Landmarks Preservation Commission

**November 19, 2024**
Public Hearing

**The current proposal is:**

**Preservation Department – Item 6, LPC-24-07463**

# 177 Montague Street, aka 134-138 Pierrepont Street – Brooklyn Trust Company Building – Individual and Interior Landmark Borough of Brooklyn

**To testify virtually, please join Zoom**

**Webinar ID:** 161 560 5566
**Passcode:** 604575
By Phone: 646-558-8656 (NY)
877-853-5257 (Toll free) US
888-475-4499 (Toll free)

**Note**: If you want to testify virtually 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.


**177 Montague Street**
**(aka The Brooklyn Trust Company Building)**

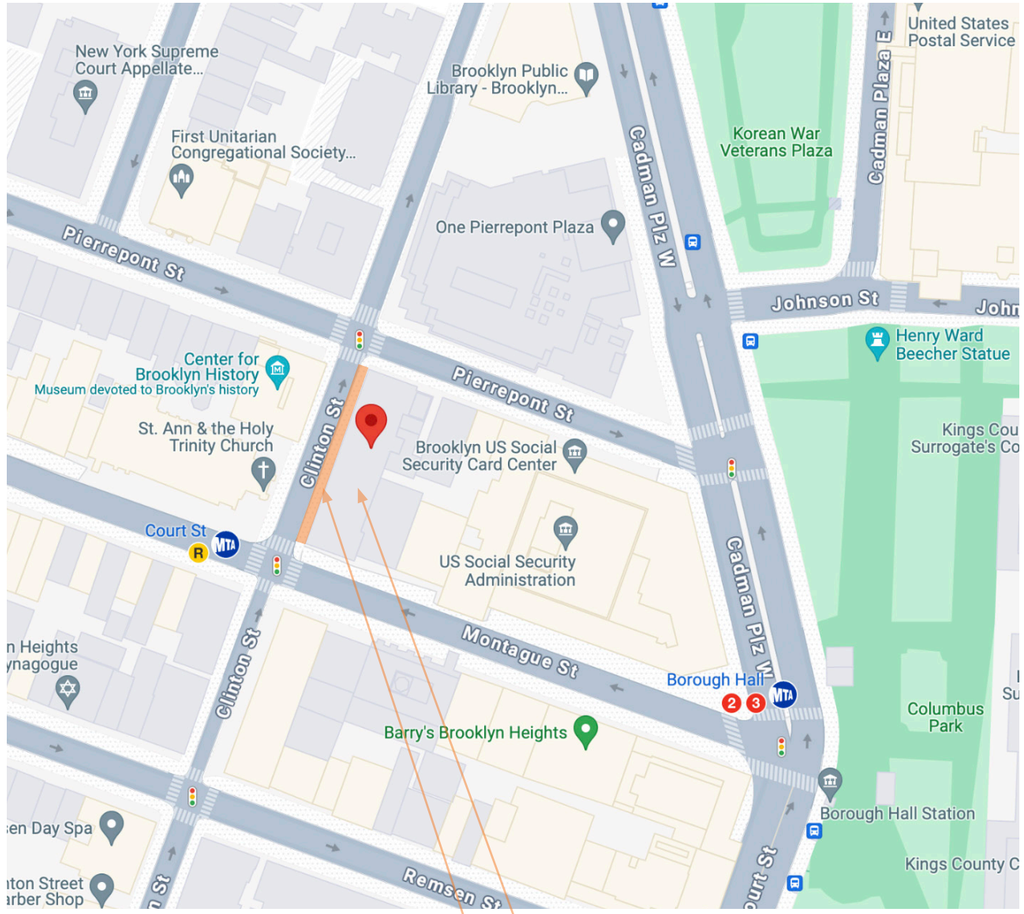
**Arched Window Repair/ Replacement**

**LPC Presentation**

June 6, 2024 with
November 15, 2024 revisions

SP WONG Architect
1 Union Square West #508
New York, New York 10003
646-838-4822

SP WONG




Location Map
Borough: Brooklyn
Block: 244
Lot: 7502

177 Montague Street aka Brooklyn Trust Company Building, designed by York and Sawyer, is both an Interior and Exterior Landmark.

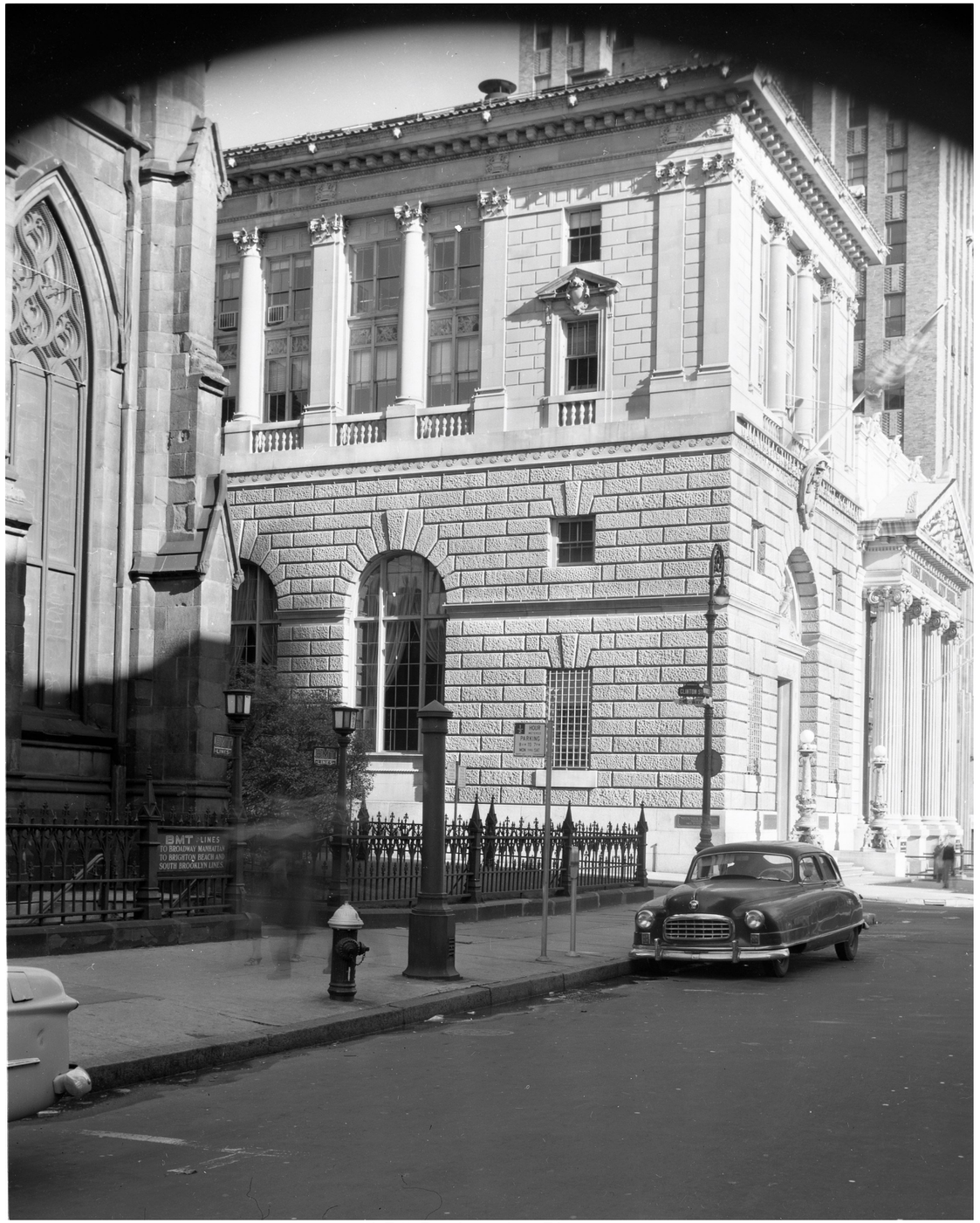
The seven arched windows along the Clinton Street Façade are in deteriorating condition in many areas:

- Significant air leakage.
- Significant water and rust damage from condensation and infiltration.
- Missing muntin framing (with ad hoc repairs over the years)

**The goals of the Owner, Stahl 177 Montague Street LLC, are**

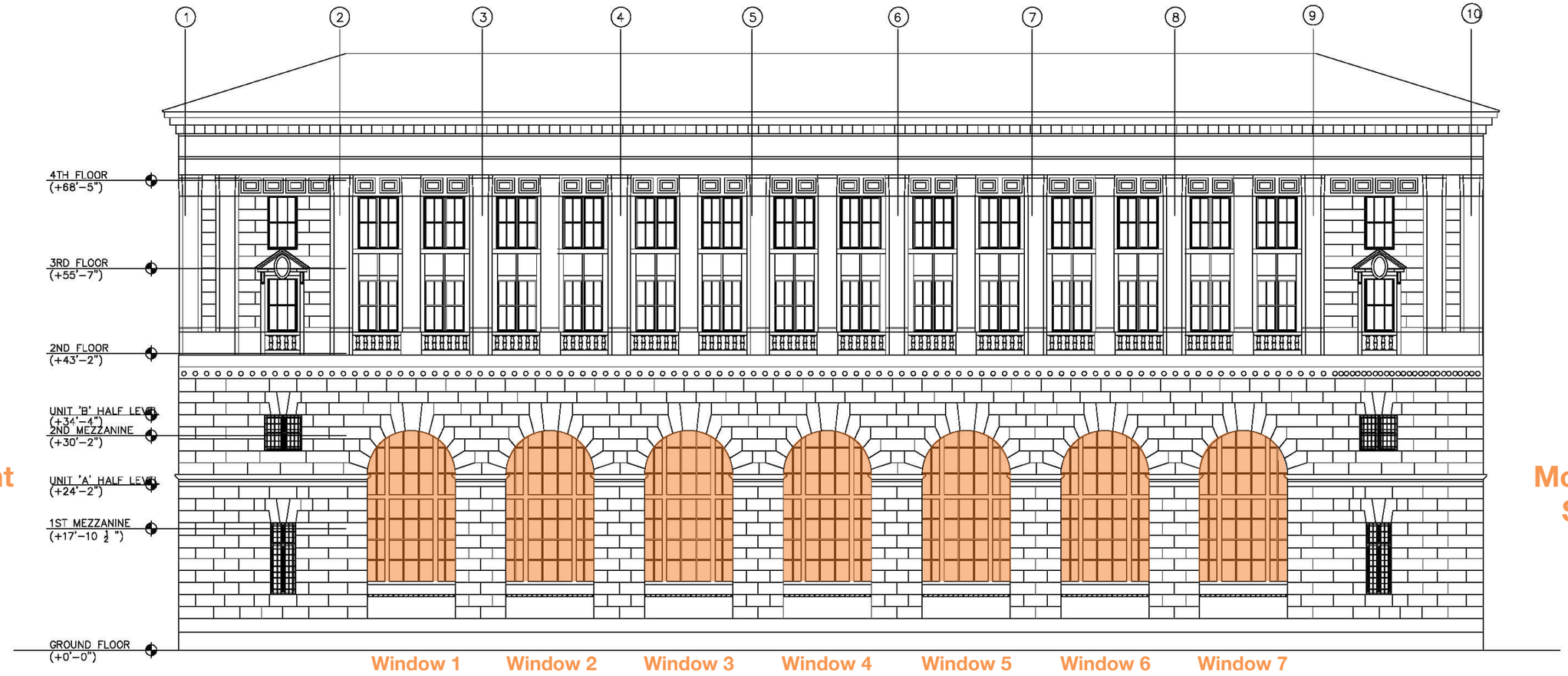
- **to repair and restore the windows**
- **prevent future water damage, air leakage**
- **increase the thermal performance**
- **maintain the original appearance on the interior and exterior.**


1940's Tax Photograph




LPC Designation Photo:
From Montague Street looking northeast

Pierrepont Street




Montague Street

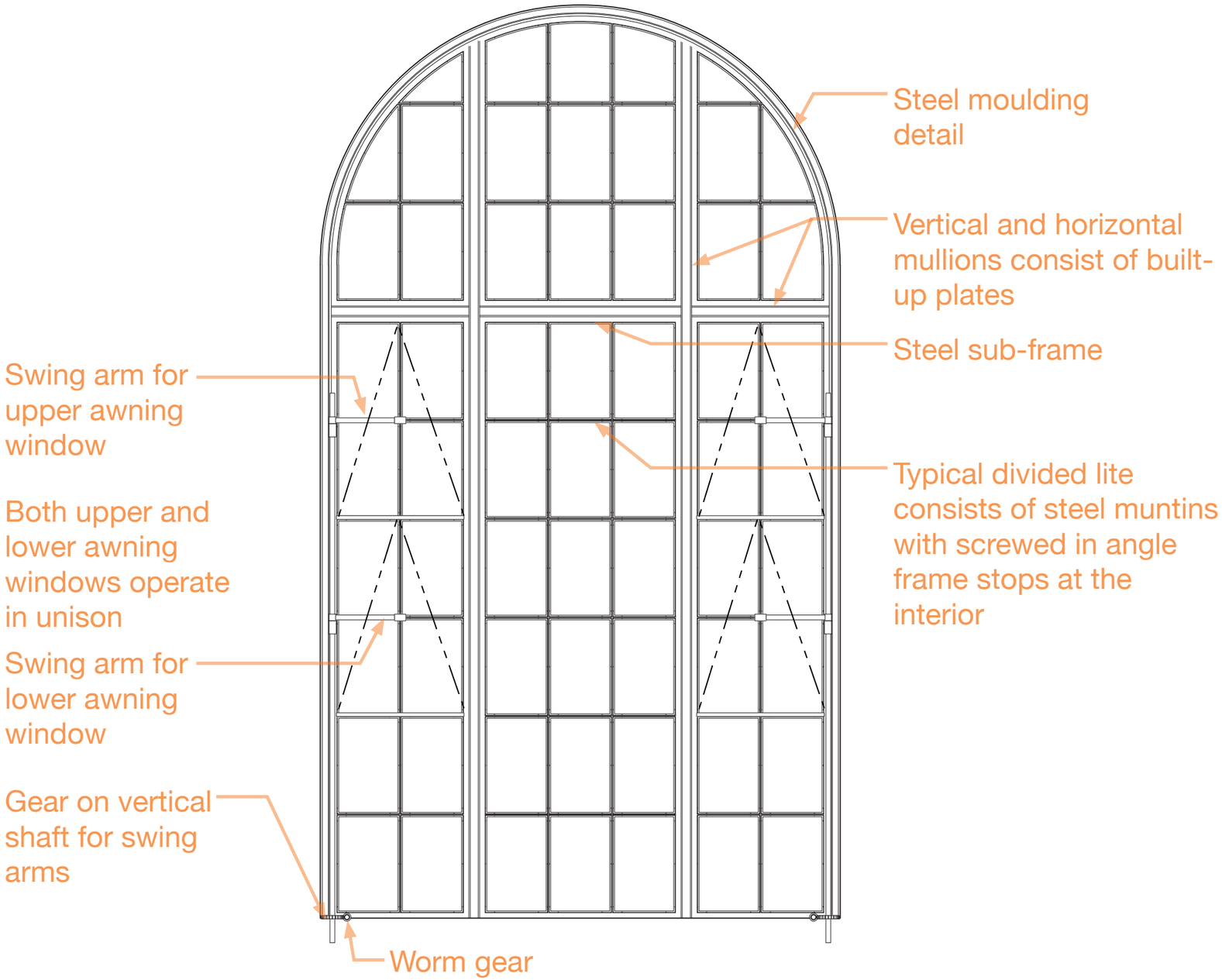
Window 1 Window 2 Window 3 Window 4 Window 5 Window 6 Window 7

Clinton Street Façade

**The major vertical and horizontal mullions, and frame of the 7 arched, identical windows are comprised of heavy built-up steel shapes.**

**The infill framing is composed of much lighter steel profiles to create delicate infill lites inside the the major steel mullions.**

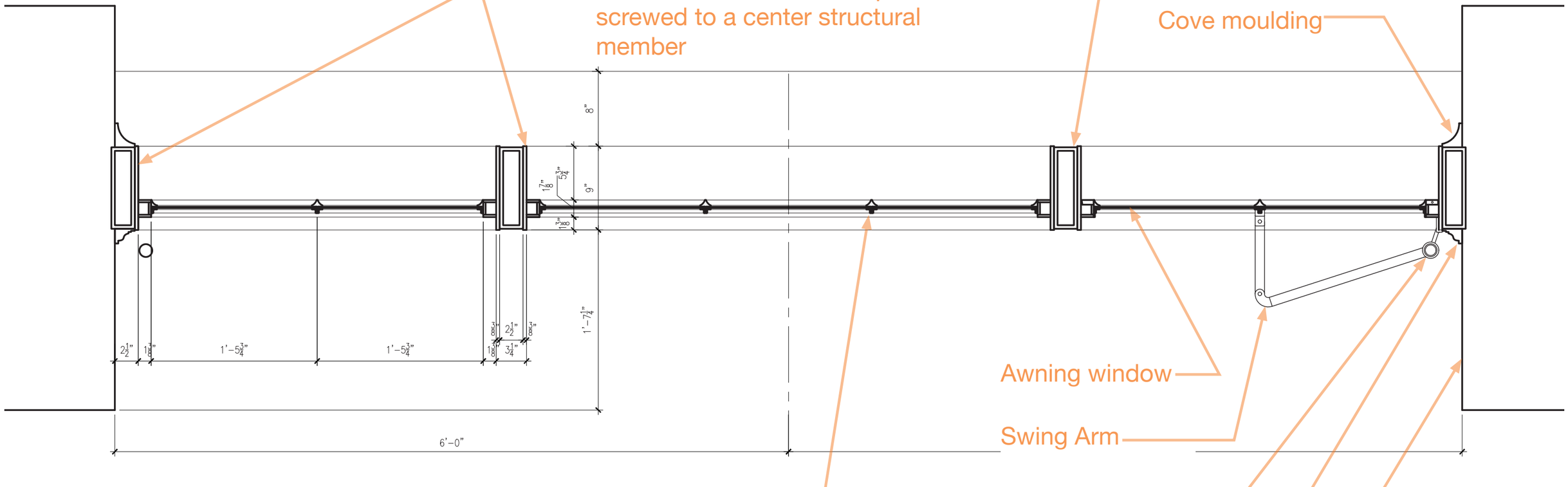
***Concealed within the diaphonous lites, are four operable windows.***




- Evidence of condensation and paint damage along horizontal mullion
- Smaller lites are in poor condition, leaking, and allowing water infiltration. Awning windows are damaged and in non-operable condition.
- Proposed scope is to reattach the original arms to the replacement muntins to mimic the original configuration.
- Crank or mechanism to operate shaft is missing.

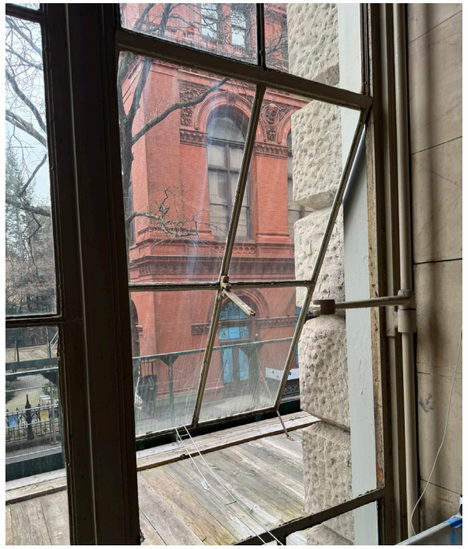
- We are proposing to replace all of the infill lites with a similar Hopes Windows steel profile and insulated glass in increase thermal performance.
- Major mullions and frame are to be repaired and are to remain

Existing Window Construction (view from interior)




Existing Window Construction (Plan views)


Discovery of operation: Two windows were worked loose. We were expecting casement window swings, but they are awning swings. The window operation is virtually undetectable from the exterior. They appear fixed.



Awning window from interior.

Awning window from interior.

Arm attachments to windows and shaft

Worm gear and shaft to turn arms (crank is missing)

Operating arm of awning windows

# Existing Conditions

**Window frames are to remain.**

Bent plate of mullion.
Rust will be removed and plate to be straightened.
**(Mullions are to remain.)**



Another example of rusting at a side plate

- Overall, exterior frame and mullions appear to have minor issues and will be repaired

Typical Exterior Existing Window Conditions


Typical Existing Window Conditions

Bent vertical window stops / rust jacking

Bent horizontal window stops / rust jacking

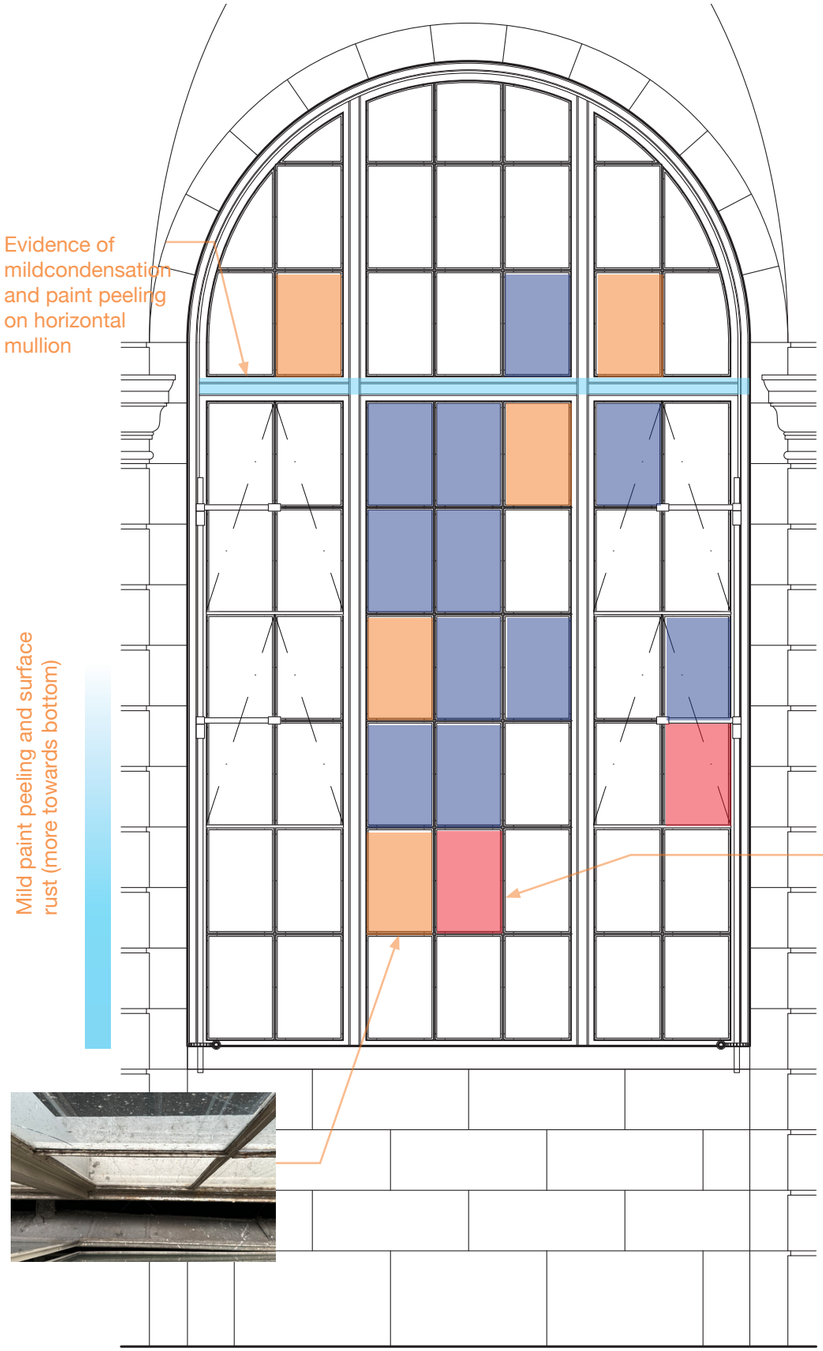
Typical Existing Window Conditions

Windows 5, 6, 7 with severe paint peeling and corrosion

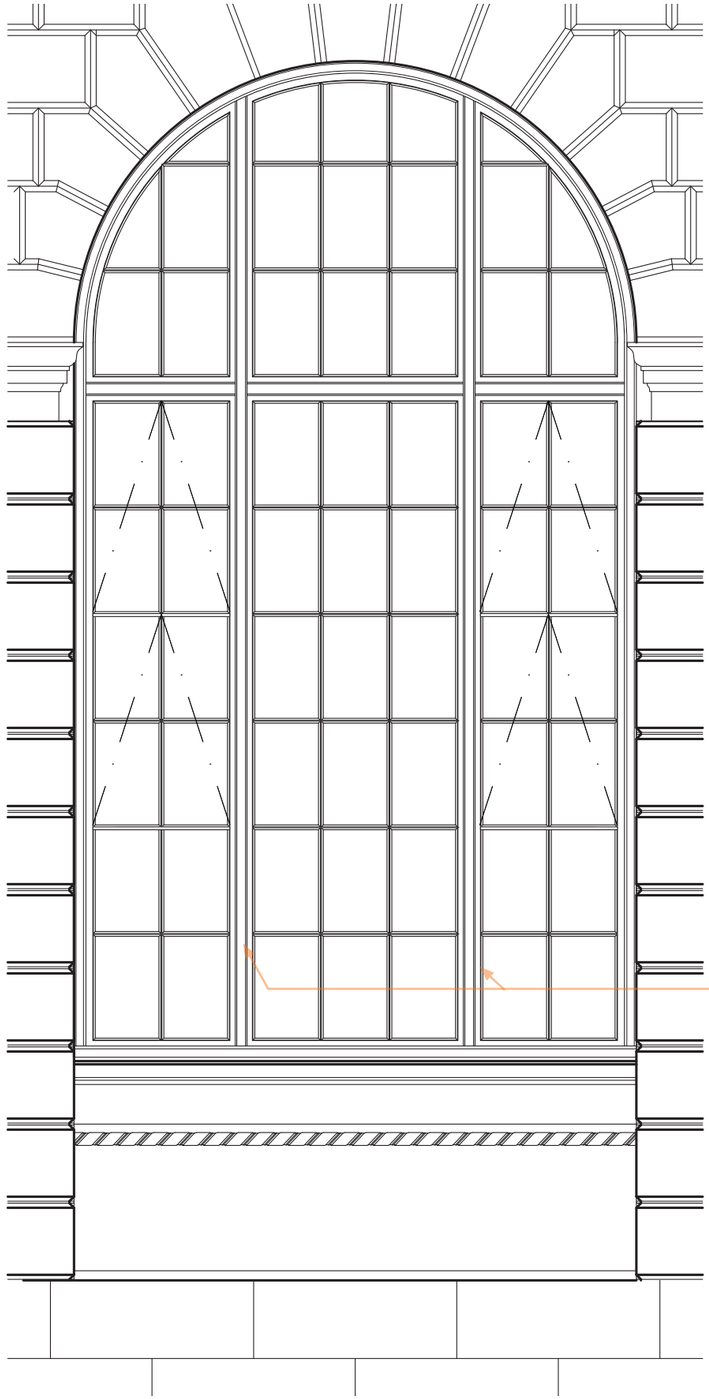
Window frame stops missing and replacement glass is caulked in

Typical Interior Existing
Window Conditions


Typical Interior Existing
Window Conditions




View from Interior




View from Exterior

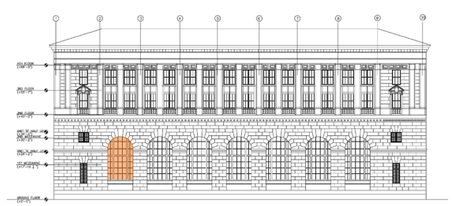
Angle frame glazing stop is missing. Ill fitting glass and substandard cauking installed.

Angle frame glazing stop is damaged: bowed, bent or broken. Rust jacking may be one of the causes

Glass is cracked, or glass has been replaced very poorly (bad fit, sloppy caulking

Severe issue, see note

General indication of rust and peeling paint



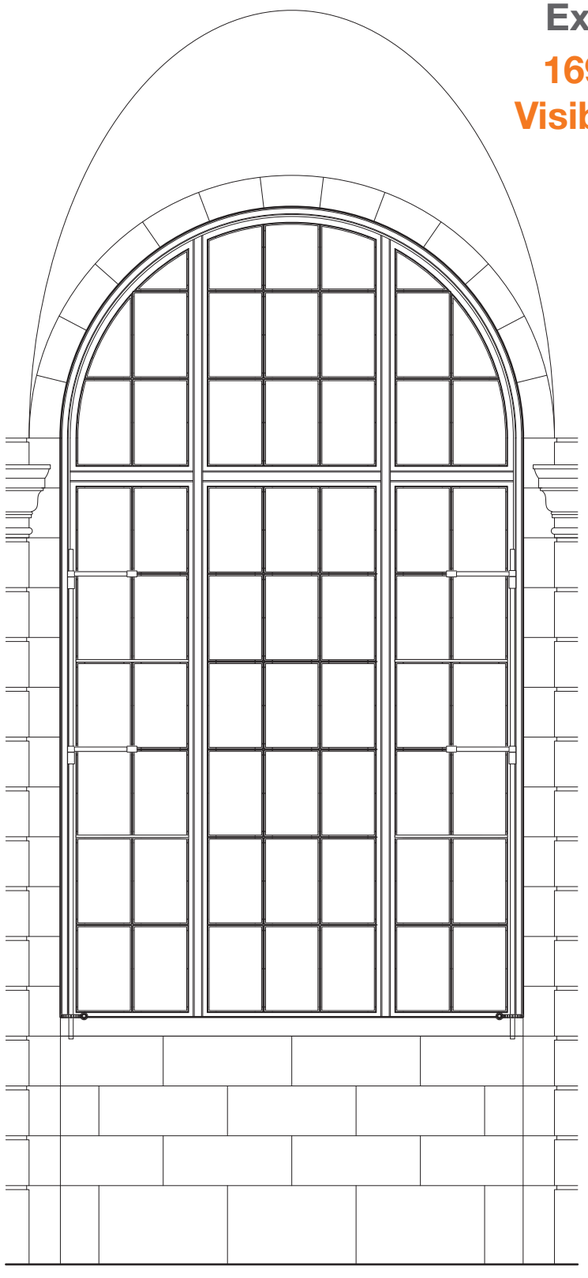
Elevation Key

Window 1 Existing Conditions (Other WIndows Similar

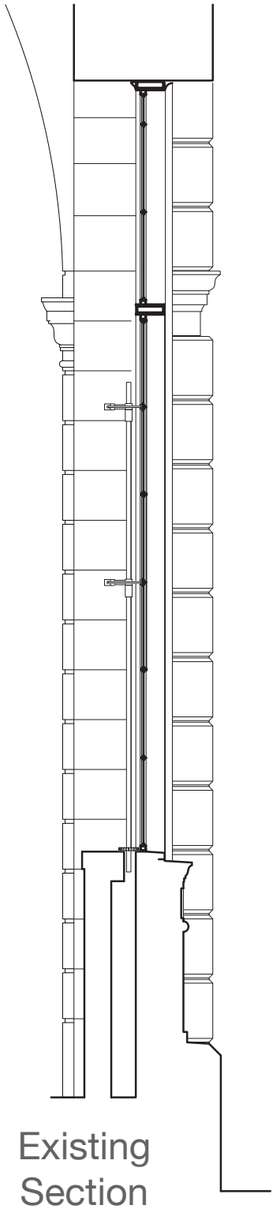
# Existing Details and Proposed Soution

## Existing

**169.33 SF Visible Glass**



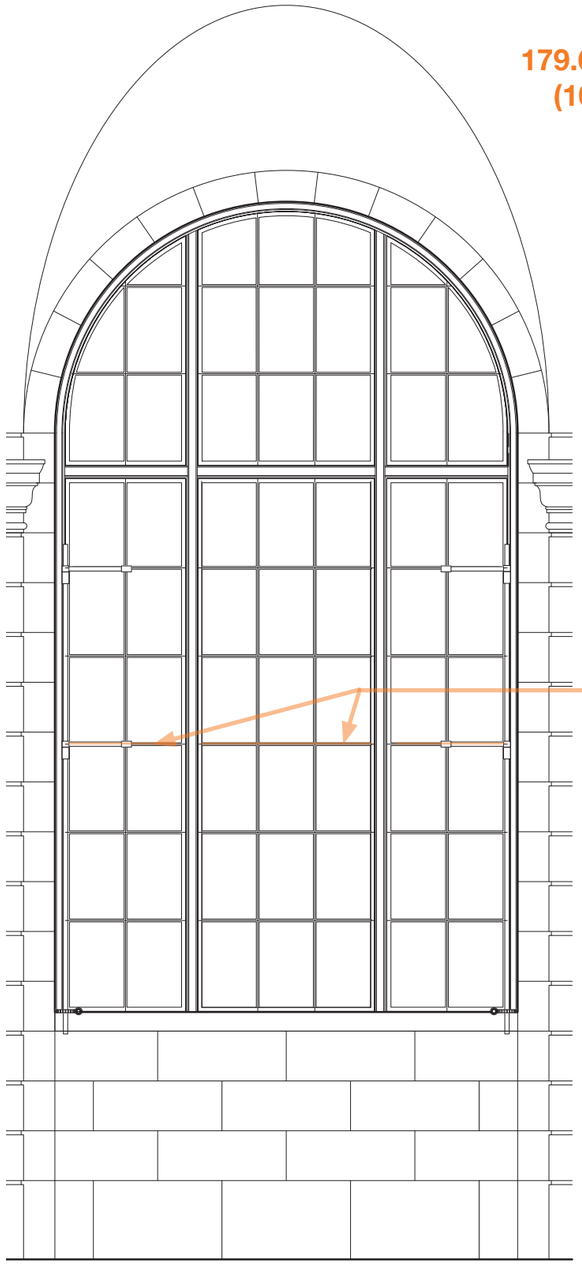
Existing Interior Elevation



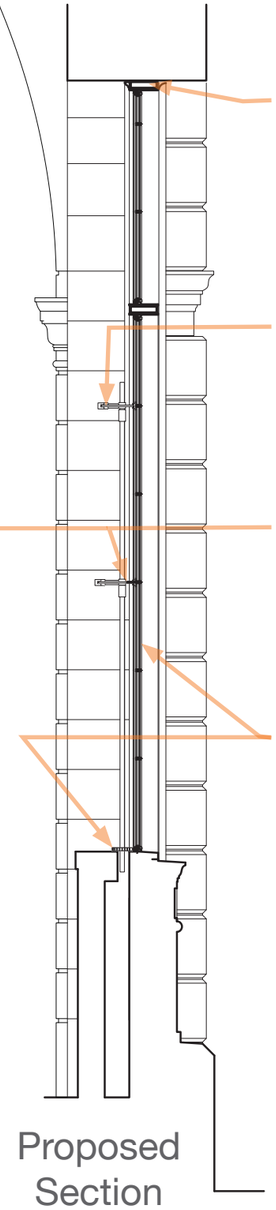
Existing Section

## Proposed

**179.67 SF Visible Glass (10.34 SF Increase (4.6%))**



Proposed Interior Elevation with Fixed Lites



Proposed Section

Mullions and steel moulding profiles to remain in situ at the interior and exterior

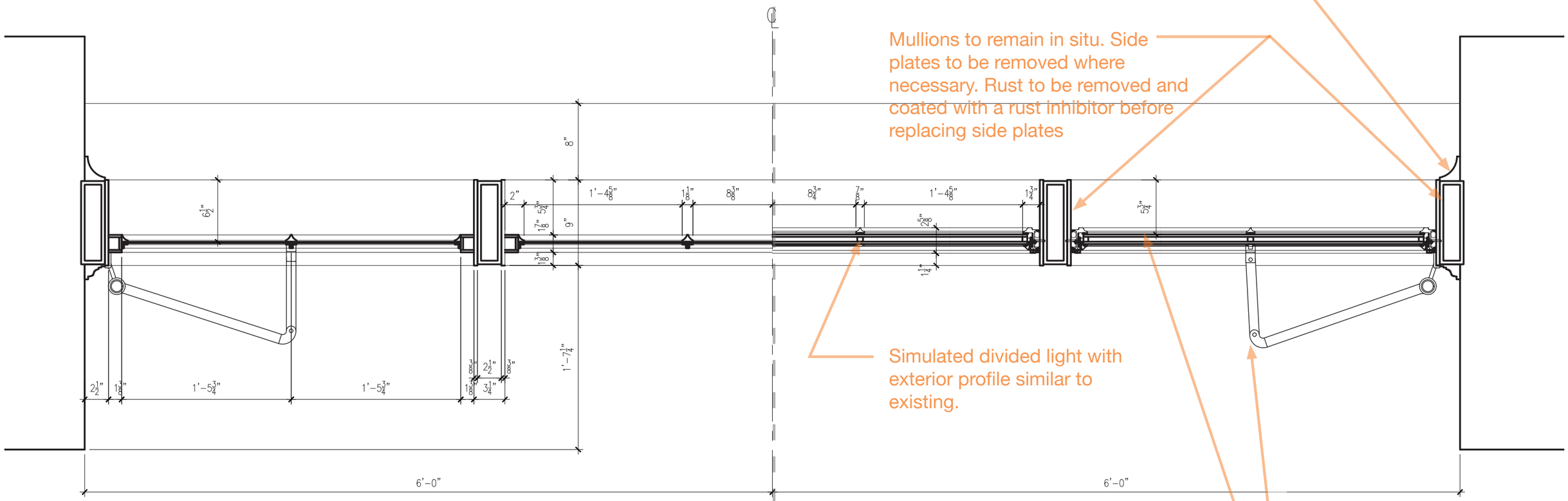
Awning window mechanism to remain and be reattached to muntins. Window lites will be fixed and not operable

Horizontal plate (10ga. 4” plate) for reinforcing to meet current code wind loads.

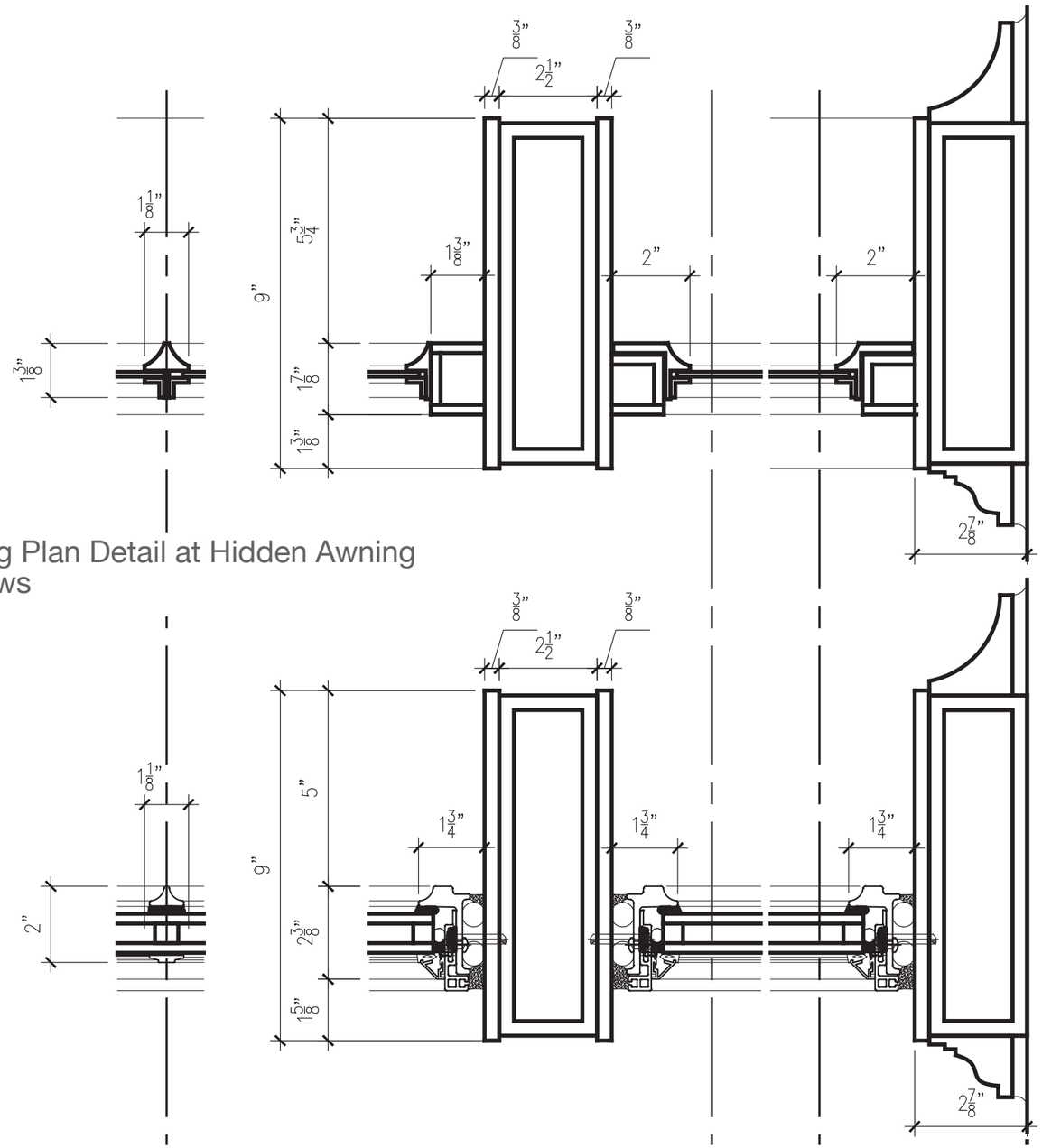
Face of glass brought forward +/- 3/4” towards exterior due to thicker insulated glazing and to clear pinion gear below

- **Replacement lites by Hopes Windows**

Interior Elevation and Sections: Existing and Proposed



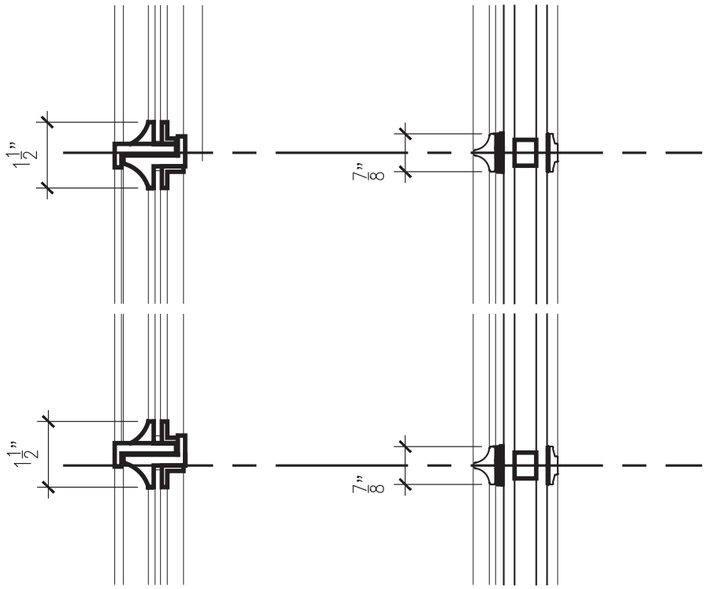

Comparison Plan Details:
Existing and Proposed




Existing Plan Detail at Hidden Awning Windows

Proposed Plan Detail with Fixed Lites

## Plan Detail Comparison




Existing Section Detail with Concealed Awning Windows

Proposed Section Detail with fixed lites

## Section Detail Comparison

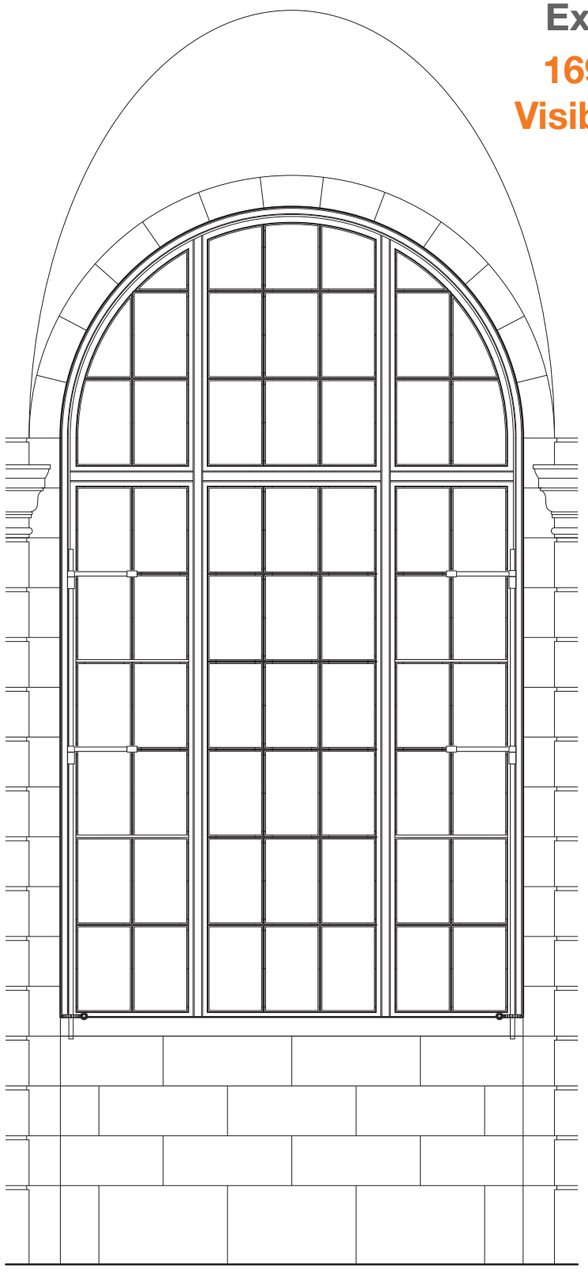
**Proposed lites:**

- **Provided by Hopes Windows**
- **Maintains the delicate and diaphonous lines of the existing lites within the existing mullions and frame.**
- **Increases thermal performance**
- **Eliminates points of air and water leakage**

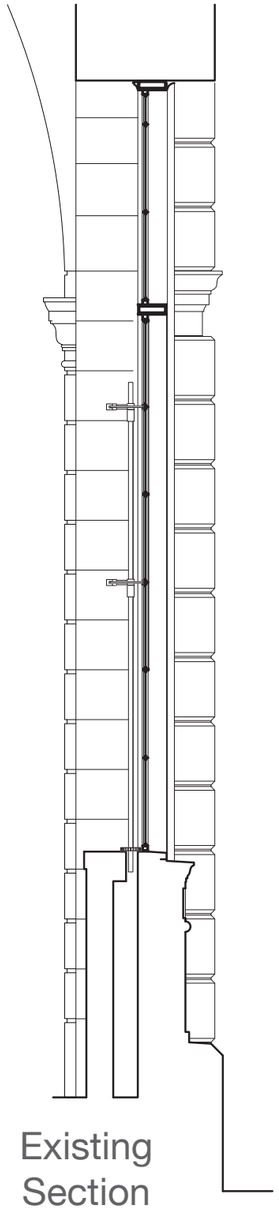
Comparison Sections: Existing, Options A & B

## Existing

**169.33 SF Visible Glass**



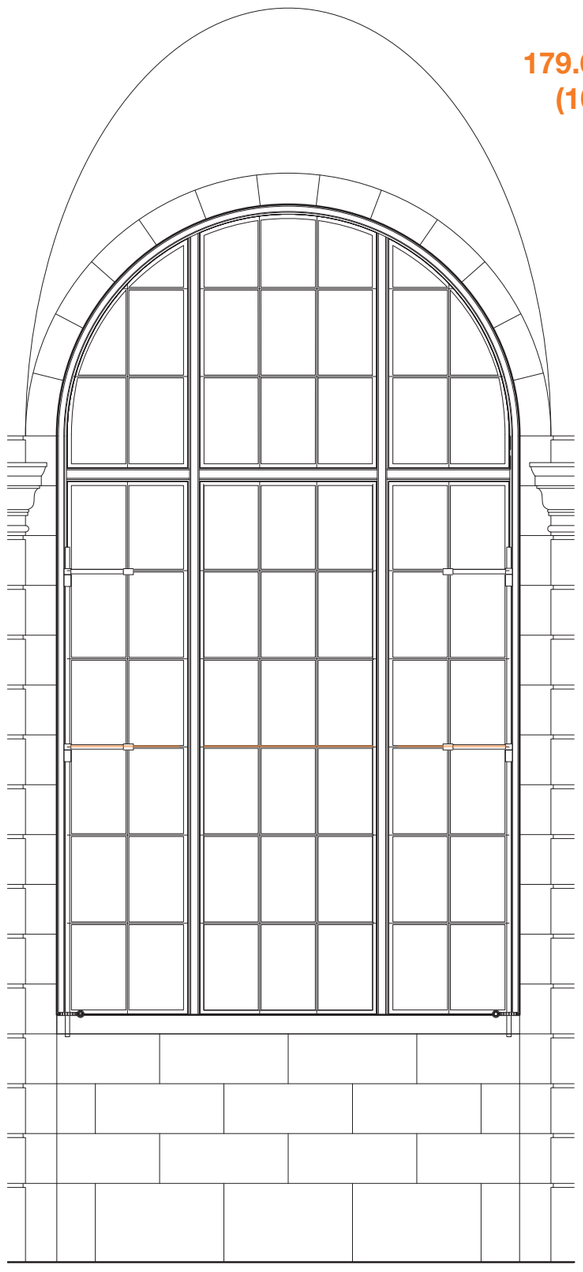
Existing Interior Elevation



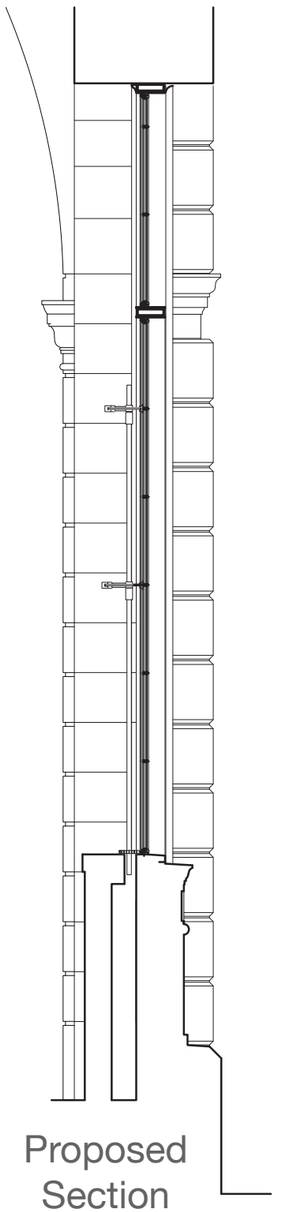
Existing Section

## Proposed

**179.67 SF Visible Glass (10.34 SF Increase (4.6%))**



Proposed Interior Elevation with Fixed Lites



Proposed Section

Interior Elevation and Sections:
Existing and Proposed

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# Appendix

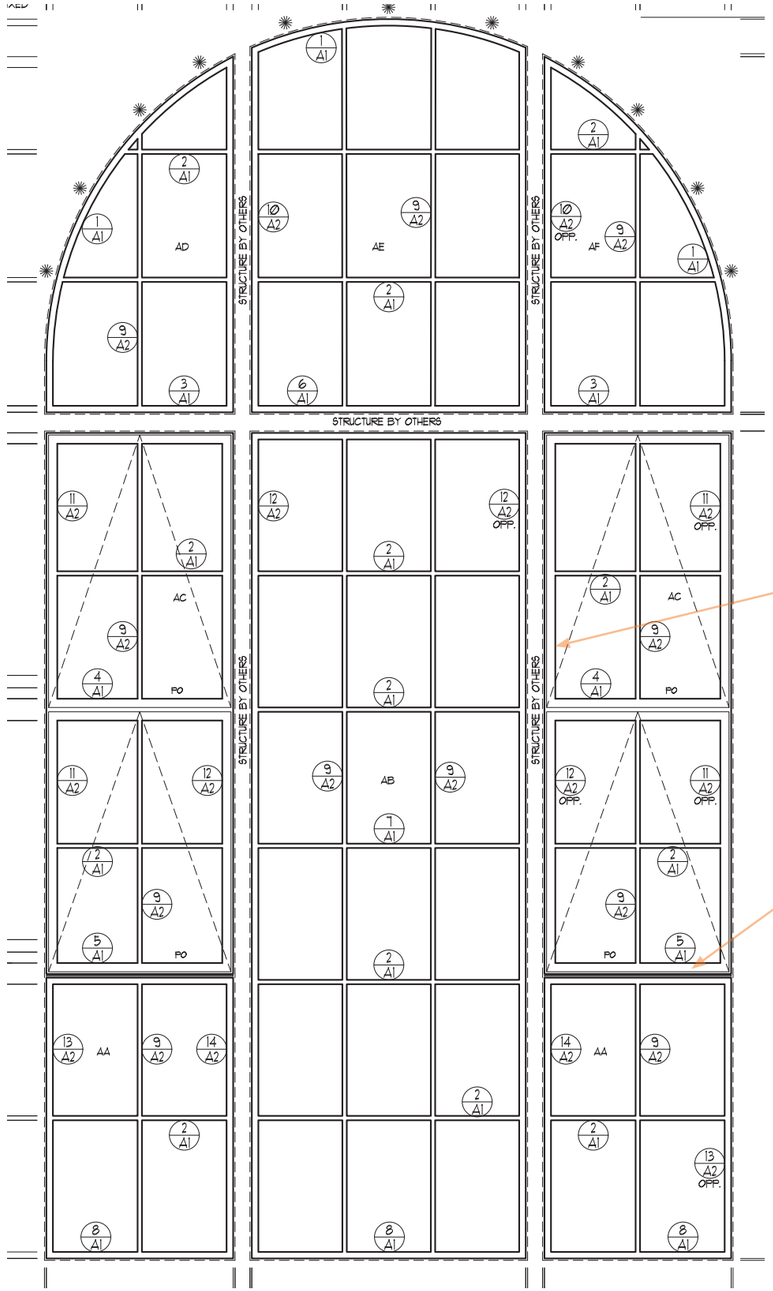

LPC Designation Photo:
From Pierrepont and Clinton Streets

LPC Designation Photo:
From Pierrepont and Clinton  Streets


LPC Designation Photo:
From Montague and Clinton  Streets

# Option B

# Modern Operable Awning Window



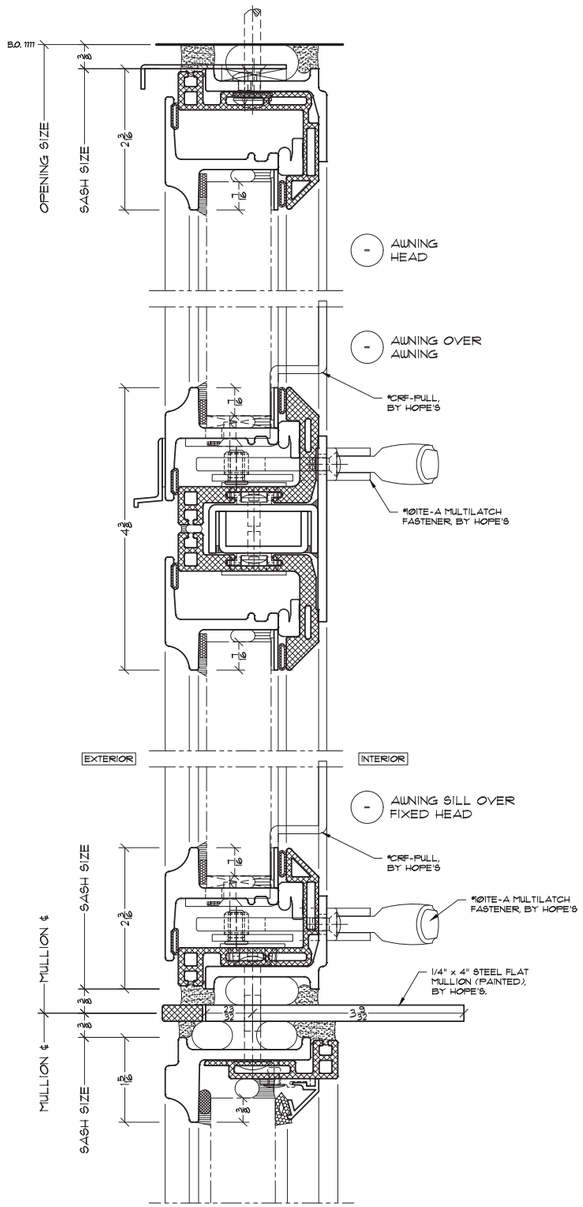

## Option B
## (Modern operable awning windows alters exterior appearance)

### Option B Problems:

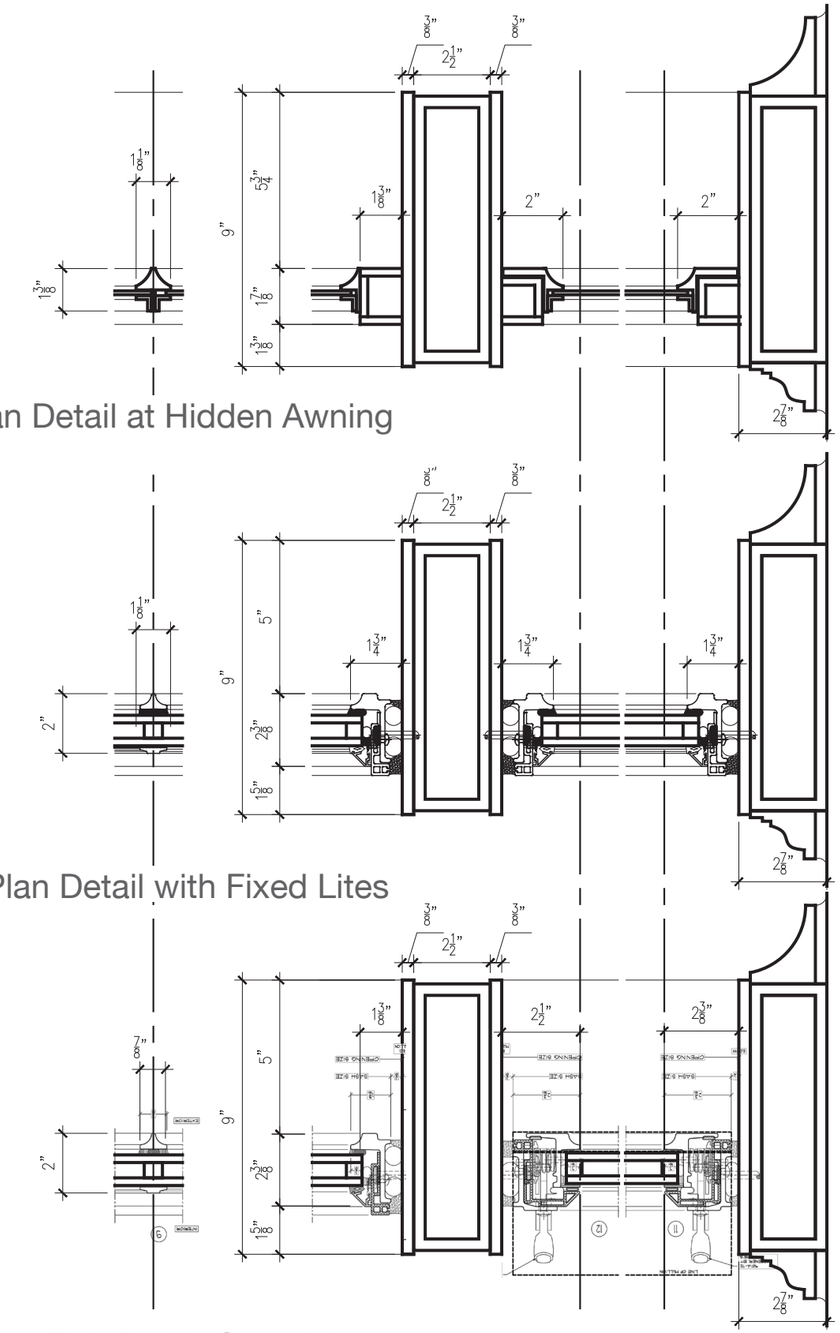
- **Creates thicker sash sightlines at operable windows**
- **Glass is in a slightly different plane than the fixed lites**
- **Operation of windows cannot be achieved without unlocking two fasteners at east window**

This options introduces a thick sash frame in order to work as an awning window. Historic swing arms would not be attached to the window. Crank handle would be visible. **It is highly unlikely that these would ever be opened, as access to the cranks would be impossible without a ladder.**

Horizontal plate (1/4" x 4" plate) for reinforcing to meet current code wind loads.




Option B Section Detail

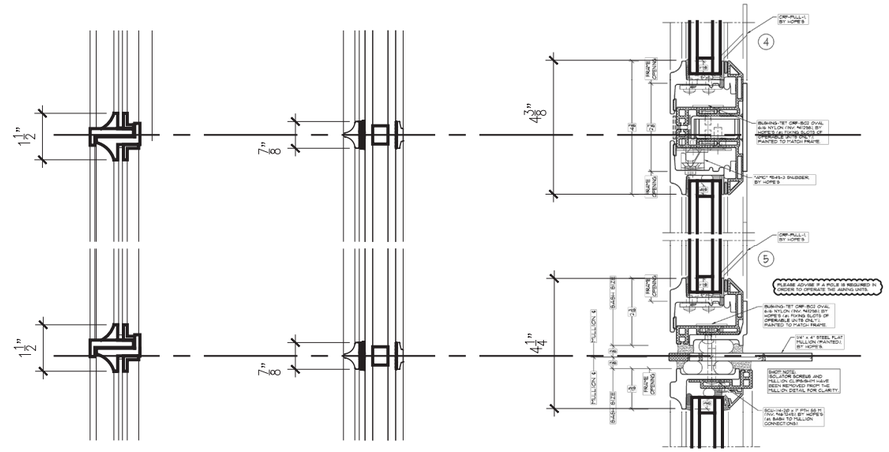



Existing Plan Detail at Hidden Awning Windows

Proposed Plan Detail with Fixed Lites

Option B Plan Detail with Operable Awning Windows

## Plan Detail Comparison




Existing Section Detail with Concealed Awning Windows

Proposed Section Detail with fixed lites

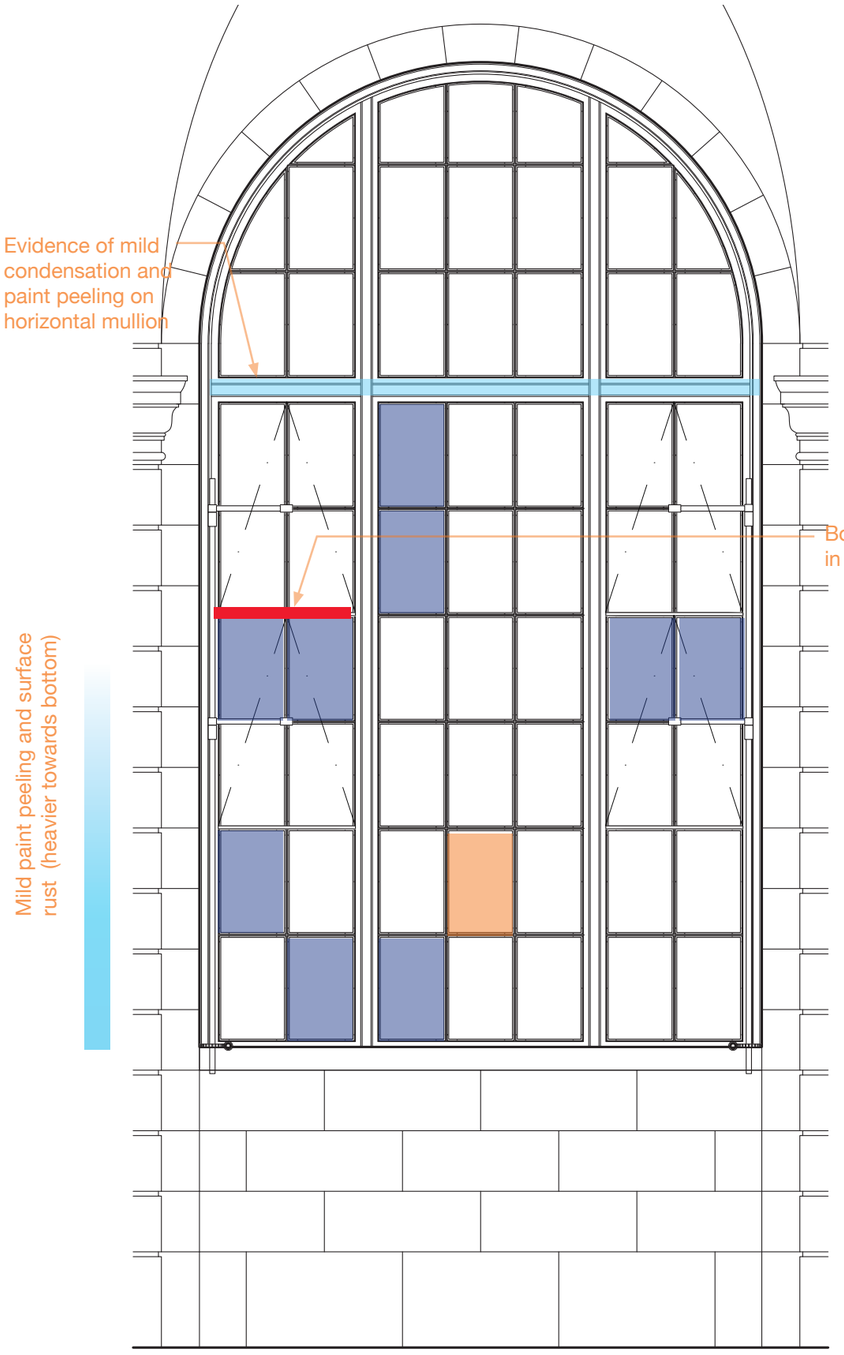
Option B Section Detail with Code Compliant Modern Awning Windows

## Section Detail Comparison

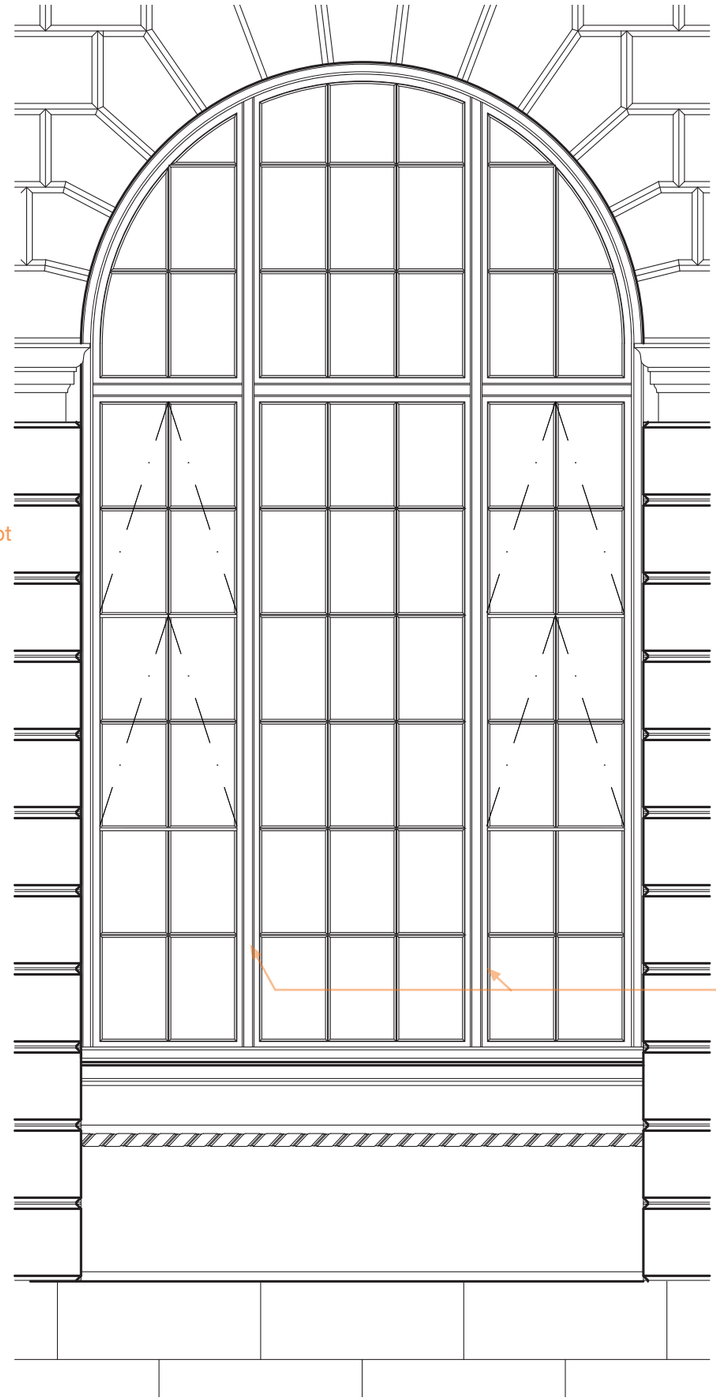
**Proposed scheme:**

- **Maintains the delicate and diaphonous lines of the existing lites within the existing mullions and frame.**
- **Increases thermal performance**
- **Eliminates points of air and water leakage**

Comparison Sections: Existing, Proposed & Option B




View from Interior




View from Exterior

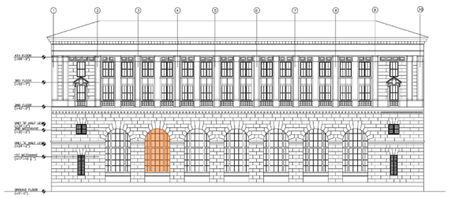
Angle frame glazing stop is missing. Ill fitting glass and substandard cauking installed.

Angle frame glazing stop is damaged: bowed, bent or broken. Rust jacking may be one of the causes

Glass is cracked, or glass has been replaced very poorly (bad fit, sloppy caulking

Severe issue, see note

General indication of rust and peeling paint

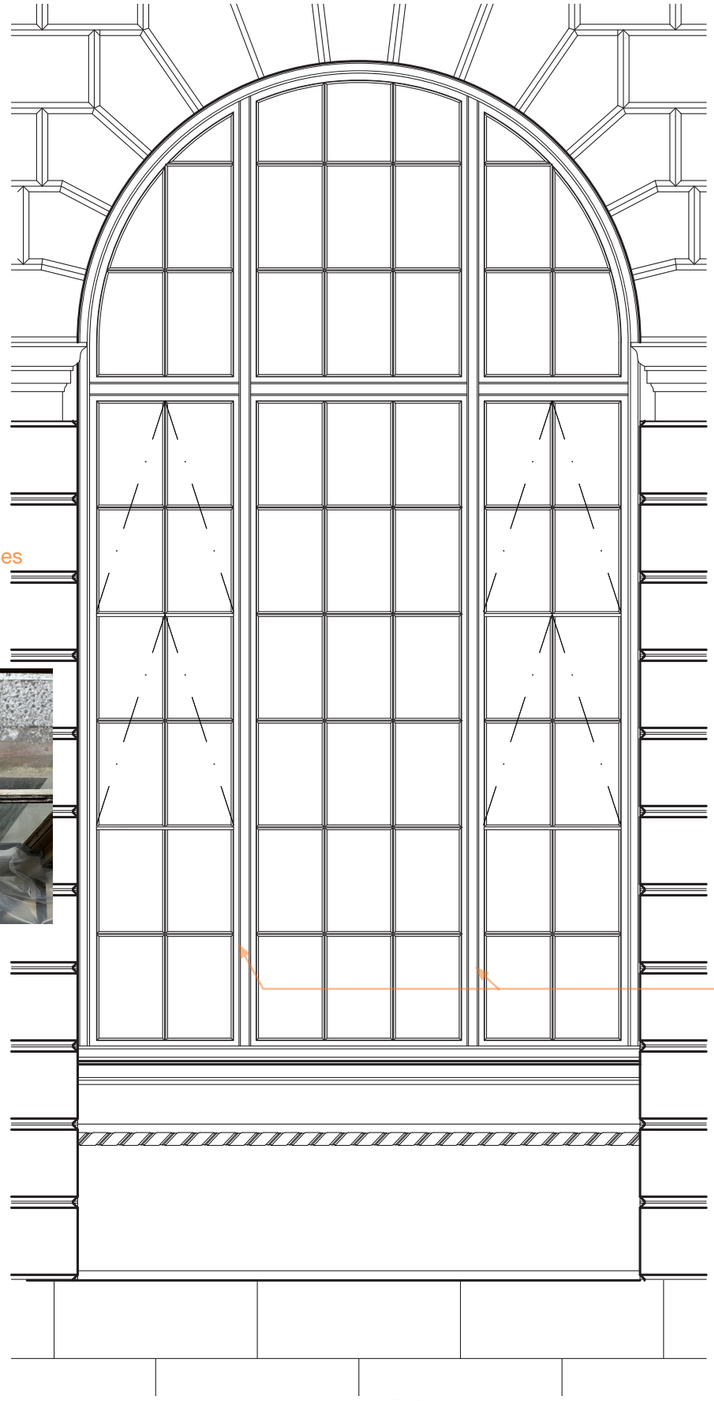


Elevation Key

Window 2 Existing Conditions


View from Interior

Swing Arm deforming awning window window

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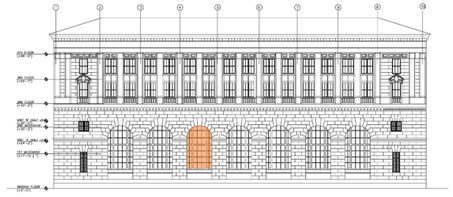
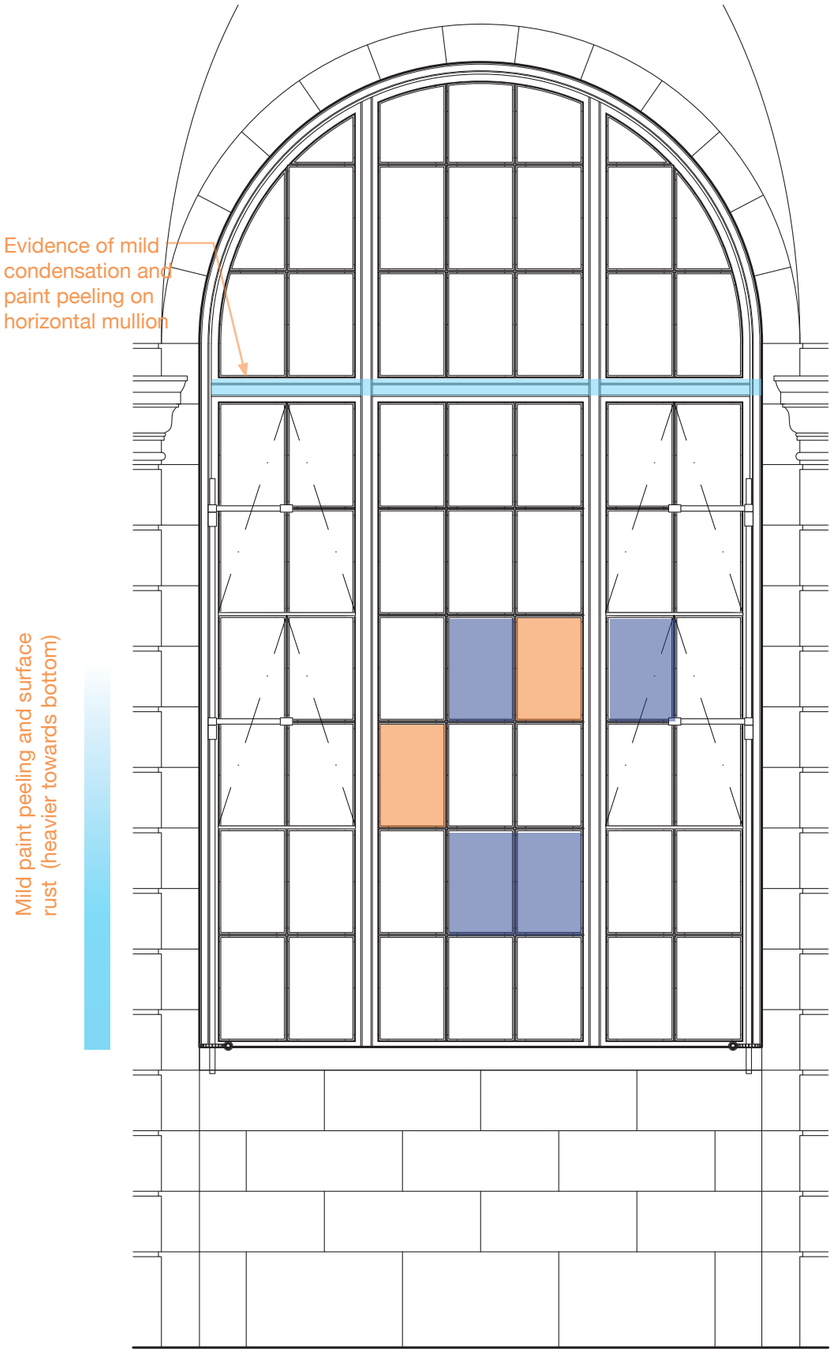
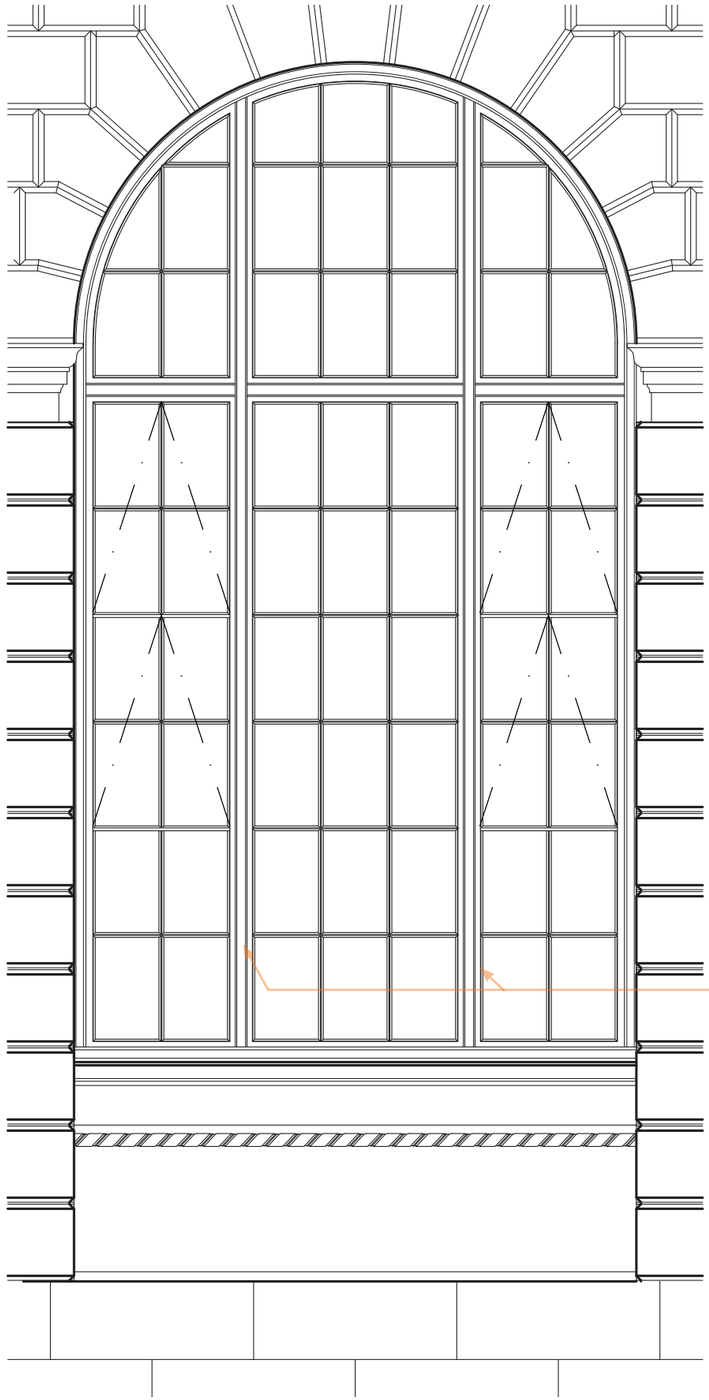


Elevation Key

## Window 3 Existing Conditions




View from Interior

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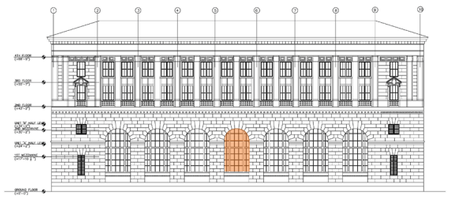
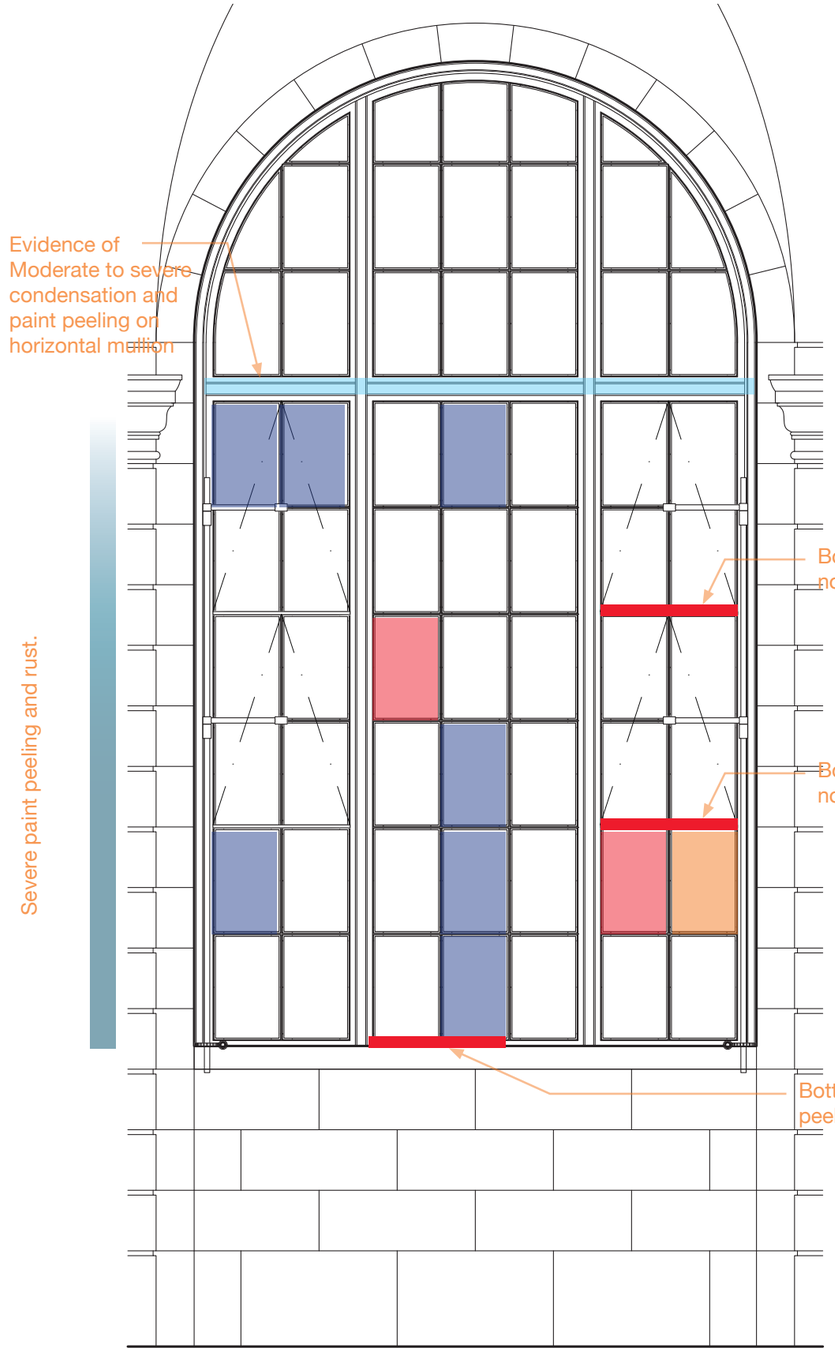
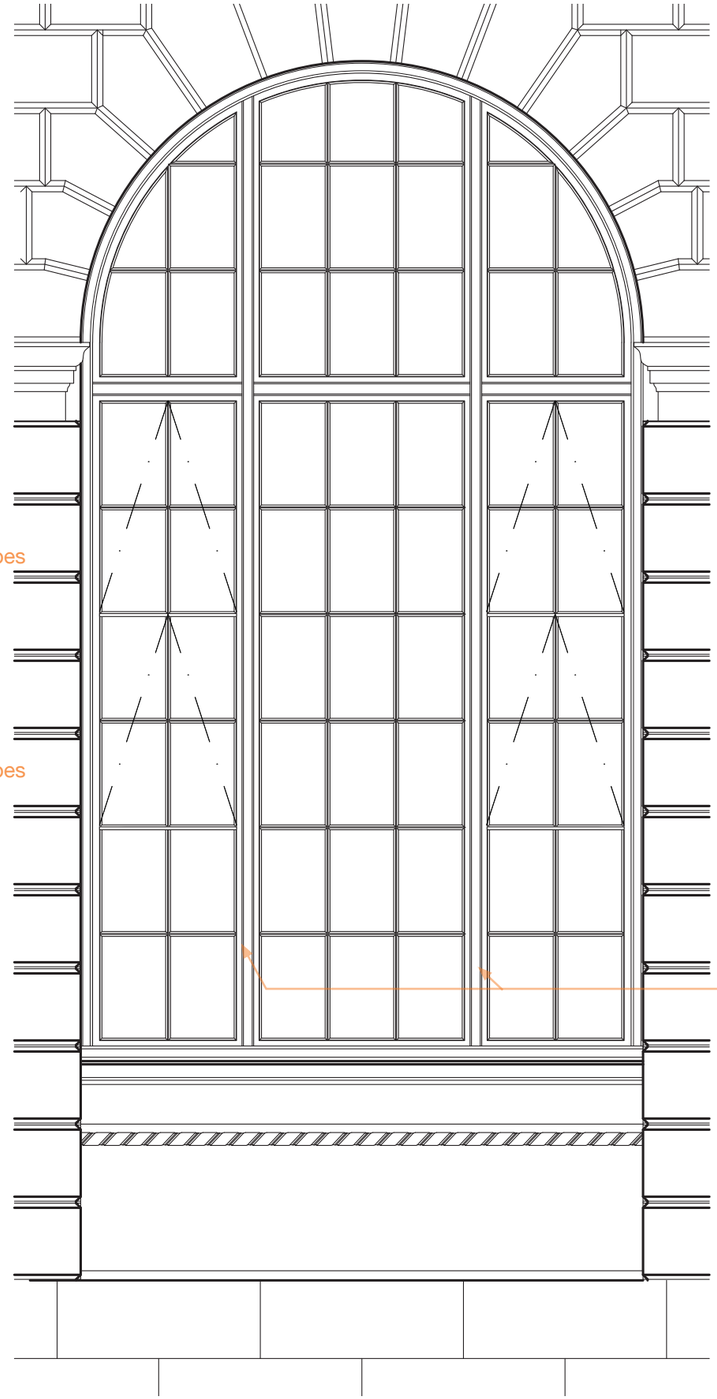


Elevation Key

## Window 4 Existing Conditions




View from Interior

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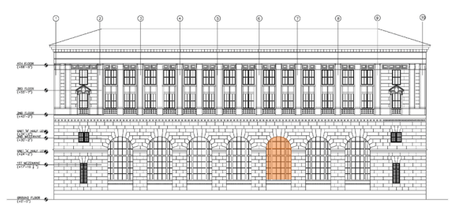
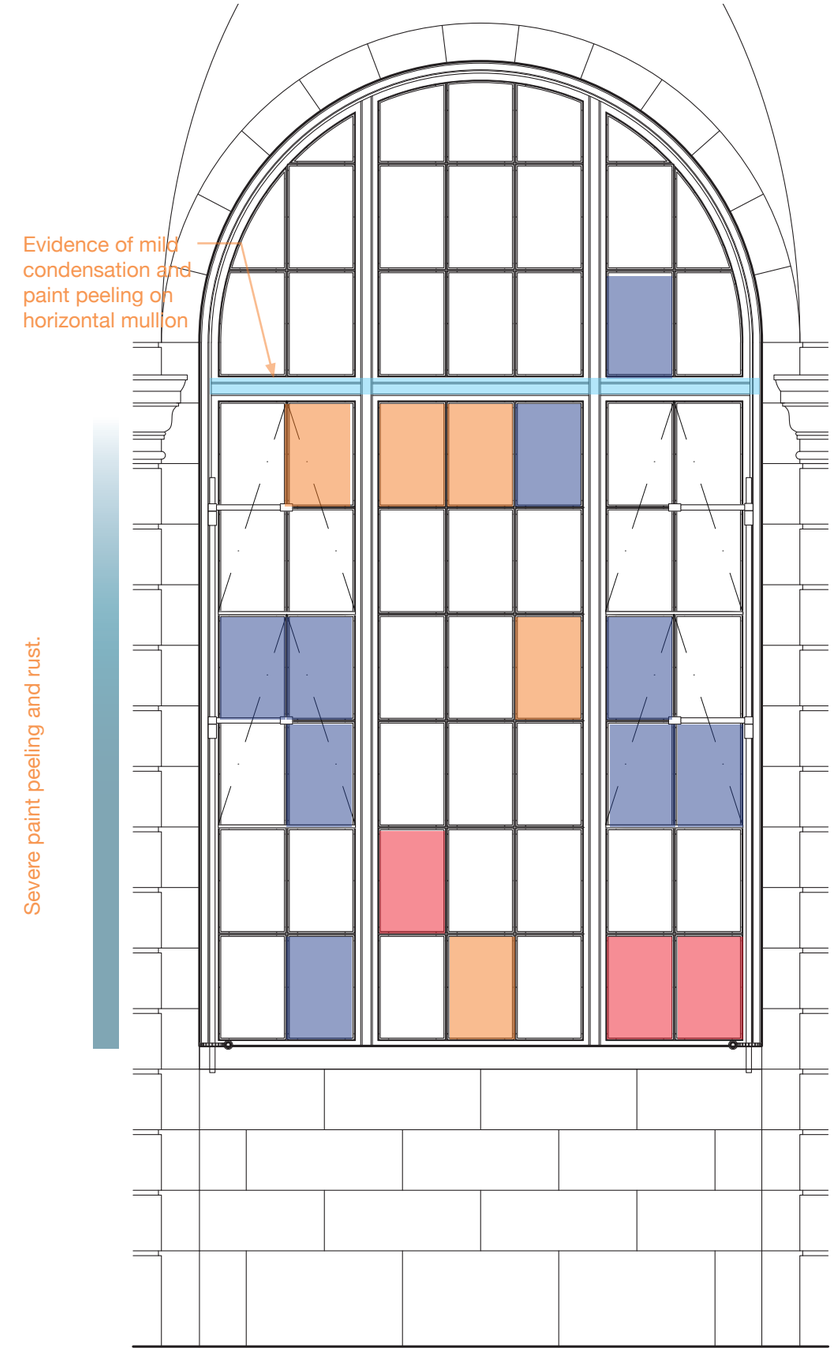
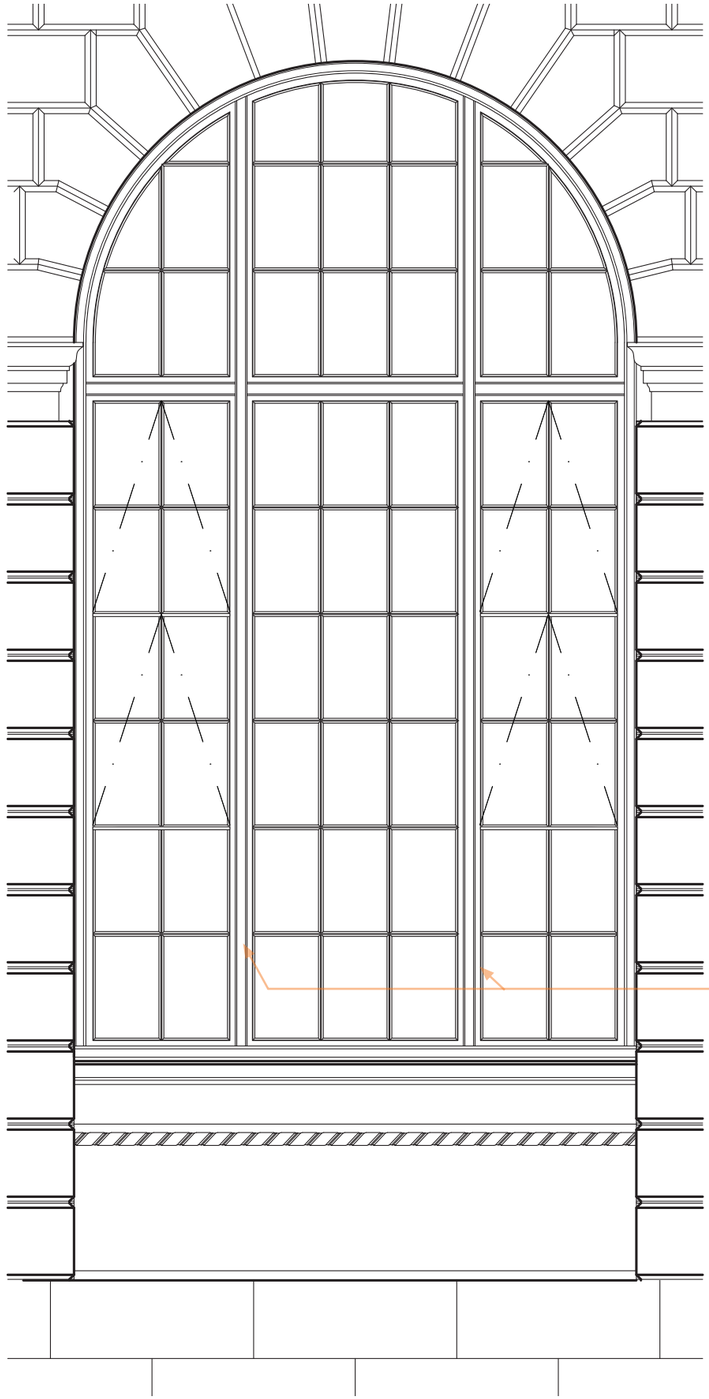


Elevation Key

## Window 5 Existing Conditions




View from Interior

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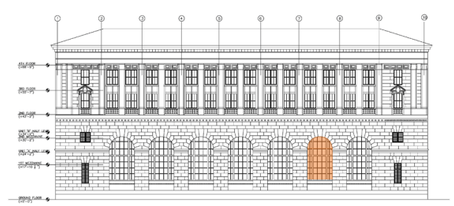
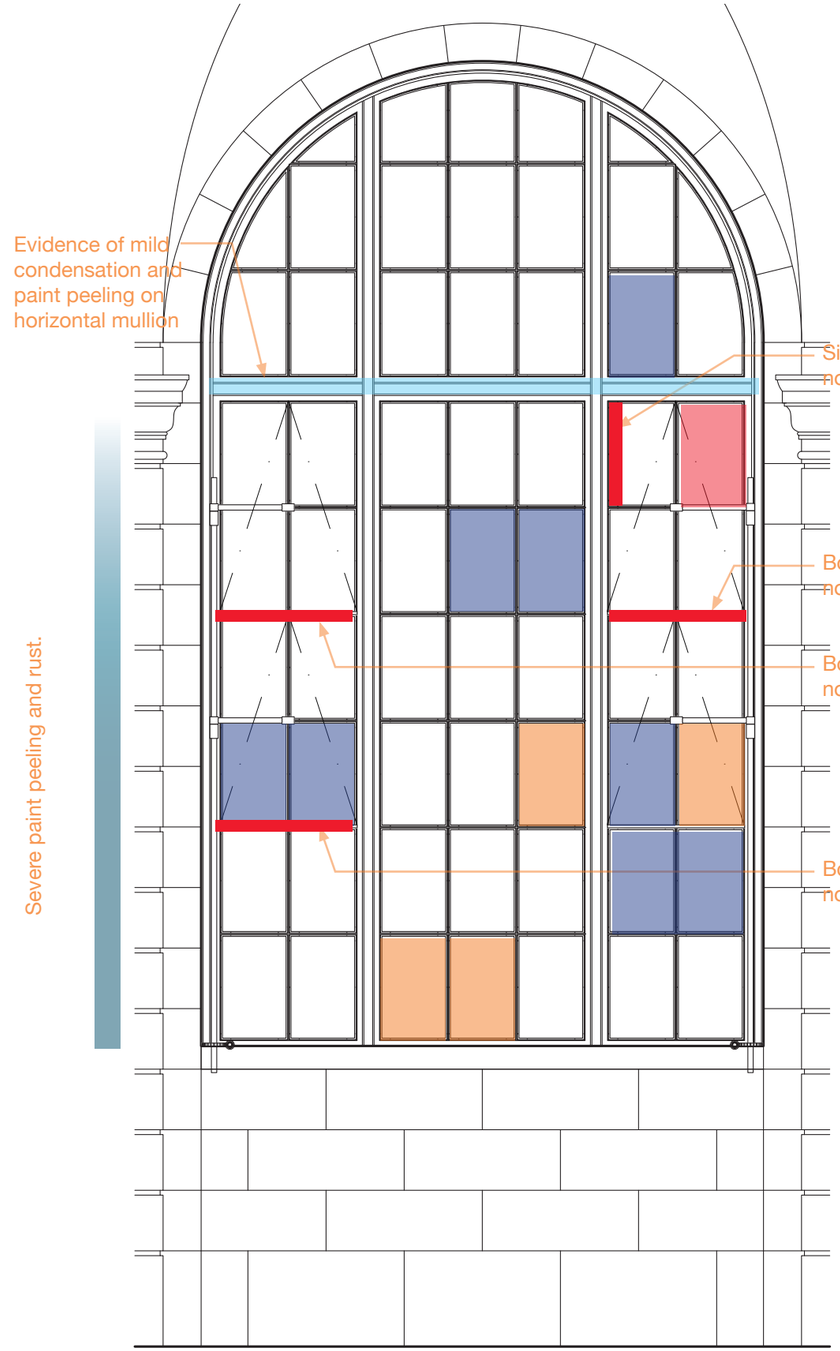
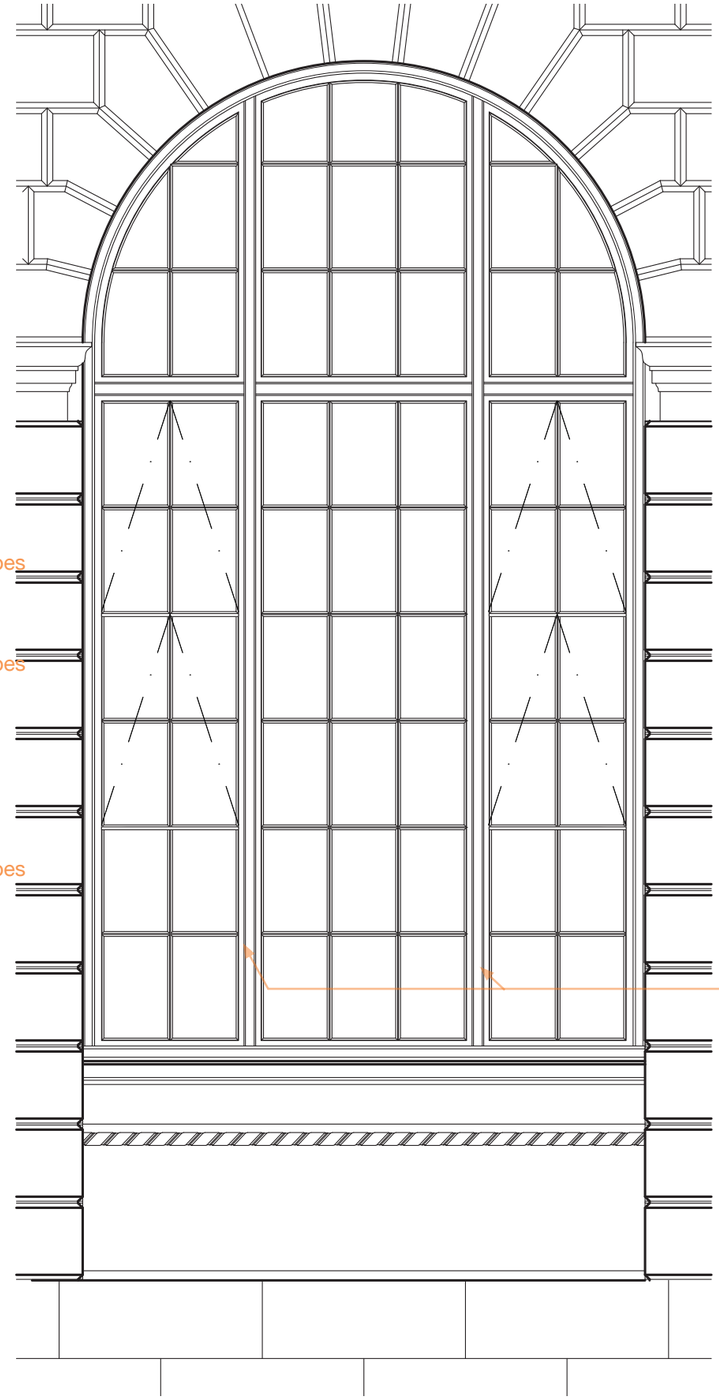


Elevation Key

## Window 6 Existing Conditions




View from Interior

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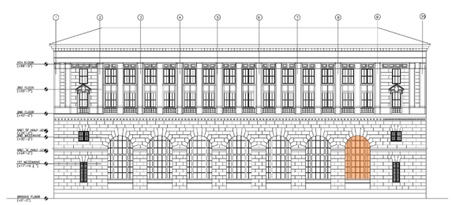
Severe issue, see note

General indication of rust and peeling paint



Elevation Key

## Window 7 Existing Conditions

177 Montague Street
Brooklyn New York

Historic Paint Color Analysis:
Clinton Street Arched Windows
September 2024

prepared for
SP WONG Architect, PLLC
New York New York

prepared by
Richbrook Conservation
Hudson New York

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# Introduction

This findings report has been prepared in response to a request by Stanley Wong of SP WONG Architect, PLLC, regarding a historic exterior paint color investigation limited to the monumental arched windows along the Clinton Street facade of the building at 177 Montague Street in Brooklyn, an individual NYC Landmark. Tasks related to this commission include on-site review of conditions and surfaces for investigation, paint sample removal, microscopic examination of extracted samples, lab analysis principally for earliest or original color, with color recommendations.

## *Project goals*

The goal of this study is to provide historic paint color data based on analysis of paint samples taken from the steel frames and dividers of the monumental arched windows along the Clinton Street facade. This information may be used to inform color and materials choices for an upcoming window renovation project.

The building was constructed as the Brooklyn Trust Company building between 1913 to 1916, designed by architects York and Sawyer.

## *Field Investigation*

Richbrook Conservation made one site visit in September 2024, to extract samples of paint from representative, accessible areas of the steel windows.

The monumental arched windows are steel, stamped with the Carnegie Steel mark. Surfaces examined were noted to be largely crisp, and clean of substantial paint accumulation, indicating either paint loss due to weathering, or due to previous paint removal efforts.

Isolated areas of corrosion damage were also noted, especially in areas of poor water drainage.

Site investigation allowed for up-close examination of two of the windows, as accessed from the sill of the building's water-table, which allowed for examination of the lowest-most sections of each of these windows. Seven total paint samples were extracted from accessible elements using a precision knife blade. All existing layers are included in each extracted sample, and while the steel substrate was not included in the paint samples, surfaces were scraped sufficiently to ensure that scale, corrosion, foundry coatings, or the artefact of the steel surface are included as a complete sample.

## Paint Sample Locations

sample #W.1

sample #W.2

sample #W.3



sample #W.4

sample #W.5

sample #W.6

sample #W.7

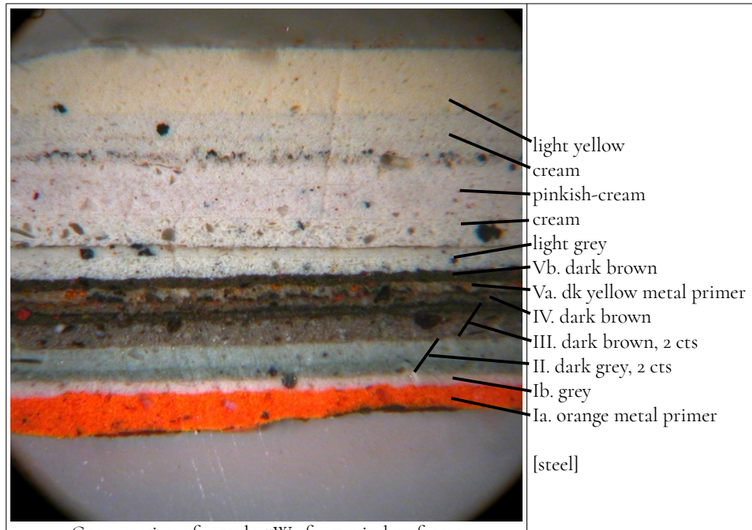
## *Lab Sample Analysis*

Extracted paint samples were initially examined in the laboratory with the aid of a stereo binocular microscope with zoom to 90x magnification under daylight-corrected illumination, to allow for preliminary determination of the surviving paint layer stratigraphies and to confirm intactness and consistency of the submitted sample material. A representative portion of one selected sample was mounted in a clear resin cast for grinding and polishing using aluminum oxide papers to 2000 grit, resulting in a clear cross-section suitable for examination and photography under the light microscope at 100x, 160x, and 250x magnification. Layers in the sample cross-section were documented in sequence using generic color names. As a convention in this report, the earliest sequence of paint layers have been assigned sequential Roman numerals to designate each generation of paint application.

Resin-cast cross-sections were viewed under normal, daylight-corrected light as well as under ultraviolet fluorescence illumination conditions. Epi-fluorescence conditions include a high-pressure mercury light source in conjunction with a filter cube passing incident ultraviolet light at 360 to 420 μm to the sample,

and a barrier filter cutting on at 460 µm permitting observation of emitted fluorescence through the visible light spectrum. Ultraviolet-excited autofluorescence of paint layers in cross-section can be used as an aid in differentiating otherwise similar appearing layers or to suggest differences in paint composition through the layers in the sequence, differences which may not necessarily be appreciable under normal light conditions. The color and intensity of autofluorescence colors may be influenced by pigment content, binding medium, as well as factors such as the age of the layer.

## Representative Sample in Cross-Section



Cross-section of sample #W2 from window frame
160x magnification, daylight illumination


UV-excited autofluorescence

All samples analyzed were found to be intact and consistent in surviving layer stratigraphies, as represented by this cross-section of sample #W.2. Following a foundry sealer, an orange metal primer was applied, then an original finish coat of a grey paint. This grey color would be expected to have complemented the adjacent stone masonry of the facade. Later color treatments venture into darker grey then very dark brown colors before the more modern sequence of pale creams, yellows, and the current light grey.

## *Historic Color Matching*

Color matching was done to paint layers observed in the gross samples, viewed microscopically under daylight-corrected illumination. Observed paint colors were matched as best represented, either at the surface or in the body of the layer and where determined to be most representative of the historic paint, taking into consideration the potential for variables such as differential exposure, batch inconsistencies, color alteration, contamination from overpaint, etc. As such, paint color matches are inherently impressionistic. Color matches were generated by direct visual comparison to the standard color systems of either NCS/Natural Colour System, or the Munsell System of Color Notation, or to proprietary paint manufacturer color ranges and cross-referenced.[1] CIE L*a*b* values were generated by spectrophotometric readings, to facilitate digital rendering. Interpolation of the Munsell notations was done according to ASTM D1535, though notations are intrinsically limited to the physical color standards available for direct visual comparison.

Note that commercial paint system matches are not intended as a specification or endorsement of a particular paint manufacturer, but instead are provided strictly for ease of color communication. The paint product or system selected must be chosen as that most compatible with the particular substrate and its long-term protection and preservation.

## Painted Windows [grey]

| | |
|---|---|
| CIE L*a*b | L 75.14 a –0.28 b 4.06 |
| NCS/Natural Colour System | 2502-Y |
| Munsell | 7.5Y 7.5/0.5 |
| Commercial Paint System | *best match:* PPG 1007-3 'ghost writer'<br>*alternative match:* Sherwin-Williams #7016 'mindful gray' |

Sherwin Williams #7016

Landmarks Preservation Commission

**November 19, 2024**
Public Hearing

**The current proposal is:**

**Preservation Department – Item 6, LPC-24-07463**

# 177 Montague Street, aka 134-138 Pierrepont Street – Brooklyn Trust Company Building – Individual and Interior Landmark Borough of Brooklyn

**To testify virtually, please join Zoom**

**Webinar ID:** 161 560 5566
**Passcode:** 604575
By Phone: 646-558-8656 (NY)
877-853-5257 (Toll free) US
888-475-4499 (Toll free)

**Note**: If you want to testify virtually 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.