ground cover in courtyard of Main Lobby Building and around Bank Building.
7. Power wash retaining walls of West Parking Lot, North Drive and stairwells of Children's Library North and Church Building exterior staircase to lower level.
8. Remove dead/ dying/ overgrown trees in the Courtyard



# Parking Lots & Sidewalks

1. Remove existing asphalt and install new asphalt North Drive including area behind Children's Library and Mechanical Building.
2. Repair catch basin located behind Children's Library of North Drive.
3. Repair and replace damaged sidewalk along Children's Library and North Drive.
4. Repair and replace broken bluestone pavers Main Entrance courtyard and Bank Building bench area.
5. Repair and replace damaged concrete cap on top of brick knee wall in front of Bank Building.
6. Repair or replace broken South Walk sidewalk section near West Parking Lot entrance.
7. Repair damaged curb near Hubbard Room of the West Parking lot driveway



A.P. Construction Company

# Exterior Building Walls & Stairs

1. Replace Church Buildings deteriorated decorative brownstone railings at Court St side entrance.
2. Repair or replace Church Buildings brownstone slabs at landing of Court Street side entrance.
3. Repair or replace decorative brownstone railing sections at steps of front entrance of Church Building (facing Broad Street).
4. Repair or replace brownstone slabs at stair landing Church Buildings main entrance.
5. Replace missing decorative cornice woodwork at roof line of the three story tower (Court Street entrance).
6. Repair and replace missing woodwork Church's front entrance portico (archway Northside).
7. Install new roof Church Building and entrance porticos.
8. Stabilize, repair and replace structural columns of Church's entrance porticos.
9. Bank Building entrance canopy, install new full length roof leaders to ground.
10. Repair and replace rotted wood siding (and scrap and paint) at base of front entrance Main Lobby.



A.P. Construction Company



# Exterior Building Walls & Stairs cont.

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# Miscellaneous

1. Install new sign (Use Front Entrance) on entrance door of Church.
2. Install new up lights for Russell Library sign in planter corner of Court/Broad.
3. Install new exterior lights in West Parking lot and North Drive Parking areas.
4. Repair or replace soffit lighting Church front entrance portico.
5. Install new canopy to replace existing at the rear door of the North Children's Library.



A.P. Construction Company



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2.4

## Facility Highlights Walkthrough

# Facility Walkthrough Highlights

## A. Lobby

1. Public Desk is not ADA compliant.



2. No self-checkout; heavily reliant on staff intervention.
3. Air flow: Best practice is vertical (upwards), not horizontal



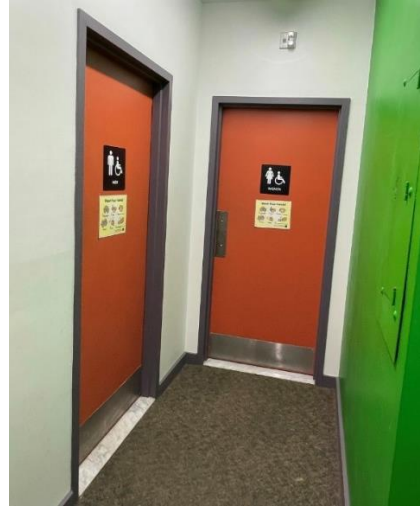
4. Doors: Not energy efficient (should be automatic/ sliding with vestibule). Signage on entry doors is cluttered and unwelcoming. The entryway is your first impression of the building. To quote the architect Juhani Pallasmaa, “The door handle is the handshake of the building.”



5. Security system is outdated; not viewable online (local server)



6. Public Toilets falling off walls; recurring sewage smells; no diaper changing stations are available except for one in the Family Restroom.



7. Only one all-gender restroom in building.
8. Worn carpet = safety/ tripping hazard.
9. The Lobby has little visibility into other areas. There are an abundance of columns and small openings to connected areas on the far ends of the lobby, so it is difficult to navigate and is unwelcoming. This includes the entrances to the Children's area, Young adult, Adult Main reading room and Info Dept.

*Lobby from the entrance looking towards the Young adult and Main Reading*





*Left: Lobby from the entrance looking towards the Info Dept and Children's area.  
Right: Entrance from Lobby to the Young Adult and Main Reading room. Small opening, little visibility, no wayfinding signage.*



10. Scarce uninviting lounge furniture



11. Windows to the courtyard are high up and dark. There is an elevational change between the lobby and the higher courtyard that is awkward and disconnected. The little windows do not highlight the qualities of the courtyard nor bring in natural light.



12. Indirect lighting creates hot spots on the ceiling. Space is too dark (See Image A9).
13. Elevation change between back of house staff areas behind circulation desk.



## **B. Courtyard**

1. The courtyard is not ADA compliant. It has many level changes within it and steps throughout. Only a small area is wheelchair accessible.





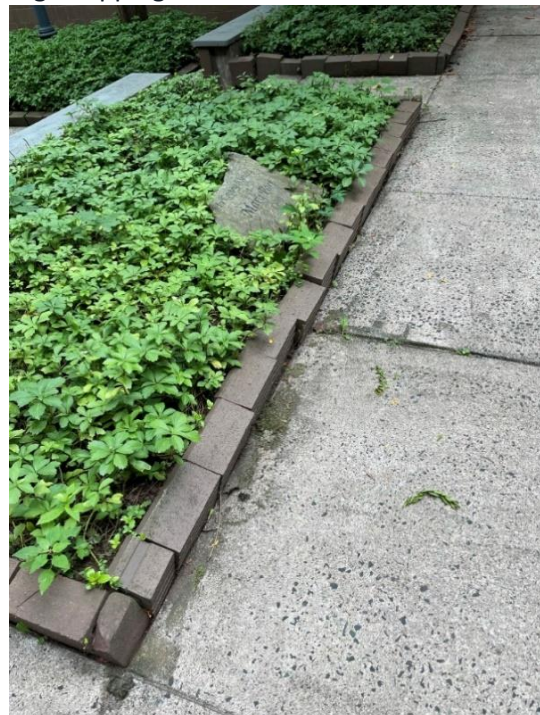
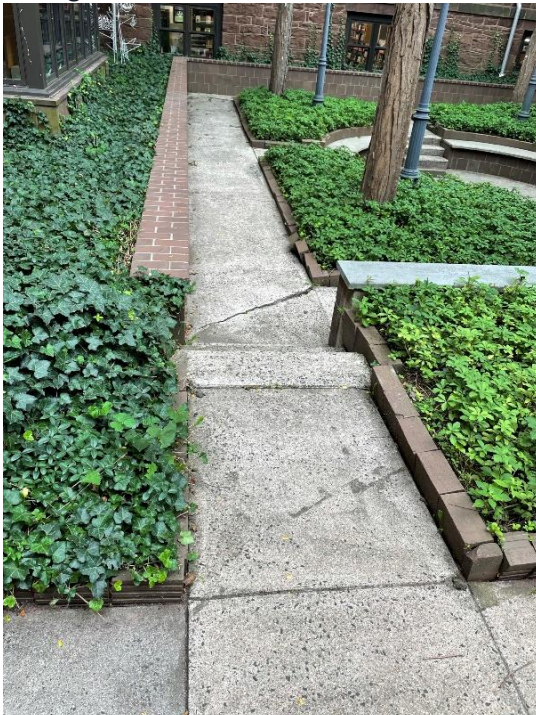
2. The Main entrance is from lobby to the courtyard and is in an open stairwell. The entrance to the courtyard is hard to notice. It is not ADA compliant and is disengaged from public space. The only accessible entrance is from the Children's area which is not ideal for an adult patron.

*Left: Entrance to the courtyard and Info Dept*

*Right: Ramp entrance from Children's area to the courtyard. Not fully ADA compliant.*



3. Paving cracked and uneven. Flower bed curbs falling. Tripping Hazard.





4. Window openings between the library and the courtyard are small. Lack of visibility between the library and the courtyard for views, daylight and a sense of connection.



5. Poison ivy; Dead/ dying trees are health hazard and are damaging the roof



### C. AV/ Offices/ Young Adult

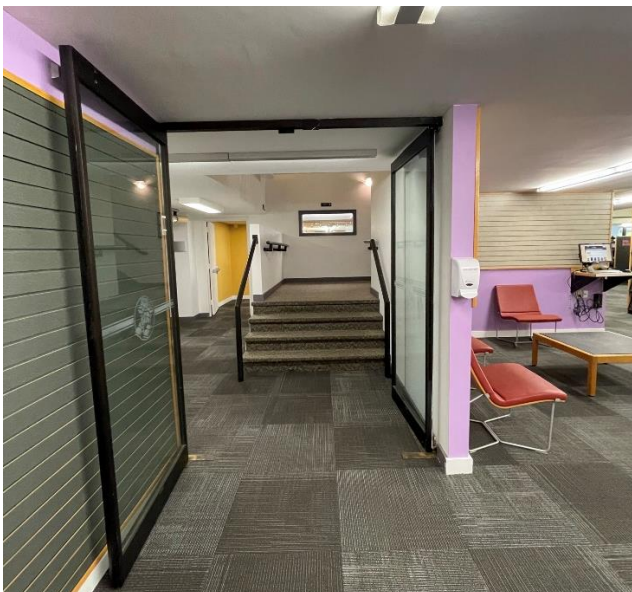
1. Security: Light switches outside offices; PA system is based on phones (not wall/ ceiling speakers)



2. Staff offices scattered throughout 45,000 sf facility



3. Glass doors- Noise from teens is filtered into the Reading room





4. Teen Room noise filters right up to “quiet” Main Reading room



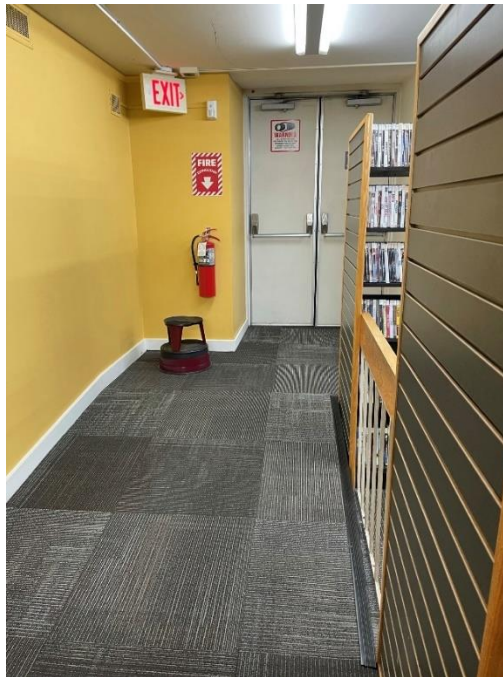
5. Teens are relegated to the basement. Windows are small and are deeply recessed. Little daylight or connection to the exterior and courtyard.



6. Furniture is scarce and uninviting. No areas for collaboration or shared participation.



7. Ramps/ hodgepodge (people have fallen)



8. Fluorescent lighting is very utilitarian.
9. The architecture and space have a lack of overall character and personality. The space should be “fun, dynamic and flexible” as stated in the Russell Library Vision report.

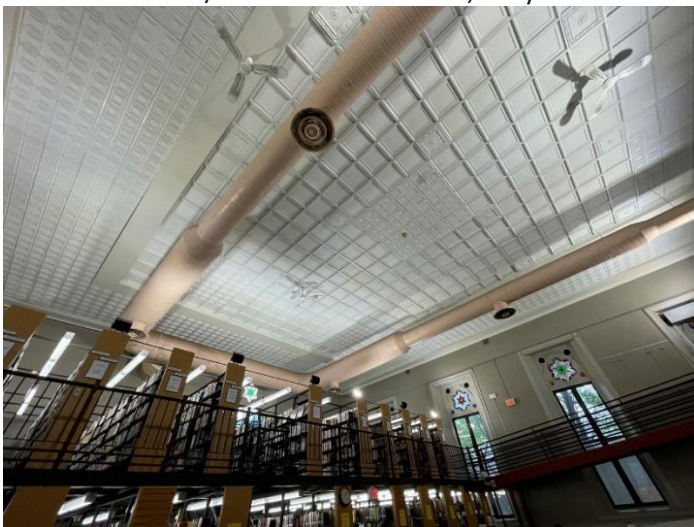


#### **D. Main Reading Room**

1. Stacks are nowhere near ADA-compliant. Would need to completely rebuild because they are structural and integral to the floor system and egress.



2. Ventilation ducts/ fans are inaccessible, dirty and difficult to clean.



3. Nearly impossible to monitor (nooks and crannies). Dead ends for egress. The library would lose a lot of bookstacks to make this area compliant and accessible.



4. Two public meeting rooms only; no intercom in meeting rooms





5. Exit signs are not visible and are confusing. There is not enough visibility of the exit signs which is a life safety hazard. On the mezzanine level in the old church building there is an exit sign above the ramp that has arrows in both directions. One direction leads you to an exit sign above the open communicating stairs on the east side and the other arrow leads to an exit sign with no exit. There is no exit sign above the open communicating stair on the mezzanine level on west side. If the open stair on the west side is not an egress stair, then the west side of the mezzanine is a large dead end, and the travel distance is too long which is a life safety hazard. See codes notes for additional information.

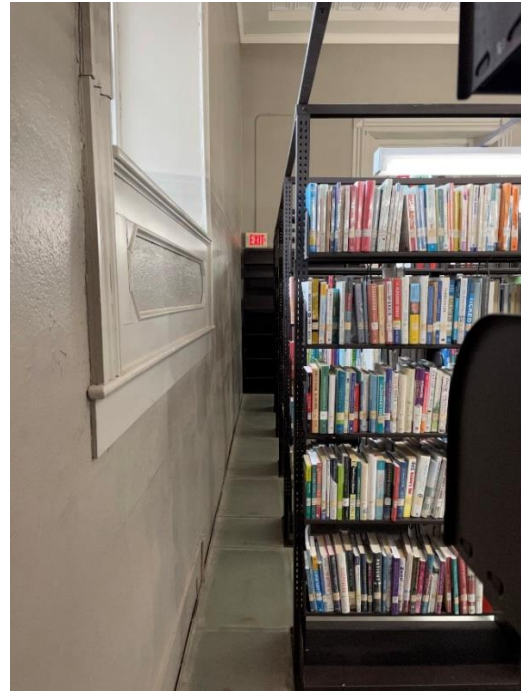
*Two directional exit sign only leading to one exit stair.*



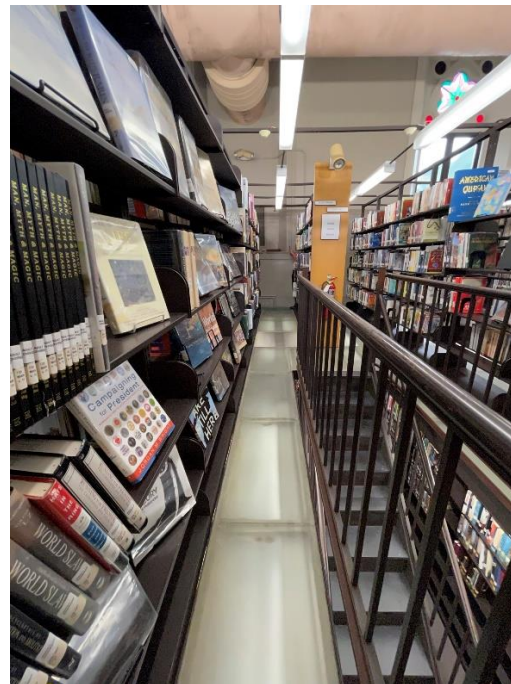
*No Exit sign above open communicating stair on the West side*



*Exit signs that does not lead anywhere. The path width is too narrow for egress between the book stacks and the wall.*

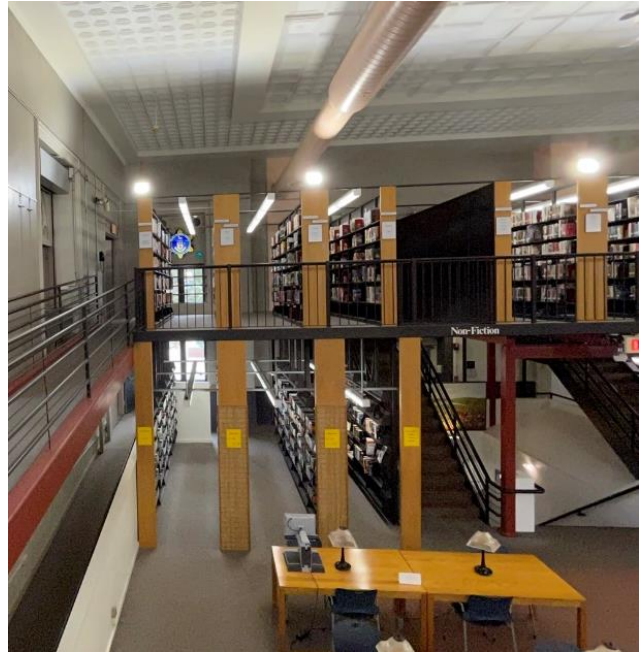


6. Egress widths too narrow. Not enough egress width around the stair.





7. Floor finishes are worn, including the carpet and the glass floor is damaged.



8. Lights above the mezzanine level bookstacks have a lot of glare and is hard on the eye. (see right image above)
9. Clear width between the bookstacks is too small (ADA)
10. There are 1 ½ hour fire rated doors between the old church/ main reading room and the info department on the mezzanine level. The doors are on a hold open tied to the electrical system. This would potentially indicate the old church buildings and the info department building may have needed to be fire separated. However, there are openings between the two buildings without any fire separation at the old church window openings.



11. The ramps only have handrails on one side in certain locations and are not continuous. The ramps do not appear to have the proper clearance width in certain locations.



12. Walls are cracked, chipped, and need repair.

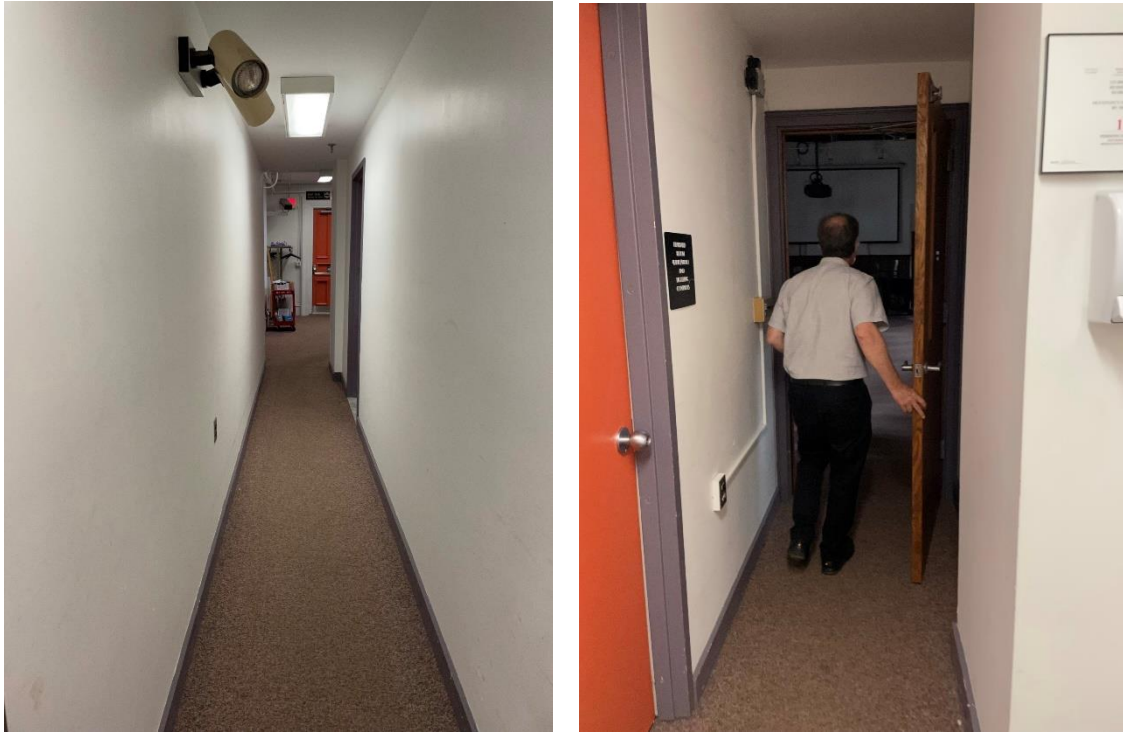


13. Power outlets in the main reading room are raised above the floor. The space does not have the flexibility to move the furniture since the power poles are a tripping hazard. Power outlets should be recessed into the floor for flexibility and safety.





14. Hubbard hallway/ restrooms/ kitchen are not ADA compliant. Hallway too narrow and does not have proper maneuvering clearance to open the door. HVAC in the Hubbard room is ineffective. The entrance to the Hubbard room is obscure. It looks more "back of house corridor" than an important procession to a historic program room.

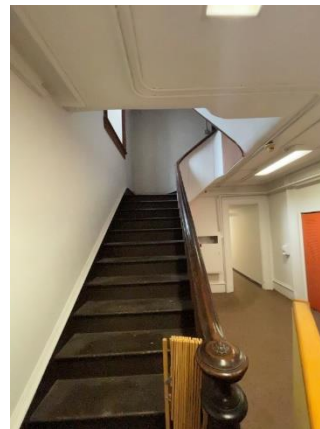


15. Two means of egress maybe required if the occupant load is above 49 and does not meet the code for automatic sprinklers. Hubbard room egress doors may be too close together. The doors down to children's area are confusing.
16. Hubbard Room technology is not state of the art.





17. Hubbard Room accommodates only about 60 comfortably (in chairs). Chairs should be linked together to prevent them for being pushed and blocking egress in an emergency.
18. Church tower represents safety/ security risk. Stairway is hazardous- guardrails are too low and there is no handrail. The stair is blocked off by a movable partition. Area is not monitored.



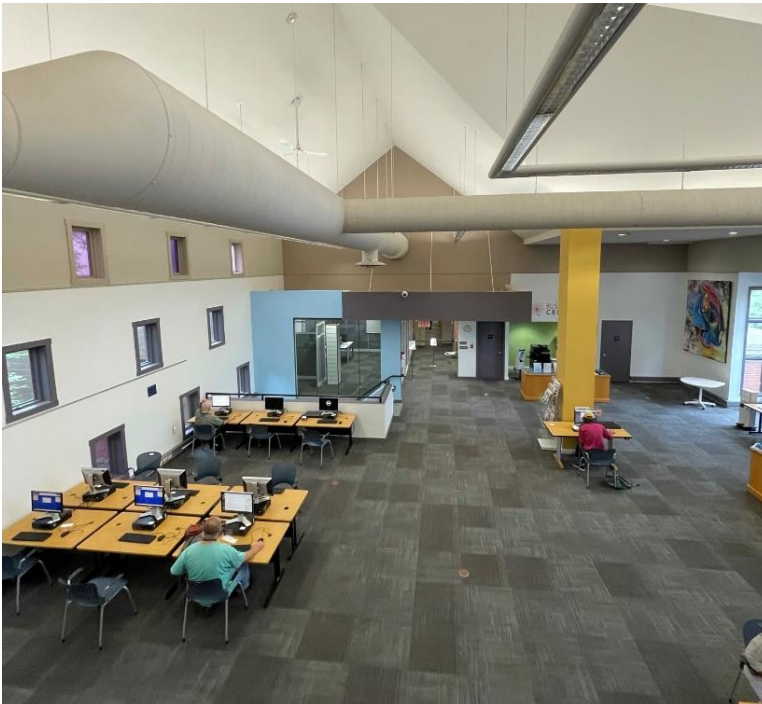


## E. Info Dept

1. Elevator = 40 years old; most parts are obsolete. Has cost \$21,000 in repairs over the past 5 years alone including a current \$1,000 repair (October 1, 2021).



2. Is the “newest” part of the building (almost 40 years old)

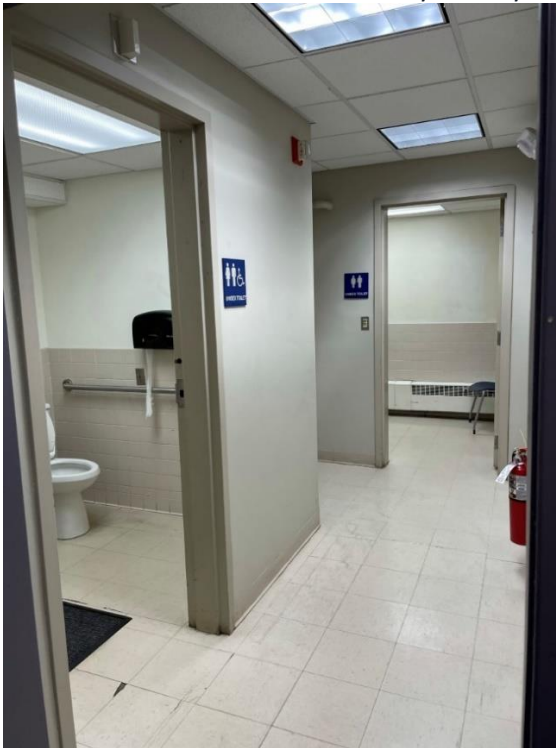


3. Floor load capacity is not adequate for book stacks. Lack of flexibility of the space.

4. More staff offices tucked away/ cobbled together.



5. Restrooms are a health and security liability thus blocked from public.

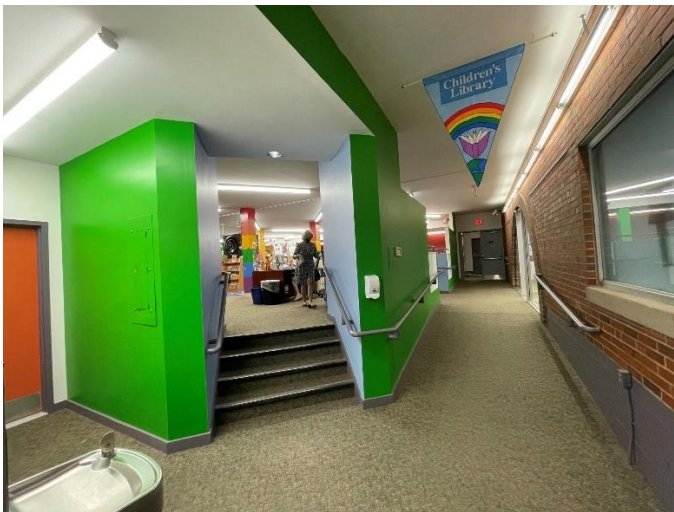


## F. Children's Library

1. Entrance is not welcoming or obvious. Greeted by egress doors stairs and ramps.

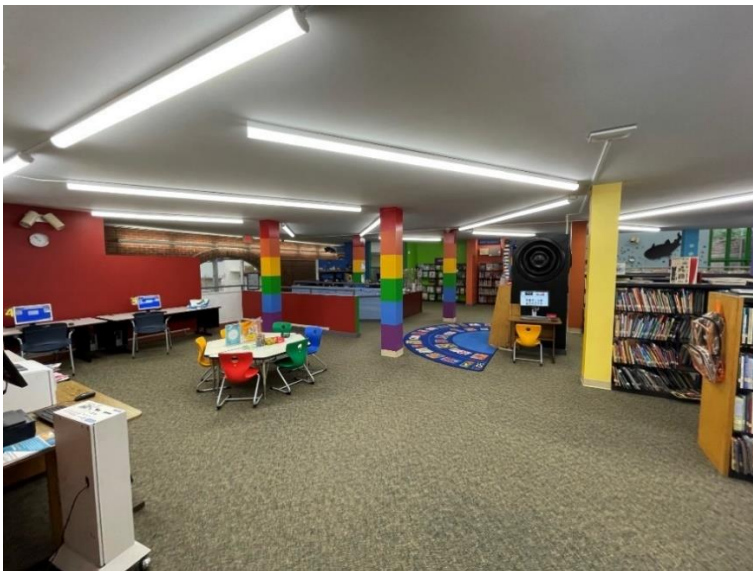


2. Ramps and stairs everywhere





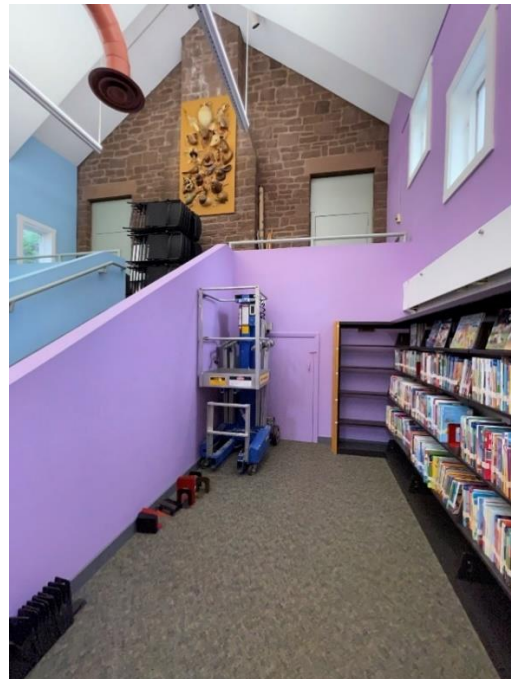
3. Hardly any seating/ play area. Not many seats for parents to sit with children.



4. Extremely difficult to monitor because of level changes, nooks and crannies, separation of areas and an abundance of columns which makes creates poor visibility and sight lines.



5. Exit signs are scarce and hard to see which is a life safety and egress issue.
6. No lactation area
7. There is a large open stair from the Children's area to the Hubbard Room which is blocked off and not used. The stair blocks sightlines around it, is navigationally confusing, a waste of space and a security issue for parents.





8. Courtyard Access- The only entrance to the courtyard with a ramp is in the Children's area. While it is nice to have outdoor space for families to use the access to the exterior is a security risk for children. In addition, it is not ideal to have adult patrons in need of a ramp to go to the children's area. The door to the courtyard is difficult to find. The zone between the courtyard door and the stairs to the Hubbard space is dead space and underutilized.



9. Disconnected from the Young Adult section on the other side of the library which makes it hard for parents to monitor multiple children of varying ages.
10. Having a large program room in the Children's area is an asset to the library, however, has a lot of wear and tear and needs significant updating including the bathroom, flooring, wall finishes, cabinetry, ceiling, lighting, glass entrance, etc.







11. If the program room requires two means of egress, then the door from the library to the program room is swinging in the wrong direction. However, if the door swing switched directions to swing out, then the door swing would block the egress path on the ramp leading to the exit. The door from the program room into the Children's library has an exit sign and has an occupancy of over 49 people which would indicate two means of egress are required.

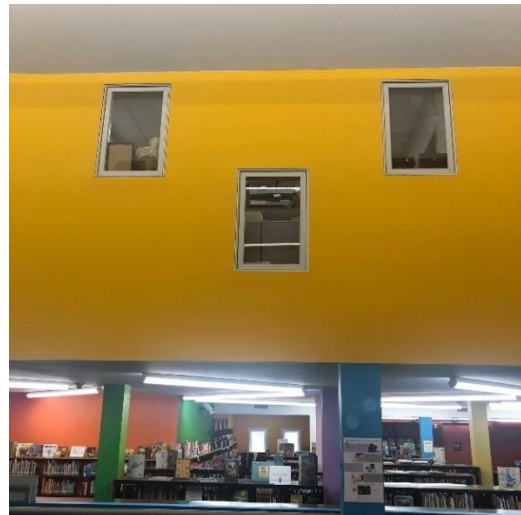


12. Program room is connected to the Borrowing and discovery staff room. Door was held open which is a security issue for children. (see right image above)

13. Empty bookshelf block the dumbwaiter which is awkward.



14. The windows in the children's area have manually operable cranks, however, they are too high to operate, which defeats the purpose. Some windows have views into interior offices with where unsightly furniture and boxes are facing the windows.





## **G. Basement**

1. No unified key card access, etc. Keypad or keyed doors.
2. Security issue- Door from lobby to the basement is locked by a keypad however the public can freely access the basement from other egress stairs on different floors without a key or code.
3. Staff offices squirreled away. No natural light. Disconnected from public.



## H. Annex

1. Administrative offices are in a separate building. No covered walkway or enclosure to connect the two buildings. Not an ideal adjacency.



## I. Grounds/ Exterior

1. Roofing needs replacement



2. Crumbling Brownstone (see photo below)
3. Portico stabilizer bars were intended to be temporary (2013 study)





4. Driveway/ lots- need repaving

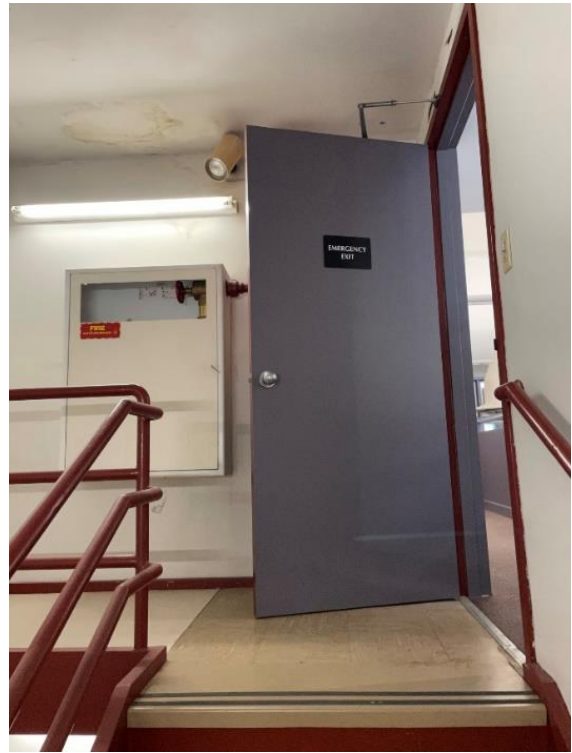


5. Church = 187 years old. Hubbard = 90 years old. Bank/ Children's = 60 years old. "Bridge" = 40 years old. Average age = 94 years.

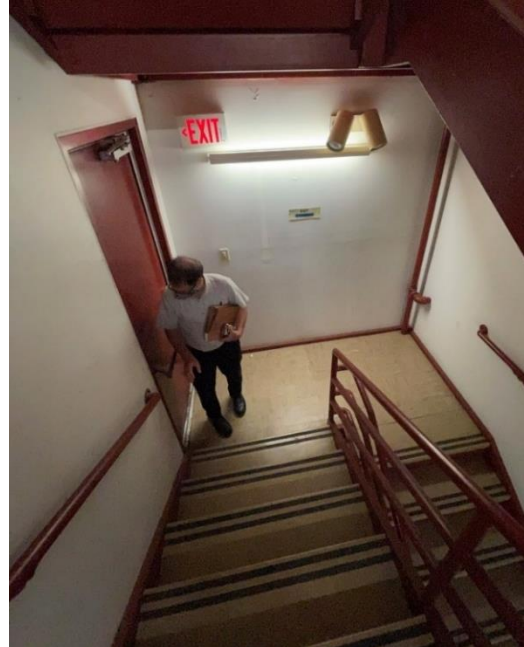


## J. General

1. Everything is, and has always been, a “retrofit.” Most parts of the building were not originally intended to be a library.
2. 200,000 visitors per year means significant ongoing wear and tear.
3. The door hardware on the egress stairs is not code compliant.



4. Handrails in egress stair are not continuous.



5. In the egress stair where an egress discharge is provided there should be an interruption gate to prevent users from continuing down the stairs and passing the exit.
6. Egress stair widths are too narrow at certain locations.



7. Many of the egress stairs do not exit onto a paved pathway to a public way which is a code issue.







8. Floor finish is falling off and is a tripping hazard on the open egress stairs from the Information Department to the lobby.



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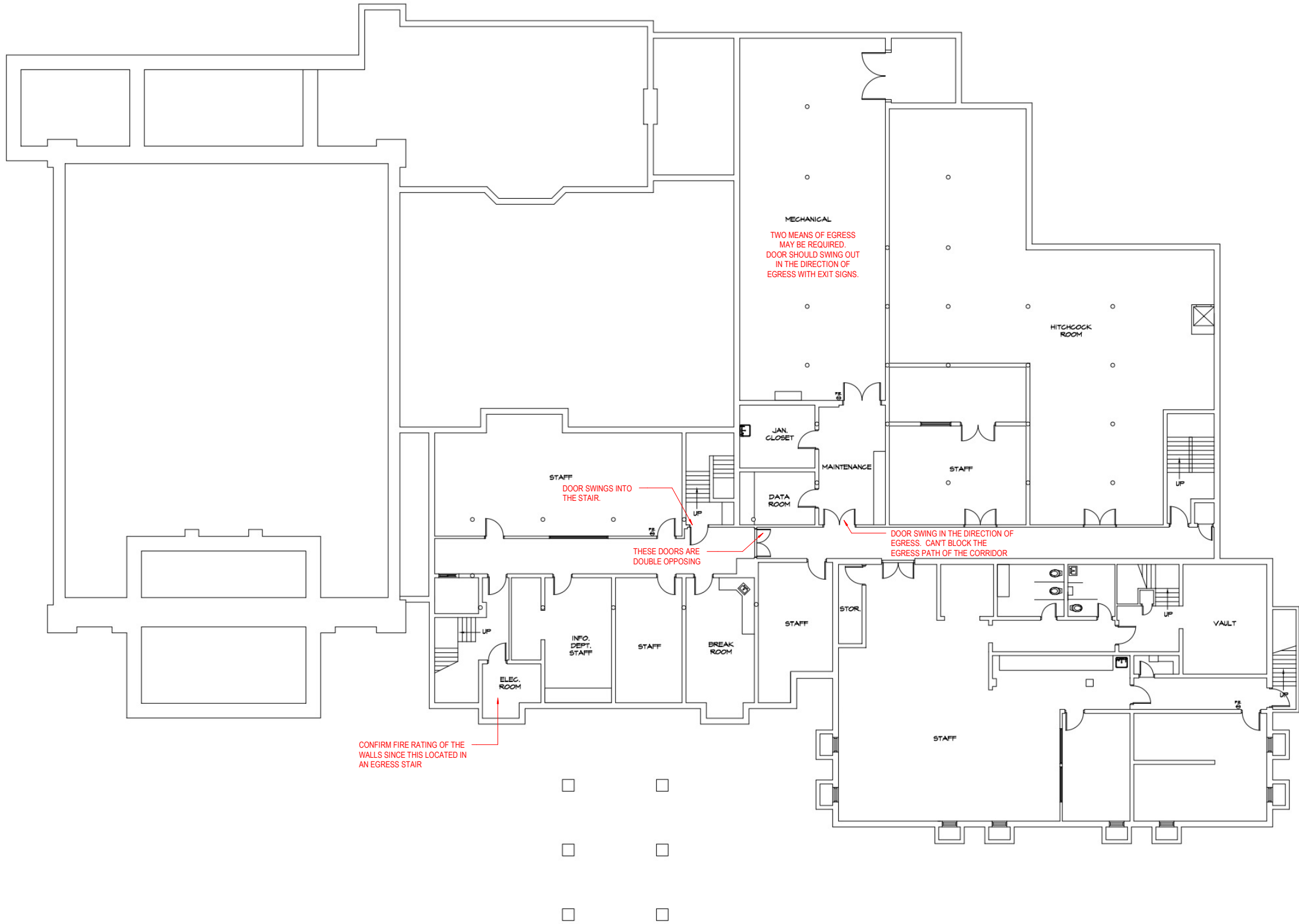
2.5

## Code Notes



15 BASEMENT FLOOR PLAN

SCALE : 1/8"=1'0"



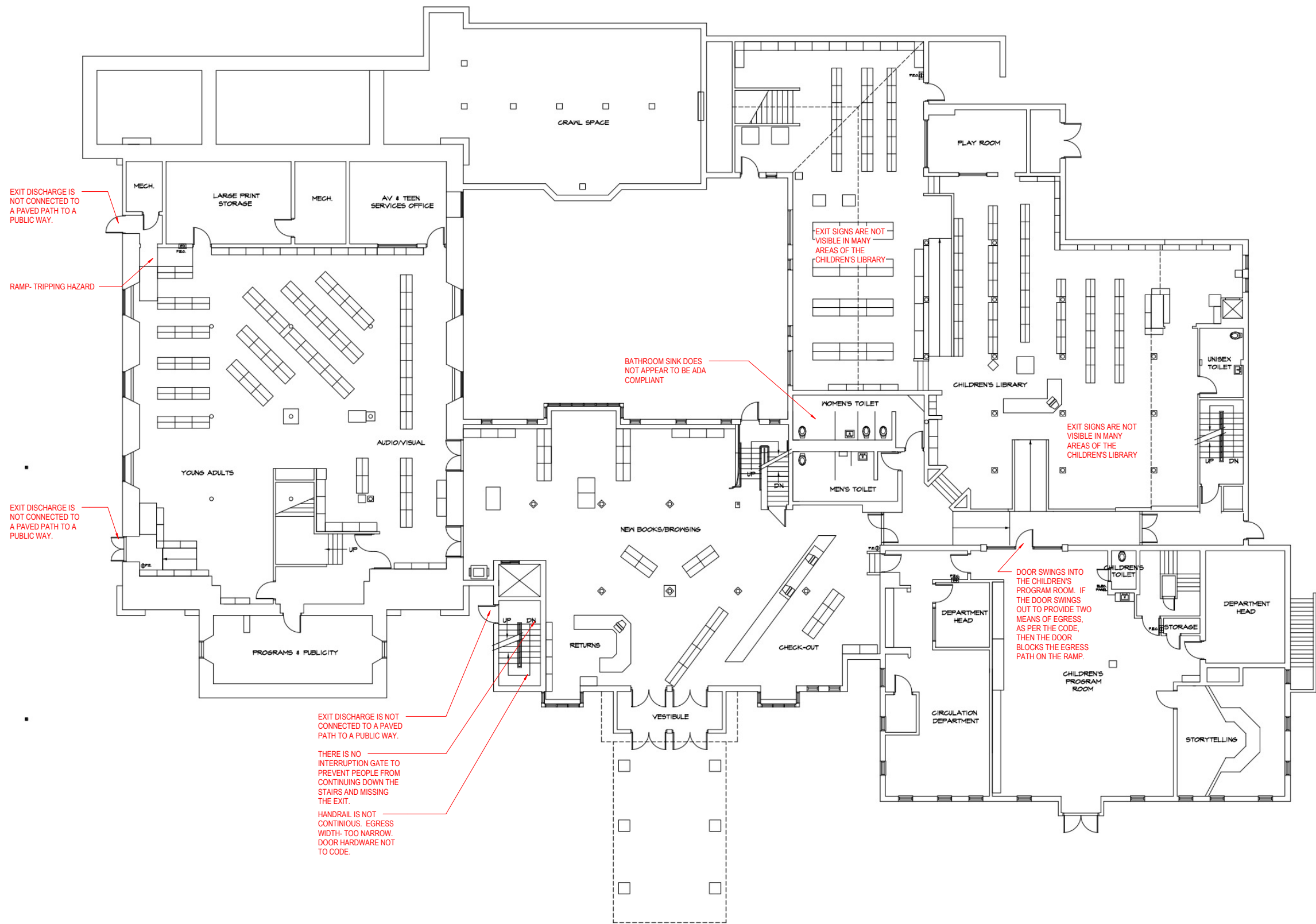
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ARCHITECTURE, LLC.  
42 West Main Street  
Chester, Connecticut 06412  
860 526 9448 Fax 860 526 9020

RUSSELL LIBRARY  
123 BROAD STREET  
MIDDLETOWN, CT, 06457

DATE: 6/10/16  
PROJECT NO: 2016.017  
DRAWN: AED  
CHECKED: MPF  
ISSUED FOR:  
REVISIONS:

EX1.0  
BASEMENT FLOOR PLAN



# 13 FIRST FLOOR PLAN

SCALE : 1/8"=1'0"

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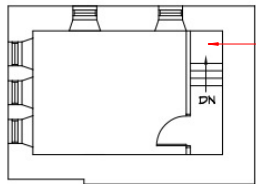
RUSSELL LIBRARY

123 BROAD STREET  
MIDDLETOWN, CT, 06457

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| DATE:       | 6/10/16  |
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| DRAWN:      | AED      |
| CHECKED:    | MPF      |
| ISSUED FOR: |          |
| REVISIONS:  |          |

**EX1.1**

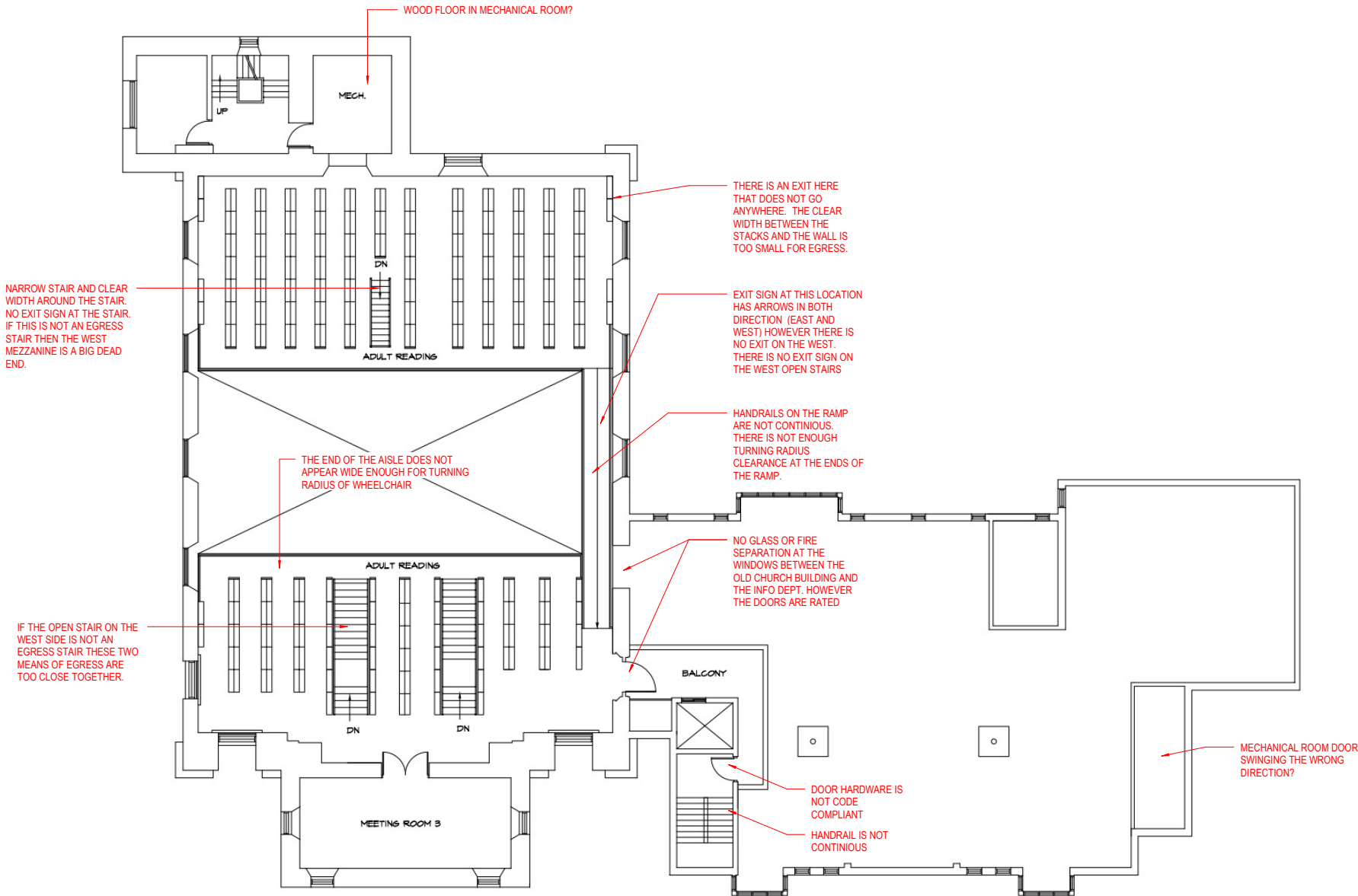
FIRST FLOOR PLAN



STAIRS ARE NOT TO CODE

## 12 TOWER FLOOR PLAN

SCALE : 1/8"=1'0"



## 9 MEZZANINE FLOOR PLAN

SCALE : 1/8"=1'0"

**TJB**  
**ARCHITECTURE, LLC.**  
42 West Main Street  
Chester, Connecticut 06412  
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**RUSSELL LIBRARY**  
123 BROAD STREET  
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PROJECT NO: 2016.017  
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CHECKED: MPF  
ISSUED FOR:  
REVISIONS:

**EX1.5**  
MEZZANINE & TOWER  
FLOOR PLANS





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3

## Project Costs



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Russell Library  
123 Broad Street, Middletown CT 06457

Conceptual Design Budget

Client: HMA2 Architects  
Prepared by: AP Construction  
Summary Date: September 14, 2021  
Architect: HMA2 Architects  
Documents: Russell Library Choices 08 19 21 presentation

|   |          | Affected Area Structure SF: 45,000                                       |                 | 60,000  |                 | 60,000   |                 | 60,000  |                 | 60,000  |                 | 15,000   |                 |
|---|----------|--|-----------------|---|-----------------|--|-----------------|---|-----------------|---|-----------------|--|-----------------|
|   |          | Projected duration of work: 16 months                                    |                 | 28  |                 | 20 mnths   |                 | 14 months   |                 | 48 months   |                 | 6 mnts   |                 |
| Construction Specification Institute Description                      | CSI #    | Budget A<br>Repair Existing;<br>phased renovation<br>(assuming 4 phases) | Cost per<br>SF: | Budget B<br>Existing site; renovate<br>historic + submerged<br>addition | Cost per<br>SF: | Budget C<br>New site; new<br>construction out of<br>ground | Cost per<br>SF: | Budget C.1<br>New site; fit-out into<br>new construction<br>building shell (shell by<br>others) | Cost per<br>SF: | Budget C.2<br>New site; building<br>constructed as a<br>bridge over Route 9<br>with river views | Cost per<br>SF: | Budget D<br>Repurpose existing<br>site for new use; add<br>green open space at<br>current footprint of<br>post-1930 building<br>area | Cost per<br>SF: |
| CONSTRUCTION COSTS:   |          |  |                 |   |                 |  |                 |   |                 | \$75,100,235  |                 |  |                 |
| General Trades  | Div 1A   | \$400,000  | \$8.89          | \$700,000   | \$11.67         | \$500,000  | \$8.33          | \$350,000   | \$5.83          | inc   |                 | \$150,000  | \$10.00         |
| Crane, Trash Chute and Loading equipment assumption                   | Div. 1B  | -  |                 | -   |                 | \$320,000  | \$5.33          | \$200,000   | \$3.33          | inc   |                 |  |                 |
| Demolition  | Div 2A   | \$184,620  | \$4.10          | \$450,000   | \$7.50          | \$0  | \$0.00          | \$0   | \$0.00          | inc   |                 | \$375,000  | \$25.00         |
| Sitework  | Div 2B   | \$301,600  | \$6.70          | \$3,935,820   | \$65.60         | \$3,215,000  | \$53.58         | \$265,000   | \$4.42          | inc   |                 | \$488,519  | \$32.57         |
| Landscaping & Site Furnishings  | Div 2E   | \$22,400   | \$0.50          | \$213,793   | \$3.56          | \$125,000  | \$2.08          | \$125,000   | \$2.08          | inc   |                 | \$105,430  | \$7.03          |
| Concrete  | Div 3A   | \$190,000  | \$4.22          | \$8,791,020   | \$146.52        | \$1,556,400  | \$25.94         | \$75,000  | \$1.25          | inc   |                 | \$10,000   | \$0.67          |
| Masonry inc stone façade  | Div 4A   | \$140,000  | \$3.11          | \$1,060,000   | \$17.67         | \$1,080,000  | \$18.00         | \$0   | \$0.00          | inc   |                 | \$170,000  | \$11.33         |
| Metals  | Div 5A   | \$98,000   | \$2.18          | \$288,150   | \$4.80          | \$3,380,000  | \$56.33         | \$500,000   | \$8.33          | inc   |                 | \$50,000   | \$3.33          |
| Finish Carpentry/Millwork   | Div 6B   | \$243,000  | \$5.40          | \$834,000   | \$13.90         | \$1,074,000  | \$17.90         | \$1,074,000   | \$17.90         | inc   |                 | \$50,000   | \$3.33          |
| Foundation waterproofing  | Div 7A   | \$50,000   | \$1.11          | \$579,000   | \$9.65          | \$130,000  | \$2.17          | \$0   | \$0.00          | inc   |                 | \$35,000   | \$2.33          |
| Roofing   | Div 7C   | \$684,350  | \$15.21         | \$1,176,280   | \$19.60         | \$605,000  | \$10.08         | \$0   | \$0.00          | inc   |                 | \$285,000  | \$19.00         |
| Façade (non-masonry)  | Div 7D   | \$140,000  | \$3.11          | \$150,000   | \$2.50          | \$1,800,000  | \$30.00         | \$0   | \$0.00          | inc   |                 | \$140,000  | \$9.33          |
| Doors & Hardware  | Div 8A   | \$40,000   | \$0.89          | \$82,000  | \$1.37          | \$450,000  | \$7.50          | \$450,000   | \$7.50          | inc   |                 | \$0  | \$0.00          |
| Glass & Glazing   | Div 8C   | \$52,500   | \$1.17          | \$605,000   | \$10.08         | \$1,680,000  | \$28.00         | \$330,000   | \$5.50          | inc   |                 | \$84,000   | \$5.60          |
| Drywall & Ceilings  | Div 9A   | \$952,480  | \$21.17         | \$1,335,000   | \$22.25         | \$2,400,000  | \$40.00         | \$1,500,000   | \$25.00         | inc   |                 | \$50,000   | \$3.33          |
| Flooring & Tile   | Div 9B   | \$367,500  | \$8.17          | \$550,333   | \$9.17          | \$1,200,000  | \$20.00         | \$1,200,000   | \$20.00         | inc   |                 | \$148,273  | \$9.88          |
| Painting  | Div 9C   | \$147,820  | \$3.28          | \$185,000   | \$3.08          | \$275,000  | \$4.58          | \$240,000   | \$4.00          | inc   |                 | \$47,500   | \$3.17          |
| Specialties inc toilet partitions, accessories etc                    | Div 10B  | \$36,300   | \$0.81          | \$57,250  | \$0.95          | \$150,000  | \$2.50          | \$150,000   | \$2.50          | inc   |                 | \$12,700   | \$0.85          |
| Signage Interior  | Div 10C  | \$35,000   | \$0.78          | \$40,000  | \$0.67          | \$85,000   | \$1.42          | \$85,000  | \$1.42          | inc   |                 | \$25,000   | \$1.67          |
| Window Treatment  | Div 12A  | \$0  | \$0.00          | \$0   | \$0.00          | \$0  | \$0.00          | \$0   | \$0.00          | inc   |                 | \$0  | \$0.00          |
| Elevator  | Div 14A  | \$150,000  | \$3.33          | \$450,000   | \$7.50          | \$630,000  | \$10.50         | \$0   | \$0.00          | inc   |                 | \$122,500  | \$8.17          |
| Fire Protection   | Div 15FP | \$204,078  | \$4.54          | \$502,500   | \$8.38          | \$450,000  | \$7.50          | \$450,000   | \$7.50          | inc   |                 | \$74,475   | \$4.97          |
| Plumbing  | Div 15P  | \$768,500  | \$17.08         | \$1,186,000   | \$19.77         | \$1,500,000  | \$25.00         | \$1,500,000   | \$25.00         | inc   |                 | \$211,750  | \$14.12         |
| HVAC  | Div 15H  | \$2,728,000  | \$60.62         | \$5,300,000   | \$88.33         | \$4,800,000  | \$80.00         | \$4,800,000   | \$80.00         | inc   |                 | \$502,500  | \$33.50         |
| Electrical & Fire Alarm   | Div 16A  | \$1,658,840  | \$36.86         | \$2,407,500   | \$40.13         | \$2,302,500  | \$38.38         | \$2,302,500   | \$38.38         | inc   |                 | \$500,003  | \$33.33         |
| LEED certification allowance  |          | n/a  | -               | \$630,000   | \$10.50         | \$1,200,000  | \$20.00         | \$1,200,000   | \$20.00         | inc   |                 | n/a  | -               |
| Design Contingency  | 5.00%    | \$479,749  | \$10.66         | \$1,575,432   | \$26.26         | \$1,545,395  | \$25.76         | \$839,825   | \$14.00         | inc   |                 | \$181,883  | \$12.13         |
| Estimated Base Building Construction Trade Cost:                      |          | \$10,074,737   | \$223.88        | \$33,084,079  | \$551.40        | \$32,453,295   | \$540.89        | \$17,636,325  | \$293.94        |   |                 | \$3,819,533  | \$254.64        |
| CM Construction Contingency   | 5.00%    | \$503,737  | \$11.19         | \$1,654,204   | \$27.57         | \$1,622,665  | \$27.04         | \$881,816   | \$14.70         | inc   |                 | \$190,977  | \$12.73         |
| CM General Conditions   |          | \$640,000  | \$14.22         | \$1,120,000   | \$18.67         | \$800,000  | \$13.33         | \$560,000   | \$9.33          | inc   |                 | \$240,000  | \$16.00         |
| Building Permit Fee   | 2.50%    | \$260,088  | \$5.78          | \$847,322   | \$14.12         | \$823,552  | \$13.73         | \$447,128   | \$7.45          | Federal, DEEP & DOT permits extra   |                 | \$93,708   | \$6.25          |
| CM Fee  | 3.75%    | \$420,693  | \$9.35          | \$1,344,686   | \$22.41         | \$1,307,848  | \$21.80         | \$715,430   | \$11.92         | inc   |                 | \$159,394  | \$10.63         |
| CM Liability Insurance  | 1.50%    | \$174,587  | \$3.88          | \$558,045   | \$9.30          | \$542,757  | \$9.05          | \$296,904   | \$4.95          | inc   |                 | \$66,149   | \$4.41          |
| CM Sales Tax  | 0.00%    | \$0  | \$0.00          | \$0   | \$0.00          | \$0  | \$0.00          | \$0   | \$0.00          | inc   |                 | \$0  | \$0.00          |
| Grand Total Estimated Base Building Construction Cost                 |          | \$12,073,842   | \$268.31        | \$38,608,335  | \$643.47        | \$37,550,118   | \$625.84        | \$20,537,603  | \$342.29        | \$75,100,235  | \$1,251.67      | \$4,569,760  | \$304.65        |
| HARD COSTS in addition to Construction:                               |          |  |                 |   |                 |  |                 |   |                 |   |                 |  |                 |
| Furniture & Equipment   |          | \$1,000,000  | \$22.22         | \$1,500,000   | \$25.00         | \$1,500,000  | \$25.00         | \$1,500,000   | \$25.00         | \$1,500,000   | \$25.00         | TBD based on use   | \$0.00          |
| Technology / AV / Security  |          | \$330,000  | \$7.33          | \$700,000   | \$11.67         | \$700,000  | \$11.67         | \$700,000   | \$11.67         | \$700,000   | \$11.67         | TBD based on use   | \$0.00          |
| SOFT COSTS:   |          |  |                 |   |                 |  |                 |   |                 |   |                 |  |                 |
| Professional Fees, Administrative Costs, Moving Charge, Testing, etc. | 25%      | \$3,350,961  | \$74.47         | \$10,202,084  | \$170.03        | \$9,937,529  | \$165.63        | \$5,684,401   | \$94.74         | \$30,920,094  | \$515.33        | \$1,142,440  | \$76.16         |
| TOTAL PROJECTED COST:   |          | \$16,754,803   | \$372.33        | \$51,010,419  | \$850.17        | \$49,687,647   | \$828.13        | \$28,422,004  | \$473.70        | \$108,220,330   | \$1,803.67      | \$5,712,201  | \$380.81        |

NOTE: Annual escalation projection after end of year 2021 3% add at 3% per year add at 3% per year add at 3% per year add at 3% per year add at 3% per year add at 3% per year

ALTERNATES (Not included above)

|   | ADD / (DEDUCT) | ADD / (DEDUCT) | ADD / (DEDUCT) | ADD / (DEDUCT) | ADD / (DEDUCT) | ADD / (DEDUCT) |
|---|----------------|----------------|----------------|----------------|----------------|----------------|
| Alternate #1.A (ADD): 139 Broad St complete demolition  | \$385,882      |                |                |                |                |                |
| Alternate #1.B (ADD): 139 Broad St complete restoration   | \$2,018,503    |                |                |                |                |                |
| Alternate #1.C (ADD): Temporary Facility allowance  | \$650,000      |                |                |                |                |                |
| Alternate #2 (ADD): 234 Court Street Administrative Building Improvements Allowance                               | \$59,366       | \$59,366       |                |                |                |                |
| Alternate #3 (ADD): Geothermal closed-well loop system add if feasible allowance                                  | \$2,137,190    | \$2,849,587    | \$2,849,587    | \$2,849,587    |                |                |
| Alternate #4.A (ADD): Water recycling system allowance - non-potable/grey water usage for toilets, irrigation etc | \$296,832      | \$296,832      | \$296,832      | \$296,832      | -              |                |
| Alternate #4.B (ADD): Rain water reclaiming allowance - rain water usage for irrigation at new park               | -              | -              | -              | -              | \$41,556       |                |
| Alternate #5 (ADD): Solar panel roof mounted system allowance   |                |                | \$328,016      | \$328,016      | \$328,016      |                |

NOTE: The above pricing is to be used for budgeting purposes only and is not actual cost of construction for the Project. Final construction costs cannot be determined until complete bid documents have been issued to AP Construction and the bid process is complete. The above budget pricing is valid for 30 days from the date shown.

Russell Library  
123 Broad Street, Middletown CT 06457  
Conceptual Design Budget  
AP Construction  
9/14/2021



Option A - REPAIR & RENOVATE EXISTING STRUCTURE

|  |           |                |           |
|--|-----------|----------------|-----------|
| basement - finished                      | 11,876 sf | historic bldgs | 15,000 sf |
| basement - crawl space                   | 408 sf    | post 1930      | 30,000 sf |
| basement - unfinished slab area          | 3,111 sf  |                |           |
| utility storage                          | 831 sf    |                |           |
| 1st Floor - finished prior to 1930 areas | 7,895 sf  |                |           |
| 1st Floor - additions after 1930 areas   | 11,207 sf |                |           |
| 2nd Floor - finished                     | 7,634 sf  |                |           |
| courtyard                                | 2,166 sf  |                |           |
| total sf of affected work area:          | 45,128 sf |                |           |
| open porch                               | 1,116 sf  |                |           |

| Division 1A - General Trades  | Qty | Unit  | Unit Cost | AP Estimate | Notes |
|---|-----|-------|-----------|-------------|-------|
| general requirements to support trades - phased; assuming 16 month schedule | 16  | mnths | 25,000    | \$400,000   |       |
|   | 16  | mnths | 25,000    | \$400,000   |       |
| Total Division 1A - General trades  |     |       |           | \$400,000   |       |

| Division 2A - Demolition  | Qty    | Unit  | Unit Cost | AP Estimate | Notes |
|---|--------|-------|-----------|-------------|-------|
| Supply labor, equipment, supervision and dumpsters to complete: |        |       |           |             |       |
| - selective abatement allowance as required to modify systems   | 1      | allow | 75,000    | \$75,000    |       |
| - selective demolition of interior finishes and systems         |        |       |           |             |       |
| basement finished area  | 11,876 | sf    | 4.00      | \$47,504    |       |
| 1st floor finished area   | 7,895  | sf    | 4.00      | \$31,580    |       |
| 2nd floor finished area   | 7,634  | sf    | 4.00      | \$30,536    |       |
| dumpsters   |        |       |           | included    |       |
| Total Division 2A - Demolition                                  |        |       |           | \$184,620   |       |

| Division 2B - Sitework  | Qty | Unit  | Unit Cost | AP Estimate | Notes   |
|---|-----|-------|-----------|-------------|---|
| Supply labor, equipment and supervision to complete:                              |     |       |           |             |   |
| Courtyard improvements  | 1   | ls    | 50,000    | \$50,000    |   |
| accessibility improvements  |     |       |           | included    |   |
| sidewalks and patio area replacement  |     |       |           | included    |   |
| Mobilization & Logistical Site Prep   | 1   | ls    | 15,000    | \$15,000    |   |
| tree clearing - not in scope  |     |       |           | by others   |   |
| site demo; remove sidewalks in courtyard  | 1   | ls    | 12,000    | \$12,000    |   |
| Erosion Control   | 1   | ls    | 15,000    | \$15,000    |   |
| Silt fence  |     |       |           | included    |   |
| Inlet protection  |     |       |           | included    |   |
| maintenance during construction   |     |       |           | included    |   |
| Earthwork   |     |       |           |             |   |
| allowance to open up ground for foundation and waterproofing repairs              | 1   | allow | 50,000    | \$50,000    |   |
| trench drain addition at selective area including stone and piping                | 1   | allow | 12,000    | \$12,000    |   |
| Utilities   |     |       |           |             |   |
| connection to new generator allowance (gas & electrical conduits)                 | 1   | ls    | 10,000    | \$10,000    |   |
| Site Improvements   |     |       |           |             |   |
| pavement - concrete sidewalks; 5" 4000 psi with mesh, broom finish, with wiremesh | 1   | ls    | 35,000    | \$35,000    | courtyard & North Drive sections as noted in AP Assessment report |
| pavement - hardscape brick pavers resettling allowance; reuse existing            | 1   | ls    | 10,000    | \$10,000    | courtyard bluestone only  |
| pavement - replace curbing at selective areas                                     | 300 | lf    | 42        | \$12,600    | concrete; selective areas per AP Assessment report 8/26/2021      |
| pavement - asphalt pavement replacement at North Driveway                         | 1   | ls    | 15,000    | \$15,000    | repulverize and install new driveway cover                        |
| retaining wall - allowance to reset existing retaining walls as required          | 1   | allow | 35,000    | \$35,000    |   |
| regrade around building low spots; misc allowance                                 | 1   | ls    | 20,000    | \$20,000    | Broad St side at Church bld main lobby and courtyard              |
| concrete pad and trenching for new generator                                      | 1   | ls    | 10,000    | \$10,000    |   |
| Total Division 2B - Sitework  |     |       |           | \$301,600   |   |

| Division 2E - Landscaping & Site furnishings | Qty   | Unit  | Unit Cost | AP Estimate | Notes  |
|--|-------|-------|-----------|-------------|--|
| screen & respread topsoil in courtyard       | 40    | CY    | 35.00     | \$1,400     |  |
| seeding                                      | 4,000 | sf    | 0.75      | \$3,000     | courtyard and regraded areas                             |
| pruning and planting maintenance             | 1     | ls    | 10,000    | \$10,000    | selective areas per AP Assessment report dated 8/26/2021 |
| bike rack supply and install                 | 3     | ls    | 1,500     | \$4,500     |  |
| fence repair at North Driveway               | 1     | allow | 3,500     | \$3,500     | straighten fence, repair gate per AP Assessment report   |
| Total Division 2E - Landscaped areas         |       |       |           | \$22,400    |  |

| Division 3A - Concrete   | Qty | Unit   | Unit Cost | AP Estimate | Notes  |
|--|-----|--------|-----------|-------------|--|
| allowance for foundation repair and stabilizations at front porch area         | 1   | allow  | 75,000    | \$75,000    | visible settlement; requires further investigation               |
| allowance for accessibilty improvement ramp restructure                        | 1   | allow  | 35,000    | \$35,000    |  |
| allowance for structural support added for pointloads from new roof hvac plant | 4   | points | 20,000    | \$80,000    | assuming added concrete piers/column pads to disperse point load |
| Total Division 3A - Concrete   |     |        |           | \$190,000   |  |

| Division 4A - Masonry   | Qty | Unit  | Unit Cost | AP Estimate | Notes   |
|---|-----|-------|-----------|-------------|---|
| brownstone railings replacement at Court St entrance to Church Building | 2   | allow | 30,000    | \$60,000    | falling apart per AP Assement report; assuming rebuilt in kind (historic) |
| brownstone landings at both Church st entrances reset existing stone    | 2   | allow | 15,000    | \$30,000    | trip hazard per AP Assement report; assuming reuse existing materials     |
| brownstone façade repointing allowance for repairs as needed per report | 1   | allow | 50,000    | \$50,000    | at several lower courses around building; see report for details          |
| Total Division 4A- Masonry  |     |       |           | \$140,000   |   |

| Division 5A - Steel & Metals                               | Qty | Unit  | Unit Cost | AP Estimate | Notes   |
|--|-----|-------|-----------|-------------|---|
| Church Bld roof trusses minor structural support work      | 1   | allow | 25,000    | \$25,000    | shoring and structural support for rebuild canopies; see AP Assessment report |
| portico columns steel support allowance                    | 1   | allow | 30,000    | \$30,000    | shoring and structural support for rebuild canopies; see AP Assessment report |
| added dunnage for new hvac equipment on roof               | 1   | allow | 28,000    | \$28,000    |   |
| screen allowance for HVAC rooftop equipment visual barrier | 1   | allow | 15,000    | \$15,000    | assuming aluminum; simple screen  |
| Total Division 5A- Steel                                   |     |       |           | \$98,000    |   |

| Division 6B - Millwork / Finish Carpentry                        | Qty | Unit  | Unit Cost | AP Estimate | Notes   |
|--|-----|-------|-----------|-------------|---|
| restroom; single-use vanities allowance                          | 12  | allow | 1,500     | \$18,000    |   |
| restoration millwork allowance; refresh existing; infill missing | 1   | allow | 150,000   | \$150,000   | in-kind historic restoration assumed at prior 1930 building areas |
| new decorative trim, accents and special details allowance       | 1   | allow | 75,000    | \$75,000    |   |
| Total Division 6B - Millwork                                     |     |       |           | \$243,000   |   |

| Division 7A - Damproofing & Waterproofing  | Qty | Unit  | Unit Cost | AP Estimate | Notes  |
|--|-----|-------|-----------|-------------|--|
| foundation waterproofing allowance at selective area in browstone building trouble | 1   | allow | 35,000    | \$35,000    |  |
| elevator pit waterproofing; Crystalline or alike                                   | 1   | ls    | 15,000    | \$15,000    | existing pit has evidence of water intrusion |
| Total Division 7A - Damproofing & Waterproofing                                    |     |       |           | \$50,000    |  |

| Division 7D - Roof  | Qty    | Unit  | Unit Cost | AP Estimate | Notes  |
|---|--------|-------|-----------|-------------|--|
| selective replacement of sheating; assuming 50% of roof surface             | 10,050 | sf    | 12        | \$120,600   |  |
| sloped roofs at pre 1930 structures; new asphalt shingles                   | 88     | sq    | 2,250     | \$198,000   |  |
| flat roofs at post 1930 structures; TPO, white, with insulation             | 113    | sq    | 2,750     | \$310,750   |  |
| roof drains replacement allowance   | 10     | allow | 2,500     | \$25,000    | assuming 10 units  |
| gutters/leaders replacement allowance inc extensions as required per report | 1      | allow | 30,000    | \$30,000    | aluminum; include connections where missing per AP Assessment report |
| Total Division 7D - Roofing   |        |       |           | \$684,350   |  |

|  |        |       |           |              |  |
|--|--------|-------|-----------|--------------|--|
| Division 7E - Façade   | Qty    | Unit  | Unit Cost | AP Estimate  | Notes  |
| existing to remain as is; repointing allowance in masonry                            |        |       |           |              |  |
| rebuild wood frame canopies at Church building; historic replacement in kind         | 1      | allow | 50,000    | \$50,000     |  |
| rebuild missing cornice at roof line on Court St façade of the Church building       | 1      | allow | 15,000    | \$15,000     | historic restoration; replace in-kind                          |
| caulking allowance throughout including windows and doors                            | 1      | allow | 75,000    | \$75,000     |  |
| Total Division 7E - Façade   |        |       |           | \$140,000    |  |
|  |        |       |           |              |  |
| Division 8A - Doors, Frames & Hardware   | Qty    | Unit  | Unit Cost | AP Estimate  | Notes  |
| selective door replacement; new at revised areas                                     | 1      | allow | \$40,000  | \$40,000     |  |
| Total Division 8A - Doors  |        |       |           | \$40,000     |  |
|  |        |       |           |              |  |
| Division 8C - Glass & Glazing  | Qty    | Unit  | Unit Cost | AP Estimate  | Notes  |
| interior storefront door entries assumption  | 5      | ea    | \$9,500   | \$47,500     |  |
| - hardware as required   |        |       |           | included     |  |
| mirrors allowance  | 1      | allow | \$5,000   | \$5,000      |  |
| Total Division 8C - Glass & Glazing  |        |       |           | \$52,500     |  |
|  |        |       |           |              |  |
| Division 9A - Drywall & Ceilings   | Qty    | Unit  | Unit Cost | AP Estimate  | Notes  |
| code accessibility revisions to address non-compliance and ease-of-use areas         | 1      | allow | \$150,000 | \$150,000    |  |
| up to 12' wall partitions LGM framing; insulated; gypsum on both sides; single layer | 400    | lf    | \$155.00  | \$62,000     |  |
| scar patching at existing partitions to be removed                                   | 1      | ls    | \$15,000  | \$15,000     |  |
| plaster patching at existing partitions in historic areas only                       | 1      | allow | \$20,000  | \$20,000     |  |
| soffits/accent gyp ceilings at selected areas  | 1      | ls    | \$25,000  | \$25,000     |  |
| in wall wood blocking and plywood backing  | 1      | ls    | \$10,000  | \$10,000     |  |
| access panels at hard ceilings   | 1      | allow | \$5,000   | \$5,000      |  |
| ACT ceilings throughout finished basement, 2nd floor and part 1st floor areas        | 31,548 | sf    | \$10.00   | \$315,480    |  |
| Acoustic panel ceilings at selective areas   | 10,000 | sf    | \$35.00   | \$350,000    |  |
| Level 4 finish   |        |       |           | included     |  |
| Total Division 9A - Drywall & Ceilings   |        |       |           | \$952,480    |  |
|  |        |       |           |              |  |
| Division 9B - Flooring & Tile  | Qty    | Unit  | Unit Cost | AP Estimate  | Notes  |
| tile floor assumption large format at main level public use areas inc restrooms      | 5,000  | sf    | 25.00     | \$125,000    |  |
| tile floor assumption wainscoting at restrooms; wet walls complete; up 4' others     | 12     | ea    | 3,500.00  | \$42,000     |  |
| VCT floor assumption at main floor back-of-house areas                               | 2,000  | sf    | 5.00      | \$10,000     |  |
| carpet library use areas; up to 30,000 sf assumed carpeted                           | 4,000  | sy    | 40.00     | \$160,000    |  |
| walk off mats with logo at vestibules  | 6      | ea    | 2,500     | \$15,000     |  |
| sealed concrete at basement back-of house and stairs                                 | 2,000  | sf    | 4.00      | \$8,000      |  |
| vinyl base throughout; 4"  | 1      | allow | 7,500     | \$7,500      |  |
| transtion and misc   |        |       |           | included     |  |
| thin set, cementitious grout and misc materials as required for install              |        |       |           | included     |  |
| Total Division 9B - Flooring & Tile  |        |       |           | \$367,500    |  |
|  |        |       |           |              |  |
| Division 9C - Painting & Wall finishes   | Qty    | Unit  | Unit Cost | AP Estimate  | Notes  |
| paint througout drywall walls and ceilings   | 45,128 | sf    | 2.50      | \$112,820    |  |
| paint doors and frames   |        |       |           | included     |  |
| exterior paint - allowance for exterior trim and railing                             | 1      | ls    | 10,000    | \$10,000     |  |
| fabric acoustical wall panels allowance assumed in selective quiet aras              | 1      | ls    | 25,000    | \$25,000     |  |
| prep as required   |        |       |           | included     |  |
| Total Division 9C - Painting   |        |       |           | \$147,820    |  |
|  |        |       |           |              |  |
| Division 10A - Specialties inc Toilet Accessories                                    | Qty    | Unit  | Unit Cost | AP Estimate  | Notes  |
| toilet accessories allowance; assuming 12 locations                                  | 12     | ea    | 2,500     | \$30,000     |  |
| fire extinguishers with cabinets   | 14     | ea    | 450       | \$6,300      | 4 lower level; 6 main level; 4 2nd floor                       |
| installed by carpentry   |        |       |           | in carpentry |  |
| Total Division 10B - Specialties   |        |       |           | \$36,300     |  |
|  |        |       |           |              |  |
| Division 10C - Signage Allowance   | Qty    | Unit  | Unit Cost | AP Estimate  | Notes  |
| interior signage; acrylic; ADA   | 1      | allow | 20,000    | \$20,000     |  |
| installed by signage   |        |       |           | included     |  |
| exterior signage upgrades  | 1      | allow | 15,000    | \$15,000     |  |
| Total Division 10C - Signage   |        |       |           | \$35,000     |  |
|  |        |       |           |              |  |
| Division 12A - Window Treatments   | Qty    | Unit  | Unit Cost | AP Estimate  | Notes  |
| none in scope  |        |       |           |              |  |
| Total Division 12A - Window Treatments   |        |       |           |              |  |
|  |        |       |           |              |  |
| Division 14A - Elevator  | Qty    | Unit  | Unit Cost | AP Estimate  | Notes  |
| replace elevator; assuming 2500 lbs machineless car                                  | 1      | allow | 150,000   | \$150,000    | standard elevator finishes; tied in to new generator           |
| Total Division 12A - Window Treatments   |        |       |           | \$150,000    |  |
|  |        |       |           |              |  |
| Division 15FP - Fire Protection  | Qty    | Unit  | Unit Cost | AP Estimate  | Notes  |
| Church building circulation area - expand dry system                                 | 7,895  | sf    | 5         | \$39,475     |  |
| mezzanine and first floor area - revise coverage as needed for adequate protection   | 18,841 | sf    | 2.50      | \$47,103     | mains to remain in place; branchlines and heads expansion only |
| existing system branch lines/head relocation allowance as required for new layout    | 1      | ls    | 10,000    | \$10,000     | allowance  |
| upgrade to existing dry system as required; replace heads                            | 1      | allow | 50,000    | \$50,000     |  |
| backflow preventers added at domestic water as required                              | 1      | ea    | 7,500     | \$7,500      |  |
| replace fire hose stations   | 10     | ea    | 5,000     | \$50,000     |  |
| Total Division 14 - Fire Protection  |        |       |           | \$204,078    |  |
|  |        |       |           |              |  |
| Division 15P - Plumbing  | Qty    | Unit  | Unit Cost | AP Estimate  | Notes  |
| restrooms; refresh and revision as needed to address accessiblity requirements       | 12     | ea    | 50,000    | \$600,000    |  |
| JC closets   | 2      | ea    | 7,500     | \$15,000     |  |
| water fountain with bottle fillers; assumed at each floor                            | 6      | ea    | 2,250     | \$13,500     | 2 lower level; 3 main floor; 1 2nd flr                         |
| gas connections to new mechanical equipment  | 1      | ls    | 15,000    | \$15,000     |  |
| ejector pumps replacement (in-kind)  | 2      | ea    | 20,000    | \$40,000     | assuming tanks to remain / reused                              |
| backflow preventers added at domestic water as required                              | 2      | ea    | 7,500     | \$15,000     |  |
| plumbing fixtures, trim and equipment; low water consumption fixtures                |        |       |           | included     |  |
| domestic water piping replacement allowance in selective areas as needed             | 1      | allow | 30,000    | \$30,000     | corroded sections; assuming L copper tubing new                |
| roof drains connection allowance   | 10     | allow | 1,500     | \$15,000     | assuming 10 units  |
| floor drains, roof drains, overflow drains and deck plate cleanouts                  |        |       |           | included     |  |
| insulation pipe and stormwater add at missing areas per code as required             | 1      | allow | 25,000    | \$25,000     |  |
| wall or ceiling access panel supply as needed for own work (installed by others)     |        |       |           | included     |  |
| cutting and firestopping for own work  |        |       |           | included     |  |
| Fireproofing of own work   |        |       |           | included     |  |
| Total Division 15P - Plumbing  |        |       |           | \$768,500    |  |
|  |        |       |           |              |  |
| Division 15H - HVAC  | Qty    | Unit  | Unit Cost | AP Estimate  | Notes  |
| safe-off and removal of existing chiller, cooling tower and boilers                  | 1      | allow | 50,000    | \$50,000     |  |
| hvac equipment replacement; reuse as much of existing infrastructure as feasible     | 45,000 | sf    | 45        | \$2,025,000  |  |
| - 140ton heat pump plant on roof of the building                                     |        |       |           | included     |  |
| - pumps, expansion tanks and other accessories as required                           |        |       |           | included     |  |
| - AHU replacement  |        |       |           | included     |  |
| - duct sealing and cleaning  |        |       |           | included     |  |
| radiant floor heating system at Children's area and main reading room                | 5,000  | sf    | 40        | \$200,000    |  |



|  |        |       |         |             |  |
|--|--------|-------|---------|-------------|--|
| exhaust fans; mech/elect rms, JC,            | 6      | ea    | 5,500   | \$33,000    |  |
| BMS system upgrade                           | 45,000 | allow | 6       | \$270,000   |  |
| fresh air make up system                     | 1      | allow | 150,000 | \$150,000   |  |
| registers, grilles and diffusers as required |        |       |         | included    |  |
| fire/fire-smoke dampers as required          |        |       |         | included    |  |
| refrigeration piping and gasses              |        |       |         | included    |  |
| wall caps as specified                       |        |       |         | included    |  |
| insulation as required                       |        |       |         | included    |  |
| Testing and warrantee                        |        |       |         | included    |  |
| Submittals and as-buits                      |        |       |         | included    |  |
| Testing and balancing by sub only            |        |       |         | included    |  |
| Firestopping of own work                     |        |       |         | included    |  |
| Total Division 15H - HVAC                    |        |       |         | \$2,728,000 |  |

| Division 16A - Electrical & Fire Alarm  | Qty    | Unit  | Unit Cost | AP Estimate | Notes  |
|---|--------|-------|-----------|-------------|--|
| safe off; disconnects and selective demo  | 45,128 | sf    | 2         | \$90,256    |  |
| service upgrade   | 1      | allow | 50,000    | \$50,000    |  |
| gear, panels and bussing including switches, housing and cabinets as required         | 1      | allow | 35,000    | \$35,000    |  |
| general power upgrades and revisions including panel replacements                     | 45,128 | sf    | 8         | \$361,024   |  |
| lighting fixtures allowance; assuming replaced throughtout with PoE (LED) system      | 45,128 | sf    | 15        | \$676,920   |  |
| lighting controls including switches, motion sensors, digital timers, etc as detailed |        |       |           | included    |  |
| energy efficiency sensors (daylight sensors; "vampire" loads, etc)                    |        |       |           | included    |  |
| submetering at selective areas  | 5      | ls    | 3,500     | \$17,500    |  |
| site/exterior lights fixtures allowance;  | 10     | ea    | 2,500     | \$25,000    | assuming new lighting to be added per AP Assesement report 8/26/2021 |
| power connections to mechanicaland plumbing equipment                                 | 1      | ls    | 25,000    | \$25,000    |  |
| generator for emergency power; gas fuel; 150 kW                                       | 150    | kw    | 850       | \$127,500   | sized up for potential use of Library as Community Area of Refuge    |
| rigging; ATS, grounding, connections  |        |       |           | \$25,000    |  |
| tele/data and security back-boxes and wiring allowance                                | 45,128 | allow | 2         | \$90,256    | added area only  |
| fire alarm panels, devices, wiring, programming and connections replacement           | 45,128 | allow | 3         | \$135,384   |  |
| grounding including bonding of as required  |        |       |           | included    |  |
| sleeves, cutting and coring as needed for own work                                    |        |       |           | included    |  |
| temporary protection of own work as required  |        |       |           | included    |  |
| Submittals and as-buits   |        |       |           | included    |  |
| Firestopping of own work  |        |       |           | included    |  |
| Total Division 16A - Electrical   |        |       |           | \$1,658,840 |  |

ALTERNATES:

| Alternate #1.A (ADD): 139 Broad St Structure complete demolition |   |        |         | Cost      |  |
|--|---|--------|---------|-----------|--|
| allowance for abatement  | 1 | allow  | 150,000 | \$150,000 |  |
| allowance for complete demolition of existing structure          | 1 | allow  | 75,000  | \$75,000  |  |
| infill, grade and seed pad of removed building                   | 1 | allow  | 100,000 | \$100,000 |  |
| TOTAL TRADE COST   |   |        |         | 325,000   |  |
| FEE STRUCTURE BELOW  |   |        |         |           |  |
| GENERAL CONDITIONS   |   | 10.00% |         | 32,500    |  |
| BUILDING PERMIT FEE/ZONING FEE                                   |   | 2.50%  |         | 8,938     |  |
| CM CONSTRUCTION FEE/OVERHEAD                                     |   | 3.75%  |         | 13,741    |  |
| CM LIABILITY INSURANCE   |   | 1.50%  |         | 5,703     |  |
| SALES TAX  |   | 0.00%  |         | 0         |  |
| ALTERNATE #1 TOTAL (w/ mark-Up)                                  |   |        |         | 385,882   |  |

| Alternate #2 (ADD): 234 Court Street Administrative Building Improvements Allowance |   |        |        | Cost     |  |
|---|---|--------|--------|----------|--|
| allowance for minor improvemnts to the Administrative building                      | 1 | allow  | 50,000 | \$50,000 |  |
| TOTAL TRADE COST  |   |        |        | 50,000   |  |
| FEE STRUCTURE BELOW   |   |        |        |          |  |
| GENERAL CONDITIONS  |   | 10.00% |        | 5,000    |  |
| BUILDING PERMIT FEE/ZONING FEE  |   | 2.50%  |        | 1,375    |  |
| CM CONSTRUCTION FEE/OVERHEAD  |   | 3.75%  |        | 2,114    |  |
| CM LIABILITY INSURANCE  |   | 1.50%  |        | 877      |  |
| SALES TAX   |   | 0.00%  |        | 0        |  |
| ALTERNATE #2 TOTAL (w/ mark-Up)   |   |        |        | 59,366   |  |

| Alternate #3 (ADD): Geothermal closed-well loop system add if feasible allowance |        |        |    | Cost        |          |
|--|--------|--------|----|-------------|----------|
| allowance to add geothermal hvac system in lieu of VFR                           | 45,000 | sf     | 40 | \$1,800,000 | upcharge |
| TOTAL TRADE COST   |        |        |    | 1,800,000   |          |
| FEE STRUCTURE BELOW  |        |        |    |             |          |
| GENERAL CONDITIONS   |        | 10.00% |    | 180,000     |          |
| BUILDING PERMIT FEE/ZONING FEE   |        | 2.50%  |    | 49,500      |          |
| CM CONSTRUCTION FEE/OVERHEAD   |        | 3.75%  |    | 76,106      |          |
| CM LIABILITY INSURANCE   |        | 1.50%  |    | 31,584      |          |
| SALES TAX  |        | 0.00%  |    | 0           |          |
| ALTERNATE #3 TOTAL (w/ mark-Up)  |        |        |    | 2,137,190   |          |

| Alternate #4.A (ADD): Water recycling system allowance - non-potable/grey water usage for toilets, irrigation etc |   |        |         | Cost      |  |
|---|---|--------|---------|-----------|--|
| allowance for potential reclaimed water filtration processing plant   | 1 | allow  | 250,000 | \$250,000 |  |
| pipng system for non-potable distribution   |   |        |         | included  |  |
| system enclosure allowance; assuming small, basic CMU structure   |   |        |         | included  |  |
| TOTAL TRADE COST  |   |        |         | 250,000   |  |
| FEE STRUCTURE BELOW   |   |        |         |           |  |
| GENERAL CONDITIONS  |   | 10.00% |         | 25,000    |  |
| BUILDING PERMIT FEE/ZONING FEE  |   | 2.50%  |         | 6,875     |  |
| CM CONSTRUCTION FEE/OVERHEAD  |   | 3.75%  |         | 10,570    |  |
| CM LIABILITY INSURANCE  |   | 1.50%  |         | 4,387     |  |
| SALES TAX   |   | 0.00%  |         | 0         |  |
| ALTERNATE #4.A TOTAL (w/ mark-Up)   |   |        |         | 296,832   |  |

Russell Library  
123 Broad Street, Middletown CT 06457  
Conceptual Design Budget  
AP Construction  
9/14/2021



OPTION A - REPAIR & RENOVATE EXISTING STRUCTURE APPROACH

Qualifications & Assumptions:

- 1 We have assumed that work will be completed in four phases, continuous after each phase is completed, for total estimated duration of 16 months from mobilization untill completion.
- 2 We have assumed that building section under construction will be isolated for each phase and will be unoccupied with no public access allowed during construction.
- 3 We have assumed that work will be completed on straight time.
- 4 We have assumed that sufficient staging, lay down and temporary parking area will be provided on site or vicinity of the site for duration of the construction.
- 5 Budget is based on current pricing (no escalation included)
- 6 We have included an allowance to address upgrades to Furniture, Fixtures, Artwork, Sound Systems, Access Control & Security, and AV Equipment (FF&E) including bookcases.
- 7 Pricing based on prevailing wage rates

Exclusions:

- 1 Builders Risk insurance
- 2 Payment and Performance bond
- 3 Easements of any kind
- 4 Sales tax (non-profit organization exemption assumed)
- 5 Material testing and inspection costs
- 6 Underpinning
- 7 Rock removal and/or handling
- 8 Unsuitable soils handling or replacement
- 9 Offsite utility connections - assuming tapping to on-site existing connections
- 10 Improvements and/or repaving of public streets
- 11 Improvement and/or any work at the neighboring property. Please refer to add alternates
- 12 Primary power - assuming existing to remain as is
- 13 Gas line - assuming existing to remain as is
- 14 Tree work of any kind - pruning, new or replacement
- 15 Specialty acoustical treatement and/or provisions
- 16 Fire pump (none existing - assuming adequate pressure from street to remain as is)
- 17 Geothermal wells and geothermal hvac system (not feasible at existing location)

Russell Library  
123 Broad Street, Middletown CT 06457  
Conceptual Design Budget  
AP Construction  
9/14/2021



OPTION B - ADDITION & RENOVATION of PRE-1930 STRUCTURE

|  |             |                |        |
|--|-------------|----------------|--------|
| Church building renovate                         | 15,000 sf   | historic bldgs | 15,000 |
| Hubbard Wing building renovate                   | included sf | post 1930      | 30,000 |
| submerged 2-level loft addition:                 | 35,000 sf   |                |        |
| submerged 1-level addition at Court St/Broad St: | 7,000 sf    |                |        |
| submerged 2-story courtyard                      | 3,000 sf    |                |        |
| total structures work area:                      | 60,000 sf   |                |        |
| plus entry off Broad St:                         | 1,500 sf    |                |        |
| liveroof surface park-like area:                 | 10,000 sf   |                |        |

| Division 1A - General Trades  | Qty | Unit  | Unit Cost | AP Estimate | Notes |
|---|-----|-------|-----------|-------------|-------|
| general requirements to support trades - assuming 28 month schedule | 28  | mnths | 25,000    | \$700,000   |       |
| Total Division 1A - General trades                                  |     |       |           | \$700,000   |       |

| Division 2A - Demolition   | Qty    | Unit  | Unit Cost | AP Estimate | Notes   |
|--|--------|-------|-----------|-------------|---|
| Supply labor, equipment, supervision and dumpsters to complete:          |        |       |           |             |   |
| - mass demolition of existing building additions of post 1930 structures | 30,000 | sf    | 10        | \$300,000   |   |
| - allowance for potential abatement                                      | 1      | allow | 150,000   | \$150,000   | assuming pipe insulation and flooring glue as "hot" |
| Total Division 2A - Demolition   |        |       |           | \$450,000   |   |

| Division 2B - Sitework  | Qty    | Unit  | Unit Cost | AP Estimate | Notes   |
|---|--------|-------|-----------|-------------|---|
| Supply labor, equipment and supervision to complete:                              |        |       |           |             |   |
| Mobilization & Logistical Site Prep   | 1      | ls    | 25,000    | \$25,000    |   |
| Erosion Control   | 1      | ls    | 40,000    | \$40,000    |   |
| Earthwork   |        |       |           |             |   |
| soils stabilization/shoring along street and at underpinning allowance            | 1      | allow | 1,000,000 | \$1,000,000 | allowance; needs geotech analysis and engnieer report to detail scope         |
| mass cut - topsoil stripping & stockpile  | 0      | CY    | 35.00     | \$0         | none to be salvaged; new structure over existing building pad or parking area |
| mass cut - mass excavation for new foundation; assuming suitable soils            | 14,000 | CY    | 20.00     | \$280,000   | 15' cut assumed; part exposed + existing basement accounted + SOG at corner   |
| mass cut - backfill with suitable soils   | 2,500  | CY    | 18.00     | \$45,000    |   |
| mass cut - export excess soils off site   | 11,500 | CY    | 35.00     | \$402,500   |   |
| mass fill - lightweight soils above submerged loft structure; 18' depth assumed   | 968    | CY    | 115.00    | \$111,320   | lightweight required at liveroof footprint area                               |
| 8" crushed stone under usable floor SOG   | 1,167  | CY    | 45.00     | \$52,500    |   |
| phasing for opening short section at time at existing foundation for underpinning | 5      | ph    | 30,000    | \$150,000   | added time/logistics to work at existing foundation tie ins                   |
| Utilities   |        |       |           |             |   |
| Storm drainage allowance  | 1      | allow | 50,000    | \$50,000    |   |
| culttech or alike system for detention  | 2      | allow | 40,000    | \$80,000    | assumed required to handle submerged system and park-like rooftop             |
| storm water pump with chamber at submerged Courtyard                              | 1      | allow | 30,000    | \$30,000    |   |
| sanitary sewer for new building area; tap to existing on street allowance         | 2      | allow | 35,000    | \$70,000    |   |
| live tap to existing sanitary sewer   |        |       |           | included    |   |
| sewer pumping chamber system at new sections                                      | 2      | ea    | 45,000    | \$90,000    |   |
| SDR piping  |        |       |           | included    |   |
| Water Service assume tap to existing lines inside building                        |        |       |           |             |   |
| domestic water  | 50     | lf    | 100.00    | \$5,000     |   |
| fire water  | 50     | lf    | 100.00    | \$5,000     |   |
| Gas Service - none; assume tap to existing lines inside building                  |        |       |           |             |   |
| Gas piping by Gas Company   | 0      | lf    |           | \$0         |   |
| Electric/CATV/Tel Service for new building sections                               | 2      | allow | 100,000   | \$200,000   |   |
| relocate transformer to existing Church building; relocate service                | 1      | ls    | 50,000    | \$50,000    |   |
| new tranformer and service trenching to submerged additions                       | 2      | ea    | 25,000    | \$50,000    | transformers by utility company; provisions only                              |
| new tranformer and service to corner addition                                     |        |       |           | included    |   |
| site lighting trenching   | 100    | lf    | 25.00     | \$2,500     |   |
| light post bases  | 20     | ea    | 450.00    | \$9,000     |   |
| Site Improvements for safety provisions to address elevation drop at park area    | 1      | allow | 750,000   | \$750,000   | building edge/perimeter drop in elevation; will need walls/rails/lights, etc  |
| curbs - concrete (inc dropped) redone at street curb                              | 500    | lf    | 32.00     | \$16,000    |   |
| pavement - asphalt drive and patches allowance                                    | 1      | allow | 40,000    | \$40,000    |   |
| pavement - concrete sidewalks; 5" 4000 psi with mesh, broom finish, with wiremesh | 5,000  | sf    | 15.00     | \$75,000    |   |
| hardscapes - allowance for pathways/seating areas in sunken couryard              | 1      | allow | 50,000    | \$50,000    | assuming stepped seating structure or patios                                  |
| dewatering allowance  | 1      | allow | 253,000   | \$253,000   |   |
| Snow removal allowance for construction traffic only                              | 1      | ls    | 3,500     | \$3,500     | 2022/23 winter allowance  |
| directional signage allowance   | 1      | ls    | 500       | \$500       |   |
| Total Division 2B - Sitework  |        |       |           | \$3,935,820 |   |

| Division 2E - Landscaping & Site Furnishings                  | Qty    | Unit  | Unit Cost | AP Estimate | Notes                                       |
|---|--------|-------|-----------|-------------|---|
| import & respread topsoil                                     | 323    | CY    | 35.00     | \$11,293    | courtyard, liveroof and around building; 6" |
| seeding   | 10,000 | sf    | 0.75      | \$7,500     |   |
| planting allowance including hedge allowance at liveroof area | 1      | allow | 100,000   | \$100,000   |   |
| irrigation system   | 1      | allow | 75,000    | \$75,000    | assuming 10 zones                           |
| site furnishings allowance (benches, trash receptacles, etc)  | 1      | allow | 20,000    | \$20,000    |   |
| Total Division 2E - Landscaped areas                          |        |       |           | \$213,793   |   |

| Division 3A - Concrete  | Qty    | Unit  | Unit Cost | AP Estimate | Notes  |
|---|--------|-------|-----------|-------------|--|
| underpinning allowance at remaining building sections                         | 4      | allow | 300,000   | \$1,200,000 | 2 level at selective areas                               |
| submerged addition concrete at occupiable areas (inc structural columns/deck) | 42,000 | sf    | 120       | \$5,040,000 | asymethrical exterior elevations; large spans            |
| elevator pits at new additions  | 3      | ls    | 15,000    | \$45,000    | assuming 3 elevators; 1 in existing + 1 at each new area |
| foundation insulation   | 62,640 | sf    | 5.50      | \$344,520   | at walls and under SOG                                   |
| slab on grade   | 42,000 | sf    | 12        | \$504,000   |  |
| slab elevated light weight concrete at submerged building roofs               | 24,500 | sf    | 65        | \$1,592,500 |  |
| stair infill  | 3      | tower | 10,000    | \$30,000    |  |
| wheelchair accessible ramp  | 1      | ls    | 20,000    | \$20,000    |  |
| courtyard base for seating assumption   | 1      | ls    | 15,000    | \$15,000    |  |
| Total Division 3A - Concrete  |        |       |           | \$8,791,020 |  |

| Division 4A - Masonry   | Qty | Unit   | Unit Cost | AP Estimate | Notes  |
|---|-----|--------|-----------|-------------|--|
| CMU elevator shafts and stair shafts at submerged area                        | 7   | towers | 120,000   | \$840,000   |  |
| stone veneer/accents at facades exposed due to demolished buildings allowance | 1   | allow  | 100,000   | \$100,000   | assuming up to 10K sf of stone façade to tie into Church building visually |
| brownstone railings replacement at Court St entrance to Church Building       | 2   | allow  | 25,000    | \$50,000    | falling apart per AP Assement report; assuming rebuilt in kind (historic)  |
| brownstone landings at both Church st entrances reset existing stone          | 2   | allow  | 10,000    | \$20,000    | trip hazard per AP Assement report; assuming reuse existing materials      |
| brownstone façade repointing allowance for repairs as needed per report       | 1   | allow  | 50,000    | \$50,000    | at several lower courses around building; see report for details           |
| Total Division 4A- Masonry  |     |        |           | \$1,060,000 |  |

| Division 5A - Steel & Metals                          | Qty | Unit   | Unit Cost | AP Estimate | Notes   |
|---|-----|--------|-----------|-------------|---|
| Church Bld roof trusses minor structural support work | 1   | allow  | 20,000    | \$20,000    | shoring and structural support for rebuild canopies; see AP Assessment report |
| ornamental steel allowance for courtyard/park artwork | 1   | allow  | 150,000   | \$150,000   |   |
| stairs including handrails/guardrails                 | 9   | flight | 10,000    | \$90,000    | misc steel only; assuming submerged structure all concrete                    |
| elevator pit ladders/hoist beam                       | 3   | ea     | 850.00    | \$2,550     |   |
| elevator sills  | 6   | ea     | 100.00    | \$600       |   |
| misc steel allowance                                  | 1   | allow  |           | \$25,000    |   |
| Total Division 5A- Steel                              |     |        |           | \$288,150   |   |

| Division 6B - Millwork / Finish Carpentry                                | Qty    | Unit  | Unit Cost | AP Estimate | Notes  |
|--|--------|-------|-----------|-------------|--|
| salvage and reinstall two stained glass windows from original structures | 2      | ea    | 5,000     | \$10,000    |  |
| install doors & hardware   | 40     | ea    | 150       | \$6,000     |  |
| install specialties  | 1      | ls    | 4,000     | \$4,000     |  |
| restroom; multi-use vanities allowance                                   | 4      | allow | 7,500     | \$30,000    | assuming multi-use restrooms added in new sections to address ADA            |
| restroom; single-use vanities allowance                                  | 6      | allow | 1,500     | \$9,000     |  |
| misc millwork allowance  | 1      | allow | 35,000    | \$35,000    | staff pantry, display boards, etc  |
| decorative trim, accents and special details allowance                   | 1      | allow | 50,000    | \$50,000    |  |
| historic buildings repair/restoration allowance                          | 15,000 | sf    | 10        | \$150,000   |  |
| additions wood trim allowance; new install L&M                           | 45,000 | sf    | 12        | \$540,000   | assuming minimalistic trim approach at addition (all concrete; modern style) |
| Total Division 6B - Millwork   |        |       |           | \$834,000   |  |

| Division 7A - Damproofing & Waterproofing                      | Qty    | Unit  | Unit Cost | AP Estimate | Notes                                |
|--|--------|-------|-----------|-------------|--------------------------------------|
| submerged structure waterproofing system w/drain mat allowance | 42,000 | sf    | 12.00     | \$504,000   | "Mel-Roll/Mel-Drain"/ Grace or alike |
| elevator pits  | 3      | ea    | 15,000    | \$45,000    |                                      |
| exposed building damproofing patching allowance                | 1      | allow | 30,000    | \$30,000    |                                      |
| Total Division 7A - Damproofing & Waterproofing                |        |       |           | \$579,000   |                                      |

| Division 7D - Roof   | Qty   | Unit  | Unit Cost | AP Estimate | Notes  |
|--|-------|-------|-----------|-------------|--|
| selective replacement of sheathing; assuming 50% of roof surface | 7,500 | sf    | 10        | \$75,000    | at remaing building sections after demo                                |
| sloped roofs at pre 1930 structures; new asphalt shingles        | 88    | sq    | 2,250     | \$198,000   |  |
| submerged addtition roof - liveroof membrane                     | 274   | sq    | 3,250     | \$891,280   |  |
| gutters/leaders allowance  | 1     | allow | 12,000    | \$12,000    | only at pre-1930 building area; assuming brown aluminum (copper extra) |
| Total Division 7D - Roofing                                      |       |       |           | \$1,176,280 |  |

| Division 7E - Façade   | Qty | Unit  | Unit Cost | AP Estimate | Notes                                 |
|--|-----|-------|-----------|-------------|---------------------------------------|
| rebuild wood frame canopies at Church building; historic replacement in kind   | 1   | allow | 50,000    | \$50,000    |                                       |
| rebuild missing cornice at roof line on Court St façade of the Church building | 1   | allow | 25,000    | \$25,000    | historic restoration; replace in-kind |
| caulking allowance throughout including windows and doors                      | 1   | allow | 75,000    | \$75,000    |                                       |
| Total Division 7E - Façade   |     |       |           | \$150,000   |                                       |

| Division 8A - Doors, Frames & Hardware                                  | Qty | Unit | Unit Cost | AP Estimate | Notes  |
|---|-----|------|-----------|-------------|--|
| Supply and deliver:   |     |      |           |             | assuming minimalistic open concept approach at addition (modern style) |
| door assemblies at additions - interior                                 | 40  | ea   | \$1,500   | \$60,000    |  |
| door assemblies at additions - exterior                                 | 10  | ea   | \$2,200   | \$22,000    | stair exits, mech areas, etc   |
| door assemblies at additions - decorative main entries - assuming glass |     |      |           | in glass    |  |
| Total Division 8A - Doors   |     |      |           | \$82,000    |  |

| Division 8C - Glass & Glazing       | Qty   | Unit  | Unit Cost | AP Estimate | Notes                                    |
|-------------------------------------|-------|-------|-----------|-------------|--|
| Supply and deliver                  |       |       |           |             |  |
| - curtain wall windows              | 3,500 | sf    | \$125     | \$437,500   | selective exposed above ground area only |
| - storefront door entries           | 5     | ea    | \$8,500   | \$42,500    |  |
| - hardware as required              |       |       |           | included    |  |
| - auto entries                      | 6     | ea    | \$20,000  | \$120,000   |  |
| mirrors allowance                   | 1     | allow | \$5,000   | \$5,000     |  |
| Total Division 8C - Glass & Glazing |       |       |           | \$605,000   |  |

| Division 9A - Drywall & Ceilings   | Qty    | Unit  | Unit Cost | AP Estimate | Notes |
|--|--------|-------|-----------|-------------|-------|
| Labor, materials, equipment and supervision to complete:                         |        |       |           |             |       |
| - interior partitions LGM framing; insulated; gypsum on both sides; single layer | 42,000 | sf    | \$20.00   | \$840,000   |       |
| - scar patching at pre-1930 areas; minor partitions adjustments                  | 1      | ls    | \$35,000  | \$35,000    |       |
| - soffits/accent gyp ceilings at selected areas                                  | 1      | ls    | \$25,000  | \$25,000    |       |
| - in wall wood blocking and plywood backing                                      | 1      | ls    | \$10,000  | \$10,000    |       |
| - access panels at hard ceilings   | 1      | allow | \$5,000   | \$5,000     |       |
| ACT ceilings throughout  | 42,000 | sf    | \$10.00   | \$420,000   |       |
| Level 4 finish   |        |       |           | included    |       |
| Total Division 9A - Drywall & Ceilings   |        |       |           | \$1,335,000 |       |

| Division 9B - Flooring & Tile   | Qty    | Unit  | Unit Cost | AP Estimate | Notes |
|---|--------|-------|-----------|-------------|-------|
| tile floor assumption large format at main level public use areas inc restrooms   | 10,000 | sf    | 25.00     | \$250,000   |       |
| tile floor assumption wainscotting at restrooms; wet walls complete; up 4' others | 12     | ea    | 3,500     | \$42,000    |       |
| VCT floor assumption at main floor back-of-house areas                            | 2,000  | sf    | 5.00      | \$10,000    |       |
| carpet library use areas; up to 40,000 sf assumed carpeted                        | 5,333  | sy    | 40.00     | \$213,333   |       |
| walk off matts with logo at vestibules  | 6      | ea    | 2,500     | \$15,000    |       |
| sealed concrete at basement back-of house and stairs                              | 2,000  | sf    | 4.00      | \$8,000     |       |
| vinyl base throughout; 4"   | 1      | allow | 12,000    | \$12,000    |       |
| transion and misc   |        |       |           | included    |       |
| thin set, cementitious grout and misc materials as required for install           |        |       |           | included    |       |
| Total Division 9B - Flooring & Tile   |        |       |           | \$550,333   |       |

| Division 9C - Painting & Wall finishes                              | Qty    | Unit | Unit Cost | AP Estimate | Notes |
|---|--------|------|-----------|-------------|-------|
| Labor, equipment and material to complete (BM; per finish schedule) |        |      |           |             |       |
| - paint drywall walls and ceilings                                  | 60,000 | sf   | 2.50      | \$150,000   |       |
| - paint doors and frames  |        |      |           | included    |       |
| - exterior paint - allowance for exterior trim and steel railing    | 1      | ls   | 10,000    | \$10,000    |       |
| fabric acoustical wall panels allowance assumed in selective areas  | 1      | ls   | 25,000    | \$25,000    |       |
| prep as required  |        |      |           | included    |       |
| Total Division 9C - Painting  |        |      |           | \$185,000   |       |

| Division 10A - Specialties inc Toilet Accessories      | Qty | Unit | Unit Cost | AP Estimate  | Notes                                    |
|--|-----|------|-----------|--------------|--|
| Supply and deliver:                                    |     |      |           |              |  |
| - toilet partitions at multi-use restrooms             | 4   | ea   | 7,500     | \$30,000     |  |
| - toilet accessories allowance at multi-use restrooms  | 4   | ea   | 4,000     | \$16,000     |  |
| - toilet accessories allowance at single-use restrooms | 6   | ea   | 1,500     | \$9,000      |  |
| - fire extinguisher with cabinets                      | 5   | ea   | 450       | \$2,250      | 2 lower level; 2 main level; 1 2nd floor |
| installed by carpentry                                 |     |      |           | in carpentry |  |
| Total Division 10B - Specialties                       |     |      |           | \$57,250     |  |

| Division 10C - Signage Allowance | Qty | Unit  | Unit Cost | AP Estimate | Notes |
|----------------------------------|-----|-------|-----------|-------------|-------|
| - interior signage; acrylic; ADA | 1   | allow | 25,000    | \$25,000    |       |
| - exterior signage allowance     | 1   | allow | 15,000    | \$15,000    |       |
| installed by signage             |     |       |           | included    |       |
| Total Division 10C - Signage     |     |       |           | \$40,000    |       |

| Division 12A - Window Treatments       | Qty | Unit | Unit Cost | AP Estimate | Notes |
|--|-----|------|-----------|-------------|-------|
| none in scope                          |     |      |           |             |       |
| Total Division 12A - Window Treatments |     |      |           |             |       |

| Division 14A - Elevator                         | Qty | Unit  | Unit Cost | AP Estimate | Notes   |
|---|-----|-------|-----------|-------------|---|
| 2,500 lbs traction elevator (machine-room less) | 9   | stops | 50,000    | \$450,000   | basic finishes; assuming 3 new cars; tied in to generator |
| Total Division 12A - Window Treatments          |     |       |           | \$450,000   |   |



| Division 15FP - Fire Protection  | Qty    | Unit | Unit Cost | AP Estimate | Notes |
|--|--------|------|-----------|-------------|-------|
| Labor, materials, equipment and supervision required to:                           |        |      |           |             |       |
| Church building circulation area - expand dry system                               | 15,000 | sf   | 5.50      | \$82,500    |       |
| new construction areas; wet system; new  | 45,000 | sf   | 7.50      | \$337,500   |       |
| Backflow preventers as required  | 3      | ea   | 2,500     | \$7,500     |       |
| replace and add fire hose stations   | 15     | ea   | 5,000     | \$75,000    |       |
| sprinkler heads to be concealed pendent, sidewall and upright types where required |        |      |           | included    |       |
| Hydrolic calculations and as-builts  |        |      |           | included    |       |
| Permit filing  |        |      |           | included    |       |
| Testing and warrantee  |        |      |           | included    |       |
| Detection and alarm devices  |        |      |           | included    |       |
| Firestopping of own work   |        |      |           | included    |       |
| Total Division 14 - Fire Protection  |        |      |           | \$502,500   |       |

| Division 15P - Plumbing  | Qty    | Unit  | Unit Cost | AP Estimate | Notes  |
|--|--------|-------|-----------|-------------|--|
| Labor, materials, equipment and supervision required to:                         |        |       |           |             |  |
| restrooms; refresh and revision as needed to address accessiblity requirements   | 4      | ea    | 50,000    | \$200,000   |  |
| restrooms; new multi-occupant at additions                                       | 4      | ea    | 75,000    | \$300,000   |  |
| JC closets   | 2      | ea    | 7,500     | \$15,000    |  |
| water fountain with bottle fillers; assumed at each floor                        | 6      | ea    | 2,250     | \$13,500    | 2 lower level; 3 main floor; 1 2nd flr                                   |
| gas connections to new mechanical equipment                                      | 3      | ls    | 15,000    | \$45,000    |  |
| ejector pumps replacement (in-kind) in Church Building                           | 2      | ea    | 20,000    | \$40,000    | assuming tanks to remain / reused  |
| new ejector pumps at submerged additions   | 2      | ea    | 45,000    | \$90,000    | forced main to connect to gravity  |
| backflow preventers added at domestic water as required in Church building       | 2      | ea    | 7,500     | \$15,000    |  |
| new addition plumbing  | 45,000 | sf    | 10        | \$450,000   | pantry/roof drains/floor drains/storm water                              |
| plumbing fixtures, trim and equipment; low water consumption fixtures            |        |       |           | included    |  |
| domestic water piping replacement allowance in selective areas as needed         | 1      | allow | 7,500     | \$7,500     | corroded sections; assuming L copper tubing new; remaining building only |
| floor drains, roof drains, overflow drains and deck plate cleanouts              |        |       |           | included    |  |
| insulation pipe and stormwater add at missing areas per code as required         | 1      | allow | 10,000    | \$10,000    | remaining building area only   |
| wall or ceiling access panel supply as needed for own work (installed by others) |        |       |           | included    |  |
| cutting and firestopping for own work  |        |       |           | included    |  |
| Fireproofing of own work   |        |       |           | included    |  |
| Total Division 15P - Plumbing  |        |       |           | \$1,186,000 |  |

| Division 15H - HVAC   | Qty    | Unit  | Unit Cost | AP Estimate | Notes |
|---|--------|-------|-----------|-------------|-------|
| safe-off and removal of existing chiller, cooling tower and boilers | 1      | allow | 50,000    | \$50,000    |       |
| VRF system with evaporators throughout                              | 60,000 | sf    | 48        | \$2,880,000 |       |
| radiant floor heating system at lowest level of submerged additions | 42,000 | sf    | 40        | \$1,680,000 |       |
| snow melt-system provision at sunken Courtyard                      | 1      | allow | 25,000    | \$25,000    |       |
| exhaust fans; mech/elect rms, JC,                                   | 10     | ea    | 5,500     | \$55,000    |       |
| BMS system expansion & upgrade                                      | 60,000 | allow | 6         | \$360,000   |       |
| fresh air make up   | 1      | allow | 250,000   | \$250,000   |       |
| humidity control system   |        |       |           | included    |       |
| registers, grilles and diffusers as required                        |        |       |           | included    |       |
| fire/fire-smoke dampers as required                                 |        |       |           | included    |       |
| refrigeration piping and gasses                                     |        |       |           | included    |       |
| insulation as required  |        |       |           | included    |       |
| Testing and warrantee   |        |       |           | included    |       |
| Submittals and as-buits   |        |       |           | included    |       |
| Testing and balancing by sub only                                   |        |       |           | included    |       |
| Total Division 15H - HVAC   |        |       |           | \$5,300,000 |       |

| Division 16A - Electrical & Fire Alarm  | Qty    | Unit  | Unit Cost | AP Estimate | Notes  |
|---|--------|-------|-----------|-------------|--|
| safe off; disconnects and selective demo  | 30,000 | sf    | 2         | \$60,000    |  |
| fire alarm panels, devices, wiring, programming and connections replacement           | 60,000 | allow | 4         | \$240,000   |  |
| service upgrade   | 3      | allow | 50,000    | \$150,000   |  |
| gear, panels and bussing including switches, housing and cabinets as required         | 3      | allow | 75,000    | \$225,000   |  |
| general power upgrades and revisions including panel replacements                     | 58,500 | sf    | 8         | \$468,000   |  |
| lighting fixtures allowance; assuming replaced throughtout with PoE (LED) system      | 58,500 | sf    | 15        | \$877,500   |  |
| lighting controls including switches, motion sensors, digital timers, etc as detailed |        |       |           | included    |  |
| energy efficiency sensors (daylight sensors; "vampire" loads, etc)                    |        |       |           | included    |  |
| submetering at selective areas  | 5      | ls    | 3,500     | \$17,500    |  |
| site/exterior lights fixtures allowance;  | 30     | ea    | 2,500     | \$75,000    | assuming new lighting to be added per AP Assesement report 8/26/2021 |
| power connections to mechanical and plumbing equipment                                | 1      | ls    | 25,000    | \$25,000    |  |
| generator for emergency power; gas fuel; 150 kW                                       | 150    | kw    | 850       | \$127,500   | sized up for potential use of Library as Community Area of Refuge    |
| rigging; ATS, grounding, connections  |        |       |           | \$25,000    |  |
| tele/data and security back-boxes and wiring allowance                                | 58,500 | allow | 2         | \$117,000   | added area only  |
| grounding including bonding of as required  |        |       |           | included    |  |
| sleeves, cutting and coring as needed for own work                                    |        |       |           | included    |  |
| temporary protection of own work as required  |        |       |           | included    |  |
| Submittals and as-buits   |        |       |           | included    |  |
| Firestopping of own work  |        |       |           | included    |  |
| Total Division 16A - Electrical   |        |       |           | \$2,407,500 |  |

ALTERNATES:

| Alternate #1.A (ADD): 139 Broad St Structure complete demolition | Cost |        |         |           |  |
|--|------|--------|---------|-----------|--|
| allowance for abatement  | 1    | allow  | 150,000 | \$150,000 |  |
| allowance for complete demolition of existing structure          | 1    | allow  | 75,000  | \$75,000  |  |
| infill, grade and seed pad of removed building                   | 1    | allow  | 100,000 | \$100,000 |  |
| TOTAL TRADE COST   |      |        |         | 325,000   |  |
| FEE STRUCTURE BELOW  |      |        |         |           |  |
| GENERAL CONDITIONS   |      | 10.00% |         | 32,500    |  |
| BUILDING PERMIT FEE/ZONING FEE                                   |      | 2.50%  |         | 8,938     |  |
| CM CONSTRUCTION FEE/OVERHEAD                                     |      | 3.75%  |         | 13,741    |  |
| CM LIABILITY INSURANCE   |      | 1.50%  |         | 5,703     |  |
| SALES TAX  |      | 0.00%  |         | 0         |  |
| ALTERNATE #1.A TOTAL (w/ mark-Up)                                |      |        |         | 385,882   |  |

| Alternate #1.B (ADD): 139 Broad St restoration to be used as Temporary Library during Option B Construction | Cost  |        |         |           |  |
|---|-------|--------|---------|-----------|--|
| allowance exterior update and interior structural support as required                                       | 3,956 | sf     | 200     | \$791,200 |  |
| finishes to be "builder's grade" quality  | 3,956 | sf     | 80      | \$316,480 |  |
| ADA accessibility provisions - exterior enclosed wheelchair lift for access to all floors                   | 1     | allow  | 175,000 | \$175,000 |  |
| HVAC, plumbing and electrical systems to be "builder's grade" systems                                       | 3,956 | sf     | 100     | \$395,600 |  |
| code compliant basic fire protection wet system   | 3,956 | sf     | 5.50    | \$21,758  |  |
| TOTAL TRADE COST  |       |        |         | 1,700,038 |  |
| FEE STRUCTURE BELOW   |       |        |         |           |  |
| GENERAL CONDITIONS  |       | 10.00% |         | 170,004   |  |
| BUILDING PERMIT FEE/ZONING FEE  |       | 2.50%  |         | 46,751    |  |
| CM CONSTRUCTION FEE/OVERHEAD  |       | 3.75%  |         | 71,880    |  |
| CM LIABILITY INSURANCE  |       | 1.50%  |         | 29,830    |  |
| SALES TAX   |       | 0.00%  |         | 0         |  |
| ALTERNATE #1.B TOTAL (w/ mark-Up)   |       |        |         | 2,018,503 |  |

|  |   |        |        |               |
|--|---|--------|--------|---------------|
| <b>Alternate #2 (ADD): 234 Court Street Administrative Building Improvements Allowance</b> |   |        |        | <b>Cost</b>   |
| allowance for minor improvements to the Administrative building                            | 1 | allow  | 50,000 | \$50,000      |
| <b>TOTAL TRADE COST</b>  |   |        |        | <b>50,000</b> |
| <b>FEE STRUCTURE BELOW</b>   |   |        |        |               |
| GENERAL CONDITIONS   |   | 10.00% |        | 5,000         |
| BUILDING PERMIT FEE/ZONING FEE   |   | 2.50%  |        | 1,375         |
| CM CONSTRUCTION FEE/OVERHEAD   |   | 3.75%  |        | 2,114         |
| CM LIABILITY INSURANCE   |   | 1.50%  |        | 877           |
| SALES TAX  |   | 0.00%  |        | 0             |
| <b>ALTERNATE #2 TOTAL (w/ mark-Up)</b>   |   |        |        | <b>59,366</b> |

|   |        |        |    |                      |
|---|--------|--------|----|----------------------|
| <b>Alternate #3 (ADD): Geothermal closed-well loop system add if feasible allowance</b> |        |        |    | <b>Cost</b>          |
| allowance to add geothermal hvac system in lieu of VFR                                  | 60,000 | sf     | 40 | \$2,400,000 upcharge |
| <b>TOTAL TRADE COST</b>   |        |        |    | <b>2,400,000</b>     |
| <b>FEE STRUCTURE BELOW</b>  |        |        |    |                      |
| GENERAL CONDITIONS  |        | 10.00% |    | 240,000              |
| BUILDING PERMIT FEE/ZONING FEE  |        | 2.50%  |    | 66,000               |
| CM CONSTRUCTION FEE/OVERHEAD  |        | 3.75%  |    | 101,475              |
| CM LIABILITY INSURANCE  |        | 1.50%  |    | 42,112               |
| SALES TAX   |        | 0.00%  |    | 0                    |
| <b>ALTERNATE #3 TOTAL (w/ mark-Up)</b>  |        |        |    | <b>2,849,587</b>     |

|  |   |        |         |                |
|--|---|--------|---------|----------------|
| <b>Alternate #2.A (ADD): Water recycling system allowance - non-potable/grey water usage for toilets, irrigation etc</b> |   |        |         | <b>Cost</b>    |
| allowance for potential reclaimed water filtration processing plant  | 1 | allow  | 250,000 | \$250,000      |
| piping system for non-potable distribution   |   |        |         | included       |
| system enclosure allowance; assuming small, basic CMU structure  |   |        |         | included       |
| <b>TOTAL TRADE COST</b>  |   |        |         | <b>250,000</b> |
| <b>FEE STRUCTURE BELOW</b>   |   |        |         |                |
| GENERAL CONDITIONS   |   | 10.00% |         | 25,000         |
| BUILDING PERMIT FEE/ZONING FEE   |   | 2.50%  |         | 6,875          |
| CM CONSTRUCTION FEE/OVERHEAD   |   | 3.75%  |         | 10,570         |
| CM LIABILITY INSURANCE   |   | 1.50%  |         | 4,387          |
| SALES TAX  |   | 0.00%  |         | 0              |
| <b>ALTERNATE #2 TOTAL (w/ mark-Up)</b>   |   |        |         | <b>296,832</b> |

Russell Library  
123 Broad Street, Middletown CT 06457  
Conceptual Design Budget  
AP Construction  
9/14/2021



OPTION B - ADDITION & RENOVATION of PRE-1930 STRUCTURE

Qualifications & Assumptions:

- 1 We have assumed that work will be completed in total estimated duration of 24 months from mobilization untill completion.
- 2 We have assumed that building section under construction will be isolated for each phase and will be unoccupied with no public access allowed during construction.
- 3 We have assumed that work will be completed on straight time.
- 4 We have assumed that sufficient staging, lay down and temporary parking area will be provided on site or vicinity of the site for duration of the construction.
- 5 Budget is based on current pricing (no escalation included)
- 6 We have included an allowance to address upgrades to Furniture, Fixtures, Artwork, Sound Systems, Access Control & Security, and AV Equipment (FF&E) including bookcases.
- 7 We have included an allowance for LEED certification measures to be implemented at the new construction (addition) part of the project
- 8 Pricing based on prevailing wage rates

Exclusions:

- 1 Builders Risk insurance
- 2 Payment and Performance bond
- 3 Easements of any kind
- 4 Sales tax (new construction/non-profit)
- 5 Material testing and inspection costs
- 6 Hazardous Materials other than abatement allowance as noted assumed in building to be demolished
- 7 Rock removal and/or handling
- 8 Contaminated Soils
- 9 Unsuitable soils handling or replacement
- 10 Parking expansion of any kind due to increased building size
- 11 Offsite utility connections - assuming tapping to on-site existing connections
- 12 Improvements and/or repaving of streets
- 13 Transformers and primary wire - assuming by Utility company
- 14 Gas site connections - assuming by Utility company (trenching and back fill included)
- 15 Tree work of any kind - pruning, new or replacement
- 16 Specialty acoustical treatement and/or provisions
- 17 Self-leveler and/or extensive subfloor prep
- 18 Moisture testing and/or remediation
- 19 Spray fireproofing/intumuscent paint (assuming a concrete structure for additions)
- 20 Monument signage
- 21 Fire pump (assuming adequate city water pressure from street)
- 22 Lighting protection system

\*\*\* End of Document \*\*\*

Russell Library  
123 Broad Street, Middletown CT 06457  
Conceptual Design Budget  
AP Construction  
9/14/2021



OPTION C - NEW CONSTRUCTION OUT OF GROUND; NEW SITE FOR LIBRARY

new library building at other site in Town 60,000 sf  
total sf of affected work area: 60,000 sf

| Division 1A - General Trades  | Qty | Unit  | Unit Cost | AP Estimate | Notes |
|---|-----|-------|-----------|-------------|-------|
| general requirements to support trades - assuming 16 month schedule | 20  | mnths | 25,000    | \$500,000   |       |
| Total Division 1A - General trades                                  |     |       |           | \$500,000   |       |

| Division 1B - Crane, Equipment Hoisting & Construction Elevator | Qty | Unit  | Unit Cost | AP Estimate | Notes |
|---|-----|-------|-----------|-------------|-------|
| crane assumption  | 4   | mnths | 30,000    | \$120,000   |       |
| loading equipment/trash chute, etc assumption                   | 10  | mnths | 20,000    | \$200,000   |       |
| Total Division 1B - Crane & Construction Elevator               |     |       |           | \$320,000   |       |

| Division 2A - Demolition                  | Qty | Unit | Unit Cost | AP Estimate | Notes |
|---|-----|------|-----------|-------------|-------|
| none - assuming new building pad is clear |     |      |           |             |       |
| Total Division 2A - Demolition            |     |      |           | \$0         |       |

| Division 2B - Sitework                               | Qty    | Unit  | Unit Cost | AP Estimate | Notes                      |
|--|--------|-------|-----------|-------------|----------------------------|
| Supply labor, equipment and supervision to complete: |        |       |           |             |                            |
| Mobilization & Logistical Site Prep                  | 1      | ls    | 25,000    | \$25,000    |                            |
| Erosion Control                                      | 1      | ls    | 40,000    | \$40,000    |                            |
| Earthwork  | 60,000 | sf    | 30        | \$1,800,000 |                            |
| Utilities  | 60,000 | sf    | 10        | \$600,000   |                            |
| Site Improvements                                    | 1      | allow | 750,000   | \$750,000   | parking assuming by others |
| Total Division 2B - Sitework                         |        |       |           | \$3,215,000 |                            |

| Division 2E - Landscaping                   | Qty | Unit  | Unit Cost | AP Estimate | Notes |
|---|-----|-------|-----------|-------------|-------|
| new landscape allowance                     | 1   | ls    | 50,000    | \$50,000    |       |
| irrigation with rainwater harvesting system | 1   | allow | 75,000    | \$75,000    |       |
| seeding                                     |     |       |           | included    |       |
| Total Division 2E - Landscaped areas        |     |       |           | \$125,000   |       |

| Division 3A - Concrete   | Qty    | Unit  | Unit Cost | AP Estimate | Notes |
|--|--------|-------|-----------|-------------|-------|
| foundation concrete  | 1      | ls    | 750,000   | \$750,000   |       |
| elevator pit   | 2      | ea    | 15,000    | \$30,000    |       |
| foundation insulation inc at SOG   | 34,800 | sf    | 5.50      | \$191,400   |       |
| slabs - on grade & elevated  | 60,000 | allow | 8         | \$480,000   |       |
| stair infill   | 3      | tower | 10,000    | \$30,000    |       |
| wheelchair accessible ramps and accessways; special construction allowance | 1      | allow | 75,000    | \$75,000    |       |
| Total Division 3A - Concrete   |        |       |           | \$1,556,400 |       |

| Division 4A - Masonry   | Qty    | Unit | Unit Cost | AP Estimate | Notes |
|---|--------|------|-----------|-------------|-------|
| CMU elevator shafts/stairs/shear wall areas as required allowance | 60,000 | sf   | 18        | \$1,080,000 |       |
| Total Division 4A- Masonry  |        |      |           | \$1,080,000 |       |

| Division 5A - Steel & Metals  | Qty    | Unit  | Unit Cost | AP Estimate | Notes |
|---|--------|-------|-----------|-------------|-------|
| structural steel allowance (assuming non-combustible building construction) | 60,000 | sf    | 45        | \$2,700,000 |       |
| spray fireproofing allowance; assuming steel columns only                   | 60,000 | sf    | 3         | \$180,000   |       |
| misc steel allowance  | 1      | allow | 500,000   | \$500,000   |       |
| Total Division 5A- Steel  |        |       |           | \$3,380,000 |       |

| Division 6B - Millwork / Finish Carpentry        | Qty    | Unit  | Unit Cost | AP Estimate | Notes |
|--|--------|-------|-----------|-------------|-------|
| finish carpentry allowance                       | 60,000 | sf    | 15        | \$900,000   |       |
| install doors & hardware                         |        |       |           | included    |       |
| install interior trim                            |        |       |           | included    |       |
| install specialties                              |        |       |           | included    |       |
| restroom vanities allowance                      | 12     | allow | 7,500     | \$90,000    |       |
| restroom; single-use vanities allowance          | 6      | allow | 1,500     | \$9,000     |       |
| decorative accents and special details allowance | 1      | allow | 75,000    | \$75,000    |       |
| Total Division 6B - Millwork                     |        |       |           | \$1,074,000 |       |

| Division 7A - Damproofing & Waterproofing       | Qty | Unit  | Unit Cost  | AP Estimate | Notes |
|---|-----|-------|------------|-------------|-------|
| foundation waterproofing w/board allowance      | 1   | allow | 100,000.00 | \$100,000   |       |
| elevator pits                                   | 2   | ea    | 15,000.00  | \$30,000    |       |
| Total Division 7A - Damproofing & Waterproofing |     |       |            | \$130,000   |       |

| Division 7D - Roof                 | Qty | Unit | Unit Cost | AP Estimate | Notes                               |
|------------------------------------|-----|------|-----------|-------------|-------------------------------------|
| flat roof assumption; PVC or alike | 220 | sq   | 2,750     | \$605,000   | assuming buiding to be 3 story tall |
| Total Division 7D - Roofing        |     |      |           | \$605,000   |                                     |

| Division 7E - Façade   | Qty    | Unit | Unit Cost | AP Estimate | Notes |
|--|--------|------|-----------|-------------|-------|
| mixed products façade allowance; assuming some stucco/hardie/pvc | 36,000 | sf   | 50.00     | \$1,800,000 |       |
| Total Division 7E - Façade                                       |        |      |           | \$1,800,000 |       |

| Division 8A - Doors, Frames & Hardware | Qty    | Unit | Unit Cost | AP Estimate | Notes |
|--|--------|------|-----------|-------------|-------|
| doors, frames and hardware allowance   | 60,000 | sf   | \$8       | \$450,000   |       |
| Total Division 8A - Doors              |        |      |           | \$450,000   |       |

| Division 8C - Glass & Glazing                     | Qty    | Unit  | Unit Cost | AP Estimate | Notes                           |
|---|--------|-------|-----------|-------------|---------------------------------|
| storefront windows - assuming 50% of façade plane | 27,000 | sf    | \$50      | \$1,350,000 | assuming non-fire rated glazing |
| entries allowance                                 | 60,000 | sf    | \$5       | \$300,000   | assuming non-fire rated glazing |
| mirrors allowance                                 | 1      | allow | \$30,000  | \$30,000    |                                 |
| Total Division 8C - Glass & Glazing               |        |       |           | \$1,680,000 |                                 |

| Division 9A - Drywall & Ceilings  | Qty    | Unit | Unit Cost | AP Estimate | Notes                           |
|---|--------|------|-----------|-------------|---------------------------------|
| exterior partitions; denseglass; metal infill framing with thermal insulation | 36,000 | sf   | \$25      | \$900,000   |                                 |
| interior partitions; drywall; LGM framing with sound insulation               | 60,000 | sf   | \$15      | \$900,000   | assuming non-fire rated glazing |
| ACT ceilings throughout   | 60,000 | sf   | \$10      | \$600,000   |                                 |
| Level 4 finish  |        |      |           | included    |                                 |
| Total Division 9A - Drywall & Ceilings  |        |      |           | \$2,400,000 |                                 |



| Division 9B - Flooring & Tile       | Qty    | Unit | Unit Cost | AP Estimate | Notes |
|-------------------------------------|--------|------|-----------|-------------|-------|
| flooring and tile allowance         | 60,000 | sf   | \$20      | \$1,200,000 |       |
| Total Division 9B - Flooring & Tile |        |      |           | \$1,200,000 |       |

| Division 9C - Painting & Wall finishes  | Qty    | Unit | Unit Cost | AP Estimate | Notes |
|---|--------|------|-----------|-------------|-------|
| painting interior; throughout           | 60,000 | sf   | \$2.75    | \$165,000   |       |
| painting exterior; trim only            | 1      | ls   | 35,000    | \$35,000    |       |
| fabric acoustical wall panels allowance | 1      | ls   | 75,000    | \$75,000    |       |
| prep as required                        |        |      |           | included    |       |
| Total Division 9C - Painting            |        |      |           | \$275,000   |       |

| Division 10A - Specialties inc Toilet Accessories | Qty    | Unit | Unit Cost | AP Estimate | Notes |
|---|--------|------|-----------|-------------|-------|
| specilties allowance                              | 60,000 | sf   | \$2.50    | \$150,000   |       |
| - toilet partitions                               |        |      |           | included    |       |
| - toilet accessories                              |        |      |           | included    |       |
| - fire extinguishers with cabinets                |        |      |           | included    |       |
| Total Division 10B - Specialties                  |        |      |           | \$150,000   |       |

| Division 10C - Signage Allowance          | Qty | Unit  | Unit Cost | AP Estimate | Notes |
|---|-----|-------|-----------|-------------|-------|
| interior signage; acrylic; ADA; allowance | 1   | allow | 35,000    | \$35,000    |       |
| exterior/monument signs allowance         | 1   | allow | 50,000    | \$50,000    |       |
| Total Division 10C - Signage              |     |       |           | \$85,000    |       |

| Division 12A - Window Treatments       | Qty | Unit | Unit Cost | AP Estimate | Notes |
|--|-----|------|-----------|-------------|-------|
| none in scope                          |     |      |           |             |       |
| Total Division 12A - Window Treatments |     |      |           |             |       |

| Division 14A - Elevator                         | Qty | Unit  | Unit Cost | AP Estimate | Notes                             |
|---|-----|-------|-----------|-------------|-----------------------------------|
| 2,500 lbs traction elevator (machine-room less) | 18  | stops | 35,000    | \$630,000   | basic finishes; tied to generator |
| Total Division 14A - Elevators                  |     |       |           | \$630,000   |                                   |

| Division 15FP - Fire Protection            | Qty    | Unit | Unit Cost | AP Estimate | Notes |
|--|--------|------|-----------|-------------|-------|
| new fire protection throughout; wet system | 60,000 | sf   | 7.50      | \$450,000   |       |
| Total Division 14 - Fire Protection        |        |      |           | \$450,000   |       |

| Division 15P - Plumbing       | Qty    | Unit | Unit Cost | AP Estimate | Notes  |
|-------------------------------|--------|------|-----------|-------------|--|
| new plumbing allowance        | 60,000 | sf   | 25.00     | \$1,500,000 | assuming pvc piping waste, vent and distribution |
| Total Division 15P - Plumbing |        |      |           | \$1,500,000 |  |

| Division 15H - HVAC              | Qty    | Unit | Unit Cost | AP Estimate | Notes |
|----------------------------------|--------|------|-----------|-------------|-------|
| new hvac allowance; VRF/ERV base | 60,000 | sf   | 80.00     | \$4,800,000 |       |
| Total Division 15H - HVAC        |        |      |           | \$4,800,000 |       |

| Division 16A - Electrical & Fire Alarm                                    | Qty    | Unit | Unit Cost | AP Estimate | Notes   |
|---|--------|------|-----------|-------------|---|
| gear and feeders  | 1      | ls   | 200,000   | \$200,000   |   |
| new power allowance   | 60,000 | sf   | 10.00     | \$600,000   |   |
| lighting fixtures allowance   | 60,000 | sf   | 15.00     | \$900,000   |   |
| site lights fixtures allowance;   | 30     | ea   | 2,500     | \$75,000    |   |
| tele/dataand wiring allowance   | 60,000 | sf   | 3.00      | \$180,000   |   |
| fire alarm panels, devices, wiring, programming and connections allowance | 60,000 | sf   | 3.25      | \$195,000   |   |
| generator for emergency power; gas fuel; 150 kW                           | 150    | kw   | 850       | \$127,500   | sized up for potential use of Library as Community Area of Refuge |
| rigging; ATS, grounding, connections                                      |        |      |           | \$25,000    |   |
| Total Division 16A - Electrical   |        |      |           | \$2,302,500 |   |

ALTERNATES:

| Alternate #3 (ADD): Geothermal closed-well loop system add if feasible allowance |        |        |    | Cost        |          |
|--|--------|--------|----|-------------|----------|
| allowance to add geothermal hvac system in lieu of VFR                           | 60,000 | sf     | 40 | \$2,400,000 | upcharge |
| TOTAL TRADE COST   |        |        |    | 2,400,000   |          |
| FEE STRUCTURE BELOW  |        |        |    |             |          |
| GENERAL CONDITIONS   |        | 10.00% |    | 240,000     |          |
| BUILDING PERMIT FEE/ZONING FEE   |        | 2.50%  |    | 66,000      |          |
| CM CONSTRUCTION FEE/OVERHEAD   |        | 3.75%  |    | 101,475     |          |
| CM LIABILITY INSURANCE   |        | 1.50%  |    | 42,112      |          |
| SALES TAX  |        | 0.00%  |    | 0           |          |
| ALTERNATE #3 TOTAL (w/ mark-Up)  |        |        |    | 2,849,587   |          |

| Alternate #4.A (ADD): Water recycling system allowance - non-potable/grey water usage for toilets, irrigation etc |   |        |         | Cost      |  |
|---|---|--------|---------|-----------|--|
| allowance for potential reclaimed water filtration processing plant   | 1 | allow  | 250,000 | \$250,000 |  |
| piping system for non-potable distribution  |   |        |         | included  |  |
| system enclosure allowance; assuming small, basic CMU structure   |   |        |         | included  |  |
| TOTAL TRADE COST  |   |        |         | 250,000   |  |
| FEE STRUCTURE BELOW   |   |        |         |           |  |
| GENERAL CONDITIONS  |   | 10.00% |         | 25,000    |  |
| BUILDING PERMIT FEE/ZONING FEE  |   | 2.50%  |         | 6,875     |  |
| CM CONSTRUCTION FEE/OVERHEAD  |   | 3.75%  |         | 10,570    |  |
| CM LIABILITY INSURANCE  |   | 1.50%  |         | 4,387     |  |
| SALES TAX   |   | 0.00%  |         | 0         |  |
| ALTERNATE #4.A TOTAL (w/ mark-Up)   |   |        |         | 296,832   |  |

| Alternate #5 (ADD): Solar panel roof mounted system allowance                  |    |        |        | Cost      |  |
|--|----|--------|--------|-----------|--|
| allowance for potential solar power system on flat roof; assuming 96 kW system | 96 | allow  | 2,350  | \$225,600 |  |
| roofing structural support for added weight                                    | 1  | allow  | 50,000 | \$50,000  |  |
| TOTAL TRADE COST   |    |        |        | 275,600   |  |
| FEE STRUCTURE BELOW  |    |        |        |           |  |
| GENERAL CONDITIONS   |    | 10.00% |        | 27,560    |  |
| BUILDING PERMIT FEE/ZONING FEE   |    | 2.50%  |        | 7,579     |  |
| CM CONSTRUCTION FEE/OVERHEAD   |    | 4.00%  |        | 12,430    |  |
| CM LIABILITY INSURANCE   |    | 1.50%  |        | 4,848     |  |
| SALES TAX  |    | 0.00%  |        | 0         |  |
| ALTERNATE #5 TOTAL (w/ mark-Up)  |    |        |        | 328,016   |  |

Russell Library  
123 Broad Street, Middletown CT 06457  
Conceptual Design Budget  
AP Construction  
9/14/2021



OPTION C - NEW CONSTRUCTION OUT OF GROUND; NEW SITE FOR LIBRARY

Qualifications & Assumptions:

- 1 We have assumed that work will be completed in single phase for total estimated duration of 20 months from mobilization until completion.
- 2 We have assumed that building will be constructed on open site (no demolition included)
- 3 We have assumed that work will be completed on straight time.
- 4 We have assumed that sufficient staging, lay down and temporary parking area will be provided on site or vicinity of the site for duration of the construction.
- 5 We have assumed that permanent parking to be either already existing or provided by others.
- 6 Budget is based on current pricing (no escalation included)
- 7 We have included an allowance to address upgrades to Furniture, Fixtures, Artwork, Sound Systems, Access Control & Security, and AV Equipment (FF&E) including bookcases.
- 8 Pricing based on prevailing wage rates

Exclusions:

- 1 Builders Risk insurance
- 2 Payment and Performance bond
- 3 Easements of any kind
- 4 Sales tax (new construction/non-profit)
- 5 Material testing and inspection costs
- 6 Rock removal and/or handling
- 7 Contaminated Soils
- 8 Unsuitable soils handling or replacement
- 9 Parking construction of any kind (assumed existing)
- 10 Offsite utility connections - assuming tapping to on-site existing connections
- 11 Improvements and/or repaving of adjacent streets
- 12 Transformers and primary wire - assuming by Utility company
- 13 Gas site connections - assuming by Utility company (trenching and back fill included)
- 14 Specialty acoustical treatment and/or provisions
- 15 Fire pump (assuming adequate city water pressure from street)
- 16 Lighting protection system

\*\*\* End of Document \*\*\*

Russell Library  
123 Broad Street, Middletown CT 06457  
Conceptual Design Budget  
AP Construction  
9/14/2021



OPTION C.1 - NEW CONSTRUCTION FIT OUT; NEW SITE FOR LIBRARY INTO BUILDING SHELL BY OTHERS

new library building at other site in Town 60,000 sf  
total sf of affected work area: 60,000 sf

|   |        |       |            |             |   |
|---|--------|-------|------------|-------------|---|
| Division 1A - General Trades  | Qty    | Unit  | Unit Cost  | AP Estimate | Notes   |
| general requirements to support trades - assuming 16 month schedule           | 14     | mnths | 25,000     | \$350,000   |   |
| Total Division 1A - General trades  |        |       |            | \$350,000   |   |
| Division 1B - Crane, Equipment Hoisting & Construction Elevator               | Qty    | Unit  | Unit Cost  | AP Estimate | Notes   |
| crane assumption  | 0      | mnths | 30,000     | \$0         | shell already existing; completed by others                             |
| loading equipment/trash chute, etc assumption                                 | 10     | mnths | 20,000     | \$200,000   |   |
| Total Division 1B - Crane & Construction Elevator                             |        |       |            | \$200,000   |   |
| Division 2A - Demolition  | Qty    | Unit  | Unit Cost  | AP Estimate | Notes   |
| none - assuming new building pad is clear                                     |        |       |            |             |   |
| Total Division 2A - Demolition  |        |       |            | \$0         |   |
| Division 2B - Sitework  | Qty    | Unit  | Unit Cost  | AP Estimate | Notes   |
| Supply labor, equipment and supervision to complete:                          |        |       |            |             |   |
| Mobilization & Logistical Site Prep   | 1      | ls    | 25,000     | \$25,000    |   |
| Erosion Control   | 1      | ls    | 40,000     | \$40,000    |   |
| Earthwork   | 0      | sf    | 30         | \$0         | shell already existing; completed by others                             |
| Utilities   | 0      | sf    | 10         | \$0         | shell already existing; completed by others                             |
| Site Improvements - misc allowance  | 1      | allow | 200,000    | \$200,000   | parking assuming by others  |
| Total Division 2B - Sitework  |        |       |            | \$265,000   |   |
| Division 2E - Landscaping   | Qty    | Unit  | Unit Cost  | AP Estimate | Notes   |
| new landscape allowance   | 1      | ls    | 50,000     | \$50,000    |   |
| irrigation with rainwater harvesting system                                   | 1      | allow | 75,000     | \$75,000    |   |
| seeding   |        |       |            | included    |   |
| Total Division 2E - Landscaped areas  |        |       |            | \$125,000   |   |
| Division 3A - Concrete  | Qty    | Unit  | Unit Cost  | AP Estimate | Notes   |
| foundation concrete   | 0      | ls    | 750,000    | \$0         | shell already existing; completed by others                             |
| elevator pit  | 0      | ea    | 15,000     | \$0         | shell already existing; completed by others                             |
| foundation insulation inc at SOG  | 0      | sf    | 5.50       | \$0         | shell already existing; completed by others                             |
| slabs - on grade & elevated   | 0      | allow | 8          | \$0         | shell already existing; completed by others                             |
| stair infill  | 0      | tower | 10,000     | \$0         | shell already existing; completed by others                             |
| wheelchair accessible ramps and accessways; special construction allowance    | 1      | allow | 75,000     | \$75,000    |   |
| Total Division 3A - Concrete  |        |       |            | \$75,000    |   |
| Division 4A - Masonry   | Qty    | Unit  | Unit Cost  | AP Estimate | Notes   |
| CMU elevator shafts/stairs/shear wall areas as required allowance             | 0      | sf    | 18         | \$0         | shell already existing; assuming part of shell thus completed by others |
| Total Division 4A- Masonry  |        |       |            | \$0         |   |
| Division 5A - Steel & Metals  | Qty    | Unit  | Unit Cost  | AP Estimate | Notes   |
| structural steel allowance (assuming non-combustible building construction)   | 0      | sf    | 45         | \$0         | shell already existing; completed by others                             |
| spray fireproofing allowance; assuming steel columns only                     | 0      | sf    | 3          | \$0         | shell already existing; completed by others                             |
| misc steel allowance  | 1      | allow | 500,000    | \$500,000   |   |
| Total Division 5A- Steel  |        |       |            | \$500,000   |   |
| Division 6B - Millwork / Finish Carpentry                                     | Qty    | Unit  | Unit Cost  | AP Estimate | Notes   |
| finish carpentry allowance  | 60,000 | sf    | 15         | \$900,000   |   |
| install doors & hardware  |        |       |            | included    |   |
| install interior trim   |        |       |            | included    |   |
| install specialties   |        |       |            | included    |   |
| restroom vanities allowance   | 12     | allow | 7,500      | \$90,000    |   |
| restroom; single-use vanities allowance                                       | 6      | allow | 1,500      | \$9,000     |   |
| decorative accents and special details allowance                              | 1      | allow | 75,000     | \$75,000    |   |
| Total Division 6B - Millwork  |        |       |            | \$1,074,000 |   |
| Division 7A - Damproofing & Waterproofing                                     | Qty    | Unit  | Unit Cost  | AP Estimate | Notes   |
| foundation waterproofing w/board allowance                                    | 0      | allow | 100,000.00 | \$0         | shell already existing; completed by others                             |
| elevator pits   | 0      | ea    | 15,000.00  | \$0         | shell already existing; completed by others                             |
| Total Division 7A - Damproofing & Waterproofing                               |        |       |            | \$0         |   |
| Division 7D - Roof  | Qty    | Unit  | Unit Cost  | AP Estimate | Notes   |
| flat roof assumption; PVC or alike  | 0      | sq    | 2,750      | \$0         | shell already existing; completed by others                             |
| Total Division 7D - Roofing   |        |       |            | \$0         |   |
| Division 7E - Façade  | Qty    | Unit  | Unit Cost  | AP Estimate | Notes   |
| mixed products façade allowance; assuming some stucco/hardie/pvc              | 0      | sf    | 50.00      | \$0         | shell already existing; completed by others                             |
| Total Division 7E - Façade  |        |       |            | \$0         |   |
| Division 8A - Doors, Frames & Hardware  | Qty    | Unit  | Unit Cost  | AP Estimate | Notes   |
| doors, frames and hardware allowance  | 60,000 | sf    | \$8        | \$450,000   |   |
| Total Division 8A - Doors   |        |       |            | \$450,000   |   |
| Division 8C - Glass & Glazing   | Qty    | Unit  | Unit Cost  | AP Estimate | Notes   |
| storefront windows - assuming 50% of façade plane                             | 0      | sf    | \$50       | \$0         | shell already existing; completed by others                             |
| entries allowance   | 60,000 | sf    | \$5        | \$300,000   | assuming non-fire rated glazing   |
| mirrors allowance   | 1      | allow | \$30,000   | \$30,000    |   |
| Total Division 8C - Glass & Glazing   |        |       |            | \$330,000   |   |
| Division 9A - Drywall & Ceilings  | Qty    | Unit  | Unit Cost  | AP Estimate | Notes   |
| exterior partitions; denseglass; metal infill framing with thermal insulation | 0      | sf    | \$25       | \$0         | shell already existing; completed by others                             |
| interior partitions; drywall; LGM framing with sound insulation               | 60,000 | sf    | \$15       | \$900,000   | assuming non-fire rated glazing   |
| ACT ceilings throughout   | 60,000 | sf    | \$10       | \$600,000   |   |
| Level 4 finish  |        |       |            | included    |   |
| Total Division 9A - Drywall & Ceilings  |        |       |            | \$1,500,000 |   |

| Division 9B - Flooring & Tile       | Qty    | Unit | Unit Cost | AP Estimate | Notes |
|-------------------------------------|--------|------|-----------|-------------|-------|
| flooring and tile allowance         | 60,000 | sf   | \$20      | \$1,200,000 |       |
| Total Division 9B - Flooring & Tile |        |      |           | \$1,200,000 |       |

| Division 9C - Painting & Wall finishes  | Qty    | Unit | Unit Cost | AP Estimate | Notes                                       |
|---|--------|------|-----------|-------------|---|
| painting interior; throughout           | 60,000 | sf   | \$2.75    | \$165,000   |   |
| painting exterior - shell by others     |        |      |           | by others   | shell already existing; completed by others |
| fabric acoustical wall panels allowance | 1      | ls   | 75,000    | \$75,000    |   |
| prep as required                        |        |      |           | included    |   |
| Total Division 9C - Painting            |        |      |           | \$240,000   |   |

| Division 10A - Specialties inc Toilet Accessories | Qty    | Unit | Unit Cost | AP Estimate | Notes |
|---|--------|------|-----------|-------------|-------|
| specilties allowance                              | 60,000 | sf   | \$2.50    | \$150,000   |       |
| - toilet partitions                               |        |      |           | included    |       |
| - toilet accessories                              |        |      |           | included    |       |
| - fire extinguishers with cabinets                |        |      |           | included    |       |
| Total Division 10B - Specialties                  |        |      |           | \$150,000   |       |

| Division 10C - Signage Allowance          | Qty | Unit  | Unit Cost | AP Estimate | Notes |
|---|-----|-------|-----------|-------------|-------|
| interior signage; acrylic; ADA; allowance | 1   | allow | 35,000    | \$35,000    |       |
| exterior/monument signs allowance         | 1   | allow | 50,000    | \$50,000    |       |
| Total Division 10C - Signage              |     |       |           | \$85,000    |       |

| Division 12A - Window Treatments       | Qty | Unit | Unit Cost | AP Estimate | Notes |
|--|-----|------|-----------|-------------|-------|
| none in scope                          |     |      |           |             |       |
| Total Division 12A - Window Treatments |     |      |           |             |       |

| Division 14A - Elevator                         | Qty | Unit  | Unit Cost | AP Estimate | Notes   |
|---|-----|-------|-----------|-------------|---|
| 2,500 lbs traction elevator (machine-room less) | 0   | stops | 35,000    | \$0         | shell already existing; assuming part of shell thus completed by others |
| Total Division 14A - Elevators                  |     |       |           | \$0         |   |

| Division 15FP - Fire Protection            | Qty    | Unit | Unit Cost | AP Estimate | Notes |
|--|--------|------|-----------|-------------|-------|
| new fire protection throughout; wet system | 60,000 | sf   | 7.50      | \$450,000   |       |
| Total Division 14 - Fire Protection        |        |      |           | \$450,000   |       |

| Division 15P - Plumbing       | Qty    | Unit | Unit Cost | AP Estimate | Notes  |
|-------------------------------|--------|------|-----------|-------------|--|
| new plumbing allowance        | 60,000 | sf   | 25.00     | \$1,500,000 | assuming pvc piping waste, vent and distribution |
| Total Division 15P - Plumbing |        |      |           | \$1,500,000 |  |

| Division 15H - HVAC              | Qty    | Unit | Unit Cost | AP Estimate | Notes |
|----------------------------------|--------|------|-----------|-------------|-------|
| new hvac allowance; VRF/ERV base | 60,000 | sf   | 80.00     | \$4,800,000 |       |
| Total Division 15H - HVAC        |        |      |           | \$4,800,000 |       |

| Division 16A - Electrical & Fire Alarm                                    | Qty    | Unit | Unit Cost | AP Estimate | Notes   |
|---|--------|------|-----------|-------------|---|
| gear and feeders  | 1      | ls   | 200,000   | \$200,000   |   |
| new power allowance   | 60,000 | sf   | 10.00     | \$600,000   |   |
| lighting fixtures allowance   | 60,000 | sf   | 15.00     | \$900,000   |   |
| site lights fixtures allowance;   | 30     | ea   | 2,500     | \$75,000    |   |
| tele/dataand wiring allowance   | 60,000 | sf   | 3.00      | \$180,000   |   |
| fire alarm panels, devices, wiring, programming and connections allowance | 60,000 | sf   | 3.25      | \$195,000   |   |
| generator for emergency power; gas fuel; 150 kW                           | 150    | kw   | 850       | \$127,500   | sized up for potential use of Library as Community Area of Refuge |
| rigging; ATS, grounding, connections                                      |        |      |           | \$25,000    |   |
| Total Division 16A - Electrical   |        |      |           | \$2,302,500 |   |

ALTERNATES:

| Alternate #3 (ADD): Geothermal closed-well loop system add if feasible allowance |        |        |    | Cost        |          |
|--|--------|--------|----|-------------|----------|
| allowance to add geothermal hvac system in lieu of VFR                           | 60,000 | sf     | 40 | \$2,400,000 | upcharge |
| TOTAL TRADE COST   |        |        |    | 2,400,000   |          |
| FEE STRUCTURE BELOW  |        |        |    |             |          |
| GENERAL CONDITIONS   |        | 10.00% |    | 240,000     |          |
| BUILDING PERMIT FEE/ZONING FEE   |        | 2.50%  |    | 66,000      |          |
| CM CONSTRUCTION FEE/OVERHEAD   |        | 3.75%  |    | 101,475     |          |
| CM LIABILITY INSURANCE   |        | 1.50%  |    | 42,112      |          |
| SALES TAX  |        | 0.00%  |    | 0           |          |
| ALTERNATE #3 TOTAL (w/ mark-Up)  |        |        |    | 2,849,587   |          |

| Alternate #4.A (ADD): Water recycling system allowance - non-potable/grey water usage for toilets, irrigation etc |   |        |         | Cost      |  |
|---|---|--------|---------|-----------|--|
| allowance for potential reclaimed water filtration processing plant   | 1 | allow  | 250,000 | \$250,000 |  |
| piping system for non-potable distribution  |   |        |         | included  |  |
| system enclosure allowance; assuming small, basic CMU structure   |   |        |         | included  |  |
| TOTAL TRADE COST  |   |        |         | 250,000   |  |
| FEE STRUCTURE BELOW   |   |        |         |           |  |
| GENERAL CONDITIONS  |   | 10.00% |         | 25,000    |  |
| BUILDING PERMIT FEE/ZONING FEE  |   | 2.50%  |         | 6,875     |  |
| CM CONSTRUCTION FEE/OVERHEAD  |   | 3.75%  |         | 10,570    |  |
| CM LIABILITY INSURANCE  |   | 1.50%  |         | 4,387     |  |
| SALES TAX   |   | 0.00%  |         | 0         |  |
| ALTERNATE #4.A TOTAL (w/ mark-Up)   |   |        |         | 296,832   |  |

| Alternate #5 (ADD): Solar panel roof mounted system allowance                  |    |        |        | Cost      |  |
|--|----|--------|--------|-----------|--|
| allowance for potential solar power system on flat roof; assuming 96 kW system | 96 | allow  | 2,350  | \$225,600 |  |
| roofing structural support for added weight                                    | 1  | allow  | 50,000 | \$50,000  |  |
| TOTAL TRADE COST   |    |        |        | 275,600   |  |
| FEE STRUCTURE BELOW  |    |        |        |           |  |
| GENERAL CONDITIONS   |    | 10.00% |        | 27,560    |  |
| BUILDING PERMIT FEE/ZONING FEE   |    | 2.50%  |        | 7,579     |  |
| CM CONSTRUCTION FEE/OVERHEAD   |    | 4.00%  |        | 12,430    |  |
| CM LIABILITY INSURANCE   |    | 1.50%  |        | 4,848     |  |
| SALES TAX  |    | 0.00%  |        | 0         |  |
| ALTERNATE #5 TOTAL (w/ mark-Up)  |    |        |        | 328,016   |  |



Russell Library  
123 Broad Street, Middletown CT 06457  
Conceptual Design Budget  
AP Construction  
9/14/2021



OPTION C.1 - NEW CONSTRUCTION FIT OUT; NEW SITE FOR LIBRARY INTO BUILDING SHELL BY OTHERS

**Qualifications & Assumptions:**

- 1 We have assumed that work will be completed in single phase for total estimated duration of 14 months from mobilization until completion.
- 2 We have assumed that shell inclusive of foundation, structure, roof, façade, windows, exterior door, stairs, elevators and stub outs for utility connections inside the building are completed by others.
- 3 We have assumed that work will be completed on straight time.
- 4 We have assumed that sufficient staging, lay down and temporary parking area will be provided on site or vicinity of the site for duration of the construction.
- 5 We have assumed that permanent parking to be either already existing or provided by others.
- 6 Budget is based on current pricing (no escalation included)
- 7 We have included an allowance to address upgrades to Furniture, Fixtures, Artwork, Sound Systems, Access Control & Security, and AV Equipment (FF&E) including bookcases.
- 8 Pricing based on prevailing wage rates

**Exclusions:**

- 1 Builders Risk insurance
- 2 Payment and Performance bond
- 3 Easements of any kind
- 4 Sales tax (new construction/non-profit)
- 5 Building shell including foundation, structure, roof, façade, windows, exterior doors and elevators
- 6 Parking construction of any kind (assumed existing)
- 7 Specialty acoustical treatment and/or provisions
- 8 Fire pump (assuming adequate city water pressure from street)
- 9 Lighting protection system

\*\*\* End of Document \*\*\*



OPTION D - Existing Site Pre-1930 structure Repurpose and build new park  
Assuming standard use adaptation - NOT "future ready", NOT LEED focused, but average opertating standards/cost construction

|                                |           |                |           |
|--------------------------------|-----------|----------------|-----------|
| Church building renovate       | 15,000 sf | historic bldgs | 15,000 sf |
| Hubbard Wing building renovate | 0 sf      | post 1930      | 30,000 sf |
| renovated remaining building:  | 15,000 sf |                |           |
| plus added new park:           | 25,000 sf |                |           |

| Division 1A - General Trades                                       | Qty | Unit  | Unit Cost | Repair Existing | Notes |
|--|-----|-------|-----------|-----------------|-------|
| general requirements to support trades - assuming 6 month schedule | 6   | mnths | 25,000    | \$150,000       |       |
| Total Division 1A - General trades                                 |     |       |           | \$150,000       |       |

| Division 2A - Demolition   | Qty    | Unit  | Unit Cost | AP Estimate | Notes   |
|--|--------|-------|-----------|-------------|---|
| Supply labor, equipment, supervision and dumpsters to complete:          |        |       |           |             |   |
| - mass demolition of existing building additions of post 1930 structures | 30,000 | sf    | 8         | \$225,000   |   |
| - allowance for potential abatement                                      | 1      | allow | 150,000   | \$150,000   | assuming pipe insulation and flooring glue as "hot" |
| Total Division 2A - Demolition   |        |       |           | \$375,000   |   |

| Division 2B - Sitework   | Qty   | Unit  | Unit Cost | AP Estimate | Notes    |
|--|-------|-------|-----------|-------------|----------|
| Supply labor, equipment and supervision to complete:                     |       |       |           |             |          |
| Mobilization & Logistical Site Prep                                      | 1     | ls    | 20,000    | \$20,000    |          |
| Erosion Control  | 1     | ls    | 15,000    | \$15,000    |          |
| Earthwork for 25,000 sf of park like structure - import soil and grading | 3,704 | cy    | 32        | \$118,519   | up to 4' |
| Utilities - site lighting/irrigation, etc                                | 1     | allow | 50,000    | \$50,000    |          |
| retaining wall - allowance to reset existing retaining walls as required | 1     | allow | 35,000    | \$35,000    |          |
| Site Improvements - sidewalks, hardscape patio area, gazebo              | 1     | allow | 250,000   | \$250,000   |          |
| Total Division 2B - Sitework   |       |       |           | \$488,519   |          |

| Division 2E - Landscaping                                    | Qty   | Unit  | Unit Cost | AP Estimate | Notes |
|--|-------|-------|-----------|-------------|-------|
| import & respread topsoil                                    | 144   | CY    | 32.00     | \$4,608     |       |
| seeding  | 7,763 | sf    | 0.75      | \$5,822     |       |
| trees and plantings allowance                                | 1     | allow | 75,000    | \$75,000    |       |
| site furnishings allowance (benches, trash receptacles, etc) | 1     | allow | 20,000    | \$20,000    |       |
| Total Division 2E - Landscaped areas                         |       |       |           | \$105,430   |       |

| Division 3A - Concrete        | Qty | Unit | Unit Cost | AP Estimate | Notes |
|-------------------------------|-----|------|-----------|-------------|-------|
| footings for site accessories | 1   | ls   | 10,000    | \$10,000    |       |
| Total Division 3A - Concrete  |     |      |           | \$10,000    |       |

| Division 4A - Masonry   | Qty | Unit  | Unit Cost | AP Estimate | Notes  |
|---|-----|-------|-----------|-------------|--|
| stone veneer/accents at facades exposed due to demolished buildings allowance | 1   | allow | 50,000    | \$50,000    | assuming up to 10K sf of stone façade to tie into Church building visually |
| brownstone railings replacement at Court St entrance to Church Building       | 2   | allow | 25,000    | \$50,000    | falling apart per AP Assement report; assuming rebuilt in kind (historic)  |
| brownstone landings at both Church st entrances reset existing stone          | 2   | allow | 10,000    | \$20,000    | trip hazard per AP Assement report; assuming reuse existing materials      |
| brownstone façade repointing allowance for repairs as needed per report       | 1   | allow | 50,000    | \$50,000    | at several lower courses around building; see report for details           |
| Total Division 4A- Masonry  |     |       |           | \$170,000   |  |

| Division 5A - Steel & Metals                          | Qty | Unit  | Unit Cost | AP Estimate | Notes   |
|---|-----|-------|-----------|-------------|---|
| Church Bld roof trusses minor structural support work | 1   | allow | 20,000    | \$20,000    | shoring and structural support for rebuild canopies; see AP Assessment report |
| portico steel realignent allowance                    | 1   | allow | 30,000    | \$30,000    |   |
| Total Division 5A- Steel                              |     |       |           | \$50,000    |   |

| Division 6B - Millwork / Finish Carpentry                              | Qty | Unit  | Unit Cost | AP Estimate | Notes |
|--|-----|-------|-----------|-------------|-------|
| allowance for repair and restoration of accent trim for pre 1930 areas | 1   | allow | 50,000    | \$50,000    |       |
| Total Division 6B - Millwork   |     |       |           | \$50,000    |       |

| Division 7A - Damproofing & Waterproofing                     | Qty | Unit | Unit Cost | AP Estimate | Notes |
|---|-----|------|-----------|-------------|-------|
| foundation waterproofing patching at removed foundation areas | 1   | ls   | 35,000    | \$35,000    |       |
| Total Division 7A - Damproofing & Waterproofing               |     |      |           | \$35,000    |       |

| Division 7D - Roof  | Qty   | Unit  | Unit Cost | AP Estimate | Notes                                   |
|---|-------|-------|-----------|-------------|---|
| selective replacement of sheating; assuming 50% of roof surface | 7,500 | sf    | 10        | \$75,000    | at remaing building sections after demo |
| sloped roofs at pre 1930 structures; new asphalt shingles       | 88    | sq    | 2,250     | \$198,000   |   |
| gutters/leaders allowance                                       | 1     | allow | 12,000    | \$12,000    | only at pre-1930 building area          |
| Total Division 7D - Roofing                                     |       |       |           | \$285,000   |   |

| Division 7E - Façade   | Qty | Unit  | Unit Cost | AP Estimate | Notes                                 |
|--|-----|-------|-----------|-------------|---------------------------------------|
| rebuild wood frame canopies at Church building; historic replacement in kind   | 1   | allow | 50,000    | \$50,000    |                                       |
| rebuild missing cornice at roof line on Court St façade of the Church building | 1   | allow | 15,000    | \$15,000    | historic restoration; replace in-kind |
| caulking allowance throughout including windows and doors                      | 1   | allow | 75,000    | \$75,000    |                                       |
| Total Division 7E - Façade   |     |       |           | \$140,000   |                                       |

| Division 8A - Doors, Frames & Hardware          | Qty | Unit | Unit Cost | AP Estimate | Notes |
|---|-----|------|-----------|-------------|-------|
| none in scope; existing to remain/refinish only |     |      |           |             |       |
| Total Division 8A - Doors                       |     |      |           | \$0         |       |

| Division 8C - Glass & Glazing                                      | Qty   | Unit  | Unit Cost | AP Estimate | Notes |
|--|-------|-------|-----------|-------------|-------|
| add storefront entry and windows for access to park side elevation |       |       |           |             |       |
| - storefronts windows  | 1,000 | sf    | \$45      | \$45,000    |       |
| - storefront door entries  | 2     | ea    | \$7,500   | \$15,000    |       |
| - hardware as required   |       |       |           | included    |       |
| - auto door openers  | 2     | allow | \$12,000  | \$24,000    |       |
| Total Division 8C - Glass & Glazing                                |       |       |           | \$84,000    |       |

| Division 9A - Drywall & Ceilings                               | Qty | Unit  | Unit Cost | AP Estimate | Notes |
|--|-----|-------|-----------|-------------|-------|
| add mechanical room in basement area; no other layout changes  | 1   | ls    | \$15,000  | \$15,000    |       |
| scar patching at existing partitions to be removed             | 1   | ls    | \$15,000  | \$15,000    |       |
| plaster patching at existing partitions in historic areas only | 1   | allow | \$20,000  | \$20,000    |       |
| Total Division 9A - Drywall & Ceilings                         |     |       |           | \$50,000    |       |

| Division 9B - Flooring & Tile   | Qty   | Unit  | Unit Cost | AP Estimate | Notes   |
|---|-------|-------|-----------|-------------|---|
| tile floor assumption large format at main level public use areas inc restrooms         | 2,000 | sf    | 25.00     | \$50,000    | assuming main corridor areas only               |
| tile floor assumption wainscotting at restrooms; wet walls complete; up 4' others       | 4     | ea    | 3,500     | \$14,000    | "spruce up" restrooms that will remain in place |
| VCT floor assumption at main floor back-of-house areas                                  | 1,000 | sf    | 5.00      | \$5,000     |   |
| carpet in "library" use areas; (7895 sf on 1st floor + 5000 sf in finished bsm assumed) | 1,719 | sy    | 40.00     | \$68,773    |   |
| walk off matts with logo at vestibules  | 2     | ea    | 2,500     | \$5,000     |   |
| sealed concrete at basement back-of house and stairs                                    | 500   | sf    | 4.00      | \$2,000     |   |
| vinyl base throughout; 4"   | 1     | allow | 3,500     | \$3,500     |   |
| transion and misc   |       |       |           | included    |   |
| thin set, cementitious grout and misc materials as required for install                 |       |       |           | included    |   |
| Total Division 9B - Flooring & Tile   |       |       |           | \$148,273   |   |

| Division 9C - Painting & Wall finishes                              | Qty    | Unit | Unit Cost | AP Estimate | Notes |
|---|--------|------|-----------|-------------|-------|
| Labor, equipment and material to complete (BM; per finish schedule) |        |      |           |             |       |
| - paint drywall walls and ceilings                                  | 15,000 | sf   | 2.50      | \$37,500    |       |
| - paint doors and frames  |        |      |           | included    |       |
| - exterior paint - allowance for exterior trim and steel railing    | 1      | ls   | 10,000    | \$10,000    |       |
| prep as required  |        |      |           | included    |       |
| Total Division 9C - Painting  |        |      |           | \$47,500    |       |

| Division 10A - Specialties inc Toilet Accessories   | Qty | Unit | Unit Cost | AP Estimate  | Notes |
|---|-----|------|-----------|--------------|-------|
| toilet accessories allowance; assuming 12 locations | 4   | ea   | 2,500     | \$10,000     |       |
| fire extinguishers with cabinets                    | 6   | ea   | 450       | \$2,700      |       |
| installed by carpentry                              |     |      |           | in carpentry |       |
| Total Division 10B - Specialties                    |     |      |           | \$12,700     |       |

| Division 10C - Signage Allowance | Qty | Unit  | Unit Cost | AP Estimate | Notes |
|----------------------------------|-----|-------|-----------|-------------|-------|
| - interior signage; acrylic; ADA | 1   | allow | 10,000    | \$10,000    |       |
| - exterior signage replacement   | 1   | allow | 15,000    | \$15,000    |       |
| installed by signage             |     |       |           | included    |       |
| Total Division 10C - Signage     |     |       |           | \$25,000    |       |

| Division 12A - Window Treatments       | Qty | Unit | Unit Cost | AP Estimate | Notes |
|--|-----|------|-----------|-------------|-------|
| none in scope                          |     |      |           |             |       |
| Total Division 12A - Window Treatments |     |      |           |             |       |

| Division 14A - Elevator                         | Qty | Unit  | Unit Cost | AP Estimate | Notes           |
|---|-----|-------|-----------|-------------|-----------------|
| add ADA lift only (lulla or alike)              | 1   | allow | 120,000   | \$120,000   | no pit required |
| battery lowering device for emergency operation | 1   | ls    | 2,500     | \$2,500     |                 |
| Total Division 12A - Window Treatments          |     |       |           | \$122,500   |                 |

| Division 15FP - Fire Protection   | Qty   | Unit  | Unit Cost | AP Estimate | Notes  |
|---|-------|-------|-----------|-------------|--|
| Labor, materials, equipment and supervision required to:                            |       |       |           |             |  |
| Church building circulation area - expand dry system                                | 7,895 | sf    | 5         | \$39,475    |  |
| minor adjustments as needed for addressing at tie ins to demolished areas           | 1     | allow | 5,000     | \$5,000     |  |
| mezzanine and remaining first floor area - revise as needed for adequate protection | 2,500 | sf    | 3.00      | \$7,500     | mains to remain in place; branchlines and heads expansion only |
| backflow preventers added at domestic water as required                             | 1     | ea    | 7,500     | \$7,500     |  |
| replace fire hose stations  | 3     | ea    | 5,000     | \$15,000    |  |
| Total Division 14 - Fire Protection   |       |       |           | \$74,475    |  |

| Division 15P - Plumbing  | Qty | Unit  | Unit Cost | AP Estimate | Notes   |
|--|-----|-------|-----------|-------------|---|
| restrooms; refresh and revision as needed to address accessiblity requirements   | 4   | ea    | 30,000    | \$120,000   |   |
| water fountain with bottle fillers; assumed at each floor                        | 3   | ea    | 2,250     | \$6,750     |   |
| gas connections to new mechanical equipment                                      | 1   | ls    | 15,000    | \$15,000    |   |
| ejector pumps replacement (in-kind)  | 1   | ea    | 20,000    | \$20,000    | assuming tanks to remain / reused               |
| backflow preventers added at domestic water as required                          | 2   | ea    | 7,500     | \$15,000    |   |
| plumbing fixtures, trim and equipment; low water consumption fixtures            |     |       |           | included    |   |
| floor drains, roof drains, overflow drains and deck plate cleanouts              |     |       |           | included    |   |
| domestic water piping replacement allowance in selective areas as needed         | 1   | allow | 10,000    | \$10,000    | corroded sections; assuming L copper tubing new |
| insulation pipe add at missing areas per code as required                        | 1   | allow | 25,000    | \$25,000    |   |
| isolation valve and tags as required   |     |       |           | included    |   |
| wall or ceiling access panel supply as needed for own work (installed by others) |     |       |           | included    |   |
| cutting and firestopping for own work  |     |       |           | included    |   |
| Fireproofing of own work   |     |       |           | included    |   |
| Total Division 15P - Plumbing  |     |       |           | \$211,750   |   |

| Division 15H - HVAC  | Qty    | Unit  | Unit Cost | AP Estimate | Notes               |
|--|--------|-------|-----------|-------------|---------------------|
| Labor, materials, equipment and supervision required to:                 |        |       |           |             |                     |
| safe-off and removal of existing chiller, cooling tower and boilers      | 1      | allow | 50,000    | \$50,000    |                     |
| ERV for main level of structure to remain in place                       | 1      | ea    | 150,000   | \$150,000   |                     |
| reuse Lochinvar high efficiency boiler and finned tube perimeter heating |        |       |           | \$10,000    | reconnect as needed |
| add small chiller plant in new mech room                                 | 1      | allow | 40,000    | \$40,000    |                     |
| AHU replacement; basement level  | 5      | ea    | 17,500    | \$87,500    |                     |
| exhaust fans; mech/elect rms, JC,  | 6      | ea    | 5,500     | \$33,000    |                     |
| cabinet heaters; electric, for stairs and back-of house areas            | 10     | ea    | 2,200     | \$22,000    |                     |
| BMS system upgrade   | 15,000 | sf    | 6         | \$90,000    |                     |
| ductwork clean and seal existing; reuse as much as feasible;             | 1      | allow | 20,000    | \$20,000    |                     |
| registers, grilles and diffusers as required                             |        |       |           | included    |                     |
| fire/fire-smoke dampers as required                                      |        |       |           | included    |                     |
| refrigeration piping and gasses  |        |       |           | included    |                     |
| insulation as required   |        |       |           | included    |                     |
| Testing and warrantee  |        |       |           | included    |                     |
| Submittals and as-buits  |        |       |           | included    |                     |
| Testing and balancing by sub only  |        |       |           | included    |                     |
| Firestopping of own work   |        |       |           | included    |                     |
| Permit (administrative filing only)                                      |        |       |           | included    |                     |
| Total Division 15H - HVAC  |        |       |           | \$502,500   |                     |

| Division 16A - Electrical & Fire Alarm  | Qty    | Unit  | Unit Cost | AP Estimate | Notes  |
|---|--------|-------|-----------|-------------|--|
| Labor, materials, equipment and supervision required to:                                |        |       |           |             |  |
| - safe off; disconnects and selective demo  |        |       |           | included    |  |
| - general power revisions minor allowance for reconnection sheared off section          | 1      | allow | 10,000    | \$10,000    |  |
| - power feeder to remaining structure remain as is                                      |        |       |           | included    | transformer and secondary to remain as is - dedicated to original building |
| - gear, panels and bussing including switches, housing and cabinets as required         | 1      | allow | 50,000    | \$50,000    |  |
| - lighting fixtures allowance   | 15,000 | sf    | 15        | \$225,000   |  |
| - lighting controls including switches, motion sensors, digital timers, etc as detailed | 15,000 | sf    | 5         | \$75,000    |  |
| - site lights fixtures allowance for park area  | 25     | ea    | 2,500     | \$62,500    |  |
| power connections to mechanicaland plumbing equipment                                   |        |       |           | included    |  |
| power connections to elevator   |        |       |           | included    |  |
| generator for emergency power; gas fuel; 50 kW  | 50     | kw    | 850       | \$42,500    |  |
| rigging; ATS, grounding, connections  |        |       |           | \$15,000    |  |

|   |   |       |        |           |
|---|---|-------|--------|-----------|
| tele/data and security back-boxes and wiring allowance                    | 1 | allow | 3.25   | \$3       |
| fire alarm panels, devices, wiring, programming and connections allowance | 1 | allow | 20,000 | \$20,000  |
| grounding including bonding of as required                                |   |       |        | included  |
| sleeves, cutting and coring as needed for own work                        |   |       |        | included  |
| temporary protection of own work as required                              |   |       |        | included  |
| Submittals and as-buits   |   |       |        | included  |
| Firestopping of own work  |   |       |        | included  |
| Permit filing (administrative filing)                                     |   |       |        | included  |
| Total Division 16A - Electrical   |   |       |        | \$500,003 |

ALTERNATES:

|  |   |       |         |           |
|--|---|-------|---------|-----------|
| Alternate #1.A (ADD): 139 Broad St Structure complete demolition |   |       |         | Cost      |
| allowance for abatement  | 1 | allow | 150,000 | \$150,000 |
| allowance for complete demolition of existing structure          | 1 | allow | 75,000  | \$75,000  |
| infill, grade and seed pad of removed building                   | 1 | allow | 100,000 | \$100,000 |
| TOTAL TRADE COST   |   |       |         | 325,000   |

|                                   |  |        |  |         |
|-----------------------------------|--|--------|--|---------|
| FEE STRUCTURE BELOW               |  |        |  |         |
| GENERAL CONDITIONS                |  | 10.00% |  | 32,500  |
| BUILDING PERMIT FEE/ZONING FEE    |  | 2.50%  |  | 8,938   |
| CM CONSTRUCTION FEE/OVERHEAD      |  | 3.75%  |  | 13,741  |
| CM LIABILITY INSURANCE            |  | 1.50%  |  | 5,703   |
| SALES TAX                         |  | 0.00%  |  | 0       |
| ALTERNATE #1.A TOTAL (w/ mark-Up) |  |        |  | 385,882 |

|   |   |       |        |          |
|---|---|-------|--------|----------|
| Alternate #4.B (ADD): Rain water reclaiming allowance - rain water usage for irrigation at new park |   |       |        | Cost     |
| allowance for 20,000 gal storage tank system  | 1 | allow | 35,000 | \$35,000 |
| TOTAL TRADE COST  |   |       |        | 35,000   |

|                                   |  |        |  |        |
|-----------------------------------|--|--------|--|--------|
| FEE STRUCTURE BELOW               |  |        |  |        |
| GENERAL CONDITIONS                |  | 10.00% |  | 3,500  |
| BUILDING PERMIT FEE/ZONING FEE    |  | 2.50%  |  | 963    |
| CM CONSTRUCTION FEE/OVERHEAD      |  | 3.75%  |  | 1,480  |
| CM LIABILITY INSURANCE            |  | 1.50%  |  | 614    |
| SALES TAX                         |  | 0.00%  |  | 0      |
| ALTERNATE #4.B TOTAL (w/ mark-Up) |  |        |  | 41,556 |



Russell Library  
123 Broad Street, Middletown CT 06457  
Conceptual Design Budget  
AP Construction  
9/14/2021



OPTION D - Existing Site Pre-1930 structure Repurpose and build new park

Assuming standard use adaptation - NOT "future ready", NOT LEED focused, but average operating standards/cost construction

#### ***Qualifications & Assumptions:***

- 1 We have assumed that work will be completed in total estimated duration of 6 months from mobilization until completion.
- 2 We have assumed that building section under construction will be unoccupied with no public access allowed during construction.
- 3 We have assumed that work will be completed on straight time.
- 4 We have assumed that sufficient staging, lay down and temporary parking area will be provided on site or vicinity of the site for duration of the construction.
- 5 Budget is based on current pricing (no escalation included)
- 6 We have no information for potential new use of the space to define allowances for FF&E. Assuming program fit out by others.
- 7 Pricing based on prevailing wage rates

#### ***Exclusions:***

- 1 Builders Risk insurance
- 2 Payment and Performance bond
- 3 Easements of any kind
- 4 Sales tax (non-profit organization exemption assumed)
- 5 Material testing and inspection costs
- 6 Hazardous Materials other than minor abatement allowance as noted assumed in building to be demolished
- 7 Underpinning
- 8 Rock removal and/or handling
- 9 Unsuitable soils handling or replacement
- 10 Improvements and/or repaving of streets
- 11 Improvement and/or any work at the neighboring property. Please refer to add alternates
- 12 Primary power - assuming existing to remain as is
- 13 Gas line - assuming existing to remain as is
- 14 Furniture, Fixtures, Artwork and Equipment (FF&E)
- 15 AV, Sound, Security and/or Access control system
- 16 Monument signage

\*\*\* End of Document \*\*\*



A.P. Construction Company

Russell Library  
123 Broad Street, Middletown CT 06457

Budget for 5-yrs maintenance program

Client: HMA2 Archtects  
Prepared by: AP Construction  
Summary Date: September 14, 2021  
Architect: HMA2 Architects  
Documents:

|   |           |   | 45,000             |
|---|-----------|---|--------------------|
| Construction Specification Institute Description                      | CSI #     | Budget A<br>Repair Existing; phased renovation<br>(assuming 4 phases) | Cost per<br>SF:    |
| CONSTRUCTION COSTS:   |           |   |                    |
| General Trades  | Div 1A    | \$50,000  | \$1.11             |
| Demolition  | Div 2A    | \$120,000   | \$2.67             |
| Sitework  | Div 2B    | \$131,200   | \$2.92             |
| Landscaping & Site Furnishings  | Div 2E    | \$22,400  | \$0.50             |
| Concrete  | Div 3A    | \$75,000  | \$1.67             |
| Masonry inc stone façade  | Div 4A    | \$140,000   | \$3.11             |
| Metals  | Div 5A    | \$70,000  | \$1.56             |
| Finish Carpentry/Millwork   | Div 6B    | \$20,000  | \$0.44             |
| Foundation waterproofing  | Div 7A    | \$50,000  | \$1.11             |
| Roofing   | Div 7C    | \$272,500   | \$6.06             |
| Façade (non-masonry)  | Div 7D    | \$30,000  | \$0.67             |
| Doors & Hardware  | Div 8A    | \$10,000  | \$0.22             |
| Glass & Glazing   | Div 8C    | \$0   | \$0.00             |
| Drywall & Ceilings  | Div 9A    | \$75,000  | \$1.67             |
| Flooring & Tile   | Div 9B    | \$132,833   | \$2.95             |
| Painting  | Div 9C    | \$30,000  | \$0.67             |
| Specialties inc toilet partitions, accessories etc                    | Div 10B   | \$10,000  | \$0.22             |
| Signage Interior  | Div 10C   | \$0   | \$0.00             |
| Window Treatment  | Div 12A   | \$0   | \$0.00             |
| Elevator  | Div 14A   | \$50,000  | \$1.11             |
| Fire Protection   | Div 15FP  | \$96,975  | \$2.16             |
| Plumbing  | Div 15P   | \$230,000   | \$5.11             |
| HVAC  | Div 15H   | \$525,000   | \$11.67            |
| Electrical & Fire Alarm   | Div 16A   | \$228,678   | \$5.08             |
| Estimated Base Building Construction Trade Cost:                      |           | \$2,369,586   | \$52.66            |
| Contingency   | 5.00%     | \$118,479   | \$2.63             |
| CM General Conditions assuming managed by Library Staff               |           | \$0   | \$0.00             |
| Building Permit Fee   | 2.50%     | \$51,460  | \$1.14             |
| CM Fee assuming managed by Library Staff                              | 0.00%     | \$0   | \$0.00             |
| CM Liability Insurance assuming managed by Library Staff              | 0.00%     | \$0   | \$0.00             |
| CM Sales Tax assuming exempt - non-profit                             | 0.00%     | \$0   | \$0.00             |
| Grand Total Estimated Base Building Construction Cost                 |           | \$2,539,525   | \$56.43            |
| SOFT COSTS:   |           |   |                    |
| Professional Fees, Administrative Costs, Moving Charge, Testing, etc. | Allowance | \$50,000  | \$1.11             |
| TOTAL PROJECTED COST:   |           | \$2,589,525   | \$57.55            |
| NOTE: Annual escalation projection after end of year 2021             |           | 3%  | add at 3% per year |

NOTE: The above pricing is to be used for budgeting purposes only and is not actual cost of construction for the Project. Final construction costs cannot be determined until complete bid documents have been issued to AP Construction and the bid process is complete. The above budget pricing is valid for 30 days from the date shown.

Russell Library  
123 Broad Street, Middletown CT 06457  
Budget for 5-yr maintenance program  
AP Construction  
9/14/2021

5-yr plan maintenance program



| Division 1A - General Trades           | Qty | Unit | Unit Cost | AP Estimate | Notes |
|--|-----|------|-----------|-------------|-------|
| general requirements to support trades | 1   | ls   | 50,000    | \$50,000    |       |
| Total Division 1A - General trades     |     |      |           | \$50,000    |       |

| Division 2A - Demolition   | Qty    | Unit  | Unit Cost | AP Estimate | Notes |
|--|--------|-------|-----------|-------------|-------|
| Supply labor, equipment, supervision and dumpsters to complete:                    |        |       |           |             |       |
| - selective abatement allowance as required to selectively repair piping           | 1      | allow | 30,000    | \$30,000    |       |
| - allowance for removal and disposal of selective hvac and plumbing equipment      | 1      | allow | 25,000    | \$25,000    |       |
| - allowance for removal and disposal of lighting and electrical devices inc panels | 45,000 | sf    | 1         | \$45,000    |       |
| - allowance for selective demolition of finishes (flooring, some ACT, etc)         | 1      | allow | 20,000    | \$20,000    |       |
| Total Division 2A - Demolition   |        |       |           | \$120,000   |       |

| Division 2B - Sitework  | Qty | Unit  | Unit Cost | AP Estimate | Notes   |
|---|-----|-------|-----------|-------------|---|
| Mobilization & Logistical Site Prep   | 1   | ls    | 15,000    | \$15,000    |   |
| tree clearing - not in scope  |     |       |           | by others   |   |
| Courtyard selective maintenance only improvements                                 |     |       |           |             |   |
| bluestone resetting; sidewalks replacement  | 1   | ls    | 20,000    | \$20,000    |   |
| Earthwork   |     |       |           |             |   |
| allowance to open up ground for foundation and waterproofing repairs              | 1   | allow | 50,000    | \$50,000    |   |
| trench drain addition at selective area including stone and piping                | 1   | allow | 12,000    | \$12,000    |   |
| Site Improvements   |     |       |           |             |   |
| pavement - concrete sidewalks; 5" 4000 psi with mesh, broom finish, with wiremesh | 1   | ls    | 10,000    | \$10,000    | entrances & North Drive sections as noted in AP Assessment report |
| pavement - replace curbing at selective areas                                     | 100 | lf    | 42        | \$4,200     | concrete; selective areas per AP Assessment report 8/26/2021      |
| pavement - asphalt pavement replacement at North Driveway                         | 1   | ls    | 15,000    | \$15,000    | repulverize and install new driveway cover                        |
| regrade around building low spots; misc allowance                                 | 1   | ls    | 20,000    | \$20,000    | Broad St side at Church bld main lobby and courtyard              |
| Total Division 2B - Sitework  |     |       |           | \$131,200   |   |

| Division 2E - Landscaping & Site furnishings              | Qty   | Unit  | Unit Cost | AP Estimate | Notes  |
|---|-------|-------|-----------|-------------|--|
| screen & respread topsoil in courtyard and regraded areas | 40    | CY    | 35.00     | \$1,400     |  |
| seeding   | 4,000 | sf    | 0.75      | \$3,000     | courtyard and regraded areas                             |
| pruning and planting maintenance                          | 1     | ls    | 10,000    | \$10,000    | selective areas per AP Assessment report dated 8/26/2021 |
| bike rack supply and install                              | 3     | ls    | 1,500     | \$4,500     |  |
| fence repair at North Driveway                            | 1     | allow | 3,500     | \$3,500     | straighten fence, repair gate per AP Assessment report   |
| Total Division 2E - Landscaped areas                      |       |       |           | \$22,400    |  |

| Division 3A - Concrete   | Qty | Unit  | Unit Cost | AP Estimate | Notes  |
|--|-----|-------|-----------|-------------|--|
| allowance for foundation repair and stabilizations at front porch area | 1   | allow | 75,000    | \$75,000    | visible settlement; requires further investigation |
| Total Division 3A - Concrete   |     |       |           | \$75,000    |  |

| Division 4A - Masonry   | Qty | Unit  | Unit Cost | AP Estimate | Notes   |
|---|-----|-------|-----------|-------------|---|
| brownstone railings replacement at Court St entrance to Church Building | 2   | allow | 30,000    | \$60,000    | falling apart per AP Assement report; assuming rebuilt in kind (historic) |
| brownstone landings at both Church st entrances reset existing stone    | 2   | allow | 15,000    | \$30,000    | trip hazard per AP Assement report; assuming reuse existing materials     |
| brownstone façade repointing allowance for repairs as needed per report | 1   | allow | 50,000    | \$50,000    | at several lower courses around building; see report for details          |
| Total Division 4A- Masonry  |     |       |           | \$140,000   |   |

| Division 5A - Steel & Metals                          | Qty | Unit  | Unit Cost | AP Estimate | Notes   |
|---|-----|-------|-----------|-------------|---|
| Church Bld roof trusses minor structural support work | 1   | allow | 25,000    | \$25,000    |   |
| portico columns steel support and canopies allowance  | 1   | allow | 45,000    | \$45,000    | shoring and structural support for rebuild canopies; see AP Assessment report |
| Total Division 5A- Steel                              |     |       |           | \$70,000    |   |

| Division 6B - Millwork / Finish Carpentry | Qty | Unit  | Unit Cost | AP Estimate | Notes |
|---|-----|-------|-----------|-------------|-------|
| miscellaneous carpentry allowance         | 1   | allow | 20,000    | \$20,000    |       |
| Total Division 6B - Millwork              |     |       |           | \$20,000    |       |

| Division 7A - Damproofing & Waterproofing  | Qty | Unit  | Unit Cost | AP Estimate | Notes  |
|--|-----|-------|-----------|-------------|--|
| foundation waterproofing allowance at selective area in browstone building trouble | 1   | allow | 35,000    | \$35,000    |  |
| elevator pit waterproofing; Crystalline or alike                                   | 1   | ls    | 15,000    | \$15,000    | existing pit has evidence of water intrusion |
| Total Division 7A - Damproofing & Waterproofing                                    |     |       |           | \$50,000    |  |

| Division 7D - Roof  | Qty   | Unit  | Unit Cost | AP Estimate | Notes  |
|---|-------|-------|-----------|-------------|--|
| selective replacement of sheathing; assuming 50% of roof surface            | 4,400 | sf    | 4         | \$17,600    |  |
| sloped roofs at pre 1930 structures; new asphalt shingles                   | 88    | sq    | 1,800     | \$158,400   |  |
| flat roofs at post 1930 structures; tar & gravel “re-saturation” method     | 113   | sq    | 500       | \$56,500    |  |
| roof drains replacement allowance   | 10    | allow | 2,500     | \$25,000    | assuming 10 units  |
| gutters/leaders replacement allowance inc extensions as required per report | 1     | allow | 15,000    | \$15,000    | aluminum; include connections where missing per AP Assessment report |
| Total Division 7D - Roofing   |       |       |           | \$272,500   |  |

| Division 7E - Façade                                      | Qty | Unit  | Unit Cost | AP Estimate | Notes |
|---|-----|-------|-----------|-------------|-------|
| existing to remain as is; repointing allowance in masonry |     |       |           |             |       |
| caulking allowance throughout including windows and doors | 1   | allow | 30,000    | \$30,000    |       |
| Total Division 7E - Façade                                |     |       |           | \$30,000    |       |

| Division 8A - Doors, Frames & Hardware                                 | Qty | Unit  | Unit Cost | AP Estimate | Notes  |
|--|-----|-------|-----------|-------------|--|
| selective door maintenance allowance; adjust hardware; oil hinges, etc | 1   | allow | \$10,000  | \$10,000    | including main entry door realignment/hardware replacement |
| Total Division 8A - Doors  |     |       |           | \$10,000    |  |

| Division 8C - Glass & Glazing       | Qty | Unit | Unit Cost | AP Estimate | Notes |
|-------------------------------------|-----|------|-----------|-------------|-------|
| none                                |     |      |           |             |       |
| Total Division 8C - Glass & Glazing |     |      |           | \$0         |       |

| Division 9A - Drywall & Ceilings                               | Qty | Unit  | Unit Cost | AP Estimate | Notes                      |
|--|-----|-------|-----------|-------------|----------------------------|
| scar patching partitions affected by piping replacement        | 1   | ls    | \$25,000  | \$25,000    |                            |
| plaster patching at existing partitions in historic areas only | 1   | allow | \$20,000  | \$20,000    |                            |
| ACT ceilings allowance   | 1   | allow | \$30,000  | \$30,000    |                            |
| Total Division 9A - Drywall & Ceilings                         |     |       |           | \$75,000    | approximately 20 crew days |

| Division 9B - Flooring & Tile   | Qty   | Unit  | Unit Cost | AP Estimate | Notes                                   |
|---|-------|-------|-----------|-------------|---|
| restrooms upgrade; replace tile; builder's grade material assumed       | 5,000 | sf    | 15.00     | \$75,000    | allowance                               |
| carpet replacement at Main Lobby, Main Reading Room and stairs only     | 1,333 | sy    | 40.00     | \$53,333    | allowance up to 10,000 sf of area (L&M) |
| walk off matt at main entry   | 1     | ea    | 2,500     | \$2,500     | allowance                               |
| vinyl base at replaced carpet areas                                     | 1     | allow | 2,000     | \$2,000     | allowance                               |
| transion and misc   |       |       |           | included    |   |
| thin set, cementitious grout and misc materials as required for install |       |       |           | included    |   |

|                                     |           |  |  |  |  |
|-------------------------------------|-----------|--|--|--|--|
| Total Division 9B - Flooring & Tile | \$132,833 |  |  |  |  |
|-------------------------------------|-----------|--|--|--|--|

|   |          |       |           |             |       |
|---|----------|-------|-----------|-------------|-------|
| Division 9C - Painting & Wall finishes  | Qty      | Unit  | Unit Cost | AP Estimate | Notes |
| selective areas painting allowance (areas disturbed by piping replacement only) | 1        | allow | 30,000    | \$30,000    |       |
| Total Division 9C - Painting  | \$30,000 |       |           |             |       |

|   |          |       |           |             |       |
|---|----------|-------|-----------|-------------|-------|
| Division 10A - Specialties inc Toilet Accessories | Qty      | Unit  | Unit Cost | AP Estimate | Notes |
| allowance for misc accessories upgrade            | 1        | allow | 10,000    | \$10,000    |       |
| Total Division 10B - Specialties                  | \$10,000 |       |           |             |       |

|                                  |     |      |           |             |       |
|----------------------------------|-----|------|-----------|-------------|-------|
| Division 10C - Signage Allowance | Qty | Unit | Unit Cost | AP Estimate | Notes |
| none in scope                    |     |      |           |             |       |
| Total Division 10C - Signage     | \$0 |      |           |             |       |

|  |     |      |           |             |       |
|--|-----|------|-----------|-------------|-------|
| Division 12A - Window Treatments       | Qty | Unit | Unit Cost | AP Estimate | Notes |
| none in scope                          |     |      |           |             |       |
| Total Division 12A - Window Treatments |     |      |           |             |       |

|  |          |       |           |             |  |
|--|----------|-------|-----------|-------------|--|
| Division 14A - Elevator                | Qty      | Unit  | Unit Cost | AP Estimate | Notes                                  |
| elevator maintenance                   | 1        | allow | 50,000    | \$50,000    | motor compentents stated as "obsolete" |
| Total Division 12A - Window Treatments | \$50,000 |       |           |             |  |

|   |          |       |           |             |       |
|---|----------|-------|-----------|-------------|-------|
| Division 15FP - Fire Protection                         | Qty      | Unit  | Unit Cost | AP Estimate | Notes |
| Church building circulation area - expand dry system    | 7,895    | sf    | 5         | \$39,475    |       |
| upgrade heads at selected areas                         | 1        | allow | 50,000    | \$50,000    |       |
| backflow preventers added at domestic water as required | 1        | ea    | 7,500     | \$7,500     |       |
| Total Division 14 - Fire Protection                     | \$96,975 |       |           |             |       |

|   |           |       |           |             |   |
|---|-----------|-------|-----------|-------------|---|
| Division 15P - Plumbing   | Qty       | Unit  | Unit Cost | AP Estimate | Notes   |
| ejector pumps replacement (in-kind)   | 2         | ea    | 20,000    | \$40,000    |   |
| allowance for selective stormwater piping replacement at corroded areas only          | 1         | allow | 30,000    | \$30,000    | assuming up to 100 lf of piping to be replaced                                  |
| allowance for pipe insulation at stormwater and domestic missing areas                | 1         | allow | 25,000    | \$25,000    | required per code; allowance as pipe size, lenghts, need further identification |
| backflow preventers added at domestic water; new as required                          | 2         | ea    | 7,500     | \$15,000    |   |
| hot water heaters replacement; 40 gal; gas? (existing electric); add pad where needed | 2         | ea    | 10,000    | \$20,000    |   |
| restrooms; refresh fixtures; replace with ADA where feasible                          | 1         | allow | 75,000    | \$75,000    | assuming to reuse existing carrier where feasible for wall hung units           |
| restrooms; add pipe covering where required   | 1         | allow | 10,000    | \$10,000    |   |
| roof drains connection allowance  | 10        | allow | 1,500     | \$15,000    |   |
| Fireproofing of own work  |           |       |           | included    |   |
| Total Division 15P - Plumbing   | \$230,000 |       |           |             |   |

|  |           |        |           |             |             |
|--|-----------|--------|-----------|-------------|-------------|
| Division 15H - HVAC  | Qty       | Unit   | Unit Cost | AP Estimate | Notes       |
| replacement in kind:   |           |        |           | inkind      |             |
| - replace 19?? Weils McLain boiler; assuming another Lochnvar modular boiler for new     | 1         | ls     | 50,000    | \$50,000    | inc rigging |
| - replace recirculating distribution pumps   | 2         | ea     | 7,500     | \$15,000    |             |
| - expansion tanks and other accessories as required                                      | 1         | allow  | 10,000    | \$10,000    |             |
| - replace chiller and cooling tower; in-kind replacement (size/set up to match existing) | 1         | allow  | 375,000   | \$375,000   | inc rigging |
| - AHU service  | 1         | allow  | 50,000    | \$50,000    |             |
| BMS system to remain as is; misc controls adjustments as needed due to parts replaceme   | 10        | points | 2,500     | \$25,000    |             |
| Firestopping of own work   |           |        |           | included    |             |
| Total Division 15H - HVAC  | \$525,000 |        |           |             |             |

|   |           |       |           |             |   |
|---|-----------|-------|-----------|-------------|---|
| Division 16A - Electrical & Fire Alarm  | Qty       | Unit  | Unit Cost | AP Estimate | Notes   |
| Main switchboards #1 & #2 service (existing original to building) allowance           | 1         | allow | 25,000    | \$25,000    |   |
| parts & service for gear, panels and bussing as required                              |           |       |           | included    |   |
| panelboards throughout facilities replacement, in place, in kind, with updated panels | 1         | allow | 30,000    | \$30,000    | allowance; assuming selective panels only as required |
| misc allowance for tracing, repair and replacement if needed                          | 1         | allow | 25,000    | \$25,000    |   |
| lighting fixtures allowance; assuming selective replacent up to 10,000 sf of area     | 10,000    | sf    | 10        | \$100,000   | including EM battery back up fixtures                 |
| lighting controls including switches, motion sensors, digital timers, etc as detailed |           |       |           | included    |   |
| fire alarm devices replacement in basement level only                                 | 16,226    | allow | 3         | \$48,678    |   |
| grounding including bonding of as required  |           |       |           | included    |   |
| sleeves, cutting and coring as needed for own work                                    |           |       |           | included    |   |
| temporary protection of own work as required  |           |       |           | included    |   |
| Submittals and as-buits   |           |       |           | included    |   |
| Firestopping of own work  |           |       |           | included    |   |
| Total Division 16A - Electrical   | \$228,678 |       |           |             |   |



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## 4

# Inspirational Images

The following library facility images reflect many of the ideas within the Russell Library Vision Committee's Findings and Recommendations dated July 14, 2021. The documents states that a future-ready facility should embody the following qualities:

- Human Centered
- Accessible
- Fun, Dynamic and Flexible
- Connected, Inspirational and Aspirational
- Sustainable

The library design examples are NOT intended to be replicated but to help inspire next step discussions and developments for a one of kind library that distinctly reflects Middletown's unique community needs, aspirations and cultures.

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**Library Delft University of Technology: Delft, Netherlands**



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**Library Delft University of Technology:** Delft, Netherlands



**Oodi Helsinki Central Library:** Helsinki, Finland





**Stuttgart City Library:** Stuttgart, Germany



**Vasconcelos Library:** Mexico City, Mexico





**Qatar National Library:** Ar-Rayyan, Qatar



**Stockholm Public Library:** Stockholm, Sweden





**Library of Birmingham:** Birmingham, England



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**Bibliothèque Richelieu:** Paris, France



**Tianjin Binhai Public Library:** Tianjin, China





**Spijkenisse Book Mountain:** Spijkenisse, Netherlands



**The Westport Library- HMA2 Architects:** Westport, CT





**The Westport Library: HMA2 Architects: Westport, CT**



**The Westport Library: HMA2 Architects- Westport, CT**





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**LocHal Library:** Tilburg, Netherlands



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**Dokk1:** Aarhus, Denmark



**De Petrus- Library, Museum and Community Center:** Vught, Netherlands





**Deichman Library:** Oslo, Norway



**Calgary Library:** Calgary, Canada





**Songdo Library- HMA2 Architects: Incheon, South Korea**



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**Brunswick Park Primary School: London, England**



**University of Vermont- Discovery Kitchen: Burlington, VT**







**Independence Library and Apartments: Chicago, IL**



**Independence Library and Apartments: Chicago, IL**





**Taylor Street Apartments and Little Italy Branch Library: Chicago, IL**



**Taylor Street Apartments and Little Italy Branch Library: Chicago, IL**





**Northtown Library and Apartments: Chicago, IL**



**Northtown Library and Apartments: Chicago, IL**





**Bookwork Pavilion:** Mumbai, India



**Dokk1:** Aarhus, Denmark





**Austin Central Library:** Austin, TX

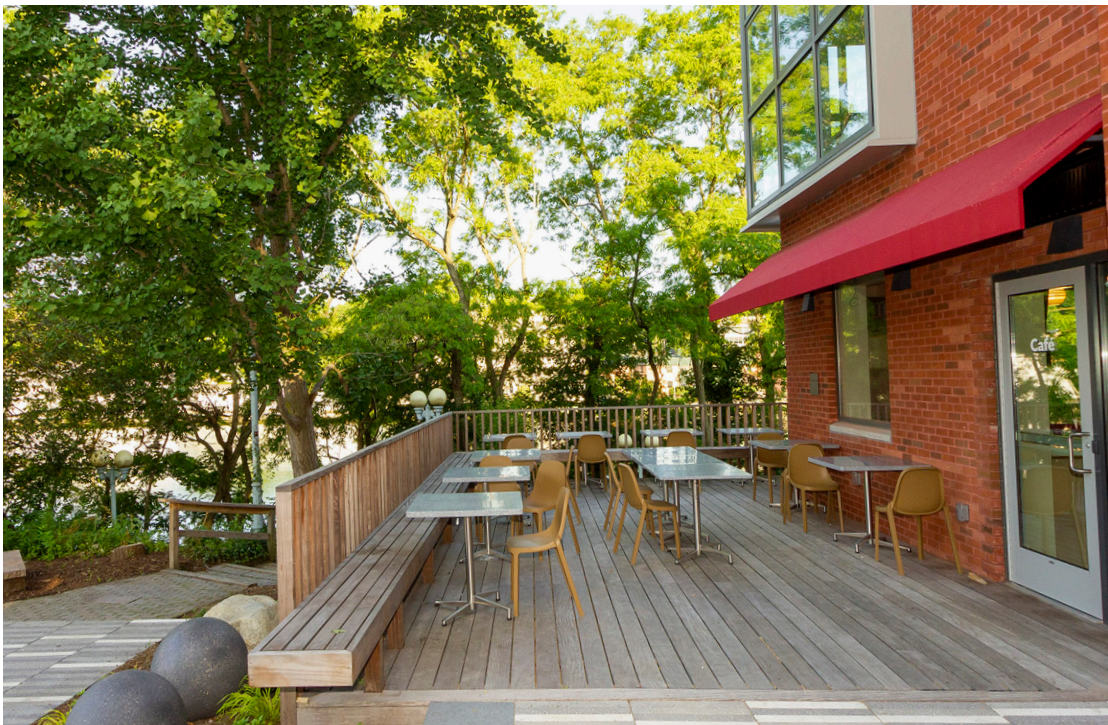


**Dokk1:** Aarhus, Denmark





**Library at Tecnológico de Monterrey: Monterrey, Mexico**



**The Westport Library- HMA2 Architects: Westport, CT**





**The Westport Library- HMA2 Architects: Westport, CT**



**The Westport Library- HMA2 Architects: Westport, CT**





**McAllen Main Library:** McAllen, TX



**Seattle Public Library:** Seattle, WA



**The Westport Library- HMA2 Architects: Westport, CT**



**The Westport Library- HMA2 Architects: Westport, CT**



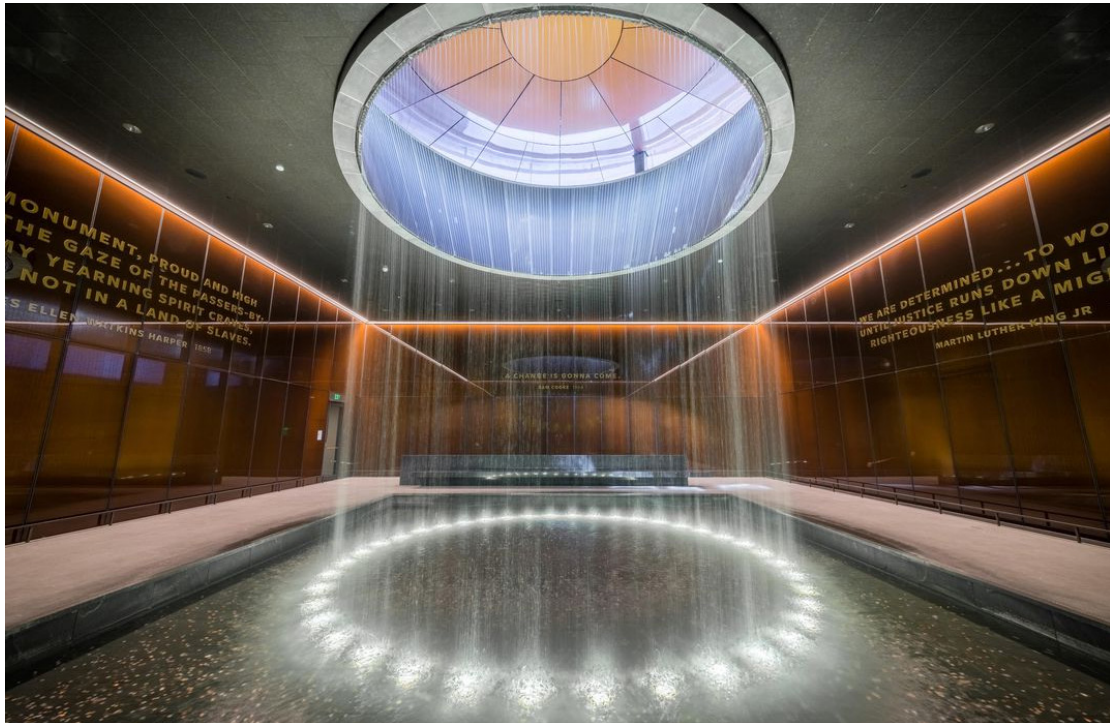


**Bezos Center of Innovation: Seattle, Washington**



**Misc. Wayfinding**



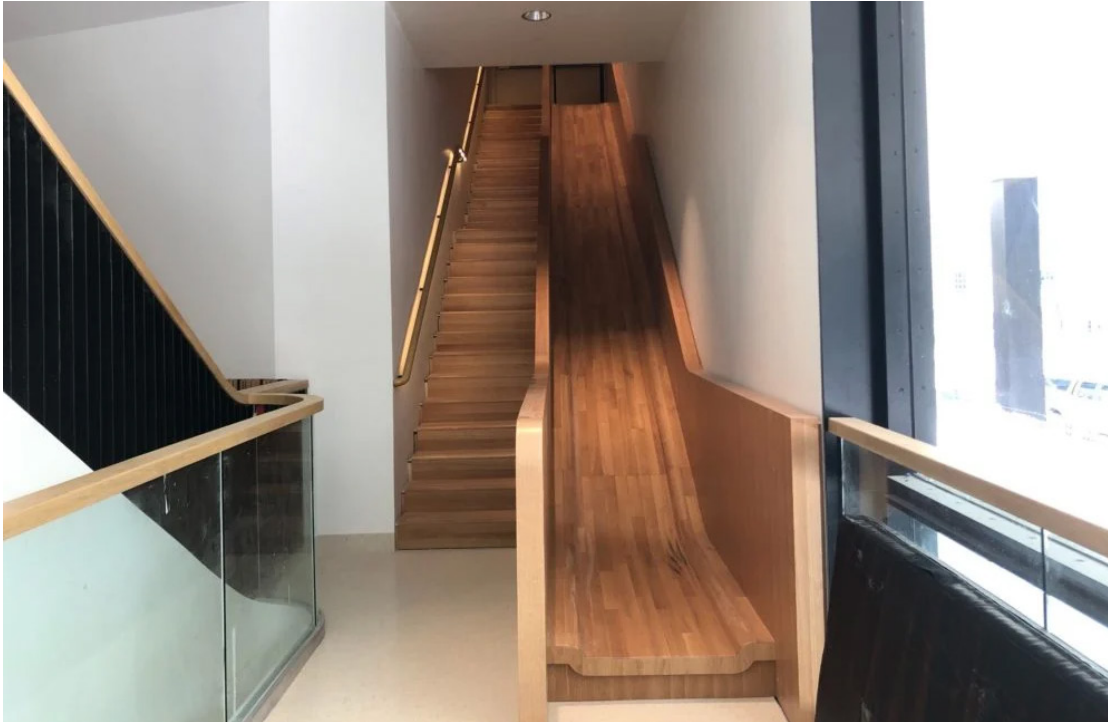


**National Museum of African American History and Culture: Washington, D.C.**



**Philadelphia City Hall- Dilworth Park: Philadelphia, PA**





**Martin Luther King Jr. Memorial Library: Washington, D.C.**



**Martin Luther King Jr. Memorial Library: Washington, D.C.**

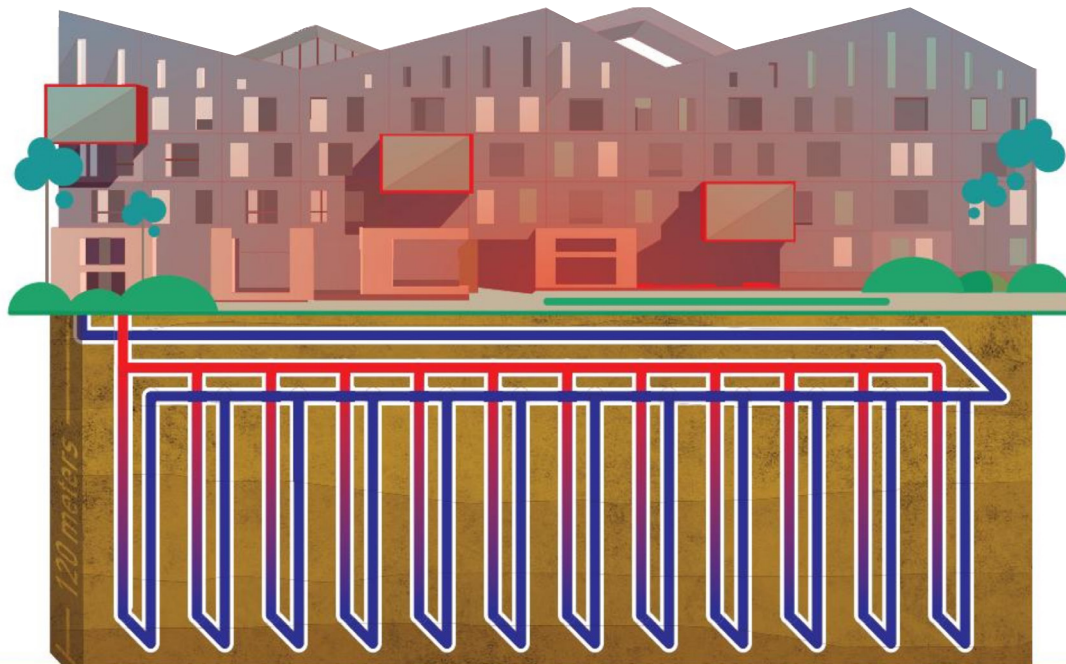




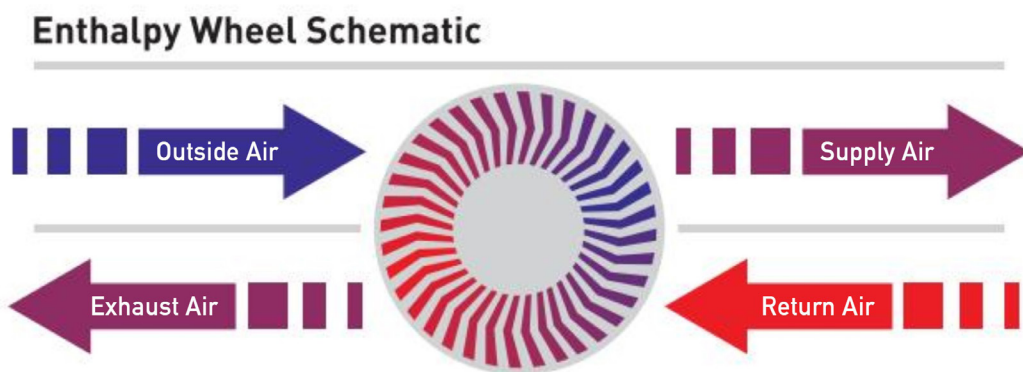
**Salt Lake City Public Library:** Salt Lake City, UT



**Salt Lake City Public Library:** Salt Lake City, UT



**Geothermal System-** American University of Central Asia- HMA2 Architects: Bishkek, Kyrgyzstan

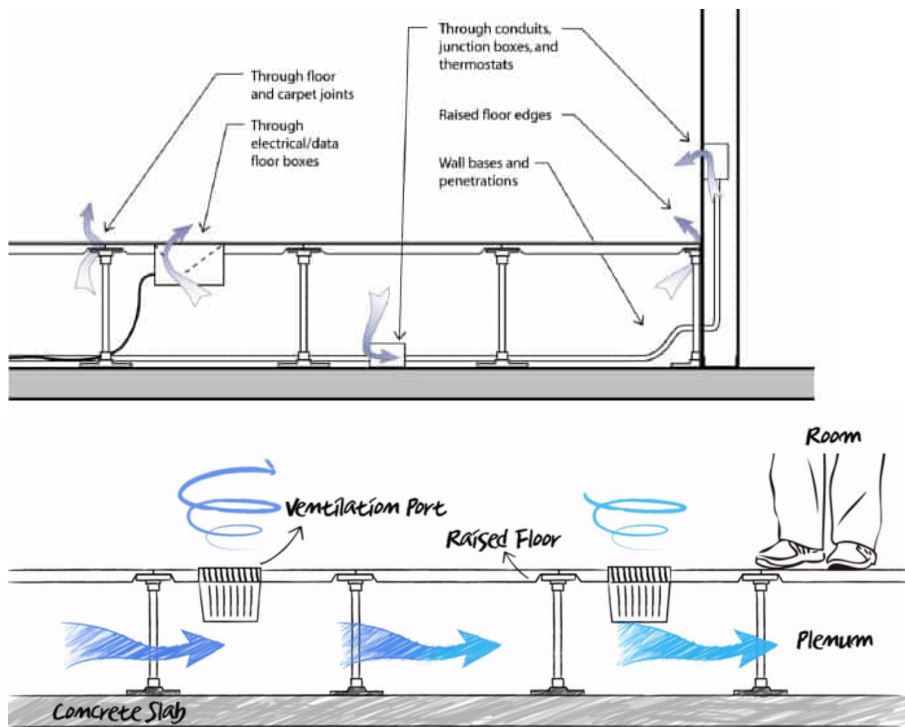


**Energy Recovery Ventilator-** American University of Central Asia- HMA2 Architects: Bishkek, Kyrgyzstan



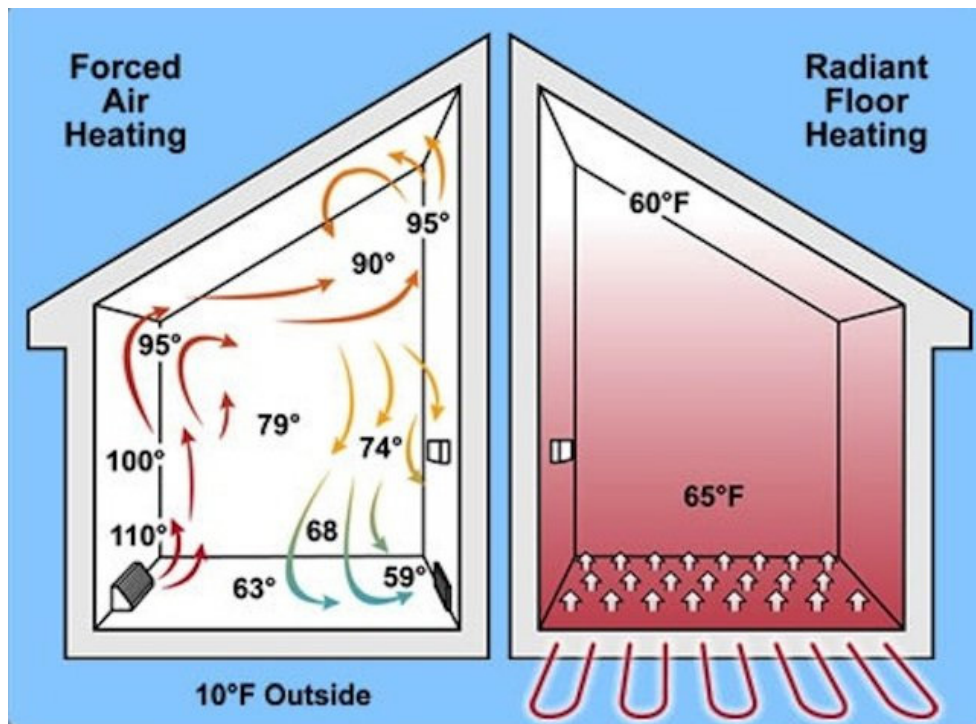


**Solar Panels-** The Westport Library- HMA2 Architects: Westport, CT

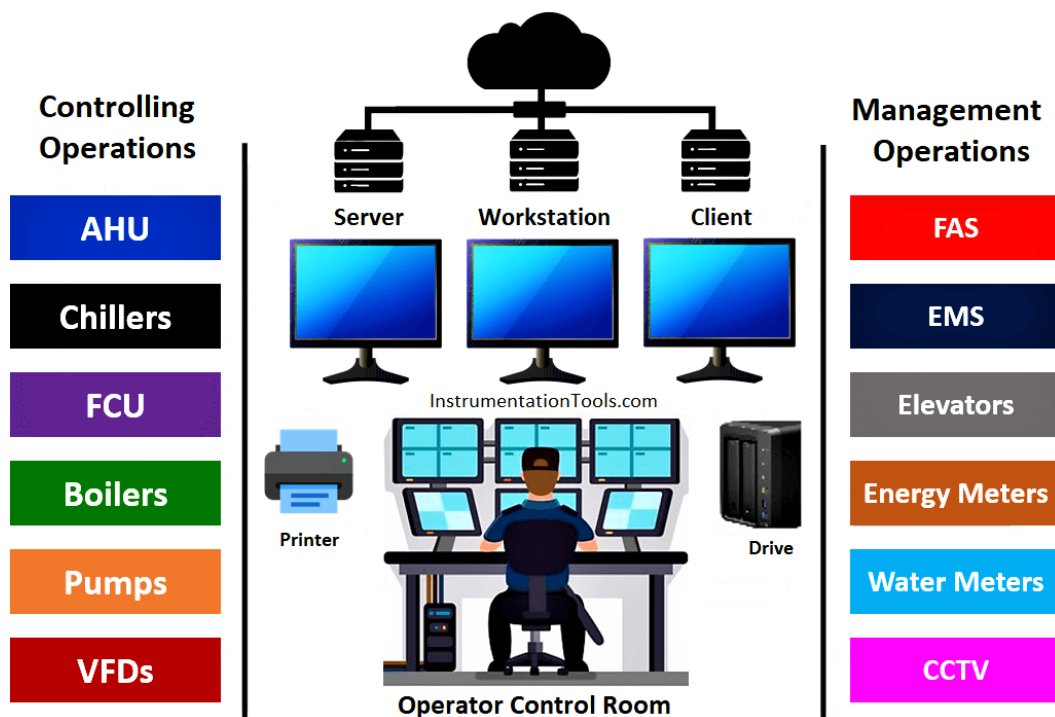


**Raised Floor System-** The Westport Library- HMA2 Architects: Westport, CT

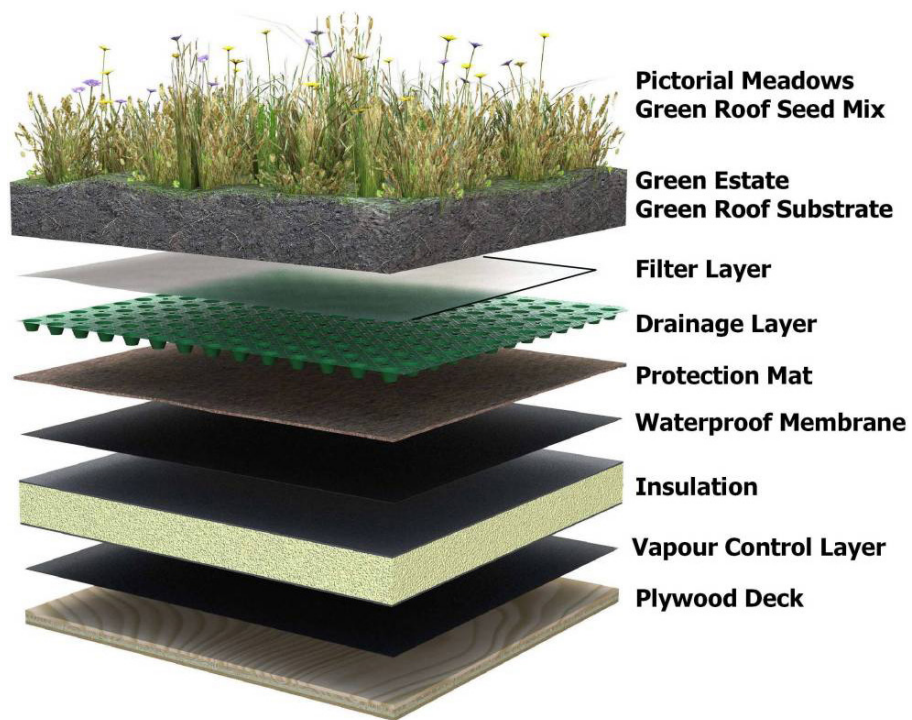




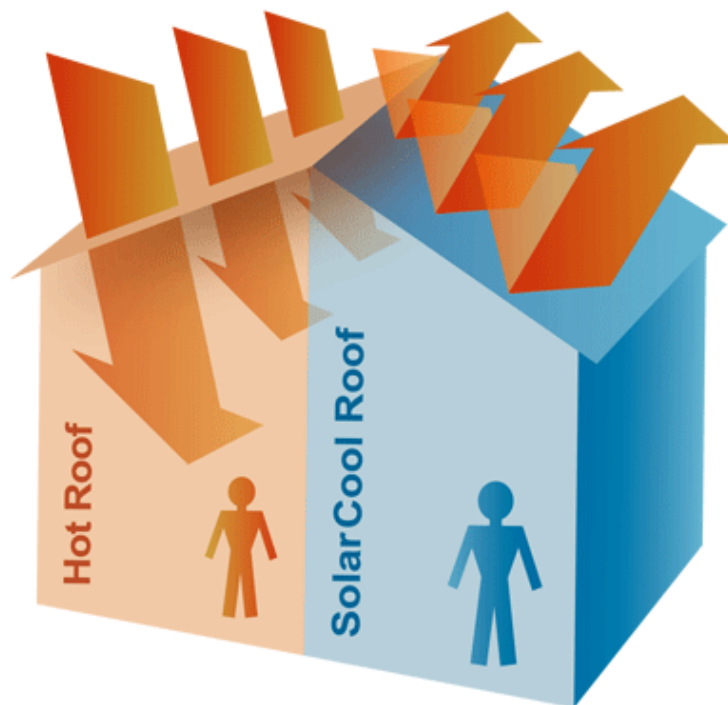
Radiant heating and cooling- American University of Central Asia- HMA2 Architects: Bishkek, Kyrgyzstan



Building Management System- The Westport Library: Westport, CT



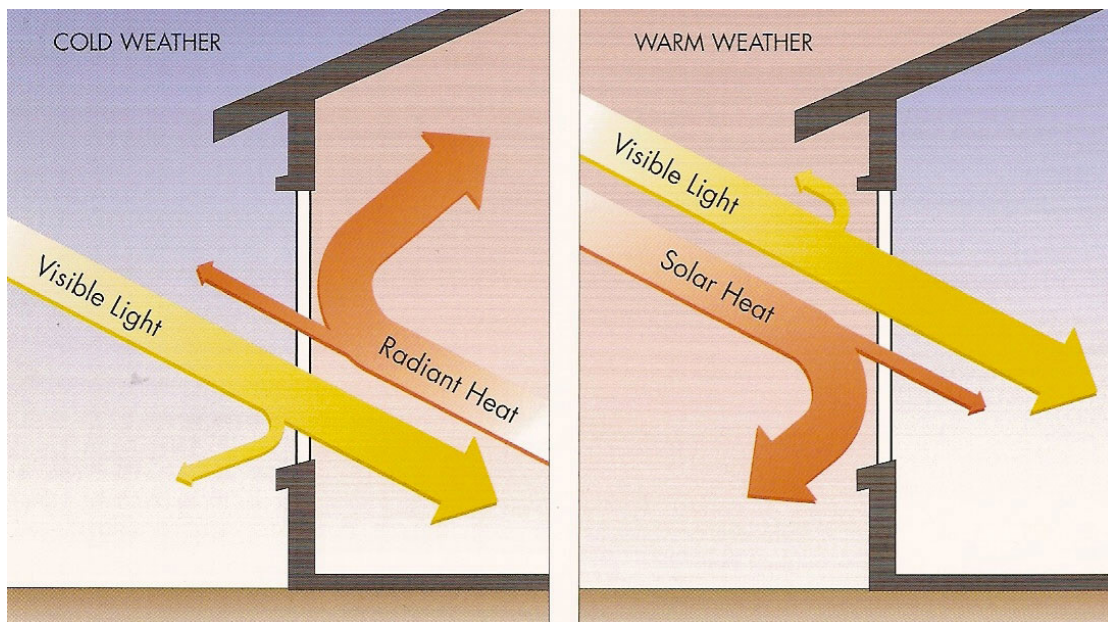
**Green Roofs**



**Cool Roof-** American University of Central Asia- HMA2 Architects Bishkek, Kyrgyzstan

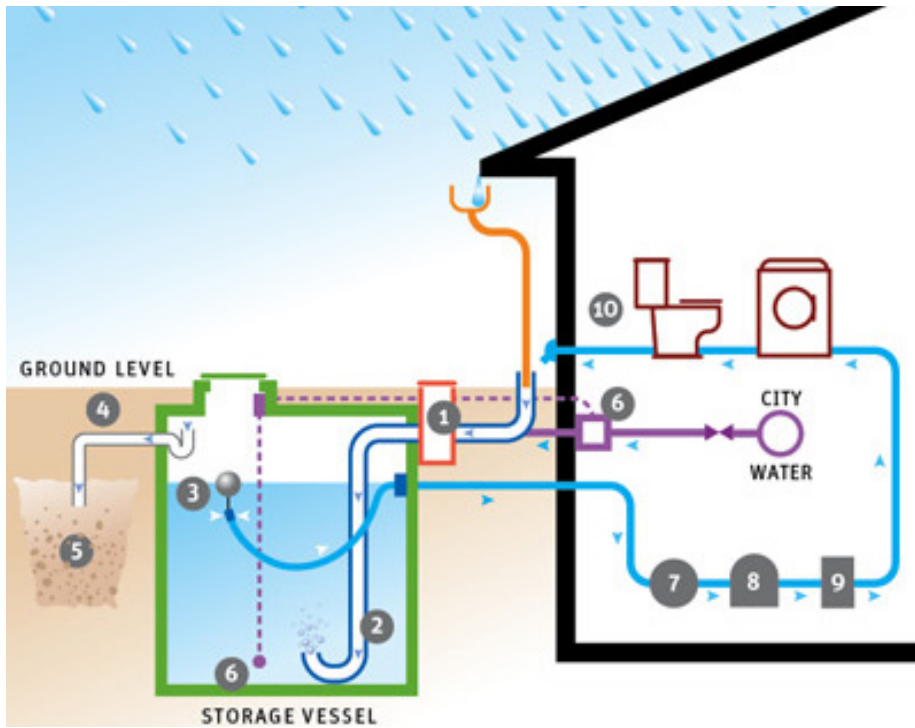


**Daylight Harvesting + Occupancy Sensors:** The Westport Library: Westport, CT

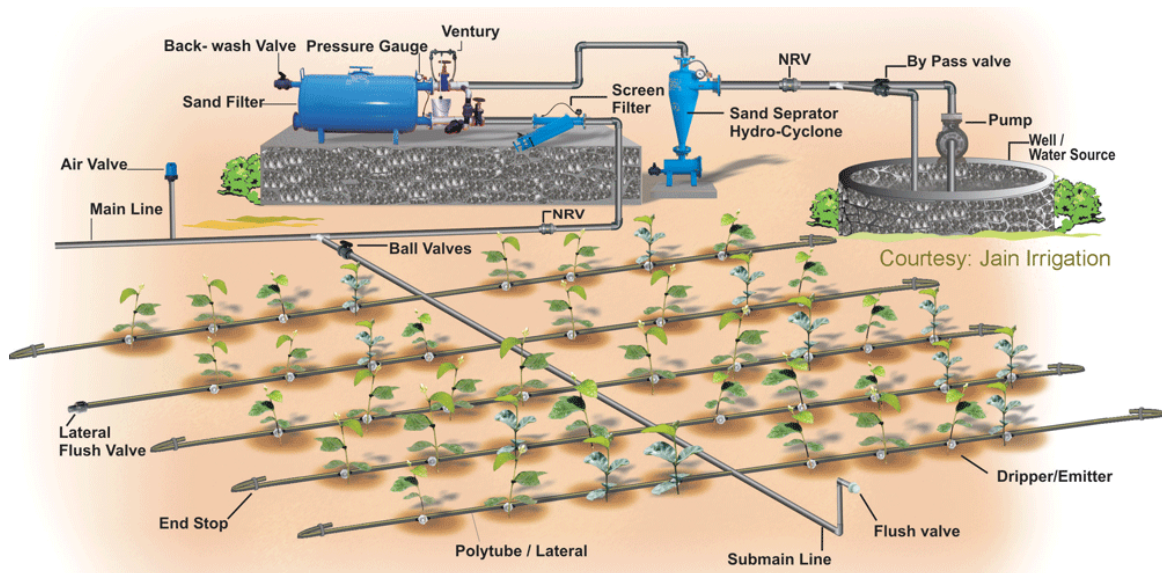


**Low-E Glass-** American University of Central Asia- HMA2 Architects: Bishkek, Kyrgyzstan





**Rainwater Harvesting**



**Drip irrigation-** American University of Central Asia- HMA2 Architects: Bishkek, Kyrgyzstan