

PURCHASING DIVISION
CITY OF WORCESTER
MASSACHUSETTS 01608-1895
ROOM 201 - CITY HALL, 455 Main St.
PHONE (508) 799-1220

BID INVITATION
(Supplies, Material, Equipment, Services)

AN EQUAL OPPORTUNITY AFFIRMATIVE ACTION EMPLOYER

BID NO. 8013-W3

DATE: April 21, 2023

CITY OF WORCESTER
Christopher J. Gagliastro, MCPPO
Purchasing Agent

BUYER: Christopher Gagliastro

NOTICE TO BIDDERS
TERMS AND CONDITIONS

All bids are subject to the terms and conditions and specificity herein set forth except where specifically deleted by the City of Worcester in Section No. 6 below.

COMPLETE ORIGINAL COPY (including ALL required pages) OF THIS BID MUST BE SUBMITTED IN A SEALED ENVELOPE:

DATE: MAY 5, 2023 TIME: 4:00 P.M.

PLACE: Purchasing Division, Room 201, City Hall, Worcester, Massachusetts

MARK ENVELOPE **"Bid No. 8013-W3, Monument Refurbishing – Phase III / DPWP"**

The name and address of the bidder must appear in the upper left hand corner of the envelope. The City of Worcester is not responsible for bids not properly marked.

GENERAL

1. This Bid Invitation covers: provide professional monument refurbishing / restoration services as per the attached requirements and specifications of the City of Worcester Department of Public Works & Parks.
2. A certified check or bid bond made payable to the "City Treasurer, City of Worcester" in the Amount of \$ must accompany this bid.
3. **NO BID WILL BE ACCEPTED AFTER TIME AND DATE SPECIFIED**
4. A performance bond in the amount of \$ N/A of the total dollar award is required.
5. A payment bond in the amount of \$ N/A of the total dollar award is required.
6. All terms and conditions are applicable to this proposal except the following section numbers which are hereby deleted from this invitation: all apply
7. Questions pertaining to this bid must be directed to: Christopher J. Gagliastro in writing via e-mail at: gagliastroc@worcesterma.gov

Email copies of this bid are acceptable. Please email bids to gagliastroc@worcesterma.gov

8. The following meanings are attached to the defined words when used in this bid form.
 - (a) The word "City" means The City of Worcester, Massachusetts.
 - (b) The word "Bidder" means the person, firm or corporation submitting a bid on these specifications or any part thereof.
 - (c) The word "Contractor" means the person, firm or corporation with whom the contract is made by carrying out the provisions of these specifications and the contract.
 - (d) The words "Firm Price" shall mean a guarantee against price increases during the life of the contract.
9. Any prospective bidder requesting a change in or interpretation of existing specifications of terms and conditions must do so within five (5) days (Saturdays, Sundays and Holidays excluded) BEFORE scheduled bid opening date. All requests are to be in writing to the Purchasing Division (or e-mailed at gagliastroc@worcesterma.gov). No changes will be considered or any interpretation issued unless request is in our hands within five (5) days (Saturdays, Sundays and Holidays excluded) BEFORE scheduled bid opening date.
10. The contractor will be required to indemnify and save harmless the City of Worcester, for all damages to life and property that may occur due to his or her negligence or that of his or her employees, subcontractors, etc., during this contract.
11. The Contract Agreement will be in the form customarily employed by the City of Worcester and is on file in the Purchasing Division at City Hall.
12. Bids which are incomplete, not properly endorsed, or signed, or otherwise contrary to these instructions will be rejected as informal by the Purchasing Agent. Conditional Bids Will Not Be Accepted.
13. The Bidder must certify that no official or employee of the City of Worcester, Massachusetts is pecuniarily interested in this proposal or in the contract which the bidder offers to execute or in expected profits to arise therefrom, unless there has been compliance with provisions of G.L.C.43 Sec. 27, and that this bid is made in good faith without fraud or collusion or connection with any other person submitting a proposal.
14. As the City of Worcester is exempt from the payment of Federal Excise Taxes, and Massachusetts Sales Tax, prices quoted herein are not to include these taxes.
15. **All prices are to be firm F.O.B. Destination, City of Worcester, Massachusetts, unless otherwise indicated by the City. Time reserved for award is ninety days.**
16. In case of error in the extension prices quoted herein, the unit price will govern.
17. It is understood and agreed that should any price reductions occur between the opening of this bid and delivery of any order, the benefit of all such reductions will be extended to the City.
18. The City of Worcester reserves the right to reject any and all bids, wholly or in part, and to make awards in a manner deemed in the best interest of the City.
19. Awards will be made to the bidder quoting the lowest net price in accordance with specifications.
20. The supplier will be bound by all applicable statutory provisions of law of the Federal Government, the Commonwealth of Massachusetts, the City of Worcester, and The Department of Public Safety of the Commonwealth of Massachusetts.
21. Any bid withdrawn after time and date specified, the bidder shall forfeit deposit on bid as liquidated damages.
22. The contractor will not be permitted to either or underlet the contractor, not assign either legally or equitably any monies hereunder, or its claim thereto without the previous written consent of the City Treasurer and of the Purchasing Agent of the City.

23. If this bid shall be accepted by the City, and the bidder shall fail to contract as aforesaid and to give a bond in the amount as specified in Section 4, within ten (10) days, (not including Sunday or a Legal Holiday) from the date of the mailing of a notice from the City to him, according to the address given herewith, that the contract is ready for signature, the City may by option determine that the bidder has abandoned the contract and thereupon the proposal and acceptance shall be null and void and the bid security accompanying this proposal shall become the property of the City as liquidated damages.
24. When quoting, the bidder shall submit a signed copy of this bid form, and if bid is accepted by the City shall constitute part of the contract of purchase. Do not detach any part of this form when submitting a bid. Bidder must sign and return complete forms.
25. If in the judgment of the Purchasing Agent any property is needlessly damaged by an act or omission of the contractor or his/her employees, servants, or agent, the amount of such damages shall be determined by the Purchasing Agent of the City of Worcester and such amount shall be deducted from any money due the contractor or may be recovered from said contractor in actions at law.
26. It is agreed that deliveries and/or completion are subject to strikes, lockouts, accidents and Acts of God.

INSURANCE AND WORKER'S COMPENSATION

27. COMMERCIAL GENERAL LIABILITY INSURANCE – Contractor to supply the City of Worcester with certificates of insurance evidencing general liability coverage of not less than \$ 1,000,000.00 per occurrence / \$ 2,000,000.00 aggregate.
28. AUTOMOBILE LIABILITY INSURANCE – Contractor to supply the City of Worcester with certificates of insurance evidencing automobile liability coverage, bodily injury and property damage combined single limits, of \$ 1,000,000.00 (all owned, hired and non-owned autos).
29. COMPENSATION INSURANCE – Contractor shall furnish the City of Worcester with certificates showing that all of his or her employees who shall be connected with this work are protected under Massachusetts' statutory worker's compensation insurance policies.
30. The Contractor shall carry public liability insurance with an insurance company satisfactory to the City so as to save the City harmless from any and all claims for damages arising out of bodily injury to or death of any person or persons, and for all claims for damages arising out of injury to or destruction of property caused by accident resulting from the use of implements, equipment or labor used in the performance of the contractor or from any neglect, default or omission, or want of proper care, or misconduct on the part of the Contractor or for any one of his employ during the execution of the contract.
31. Prior to starting on this contract, the Contractor shall deposit with the contracting officer certificates from the insurer to the effect that the insurance policies required in the above paragraph have been issued to the Contractor. The certificates must be on a form satisfactory to the Purchasing Agent.
32. Except as may be otherwise stated herein, the Contractor shall also carry bodily injury and property damage insurance in amount not less than those set forth above covering the operation of all motor powered vehicles owned or operated by the Contractor and engage in this contract.

DISCOUNT

33. Prompt pay discounts will be considered when determining the low bid except when discounts are for a period of less than 30 days. In this event discounts will not be taken into consideration when determining low bid.
34. Time, in connection with discount offered, will be computed from date of completion and/or delivery and acceptance at destination, or from date correct bill or voucher properly certified by the contractor is received if the latter date is later than the date of completion and acceptance and/or delivery and acceptance.

GUARANTEE

35. The bidder to who a contract is awarded guarantees to the City of Worcester all equipment, materials and/or workmanship for a period of one (1) year after final inspection and acceptance and shall replace promptly any defective equipment, materials and/or workmanship required without additional cost to the City.

DELIVERIES AND COMPLETION

36. It is understood and agreed that in the event of failure on the part of the bidder to indicate date of delivery and/or completion, delivery and/or completion will be made within twelve (12) days from date of notification. Should the successful bidder fail to make delivery or complete contract within time specified, the City reserves the right to make the purchase on such orders at the open market and charge any excess over contract price to the account of the successful bidder, who shall pay the same.
37. The contractor shall familiarize himself with the location and facilities for storage.
38. The City, through its Purchasing Division, reserves the right to divert delivery from one location to another, and to allow for any change in operating conditions or for any other cause not now foreseen and to proportion deliveries according to available storage facilities.

SAMPLING AND ANALYSIS

39. Each bidder must state the commercial name of the product quoted, name, and address of operator or agent from whom the product will be purchased and in addition shall furnish an analysis of the product, date of analysis, by whom made and their address.
40. Samples of the product to be delivered may be taken by a representative of the City, either prior to delivery or while it is being delivered in the storage facilities at destination, or will be taken from the storage facilities to which the product has been delivered as determined from time to time by the Purchasing Agent. Bidder agrees to furnish the necessary manual labor, without additional cost required to assemble the physical samples, which is to be performed under the direction of the City representative.
41. The representative of the City taking the samples, shall be given the opportunity, while sampling, to affix his signature to the delivery slip each item represented in his sample.
42. Any product after the sampling and analysis, not found meeting the requirements of the contract shall be sufficient cause for the cancellation of the contract at the option of the Purchasing Agent.
43. If any product is found that does not meet the analysis submitted by the bidder in his proposal, the Purchasing Agent may at his option exercise his right to reject the product and require that all or any part thereof shall be removed promptly by and at the expense of the contractor and replace it forthwith with a product satisfactory to the Purchasing Agent, or to retain the product and compensate the contractor in an amount as determined by the Purchasing Agent and the City Manager.
44. It is understood and agreed that it shall be a material breach of any contract resulting from this bid for the Contractor to engage in any practice which shall violate any provisions of Massachusetts General Laws, Chapter 151B, relative to discrimination in hiring, discharge, compensation, or terms, conditions or privileges of employment because of race, color, religious creed, national origin, sex, age or ancestry.
45. The undersigned as bidder, declares that the only parties interested in this proposal as principals are named herein; that this proposal is made without collusion with any other person, firm or corporation; that no officer or agent of the City is directly or indirectly interested in this bid; and he proposes and agrees that if this proposal is accepted he will contract with the City in accordance with the specifications, also the terms and conditions as spelled out in this bid form.
46. No Person, including but not limited to corporations, partnerships, limited partnerships or limited liability corporations, shall be eligible to receive a contract under this invitation to bid and/or request for proposal if that person has been convicted of any felony offense involving the distribution of controlled substances as that term is defined under Chapter 94C of the General Laws and, for contracts to be performed for on-site services to the Worcester Public Schools, if that person or any person to be employed by that person in the performance of such on-site services has been convicted of a "sex offense" or a "sex offense involving a child" or a "sexually violent offense" or would meet the definition of "sexually

violent predator" as those terms are defined in Chapter 6, Section 178C of the General Laws and who must register with the sex offender registry board.

47. The Contractor shall at all times enforce strict discipline and good order among his employees and shall not employ for work or services relating to this contract any unfit person or anyone not skilled in the task assigned to him. In light of the fact that the performance of this contract requires the Contractor and its employees to have significant interaction with the public, the Contractor shall require all employees who may perform services under this contract to conduct themselves in a courteous, professional manner. If the Contractor is notified by the Contract Officer that any person engaged upon the work is incompetent, unfaithful, disorderly, discourteous, or otherwise unsatisfactory, then such person shall be discharged from providing services or work pursuant to this contract. Without limiting the generality of the foregoing, intimidation, threats and/or violent conduct of any kind or nature directed to members of the public are absolutely prohibited. Failure to comply with this requirement shall be grounds for termination of the contract.
48. The Contractor's performance may be evaluated on an ongoing basis including but not limited to consideration of complaints received from members of the public. In order to facilitate this evaluation, the Contractor shall provide the City with documents and records upon request. The Contractor shall further obtain from its employees authorization that appropriate City personnel may obtain all available criminal offender information ("CORI") from the Criminal History Systems Board. A high number of unresolved complaints, any number of complaints that are particularly severe, or employment of individuals who have been convicted of assault or other violent crimes shall be grounds for the early termination or non-renewal of the contract by the City.
49. The procurement officer shall award the contract to the lowest responsible and responsive bidder. The term "responsible bidder" means "a person who has the capability to perform fully the contract requirements, and the integrity and reliability which assures good faith performance." Consistent with its duty to maintain public order and promote public safety, the City has determined that this contract is of a type and nature so as to be particularly sensitive due, at least in part, to the contractor's inherent access and dealings with the members of the general public. Therefore, the City has concluded that additional scrutiny is justified as it determines whether a particular bidder is responsible, having the integrity and reliability to properly perform the requested services. This may entail consideration of the contractor's system of oversight, training and supervision of its employees, including but not limited to its requirement of a high standard of customer service and courtesy in its dealings with the public. The bidder's care and diligence in hiring and assigning its employees will also be considered. In making its determination, the City reserves the right to examine any and all information at its disposal, including but not limited to prior City contracts, the experiences and information obtained from current and former customers (whether identified by the bidder as references or not), as well as other sources available to the City, including but not limited to court documents, newspapers, financial reports (such as DUNS), and certain police data and reports.
50. The Contractor, acting through its owner(s) or any of its employees, or its agents or sub-contractors and any of their employees, shall not engage in any behavior, whether during the course of its duties under this contract or at any other time, that is illegal, criminal or otherwise shocking or offensive to the general public. The determination whether any particular behavior is illegal, criminal or shocking to the general public shall rest in the sound judgment of the Contracting Officer or the City Manager. In making such determination, the Contracting Officer or the City Manager shall apply the general standards of the community. No criminal conviction or formal charges shall be required to make such determination. Such behavior need be something more than trivial and something which would cause the general public to have concerns either about the safety of individuals coming in contact with the Contractor or about the character and integrity of the individuals with which the City does business. Violation of this provision shall be grounds for immediate and unilateral termination of this contract by the City upon five days' notice as otherwise provided herein

GIVE FULL NAMES AND RESIDENCES OF ALL PERSONS INTERESTED IN THE FOREGOING PROPOSAL.

(NOTICE: Give first and last name in full; in case of corporations, give corporate name and names of President, Treasurer, and Manager; and in case of firms give names of the individual members)

Name	Address	Zip Code
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KINDLY FURNISH THE FOLLOWING INFORMATION REGARDING BIDDER:

(1)	If a Proprietorship		
	Name of Owner	<hr/>	
	Business Address	<hr/>	
	Zip Code	Telephone No.	<hr/>
	Home Address	<hr/>	
	Zip Code	Telephone No.	<hr/>

(2)	If a Partnership		
	Full names and addresses of all partners		
	<u>Name</u>	<u>Address</u>	<u>Zip Code</u>
	<hr/>	<hr/>	<hr/>
	<hr/>	<hr/>	<hr/>
	<hr/>	<hr/>	<hr/>
	Business Address	Zip Code	<hr/>
	Tel. No.	<hr/>	

(3) If a Corporation

Full Legal Name _____

State of Incorporation _____ Qualified in Massachusetts ? Yes _____ No _____

Principal Place of Business _____

Street P.O. Box

City/Town State Zip

Telephone No. _____

Place of Business in Massachusetts _____

Street P.O. Box

City/Town State Zip

Telephone No. _____

GIVE THE FOLLOWING INFORMATION REGARDING SURETY COMPANY

Full Legal Name of Surety Company _____

State of Incorporation _____ Admitted in Massachusetts ? Yes _____ No _____

Principal Place of Business _____

Street P.O. Box

City/Town State Zip

Place of Business in Massachusetts _____

Street P.O. Box

City/Town State Zip

Telephone No. _____

NOTE

The Office of the Attorney General, Washington, D.C. requires the following information on all bid proposals amounting to \$1,000.00 or more.

F.I.D. Number of bidder _____

This number is regularly used by companies when filing their "EMPLOYER'S FEDERAL TAX RETURN, U.S." Treasury Department Form 941.

AUTHORIZED SIGNATURE OF BIDDER _____ TITLE _____
PLEASE SIGN

DATE _____ BID SECURITY \$ _____

The name of Customer Service Representative and the Contract Administrator responsible for servicing this account in the event of contract award are:

NAME (PLEASE PRINT) *Customer Service Rep.* _____ TEL. NO. _____

NAME (PLEASE PRINT) *Contract Administrator* _____ TEL. NO. _____

FAX NUMBER _____ FAX # _____

E-MAIL (Customer Service Rep.): _____

E-MAIL (Contract Administrator): _____

UNDER MASSACHUSETTS GENERAL LAWS, CHAPTER 30B: SECTION 10, THE FOLLOWING CERTIFICATION MUST BE PROVIDED:

Section 10. A person submitting a bid or a proposal for the procurement or disposal of supplies, or services to any governmental body shall certify in writing, on the bid or proposal, as follows:

" The undersigned certifies under penalties of perjury that this bid or proposal has been made and submitted in good faith and without collusion or fraud with any other person. As used in this certification, the word "person" shall mean any natural person, business, partnership, corporation, union, committee, club, or other organization, entity, or group of individuals."

(Please Print) _____
Name of Person Signing Bid

Signature of Person Signing Bid

Company

No award will be made without vendor certification of the above.

PROPOSAL PAGE

Bidders must state and identify the product offered, such as manufacturer's name, trade name, brand name and quality next to each item. WE MUST KNOW WHAT HAS BEEN OFFERED.

The quantities shown herein are estimated only and the Contractor will be required to furnish all quantities ordered by the City during the period of the contract.

YES XX NO

Delivery to be made to: Worcester locations as required

This Bid includes addenda numbered _____

NO PRICE ADJUSTMENTS ALLOWED. PRICES QUOTED ARE FINAL. CHECK BEFORE SIGNING
--

BIDDER TO COMPLETE ITEMS BELOW

Item No.	Estimated Contract Quantity	Description				Total Amount
1	Lump Sum	<p>Provide professional monument refurbishing / restoration services per the attached requirements and specifications</p> <p>Questions pertaining to this bid must be directed to: Christopher J. Gagliastro in writing via e-mail at: gagliastroc@worcesterma.gov</p> <p>Bidders must bid on all items. Award to be made in the aggregate.</p>				<p>\$ _____</p> <p>Total Cost All Items</p>

TERMS, PROMPT PAY DISCOUNT _____% 30 DAYS, NET 45 DAYS.

DELIVERY AND/OR COMPLETION TO BE MADE WITHIN (as soon as possible) DAYS FROM TIME OF NOTIFICATION BY THE CITY.

NAME OF BIDDER _____



Conservation
of Public Art

617.283.6036 | www.sculpturecare.com



OUTDOOR MONUMENT CONSERVATION ASSESSMENT WORCESTER, MASSACHUSETTS

Daniel Chester French's Senator Hoar Memorial, Three Bronze Plaques on the Base, and the Worcester City Hall Plaque directly adjacent to the monument

Date of site visits: 11/09/20, 10/11/22, and 12/04/22

Artist: Daniel Chester French

Title: *Senator Hoar Memorial, Three Bronze Plaques on the Base and One Plaque on the adjacent wall.*

Date: 1908

Material: Bronze, pink granite

Foundry: Roman Bronze Works, NY

General description: Seated figure.

Detailed description:

Senator George Frisbee Hoar was an important figure in Worcester in the 19th century. He served for more than 50 years as a member of the Massachusetts House of Representatives, the Massachusetts Senate, The United States House of Representatives, and as Senator of the United States.

Daniel Chester French, sculptor, shows Hoar in his senatorial chair, his left hand gripping the arm of the chair and his right hand holding a manuscript in his lap. More papers and books are around and under the base of the chair, and his jacket is hung over the left side. The Smithsonian Institution's Inventory of American Sculpture states that the face once had a pair of eyeglasses, but these have been gone for a long time. The IAS lists Henry Bacon as a designer. Bacon was an architect well-known for his buildings and designs for bases of monuments. He frequently worked with French, including on the *Lincoln Memorial* in Washington, DC, and the *Burnside Monument* in Worcester.

Inventory of American Sculpture #: 87630004

Site notes: The monument is on Main Street in Worcester, a high-traffic area adjacent to a bus stop. There is active pedestrian use, and some litter was noted on the sidewalk.

Dimensions: Approximately 15". Granite base: W 62 3/8" x D 76 3/8"

Location: To the proper right of Worcester City Hall's front door, adjacent to a bus shelter.

CONDITIONS

Sculpture:

The bronze sculpture is structurally stable, with no cracks or breaks. However, the surface is in poor visual condition due to an incorrect previous restoration with an inaccurate color. The patina is mottled, and the surface coating is mostly missing, resulting in a dry, parched appearance.

Bronze conditions:

Left: Bronze figure, plaques, granite base, and low wall. **Above:** Detail of figure and senatorial chair, showing a failed coating and poor condition of a previous hot chemical patination. The color is too orange-brown and should be cold patinated with a cooler dark brown color followed by a protective coating.



Left: Overall, the monument in sunlight. The bronze sculpture was previously restored with cleaning, hot chemical repatination, Incralac, and wax. The statue is in stable structural condition, but the patina has significantly deteriorated. The bronze should be a darker brown with a soft lustre. The sculpture appears to have been repatinated with ferric nitrate, which results in an orange-brown color unless other reagents are not added. The color should be darker and more saturated (similar to the *Burnside Fountain* bronze on Worcester Common and the 1898 *Spanish-American War Soldier*) in Wheaton Square.

The three bronze plaques on the granite base and the smaller plaque adjacent to the monument on a low wall appear to have been only partially treated during a previous conservation treatment. They remain in poor condition and are accessible to theft because the corner screws are not covered. Note that there is no plaque on the rear side of the base.

Conditions of granite:

The granite base is in generally good structural condition but the surface is extremely dirty with particulate, bio-matter, and black carbonaceous atmospheric staining from air pollution.



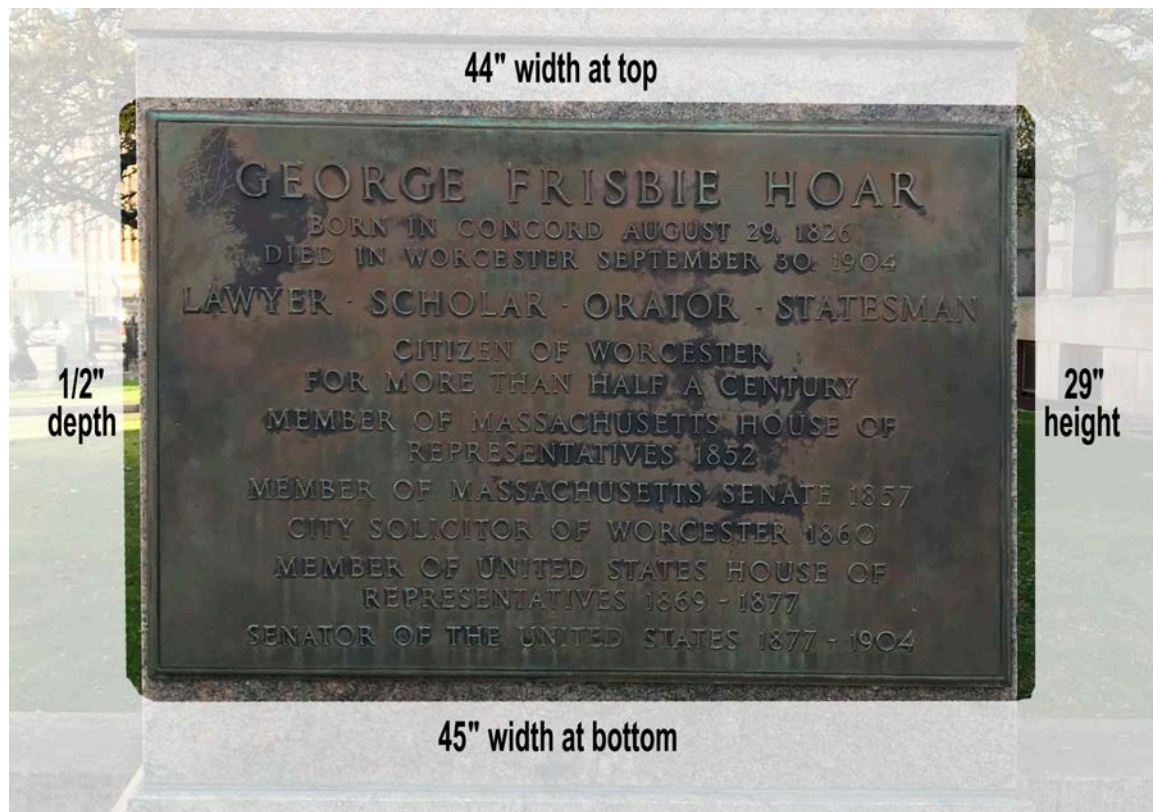
Left: Overall, from the front right corner.
Above Right: Granite base from front proper left corner showing dirt, grime, and carbonaceous staining.



Left: Biomatter in the form of moss has grown between the pavers, and black stains on the pavers and granite wall are the result of carbonaceous staining. Both can be removed with the appropriate cleaners.

CONDITIONS of 4 plaques

All of the bronze plaques on the Senator Hoar Memorial's granite base appear to have been blasted, possibly by high-pressure washing but probably by sand. There are no remains of the original patinas, and the surfaces are uneven and parched. It is assumed the plaques were not completed when the bronze sculpture was restored.

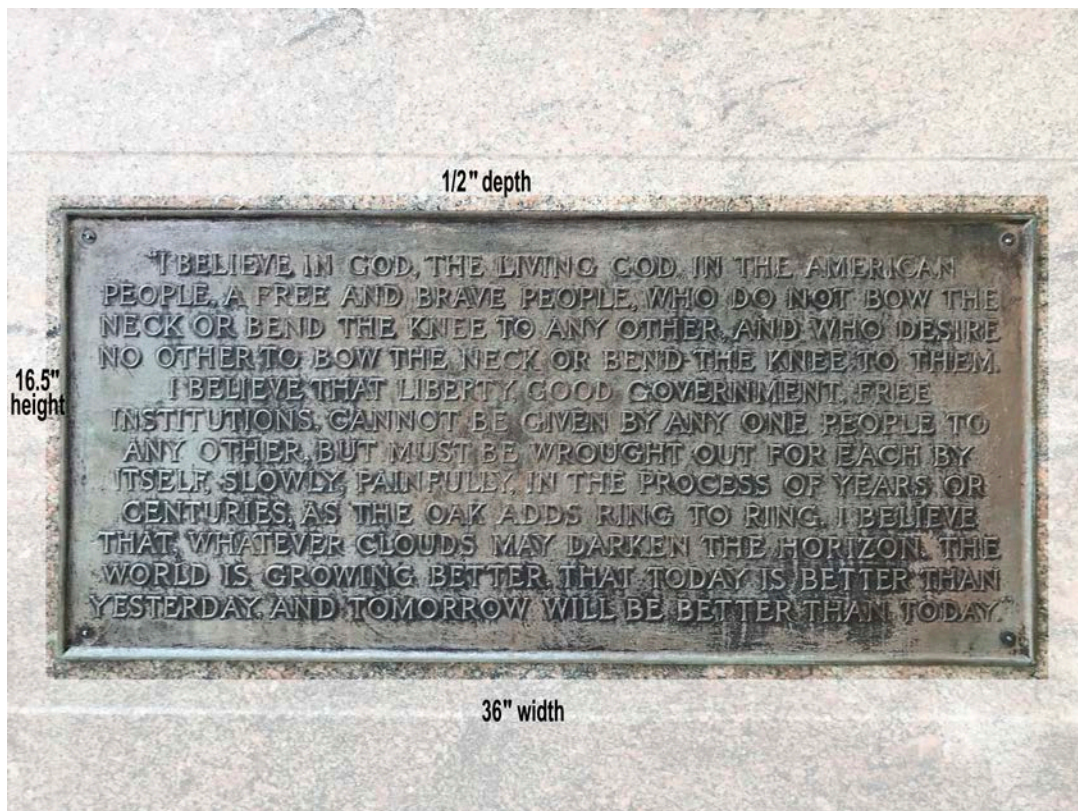


Plaque 1: The front plaque, the largest on the base, is in poor condition and was previously blasted to almost bare metal. The appearance is uneven and parched, showing signs of new green corrosion. All four of the cover cap rosettes on the corner screws are missing. The dark areas appear to be oil stains. **Below:** Details of abrasions, staining, and new green copper corrosion.





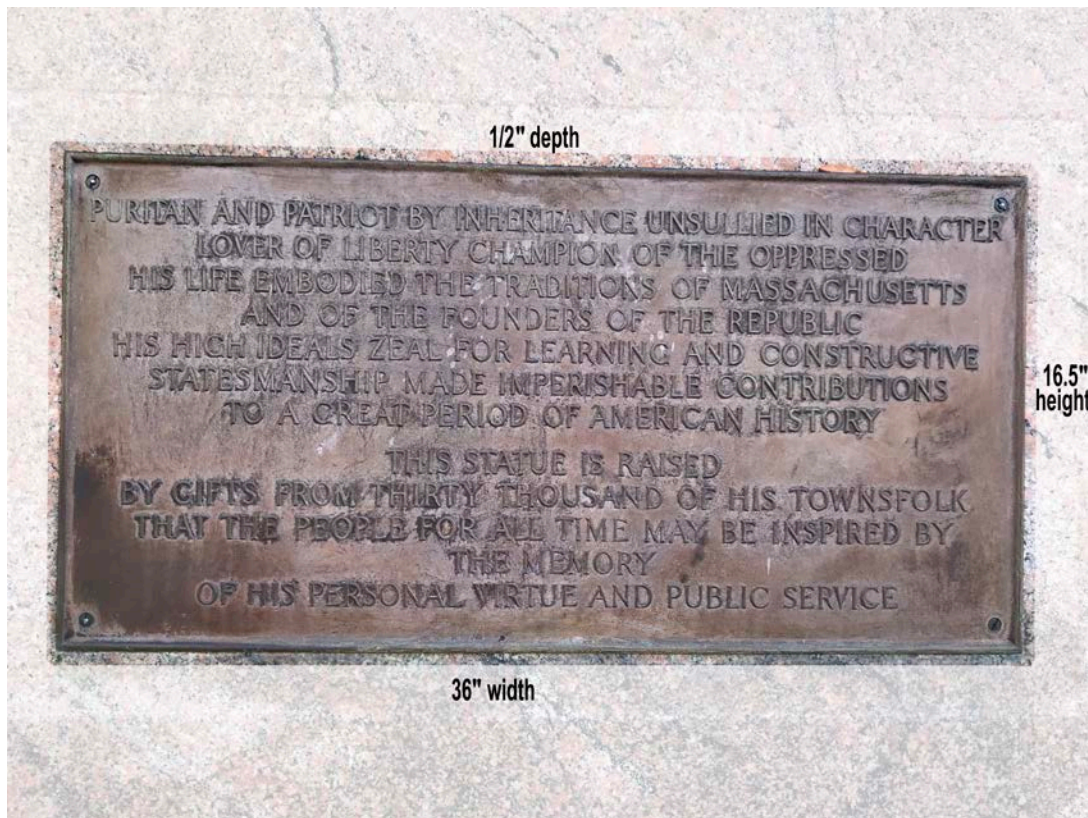
Above: additional details of Plaque 1. **Left:** the previous blasting to bare copper alloy metal. **Right:** recent corrosion (drips of copper chloride and black copper sulfate corrosion.)



Plaque 2: On the base's proper left side, this plaque has also been partially stripped down to almost bare metal and requires a new cold patina and protective coating. The original decorative bronze hardware cap rosette on each corner attachment is missing.



Left: Detail of Plaque 2, showing bare metal from previous blasting, a parched surface, recent formation of corrosion, and missing bronze cap rosettes.

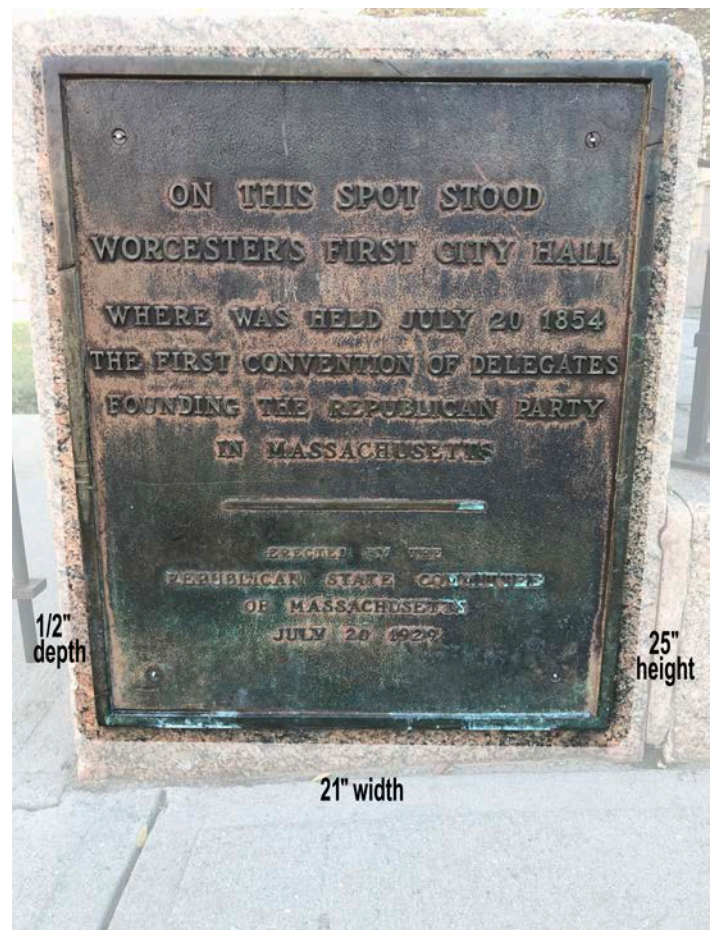


Plaque 3: This plaque has also been stripped of the original patina by the previous blasting. All of the original attachment cap rosettes are missing, but this element can be remade or purchased. The cap is not a rosette or a star shape but a simple, slightly rounded cover. There is an oil stain at the lower proper right.



Left: Detail of proper left bottom corner of Plaque 3. The dirt and corrosion around the attachment screw indicate the cover cap was round, possibly a rosette or slightly domed circular shape.

Right, Plaque 4: City Hall Commemorative Plaque, on the front of the low granite wall adjacent to the monument, dates from 1929 and was also blasted to almost bare metal. It is set very low to the ground, and the lower edge has green corrosion from urine. All four of the decorative cap rosettes to the corner screws are missing. The current screws are new; it appears the previous restoration treatment was never completed.





Above: detail of City Hall Plaque. **Left:** loss of patina from the previous blasting and missing cap cover. **Right:** horizontal damage at lower 2" of plaque is likely from snow removal equipment. The plaque location is low and close to the sidewalk, and the plaque is vulnerable to abrasions and sidewalk salt. The City could consider moving the plaque to a higher location.

DISCUSSION and RECOMMENDATIONS

Sculpture:

The bronze sculpture of Senator Hoar is in good structural condition, but is the wrong color and the protective coating is gone. The result is a mottled and parched surface. The sculpture requires cleaning, patina repair, and new protective coating that can be annually maintained.

Plaques:

The three plaques on the *Senator Hoar Memorial's granite base* were previously only partially restored, probably when the bronze sculpture was conserved. The plaques were blasted to bare metal, but there were not patinated or given a protective coating and have numerous abrasions and new corrosion. The round cover caps at the corner screws are also missing.

Each of the plaques should be cleaned, repatinated, with a cold patina on top of the existing color, given a protective coating, and the cap rosettes replaced. A cold patina will be easier to apply, and a wax coating will provide the best protection.

Granite base:

The pink granite is extremely dirty and damaged by bio-growth. Air pollution has caused black staining. The stone will require multiple cleanings.

GOALS of the TREATMENT

The treatment goals are to return the sculpture, plaques, and base to their original appearance and provide protective coatings to the bronze to prevent further corrosion. The future maintenance for the bronze will be annual washing and waxing. Cleaning will significantly improve the appearance of the granite base.

TREATMENT DIRECTIONS

1. *Senator Hoar Memorial*
2. *Granite Base*
3. *Three plaques on the Hoar Memorial base*
4. *Worcester City Hall Plaque*

Documentation before treatment:

PHOTOGRAPH conditions of the bronze components and the granite base, including details, e in high-resolution digital JPEG files, each image labeled with monument name, date, brief description, and "BT" (indicating before treatment).

Bronze:

1. Wash all bronze surfaces with Orvus™ (sodium lauryl sulfate) and water, followed by a repeated rinse. Mechanically reduce loose corrosion products over bronze surfaces with the Orvus detergent and water using nylon pads, bronze wool, and small brushes, and thoroughly rinse. Power wash bronze (low pressure, 800 psi, fan-shaped nozzle, 12-14 inches from the surface) as needed to remove loose corrosion and dirt to achieve clean surfaces.

Granite base:

2. Apply Nilodor enzyme urine digester to all granite areas, and scrub with stiff natural bristle brushes. Alternatively, D2 Biological Solution may be used to reduce bio-matter. After rinsing, wash the granite with Vulpex detergent (potassium methyl cyclohexyl oleate) using soft brushes in water, followed by copious rinsing. If the stone requires additional cleaning, clean a third time with Prosoco Sure Klean Custom Masonry Cleaner, followed by a water rinse at low pressure, 800 psi, fan-shaped nozzle, 12-14 inches from the surface.
3. Protect the stone with painter's tape and plastic sheeting in preparation for the cold patina to the bronze sculpture and all plaques. (It is not necessary to hot repatinate the bronze patina). For all bronze components, prepare the thinned application of Golden MSA Resin colors in Raw Umber, using Golden MSA solvent as a thinner and a small amount of Golden MSA Resin Varnish to make an even tone. The color should be light and transparent. Follow with a coating of Incralac (B-44) of one brush coat and two spray coats. Golden MSA conservation colors are available in 1 oz containers from Talas Online at <https://www.talasonline.com/>, (212) 335-1320.
4. After thorough drying, apply two thin coats of Butcher's Bowling Alley Paste Wax and buff compactly between each layer.
5. Supply bronze low-profile cover cap rosettes for each corner of the plaques by drilling and tapping each cap to match extant stainless steel screws. Attach replacement, colored to match, mechanically or if needed, use a small amount of PC-7 epoxy. Replacements can be cast from extant rosettes. The *Worcester City Hall Plaque* and *Plaque 2* (the proper left side of the granite base) are missing all four rosettes. Replacements in bronze alloy can be found at OurCornerMarket.com (R-4,-5, or R-6) or ClassicDesignAwards.com (R-32), or other suppliers in a bronze alloy. Submit choices to the City before replacement for final approval.

6. Supply a written report on the treatments to the City of Worcester with photographic documentation, including digital images before, during, and after treatment, each labeled with title and "AT" (for after treatment). The report should include all materials and methods used in the treatment and future maintenance directions.

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).



Rika Smith MS, FAIC

February 28, 2023

Materials to be used:

Nilodor Enzymatic (Urine) Digester

Orvus Detergent (WA Paste, sodium lauryl sulfate)

Prosoco Sure Klean Custom Masonry Cleaner

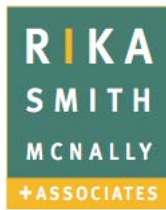
Vulpex Detergent (Talas Online)

Golden MSA colors in raw umber (Talas Online)

Incralac (B-44) lacquer

Butcher's Bowling Alley Paste Wax

D2 Biological Solution (MB Stone Supply)



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G.A.R. CIVIL WAR MONUMENT at HOPE CEMETERY

CONSERVATION ASSESSMENT

WORCESTER, MASSACHUSETTS

Tripod of Painted Iron Cannons and Cannonballs

Date of site visit: 3/4/2023

Title: G.A.R. (Grand Army of the Republic) Civil War Memorial
Location: Hope Cemetery, 119 Webster Street, Worcester, MA
Date: 5/30/1892
Material: Painted iron (confirmed by magnet)
Source: The tripod of cannons and stack of cannonballs was acquired from The Charlestown Navy Yard in Boston.
Cannons: Three large painted iron smooth-bore cannon with 8" diam painted iron cannonballs in pyramid shape.
Method of attachment: Cannons likely attached by pins to concrete base. Cannn balls attached by both pins (some parts screw-threaded rod) and welding.
Dimensions: TBM
Description (adapted from web site):
 Hope Cemetery is an historic rural cemetery at 119 Webster Street in Worcester, Massachusetts. Established in 1854, it was the city's sixth public cemetery, and is the burial site of remains originally interred at its first five cemeteries.
Historic Notes:
 G.A.R. George H. Ward Post 10, Worcester, MA, purchased the two lots and commissioned the monument.

CIVIL WAR BURIALS AND THE G.A.R. LOT (paraphrased from website):

Worcester, a city of fewer than 25,000 people in 1860, gave to the war the services of 4,227 men, more than one in eight of its citizens.

After the war, to honor their sacrifice and to advocate for veterans' welfare, Union veterans organized the Grand Army of the Republic in a spirit of "fraternity, loyalty and charity." In 1868 the G.A.R. established Decoration Day, now called Memorial Day, as a special observance of those who had fallen in the war. Worcester's Local Post #10 was organized in 1867 and had over 900 members

by 1870. The G.A.R. procured two lots in Hope Cemetery and reserved them for burial of Civil War veterans who were active members of that Post.

The impressive tripod of gigantic cannons and pyramid of cannon balls were acquired from the Charlestown Navy Yard as a memorial to "stand as a symbol of the horrors of war."

There are over 1,400 Civil War veterans buried in Hope Cemetery, some here and others elsewhere on the grounds, including members of the 25th Massachusetts Volunteer Regiment, who suffered the most casualties at Antietam. Among the interments are members of the 54th Massachusetts Infantry, the first African-American regiment to serve for the Union (and the regiment sculpted by Augustus Saint Gaudens in the Shaw Memorial in Boston), two Congressional Medal of Honor recipients and Colonel A.B.R. Sprague, leader of the 25th Regiment.

Technical description:

The three cannons are most likely smooth-bore, and were used by setting up in one position to protect a fort or other stationary site, capable of sending artillery a long distance. (Smaller cannon were rolled onto the battlefield to fire cannonshot a shorter distance).

In Civil War Memorials with cannons and stacks of cannonballs, the cannonballs were stacked as a four-sided pyramid or a three-sided pyramid called a tetrahedron. The cannonballs at Hope Cemetery are set up as a 4-sided pyramid, although the cannon balls at the top are a tetrahedron.

CONDITIONS:

Cannons

The three cannons are in excellent structural condition and well secured to the concrete base. The most recent paint maintenance (date unknown) remains in good condition. The painted surface is rough due to the previous rusting corrosion, but there are no signs of paint lapse or new corrosion.

Cannonballs

The cannonballs are typical 8" diameter artillery and also do not show much corrosion, although there is some paint loss from being climbed on. There are a total of nine cannonballs missing. These were previously attached by both pins and welding, and then painted.

The paint on both the cannons is in good condition, and the cannons do not need to be repainted. The cannon stack and the concrete base will require repainting with an exterior enamel paint that matches the color and sheen of the cannons.

Concrete base

The concrete base is also in good structural condition but requires repainting due to abrasions and surface paint loss from climbing.



Above left: Overall of site. The memorial is on a raised mound and does not collect water. The surrounding area is well taken care of, and there is a flagpole next to the base.

Above right: Detail showing missing cannonballs and surface scuffs and losses to the concrete base.



Left: View from proper right side. One original pipe is visible at the top, to attach a missing cannonball, and then an additional cannonball is needed for the top of the pyramid.

Above: Stack of cannonballs showing missing cannonballs and low-lustre paint.



Above left: One of the original pins used to attach the cannon balls to each other. The bottom portion is screw threaded. **Above right:** The remains of a short pin, and weld attachment at upper right cannonball. The replacement cannon balls can be attached by both pins and epoxy.



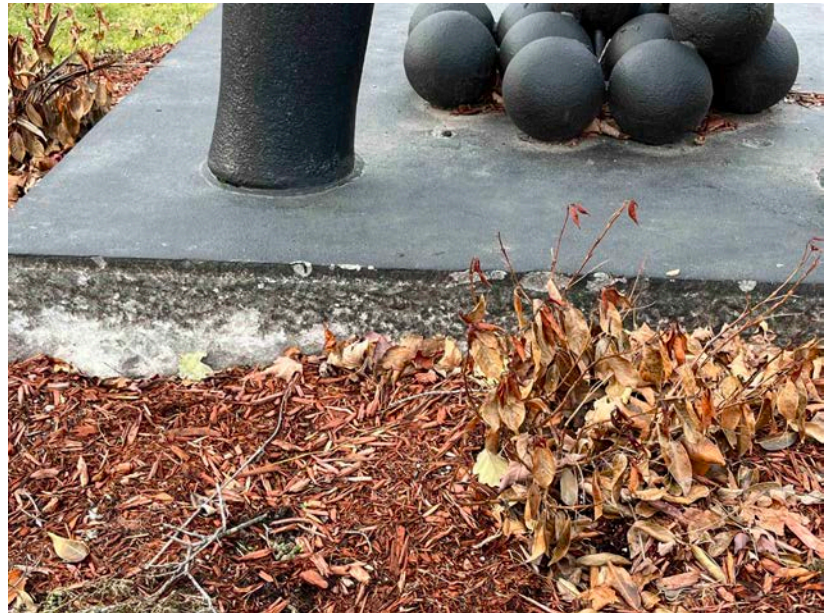
Left: An additional view of the cannonball stack showing missing cannonballs and locations of original attachment. The remains of the pin at the bottom right may be re-drilled and a new pin inserted, but most of the original attachment points were done by welding (there are no drill holes in the other cannonballs; these were attached by welding). The replacement cannon balls can be attached with a viscous epoxy with good adhesive strength instead of welding.

Below: the top of the monument showing an existing pin from the original cannonball attachment.



Right: in addition to the cannonballs, the top of the granite slab base will also require painting.

Using an alkyd paint in low lustre will match the current paint on the three vertical cannons, which are in good condition.



DISCUSSION and RECOMMENDATIONS

The Civil War Memorial in Hope Cemetery is in good structural condition. Past maintenance records are not known, but there is a more recent (15-20 years?) paint on the metal surfaces.

The major condition issue is the loss of nine cannonballs. These should be replaced by making a mold of either an existing ball or purchasing a used one, and casting in silicon bronze, reattaching, and painted to match.

Alternatively, a less expensive option would be to cast replacement cannonballs in fiberglass. This would be much less expensive but the replacements would be more vulnerable to damage or theft, and is not recommended, but is presented as an alternative to lower the cost.

Only the cannonball and base require repainting. A glossy paint reveals the unevenness of the surface much more than a low-gloss paint, and may have been why the current lower lustre paint was used previously. An excellent match is Benjamin Moore's Super Spec High Performance D.T.M Alkyd Low Lustre Paint, in black.

The gravemarkers associated with the memorial are dirty and have some carbonaceous staining from air pollution. The markers are not part of the current assessment.

TREATMENT DIRECTIONS for G.A.R. Civil War Memorial in Hope Cemetery

1. Photograph overall and detail conditions before treatment in JPEG format, and label each image with "B.T." for Before Treatment.
2. Wash all surfaces using Professional's Edge Nilodor Urine Digester, followed by rinsing. Then all surfaces of bronze Orvus™ detergent (W.A. Paste, sodium lauryl sulfate) using soft brushes followed by repeated water rinses to remove any biomatter, dirt, and grime.
3. Use an existing cannonball to take a mold, or purchase one online or antique shop (or possibly locating one on temporary loan). Make nine replacements casts in silicon bronze, apply an oxidizing reagent to the surface (lover of sulphur is suggested).
4. Using brass rods and PC-7 epoxy, attach all new cannonballs in place.
5. Paint the new cannonballs (on base and at top of monument
6. After drying, apply a protective wax coat of Butcher's Bowling Alley Paste Wax by brush and buff with soft lint-free cloths, nylon fabric, or soft buffing brushes. Apply two coats, buffing in between.
7. Alternatively, the plaque can be toned using colored wax (raw umber pigment), applied by heat gun.
8. Replace the missing bolt head at the proper upper left with a matching size in brass or stainless steel, toned to match using an oxidizing agent, then the MSA color of tinted wax. Adhere the bolt head in place with a viscous epoxy (PC-7 is recommended).
9. Provide a written report with maintenance directions and during and after treatment photography in JPEG format, each image individually labeled "D.T." during treatment or "AT" after treatment.

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).

Materials to be used:

Nilodor Enzymatic (Urine) Digester

Orvus Detergent (WA Paste, sodium lauryl sulfate)

Cast bronze replacement cannonballs (or fiberglass alternative)

Bronze pins

PC-7 structural epoxy, or TIG welded, if preferred

Benjamin Moore Super Spec High Performance D.T.M Alkyd Low Lustre Paint, in Black



Rika Smith McNally, MS, FAIC

Surface Preparation: Surfaces to be painted must be clean, dry, and free of dirt, dust, grease, oil, soap, wax, scaling paint, water soluble materials, and mildew. Remove any peeling or scaling paint and sand these areas to feather edges smooth with adjacent surfaces. Glossy areas should be dulled. Drywall surfaces must be free of sanding dust. New plaster or masonry surfaces must be allowed to cure before applying base coat. Cured plaster should be hard, have a slight sheen and maximum PH of 10; soft, porous or powdery plaster indicates improper cure. Never sand a plaster surface; knife off any protrusions and prime plaster before and after applying patching compound. Poured or pre-cast concrete with a very smooth surface should be etched or abraded to promote adhesion, after removing all form release agents and curing compounds. Remove any powder or loose particles before priming. Wood substrates must be thoroughly dry.

Priming: New surfaces should be fully primed, and previously painted surfaces may be primed or spot primed as necessary.

Application: Stir thoroughly before and during use. Apply one or two coats. For best results, use a premium nylon/polyester brush and/or premium microfiber roller. Apply paint generously from unpainted area into wet area. This product can



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OUTDOOR BRONZE PLAQUE CONSERVATION ASSESSMENT

WORCESTER, MASSACHUSETTS

George Washington Plaque

Date of site visit: 12/4/2023

Title: George Washington Plaque

Date: 1932

Material: Cast Bronze

Method of attachment: Four bronze screw-threaded bolts attach the plaque at each corner.

Inscriptions:

THIS TABLET

MARKS/THE/GEORGE/WASHINGTON/MEMORIAL/HIGHWAY/AT/WORCESTER
1732-1932

Location: Front proper right of Worcester City Hall

Dimensions: H 25 1/2" x W 17 1/2"

Description:

The plaque is well-made with no casting flaws and shows a low-relief profile of George Washington facing right. The patina is overall intact, but the surface has some abrasions and areas of green corrosion.

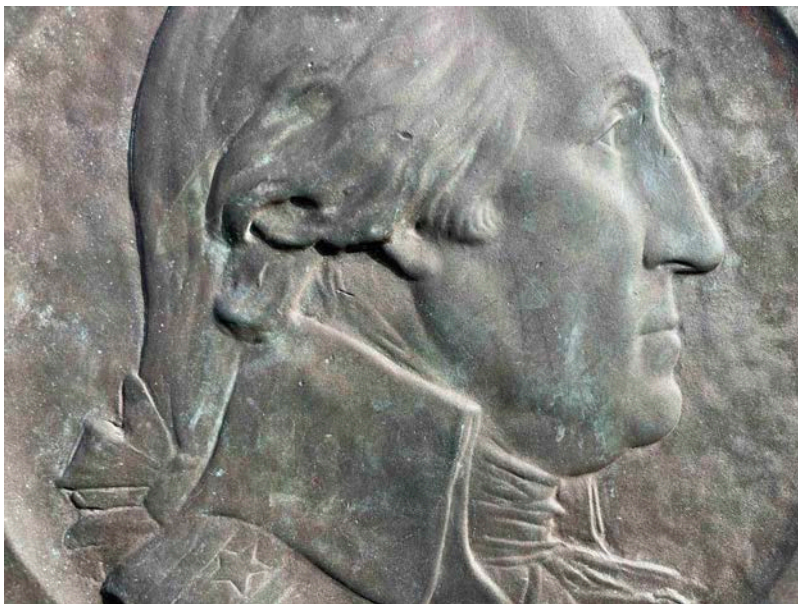
Site notes: The front of City Hall is on a busy street. Some trash and broken glass were noted nearby at the site assessment.

Historic Notes:

George Washington passed through Worcester on his way to take over the Continental Army in Cambridge. After he was elected president of the U.S., Washington passed through Worcester again, near the intersection of Main and Highland Streets. The George Washington Memorial Highway passed through Worcester, and the bronze plaque on a granite plinth in front of City Hall commemorates that. Another bronze marker nearby commemorates Washington stopping at Stearns Tavern in Worcester (Elm Street) in 1775.

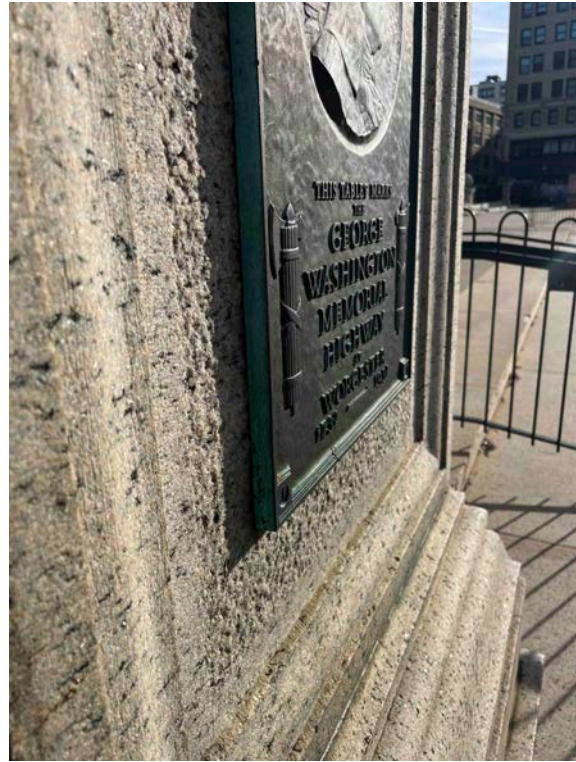
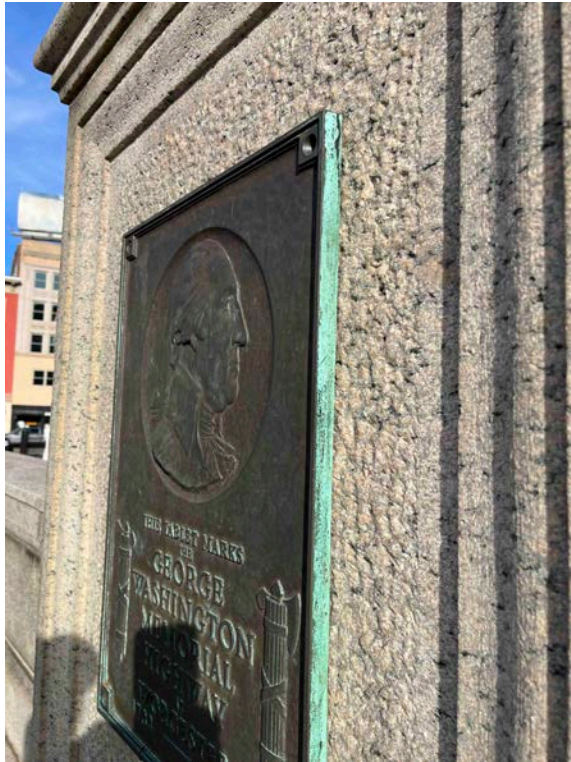


Above: Overall of plaque at the front of City Hall. The plaque is well attached to the granite plinth, and the patina color is accurate. There are some isolated areas of minor abrasions and some green copper corrosion on the front and sides of the plaque.



Left: detail of minor surface abrasions and green copper corrosion. The patina should be a dark brown with a low lustre.

Right: The bolt head from the upper proper right corner is missing, but the screw-threaded bolt is secure. To replace the missing part, cut a copper alloy or stainless steel bolt with a flat slotted bolt head to match. Adhere in place with a viscous epoxy and tone to match.



Above and right: There is more green copper corrosion on the sides of the plaques. These should be toned to match the front surface.

DISCUSSION and RECOMMENDATIONS

The George Washington Plaque is in good structural condition and requires only cleaning and mild patina repair, followed by a wax coating. One missing bolt head should be replaced.

TREATMENT DIRECTIONS for George Washington Plaque

1. Photograph overall and detail conditions before treatment in JPEG format, and label each image with "B.T." for Before Treatment.
2. Wash all surfaces using Professional's Edge Nilodor Urine Digester, followed by rinsing. Then all surfaces of bronze Orvus™ detergent (W.A. Paste, sodium lauryl sulfate) using soft brushes followed by repeated water rinses.
3. After complete drying, Protect the stone with painter's tape and thin polyethylene sheet. Tone the uneven corrosion using a cold patina of very light Golden MSA color in raw umber in MSA solvent, and hand rub the bronze to even out the surface. Color the side surfaces of the plaque also.
4. After drying, apply a protective wax coat of Butcher's Bowling Alley Paste Wax by brush and buff with soft lint-free cloths, nylon fabric, or soft buffing brushes. Apply two coats, buffing in between.
5. Alternatively, the plaque can be toned using colored wax (raw umber pigment), applied by heat gun.
6. Replace the missing bolt head at the proper upper left with a matching size in brass or stainless steel, toned to match using an oxidizing agent, then the MSA color of tinted wax. Adhere the bolt head in place with a viscous epoxy (PC-7 is recommended).
7. Provide a written report with maintenance directions and during and after treatment photography in JPEG format, each image individually labeled "D.T." during treatment or "AT" after treatment.

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).

Materials to be used:

Nilodor Enzymatic (Urine) Digester

Orvus Detergent (WA Paste, sodium lauryl sulfate)

Golden MSA colors in raw umber (Talas Online)

Butcher's Bowling Alley Paste Wax

Artist's dry pigment in raw umber



Rika Smith McNally, MS, FAIC