



KCI Conservation - Sculpture & Object Conservators
2220 Bayard Ave. - St. Paul, MN 55116 - 612.564.3176 - kciconservation.com

TREATMENT REPORT

Client Name: City of Northfield Arts and Culture Commission

Contact Info: Natalie Draper, Library Director

Northfield Public Library

210 Washington Street

Northfield, MN 55057

507-645-1801

Object/Title: Sheldahl Anniversary Fountain

Artist: Raymond Jacobson

Object Date: 1980

Materials: phos-copper and copper; painted concrete basin

Location: Bridge Square, Northfield, MN

TREATMENT UNDERTAKEN

1. Examined, photodocumented, and wrote Condition Report and Treatment Proposal.
2. The City drained the fountain before the treatment began.
3. Consulted historic photographs to understand the appropriate appearance of the fountain.
4. Packed supplies and traveled to and from site for multiple visits.
5. Washed the fountain sculptures overall with soft brushes to remove dirt and accretions.
6. Removed the grates and cleared out debris. There were dozens of coins encrusted with minerals inside the grates around where the water comes out.
7. We inscribed the grates with a number on their undersides to easily match with the appropriate sculpture. The sculpture was also inscribed with a number in a location that is hidden by the grate when it is installed.
8. One grate cracked at the site of a previous repair. This was welded closed at our shop.
9. The old mild steel screws were very rusted and could not be re-used. New stainless steel screws were procured.
10. Removed mineral crust and active corrosion from sculptures and grates mechanically, saving as much of the current patina as was possible.
11. Prepared the surfaces for a new patina using abrasive hand pads and wire wheels.
12. Warmed the sculptures and grates with a propane torch and applied patina chemicals to achieve a close match to the artwork's intended appearance.
13. The patina chemicals were rinsed and reapplied to achieve the desired surface coloration.
14. Completed a final rinse of the patina chemicals with distilled water.
15. Warmed the sculptures and grates again with a propane torch and applied clear paste wax overall.
16. In small local areas, brown wax was used to help reintegrate the surfaces.

17. Allowed the sculptures and grates to cool and buffed them.
18. Then, applied a coat of cold paste wax and buff.
19. Reattached the grates with the new hardware. One screw hole was stripped and needed a tapped stainless steel insert to be able to receive the new screw.
20. Photodocumented after treatment; wrote Treatment Report with brief Maintenance Plan.

TREATMENT NOTES

- During treatment we discovered that the fountain was made from copper sheets that had phos-copper braising rod dripped on top of them. In some areas there is no phos-copper, and this creates natural areas of red copper showing through the otherwise brown patina. See figure 1.

This fabrication technique was common in the mid-20th century and was notably used by Harry Bertoia among others. This technique was used to create the textured areas of the fountain. The smooth areas are made from copper sheet.

- There are hundreds of surface cracks in the phos-copper layer of the sculpture. These are original and due to the fabrication method. They are stable and not a problem but could appear alarming to someone who is not familiar with this artwork. See figure 2.
- Some of the smooth copper valleys in the sculptures have dark lines, which are original welds in the surface. The copper panels are joined with a different alloy (probably phos-copper) that cannot look the same as the copper itself. See figure 3.

FURTHER RECOMMENDATIONS

- The City should repaint the fountain basin. Care must be taken to mask off the sculpture so new paint does not get slopped onto its edges.
- Install mineral filters to reduce the amount of mineral crust buildup each year. Change the filters regularly.



Figure 1. Red areas are copper under the phos-copper



Figure 2. Original cracks from fabrication



Figure 3. Visible, original weld on copper sheet

- If the fountain recirculates water, fully drain the fountain and refill with fresh water, 2-3 times each summer to keep the mineral content from increasing as water evaporates.
- Open up the plumbing at the base of each form and clear out accumulation of coins and debris.

Prepared by Conservator: Laura Kubick

Report Date: 6/30/2025

SELECTED PHOTOS

Before Treatment



After Treatment



Before Treatment



After Treatment





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SHELDAHL ANNIVERSARY FOUNTAIN MAINTENANCE PLAN

Object/Title: Sheldahl Anniversary Fountain

Artist: Raymond Jacobson

Object Date: 1980

Materials: copper alloy fountain, painted concrete basin

Location: Bridge Square, Northfield, MN

Prepared by Conservator: Laura Kubick

Report Date: 6/30/2025

Annual Inspection:

The sculpture fountain should be examined by a conservator to assess and record the condition. The inspection should note structural and surface issues and include photography. Any new condition problems would be recorded and proposals for treatment should be made at that time.

Annual Cleaning:

Sculpture fountains are inherently high-maintenance to keep in good condition. *At a minimum*, the fountain should be cleaned annually to remove new corrosion, mineral crust, bird droppings, food spills, and other grime from the public. The wax coating should also be refreshed annually to prevent deterioration and to ensure that the mineral crust forms over a wax coating rather than attaching itself directly to the metal. If the mineral crust attaches to the metal, it cannot be removed without damaging the patina.

Annual Maintenance Procedure:

1. Fountain Pool must be drained. Leaves and other debris should be removed from the basin.
2. Rinse entire sculpture to flush off abrasive particles, and debris with low pressure water from a hose and mild detergent.
- 3.. Wash the sculpture with a detergent, such as Orvus WA Paste and brushes.
4. Use picks and plastic scrapers to remove stubborn accretions of mineral crust.
5. Rinse the sculpture and base with plain hose water.
6. Dry the sculpture with soft towels to prevent water spotting

7. Thin old wax layer by gently wiping the clean sculpture with mineral spirits on clean all-cotton rags or Webril cotton pads.
8. A conservation firm should heat sculpture minimally with a torch; apply a thin, uniform layer of paste wax, such as Mohawk Blue Label Paste Wax, with natural bristle brushes.
9. Allow sculpture to cool completely and then buff with clean cotton cloths or a horse-hair shoe buffing brush.
10. Then, another layer of paste wax should be applied cold.
11. Buff the fresh wax layer with shoe brushes and cotton rags.

Estimate Time to Perform Annual Maintenance: 6 - 8 hours for 4 people

Estimated Cost for a Conservation Firm to Perform Work: \$2,610 - \$3,500

Graffiti and Vandalism:

In the unlikely event that there is graffiti, scratchiti, or other vandalism call Laura Kubick (612-564-3176) or another Sculpture Conservator immediately for advice. Email us a photo so that we can identify the correct solvent or gel mixture that is needed. (Markers, spray paint and paint markers each require a slightly different approach, and this is why the photo will be so helpful to us. Cell phone photos are fine.) NEVER remove graffiti by scrubbing or rubbing with anything unless a conservator has been consulted. A conservator can suggest safe chemicals and safe methods that will allow the graffiti to be removed without harming the sculpture. Often, we can recommend a safe treatment for you to undertake yourselves. Other times we may recommend that we come out to do the treatment.