

OUTDOOR SCULPTURE CONSERVATION TREATMENT RECORD

Date of this report: June 30, 2007

Date of initial assessment: 4/16/04

Date of proposal: 4/9/07

Date of follow-up assessment: 4/8/07

The sculpture was first assessed in 2004, and examined a second time in 2007. This report includes the earlier information but has been updated for 2007 and includes the recent conservation treatment.

Object: *Soldiers Monument*

Alternative name(s): Civil War Monument

Artist/Fabricator: J.L. Mott Iron Works, New York City

Date: Dedicated Oct. 13, 1893. Rededicated May 25, 1958.

Medium: Sculpture: zinc (originally with "bronzed" finish)

Base: granite.

Dimensions:

Sculpture: Height including self-base: 6' 3"

Self base: width: 24 1/2" x 24 1/2" x 4"

Width of buttons: 7/8"

Length of fiberglass replacement scabbard: 22 3/4"

Length of fiberglass replacement rifle: 54"

Granite base: Height: approx. 11'

Width of widest course at base: 51"

Total Height: Approx. 17'

Inscriptions:

(On front of shaft of base, incised letters:) IN HONOR OF 126 MEN OF/CANDIA WHO SERVED IN THE/WAR OF THE REBELLION/KILLED/

(List of six names follows/DIED IN SERVICE/(List of fifteen names follows) (On rear of shaft of base, incised letters:) MONUMENT PRESENTED BY/GOV. FREDERICK SMYTH/FOUNDATION BY THE/TOWN

(On side of shaft of base:) IN MEMORY OF 155 MEN OF/CANDIA WHO SERVED IN THE/WAR OF THE REVOLUTION/KILLED LIEUT. T. DEARBORN/P. HILLS/IN MEMORY OF 5 MEN OF/CANDIA WHO SERVED IN THE/FRENCH INDIAN WAR/OF 1756

(On other side of shaft of base, incised letters:) IN MEMORY OF 48 CANDIA/MEN WHO SERVED IN THE/WAR OR 1812 AND/J.W. WEBSTER/KILLED IN THE MEXICAN WAR/1847/IN HONOR OF 34 MEN OF/CANDIA WHO SERVED IN THE WORLD WAR I/KILLED IN ACTION/LIEUT. WM. HERVEY THOMAS unsigned

Description:

A figure of a Union Civil War infantryman dressed in uniform. He stands holding the barrel of a Springfield rifle with his proper right hand while resting his proper left wrist (“dangling”) across the top of the barrel. The soldier wears a belt with a buckle with “U.S.” on it and two hanging pouches, a small one at his front proper right and a larger one at his rear. The sculpture is placed atop a base that consists of three lower steps, a smooth inscribed shaft, and a large cap. A granite curb encloses the monument with walkway openings on each side.

Owner:

Administered by Town of Candia, 74 High Street, Candia, New Hampshire 03034

Contact: Candia Board of Selectmen
Town Hall
74 High Street
Candia, NH 03034

Diane Philbrick
Heritage Commission
95 South Road
Candia, NH 03034
"Jim & Diane Philbrick" <djphilbrick@verizon.net>
Tel 603-483-8239

Location: High Street, opposite Governor Smyth Building (old library), Candia, New Hampshire

Remarks/ History:

In early 1892, Governor Frederick Smyth, a native of Candia, New Hampshire, offered to give Candia a monument honoring its Civil War soldiers on the condition that the town provided a suitable location. The monument was later expanded to include soldiers of other wars. At its annual town meeting on March 8, 1892, the town voted to donate a site at the old meetinghouse and that \$200 be appropriated for curbing and foundation. On March 14, 1893, the town voted to appropriate another \$100 in addition to what had already been raised. Governor Smyth supplied the town with the monument (ordered from J. L. Mott Ironworks; see below).

Materials History:

The Candia Monument was made by the J.L. Mott Iron Works in New York City, and was available by catalog. There are other similar Mott statues of this type. Photocopies of the catalogue accompany this report.

Carol Grissom, Senior Objects Conservator at the Museum Support Center at the Smithsonian Institution and a specialist in zinc sculpture, has provided a list of 11 other similar zinc sculptures in the U.S., including Lebanon NH, Tilton, NH, California, Indiana, Minnesota, Missouri, and Wisconsin. She has also provided the catalogue information on J.L. Mott Ironworks, the original appearance of the "bronzed" zinc sculptures, and Mott's use of actual buttons.

The sculpture is made of zinc, but was available in the Mott catalog either painted (one coat) or "bronzed" with a bronze paint containing copper alloy metallic flakes. The Candia sculpture was a "bronzed" version and this nomenclature may explain why it was entered into historical records and the 1994 Smithsonian Inventory of American Sculpture as bronze.

During a 1957-58 restoration, the sculpture was spray painted with a variegated bronze powder paint, which appears to have turned green, imitating a corroded bronze. This was painted over with a green paint at some later date, with additional paint on the face and front of the coat. There were also signs of tagging with blue and yellow paint.

The buttons on the front of the figure are genuine Civil War gilt brass buttons. During the 2004 assessment, the question was asked whether the buttons might have come from local families, but this is not the case. J.L. Mott Ironworks supplied the buttons.

Past damage and restoration:

In 1957 the monument was struck by a vehicle, toppled and damaged. LeBlanc Bros. Granite Works restored the monument. The curbstones around the base are the original stones, but were sandblasted and cleaned with "speedy-cleaner" (an unknown commercial product). The original four slanting walkways between the curbing stones and base were

replaced with cement steps. The base's three lower steps are the original steps, but these were sandblasted and re-cut to fit the lower section of the base's shaft. The base's cap is the original stone. The original sculpture weighed 450 pounds. After being reinforced and orally reported to have been sprayed with eight coats of bronze finish, the sculpture weighed 875 pounds (this increase in weight is either apocryphal or is from the addition of a partial internal armature. The sculpture remains hollow as it was originally and is not filled with cement). The monument was rededicated on May 25, 1958, with people present who had attended the original dedication sixty-five years earlier.

IAS (Smithsonian Inventory of American Sculpture) files contain a transcription of names on base. IAS files contain a related article from *The Manchester Union*, Oct. 14, 1893, pg. 4; and excerpts from "Addresses and Proceedings at the Dedication of Candia's Soldiers' Monument," Manchester, New Hampshire: John B. Clarke Co., 1894, pg. 6-13, 54-56, 72; the "Annual Report of the Town of Candia, New Hampshire for the Year Ending January, 31, 1923," pg. 4-5; and David Ruell's "The Public Sculpture of New Hampshire," Concord: New Hampshire: New Hampshire Historical Society, 1980, pg. 39-40. IAS files contain a photocopy of the program for the monument's rededication ceremony and a copy of the "Welcome Speech," given by M. Dean Sanborn. There is also an enlarged historic photo of the monument framed in the Candia Public Library.

2003 damage:

On Halloween 2003, the cast zinc rifle was stolen from the monument. Some fragments were recovered and temporarily stored in the Police Department at the Town Hall. These fragments were made available to the conservator for study. Many parts of the rifle were missing, including the rifle stock and parts of the barrel and strap. It is locally reported that every year at Halloween someone places a pumpkin on the head of the statue (the cause of the broken cap visor).

SOS! Survey: IAS NH000248. Surveyed October 1944. Treatment needed.

References:

Save Outdoor Sculpture, New Hampshire survey, 1994.
"Addresses and Proceedings at the Dedication of Candia's Soldiers' Monument,"
Manchester, New Hampshire: John B. Clarke Co., 1894.

Utilities available: water (garden hose spigot) was provided by at the Stephen Clay Bed & Breakfast. A grounded electrical outlet was available at the base of the electrical pole directly to the right of the monument.

Present for 2004 assessment: Dan Meehan, Commander, Sons of the Union Veterans of the Civil War, Charles W. Canney Camp # 5 (originator of the 2004 assessment), Clark Thyng, Chairman of the Candia Board of Selectman, members of the Historic Commission, and a group of four students from the Moore School and their principal Michelle Carvalho (Alicia Frazer, Megan Smith, Becky Petrin and Erin Smith).

Accessibility: Sculpture accessible by scaffold. Electrical wires were covered by New Hampshire Contractor Services Department for safety reasons.

Lighting: There is a light on the telephone pole directly next to the monument.

Attachment to base: Four bolts at each corner of the self-base were secure, attached with 1 3/4" nuts. There is no iron staining visible at the bolts. The bolts are a replacement means of attachment, probably done at the 1958 restoration, and are secure. One of the bolts is 1/2" higher than the nuts, one lower, and one was slightly loose. The loose one was tightened and the low one filled with PC-7 structural epoxy to avoid collection of water.

CONDITION PRIOR TO TREATMENT:

General/Summary

Candia's Civil War Memorial (a zinc cast originally "bronzed" with paint to make it appear to be a bronze sculpture) was restored in 1957-58. That restoration included blasting and repainting. The restoration paint from 1958 was actively flaking from the sculpture.

The sculpture is secure on its base and there are no signs of structural problems with interior armature. There was a thin 11" vertical split in the zinc cast at the back of the proper right leg. These are opened original seams and can be stabilized with fiberglass epoxy. The soldier's rifle, the scabbard/bayonet, and the cap's visor were missing. Fragments of the rifle were retrieved on the ground after the vandalism. The proper right thumb was broken off at the time of the 2003 vandalism and recovered, and was removed from the sculpture during the assessment for safekeeping to the conservators' studio.

There are actual Civil War gilt brass buttons on the coat of the figure, and these were completely overpainted in green paint in 1958. There were some scrape marks through the green restoration paint and the top button was very slightly lifted at the time of the assessment, indicating someone may have been examining them or tried to remove them at some point.

Before treatment, the surface appearance of the sculpture was mottled light green and gray with vestiges of a light brown paint. The historic photograph provided for the

assessment indicates a darker toned sculpture, probably with some surface sheen to imitate bronze.

DETAILED CONDITION NOTES BEFORE TREATMENT

Interior armature/support

Some outdoor zinc sculptures have been unwisely filled with concrete in an attempt to provide stability, and there was some concern this may have happened to the Candia monument. However, a short rap with a metal tool clearly indicated that the sculpture is hollow, and this was confirmed during treatment.

During the 1958 restoration, it is possible some parts of a steel armature were added to the interior of the sculpture (a small welding rod fell from the interior of the proper right when the thumb lifted off during the assessment). There was no sign of rusting, the base was securely fastened, and it can be safely assumed that any interior support is stable.

There was an 11” crack in the zinc at the back of the proper right pants leg. This was stabilized with fiberglass fabric and epoxy during treatment.

Losses:

1. *Rifle:* The rifle was stolen from the sculpture on Halloween, 2003. It appears the rifle was wrenched forward, breaking it off just below the proper left hand, breaking it into a number of pieces and cracking the thumb on the proper right hand. Seven fragments of the rifle were retrieved after the incident and stored at the police station. The gunstock was missing, and there were not enough fragments to repair the rifle to its original shape. These zinc rifle fragments have been stored at the Fitts Museum in Candia (building next to the monument). Measurements and research indicate that the original rifle was the same size as an actual Springfield rifle with the top of the barrel slightly shortened.
2. *Scabbard/bayonet:* The scabbard/bayonet from the proper left side of the figure was also missing. Physical evidence suggests it has been missing a long time, probably even before the 1958 restoration, as the area has filled and was painted over. The original attachment appears to have been a simple lead solder join with no mechanical attachment.
3. *Cap visor:* the visor was broken off and missing. The damage appeared fairly recent, and was probably done by a direct blow to the top of the visor. The broken edge was jagged, with a small piece of zinc left at the right corner.

It was the intention of the Town of Candia and the Heritage Commission to replace all the missing parts of the sculpture. The parts were cast of fiberglass, with additional

casts made in case of vandalism. The additional fiberglass replacements are being stored at the Fitts Museum.

1958 restoration paint solubility

The 1958 restoration may have included some surface blasting, and mechanical scraping marks were visible, suggesting an overly rigorous cleaning. There were large loose flakes of the paint, particularly on the reverse and under the cloak of the figure. Some of the paint was more tenacious and better attached to the metal substrate. Solubility tests on the previous restoration paint(s) indicated the following.

Acetone: paint was soluble in acetone, but evaporation rate of acetone made this less effective.

Acetone/Ethanol: effective at removing the paint (the ethanol slows the evaporation rate of the acetone)

Xylene: paint is slowly soluble in xylene but is not as effective as the acetone/ethanol.

3M Safest Stripper™ (dimethyl adipate): slowly effective at removing the paint.

Conclusion: Acetone/Ethanol 50:50 or 3M Safest Stripper would be effective and able to be used on site. Methylene chloride-based strippers would also be effective.

Acid deposition damage

The 1958 restoration probably removed previous surface corrosion from acid deposition. There is some apparent copper corrosion on the surface probably to alteration of copper alloy metal flakes in the bronze paint, and some surface oxidation and corrosion to the zinc.

Surface appearance

The surface appeared mottled gray, brown and green before the current conservation treatment. The 1958 restoration paint was a light green and brown, and was applied by spray. The brown tone appears to be copper metal flake paint. There appears to be another undercoat, possibly done with some bronze powders, that is a lighter blue-green.

There were numerous repairs, including what are probably original round plug repairs, lead repairs, and more recent auto body fill repairs. There was a pounded copper sheet repair, approximately 1 ½ “ in diameter, on the proper right side of the coat below the shoulders. A line of fills going up the front/proper right side of the body and into the neck suggested that the sculpture was struck on that side when it fell off the pedestal in 1957. It

appears that just the face was repainted green at some point. There are also some areas of recent paint (blue, turquoise and yellow) that are probably from a more recent prank.

Original surface appearance

The original appearance was a painted surface made to resemble bronze (see attached examples with image from a restored Civil War Sculpture in Pottstown, PA). The actual brass buttons were left uncoated in contrast to the surrounding brown.

Examination of an historic photographic from Candia supplied at the 2004 assessments by the Sons of the Union Veterans of the Civil War, Charles W. Canney Camp # 5 indicated that the sculpture was darker in tone compared to the base.

Granite base, curbing, and cast concrete walkways

The granite base is generally in stable condition, with no staining, cracks, or stone loss, and the base appears level. During the 1958 restoration, the entire granite plinth was locally reportedly replaced with a new one, adding names of additional men from Candia who died in other conflicts (Revolutionary War, War of 1812, Spanish-American War, and World War I), but this was not confirmed in writing.

During the 1958 restoration, it appears the granite curbing was removed for cleaning and then replaced. The original slanted walkways (four walkways from each direction; see original dedication image) were replaced with cast concrete steps. The concrete has pulled away from the base as much as 1/4". Although not within the scope of the assessment for the sculpture, the Town and the Heritage Commission are considering replacing the steps with the original slanted walkway configuration. It is recommended that the town confer with the New Hampshire Historical Society as plans are made for possible replacement. This conservator is available for further consultation or referrals regarding the stone.

The flowerbeds in each quadrant within the curbing are currently cared for by the Stephen Clay Bed & Breakfast Bed & Breakfast behind the monument.

DISCUSSION and RECOMMENDATIONS

The Candia Civil War Monument was generally in stable condition before the recent treatment, and did not require the addition of new armature. There are cracks in the metal at the back of the paint legs that required structural stabilization. There were a number of losses, including the soldier's rifle, scabbard, and cap visor. Previous restoration paint was actively flaking and did not represent what would have been the original appearance.

Replacing the missing parts with fiberglass replicas toned to match was cost effective and there are numerous precedents in the historic preservation of other outdoor statuary. It was recommended that minor structural repairs be carried out, the surface cleaned, toned to an historically appropriate color and given a protective coating, all the missing parts replaced, and an annual written maintenance plan established.

CANDIA NEW HAMPSHIRE CIVIL WAR MEMORIAL SPECIFIC TREATMENT REPORT

The goal of the proposed treatment was to stabilize the sculpture, return the sculpture to its original appearance, replace missing parts, give the sculpture a protective coating, and establish a maintenance program.

Pre-treatment site visit

The conservator made a second site visit to carry out additional before treatment photographs, discuss final color with town representatives/Heritage Commission, and meet with safety regulators from the NH State Highway Department.

2007 TREATMENT RECORD:

1. Ordered fiberglass replacement parts from Skylight Studios in Woburn, MA.
The cap visor was sculpted by Robert Shure, sculptor, Skylight Studio, Woburn, MA, from a plaster castoff the head of this sculpture already at his studio. An actual Springfield rifle was loaned for the treatment but it was judged to be in too pristine a condition for molding, and a non-firing replica Enfield Rifle was purchase specifically for mold making. The top of the replacement barrel was cut down 3/4" and an areas under the proper right hand mechanically reduced by a file to fit. A replica scabbard was loaned from Max-Cast foundry in Kalona, Iowa to mold and cast a replacement scabbard.
2. Erected scaffolding with 5' wide deck completely surrounding sculpture. State of NH Highway Safety Department covered the electrical wires above the monument for the duration of the treatment.
3. Washed the sculpture with OrvusTM (sodium lauryl sulfate) in water, followed by repeated water rinse.
4. Mechanically reduced loose restoration paint with small hand or medical tools, nylon pads, and nylon brushes. Used acetone/ethanol and/or small amounts of 3M Safest Stripper to further remove old paint layer. Removed paint from gilt brass buttons using 5f5 methylene chloride based paint stripper with small natural bristle brushes followed by clearing with acetone/ethanol.

5. Washed the sculpture again and then power washed for final rinse (low pressure, wide wand, 14-18 inches from surface).
6. After thorough drying, repaired split at back of proper right rear leg with fiberglass and PC-7 epoxy, toned with titanium white dry pigment to mimic the color of the zinc.
7. Numerous paint tests were carried out in the studio on fragments of the original gun and on heavyweight paper using a range of pigments and different color and size mica powders. Tests were also carried out onsite.

Paint formula used:

Golden MSA color Raw Umber 350, MSA color Burnt Umber 030, and SEPP Gold Leaf's Mica particles in "Micro- Bronze" # M9250M in TS-28 solvent. Paint was applied with wide soft brushes, with some slight painterly variation.

8. Painted all fiberglass replacement parts in the same manner and attached in place with 316 grade stainless steel pins and PC-7 epoxy using fiberglass strands for added support. There are two pins in the visor and one bolt in the scabbard, and two additional epoxy joins hold the scabbard in place. Drilling and pinning confirmed that the sculpture was hollow.
9. Returned original thumb on proper right hand in similar manner, using fiberglass strands and PC-7 epoxy.
10. Inpainted a very small area above and to the right of the eagle on the top button with Incralac mixed with SEPP mica color in gold.
11. Applied 6 spray coats of Incralac lacquer (B-44) in xylene) to all surfaces.
12. Waxed all surfaces with Butchers Bowling Alley Paste Wax™ and buffed with soft lint-free cloths or nylon fabric.
13. Explained waxing process to Diane Philbrick and supplied maintenance directions (see attached).
14. Supplied this written report on the treatment to the Town of Candia with photographic documentation before, during, and after treatment. Report includes all materials and methods and was given to Diane Philbrick of the Candia Heritage Commission.

The previous rifle parts and additional copies of the replacement scabbard and rifle are being sent to the Fitts Museum in Candia for long-term storage. Please call the conservator if any of the replaced parts on the sculpture are damaged or stolen.

Rika Smith McNally

June 30, 2007

MAINTENANCE RECOMMENDATIONS

CIVIL WAR MEMORIAL

CANDIA, NEW HAMPSHIRE

After conservation treatment, the protective Incralac and wax coating on the zinc statue must be maintained by annual examination and occasional washing and re-waxing. Post-treatment, this annual exam will be the single most important thing the Town of Candia can do to preserve the Civil War Monument.

Maintenance Directions for coated Outdoor Zinc Statuary

Once a year, examine the sculpture with a pair of binoculars, looking for damages from hail or high winds, and inspect for any flaking of the coating or damages from bird guano. If guano is present, this may be removed by washing (use a long-poled brush and a water hose from a ladder). Note if any of the replacement parts have been re-stolen or vandalized. Unlike bronze sculptures, which must be washed and waxed every year, the coated zinc requires attention only every 2-3 years.

Every 2-3 years:

1. Wash the sculpture with a mild detergent and water during warm weather. Ivory® liquid dish detergent is recommended (clear), Joy™, or Sunlight™ is fine, or purchase Orvus®(sodium lauryl sulfate) through the conservator. Place 1-2 teaspoons of the detergent in a bucket of water, and wash the surface with soft sponges or soft brushes followed by immediate and copious rinsing. The sculpture can be easily accessed by bucket truck.. Do not use any alkaline or acidic cleaning detergent on the metal or the granite base.
2. Allow the monument to air dry (depending on the weather, this will take one to two hours). Drying time can be speeded up by gently patting the surface with paper towels.
3. After drying, wax the surface by applying a thin coat of Butcher's Bowling Alley Paste Wax®, available at many hardware stores, by soft brush, with a chamois cloth, or with lint-free cloths (Painter's Pals®, also available at hardware stores, is recommended). Then buff the surface with the lint-free cloths or nylon stocking sections over the cloths, or with soft brushes (shoe polish brushes). Buffing should be done with light, quick strokes (heavy rubbing is not necessary). Buff shortly after waxing. Apply wax very thinly (if the wax is applied too thickly, it can blanch, or turn milky white). Do not substitute another type of wax.

Call the conservator if there are any questions.