



***Hudson County Courthouse
Murals and Historic Finishes Investigation
Jersey City, New Jersey***



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INTRODUCTION

Hudson County Courthouse (c. 1910) is one of America's great early twentieth century courthouses. Its grand Beaux Arts exterior hints at the highly ornate decoration that lies within. The murals and decorative painting were designed and executed by the leading muralists of the day, assembled together by Francis D. Millet, the director of decoration at the Columbian Exposition at the 1893 Chicago World's Fair. They included Kenyon Cox, Edwin Blashfield, Charles Yardley Turner, Howard Pyle, and of course, Millet himself.

The courthouse served as the seat of Hudson County's justice system for 56 years before it was abandoned in 1966. Archival research and microscopic analysis indicate that the courthouse has undergone multiple restoration campaigns over the course of the last 40 years, often launched in response to severe weathering and deterioration that have distorted the intended appearance and unity of the interior elements. Fortunately, a tremendous amount of physical and archival evidence of the courthouse's original appearance survives; its interior can be easily revived.

In order to develop a comprehensive approach for the restoration of the Hudson County Courthouse, EverGreene studied, tested and documented the conditions of the historic canvas, paint, murals, and plaster finishes in March and April of 2012. The goal of this investigation was to develop an understanding of how the finishes historically worked together and to provide estimates and recommendations for their restoration.

The observations and recommendations detailed in this report serve to inform the overall design process and to guide the selection of corresponding treatments for the murals and architectural paint. Bill Mensching, Vice-President, developed the approach and managed the project; Gillian Randell, Chief Conservator, and Amanda Stauffer, Architectural Conservator, carried out the field investigation of the murals and finishes and authored this report.

HISTORIC PAINT INVESTIGATION

HISTORIC DECORATIVE CAMPAIGNS

Periods of Significance

The dates and sequencing referenced in this report are based on EverGreene's access to the archival information provided by Helena Ruman Architects and the Hudson County Office of Cultural & Heritage Affairs. For the purposes of this study, the evolution of Hudson County Courthouse revolves around two (2) significant periods of finishes campaigns:

- 1910: Initial Construction & Paint Campaign
- c. 1974-85: Major Interior Restoration

The 1959 restoration drawings by Comparetto & Kenny call for the removal of substantial portions of marble wainscot, wood trim, and murals; many of these improvements, however, appear not to have been carried out. The courthouse incurred severe damage in the nineteen sixties. Around this time, all original stained glass at the center of the dome was lost in the 1960s when the building was abandoned.

The fourth floor water-damaged murals were extensively restored in 1975-85. Similarly, paintings of the signs of the zodiac around the rotunda dome are now only remnants of the originals, believed to have been designed by Edwin Blashfield and executed by his assistants; these were presumably reworked during the same time frame. Kenyon Cox's eight lunettes on the fourth floor were also restored during the same 1975-85 campaign.

METHODOLOGY

On-Site Investigation and Analysis

On-site investigation of historic finishes consisted of visual inspection of painted and plaster surfaces with a field microscope, extraction of thirty (30) samples from selected areas, magnified (20x) cratering of paint and plaster surfaces at forty (40) locations, and surface cleaning tests. For the purpose of color matching and layer sequencing, paint samples were removed from the following elements:

2nd Floor

Upper Wall Fields (3)

3rd Floor

Upper Wall Fields (3), Lower Wall Fields (2)

4th Floor

Upper Wall Fields (2), Lower Wall Fields (1), Groin Vaults (4), Vault Borders (2), Ceiling Fields (2), Lunette Fields (7)

North Stairwells (2nd, 3rd and 4th Floors)

Wall Fields (4)

Due to the ubiquitous presence of a skim coat of modern plaster, samples were removed using a scalpel and an electric dremel tool to the depth of approximately ½". Samples were examined under a Nikon large field stereo zoom microscope with a magnification of approximately 200X. Samples were illuminated with a daylight-corrected halogen light source. The layering sequences of various areas were compared and analyzed in order to relate various historic paint campaigns and overall decorative schemes.

MICROSCOPY FINDINGS

Based on its age, one would expect the plaster surfaces to have been repainted multiple times over the last century. If, however, alteration or interim design campaigns were ever executed, no traces of them remain. Thirty (30) paint samples were collected, and forty (40) small (<1/8") craters through the paint and plaster layers were created across the wall and ceiling surfaces of each floor and examined under the field microscope. Nowhere was an intermediate paint layer found. The vast majority of samples contained only the existing presentation layer, applied over a post-historic layer of plaster.



Vast areas of water damage and flaking paint, as captured in the above HABS photograph, would have necessitated the scraping and skimming

of the plaster surface in order to promote adhesion with repainting media.

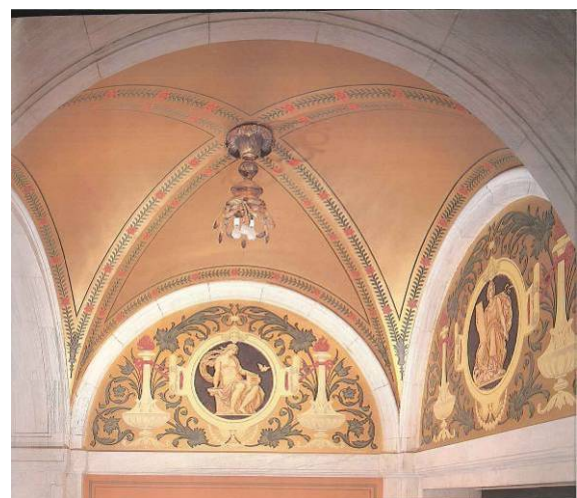
At all areas examined, very little evidence of original paint remains, and that which does is concealed beneath a skim coat of plaster that varies in depth but averages ¼" thick. Two select areas on the third floor yielded evidence of historic finishes, in the form of what appears to be the original paint layer, followed by this thick skim coat of plaster, finished with the presentation paints. For illustrative purposes, the stratigraphy of those intact samples appeared as follows:

Samples 17 and 18 (*displaying identical materials and sequencing*)

Location: 3rd Fl. East Wall Field - Above Wainscot

Layer	Media	Color	Benjamin Moore Match
substrate	plaster	white	-
1	paint	brick red	104 sienna clay
2	plaster	white	-
3	paint	brick red	104 sienna clay

Examination under a field microscope and laboratory microscopy indicate that the 1970s restoration finishes were largely faithful to the original 1910 finishes, both in design and palette. In all areas examined, the restoration layer from the second [1974-85] paint campaign (layer 3 in the example above) constitutes the current presentation layer. Accordingly, the appearance of the courthouse murals and finishes today, disregarding the damage they have incurred, is remarkably similar to its appearance in 1910.



Photograph of the fourth floor groin vaults and lunettes, c. 1910 (left) and restored, c. 1975 (right)

CONDITIONS

The current painted surfaces are generally in very good condition, although isolated areas, particularly at the northwest corner of the 2nd floor and at the southeast corner of the 4th floor,

suffer from heavy water damage, delamination, efflorescence, and staining. Anecdotally, EverGreene conservators were informed that this damage was pre-existing to the 2009 restoration of the roof and exterior envelope. EverGreene recommends that moisture content readings be taken along the existing plaster surfaces prior to the repair of the plaster substrate and paint finishes to confirm that the substrate is dry and stable.

Minor nicks and damage can be seen along areas that receive heavy pedestrian traffic, like the 3rd floor wall field above the wainscot, but by and large the painted decoration on the plaster is pristine.

TESTING

Surface Cleaning

In general, the paint finish is only mildly soiled. Cleaning tests were performed on the surfaces of the wall fields, groin vaults and trim elements. EverGreene spot tested dilute solutions of ammonium hydroxide, ammonium citrate, triethanolamine, mineral spirits, Triton X-100, and Orvus. All were successful at removing grime and surface soiling, but as Orvus is the most gentle, EverGreene recommends using 0.1% Orvus in water.

MURALS INVESTIGATION

On-site investigation of the Cox lunettes, the Turner and Millet lunettes, the Millet rectangular murals, and the Pyle murals consisted of visual inspection of paint, plaster, and canvas surfaces, and surface cleaning and varnish removal tests. Close-up examination was facilitated by ladder and genie lift (20' high) access; murals were examined under raking light and ultraviolet light with a field microscope of 25X magnification.

The recommended conservation treatments include stabilizing the damaged plaster substrate and paint layer, surface cleaning, sensitive removal of discolored varnishes and crudely executed non-original paint, reattachment of delaminating fabric, application of a protective non-yellowing surface coating, and infilling and inpainting of loss. Because the majority of previous interventions were well-executed and served to maintain the stability and appearance of the murals over time, recommendations provided herein apply predominantly to the stabilization of the murals. Recommendations for the reversal of aesthetic repairs are provided only in cases where the previous inpainting or varnish treatments are visually obtrusive.

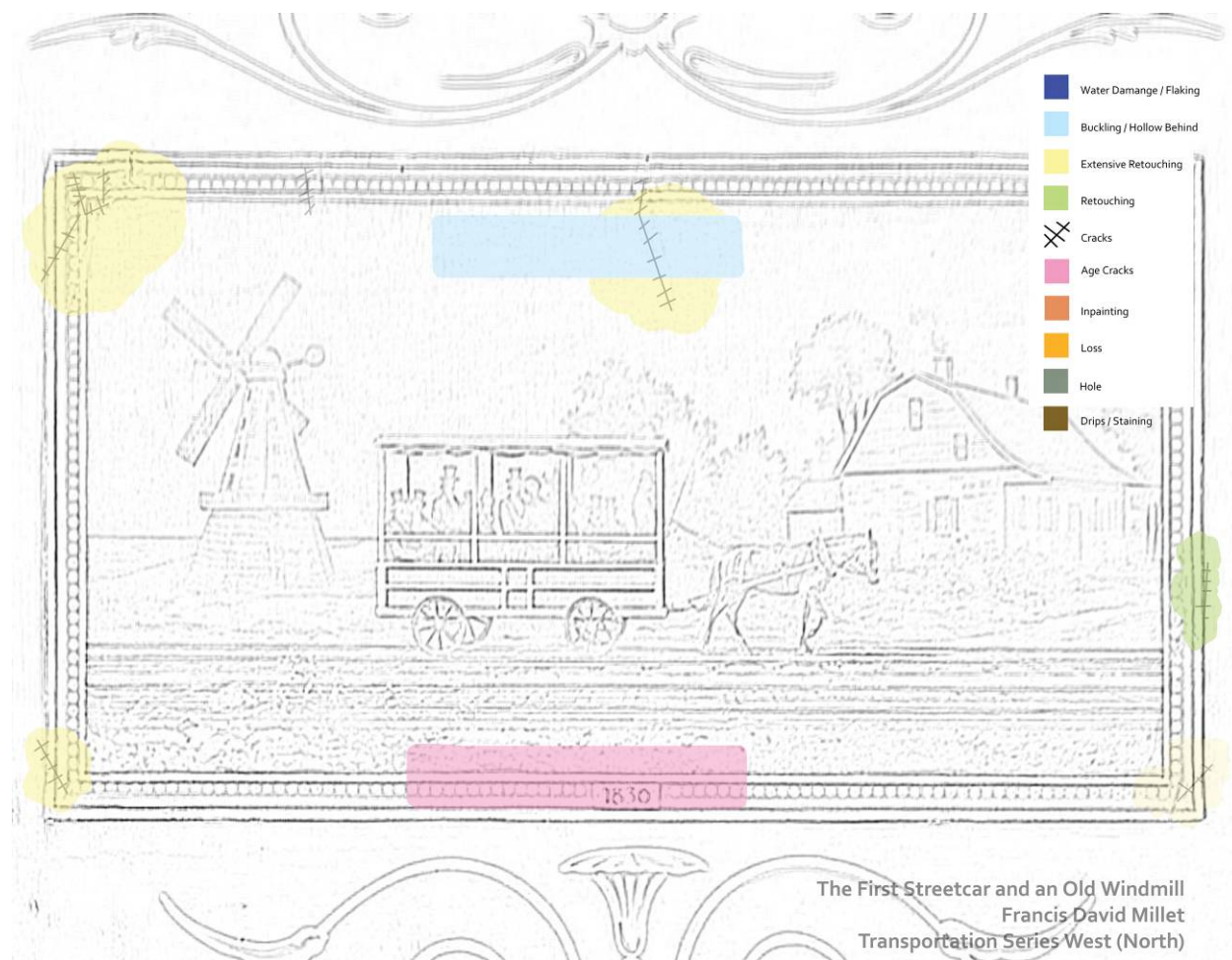
The Blashfield pendentives and rotunda ceiling panels were viewed with binoculars from the fourth floor. Although there are no telltale signs of plaster damage, because EverGreene did not have tactile access to these murals, the possibility should be assumed that several sections of the Blashfield pendentives may need to be removed to excavate any damaged plaster, repair the substrate, and reattach the mural to a receptive surface. The adhesive of the accessible murals tested positive for lead, therefore the mural removal process would incorporate safe practices for handling lead including containment, air filtration, personal protection equipment, safe disposal of lead, environmental monitoring and medical surveillance.

For testing results and more specific documentation of conditions, please refer to the "Conservation Recommendations" sections at the end of this report.

SECOND FLOOR CORRIDOR

On the second floor, Millet executed twelve (12) small panels for a frieze above the marble wainscot. They depict local scenes and highlight the development of transportation, since Hudson County was once the railroad capital of the eastern United States. Only eight (8) of the murals survive, and their conservation assessments are detailed in the pages that follow. They are surrounded by decorative borders painted directly on the plaster, all of which look pristinely repainted *except* the northwest corner, which is severely water damaged.

I. Title: "The First Streetcar and an Old Windmill"
Artist: Francis Millet
Date: c. 1910
Signature: F.D. Millet © (lower right)
Location: Second Floor, West Wall, noted as "A" on architect's drawings
Date Surveyed: 3/27/2012
Conservator: Amanda Stauffer
Subject Matter: A horse pulls a streetcar full of people past a windmill and house
Dimensions: 2'-4"L x 1-2.5"H
Lower horizontal margin is 10'-8" above the floor (10" above marble wainscot)



Paint Medium

Appears to be an oleaginous paint medium. The paint was applied with a brush. There are some limited visible brushstrokes and impasto.

Condition

Overall the paint appears relatively stable, with the isolated exceptions of fine craquelure due to age along the central lower horizontal border and minor cracks along the border field, all of which have been well-treated, with the exception of one 6" in from the upper left corner.

Varnish Layer

The surface coating appears to be an evenly applied non-original semi-glossy varnish.

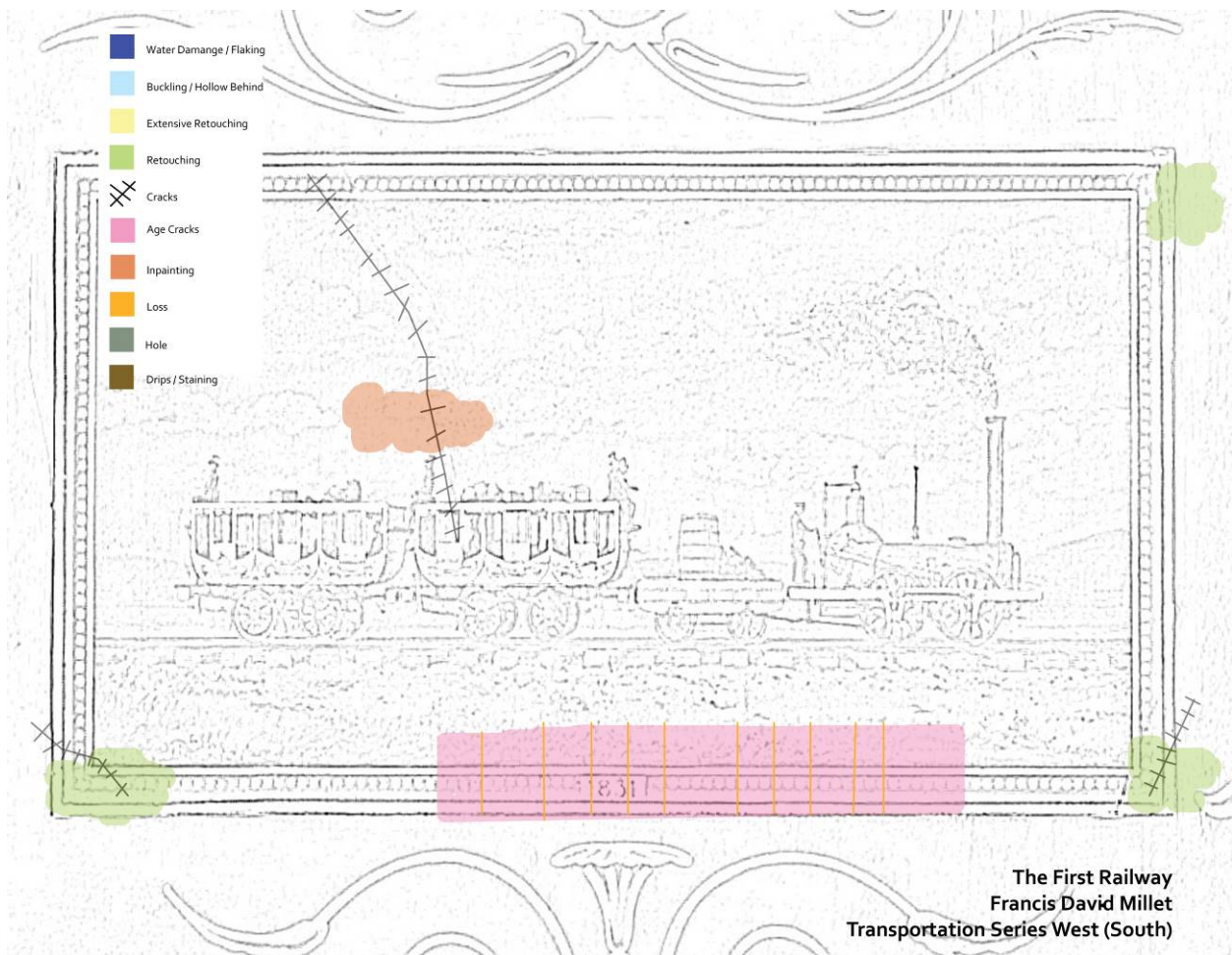
Non-Original Paint

The lower right, lower left, and upper left corners, in addition to the central upper edge and the central right edge have a fair amount of inpainting that is well executed and visible only in ultraviolet light. These areas conceal cracks in the paint layer, which have been treated in a sensitive fashion and are well-integrated.

Primary Support

The primary support is a tightly woven tabby weave canvas marouflaged on the wall. It is detached and buckling across the central upper edge.

II. Title: "The First Railway"
Artist: Francis Millet
Date: c. 1910
Signature: F.D. Millet © (lower right)
Location: Second Floor, West Wall, noted as "B" on architect's drawings
Date Surveyed: 3/27/2012
Conservator: Amanda Stauffer
Subject Matter: A horse pulls a streetcar full of people past a windmill and house
Dimensions: 2'-4"L x 1-2.5"H
Lower horizontal margin is 10'-8" above the floor (10" above marble wainscot)



Paint Medium

Appears to be an oleaginous paint medium. The paint was applied with a brush. There are some limited visible brushstrokes and impasto.

Condition

Overall the paint appears relatively stable, with the isolated exceptions of fine craquelure due to age along the lower horizontal border and a large crack running diagonally from the left side of the upper border extending 2/3 of the way down to the right. Cracks in the lower right and lower left corners have been well-treated.

Varnish Layer

The surface coating appears to be an evenly applied non-original semi-glossy varnish.

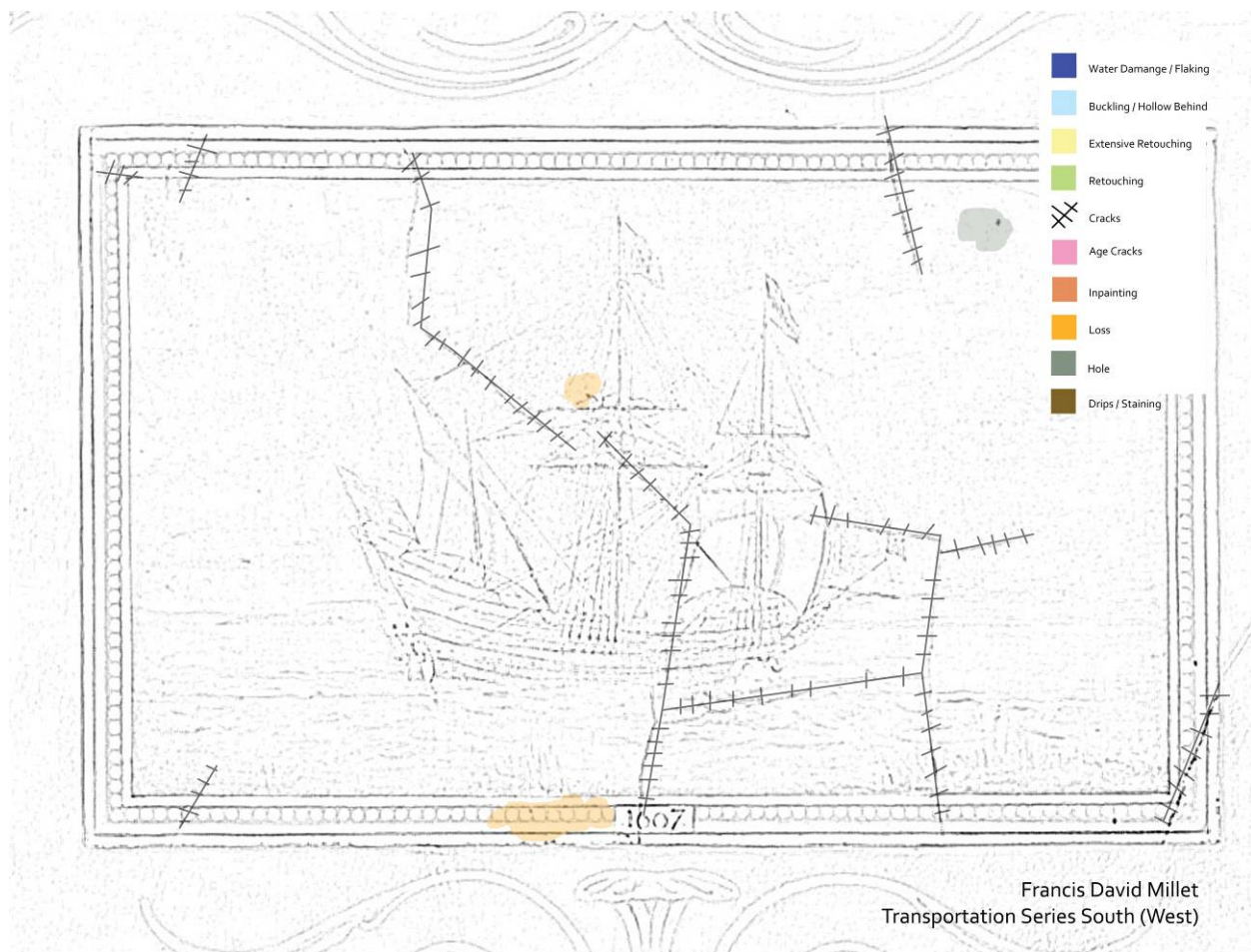
Non-Original Paint

The lower left, lower left and upper right corners, in addition to a cloud to the left of center have a fair amount of inpainting that is well executed, though less well than comparable inpainting in the other seven Millet murals on the second floor. The lower corner areas conceal cracks in the paint layer, which have been treated in a sensitive fashion and are well-integrated.

Primary Support

The primary support is a tightly woven tabby weave canvas marouflaged on the plaster wall.

III. Title: "The Half-Moon"
Artist: Francis Millet
Date: c. 1910
Signature: F.D. Millet © (lower right)
Location: Second Floor, South Wall, noted as "D" on architect's drawings
Date Surveyed: 3/27/2012
Conservator: Amanda Stauffer
Subject Matter: A large two-masted schooner on the ocean
Dimensions: 2'-4"L x 1-2.5"H
Lower horizontal margin is 10'-8" above the floor (10" above marble wainscot)



Paint Medium

Appears to be an oleaginous paint medium. The paint was applied with a brush. There are some limited visible brushstrokes and impasto.

Condition

The paint is riddled with long cracks that extend beyond the confines of the canvas and run through the adjacent plaster. There are pin-point paint losses in the upper center and the lower horizontal border.

Varnish Layer

The surface coating appears to be a non-original semi-glossy varnish. It is evenly applied and saturates the mural.

Non-Original Paint

None visible, either in raking or UV light.

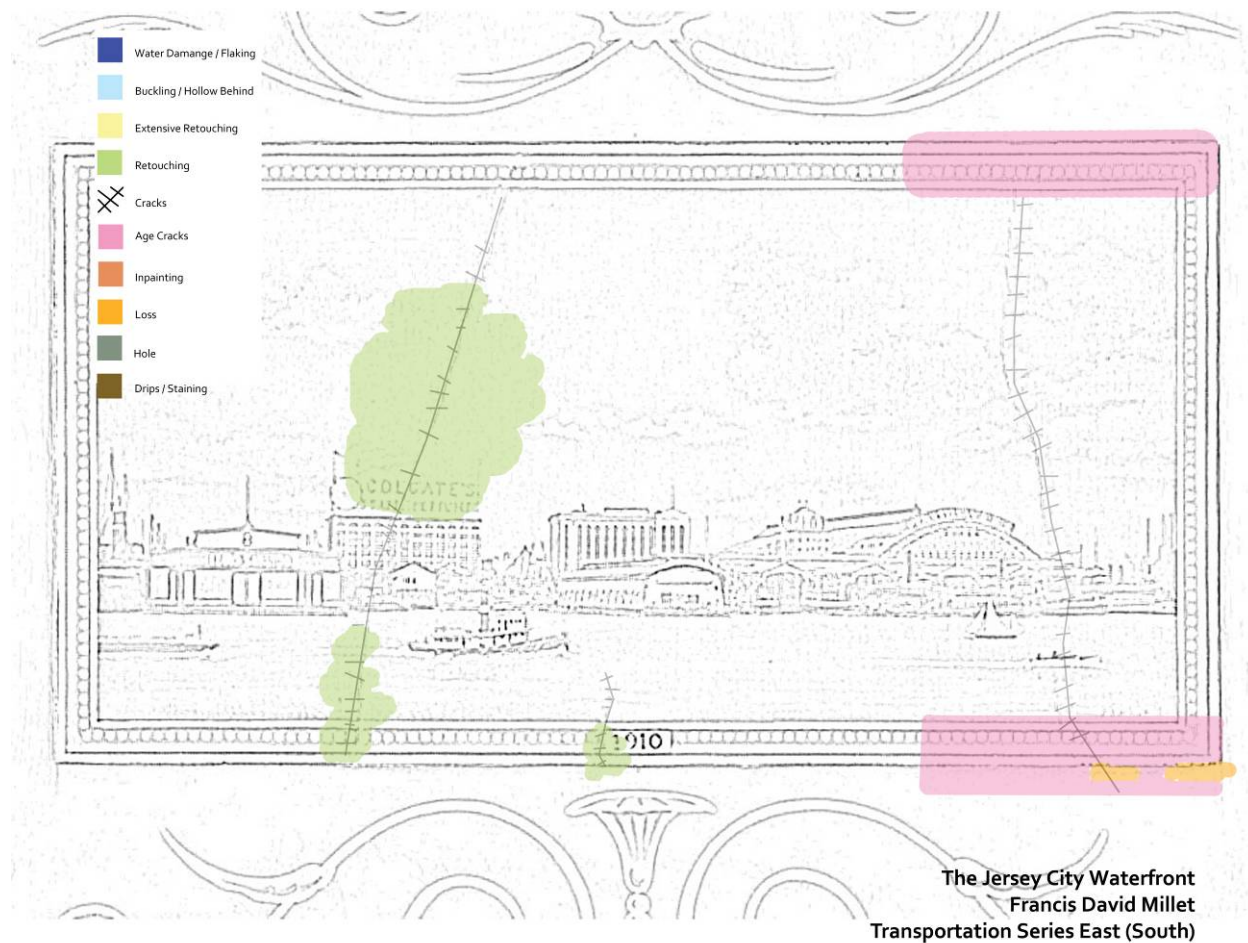
Primary Support

The primary support is a tightly woven tabby weave canvas marouflaged on the plaster wall.

Condition

There is a small hole near the upper right corner.

IV. Title: "Jersey City Waterfront"
Artist: Francis Millet
Date: c. 1910
Signature: F.D. Millet © (lower right)
Location: Second Floor, South Wall, noted as "E" on architect's drawings
Date Surveyed: 3/27/2012
Conservator: Amanda Stauffer
Subject Matter: The skyline of Jersey City, as seen from the water
Dimensions: 2'-4"L x 1-2.5"H
Lower horizontal margin is 10'-8" above the floor (10" above marble wainscot)



Paint Medium

Appears to be an oleaginous paint medium. The paint was applied with a brush. There are some limited visible brushstrokes and impasto.

Condition

The paint displays two prominent vertical age cracks, which span the surface of the painting. There are localized areas of craquelure at the upper and lower right corners, as well as a small vertical drying crack at the central lower border and minor losses in the lower right corner.

Varnish Layer

The surface coating appears to be a non-original semi-glossy varnish. It is evenly applied and saturates the mural.

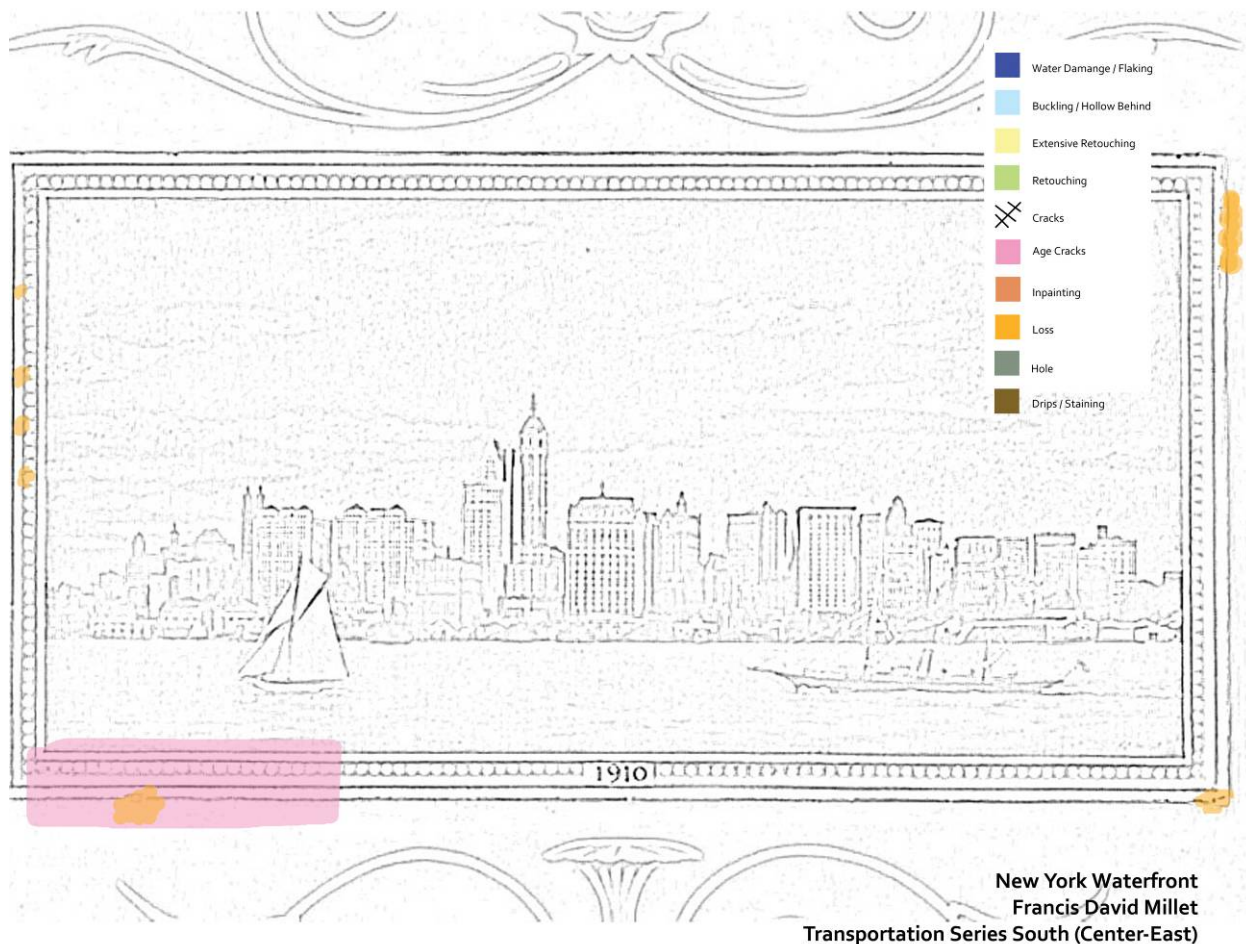
Non-Original Paint

The central lower right edge and the large vertical crack to the left display extensive inpainting. The inpainting is fairly well executed, though still visible to the naked eye.

Primary Support

The primary support is a tightly woven tabby weave canvas marouflaged on the plaster wall.

V. Title: "New York Waterfront"
Artist: Francis Millet
Date: c. 1910
Signature: F.D. Millet © (lower right)
Location: Second Floor, South Wall, noted as "F" on architect's drawings
Date Surveyed: 3/27/2012
Conservator: Amanda Stauffer
Subject Matter: A cargo ship and a sailboat on the water, with the skyline of New York in the background
Dimensions: 2'-4"L x 1-2.5"H
Lower horizontal margin is 10'-8" above the floor (10" above marble wainscot)



Paint Medium

Appears to be an oleaginous paint medium. The paint was applied with a brush. There is some limited visible brushstrokes and impasto.

Condition

The paint is in very good condition, with isolated areas of minor loss on the upper right, lower right, and left borders. Fine drying cracks and pinpoint loss occurs at the lower left corner, but the field paint appears very well preserved.

Varnish Layer

The surface coating appears to be a non-original semi-glossy varnish. It is evenly applied and saturates the mural.

Non-Original Paint

None visible, either in raking or UV light.

Primary Support

The primary support is a tightly woven tabby weave canvas marouflaged on the plaster wall.

VI. Title: "The Phoenix"
Artist: Francis Millet
Date: c. 1910
Signature: F.D. Millet © (lower right)
Location: Second Floor, South Wall, noted as "G" on architect's drawings
Date Surveyed: 3/27/2012
Conservator: Amanda Stauffer
Subject Matter: A large schooner on the water, with cliffs in the background
Dimensions: 2'-4"L x 1-2.5"H
Lower horizontal margin is 10'-8" above the floor (10" above marble wainscot)



Francis David Millet
Transportation Series South (Center)

Paint Medium

Appears to be an oleaginous paint medium. The paint was applied with a brush. There are some limited visible brushstrokes and impasto.

Condition

The paint is in good condition, with isolated pinpoint losses in the sky field (two at the upper left, one at the lower right) and a fine age crack to the right of the center, extending vertically 1/3 of the way up the canvas.

Varnish Layer

The surface coating appears to be a non-original semi-glossy varnish. It is evenly applied and saturates the mural.

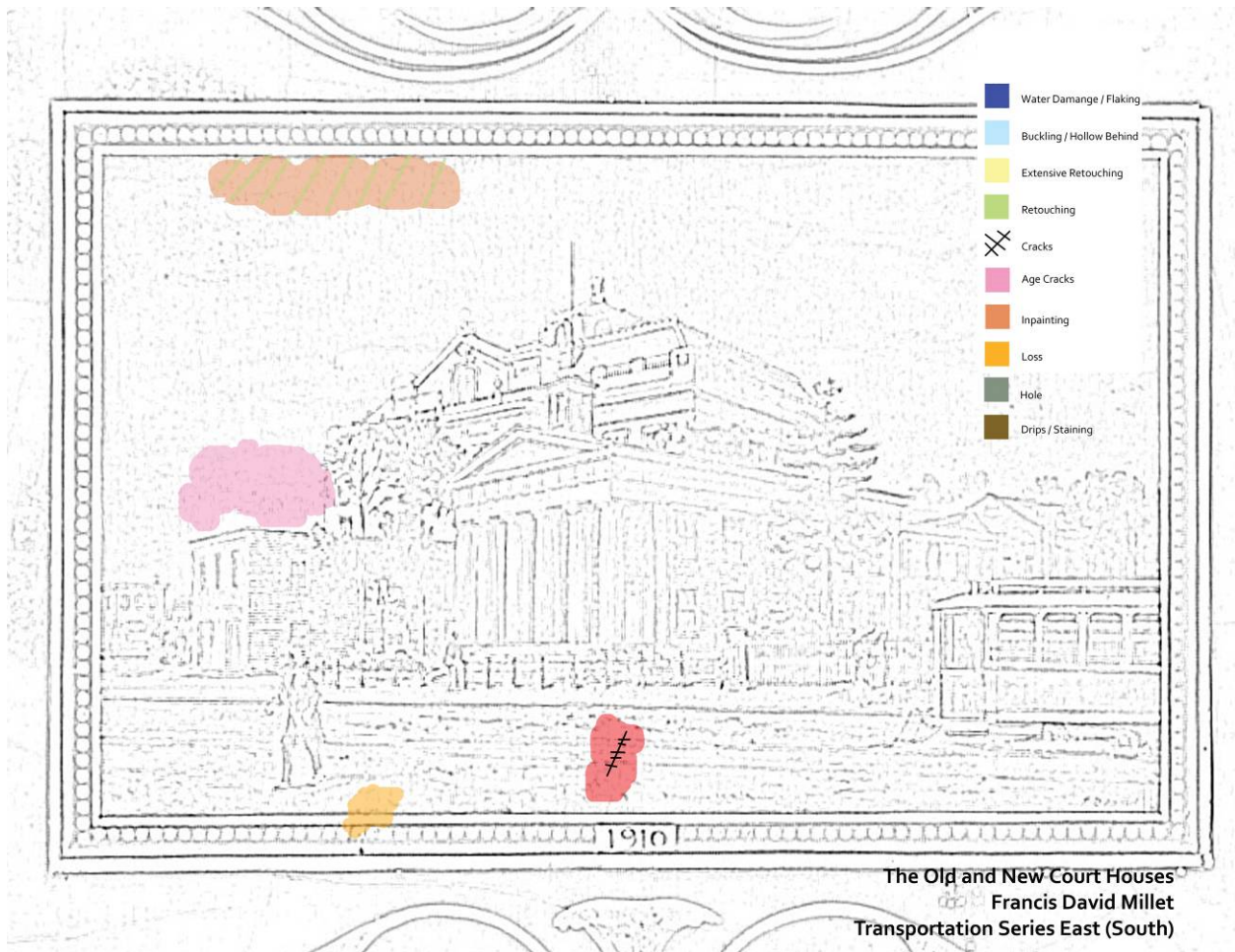
Non-Original Paint

The lower left and upper right corners display minor areas of inpainting, well-executed and visible only in UV light. The lower right corner has been heavily retouched, and it appears that the signature of the artist has been over-painted.

Primary Support

The primary support is a tightly woven tabby weave canvas marouflaged on the plaster wall.

VII. Title: "The Old and New Courthouses"
Artist: Francis Millet
Date: c. 1910
Signature: F.D. Millet © (lower right)
Location: Second Floor, East Wall, noted as "H" on architect's drawings
Date Surveyed: 3/27/2012
Conservator: Amanda Stauffer
Subject Matter: The two courthouses of Jersey City; the one in front with the classical pedimented colonnade is the older courthouse; the white one to its rear with the dome is the newer courthouse.
Dimensions: 2'-4"L x 1-2.5"H
Lower horizontal margin is 10'-8" above the floor (10" above marble wainscot)



Paint Medium

Appears to be an oleaginous paint medium. The paint was applied with a brush. There are some limited visible brushstrokes and impasto.

Condition

There is a minor area of drying cracks concentrated at the left central field, in addition to a minor loss at the horizontal border below it. A small age crack (2"L) extends up from the "1910" painted plaque.

Varnish Layer

The surface coating appears to be a non-original semi-glossy varnish. It is evenly applied and saturates the mural.

Non-Original Paint

The upper left area of the sky, just below the horizontal border, is the only area of inpainting visible in UV light. It is well-executed.

Primary Support

The primary support is a tightly woven tabby weave canvas marouflaged on the plaster wall.

Title: "The Steamboat Clermont"
Artist: Francis Millet
Date: c. 1910
Signature: F.D. Millet © (lower right)
Location: Second Floor, East Wall, noted as "I" on architect's drawings
Date Surveyed: 3/27/2012
Conservator: Amanda Stauffer
Subject Matter: A large double masted steamboat on the water
Dimensions: 2'-4"L x 1-2.5"H
Lower horizontal margin is 10'-8" above the floor (10" above marble wainscot)



Paint Medium

Appears to be an oleaginous paint medium. The paint was applied with a brush. There are some limited visible brushstrokes and impasto.

Condition

Prominent age cracks at the upper left corner and along the right 1/3 of the painting have been repaired and inpainted. Fine drying cracks at the lower left corner could benefit from consolidation.

Varnish Layer

The surface coating appears to be a non-original semi-glossy varnish. It is evenly applied and saturates the mural.

Non-Original Paint

The upper left corner, in addition to two areas at the lower left corner, and along the two prominent age cracks at the right, have been retouched. The inpainting is well-executed though visible in raking light.

Primary Support

The primary support is a tightly woven tabby weave canvas marouflaged on the plaster wall.

FREEHOLDER'S ROOM (2nd Floor)

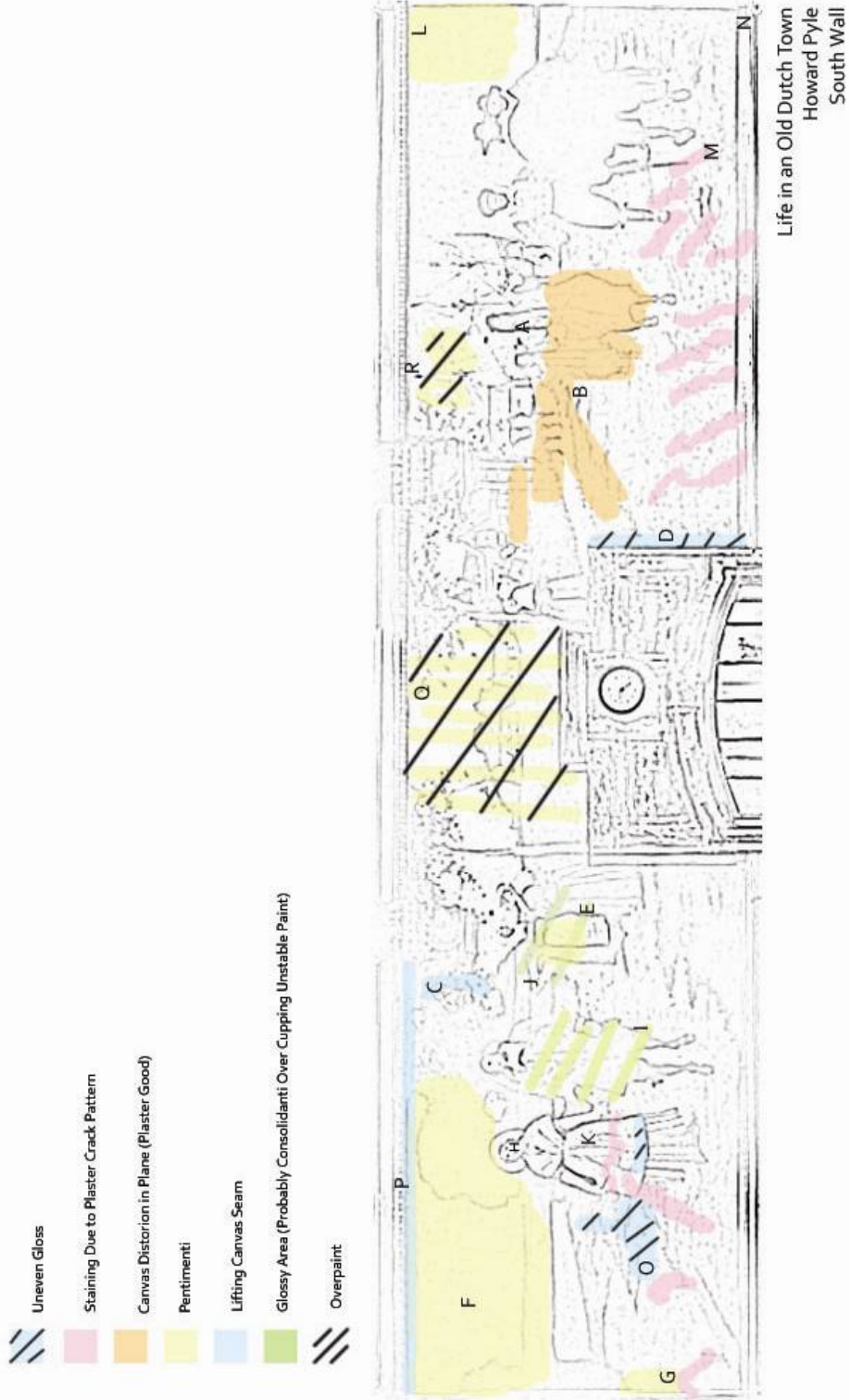
Now the General Equity Court, the Assembly Chamber of the Freeholders was designed with an elaborate English Renaissance ceiling, rich paneled walls of oak, and black veined marble door surrounds. The room is decorated with Howard Pyle's murals, which depict scenes from local history. The murals are displayed as a frieze around the upper walls of the courtroom, divided into three distinct murals. The fourth wall (North), which is interrupted by three windows, displays two scenes depicting an English and a Dutch soldier. The murals' lower horizontal margin is approximately 9'-6" from the floor, above a wood wainscot.

The murals in this room have a history of water damage evidenced by water stains and subsequent inpainting. There has been a fair amount of past intervention; the original varnish has been removed, and an uneven coating was applied to consolidate the paint, saturate abraded paint, and isolate inpainting. The substrate and canvas attachment are sound.

The murals were surveyed from a lift and ladder. Although not all areas of the mural were accessible for tactile examination due to the location of the sconces, steps, and heavy furniture, a reasonable assessment of their condition was possible.

I. "Life in an Old Dutch Town"

Title: **"Life in an Old Dutch Town"**
Artist: Howard Pyle
Date: 1910
Signature: Lower right, in red paint, " Copyright Howard Pyle"
Location: Freeholder's Room, 2nd Floor, South Wall, Architectural Drawing "B"
Subject Matter: Village life depicting Dutch style buildings and colonists
Dimensions: 8'-4" x 33' L, interrupted by 8'-2" door in the center
Date Surveyed: 3/15/20012
Conservator: Gillian Randell



Paint Medium

The paint medium appears to be an oleaginous paint medium. It was applied with a brush with little impasto, mainly worked into the weave.

Condition

Overall the paint appears relatively stable; the isolated exceptions are glossy areas where there is an uneven sheen. This gloss appears to be a varnish or consolidant. There is extensive *pentimenti* on this mural, indicating that the artist changed his design quite significantly. In the upper left quadrant, the artist had originally blocked in a brick house with a window and door that is easily readable when viewed at eye level. There are also other compositional changes in the upper right corner and in the third figure from the left.

Area E: left half, mid-ground, 3rd figure from left, *pentimenti* with very pronounced *impasto*

Area F: upper left quadrant, extensive *pentimenti* of architecture

Areas G: left vertical border, mid-ground, *pentimenti* of male figure (Figure 7)

Area L: upper right corner, *pentimenti*

Area K: lower left, staining emanating from hairline plaster fissures

Area M: lower right, staining emanating from hairline plaster fissure

Varnish Layer

It appears that the original varnish layer has been removed. Solvent tests indicate that there is little or no surface coating in most areas; however, there is an uneven gloss in the lower left foreground that may be either consolidant or residual varnish.

Area I: left side, male figure, glossy sheen possible consolidant over slightly cupping paint

Area J: left side, 2nd female figure from the left, glossy sheen possible consolidant over slightly cupping paint

Area O: left side, mid-ground, uneven gloss, possible consolidant or varnish residue

Non-Original Paint

There appears to be post-historic paint on this mural, specifically in areas that had been previously water stained (center above clock). The *pentimenti* appear to be original.

Primary Support

The primary support is a tabby-weave canvas.

Condition

Overall the canvas appears well attached and in plane. There is evidence of some dimensional changes, possibly responding to water damage or drastic fluctuations in temperature and relative humidity. In some areas the canvas is slightly distorted, it is predominantly in plane but slightly raised along an irregular pattern, like the effect of a quilted fabric. The plaster is sound in these areas.

Area B: right side of mural, mid-ground to the right of the doorway, the canvas appears “quilted”

Area P: upper left horizontal margin, lifting seam

Area C: to the left of left corbel, lifting canvas

Area D: upper horizontal margin, lifting canvas

Secondary Support

The secondary support is probably a traditional three-coat plaster system.

Condition

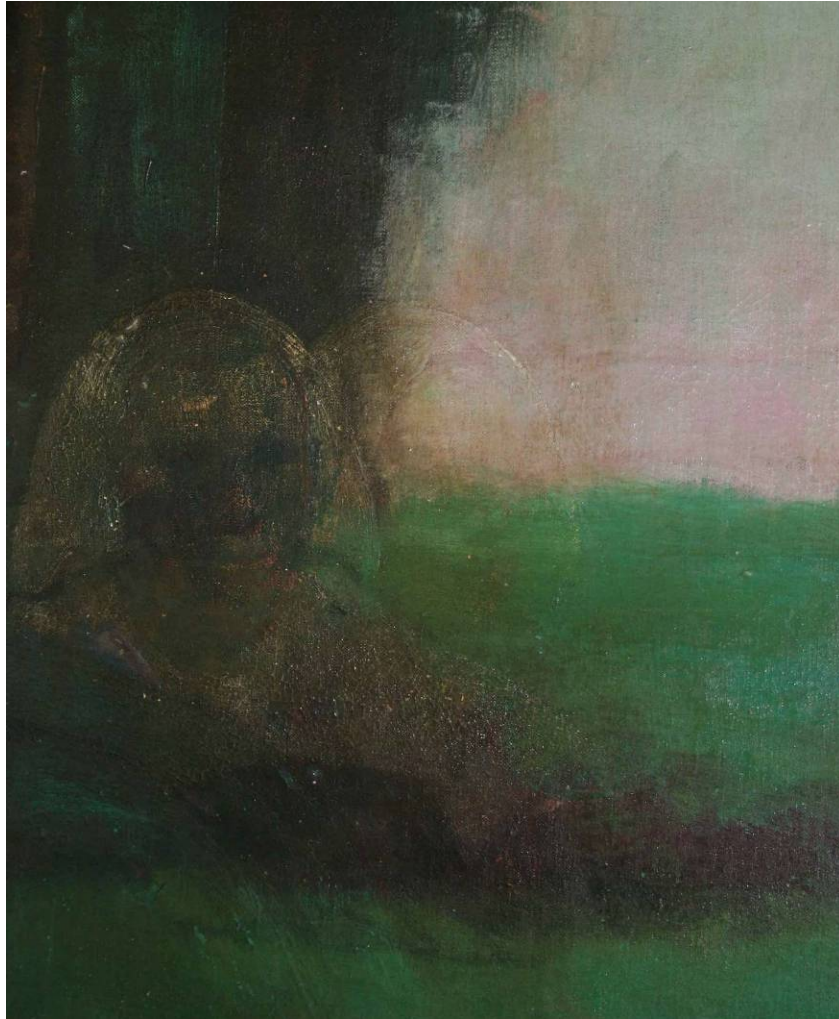
Although the entire surface was not sounded due to limited access, a majority of the surface was assessed. Overall the plaster appears to be stable and in plane. There is some staining on the surface of the canvas, which appears to correlate with hairline plaster fissures. These are stable areas and characteristic of natural settling and aging.

Area K: lower left, staining emanating from hairline plaster fissures

Area M: lower right, staining emanating from hairline plaster fissures



"Life in an Old Dutch Town" Detail of Area E, pentimenti



"Life in an Old Dutch Town" Detail of Area G, pentimenti





Archival photograph (detail) of water damage

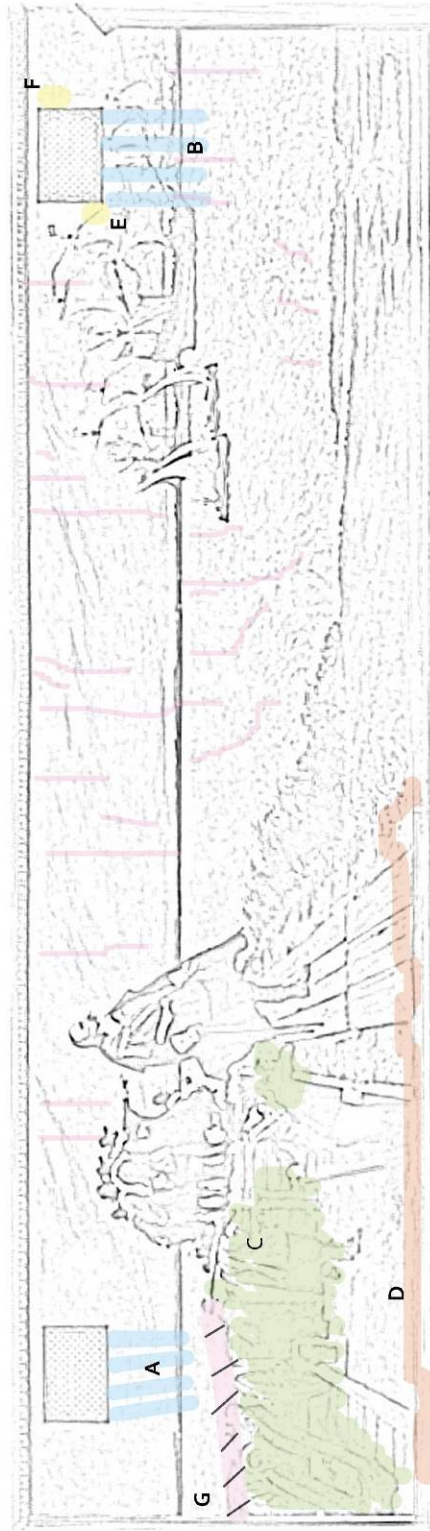


Archival photograph (overall) of water damage

II. *"The Coming of the English"*

Title: *"The Coming of the English"*
Artist: Howard Pyle
Date: 1910
Signature: (None Apparent)
Location: Freeholder's Room, 2nd Fl, West wall
Subject Matter: Peter Stuyvesant observing the English ships from land
Dimensions: 8'-4" H X 35' L
Two air vents located in the upper right and left corners
Date Surveyed: 3/15/20012
Conservator: Gillian Randell

-  Linear Stain due to Plaster Fissures
-  Friable Paint Loss Along Border
-  Pin Point Paint Loss
-  Vertical Staining from Air Vents
-  Glossy Area (Probably Consolidant Over Cupping Unstable Paint)
-  Overpaint



The Coming of the English
Howard Pyle
West Wall

Paint Medium

The paint medium appears to be an oleaginous paint medium. It was applied with a brush, with limited *impasto*.

Condition

Overall the paint appears relatively stable, with isolated exceptions of abraded paint along the lower horizontal border and actively cupping paint on the right side of the mural. There are areas of actively cupping paint that have a glossy sheen, probably due to the topical application of an adhesive. The paint is actively delaminating and requires further stabilization. There is vertical water staining below the two air vents and pinpoint paint loss around them.

Area C: left side of mural, foreground to mid-ground, cupping paint with glossy sheen due to adhesive

Area D: lower horizontal margin, friable paint

Area A: left upper corner, vertical staining from air vent

Area B: right upper corner, vertical staining from air vent

Area E and F: upper right air vent, pinpoint paint loss

Varnish Layer

It appears that the original varnish layer has been removed. There is an uneven gloss in some areas that may be either consolidant or residual varnish. This coating is not easily reversible.

Non-Original Paint

Overall the mural does not seem to be heavily overpainted, though there is non-original paint covering drips and stains below the airvents.

Area G: left mid-ground, area depicting water, behind canon, appears cut-in as if overpainted

Primary Support

The primary support is a tabby-weave canvas.

Condition

Overall the canvas appears well attached and in plane.

Secondary Support

The secondary support is probably a traditional three-coat plaster system.

Condition

Although the entire surface was not sounded due to limited access, a majority of the surface was assessed. Overall the plaster appears to be stable and in plane. There is linear staining

throughout the surface of the canvas, which appears to correlate with hairline plaster fissures. These are stable areas and characteristic of natural settling and aging.



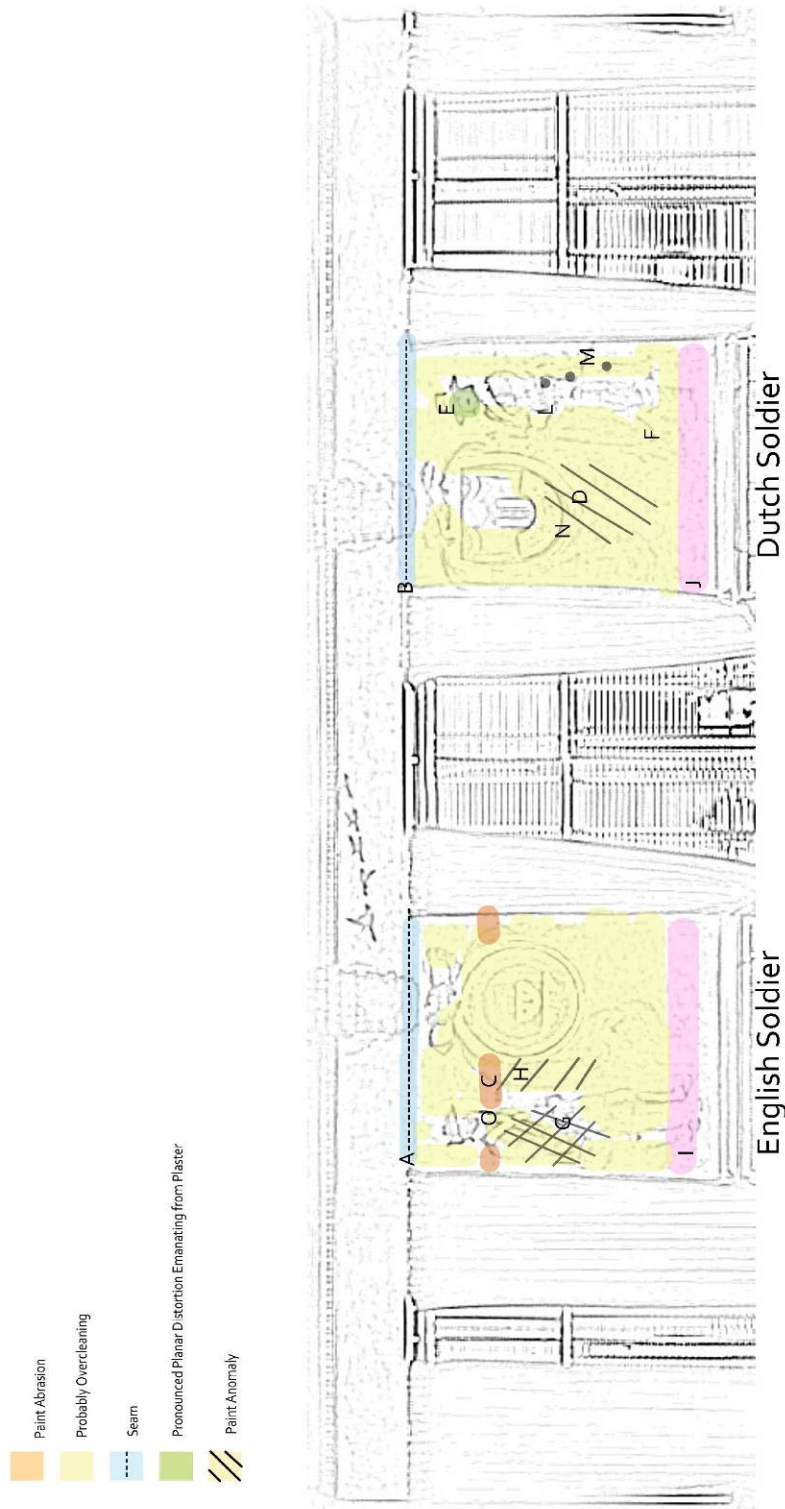
"The Coming of the English" Detail of Area C cupping paint



Archival photograph of Pyle mural (HABS)

III A. "English Soldier"

Title: *"English Soldier"*
Artist: Howard Pyle
Date: 1910
Signature: (None apparent)
Location: Freeholder's Room, 2nd Floor, North Wall, Right side, Architectural Drawing D
Subject Matter: On the left side of the wall, there is a depiction of an English soldier in a red coat.
Dimensions: Wall is 33'L, the windows are 7'-6"W, 8'W, and 7'-6"W from left to right.
Height of mural is 8'-4"H
Date Surveyed: 3/15/20012
Conservator: Gillian Randell



Due to the location of the lights and the steps, it was not possible to have a tactile assessment of the mural or to perform solvent test, cleaning tests or examination with ultraviolet light. There are definite anomalies in the surface, and it appears as if it was over cleaned and abraded at some point. The passages that do not “read” well may be abraded rather than over painted.

Paint Medium

The paint medium appears to be an oleaginous paint medium.

Condition

The surface of this mural is very uneven. There are matte areas and gloss areas, and it appears that this mural was heavily over-cleaned and that some of the paint layer is abraded. It is clear that there is some overpaint along the lower horizontal border. Although the mural has a rough appearance, it appears that the majority of the visual malady is due to over-cleaning rather than overpaint.

Area G: left mid-ground, matte area of paint, abraded or unsaturated area, possible overpaint

Area H: Adjacent to Area G, to the right, an anomaly, possible overpaint or glaze or it is possible area that was not as heavily cleaned as adjacent areas

Area C: horizontal band in mid-ground, paint appears lighter

Varnish Layer

There is an uneven gloss on the mural, probably from a post historic consolidant or varnish layer used to saturate areas of over cleaning.

Condition

Uneven and glossy.

Non-Original Paint

There is non-original paint in the lower horizontal border.

Area I: lower horizontal band, some post-historic inpainting

Primary Support

The primary support is a tabby-weave canvas

Condition

Overall the canvas appears well attached and in plane.

There is some staining on the surface that correlates to hairline fissures in the plaster

Area K: Three vertical hairline fissures in the plaster or canvas

Secondary Support

The secondary support is probably a traditional three-coat plaster system.

Condition

Although the entire surface was not sounded due to limited access the plaster appears to be stable and in plane.



"English Soldier" Detail of Area C paint abrasion

III B. "Dutch Soldier"

Title: "Dutch Soldier"
Artist: Howard Pyle
Date: 1910
Signature: (None apparent)
Location: Freeholder's Room, 2nd Floor, North Wall, Left side, Architectural Drawing E
Subject Matter: On the right side of the wall, there is a depiction of a Dutch soldier.
Dimensions: Wall is 33'L, the windows are 7'-6", 8', and 7'-6" wide from left to right
The height of the mural is 8'-4"
Date Surveyed: 3/15/20012
Conservator: Gillian Randell

Paint Medium

The paint medium appears to be an oleaginous paint medium.

Condition

The surface of this mural is very uneven. There are matte areas and gloss areas, and it appears that this mural was heavily over-cleaned and that some of the paint layer is abraded. It is clear that there is some overpaint along the bottom horizontal border. Although the mural has a rough appearance, it appears that the majority of the visual malady is due to over-cleaning rather than overpaint.

Area D: center mid-ground, paint anomaly, abraded or unsaturated area, possible overpaint

Varnish Layer

There is an uneven gloss on the mural, probably from a post historic consolidant or varnish layer used to saturate areas of over cleaning.

Condition

Uneven glossy in some areas, matte in others.

Non-Original Paint

There is non-original paint in the lower horizontal border.

Area J: lower horizontal band, some post-historic inpainting

Primary Support

The primary support is a tabby-weave canvas.

Condition

Overall the canvas appears well attached and in plane.

There is some staining on the surface that correlates to hairline fissures in the plaster

Area L: right mid-ground, three vertical hairline distortions in canvas

Area N: left mid-ground, vertical linear hairline distortion in canvas

Area M: lower right quadrant, in area depicting cape, circular distortions

Secondary Support

The secondary support is probably a traditional three-coat plaster system.

Condition






Although the entire surface was not sounded due to limited access the plaster appears to be stable and in plane. In Area E, where the canvas is distorted, the plaster is stable behind it.



"English Soldier" detail of Area E canvas distortion

IV. "Hendryk Hudson and the Half-Moon"

Title: "Hendryk Hudson and the Half-Moon"
Artist: Howard Pyle
Date: 1910
Signature: "Copyright 1910
By Howard Pyle" in black paint, lower left corner
Location: Freeholders' Room, 2nd Floor, East Wall, Architectural Drawing C
Subject Matter: Native Americans canoeing out to Hudson's Half-Moon on the Hudson
River
Dimensions: 8'-4"H x 35' L
Two air vents in the upper right and left corners
Date Surveyed: 3/15/20012
Conservator: Gillian Randell

-  Pin Point Paint Loss
-  Linear Stains due to Plaster Fissure
-  Overpaint
-  Vertical Staining
-  Seams



Henry Hudson and the Half-Moon
Howard Pyle
East Wall

Paint Medium

The paint medium appears to be an oleaginous paint medium.

Condition

Overall the paint appears relatively stable, with isolated exceptions of pinpoint paint loss and some water staining.

Area A: upper left quadrant, vertical water stains directly below air vent

Area B: upper right quadrant, vertical water stains directly below air vent

Area C: center mid-ground, right, pinpoint paint loss in area depicting a canoe paddle

Area E: upper left quadrant, pinpoint paint loss below air vent

Area F: upper right quadrant, pinpoint paint loss below air vent

Varnish Layer

There does not appear to be an original varnish layer intact on this mural. However, there is an uneven sheen, probably varnish or adhesive used as a consolidant in some areas.

Condition

There is an uneven gloss across the surface.

Non-Original Paint

There is non-original paint on this mural, covering drips below the air vents and relatively large passages covering thin linear stains.

Primary Support

The primary support is a tabby weave canvas.

Condition

Overall the canvas appears well attached and in plane.

Secondary Support

The secondary support is probably a traditional three-coat plaster system.

Condition

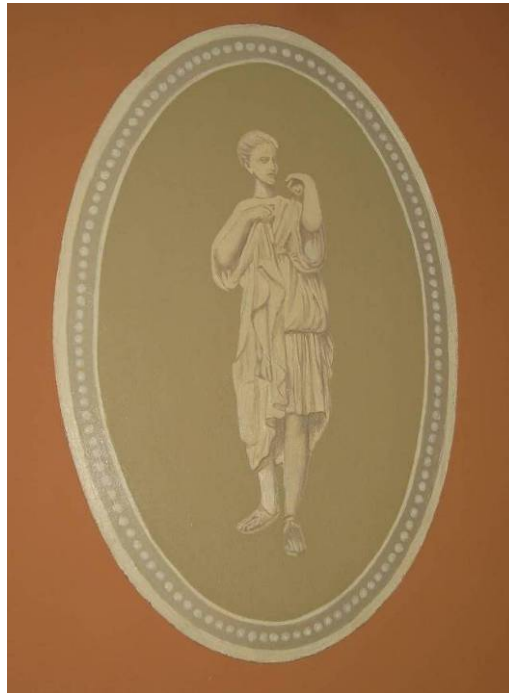
Although the entire surface was not sounded due to limited access the plaster appears to be stable and in plane. There are vertical crack patterns that have stained the canvas, emanating from hairline fissures in the plaster; however, these appear to be stable.



"Hendryk Hudson and the Half-Moon" Detail of water stains and paint loss

THIRD FLOOR CORRIDOR

Four heavily restored medallions of Greek figures are all that remain of a series painted by Millet. Originally the series of figures embellished the walls above the marble wainscoting. Three of the medallions (two on the north elevation, one at the southeast) are in good condition, while the medallion at the southwest is in good condition but not original. The southwest medallion is not painted on canvas like the other three but is instead painted directly on the plaster substrate.



Title: (Untitled)
Artist: Francis Davis Millet
Date: 1910
Signature: (None Apparent)
Location: 3rd Floor, North and South walls
Subject Matter: Medallion featuring Greek figure on a solid background
Dimensions: 15"H x 10"W
5'-0" from ground to lower margin
Date Surveyed: 3/15/2012
Conservator: Amanda Stauffer

Paint Medium

Appears to be an oleaginous paint medium. The paint was applied with a brush. There are some limited visible brushstrokes.

Condition

Overall the paint appears stable and in good condition.

Varnish Layer

The surface coating appears to be a non-original semi-glossy varnish. It is applied over post-historic inpainting in an even application.

Condition

The varnish is in good condition.

Non-Original Paint

It appears that most of the background field has been over-painted on each medallion (likely during the 1975-85 restoration). Areas of the medallions' decorative borders also display a fair amount of inpainting that is well executed. Localized areas of pinpoint damage have been inpainted as well.

Primary Support

The primary support of the medallion is tightly woven tabby weave canvas, which is marouflaged onto the plaster substrate.

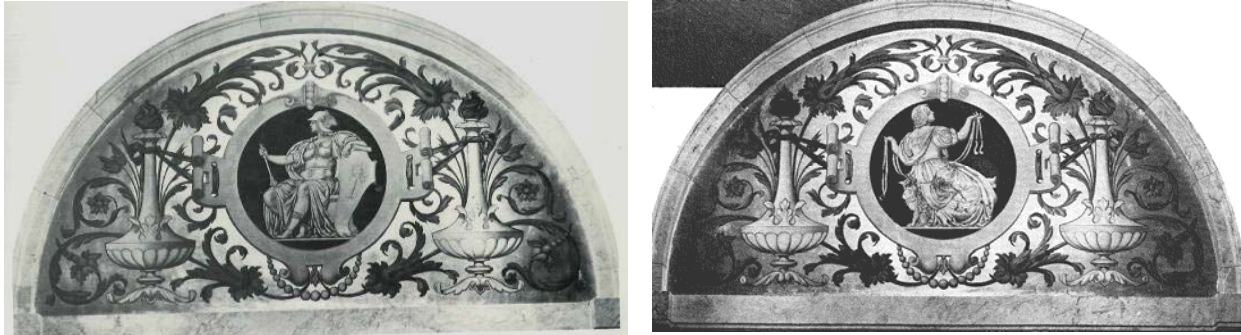
Condition

The canvas appears well adhered to the plaster and in plane.

FOURTH FLOOR CORRIDOR

Small Lunettes

Kenyon Cox painted the eight (8) small lunettes and groined ceilings at the corners of the 4th floor, of which only four (4) survive on display¹. "Courage," "Moderation," "Wisdom" and "Learning" are missing. A fifth is severely damaged and in storage, the other three are missing.²



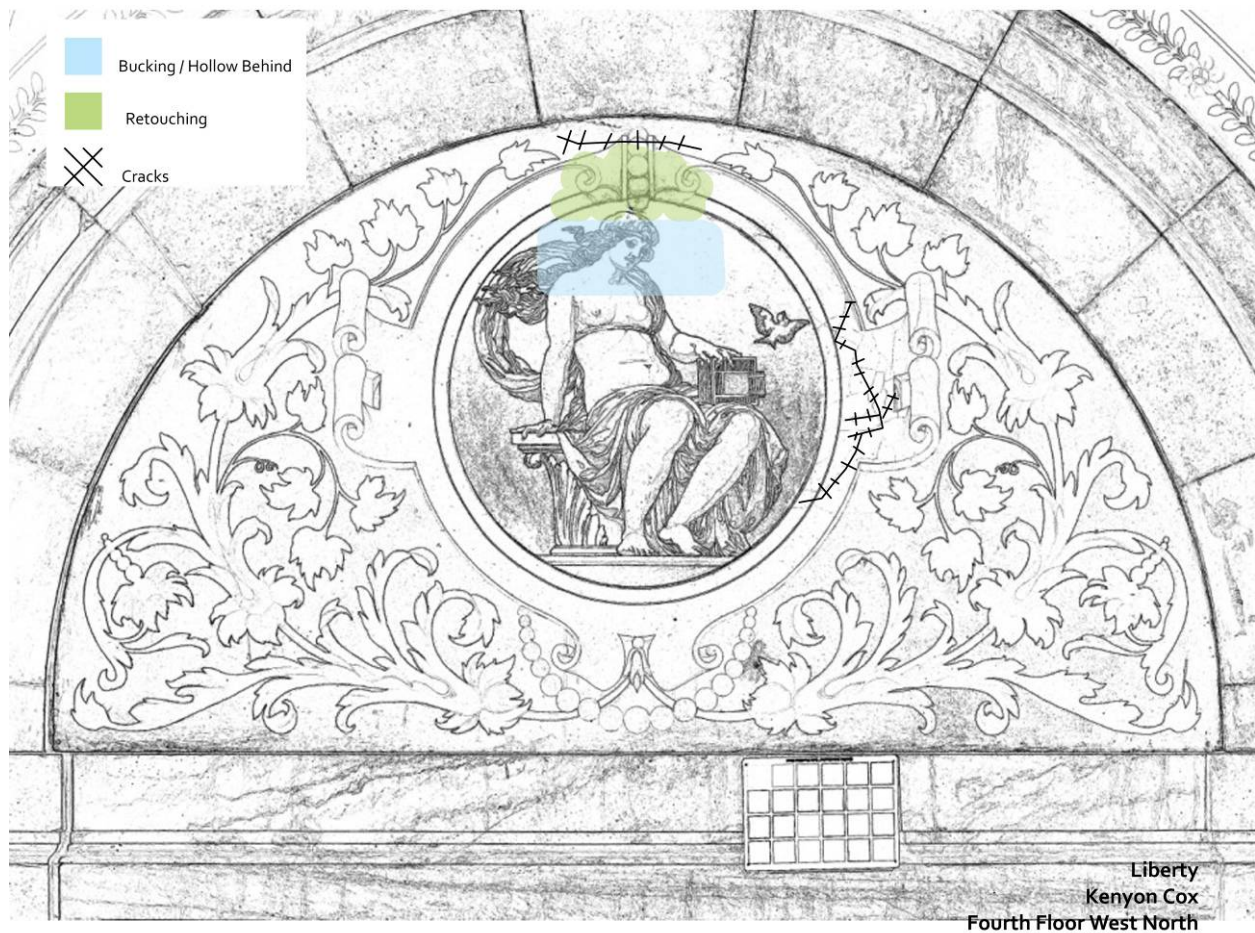
Two of Cox's missing lunettes, "Courage" (left) and "Moderation" (right)

The heaviest water damage occurs in the southeast corner groin vault. Here, the paint and plaster surfaces are riddled with cracks, peeling and blistering paint, and surface staining. Water and plaster damage are also apparent at the large arched vaults over the mural of the adjacent area.

¹ Comparison of archival images indicates that the four surviving original lunettes are *Justice* and *Rectitude* in the northeast corner, and *Liberty* and *Law* in the southeast corner.

² Helena Ruman Architects. Preservation Plan (2004), p. 47.

Title: "Liberty"
Artist: Copy of Kenyon Cox
Date: Post-historic³
Signature: None
Location: Fourth Floor, Northwest corner, noted as "K" on drawings
Date Surveyed: 3/27/20012
Conservator: Amanda Stauffer
Subject Matter: Allegorical
Dimensions: 8'-10.5"L x 4'-7"H
Lower horizontal margin is 10'-3" from the floor.



³ According to archival photographs, Cox's lunette "Wisdom" originally adorned location "K"

Paint Medium

Appears to be an oleaginous paint medium. The paint was applied with a brush. There are some limited visible brushstrokes, particularly in the bronze powder painted background.

Condition

Overall the paint appears relatively stable, with isolated exceptions of discoloration in the bronze powder paint, which has oxidized at areas stained by water drips.

Varnish Layer

The surface coating appears to be a non-original semi-glossy varnish. It is applied over post-historic inpainting in an even application.

Condition

The varnish is in good condition.

Non-Original Paint

On Canvas: The upper edge of the medallion's decorative border displays a fair amount of inpainting that is well executed, visible only in ultraviolet light. Localized areas of pinpoint damage have also been inpainted.

On Plaster: It appears that all of the paint on plaster is not original. Pinprick looks under the field microscope confirm that no evidence of earlier finishes survives; additionally, the foliated motif differs from that of 6 of the lunettes on this floor, which all display urns (G, H, I, J, L, M)

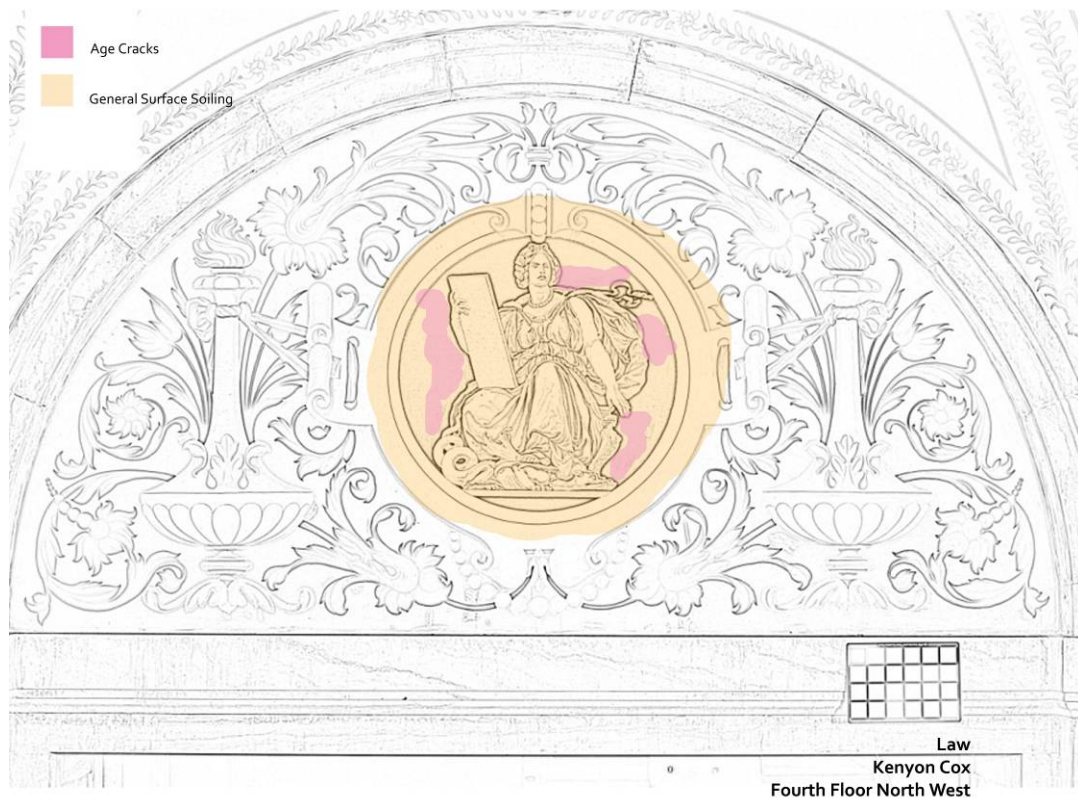
Primary Support

The primary support of the medallion is tightly woven tabby weave canvas marouflaged on the plaster, while the remainder of the lunette is painted on plaster. The canvas is likely attached with lead paste adhesive.

Condition

The canvas appears well adhered to the plaster and in plane. A network of cracks, including several prominent cracks, appear in the plaster directly to the right of the canvas. A large crack runs through the plaster above the medallion, directly above an area that sounds hollow and may be structurally compromised behind the canvas. The fact that this area has been heavily retouched suggests that it may have been previously damaged by water infiltration.

Title: "Law"
Artist: Copy of Kenyon Cox
Date: Post-historic ⁴
Signature: None
Location: Fourth Floor, Northwest corner, noted as "L" on drawings
Date Surveyed: 3/27/20012
Conservator: Amanda Stauffer
Subject Matter: Allegorical
Dimensions: 8'-10.5"L x 4'-7"H
Lower horizontal margin is 10'-3" from the floor.



Paint Medium

Appears to be an oleaginous paint medium. The paint was applied with a brush.

Condition

Overall the paint appears relatively stable, with isolated exceptions of discoloration in the bronze powder paint, which has oxidized at areas stained by water drips. The surface of the medallion exhibits minor craquelure - both age and drying cracks - particularly in the dark

⁴ According to archival photographs, Cox's lunette "Learning" originally adorned location "L"

background field to both the right and left of the seated figure. The surface of both the medallion and the surround are relatively soiled.

Varnish Layer

The surface coating appears to be a non-original semi-glossy varnish. It is applied over post-historic inpainting in an even application.

Condition

The varnish is in good condition.

Non-Original Paint

On Canvas: The medallion border displays a fair amount of inpainting that is well executed, visible only in ultraviolet light. Areas of craquelure have also been inpainted.

On Plaster: It appears that all of the paint on plaster is not original. Pinprick looks under the field microscope confirm that no evidence of earlier finishes survives.

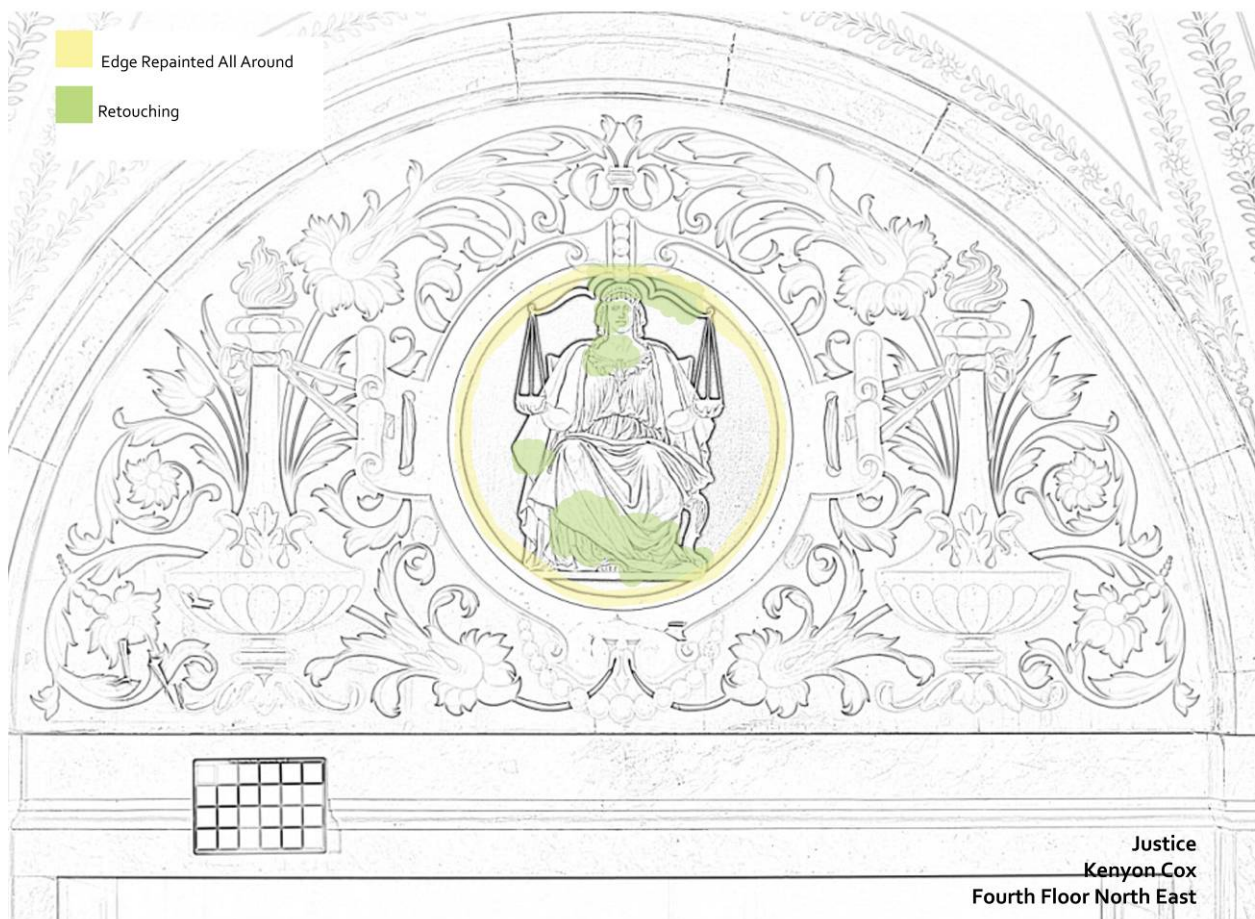
Primary Support

The primary support of the medallion is canvas marouflaged on the plaster, while the remainder of the lunette is painted on plaster. The canvas is probably attached with lead paste adhesive.

Condition

The canvas appears well adhered to the plaster and in plane.

Title: "Justice"
Artist: Kenyon Cox
Date: c. 1910 (central medallion); unknown (metallic field & foliated motifs)
Signature: None
Location: Fourth Floor, Northeast corner, noted as "M" on drawings
Date Surveyed: 3/27/20012
Conservator: Amanda Stauffer
Subject Matter: Allegorical
Dimensions: 8'-10.5"L x 4'-7"H
Lower horizontal margin is 10'-3" from the floor.



Paint Medium

Appears to be an oleaginous paint medium. The paint was applied with a brush.

Condition

Overall the paint appears relatively stable and lightly soiled across the surface.

Varnish Layer

The surface coating appears to be a non-original semi-glossy varnish. It is applied over post-historic inpainting in an even application.

Condition

The varnish is in good condition.

Non-Original Paint

On Canvas: The outer ½" edge of the medallion appears to have been entirely overpainted.

The central figure has a fair amount of inpainting, concentrated at the bottom of the woman's robe and chair as well as around her head and neck. All of the inpainting is well executed, visible only in ultraviolet light.

On Plaster: It appears that all of the paint on plaster is not original. Pinprick looks under the field microscope confirm that no evidence of earlier finishes survives.

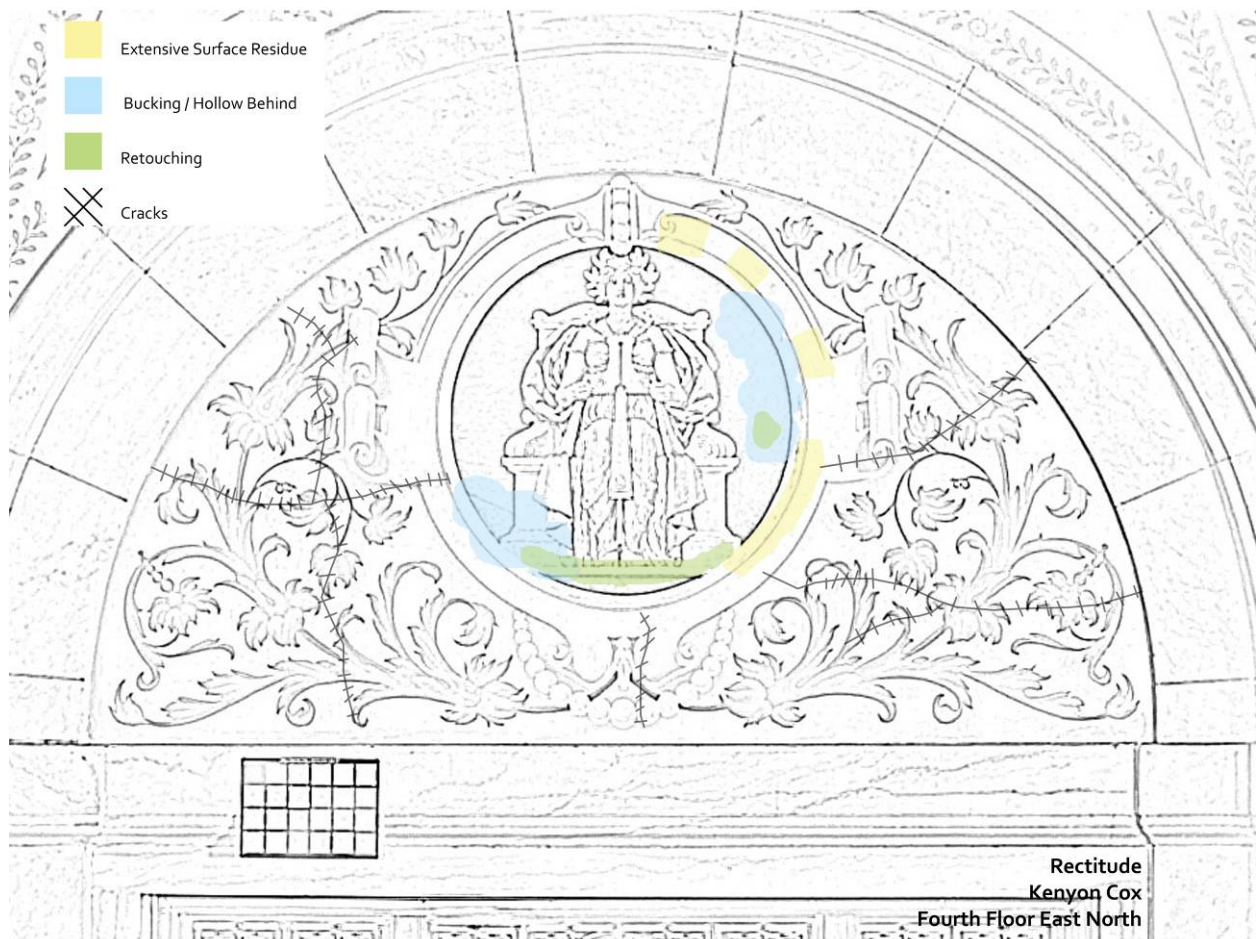
Primary Support

The primary support of the medallion is canvas marouflaged on the plaster, while the remainder of the lunette is painted on plaster. The canvas is probably attached with lead paste adhesive.

Condition

The canvas appears well adhered to the plaster and in plane.

Title: "Rectitude"
Artist: Kenyon Cox
Date: c. 1910 (central medallion); unknown (metallic field & foliated motifs)
Signature: None
Location: Fourth Floor, Northeast corner, noted as "N" on drawings
Date Surveyed: 3/27/20012
Conservator: Amanda Stauffer
Subject Matter: Allegorical
Dimensions: 8'-10.5"L x 4'-7"H
Lower horizontal margin is 10'-3" from the floor.



Paint Medium

Appears to be an oleaginous paint medium. The paint was applied with a brush.

Condition

Overall the paint appears relatively stable, although the surface is coated with heavy residue, particularly along the lower and right decorative border surrounding the medallion. The paint is cracking at the lower left and upper right edges of the medallion.

Varnish Layer

The surface coating appears to be a non-original semi-glossy varnish. It is applied over post-historic inpainting in an even application.

Condition

The varnish is in good condition

Non-Original Paint

On Canvas: The lower edge and the upper right area of the medallion are localized areas of inpainting that areas that are well executed, visible only in ultraviolet light.

On Plaster: It appears that all of the paint on plaster is not original. Pinprick looks under the field microscope confirm that no evidence of earlier finishes survives.

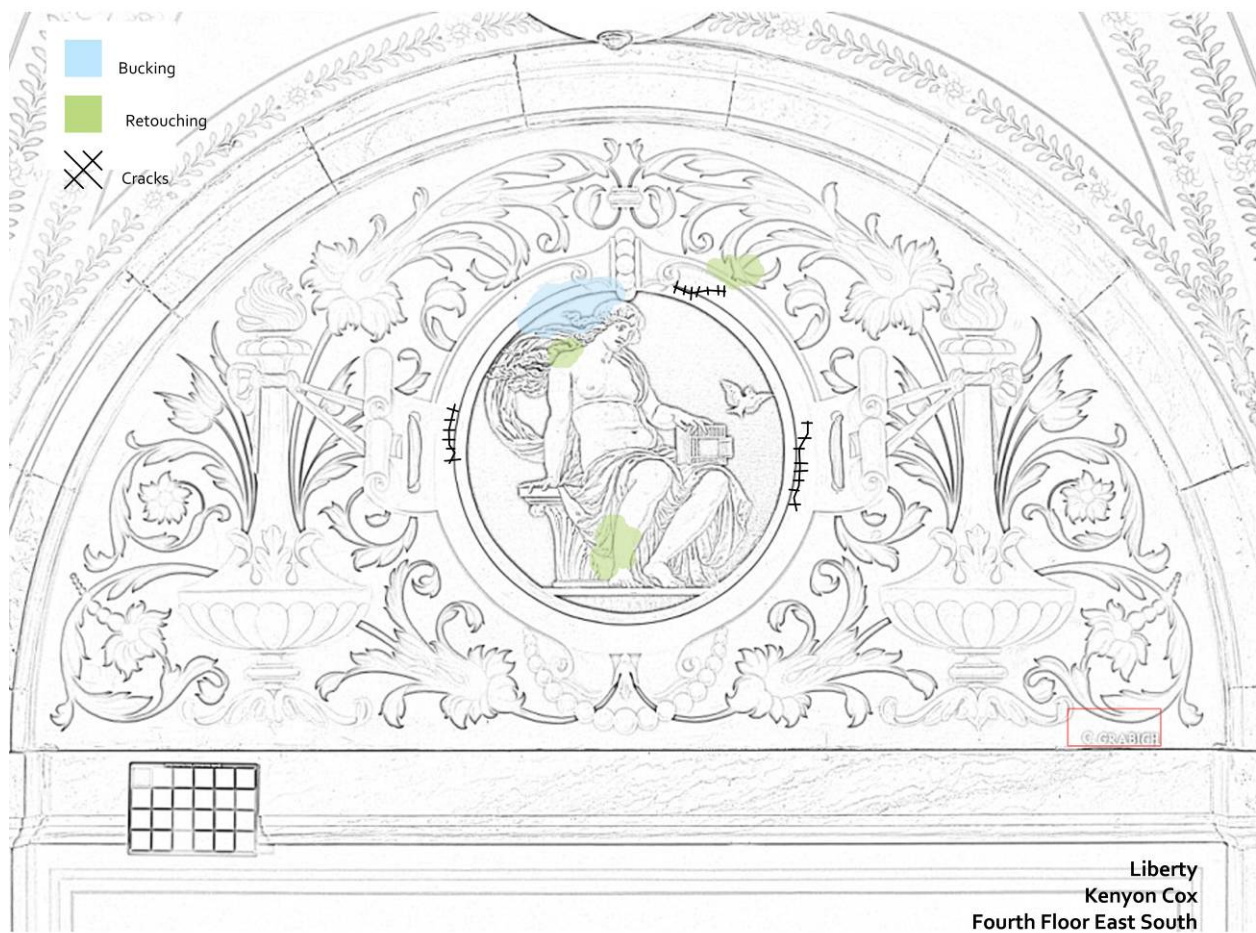
Primary Support

The primary support of the medallion is canvas marouflaged on the plaster, while the remainder of the lunette is painted on plaster.

Condition

The canvas is distorted and detached at the lower left edge and the upper right edge, in the same areas where the paint layer is cracking. Several prominent cracks span the plaster in both the horizontal and vertical directions to the right of the canvas.

Title: "Liberty"
Artist: Kenyon Cox
Date: c. 1910 (central medallion); unknown (metallic field & foliated motifs)
Signature: G. GRABICH (metallic field & foliated motifs)
Location: Fourth Floor, Southeast corner, noted as "G" on drawings
Date Surveyed: 3/27/20012
Conservator: Amanda Stauffer
Subject Matter: Allegorical
Dimensions: 8'-10.5"L x 4'-7"H
Lower horizontal margin is 10'-3" from the floor.



Paint Medium

Appears to be an oleaginous paint medium, more thinly applied than in other lunettes on the fourth floor. The blue background of the medallion is applied in a thin layer above a burgundy base color. The paint was applied with a brush.

Condition

Overall the paint appears relatively stable, with minor cracks at the left and right edges of the medallion. The surface is mildly soiled overall.

Varnish Layer

The surface coating appears to be a non-original semi-glossy varnish. It is applied over post-historic inpainting in an even application.

Condition

The varnish is in good condition

Non-Original Paint

On Canvas: Minor areas of retouching at the figure's right ankle and right shoulder are well executed, visible only in ultraviolet light. The background of the medallion, however, appears to be cut in to the left of the figure.

On Plaster: Minor retouching was noted to the upper right of the medallion. However, pinprick looks under the microscope suggest not only that all of the paint on plaster is not original, but that it post-dates the other seven lunettes (this is based on the unique signature found only on this lunette).

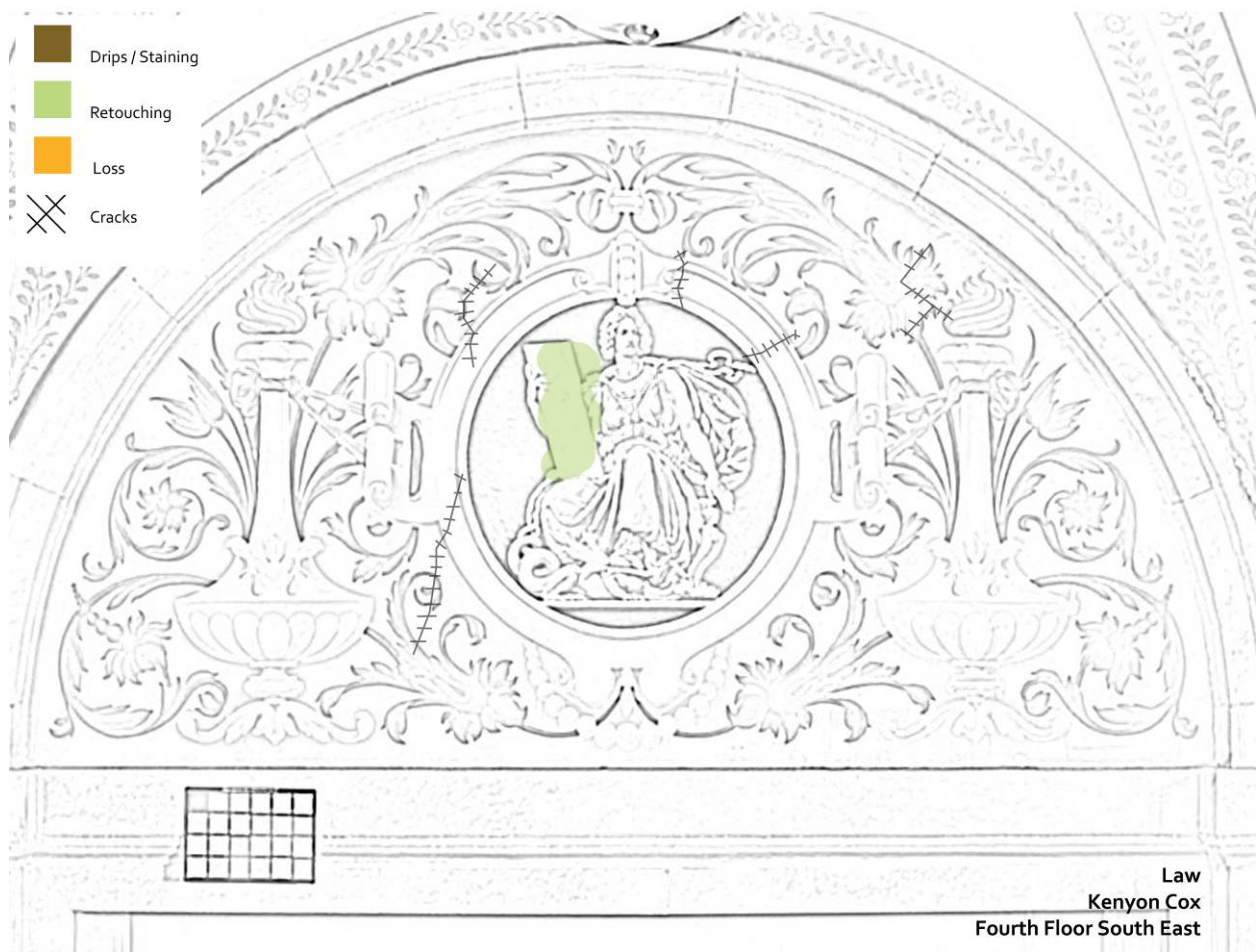
Primary Support

The primary support of the medallion is canvas, while the remainder of the lunette is painted on plaster. The canvas is flush with the plaster, whereas at all other lunettes on this floor, it stands proud of the plaster support.

Condition

A small crack runs along the top left of the medallion, directly above an area that sounds hollow and may be structurally compromised behind the canvas. The fact that this area has been heavily reworked suggests that it may have been previously damaged by water infiltration.

Title: "Law"
Artist: Kenyon Cox
Date: c. 1910 (central medallion); unknown (metallic field & foliated motifs)
Signature: None
Location: Fourth Floor, Southeast corner, noted as "H" on drawings
Date Surveyed: 3/27/20012
Conservator: Amanda Stauffer
Subject Matter: Allegorical
Dimensions: 8'-10.5"L x 4'-7"H
Lower horizontal margin is 10'-3" from the floor.



Paint Medium

Appears to be an oleaginous paint medium. The paint was applied with a brush.

Condition

Overall the paint appears relatively stable, with isolated exceptions of discoloration in the bronze powder paint, which has oxidized at areas stained by water drips.

Varnish Layer

The surface coating appears to be a non-original semi-glossy varnish. It is applied over post-historic inpainting in an even application.

Condition

The varnish is in good condition

Non-Original Paint

On Canvas: The tablet that the figure holds displays a fair amount of inpainting that is well executed, visible only in ultraviolet light.

On Plaster: It appears that all of the paint on plaster is not original. Pinprick looks under the field microscope confirm that no evidence of earlier finishes survives.

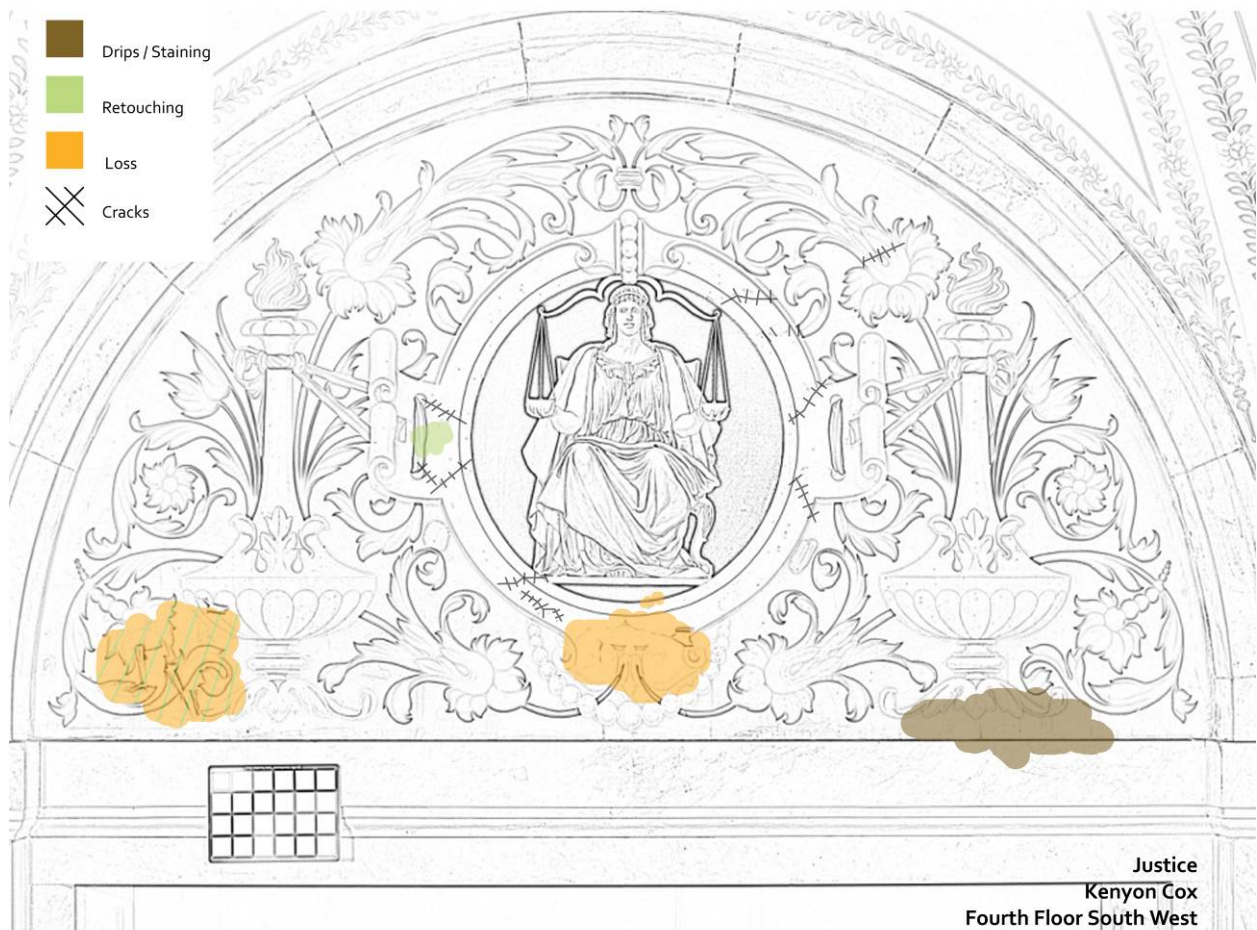
Primary Support

The primary support of the medallion is canvas marouflaged on the plaster, while the remainder of the lunette is painted on plaster.

Condition

The canvas appears well adhered to the plaster and in plane. Several prominent cracks appear in the plaster, the majority of which radiate out from the medallion. A large crack runs through the plaster to the upper right of the lunette as well. The fact that the plaster has been entirely repainted, combined with the fact that the vaults in this area are the most severely water damaged, suggests that it may have been previously damaged by water infiltration.

Title: "Justice"
Artist: Copy of Kenyon Cox
Date: Post-Historic
Signature: None
Location: Fourth Floor, Southwest corner, noted as "1" on drawings
Date Surveyed: 3/27/20012
Conservator: Amanda Stauffer
Subject Matter: Allegorical
Dimensions: 8'-10.5"L x 4'-7"H
Lower horizontal margin is 10'-3" from the floor.



Paint Medium

Appears to be an oleaginous paint medium. The paint was applied with a brush.

Condition

The paint surface is moderately soiled overall. Water drips and staining have eroded and/or oxidized the bronze powder paint in several locations, and there are large areas of paint loss

and delamination at the lower left and central left areas of the lunette. There is one localized area of flaking paint above the figure's head.

Varnish Layer

The surface coating appears to be a non-original semi-glossy varnish. It is applied over post-historic inpainting in an even application.

Condition

The varnish is in good condition

Non-Original Paint

On Canvas: Localized areas of pinpoint damage have also been inpainted.

On Plaster: It appears that all of the paint on plaster is not original. Pinprick looks under the field microscope confirm that no evidence of earlier finishes survives. The left border of the medallion has been overpainted.

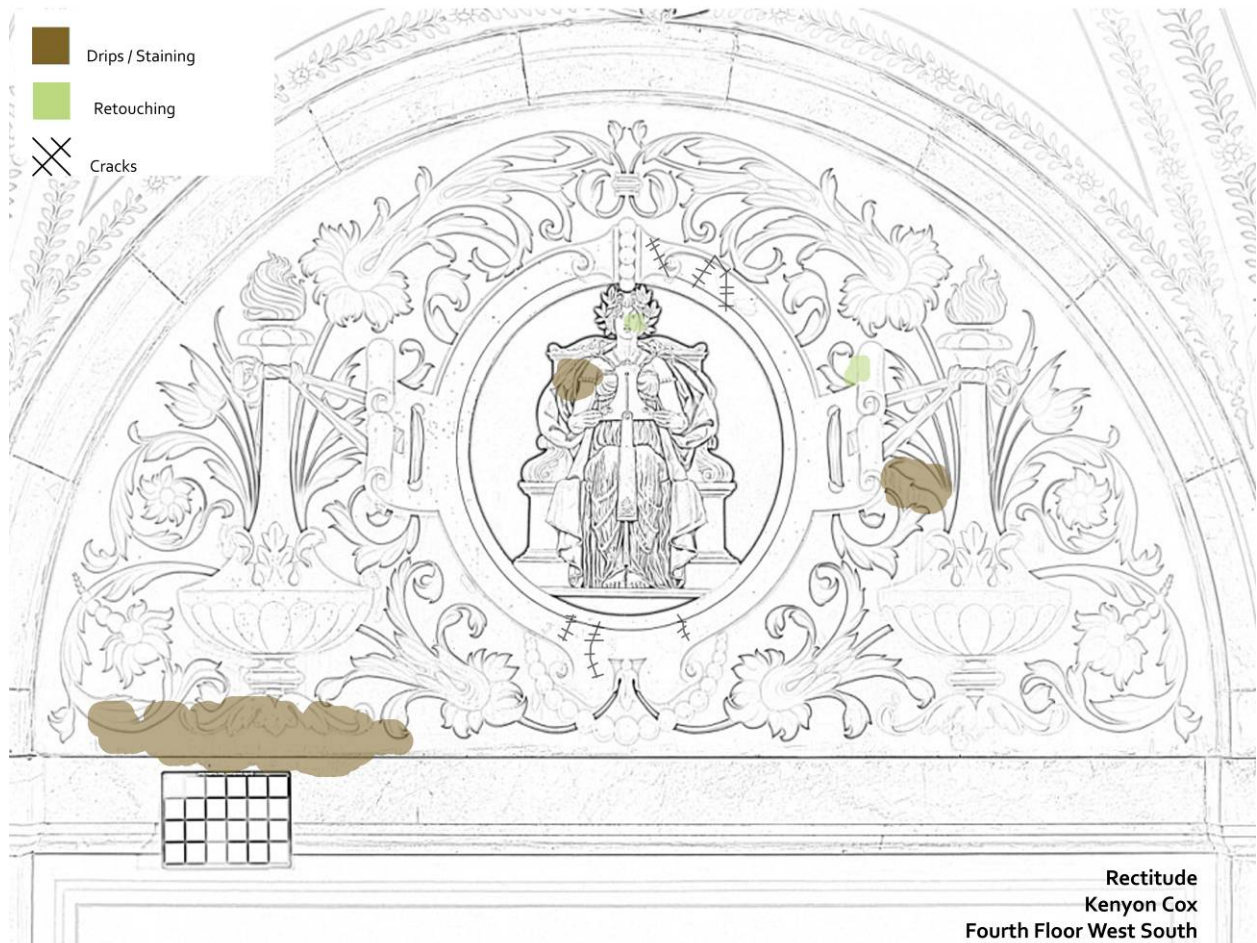
Primary Support

The primary support of the medallion is canvas, while the remainder of the lunette is painted on plaster. The canvas is probably attached with lead paste adhesive.

Condition

The canvas appears well adhered to the plaster and in plane. A network of cracks appears in the plaster, radiating out from the canvas. All the cracks were sounded and appear stable.

Title: "Rectitude"
Artist: Copy of Kenyon Cox
Date: Post-historic
Signature: None
Location: Fourth Floor, Southwest corner, noted as "J" on drawings
Date Surveyed: 3/27/20012
Conservator: Amanda Stauffer
Subject Matter: Allegorical
Dimensions: 8'-10.5"L x 4'-7"H
Lower horizontal margin is 10'-3" from the floor.



Paint Medium

Appears to be an oleaginous paint medium. The paint was applied with a brush.

Condition

Overall the paint appears relatively stable, with isolated exceptions of discoloration in the bronze powder paint, which has oxidized at areas stained by water drips, particularly at the

lower left corner. Soiling and various accretions are discernable across the surface of both the painted canvas and plaster surfaces.

Varnish Layer

The surface coating appears to be a non-original semi-glossy varnish. It is applied over post-historic inpainting in an even application.

Condition

The varnish is in good condition

Non-Original Paint

On Canvas: The right side of the figure's face has been retouched, though the treatment is well-executed and visible primarily in UV light.

On Plaster: It appears that all of the paint on plaster is not original. Pinprick looks under the field microscope confirm that no evidence of earlier finishes survives.

Primary Support

The primary support of the medallion is canvas marouflaged on plaster, while the remainder of the lunette is painted on plaster.

Condition

The canvas appears well adhered to the plaster and in plane. Several small cracks at the upper border and lower border of the medallion are stable.

Large Lunettes

Charles Yardley Turner and Francis Davis Millet each painted two of the four murals in 1911 oriented East/West and North/South, respectively. Millet's are darker in tone, with somber foliage, while Turner's are relatively brighter in palette. The lunettes were examined from the ground, a one-person genie lift, and with binoculars. Sounding tests were executed in accessible areas to determine the stability of the plaster and to assess planar distortions. Discrete cleaning tests were executed on all four murals to determine the feasibility of cleaning and varnish removal.

Overall the murals are well attached to the plaster substrate, with some localized areas of canvas detachment and small isolated areas of planar distortion emanating from the plaster. The murals are soiled and will benefit from surface cleaning. According to archival records, Turner was "troubled by the lightness of [his canvases] tone. In order to darken them, he coated them with a wax varnish."⁵ However, it appears that the presentation layer is a modern synthetic varnish; an original natural resin varnish does not appear to be extant. Although the paint appears to be well prepared and applied, the canvas and paint layer are quite desiccated, probably as a result of the extreme environmental conditions when the building was not in use. The paint layer is not solvent sensitive, but removal of the current protective layer may result in minimal paint loss.



Francis Davis Millet in his studio with assistants

⁵ Helena Ruman Architects. Preservation Plan (2004), p. 49.

I. "General Washington at Fort Lee, November 16, 1776 Watching the Assault upon Fort Washington"

Title: "General Washington at Fort Lee, November 16, 1776 Watching the Assault upon Fort Washington"

Artist: Charles Yardley Turner

Date: 1911

Signature: " 19©11
C-Y-TURNER"

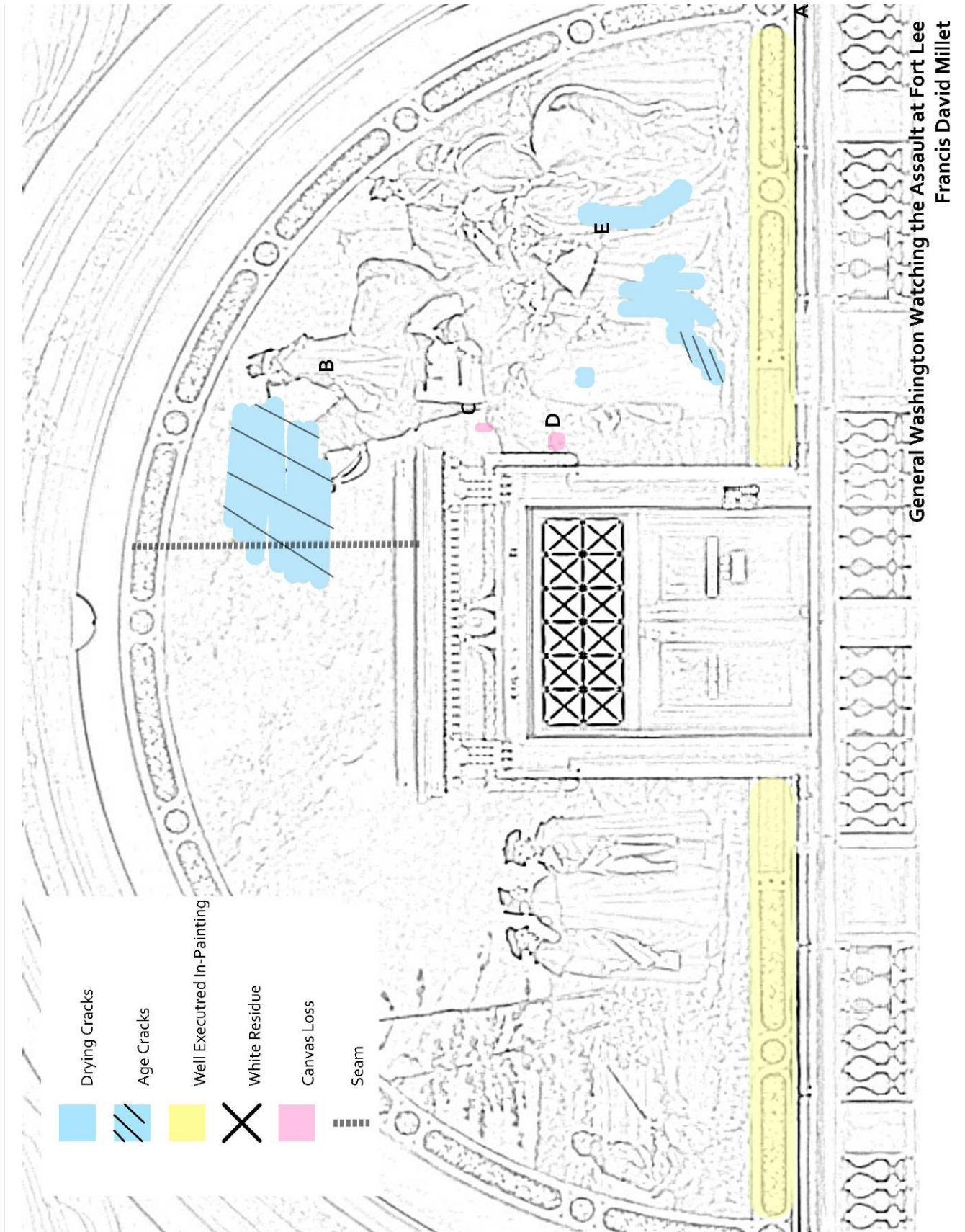
Location: Fourth Floor, East Wall, noted as "A" on architect's drawings

Subject Matter: General Washington on horseback, observing Fort Washington with a scope across the Hudson River from Fort Lee.

Dimensions: Lower horizontal margin is 42" from the floor.
15'H from floor to doorway lintel
8'H from doorway lintel, right corner to top of arch
Vertical seams above doorway
Span of lower horizontal margin is 36'-9"; both lengths on either side of the doorway are 14".
Outer border is 16.5"W

Date Surveyed: 3/15/20012

Conservator: Gillian Randell



General Washington Watching the Assault at Fort Lee
Francis David Millet

Paint Medium

The paint medium appears to be an oleaginous paint medium. It was applied with a brush, with relatively freer brushstrokes than Millet's two adjacent murals. There are some limited visible brushstrokes and *impasto*, as seen in the soldier's cravat, lower right. The paint is predominantly applied in an opaque palette (Figure 1.)

Condition

Overall the paint appears relatively stable, with isolated exceptions of abraded paint in the lower horizontal border and areas of age cracking, drying cracks, and pinpoint paint loss.

Area B: upper right quadrant surrounding General Washington, age cracks in the background and resulting paint loss

Area E: lower right quadrant, age cracking and drying cracks, especially in the reddish brown passages

Varnish Layer

The surface coating appears to be a non-original semi-glossy varnish. It is evenly applied and saturates the mural. There does not appear to be any extant original varnish.

Condition

The varnish is in good condition.

Non-Original Paint

The lower horizontal decorative border has a fair amount of inpainting that is well executed, visible only in ultraviolet light. This area has more abrasion and pinpoint paint loss due to the location, affected by pedestrian traffic and cleaning of the brass railing.

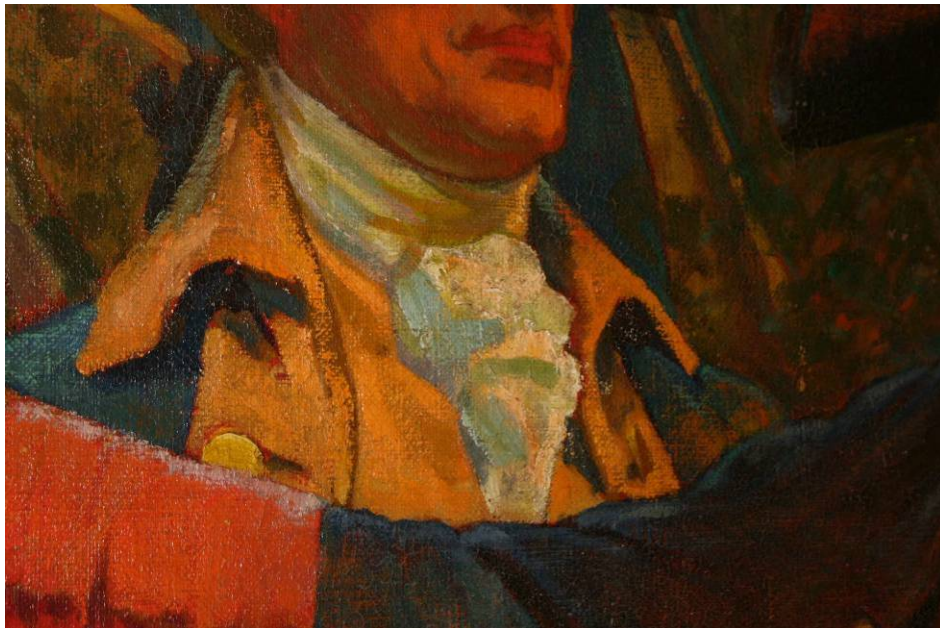


Figure 1. "General Washington at Fort Lee..." Detail of impasto, heavy brush strokes

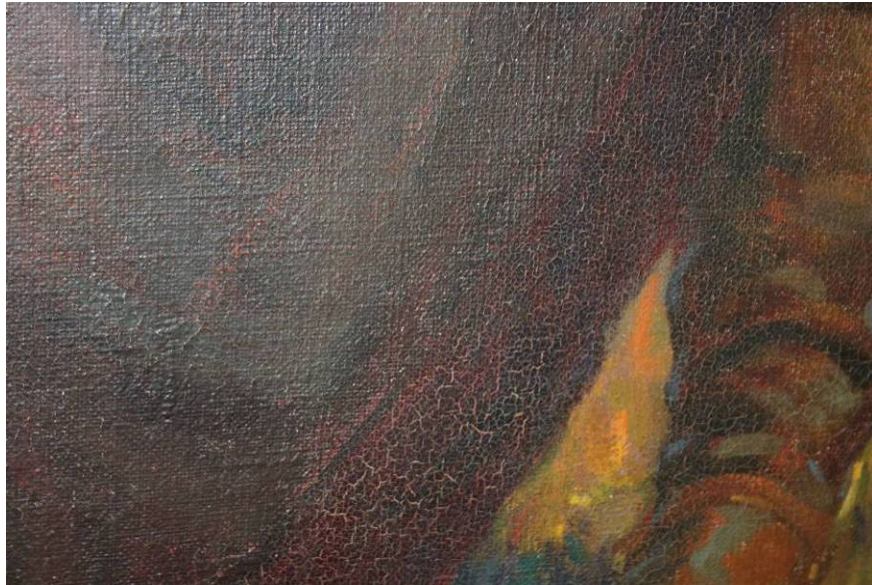


Figure 2. "General Washington at Fort Lee..." Detail of drying cracks

Primary Support

The primary support is a tabby weave canvas with a less pronounced texture than the Millet murals. The mural is attached with lead paste adhesive, tested where there is a small loss on the right corner. The composition of the mural is executed on several pieces of canvas; two large pieces abut vertically above the doorway on the right side.

Condition

Overall the canvas appears well attached and in plane. In the lower right corner, there is a small area where the border is torn and a small section of canvas is no longer extant, approximately 4.5" x 1". The exposed canvas appears darkened and desiccated. The adhesive tested positive for lead. The area exposed by the loss is an underlying canvas; the walls were possibly prepared with canvas and flat painted, prior to the installation of the murals in 1911. This underlying canvas is a tighter smaller tabby weave, possibly cotton or linen. (Figure 3.)

Area A: lower right corner, small loss of canvas

Area C: lower right quadrant, right of door, nickel-sized loss

Area D: lower right quadrant, right of door, nickel-sized loss

Secondary Support

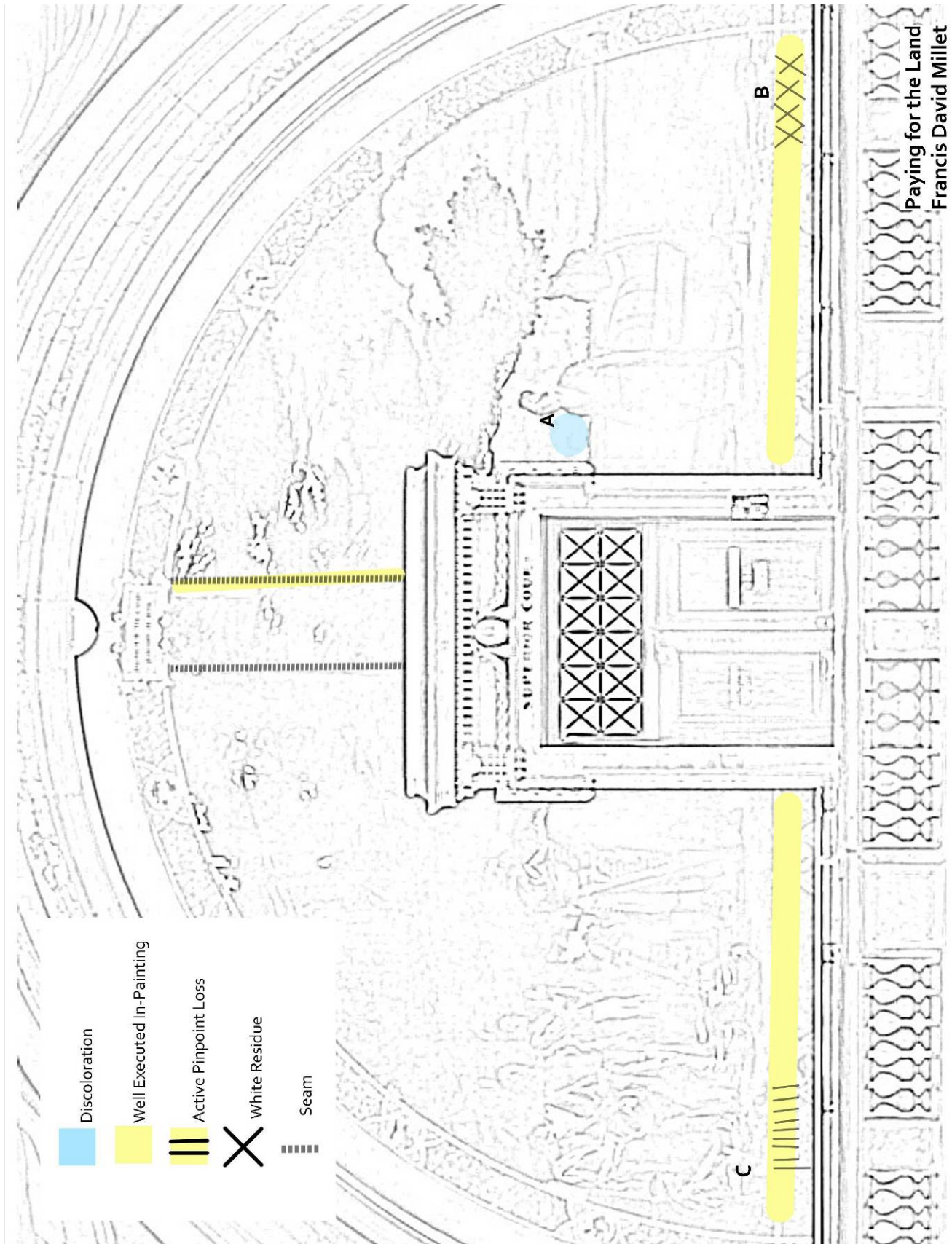
The mural is attached to the plaster substrate, which is probably a traditional three-coat plaster system. Limited sounding tests indicate that the plaster is stable with no obvious distortions or voids.



Figure 3. "General Washington at Fort Lee..." Detail of canvas loss and underlying canvas

II. *"Paying for the Land, January 30, 1658"*

Title: *"Paying for the Land, January 30, 1658"*
Artist: Francis Davis Millet
Date: 1911
Signature: Lower right: "F.D. Millet. 1911" in brown paint
Location: Fourth Floor, South Wall, noted as "B" on architect's drawings
Subject Matter: The European settlers paying the Native Americans for the land.
Dimensions: Lower horizontal margin is 42" from the floor.
15'H from floor to doorway lintel
8'H from doorway lintel, right corner to top of arch
Vertical seams above doorway
Span of lower horizontal margin is 36'-9"; both lengths on either side of the doorway are 14".
Date Surveyed: 3/15/20012
Conservator: Gillian Randell



Paint Medium

Appears to be an oleaginous paint medium. The paint was applied with a brush, scumbled into the weave, with no visual brushstrokes or impasto. It is opaque, with no glazes. There are high contrast passages, especially in the upper register where there are splashes of light against the dark green foliage.

Condition

Overall the paint appears stable, with isolated exceptions:

Area C: lower left horizontal border, paint abrasion

Area B: right horizontal border, white residue

Varnish Layer

The surface coating appears to be a non-original semi-glossy varnish. It is applied over post-historic inpainting in an even application. There does not appear to be any extant original varnish.

Condition

The varnish is in good condition.

Non-Original Paint

The lower horizontal decorative border has a fair amount of inpainting that is well executed, visible only in ultraviolet light. This area has more abrasion and pinpoint paint loss due to the location, affected by pedestrian traffic and cleaning of the brass railing. The vertical insert above the doorway is infilled; there is some pinpoint loss in this insert.

Primary Support

The primary support is a heavy tabby weave canvas, possibly jute or hemp. The mural is probably attached with lead paste adhesive, as "*General Washington...*" a similar format mural tested positive for lead in the adhesive. The composition of the mural is executed on several pieces of canvas, two large pieces are joined in the middle with a thin vertical swathe, an upper horizontal margin, and the title inscription is a separate insert.

Condition

Overall the canvas appears well attached and in plane.

Area A: is slightly discolored and may have been an area of previous distortion, treated with injections of adhesive and is currently stable. (Figure 4.)

Secondary Support

The mural is attached to the plaster substrate, which is probably a traditional three-coat plaster system. Limited sounding tests indicate that the plaster is stable, there are no obvious distortions or voids. The substrate is in plane.

Notes and Anomalies

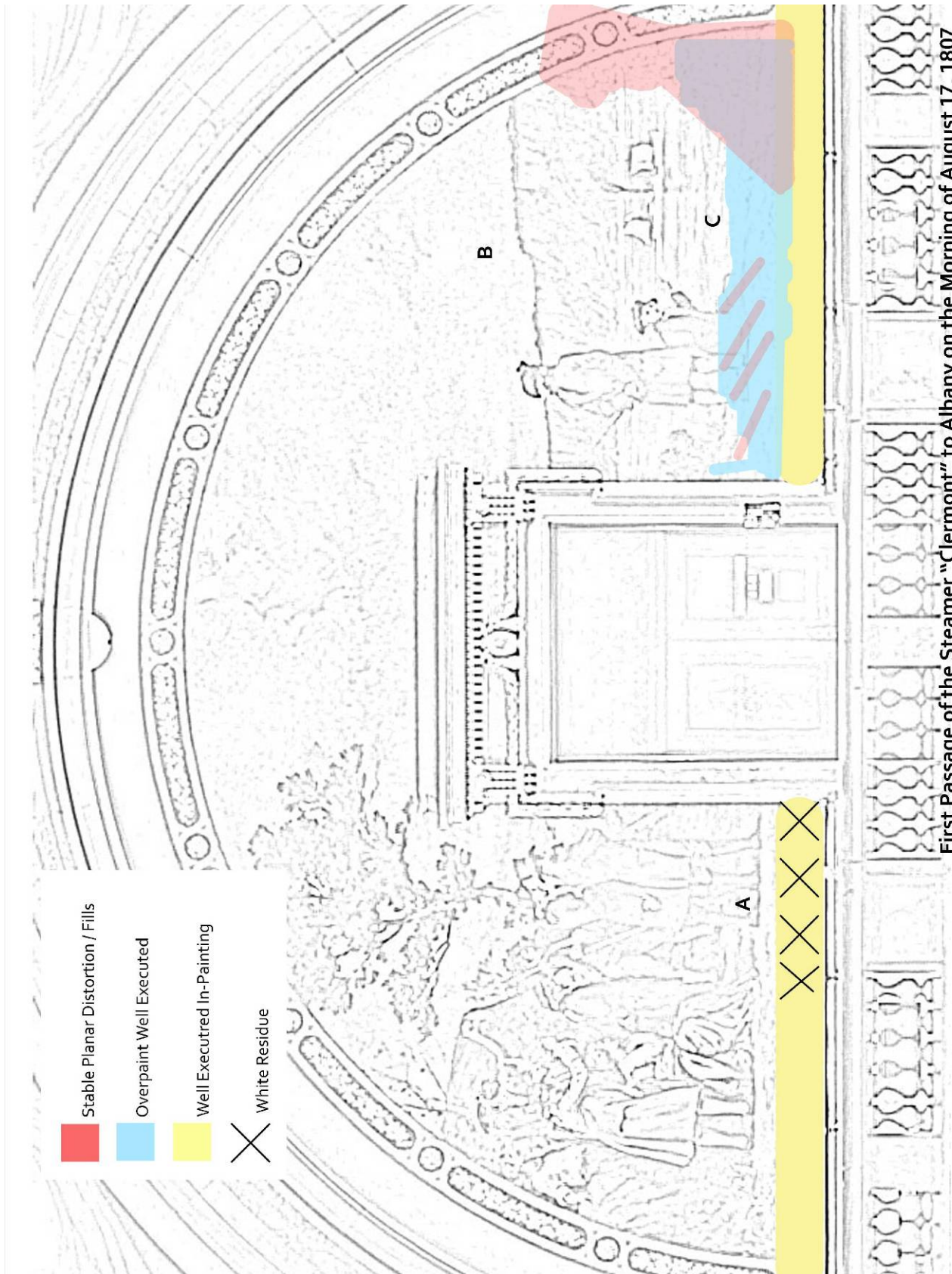
The ceiling above the mural exhibits evidence of mold, which may or may not be active, probably associated with water damage.



"Paying for the Land" Area A, Discoloration, upper left

III. ***"First Passage of the Steamer Clermont to Albany on August 17, 1807"***

Title: *"First Passage of the Steamer Clermont to Albany on August 17, 1807"*
Artist: Charles Yardley Turner
Date: 1911
Signature: " 19©11
C-Y-TURNER" in red paint, lower left corner
Location: Fourth Floor, West Wall, noted as "C" on architect's drawings
Subject Matter: First voyage of the steam ship *Clermont* on the Hudson River to Albany, NY.
Dimensions: Lower horizontal margin is 42" from the floor.
15'H from floor to doorway lintel
8'H from doorway lintel, right corner to top of arch
Vertical seams above doorway
Span of lower horizontal margin is 36'-9"; both lengths on either side of the doorway are 14".
Outer border is 16.5"W
Date Surveyed: 3/15/20012
Conservator: Gillian Randell



First Passage of the Steamer "Clermont" to Albany on the Morning of August 17, 1807
Charler Yardley Turner

Paint Medium

Appears to be an oleaginous paint medium. The paint was applied with a brush, with relatively freer brushstrokes than Millet's two adjacent murals. There are some limited visible brushstrokes and *impasto*.

Condition

Overall the paint appears relatively stable, not actively flaking, with isolated exceptions of abraded paint in the lower horizontal border and areas of age cracking and pinpoint paint loss.

Area B: lower horizontal border, age cracking and pinpoint loss.

Area A: lower horizontal border left side, white residue

Varnish Layer

The surface coating appears to be a non-original semi-glossy varnish; it is applied over areas of extensive overpaint. It is evenly applied and saturates the mural. There does not appear to be any extant original varnish.

Condition

The varnish is in good condition.

Non-Original Paint

The lower horizontal margin decorative border has a fair amount of inpainting that is well executed, visible only in ultraviolet light. This area has more abrasion and pinpoint paint loss due to the location, affected by pedestrian traffic and cleaning of the brass railing.

Area C: lower right quadrant, heavily overpainted

Archival photographs show that this portion of canvas was removed and reattached, probably during the 1975-1985 restoration period. Although extensive, the inpainting is well executed.



1970s photograph showing large-scale loss in the "First Passage..." mural

Primary Support

The primary support is a tabby weave canvas, which has a less pronounced texture than the Millet murals. The mural is probably attached with lead paste adhesive. The composition of the mural is executed mainly on one large canvas, supplemented with a horizontal swathe at the upper border.

Condition

Overall the canvas appears well attached and in plane. There is slight planar distortion in the lower right quadrant where the damaged canvas had been removed and reattached. It is currently well attached and stable.

Secondary Support

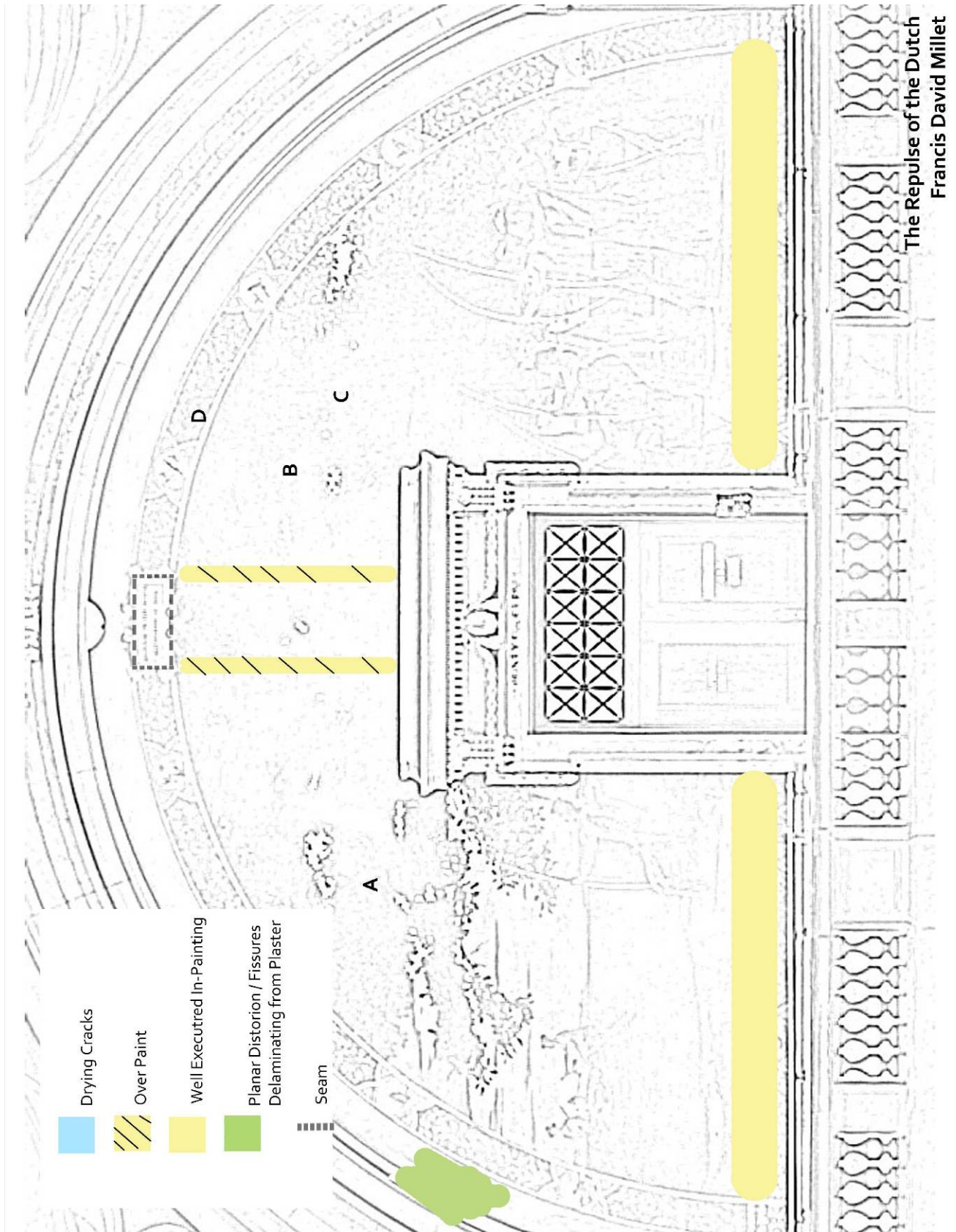
The mural is attached to the plaster substrate, which is probably a traditional three-coat plaster system. Limited sounding tests indicate that the plaster is stable, there are no obvious distortions or voids.



"First Passage of the Steamer Clermont..." Area C Overpaint

IV. "Repulse of the Dutch September 13, 1609"

Title: "Repulse of the Dutch September 13, 1609"
Artist: Francis Davis Millet
Date: 1911
Signature: Lower right: "F.D. Millet. 1911" in brown paint
Location: Fourth Floor, South Wall, noted as "B" on architect's drawings
Subject Matter: The European settlers paying the Native Americans for the land.
Dimensions: Lower horizontal margin is 42" from the floor.
15'H from floor to doorway lintel
8'H from doorway lintel, right corner to top of arch
Vertical seams above doorway
Span of lower horizontal margin is 36'9"; both lengths on either side of the doorway are 14".
Date Surveyed: 3/15/20012
Conservator: Gillian Randell



The Repulse of the Dutch
Francis David Millet

Paint Medium

Appears to be an oleaginous paint medium. The paint was applied with a brush, scumbled into the weave, with no visual brushstrokes or impasto. It is opaque, with no glazes. There are high contrast passages, especially in the upper register where there are splashes of light against the dark green foliage.

Condition

Overall the paint appears stable, with isolated exceptions of abraded paint and tenting in the paint layer.

Area A: upper left quadrant of mural depicting the tree canopy, there is linear tenting in the paint and canvas resulting in paint loss

Area D: upper right, one silver dollar sized area of damaged paint, textured fill, and overpaint

Varnish Layer

The surface coating appears to be a non-original semi-glossy varnish. It is applied over post-historic inpainting in an even application. There does not appear to be any extant original varnish.

Condition

The varnish is in good condition.

Non-Original Paint

The lower horizontal decorative border has a fair amount of inpainting that is well executed, visible only in ultraviolet light. This area has more abrasion and pinpoint paint loss due to the location, affected by pedestrian traffic and cleaning of the brass railing. The vertical insert above the doorway is infilled; there is some pinpoint loss in this insert.

Primary Support

The primary support is a heavy tabby weave canvas, possibly jute or hemp. The mural is probably attached with lead paste adhesive, as "*General Washington...*" a similar format mural tested positive for lead in the adhesive. The composition of the mural is executed on several pieces of canvas, two large pieces are joined in the middle with a thin vertical swathe, an upper horizontal margin, and the title inscription is a separate insert.

Condition

Overall the canvas appears well attached and in plane with the following exceptions:

Area B: upper right, adhesive failure with resulting distortion

Area C: upper right, adhesive failure with resulting distortion

Secondary Support

The mural is attached to the plaster substrate, which is probably a traditional three-coat plaster system. Limited sounding tests indicate that the plaster is stable, there are no obvious distortions or voids.

Condition

Appears to be in good condition, in plane and no obvious fissures.

Notes and Anomalies

The ceiling above the mural has evidence of mold, which may or may not be active, probably associated with water damage.



"Repulse of the Dutch" Area A, upper left pinpoint paint loss

4th FLOOR PENDENTIVES

There are four pendentives in the rotunda that were painted by Edwin Howland Blashfield. The classically rendered figures flank portraits of New Jersey notables: John Stevens, Abraham Zabriskic, Alexander Hamilton, and Richard Vanck.

These murals were examined with binoculars from the fourth floor rotunda. The high-resolution photographs, provided by architectural photographer Whitney Cox, were scrutinized in detail to determine their current condition. Due to their location, it was not possible to have a tactile assessment; however, the murals are in plane and do not exhibit characteristic signs of plaster problems, canvas delamination, or other structural instabilities. It is assumed that these murals are in a similar condition to the other fourth floor murals, and that they have a similar level of intervention.

Artist's Materials

The paint medium appears to be an oleaginous paint medium. The paint was applied thickly with a brush, and the background brushwork mimics mosaic tesserae with a heavy *impasto*. The primary support is probably a tabby weave canvas, attached to the substrate with lead paste adhesive. The composition of the mural is executed on several pieces of canvas, at least five separate components. Each pendentive has multiple seams or slits in the canvas to accommodate the curvature of the substrate. The surface coating appears to be a non-original semi-glossy varnish. It is evenly applied and saturates the mural. There does not appear to be any extant original varnish.

I. "Figure of Fame with Portrait of John Stevens"

Title: "Figure of Fame with Portrait of John Stevens"
Artist: Edwin Howland Blashfield with assistants: Vincent Aderente and A.E. Foringer
Date: 1911?
Signature: Lower right quadrant:
"E. H. Blashfield
+
V. Aderente"
(The rest is illegible.)
Location: Fourth Floor, South East pendentive, noted as "C" on architect's drawings
Date Surveyed: 4/5/2012
Conservator: Gillian Randell

Condition of Paint Layer

Overall the paint appears relatively stable, with isolated exceptions of abraded or damaged paint. The seams have been covered with overpaint, greenish in hue, possibly done after installation by the artist or his assistants.

Area B: upper torso of central figure exhibits paint abrasion

Area C: upper left quadrant, there is visible *pentimenti*

Area D: upper right horizontal margin, there are 6 sites of pinpoint paint loss

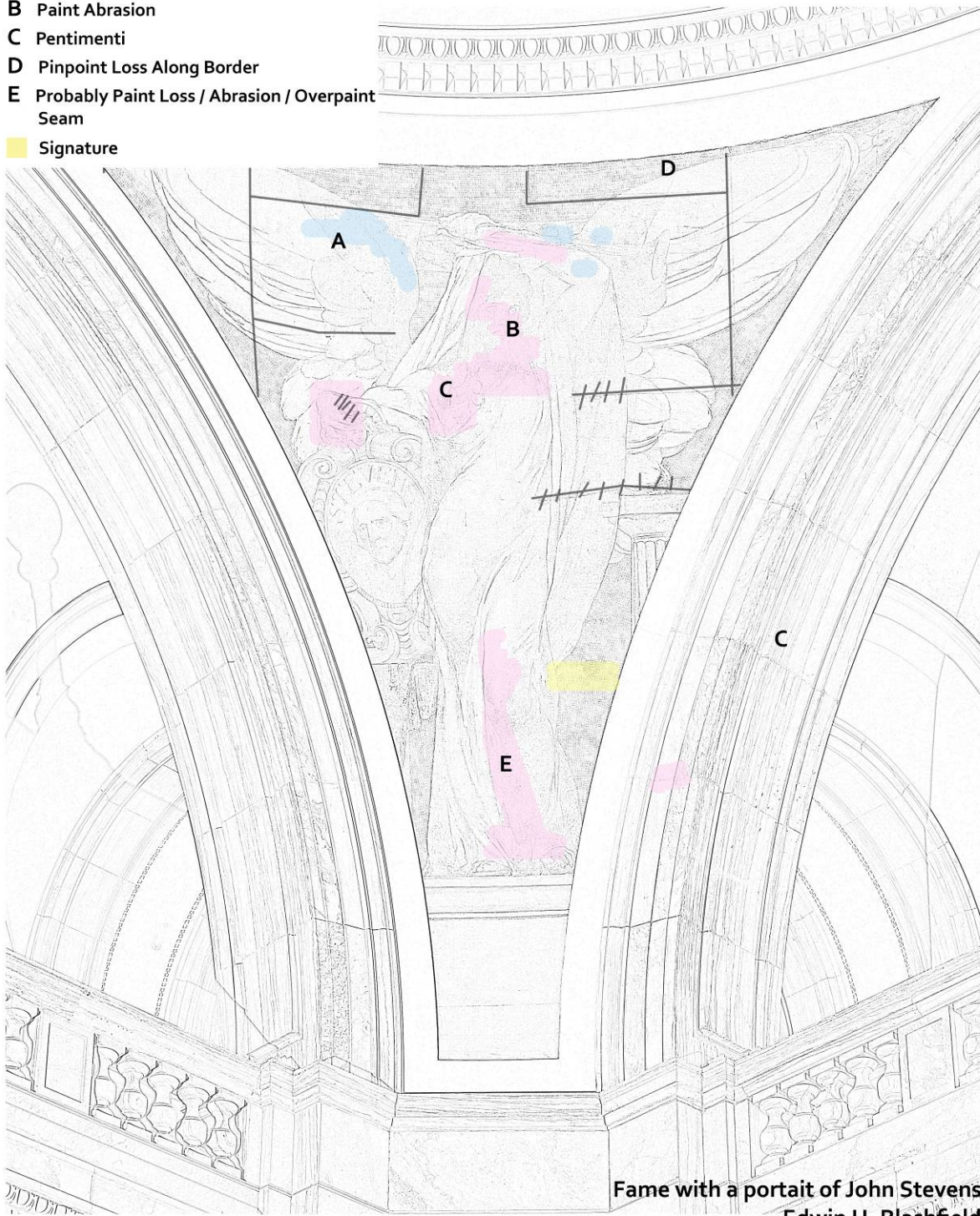
Area E: center foreground to mid-ground, area depicting figure's leg, possible paint loss, abrasion, and overpaint in the center of the mural in the area depicting the figures upper torso

Condition of Primary Support and Secondary Support

Overall the canvas appears well attached and in plane with the following exceptions

Area A: upper third of mural, in area depicting the angel's wings, there are distortions that are probably isolated areas of canvas delamination due to localized adhesive failure or distortions in the substrate

- A Blisters / Fills
- B Paint Abrasion
- C Pentimenti
- D Pinpoint Loss Along Border
- E Probably Paint Loss / Abrasion / Overpaint Seam
- Signature



Fame with a portait of John Stevens
Edwin H. Blashfield
South East Corner

II. *"Figure of Fame with Portrait with Abraham Zabriskic"*

Title: *"Figure of Fame with Portrait with Abraham Zabriskic"*
Artist: Edwin Howland Blashfield with assistants: Vincent Aderente and A.E. Foringer
Date: 1910
Signature: Lower right quadrant:
"19©10
E. H. Blashfield"
(The rest is illegible.)
Location: Fourth Floor, South West pendentive, noted as "D" on architect's drawings
Date Surveyed: 4/5/2012
Conservator: Gillian Randell

Condition of Paint Layer

Overall the paint appears relatively stable, with isolated exceptions of abraded or damaged paint. The seams have been covered with overpaint, greenish in hue, possibly done after installation by the artist or his assistants.

Area C: upper third of mural center, area depicting the angels neck and head covering, there is paint abrasion.

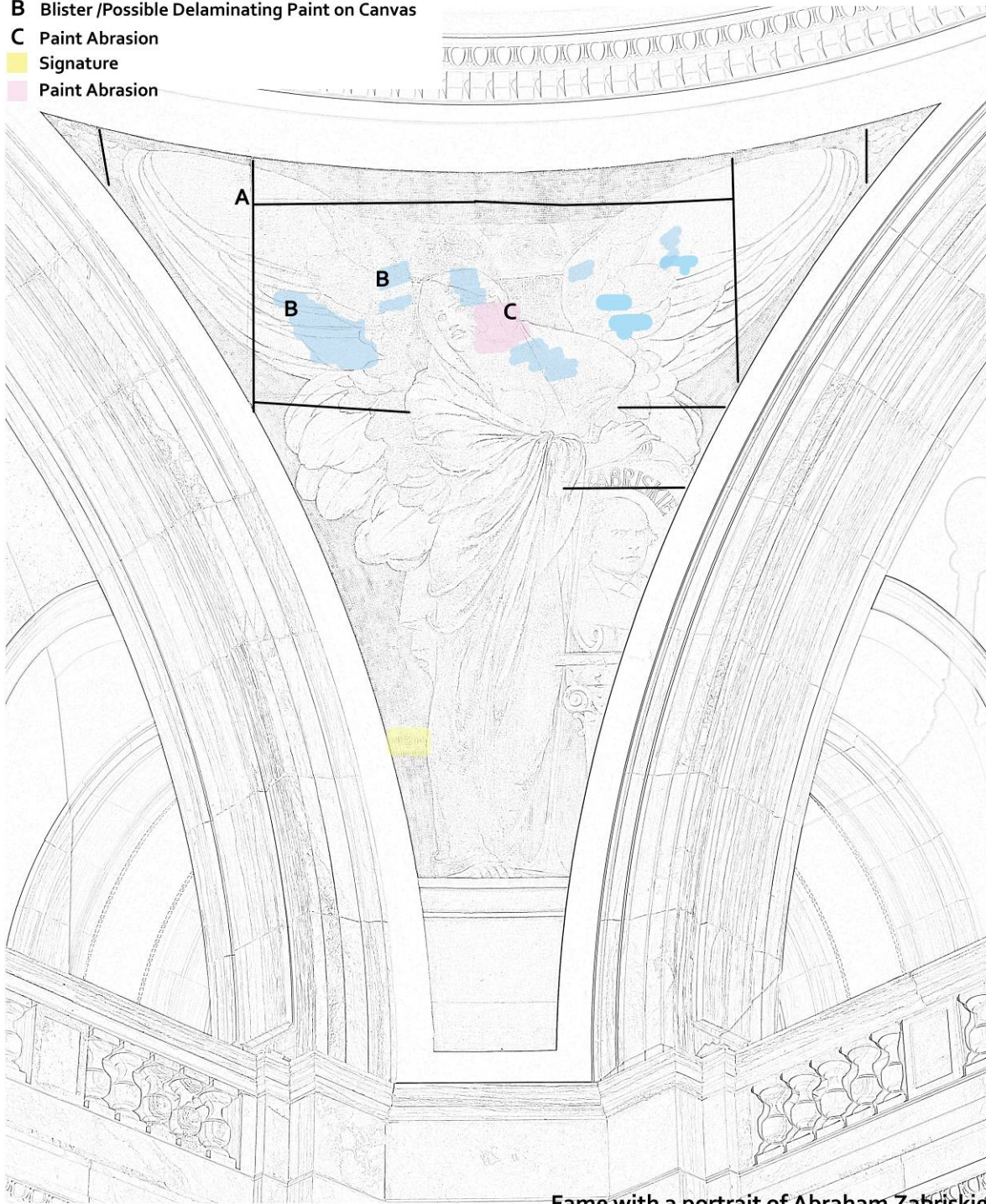
Condition of Primary and Secondary Supports

Overall the canvas appears well attached and in plane with the following exceptions:

Area A: upper left vertical seam, lifting seam

Area B, upper third of the mural, in the area depicting the angel's head and wings, the distortions are probable canvas delaminations, possibly emanating from the plaster

- A Lifting Seam
- B Blister /Possible Delaminating Paint on Canvas
- C Paint Abrasion
- Signature
- Paint Abrasion



Fame with a portrait of Abraham Zabriskie
Edwin H. Blashfield
South West Corner

III. **"Figure of Fame with Portrait with Richard Vanck"**

Title: "Figure of Fame with Portrait with Richard Vanck"
Artist: Edwin Howland Blashfield with assistants: Vincent Aderente and A.E. Foringer
Date: 1910
Signature: Lower right quadrant:
"19©10
E. H. Blashfield"
(In red and yellow paint.)
Location: Fourth Floor, North West pendentive, noted as "E" on architect's drawings
Date Surveyed: 4/5/2012
Conservator: Gillian Randell

Condition of Paint Layer

Overall the paint appears relatively stable, with isolated exceptions of abraded or damaged paint. The seams have been covered with overpaint, greenish in hue, possibly done after installation by the artist or his assistants.

Area A: upper left quadrant, pinpoint paint loss in and area depicting the angel's wing

Area D: upper right quadrant, pin-point paint loss in and area depicting the angel's wing and adjacent background

Area E: upper right quadrant, white haze, possible residue, efflorescence, paint loss or bloom in the paint layer

Area F: upper horizontal margin, center, two small sites of paint loss

Area H: lower left quadrant, probable paint abrasion

Area I: upper left quadrant, area depicting angels shoulder, wing, and head covering, probable paint abrasion

Condition of Primary and Secondary Supports

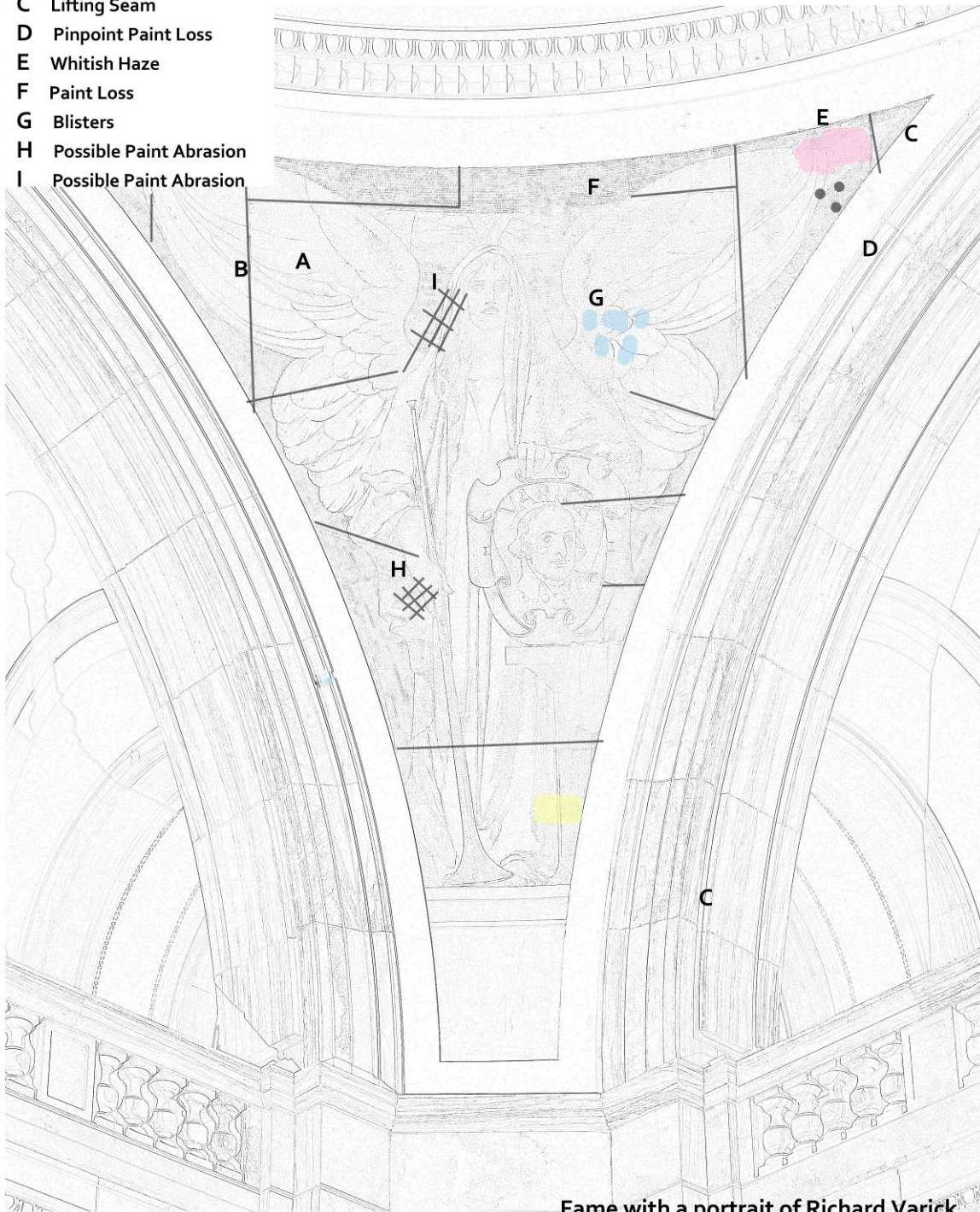
Overall the canvas appears well attached and in plane with the following exceptions:

Area B: upper left quadrant, lifting vertical seam

Area C: upper right quadrant, lifting vertical seam

Area G: upper left quadrant in area depicting angels wing, small blisters that may be delaminating canvas, due to adhesive failure or planar distortion emanating from the plaster

- A Paint Loss
- B Lifting Seam
- C Lifting Seam
- D Pinpoint Paint Loss
- E Whitish Haze
- F Paint Loss
- G Blisters
- H Possible Paint Abrasion
- I Possible Paint Abrasion



Fame with a portrait of Richard Varick
Edwin H. Blashfield
North West Corner

IV. "Figure of Fame with Portrait of Alexander Hamilton"

Title: "Figure of Fame with Portrait of Alexander Hamilton"
Artist: Edwin Howland Blashfield with assistants: Vincent Aderente and A.E. Foringer
Date: 1910
Signature: None Apparent
Location: Fourth Floor, North East pendentive, noted as "F" on architect's drawings
Date Surveyed: 4/5/2012
Conservator: Gillian Randell

Condition of Paint Layer

Overall the paint appears relatively stable, with isolated exceptions of abraded or damaged paint. The seams have been covered with overpaint, greenish in hue, possibly done after installation by the artist or his assistants.

Area A: upper right horizontal margin, two small sites of paint loss to the ground

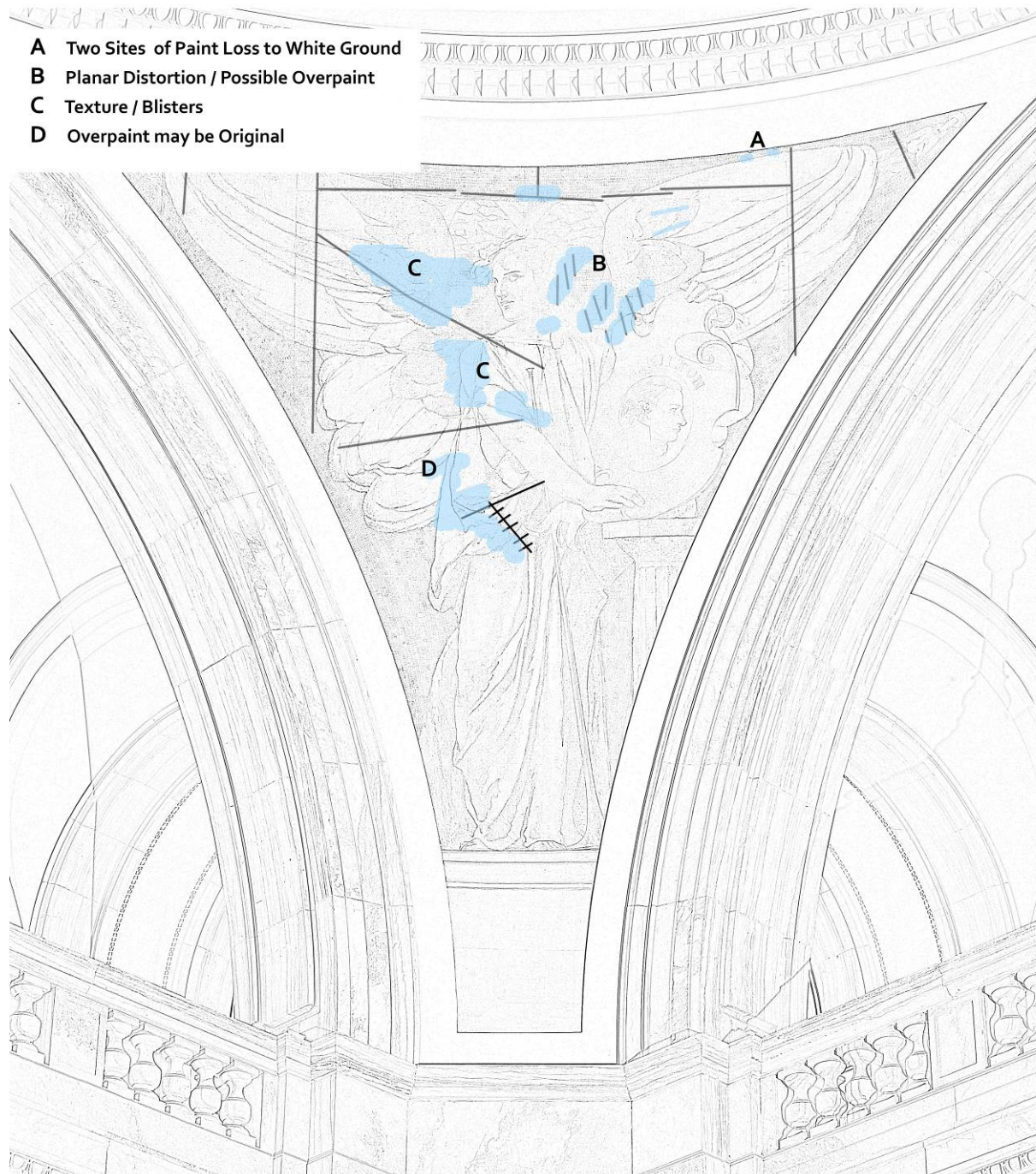
Condition of Primary and Secondary Supports

Overall the canvas appears well attached and in plane with the following exceptions:

Area B: upper right quadrant, area depicting angel's neck and wing, three sites of planar distortion, probable glue failure

Area C: upper left quadrant in area depicting the angel's wing, this area appears to have a rough texture, probable small detachments or roughly executed infills or inpainting.

Area D: left mid-ground, lower wing and torso, similar to Area C above



- A Two Sites of Paint Loss to White Ground
- B Planar Distortion / Possible Overpaint
- C Texture / Blisters
- D Overpaint may be Original

Fame with a portait of Alexander Hamilton
Edwin H. Blashfield
North East Corner

DOME CEILING

Title: "Signs of the Zodiac"
Artist: Edwin Howland Blashfield with assistants
Date: c. 1910
Signature: None Apparent
Location: Rotunda Ceiling, 4th Floor
Date Surveyed: 4/5/2012
Conservator: Amanda Stauffer

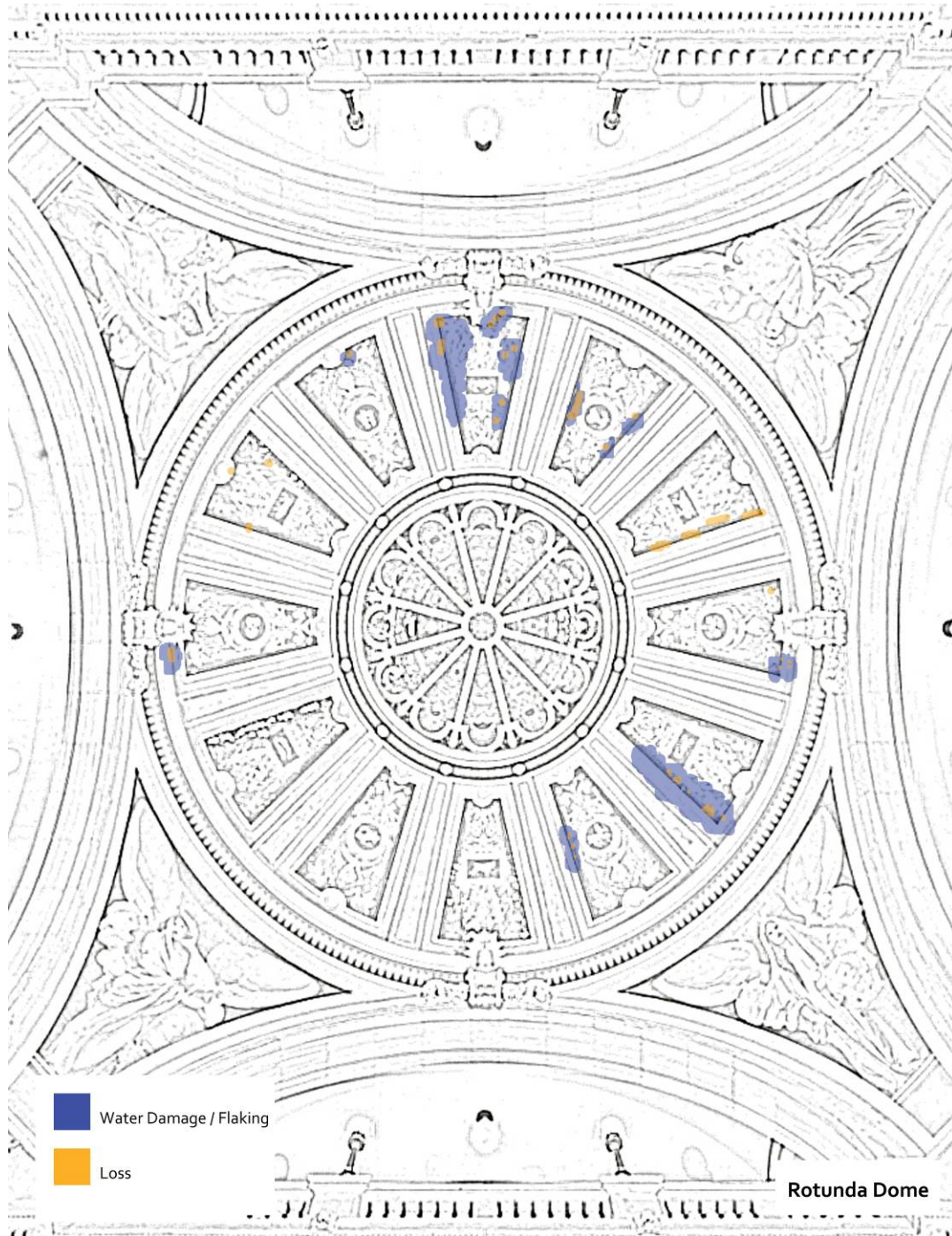


Condition of Paint Layer

Archival information suggests that these murals are only remnants of the originals, extensively infilled and retouched. The existing paint displays evidence of major staining, drips and delamination on murals themselves as well as on the surrounding moldings. The southwest quadrant is especially compromised, although staining extends to the north end too, though. Approximately 14 square feet of losses requiring compensation were noted, and 24 square feet of flaking paint require consolidation (these areas are keyed into the drawing on the following page). However, as hands-on access was not provided, a more in-depth survey should be carried out after a scaffold is erected.

Condition of Primary Support

The murals are painted on plaster, which appears to have suffered from varying degrees of water infiltration and damage over the past century. The substrate should be tested with a moisture meter before any restoration work proceeds, as it is important to ensure that the substrate is dry and can promote sound adhesion with any new paint applications.



CONSERVATION RECOMMENDATIONS: DECORATIVE PLASTER AND PAINT

OVERVIEW

The following is a general summary of the recommended treatments for the decorative paint and plaster finishes throughout the building:

Plaster Treatments

- Secure loose plaster via grout injection, using acrylic emulsions such as rhoplex with microballoon fillers, where necessary
- Scrape, prepare, skim coat, and prime water-stained and water-damaged surfaces
- Re-plaster select areas (as needed)

Decorative Paint Treatments

- Surface clean
- Stabilize loose and flaking paint using brush-on consolidant applied through facing paper. Use heat and moisture to lay down areas of active flaking
- Infill and inpaint minor losses
- Re-create missing decoration at large areas of loss using laser cut stencils made from mylar tracings of adjacent existing decoration

PLASTER SUBSTRATE

The plaster substrate was surveyed and documented in order to assess the causes of, and corresponding treatments for, the deterioration that appears across the surface. The plaster surfaces exhibit a range of conditions and pathologies, including cracking, delamination, loss, and water damage.

Delamination and Loose Plaster

- Buckling, cracking and detachment were noted at the rotunda ceiling. From the ground, it appears that this area may require localized removal and replacement of the existing plaster surface.
 - Once tactile access is obtained for the upper reaches of the dome, the entire dome soffit should be examined up-close and systematically sounded for stability. Conditions should be mapped onto corresponding elevations for documentation purposes and for the determination and quantification of treatments for each condition.

- After the sounding survey is performed, areas of unstable, loose or deteriorated plaster should be cut out and replaced or stabilized. Stabilization measures may include grout injection or surface consolidation. Assume use of low-viscosity acrylic emulsion.
- Minor hollow voids in the plaster (for example, areas around the Cox lunettes) should be readhered and stabilized via grout injection.

Cracks

- A preliminary sounding survey carried out at accessible areas suggests that the majority of the cracks are stable and narrow enough that they do not require patching. Larger cracks should be sounded for movement. If they vibrate, they should be stabilized via adhesive injection, patching, and other treatments.

PAINTED FINISHES

The existing painted surfaces could benefit greatly from a gentle cleaning but are, in general, in good condition. For general surface cleaning, assume use of an aqueous dilution of non-ionic detergent.

Previous Water Damage

- Efflorescence resulting from previous water damage at the 2nd and 4th floor corridors requires removal. Assuming the points of moisture infiltration are dormant, surfaces should be scraped, washed down using tri-sodium phosphate, then primed and repainted.



Water damage, staining and efflorescence at the second floor frieze (SE corner)

Delamination and Flaking Paint

- Several areas of the painted surface in the dome appear to be delaminating from the plaster substrate and require reattachment using a brush-on or injectable adhesive and/or consolidant. Assume ethylene vinyl acetate (EVA) solution or similar.



Flaking and loss at the dome ceiling

- The fourth floor corridor ceiling and groin vault ceiling paint is failing and should either be consolidated or stripped down to sound substrate to ensure proper adhesion with new paint coatings.



Water damage and paint loss at the 4th floor southeast corner

- The central ceiling above the large lunettes appears to be experiencing severe flaking and loss, particularly along the edges where it meets exterior walls. If the ceiling is to receive a new paint treatment, large portions of the existing paint should be scraped and removed, in order to create a sound surface that promotes adhesion with the new paint coating. If the current paint treatment is to remain, it will require large-scale consolidation and inpainting of losses.
 - For infilling and inpainting, assume use of paste filler such and artists' acrylic dispersion paints
- Mold growth on the 4th Floor large vaults should be cleaned using a mild biocide such as dilute hydrogen peroxide and detergent.

FURTHER INVESTIGATION AND DOCUMENTATION

- Once scaffolding is erected, paint and plaster conditions at the dome and pendentives should be surveyed and mapped onto photographs or elevations for documentation purposes and for the determination and quantification of treatments for each condition.
- Thorough documentation of the decorative paint schemes should be carried out for archival and replication purposes. EverGreene was informed that the stencils used to replicate the 1910 paint scheme have been lost; accordingly, the existing patterns should be traced on mylar, and the tracings can be digitally manipulated to create a new set of stencils to be used across areas where the paint has failed (such as the corners of the 3rd floor corridor).

CONSERVATION RECOMMENDATIONS : MURALS

Prior to treatment, the murals will be fully documented with written records. This report serves as adequate documentation of current conditions providing that the treatment is executed in a timely manner. All materials and methods will be tested prior to treatment implementation. The treatments will be executed following the Guidelines for Ethical Practices issued by the AIC (American Institute for the Conservation of Historic and Artistic Works) and applications and procedures should be photo-documented.

Overall Conservation Treatment

- Stabilize Paint Layer
- Surface Clean
- Remove Discolored Varnish
- Reattach Delaminating Canvas/Apply Inserts
- Apply Protective Non-Yellowing Surface Coating
- Infill and Inpaint
- Optional Spray Coat to Unify Inpainting

Plaster Repair

Although the murals did not display telltale signs of damage to the plaster substrate, because EverGreene did not have tactile access to these murals, the possibility should be assumed that several sections of the Blashfield pendentives may need to be removed to excavate the damaged plaster, repair the substrate, and reattach the mural to a receptive surface. Due to the probable presence of lead⁶ in the adhesive it is necessary to follow health and safety protocols when removing the mural sections. EAA conservators are trained lead workers and will follow strict procedures to ensure a safe working environment.

- Protect Canvas with Facing Paper (Remove Paper After Canvas Installation)
- Remove Mural Sections
- Excavate Plaster Debris
- Plaster Stabilization
- Re-plaster Selected Areas
- Prepare Wall
- Prepare Reverse of Canvas
- Apply Isolating Layer to the Reverse of Canvas
- Install Canvas

⁶ Probability of lead in the adhesive of the Blashfield murals is based on having found lead in adjacent murals of the same campaign

SUMMARY OF CONDITIONS AND RECOMMENDED TREATMENTS

All the murals referenced in this report have had a fair amount of intervention; but despite their history, are currently relatively stable and attractive. There are isolated areas that require stabilization and consolidation and there is a need for some loss compensation.

Since the study was executed several months prior to the planned treatment, no further conditions assessment is required. The conservation treatment report will further document the project. Exceptions include areas such as the pendentives and the decoratively painted rotunda ceiling, which were inaccessible and will require thorough investigation and assessment once scaffolding is installed to augment the observations made with binoculars and from high-resolution photographs.

All of the murals were tested to determine the feasibility of surface cleaning and the removal of post-historic varnishes. All of the murals benefited from surface cleaning with an aqueous cleaning solution. Although the visual results were not dramatic, it was clear from the heavily soiled swabs that the murals require surface cleaning. All murals should be tested with the appropriate aqueous cleaning materials prior to surface cleaning, as each discrete task should be tested in small areas before extensive treatment commences.

GENERAL TREATMENT RECOMMENDATIONS

The following treatments may be relevant to all of the murals.

Photo-documentation should include During Treatment and After Treatment photographs to supplement the Before Treatment photographs included with this report. Detail photographs should provide a visual narrative for each task.

1. Surface Cleaning

A variety of aqueous surface cleaning solutions were found to successfully remove the surface dirt and grime. A dilute solution of ammonium hydroxide (pH 8.5) removed the dirt and did not damage the paint layer. Ammonium hydroxide (pH8.5) does not require clearing as the cleaning agent evaporates without residue. Some areas may respond better to a dilute solution of ammonium citrate (pH 5.5) and would require rinsing with distilled water. A variety of different particulates may be found on the murals and may respond to different cleaning solutions. Also a variety of different surfaces and conditions may require slightly different cleaning agents. The conservator would assess these conditions and respond as necessary with the most appropriate methodology.

2. Removal of Post-historic Paint

In areas where previous restoration interventions, such as retouching or inpainting, are visually obtrusive, post-historic inpaint and over-paint should be removed with solvents in gelled or liquid form, so long as removal does not disturb adjacent original paint.

3. Removal of Post-historic Surface Coating

In areas where the coating is unevenly applied, such as in the Freeholders' Room, it should be removed or thinned with solvents in gelled or liquid form.

4. Consolidation of Tenting or Actively Flaking Paint

Overall the paint appears to be well bound and well attached to the canvas. In areas of water damage or isolated areas of flaking paint the paint would be stabilized. A consolidant such as *BEVA 371* would be applied to the surface of the paint instability with a small natural bristle brush, allowing it to flow behind the paint surface. After the solvent has evaporated, the flake would be gently massaged with a tacking iron to create a bond between the paint and the primary support. A mylar barrier would be used to protect the paint layer. If there is an extensive crack network it may be necessary to apply a facing layer to the surface of the paint layer to hold the fragile paint in place during the process. *L-tissue* or *Hollytex* are ideal facing materials. After the paint is stabilized, the facing or any adhesive residue would be removed from the surface. Other consolidants commonly effective in paint consolidation are *Lascaux Adhesives*, *Plextol B500* and *Paraloid B-72*. All of these materials are considered reversible.

5. Re-attachment of Canvas

Any distortions in the canvas will be addressed prior to reattachment. If necessary the area will be faced to protect the paint layer during the reattachment process. Adhesive will be introduced along the margin with a palette knife, areas without access may require an injection through the canvas with a #20-22 gauge needle. The area will be allowed to set under even pressure applied to the surface. A variety of adhesives may be appropriate for the reattachment of the canvas to the wall substrate including *BEVA Gel* or *BEVA Dispersion* or clay based adhesive. All of these materials are considered reversible.

6. Plaster consolidation

Accessed areas appear sound; however, areas that have not been sounded due to lack of access may require minimal consolidation. This survey supports reinforcing any instable plaster with injections of acrylic polymers formulated for strengthening plaster. A pre-wet solution of consolidant is injected first to wet the porous material and draw the more viscous materials through the substrate via capillary action. An acrylic resin mixture of *Rhoplex 1950* and *MC 76* would be injected with a syringe. Extensive plaster consolidation is not anticipated.

7. Application of Protective Coating

In areas that have no surface coating or a thinned layer of varnish, a unifying spray coat of varnish should be applied to the surface. Possible varnishes include: *BEVA UVS* varnish, other *Regalrez 1094* based varnishes, or *Paraloid B-72*. These varnishes are reversible. Although natural resin varnishes have an attractive appearance, they have a tendency to discolor with age and become cross-linked and should therefore be avoided.

8. Loss Compensation: Inpainting Areas of Pinpoint Loss

The paint layer is in fair-good condition; however, there are isolated areas of paint loss that require inpainting. Inpainting would be executed after the protective coating has been applied. Probable inpainting mediums include *Gamblin Conservation Colors* diluted in isopropanol or *Golden's* high load acrylics, both of which are reversible. Only areas of loss or damage would be inpainted, original paint would not be obscured. The inpainting will be precisely color matched and expertly integrated with adjacent original paint. If necessary, a reversible infill will be applied to the canvas prior to inpainting, flush to the paint layer.

9. Final Spray Application of Unifying Varnish (as necessary)

In order to visually integrate conservation treatments with original materials, a final application of a sprayed varnish may be required across the entire surface of a mural.

SPECIFIC TREATMENT RECOMMENDATIONS

The treatments assigned to each individual mural are listed below, according to mural series or cycle. Refer to descriptions of treatment protocols on pages 101-103 for corresponding recommended materials and methodologies.

Millet Transportation Murals

The second floor mural series have an even surface coating and appear evenly saturated. Varnish removal tests indicated that the post-historic coating is not discolored and is easily removable with hydrocarbons. However, it is probable that the current coating does not need to be removed and that unnecessary reversal would be too taxing to the heavily treated murals. Overall the post-historic paint is well executed and should not be removed. Cracks that appear in the paint layer are stable; their impact, though minimal, is purely aesthetic and therefore does not necessitate treatment.

The First Streetcar and an Old Windmill

1. Surface Cleaning
5. Reattachment of Canvas

The First Railway

1. Surface Cleaning

The Half-Moon

1. Surface Cleaning
8. Loss Compensation: Inpainting Areas of Pinpoint Loss
9. Final Spray Application of Unifying Varnish (as necessary)

Jersey City Waterfront

1. Surface Cleaning
8. Loss Compensation: Inpainting Areas of Pinpoint Loss
9. Final Spray Application of Unifying Varnish (as necessary)

New York Waterfront

1. Surface Cleaning
8. Loss Compensation: Inpainting Areas of Pinpoint Loss
9. Final Spray Application of Unifying Varnish (as necessary)

The Phoenix

1. Surface Cleaning

The Old and New Courthouses

1. Surface Cleaning
8. Loss Compensation: Inpainting Areas of Pinpoint Loss
9. Final Spray Application of Unifying Varnish (as necessary)

The Steamboat Clermont

1. Surface Cleaning
4. Consolidation of Flaking Paint

Freeholder's Room (Pyle) Murals

The murals in the Freeholder's Room were tested to determine the feasibility of surface cleaning and the removal of post-historic varnishes. The frieze would benefit from surface cleaning with an aqueous cleaning solution. There is an uneven surface coating on the murals which should be removed or thinned. In some areas, the varnish or glossy coating is used as a consolidant to stabilize cupping paint. These vulnerable areas should be consolidated to flatten and reattach the paint and then remove or thin the current presentation layer.

Post-historic inpainting should be removed and reinstated as necessary. A final spray application of varnish may be necessary to integrate inpainting.

Life in an Old Dutch Town

1. Surface Cleaning
2. Removal of Post-Historic Paint
3. Removal of Post-Historic Surface Coating
4. Consolidation of Tenting or Actively Flaking Paint
5. Reattachment of Canvas
7. Application of Protective Coating
8. Loss Compensation: Inpainting Areas of Pinpoint Loss
9. Final Spray Application of Unifying Varnish (as necessary)

English Soldier

1. Surface Cleaning
2. Removal of Post-Historic Paint
3. Removal of Post-Historic Surface Coating
4. Consolidation of Tenting or Actively Flaking Paint
5. Reattachment of Canvas
7. Application of Protective Coating
8. Loss Compensation: Inpainting Areas of Pinpoint Loss
9. Final Spray Application of Unifying Varnish (as necessary)

Dutch Soldier

1. Surface Cleaning
2. Removal of Post-Historic Paint
3. Removal of Post-Historic Surface Coating
4. Consolidation of Tenting or Actively Flaking Paint
5. Reattachment of Canvas
7. Application of Protective Coating
8. Loss Compensation: Inpainting Areas of Pinpoint Loss
9. Final Spray Application of Unifying Varnish (as necessary)

Hendryk Hudson and the Half-Moon

1. Surface Cleaning
2. Removal of Post-Historic Paint
3. Removal of Post-Historic Surface Coating

4. Consolidation of Tenting or Actively Flaking Paint
5. Reattachment of Canvas
7. Application of Protective Coating
8. Loss Compensation: Inpainting Areas of Pinpoint Loss
9. Final Spray Application of Unifying Varnish (as necessary)

Millet Medallions

All four medallions in the third floor mural series have an even surface coating and appear evenly saturated. Varnish removal tests indicated that the post-historic coating is not discolored and is easily removable with hydrocarbons. However, it is likely that the current coating does not need to be removed and that unnecessary reversal would be too taxing to the heavily treated murals. Overall the post-historic paint is well executed and should not be removed.

Four Medallions

1. Surface Cleaning

Cox Lunettes

The eight lunettes in the fourth floor mural series have an even surface coating and appear evenly saturated. Varnish removal tests indicated that the post-historic coating is not discolored and is easily removable with hydrocarbons. However, it is probable that the current coating does not need to be removed and that unnecessary reversal would be too taxing to the heavily treated murals. Overall the post-historic paint is well executed and should not be removed. Cracks that appear in the paint layer are stable; their impact, though minimal, is purely aesthetic and therefore does not necessitate treatment. Areas that do necessitate treatment include localized paint flaking and loss, surface soiling and accretions, and isolated canvas detachment from the plaster substrate.

Liberty (K)

1. Surface Cleaning
5. Reattachment of Canvas
6. Plaster Consolidation

Law (L)

1. Surface Cleaning

Justice (M)

1. Surface Cleaning

Rectitude (N)

1. Surface Cleaning

Liberty (G)

1. Surface Cleaning
5. Reattachment of Canvas
6. Plaster Consolidation

Law (H)

1. Surface Cleaning

Justice (I)

1. Surface Cleaning
8. Loss Compensation: Inpainting Areas of Loss
9. Final Spray Application of Unifying Varnish (as necessary)

Rectitude (J)

1. Surface Cleaning

Millet and Turner Lunettes

The fourth floor lunettes have an even surface coating and appear evenly saturated. Varnish removal tests indicated that the post-historic coating is not discolored. It is removable with a variety of solvents and the original paint does not appear solvent sensitive. However, removal of the current presentation layer may result in some pinpoint paint loss as there has been extensive solvent work on these murals in the past. The varnish layer should be reassessed after surface cleaning; however, it is probable that the current coating does not need to be removed and that unnecessary reversal would be too taxing to the heavily treated murals. The current coating is not discolored and is evenly applied. It does not appear to be cross-linked.

Overall the post-historic paint is well executed and should not be removed wholesale, but it should be minimized in some areas as necessary. A unifying spray application of varnish may enhance the appearance of these murals.

General Washington at Fort Lee

1. Surface Cleaning
2. Removal of Post-Historic Paint
3. Assessment of Possible Removal of Post-Historic Surface Coating

4. Consolidation of Tenting or Actively Flaking Paint
5. Reattachment of Canvas
7. Application of Protective Coating
8. Loss Compensation: Inpainting Areas of Pinpoint Loss
9. Final Spray Application of Unifying Varnish (as necessary)

Paying for the Land

1. Surface Cleaning
2. Removal of Post-Historic Paint
3. Assessment of Possible Removal of Post-Historic Surface Coating
4. Consolidation of Tenting or Actively Flaking Paint
5. Reattachment of Canvas
7. Application of Protective Coating
8. Loss Compensation: Inpainting Areas of Pinpoint Loss
9. Final Spray Application of Unifying Varnish (as necessary)

First Passage of the Steamer Clermont

1. Surface Cleaning
2. Removal of Post-Historic Paint
3. Assessment of Possible Removal of Post-Historic Surface Coating
4. Consolidation of Tenting or Actively Flaking Paint
5. Reattachment of Canvas
7. Application of Protective Coating
8. Loss Compensation: Inpainting Areas of Pinpoint Loss
9. Final Spray Application of Unifying Varnish (as necessary)

Repulse of the Dutch

1. Surface Cleaning
2. Removal of Post-Historic Paint
3. Assessment of Possible Removal of Post-Historic Surface Coating
4. Consolidation of Tenting or Actively Flaking Paint
5. Reattachment of Canvas
7. Application of Protective Coating
8. Loss Compensation: Inpainting Areas of Pinpoint Loss
9. Final Spray Application of Unifying Varnish (as necessary)

Blashfield Pendentives

For the purposes of estimating future conservation work, it should be assumed that there may be some delaminating canvas, glue failure, and there may be a need for localized plaster repair; however, it does not appear that major intervention is required due to the lack of characteristic signs that would denote significant damage to the substrate such as severe planar distortion, efflorescence on the surface of the mural, extensive canvas delamination, or pronounced damage to the paint layer.

Figure of Fame with Portrait of John Stevens

1. Surface Cleaning
2. Removal of Post-Historic Paint
3. Removal of Post-Historic Surface Coating
4. Consolidation of Tenting or Actively Flaking Paint
5. Reattachment of Canvas
6. Plaster Consolidation
7. Application of Protective Coating
8. Loss Compensation: Inpainting Areas of Pinpoint Loss
9. Final Spray Application of Unifying Varnish (as necessary)

Figure of Fame with Portrait of Abraham Zabriskic

1. Surface Cleaning
2. Removal of Post-Historic Paint
3. Removal of Post-Historic Surface Coating
4. Consolidation of Tenting or Actively Flaking Paint
5. Reattachment of Canvas
6. Plaster Consolidation
7. Application of Protective Coating
8. Loss Compensation: Inpainting Areas of Pinpoint Loss
9. Final Spray Application of Unifying Varnish (as necessary)

Figure of Fame with Portrait of Richard Vanck

1. Surface Cleaning
2. Removal of Post-Historic Paint
3. Removal of Post-Historic Surface Coating
4. Consolidation of Tenting or Actively Flaking Paint
5. Reattachment of Canvas
6. Plaster Consolidation
7. Application of Protective Coating
8. Loss Compensation: Inpainting Areas of Pinpoint Loss
9. Final Spray Application of Unifying Varnish (as necessary)

Figure of Fame with Portrait of Alexander Hamilton

1. Surface Cleaning
2. Removal of Post-Historic Paint
3. Removal of Post-Historic Surface Coating
4. Consolidation of Tenting or Actively Flaking Paint
5. Reattachment of Canvas
6. Plaster Consolidation
7. Application of Protective Coating
8. Loss Compensation: Inpainting Areas of Pinpoint Loss
9. Final Spray Application of Unifying Varnish (as necessary)

Dome Ceiling

For the purposes of estimating future conservation work, it should be assumed that there may be some delaminating plaster, paint failure, and there may be a need for localized repair to both paint and plaster finishes. Accordingly, until tactile access can be provided, assume the following treatments will be required.

1. Surface Cleaning
4. Consolidation of Tenting or Actively Flaking Paint
6. Plaster Consolidation
7. Application of Protective Coating
8. Loss Compensation: Infilling and Inpainting
9. Final Spray Application of Unifying Varnish (as necessary)

APPENDIX A: Hudson County Photolog

Photos in *red* are included in the body of the report

Log #	JPG	Description of Photograph
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I. "General Washington at Fort Lee, November 16, 1776 Watching the Assault upon Fort Washington"

1	114	Detail of Mural Title
2	115	Detail of canvas loss, lower right
3	116	Detail of canvas loss, lower right
4	117	Detail of signature
5	118	Detail of signature
6	119	Detail of canvas loss, lower right
7	120	Detail of underlying canvas, lower right
8	121	Detail of small loss
9	122	Detail of small loss and fill
10	123	Detail of small loss and fill under UV
11	124	Positive test for lead adhesive
12	125	Three small canvas losses Areas C and D
13	126	Drying cracks, Area E
14	127	Drying cracks, Area E
15	128	Drying cracks, Area E
16	129	Pinpoint paint loss and inpainting
17	130	Signature

II. "Paying for the Land"

18	131	Detail of cauldrons
19	132	Detail of white accretions
20	133	Detail of white accretions
21	134	Detail of white accretions
22	135	Detail of white accretions, right side
23	136	Detail of white accretions and hazing on right side
24	137	Detail of Area A, discoloration
25	138	Detail of Area A, discoloration
26	139	Detail of Area A, discoloration
27	140	Detail of insert above doorway

III. "First Passage of the Steamer Clermont"

28	141	Detail of Title
29	142	Detail of Area C extensive overpaint
30	143	Detail of Area C extensive overpaint
31	144	Lower left, signature
32	145	Lower left foreground

33	146	Lower left, signature
34	147	Detail of accretions in border
35	148	Texture of infills, lower right reattachment Area C
36	149	Texture of infills, lower right reattachment Area C
37	150	Detail of lower left, surface cleaning areas

IV. "Repulse of the Dutch"

38	153	Detail of Area A, upper left, pinpoint loss
39	154	Detail of Area A, upper left, pinpoint loss
40	155	Detail of Area A, upper left, pinpoint loss
41	156	Detail of Area A, upper left, pinpoint loss
42	157	Detail of insert seam texture
43	159	Detail of Area A, upper left, pinpoint loss
44	160	Detail of pinpoint paint loss under upper title insert

III. "First Passage of the Steamer Clermont"

45	163	Detail of drying cracks, right side sky
46	165	Detail of telescoping color in border
47	168	Detail of overpaint and seams, lower right reattachment, Area C
48	169	Detail of overpaint, lower right reattachment, Area C
49	172	Uneven sheen from texture, Area C

II. "Paying for the Land"

50	175	Pinpoint paint loss around title insert
51	176	Pinpoint paint loss around title insert
52	178	Seam and infill insert
53	179	Miminal planar distortion
54	180	Detail of discoloration in ceiling above

I. "General Washington at Fort Lee, November 16, 1776 Watching the Assault upon Fort Washington"

55	182	Detail of canvas loss
56	183	Area B, pinpoint paint loss
57	184	Area B, pinpoint paint loss
58	185	Area B, pinpoint paint loss
59	186	Border color telescoping through
60	194	Detail of profile
61	197	Detail of age cracking
62	199	Detail of age cracking
63	201	Detail of slightly tenting paint
64	202	Detail of craqueure and slight tenting
65	204	Detail of craqueure

IV. "Repulse of the Dutch"

66	206	Cleaning test swabs
67	201	Cleaning test swabs
68	217	Cleaning test
69	219	Soiled canvas, embedded in weave
70	220	Soiled canvas, embedded in weave
71	221	Soiled swab
72	224	Soiled swab

I. "General Washington at Fort Lee, November 16, 1776 Watching the Assault upon Fort Washington"

73	226	Cleaning test
74	227	Cleaning test

III. "First Passage of the Steamer Clermont"

75	228	Cleaning test
76	229	Cleaning test
77	230	Cleaning test
78	231	Cleaning test
79	232	Overpaint solvent sensitive

I. "General Washington at Fort Lee, November 16, 1776 Watching the Assault upon Fort Washington"

80	233	Cleaning test
81	234	Soiled swab
82	235	Cleaning embedded dirt with solvent
83	236	Site of cleaning test, left of doorway corner
84	237	Site of cleaning test, left of doorway corner

IX. "Life in An Old Dutch Town"

85	245	Cleaning tests
86	246	Cleaning tests
87	247	Cleaning tests
88	248	Cleaning tests
86	249	Area of "quilting" Area B
87	250	Area of "quilting" Area B
88	251	Area of "quilting" Area B

X. "The Coming of the English"

89	253	Area C cupping paint
90	254	Area C cupping paint
91	256	Area C cupping paint
92	257	Area C cupping paint

IX. "Life in An Old Dutch Town"

93	258	Cleaning test
94	259	Cleaning test
95	260	Area C lifting canvas
96	261	Area E <i>pentimenti</i>
97	262	Area E <i>pentimenti</i>
98	263	Area E <i>pentimenti</i>
99	264	Area E <i>pentimenti</i>

XII. "Hendryk Hudson and the Half-Moon"

100	265	Water stains
101	266	Water stains

IX. "Life in An Old Dutch Town"

102	267	Area E <i>pentimenti</i>
103	268	Area E <i>pentimenti</i>
104	269	Area E <i>pentimenti</i>
105	270	Area G <i>pentimenti</i>
106	271	Area F <i>pentimenti</i>
107	272	Area F <i>pentimenti</i>
108	273	Area F <i>pentimenti</i>
109	274	Area G/F <i>pentimenti</i>
110	275	Area G <i>pentimenti</i>

XII. "Hendryk Hudson and the Half-Moon"

111	276	Water stains
112	277	Water stains
113	279	Water stains and paint loss
114	280	Water stains and paint loss
115	284	Paint loss in paddle
116	285	Paint loss in paddle
117	286	Paint loss and water stains
118	290	Paint loss in paddle
119	293	Air vent left
120	294	Air vent left
121	295	Signature, lower left quadrant
122	297	Water stains

XIB. "Dutch Soldier"

123	298	Raking light
124	299	Distortion in area depicting eye, Area E
125	300	Efflorescence near upper horizontal seam

126	303	Detail of plaster/canvas distortion, Area E
127	306	Detail of seal

XIA. "English Soldier"

128	307	Detail
129	308	Detail of abrasion and distortion Areas G, K, H
130	309	Detail of abrasion, Area C
131	310	Detail
132	311	Detail
133	312	Detail
134	313	Detail

X. "The Coming of the English"

135	314	Detail of paint loss
136	315	Detail of canvas soiling
137	316	Detail
138	317	Detail
139	318	Detail
140	319	Detail
141	320	Detail
142	321	Detail of water stains and paint loss



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IMG_0114



IMG_0115



IMG_0116



IMG_0117



IMG_0118



IMG_0119



IMG_0121



IMG_0122



IMG_0123



IMG_0124



IMG_0125



IMG_0126



IMG_0127



IMG_0128



IMG_0129



IMG_0130



IMG_0131



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IMG_0134



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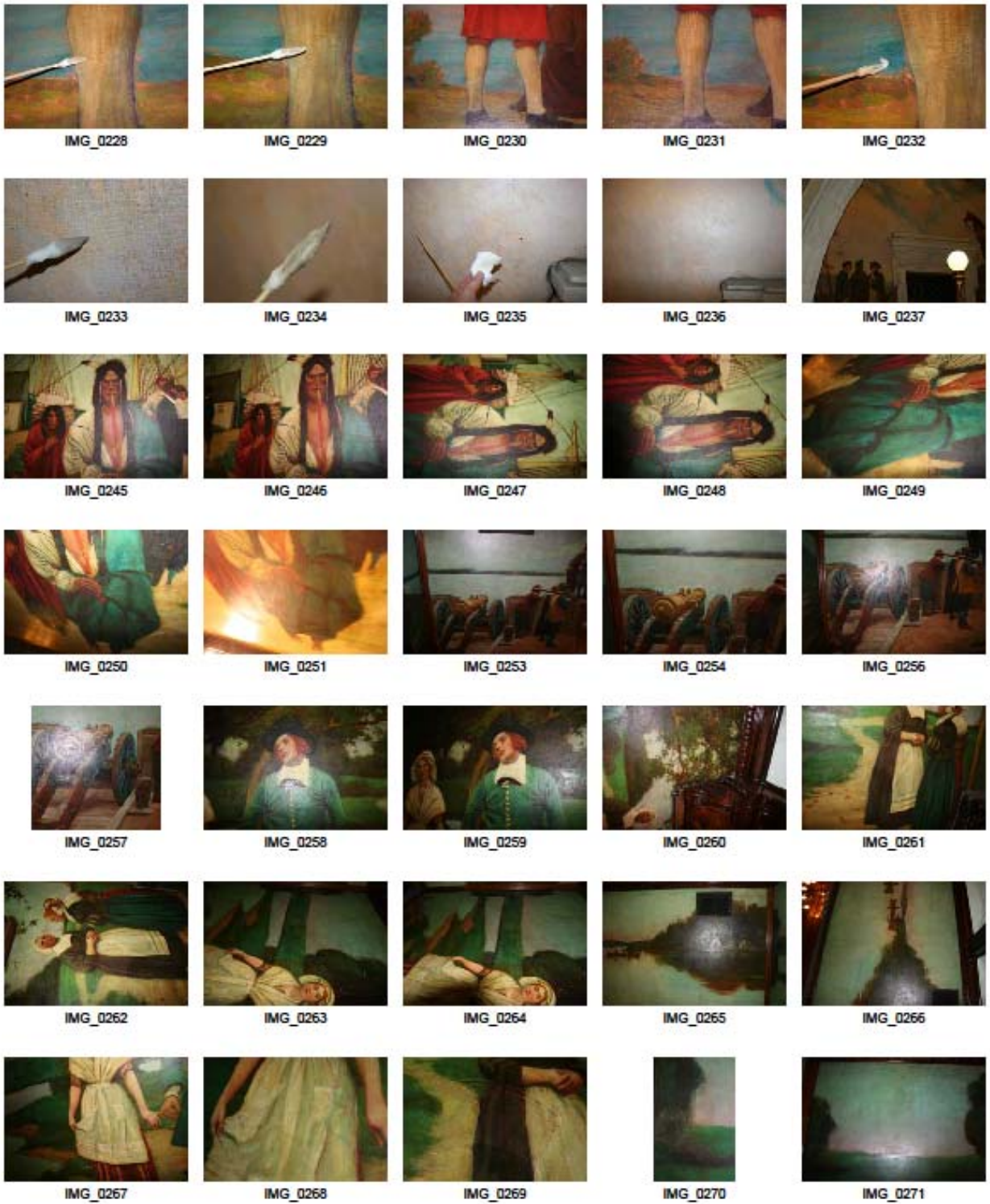
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