Takoma Park Maryland Library - Exterior Design

Council Meeting – July 8, 2020

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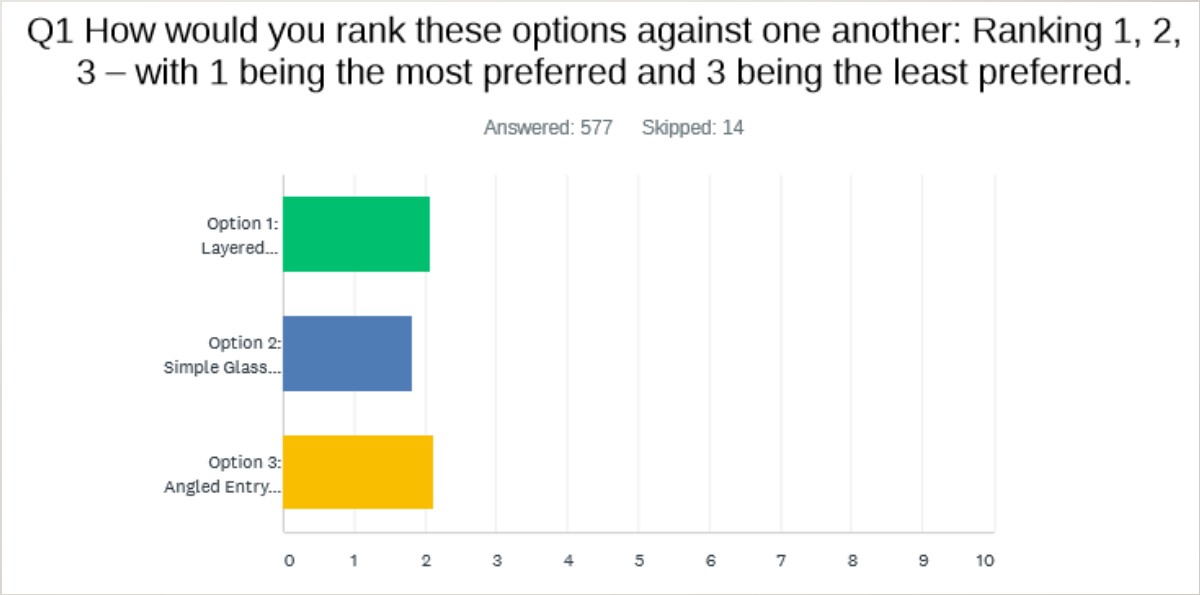
PUBLIC FEEDBACK ON LIBRARY EXTERIOR DESIGN

- On June 19, the City posted a survey asking Takoma Park residents to rank the design options in order of preference.
- The survey was open through July 6; there were 577 responses.
- The winning design was Option 3, by a slim margin over Option 1.



OPTION	OPTION DEFINING FEATURES	SURVEY SCORE
Option 1	Swooped Roof and Layered Horizontal Sunshades	2.08
Option 2	Flat Roof and Simple Glass Box	1.82
Option 3	Angled Roof for Entry and Lounge	2.11

PUBLIC FEEDBACK ON LIBRARY EXTERIOR DESIGN

- 172 respondents also left written comments explaining their ranking. City Council and the City Manager also received emailed feedback.
- Public feedback centered around a few main themes:
  - Cost effectiveness in the midst of a pandemic and economic recession
    - *Energy efficiency & maintenance costs with glass facades*
  - Architectural style
    - *Possibility of blending elements between the 3 options*
    - *Architectural consistency with the community center (modern vs. historical)*

Survey Written Comments - Top 5 Categories	
Comment Category	**Number of Commenters**
Architectural Style (Pro and Con)	114
Cost of Project Concerns	57
General Praise/Thank Yous	32
More Architectural Consistency with Community Center	24
Energy Efficiency & Environmental Sustainability Concerns	24

COST DIFFERENCES BETWEEN THE DESIGNS

Cost Comparisons:

Option 1: Layered Horizontal Sunshades - **$8.6 Million**

Option 3: Angled Entry & Lounge - **$8.46 Million**

Option 2: Simple Glass Box - **$8.34 Million**

HVAC System Options & selection

a. **System choices- Geothermal, VRF (variable refrigerant flow, VAV (variable air volume)**
b. Efficiency (in order of efficiency) Geothermal, VRF, VAV
c. First Cost (in order of highest to lowest) Geothermal, VRF, VAV
d. Operational cost (in order of highest to lowest) Geothermal, VRF, VAV

Electrical lighting

a. Use of LED lighting to minimize power consumption & heat
b. Use of occupancy sensors

Glass vs. Solid exterior walls

a. Due to glass technology, the difference in energy performance has been significantly reduced. Therefore, the cost of energy may be 20%-30% higher with an all glass building over a building without glass.
b. However, all buildings will have a percentage of glass for windows and healthy buildings have glass for views, natural light, ability to automatically dim lights when daylight enters the building (cutting down on energy dependence), aesthetic purposes.

Construction of the Building

Quality of the exterior envelop- insulation of wall and roof assembly, tightness of construction (air & vapor barriers). The tighter and better insulated the construction, the smaller the HVAC system.

Geothermal is the most energy efficient system, but has the highest upfront cost ($80/sf) and highest maintenance cost at $1.25/sf/ yr. The annual energy cost is the lowest at $1.25/sf/yr.

Initial cost……..….$1.50 mil
Yearly energy cost..…….$23,750
Yearly maintenance cost…..…..$23,750

VRF is 10% less energy efficient compared with geothermal. The system is the middle option for upfront cost ($60/sf) and is 40% less than the geothermal maintenance cost at $0.75/sf. The annual energy cost is about $1.40/sf/yr.

Initial cost..……..….$1.14 mil
Yearly energy cost…….$26,600
Yearly maintenance cost……..$14,250

VAV system is 30% less energy efficient compared with geothermal. The system has the lowest installed cost ($40/sf) and is the easiest and least expensive to maintain at $0.50/sf/yr. the annual energy cost is the highest at $1.75/sf/yr.

Initial cost……..….$.760 mil
Yearly energy cost...…….$33,250
Yearly maintenance cost……..$9,500

ARCHITECTURAL ELEMENTS IN QUESTION

RRMM Lukmire Architects need direction on the following architectural elements to provide a further-refined construction cost estimate. Many of these elements were highlighted in the public comments on architectural style.

- **How strong should the lines framing the glass walls appear?**
- **How much solid masonry wall do we want to include in the glass exterior?**
- **What shape do we want for the roof overhang?**
- **What do we want the entrance of the library to look like?**
- **What kind of transition should there be between the community center and the entryway (staff workroom design)?**
- **Do we want a flat or sloped lounge roof?**
- **Would we like the mosaic to be framed in yellow or not?**
- **Would we like to use a landscaped roof or bioretention areas for stormwater management?**
- **Do we want photovoltaics on the roof?**

Existing Floor Plan

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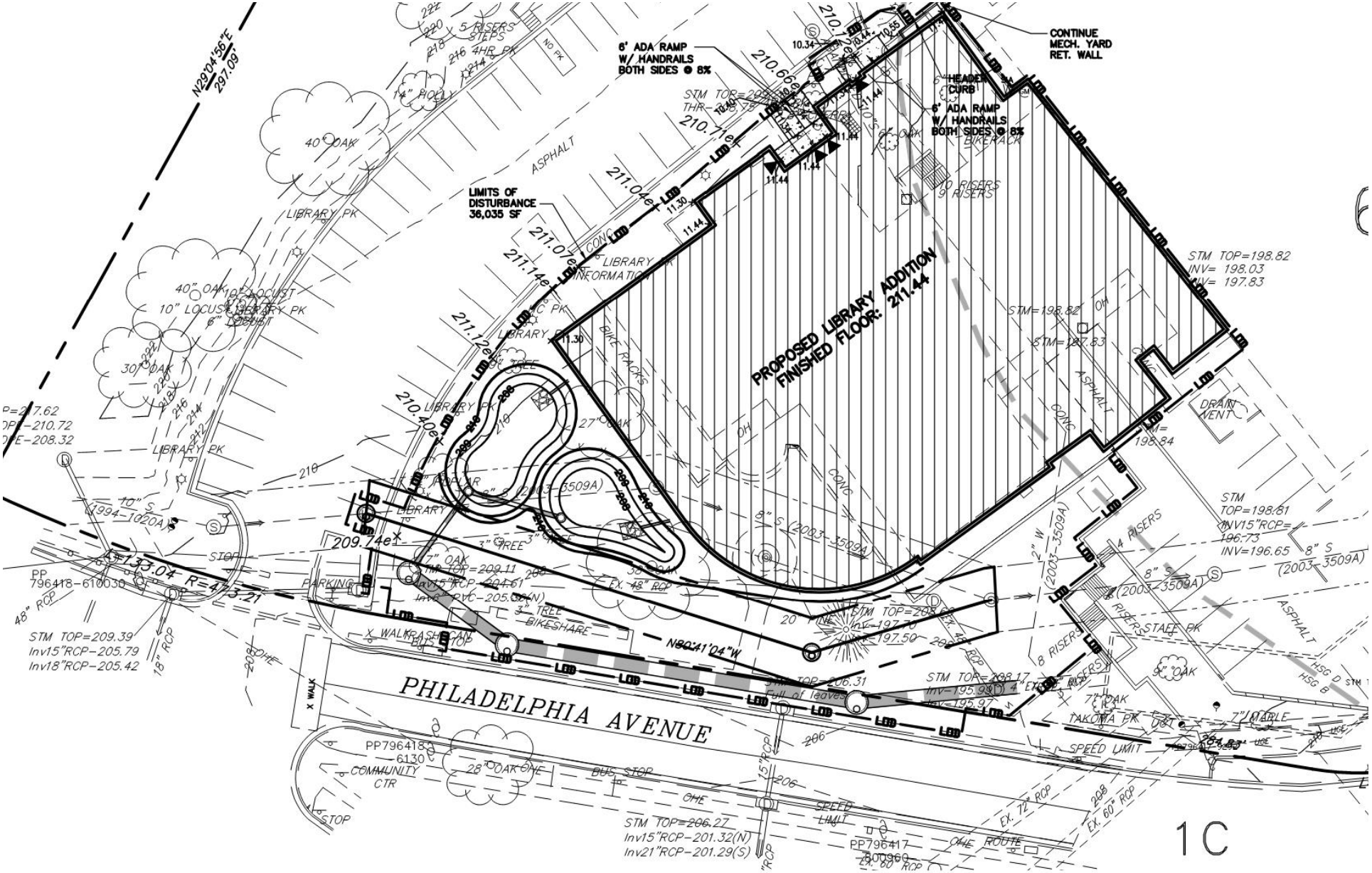
New Library Floor Plan



Stormwater Management - Bioretention

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Library Character Discussion

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Photos-Adjacent Community Center

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Photos-Adjacent Community Center

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1

2

3

Comparisons- Entry

1

2

3

Comparison- Massing

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1

2

3

Comparisons- From Philadelphia Ave

1

2

3

Comparisons – View from Philadelphia Avenue

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1

2

3

Comparisons- Lounge

PLAY VIDEO “FLY BY”
ANIMATIONS FOR EACH OPTION

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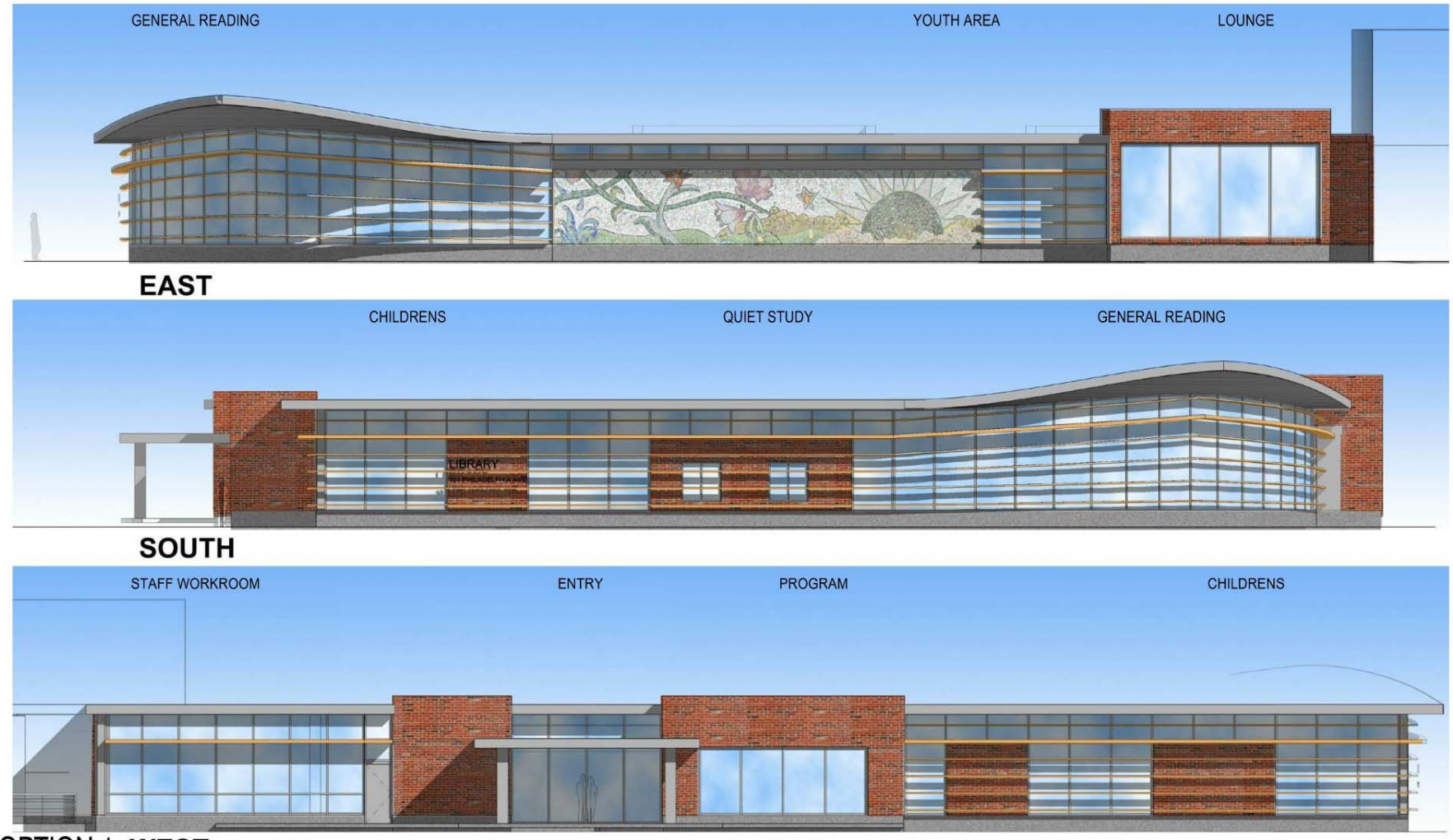
END OF POWERPOINT

(SLIDES THAT FOLLOW ONLY FOR REFERENCE IF NEEDED DURING Q&A)



Exterior Design Concept 1

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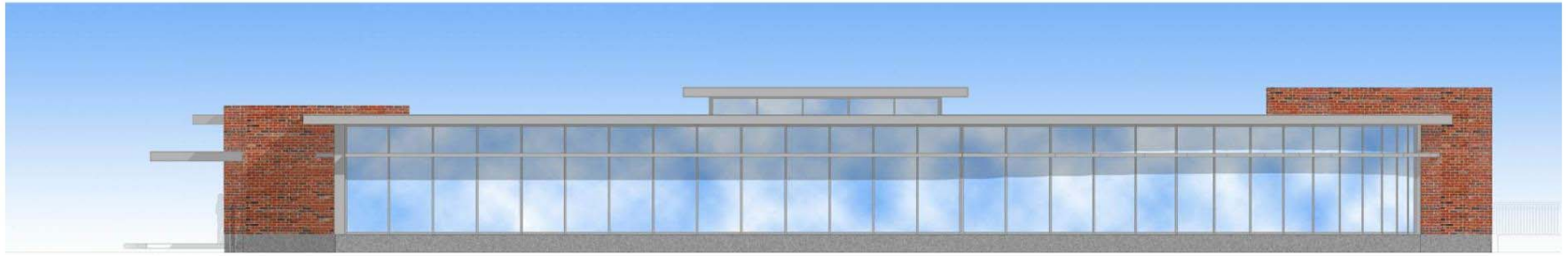
Exterior Design Concept 1

Exterior Design Concept 1

EAST



SOUTH

OPTION 2 **WEST**

Exterior Design Concept 2

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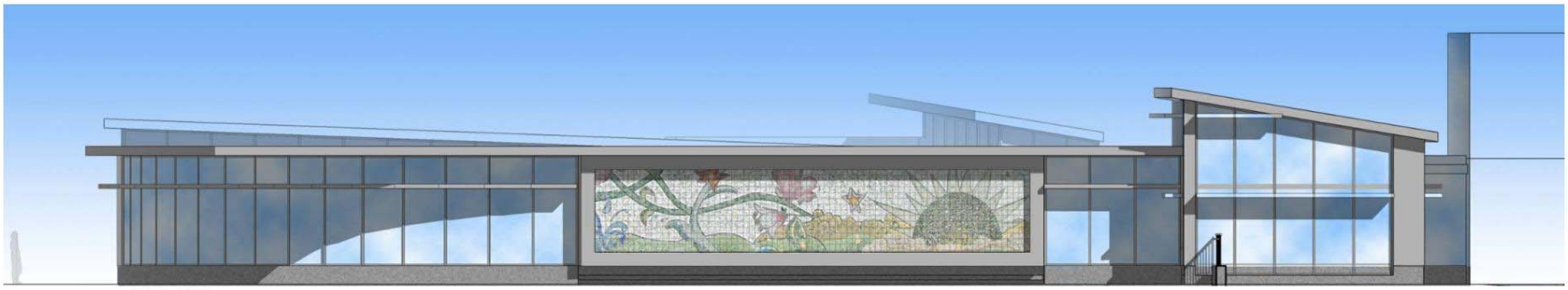
Exterior Design Concept 2

Exterior Design Concept 2

Exterior Design Concept 2

Exterior Design Concept 2

Exterior Design Concept 2



EAST

SOUTH

OPTION 3 **WEST**

Exterior Design Concept 3

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Exterior Design Concept 3

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Exterior Design Concept 3

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Exterior Design Concept 3

Finding

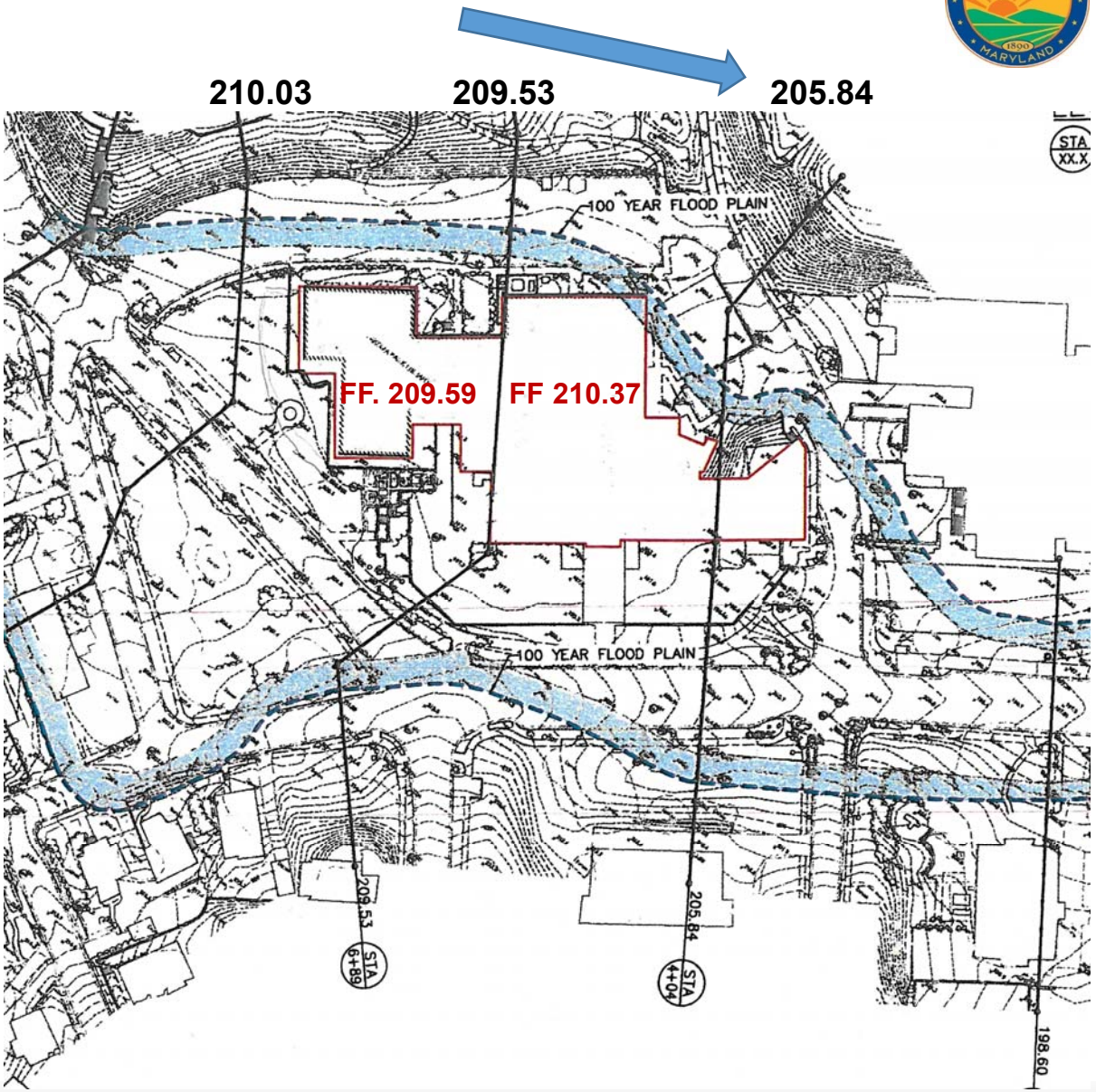
- Study established the current extent and level above sea level of the existing flood plain

Next Step

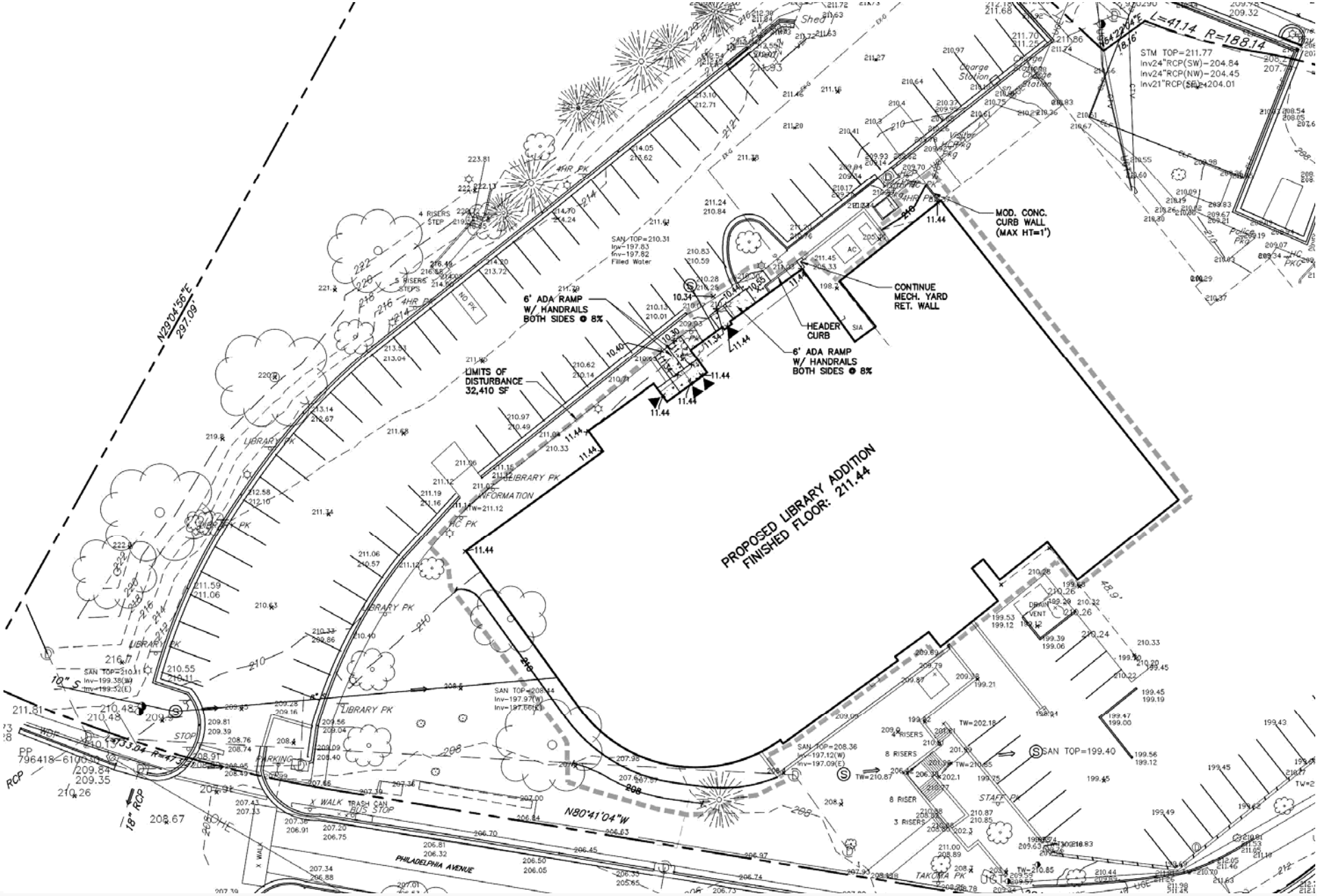
- Determine the impact to the flood plain of an expanded library, ie., does the flood plain rise when 4,400 SF is added to the ground floor?

- Whether or not it does, what is the architectural and engineering response?

Note : Flood plain elevation is lower as it goes downhill



Flood Plain Study



Grading Study (based on topo survey)

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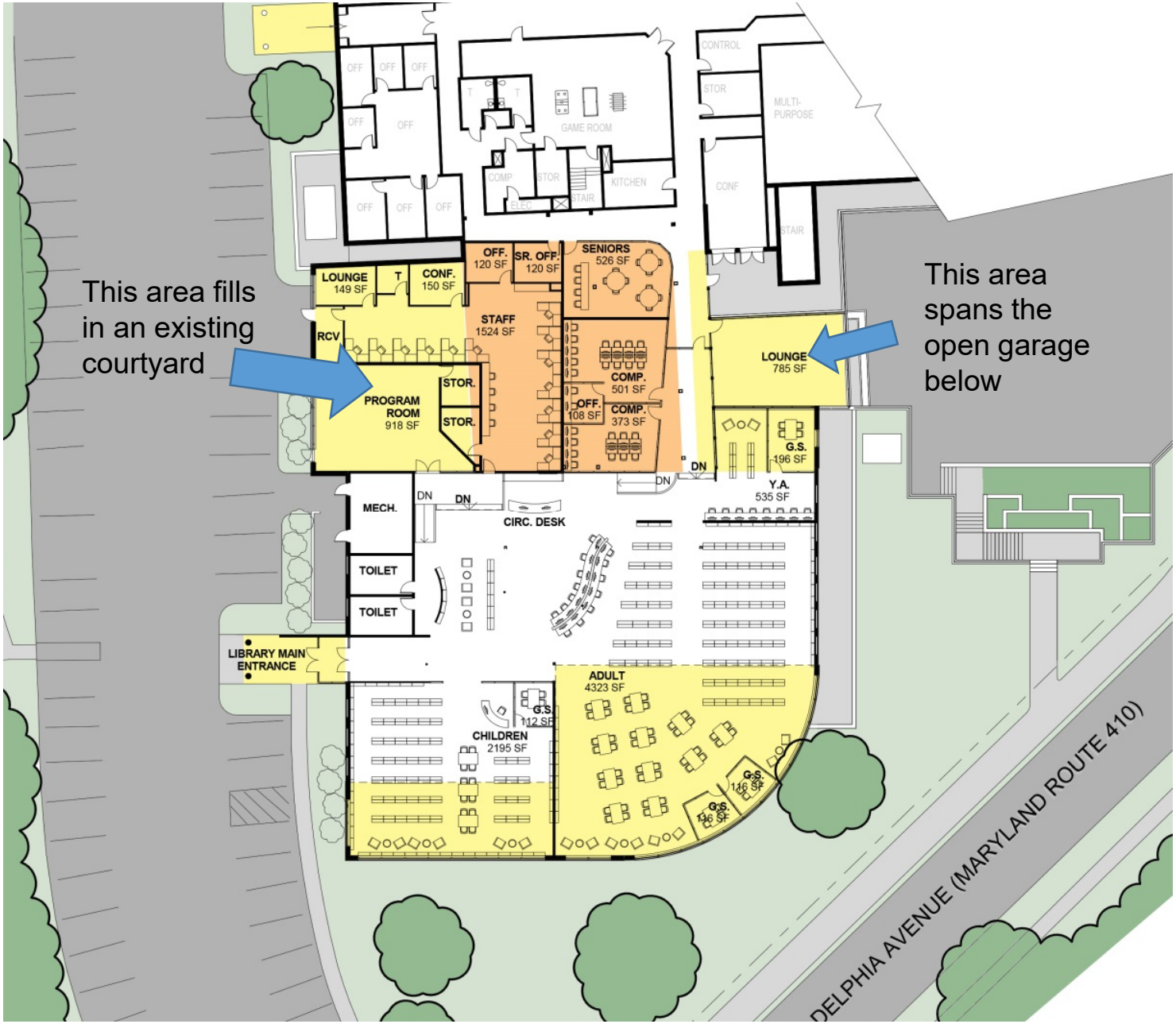

Explore enlarging the Library by:

- Infill area at existing flagpole
- Span underground parking outside of corridor connecting community center with Library
- Use this space for a lounge/ cyber café/ study area
- Create a more dynamic Architectural Image

Design Approach– 19,000 S.F.

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