

The current proposal is:

**Preservation Department – Item 6, LPC-21-04144**

**1000 Fifth Avenue – Metropolitan Museum of Art,  
Borough of Manhattan**

**How to Testify Via Zoom:**

**<https://us02web.zoom.us/j/87273483259?pwd=QXpwMTlkSU1TZHN0aUhRWDRKTE44UT09>**

**Webinar ID:** 872 7348 3259

**Passcode:** 812556

By Phone:

1 646-558-8656

US (New York) 877-853-5257 (Toll free)

US 888 475 4499 (Toll free)

**Note:** If you want to testify on an item, join the Zoom webinar at the agenda’s “Be Here by” time (about an hour in advance). When the Chair indicates it’s time to testify, “raise your hand” via the Zoom app if you want to speak (\*9 on the phone). Those who signed up in advance will be called first.

**THE  
MET**

**THE METROPOLITAN  
MUSEUM OF ART**

**ROCKEFELLER WING  
SLOPED GLAZING  
PROPOSED REPLACEMENT**

**DESIGN OF POTENTIAL FUTURE  
REPLACEMENT OF TEMPLE OF  
DENDUR WING SLOPED GLAZING  
AND ROCKEFELLER AND TEMPLE  
OF DENDUR WING SKYLIGHTS**

**SUBMISSION TO LANDMARKS  
PRESERVATION COMMISSION**

**BEYER  
BLINDER  
BELLE**

**FEBRUARY 1, 2021  
REVISION 3**

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  - 3c. Precedent: ABC Wings Skylight Replacement

## **BBB DESIGN TEAM**

**Beyer Blinder Belle  
Architects & Planners, LLP**  
Architecture and Planning

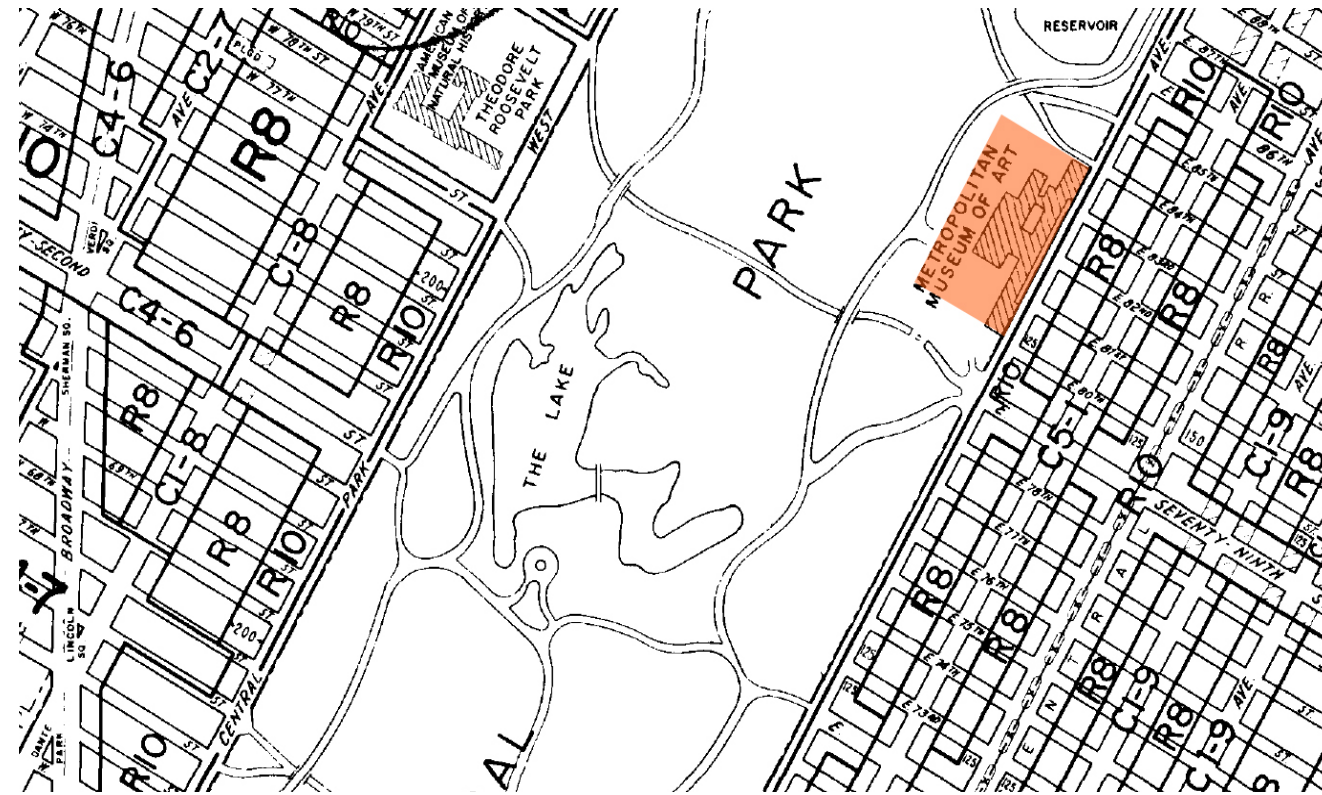
**Arup**  
Facade and Daylighting

**Kohler Ronan, LLC**  
Mechanical, Electrical,  
Plumbing, and Fire Protection  
Engineers (MEP/FP),  
Energy Modeling

**Wiss, Janney, Elstner  
Associates (WJE), Inc.**  
Exterior Building Envelope,  
Roofing, Masonry Repair and  
Restoration, Waterproofing

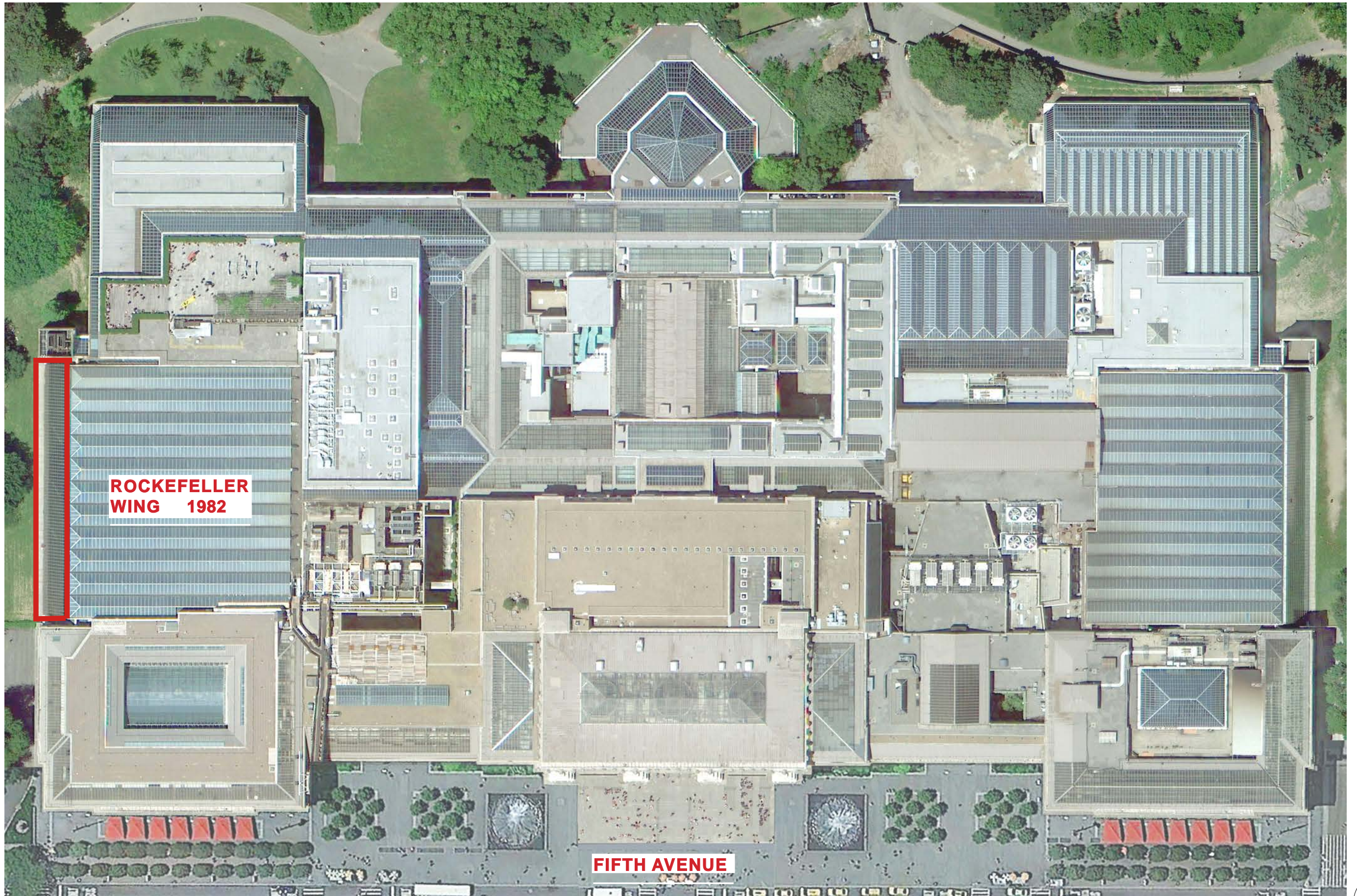
**Thornton Tomasetti**  
Structural Engineers

**wHY**  
Exhibit Design Architect

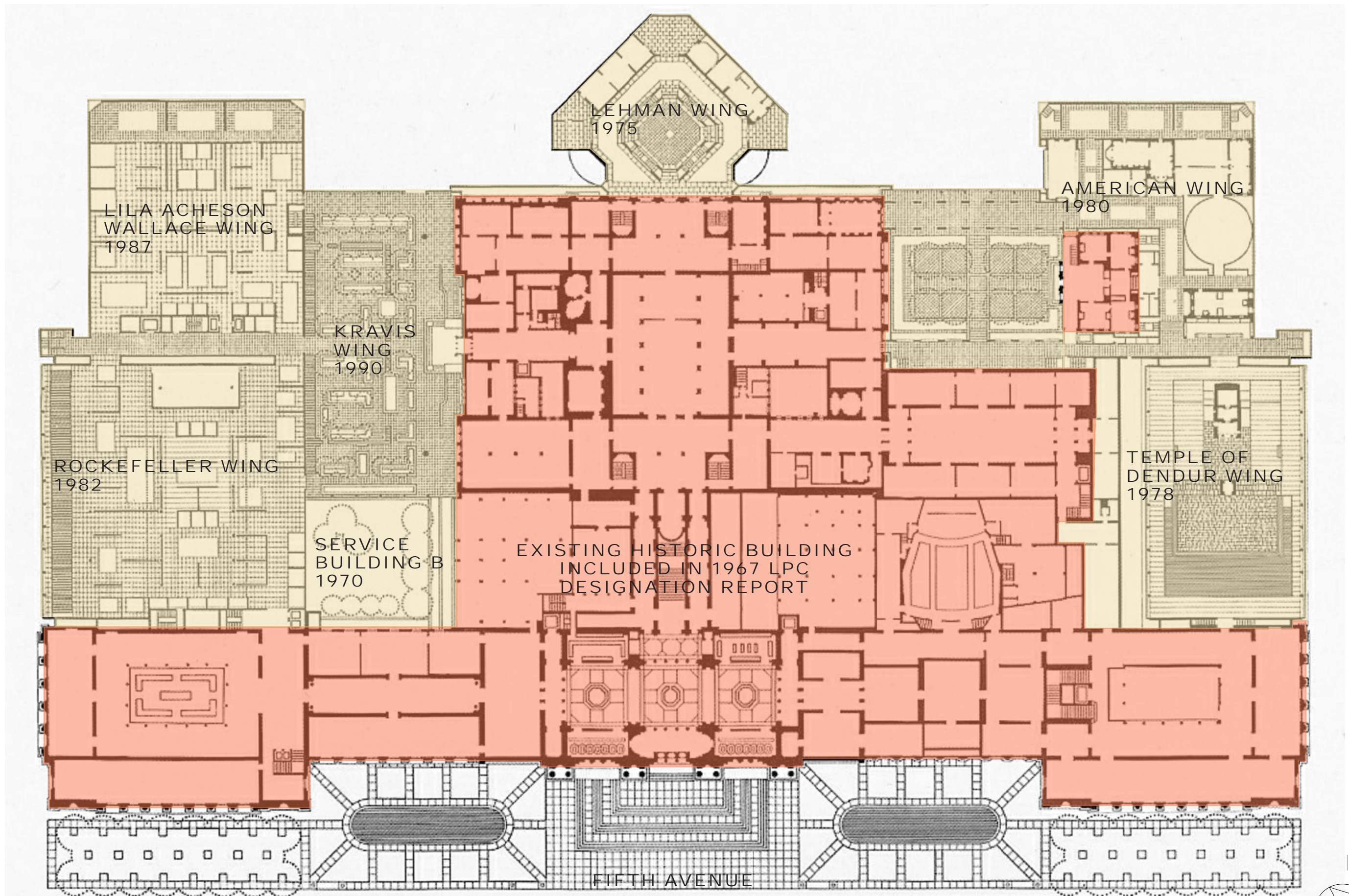


ZONING MAP

# 1. LOCATION AND CONTEXT



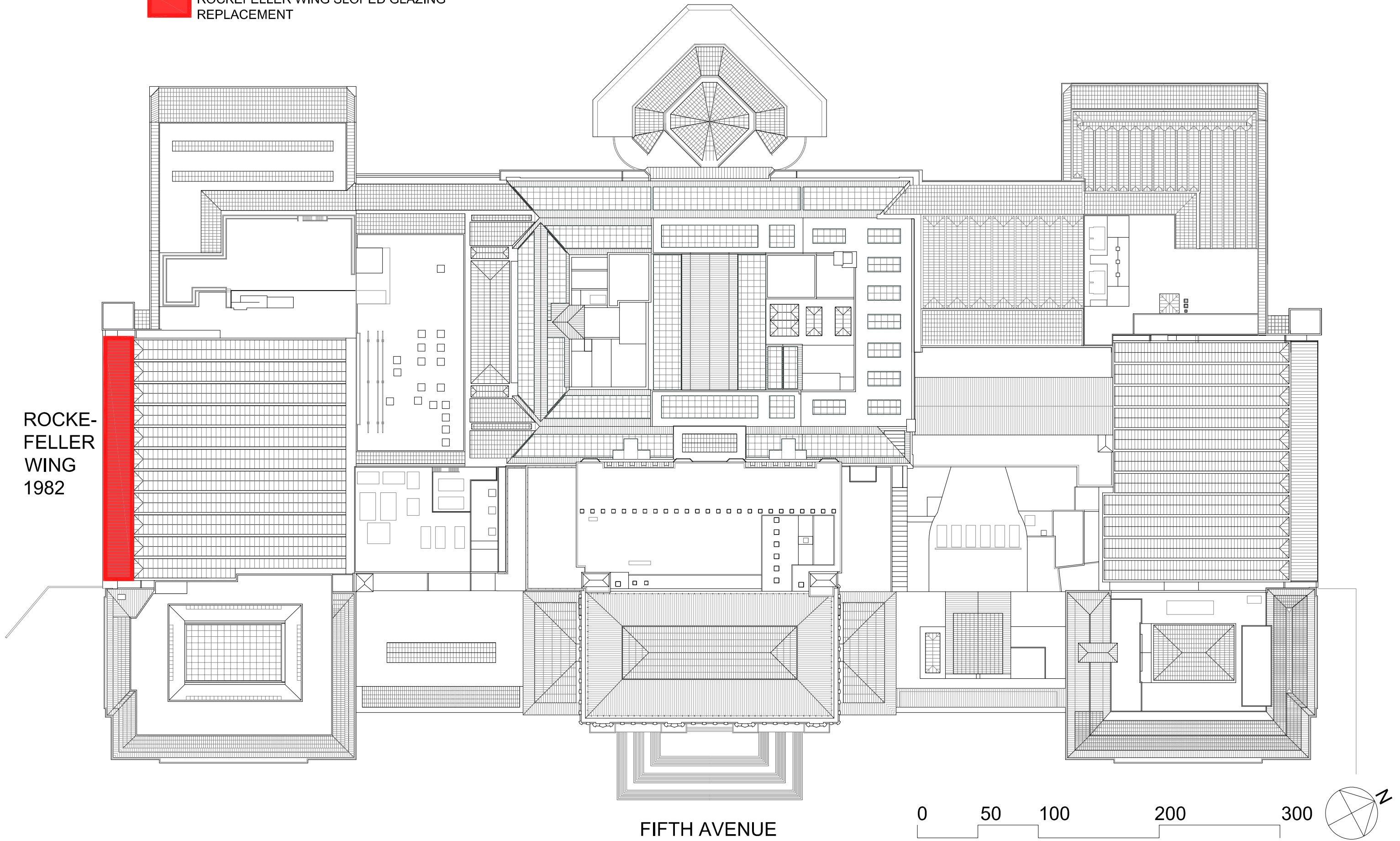
AERIAL PHOTO



1970 MASTER PLAN SHOWING ADDITIONS IN YELLOW (KEVIN ROCHE JOHN DINKELOO AND ASSOCIATES)

# PROJECT SCOPE

 ROCKEFELLER WING SLOPED GLAZING REPLACEMENT



ROOF PLAN: POTENTIAL FUTURE SKYLIGHTS AND SLOPED GLAZING REPLACEMENT



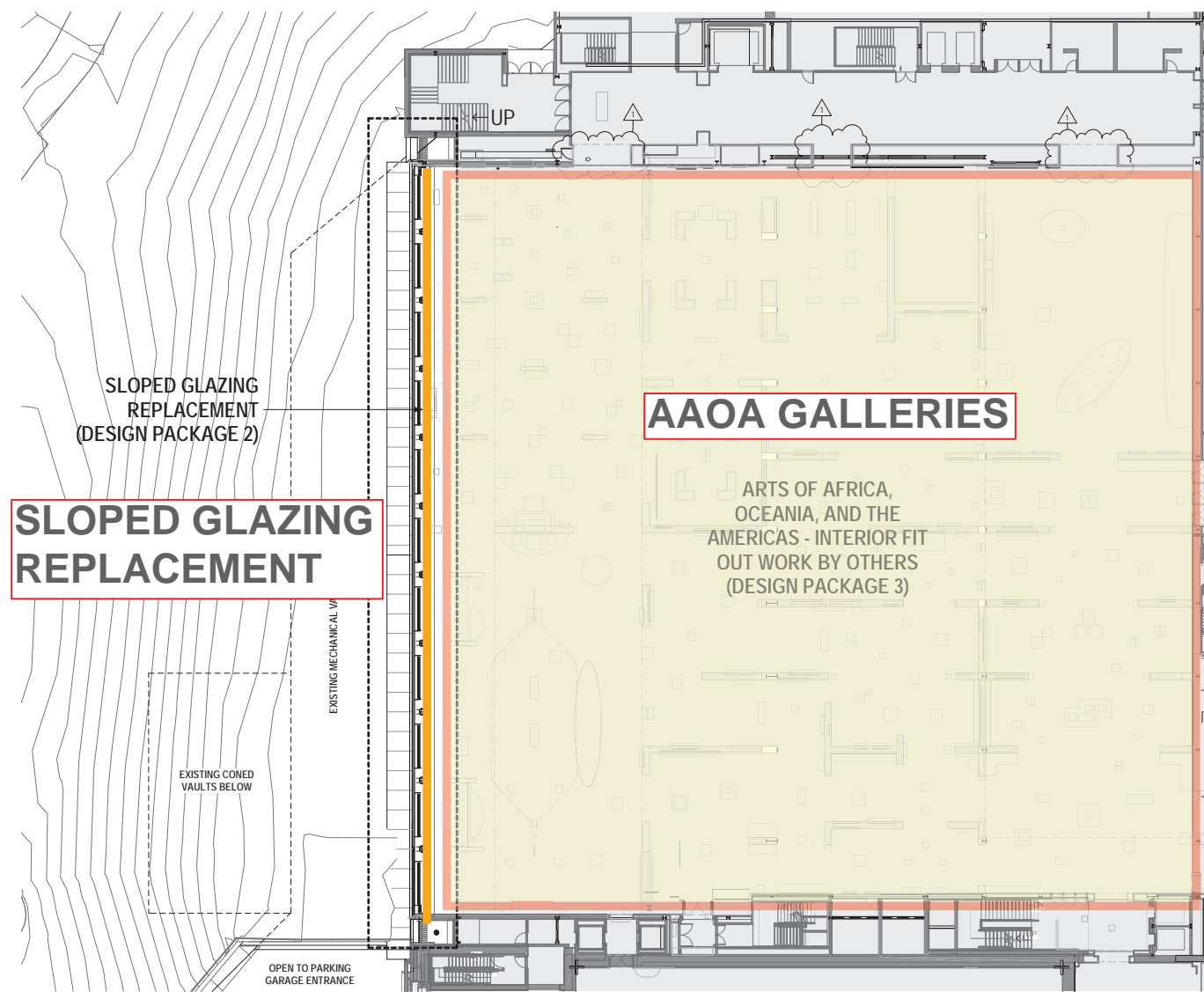
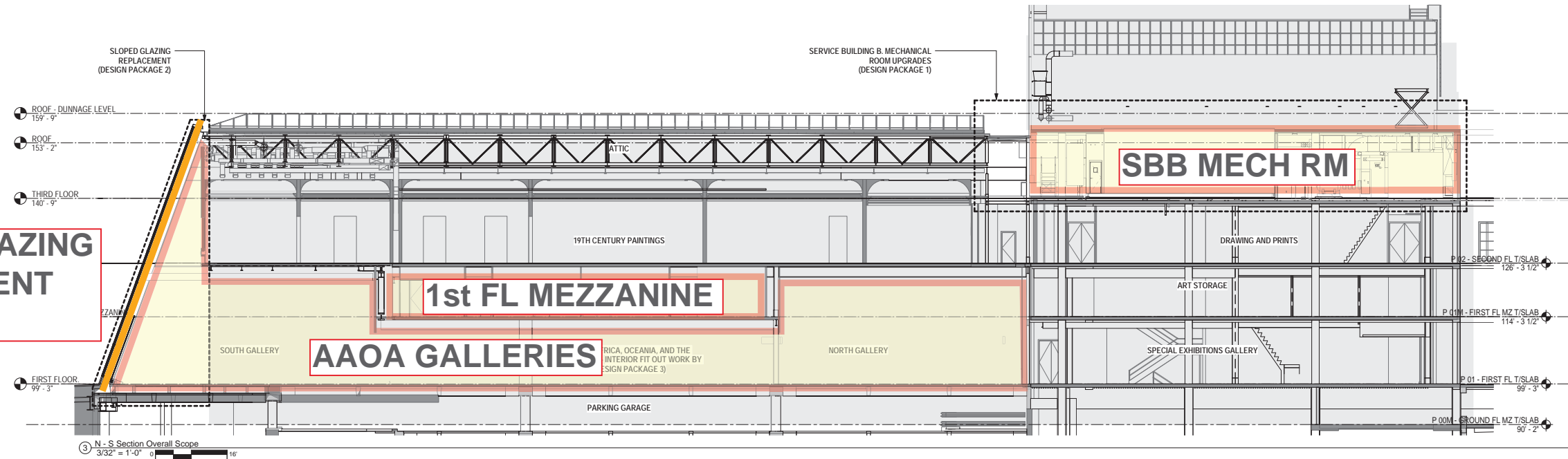
AERIAL PHOTO SHOWING LOCATION OF PROJECT

**ROCKEFELLER WING  
SLOPED GLAZING**

## **2. ROCKEFELLER WING SLOPED GLAZING REPLACEMENT DESIGN**



# SLOPED GLAZING REPLACEMENT



① FIRST FLOOR - SCOPE OF WORK PLAN  
1/16" = 1'-0"

## SCOPE OF WORK SUMMARY

### DESIGN PACKAGE 1 (SBB MECHANICAL ROOM UPGRADES)

- DEMO AND REPLACEMENT OF MECHANICAL UNITS AND ASSOCIATED PIPING AND DUCTWORK.
- MODIFICATION OF EXISTING FLOOR DRAINS.
- WATERPROOFING OF EXISTING FLOOR.
- SPINKLER SYSTEM INSTALLATION.
- MISCELLANEOUS ELECTRICAL AND FIRE ALARM WORK AS REQUIRED TO SUPPORT MECHANICAL WORK.
- NO CHANGE TO USE, OCCUPANCY, OR FLOOR AREA.

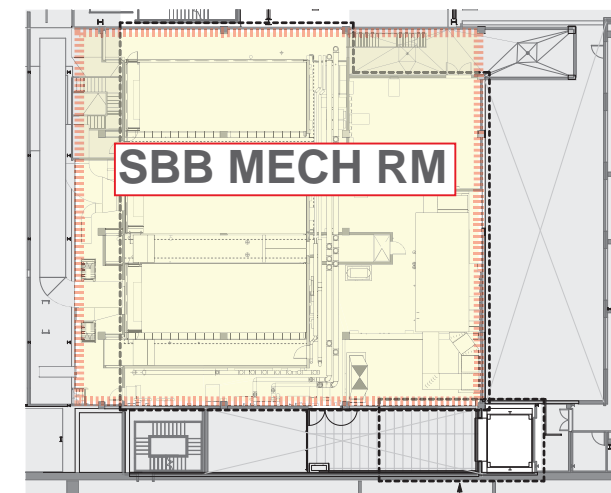
### DESIGN PACKAGE 2 (SLOPED GLAZING REPLACEMENT)

- DEMOLITION OF EXISTING ALUMINUM-FRAMED SLOPED GLAZING SYSTEM AND RELATED FLASHINGS AND COPINGS
- DEMANTLING OF EXISTING GRANITE WALL PANELS AND PAVERS AT EXTERIOR
- DEMOLITION OF EXISTING FIN TUBE RADIATORS, ASSOCIATED PIPING, AND ALUMINUM ENCLOSURES AT INTERIOR
- DEMOLITION OF EXISTING MECHANICAL EQUIPMENT AS SHOWN ON MECHANICAL DRAWINGS
- DEMOLITION OF ROOF R-6 DOWN TO STRUCTURAL DECK
- INSTALLATION OF ALUMINUM-FRAMED TRIPLE-GLAZED SLOPED GLAZING SYSTEM, AND ASSOCIATED INSULATED ALUMINUM FLASHING AND COPINGS
- INSTALLATION OF ROOF R-6 AND REPAIR OF ADJACENT WALLS AND FLASHINGS
- INSTALLATION OF ACCESS HATCH AT ROOF R-6
- FLASHED OPENING IN WEST WALL AND ROOF PENETRATOR WITH FLASHED CURB AT ROOF R-3 TO ACCOMMODATE MECHANICAL DUCTWORK.
- REPOINTING OF EXISTING EAST AND WEST FACING LIMESTONE WALLS ADJACENT TO SLOPED GLAZING
- REPAIR JOINTS AND CLEAN SOUTH FACING LIMESTONE WALLS ADJACENT TO SLOPED GLAZING
- INSTALLATION OF ANCHOR POINTS IN EXISTING STEEL PLATE GUTTERS
- WATERPROOFING OF EXISTING CONCRETE BEAM AT BASE OF SLOPED GLAZING AND TIE IN TO EXISTING
- INSTALLATION OF ACTIVE FIN TUBE RADIATORS IN NEW METAL ENCLOSURES
- PROVIDE (7) 48" X 2' OPENINGS IN EXISTING GWB PARTITIONS BETWEEN 19TH CENTURY PAINTINGS AND SBB MECHANICAL ROOM. SEE MECH DRAWINGS FOR ADDITIONAL INFO.
- NO CHANGE TO USE, OCCUPANCY, OR FLOOR AREA.

INDICATES NOT IN SCOPE OR BY OTHERS

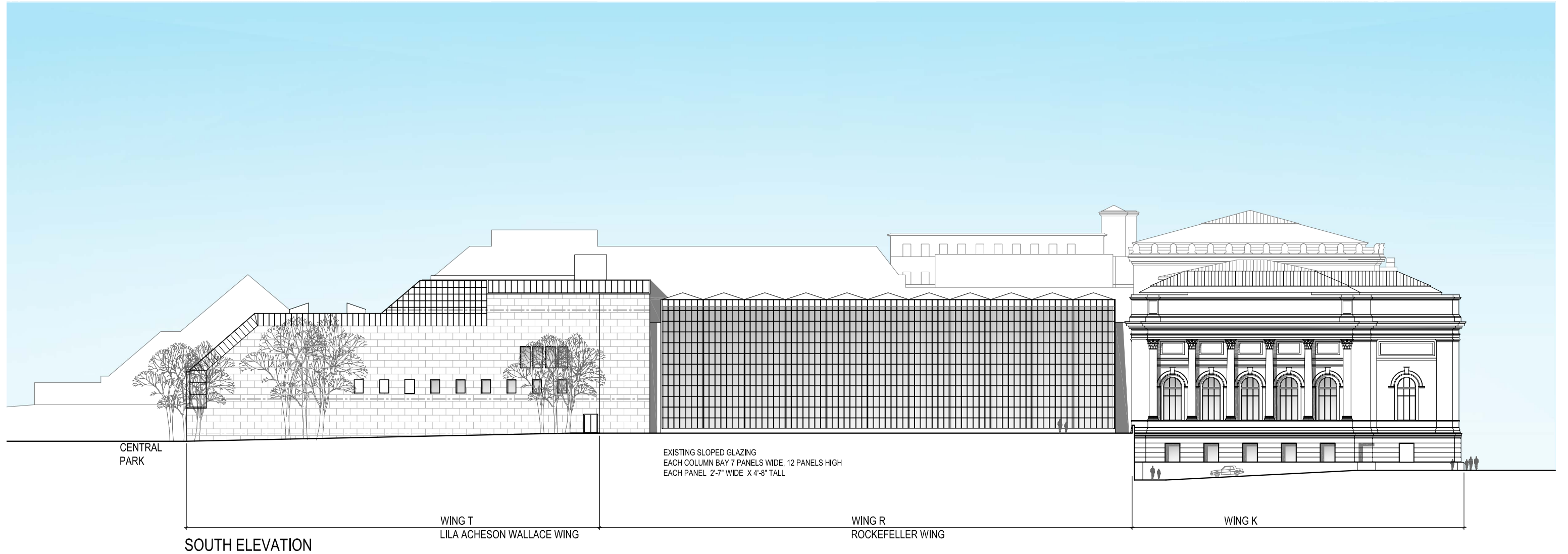
NOTE: SEE AERIAL PHOTO ON G-101 FOR LOCATION OF DESIGN PACKAGE 1 AND 2 IN RELATIONSHIP TO OVERALL BUILDING

### SERVICE BUILDING B AIR HANDLING UNIT REPLACEMENT (DESIGN PACKAGE 1)

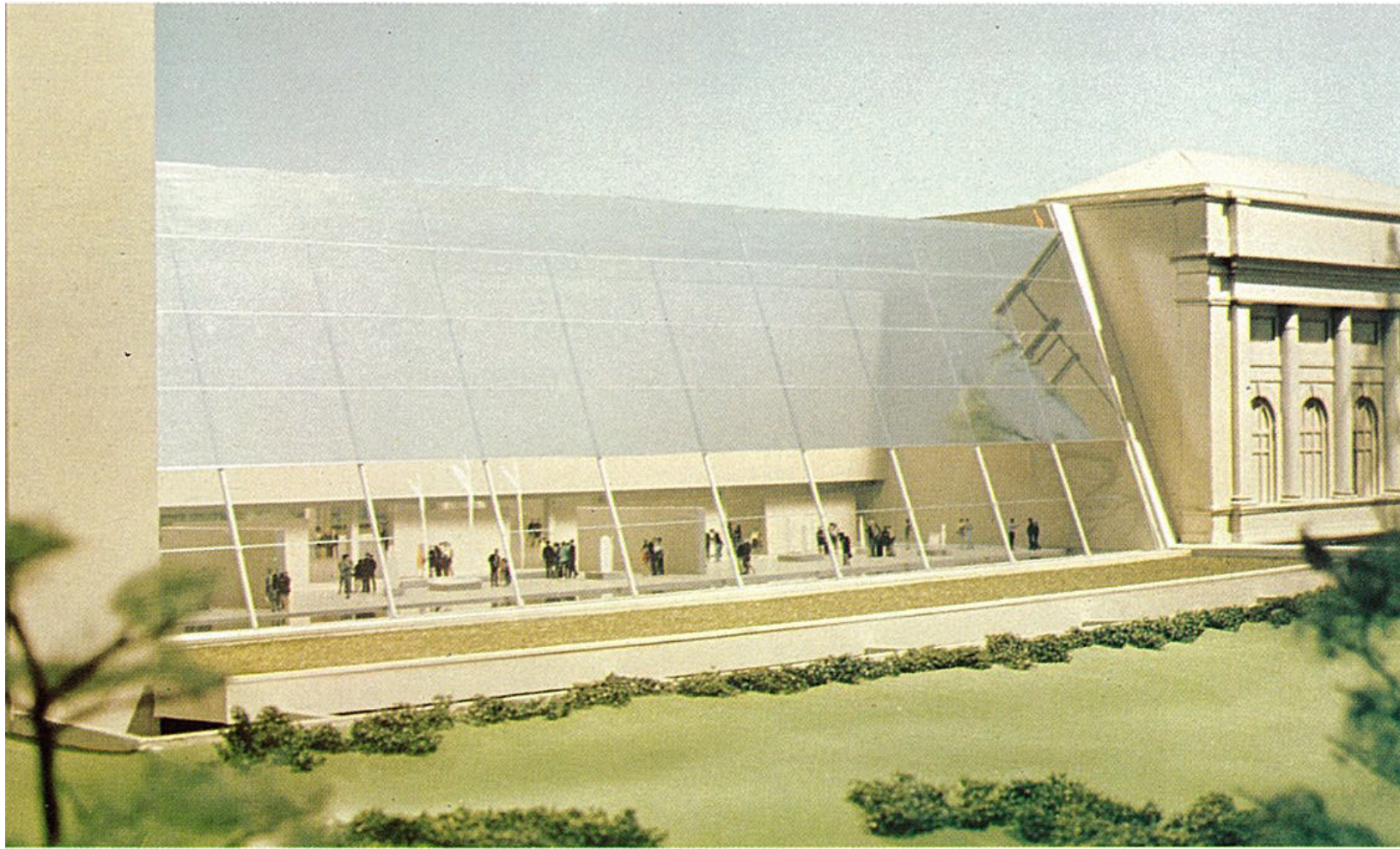


② THIRD FLOOR - SBB PROPOSED PLAN  
1/16" = 1'-0"

## SCOPE OF WORK AT ROCKEFELLER WING



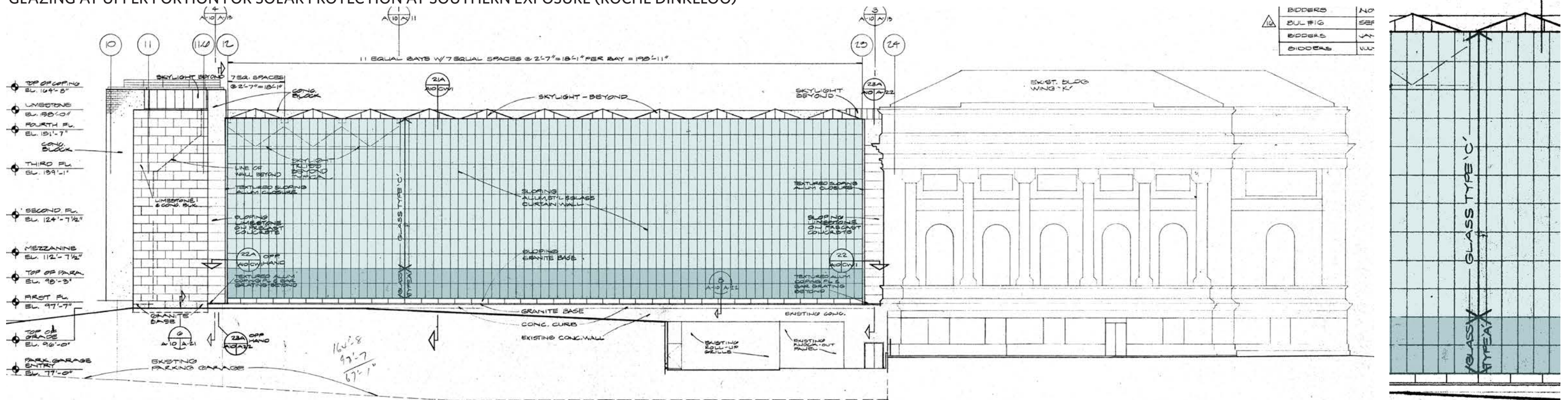
MET MUSEUM EXISTING SOUTH ELEVATION



1970 MASTER PLAN: ARCHITECTURAL MODEL OF ROCKEFELLER WING SHOWING INTENT FOR MORE OPAQUE GLAZING AT UPPER PORTION FOR SOLAR PROTECTION AT SOUTHERN EXPOSURE (ROCHE DINKELOO)



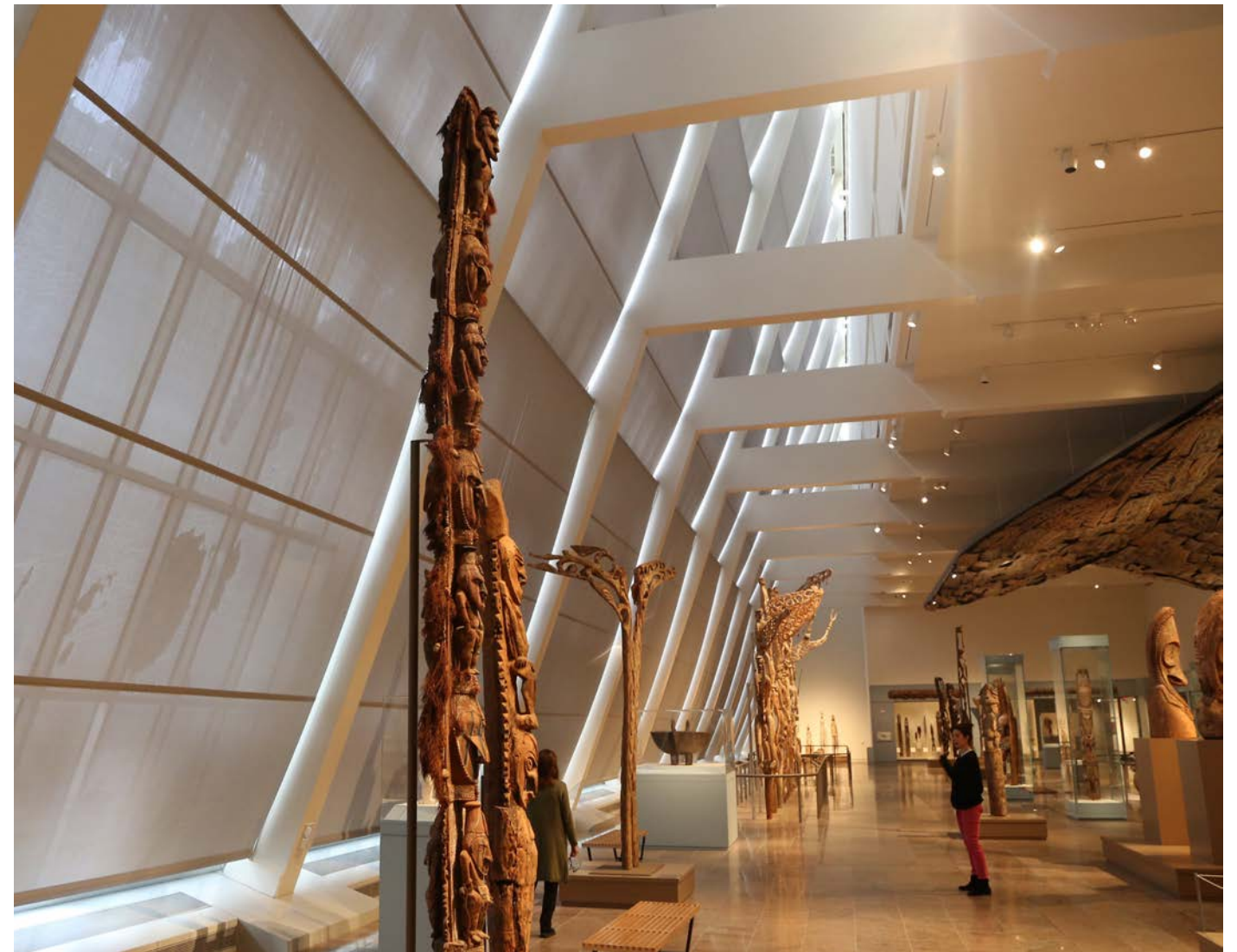
PHOTO OF ORIGINAL CONDITION, 1980'S



ROCKEFELLER WING SOUTH ELEVATION DRAWING (1975) SHOWING LOWER GLASS (FOR VISION) AND UPPER GLASS (MORE TRANSLUCENT TO CUT SOLAR HEAT GAIN AND LIGHT LEVELS).



ROCKEFELLER WING AAOA (ARTS OF AFRICA, OCEANIA, AND THE AMERICAS) GALLERIES ORIGINAL CONDITION 1982 - SOUTH EXPOSURE



ROCKEFELLER WING AAOA GALLERIES EXISTING CONDITIONS AFTER 2005 MODIFICATIONS



Existing condition: exterior with deteriorating tinted plastic film on glass



Exterior detail: deteriorating plastic film and corroding curtain wall framing



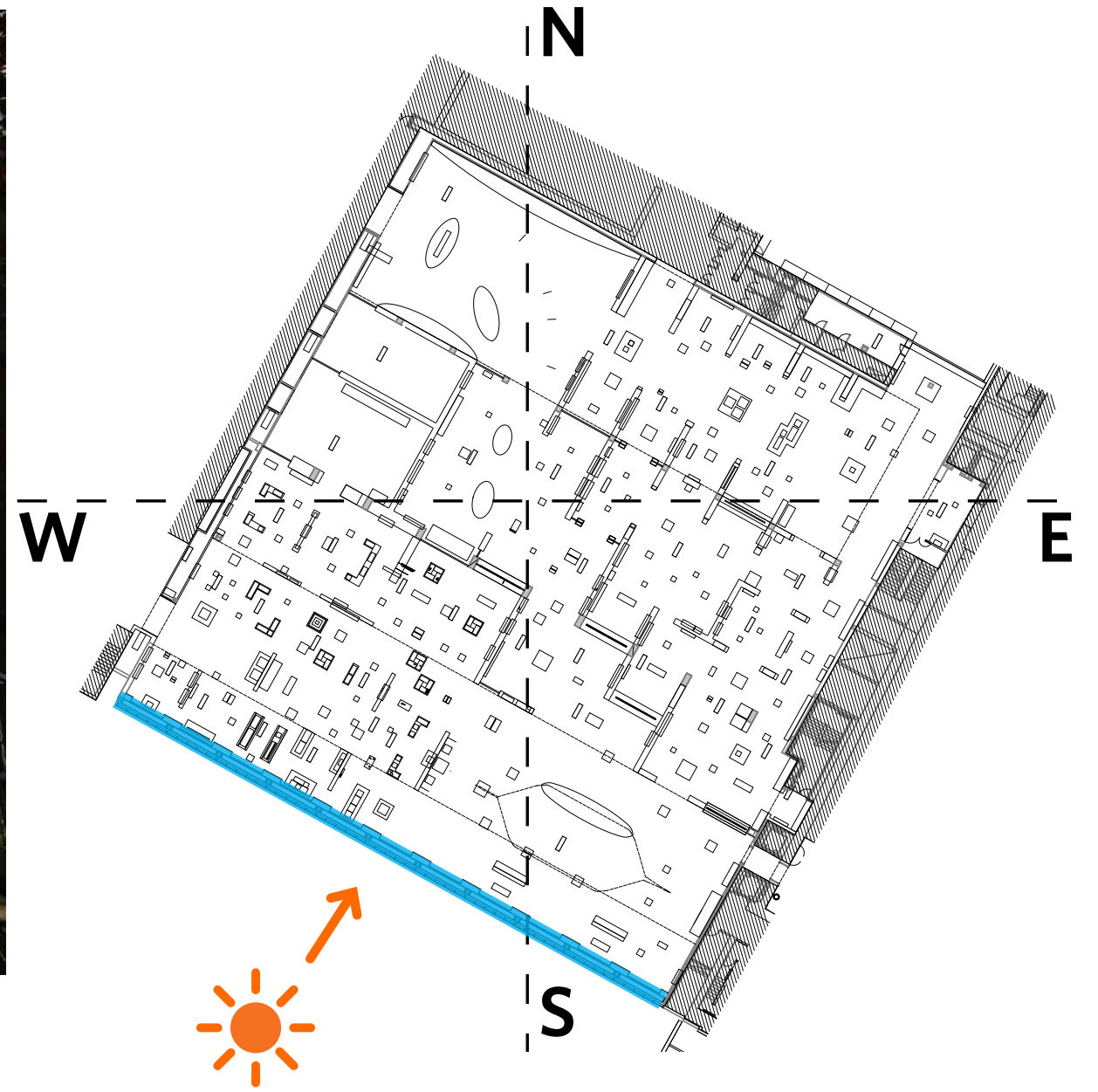
Interior detail of with deteriorating plastic film



Interior: deteriorated film visible through mesh roller shades.



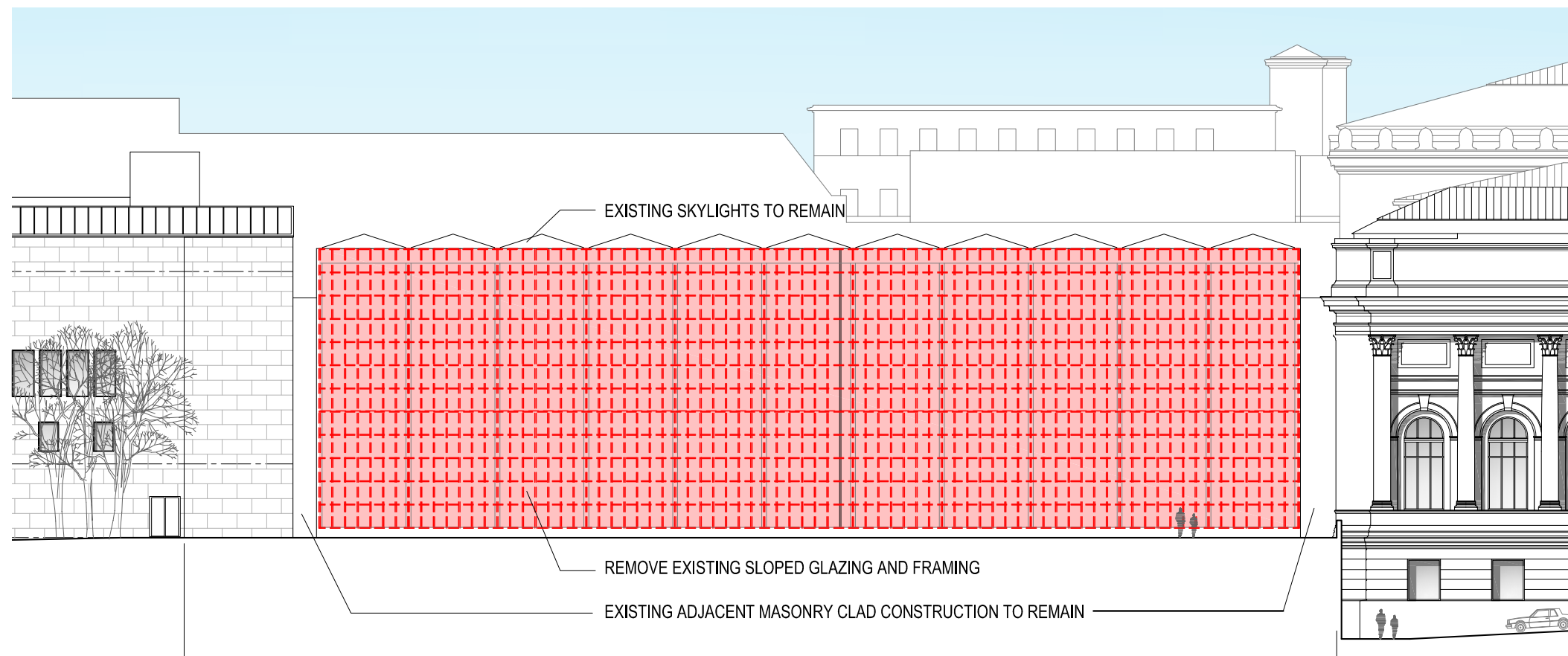
Existing Condition View from South of Rockefeller Sloped Glazing  
Sloped glazing is 200 feet long, 60 feet high and at a 70 degree slope with a surface area of approximately 12,000 square feet.



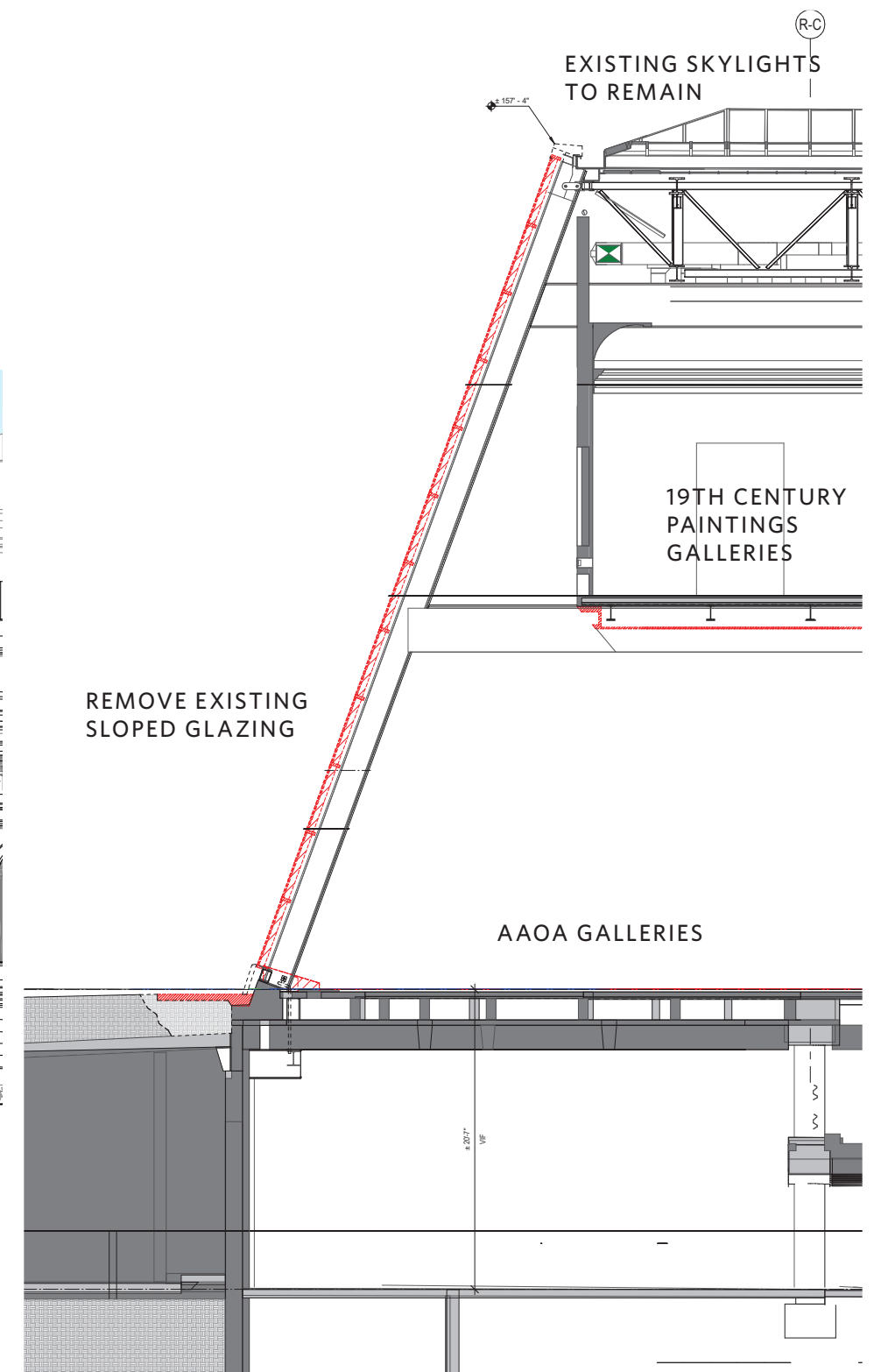
AAOA GALLERY PLAN

## **PROPOSED SLOPED GLAZING SYSTEM IMPROVEMENTS:**

- State of the art sloped glazing assembly, which has been custom designed to meet the needs of the Met Museum's collection and environment.
- Greater resistance to condensation, which is critical for humidified museum conditions. The current system is not sufficient and condensation is an on-going issue for the curators.
- Four-sided structurally glazed cassettes which eliminate thermal bridges between interior and exterior improving energy efficiency.
- Improved glass with solar and thermal control layers including low-E and solar control coatings, triple glazing, and argon fill.
- Natural daylight and visual connection to Central Park from within the AAOA collections to complement the contemporary exhibition design being developed in parallel to this project by wHY architects. The existing glazing system is not able to mitigate the daylighting coming in to the south-facing glass, and as a result the shades are always deployed.
- Provides the quality and quantity of daylight desired by curators for visitor experience and optimal appreciation of the art. The existing glazing system does not meet the conservators requirements for daylighting.
- Provides bird safe glass with visual frit pattern to avoid bird collisions.
- Also address other problematic areas of the exterior envelope: gutters, flashing, and connection to adjacent masonry walls.
- The mechanical system adjacent to the sloped glazing will also be updated in order to provide additional protection against condensation.

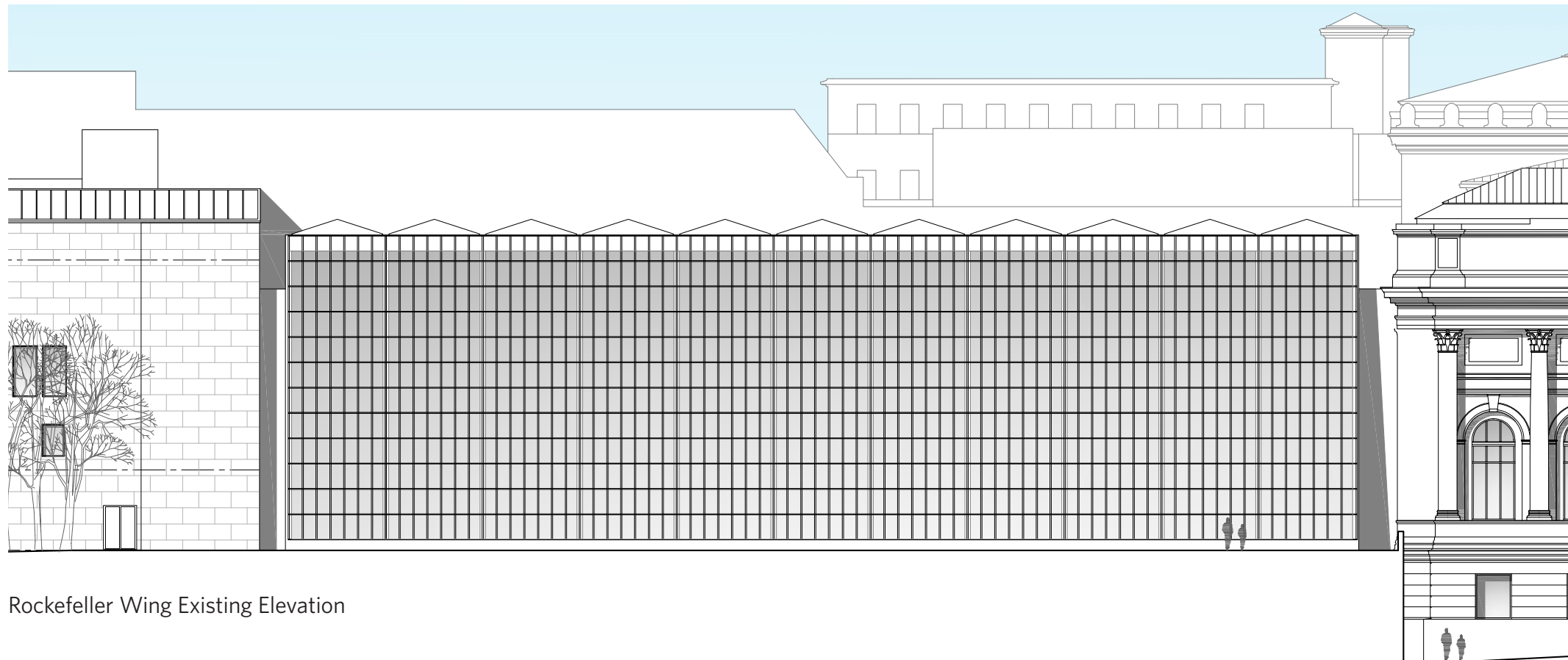


ROCKEFELLER WING SOUTH ELEVATION:  
SELECTIVE REMOVALS INDICATED IN RED

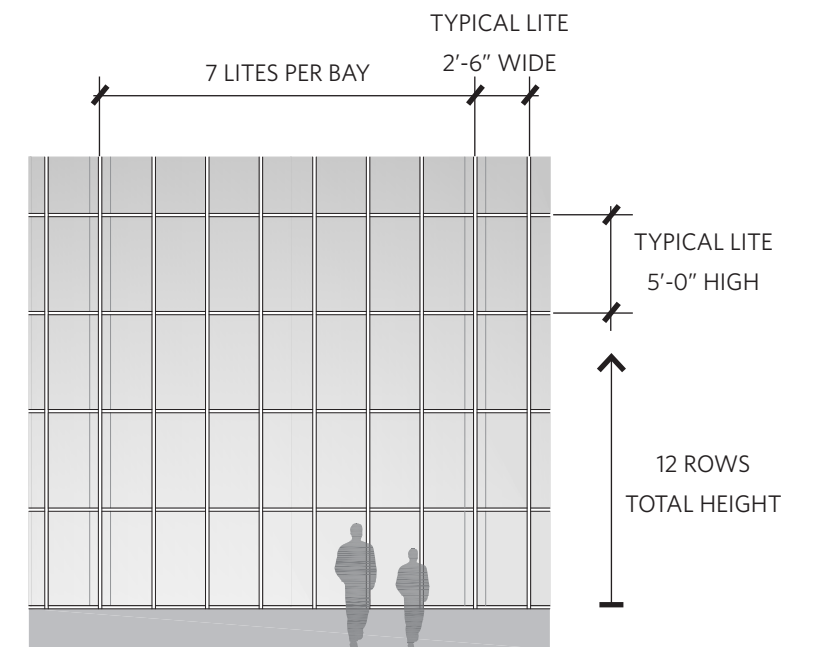


SECTION AT SLOPED GLAZING: SELECTIVE REMOVALS  
INDICATED IN RED

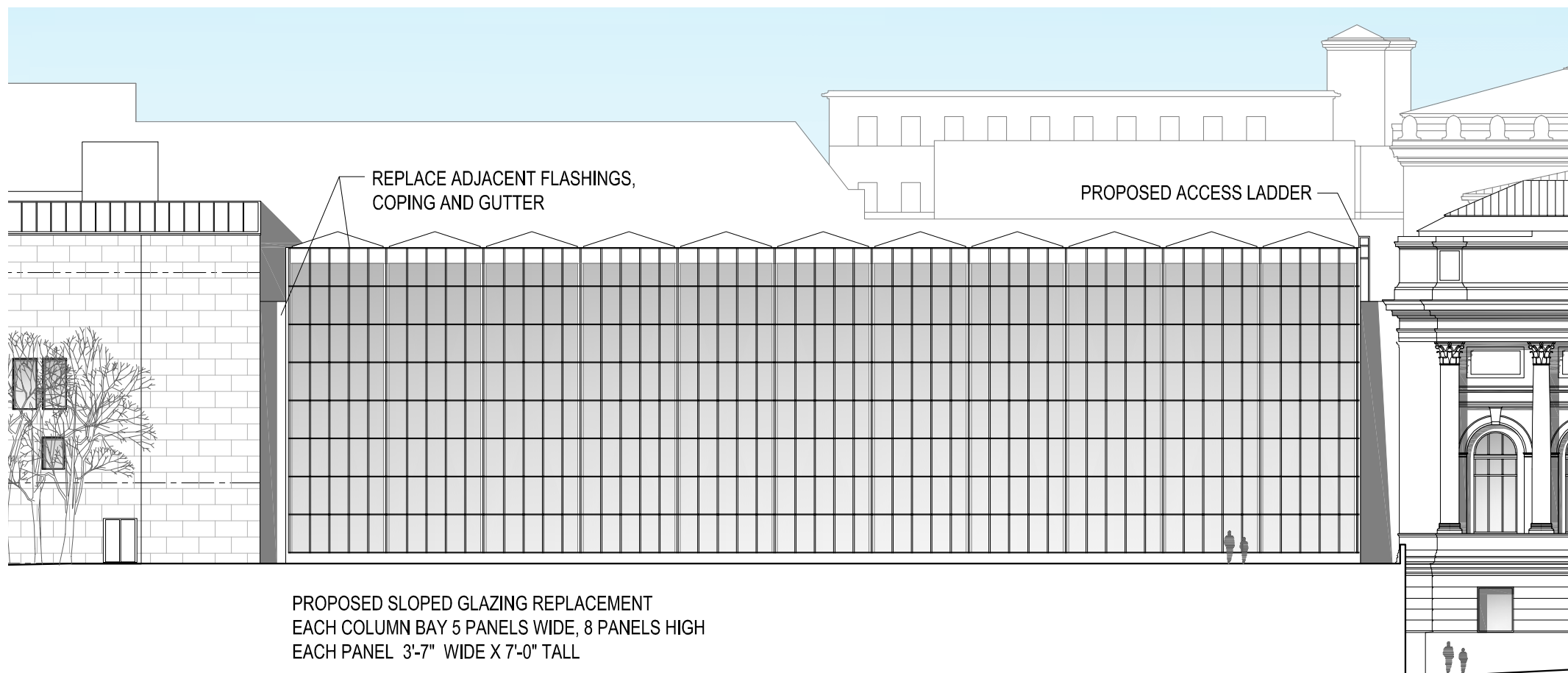




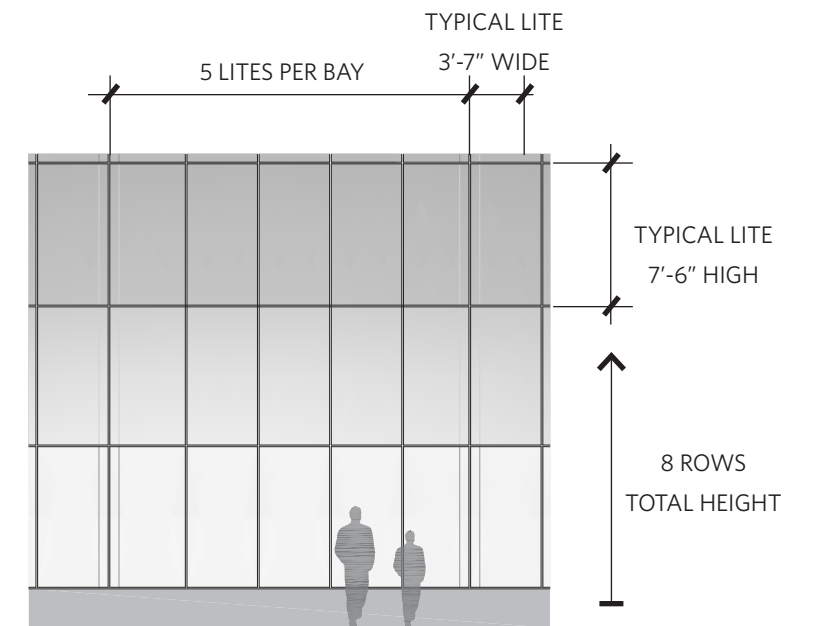
Rockefeller Wing Existing Elevation



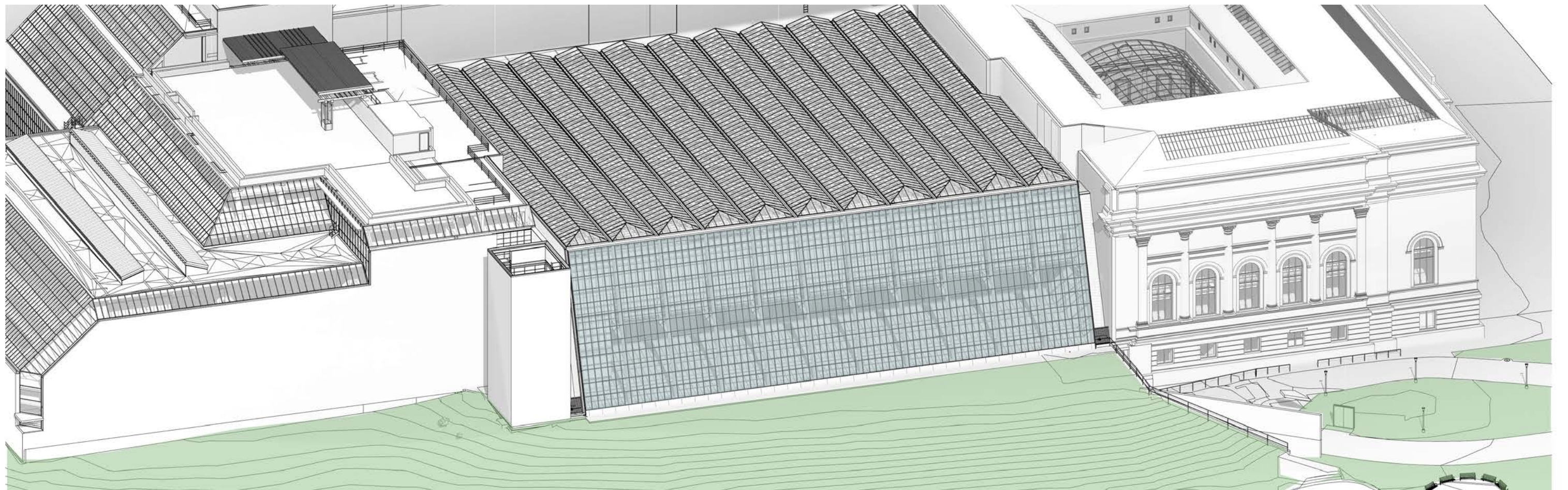
Existing Detail Elevation



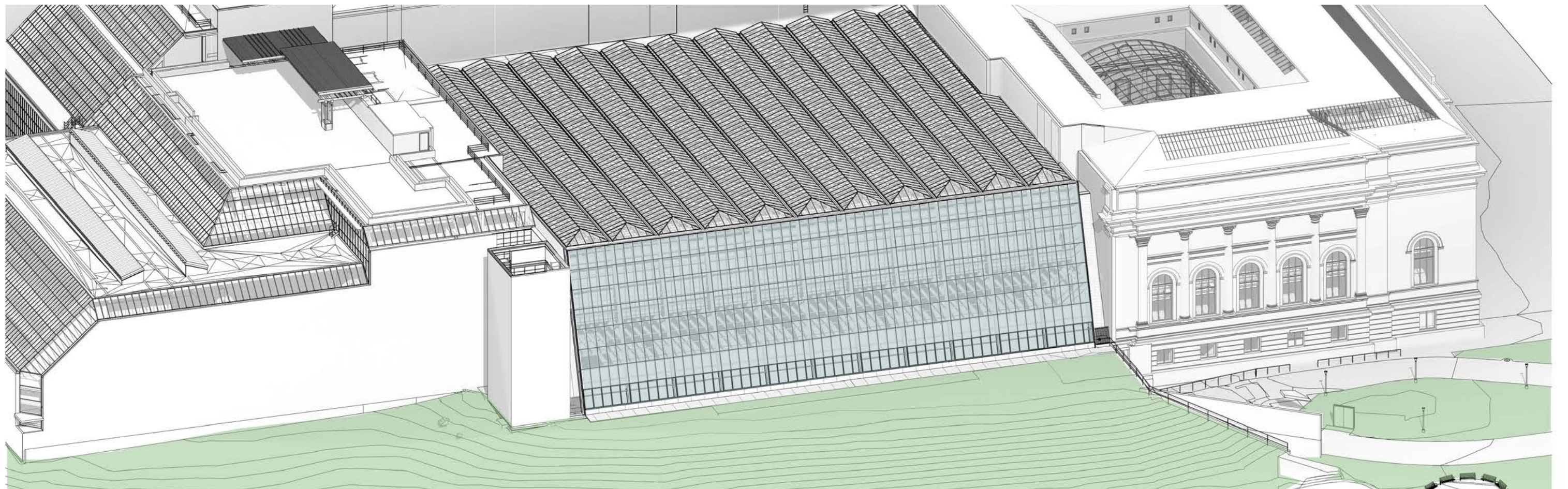
Rockefeller Wing Proposed Elevation



Proposed Detail Elevation

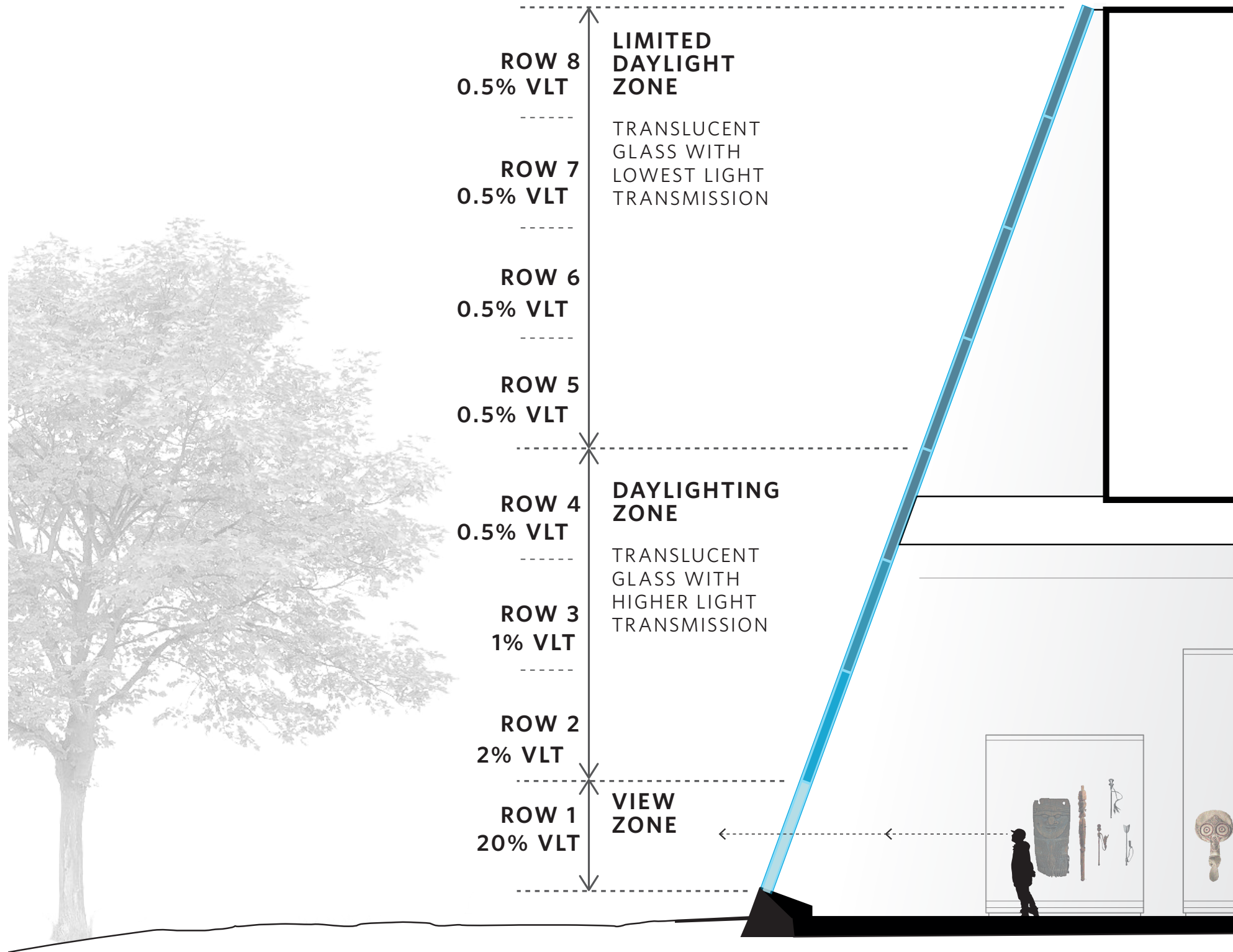


AXONOMETRIC VIEW OF MUSEUM SOUTH ELEVATION - EXISTING CONDITION



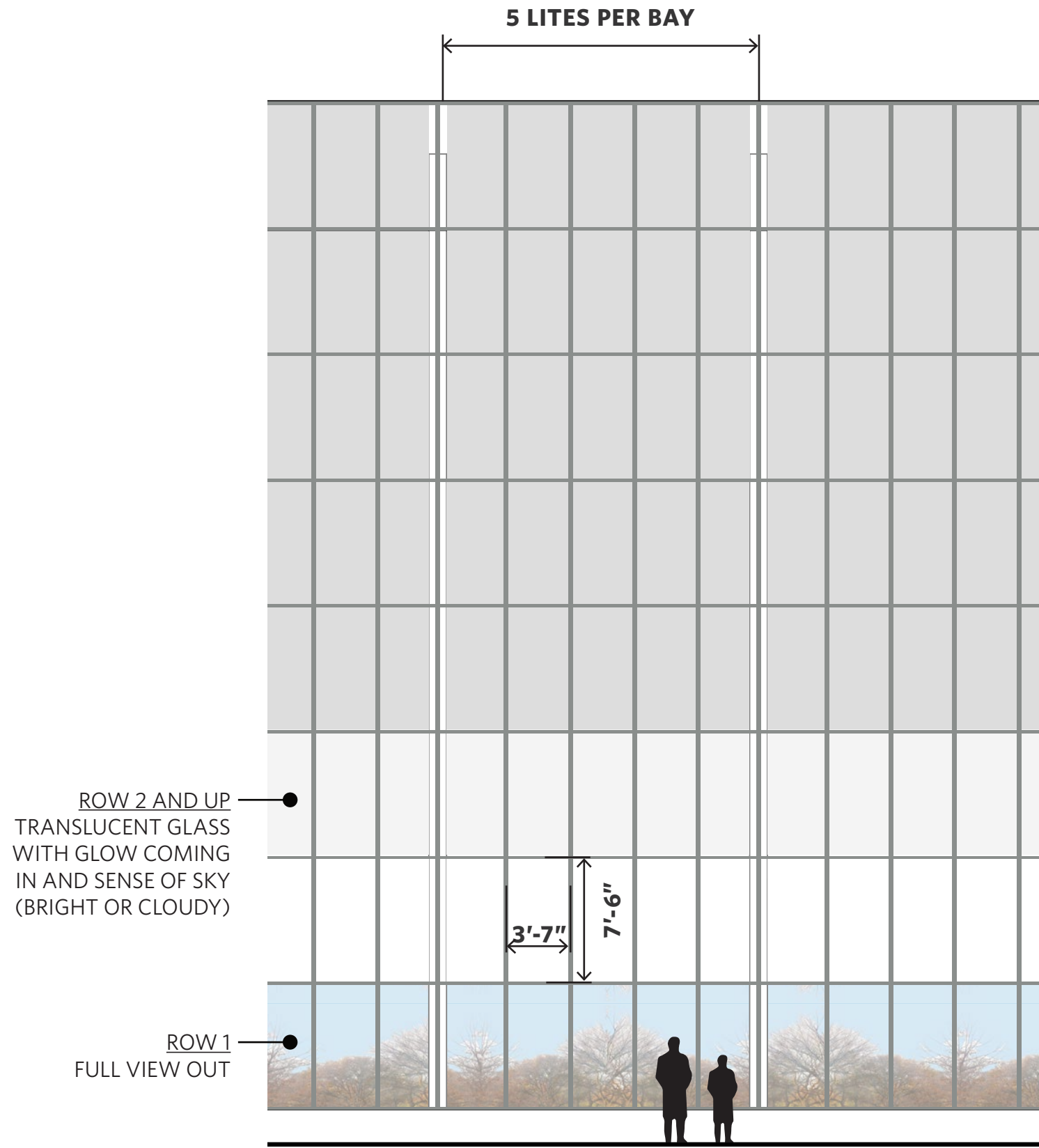
AXONOMETRIC VIEW OF MUSEUM SOUTH ELEVATION - PROPOSED DESIGN

NOTE: VLT (Visible Light Transmittance) is subject to refinement as the glass build-up is finalized



SECTION DIAGRAM OF SOUTH GALLERY LOOKING WEST

**PROPOSED DAYLIGHTING DESIGN**



INTERIOR ELEVATION OF SOUTH GALLERY LOOKING SOUTH

**GLASS ASSEMBLY SOLAR CONTROL LAYERS**

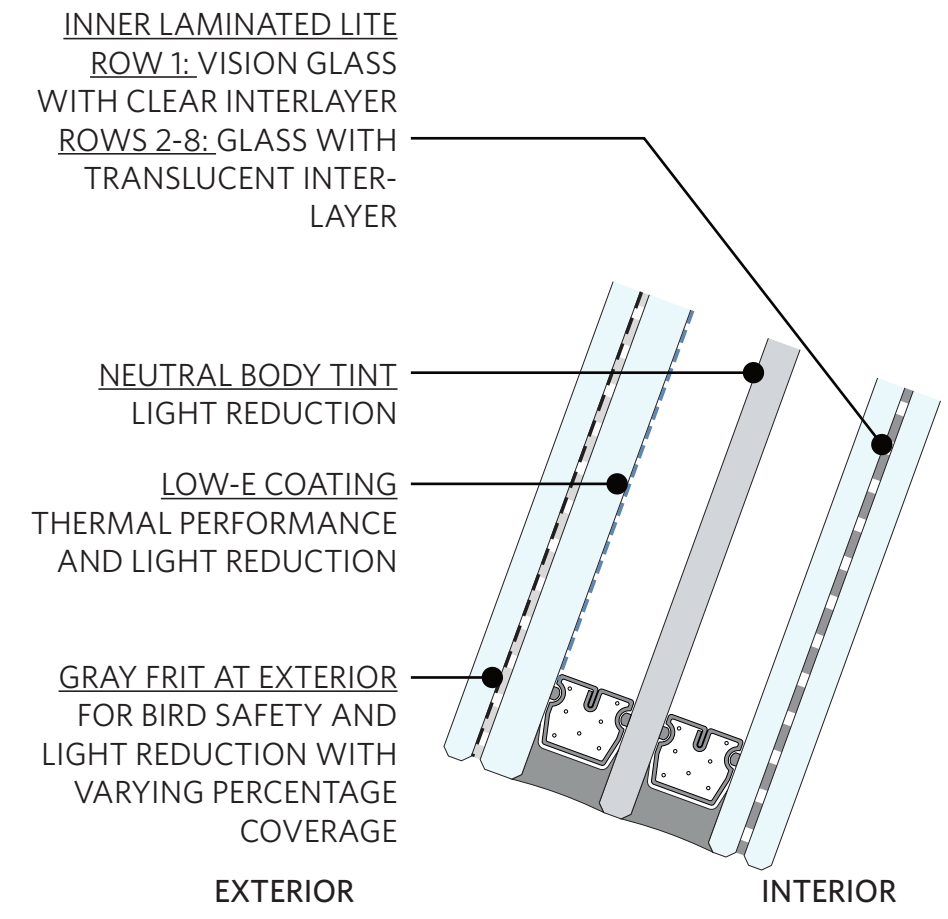


DIAGRAM OF TRIPLE-PANE GLAZING UNIT



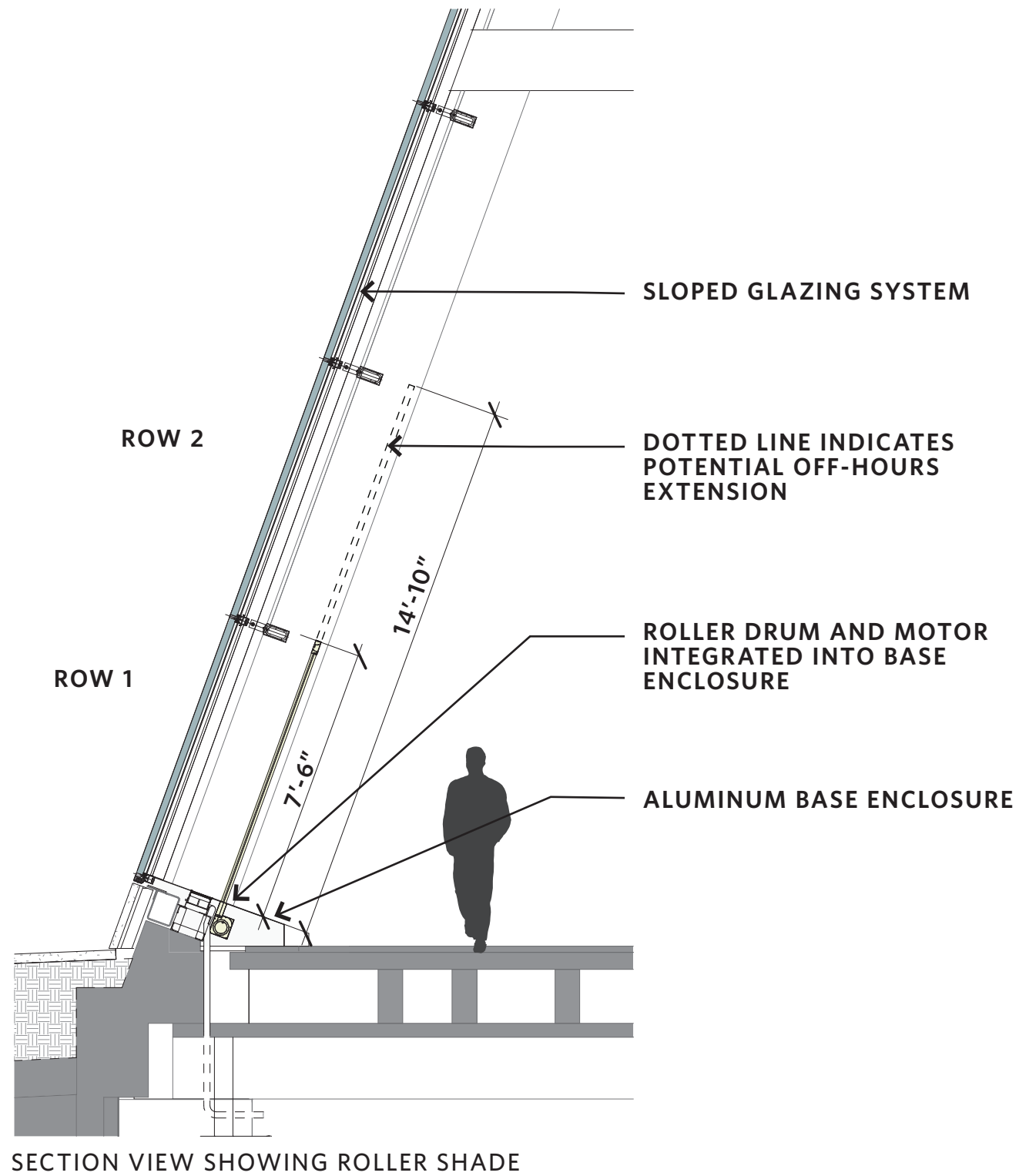
EXISTING CONDITION VIEW FROM FIRST FLOOR INTERIOR OF AAOA GALLERIES



ROW 2 AND UP  
TRANSLUCENT GLASS  
WITH GLOW COMING  
IN AND SENSE OF SKY  
(BRIGHT OR CLOUDY)

ROW 1  
FULL VIEW OUT

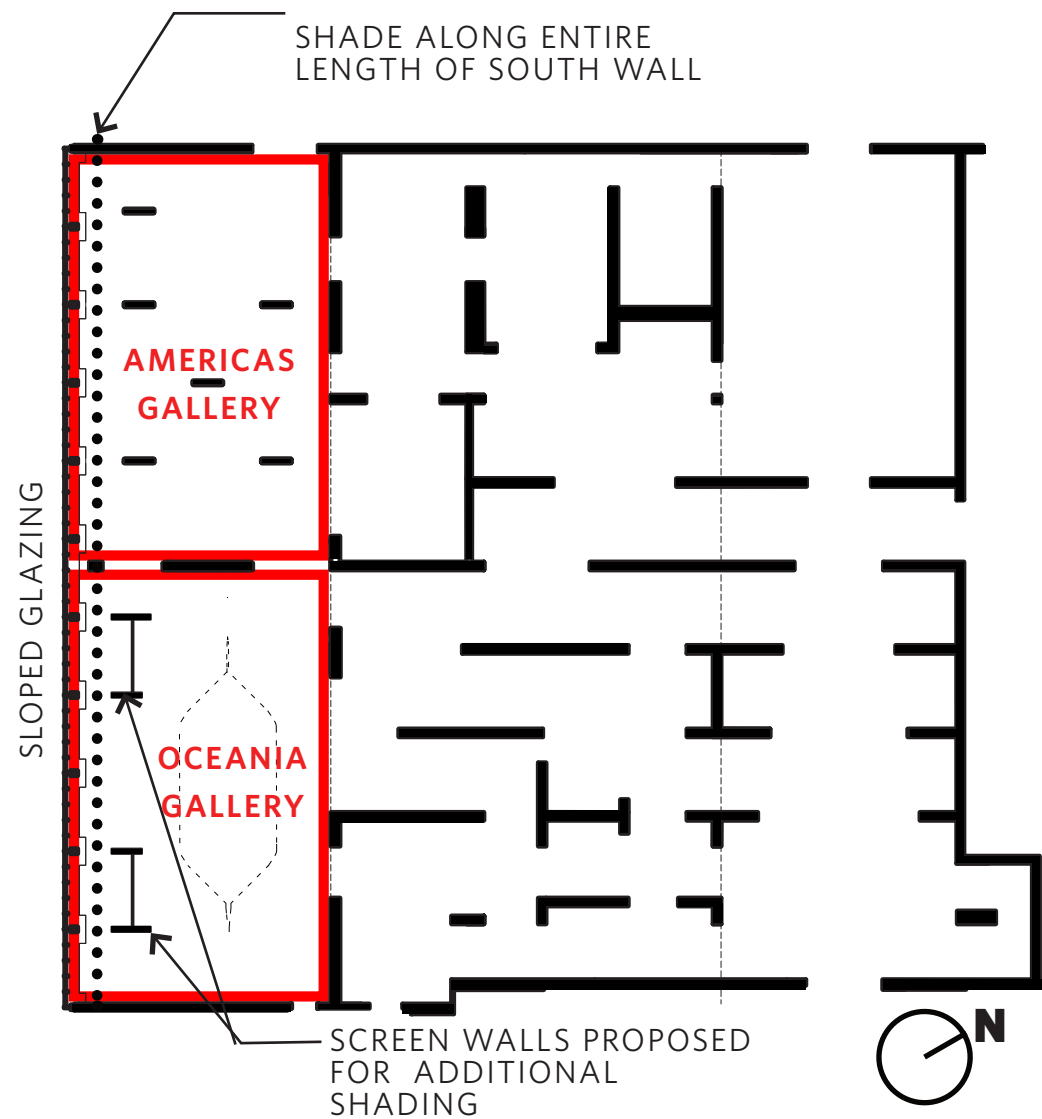
PROPOSED VIEW FROM FIRST FLOOR INTERIOR OF AAOA GALLERIES



**INTERIOR ROLLER SHADES**

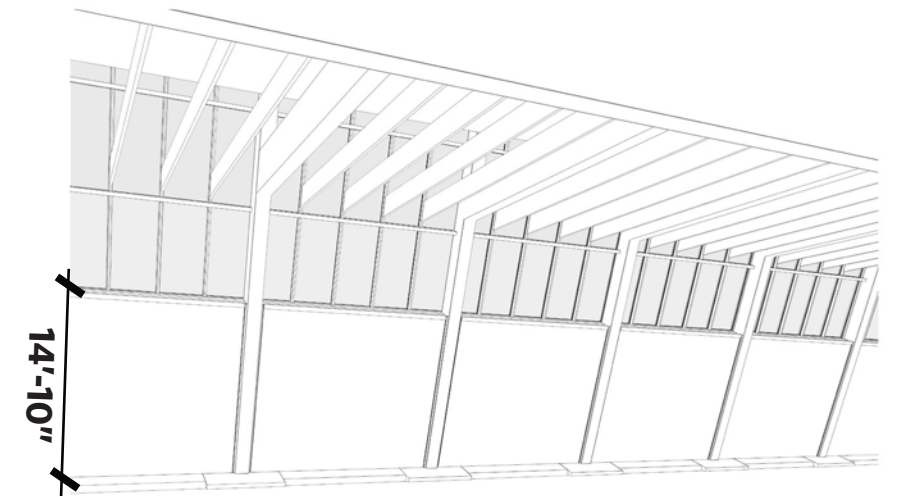


PROPOSED VIEW FROM FIRST FLOOR INTERIOR OF AAOA GALLERIES - WITH SHADE DEPLOYED

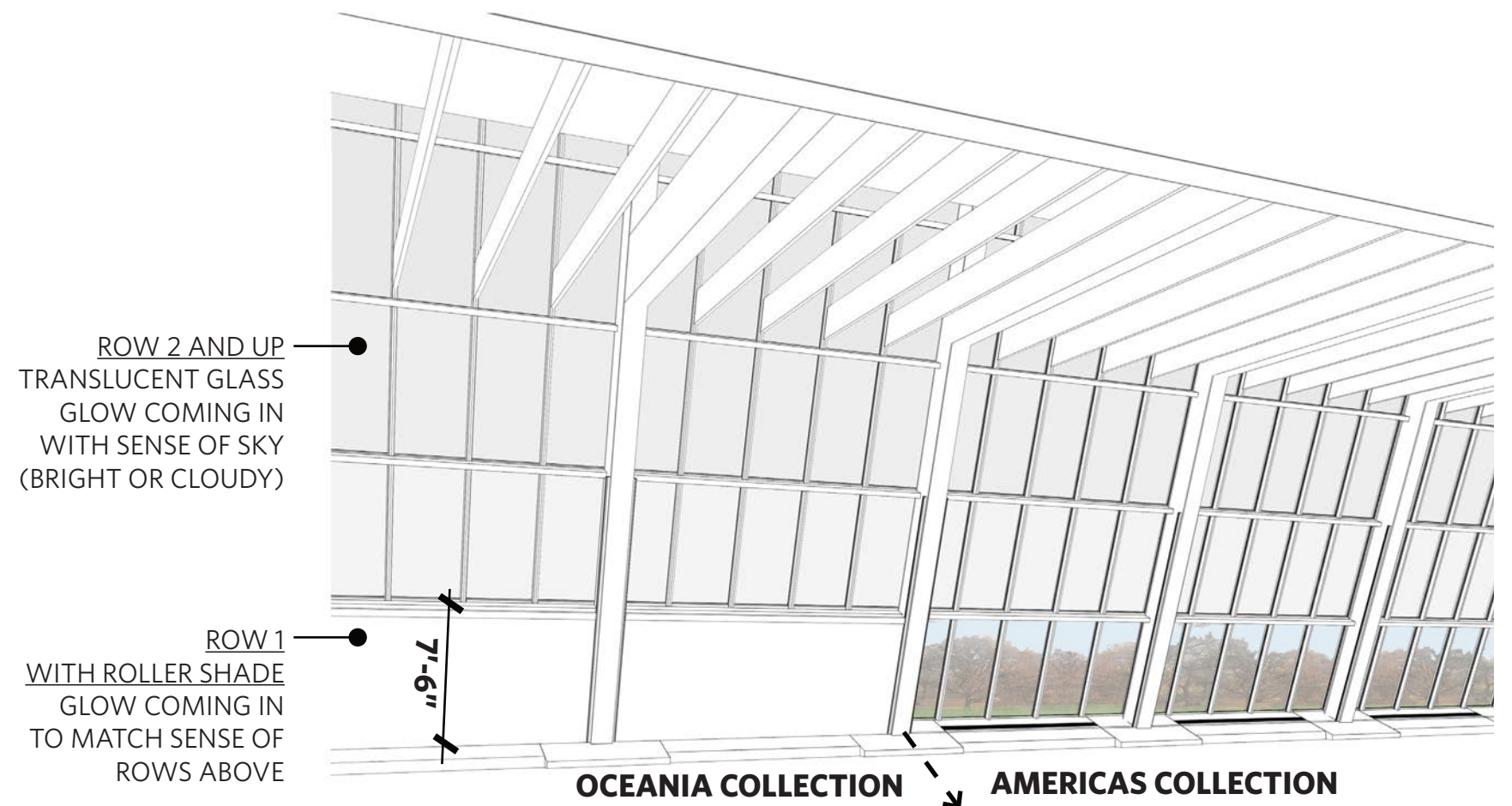


AAOA GALLERY PLAN SHOWING AREAS WHERE SHADES ARE NEEDED

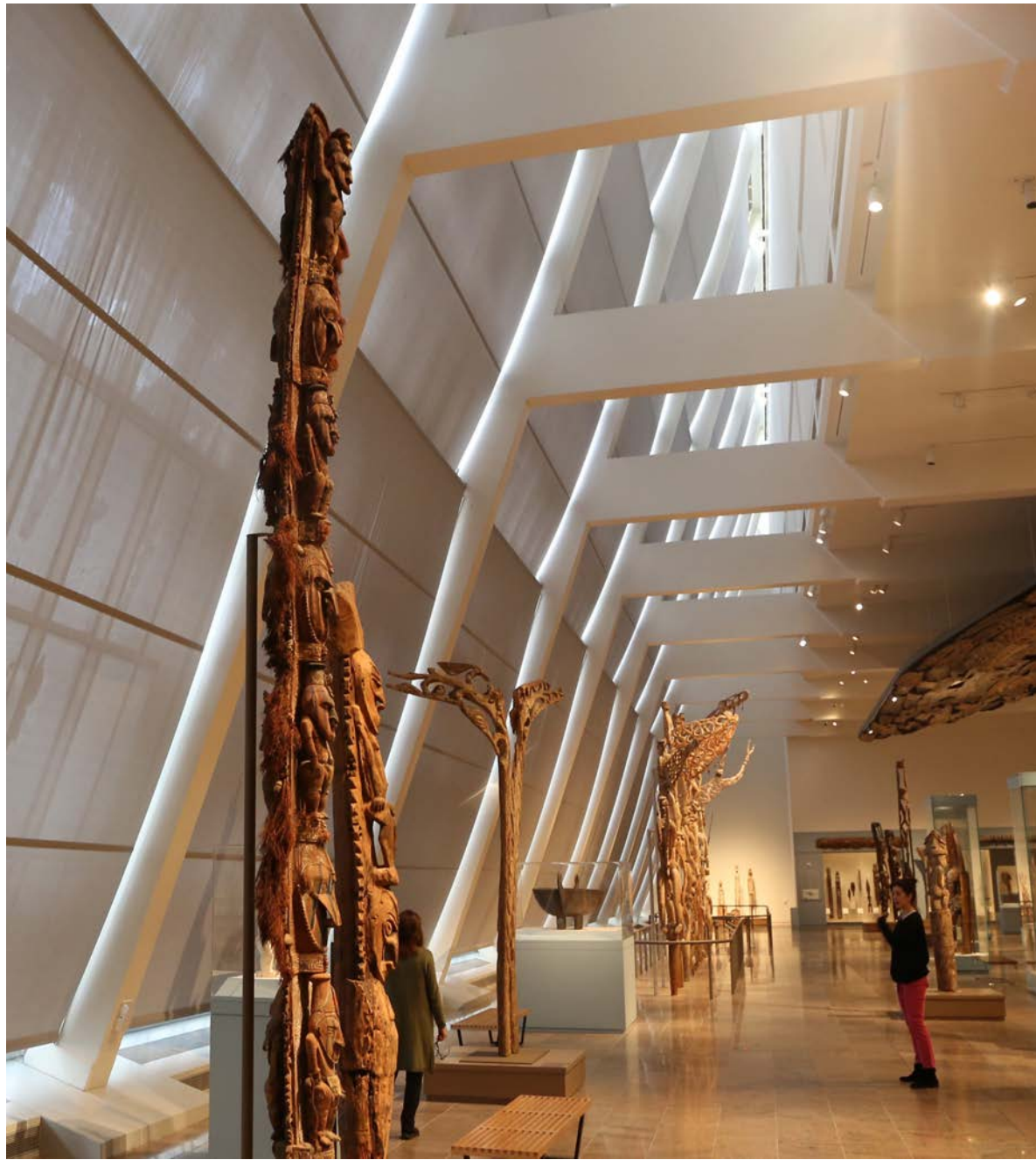
## INTERIOR ROLLER SHADES



ROLLER SHADES DEPLOYED UP TO THE SECOND ROW OF GLASS ACROSS ALL BAYS WHEN MUSEUM IS CLOSED - REDUCES CUMULATIVE LIGHT EXPOSURE



ROLLER SHADES DEPLOYED UP TO THE FIRST ROW OF GLASS AT OCEANIA WHEN THE DAYLIGHT QUANTITY IS HIGH. ARTWORK IN AMERICAS ARE MORE DURABLE, AND DO NOT REQUIRE THE SHADE TO BE DEPLOYED WHEN THE MUSEUM IS OPEN

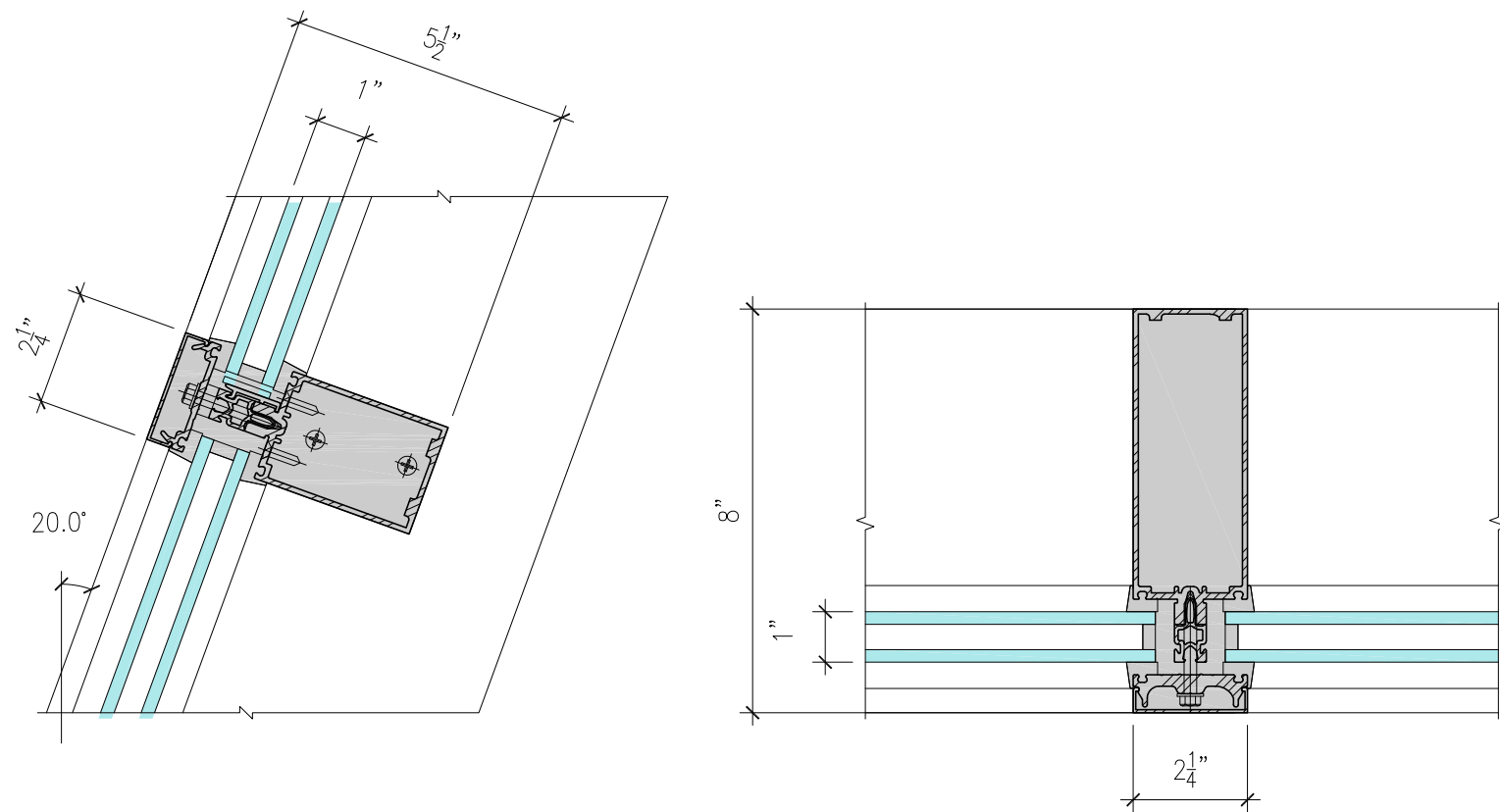


AAOA GALLERIES EXISTING CONDITIONS

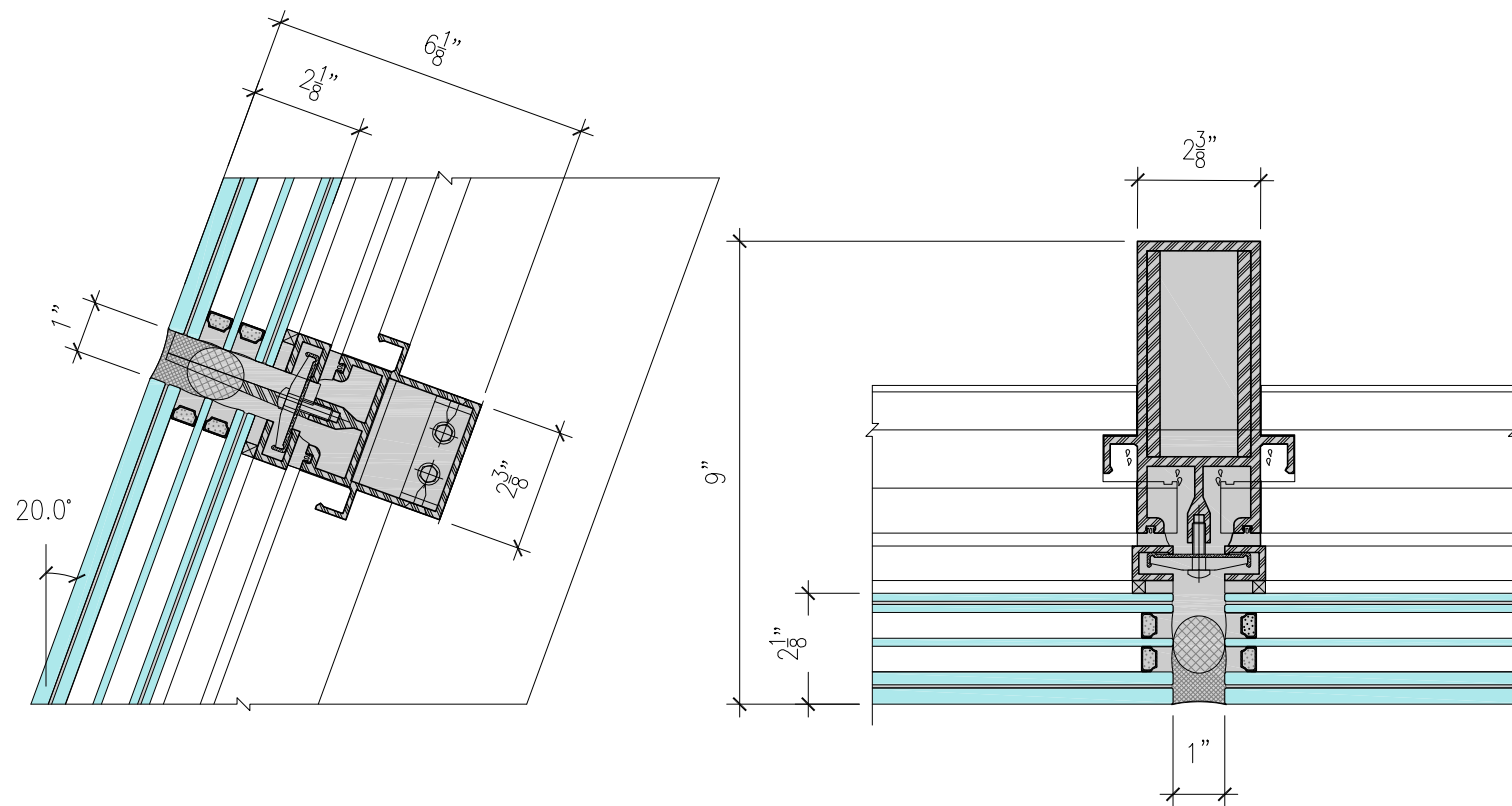
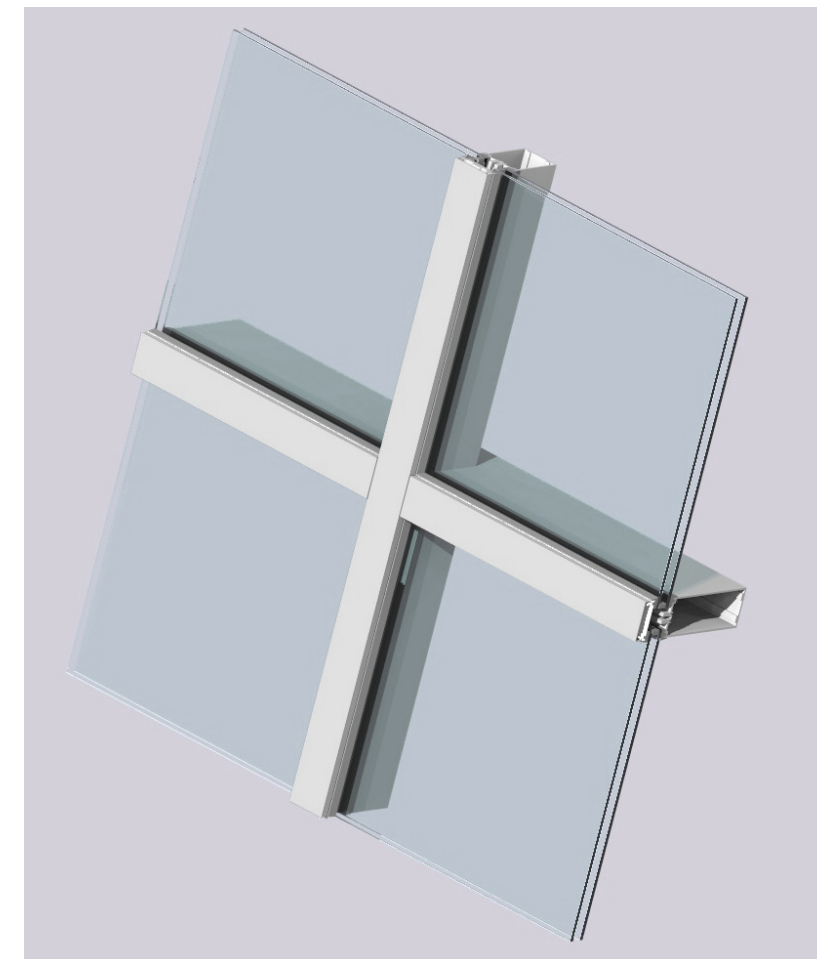


ARCHITECTURAL CONCEPT INTENT RENDERING AT SOUTH GALLERY, VIEW EAST



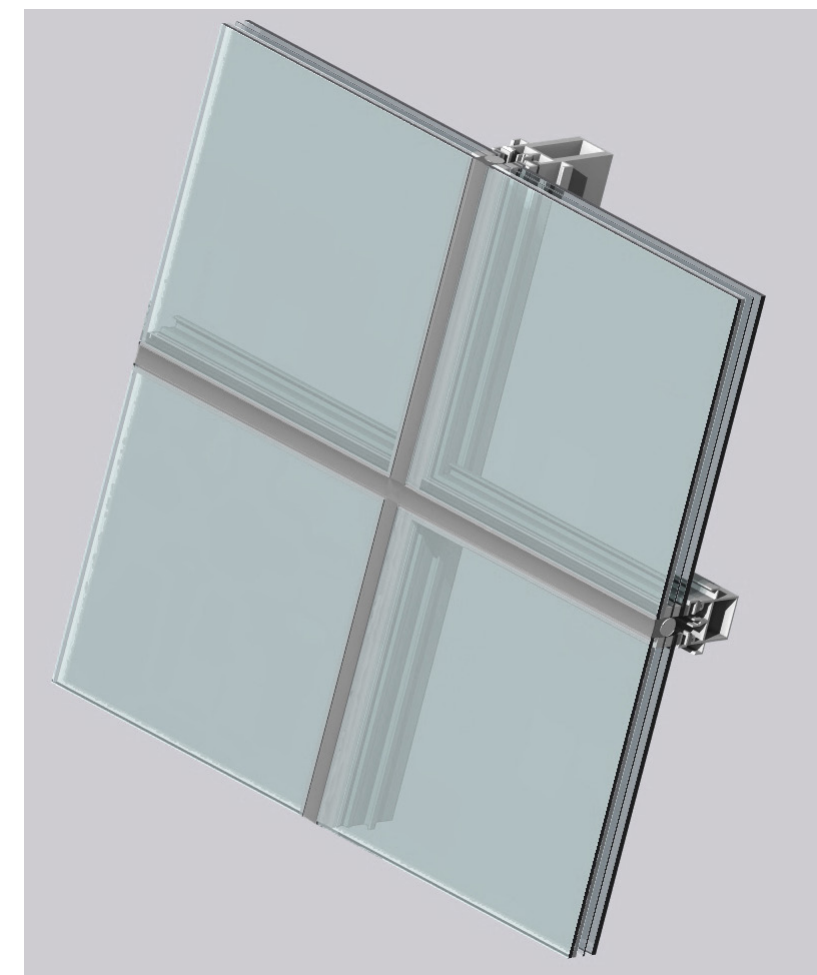


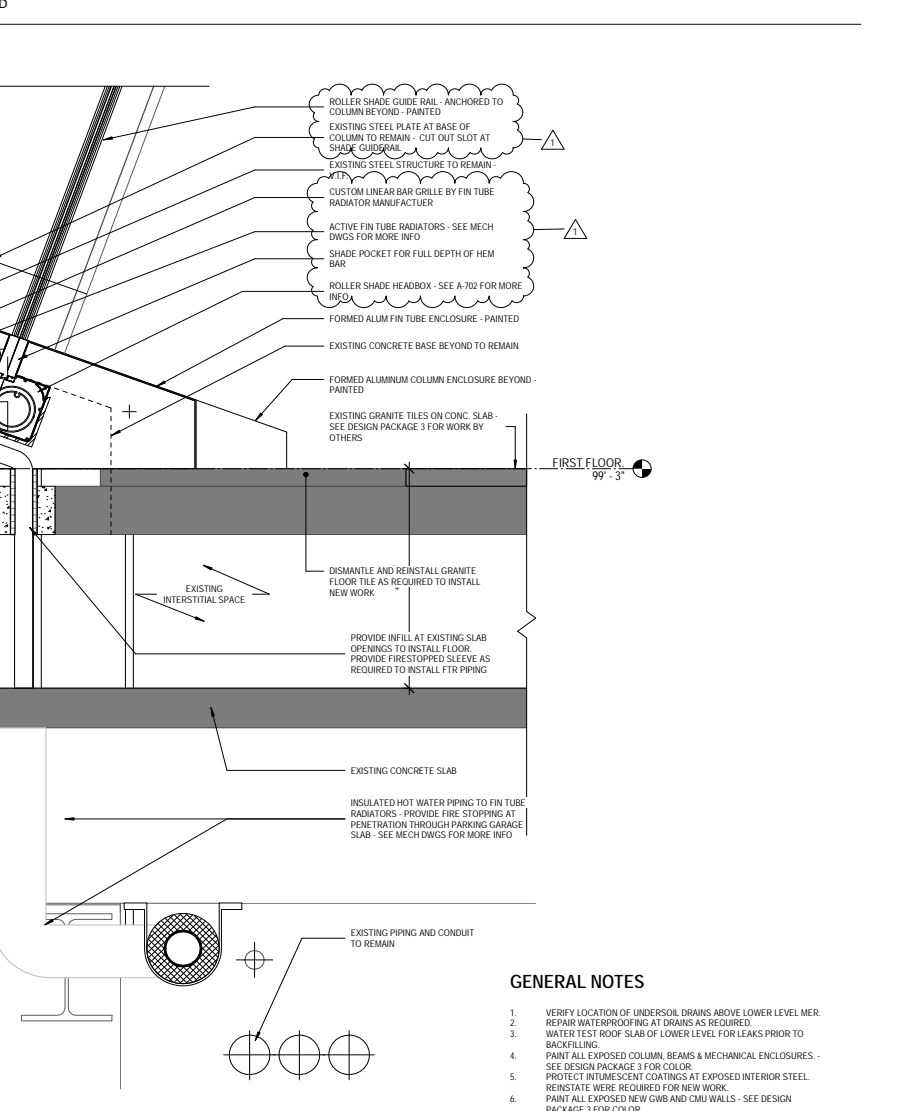
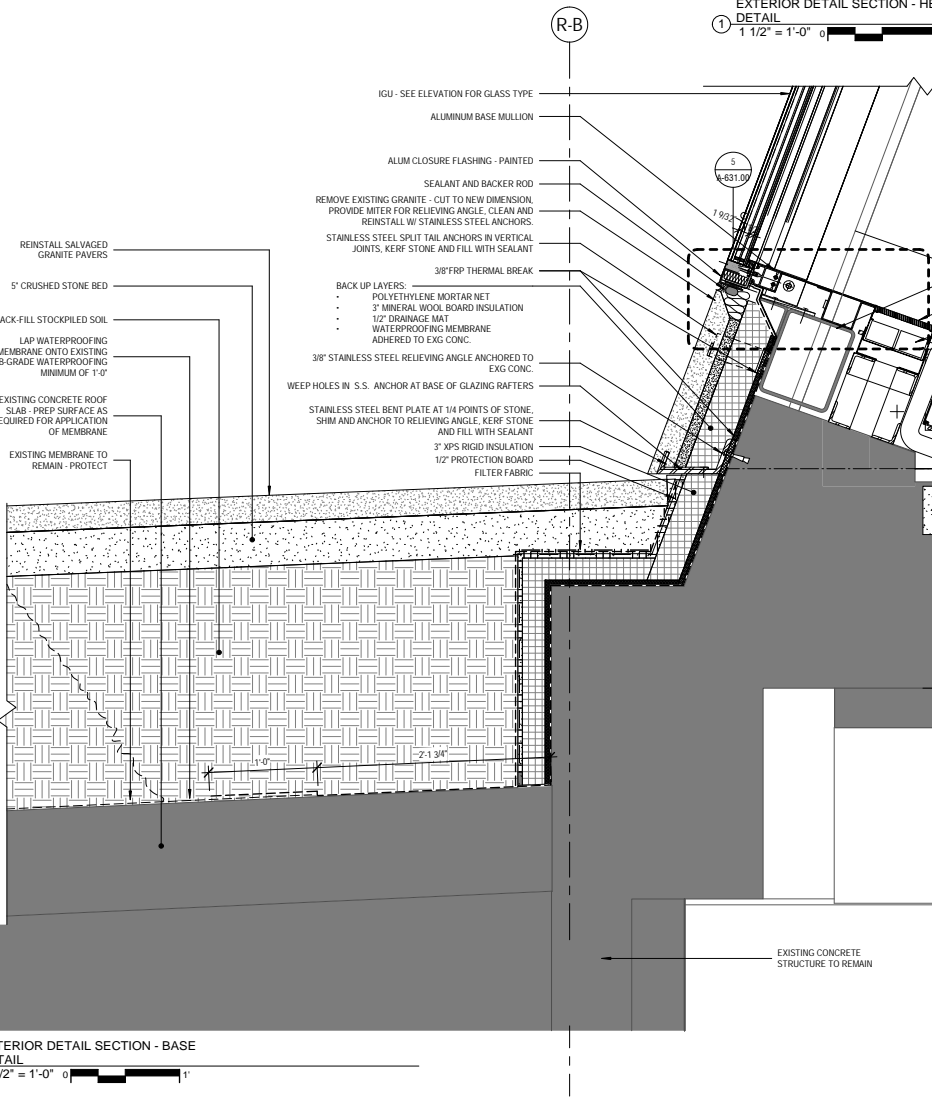
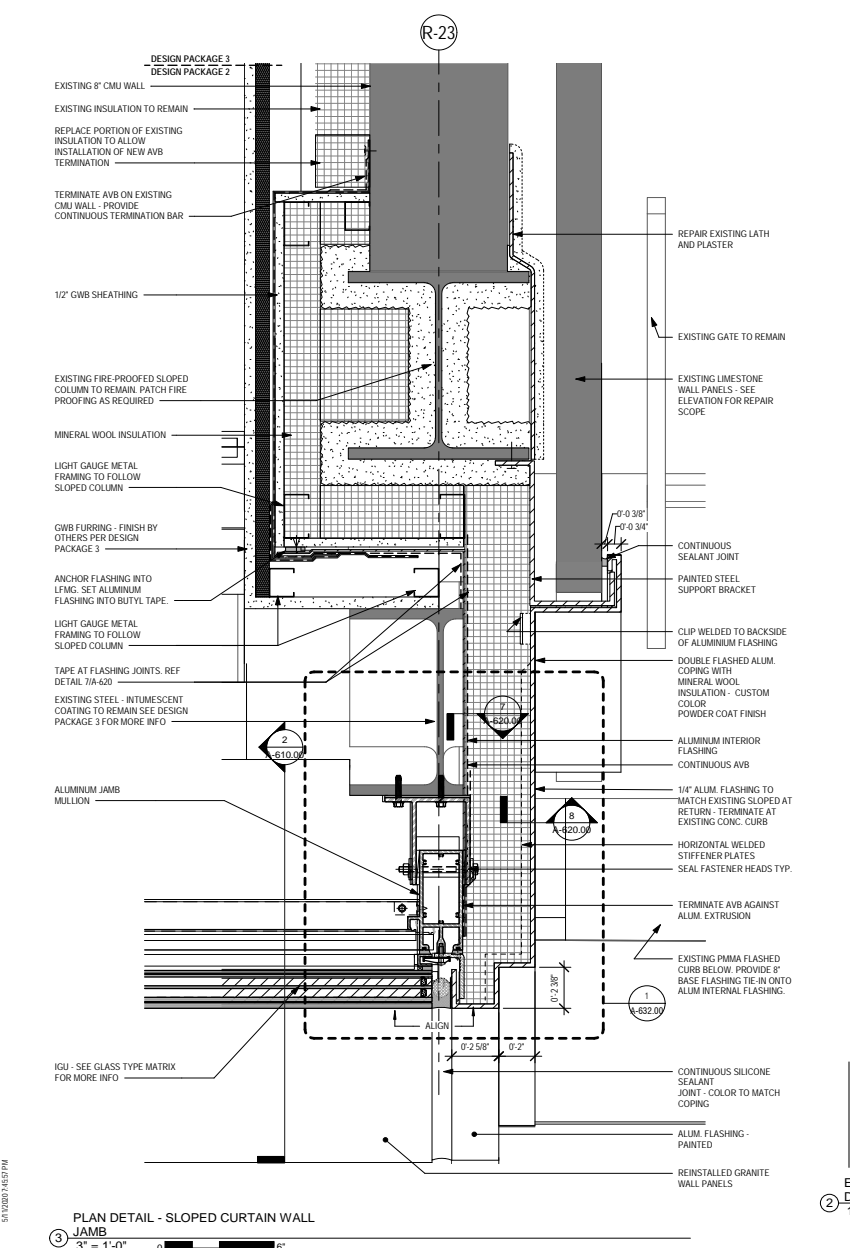
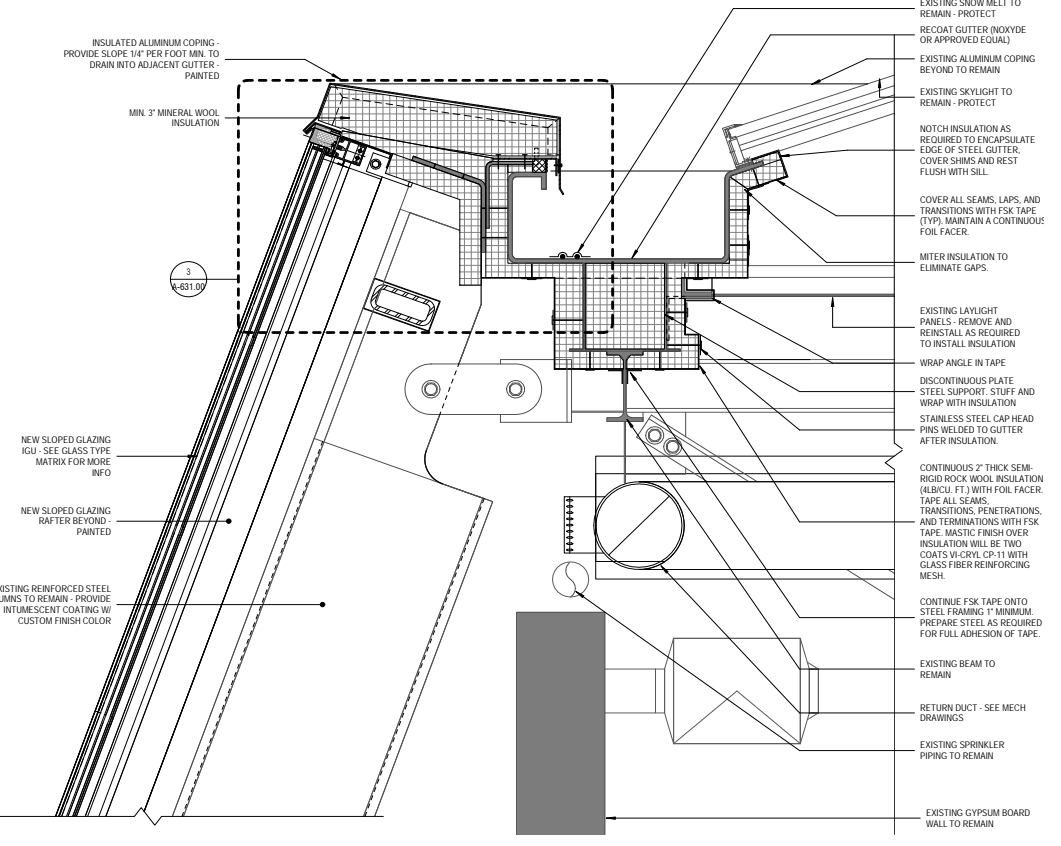
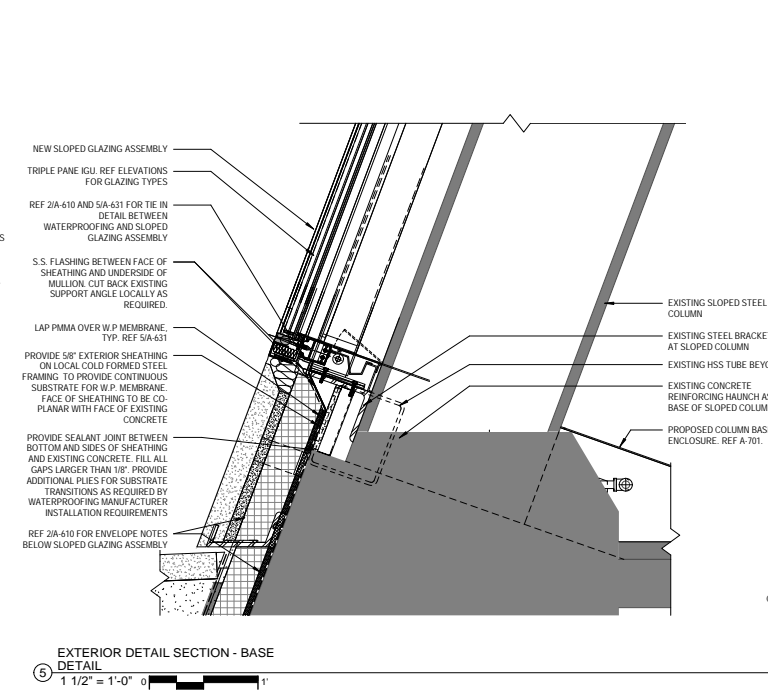
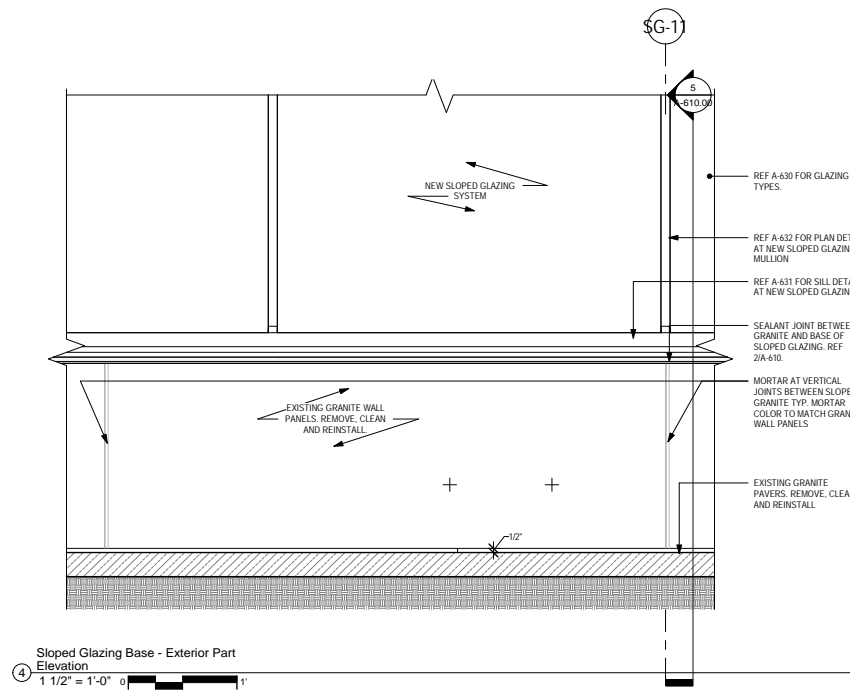
EXISTING DETAILS: HORIZONTAL MULLION AND VERTICAL MULLION  
CONVENTIONAL INSULATED GLASS UNITS WITH PRESSURE CAPS



PROPOSED DETAILS: HORIZONTAL MULLION AND VERTICAL MULLION  
TRIPLE GLAZING, LAMINATED GLASS, AND STRUCTURAL SILICON GLASS ATTACHMENT FOR  
IMPROVED THERMAL AND SOLAR PERFORMANCE, WEATHER TIGHTNESS, AND LONGEVITY

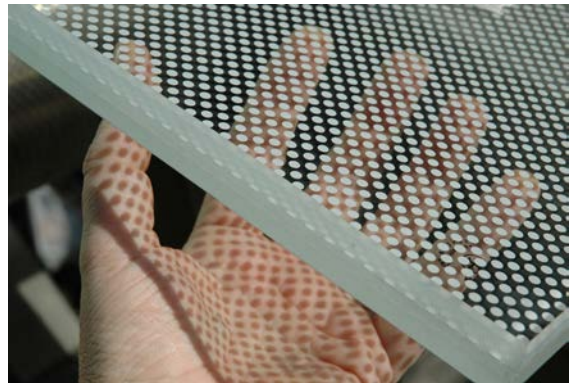
**COMPARATIVE GLAZING DETAILS: EXISTING AND PROPOSED**





- GENERAL NOTES**
1. VERIFY LOCATION OF UNDERSOIL DRAINS ABOVE LOWER LEVEL MER.
  2. REPAIR WATERPROOFING AT DRAINS AS REQUIRED.
  3. WATER TEST ROOF SLAB OF LOWER LEVEL FOR LEAKS PRIOR TO BACKFILLING.
  4. PAINT ALL EXPOSED COLUMN, BEAMS & MECHANICAL ENCLOSURES - SEE DESIGN PACKAGE 3 FOR COLOR.
  5. PROTECT INTUMESCENT COATINGS AT EXPOSED INTERIOR STEEL.
  6. REINSTATE WEIR REQUIRED FOR NEW WORK.
  7. PAINT ALL EXPOSED NEW GWB AND CMU WALLS - SEE DESIGN PACKAGE 3 FOR COLOR.

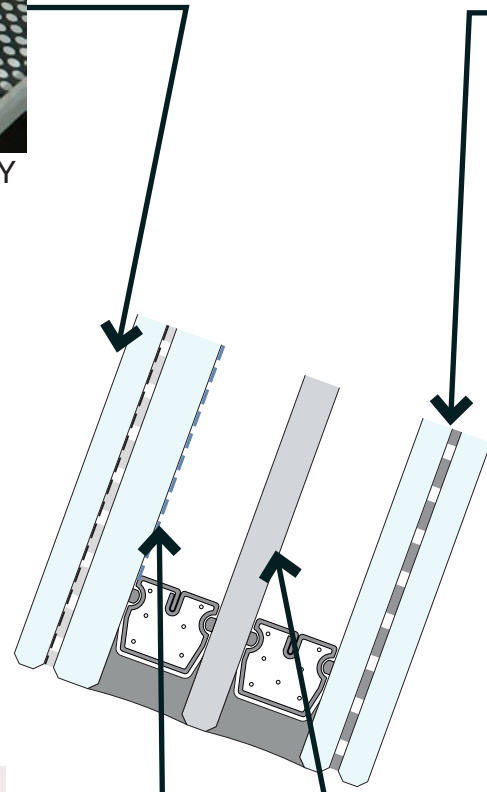
**PROPOSED DETAILS AT BASE, TOP AND SIDES OF SLOPED GLAZING**



GRAY FRIT AT EXTERIOR - BIRD SAFETY AND LIGHT REDUCTION WITH VARYING PERCENTAGE COVERAGE



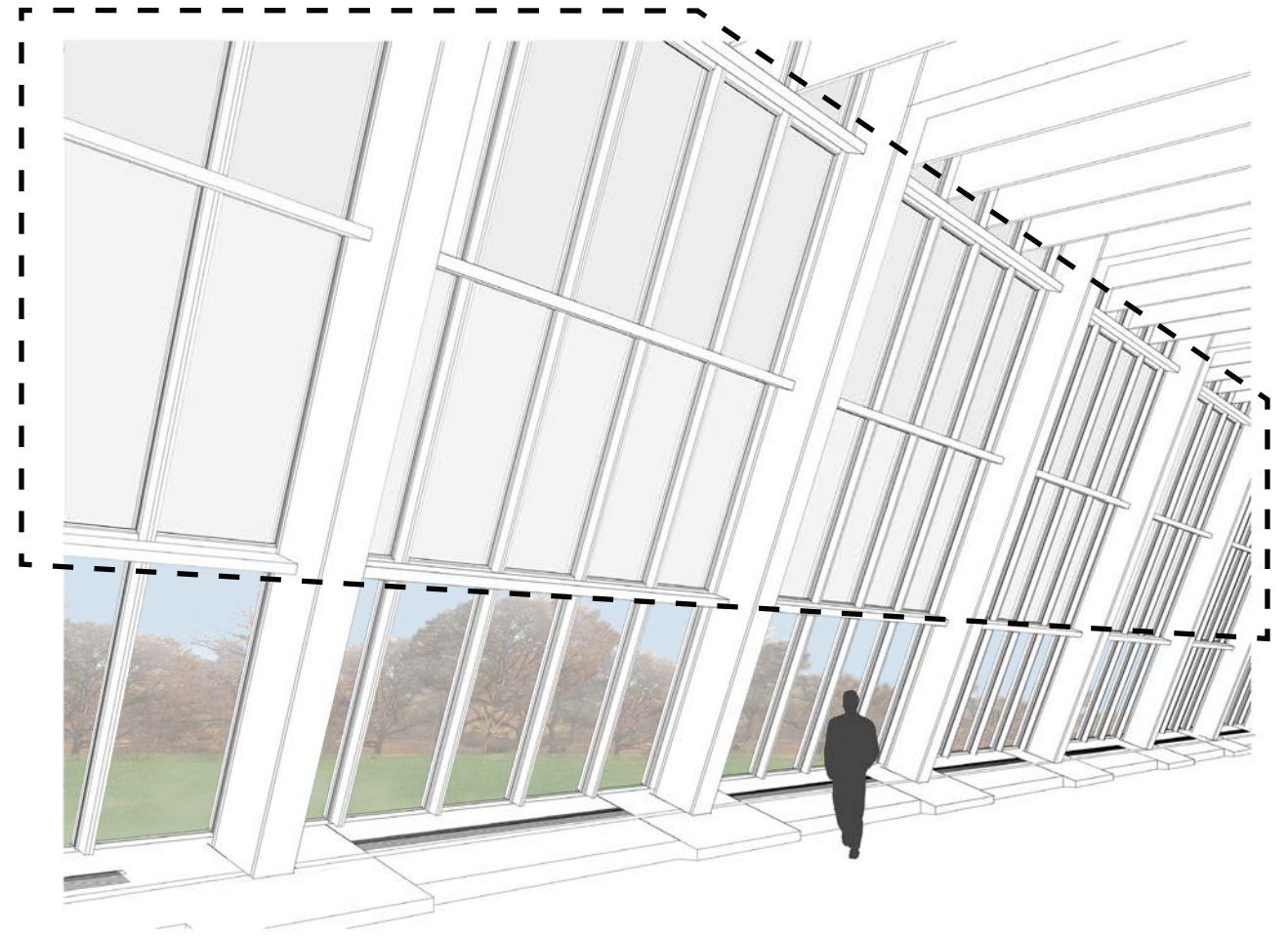
TRANSLUCENT INTERLAYER - SUN PROTECTION AND LIGHT REDUCTION



LOW-E COATING - THERMAL PERFORMANCE AND LIGHT REDUCTION (SURFACE #4 OF OUTER LAMINATE)



NEUTRAL BODY TINT - LIGHT REDUCTION



### TRANSLUCENT GLASS PANEL ASSEMBLY

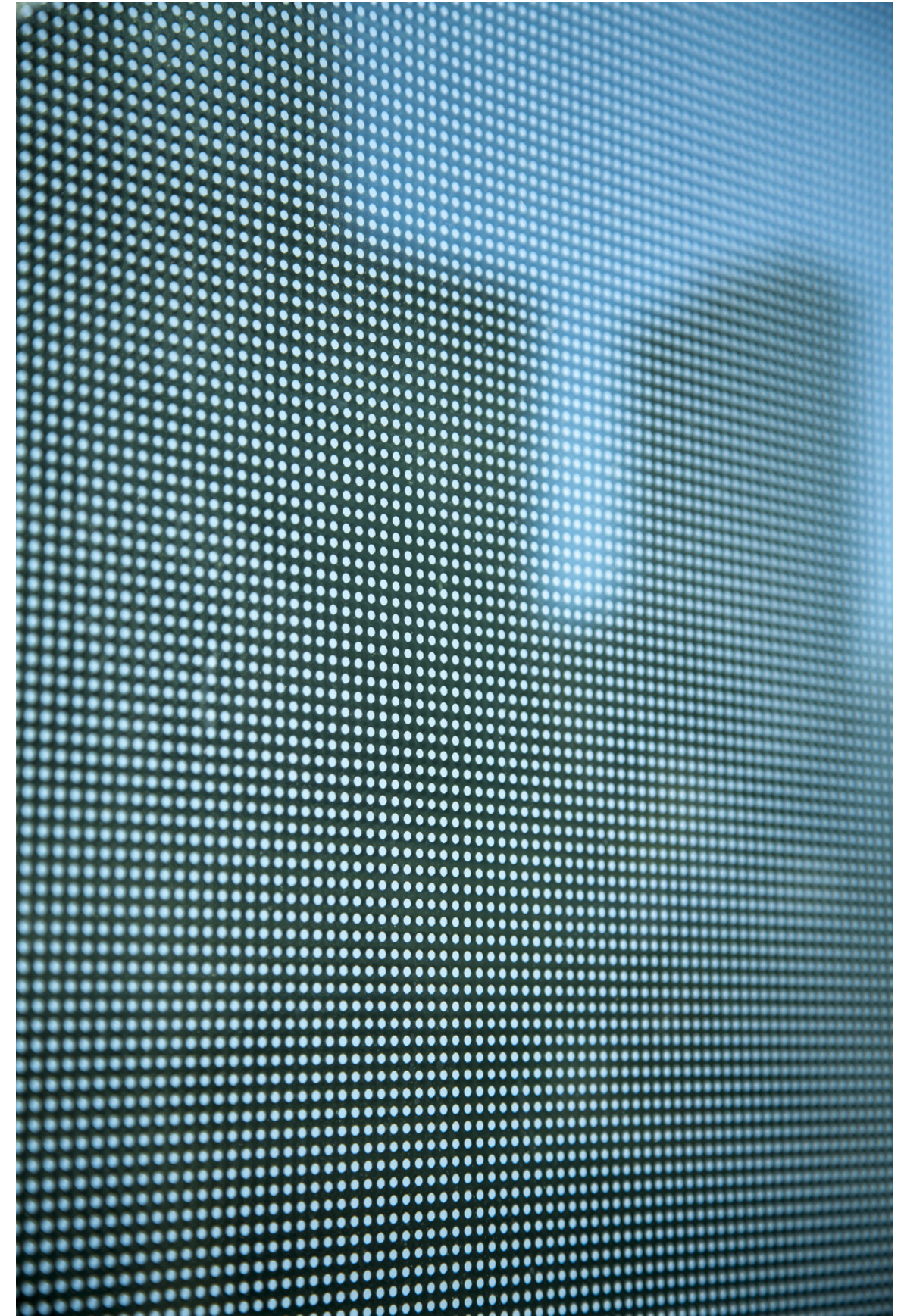


GLASS SAMPLE  
VIEW OF EXTERIOR FACE: ROW 1



GLASS SAMPLE  
VIEW OF EXTERIOR FACE: ROW 4

NOTE: FRITS ARE REQUIRED AS PART OF NYC BUILDING CODE NEW REQUIREMENTS FOR BIRD FRIENDLY GLASS MATERIALS, EFFECTIVE IN 2021



PRECEDENT: EXAMPLE OF FRITTED BIRD FRIENDLY GLASS AND ITS VISIBILITY FROM A DISTANCE: RENOVATION OF JACOB JAVITS CONVENTION CENTER



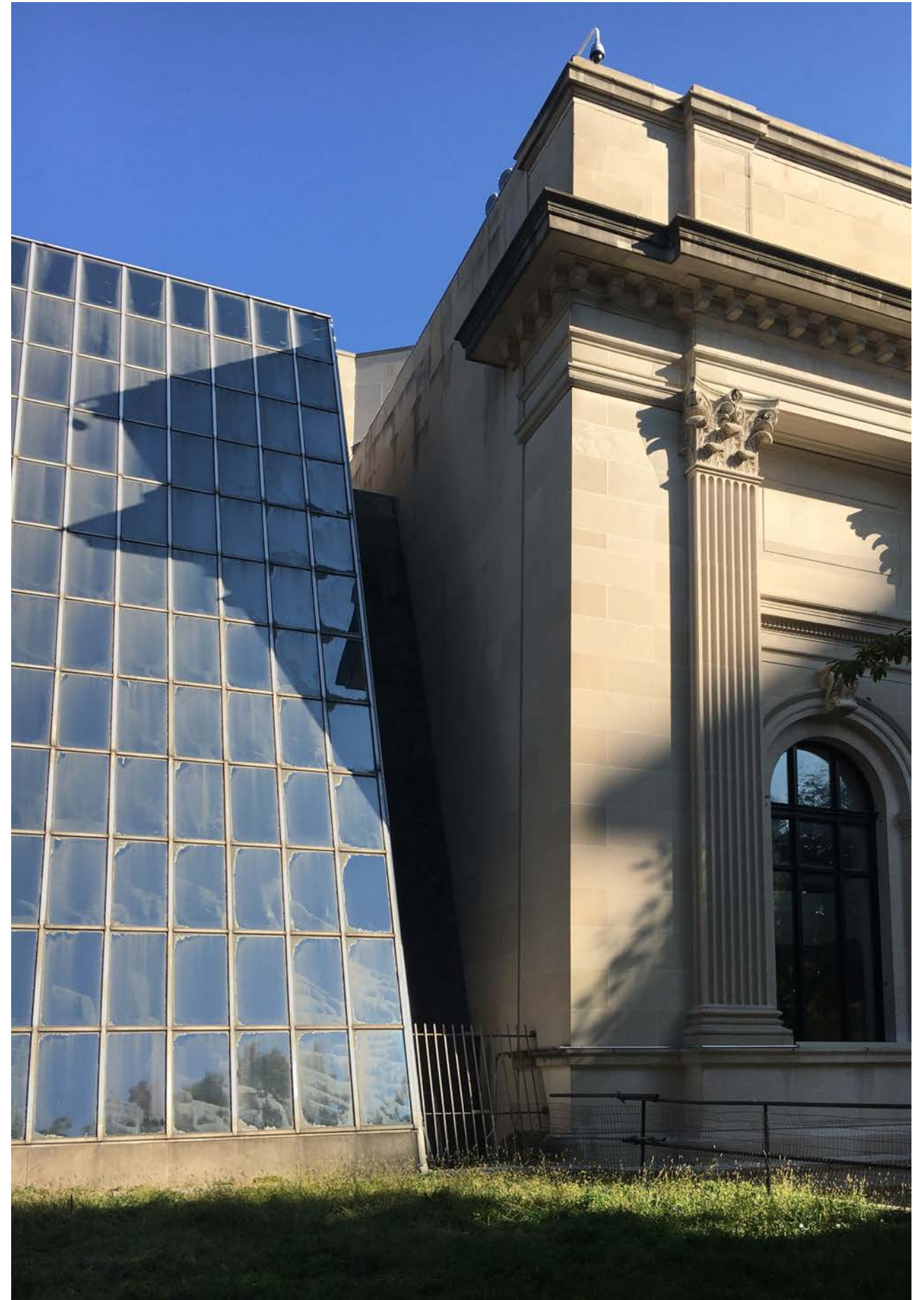
**ROCKEFELLER WING - EXISTING CONDITION PHOTO**



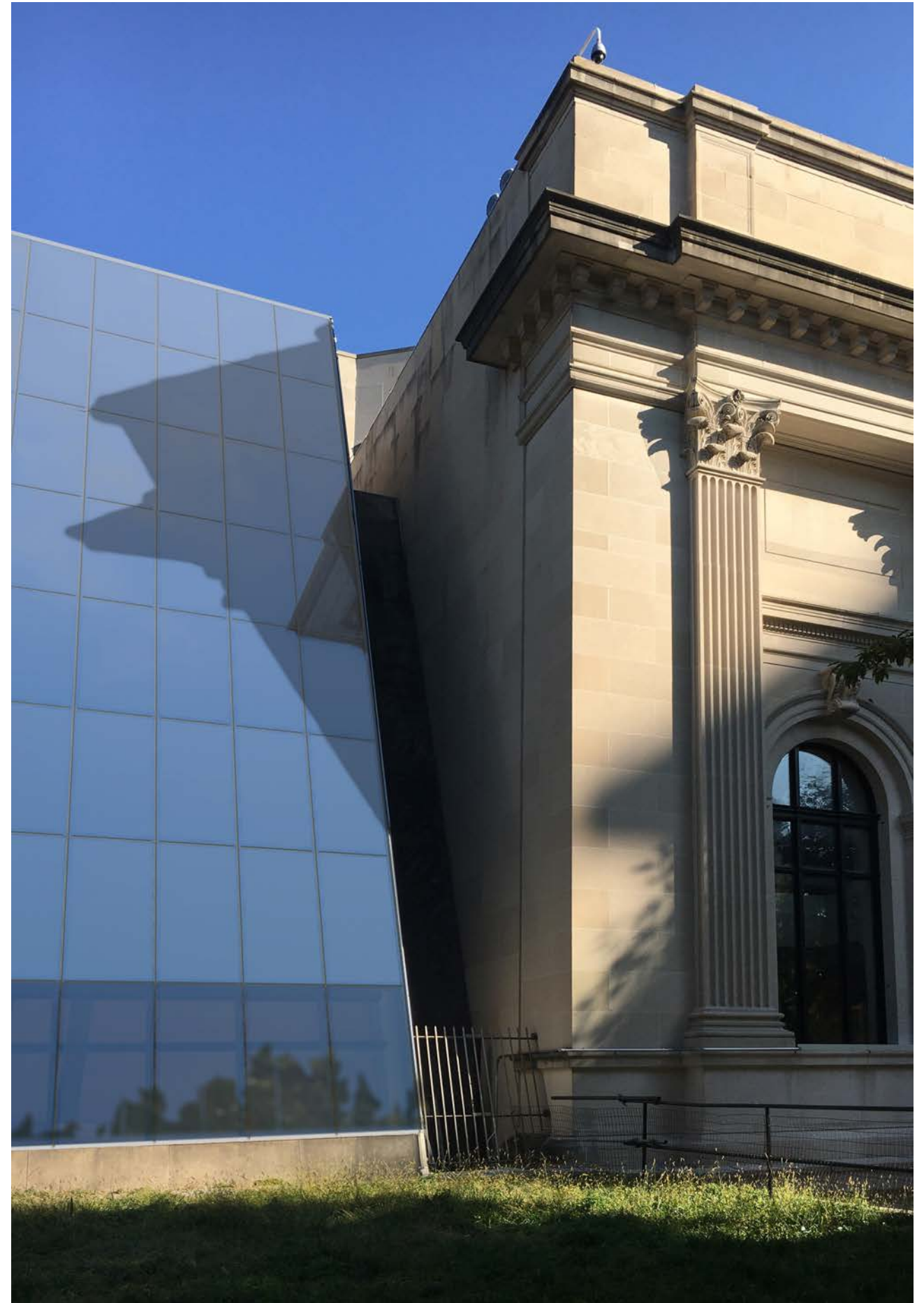
**ROCKEFELLER WING PROPOSED SLOPED GLAZING REPLACEMENT - RENDERING**



ROCKEFELLER WING - EXISTING CONDITION PHOTOS







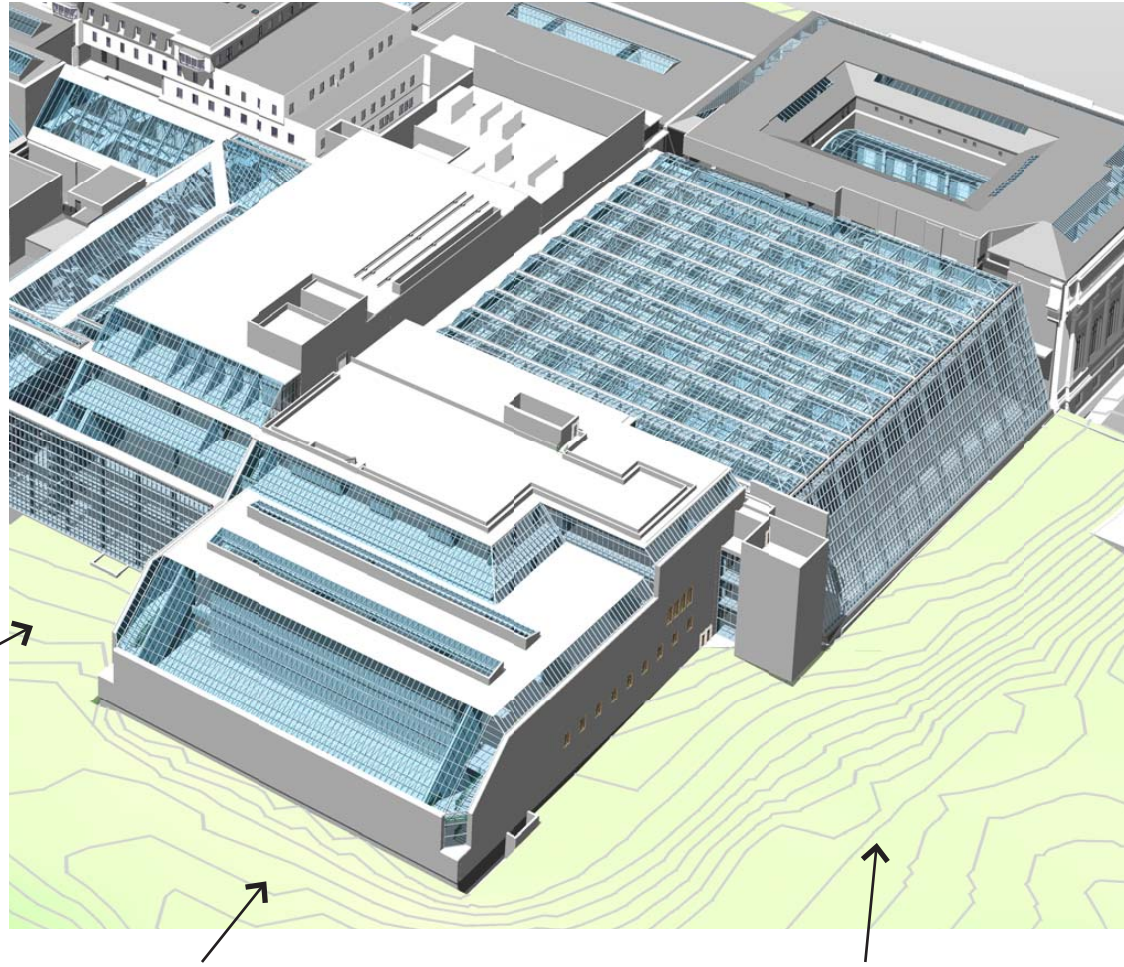
**ROCKEFELLER WING PROPOSED SLOPED GLAZING REPLACEMENT - RENDERINGS**



CONTEXT PHOTOS IN CENTRAL PARK



**CONTEXT PHOTO: VIEW OF ROCKEFELLER WING SLOPED GLAZING FROM FIFTH AVENUE**



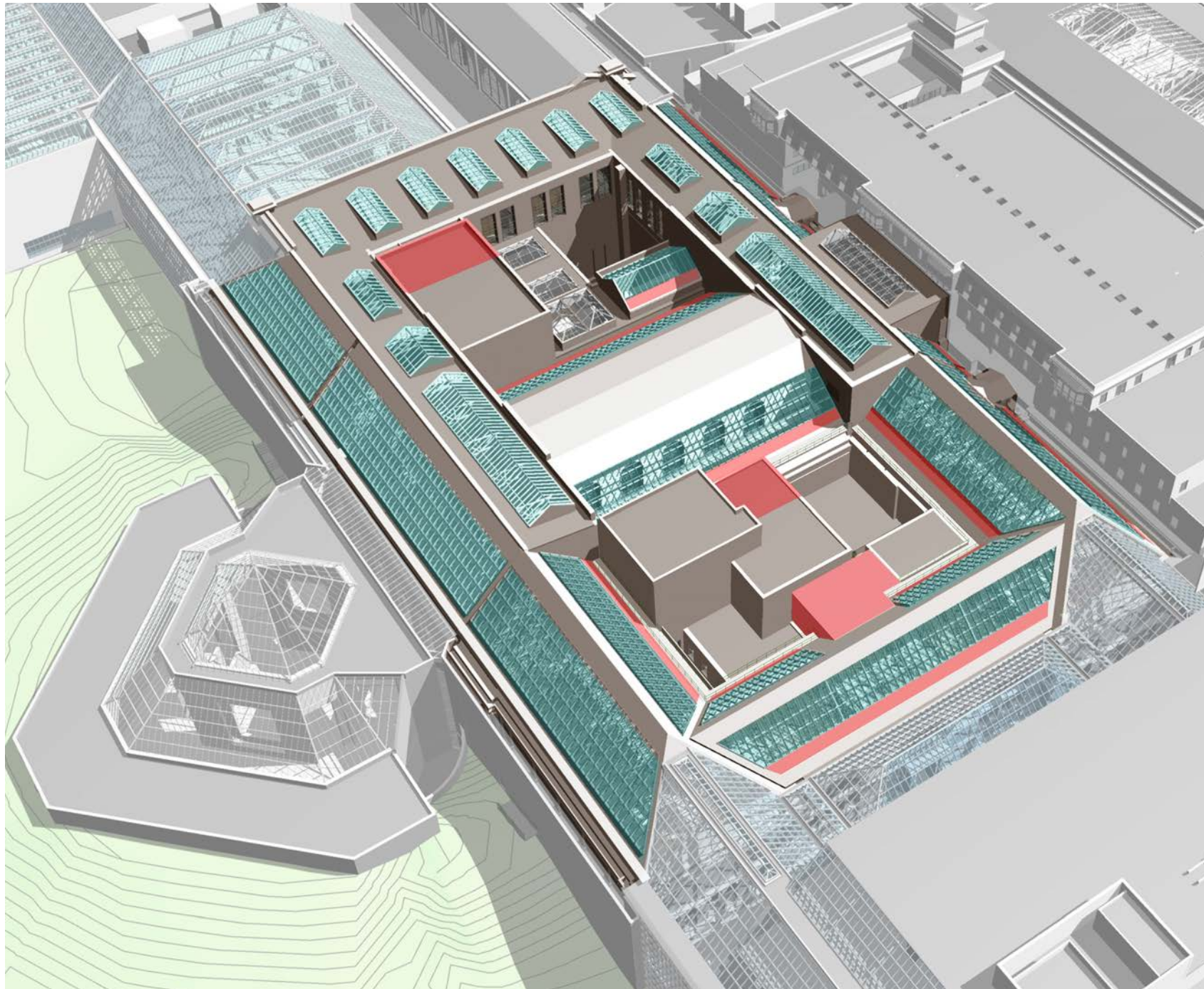
CONTEXT PHOTOS AT SOUTHWEST CORNER OF MUSEUM - VISIBILITY OF ROCKEFELLER WING WITH LILA ACHESON WALLACE WING AND PETRIE COURT



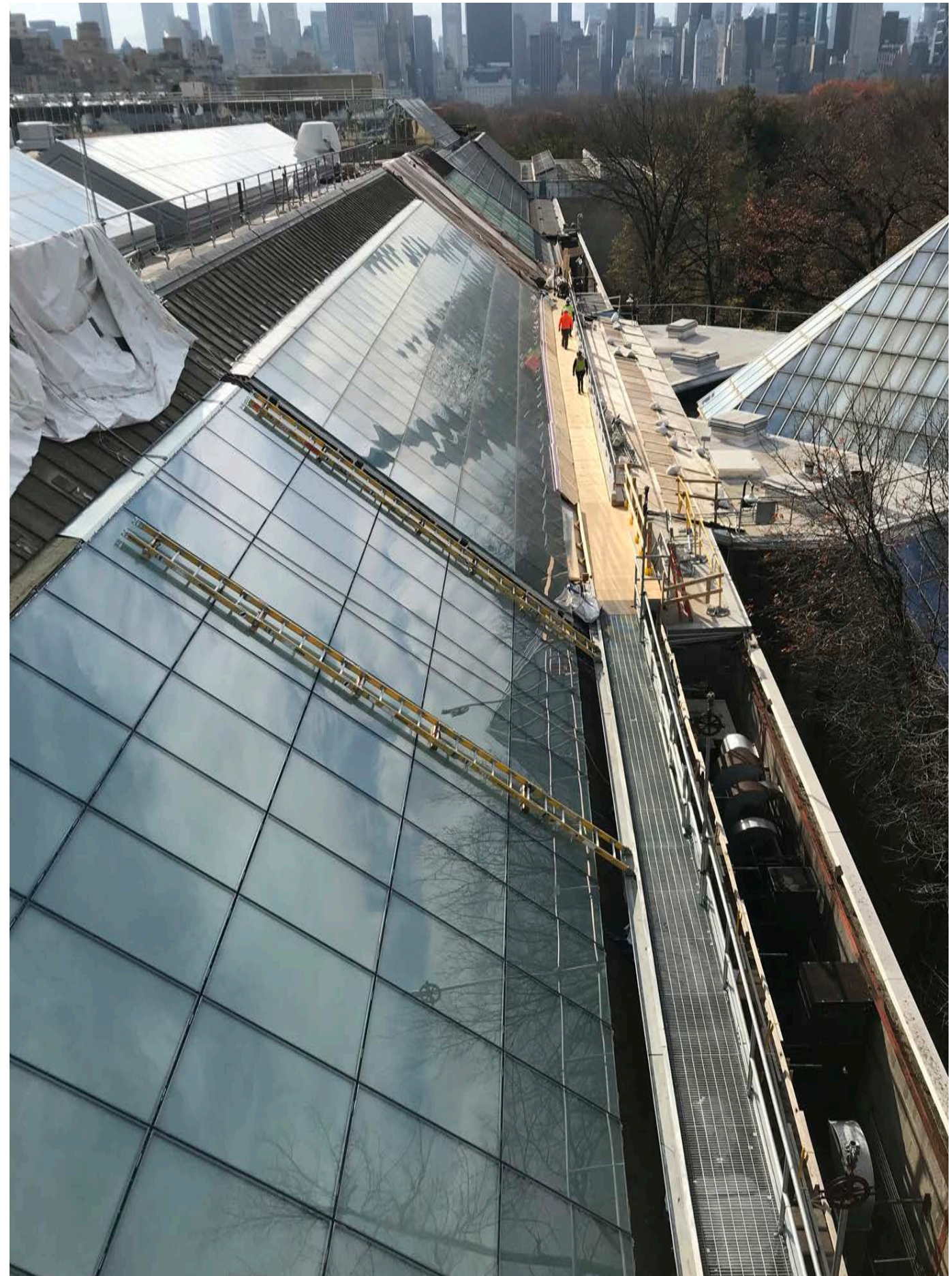
**EXISTING CONDITION PHOTO: VIEW OF MET SOUTHWEST WING AND ROCKEFELLER WING**



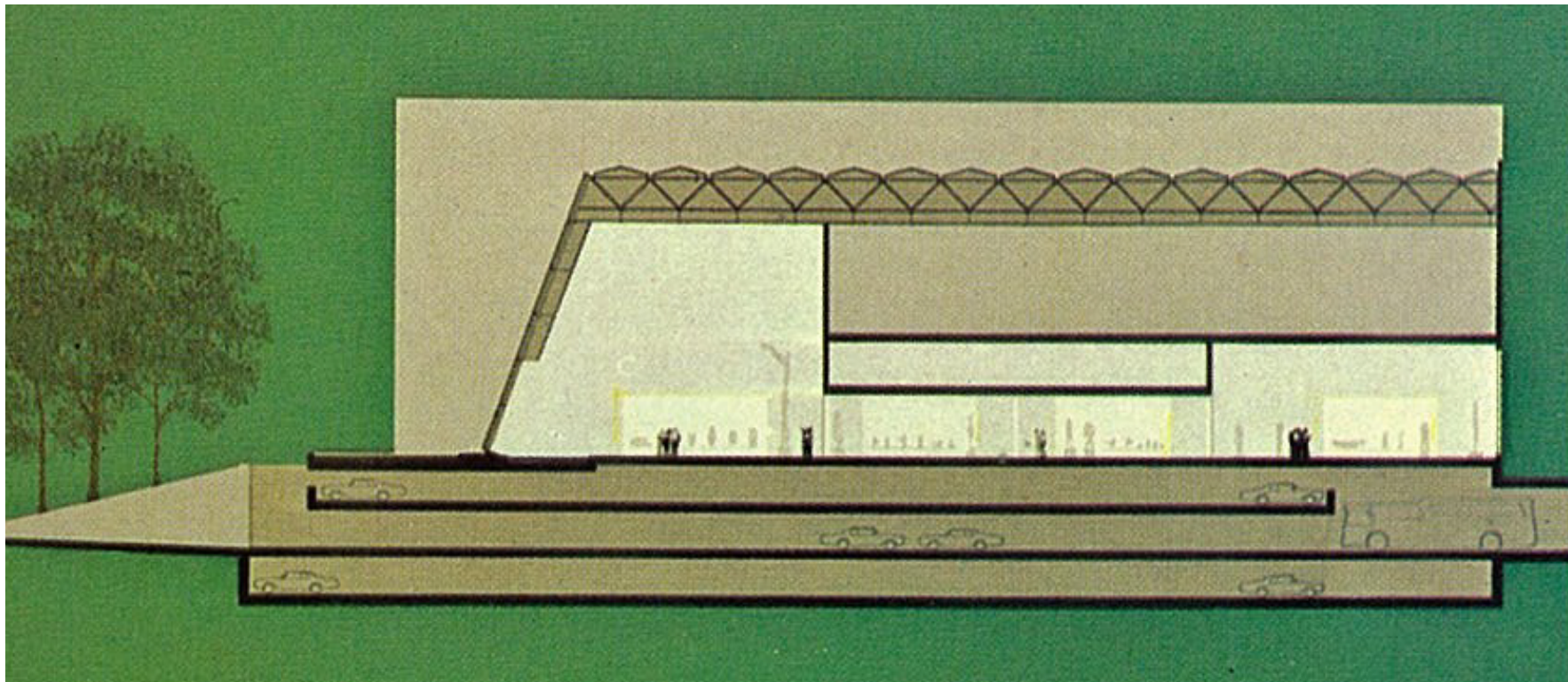
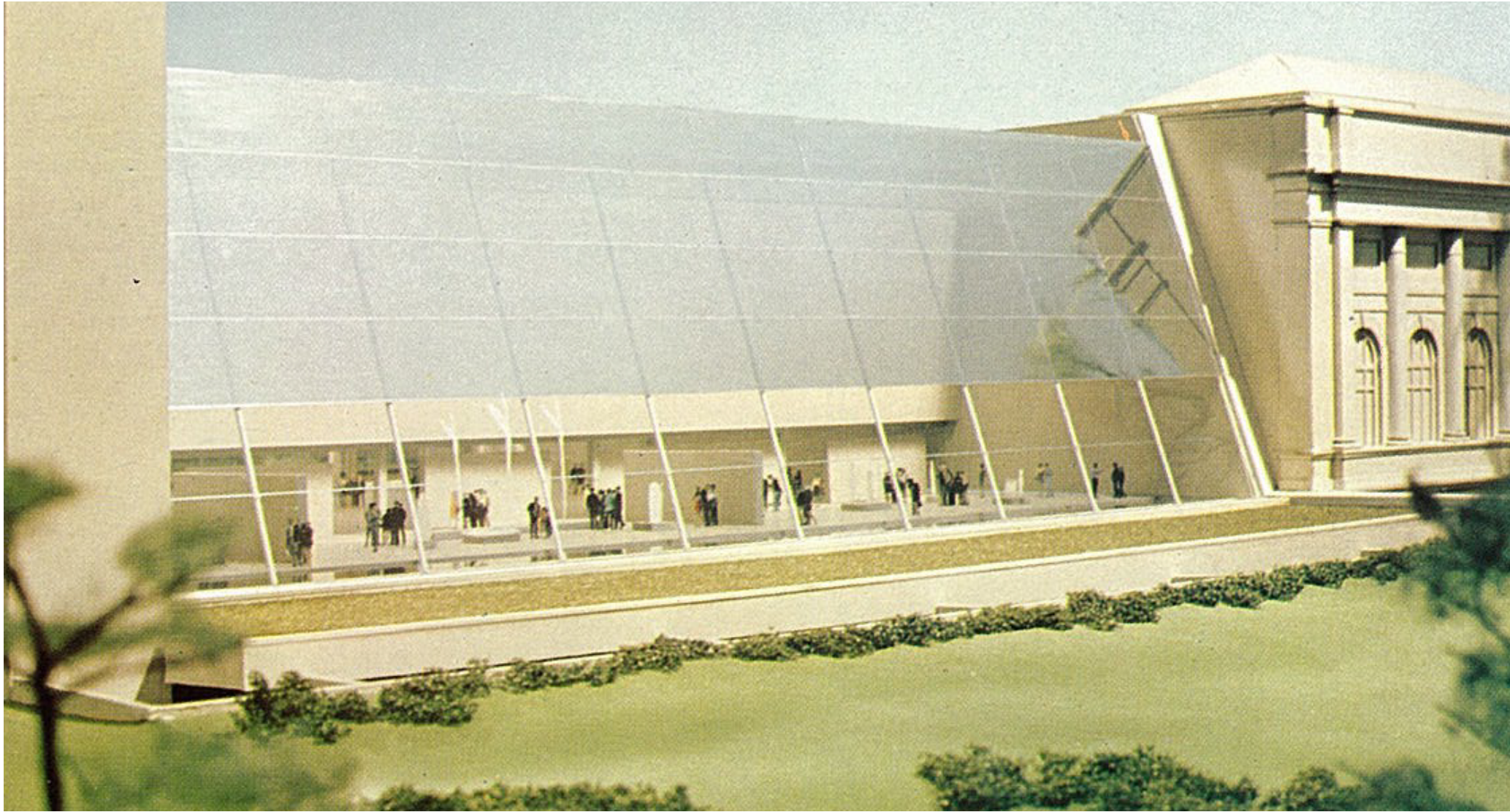
PROPOSED RENDERING: VIEW OF MET SOUTHWEST WING AND ROCKEFELLER WING



METROPOLITAN MUSEUM PRECEDENT:  
WINGS A,B AND C SKYLIGHT REPLACEMENT OVER EUROPEAN PAINTINGS GALLERIES AS APPROVED  
BY LPC AT STAFF LEVEL IN 2017. THE NEW GLAZING SYSTEM IS SIMILAR TO THAT PROPOSED FOR THE  
ROCKEFELLER WING.



CONSTRUCTION PHOTO OF SKYLIGHT REPLACEMENT (2020)



KEVIN ROCHE JOHN DINKELOO ASSOCIATES:  
MODEL AND SECTION OF OF THE ROCKEFELLER WING, 1970 MASTER PLAN

THE 1970 MODELS SHOW SHEER PLANES OF GLASS WITHOUT THE MULLION GRIDS THAT WERE INCORPORATED INTO THE BUILT PROJECTS USING THE GLASS TECHNOLOGY AVAILABLE IN THE 1970'S AND EARLY 1980'S.



The current proposal is:

**Preservation Department – Item 6, LPC-21-04144**

**1000 Fifth Avenue – Metropolitan Museum of Art,  
Borough of Manhattan**

**How to Testify Via Zoom:**

**<https://us02web.zoom.us/j/87273483259?pwd=QXpwMTlkSU1TZHN0aUhRWDRKTE44UT09>**

**Webinar ID:** 872 7348 3259

**Passcode:** 812556

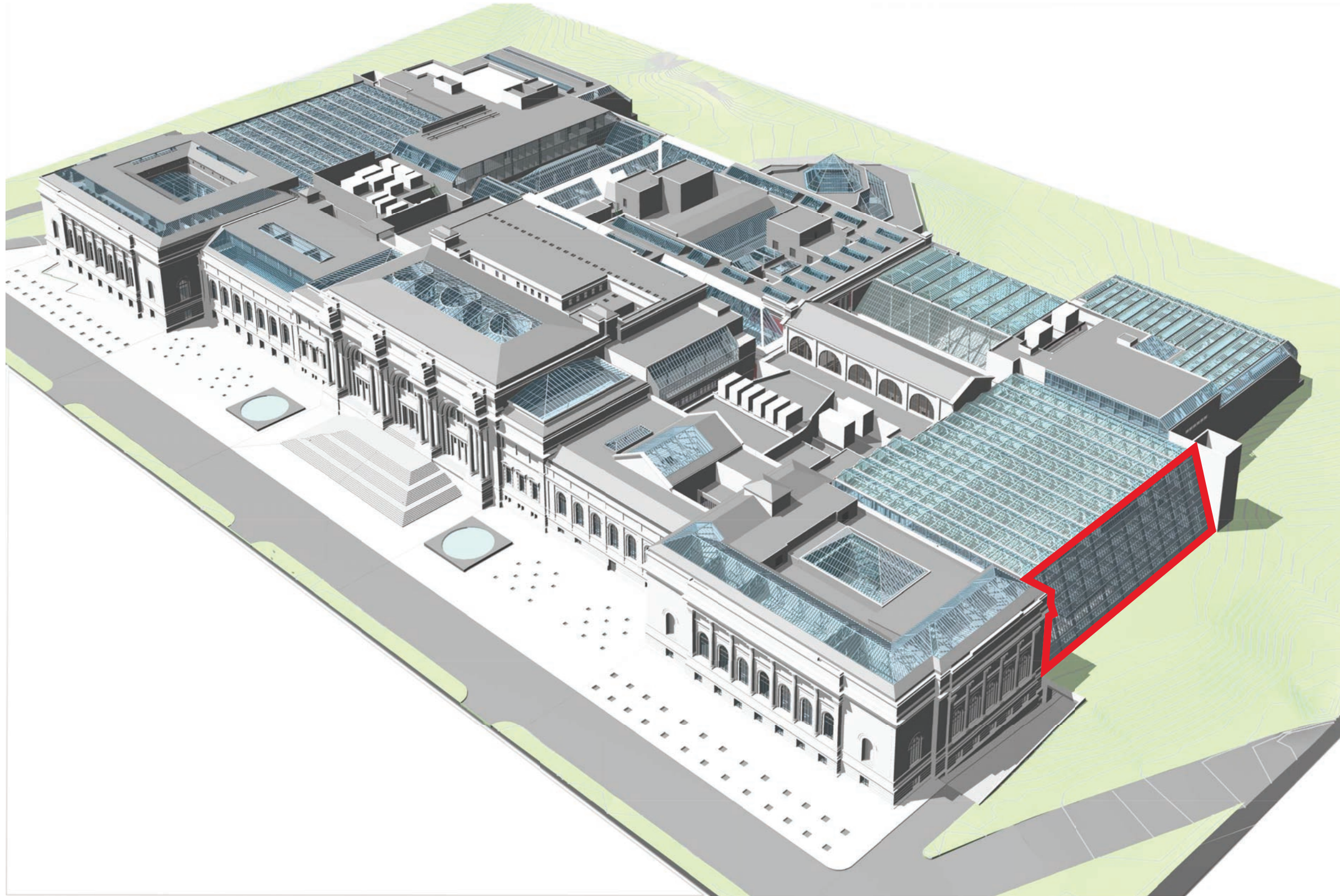
By Phone:

1 646-558-8656

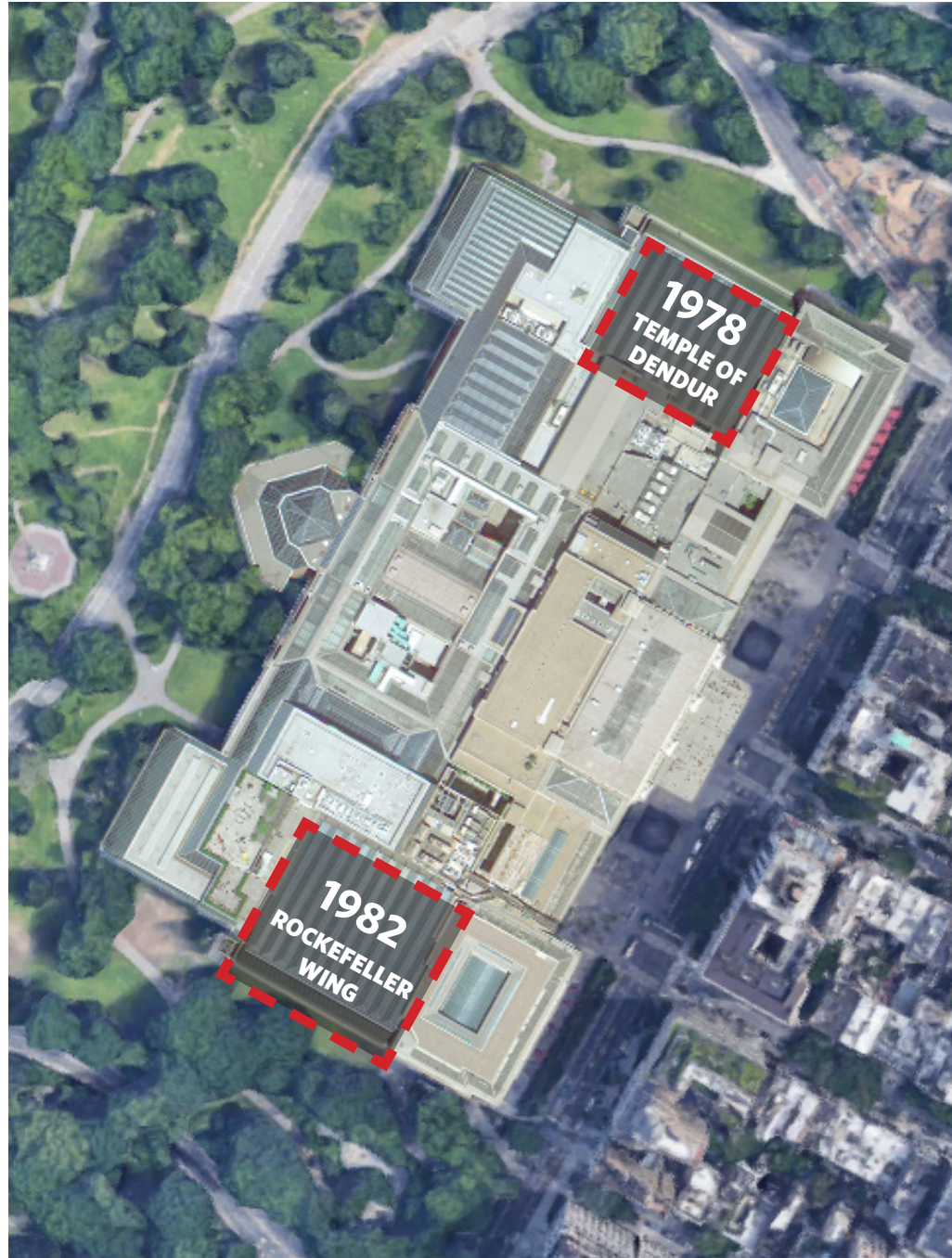
US (New York) 877-853-5257 (Toll free)

US 888 475 4499 (Toll free)

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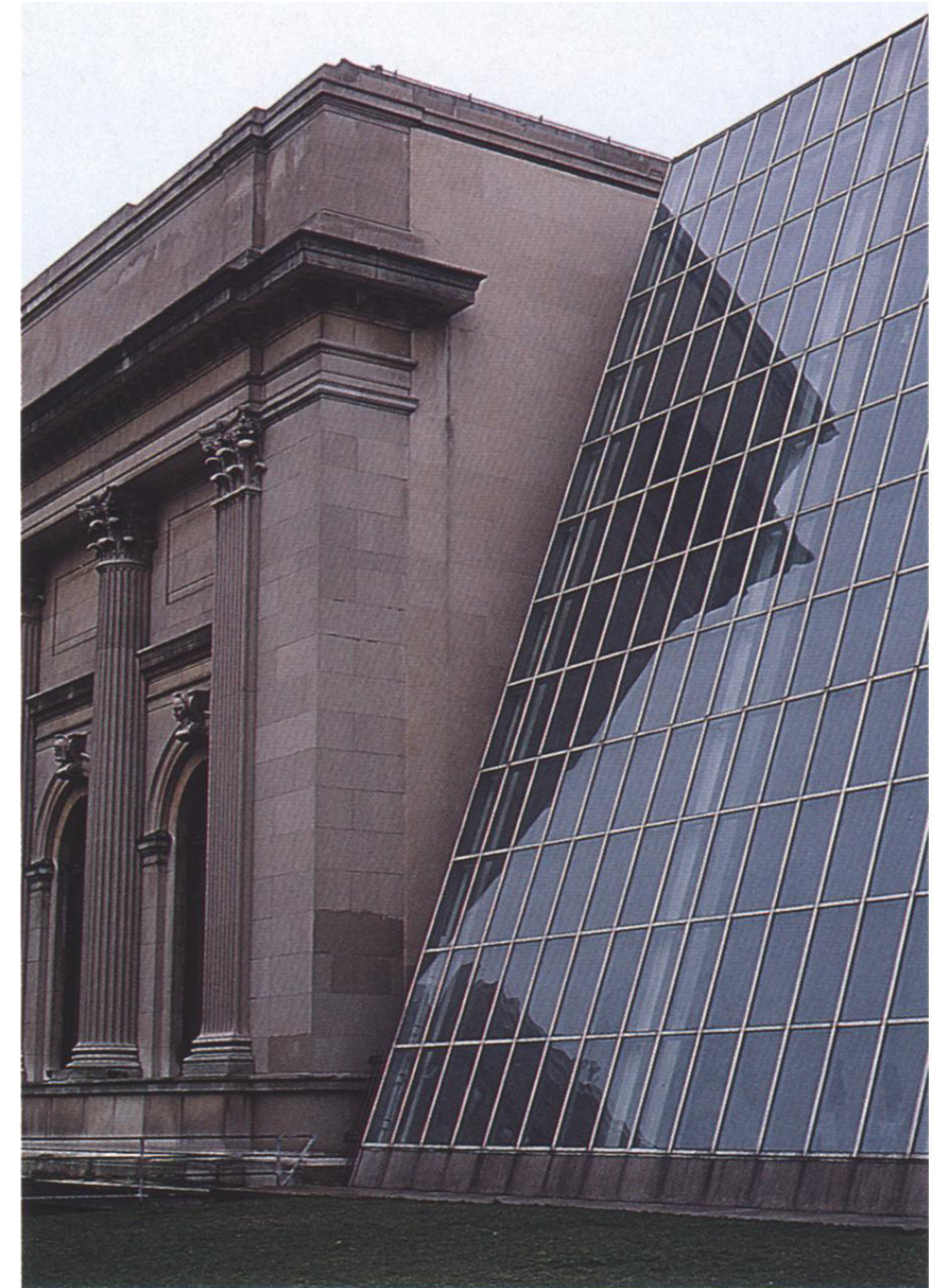
**APPENDIX 3A:  
DESIGN OF POTENTIAL FUTURE TEMPLE OF DENDUR SLOPED GLAZING REPLACEMENT**



ORIENTATION PLAN

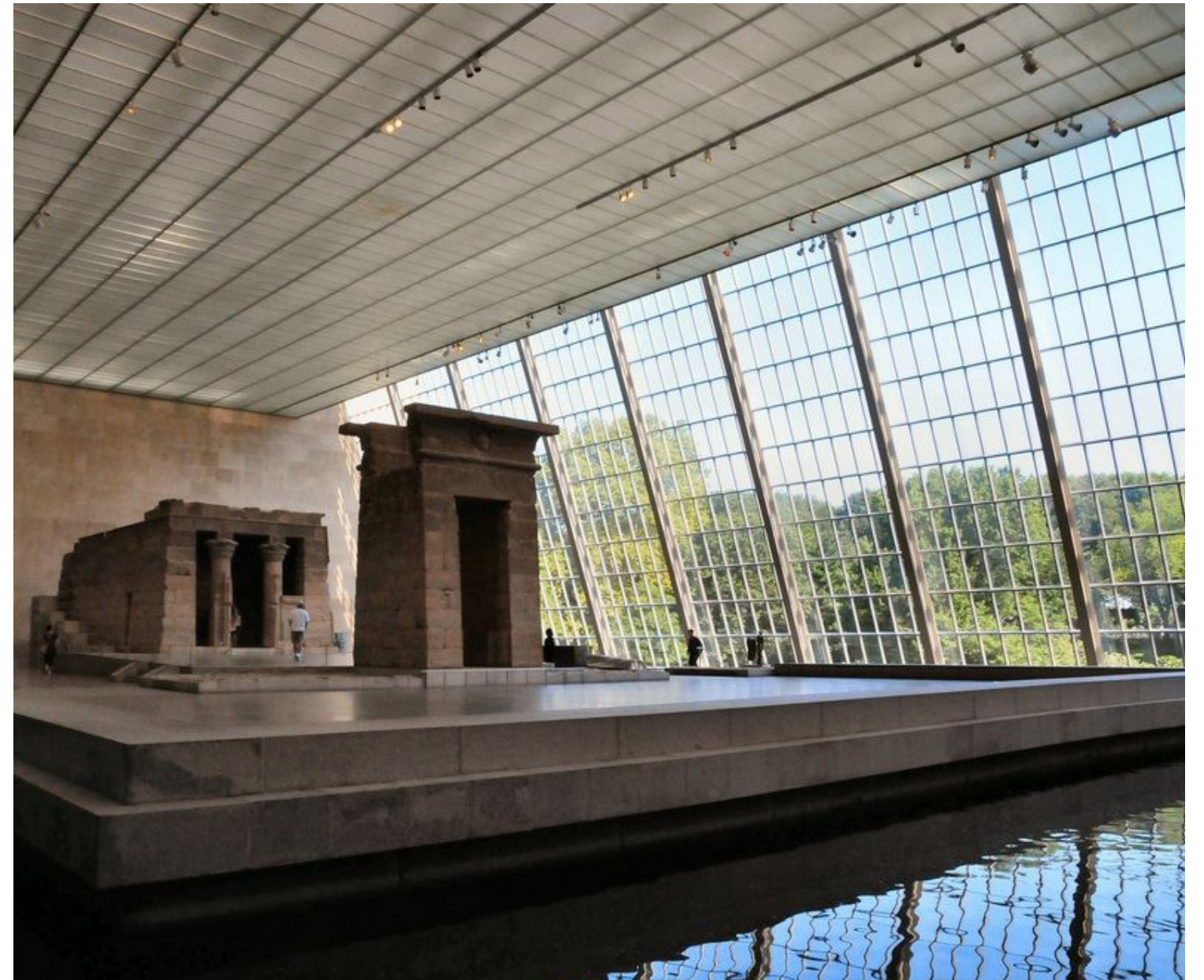


ROCKEFELLER WING FACES SOUTH



TEMPLE OF DENDUR WING FACES NORTH





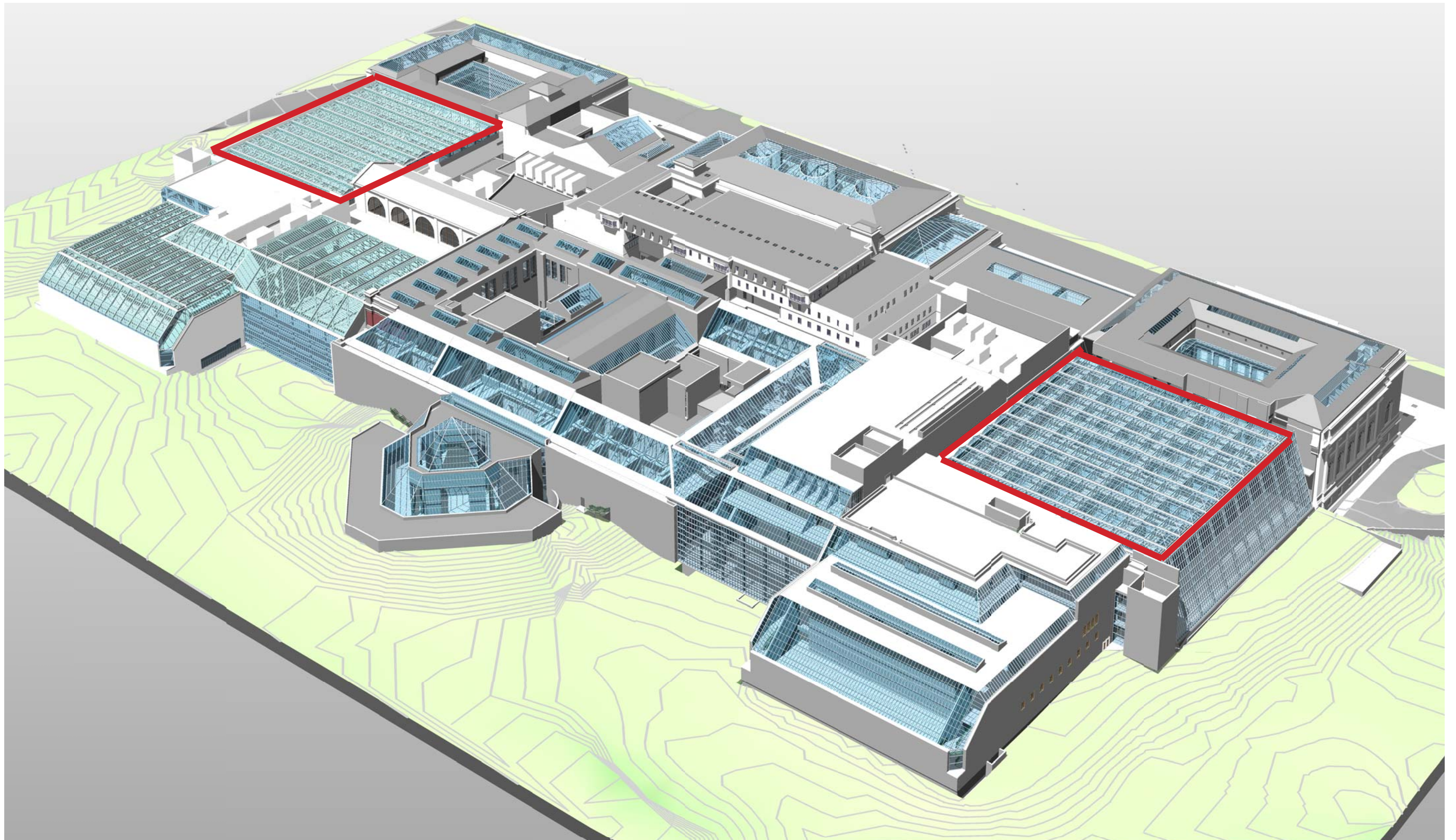
TEMPLE OF DENDUR WING EXTERIOR AND INTERIOR PHOTOS - EXISTING CONDITIONS



ROCKEFELLER WING SLOPED GLAZING PROPOSED REPLACEMENT



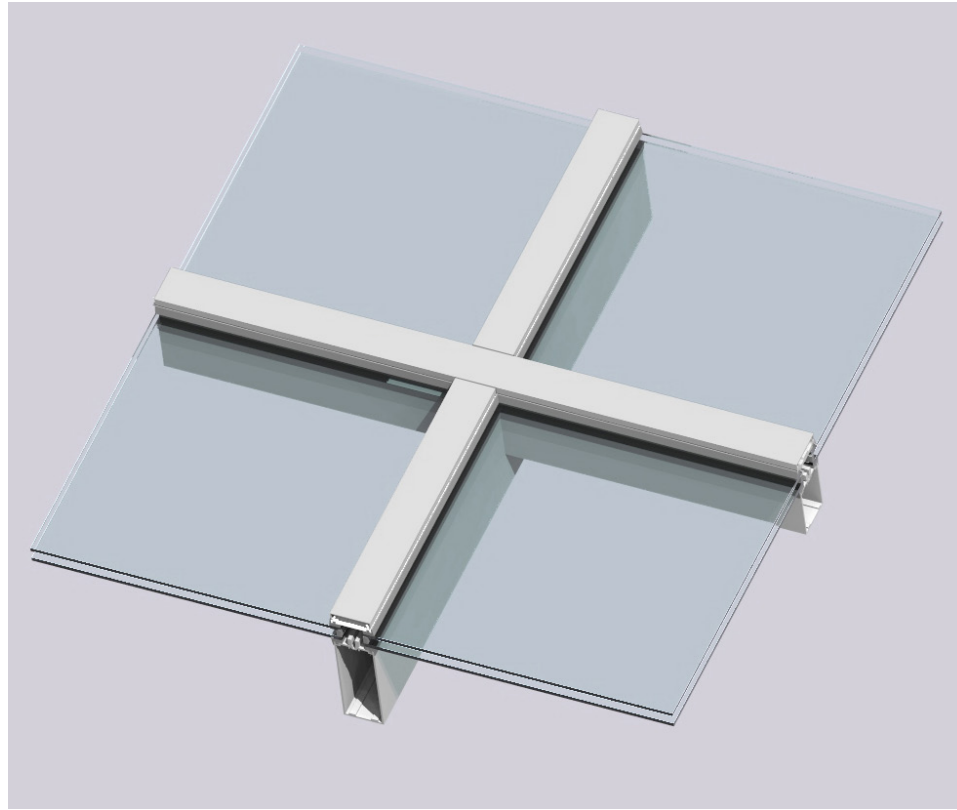
TEMPLE OF DENDUR WING SLOPED GLAZING: DESIGN OF POTENTIAL FUTURE REPLACEMENT



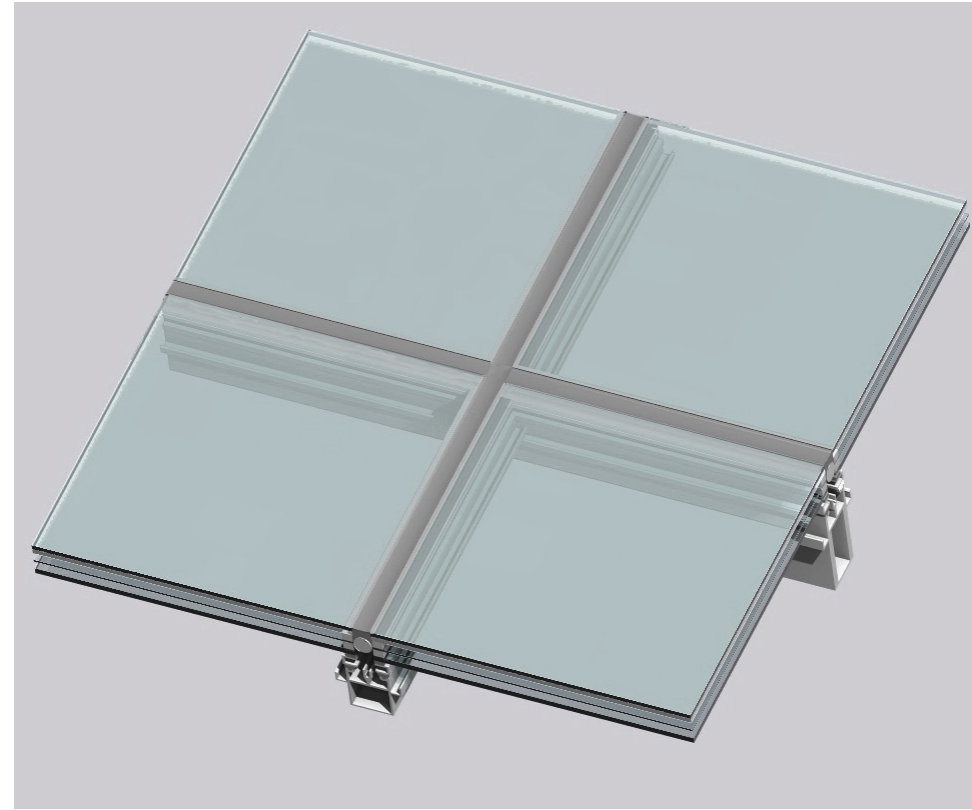
**APPENDIX 3B: ROCKEFELLER AND TEMPLE OF DENDUR SKYLIGHTS:  
DESIGN OF POTENTIAL FUTURE SKYLIGHT ROOF REPLACEMENT**



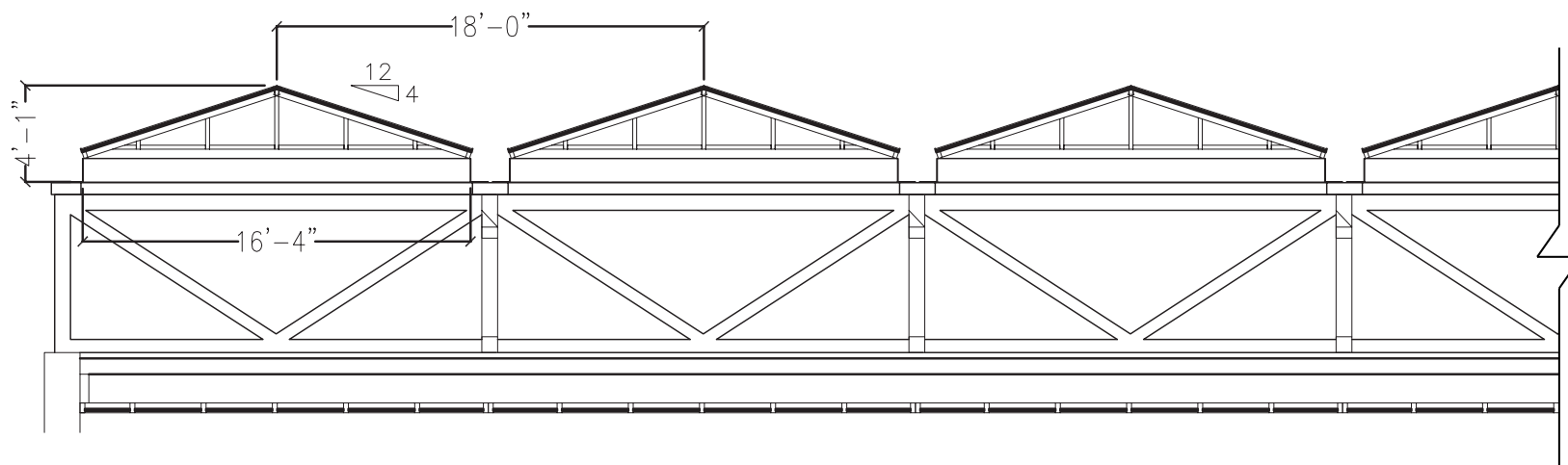
TEMPLE OF DENDUR WING SKYLIGHTS EXISTING CONDITIONS



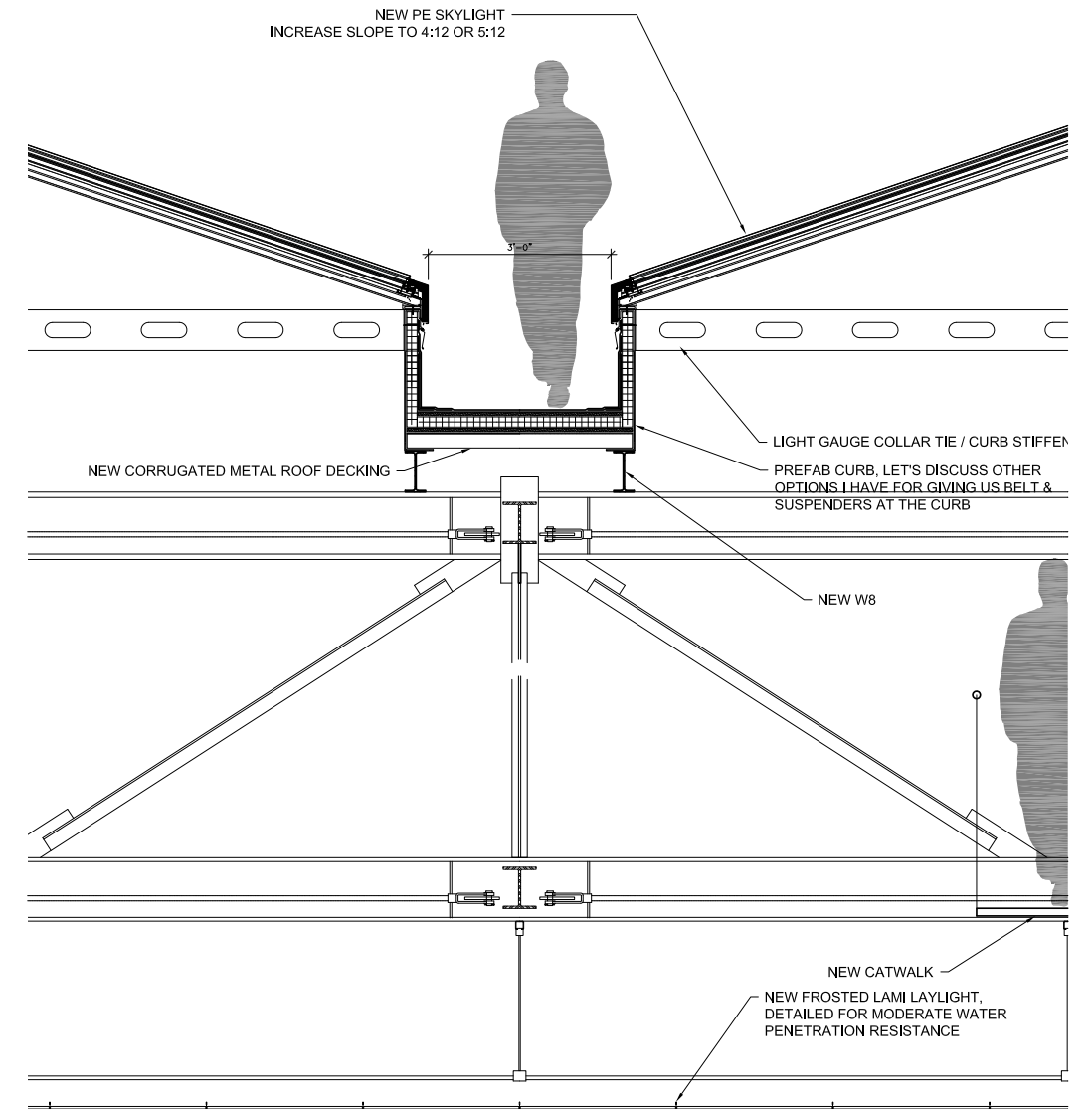
**EXISTING SKYLIGHT DETAIL**



**POTENTIAL FUTURE SKYLIGHT DETAIL**

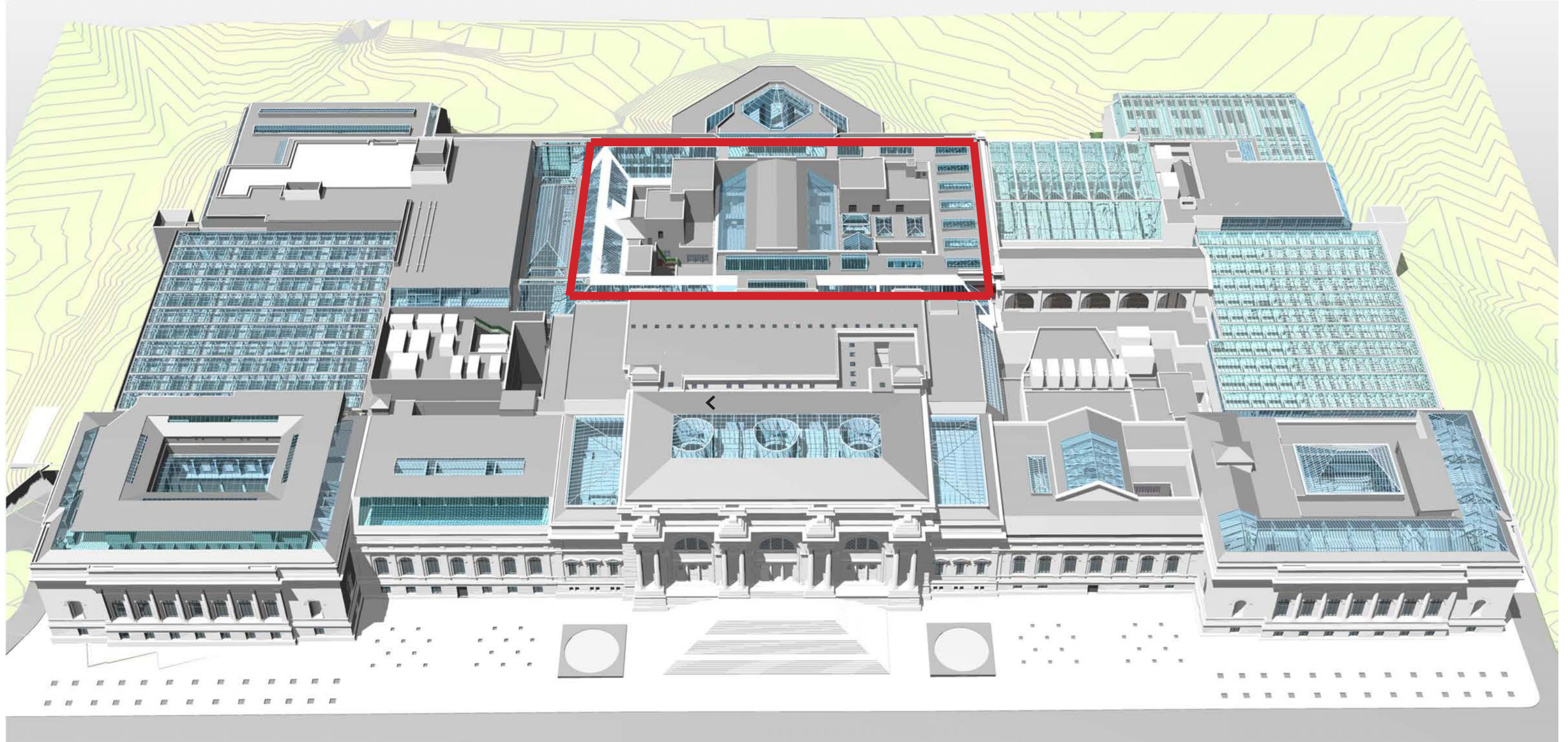


**ROCKEFELLER AND TEMPLE OF DENDUR EXISTING SKYLIGHTS SECTION**



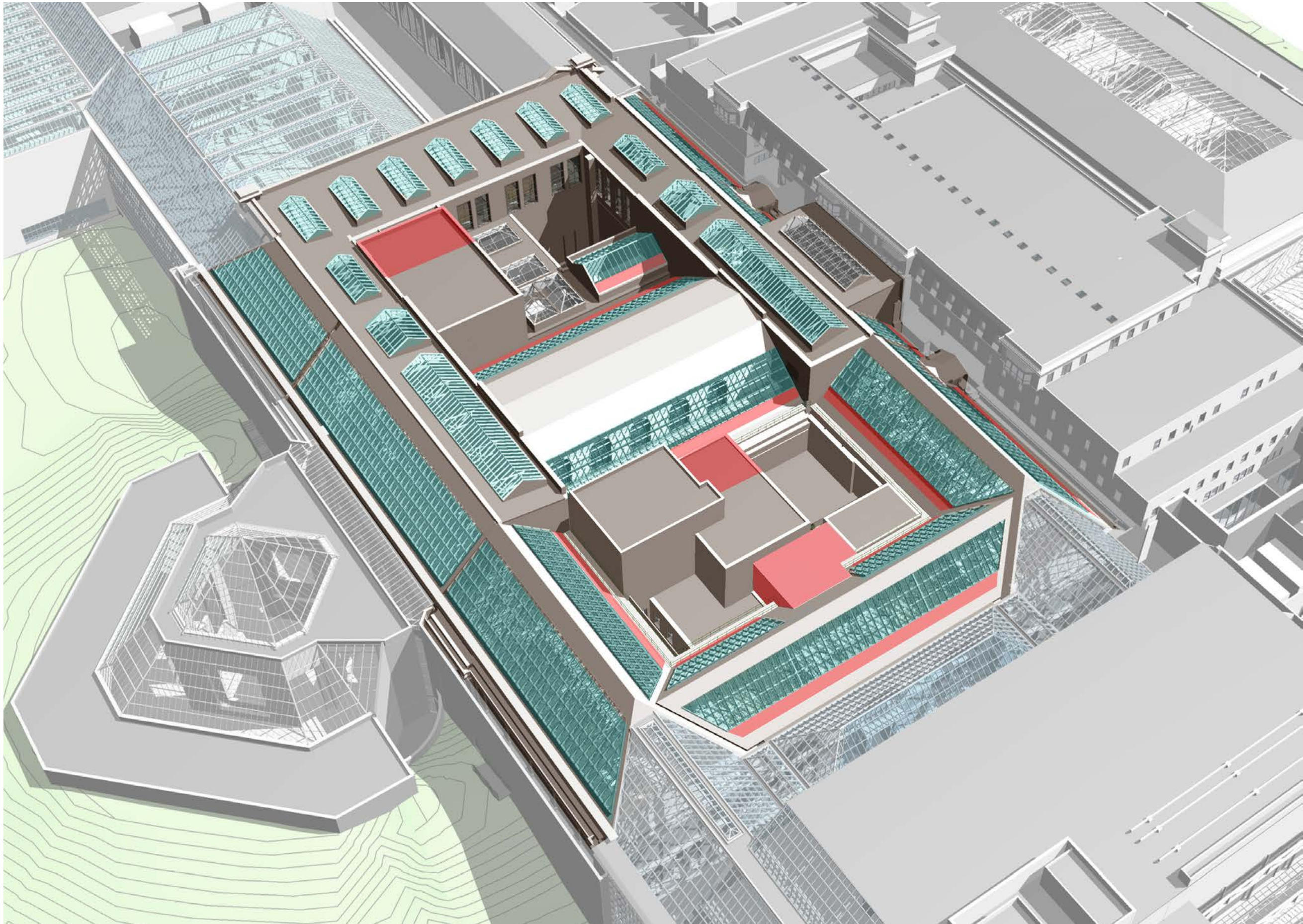
**POTENTIAL FUTURE GUTTER DETAIL**



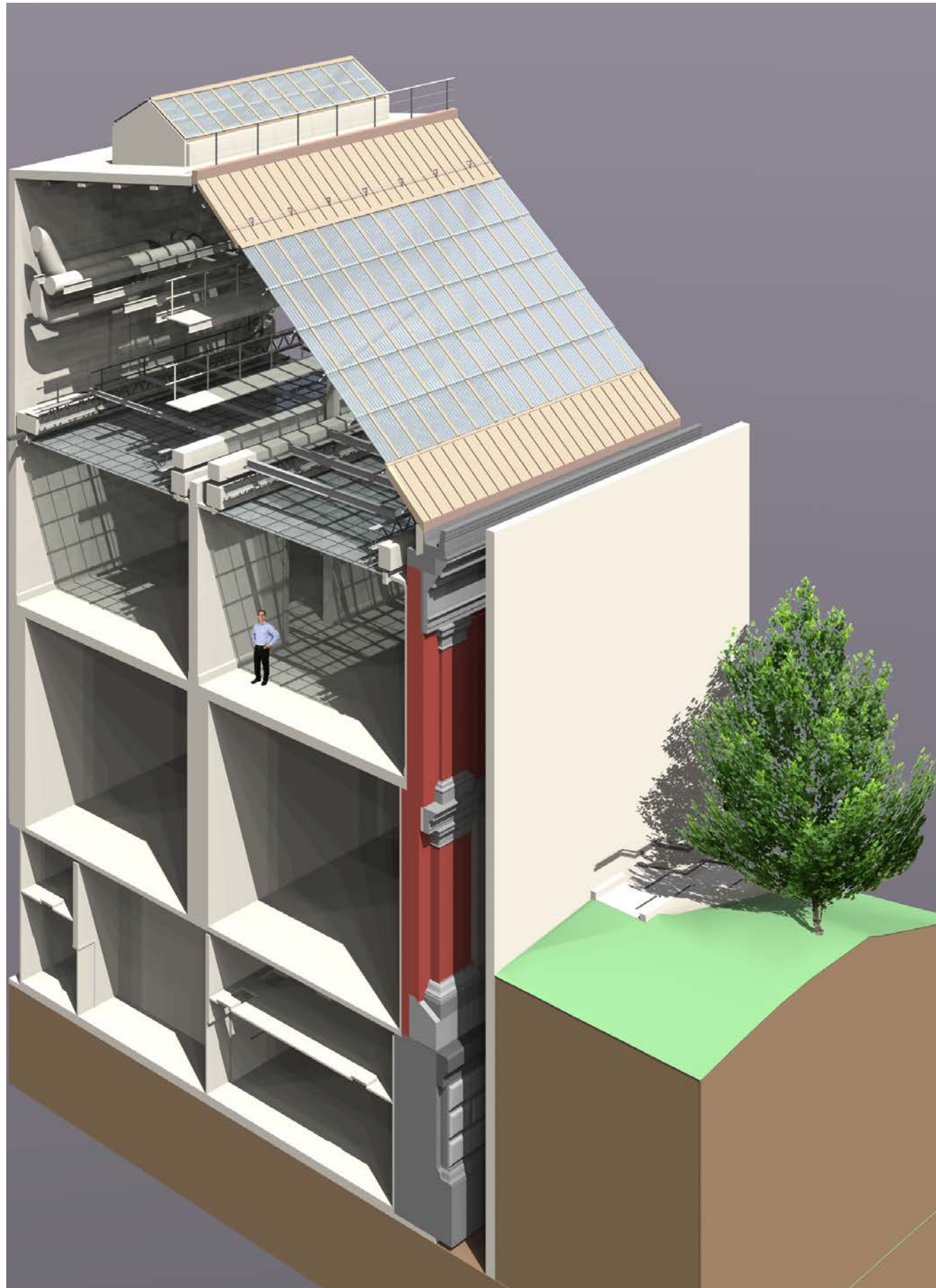


WINGS A,B,C SKYLIGHTS OVER EUROPEAN PAINTINGS GALLERIES

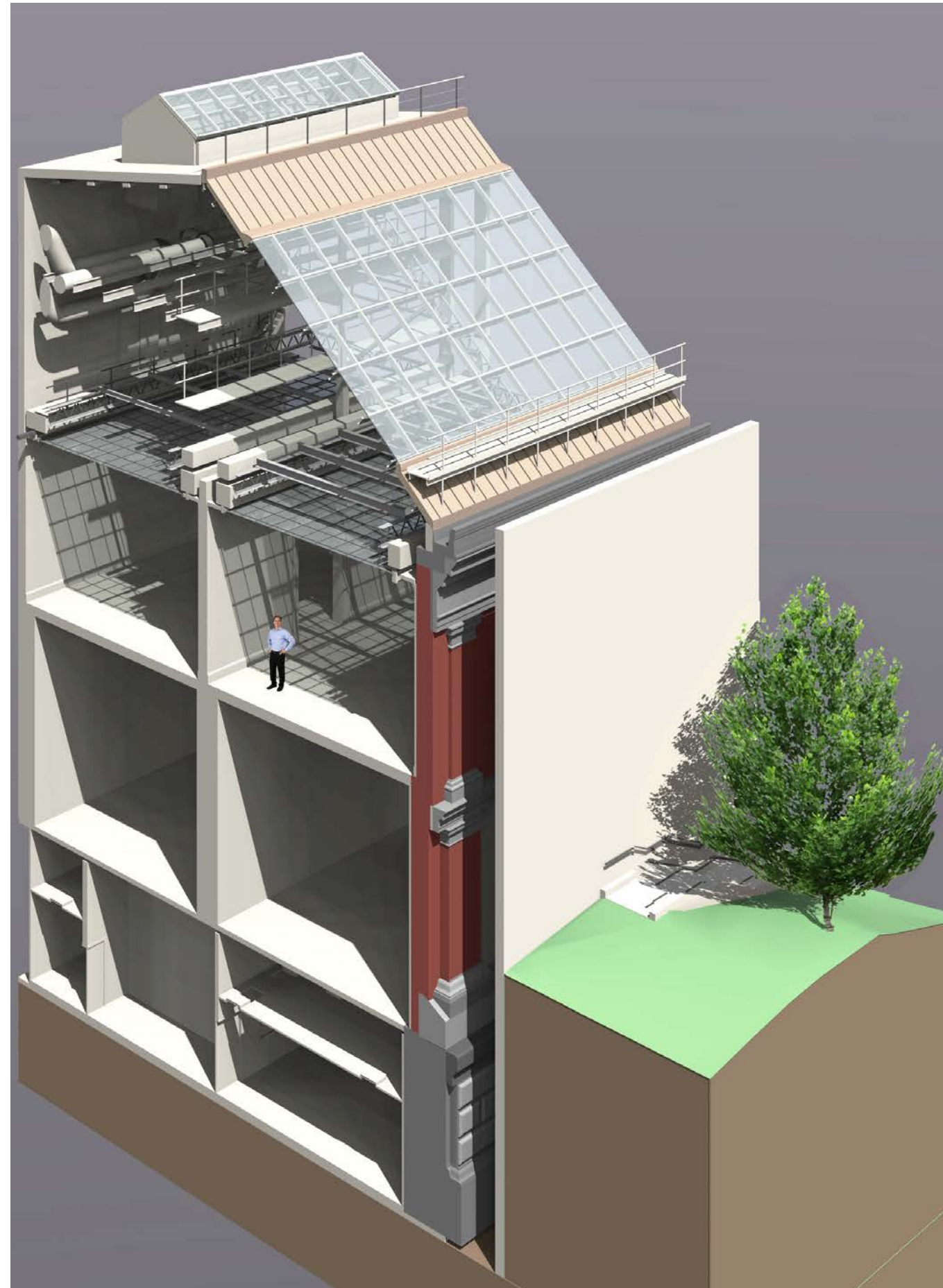
**APPENDIX 3C: PRECEDENT:  
WINGS ABC SKYLIGHT REPLACEMENT LPC STAFF LEVEL APPROVAL (2017-2022)**



AERIAL VIEW OF WINGS ABC: SKYLIGHT REPLACEMENT OVER EUROPEAN PAINTINGS GALLERIES AS APPROVED BY LANDMARKS COMMISSION



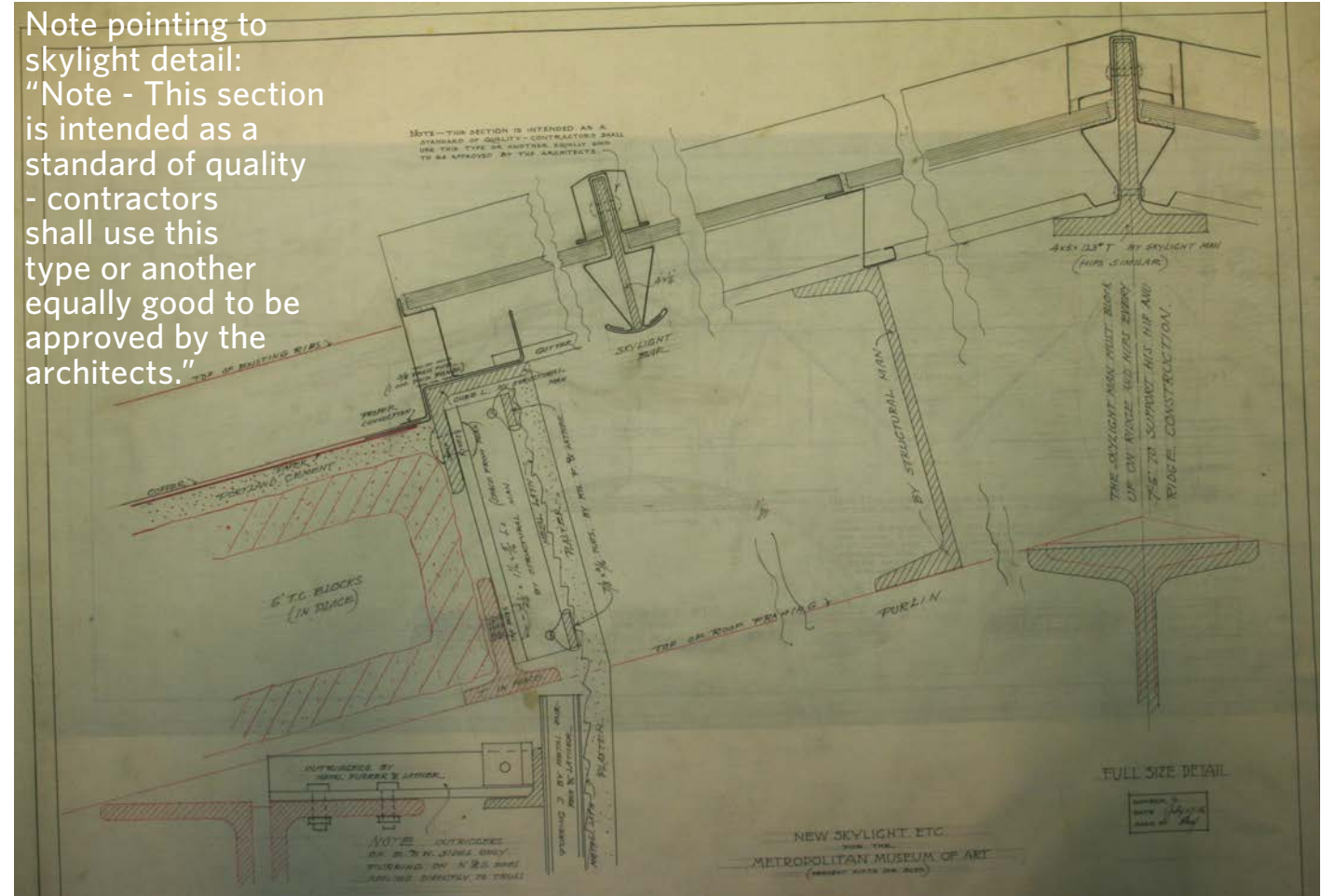
**1. CUTAWAY VIEW OF WEST FACADE, EXISTING CONDITION**



**2. CUTAWAY VIEW OF WEST FACADE, APPROVED SKYLIGHT REPLACEMENT**

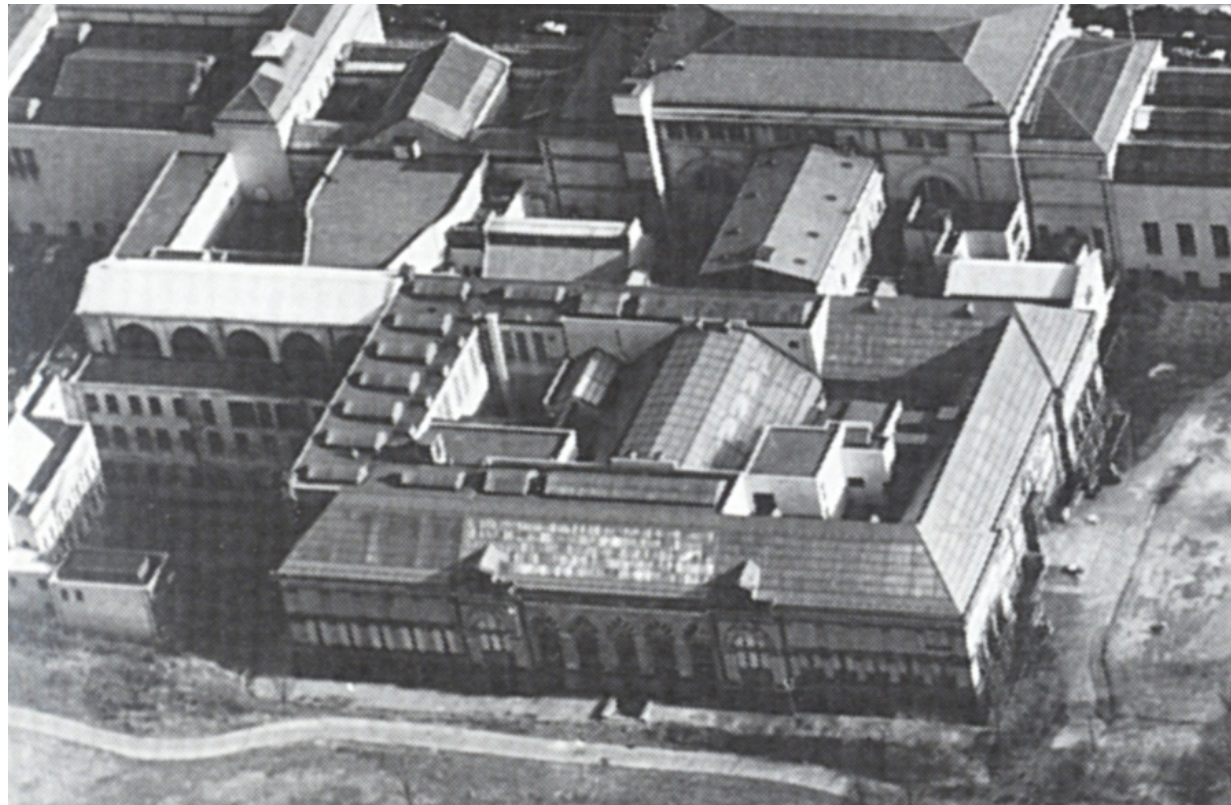


WINGS ABC WEST FACADE IN THE 1890'S



Note pointing to skylight detail:  
 "Note - This section is intended as a standard of quality - contractors shall use this type or another equally good to be approved by the architects."

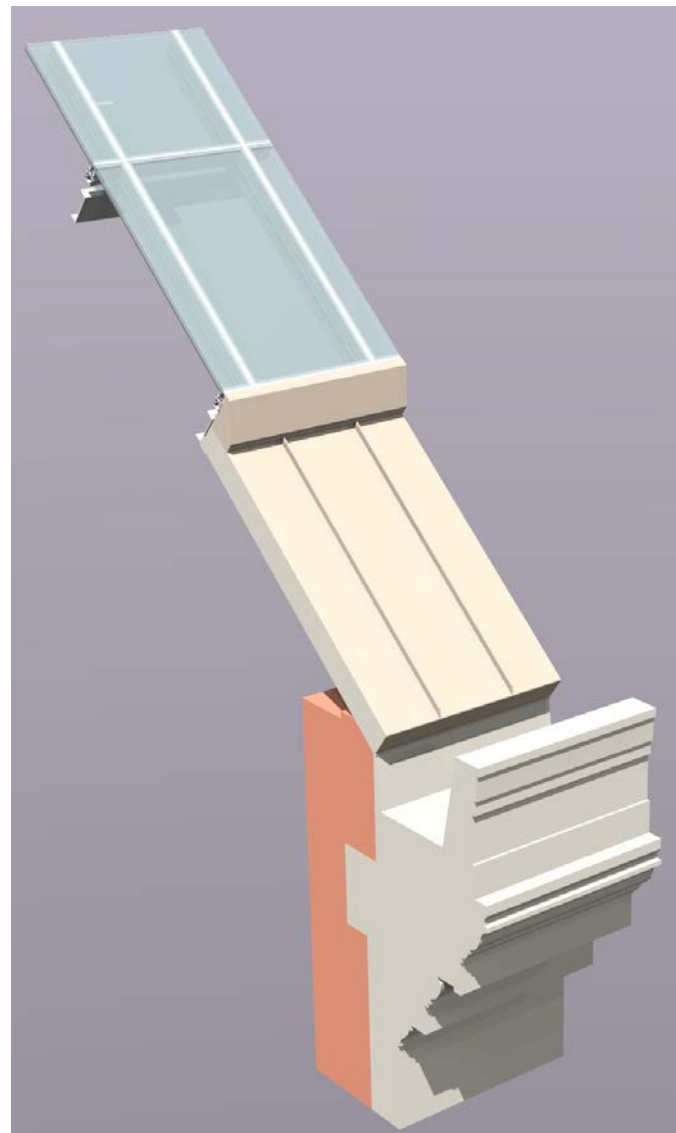
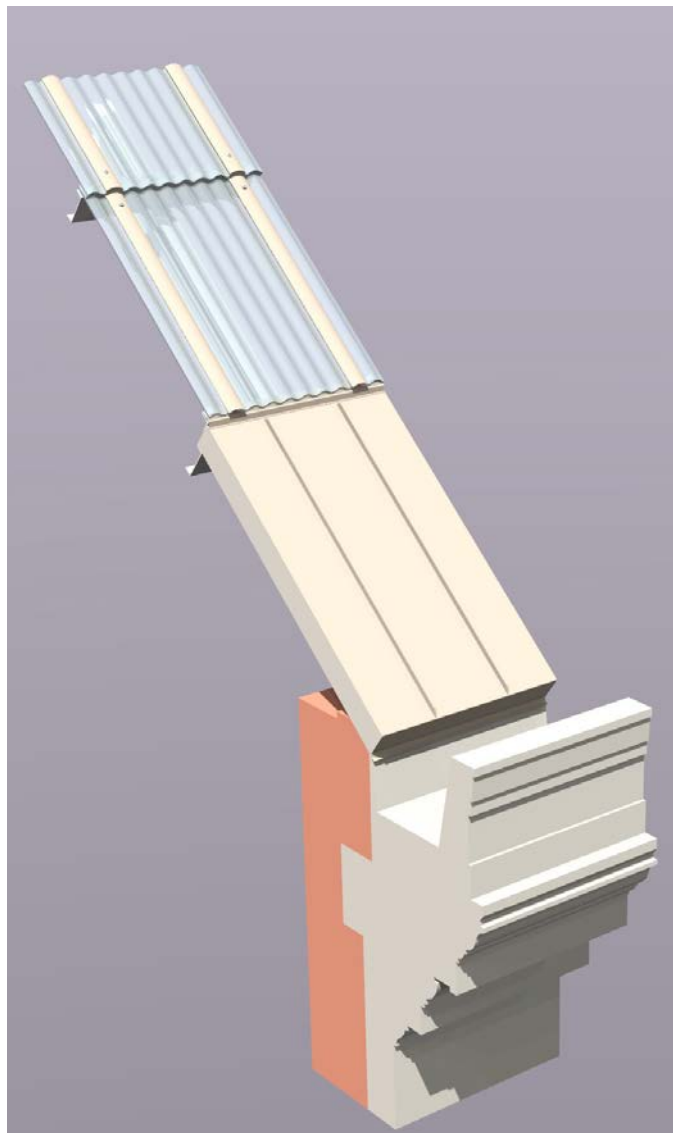
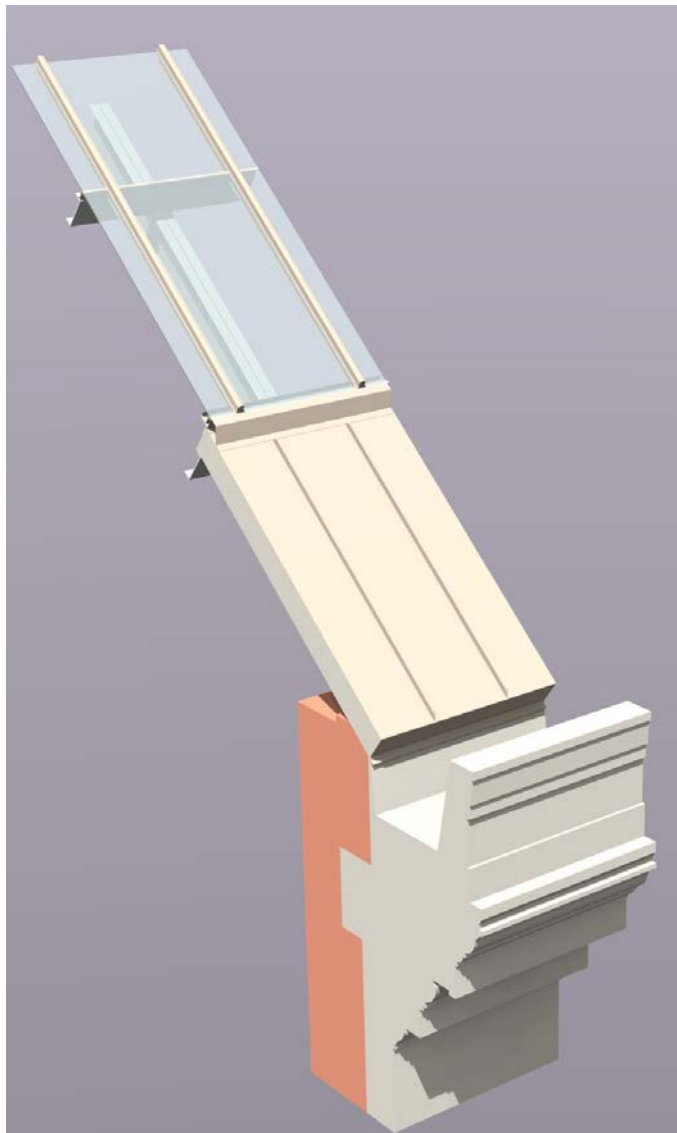
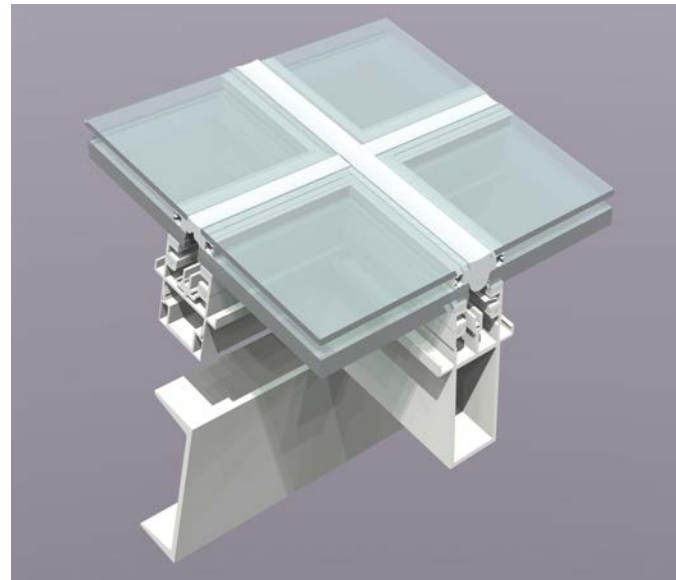
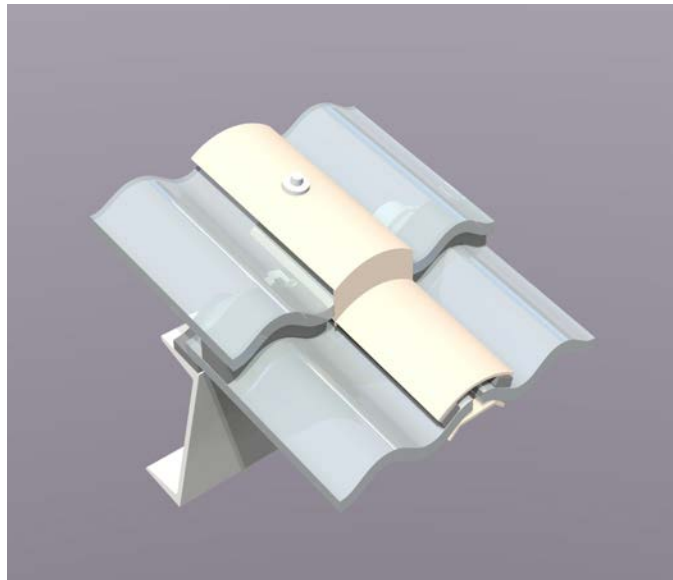
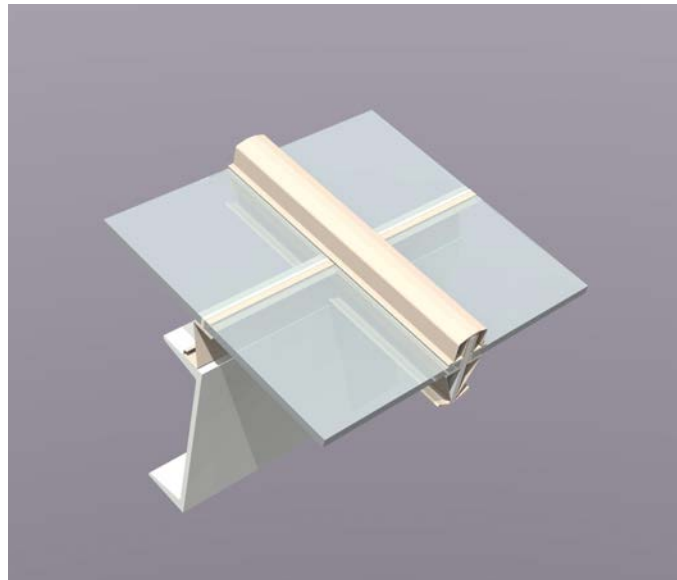
MCKIM MEAD AND WHITE SKYLIGHT REPLACEMENT DETAIL 1907



RECONSTRUCTION OF WINGS ABC ROOF AND SKYLIGHTS, 1939



1970'S CONSTRUCTION OF LEHMAN WING AND STONE SCREEN WALL IN FRONT OF WINGS ABC FACADE



**1907 - 1939**  
Flat wire glass skylights

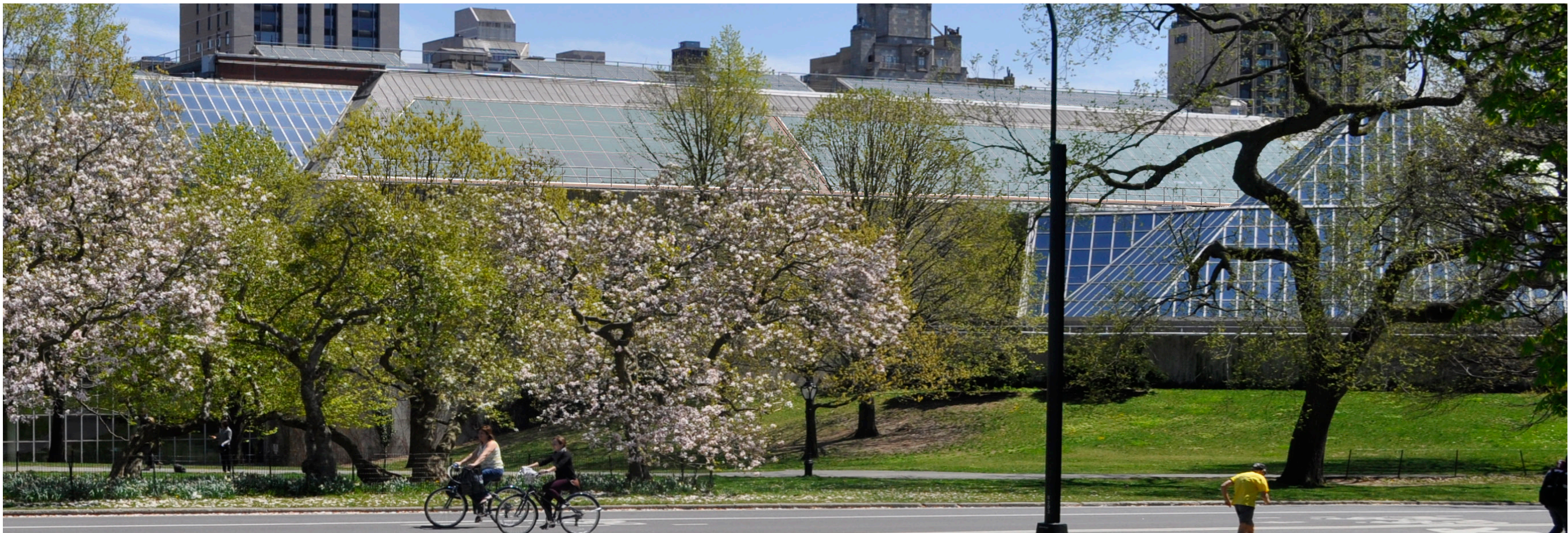
**1939-PRESENT**  
Corrugated wire glass skylights

**APPROVED REPLACEMENT:**  
Laminated insulated glass units with thermally-broken aluminum framing with pressure equalization (inerior drainage channels)  
Structural silicon glazing with toggled cassette.

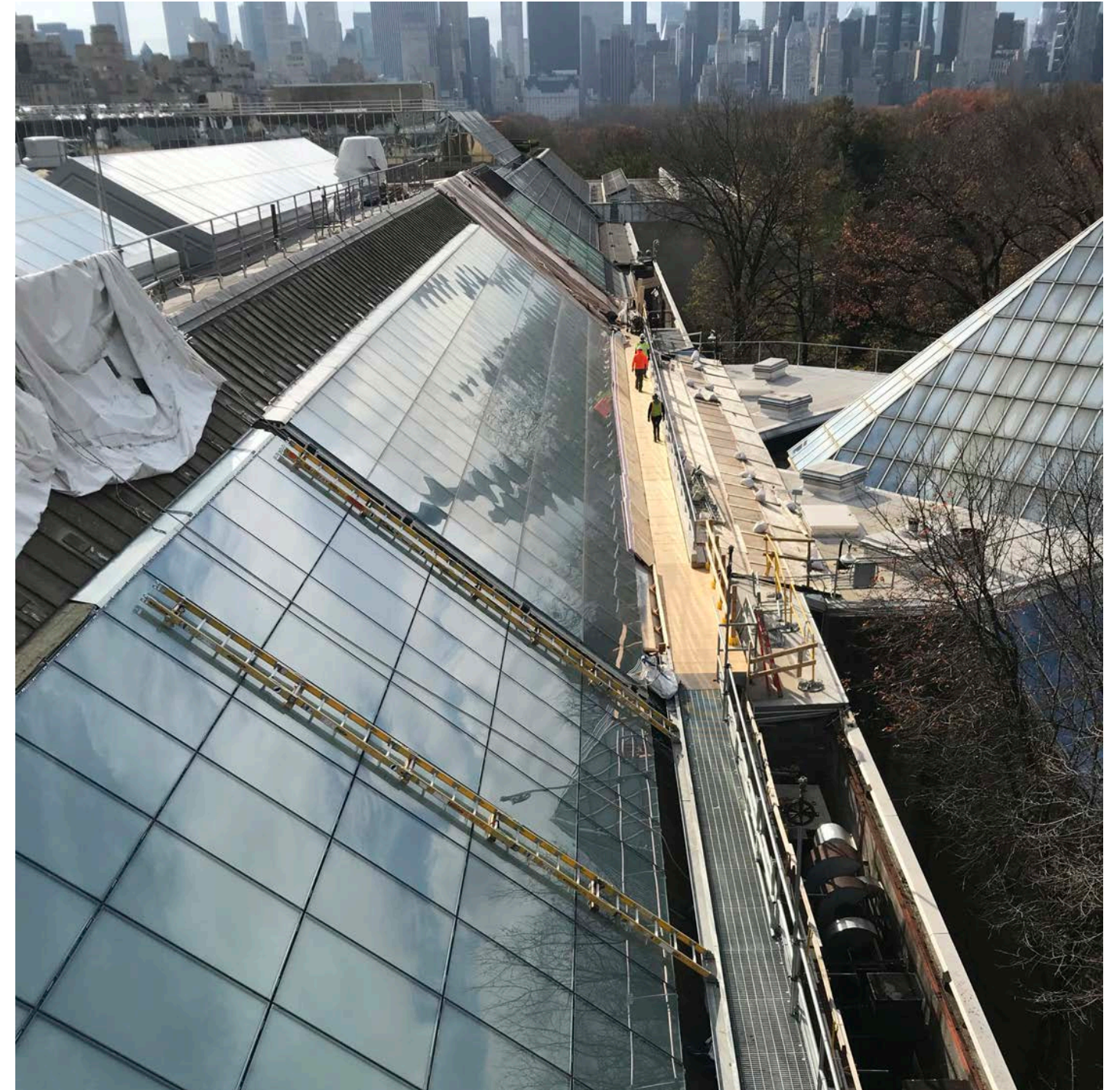
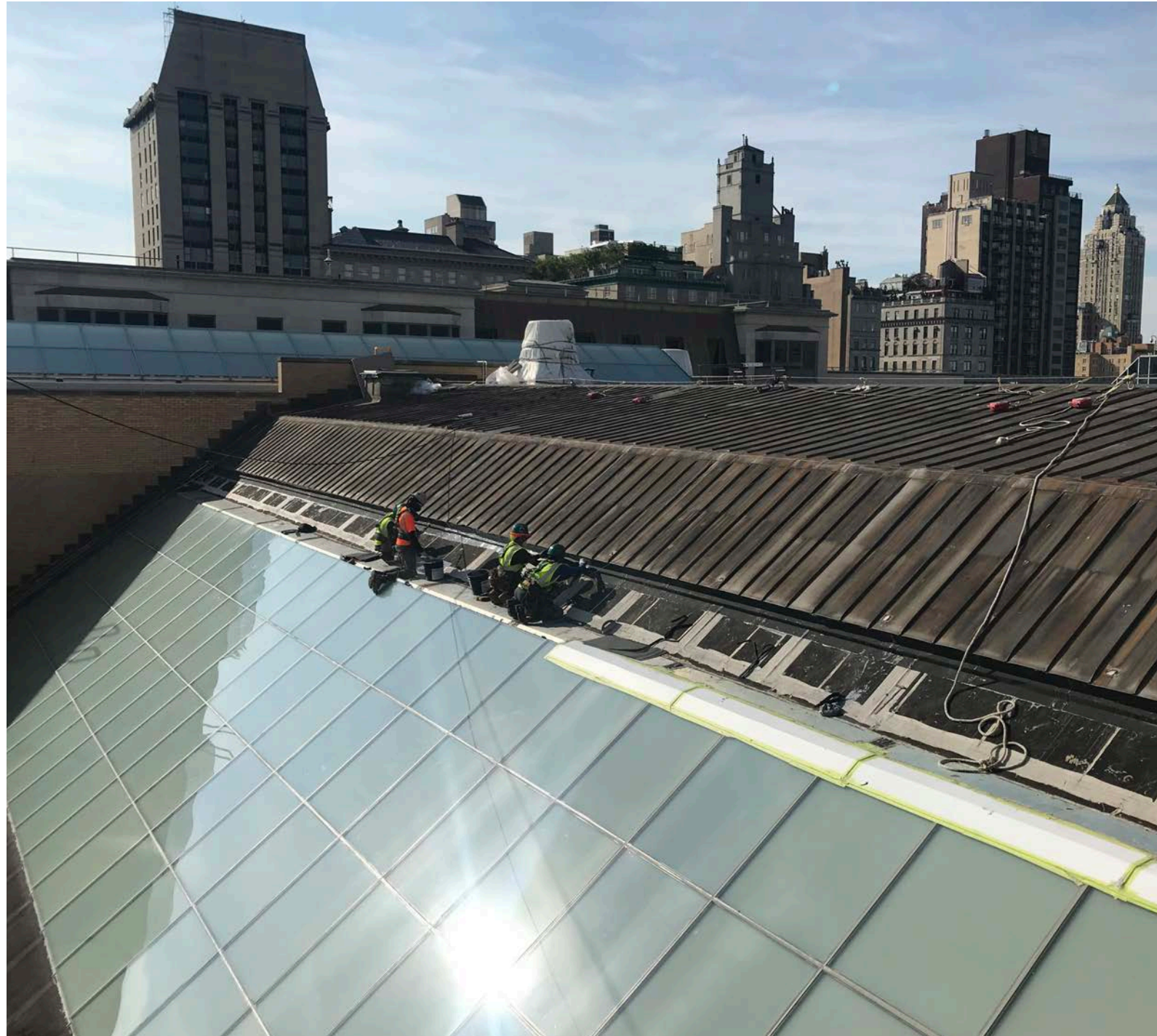
**COMPARATIVE SKYLIGHT SYSTEMS: HISTORIC AND APPROVED REPLACEMENT**



**EXISTING CONDITION PHOTO**



**PHOTO MONTAGE WITH APPROVED NEW REPLACEMENT SKYLIGHTS AND ACCESS CATWALK**



**WINGS ABC NEW SKYLIGHTS - CONSTRUCTION PHOTOS**

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