RIKA SMITH MCNALLY +ASSOCIATES
Conservation of Public Art

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OUTDOOR MONUMENT CONSERVATION ASSESSMENT

WORCESTER, MASSACHUSETTS

Burnside Fountain (Boy with Turtle)

Date of site visit: 08/12/20

Artist: Harvey, Charles Y. (1869-1912)
Fry, Sherry Edmundson (1879-1966)
(both under supervision of Daniel Chester French)
Foundry: Jno. Williams, Inc. (New York)
Fountain: Bacon, Henry (1866-1924)

Title: *Burnside Fountain* or *Boy with Turtle*
Date: 1912. Relocated 1969
Inscriptions: On front of basin:
THE GIFT OF HARRIET P. F. BURNSIDE/ A.D. MCMVII

Material: Bronze and pink granite

Location: Worcester Common

Smithsonian Inventory of American Sculpture #: 87630006

Description: The fountain sculpture depicts a young boy riding on the turtle's back. The lauryl leaves on the boy's head identify him as a mythological being. The bronze sculpture is attached to a small circular granite base in the center of a large rectangular fountain, with four basins once used as horse watering troughs. There is a small basin low to the ground on the reverse for dogs.

Historic Notes

Funds to build the fountain were bequeathed to the City of Worcester by Mrs. Harriet Burnside to honor her father, Samuel Burnside, a prominent Worcester attorney. Records indicate famed sculptor Daniel Chester French was first asked to sculpt the bronze, but he handed the project to his protégé Charles Harvey (Harvey also worked with French on the Robert Gould Shaw Memorial in Boston). When Harvey died in 1912, Sherry Edmundson Fry completed the work. The sculpture was completed, cast, and installed, all in 1912. Henry Bacon, who designed the granite basin, was also the architect for the Lincoln Memorial in Washington, D.C.

Site notes

The fountain was originally installed in Central Square in 1912, then moved to its current location on the edge of Worcester Common in 1969. The fountain has not been plumbed for decades.

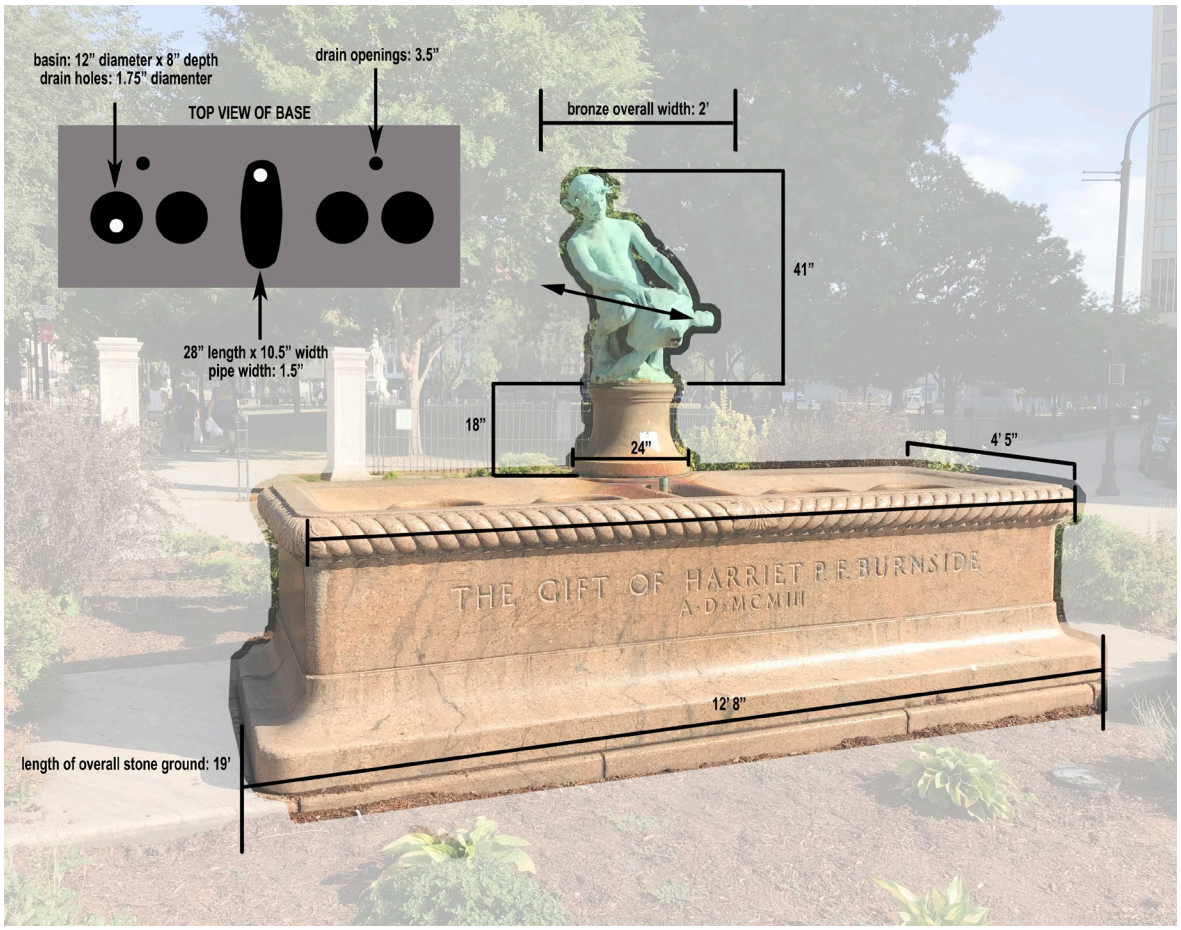
Theft and Vandalism

The sculpture was stolen from its location in May 1970, and returned some months later. It was again the subject of vandalism/pranking in 2004 when it was toppled from its location on the small round granite base, but left on the fountain, and was soon returned to place. The heads of the large screws used to attach the bronze to the base are readily visible, and the bronze continues to be vulnerable to theft.

History of "crude" interpretation

The sculptors used a circular shaped cylinder to secure the boy to the turtle, as a structural support while modelling the clay. This shape has been popularly described as indecent or lewd, and has cast aspersions on Charles Y. Harvey, who committed suicide in 1912. Since the second sculptor finished the statue within the same year, it is likely it was quickly completed and the unfinished part smoothed but not sculpted. There is no interpretation other than it wasn't noticed as lewd by the studio and foundry, and the story should be put to rest.

Dimensions and location of basins:



Historic photo:

Above: In this undated historic photo, the fountain is running. The sculpture has a dark brown, even patina, and has a lustrous gloss surface typical of bronzes from the Juno Williams Foundry. The bronze sculpture should be returned to this appearance.

CONDITION

Both the bronze sculpture and the granite fountain are in poor condition. The bronze has suffered from extreme damage due to polllution and acid deposition, resulting in disfiguring green copper sulfate corrosion and raised black copper sulfide corrosion. The current installation method clearly shows the attachment screws, and the sculpture is at risk of theft.

The pink granite fountain has extreme rust staining from water flow through iron pipes. There is a fountain manifold directly underneath the bronze. There are small chip losses to the stone, and numerous areas of mortar loss. It is not known if all the original plumbing was removed during the 1969-1970 restoration or during the 2004 repair.

Above: overall of Burnside Fountain in August 2020. There are heavy iron stains on the granite, particularly at the basins, small chip losses on edges, and missing mortar. The sculpture is heavily corroded, appearing mostly green from corrosion due to acid deposition.

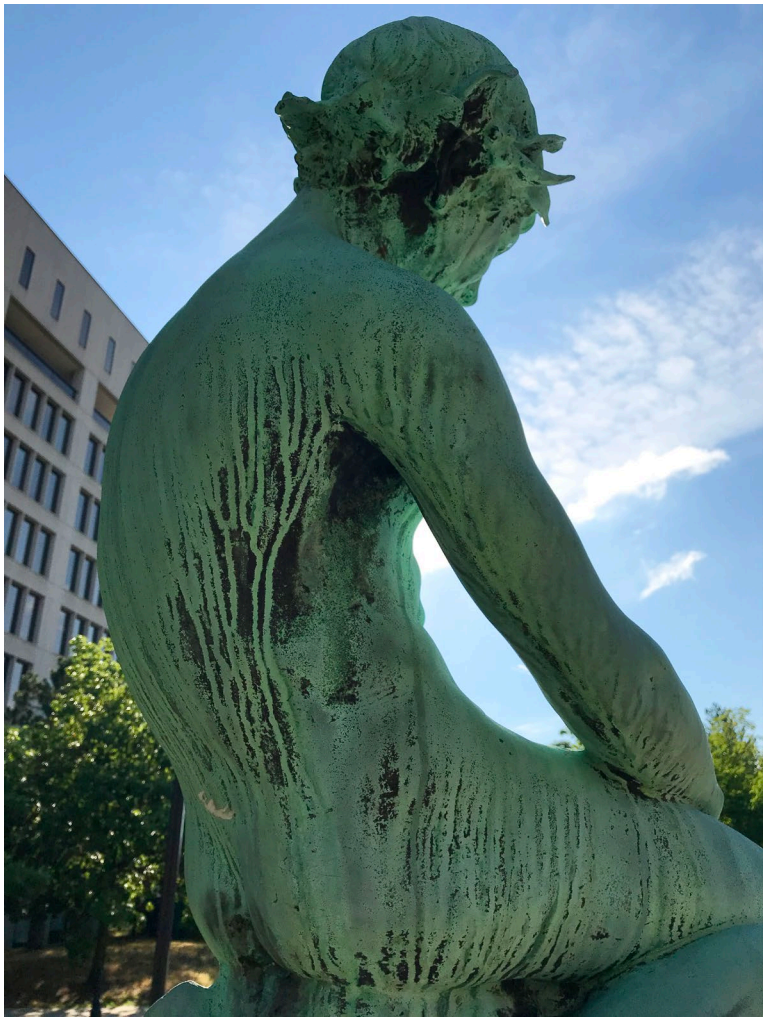
Above: from proper right.
Right: from proper left.

Above, left: the screws used to attached the sculpture to what is likely an inner manifold ring are very visible, and there is damage from file marks to the bronze. (Due to the presence of extensive rust staining, it is also possible the inner manifold is iron, but more likely it was originally a copper alloy). **Above, right**: the screw head on the proper left side of the sculpture. The sculpture would be fairly easy for vandals to remove.

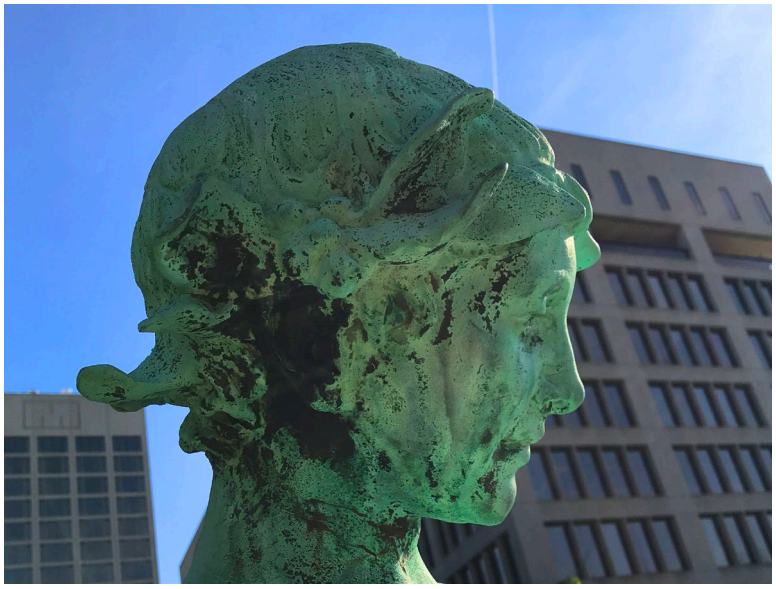
Above: Juno Williams Bronze Foundry mark on bronze self-base. Copper corrosion has obscurred the inscription. Iron staining at the bottom edge suggests the the presence of past iron plumbing. Numerous small chip losses on edges of stone.

Above left: turtle from proper right side showing detail of corrosion. **Right:** detail of abrasion damage to front of turtle head, likely from attempt at theft or reinstallation. Originally water came out of the turtle's mouth. The remains of an insect nest are under the turtle. As of August 2020, this nest was not active.

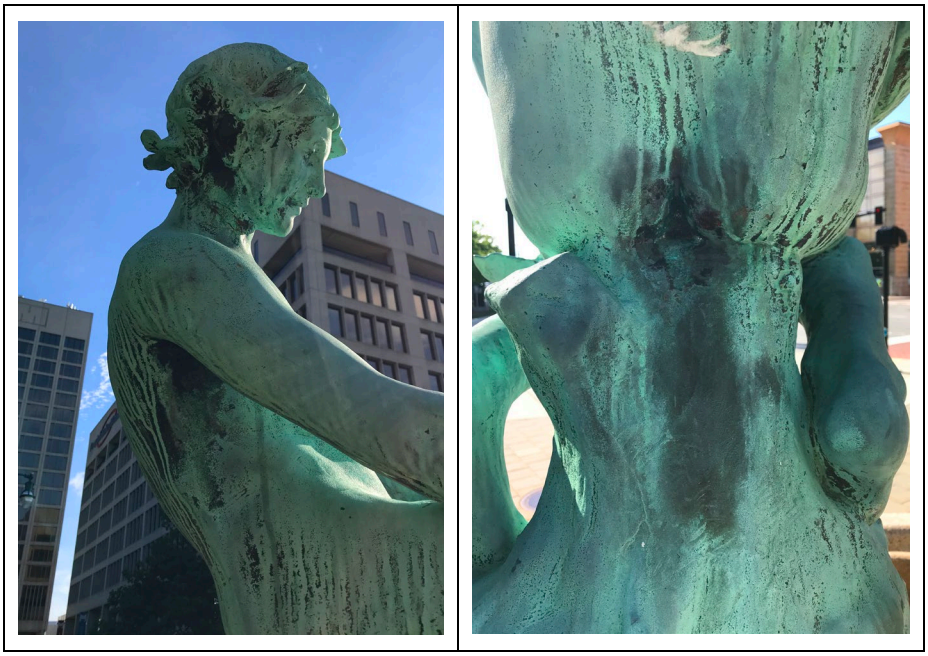
Above: face of young boy. There is less black corrosion on the front of the face due to rainfall and wind washing away pollutants that cause black copper sulfide corrosion products on bronze. The black corrosion occurs more often on undersides of the sculpted surface, where acidic vapor settles.



Left: Boy and Turtle from proper right side, back view. Black sulfide corrosion occurs more often on undersides of bronze. Black sulfide corrosion appears as raised "islands", and is difficult to remove. Sulfide corrosion is noted under the proper right ear, under the arm, and at the back of the sculpture.



Left: detail of a heavy black crust of copper sulfide corrosion damage on side of boy's head.



Left and right: additional details of black copper sulfide corrosion on under surfaces.

Left and right: the area between the boy's body and the turtle, thought by some to be offensive, is likely from some structural support used during the clay modelling to hold the body to the turtle. The sculpture appears to have been quickly finished, cast, and installed after the original sculptor's death.

PINK GRANITE FOUNTAIN BASE

Left: the front of the fountain is heavily stained by dirt, grime, rust staining, and marks from skateboarders. The stone is a pink granite, the rust staining from past water flow from the fountain. Active use by skateboarders is still evident. A warning sign against skateboarding may prevent some skateboarding damage.

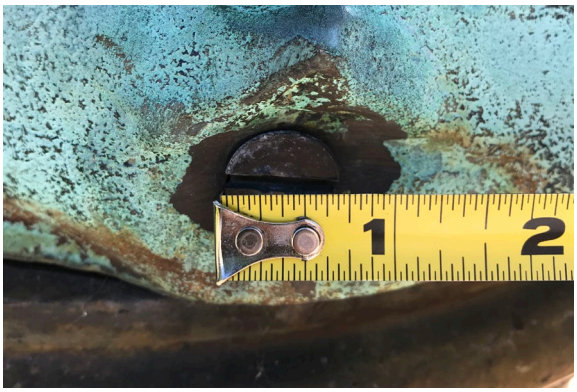
Above: heavy iron staining in basins and at lower edge of sculpture base from previous water pipes. A vertical copper alloy pipe in the center basin should be removed, as it is disfiguring and there are no plans to re-plumb the foutain.

Above: extensive iron staining due to past iron pipes is evident at basin and lower part of circular granite base (pedestal for bronze). The original plumbing from the street and up through the granite base may have been iron, but copper tubing would have been used in the sculpture, explaining why there is no iron staining to the bronze. There was likely a fountain manifold under the bronze self-base. There is missing and loose mortar between the round base for the sculpture and the fountain which will need to be replaced.

The existing pipe coming up from the central basin appears to be made of copper alloy, and its fabrication and installation date is unknown. Was this an alteration from the move in 1969? Was all the original plumbing removed when the sculpture was moved from Central Square to Worcester Common? Are there any City records on the previous move? The City has no plans to re-plumb the fountain, and the green copper alloy pipe should be cut flush to the stone surface and returned to the City.

Left: original mortar is missing and subequent latex caulk is pulling away from the stone surfaces on the round granite base**. Right:** original small basin for dogs on reverse of the fountain.

Left and right: Adhesive stickers on the granite base and the bronze (rear view). These can be removed with water and detergent.



Left: Large loss to proper rear bottom corner of the granite base, requires a Dutchman repair to be done in similar pink granite. **Right:** ¾" rusted mild steel screw head, likely added in the 1969 move. The 3 rusted screws should be removed and replaced with stainless steel fasteners.

GOALS of the TREATMENT

The City of Worcester will not be moving or replumbing the Burnside Monument, and are having the bronze restoration done on site to reduce removal and re-installation costs. The City would like the bronze brought back to its original dark brown lustrous apperance, the granite cleaned, loose or deteriorated mortar replaced, and a Dutchman replacement repair of the largest loss.

DISCUSSION and RECOMMENDATIONS

Both the granite fountain and the bronze sculpture are in poor condition and require conservation treatment and repair. The bronze sculpture requires cleaning, repatination, and a protective coating to return it to its original appearance.

The granite requires cleaning to remove surface soil and reduce the iron staining caused by water flow from previous iron pipes.

The large loss in the proper right back lower corner of the granite base requires a Dutchman repair. The City is aware that it will be very difficult to find an exact match to the original granite.

After treatment, the landscape planting scheme should be redesigned to discourage skateboarders, and a sign cautioning against skateboarding added.

TREATMENT DIRECTIONS for BRONZE BOY AND TURTLE SCULPTURE:

1. Photograph conditions before treatment in high resolution digital JPEG files each image labeled with monument name, date, brief description, and "BT" (indicating before treatment).

2. Wash all surfaces of bronze with mild detergent such as Orvus™ (sodium lauryl sulfate) and water, followed by repeated water rinse. Remove bird guano with Professional's Edge Nilodor Urine Digester as needed. Continue to assess attachment method.

3. Mechanically reduce loose corrosion products over bronze surfaces with Orvus detergent and water using nylon pads, bronze wool, or small brushes.

4. Power wash bronze (low pressure, 800 psi, fan-shaped nozzle, 12-14 inches from surface) as needed to complete removal of loose corrosion and dirt to achieve clean surfaces.

5. Remove three rusted ¾" screws in bronze self base and replace with stainless screws of the same size and diameter (Stainless Steel 304 is acceptable). Submit samples to the City beforehand.

6. Protect stone with plastic sheeting in preparation for repatination.

7. Repatinate all bronze surfaces with aqueous chemical reagents and heat torches to appropriate historic color (ferric nitrate and potassium permanganate are recommended) to a dark brown tone. Examples of colors must be provided beforehand for approval.

8. Fill 3 slotted screw heads with epoxy (PC-7 preferred). After setting, paint the 3 screw heads with outdoor acrylic resin paint to blend with patinated bronze (Golden MSA suggested).

9. Apply protective coat of Incralac (Acryloid B-44) in toluene to all bronze surfaces. Specifically, apply one-two brush coats and one-two spray coats to achieve an overall even layer approximately 1 mm thick.

10. Wax bronze with a hard paste wax and buff with soft lint-free cloths or nylon fabric. Train a city employee or representative on site to carry out maintenance.

11. Supply a written report on the treatment to the the City of Worcester with photographic documentation including digital images before, during, and after treatment. Report should include all materials and methods used in treatment and include future maintenance directions.

GRANITE BASE TREATMENT: cleaning, stain reduction, removal of pvc pipe and copper alloy pipe, Dutchman repair, re-mortar granite base.

1. Photograph conditions before treatment in high resolution digital JPEG files each image labeled with monument name, date, brief description, and "BT" (indicating before treatment).
2. Drain basins by pumping standing water up and out. Remove remains of gray PVC pipe from second basin, by mechanical removal or by scoring the inside of the pipe 1-2" down and removed with a clean break.
3. Remove extended area of copper alloy pipe in middle basin, by mechanical removal of cutting flush with surrounding stone. Reserve and return to City Representative.
4. Stone cleaning:

   First Cleaning: Wash the entire granite with Vulpex detergent (potassium methyl cyclohexyl oleate) using soft brushes in water, followed by copious rinsing. Remove paper adhesive stickers with walter and Vulpex.
   Second cleaning: Remove/reduce skateboard transfer marks with acetone and ethanol mixed 50-50, applied by rag or paper towels.
   Third cleaning: Test Prosoco Sure Klean® Ferrous Stain Remover on small area of granite rust stain. Because of acidic content, this product should only be used by conservators or stonemasons who have had some training or experience in its use. Protect surrounding areas with plastic (plants may be adversely affected even with protection). Do not use on a windy day. Mix solution 1:3 in water (acid to water), apply test area, allow to dwell for 5-10 minutes, rinse with power washer at, 800 psi, 45 degree angle nozzle. Follow all safety precautions for workers and environment.

5. Dutchman repair: Submit samples or replacement granite to the City for approval before undertaking this step. Cut area of loss measuring approximately 4" x 9" with clean lines by water-cooled diamond saw. Replace missing pink granite with new granite matching original as close as possible, using one stainless pin and anchoring epoxy. Sika-Dur 32 Hi-Mod LPL is recommended. A less viscous epoxy may be used for surface joining and fill the edges of the mend with color matched new lime mortar (no Portland cement to be used in mortar mix).

6. Re-mortar: Rake out loose mortar on all joins of the granite base, using small hand tools, and including area between sculpture and upper granite base. Re-mortar all areas, using Jahn or other restoration lime mortar (no additives). Submit samples to the City for approval before undertaking this step.

7. Provide final report of all work done including materials and digital documentation images in high resolution JPEG format for all work, with after treatment images marked "AT".

Note that all iron staining may not be completely removed. Do not go further with harsher treatments or with blast cleaning.

Project Standards

All work must comply with the U.S. Secretary of the Interior's Standards for the Treatment of Historic Properties and adhere to the Code of Ethics established by the American Institute for Conservation of Historic and Artistic Works (AICHAW).

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