



# The Aqueous Cleaning of the diorama, “The Surveying of Washington, DC by Benjamin Banneker”

LaStarsha McGarity<sup>1</sup>, Juan Juan Chen<sup>2</sup>, Rebecca Ploeger<sup>2</sup>, Jonathan Thornton<sup>3</sup>

<sup>1</sup> National Gallery of Art, 2 Patricia H. and Richard E. Garman Art Conservation Department, Buffalo State College (SUNY),

<sup>3</sup> Emeritus Professor, Patricia H. and Richard E. Garman Art Conservation Department, SUNY Buffalo State



## Introduction

*The Surveying of Washington, DC by Benjamin Banneker*, is one of twenty dioramas gifted to the [Legacy Museum](#) following the 1940 American Negro Exposition. The dioramas were created by a team of artists and artisans, led by Axel Lindgren, Charles C. Dawson, and William E. Scott, to celebrate milestones in African and African American history.

This diorama highlights Benjamin Banneker (central figure in blue), a free African American, who surveyed the lands that became Washington, DC. It also recognizes the masonry and carpentry roles that enslaved men (on right) filled in the construction of most federal buildings prior to Emancipation, including the pre-1812 White House. The scene features a modeling wire, canvas and plaster tree; carved wooden figures of Andrew Ellicott, Benjamin Banneker, Isaacs Briggs, and two enslaved men; the White House featuring forced perspective and scaffolding in front of a curved Masonite® board background and on a sloped plaster foreground. The constructed wooden frame house wiring for hidden light fixtures.

## Background

This poster describes a single step of a larger treatment of the diorama “*The Surveying of Washington, DC by Benjamin Banneker*”; for further information on this diorama or its treatment please refer to [Sankofa: the Conservation Treatment and Analysis of “The Surveying of Washington, DC by Benjamin Banneker”](#) by the first author.

Following years in storage, the dioramas need various levels of conservation to make them safe to exhibit. Dr. Jontyle Robinson, professor and curator of the Legacy Museum, and Dr. Caryl McFarlane, a higher education diversity consultant, founded the [Alliance of Historically Black College and Universities \(HBCU\) Museums and Galleries](#); the Alliance partnered with several institutions to create museum career and hands-on conservation opportunities for undergraduate HBCU students using the twenty dioramas as practical objects.

This diorama was the first treated at the Buffalo art conservation program and was completed as the first author’s Master’s project. The first author was able to share her experience and co-teach sessions with the HBCU programs at Yale University and the Winterthur University of Delaware program in art conservation (WUDPAC).

## Solvents

Gamsol Odorless Mineral Spirits



\$24/ L

(max list price, various sources)

(Alternative) Cyclomethicone D5



\$55/ L

(list price, Kremer)

## Aqueous Cleaning Results

Before Treatment



After Treatment



Before Treatment



After Treatment



Before Treatment



After Treatment



## Method

### Aqueous Cleaning Steps

1. Consolidate unstable areas
2. Dry surface clean with soft bristled brush
3. Apply odorless mineral spirits (or cyclomethicone D5) with rolled cotton swabs
4. Gently roll deionized water dampened, rolled cotton swab over surface
5. Allow the odorless minerals spirits (or cyclomethicone D5) to fully evaporate
6. Repeat steps 3-5 as needed

### Cleaning Considerations

1. Short time period for treatment
2. Large Scale: 37 7/8 x 55 1/4 x 21 3/4 inches
3. Surface severely abraded areas
4. Water-soluble paint layers
5. Water-soluble grime layers

During Treatment

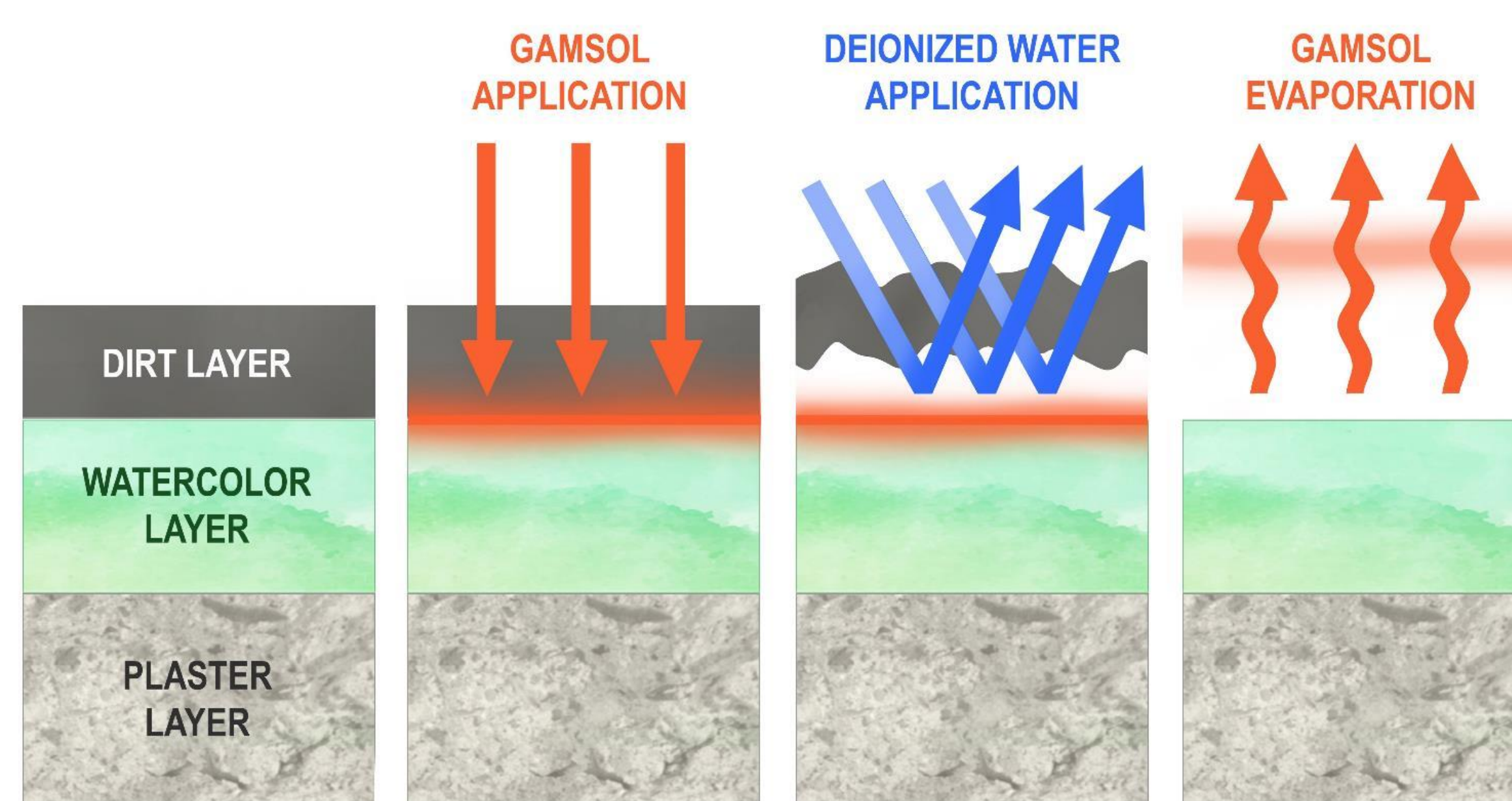


Figure and editing by Noel Kassewitz

## How It Works

This technique relies on the hydrophobic nature of odorless mineral spirits or cyclomethicone D5. Both solvents create a protective barrier over the water-soluble watercolor layers and plaster layer, so the deionized water can remove only the dust and grime.

## TIPS

DO	DO NOT
<ul style="list-style-type: none"> <li>• Work in a 2 x 2 inch square (max) at a time</li> <li>• Plan for 5 minutes of work time per area</li> <li>• Change cotton swab often</li> <li>• Check swab to ensure only grime is lifted</li> </ul>	<ul style="list-style-type: none"> <li>• Use pre-rolled swabs</li> <li>• Reapply solvent repeatedly, always allow to evaporate first</li> <li>• Use a heavily saturated water swab</li> <li>• Rush</li> </ul>

## Discussion: Strengths and Limitations of the Technique

This technique offers the ability to use the aqueous cleaning method on a water-sensitive surface, greatly reducing surface cleaning time. No residues remain on the surface because the technique relies on a volatile solvent.

It does require either a stable surface or consolidation to be completed on unstable areas prior to surface cleaning. Solvent tests did not show a significant difference in efficacy between Gamsol odorless mineral spirits and cyclomethicone D5. Solvent choice can be based on budget and/ or availability.

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## Contact Information

LaStarsha McGarity  
Andrew W. Mellon Fellow  
In Objects Conservation  
National Gallery of Art

E: [ldm.objcon@gmail.com](mailto:ldm.objcon@gmail.com)  
[l-mcgarity@nga.gov](mailto:l-mcgarity@nga.gov) (work)

