



WASHINGTON UNION STATION ROSTRAL COLUMNS RESTORATION

Aeon is currently leading a team to restore two sets of large historic ornamental cast-iron columns, lamp posts, and granite balustrades located in Columbus Plaza directly in front of Union Station in Washington, D.C. Union Station was designed by Daniel Burnham and erected in 1908. The Plaza was constructed in 1912. The ornamental ironwork was fabricated by the Chicago Ornamental Iron Company. The columns are known as "Rostral Columns," which in antiquity, were used to celebrate great naval accomplishments and which incorporated the bronze ram or hull ornament from vanquished ships.

Historically, the Rostral Columns flanked driveways leading to separate entrances and drives used for heads of state and visiting dignitaries coming to the Capitol by rail. Over time these entrances were closed and the balustrades were reduced in length to allow for one lamp post on either side instead of the two shown in historic images. During construction of the Washington's Metrorail system the western group of balustrades were taken down and reassembled after tunneling work was completed.

The first stage of the project involved digital laser scanning of the columns and modeling to create CAD base drawings.

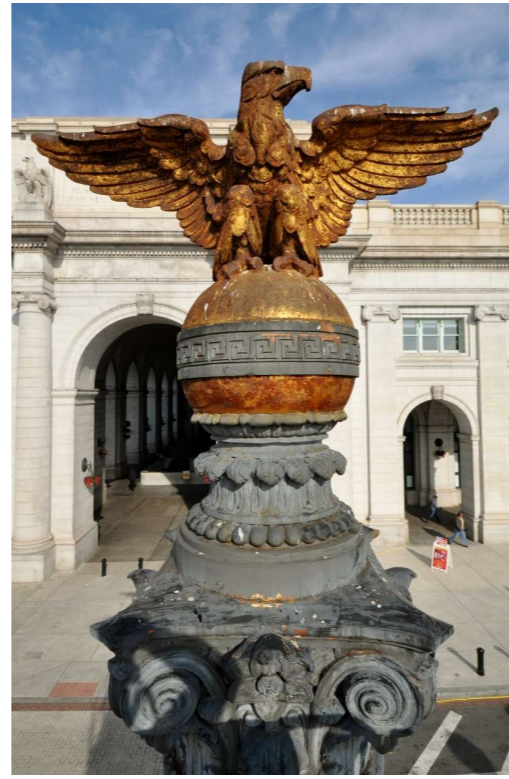
HISTORICAL ANALYSIS

Review of archival records included searching for historic images that showed the rostral columns, original construction drawings, and past studies and project records. Only a handful of images were located that showed the columns in any great detail. The upper image shows a motorcade progressing through the columns c.1924. The lower image shows the columns flanked by two lamp posts instead of the single fixtures visible today c.1918. Analysis of these photos showed the changes to the balustrade over time.

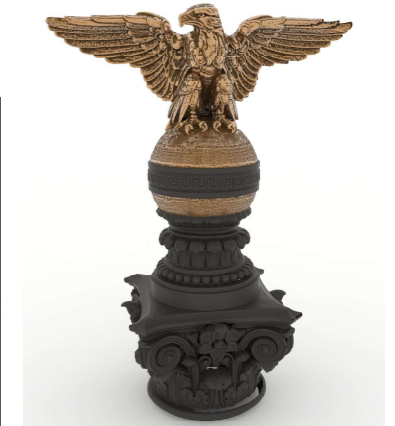
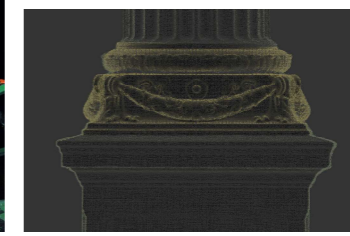
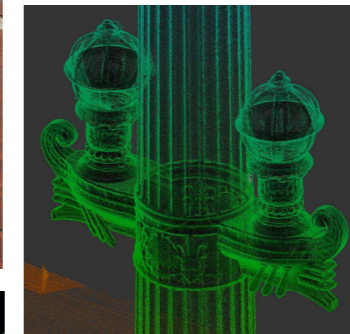
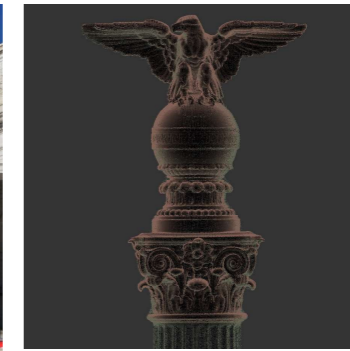


PHYSICAL ANALYSIS

The columns and lampposts were surveyed in detail from a self-propelled manlift. All surfaces were photo-documented and all visible fastener locations mapped out. Casting interiors were also photographed with a hand-held camera as well as a mounted GoPro camera with an independent LED light array to see into concealed areas. Columns and lamp posts were also laser scanned using a FARO Focus 3D Laser Scanner for general layout and a handheld Artec EVA scattered light 3D scanner for close in details to create accurate CAD drawings.

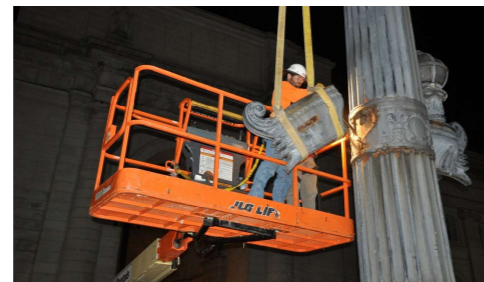


LASER SCANNING



DISASSEMBLY & CRANE PICKS

The first phase of construction involves careful disassembly and dismantling of the primary cast iron components. This started with the globes, sconce decks, and rostrum. This was followed by the eagle and globe assembly which weighs about 800 lbs. The column shaft is made up of five major components that were all lifted together as one. This pick was about 7,500 lbs. The lampposts were cut free and lifted last. All elements were laid on a flat bed truck with smaller elements crated and secured and driven to Alexander City, Alabama.



ROBINSON IRON WORKS



SHOP WORK

At Robinson Iron's shop the various elements are broken down to logical subassemblies, sandblasted to white metal and immediately coated with a zinc rich primer. This is followed by a white epoxy coat and a black fluoropolymer top coat. Some elements require repair and a number of our assemblies (above) will need to be recast. So far most elements have been found to be in excellent condition.