Kristin Cheronis, Inc.
Sculpture and Object Conservation
2032 Sheridan Ave. S., Minneapolis, MN 55405 612-788-5585

Condition Report and Treatment Proposal

Client: Alexander Shultz
Sculpture Valley
alex@sculpturevalley.com
920-205-6169

Object: *Soldier's Monument*
Artist: Chevalier Gaetano Trentanove
Location: Soldier's Square, Appleton, WI
Date: Dedicated 1911
Material: Bronze and granite

CONDITION:

Summary: The monument is in fair condition. The surface of the bronze sculpture is heavily deteriorated and in need of conservation treatment. Due to lack of maintenance the surfaces have corroded and become extremely porous. Mineral crusts disfigure the surface and obscure the features of the figures' faces and clothes. There are also significant missing elements. The granite is structurally sound, but is in need of repointing and minor repairs. It is exhibits significant damage from skateboarders. The concrete pad is heavily stained and its upper surface is crumbling from spalling losses.

Bronze Sculpture:

Structural Condition: The bronze sculpture is in fair structural condition with no significant dents or deformations observed. It is well attached to its granite support and the caulk around this joint is intact. However, there are several missing parts, which have been lost for decades: the sword of the center figure which was broken off, leaving a jagged break end; the scabbard of the central figure, which was removed from pins which attached it, the pins and a separate piece of the scabbard are still extant; the lower end of the flagpole, which was broken or sawed off; two rings which appear to attach the flag to the flagpole, but do not have real structural function (several others remain). The finial of the flagpole which has a threaded end, has been removed, but has been retained.

There do not appear to be any weepholes in the sculpture, however there is not much evidence that this is causing structural problems. There are several cracks in the bronze: One significant crack is in the raised arm of the central figure, which is related to moisture, as indicated by the bright green corrosion around the crack, and may be the only evidence of freeze-thaw damage from lack of weepholes. There are short cracks around the back side

of the front foot of the central figure. There are several cracks at the edges of the flag as well. There is an odd piece of metal applied to the self-base to help attach the rifle to the sculpture that appears to be a later addition.

The sculpture has not received maintenance of its protective coatings and the surface has deteriorated to the point where there are a few holes in the surface, especially on the bronze self-base and on the American flag. Numerous old patches and welds are exposed throughout the sculpture and many are visible from the ground. There is one large fill about 6" x 9" on the proper right (PR) figure's PR shoulder that appears to be made of lead with a crack at the intersection of the fill and the sculpture. There are about 5 areas of pinpoint corrosion, which have progressed far enough to create small holes in the bronze.

Surface Condition: The surface of the sculpture is very deteriorated, exhibiting heavy, uneven black sulfur crusts, bright green copper corrosion, extensive pitting over every surface, and etching of the surface from acidic pollution, resulting in a very porous surface with voids in some areas, as described above. The sulfurous corrosion has created water runoff streaks and has collected in low points, sometimes obscuring and sometimes emphasizing the forms of the bronze. There are heavy encrustations of white minerals in local areas, especially along the bottom edge of the rifle, where the crust is ¼" thick. There are also localized areas of iron staining, usually from ferrous core pins, but occasionally from a repair. One very dramatic area of iron staining is located on the back side of the PR figure's coat where several wide long streaks are present.

The surfaces of the PL figure's rifle are a relatively uniform dark brown with little pitting (although exhibiting the heavy mineral crust on the lower side described above), as are the ends of the PR figure's rifle, suggesting these may be replacements or were selectively treated in the past.

The surface is also dirty overall and has debris in low points. Spiders have built webs on the figures and wasps have made nests in protected areas, specifically under the flag and inside the lower end of the flagpole.

Granite Condition:
Structural Condition: The granite is structurally stable and does not exhibit significant shifting, settling, or other major structural problems. However, almost every stone block below about 6 feet has one or two losses at its edges. The most noticeable are chip losses at the four corners of the lowest level of granite blocks, some of which have been filled in the past with now yellowed fill material. There are approximately 10 cracks at the edges or corners of stone blocks, about half of which have been patched in the past with now yellowed fill material. There is one, tight, diagonal crack at the front of the monument in the center of the third tier of blocks, but there is no associated efflorescence. In addition to these cracks and losses there are areas of impact damage on the lowest level of stone, especially in the front center (with associated copper staining) and on the proper left (PL)

top surfaces. There is an area of heavy abrasion to the stone on the front side in the center below the inscribed block. There are also numerous shallow gouges, scrapes, and scratches on the PR side and front edge of the stone, many on the vertical surfaces with associated iron deposition and staining, likely from now removal equipment.

There is a combination of mortar (older and higher up) and caulk (newer and generally lower) present at joints. There appear to be several campaigns of caulk application, but almost all caulk within reach is very deteriorated and failing. There are numerous voids in the caulk allowing moisture penetration.

Surface Condition: The granite surfaces are free of graffiti and scratchiti, but are soiled and grimy. The granite is being utilized and abused by skateboarders. They ride along the PR edge of the lowest level of granite, causing losses, depositing black grease, and resulting in heavy accretions of aluminum on the stone. The PR edge of the second tier of granite is particularly grimy as well.

There is light copper staining on the lowest level of granite and there is heavy iron staining along the bottom edge of the lowest level of granite on all sides where the granite meets the concrete pad. As mentioned before, there is iron staining inside scrapes on the front and PR side. There are moss and lichens present in most crevices at cracks and where there is missing caulk.

Concrete Pad Condition:

Structural Condition: The concrete pad is in poor structural condition. It has lost approximately 30% of its upper surface to spalling losses (about 1/8" deep) concentrated around and under the edges of the granite that rests upon it, likely due to freeze thaw damage exacerbated by road salt. There are cracks and losses pieces of concrete in these areas as well. The stone is saturated with moisture in the losses and around the spalled losses. There are vertical cracks at each corner of the concrete pad. There are horizontal scrapes from a ferrous metal object, such as a snow plow blade. It appears there is a drainage channel in the center at the back side with crumbling edges, which is clogged with debris.

Surface Condition: The surface of the concrete pad is stained and dirty. The spalled losses have collected dark grime. Large green copper stains are present on the center 1/3 of each side of the pad and around the spalled losses. There are smaller swaths of iron staining, including in areas where the pad has been scraped by snow removal or other heavy equipment. White efflorescence (from road salt) is present around the spalled losses on the top surfaces, and has built up at the cracks at the corners. Moss and lichens are present in joints, cracks, and losses.

PROPOSED TREATMENT:

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1. Examine, write Condition Report and Treatment Proposal and take photographs before treatment. (COMPLETED)

2. Pack supplies and drive to Appleton, WI from Minneapolis, MN.

3. Wash the sculpture, stone base, and concrete pad, with surfactant and medium pressure water to remove dirt, grime, accretions and loose corrosion products.

4. Use chelating solutions on concrete pad to reduce heavy copper corrosion staining.

5. Repair cracks and holes in the surfaces of the sculpture. For each crack, grind out a small channel and re-weld with a matching alloy. Chase and texture the welds to blend with the surrounding surface. Cracks where a lead fill is present will be filled with epoxy, because these cannot be welded.

6. Attach replacement parts provided by foundry in appropriate manner, welding or mechanical attachment. Reattach finial. Chase and texture the welds to blend with the surrounding surface.

7. Buff the surfaces of the sculpture with a bronze-wire brush to reduce porosity of the surface.

8. Treat the surface according to ONE of the following procedures, as determined with Sculpture Valley and appropriate personnel:
    a. Remove compact corrosion products from the surface and chemically re-patinate the surfaces of the sculpture to a historically appropriate rich, dark, brown surface, and then apply wax, as described in step 9. (This has additional cost, see estimate below.)
    b. Leave compact, green layer of corrosion place, but apply a layer of dark tinted wax over the surface as described in step 9. This will reduce the contrast between the green chloride corrosion and the black sulfide corrosion and better integrate the surface.
    c. Leave compact layer of green chloride corrosion in place and apply a clear wax as described in step 9. This will leave the green and black portions of the surface visible, including welds and patches.

9. Heat the surfaces of the sculpture with propane torches and apply a protective wax coating to the sculpture. After it is cool, buff and apply two applications of cold paste wax. Buff.

10. Drill weep-holes on the undersides of low points in the sculpture, so that water can escape.

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11. Remove old caulk around base of sculpture and apply new caulk.

12. Take after Treatment Photographs, Pack supplies, Drive back to Minneapolis, and write Treatment Report.

13. Prepare Detailed Maintenance Plan.

GRANITE and CONCRETE:

Sculpture Valley should locate and contact a skilled Mason or Monument Company, and coordinate work on granite base of monument, which includes: Repointing (application of mortar should allow for proper drainage); Re-honing the surface to appropriate sheen and removing skateboarding damage; Removing old, discolored repairs; Filling stone losses and repairing cracks using approved materials; Repairing concrete pad. (No additional cost for consultation from KCI)

Cost Estimate: $13,425.00
Plus 7% for equipment and supplies= $1,190.35
Plus lodging = $616.00
$14,041.00*

*Plus cost of renting scaffolding provided by Sculpture Valley

Additional Cost if New Patina (step 8a) is applied: $ 6,289.40 (including lodging and supplies)
Yes _____ or No _____

ROUTINE MAINTAINANCE REQUIREMENTS: It is very important to carry out routine maintainance of the monument in order to keep it in good condition and avoid costly, large conservation treatments. This treatment can be done by trained volunteers or staff, or by a conservator.

Every two years: Wash the granite and bronze sculpture with non-ionic detergent and water and rinse. Apply a new coat of paste wax to the bronze sculpture. This can be completed by a conservator or by a consistent local crew trained by a conservator.

Approximate cost for KCI to perform bi-annual maintenance (and train local crew, if desired): $5,280.00 + lodging

Every 5th year: A conservator should undertake a routine maintenance treatment: Wash the sculptures and plaque with Orvus detergent. Remove the soiled wax layer from the bronze sculpture. Thin and remove any new areas of oxidation or corrosion. Heat the

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surface of the metal with torches and apply new wax coatings to bronze and buff. The conservator will also do a condition assessment and make any recommendations for treatment or modifications to the maintenance plan.

ADDITIONAL RECOMMENDATIONS:

- Barriers to prevent further skateboarding damage should be put in place, if possible.
- If planned construction around the site occurs, the sculpture should be protected by building an enclosure around it.

Conservator: Laura Kubick, KCI
Date: 5/14/2015

The undersigned authorizes and directs Kristin Cheronis Inc. (KCI) to carry out the aforementioned conservation and/or restoration treatment and take such action as KCI deems appropriate in connection with the treatment. The undersigned warrants (i) that the undersigned is the sole owner(s) (or authorized agent of the owners) of the work(s) of art described above and has full authority to direct KCI to undertake the proposed treatment; (ii) the work(s) of art described above is insured by the institution or owner against any and all losses, and that such insurance will be in place from the time the artwork is delivered to KCI until it is received back by the owner/agent. The depositing institution or owner agrees to pay the cost of all conservation services plus materials (7%), not exceeding the above estimated cost by more than (10%) without the express written approval of the depositing institution or owner. All transportation and related insurance costs are the responsibility of the owner or agent of the item.

Owner: _____ Date: _____

Institution: _____