

HISTORIC PAINT FINISHES REPORT

THE MARYLAND BUILDING:

THE 1876 EXTERIOR FINISHES

CONDUCTED AT THE REQUEST OF:

MR. MARTIN P. AZOLA

AZOLA COMPANIES

4901 SPRINGARDEN DRIVE

BALTIMORE, MARYLAND 21209

FOR THE:

MARYLAND ZOO IN BALTIMORE

DRUID HILL PARK

BALTIMORE, MARYLAND 21217

BY:

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DATE:

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Historic Paint Finishes Study:

The Maryland Building from the Centennial Exposition of 1876 Exterior finishes of 1876

Introduction

This study was initiated by Mr. Martin P. Azola of Azola Associates who contacted the writer to conduct a study of the historic paint finishes of the Maryland Building, now on the grounds of the Maryland Zoo of Druid Hill Park. The building was designed by George A. Frederick, architect of the celebrated Baltimore City Hall, and most of the buildings in Druid Hill Park. At the time of the Centennial Exposition, Frederick was also renovating the Maryland State House in Annapolis.

Following the close of the 1876 Exposition, the Maryland Building was dismantled and reconstructed in Druid Hill Park. The Maryland Building is one of very few state pavilions that survive. As an example of late nineteenth century architecture showing the strong influence of the principals of the Ecole des Beaux-Arts in Paris, it is outstanding.

A colorful palette and an unusual system of painting

The Maryland Building combines classical elements, such as the large door and window frames of the center pavilion façade with deliberate rustic elements such as the chamfered outriggers and rafters. These elements indicate that the Ecole des Beaux-Arts concepts of clarity of forms and inventive combination of historical references were well understood by architect George A. Frederick. The appearance of the building was heightened by the use of color. Color thus is an intrinsic part of the architecture.

The system of painting was unusual. The initial finishes were coated with one or two semi-opaque varnish layers. After this treatment, the contrasting darker colors were applied to surfaces such as the truss-work, including the vivid vermillion red finish used on the chamfers. The historical photographs were very significant in determining this: the high contrast between the light color of the body of the building and the darker trim indicate this system of painting.

The Commitment to History

The results of this study will be surprising, and something of a challenge to modern tastes. It is nonetheless very significant as color completes the expression of the architecture. The restoration of the building should be a major opportunity for publicity for the Maryland Zoo, Druid Hill Park and the City of Baltimore. The results will surprise the public, but, happily, the public now has come to expect accurate restoration and the use of historic colors.

It appears that when the Maryland Building was moved to Druid Hill Park, certain changes were made to the exterior finishes, including an even more dramatic use of the bright vermillion red. Where this evidence survives, the second finish is indicated on the finish schedule, which is provided in the form of annotated photographs of the elements of the building.

Technical Program

Note: The following is the procedure that is generally followed for museum quality paint finish examination.

1. Collection of Materials

For the project at the Maryland Building, Samples were collected from all characteristic elements. A total of forty (40) samples were collected over two visits to the site. The client provided safe access to all locations. Two types of samples are sought: for stratigraphy (dating) purposes, and agglomerations of paints (drips) to aid in color and pigment identification.

2. Exposure of Finishes:

Where possible, and depending on conditions, on-site exposure windows of the original finish are made. These exposure windows were done in the forms of craterings, in view of the extensive paint accumulation.

3. Stereoscopic and Polarized-light Microscopy, and Microchemistry

All samples are examined in cross section and obliquely. When required, the sample may be mounted for thin cutting or polishing. These samples are mounted in Bio-plastic polymer resin, in most cases. The samples are ground and polished for examination using top lighting. Each significant layer of a sample is identified by comparison to the selected color system or systems. Special color standards are from commercial paint sources, or may be prepared in the lab as necessary using stable materials, thus all colors may be matched.

Exposure to full-spectrum or part-spectrum light is used to help reduce the yellowing of oil media. Initial stereomicroscopy is accomplished using an Olympus SZ-1145 microscope. Polarized-light microscopy, when necessary, is also undertaken, using the Olympus BMAX-50 microscope. Polarized-light microscopy identifies pigments and media according to the McCrone Research Institute system of particle identification. In many cases the most important function of serious paint research is the identification of the actual pigments and media used through optical and chemical testing. Polarized-light microscopy will be conducted on the original finish and on subsequent finishes where identification of pigment material may be an aid in dating, as required by the specific project.

4. Reconstruction of the historic finish:

Color determinations were made using the Benjamin Moore and Company Color lines. In every aspect, the aim of research is to reduce the degree of subjective judgment as much as possible. Nonetheless, the process inevitably retains subjective judgment, and is thus not considered a *strict science*, since experience and informed judgment plays a role in the recommendations. Since the color standards used are from commercial proprietary paint lines, all of the colors have been registered spectrophotometrically providing CIE Lab coordinates for recording the color data.

5. Photomicrographs:

A very important means of recording chromochronological data is photomicrography: print photographs taken through the microscope of particularly informative samples. This allows for clear indications of the conditions seen under the microscope, and how the recommendations were achieved. The report includes photomicrographs that are annotated with information in the report. Many of the paint samples will be mounted in polymer resin for cross sectioning. Photomicrographs form the basis of this report, and are of the greatest importance since the colors

are not what may have been anticipated.

6. Report:

The report brings together all the aforementioned material in a comprehensible manner and includes color samples, photomicrographs, reconstructed finishes and any additional pertinent information, such as that from known documents. Spectrophotometric readings of color standards are also executed to provide all standards with CIE Lab and included in the report.

7. Additional examination

Advanced examination using various instrumental means does not appear to be necessary for this project at this time. The first finishes of all of the elements of the Maryland Building have been rediscovered, and many of the second finishes have also been recovered.

Note Regarding accurate color rendering in Photomicrographs

The photomicrographs are a critical part of this study. They are presented to indicate the conditions and sequences of paint layers. Despite advances in rendering colors exactly using digital means, colors are not usually presented perfectly accurately in digital photomicrographs, just as they were not perfectly rendered on film.

Respectfully submitted this date: 24 March 2009

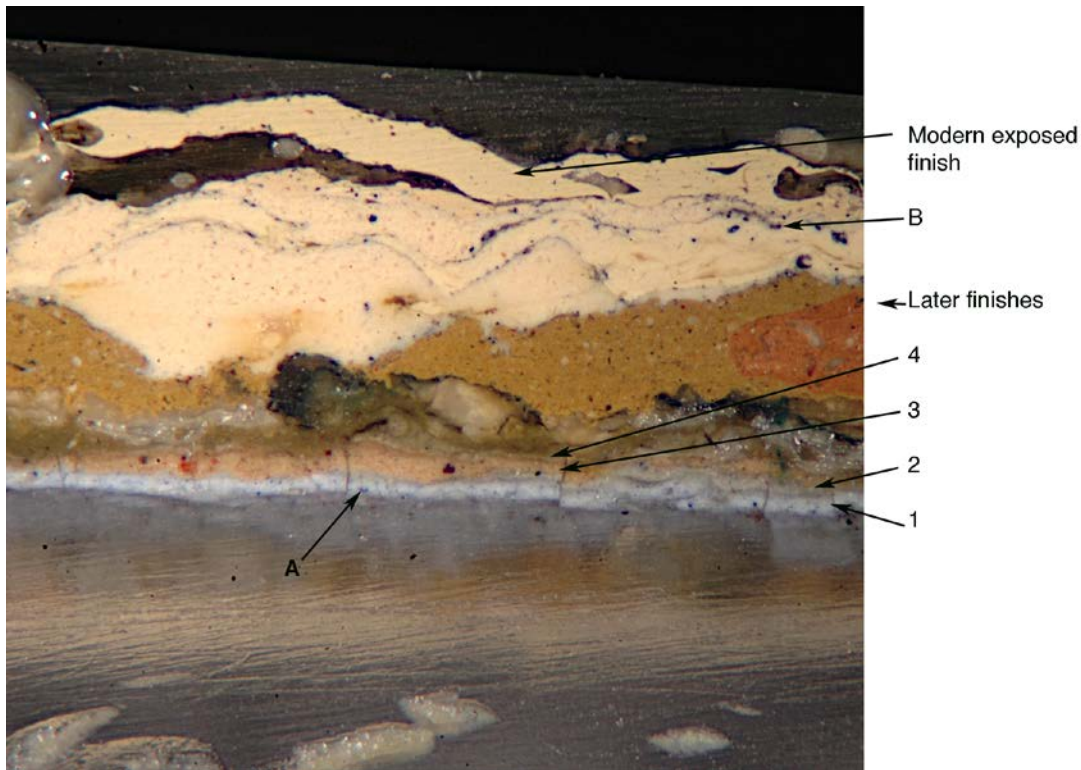
Matthew J. Mosca
Historic Paint Finishes Consultant, Artifex, Ltd.

List of Locations of Paint Samples

1. Siding: North Wing North East Porch, surface protected by porch ceiling
2. Window Frame: North Wing, North East Porch, Surface protected by porch ceiling
3. Moldings at the top of the wall: North Wing North East Porch, surface protected by porch ceiling
4. Porch Ceiling, North Wing, North East Porch
5. Rafters, North Wing, North East Porch
6. Porch Posts, North East Porch
7. North East Porch: Window sash
8. Hand Railing and Moldings: North East Porch
9. Porch Post, Base: North East Porch
10. Shaped Balusters, Base and Moldings
11. Rafters: Chamfers: North Wing, North East Porch
12. Porch construction: Main truss, North West Porch
13. Porch Construction: Main truss, North West Porch, chamfer
14. Porch Construction: Pierced brackets, North West Porch
15. North West Porch: Window frames
16. North West Porch: Window sash
17. North Wing, Gable end: Main Truss
18. North Wing, Gable end: Main Truss Chamfers
19. North Wing: Siding
20. North Wing: Window enframingent: Cresting
21. North Wing: Window enframingent: Moldings
22. North Wing: Window enframingent: fascias
23. North Wing: Window enframingent: Small console
24. Center Pavilion (Main Hall) North elevation, upper truss work: Trusses
25. Center Pavilion (Main Hall) North elevation, upper truss work: Chamfers of trusses
26. Center Pavilion (Main Hall) North elevation, upper truss work: Siding behind the trusses
27. Center Pavilion (Main Hall) North elevation, upper truss work: Roof, underside
28. Center Pavilion (Main Hall) North elevation, upper truss work: wood ledge
29. Center Pavilion (Main Hall) Façade: Door and Window enframingents, with consoles
30. Center Pavilion (Main Hall) Façade: Door and Window enframingents: siding surface between window and flat cornice
31. Center Pavilion (Main Hall) Façade: Door: rails and stiles, panel molding
32. Center Pavilion (Main Hall) Façade: Door: panels
33. Center Pavilion (Main Hall) Façade: Sign: frame
34. Center Pavilion (Main Hall) Façade: Sign, background and lettering
35. Center Pavilion (Main Hall) Façade: Pierced panel decoration
36. Center Pavilion (Main Hall) Façade: Pierced decoration: trusses
37. Center Pavilion (Main Hall) Façade: Pierced decoration: chamfers of trusses
38. Center Pavilion (Main Hall) Façade: Pierced decoration: Central flower form: center knob
39. Center Pavilion (Main Hall) Façade: Pierced decoration: Central flower form: “ring form”
40. Center Pavilion (Main Hall) Façade: Pierced decoration: Central flower form: petals

**Maryland Building: Siding: surface protected by porch ceiling, First Floor North wing
North East Porch**

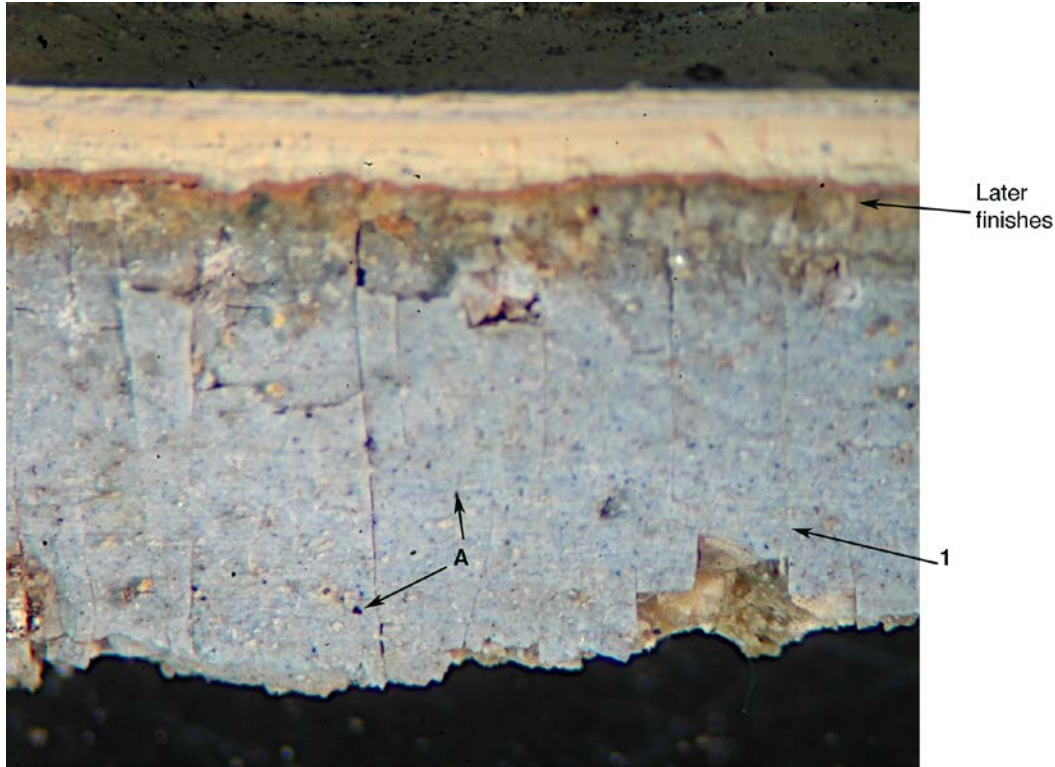
Photomicrograph: Mounted sample, Olympus SZ-1145 microscope, with Nikon D70 digital camera body Lexar Media 1GB flash card Dolan Jenner Fiber optics illuminator, daylight filtering 6770 Kelvin Degree illumination



Note: The surface has been subject to extensive paint removal probably over fifty years ago. The sample seen above was extracted from the recessed bead where paint layers were not damaged by the paint scraping. Note the earliest finish (1) is a prussian blue and white combination. The prussian blue pigment particles are clearly seen (A). There is a second finish, a blue gray (2), which is followed by a brownish-pink (3) and a warm tannish gray (4). Some evidence of disturbance in the paint sequence is then seen, followed by later colors. Note the surface particulate (B) on most of the layers. The modern yellowish finishes are distinct.

Maryland Building: Siding: surface protected by porch ceiling, First Floor North wing

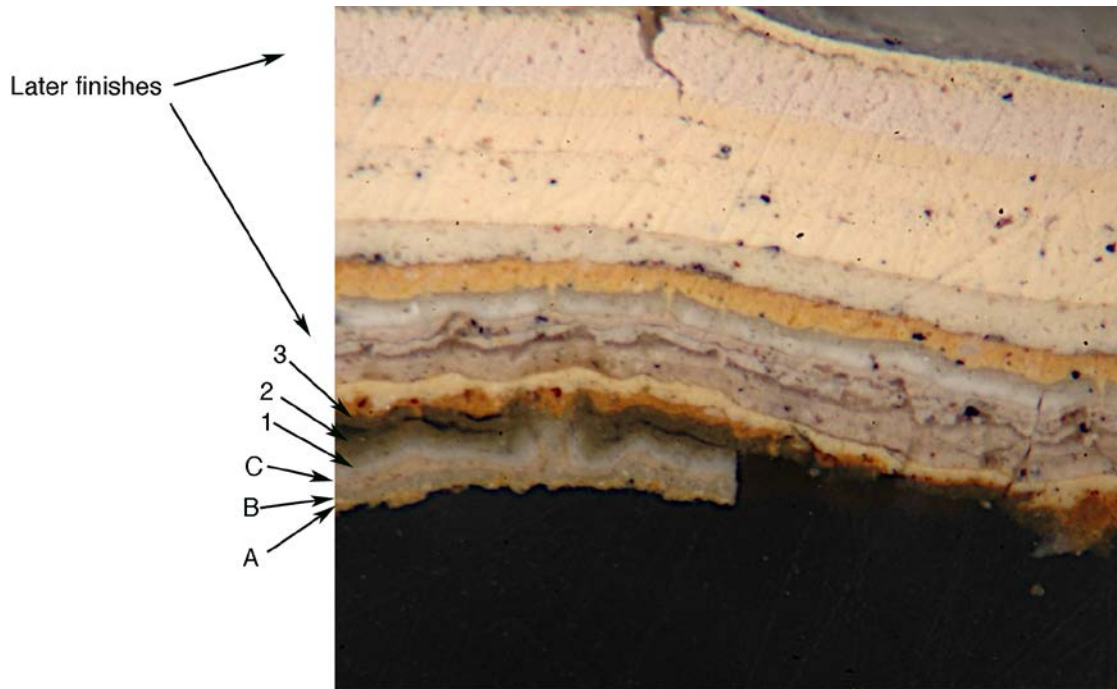
Photomicrograph: Unmounted sample, Olympus SZ-1145 microscope, with Nikon D70 digital camera body Lexar Media 1GB flash card Dolan Jenner Fiber optics illuminator, daylight filtering 6770 Kelvin Degree illumination



Note: The sample seen above was extracted from the recessed bead where paint layers were not damaged by paint removal elsewhere on the building. Note the earliest finish (1) is a prussian blue and compound white combination. The prussian blue pigment particles are clearly seen (A). The sample is seen from the underside: the later finishes are seen at the rear of the sample.

Maryland Building: Truss-work (Project North) Elevation, Center pavilion, supporting roof

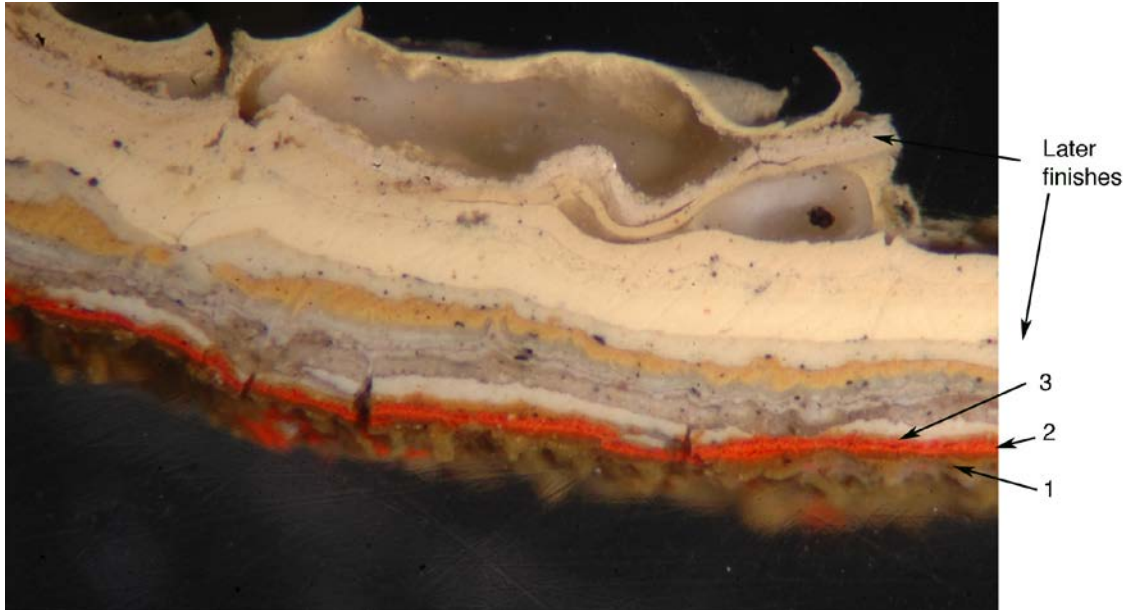
Photomicrograph: Mounted sample, Olympus SZ-1145 microscope, with Nikon D70 digital camera body Lexar Media 1GB flash card Dolan Jenner Fiber optics illuminator, daylight filtering 6770 Kelvin Degree illumination



Note: This is a very interesting sample because it showed three paint layers that may have been test colors or under-coatings (A, B, C). The next layer (1) is the finish seen on the siding behind the truss-work, with one coat of a semi-transparent coating. The next layer (2) is the FIRST finish, a dark gray that has yellowed dramatically (2) so that it looks green. The next layer (3) is a repeat of this dark gray, which is also very discolored and looks like a dark olive green. Later finishes are also noted.

Maryland Building: Truss-work Chamfer (Project North) Elevation, Center pavilion, supporting roof

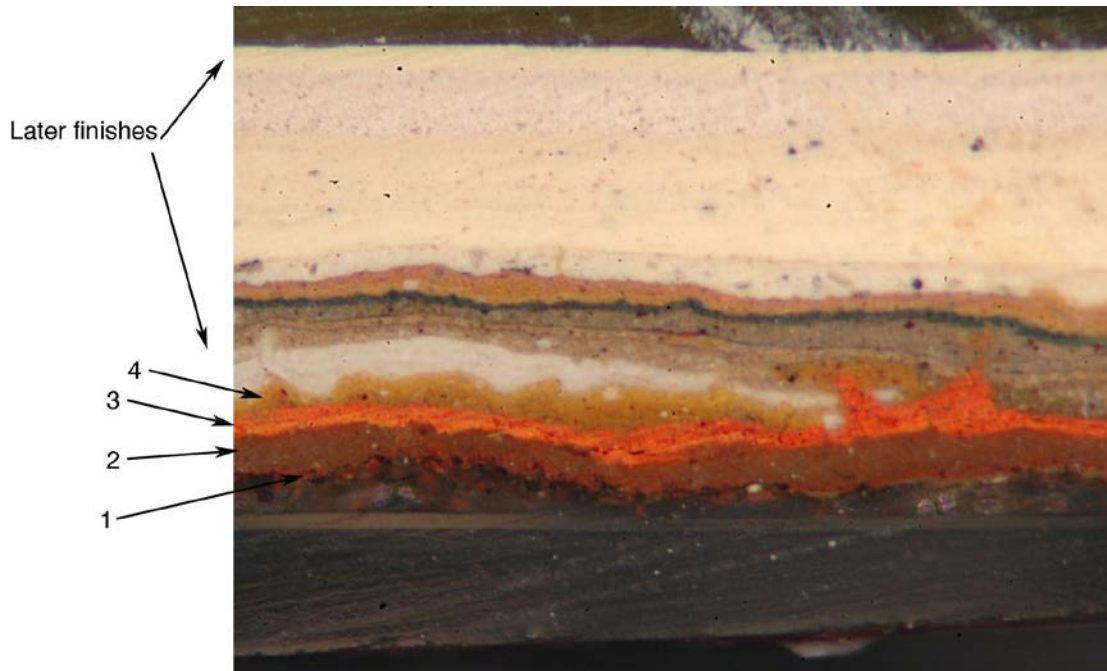
Photomicrograph: Mounted sample, Olympus SZ-1145 microscope, with Nikon D70 digital camera body Lexar Media 1GB flash card Dolan Jenner Fiber optics illuminator, daylight filtering 6770 Kelvin Degree illumination



Note: This sample has been mounted in polymer resin. The earliest layer is a thin application of the dark gray (discolored) that served as the finish on the other surfaces of the truss-work. The first finish on this surface was the brilliant vermilion red (2). A second application of the same type of vermilion red (3) probably postdates the re-building of the structure in Druid Hill Park.

Maryland Building: Main Truss, Chamfer (project North) Gable

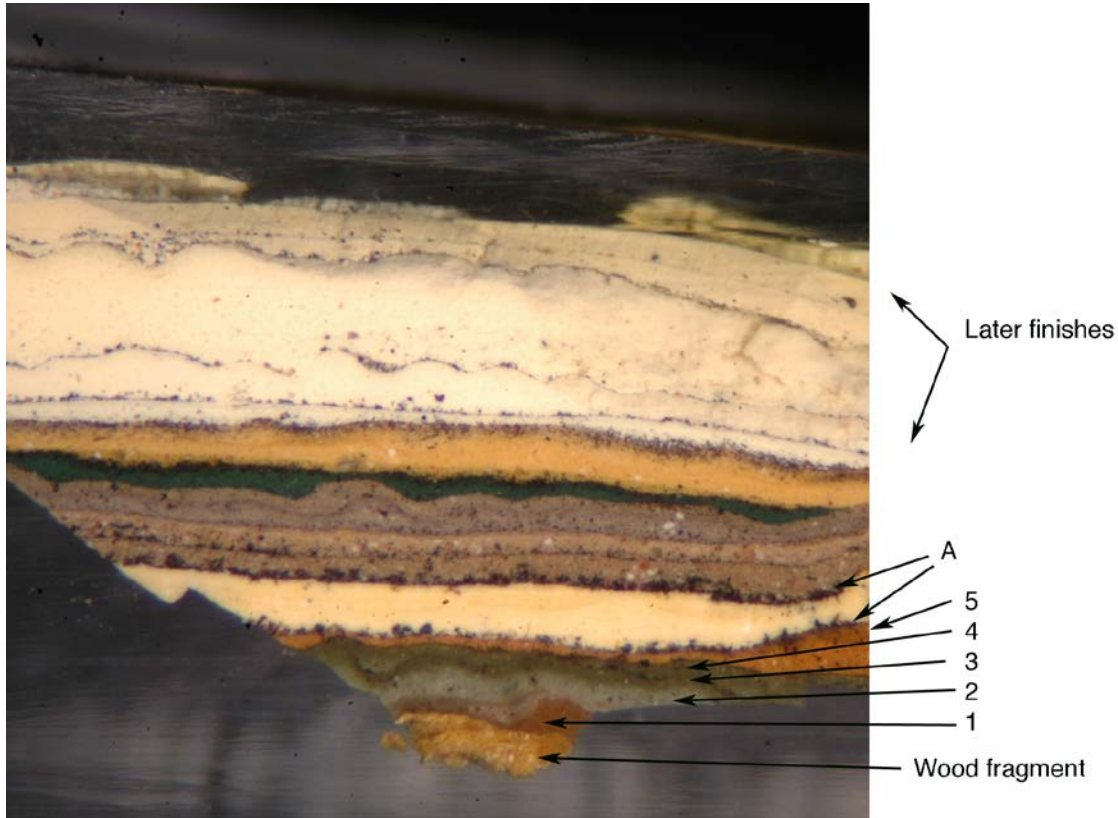
Photomicrograph: Mounted sample, Olympus SZ-1145 microscope, with Nikon D70 digital camera body Lexar Media 1GB flash card Dolan Jenner Fiber optics illuminator, daylight filtering 6770 Kelvin Degree illumination



Note: The sample has been mounted in polymer resin, cut and polished for additional examination. The earliest surviving layer is the first finish, the dark red ochre (1) that was the first finish on this chamfer surface. The next layer is a dark brown ochre used as an undercoating (2) to support the vermilion finish that appears to date to the re-building of the structure in Druid Hill Park (3). A notable layer yellow ochre finish is also visible (4). Later finishes are also seen.

Maryland Building: Bracket Pierced rosette, Chamfer (project North) Gable

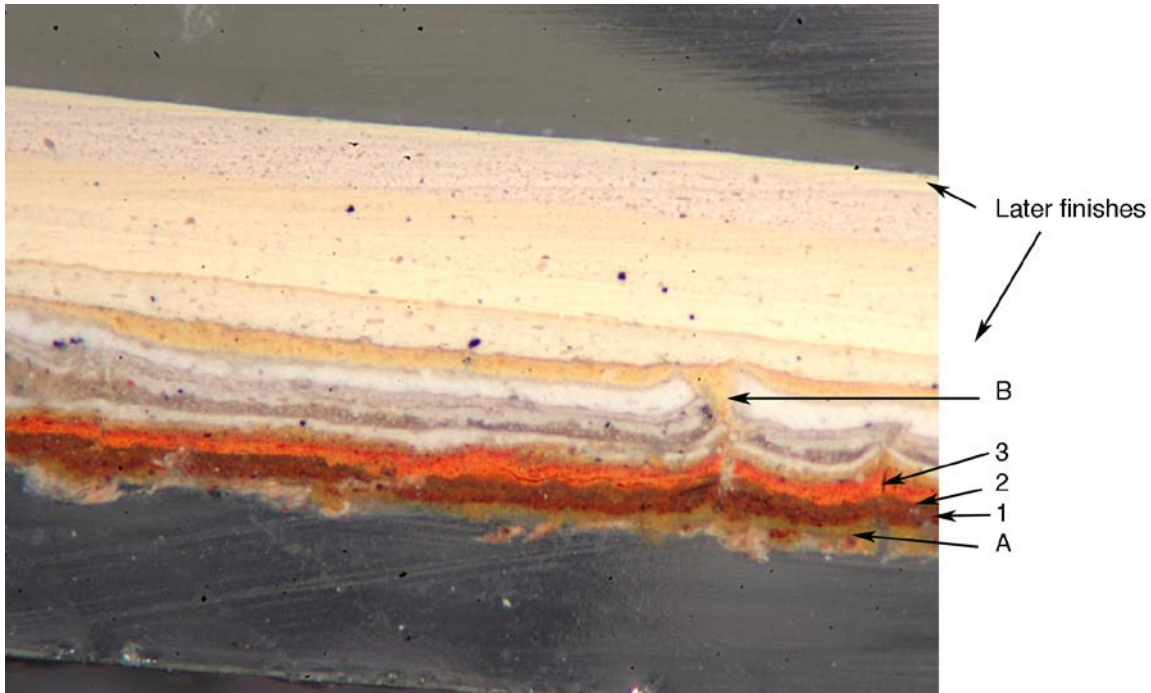
Photomicrograph: Mounted sample, Olympus SZ-1145 microscope, with Nikon D70 digital camera body Lexar Media 1GB flash card Dolan Jenner Fiber optics illuminator, daylight filtering 6770 Kelvin Degree illumination



Note: This sample has been mounted in polymer resin, cut and polished for additional examination. The wood substrate is clearly seen at the base of the sample, which supports a clear coating (sealer). The second layer is the bluish gray that was used as the finish elsewhere: here is an undercoat. There is the thin semi-opaque layer (3) followed by the first finish, the dark gray (4). This dark gray now appears as green due to the yellowing of the oil medium. The later deep yellow-brown ochres are also seen (5). Note the heavy surface particulate (A, fly ash and coal dust) that is seen on the surface of some of the finishes. Later finishes are also seen.

Maryland Building: Window casing and cresting North Elevation

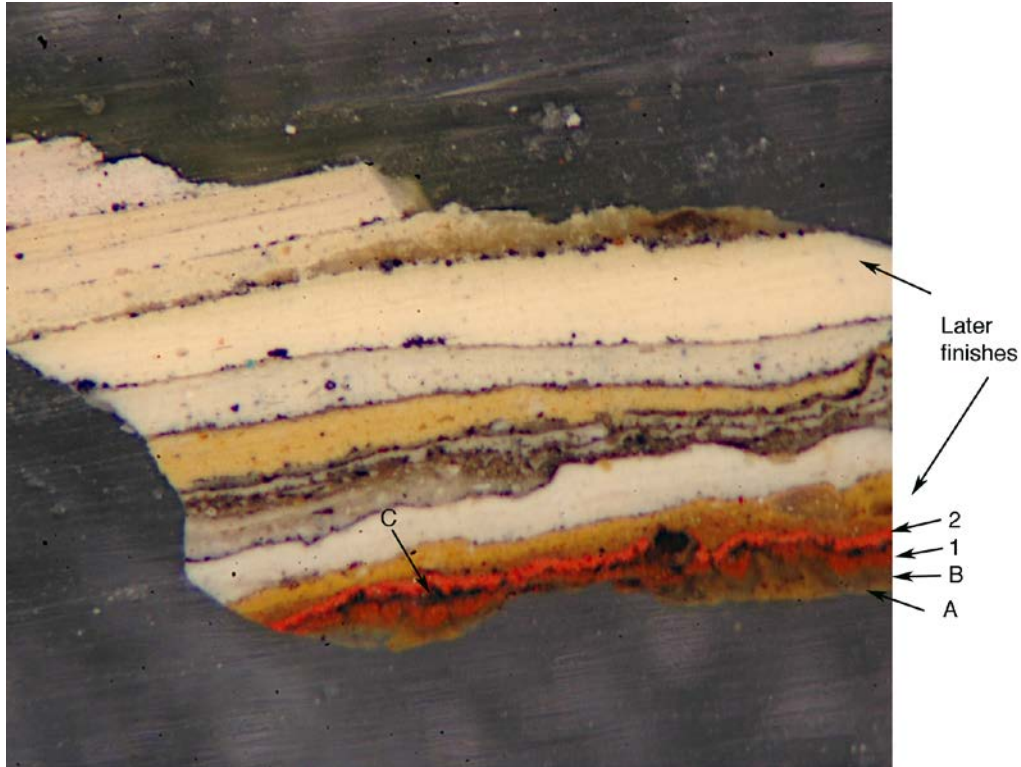
Photomicrograph: Mounted sample, Olympus SZ-1145 microscope, with Nikon D70 digital camera body Lexar Media 1GB flash card Dolan Jenner Fiber optics illuminator, daylight filtering 6770 Kelvin Degree illumination



Note: This sample has been mounted in polymer resin, cut and polished for additional examination. The first layer is a n under-coating (A) made with yellow ochre. This is followed by the dark red ochre finish (1). The next layer is a brown ochre under-coating (2) for the vermilion red finish (3). Note the interesting cupping (B) that deforms the paint layers as they age in the extremes of heat and cold: note the flow of the later paint into the crack that is created. Later finishes are also seen.

Maryland Building: Façade, Center pavilion Flower form A

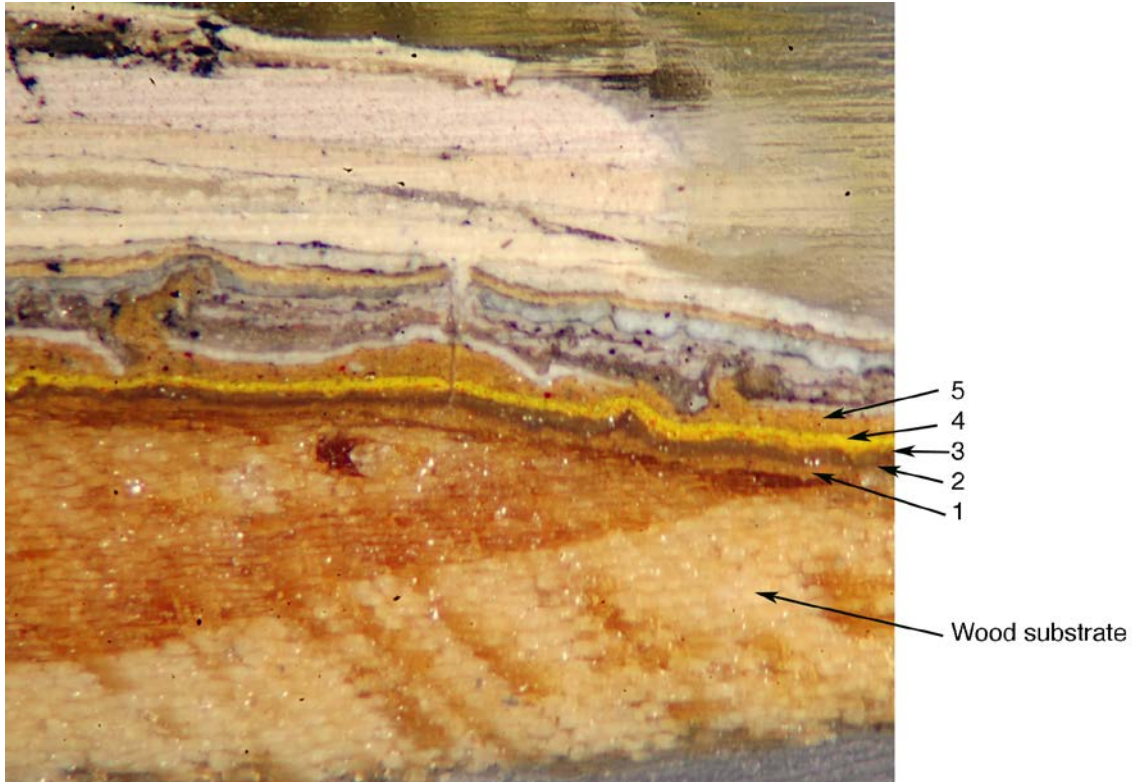
Photomicrograph: Mounted sample, Olympus SZ-1145 microscope, with Nikon D70 digital camera body Lexar Media 1GB flash card Dolan Jenner Fiber optics illuminator, daylight filtering 6770 Kelvin Degree illumination



Note: This sample has been mounted in polymer resin, cut and polished for additional examination. The first two layers are under-coatings made with yellow and brown ochres (A, B). This is followed by the first vermilion finish (1) and the second vermilion finish (2). Later finishes are also clearly seen. There are very distinct surface particulate lines indicating the finish periods.

Maryland Building: Façade, Center pavilion Flower form B

Photomicrograph: Mounted sample, Olympus SZ-1145 microscope, with Nikon D70 digital camera body Lexar Media 1GB flash card Dolan Jenner Fiber optics illuminator, daylight filtering 6770 Kelvin Degree illumination



Note: This sample has been mounted in polymer resin cut and polished for additional examination. The wood substrate is clearly seen and is noted. This supports the bright yellow ochre initial finish (1) that has a coating of clear varnish (2); the clear varnish is very discolored and appears greenish. The chrome orange/yellow ochre undercoat layer (3) is seen next: this was applied to support the chrome yellow finish (4) that appears to have been applied when the Maryland Building was re-constructed in Druid Hill Park. A later yellow ochre finish (5) is also seen, as are later finishes.

Maryland Building: Façade, Center pavilion “Maryland” sign, Background

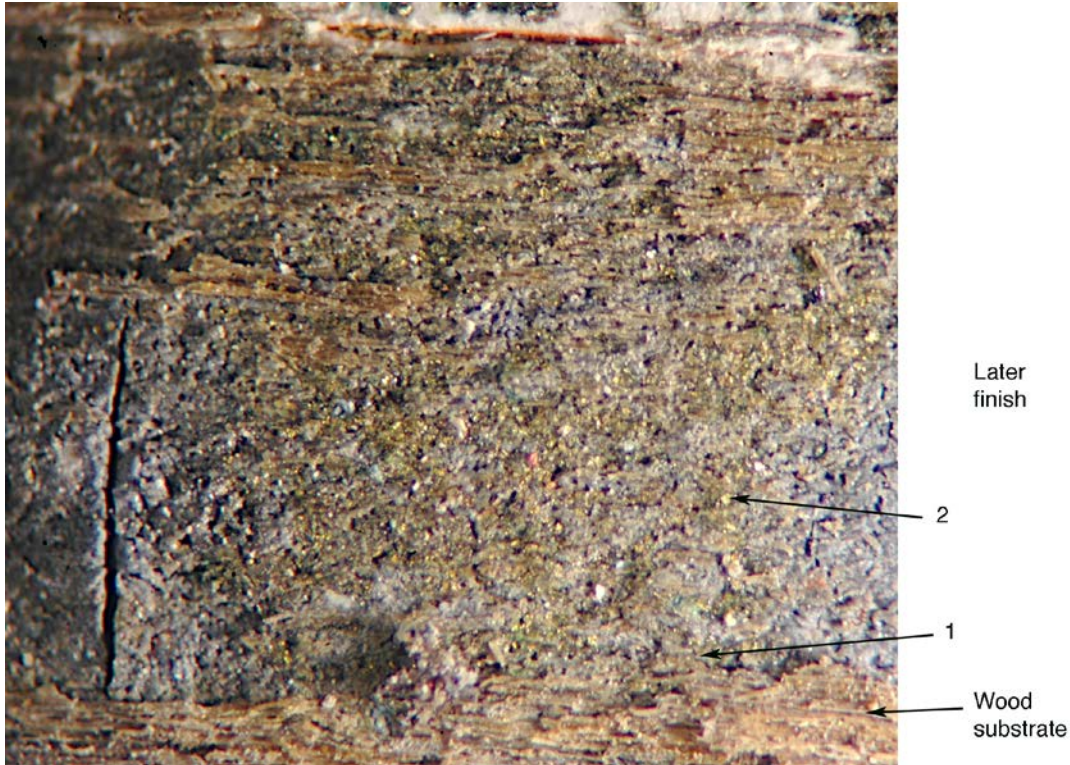
Photomicrograph: Unmounted sample, Olympus SZ-1145 microscope, with Nikon D70 digital camera body Lexar Media 1GB flash card Dolan Jenner Fiber optics illuminator, daylight filtering 6770-Kelvin Degree illumination.



Note: The wood substrate is clearly seen on this fragment that was extracted from the sign background. The earliest remnants are of a black enamel (1) that is seen staining the wood fibers. This may be the first finish.

Maryland Building: Façade, Center pavilion “Maryland” sign, Lettering

Photomicrograph: Unmounted sample, Olympus SZ-1145 microscope, with Nikon D70 digital camera body Lexar Media 1GB flash card Dolan Jenner Fiber optics illuminator, daylight filtering 6770-Kelvin Degree illumination.



Note: The view of this sample is seen from the underside. The wood substrate is clearly seen; remnants of the earliest surviving finish (a light brown) are seen (1). The second finish may date to the re-building of the structure in Druid Hill Park (2): note that it is a gold metallic finish (2).

The Pictorial Finish Schedule

The finish schedule for the Maryland Building is somewhat complicated because of the various colors that were used to articulate the parts of the building. The colors were selected from the Benjamin Moore and Company color lines. Each color has been read by the spectrophotometer providing the CIE Lab coordinates, which is described later in this report. All of the finishes should be at least semi-gloss. The original finishes would have been full gloss, but the condition of the surfaces may not permit the use of full gloss paint finishes. All indications of finishes for typical similar elements.

Two finishes

In some cases, there are two finishes noted (and identified as F-1 and F-2). These locations indicate that the specific location was repainted in a different color than the original finish used for the fair. A selection will be required.

Finish Schedule Façade



Body Color:
Siding:
BM 1662

Door, window
frames, and
entablatures
F-1 BM 1259
F-2 BM 1309

All surfaces of the door and window frames: F-1 BM 1259 F-2 BM 1309

Door: Rails, stiles and panel moldings: BM 1259
Door Panels: BM 1662

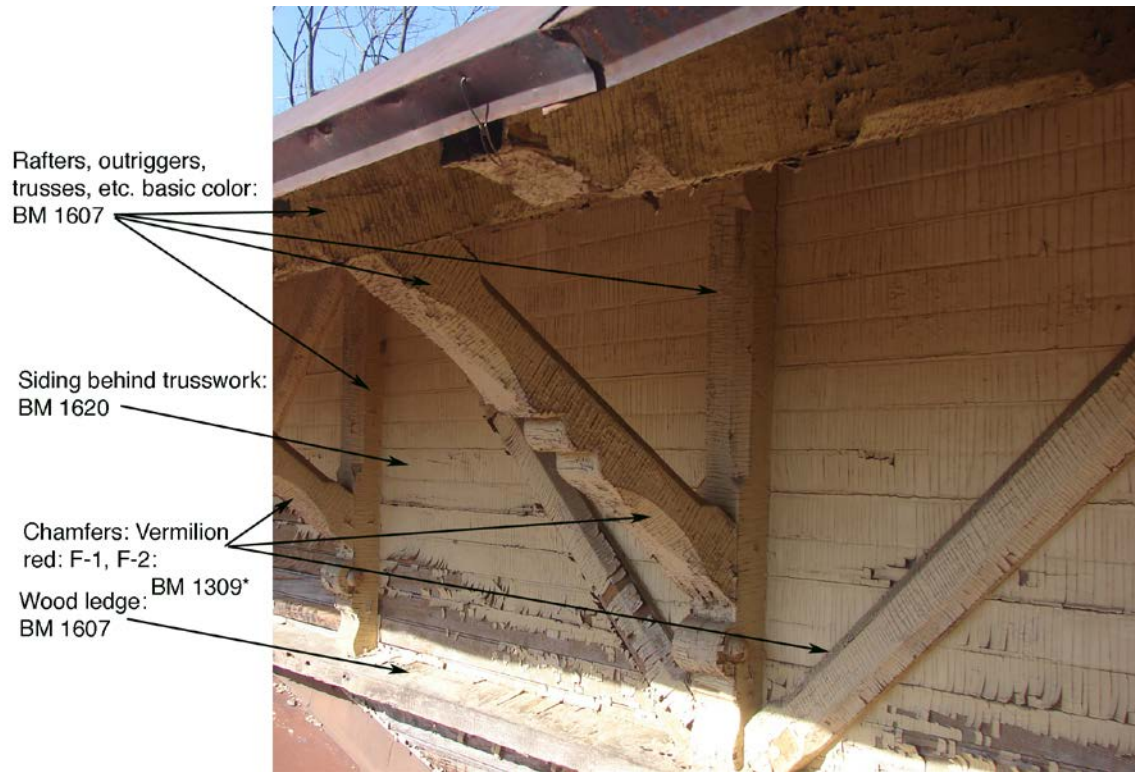
Sign: Background: Surviving finish: BM "Black" Exterior RM.
Lettering: F-1 BM 2163-60 F-2: Gold metallic finish

Finish Schedule: Side view (South Elevation) wing and center pavilion



Window sash: BM 1260
Window Frame: F-1 BM 1259 F-2 BM 1309
Decorative gable: BM 1607 Chamfers: F-1 BM 1259
F-2 BM 1309
Siding: Principal body color: BM 1662
Proposed Metal Roof color: Iron oxide red, (similar to BM "Cottage Red")

Finish Schedule: Center Pavilion (Main Hall), North Elevation showing upper truss-work

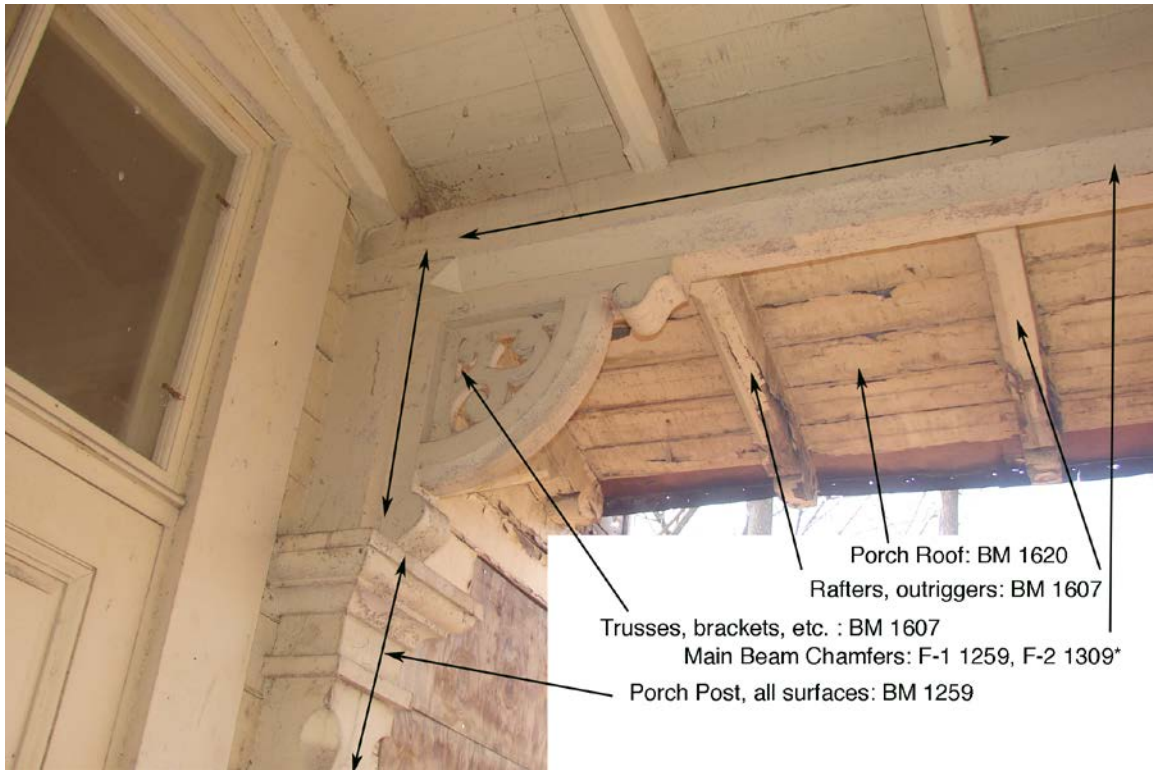


Additional:

All chamfers of the trusses, rafters and outriggers: F-1: BM 1309* F-2: BM 1309*

Roof, underside: BM 1620

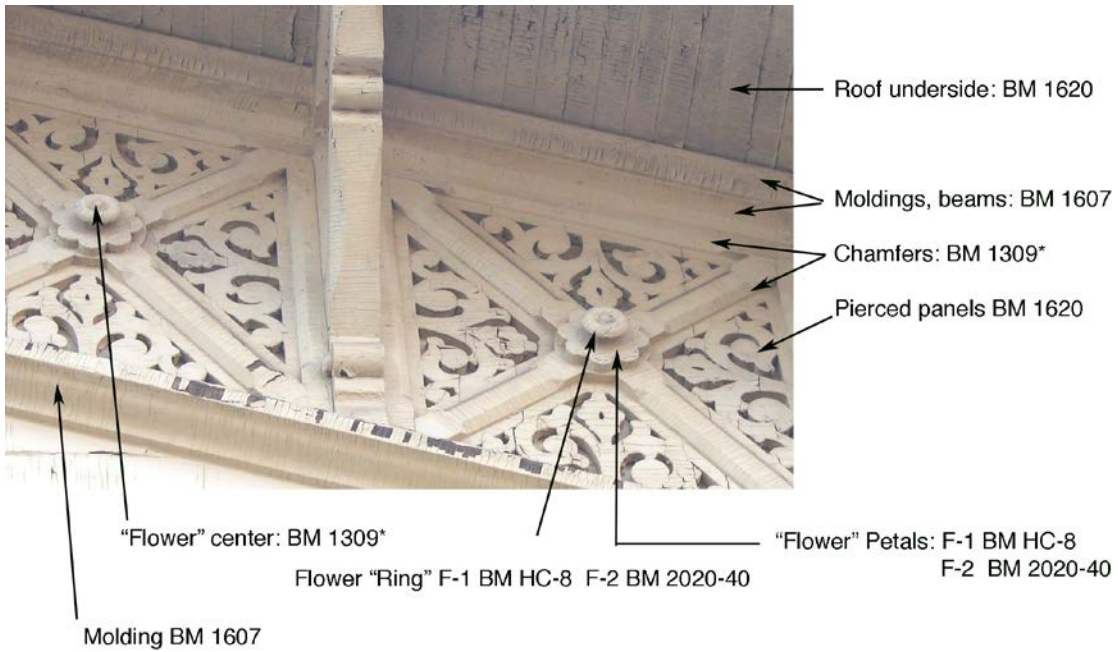
Finish Schedule: Porch Construction



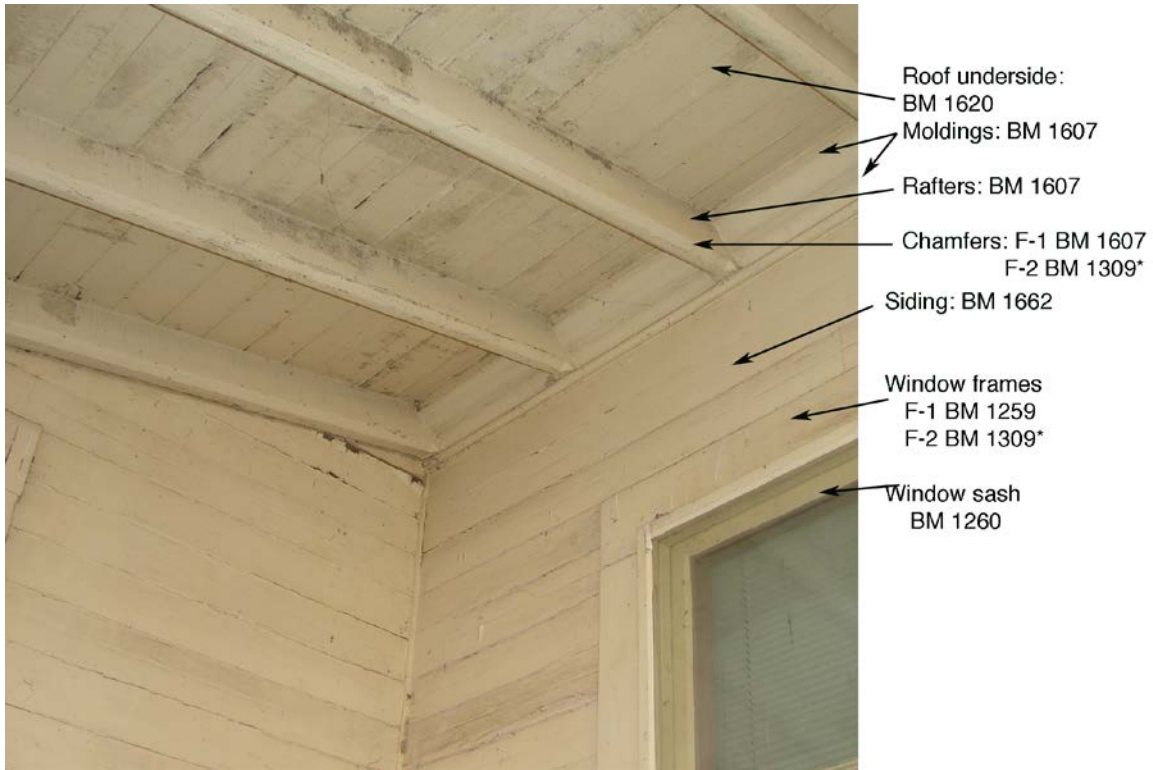
Additional:

The porch posts appear to have been painted entirely with BM 1259. This was based on surviving remnants of paint, which has stained the wood.

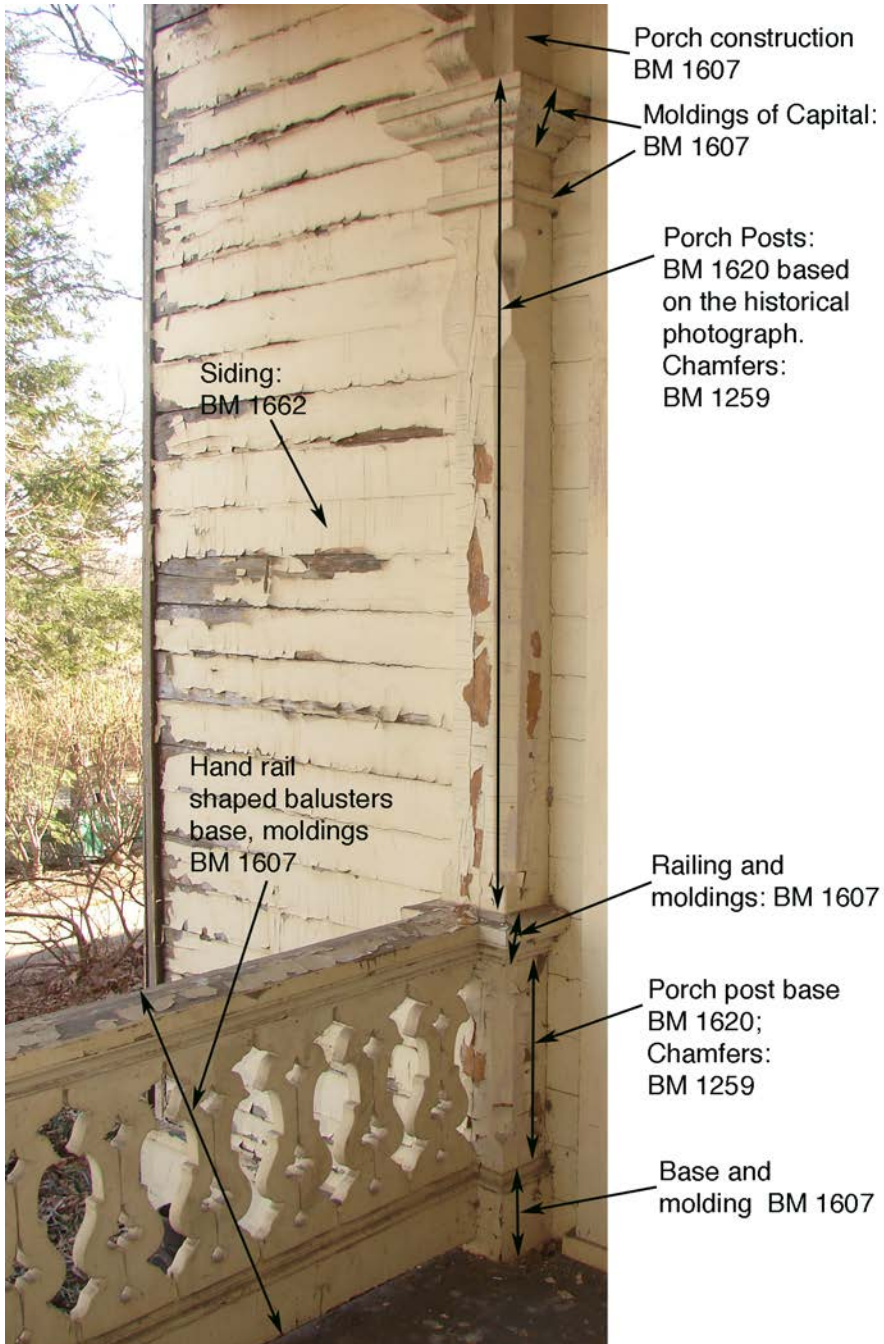
Finish Schedule: Façade Pierced Decorative work



Finish Schedule: Porch Construction details



Finish Schedule: Porch Construction details



Finish Schedule: Details of the façade: Door and window enframements and the Maryland Sign



Siding: BM 1662

Sign:
Frame: BM 1607

Background: BM "Black" ext R.M.

Letters: F-1: BM 2163-60
F-2: Gold metallic*

Window and Door enframement:
F-1 BM 1259
F-2 BM 1309*

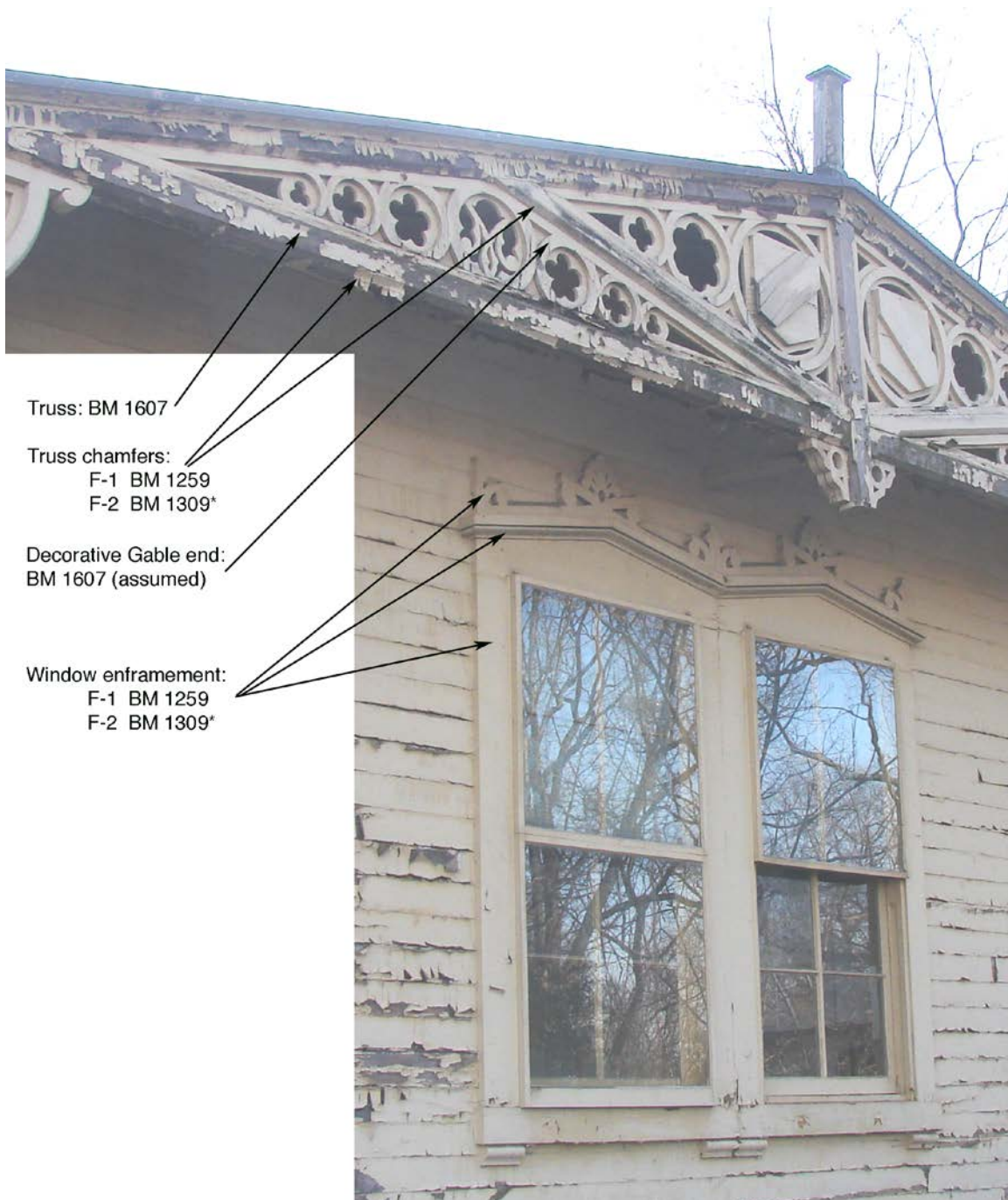
Panel of siding: BM 1662

Doors:
Rails, stiles, panel moldings:
BM 1259

Panels:
BM 1662

Window and Door
Enframement:
F-1: BM 1259
F-2: BM 1309*

Finish Schedule: North Wing, Gable End (typical)



Additional: All window sash: Dark reddish brown: BM 1260

Note: Consideration of the historical photographs: Determining the finishes for the Porch Posts

The historical photographs in the report: *Physical Condition Study and Exterior Restoration Budget, The Maryland Building for the Maryland Zoo in Baltimore* dated August 4, 2008 by Azola Associates, Inc. has a number of historical photographs from the 1876 Centennial Exhibition showing the color layout in black and white. Photograph SA766 is the most significant. While the colors are not indicated, the type of film in use at that time registered blue and green very poorly, thus they appear light. Red and browns, by contrast nearly always appear dark. The finish colors identified relate to the historical photograph perfectly, except for one element: the porch posts. The historical photograph shows the porch posts as light, however, the physical evidence only shows remnants of the same red ochre that is seen on the window frames. The historical photograph probably is the most reliable evidence, since dark red ochres were often used as primers, which would explain the physical evidence. As a result, the finish schedule for the Porch posts is outlined as follows:

Post capital: moldings: BM 1607
Post Capital: fascia: BM 1620

Post shaft: BM 1620 with Chamfers: BM 1259
Post base: BM 1620 with Chamfers: BM 1259

Base and Moldings: BM 1607

Note: Regarding the finish periods

The writer suggests that the first finish period should be followed because characteristic elements of nearly all of the Maryland Building could be assigned a finish color based on actual physical evidence. The second finish, which has an even more exuberant use of the vermilion red finish, does not survive on all surfaces, and thus some conjecture may be required.

Note: The Gable ends

The physical evidence survived on the inside face for the trusses and the chamfers, as indicated. It is possible that the decorative inset elements (script “M”, the cinque-foil, quatre-foil and trefoil) were painted with the red-brown ochre color BM 1259. This would be a curatorial decision, as there were no surviving early elements to examine.

Note: Regarding paint types: replacements

The Vermilion color: BM 1309

The color of the historic vermilion matched the color indicated in the finish schedules, Benjamin Moore 1309. This particular paint color, however, may not be stable in exterior conditions, and like many modern red colors would be subject to rapid fading. In view of this, the Benjamin Moore Color: “Heritage Red” from the Exterior Ready-mixed line is suggested as a replacement for all locations where BM 1309* is indicated.

A metallic finish for the Maryland Sign lettering

Among the most useful modern finishes is the modern metallic lettering enamels such as “1-Shot” Lettering Enamels, oil based high gloss enamel. This company produces as brass metallic number 111 that would be very close to the brass powder finish that survives on the sign as the second finish. The quantity is small enough that it should not be a problem using an oil-based paint for this application.

Gloss level:

The gloss level of these paints would have been similar to a modern semi-gloss, once the surfaces were fully dry and cured. Semi-gloss finishes are recommended for the finishing of the Maryland Building. According to the standard coating terms defined in ASTM D16, **Semi-gloss** refer to medium-sheen finish with a gloss range between 30 and 65 when measured at a 60-degree meter.

Color standards: CIE Lab coordinates

CIE is the abbreviation for the *Commission Internationale de l’Eclairage* the French title for the International Commission on Illumination, which devised the CIE Lab system in 1931. It is devoted to standardization in illumination and related areas that include color.

The spectrophotometer registers color standards into a system of measuring color devised in 1931 known as CIE Lab (pronounced See-lab). CIE Lab is a uniform (opponent color scale) *color space* in which colors are located within a three-dimensional rectangular coordinate system. The three dimensions are Lightness (L^*), redness/greenness (a^*) and yellowness/blueness (b^*). CIE Lab is part of current CIE recommendations.

All of the Spectrophotometric readings are done with the GretagMacbeth Color Eye 2180, spectrophotometer, Designated observer 2 degrees, Illuminant C. Illuminant C is a mathematical representation of filtered tungsten halogen (daylight). The color temperature is 6770K, simulating CIE average daylight.

Sources of color standards:

Color standards are available from all Benjamin Moore and Company retail outlets. In addition, color standards are available from the company headquarters:

Benjamin Moore and Company
101 Paragon Drive
Montvale New Jersey 07645

Color Standards:

Benjamin Moore 1662

Moderate blue (Basic siding color)

CIE Lab coordinates

Designated observer 2 degrees

Illuminant C

$L^* = 75.409$

$a^* = -5.436$

$b^* = -9.759$

Benjamin Moore 1620

Light bluish gray

CIE Lab coordinates

Designated observer 2 degrees

Illuminant C

$L^* = 75.702$

$a^* = -1.963$

$b^* = -5.782$

Benjamin Moore 1607

Moderate-dark gray (Truss color)

CIE Lab coordinates

Designated observer 2 degrees

Illuminant C

$L^* = 55.065$

$a^* = -0.539$

$b^* = -2.894$

Benjamin Moore 1259

Moderate Reddish brown (Trim: i.e. Window, Door frames)

CIE Lab coordinates

Designated observer 2 degrees

Illuminant C

$L^* = 39.833$

$a^* = 14.998$

$b^* = 8.798$

Benjamin Moore 1260

Dark reddish brown (all window sash)

CIE Lab coordinates

Designated observer 2 degrees

Illuminant C

$L^* = 35.833$

$a^* = 11.097$

$b^* = 5.620$

Benjamin Moore 1309

“Vermilion red” (Trusses: chamfers, F-2 window/door frames)

CIE Lab coordinates

Designated observer 2 degrees

Illuminant C

$L^* = 44.578$

$a^* = 36.459$

$b^* = 20.338$

Benjamin Moore “Heritage Red” R.M. Exterior Colors
Suggested Replacement for Benjamin Moore 1309

CIE Lab coordinates

Designated observer 2 degrees

Illuminant C

$L^* = 40.325$

$a^* = 39.756$

$b^* = 21.141$

Benjamin Moore HC-8
Moderate yellow ochre (Flower form, F-1)

CIE Lab coordinates

Designated observer 2 degrees

Illuminant C

$L^* = 76.057$

$a^* = 4.688$

$b^* = 38.113$

Benjamin Moore 2020-40
“Chrome yellow” (Flower form, F-2)

CIE Lab coordinates

Designated observer 2 degrees

Illuminant C

$L^* = 86.729$

$a^* = 1.309$

$b^* = 58.445$

Benjamin Moore 2163-60

Light tan (Lettering of sign F-1)

CIE Lab coordinates

Designated observer 2 degrees

Illuminant C

$L^* = 86.552$

$a^* = 3.077$

$b^* = 10.087$

Lettering F-2: Suggest

One-shot Brass metallic finish

(CIE Lab coordinates not available on metallic finishes)

Benjamin Moore “Black” R.M. Exterior Colors

Black (Sign background)

CIE Lab coordinates

Designated observer 2 degrees

Illuminant C

$L^* = 27.718$

$a^* = -0.177$

$b^* = -0.764$

Benjamin Moore “Cottage Red” R.M. Exterior Colors

(Suggested model color for metal roof)

CIE Lab coordinates

Designated observer 2 degrees

Illuminant C

$L^* = 34.007$

$a^* = 19.797$

$b^* = 10.473$

Addendum:

Color Rendering:

The following color rendering is provided to give a *general idea* of the layout of the colors. The basic drawing was provided by the Azola Companies and required that color be applied with color pencil, then adjusted using Photoshop. The colors are **not exact matches** to the historic colors, but the concept is properly indicated.



Maryland Building: Rendering indicating general layout of colors

