

# Belmont Public Library

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Library Building Committee Meeting #2  
January 17, 2023





## **Design Update Agenda**

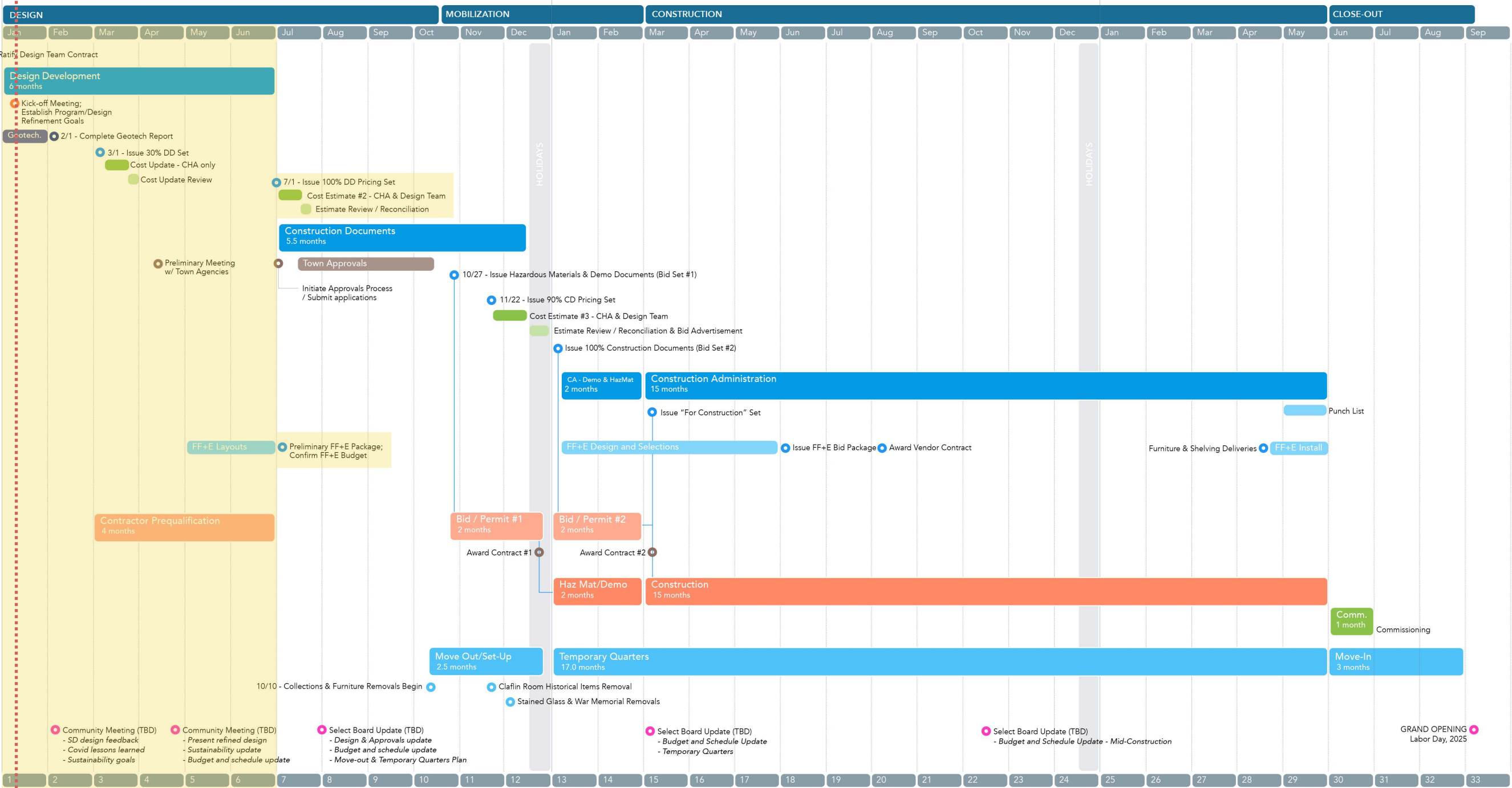
1. Design Development Schedule & Goals
2. Program & Design Refinements
3. Ongoing Consultant Work
4. BIM Model Preparation

We are here

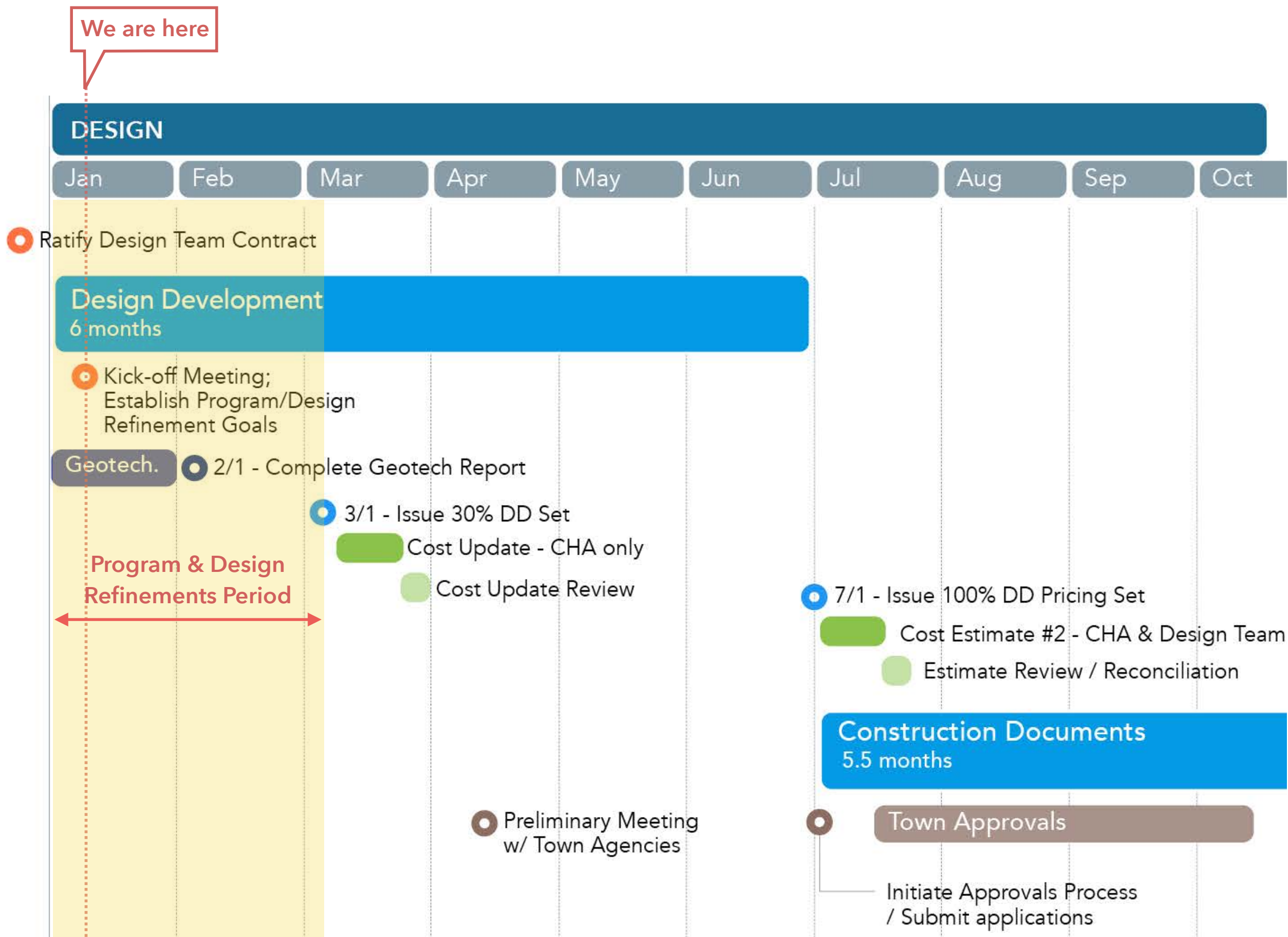
2023

2024

2025



# Project Schedule Overall



1. Public feedback since 2019
2. Changes to programming, staffing, operations since 2019
3. Covid lessons learned
4. Collection size and shelving refinements
5. Incorporate SD code review
6. Incorporate SD VE items

## 1. Building

- Building is too big. Can it be more efficient and scaled back including a larger setback from Concord Ave?
- Building is too open. Prioritizes socialization over other other library functions (i.e. need more space allocated to quiet areas and study carrels).
- Building has too much glass. Concerns about cost, maintenance, glare and heating/cooling loads.
- Commons stair is wasteful. There are accessibility and safety challenges if it is a primary stair and seating area.
- Commons double height space is not efficient. Poor acoustics and clerestory glass is difficult to maintain.
- Children's Room is too far from the entrance and parking, current location accessible from parking is ideal.
- Children's Room restroom sensory considerations (i.e. hand dryer, toilet auto flush).
- Reading Porch is not functional year round, would prefer more indoor space. Others have voiced support of outdoor space accessible from the building.
- Meeting Room activity should be separated so it doesn't disrupt rest of library and can be rented.
- Add bi-fold doors from large meeting room to terrace, usable during Covid and rentable for functions.
- Add space for children to eat and space for a cafe in lieu of vending machines.
- Add gallery space.
- Clarify square footage comparisons between and existing library (i.e. by category: staff, circulation, etc).

## 2. Site

- Need more parking. No increase in parking spaces despite larger building.
- Need safe crossing for pedestrians across Concord Avenue.
- Add covered bicycle parking.
- Consider outdoor working space with tables and chairs, possibly heat lamps instead of just landscaped areas.
- Clarify number and type of parking spaces (i.e staff parking, handicapped and van accessible spaces, stall and aisle dimensions, street parking on Concord Ave).

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### 3. Accessibility

- Need an accessibility review with experts and the Belmont Disability Access Commission.
- Building and site should be designed for true accessibility not just code/regulatory minimums.
- Commons stair is not accessible as a seating/gathering place. Can it be made accessible?
- Is one elevator sufficient? Suggest having two, also a glass lift at the Commons stair.

### 4. Sustainability

- Reduce glass.
- Have stormwater runoff and Wellington Brook water level been accounted for?
- Is there a commitment to solar panels or will they be subject to cost cutting?
- Consider Power Purchase Agreement (PPA) for solar panels.
- Consider geothermal.

### 5. Local History

- Round window from original “Bellmont” estate may be in town storage, potentially install in new building.
- Consider outdoor two chess tables to honor Harold Dondis.

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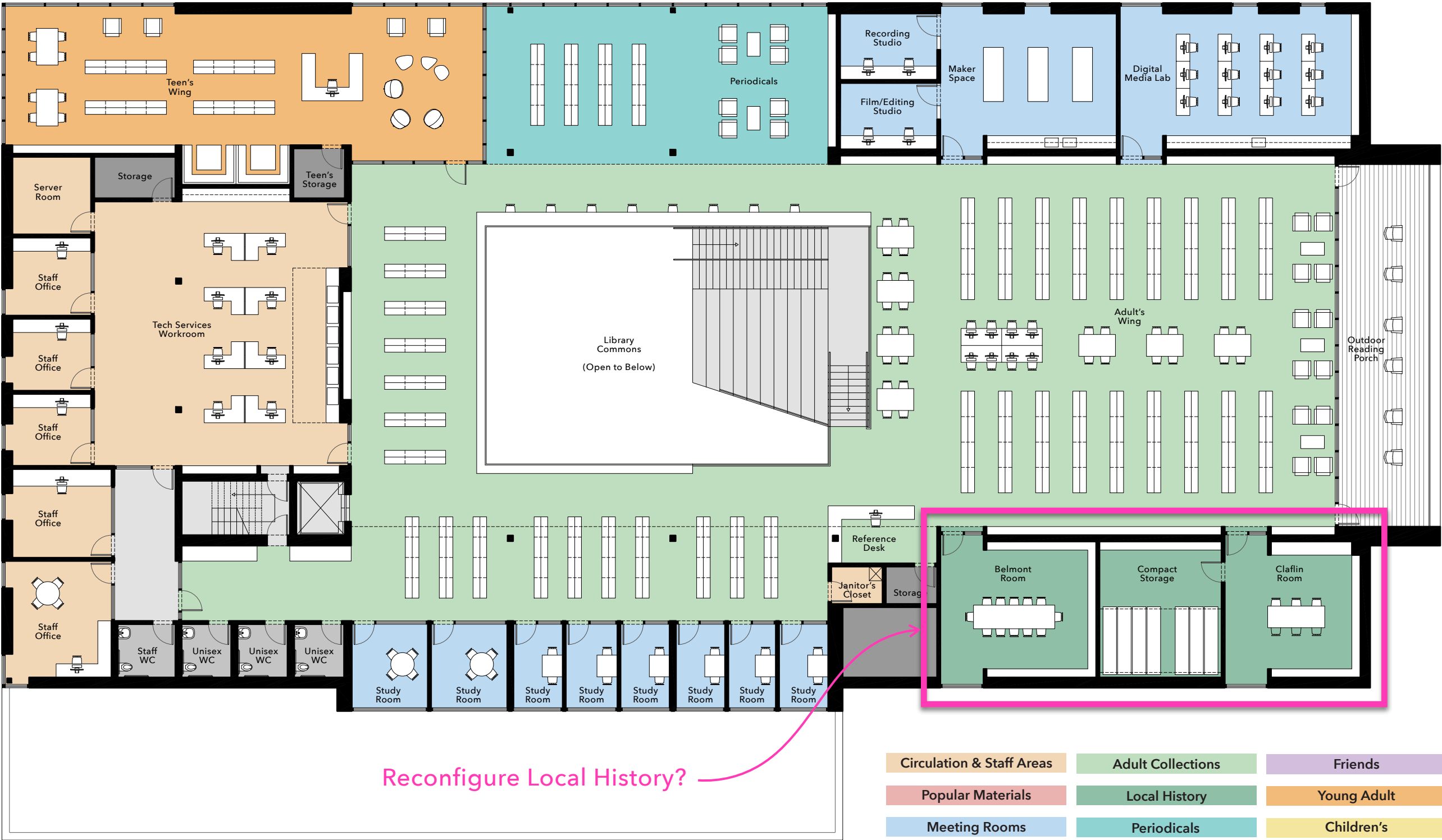


Ground Floor Plan

Revise Stair?



Second Floor Plan



# Library Space

A PLANNING RESOURCE FOR LIBRARIANS

## Pandemic Considerations for Library Design

Within a short period of time, the coronavirus pandemic has prompted designers and engineers to rethink their approach to interior spaces, exterior spaces, and mechanical systems for public buildings. Many predict that the current situation may not be an isolated incident in our lifetime, meaning that buildings and spaces require the capability to shift rapidly to a mode that responds to the threat at hand, fostering the health and well-being of its occupants. What we know about COVID-19 is that it is primarily spread through airborne droplets and aerosols. Limiting proximity between individuals, wearing masks properly, washing hands frequently, and limiting the time of exposure to non-household members are all strategies that curb the spread. There are also strategies we can employ in our physical spaces to encourage and facilitate best practices.

Much of how a library building operates in a pandemic is reliant upon the age, configuration, and condition of the facility; every building and every community's needs and preferences are different. However, whatever service model is adopted must comply with the Americans with Disabilities Act (ADA) and provide reasonable accommodation for all. In addition to being inclusive, the facility needs to also be functional in both interior spaces and the site itself.

## Flexibility - Even More Essential

Page 16 of the original resource addresses the importance of flexibility in planning, and the pandemic has highlighted this need. Consider these points:

- Modular service desks can be reconfigured or moved to other areas of the building to act as an access point or a barrier
- Service desks should be designed to accommodate temporary, removable clear acrylic partitions - though their effectiveness is debated, it's an option that many prefer
- Mobile shelving can be reconfigured to facilitate distancing as required
- Two-person study tables are easier to reconfigure than traditional larger ones
- Increased storage should be planned for furniture when distance is needed and/or lingering discouraged
- Clear sightlines are critical to facilitate services while enabling distance between individuals and groups
- Intuitive wayfinding through colors, symbols, and signage reduces the need for close contact between patrons & staff
- Self-service can reduce close contact between staff and patrons
  - Self-check
  - Laptop lockers
  - After-hours pickup lockers
- Mobile technology allows physical distance
- Furniture choices should be easy to clean, with materials such as hospital-grade upholstery



## Functional, Safe Interiors

Interior spaces often require reconfiguration for safety during a pandemic. Close attention to indoor air quality is also recommended.

- Denote unidirectional foot traffic patterns for entrances, exits, stairwells, and collection areas. Use floor markers and barriers as needed
- Add signage indicating capacity limits in spaces, including elevators
- Reconfigure mobile shelving to facilitate distancing as required
- Remove furniture and equipment to facilitate distancing and discourage lingering
- Assess and upgrade indoor air quality and HVAC:
  - Have your HVAC system assessed by a professional engineer
  - Flush the building two hours before and after occupancy
  - Properly install true MERV-13 (not MERV-13-A) or higher filters with no gaps
  - If the fans and ducts cannot handle MERV-13, or there is no mechanical ventilation, use standalone or fixed HEPA units
  - Mechanical (controlled) ventilation is more effective than natural (operable windows)

## Enhanced Exterior Spaces

For the outdoor environment, protection from the elements is the paramount concern while providing access to materials through curbside pickup and/or pop-up collections.

- Use durable temporary shelters to protect staff and library materials if a permanent solution, such as a covered walkway/porch or awning, isn't possible
- Provide patio heaters for cooler days when staff is stationed outside
- Extend robust wi-fi and provide seating for use of library-owned or person mobile devices outside the building
- Add drive-up windows and/or drive-through book drops
- Provide outdoor lockers with codes for contactless pick-up service
- Open vestibules to the outside with folding storefront doors or other techniques, creating an indoor/outdoor connection
- Maximize the use of parking lots and other outdoor spaces around the library for services and programming

For the original *Library Space: A Planning Guide for Librarians*, please visit <https://mblic.state.ma.us/libraryspace>

CURRENT COLLECTION

	SHELVING COUNT (LF)*	Volumes/LF MULTIPLIER	VOLUME COUNT
ADULTS	8,775	10	87,753
TEENS	603	12	7,233
CHILDREN	2,015	20	40,309
TOTAL VOLUME COUNT			135,295

\*Estimate using Volumes/LF multiplier

OEA PROPOSED DESIGN

Schematic Design - December 2019

	SHELVING COUNT (LF)	Volumes/LF MULTIPLIER	VOLUME CAPACITY	DELTA
ADULTS	6,687	10	66,870	(20,883)
TEENS	552	12	6,624	(609)
CHILDREN	2,050	20	41,000	691
TOTAL VOLUME CAPACITY			114,494	
DIFFERENCE			-20,801	

### **Building Exterior** (\$217,823 TARGET SAVINGS)

- Substitute brick veneer (BR1) for brick panel (BR2) at south and east facades
- Substitute gravel/ballast roof for green roof
- Reduce window height at Quiet Study Rooms
- Reduce overall façade system costs (target: 2% of curtain wall, brick panel/veneer, and metal panel cladding cost)
- Eliminate Barrier One Admixture at slab-on-grade

### **Building Interior** (\$365,011 TARGET SAVINGS)

- Lighting Spec Reduction (10%)
- Flooring Spec Reduction (10%)
- Ceiling Spec Reduction (15%)

### **Site Work** (\$270,646 TARGET SAVINGS)

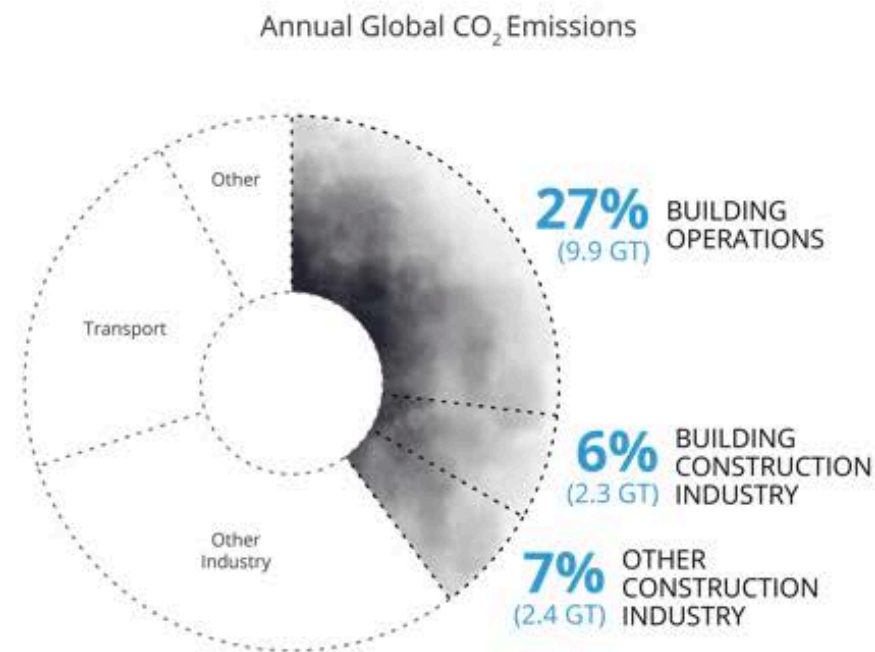
- Substitute conventional bituminous concrete for raised wood bridge
- Substitute conventional bituminous concrete for porous bituminous concrete path
- Substitute conventional bituminous concrete for pavers western bank of parking spaces
- Substitute conventional bituminous concrete for pavers eastern bank of parking spaces
- Substitute conventional bituminous concrete for pavers at drop-off aisle
- Reduce quantity of perennial mix plantings by 20% (replace with lawn)
- Reduce quantity of wood benches by 25%

**Program & Design Refinements** Incorporate SD VE Items (5% Direct Cost Target)



1. Accessibility Review (KMA - Accessibility Consultant)
2. Mass Timber Study (LeMessurier - Structural Engineer)

## THE BUILT ENVIRONMENT



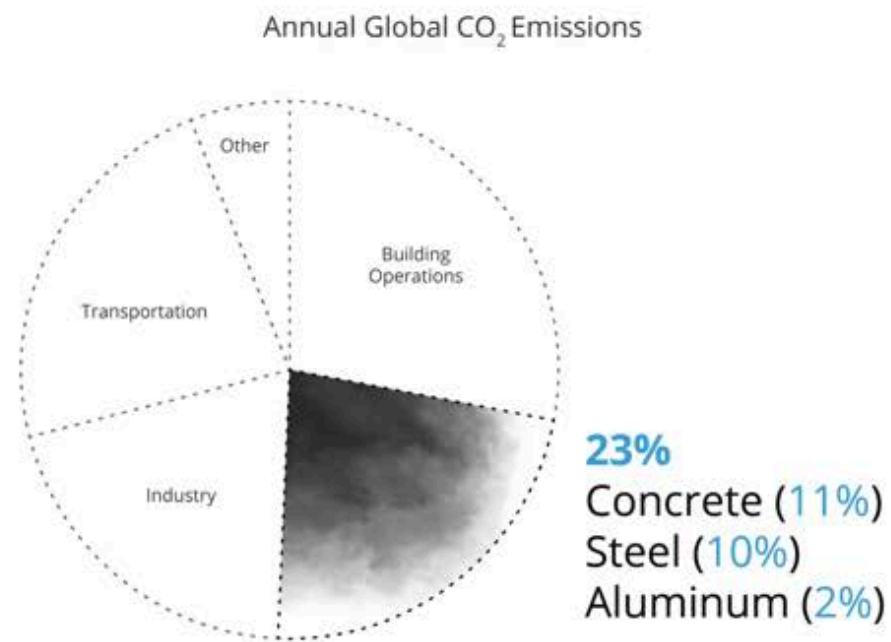
© Architecture 2030. All Rights Reserved. Data Source: IEA (2022), Buildings, IEA, Paris

*Building Construction Industry and Other Construction Industry represent emissions from concrete, steel, and aluminum for buildings and infrastructure respectively.*

**The built environment generates 40% of annual global CO<sub>2</sub> emissions.**

Of those total emissions, building operations are responsible for 27% annually, while building and infrastructure materials and construction (typically referred to as embodied carbon) are responsible for an additional 13% annually.

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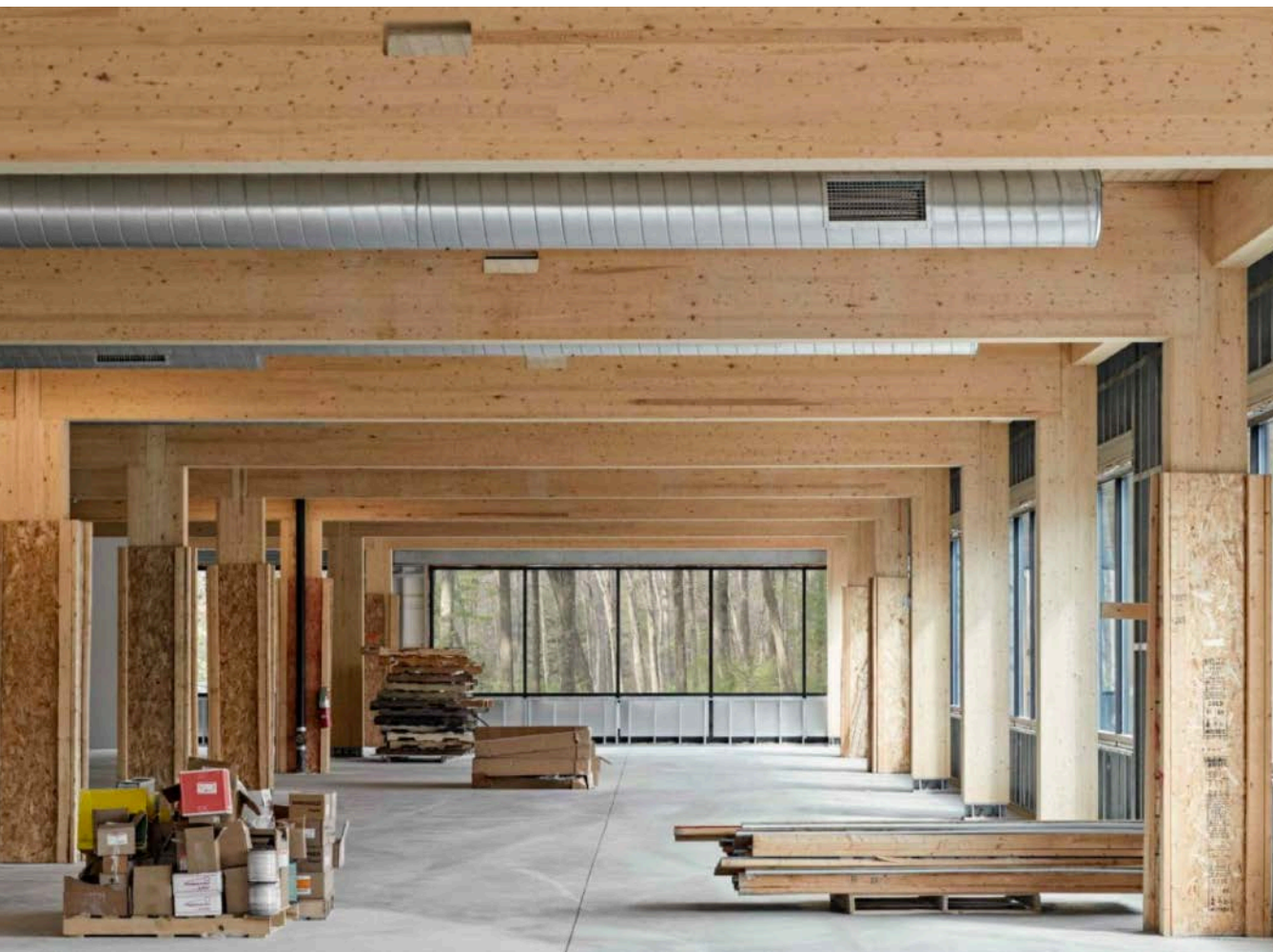


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Data Sources: Global ABC Global Status Report 2018, EIA

**Just three materials – concrete, steel, and aluminum – are responsible for 23% of total global emissions (most of this used in the built environment).**

There is incredible opportunity for embodied carbon reduction in these **high-impact** materials through policy, design, material selection, and specification.







LeM

NOT FOR CONSTRUCTION

BEVONT PUBLIC LIBRARY  
336 Concord Ave, Belmont, MA 02478

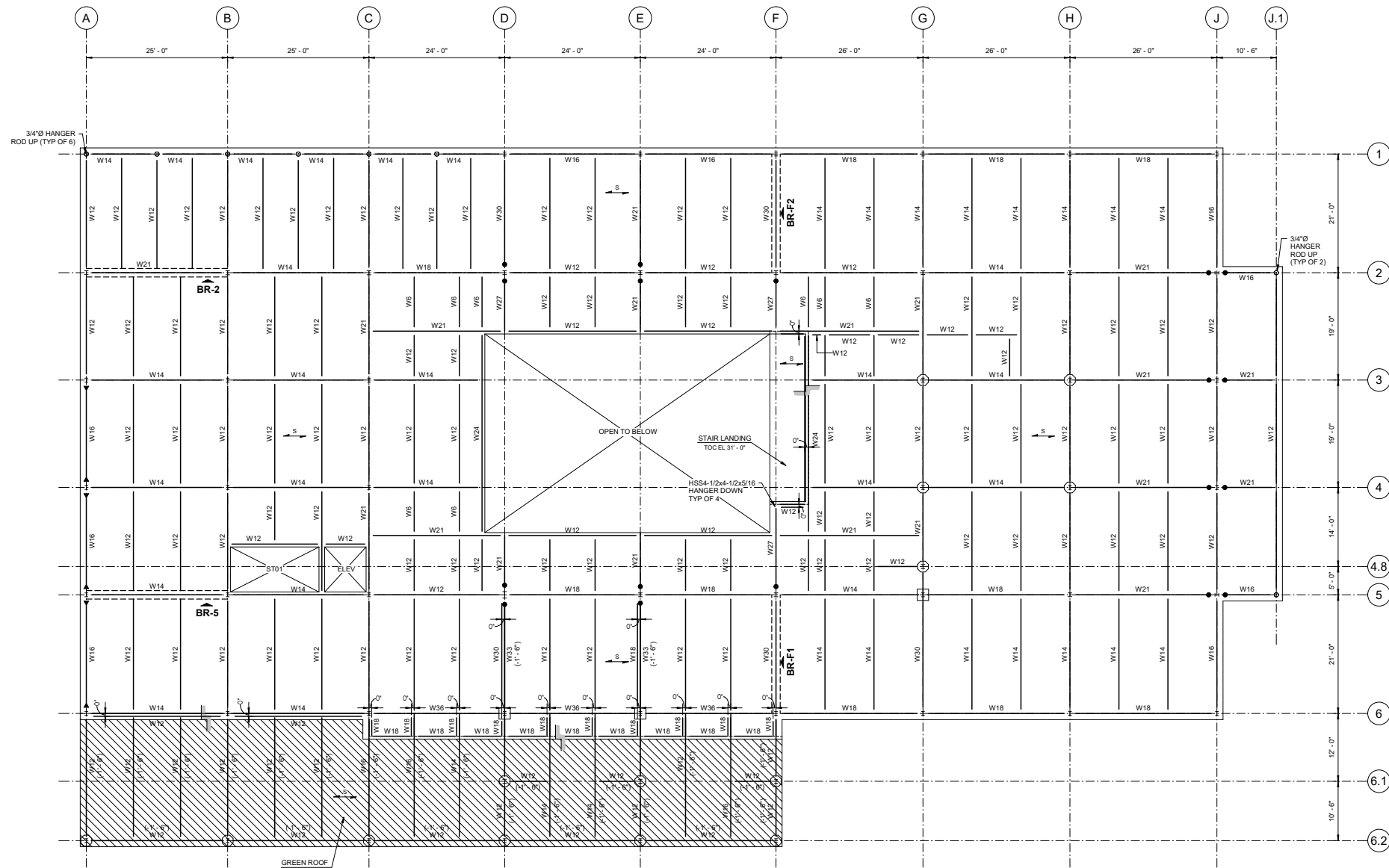
Oudens Eto Architecture, LLC  
1617.422.0980 / 617.422.0981

Revision:	Date:
SD Check Set	07.13.19
SD Cost Estimate Set	08.09.19

Sheet Title:
LEVEL 2 FRAMING PLAN

Drawn:	Scale:	Drawn:	TAF
07.13.19	As Indicated	07.13.19	APB

Sheet No: **S**  
**1.02**



USE THE FOLLOWING INFORMATION FOR ESTIMATING QUANTITIES:

1. SLAB TO BE REINFORCED WITH WWF6x2x2.1
2. ESTIMATED STEEL TONNAGE:  
9 POUNDS PER SQUARE FOOT, PLUS  
STEEL BRACES (SEE ELEVATIONS), PLUS  
10% FOR CONNECTIONS & MISC MATERIAL, PLUS  
COLUMNS (SEE SCHEDULE)

**1** LEVEL 2 FRAMING PLAN  
SCALE: 1/8" = 1'-0"

LEVEL 2

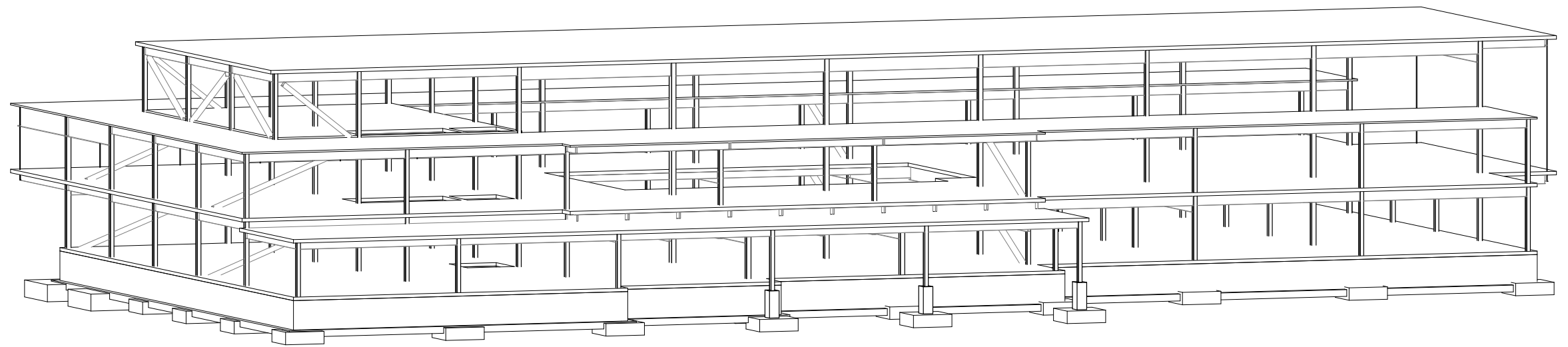
1. SLAB CONSTRUCTION SHALL BE 3 1/4" LIGHTWEIGHT CONCRETE ON 3" METAL DECK. (TOTAL THICKNESS = 6 1/4").

INDICATES WHERE SLAB CONSTRUCTION SHALL BE 3 1/4" LIGHTWEIGHT CONCRETE ON 3", 16 GAUGE, GALVANIZED STEEL ROOF DECK.

3. TOP OF CONCRETE AT ELEVATION 37'-0", UNLESS NOTED OTHERWISE. TOP OF STEEL AT ELEVATION 36'-5 3/4", UNLESS NOTED (+) OR (-) ON PLAN.

NOTES (GENERAL):

1. FOR GENERAL NOTES AND ABBREVIATIONS, SEE DRAWINGS S0.01 THRU S0.XX. FOR TYPICAL DETAILS, SEE DRAWINGS S0.XX THRU S0.XX.
2. FOR COLUMN SCHEDULE AND DETAILS SEE DRAWING S2.01.
3. INDICATES SPAN DIRECTION OF COMPOSITE DECK.
4. INDICATES SPAN DIRECTION OF STEEL ROOF DECK.
5. BR-1, ETC. INDICATES BRACING. SEE ELEVATIONS ON DRAWINGS S2.21.
6. FOR BEAM EXPLANATION DIAGRAM SEE DETAIL X ON DRAWING S0.XX.
7. INDICATES MOMENT CONNECTION. SEE DETAIL X ON DRAWING S0.XX.
8. INDICATES MOMENT FRAME CONNECTION. SEE DETAIL X ON DRAWING S0.XX.
9. INDICATES OPENING IN WEB OF BEAM. SEE DETAIL X ON DRAWING S0.XX.
10. INDICATES SHEAR PLATE CONNECTION. SEE DETAIL X ON DRAWING S0.XX.
11. INDICATES STEP IN STRUCTURAL SLAB. SEE DETAIL X ON DRAWING S0.XX.





Oudens Ello Architecture