

# City of Duluth Public Library

*Summary Design Report*

*October 2020*



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## 01 PROJECT PARTICIPANTS

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### City of Duluth

Carla Powers, Library Manager  
Jim Filby Williams, Director of Public Administration  
Erik Birkeland, Property and Facilities Manager

### McGough

Hali DuShane, Estimator  
Jim Frisell, Executive Vice President, Duluth

### TKDA

Kenneth Johnson, AIA  
Corey Beste, Architectural Designer  
Todd Volkmeier, Senior Electrical Engineer PE  
Steve Fluger, Senior Mechanical Designer

### Gensler

Sara Rothholz Weiner, AIA, LEED AP  
Jeff Walz, AIA, LEED AP, WELL  
Abby Menacher, CID  
Jessie Bauldry, AIA

## 02 PROJECT OVERVIEW

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### Conceptual Design for Improvements

In May 2020, after discussion prior to Covid-19 and over several months, the City of Duluth engaged Gensler and TKDA to develop a Conceptual Design for improvements at the City of Duluth Public Library (downtown Main Library) to address:

- Code and accessibility compliance,
- Energy efficiency solutions for mechanical, electrical and lighting upgrades
- Changing public programmatic needs and requirements,
- Exterior skin renovation,
- New roof,
- Improved flow of operations and consolidation of staff areas,
- Improved self service zones for the public for check out, printing and scanning,
- Re-stack of program spaces that provide for an improved service model, intuitive wayfinding and public access,
- Increased access to power ports for the public and integrated technology,
- Sustainability and energy efficiency,
- Improved access to daylight,
- Improved Youth Services spaces with addition of Maker Space and Learning Spaces
- Addition of a variety of sizes of meeting spaces

### Designing Within the Existing Library Footprint

Importantly, this new planning addresses community needs by leveraging the site, daylight, views and orientation and improves functional adjacencies by re-stacking the spaces within the envelope of the building. No work is anticipated to the overall structure of the facility. This concept keeps the stair and intact and does not include any addition to the footprint.

### Extending Library Program Areas & Enclosure of Plaza

Studies for enclosing the open adjacent plaza area to function as an extension of the library for a variety of programming uses including event areas, re-work of the Michigan Street Lower Level entry to the library, potential addition of restrooms, added electrical power access areas and extended WIFI to enable extension of the library spaces, and as a play area with playground equipment, were explored and are included in this summary design report. City of Duluth determined that this scope would not be explored further at this time and a cost estimate was not prepared for it.

### Library Response to COVID-19 During the Time of Study

Importantly during this study, the City of Duluth and Duluth Public Library were in the midst of responding to Covid-19. They showed great flexibility and resilience in their response.

- March 16, 2020. City announces that all its buildings would close to the public until further notice
- March 17, 2020. Staff had one day to vacate buildings and prepare to work from home if possible
- April 10, 2020. All temps were laid off, which included 16 individuals who shelved, processed materials, and drove the delivery van
- April 20, 2020. Mayor announces that DPL would begin offering curbside pickup
- May 8, 2020. City notifies 25 library staff members they would be temporarily laid off
- Curbside pickup by appointment was launched. Later the service model was streamlined, and new software was purchased to eliminate the need for appointments
- August 2020. Six staff members were called back. Community use of no appointment curbside pickup is strong. Staff of 65 has been reduced to 28.

### Projected Schedule

The work that is represented in this Conceptual Design is projected to be in construction Spring 2023. Therefore, we proceeded with an understanding that preparedness, safety and wellness, a less touch environment, potential for social distancing and efficiency were paramount for the design.

### Interim Design Concepts in Response to COVID-19

Towards the finalization of the study, Carla Powers and Sara Rothholz Weiner prepared a presentation and presented at the Minnesota Library Association's Annual Conference. At that time, scenarios for an interim response to Covid-19 for Duluth Public Library were explored (outside yet related to the scope of the Concept Design work) and shared at the conference. The related slides from the presentation deck that directly related to planning for Duluth Public Library for interim solutions are included in the Appendix.

## 02 PROJECT OVERVIEW

### Mission

The Duluth Public Library strengthens by promoting the love of reading and life-long discovery, helping ensure children are ready and excited to learn, offering robust connections to the digital world, and providing a creative and welcoming environment for all.



#### Customer Service

We welcome people and treat them with friendliness and respect

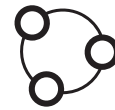


#### Intellectual Freedom

We provide information representing all points of view in books and other formats. We recognize each individual's right to access information. We respect the privacy of library users

### Vision

The Library is recognized throughout the community as an invaluable resource in providing reading, early literacy, lifelong learning, digital access, and creative and cultural materials and services.



#### Access & Inclusion

We work to ensure equal access for all. We build, foster, and maintain a climate that is inclusive.



#### Community Service & Partnerships

We provide resources and services to meet community needs. We partner with other organizations to leverage our local resources. We are a vital and indispensable part of our community



#### Creativity & Innovation

We support creativity in the workplace and work together to better serve the community. We use technology to increase access to information and to work more efficiently

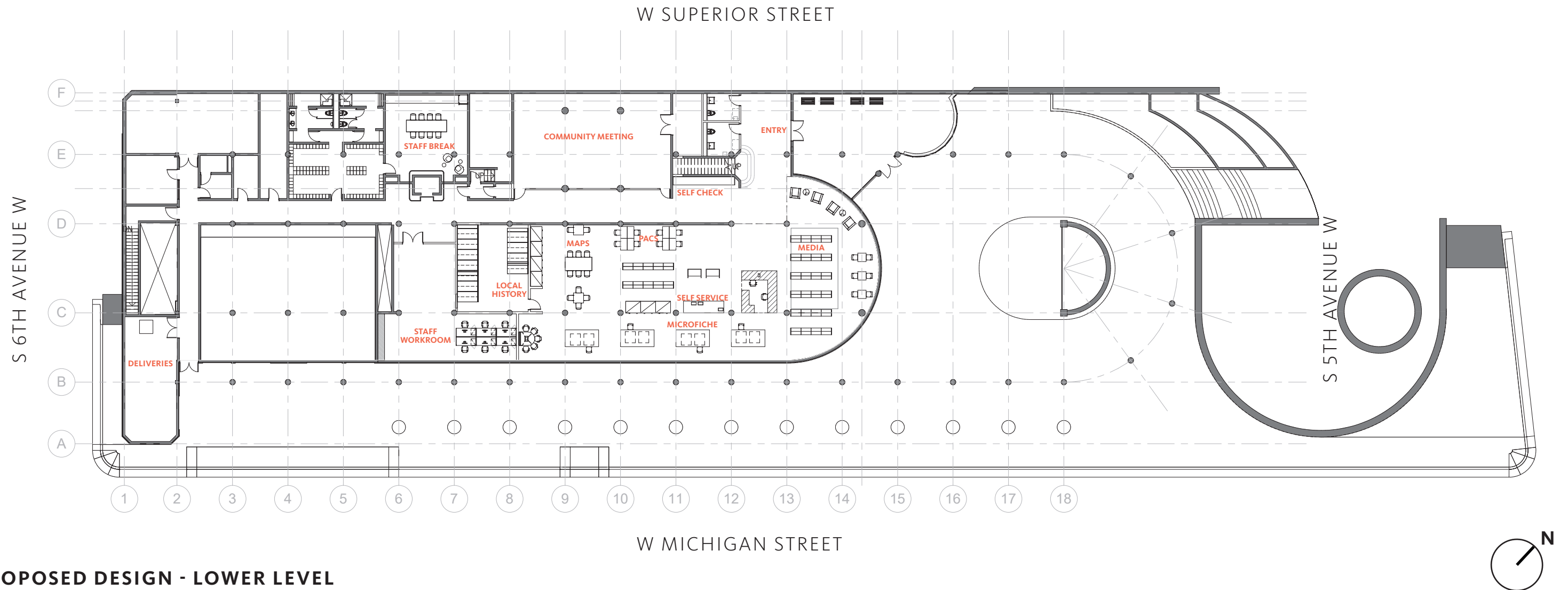
## 03 PLANNING PROCESS

In preparation of commencing the project, site visits with staff and meetings with City of Duluth took place prior to Covid-10, the project was then delayed as the State responded to the pandemic. It restarted in June 2020 with a Library Staff virtual engagement workshop addressing guiding principles for the project; design objectives; review and critique of functional aspects of the existing library spaces; future potential uses and vision. A second Library Staff virtual engagement workshop took place in July 2020 in order to receive input from staff on the design initiatives that were being tested as it related to re-stacking the library spaces and responding to their comments in June.

Development of the design continued with regular meetings of City of Duluth, Duluth Library, TKDA, McGough and Gensler through the Summer and Fall of 2020.

A cost estimate based on the documents in this Summary were utilized by McGough to develop their Opinion of Probable Cost for the project.

## 04 LIBRARY PLANNING

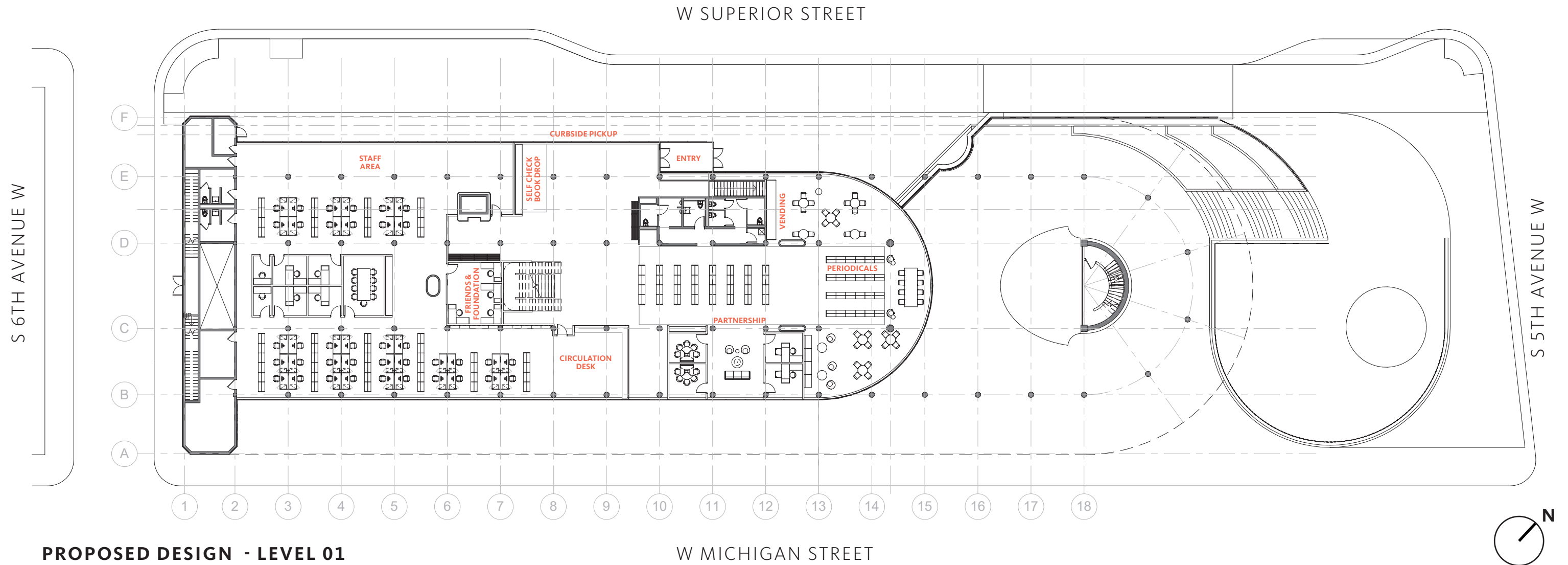


### PROPOSED DESIGN - LOWER LEVEL

not to scale

- Re-imagined Lower Level.
- Increased vestibule accessed from Michigan Street side.
- All Gender restrooms are reoriented for increased visibility and remodeled .
- Planned to accommodate Media Collection, Local History Collection, Ready reserves, Public Access Computers and Business Center self-service zone for copies and self-check. This new planning addresses potential synergies with the Depot and History Museum which are located across the street. Easy on-street parking accommodates the public who prefer to expediently retrieve and check out media and reserves.
- Staff Service Desk oriented as a welcoming greeter with visible access to the entry and the rest of the public area.
- Additional self-check easily accessed at this level.
- Local History collection remains secured.
- Added two Staff workrooms adjacent to Loading to address deliveries and materials processing.
- Remodel of staff breakroom.
- Seating to accommodate diversity of learner types and group study. Lounge seating takes advantage of views to the adjacent plaza, views and daylight.

## 04 LIBRARY PLANNING

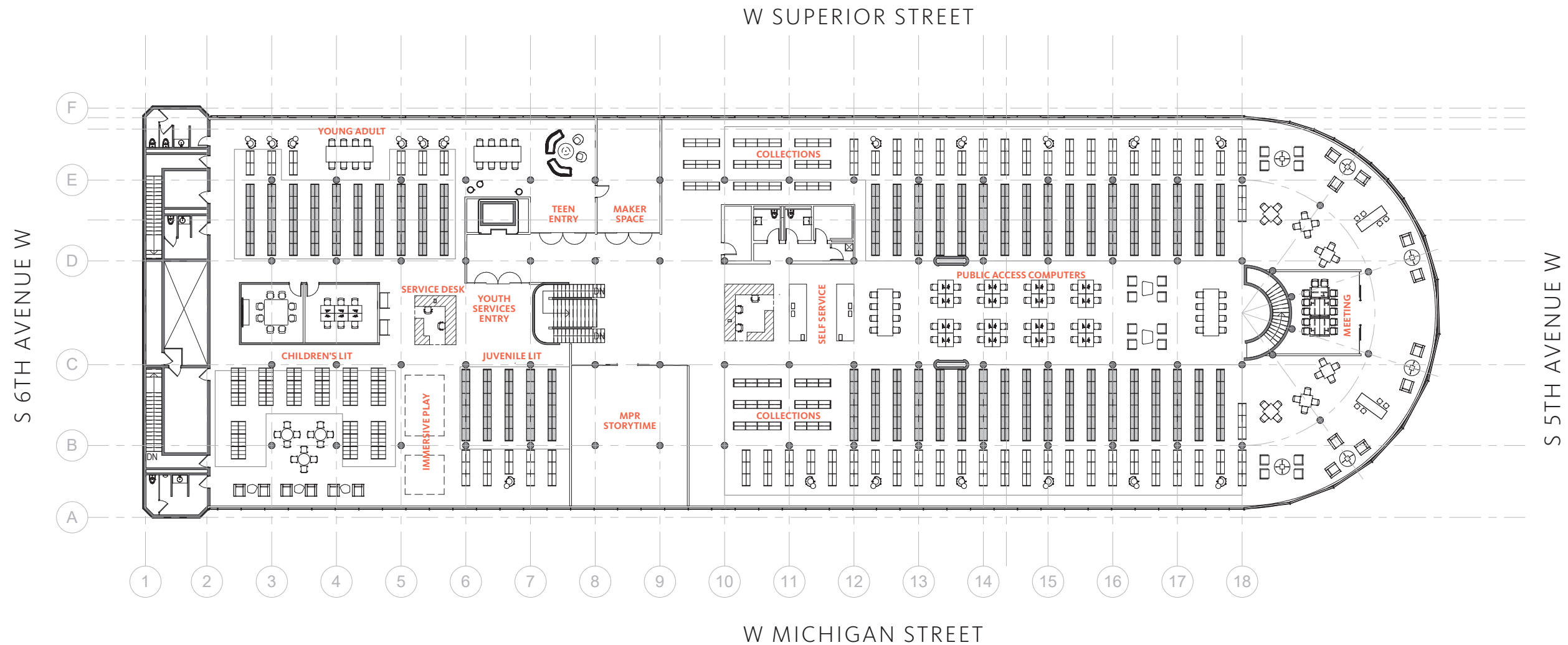


### PROPOSED DESIGN - LEVEL 01

not to scale

- Improved exterior and interior book drop with conveyance to move books directly into Staff Work Room
- Re-imagined Hub which includes the entry sequence, addressing redesign and relocation of Service Desk, self-check-out zone, book droop, and increased area for circulation of the public.
- Relocation of Staff Work Room to be directly adjacent to Service Desk. All Staff Administrative areas consolidated for efficiency and collaborative workflows. This planning relocates the Staff spaces, staff conference rooms, space that are currently located on the Lower Level to this location adjacent to new Service Desk. Friends & Foundation space is co-located.
- Ready Reserves for library Holds are located here for easy check outs
- Added small meeting rooms with integrated and enhanced technology
- Partnership offices with adjacent seating area and area for brochures and display as it relates to the services provided by the Partnership groups (for example MN Sure)
- The Periodicals Collection and a variety of types of seating take advantage of the perimeter windows, views and daylight.
- A Vending area is tucked out of sight, yet easily accessible. Tables and chairs are adjacent to accommodate families who have a snack or lunch together at the library.

## 04 LIBRARY PLANNING



### PROPOSED DESIGN - LEVEL 02

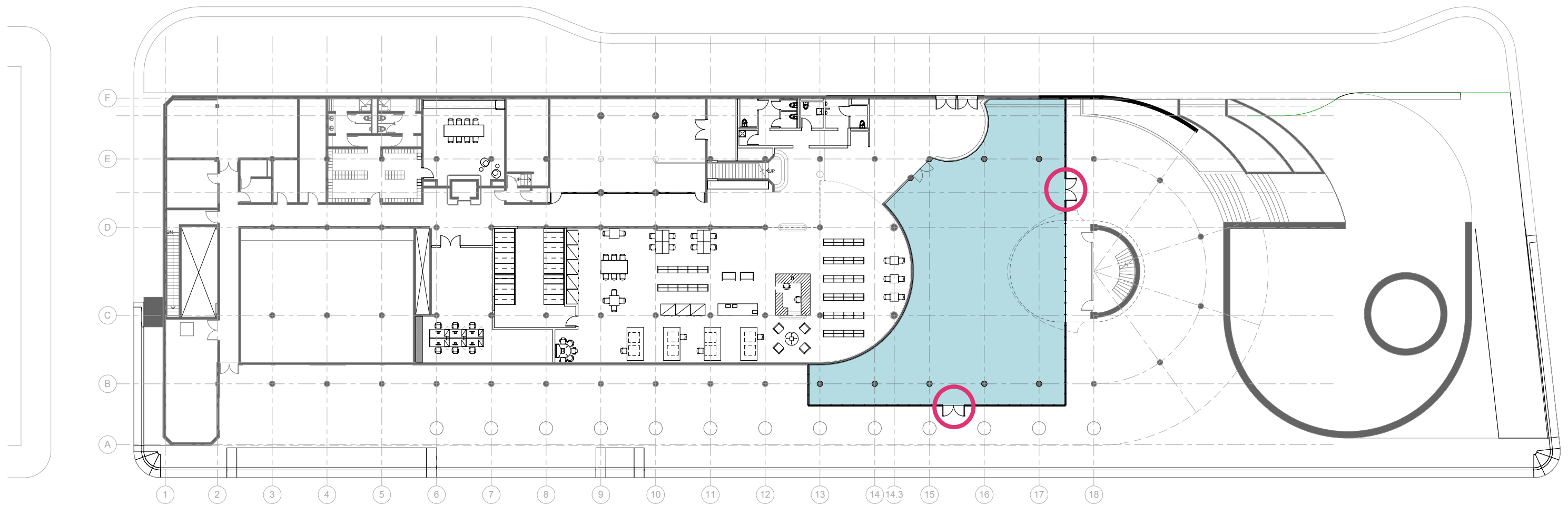
not to scale

- Youth Services and Teens are relocated to the southern wing of the building, tucked behind the connecting monumental stair where there is an added degree of security provided by glass doors into the area. A service desk is front and center to the entry, with clear visibility throughout the space. Small meeting spaces are provided for homework help, chess clubs, and teen collaboration, in addition to a Maker Space which can be used for STEAM activities, craft activities, or recording of audio and video. Areas are identified for immersive and literacy rich play. The area has restrooms within the zone.
- A set of gender-neutral restrooms are added to the floor, so that the public does not need to walk through Youth Services to access a restroom
- Public Access Computers are placed in the open area so that staff can monitor, and the public has ease of access.
- A medium meeting space is added which can be used for Story time and other uses
- The north wing of the floor is open to views and daylight with diversity of seating solutions to accommodate different learning and study styles, and shapes and sizes of patrons

## 04 LIBRARY PLANNING

### OPTION 1: PLAN - LOWER LEVEL

- Minimizes built area
- Existing site elements to remain
- Playground becomes entry point for library
- Enlarged restrooms within library, or restrooms to remain as is with new restrooms in playground area
- Minimized built area, need to verify distance between new footings and existing column caissons



● Area of addition = 4,480 Gross SF

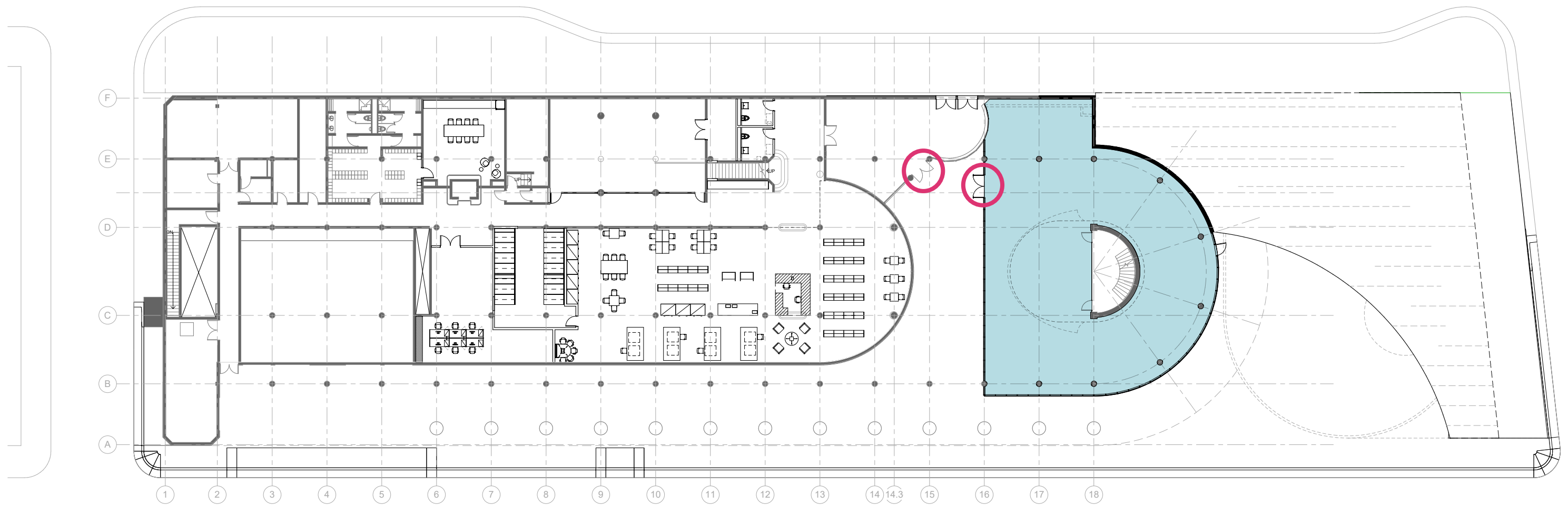
○ Building entry point



## 04 LIBRARY PLANNING

### OPTION 2: PLAN - LOWER LEVEL

- Minimizes built area
- Creates exterior entry court to both library and playground
- New stepped plaza to connect existing street curbs, landscape opportunity
- Enlarged restrooms within library, or restrooms to remain as is with new restrooms in playground area
- Minimized built area, need to verify distance between new footings and existing column caissons

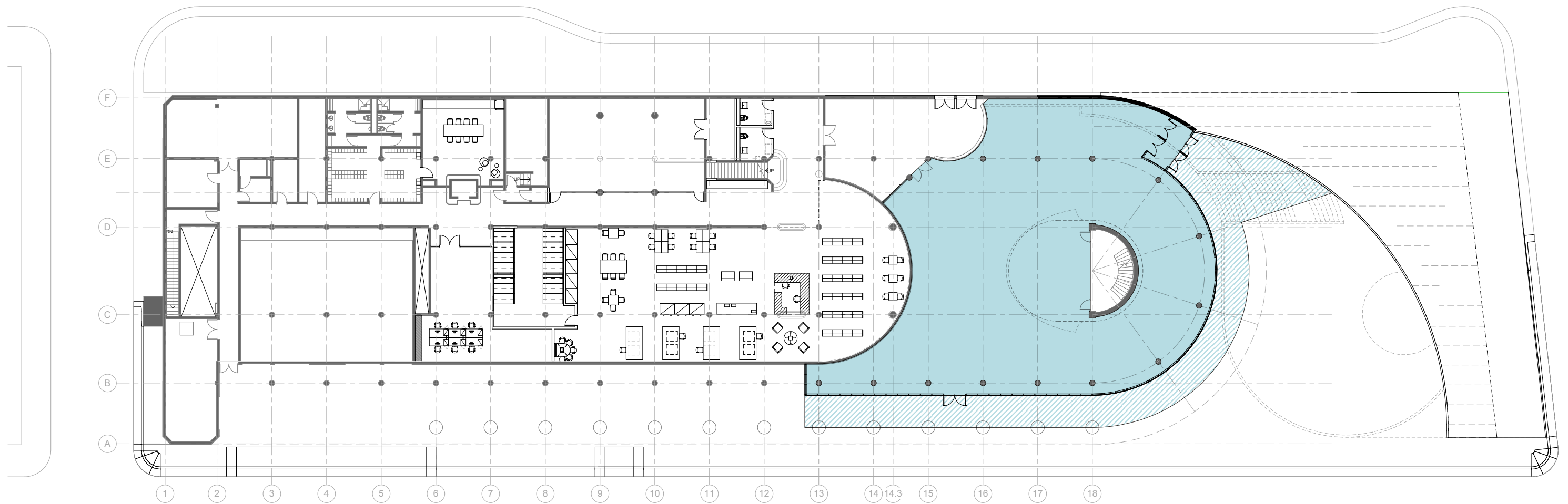


● Area of addition = 4,480 Gross SF

○ Building entry point

## 04 LIBRARY PLANNING

### OPTION 3A & B : PLAN - LOWER LEVEL



● Area of addition (A) = 7,420 Gross SF

▨ Area of addition (B) = 2,400 Gross SF

○ Building entry point

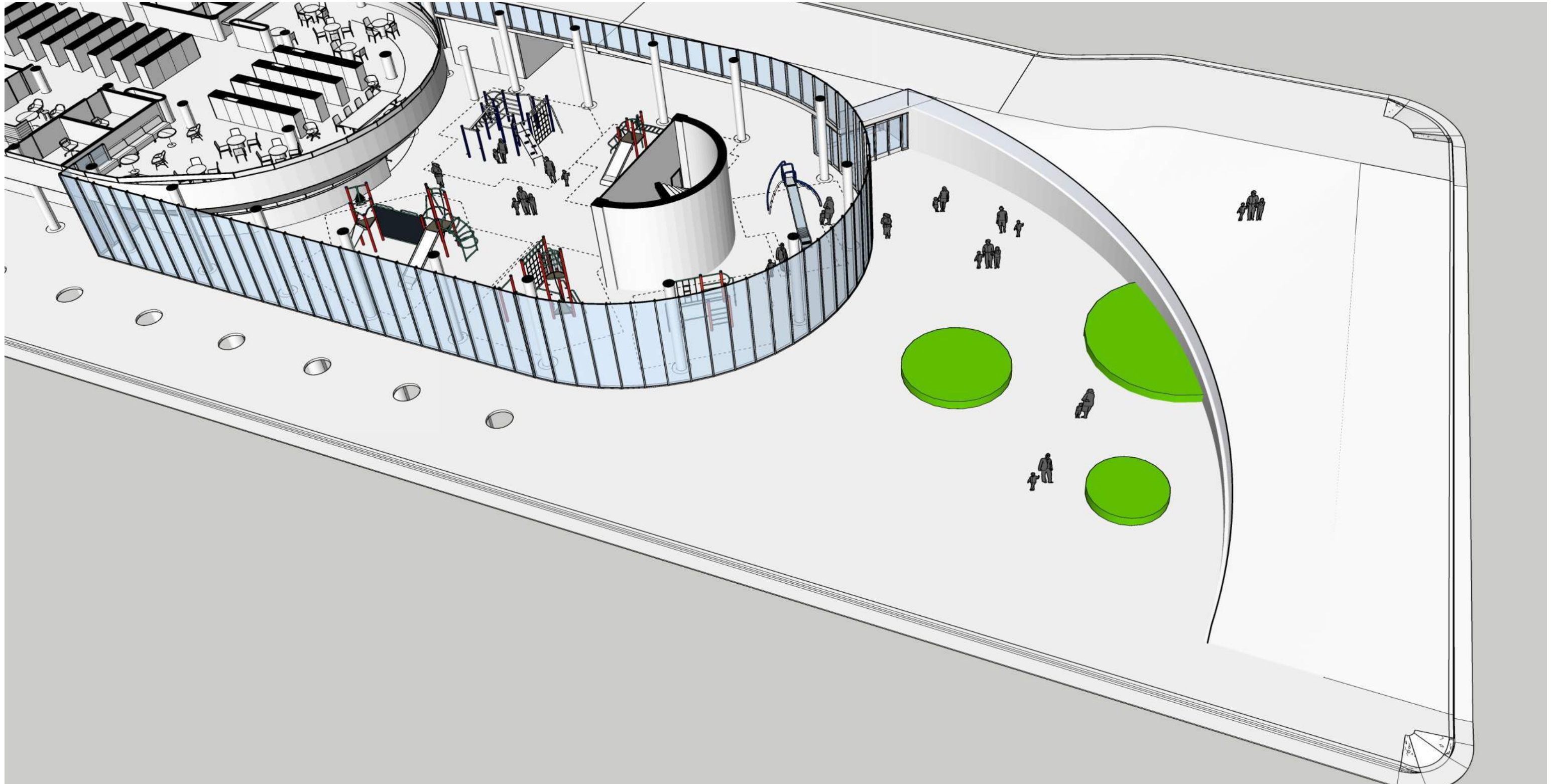
## 04 LIBRARY PLANNING

### OPTION 3: EXTENT OF ENCLOSURE



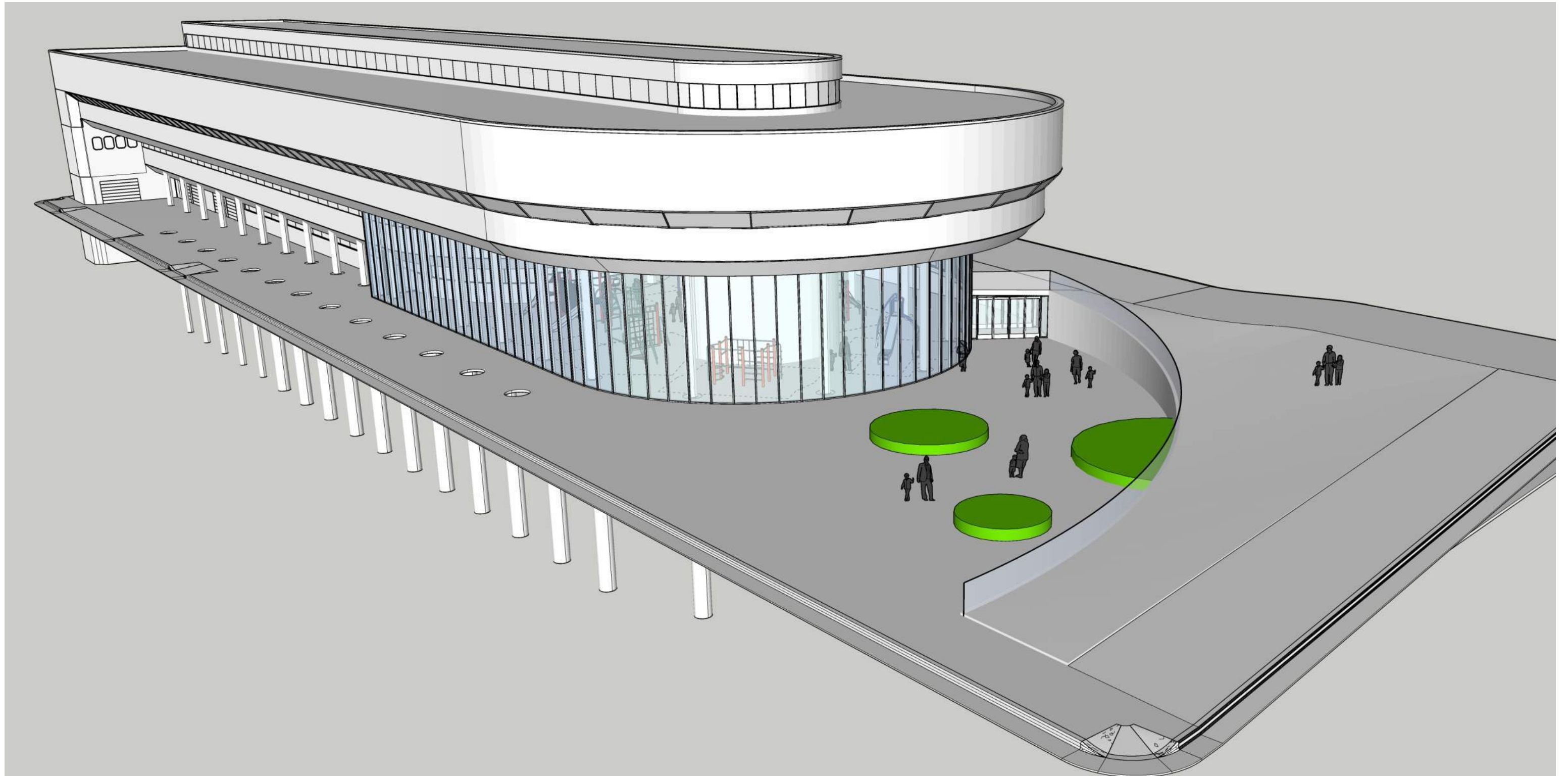
## 04 LIBRARY PLANNING

### OPTION 3A: AXON



## 04 LIBRARY PLANNING

### OPTION 3A: AXON



## 04 LIBRARY PLANNING

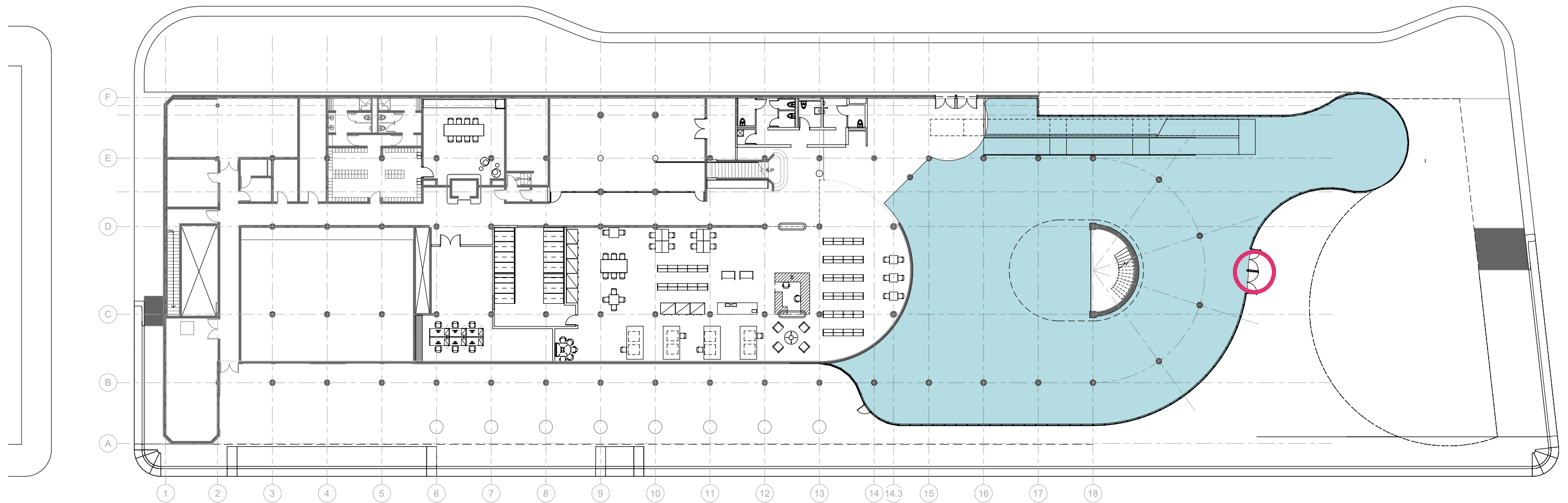
### OPTION 3A: SITE COMPARISON



## 04 LIBRARY PLANNING

### OPTION 4: PLAN - LOWER LEVEL

- Building as retaining wall
- Entry at mid-block
- Existing sidewalks remain
- Sloped planted area to bridge change in elevations, added storm-water management
- Enlarged restrooms within library
- New story-time, community room

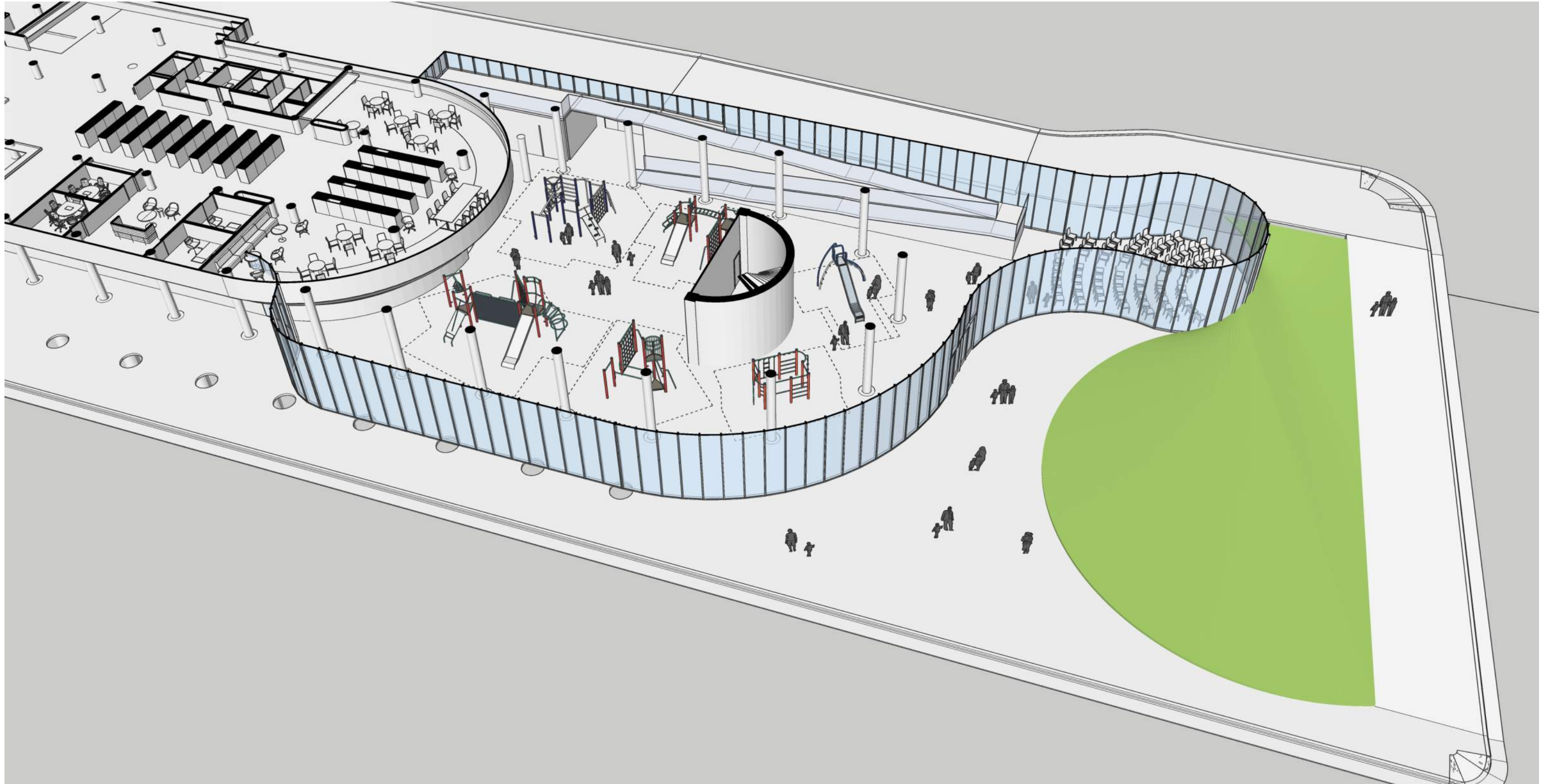


● Area of addition = 10,350 Gross SF

○ Building entry point

## 04 LIBRARY PLANNING

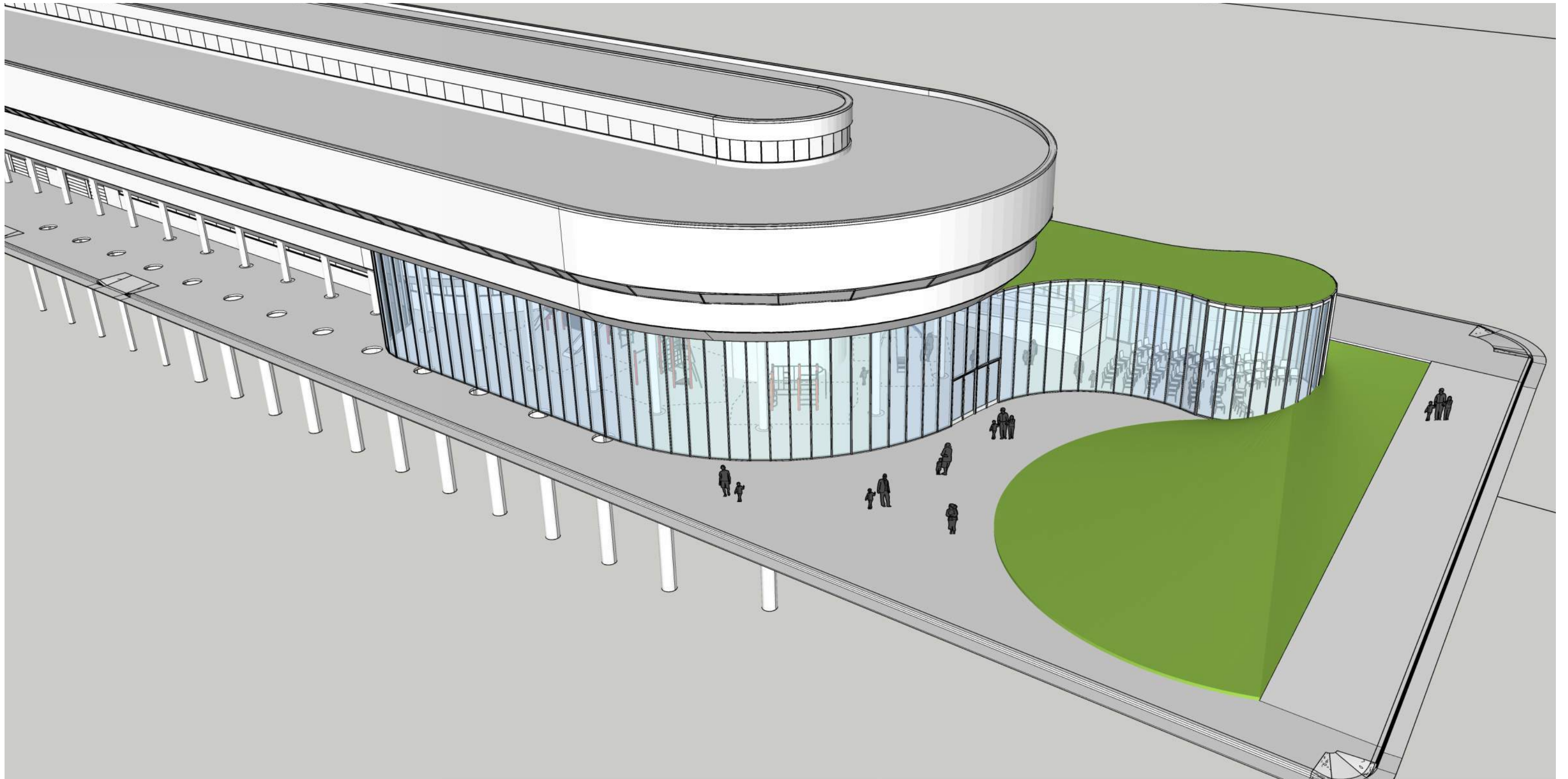
### OPTION 4: AXON

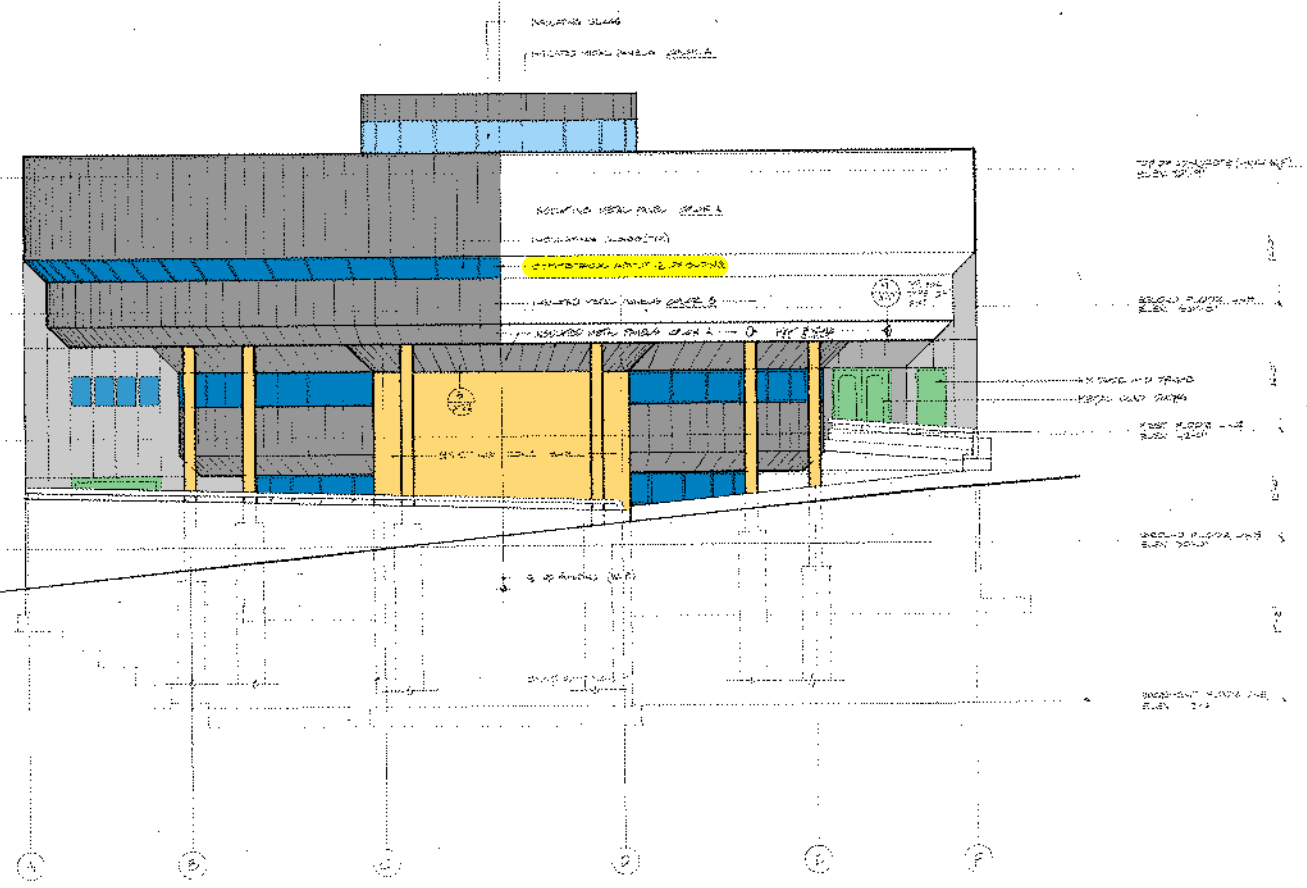




## 04 LIBRARY PLANNING

### OPTION 4: AXON

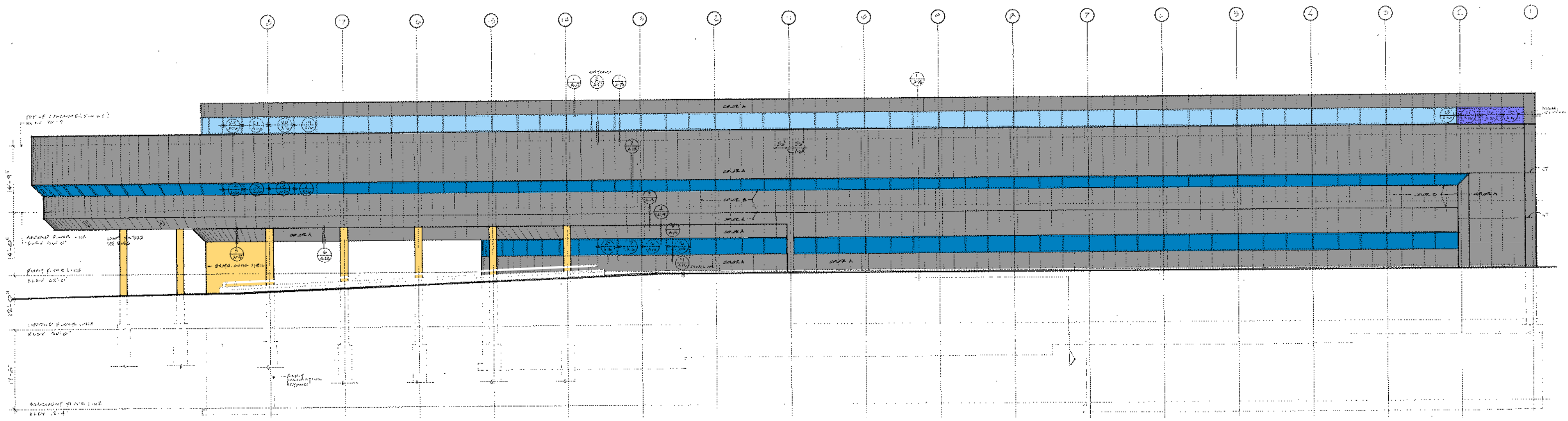




**EXTERIOR ELEVATION LEGEND**

- Aluminum composite panel system - refer to wall sections for wall construction. \*
- Clean existing exposed concrete to remain.
- Light diffusing double glazed aluminum system with light veils. \*
- Double glazed aluminum and wood composite window system. \*
- Aluminum entry door and/or storefront system
- Prefinished aluminum louver
- Prefinished insulated overhead coiling door

\* : Add alternate pricing. Refer to wall sections for alternate composition.

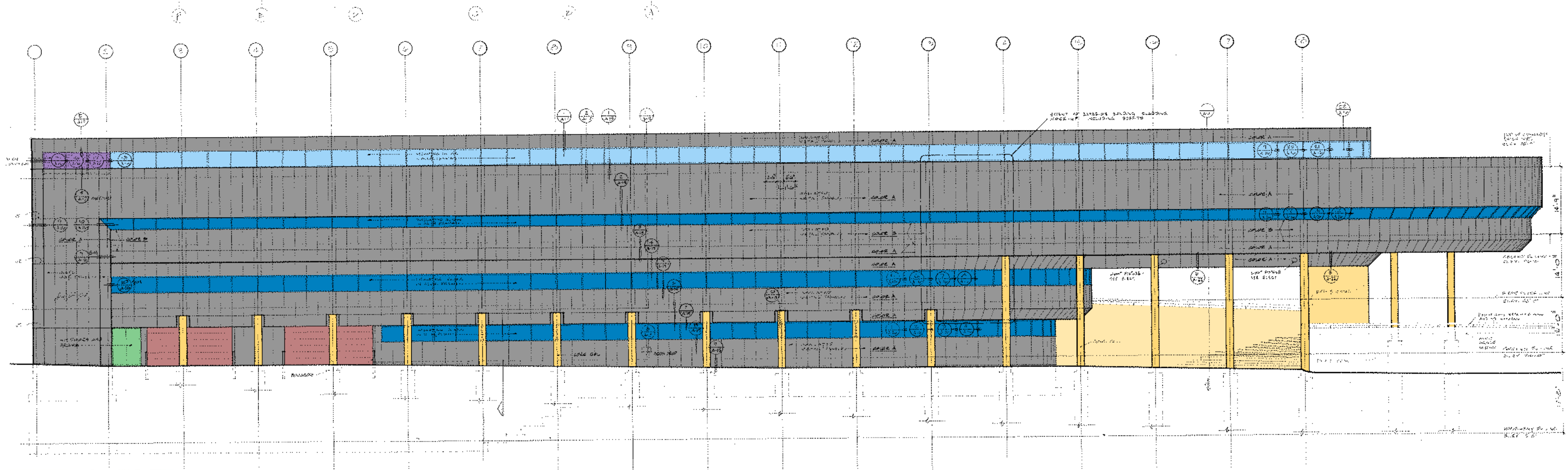


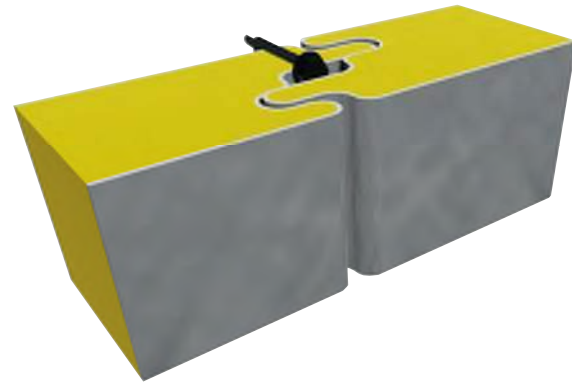


**EXTERIOR ELEVATION LEGEND**

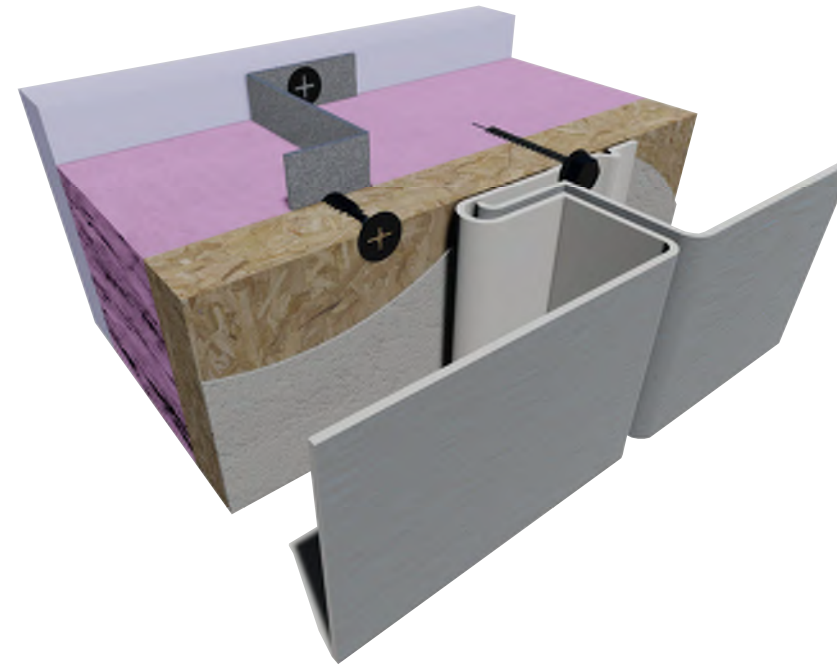
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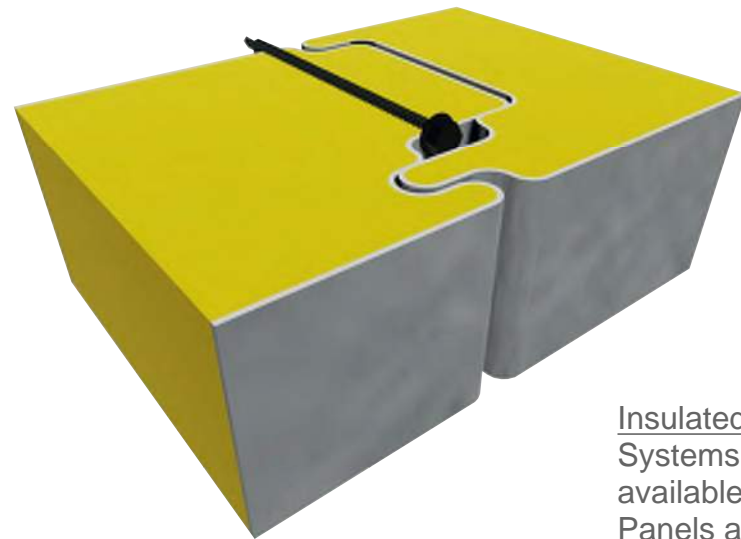


Existing Wall Panel System  
 2" thick insulated wall panel.  
 Mechanically fastened to existing substructure.  
 Existing panels show bulging, particularly on the Michigan St. elevation, suggesting delamination of the metal from the insulation core.



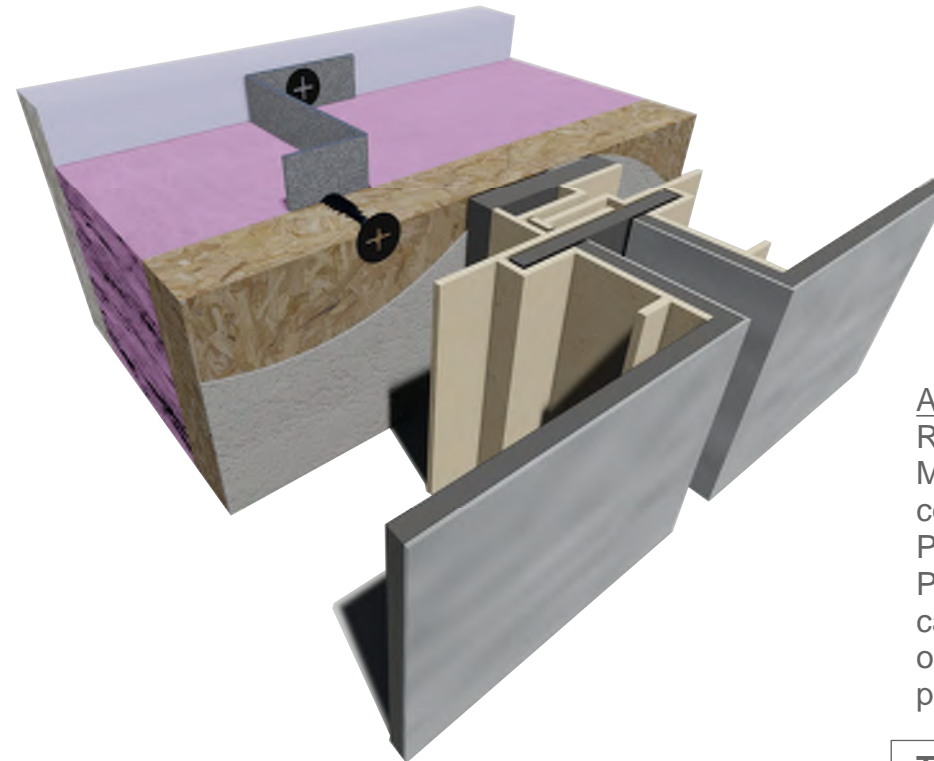
Concealed Fastener Panel System  
 Rainscreen system.  
 Panels would be arranged in a vertical orientation to form to the existing curved and sloped geometry of the building.  
 12" maximum panel profile recommended in order to prevent oil canning, which is a much narrower joint composition than the existing construction.

This panel type is not being recommended due to the 12" maximum panel width. The joint spacing would be out of proportion to the scale of the Library building, and may appear more industrial.



Insulated Metal Wall Panel System  
 Systems similar to the existing wall panel are available.  
 Panels are available in long vertical spans, eliminating the need for any horizontal joints.  
 Panels are available in a variety of thicknesses and thermal values.  
 Panels are available in a variety of widths and can mimic the existing joint composition.


This panel type is not being recommended due to concern with performance of the panel joint over time.




Aluminum Composite Panel System  
 Rainscreen system.  
 Metal skin is bonded to an engineered plastic core, so oil canning is prevented.  
 Panels can be formed to complex geometry.  
 Panels are available in a variety of widths and can either mimic the existing joint composition, or be used to create a new panel layout or pattern during the design phase.

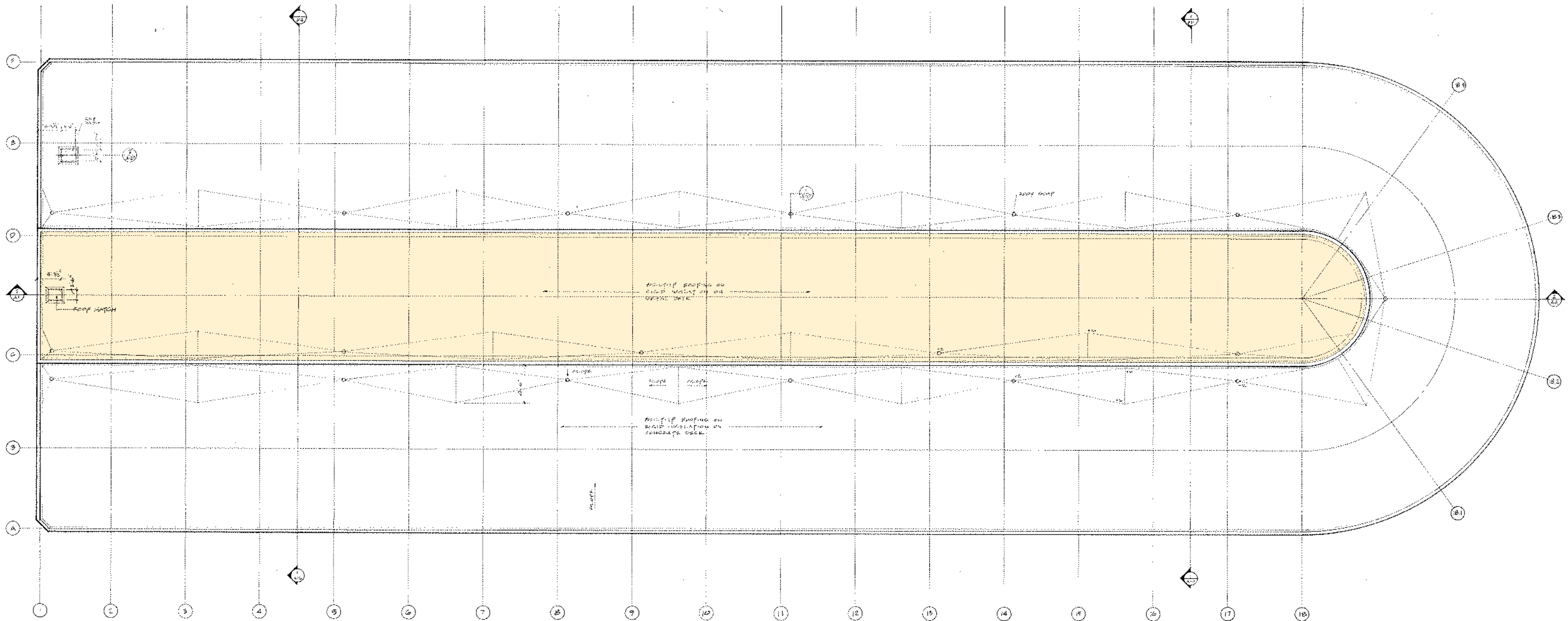
**This is the recommended system for the proposed exterior wall construction.**

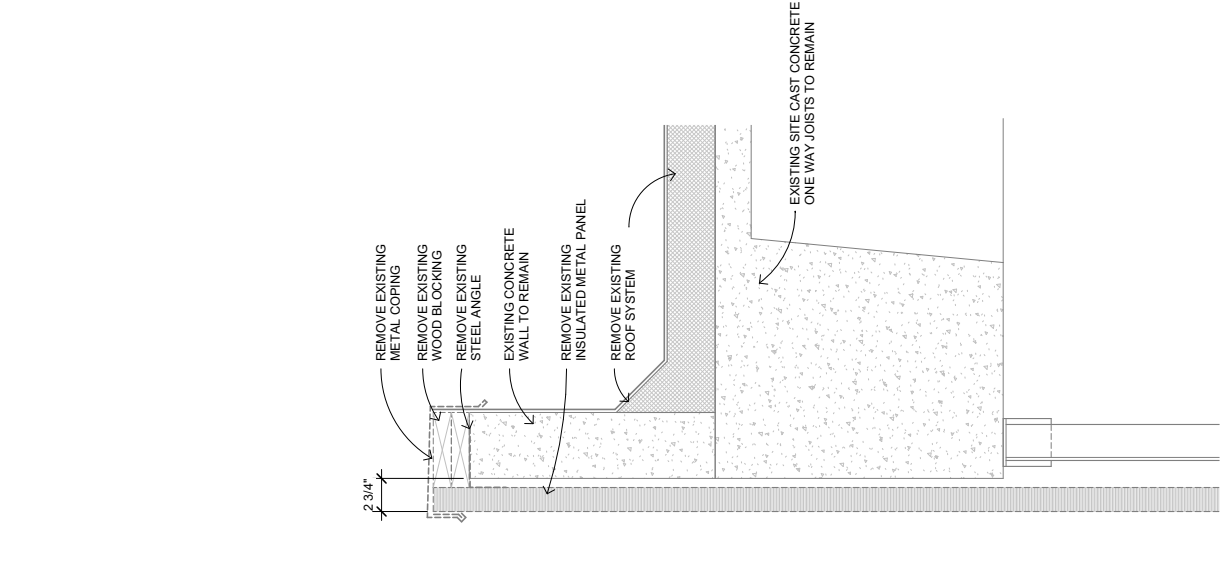
**ROOF LEGEND**

 R-35 roof system on existing concrete deck. 30-year warranty. \*

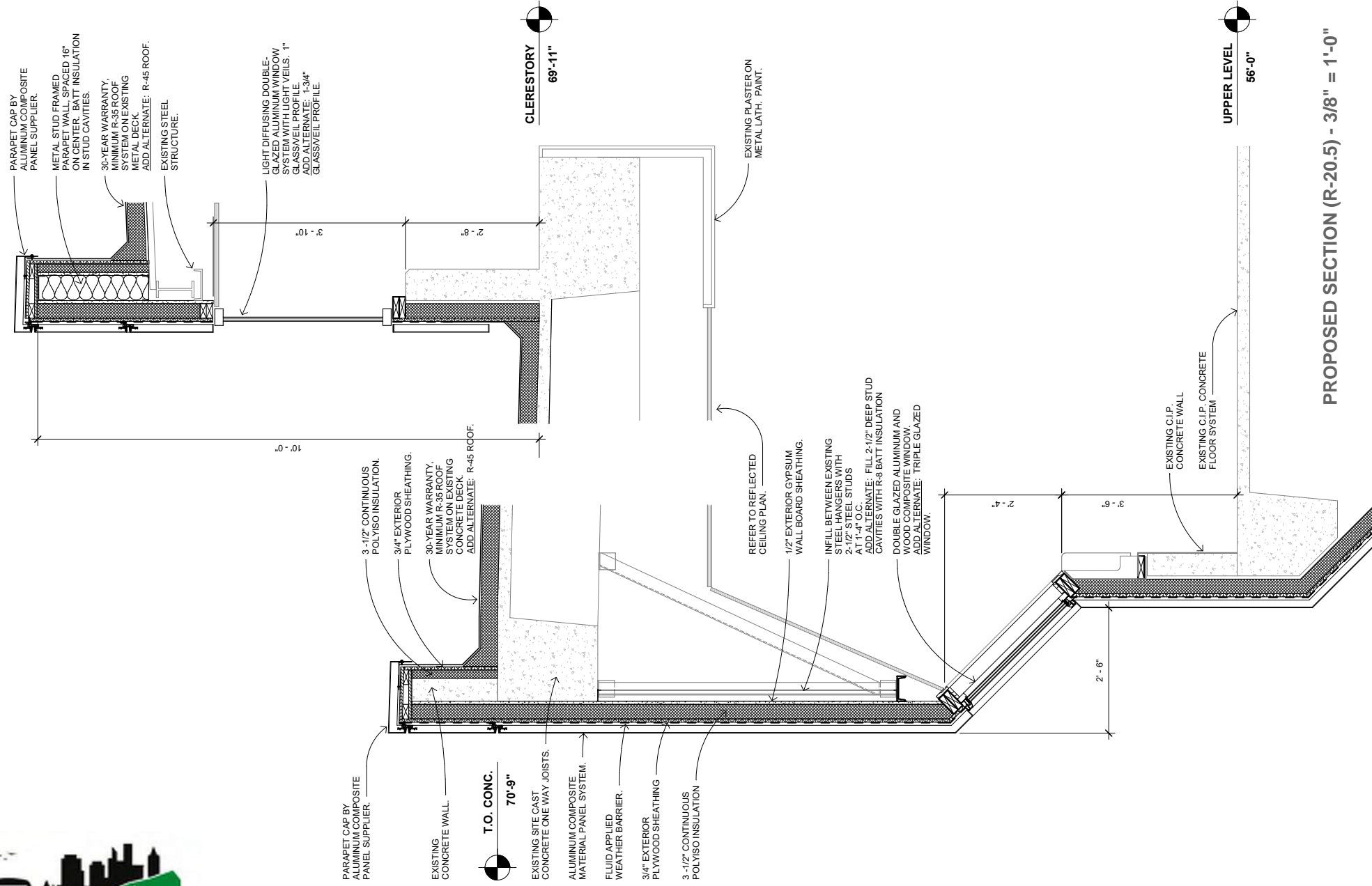
 R-35 roof system on existing metal deck. 30-year warranty. \*

\* : Add alternate pricing. R-45 roof system with 30-year warranty.

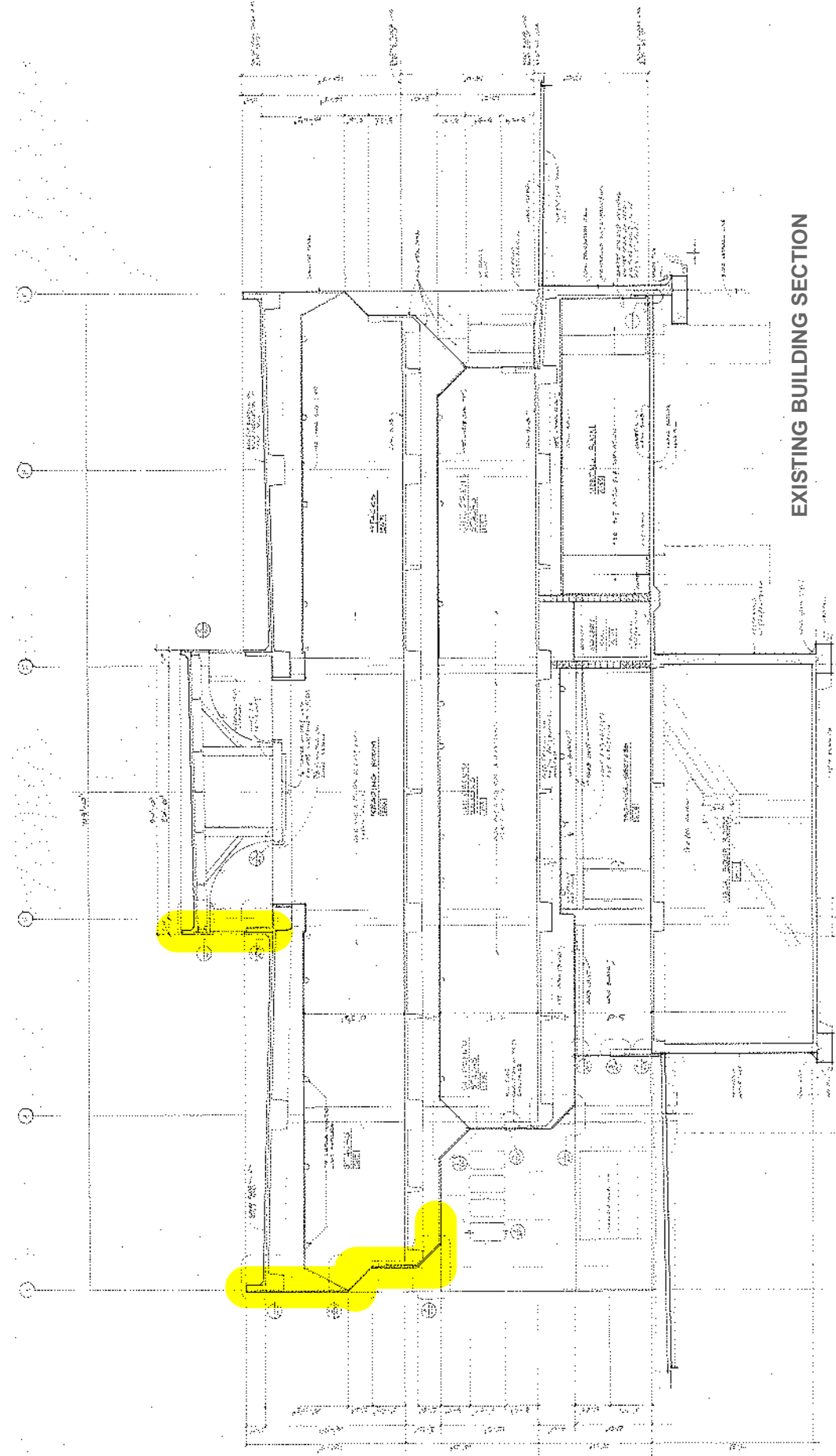




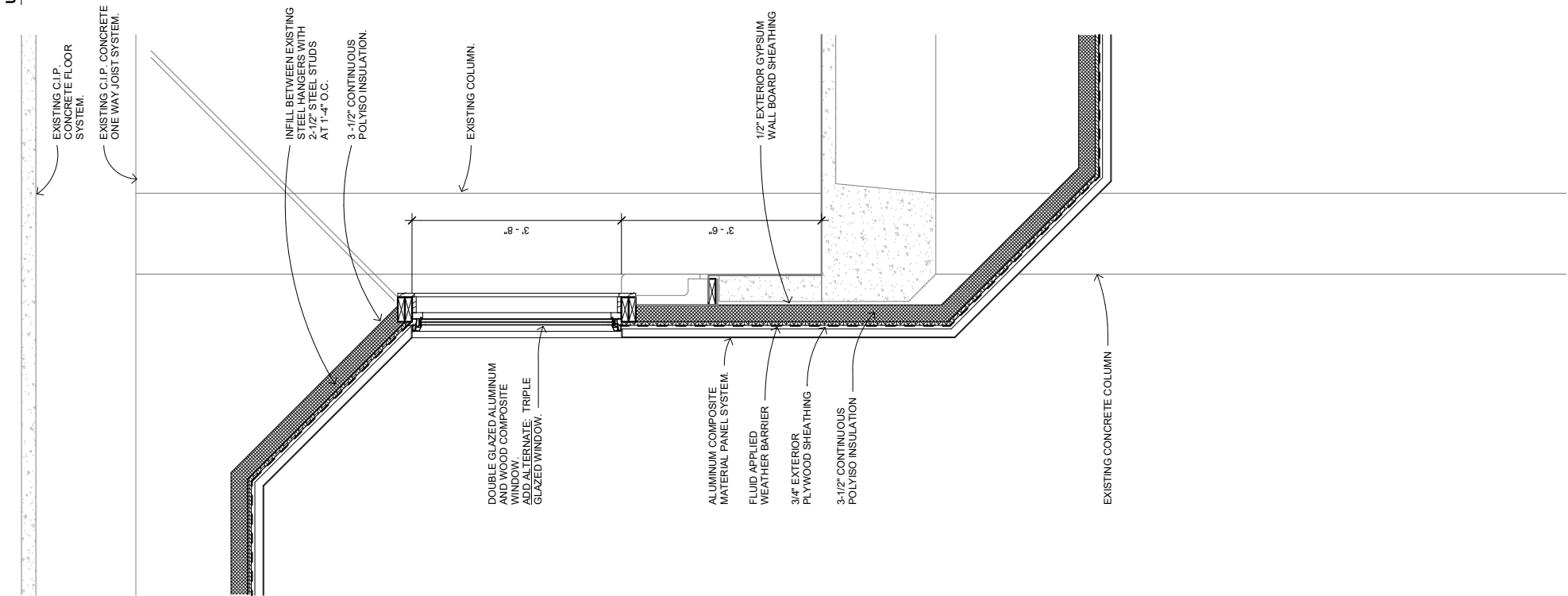
**DEMOLITION SECTION (R-8.0) - 3/4" = 1'-0"**



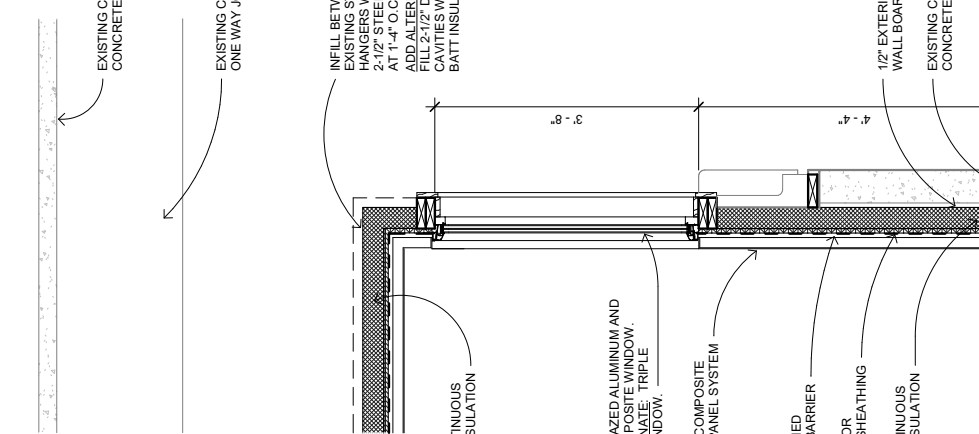
**PROPOSED SECTION (R-20.5) - 3/8" = 1'-0"**



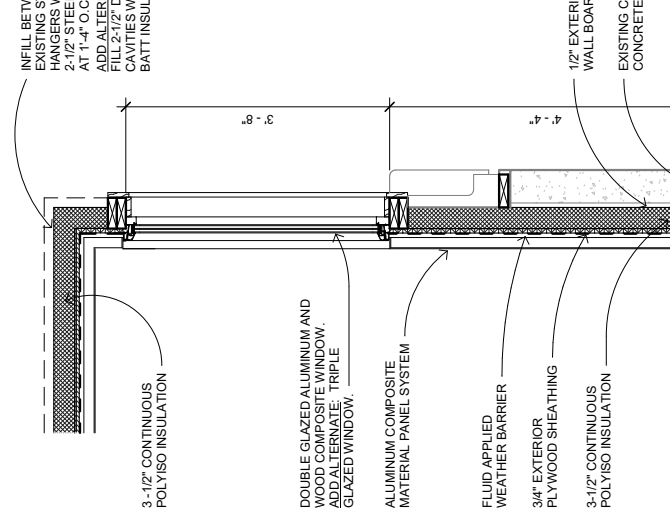
UPPER LEVEL  
56'-0"



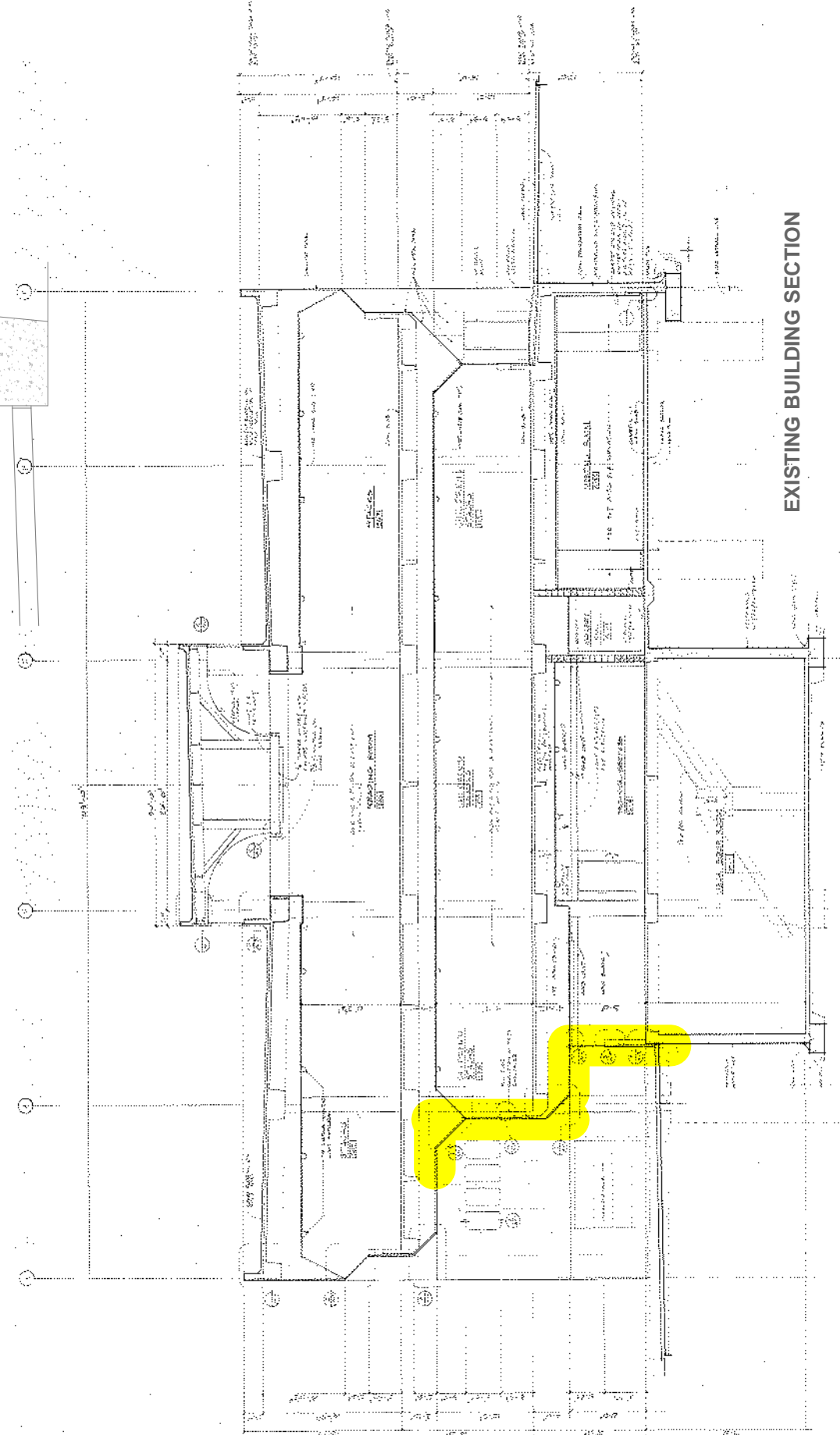
MAIN LEVEL  
42'-0"



LOWER LEVEL  
30'-0"



PROPOSED SECTION (R-20.5) - 3/8" = 1'-0"



EXISTING BUILDING SECTION







REPLACE EXISTING ALUMINUM DOORS AND STOREFRONT SYSTEM AT MICHIGAN STREET VESTIBULE, NOT SHOWN ON ELEVATION SHEETS. REFER TO GENSLER FLOOR PLANS FOR SIZE AND LOCATION.



REPLACE EXISTING ALUMINUM DOORS AND STOREFRONT SYSTEM AT MICHIGAN STREET VESTIBULE, NOT SHOWN ON ELEVATION SHEETS. REFER TO GENSLER FLOOR PLANS FOR SIZE AND LOCATION.

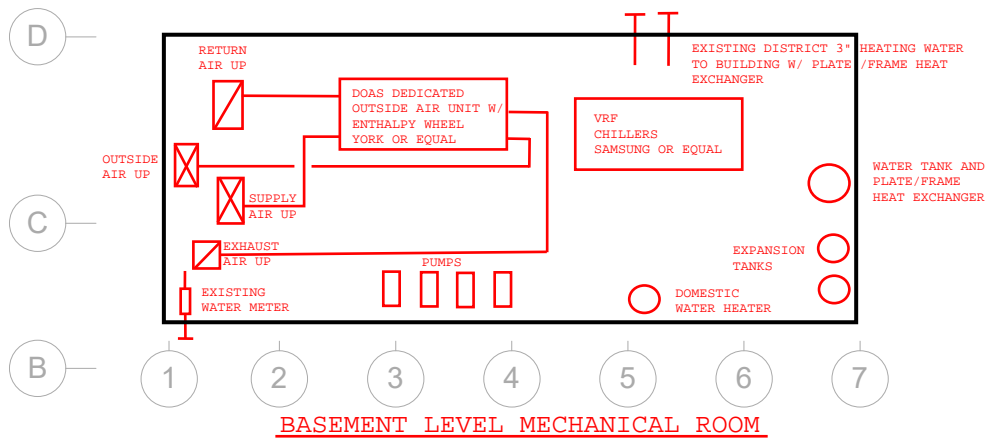




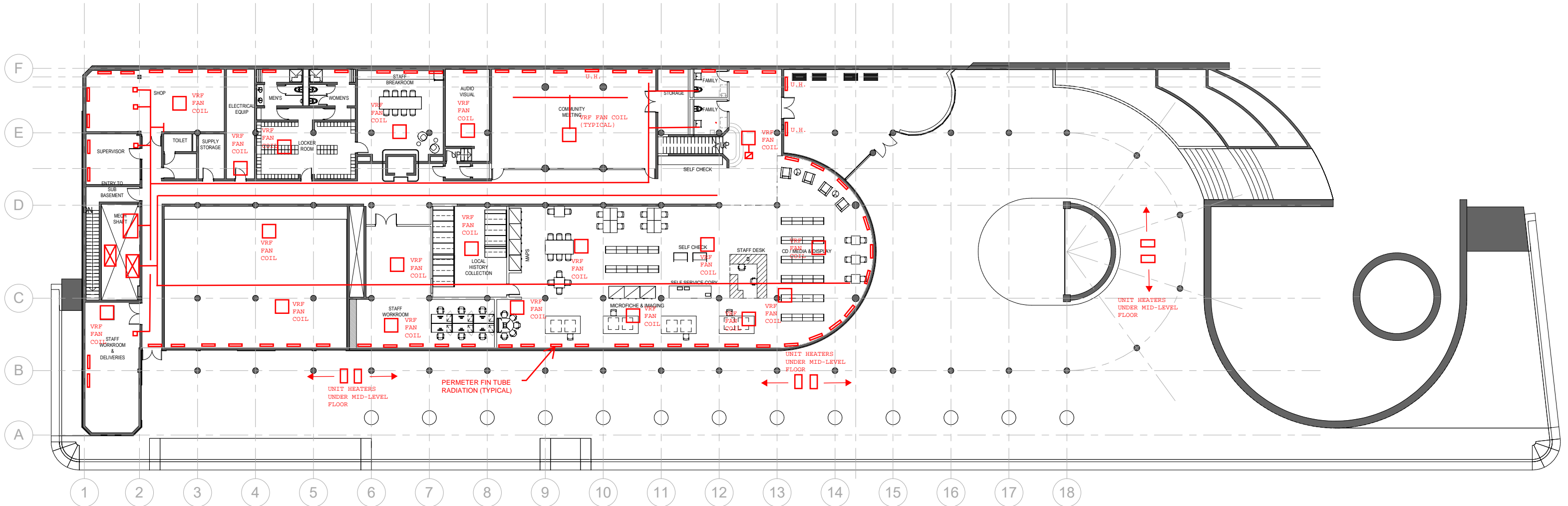
**DULUTH PUBLIC LIBRARY**  
September 29, 2020

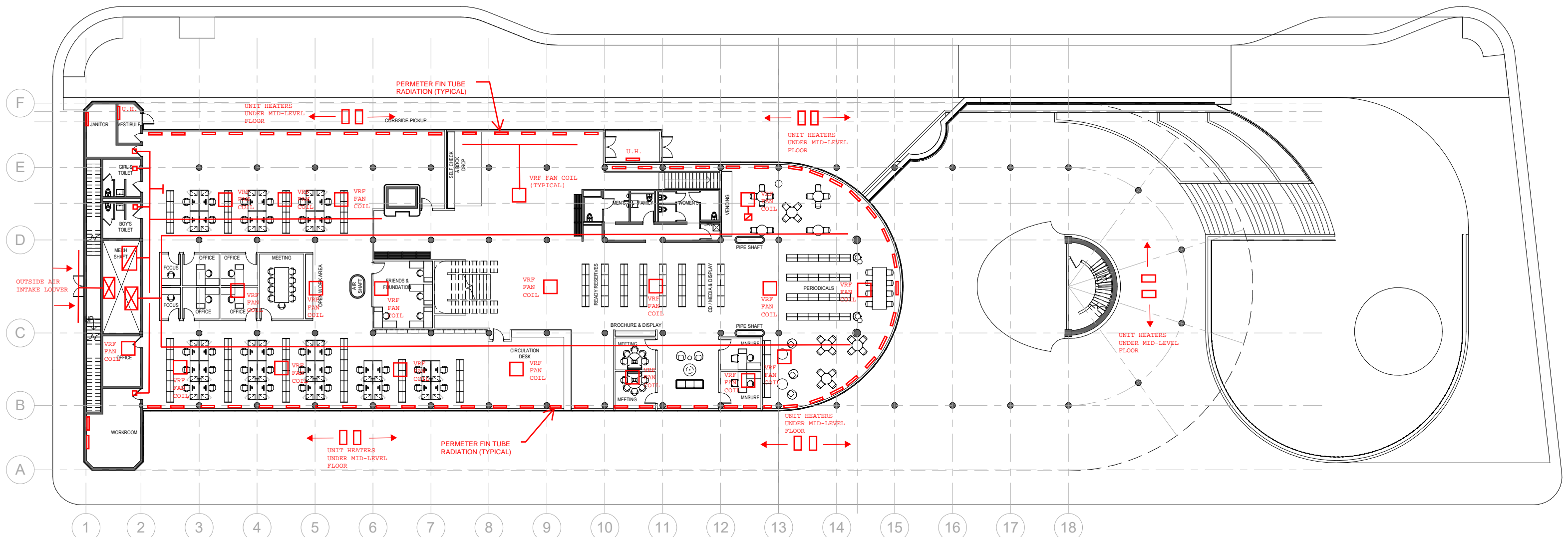
**Exterior Images**

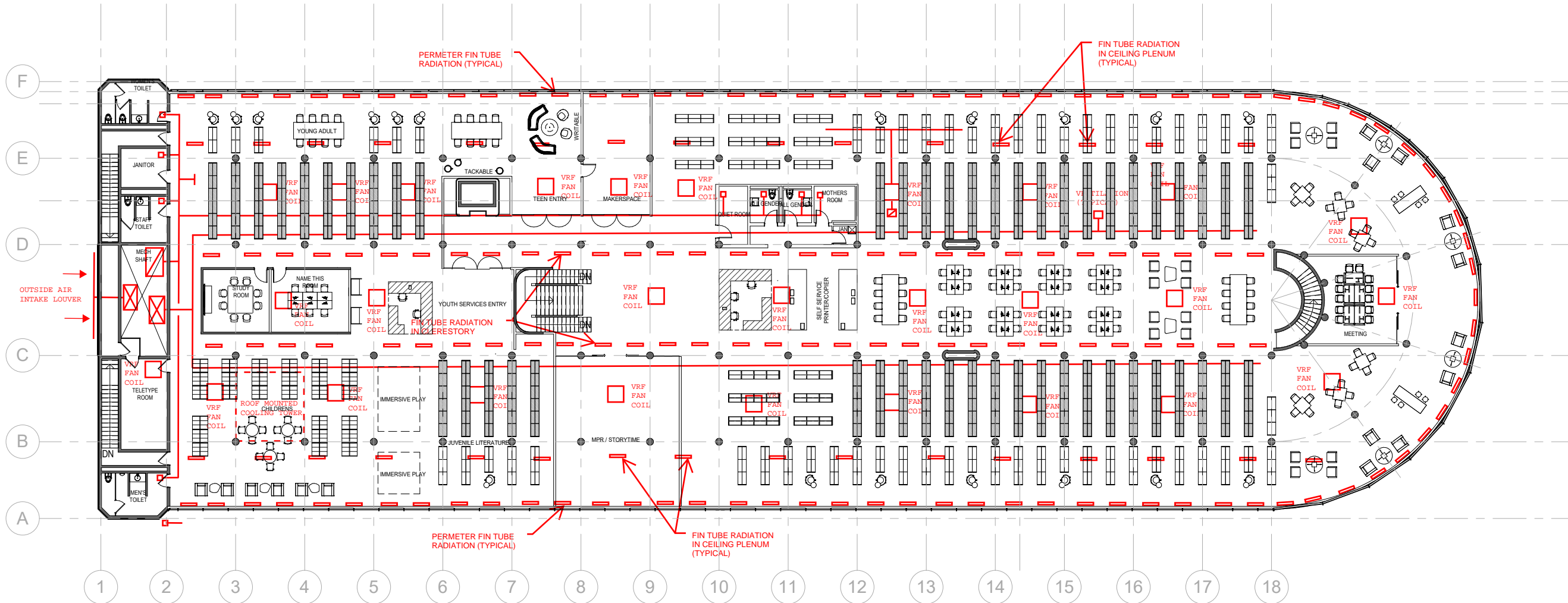


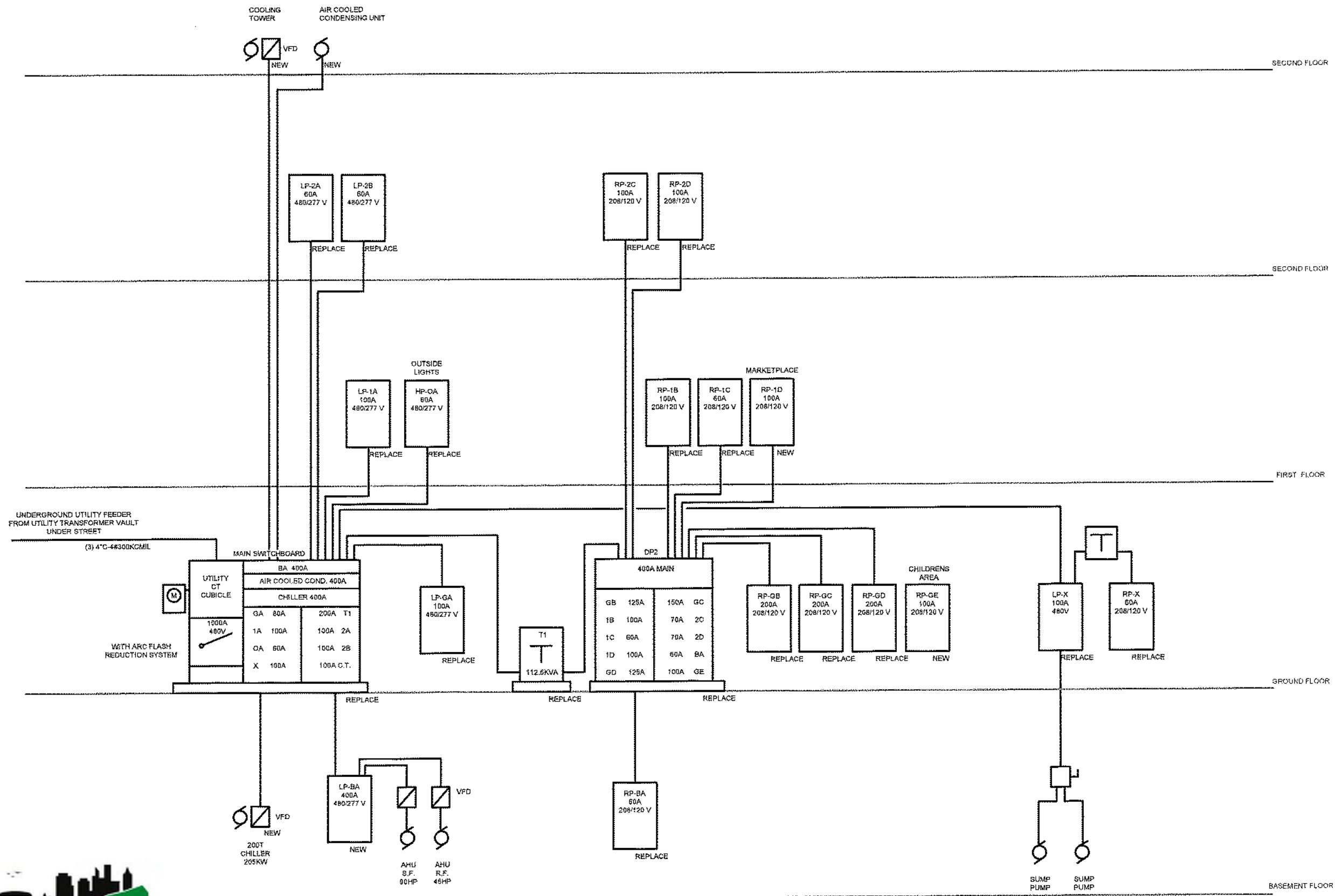


**BASEMENT LEVEL MECHANICAL ROOM**









**DULUTH PUBLIC LIBRARY**

September 29, 2020

**One Line and Riser Diagram**





**MAIN ELECTRICAL ROOM SCOPE:**

REPLACE 480V SWITCHBOARD  
REPLACE 208V SWITCHBOARD  
REPLACE INDOOR DRY TYPE TRANSFORMERS  
REPLACE PANELBOARDS  
SEE ONELINE

**ELECTRICAL SCOPE NARRATIVE:**

ALL AREAS OF THIS LEVEL WILL BE REMODELED TO INCLUDE:  
NEW PANELBOARDS  
NEW CONVENIENCE RECEPTACLES IN PUBLIC SPACES  
NEW CONVENIENCE RECEPTACLES IN OFFICE SPACES  
NEW CONVENIENCE RECEPTACLES IN COMMUNITY SPACES  
NEW POWER TO BUILDING EQUIPMENT (ELEVATORS, MOTORIZED DOOR OPERATORS)  
NEW POWER CONNECTIONS TO HVAC EQUIPMENT (SEE MECH FOR LOCATIONS OF FAN COILS, UNIT HEATERS, CUH, EF, EWC ... ETC )  
FLOOR OUTLETS FOR FURNITURE AND WORK TABLES  
NEW FIRE ALARM SYSTEM THROUGH OUT BUILDING.

**DATA PLAN SCOPE NARRATIVE:**

ALL AREAS OF THIS LEVEL WILL BE REMODELED TO INCLUDE:  
NEW DATA JACK LOCATIONS AT ALL FURNITURE  
FLOOR OUTETS AND WORK TABLES  
  
WIFI DEVICES ARE NEW IN 2020. PROTECT FROM DAMAGE DURING PROPOSED REMODEL.  
  
NETWORK SWITCH EQUIPMENT NEW IN 2020. PROTECT FROM DAMAGE DURING PROPOSED REMODEL.  
  
NEW PAGING SYSTEM THROUGHOUT BUILDING  
  
NEW CAMERAS AND ELECTRIC DOOR LOCKING SYSTEM THROUGHOUT BUILDING.  
  
NEW AUDIO VISUAL SYSTEM AND CONNECTIONS TO LARGE FORMAT TV SCREENS FOR PUBLIC INFORMATIONAL BOARDS THROUGHOUT BUILDING.

LOCATION OF DATA CLOSET ON THIS LEVEL

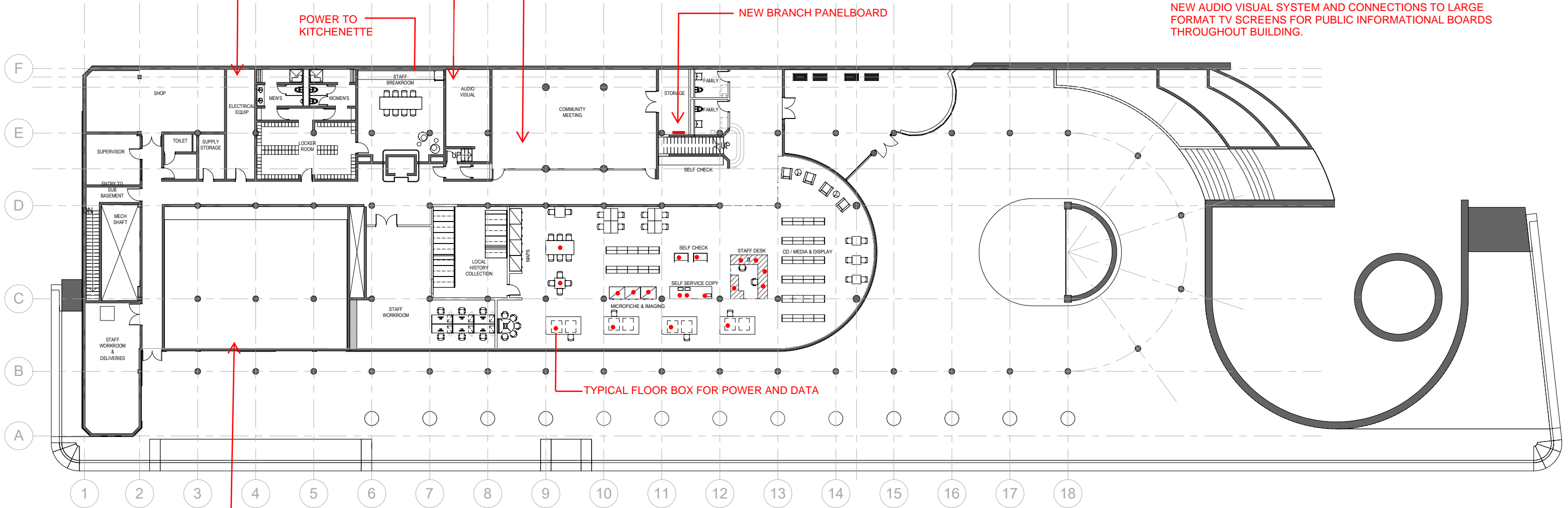
AUDIO/VIDEO SYSTEM REQUIRED FOR THIS ROOM

POWER TO KITCHENETTE

NEW BRANCH PANELBOARD

TYPICAL FLOOR BOX FOR POWER AND DATA

BASEMENT LEVEL MECHANICAL ROOM - (NO SHEET AVAILABLE, IN THIS AREA. SEE MECHANICAL PLAN. ALL EQUIPMENT WILL REQUIRE ELECTRICAL CONNECTIONS.) REMOVE MCC EQUIPMENT PROVIDE NEW SWITCHBOARD FOR CHILLER AND DOAS UNIT SEE ONELINE DIAGRAM



**ELECTRICAL SCOPE NARRATIVE:**

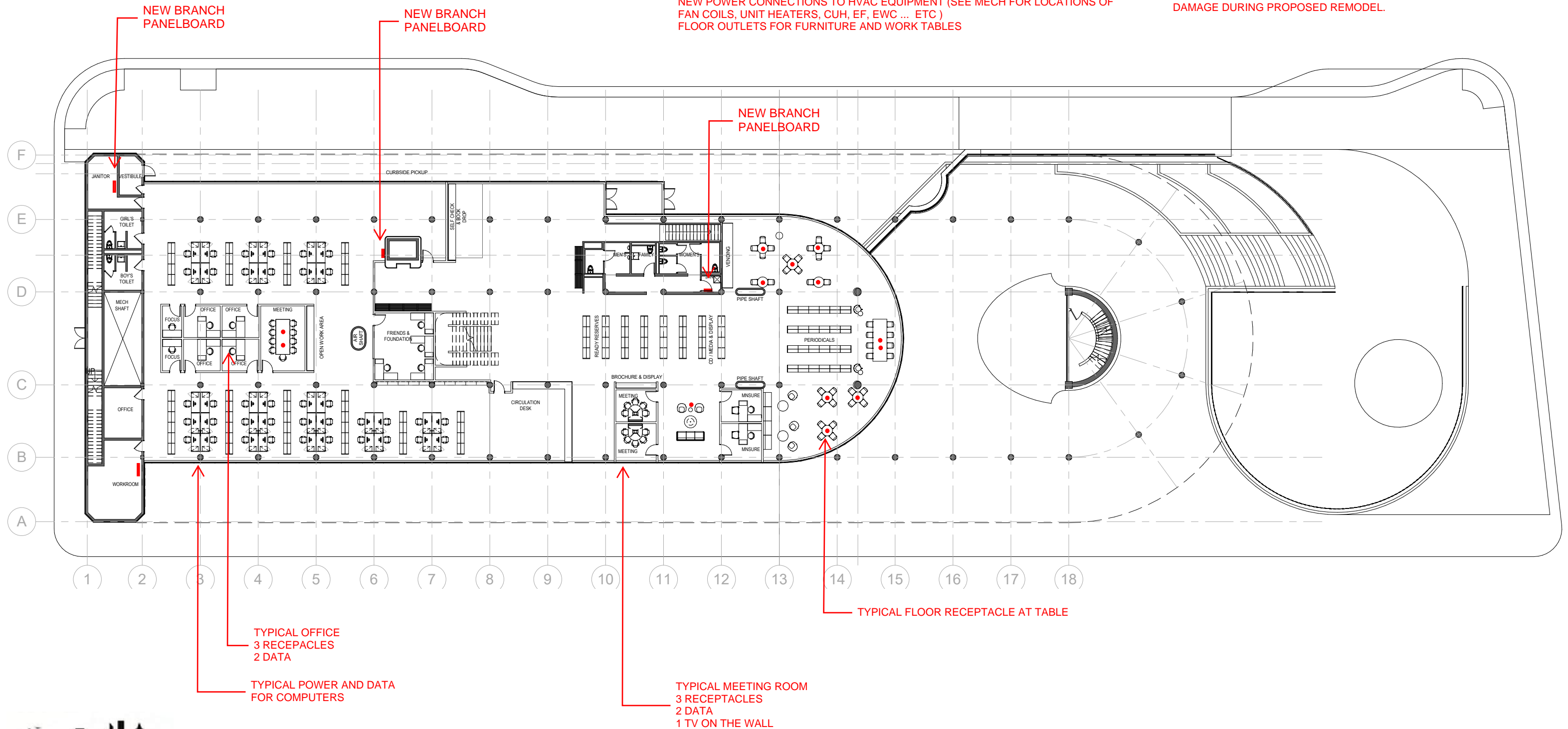
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NEW CONVENIENCE RECEPTACLES IN COMMUNITY SPACES  
NEW CONVENIENCE RECEPTACLES IN MEETING ROOMS  
NEW POWER TO BUILDING EQUIPMENT (ELEVATORS, MOTORIZED DOOR OPERATORS .... ETC.)  
NEW POWER CONNECTIONS TO HVAC EQUIPMENT (SEE MECH FOR LOCATIONS OF FAN COILS, UNIT HEATERS, CUH, EF, EWC ... ETC )  
FLOOR OUTLETS FOR FURNITURE AND WORK TABLES

**DATA PLAN SCOPE NARRATIVE:**

ALL AREAS OF THIS LEVEL WILL BE REMODELED TO INCLUDE:  
NEW DATA JACK LOCATIONS AT ALL FURNITURE  
FLOOR OUTETS AND WORK TABLES

WIFI DEVICES ARE NEW IN 2020. PROTECT FROM DAMAGE DURING PROPOSED REMODEL.

NETWORK SWITCH EQUIPMENT NEW IN 2020. PROTECT FROM DAMAGE DURING PROPOSED REMODEL.

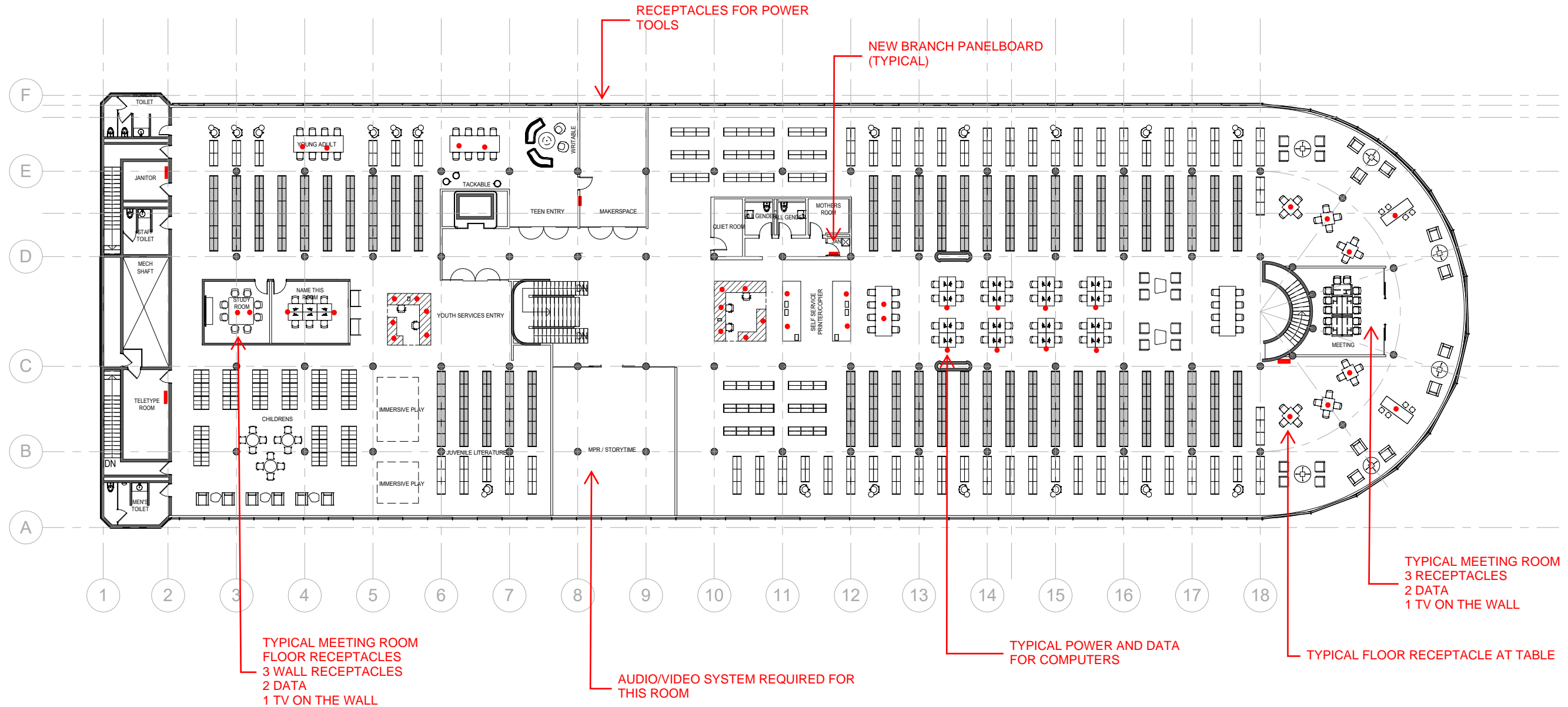


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ALL AREAS OF THIS LEVEL WILL BE REMODELED TO INCLUDE:  
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ALL AREAS OF THIS LEVEL WILL BE REMODELED TO INCLUDE:  
NEW DATA JACK LOCATIONS AT ALL FURNITURE  
FLOOR OUTETS AND WORK TABLES  
  
WIFI DEVICES ARE NEW IN 2020. PROTECT FROM DAMAGE DURING PROPOSED REMODEL.  
  
NETWORK SWITCH EQUIPMENT NEW IN 2020. PROTECT FROM DAMAGE DURING PROPOSED REMODEL. DATA CLOSETS NEW IN 2020. KEEP SAME LOCATIONS FOR PROPOSED REMODEL.



**DULUTH PUBLIC LIBRARY**

September 29, 2020

**Power & Data Plan - Upper Level**



LIGHTING SCOPE NARRATIVE:

ALL AREAS OF THIS LEVEL WILL BE REMODELED

NEW LIGHTING FIXTURES CIRCUITED TO NEW LIGHTING AND APPLIANCE PANELBOARDS

NEW LIGHTING CIRCUITS MUST BE METERED FOR ENERGY CONSUMPTION AT THE PANELBOARD PER ENERGY CODE.

LIGHTING CONTROLS IN PUBLIC SPACE CONTROLLED BY LIGHTING CONTROL PANEL (IE STACKS, PUBLIC SEATING AND CORRIDORS)

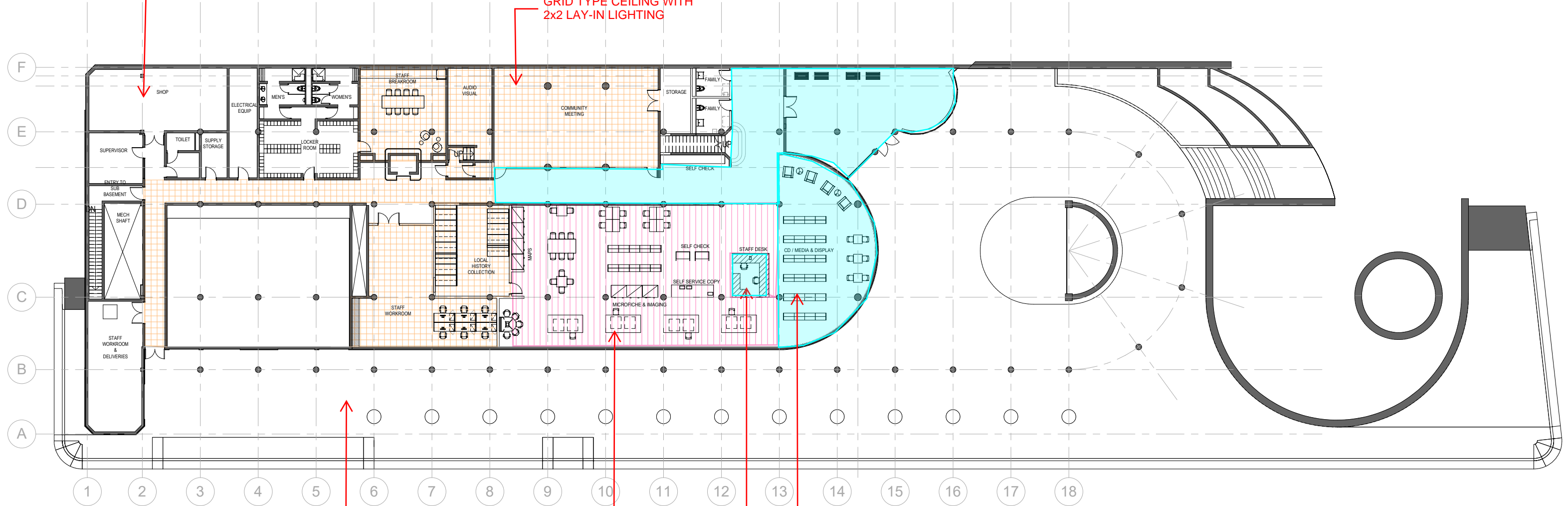
LIGHTING IN OFFICES OR SEPARATE ROOMS CONTROLLED BY VACANCY SENSORS.

EXTERIOR LIGHTING ABOVE EXIT DOORS SHALL BE REPLACED WITH LED.

REPLACE ALL EXIT AND EMERGENCY EGRESS LIGHTS.

LED STRIP LIGHTS IN UN-FINISHED ROOMS  
CONTROLLED BY VACANCY SENSORS.

GRID TYPE CEILING WITH  
2x2 LAY-IN LIGHTING



PREMIUM LED FIXTURES IN  
ARCHITECTURAL CEILING

DROP SOFFIT WITH CAN LIGHTS  
AT STAFF DESK LOCATIONS

REPLACE TYPICAL EXTERIOR  
HIGH POWER CAN LIGHTS  
UNDERNEATH

LINEAR LED FIXTURES IN  
ARCHITECTURAL CEILING

LIGHTING SCOPE NARRATIVE:

ALL AREAS OF THIS LEVEL WILL BE REMODELED

NEW LIGHTING FIXTURES CIRCUITED TO NEW LIGHTING AND APPLIANCE PANELBOARDS

NEW LIGHTING CIRCUITS MUST BE METERED FOR ENERGY CONSUMPTION AT THE PANELBOARD PER ENERGY CODE.

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LED STRIP LIGHTS IN UN-FINISHED ROOMS  
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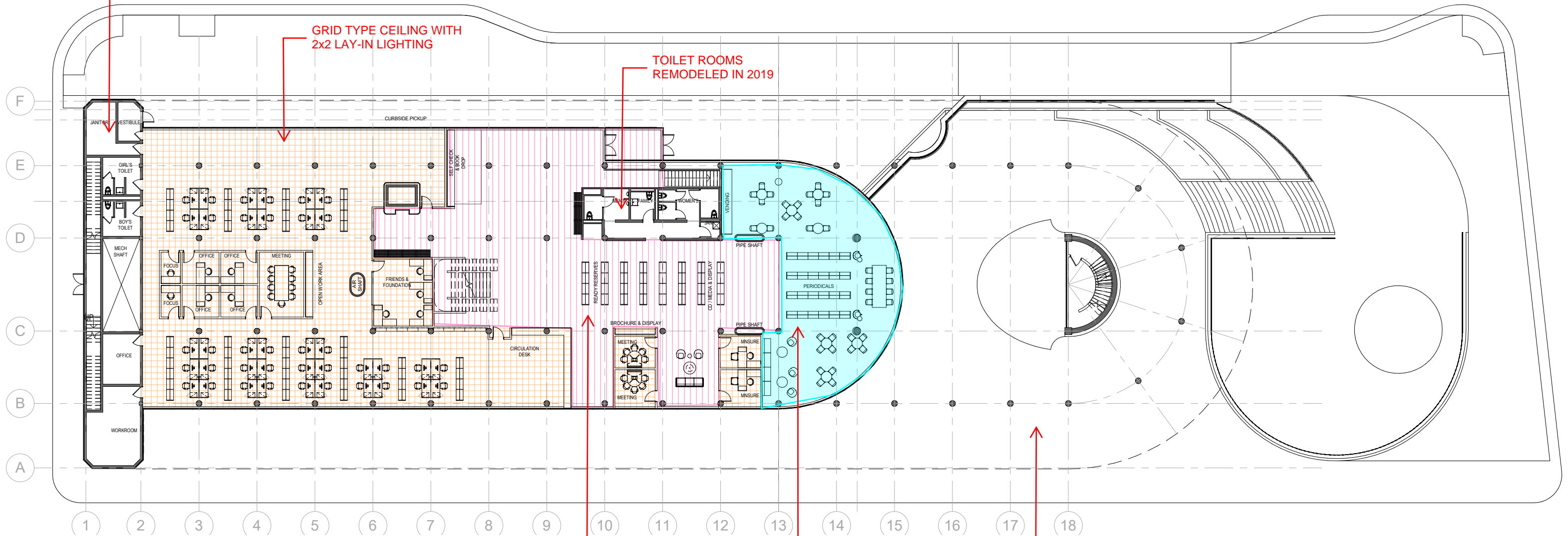
GRID TYPE CEILING WITH  
2x2 LAY-IN LIGHTING

TOILET ROOMS  
REMODELED IN 2019

LINEAR LED FIXTURES IN  
ARCHITECTURAL CEILING

PREMIUM LED FIXTURES IN  
ARCHITECTURAL CEILING

REPLACE TYPICAL EXTERIOR HIGH POWER CAN LIGHTS UNDERNEATH  
???????



LIGHTING SCOPE NARRATIVE:

ALL AREAS OF THIS LEVEL WILL BE REMODELED

NEW LIGHTING FIXTURES CIRCUITED TO NEW LIGHTING AND APPLIANCE PANELBOARDS

NEW LIGHTING CIRCUITS MUST BE METERED FOR ENERGY CONSUMPTION AT THE PANELBOARD PER ENERGY CODE.

LIGHTING CONTROLS IN PUBLIC SPACE CONTROLLED BY LIGHTING CONTROL PANEL (IE STACKS, PUBLIC SEATING AND CORRIDORS)

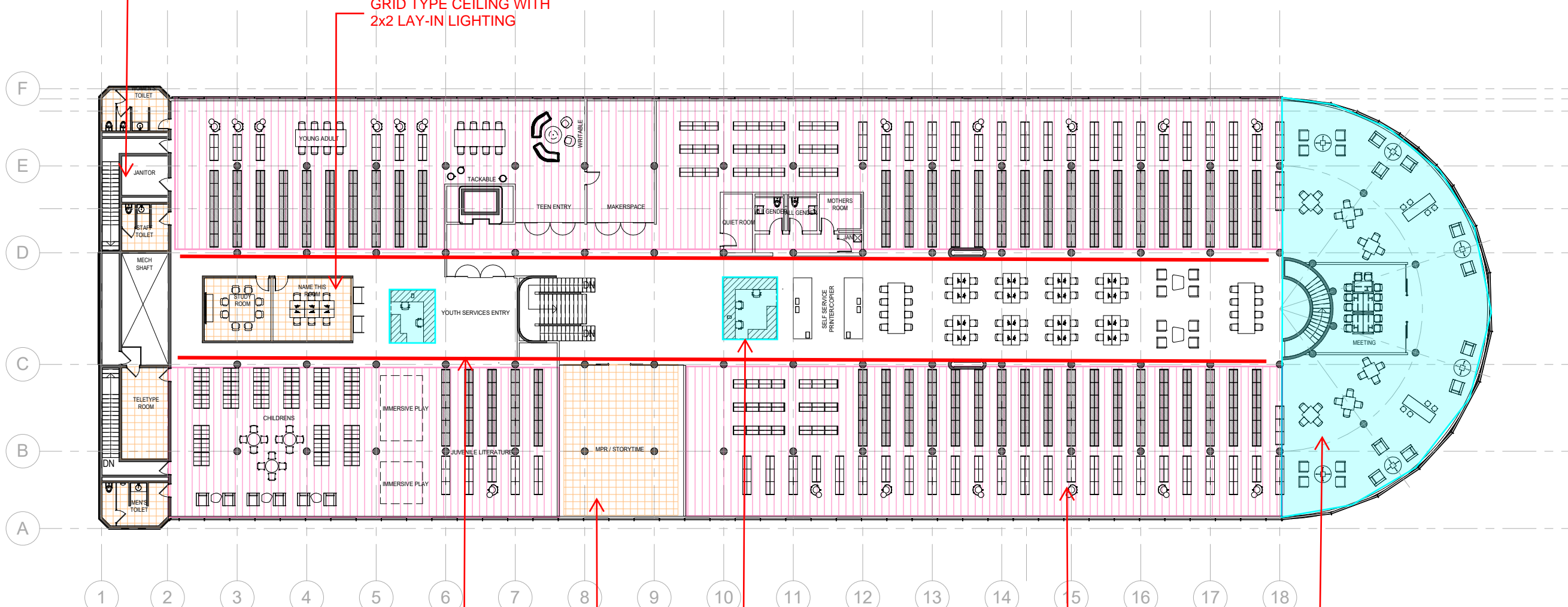
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LED STRIP LIGHTS IN UN-FINISHED ROOMS  
CONTROLLED BY VACANCY SENSORS.

GRID TYPE CEILING WITH  
2x2 LAY-IN LIGHTING



DROP SOFFIT WITH CAN LIGHTS  
AT STAFF DESK LOCATIONS

MEETING ROOM CONTROLLED  
SEPARATELY

LINEAR LED COVE FIXTURE  
AT BOTH SIDES OF CLERESTORY

LINEAR LED FIXTURES IN  
ARCHITECTURAL CEILING

PREMIUM LED FIXTURES IN  
ARCHITECTURAL CEILING



# Solera<sup>®</sup>

## Radiance Simulations Duluth Public Library

2020-08-27

Prepared For:



TKDA

# Duluth Public Library Radiance Simulations

## Overview

Location of Project: Duluth, MN  
Name of Architects: TKDA  
Name of Daylighting Technology: Solera  
Names of Daylighted Spaces: Library (Reading Area)

Daylighting Analysis Contact: Allan MacMillan  
Advanced Glazings Ltd. Contact: Charles Tucker

Advanced Glazings Ltd. has performed the enclosed daylighting analyses for the Duluth Public Library in Duluth, MN.

Simulations were performed for several different times of day on March 21st. Two different scenarios were examined, one with all the upper clerestory glazings using vision glass, and the other with Solera. Both cases were simulated for the same times for comparison. The results showed that the Solera effectively blocked the direct beam sunlight glare, and better distributed the light in the space. The Solera simulation results showed higher typical light levels. Simulation results are presented as photorealistic renderings as well as falsecolour representations of the incident light levels in the space.

Optical properties of the Solera modeled, and recommendations for the project:  
The VLT (visible light transmittance) of the Solera used in these simulations was 40% VLT for the South facing clerestory, and 55%VLT for the North.  
The use of a Solera configuration with a VLT of 30% to 40% is advised for any Solera facing West , East, and South in this application. For any Solera facing North a higher light transmittance is recommended (Up to 55%).

## Note

Advanced Glazings works closely with architects and developers to maximize the design of spaces for daylighting purposes. Using project details such as CAD drawings, elevations, materials, orientation, and location of building to provide accurate representations and analysis. Advanced Glazings has conducted daylighting simulations on hundreds of projects throughout North America, and around the world.

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The following are renderings depicting the space at different times of day for March 21st  
The pairs of images show the space first with vision glass, and then with Solera.

figure 1: [vision glass 10:00 March21st]



figure 2: [Solera 10:00 March21st]



figure 3: [vision glass 11:00 March21st]



figure 4: [Solera 11:00 March21st]



figure 5: [vision glass 12:00 March21st]



figure 6: [Solera 12:00 March21st]



figure 7: [vision glass 16:00 March21st]



figure 8: [Solera 16:00 March21st]



The following images are rendered in falsecolour. These images show the illuminance values, measured in Lux, of the various surfaces within a space through the use of a color scale. This scale may be found on the left hand side of each image. Anything appearing yellow in these image is greater than or equal to the maximum value of the scale. To find the illuminance value of at a point within the space, simply find its corresponding color on the scale.

figure 9: [vision glass 10:00 March21st]

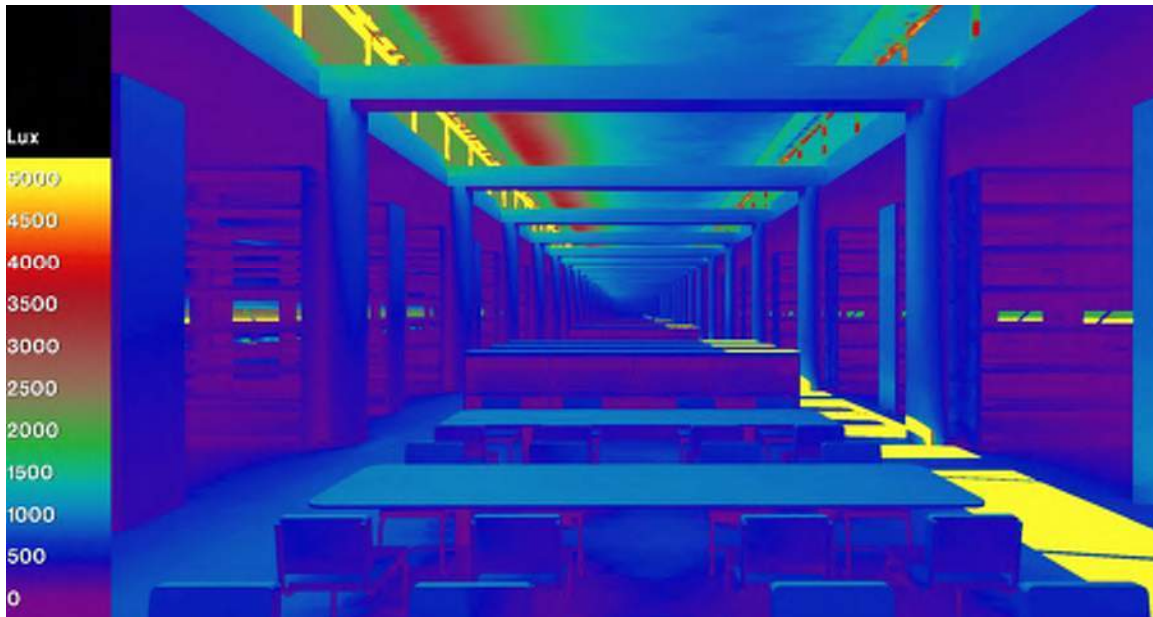


figure 10: [Solera 10:00 March21st]



figure 12: [vision glass 11:00 March21st]



figure 13: [Solera 11:00 March21st]



figure 14: [vision glass 12:00 March21st] (Top down view)



figure 15: [Solera 12:00 March21st] (Top down view)



figure 16: [vision glass 16:00 March21st]



figure 17: [Solera 16:00 March21st]





*05*

# **COST ESTIMATE**



# McGOUGH

*Building for the Next Generation*

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## DULUTH PUBLIC LIBRARY BASIS OF PROPOSAL ESTIMATE DATED 11/03/2020

### **General**

1. Inclusions
  - A. Based on documents provided by Gensler and TKDA dated 09.29.2020
  - B. Assumes a 12-month schedule and Spring 2023 start
  - C. Assumes that building is vacated
  - D. Design Contingency
  - E. Construction Contingency
  - F. Building Permit
  - G. Performance Bond
  - H. Escalation
  - I. Assumes this project is not tax exempt
  - J. Soft Costs – to be validated by others
2. Exclusions
  - A. Project Contingency – see soft cost allowance
  - B. Builders Risk is By Owner
  - C. Building Code Upgrades
  - D. Architectural or engineering fees & reimbursables – see soft cost allowance
  - E. Hazardous waste removal – see soft cost allowance
  - F. 3<sup>rd</sup> Party Commissioning agent
  - G. Temporary or permanent moving costs – see soft cost allowance
  - H. On site security guard
  - I. LEED Certification and/or documentation
  - J. Work outside of site boundary
  - K. Outdoor Parks/landscaping
  - L. Technology and Furniture

### **Existing Conditions**

1. Inclusions
  - A. Demolition of Exterior Metal Panels
  - B. Demolition of Exterior Glazing
  - C. Interior Demolition of Areas shown on plans
2. Exclusions
  - A. Main Entry at Lower Level to remain as is
  - B. “Back of House” to remain as is.

### **Structure**

1. Inclusions
  - A. None
2. Exclusions
  - A. Structural Modifications
  - B. Upgrades for future vertical expansion

### **Exterior Enclosure**

1. Inclusions
  - A. New Aluminum Composite Metal Panel Wall System – Standard Color



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*Building for the Next Generation*

- B. Triple Pane Glazing
  - C. Cleaning only of Concrete Columns
  - D. Assumes replacing 25% of the existing cold metal framing
  - E. Deep Stud Cavities filled with R-8 Batt Insulation
2. Exclusions
- A. Exterior Signage
  - B. Rooftop Screen Walls
  - C. Custom Metal Panel Color
  - D. Exterior building canopies not shown specifically on drawings
  - E. Exterior sunscreen/sun shading systems not shown specifically on drawings
- A. Window testing
  - B. Colored, etched, sandblasted, or patterned glass
  - C. Heat soaking of curtain wall and glazed systems

## ***Roofing***

1. Inclusions
- A. Removal of existing roofing
  - B. Fully adhered EPDM Roof – 90 Mil, 30 Year Warranty
  - C. R-45 Insulation at Roof
  - D. Roof Walkway Pads

## ***Interiors***

1. Inclusions
- A. Interior Finishes Per Architectural Narrative dated 9/29/2020
  - B. Paint Touch-up throughout whole building
  - C. New Ceilings and Flooring
  - D. New Carpet Flooring at Stairs
  - E. Perforated Wood Look Ceilings reduced by 30% per Gensler email 10.20.2020
2. Exclusions
- A. Finishes at Areas in Red (see attached)
  - A. Window treatments
  - B. Access flooring
  - C. Artwork, display rails, interior plantings & planters
  - D. Office shelving, bookcases or storage cabinets
  - E. Furniture or furnishings (seating, bookcases, etc.)
3. Allowances
- A. Signage - \$15,000

## ***Stairs***

1. Inclusions
- A. None
2. Exclusions
- A. Code upgrades to stairs

## ***Building Equipment***

1. Inclusions
- A. None
2. Exclusions
- A. Furniture, fixtures and equipment (FF&E)



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- B. Installation and connection of FF&E
- C. Kitchen equipment
- D. Audio/Visual equipment, screens or supports
- E. Vending equipment
- F. Waste handling equipment
- G. Relocation of existing equipment

## ***Conveying Systems***

- 1. Inclusions
  - A. None
- 2. Exclusions
  - A. Upgrades to existing elevators

## ***Mechanical***

- 1. Inclusions
  - A. Demo of existing HVAC systems, domestic water pipe, and plumbing fixtures per TKDA's Mechanical Narrative
  - B. HVAC system including DOAS unit, fin-tube radiation, unit heaters, and VRF fan coil system with heat recovery
  - C. Ductwork and piping for mechanical systems listed above
  - D. Plumbing fixtures and equipment listed in TKDA's Mechanical Narrative
  - E. Domestic water piping serving associated equipment and fixtures
  - F. Temperature controls (DDC)
  - G. Insulation for piping and ductwork, as required by code
  - H. Testing and balancing
  - I. Local plumbing and HVAC permits
  - J. Check / Test and startup of furnished and installed equipment
  - K. Replacement of Wet Fire Protection System throughout building
  - L. Modify Dry System in Parking Garage, Shipping and Receiving to new Wet System
- 2. Exclusions
  - A. Special fire protection systems (pre-action, deluge, chemical and/or CO2 suppression systems, vesda detection)
  - B. Dry Fire Protection System at Canopies

## ***Electrical***

- 1. Inclusions
  - A. Electrical & Low Voltage Based on Plans and Electrical Narrative
  - B. Fire Alarm Systems
  - C. Phone and Data Systems
  - D. Sound Masking
  - E. Linear Lighting reduced by 30% per TKDA email 10.20.2020
- 2. Exclusions
  - A. Photovoltaic Panels
  - B. Lightning Protection

**Owner:** City of Duluth  
**Project:** Duluth Public Library Renovation  
**GSF:** 66,368

**Estimator:** DuShane  
**Design Phase:** Conceptual  
**Date:** 11/3/2020

Description	Quantity	Unit	Rate	Total \$	Total %
<b>Construction Costs</b>					
1 Existing Conditions	66,368	GSF	14.74	\$977,988	4.30%
2 Sitework	66,368	GSF	0.00	\$0	0.00%
3 Substructure	17,952	FP	0.00	\$0	0.00%
4 Structure	66,368	GSF	0.00	\$0	0.00%
5 Exterior Enclosure	35,320	Ext SF	106.79	\$3,771,981	16.57%
6 Roofing	33,012	Roof SF	32.97	\$1,088,455	4.78%
7 Interiors	66,368	GSF	32.34	\$2,146,295	9.43%
8 Stairs	0	Flights	0.00	\$0	0.00%
9 Building Equipment	66,368	GSF	0.00	\$0	0.00%
10 Conveying Systems	0	EA	0.00	\$0	0.00%
11 Mechanical	66,368	GSF	70.78	\$4,697,300	20.63%
12 Fire Protection	66,368	GSF	2.25	\$149,328	0.66%
13 Electrical	66,368	GSF	25.75	\$1,708,976	7.51%
14 Low Voltage Electrical Systems	66,368	GSF	15.55	\$1,032,022	4.53%
15 General Conditions	12	MO	106,996	\$1,283,947	5.64%
16 Weather Conditions	66,368	GSF	2.26	\$150,000	0.66%
17 Hoisting	12	MO	0.00	\$0	0.00%
<b>Subtotal of Construction Costs</b>	<b>66,368</b>	<b>GSF</b>	<b>256.24</b>	<b>\$17,006,292</b>	<b>74.69%</b>
<b>Miscellaneous Costs</b>					
18 Permit Fees				\$156,594	0.69%
19 SAC/WAC Fees				\$0	0.00%
20 Surveying/Layout				\$0	0.00%
21 Testing & Inspections				\$0	0.00%
22 Builder's Risk & Deductibles				\$0	0.00%
23 Performance Bond				\$172,500	0.76%
24 Subcontractor Default Insurance				\$171,734	0.75%
25 Pre-Construction Services				\$0	0.00%
26 General Liability Insurance				\$164,879	0.72%
<b>Subtotal Construction &amp; Misc. Items</b>	<b>66,368</b>	<b>GSF</b>	<b>266.27</b>	<b>\$17,671,999</b>	<b>77.62%</b>
<b>Fees &amp; Contingency</b>					
27 Design Contingency	10.00	%		\$1,752,052	7.70%
28 Construction Contingency	5.00	%		\$876,026	3.85%
29 Escalation: Mid Pt of Construction	8.98	%		\$1,809,344	7.95%
30 D-B Design Fees	0.00	%		\$0	0.00%
31 Construction Fee	3.00	%		\$658,738	2.89%
<b>Grand Total Construction Costs</b>	<b>66,368</b>	<b>GSF</b>	<b>343.06</b>	<b>\$22,768,159</b>	<b>100.00%</b>

**Owner:** City of Duluth  
**Project:** Duluth Public Library Renovation  
**GSF:** 66,368

**Estimator:** DuShane  
**Design Phase:** Conceptual  
**Date:** 11/3/2020

Description	Quantity	Unit	Rate	Total \$	Total %
<b>Soft Costs</b>					
32 Furniture, Fixtures and Equipment				\$1,000,000	%
33 Computers				\$360,000	%
34 Design Fees (Architectural and Engineering)				\$2,276,816	%
35 Testing				\$100,000	%
36 Temporary Facilities				\$200,000	%
37 Moving Costs				\$150,000	%
38 Hazardous Material Testing and Removal				\$50,000	%
39 Owner Project Contingency				\$1,350,000	%
<b>Grand Total Construction &amp; Soft Costs</b>	<b>66,368</b>	<b>GSF</b>	<b>425.73</b>	<b>\$28,254,974</b>	<b>%</b>

06

# APPENDIX

- COVID-19 response considerations
- Existing plans
- Site photographs



# Opening Strategies + Design Considerations





# 3 Incremental Shifts

## IMMEDIATE ACTIONS

### Day 1 : Authenticity

- Implemented curbside pick-up with no changes to facilities.
- Implemented chat services for reference
- Created virtual storytimes and other online programs
- Increased budget for e-books due to very heavy demand

## ONGOING PANDEMIC

### Day 2 : Flexibility

- Accommodate patron appointments for reference, partnerships, pick-ups, and holds. Consider timed & ticketed appointments.
- Increase visibility and ease of use for self-service check-out. Increase visibility and access to exterior free-standing book drops.
- Implement touch-less modifications to bathrooms in need of modifications.
- Eliminate free-standing merchandise, shelving, and displays
- De-Densify: Remove and put furniture in storage to discourage patrons from lingering.
- Exterior Spaces: Provide seating at the plaza to take advantage of WiFi availability.

## RE-IMAGINED FUTURE

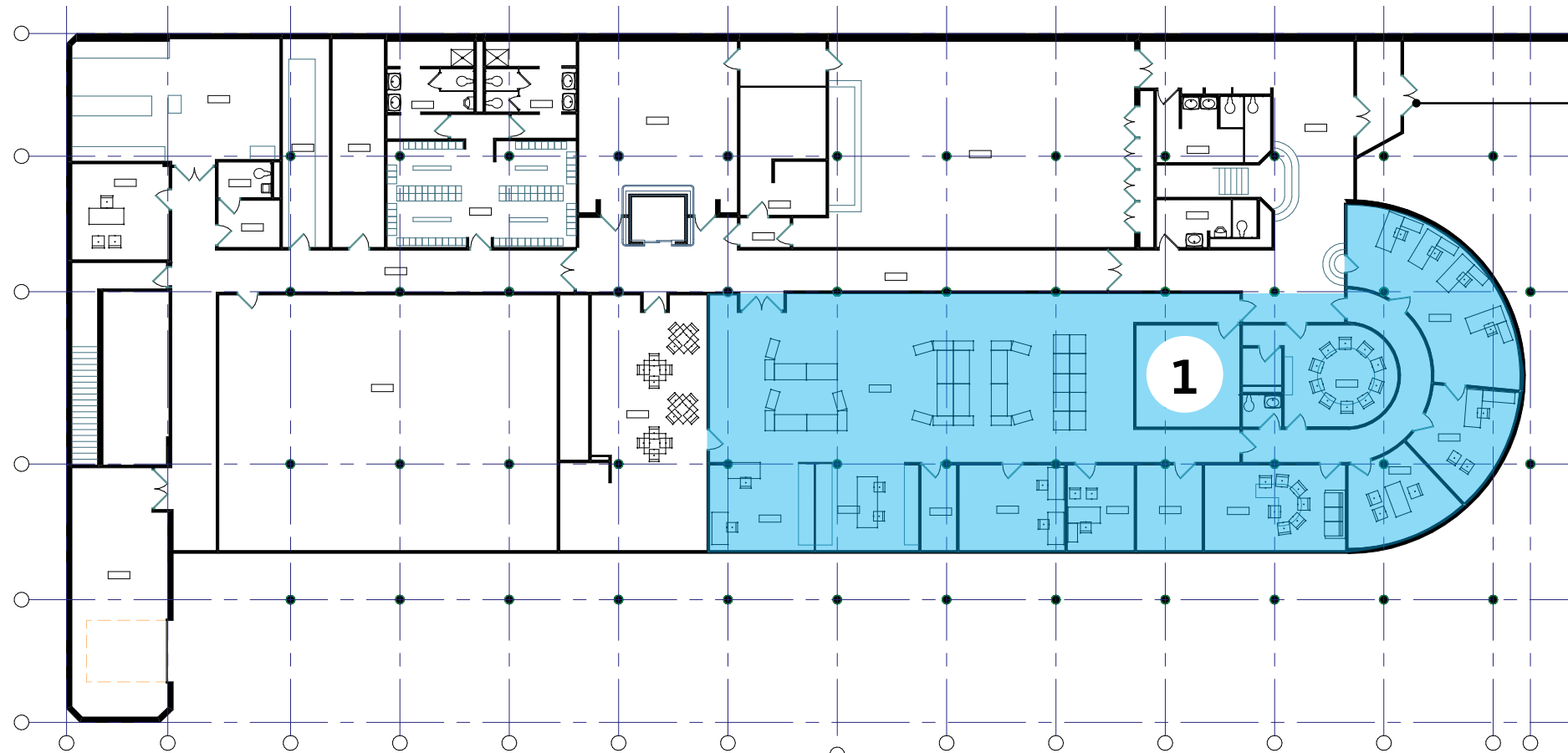
### Day 3 : Resiliency

#### Early considerations for Duluth Public Library

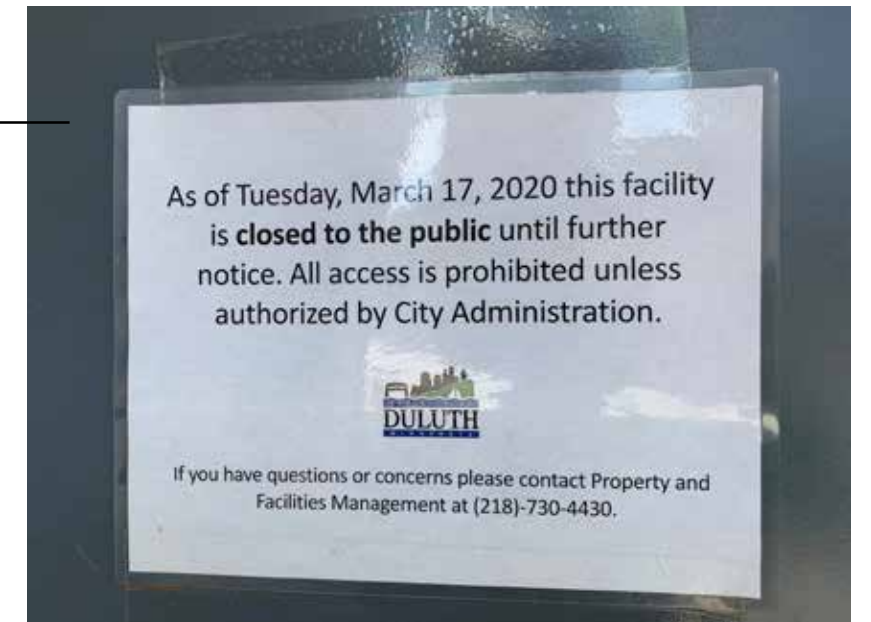
- Holistically reconsider use of space to address safety, de-densification, and access.
- Take a fresh look at opportunities that existing in our current building, such as re-locating staff from lower level Michigan street side to current periodicals on level 02.
- Redesign of lower level to be primary entrance for holds, reserves, and timed & ticketed appointments for reference and partnership
- Explore new ways to provide individuals access to partnerships located in the library.

# Day 1 Strategies

## LOWER LEVEL



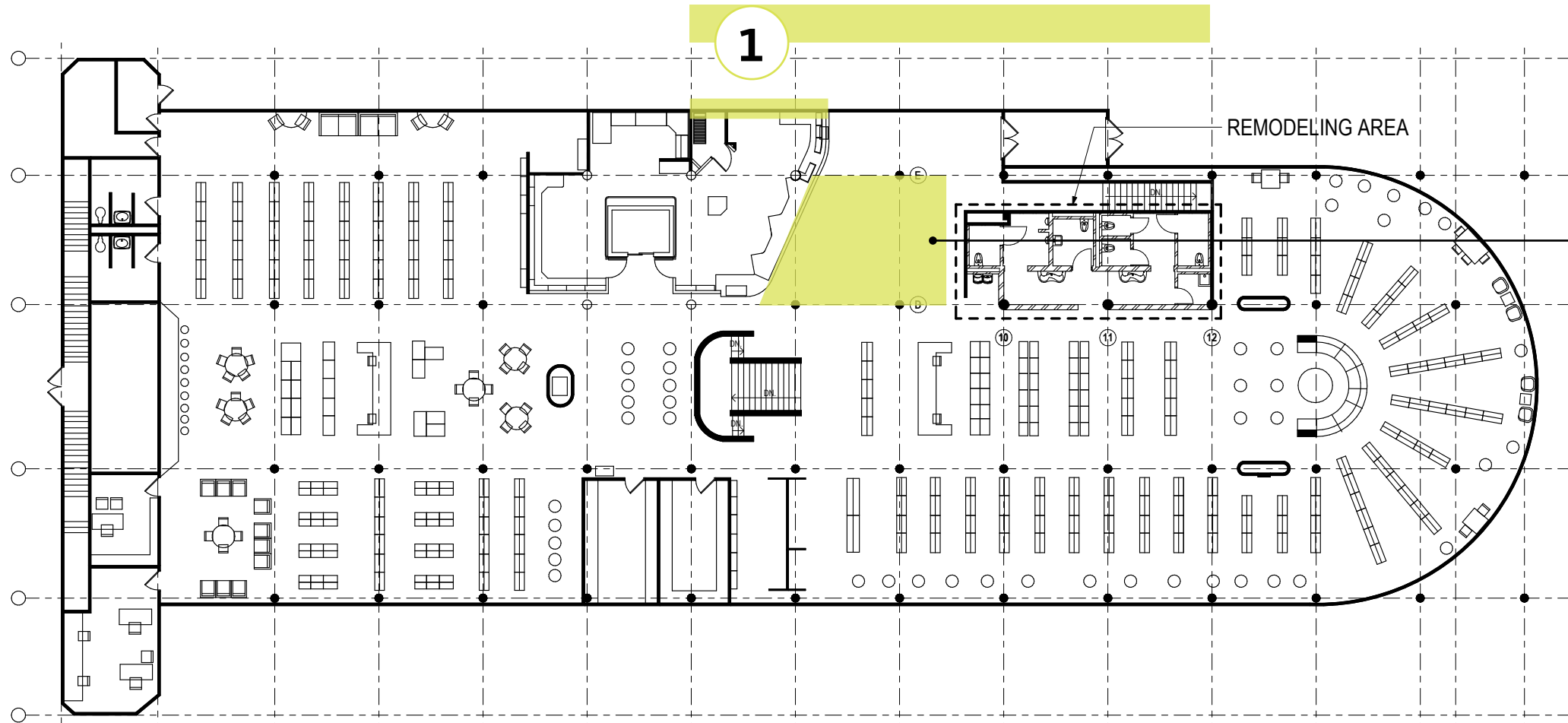
**1** Library workforce shifts to work from home / remote.



Library closed to public and employees transition to work from home

# Day 1 Strategies

LEVEL 01

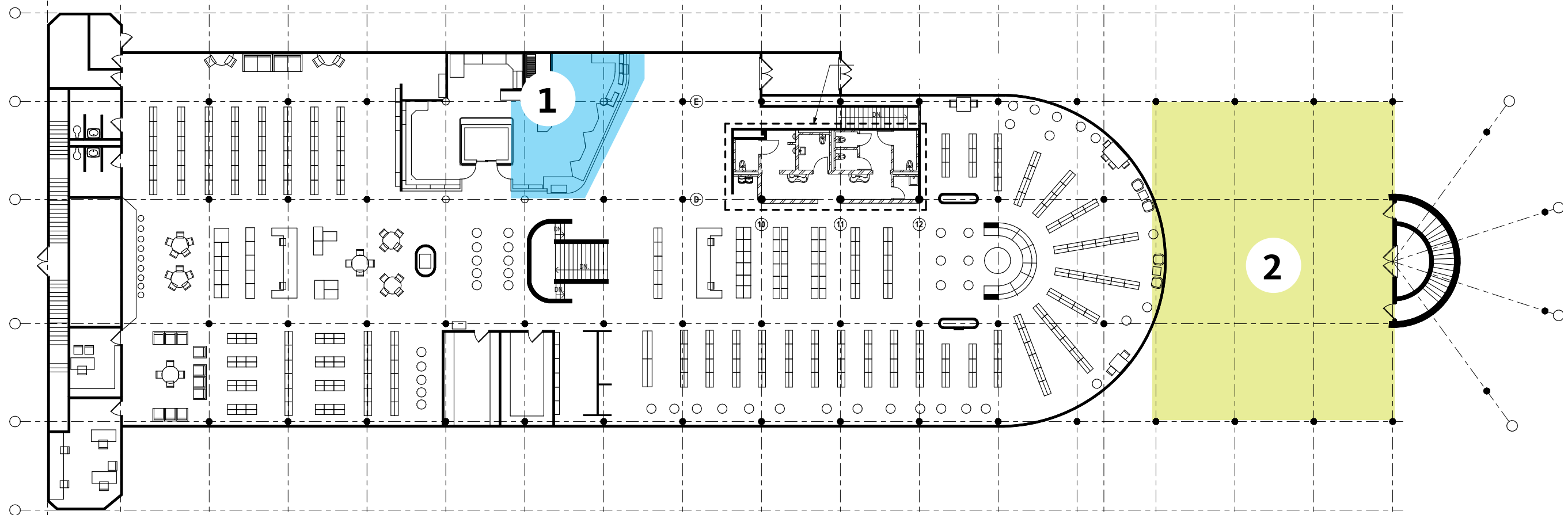


Holds currently located in lobby

- 1 Curbside pick-up implemented on level 01. Holds and reserves relocated to main entry for easy access.

# Day 1.5 Strategies

LEVEL 01

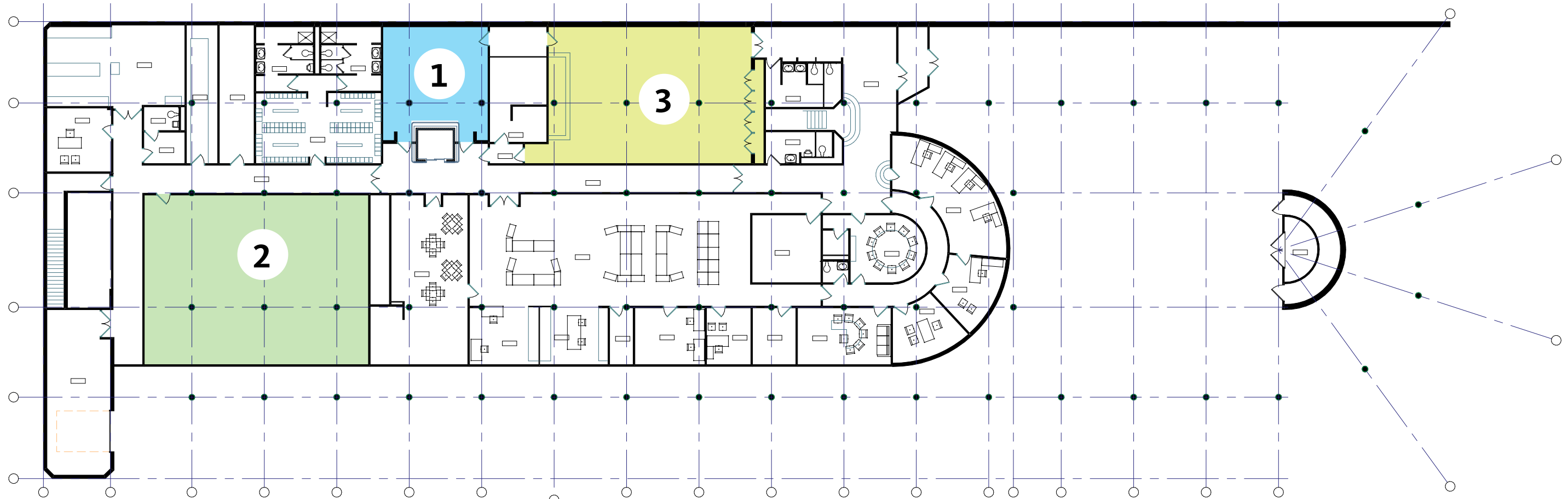


**1** Current proposed location for addition of new sliding glass transaction window.

**2** Leverage WiFi access to public at plaza. Provide seating.

# Day 2 Strategies

## LOWER LEVEL 01



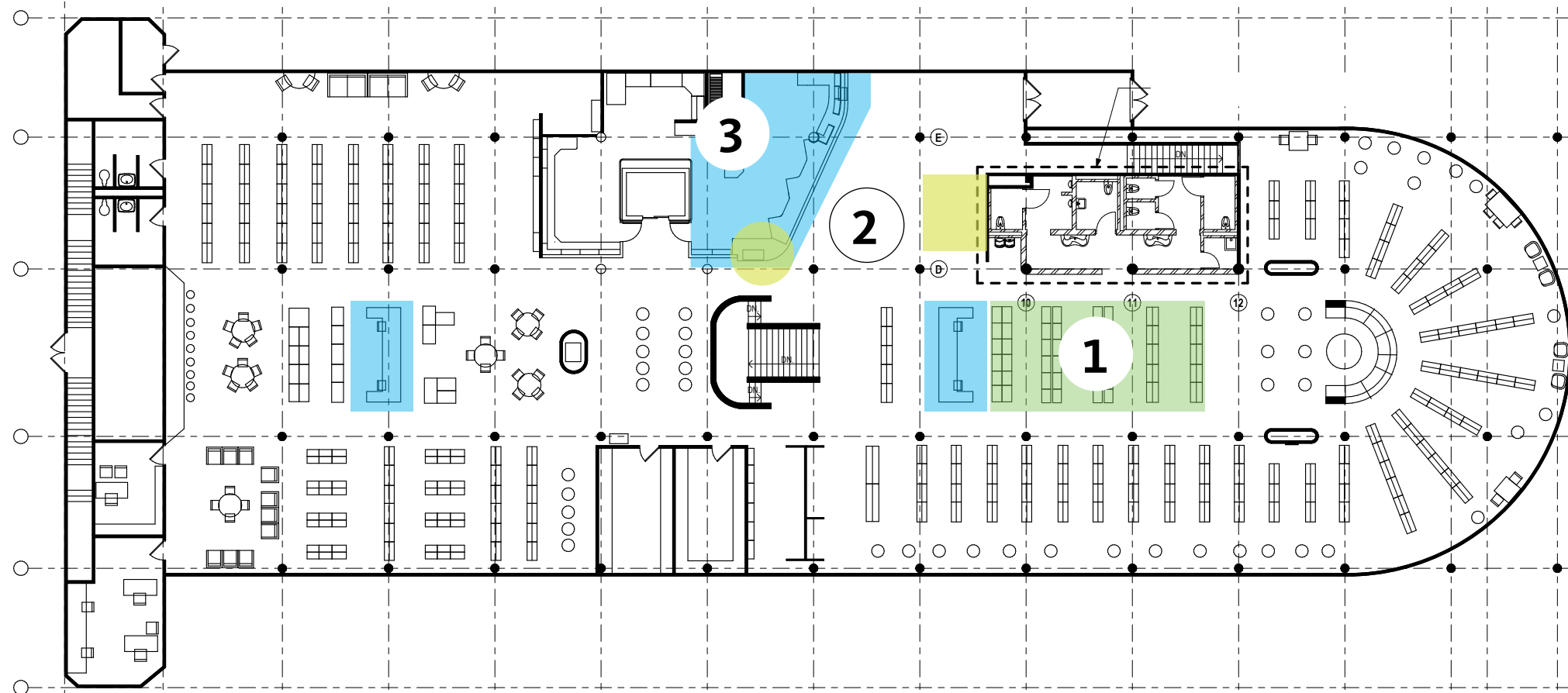
**1** Re-purpose existing small meeting room as production space for video, audio, and other digital content. Space to create and broadcast programming such as story-time, computer program education, etc.

**2** Re-purpose garage space as storage for quarantined returns and sanitized items.

**3** Existing multi-purpose room is optimal to accommodate small in-person meetings.

# Day 2 Strategies

LEVEL 01



Example of post-purchase add-on screens

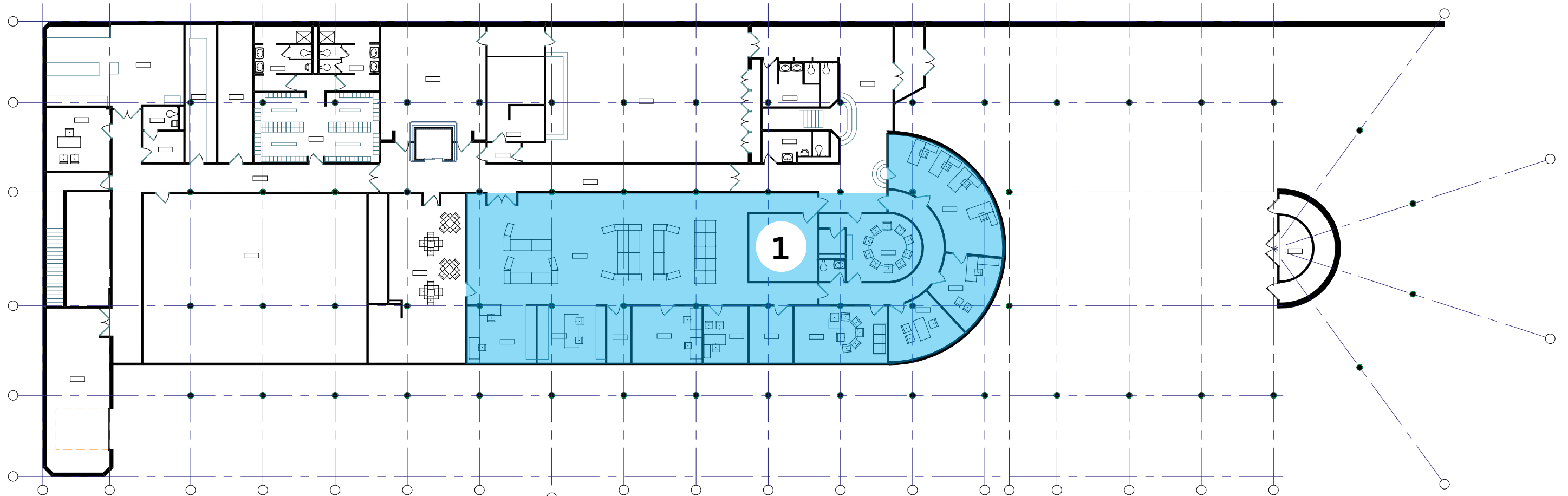
**1** Accommodate appointment only visits for reference, partnership, pick-ups, and holds through furniture solutions and removal of shelving.

**2** Increase self service zones for check-in and check-out, and other library services

**3** Install plastic screens & shields at service desks and in staff areas.

# Day 3 Considerations

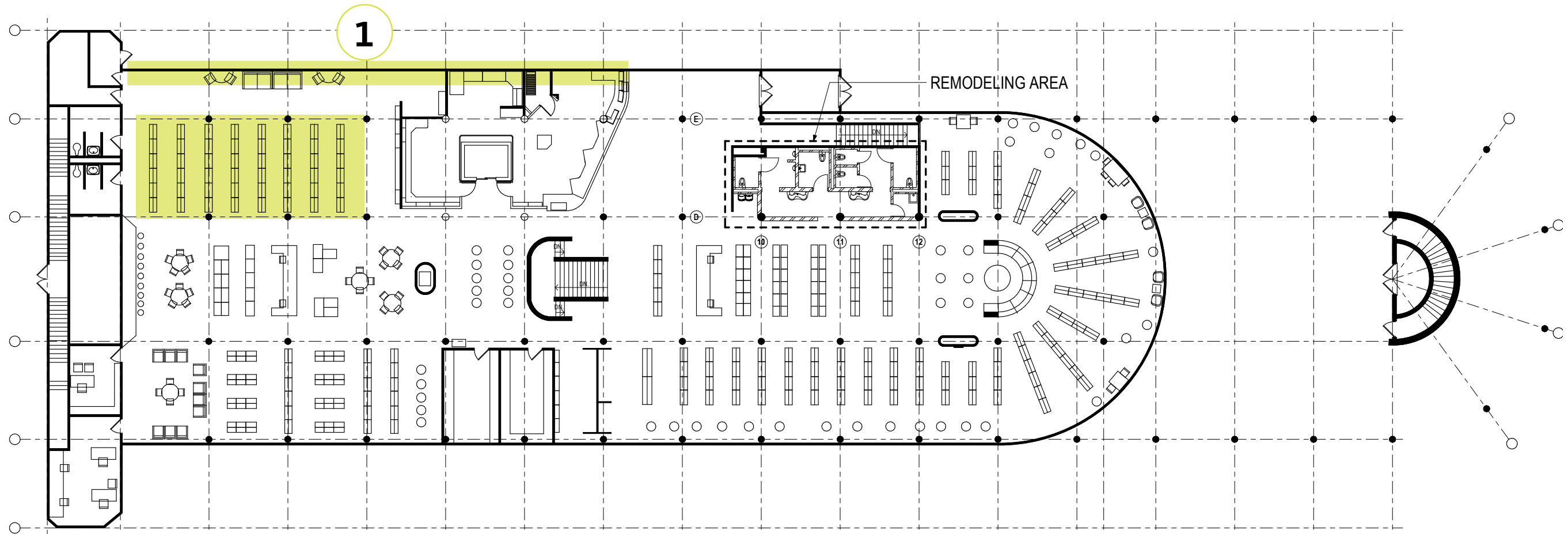
## LOWER LEVEL 01



- 1** Day 3 explores how we can innovate and provide bold solutions. It is an opportunity to re-look at how the unique qualities of the building allow for a mindshift in how the space functions in the future. Possibilities include a redesign of the lower level to be a primary entrance for holds, reserves, and timed & ticketed appointments for reference and partnership.

# Day 3 Considerations

LEVEL 01

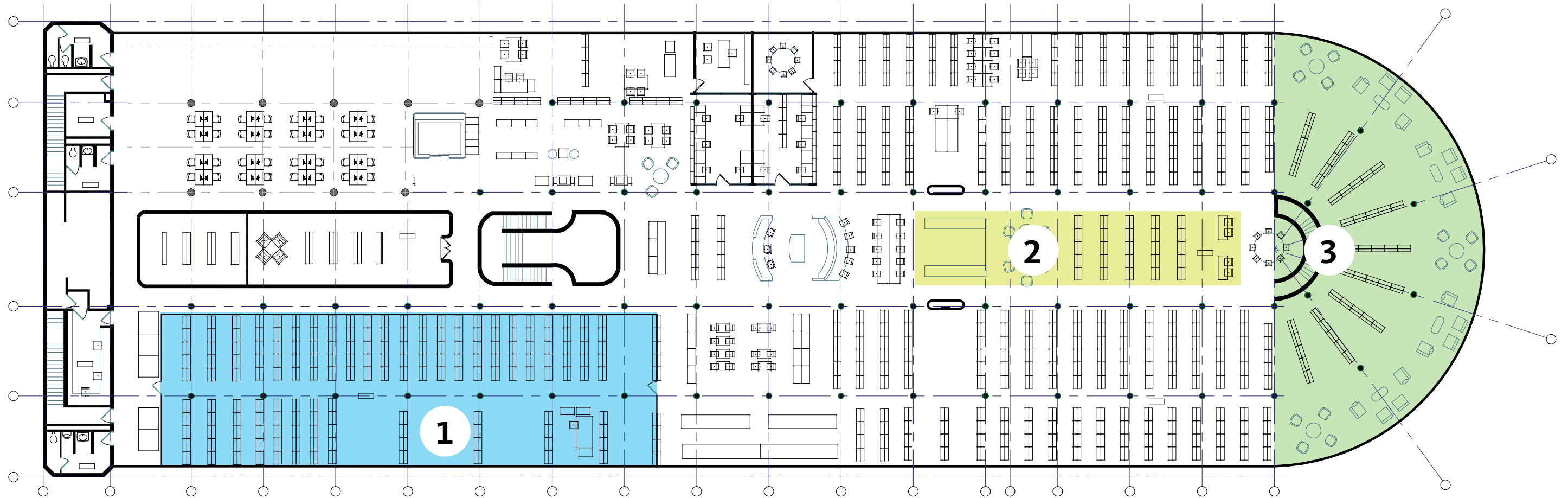


- 1 Modify teen collection space to become new pick-up/return window with staging for books, and connection to circulation desk



# Day 3 Considerations

## LEVEL 02



**1** Re-locate staff from lower level Michigan street side to current periodicals on level 02.

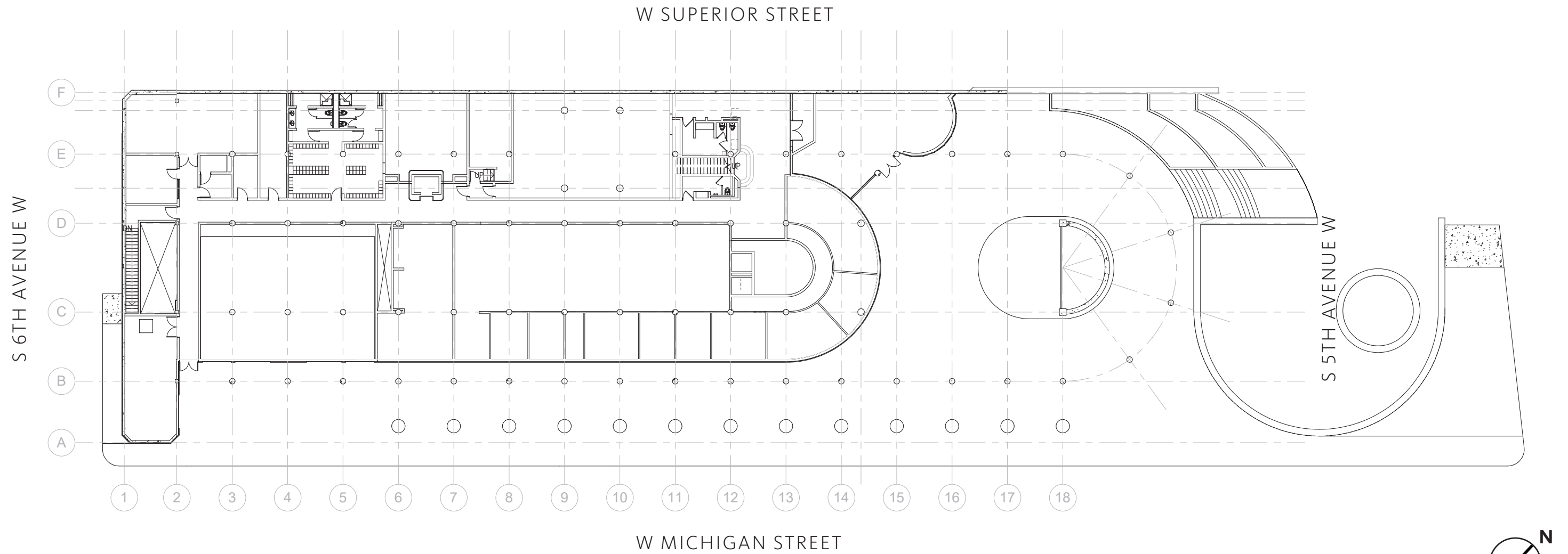
**2** Reconfigure the “living room” of the library to better serve individuals in need of technology for reference, research, or other appointment based activities.

**3** Remove stacks and freestanding lounge furniture & re-purpose as a gathering and meeting space for partnership.



Authenticity  
Flexibility  
**RESILIENCE**

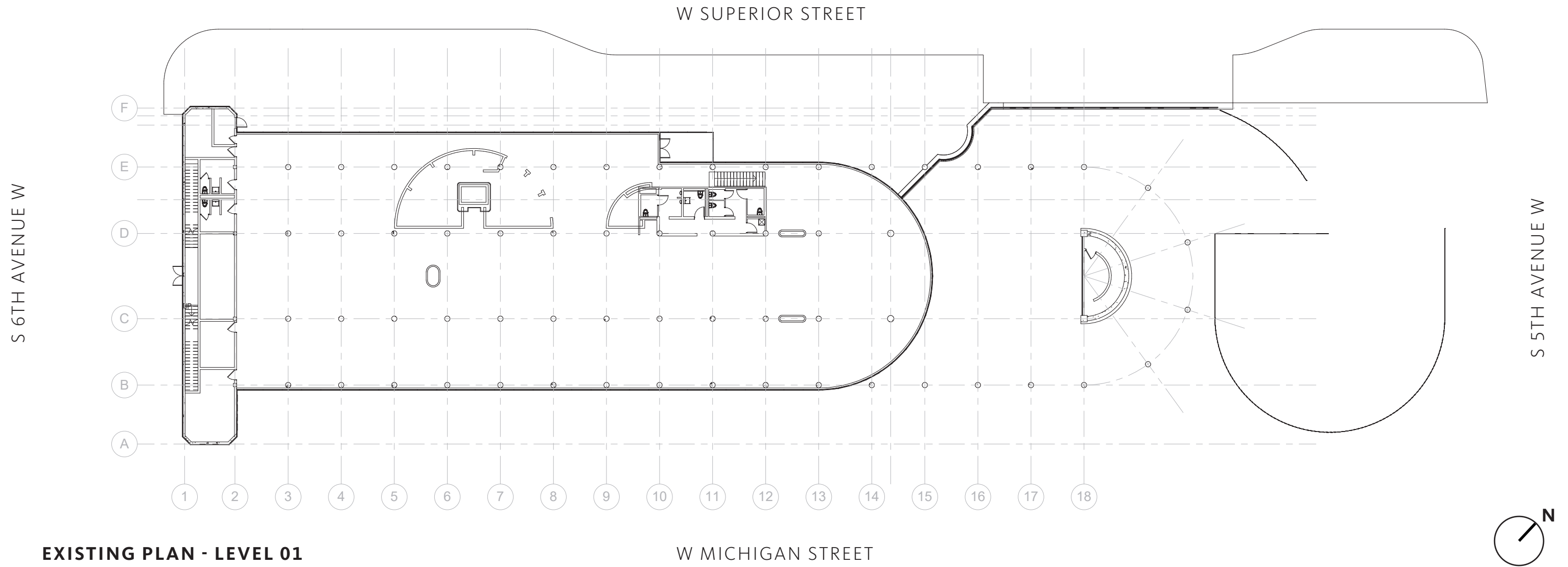
**LIBRARY PLANNING**



**EXISTING PLAN - LOWER LEVEL**

not to scale

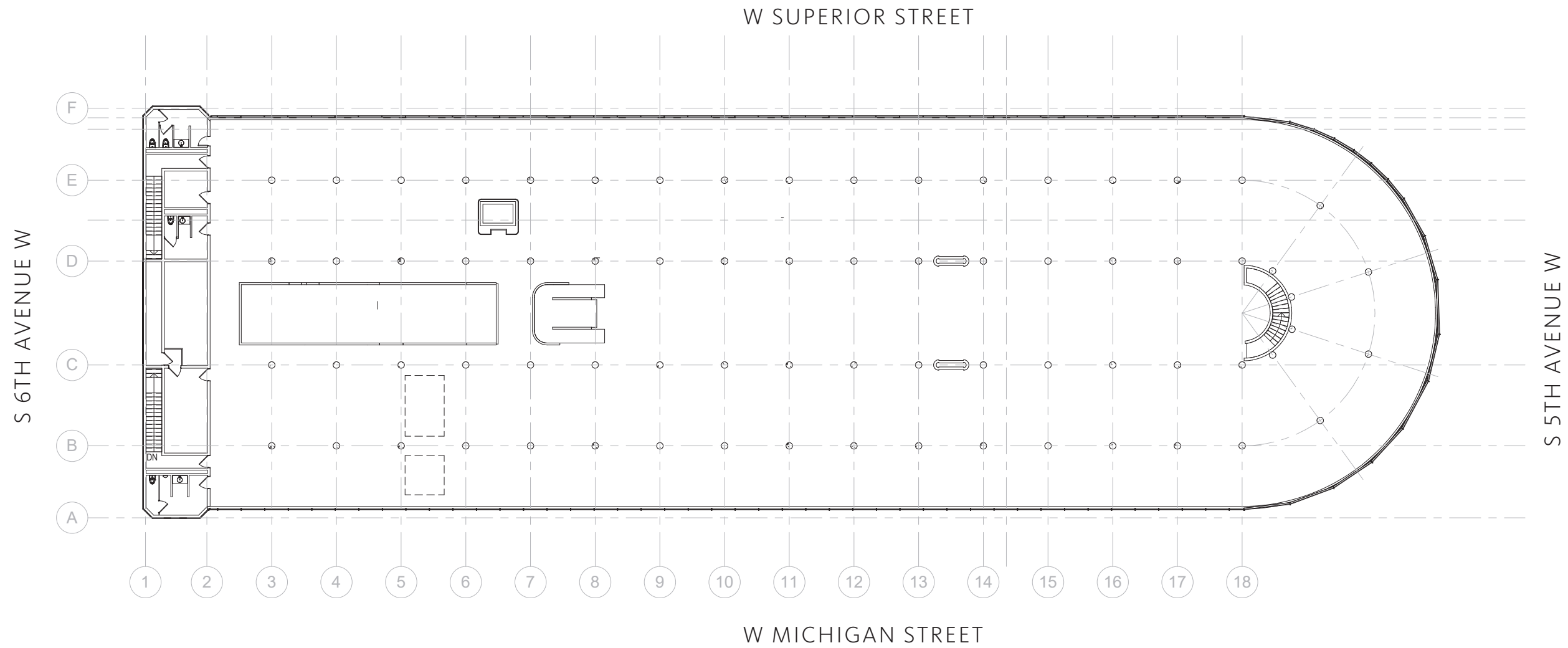
**LIBRARY PLANNING**



**EXISTING PLAN - LEVEL 01**

not to scale

**LIBRARY PLANNING**



**EXISTING PLAN - LEVEL 02**



not to scale

## SITE PHOTOS



# SITE PHOTOS



## SITE PHOTOS

