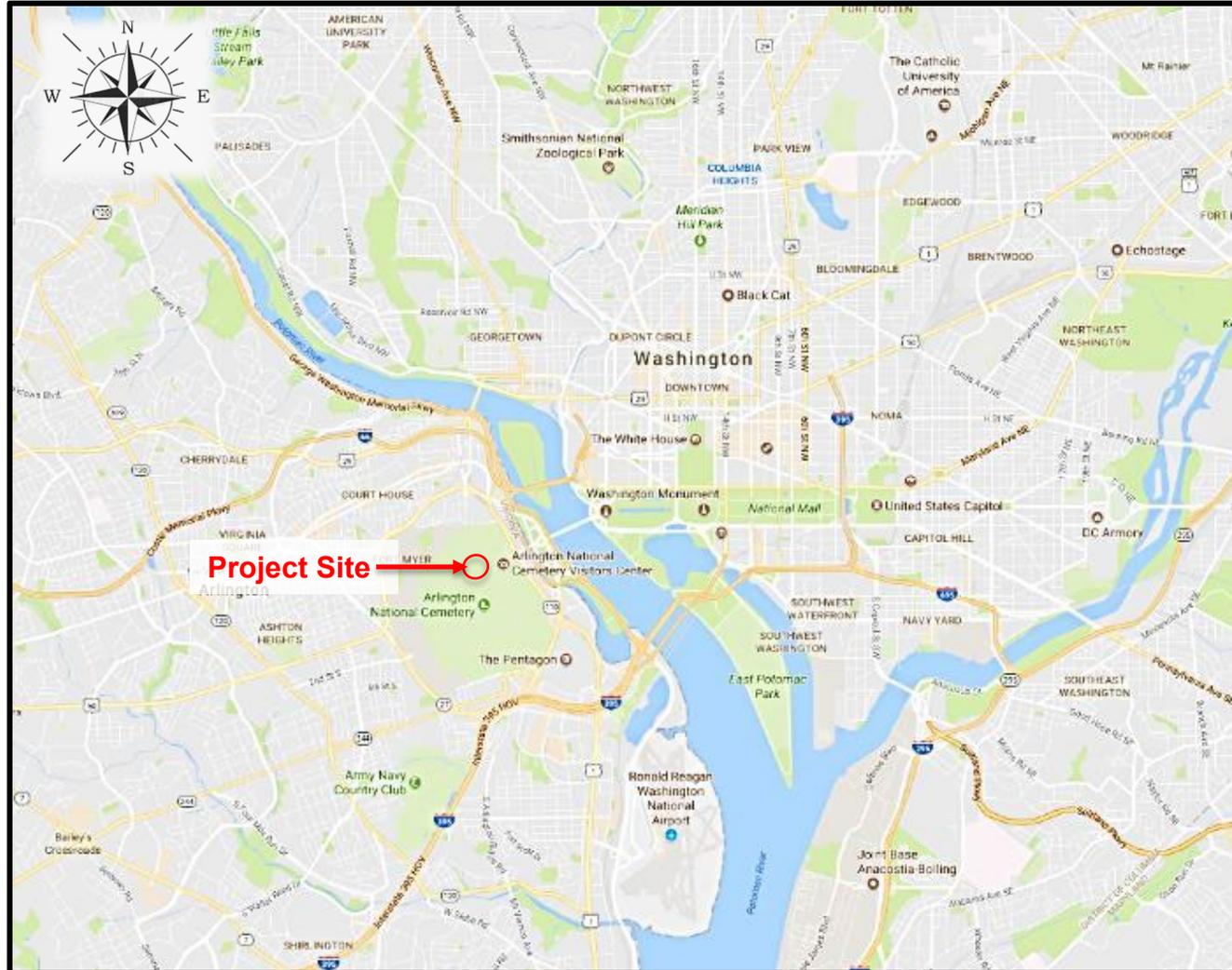


MILITARY WOMEN'S MEMORIAL GUARDRAILS



MILITARY WOMEN'S MEMORIAL (MWM)
GUARDRAILS
Arlington National Cemetery
Arlington, Virginia

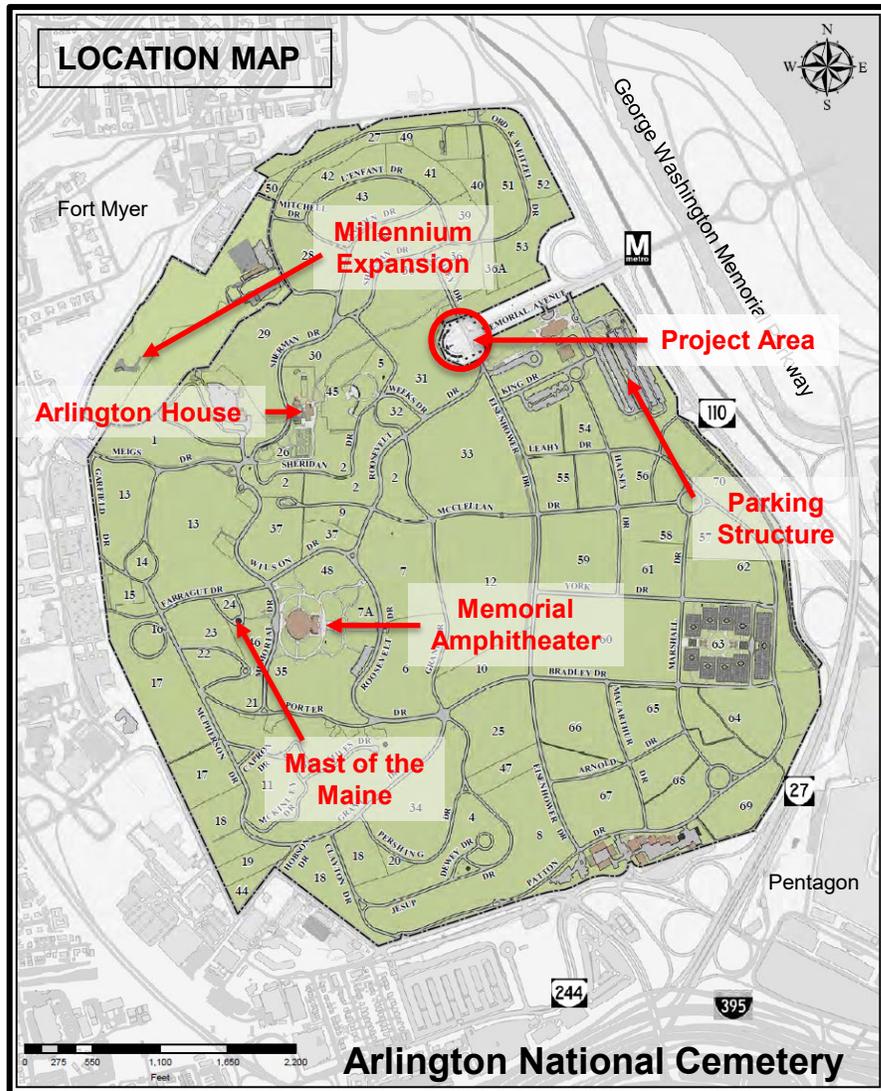
PROJECT DESCRIPTION, AREA OF POTENTIAL EFFECTS, and ASSESSMENT OF EFFECTS

ANC Project Point of Contact:

Steven Crawford
Architect/ Project Manager
Engineering, Design & Construction

Caitlin Smith
Cultural Resources Program Manager
Engineering, Planning & Resources

September 2, 2022



PROJECT DESCRIPTION

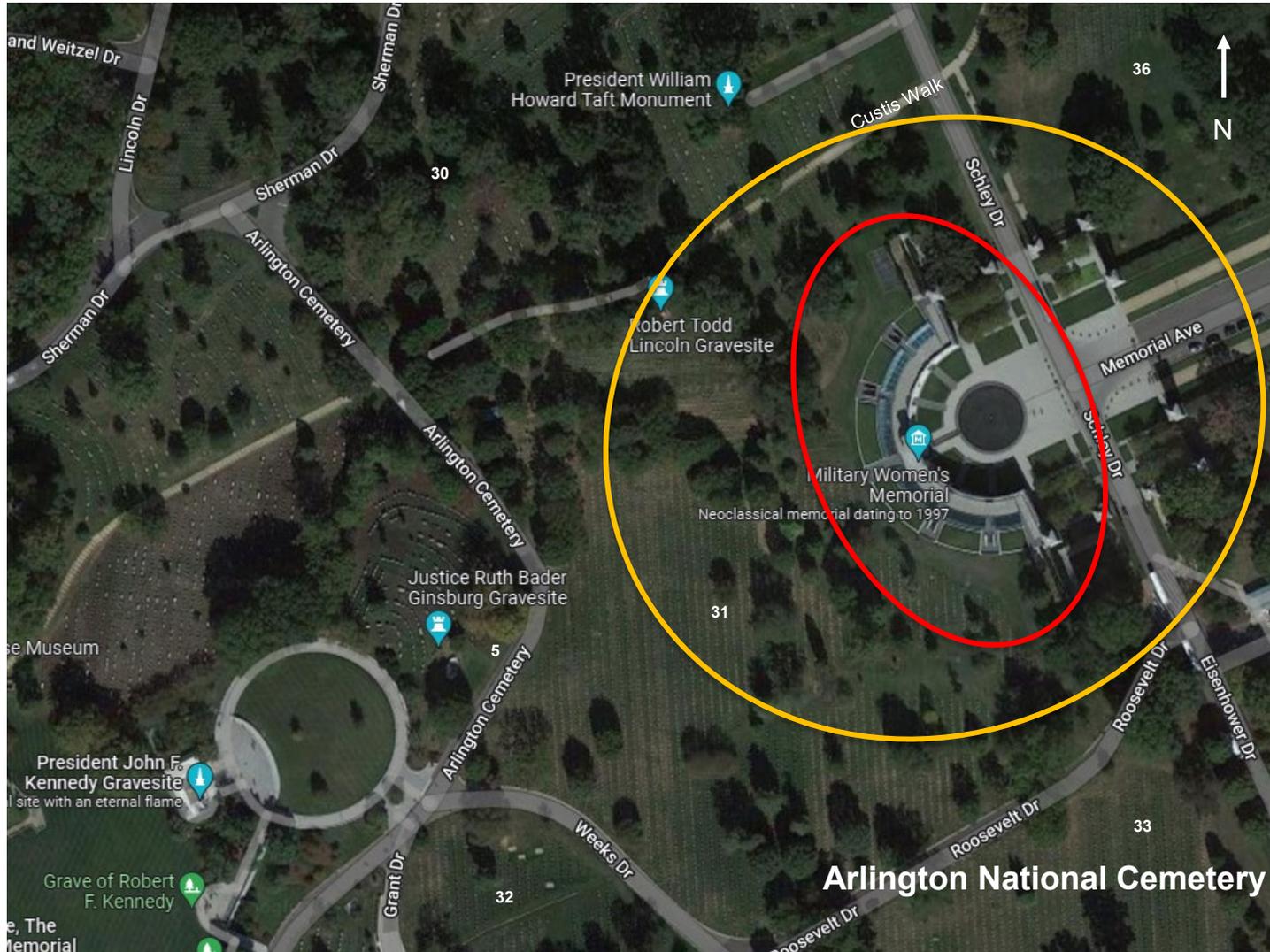
To improve safety in Arlington National Cemetery (ANC), ANC proposes the installation of two (2) guardrails at the Military Women’s Memorial (MWM). The guardrails will be constructed out of stainless steel, using cross-sections and finishes similar to those of existing rails around the Hemicycle, Memorial Amphitheater and Mast of the Maine ramps, and the Millennium Expansion.

Both sets of guardrails introduce new elements to the tops of the original stone retaining walls that were part of the McKim Mead and White design of the Hemicycle in 1930. This section above the walls was originally protected with a continuous row of dense hedges, which was removed and replanted as part of the 1995 Weiss and Manfredi-designed museum, built behind the original Hemicycle walls.

To minimize impacts to the historic structure, the new guardrails will be anchored into the side of the planter side of the retaining wall. The project involves ground disturbing activities in previously disturbed areas (currently garden beds and landscaping containing irrigation lines and sprinkler heads).

The new guardrails will increase safety by preventing adults and children from walking through the hedges and falling over a drop of more than 19 feet. The guardrails will protect both visitors and the horticulture staff that maintain the hedges.

AREA OF POTENTIAL EFFECTS



Area of Potential Effects:

The Area of Potential Effects (APE) for the proposed project is shown on the map to the left as a yellow oval. The APE includes locations where the project may be visible and/or audible. The project involves ground disturbing activities in previously disturbed areas.

The project area is located in Arlington National Cemetery Historic District (Virginia Department of Historic Resources [VDHR] #000-0042).

Historic Properties Located Within the APE:

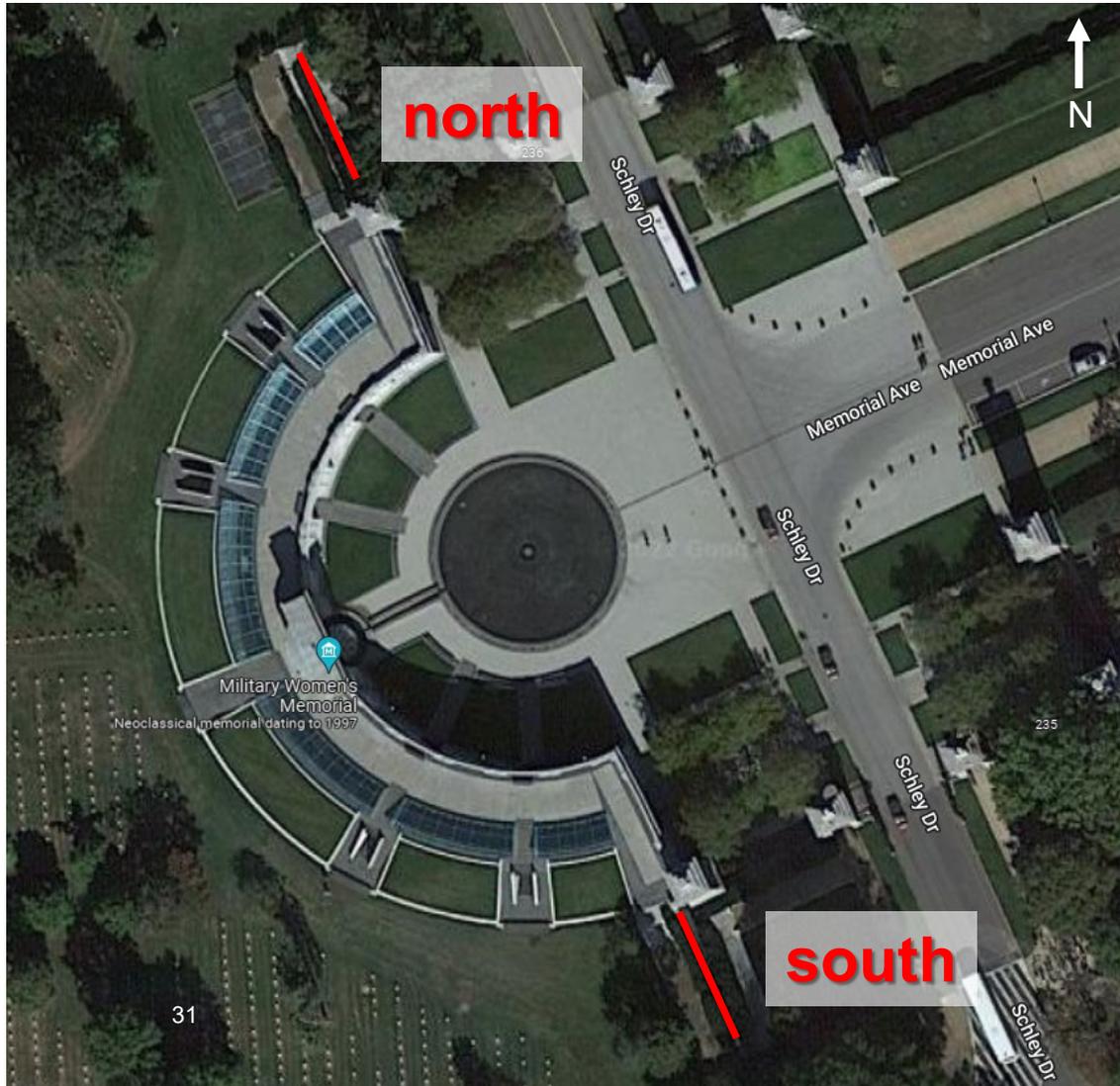
Following is a list of historic structures and features contributing to Arlington National Cemetery's and Arlington House's historic districts, which are located within/adjacent to the APE.

- Arlington National Cemetery Historic District (DHR #000-0042)
- Arlington Memorial Bridge Historic District (DHR #000-0014)
- President William Howard Taft Monument (DHR #000-0042-0051)
- Robert Todd Lincoln and Mary Harlan Lincoln (DHR #000-0042-0035)
- Headstones and Grave Markers (DHR #000-0042-0021)
- Burial Sections 30, 31, 33, and 36

Satellite View of Project Area.

APE outlined in yellow.

Proposed project location in red.



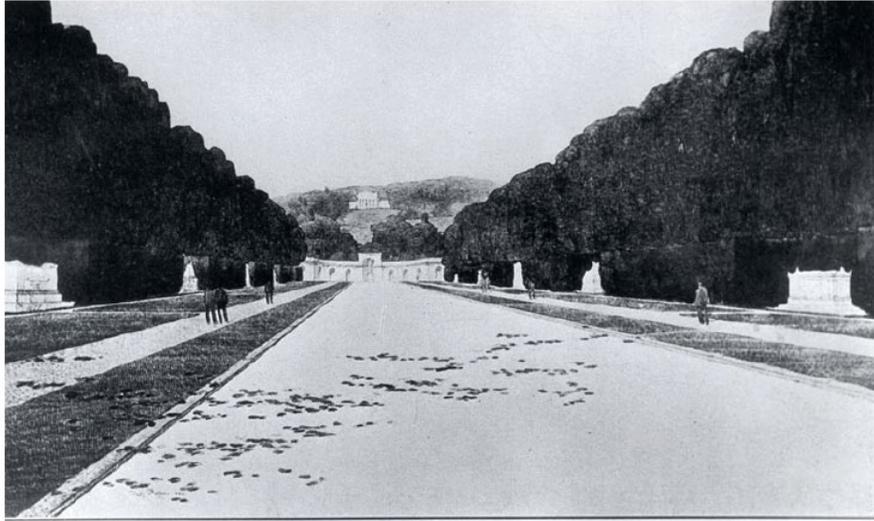
Project Narrative:

New guardrails will be installed along two (2) exterior retaining walls, currently only protected by a row of hedges. Retaining walls are identified in the image to the left by “north” and “south”. Each guardrail will complement the appearance, design, material, and form of existing rails. By using either a design of thin cable rail guards or black metal bars, the intent is to minimize the appearance of the railing in the foreground of the green hedge row.

During installation, ground disturbance will be minimal. ANC expects to attach the rail posts to the back side of the existing retaining walls, with the connection points below grade.

The height of the rails shall be 42” above grade with bar spacing no more than 4” apart. Each rail section is approximately 75 feet long.

ANC presents two locations for installation: 1) railing in front of the hedge, or 2) railing installed behind the hedge. And three options for style/design: 1a) stainless steel posts and wire cable, 1b) stainless steel post and rails, or 2) black-painted steel or aluminum railings.



ARLINGTON NATIONAL CEMETERY: ENTRANCE FROM THE MEMORIAL BRIDGE
MCKIM, MEAD & WHITE, ARCHITECTS

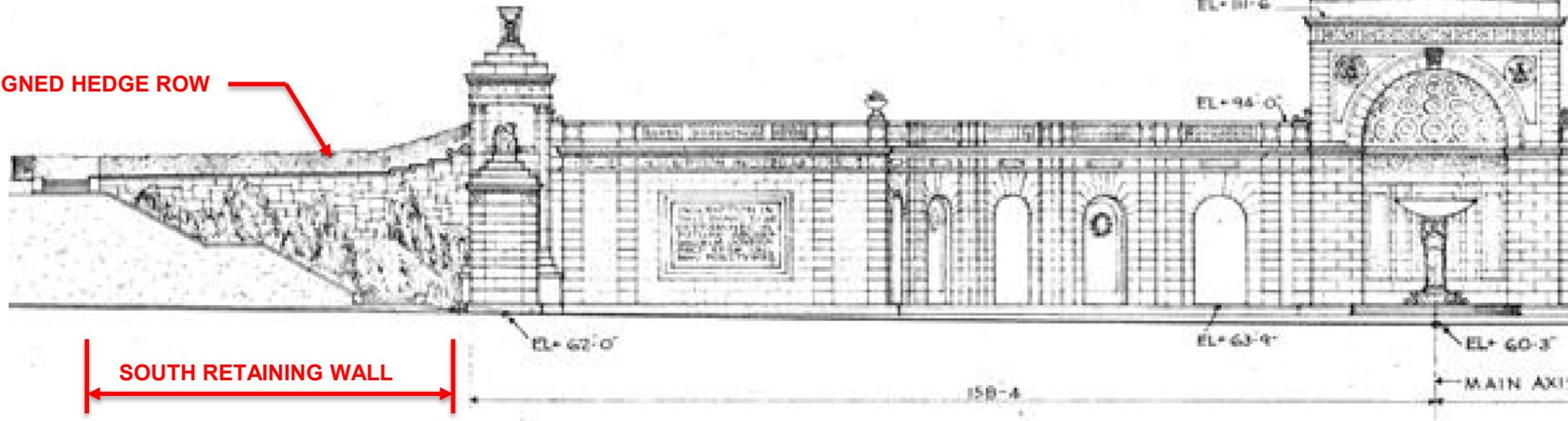


Memorial Avenue c. 1950. There was nothing but grass planted at this date in front of the hemicycle wall. (MRCE: Arlington National Cemetery Entrance folder, R-91)



Fall color of white oaks along Memorial Avenue, from a point about midway down the avenue. (CLI team, fall 2000)

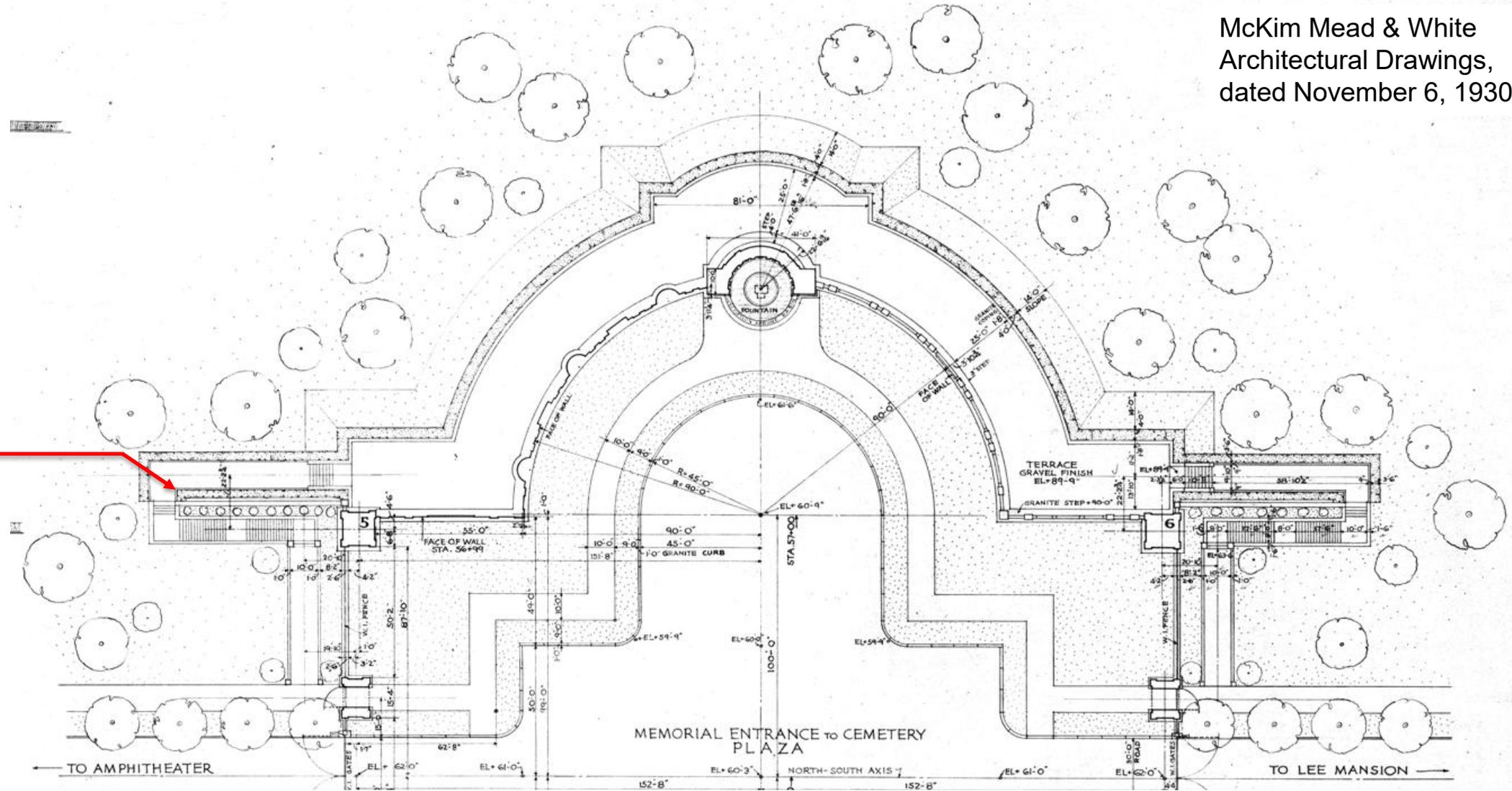
ORIGINALLY DESIGNED HEDGE ROW



McKim Mead & White Architectural Drawings, dated November 6, 1930

McKim Mead & White
Architectural Drawings,
dated November 6, 1930

ORIGINALLY
DESIGNED
HEDGE ROW



EXISTING RETAINING WALL



South Retaining Wall

Located at the south side of the Hemicycle, having no existing guardrails and unprotected edge



North Retaining Wall

Located at the north side of the Hemicycle, having no existing guardrails and unprotected edge

EXISTING RETAINING WALL

Existing Retaining Wall Details

Located at the south end (north end is similar)

Temporary plastic fence installed for protection in July 2022





2018 INTERNATIONAL BUILDING CODE EXCERPTS

SECTION 1015

GUARDS **ES**

1015.1 General.

Guards shall comply with the provisions of Sections 1015.2 through 1015.7. Operable windows with sills located more than 72 inches (1829 mm) above finished grade or other surface below shall comply with Section 1015.8.

1015.2 Where required. **P**

Guards shall be located along open-sided walking surfaces, including *mezzanines*, *equipment platforms*, *aisles*, *stairs*, *ramps* and landings that are located more than 30 inches (762 mm) measured vertically to the floor or grade below at any point within 36 inches (914 mm) horizontally to the edge of the open side. *Guards* shall be adequate in strength and attachment in accordance with Section 1607.8.

1015.3 Height. **P**

Required *guards* shall be not less than 42 inches (1067 mm) high, measured vertically as follows:

1. From the adjacent walking surfaces.
2. On *stairways* and stepped *aisles*, from the line connecting the leading edges of the tread *nosings*.
3. On *ramps* and ramped *aisles*, from the *ramp* surface at the *guard*.

1015.4 Opening limitations. **P**

Required *guards* shall not have openings that allow passage of a sphere 4 inches (102 mm) in diameter from the walking surface to the required *guard* height.



Exhibit A:
Mast of the Maine ABA
Cable rail



Exhibit B:
Amphitheater ABA
Cable rail



Exhibit C:
Millennium
Cable guardrail



Exhibit D:
MWM
Solid stainless rail



Exhibit E:
MWM
Solid stainless guardrail



Exhibit F:
Pylon gate
Painted metal



Exhibit G:
Pylon fence
Painted metal

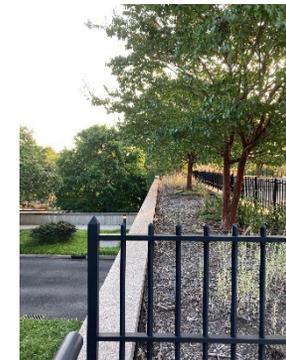


Exhibit H:
Parking Structure
Painted metal rail

The temporary protection fence will be removed

Rail section at end is cantilevered from corner post in order to install without adding a post connection into the wall



Style 1a – cable rails
Style 1b – stainless bars

Railing installed directly behind retaining wall with hedge row remaining behind

This option provides protection for both visitors and ANC horticulture staff that have to care for the hedges.

Architectural style clearly indicates these are a modern addition, while matching existing railings at the roof deck, and complement the existing architecture without giving a false sense of historical development.

This option provides protection for visitors, but ANC horticulture staff will need to tie themselves to the rail when working in the planting beds, as they will be exposed to a fall hazard when working near an unprotected, open-sided leading edge. This condition would be similar to the planting beds along the parking structure

The architectural style clearly indicates these are a modern addition, while matching existing railings at the roof deck, and complement the existing architecture without giving a false sense of historical development.



Style 1a – cable rails
Style 1b – stainless bars

The temporary protection fence to be removed

Rail section at end is cantilevered from corner post in order to install without adding a post connection into the wall

Railing installed directly behind hedges

The temporary protection fence will be removed

Rail section at end is cantilevered from corner post in order to install without adding a post connection into the wall



Railing installed directly behind retaining wall with hedge row remaining behind

This option provides protection for both visitors and ANC horticulture staff that have to care for the hedges.

Architectural style indicates these are more traditional, but similar to other industry standard rails recently installed on the grounds.

This option provides protection for visitors, but ANC horticulture staff will need to tie themselves to the rail when working in the planting beds, as they will be exposed to a fall hazard when working near an unprotected, open-sided leading edge. This condition would be similar to the planting beds along the parking structure

Architectural style indicates these are more traditional, but similar to other industry standard rails recently installed on the grounds.



The temporary protection fence to be removed

Rail section at end is cantilevered from corner post in order to install without adding a post connection into the wall

Railing installed directly behind hedges



Aerial views of the Military Women's Memorial looking east (left) and west (right). These views show the monuments, structures, and landscapes within the immediate vicinity. The proposed rail will be mostly hidden from view along Memorial Avenue based on existing Pylon and tree placement



Aerial views of the Military Women's Memorial looking west. These views show the monuments, structures, and landscapes within the immediate vicinity. The proposed rail will be mostly hidden from view along Memorial Avenue based on existing Pylon and tree placement

DETERMINATION OF EFFECTS

I assessed the effects of the proposed project. Applying the criteria of adverse effects (36 C.F.R. § 800.5[a][1]), I determined the undertaking will have **no adverse effect** on the characteristics which qualify Arlington National Cemetery (ANC) and Arlington Memorial Bridge historic districts for inclusion on the National Register of Historic Places.

ANC retains the historic views and vistas within the cemetery after construction of the proposed project. The historic location and elements within the districts are maintained. There are no permanent or irreversible changes to the historic amphitheater. Headstones and circulation patterns remain unchanged. The cemetery continues to convey its historic significance as a military cemetery, and for its landscape architecture and architecture. There are no changes to the integrity of location, workmanship, feeling or associations of ANC's National Register district.

Arlington Memorial Bridge National Register Historic District encompasses the project area. From Memorial Avenue, the proposed guardrails are not completely visible. The railings may be more apparent during winter months when leaves fall from surrounding trees and other plants are not in bloom. However, this change has no effect on the character of the two historic districts.

To preserve the viewsheds and architectural character of the Hemicycle, the proposed guardrails are designed to complement the character of the historic structure. The materials, color, design and finish options all draw from existing railings in the Arlington National Cemetery landscape. The anchorage method is intended to be reversible; there are no permanent or irreversible changes to historic property.

The proposed undertaking would have **no adverse effect to archaeological resources**. All construction would be located in areas of the APE that have been disturbed through prior development of the cemetery or adjacent infrastructure (reference "Archaeological Potential & Past Ground Disturbance Map from Attachment D, Application of National Register of Historic Places Criteria"). All construction is to occur in existing planting beds atop the Hemicycle retaining walls. It is not expected that undiscovered cultural resources would be found during implementation of the undertaking. However, in the event of an unanticipated discovery during ground-disturbing activities, all work would cease, and the ANC Cultural Resources Manager (CRM) would be contacted. The CRM would immediately notify the Virginia Department of Historic Resources and other appropriate agencies, and standard procedures would be followed to protect the artifacts and determine their significance.

All work adheres to the Secretary of the Interior's Standards for the Treatment of Historic Properties. The project team selected materials and sited the guardrails in a manner to avoid and minimize effects. I find the design avoids and/ or minimizes the direct, indirect, and cumulative effects to above- and below-ground historic properties and contributing elements in the Arlington National Cemetery and Arlington Memorial Bridge historic districts.

In accordance with Section 106 of the National Historic Preservation Act, 16 U.S.C. § 470f, and its implementing regulations, 36 C.F.R. Part 800, ANC invites comments from the Virginia Department of Historic Resources, the George Washington Memorial Parkway, and the public. ANC concurrently submits the project for review by the Commission of Fine Arts. The ANC Cultural Resources Manager reviewed all four (4) proposed guardrail options and recommends selecting an option that places the guardrails behind the bushes, to minimize their visual impact from the east elevation and surrounding roadways.

Caitlin Smith, AIC PA
Cultural Resources Manager, Arlington National Cemetery