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Condition Report and Treatment Proposal



Title: George Washington
Location: W. Wisconsin Ave at N 9 th St. (Median) Milwaukee, WI
Owner : City of Milwaukee
Artist: Richard Henry Park
Material: Bronze on Granite base
Dated: 1885
Examined: 08-03

CONDITION



The sculpture has been exposed to an outdoor environment for a number of years. The entire surface is covered with dirt, dust, and corrosion which disfigure the intended design of the monument.



The entire bronze is covered with corrosion products. Disfiguring streaking is scattered over the entire surface of the upper figure of Washington, and the lower figure of a woman with a child.



The sword is attached to the body of the sculpture with straps that are made of sheet metal. Please note the difference in thickness of metal in the above picture on the right. The straps are replacements not original to the piece. The straps connecting the sword to the sculpture are also misaligned.



The sword is attached to the hand with a screw that is placed in a hole in the fingernail of the middle finger.



The bottom of the sword is attached to approximately 5/8" in diameter screw that is threaded into the base. There is another screw (approximately 10/24") that connects the sword to the larger screw / threaded rod. The strange way of attaching the sword to the sculpture and the presence of unoriginal straps might indicate that the sword is also not original. Research is needed in order to determine if the sword is original. Analysis of the alloys would be helpful.



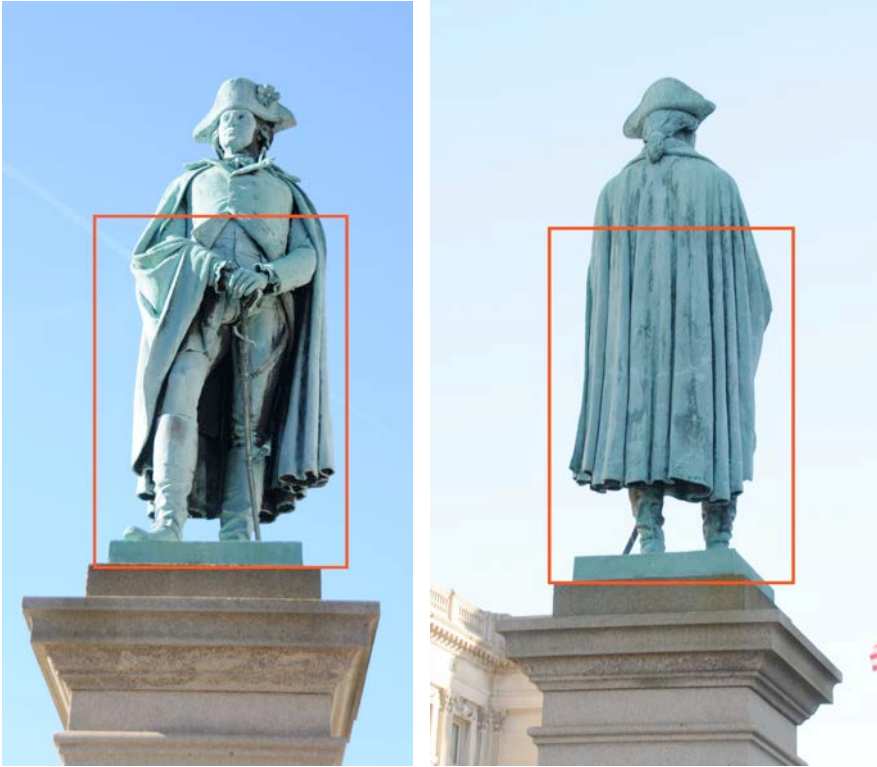
Both spurs are missing. It appears that they were replaced some time in the past because there are residues of rods that were inserted in place of larger original spurs.



Close-up of the back surface of the proper left leg. Please note approximately 10" long vertical crack. There is a filament found tied and tangled to various parts of the sculpture.



This a close-up of the back surface of the proper right leg of the figure. Please note a foot long and ¼” wide crack that was previously repaired with round inserts.



The interior of the sculpture appears to be filled in with what may be concrete or not removed casting investment. The red rectangles in both images show how high the sculpture is be filled in. This determination was made by tapping on the surface of the sculpture. Lower sections makes dull sound and the upper typical sound for a hollow bronze (bell like).



Concrete-like deposits accumulation on the external surface of the undercoat. The concrete can come out only through cracks therefore it is safe to assume that there are cracks in the bronze where the concrete deposits are found.



The upper section of the sculpture has approximately 10 holes that allow for water penetration to the inside. Wire is used to point out holes in the above images. The combination of water penetrating to the inside of the sculpture and concrete filling in the interior resulted in cracks in the legs of the figure of Washington.



The figure of a woman and a child are filled with concrete (or not removed casting investment material) up to the very top of the sculptures. It appears that the missing square cap from the top of the head of the woman was used as hole to pour the concrete into the inside of the sculpture. The piece of bronze which was inserted into this hole is missing and corroding iron is found in the opening (image on left). When examined with rare earth magnet iron armature was found inside of the sculpture of the woman and child. The sculptures are also attached to the stone with ferrous pins. Please note that the head of the child has the same kind of square caps, which are found on the head of the child (image on right).



The figure of woman with a child is corroded in similar way as the sculpture of George Washington. Disfiguring streaking is found on her arms, face, and chest.

The sculptures of woman and child are very well connected to the stone. There are no cracks in the surface of the bronze and no separation in the points of connection of the sculptures to the stone. It is very important to fill in the hole in the top of the head in order to prevent water penetration. Dismantling of this section of the monument is not recommended at this time. However, we can perform it if requested by the owner. Both figures are filled with concrete, but there is no visible evidence of structural instability or corrosion of iron or decomposition of concrete filling in the sculptures.

The stone is covered with small amount of black presumably carbon based deposits. The monument is located in the area with a lot of car traffic, which explains the accumulation of carbon pollutants. The pointing is severely deteriorated at the steps. Rusty staining of the stone is found at the lowest step.

PROPOSED TREATMENT

George Washington Bronze:

Option 1. Involving removal of the sculpture -

1. Remove the sculpture of the G. Washington from the pedestal and transport for treatment to CSOS.
2. Remove the concrete from the inside of the sculpture.
3. Drill weep holes and flush-out interior of the sculpture to remove any remaining core material / concrete.
4. Weld cracks in the legs and holes at the top of the figure.
5. Remove corrosion products using laser ablation process.
6. Patinate the bronze according to the owners color specifications.
Research of the original finish is needed or direction on color selection from the owner.
7. Coat the figure of Washington with Inctalac or microcrystalline wax.

Optional:

8. Remove un-original straps from the sword and create new bronze straps and install them (based on historical pictures and research). It is important to also determine if the sword is original or not.
9. Create new bronze spurs and install them.

Option 2. treating the sculpture in place without addressing concrete inside-

1. Drill weep holes and flush-out interior of the sculpture to remove as much as possible of remaining core material / concrete. By this procedure we will not be able to remove the concrete. We will remove only what is already deteriorated and easy to remove.
4. Weld cracks in the legs and holes at the top of the figure.
5. Remove corrosion products using laser ablation process.
6. Patinate the bronze according to the owners color specifications.
Research of the original finish is needed or direction on color selection from the owner.
7. Coat the figure of Washington with Inctalac or microcrystalline wax.

Optional:

8. Remove unoriginal straps from the sword and create new bronze straps and install them (based on historical pictures and research). It is important to also determine if the sword is original.

9. Create new bronze spurs and install them.

Treatment of the female figure and the girl:

1. Make a mold of the hole at the top of the head of the female figure and create a bronze insert.
2. Weld in place the insert.
3. Chase the surface of the insert and weld to blend it in with the surrounding surface texture of the bronze.
4. Remove corrosion products using laser ablation process.
5. Patinate the bronze according to the owners color specifications. Research of the original finish is needed or direction on color selection from the owner.
6. Coat the figures with hot applied mixture of microcrystalline waxes. Wax appears to be a better choice for this composition due to the fact the lower figures are very easy to climb on.
7. Apply a sacrificial cold-wax coating, and buff-out using soft cotton rags.

Note:

At the present time conservators of outdoor bronzes use two kinds of coating: a combination of microcrystalline waxes, or an Inctalac - an acrylic resin in organic solvents with Benzotriazole (BTA) - a corrosion inhibitor added. Both of the coatings require maintenance. A wax coating has to be maintained at list once a year. An Inctalac coating should be washed, and waxed every other year, and removed, and reapplied after 7 to 10 years. Waxes are easier to maintain, but Inctalac gives longer lasting surface protection for a bronze.

Pedestal:

1. Perform cleaning tests and then clean the stone.
 - A. Wash with water and Biowash using steam (under 200 psi).
 - B. Tack point the stone.