National Capital Planning Commission

National Museum of African American History and Culture Canopy Light Replacement and South Water Feature Edge Improvements

1400 Constitution Avenue, NW, Washington, DC

Approval of Comments on Concept Plans

Smithsonian Institution

December 3, 2026 | File: 8829

Project Summary

Commission Meeting Date: December 3, 2026

NCPC Review Authority: 40 U.S.C. § 8722(b)(1) and (d)

Applicant Request: Approval of Comments on Concept Plans

Session: Consent Calendar

NCPC Review Officer: Laura Shipman

NCPC File Number: 8829

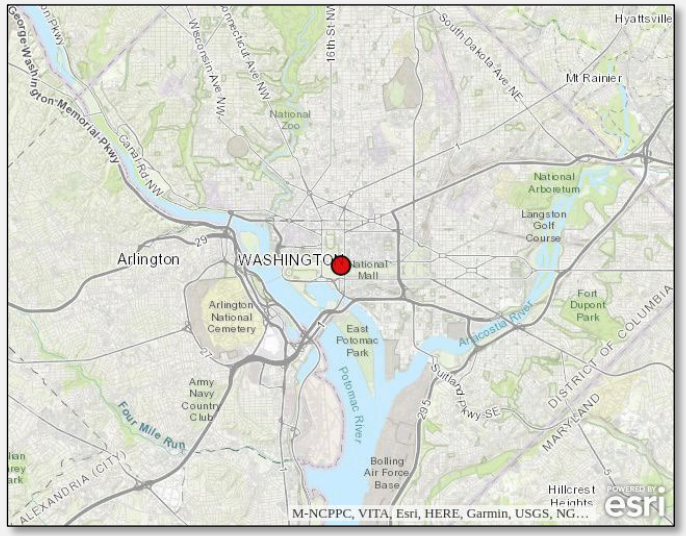
Project Summary:

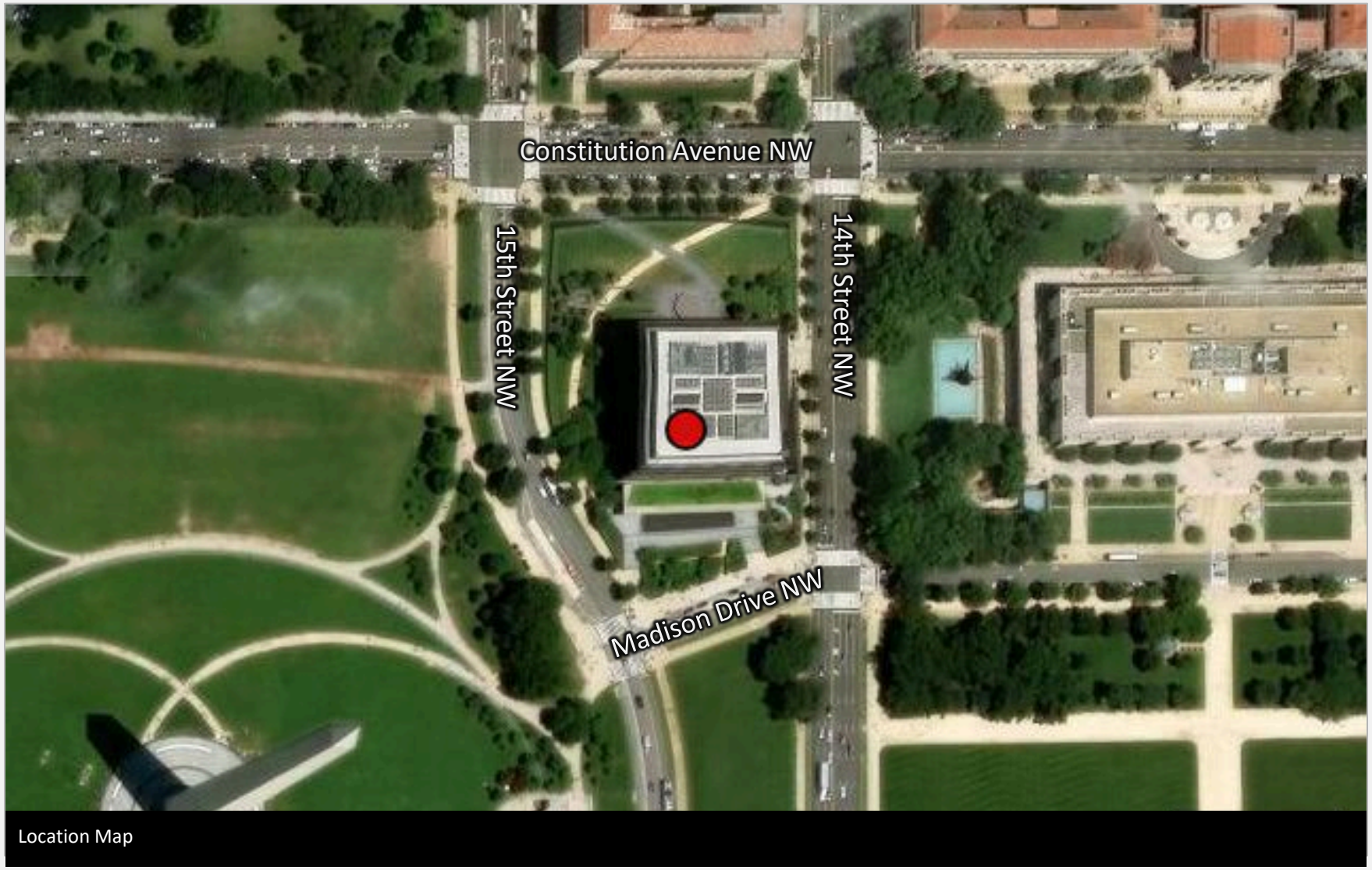
The Smithsonian Institution submitted concept plans for the replacement of canopy lights and improvements to the water edge in the south plaza of the National Museum of African American History and Culture (NMAAHC). NMAAHC is located on the National Mall and is bounded by 14th Street NW to the east, Constitution Avenue NW to the north, 15th Street NW to the west and Madison Drive NW to the South. The museum's south plaza faces the National Mall.

The in-ground spotlight fixtures that were designed to illuminate the underside of the south porch canopy are currently non-operational due to persistent water intrusion. As a result, the canopy remains dark at night, not meeting the original design intent. The reduced levels of ambient light at the south plaza have limited visibility and increased the safety concerns around the water feature during evening activities. The proposed light replacement options include framing projector lights or floodlights.

At the south water feature, there have been incidents of guests inadvertently stepping or falling into the pool portion of the feature since the opening of the Museum. Proposed options to help prevent these incidents include the installation of railings either at 36 or 30-inches height along with black granite or white granite paving at the water edge for contrast to the plaza's current grey paving.

Site Location





Location Map

South Water Feature Edge Improvements

Project Area and Location

2.1 PROJECT AREA AND LOCATION

For the purposes of this Concept Design phase, the project area was assumed to encompass the majority of the South Plaza of NMAAHC, inclusive of the Porch Canopy, Benches, Canopy Lighting and the Water Feature.

While the project intervention is expected to be limited to the east, west and north sides of the Water Feature, the larger context of the hardscape, and public view sheds to the south plaza are being taken into consideration with each design solution.

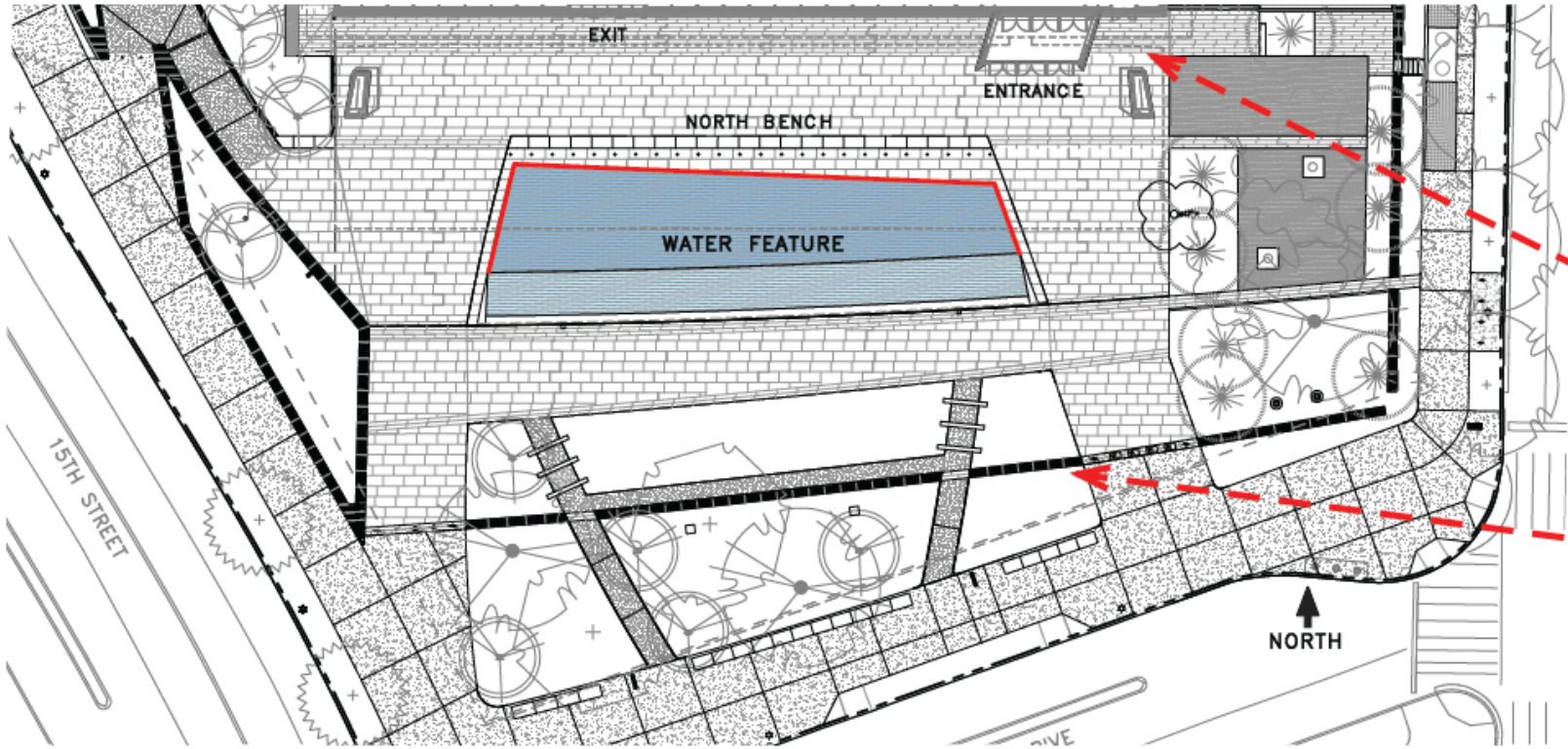


Figure 2.1.1: Project Area Plan

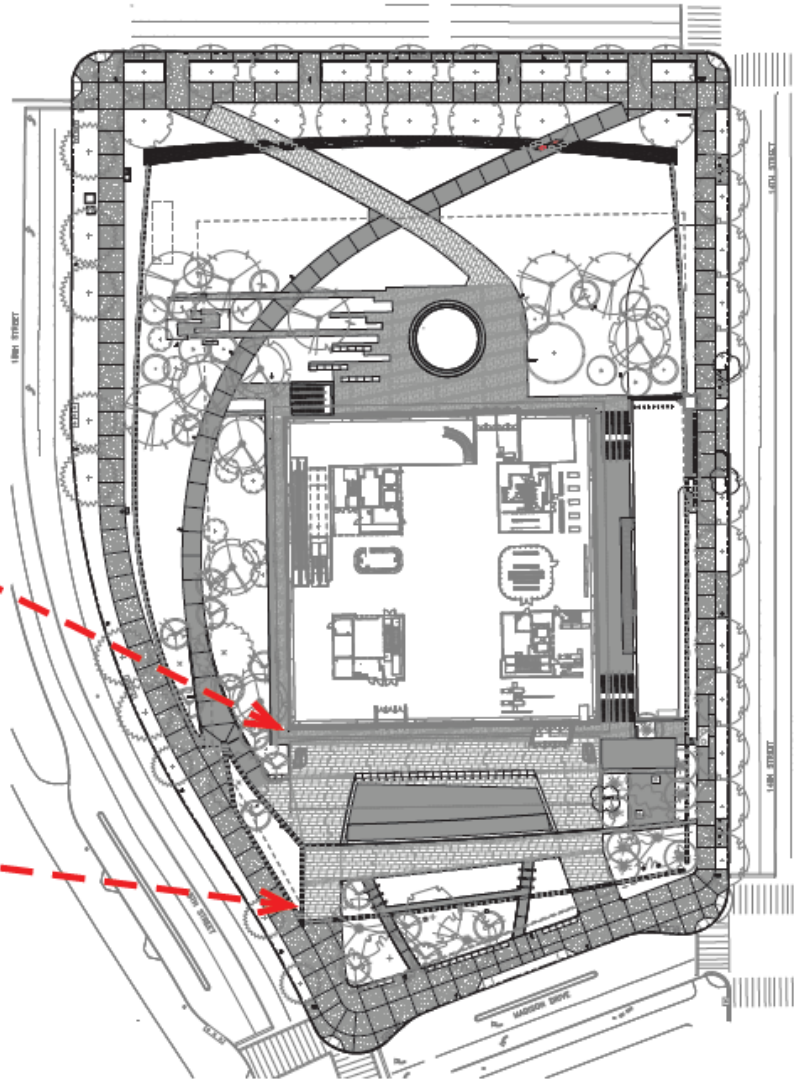
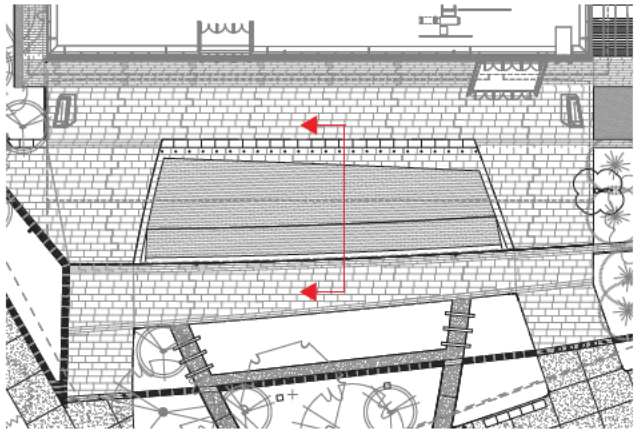
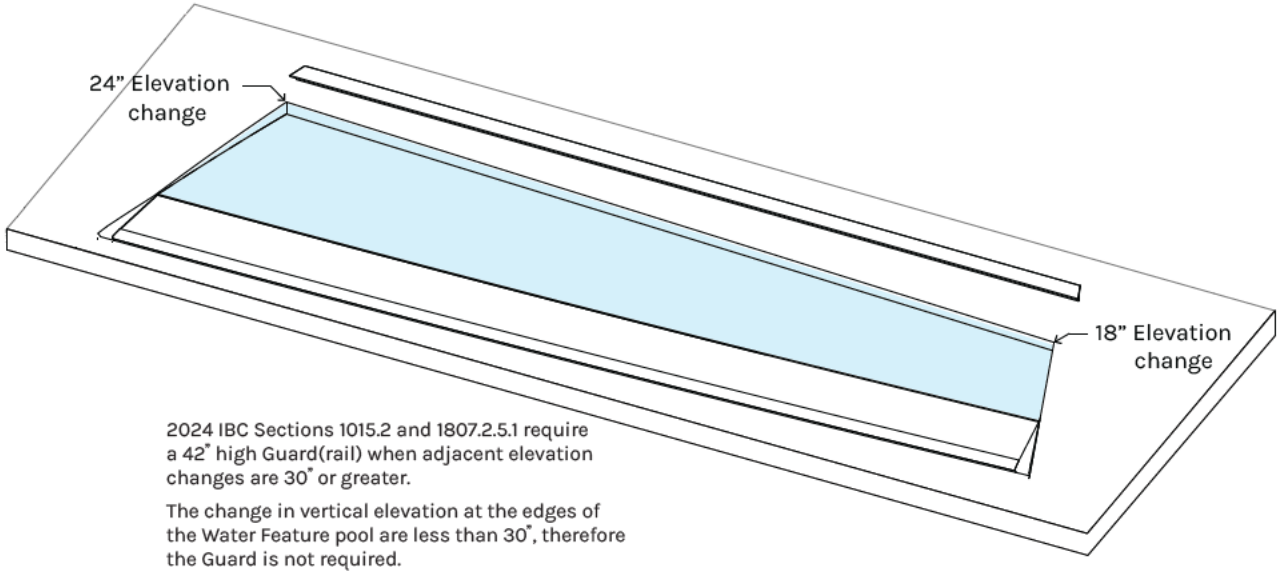


Figure 2.1.2: Overall Site Plan

Water Feature Site Section

3.2 PROJECT SITE SECTIONS





2024 IBC Sections 1015.2 and 1807.2.5.1 require a 42" high Guard(rail) when adjacent elevation changes are 30" or greater.

The change in vertical elevation at the edges of the Water Feature pool are less than 30", therefore the Guard is not required.

Figure 3.1.4a: 3D view of Water Feature showing pool depth

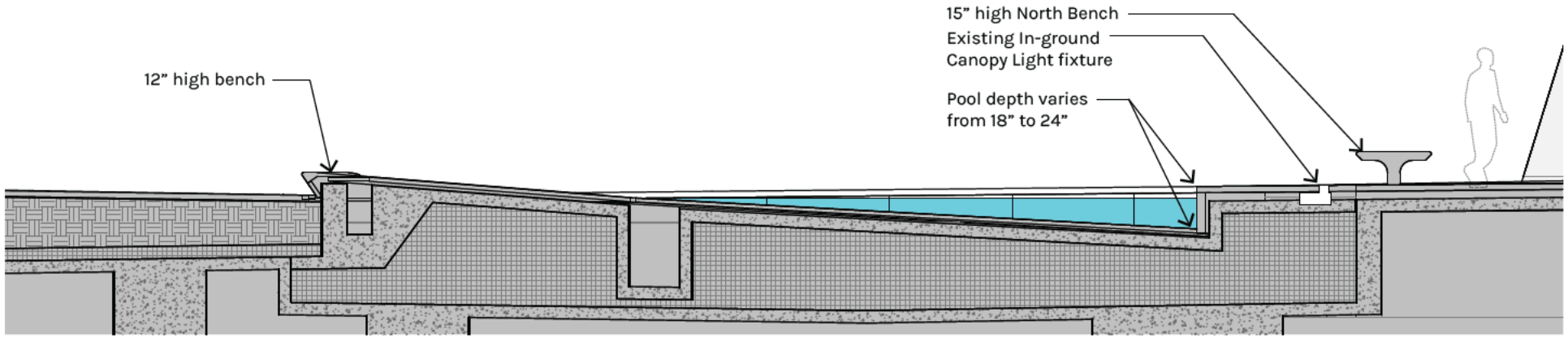


Figure 3.1.4b: Section through Water Feature

Water Feature Fall Incidents

1.2 PROJECT CHALLENGES

WATER FEATURE FALL INCIDENTS

NMAAHC Security provided the design team with a summary of fall related incident reports that involved or occurred near the south Water Feature. The diagram at right represents the location summary and dates of the relevant incidents. These can be further grouped by rough location of occurrence: east (entering), west (exiting), originating from north bench, and general/ nonspecific reported location.

- Total of 17 reported fall incidents at the Water Feature.
- Temporary planters were installed on the east and west in late 2019.
- Most incidents occurred before 2019 but still continue.
- Most incidents occurred during daytime, between 11am and 5pm.
- Nighttime issues related to post event ending/ exiting.
- Many reports cite 'carelessness' and visitors 'not looking'.

The existing water feature has a maximum vertical elevation change of 24" at the northwest corner, and is a code compliant condition that does not require and handrail nor guardrail.

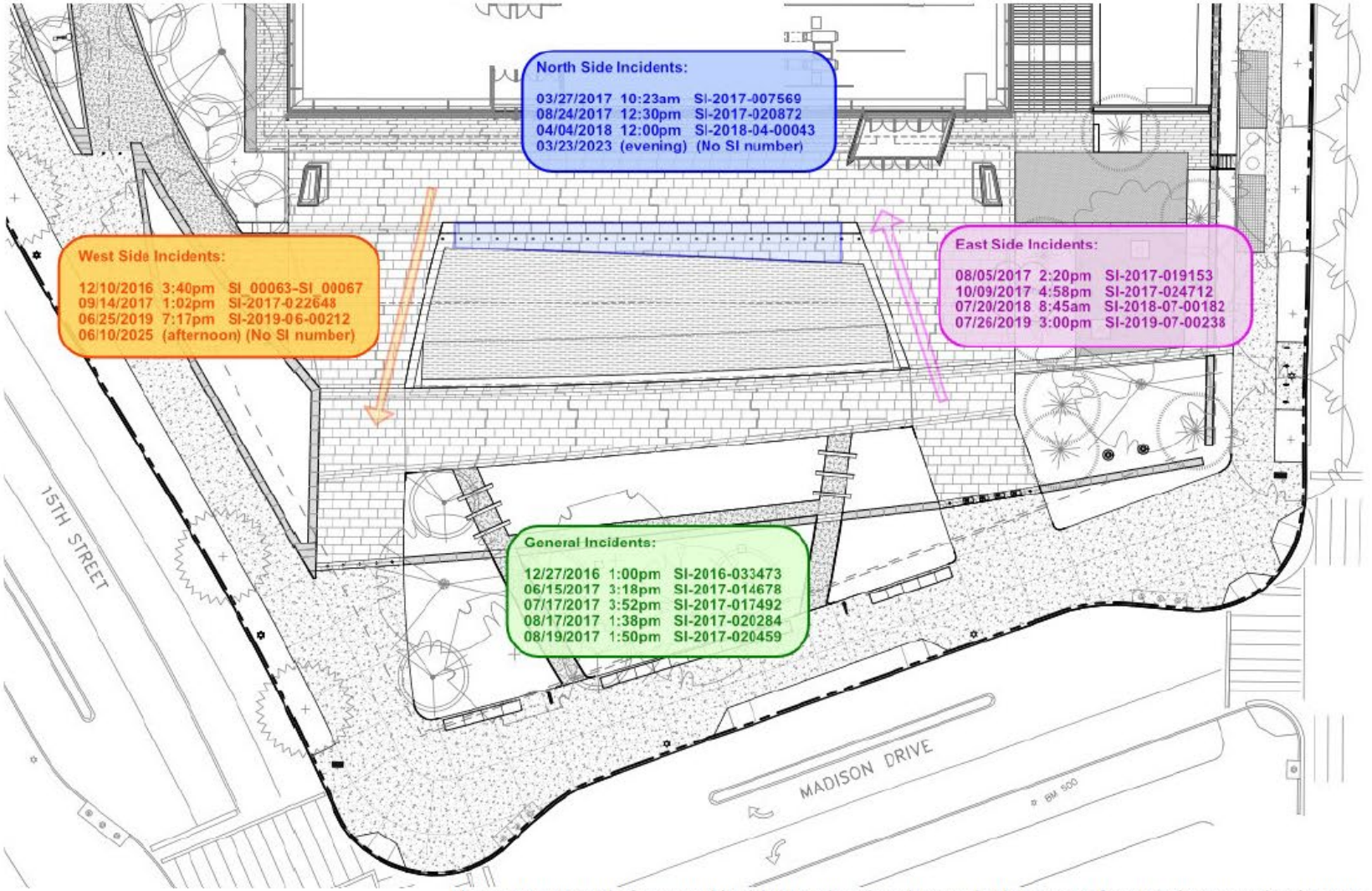


Figure 1.2.1: Record of reported incidents related to the south plaza water feature since opening in 2016

Temporary Water Feature Solutions

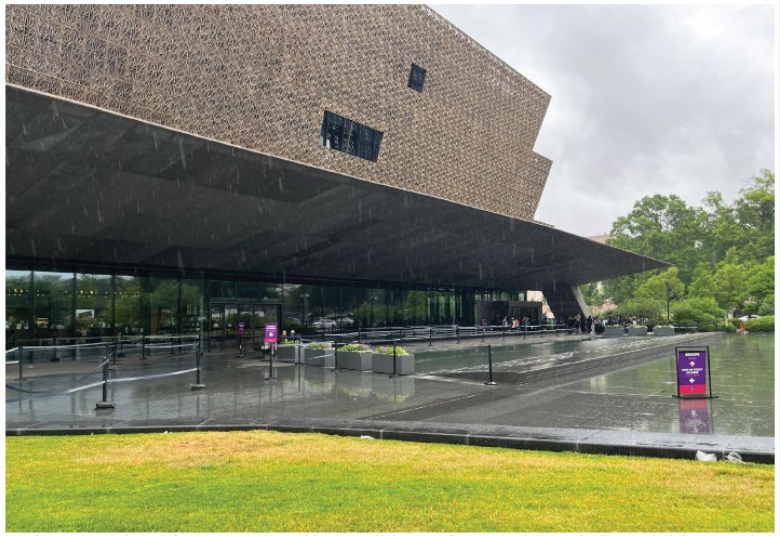


Figure 1.2.2: Photo of temporary stanchions and signage for managing pool edge and visitor queuing



Figure 1.2.3: Visitor queuing for entry between north bench and building under Porch



Figure 1.2.5: Photo of existing protections at the Water Feature Edge including temporary planters, safety cones, and stanchions

Water Feature Existing Conditions

The Water Feature remains empty seasonally from approximately November to March. When the basin is dry, it is even more difficult to visually discern the change in grade or presence of the Water Feature.

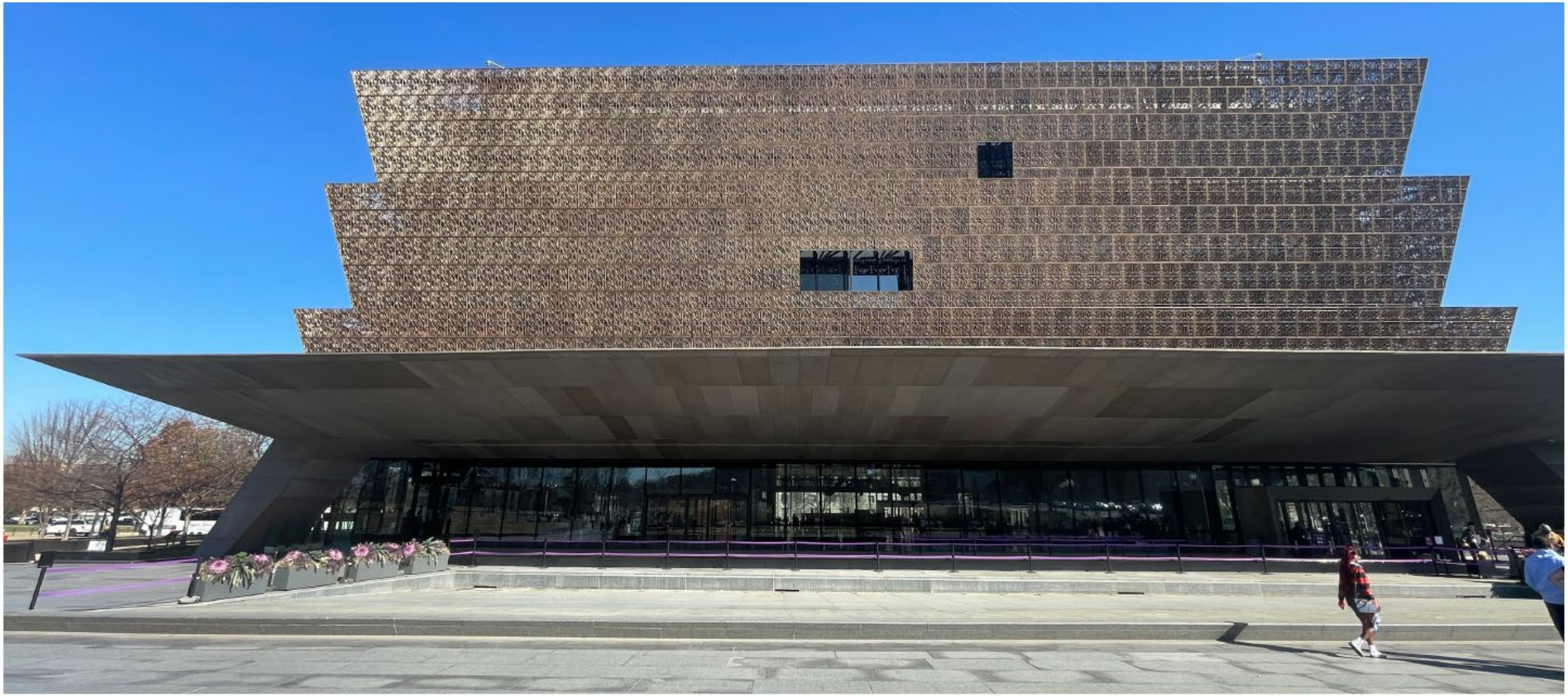
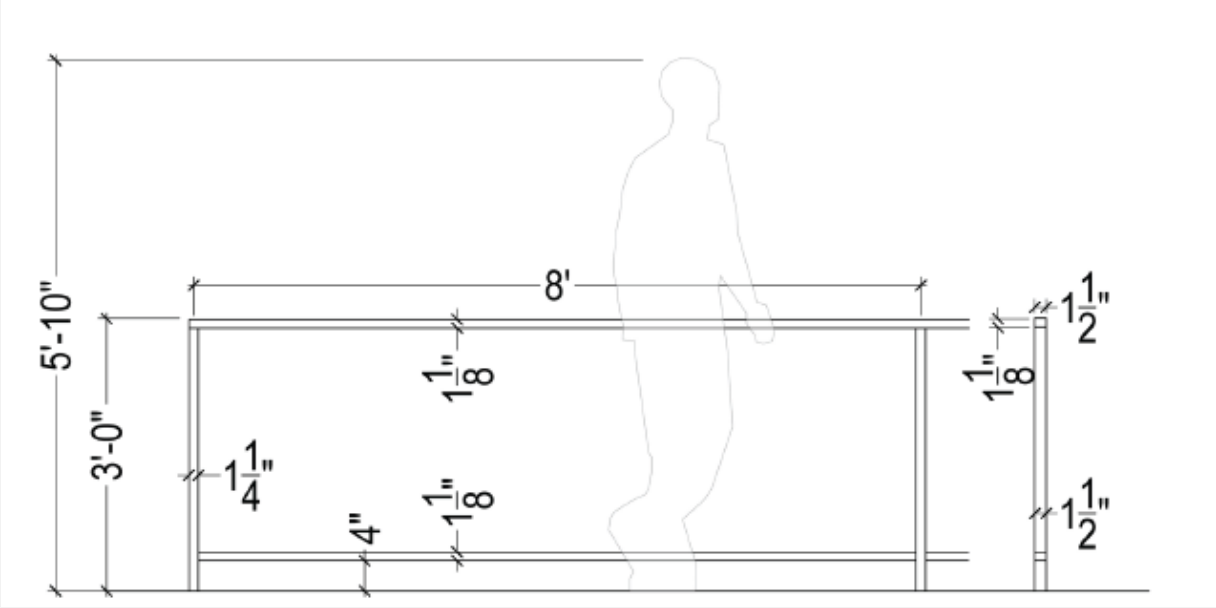
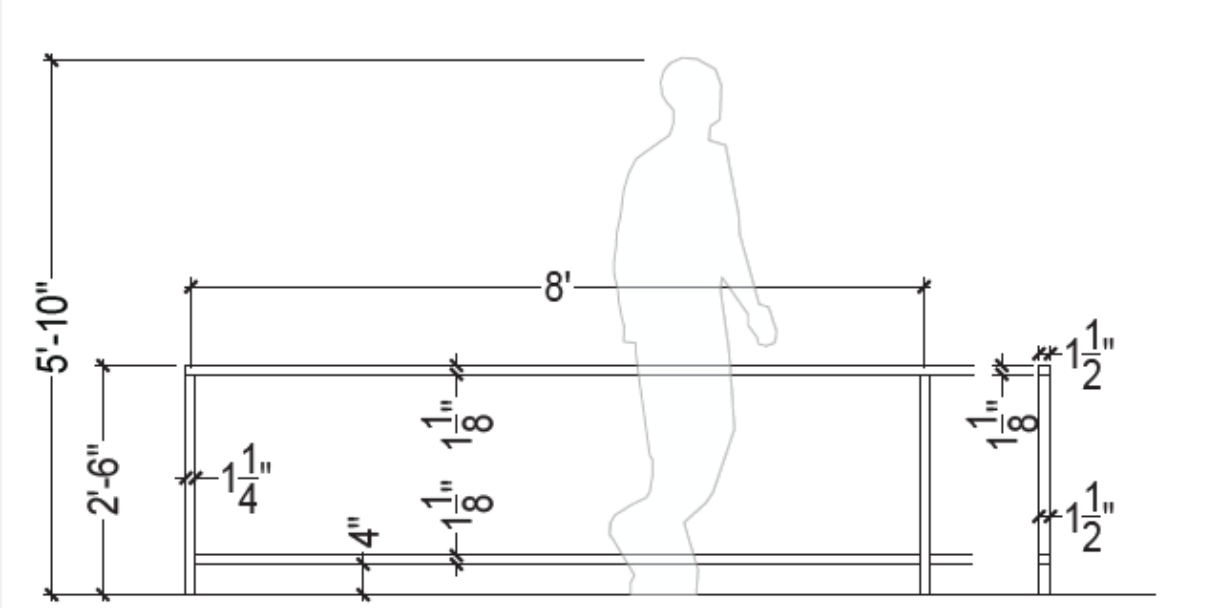


Figure 3.1.14: View of Water Feature from South

Water Feature Railing Height Options



Option 1 - 36” High



Option 2 - 30” High

Water Feature Railing - Option 1 - 36” High

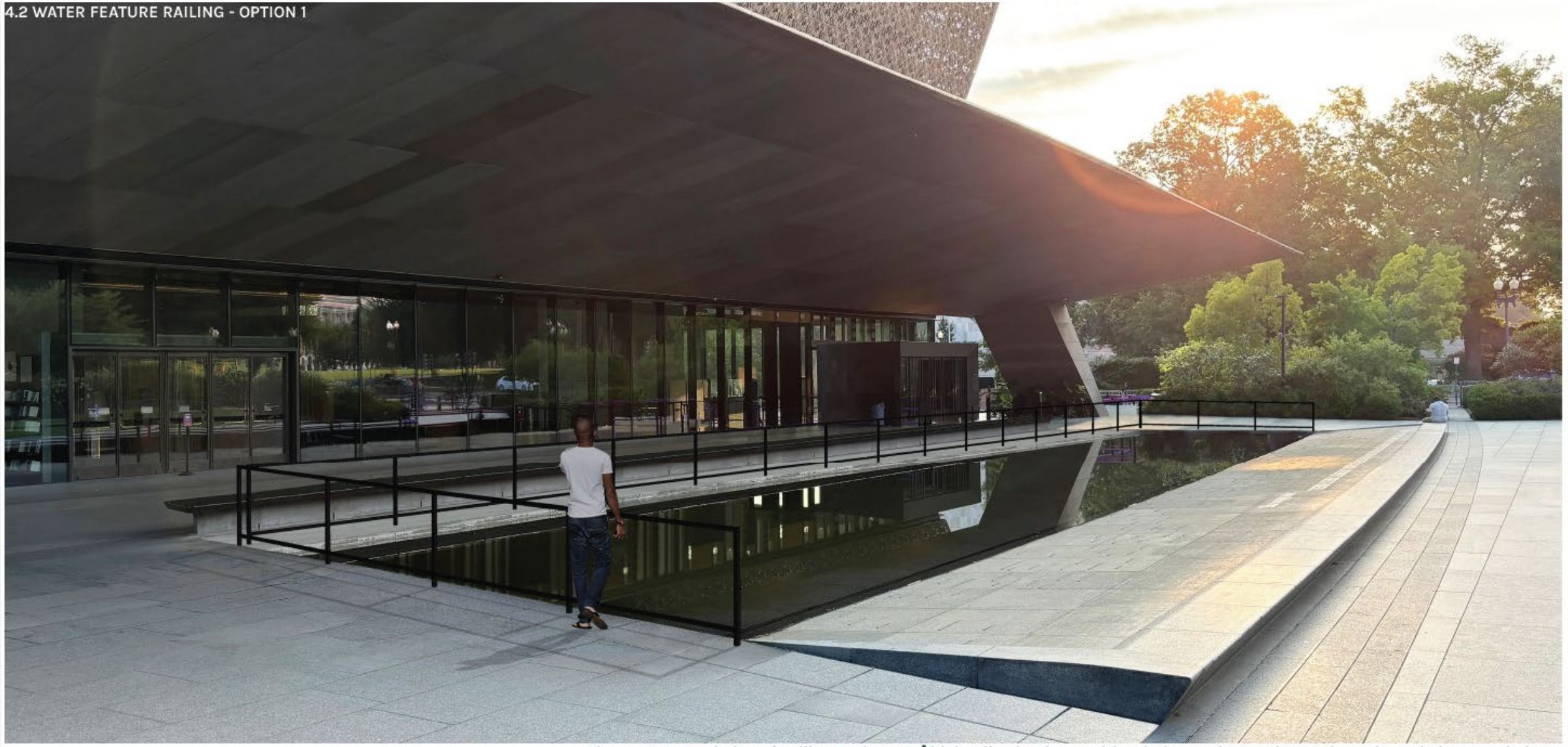


Figure 4.2.9: Rendering of Railing Option 1, 36" high rail only. Shown with existing paving. Paving Options shown in later renderings.

Water Feature Railing - Option 2 - 30” High

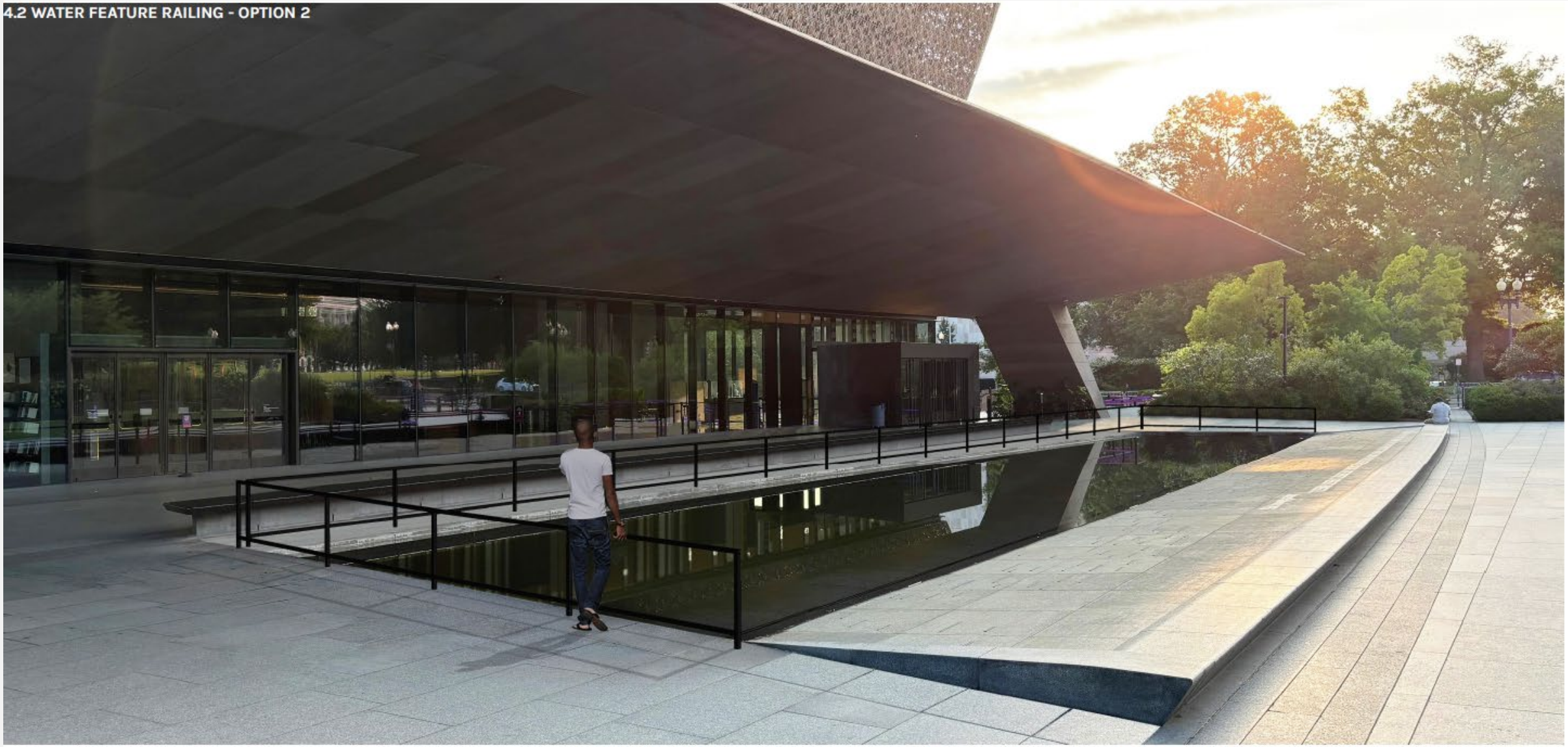


Figure 4.2.10: Rendering of Railing Option 2, 30˝ high rail only. Shown with existing paving. Paving Options shown in later renderings.

Existing Handrails and Guardrails - Bronze Finish

3.4 PHOTOGRAPHS OF EXISTING SITE CONDITIONS

Existing exterior and interior handrails and guards used at NMAAHC are typically solid bronze or oil rubbed bronze finish (on aluminum or steel material) and have square edge profiles, as seen in the images below. Within this palette, a variety of sizes, shapes and profiles are used. This contextual palette was one of the factors considered during the development of the proposed railing designs for the Water Feature edge.

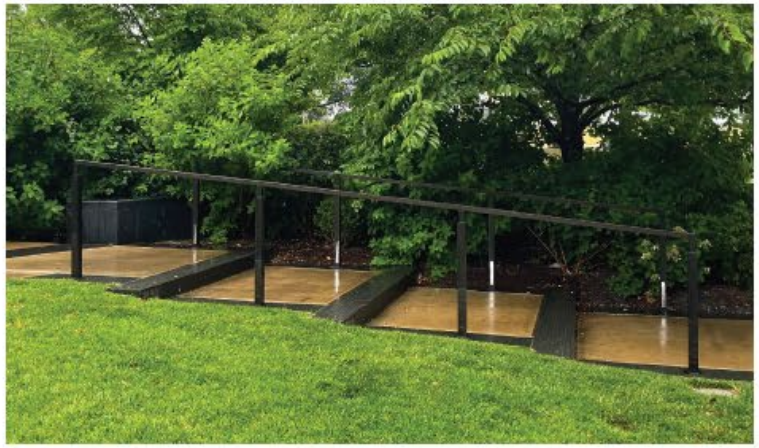


Figure 3.1.11: Illuminated Handrails on South Lawn

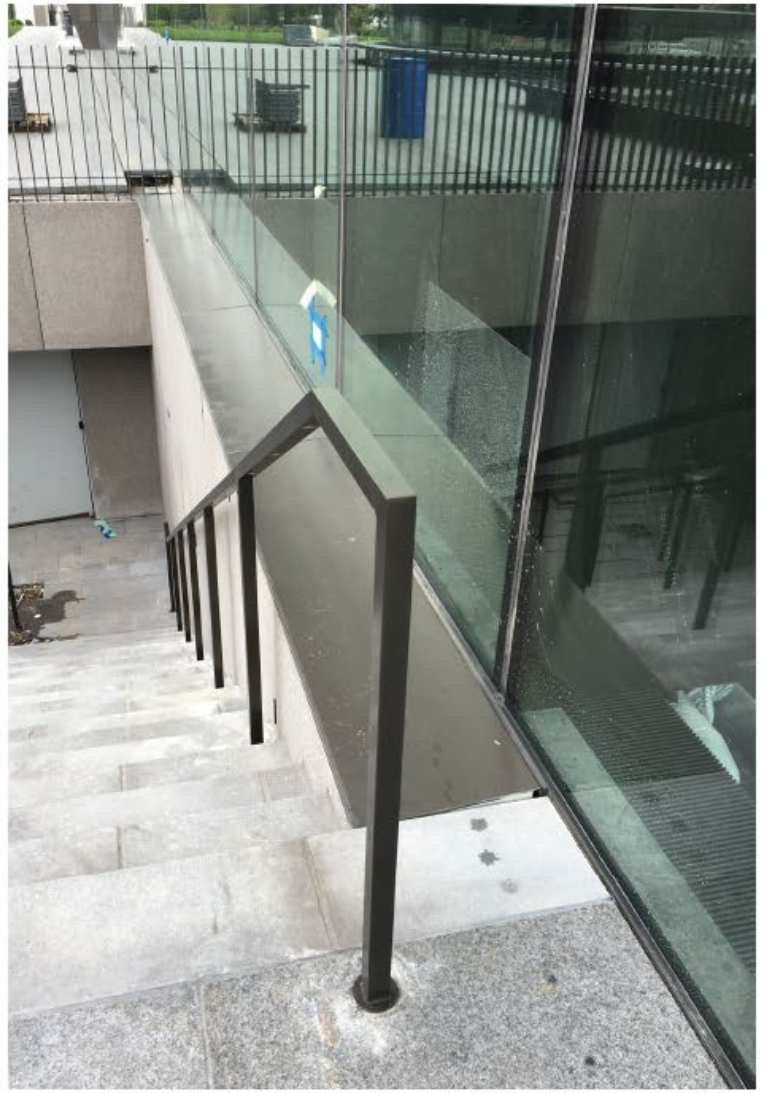


Figure 3.1.13: Bronze colored handrail with Guradrail beyond

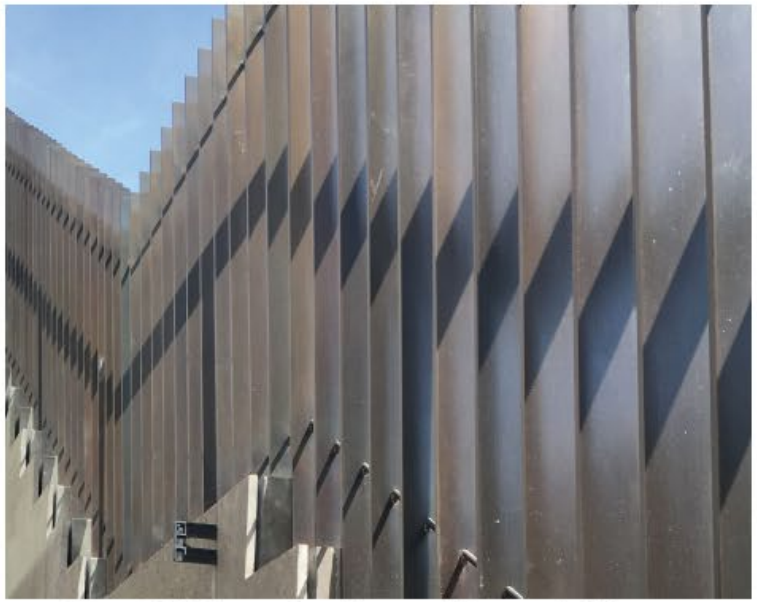


Figure 3.1.10: Egress Court bronze plate guardrail from areaway



Figure 3.1.12: Interior bronze handrail at monumantal stair

Water Feature Railing Finish Options

4.2 WATER FEATURE EDGE – RAILING OPTIONS

Materials considered for the railing include solid bronze, stainless steel, and painted 50ksi steel. The bronze material was considered due to alignment with the existing material palette of the Museum. To investigate options for thinner cross-sectional profiles and reduced post spacing, the stronger steel materials were considered. Initial structural calculations indicate the solid bronze material requires a thicker cross section and denser vertical support spacing to achieve the same capacity as the steel materials. The Smithsonian's recommended material for the rail is painted 50ksi steel.



Figure 4.2.2: Railing material samples

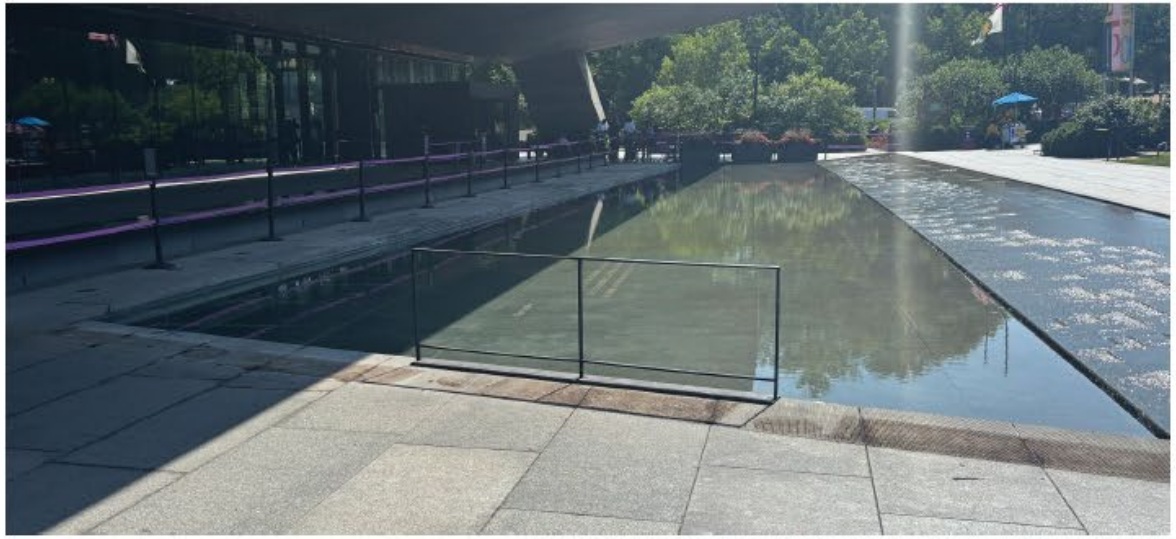


Figure 4.2.3: Mock up of 4' post spacing, and black finish



Figure 4.2.4: Mock up of 6' post spacing, and stainless steel finish

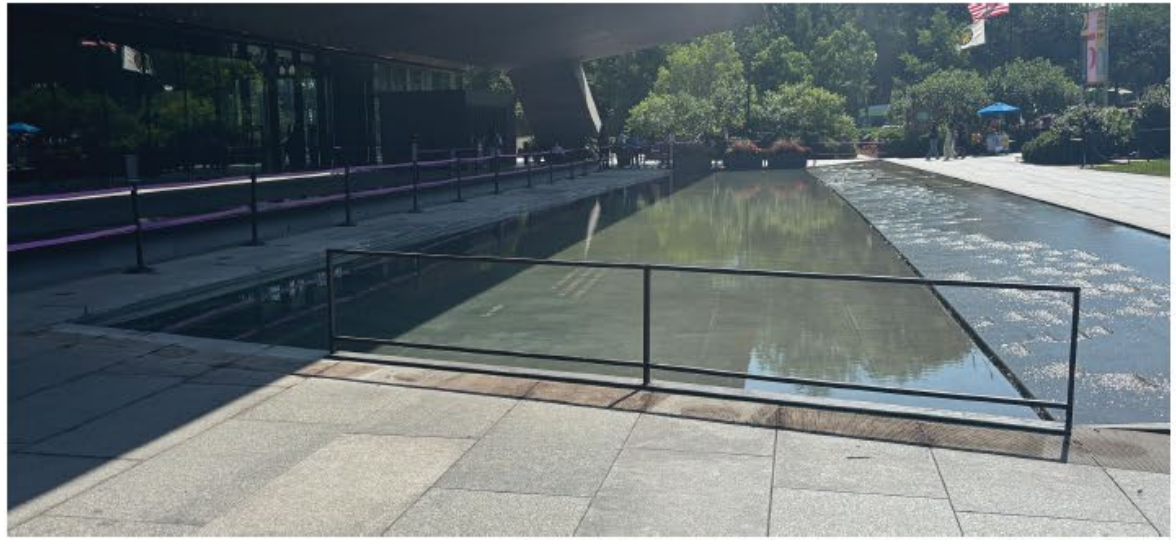


Figure 4.2.5: Mock up of 8' post spacing, and bronze finish

Edge Paving - Option 1 - Cold Spring Black Granite w/Embed



24˚ Cold Spring Black Granite w/embed



Existing Messabi Black Granite

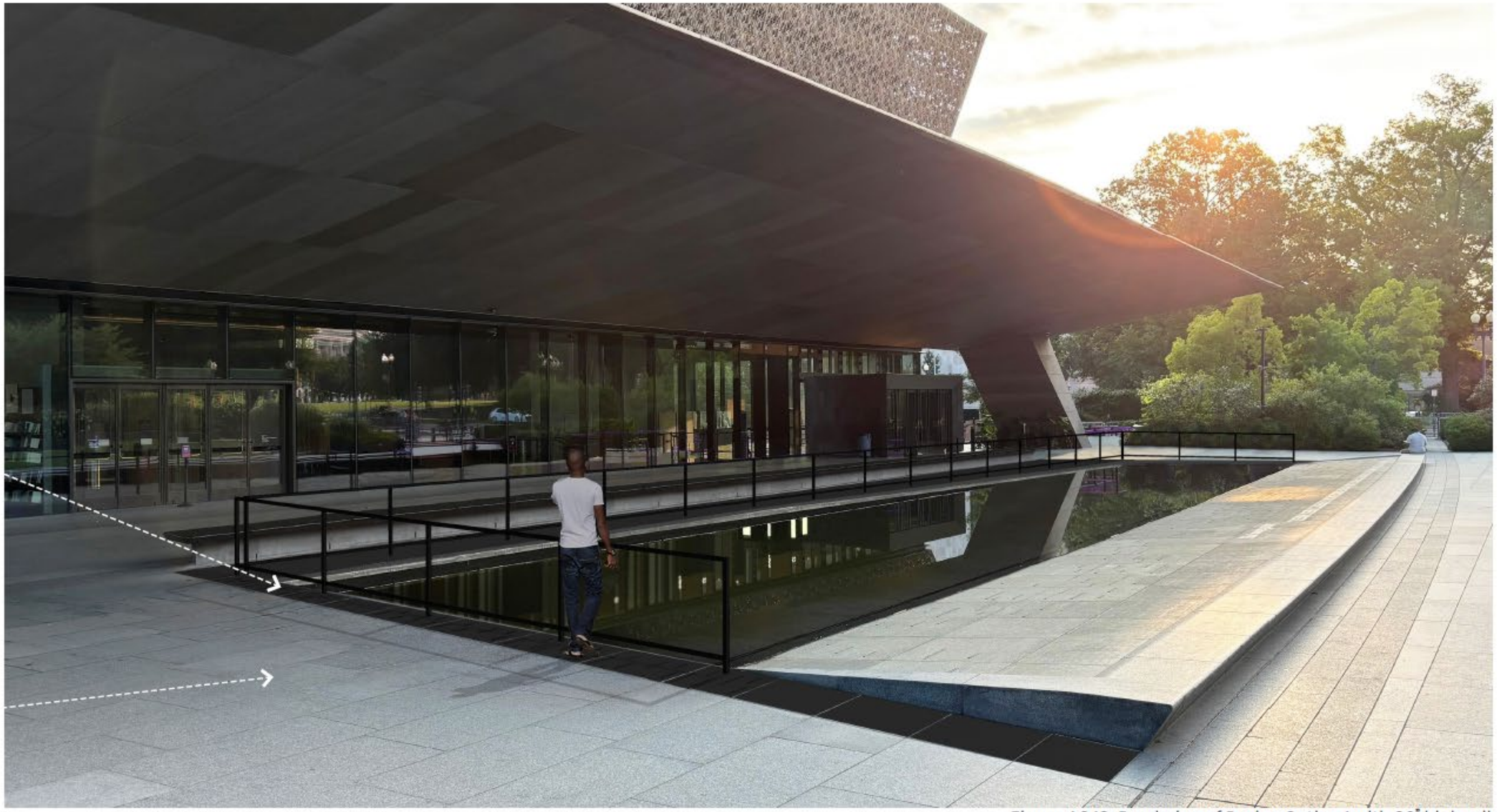


Figure 4.2.18: Rendering of Paving Option 1 with 36˚ high rail

Edge Paving - Option 2 – Sierra White Granite Edge



8" Sierra White Granite edge



16" Textured Messabi Black Granite

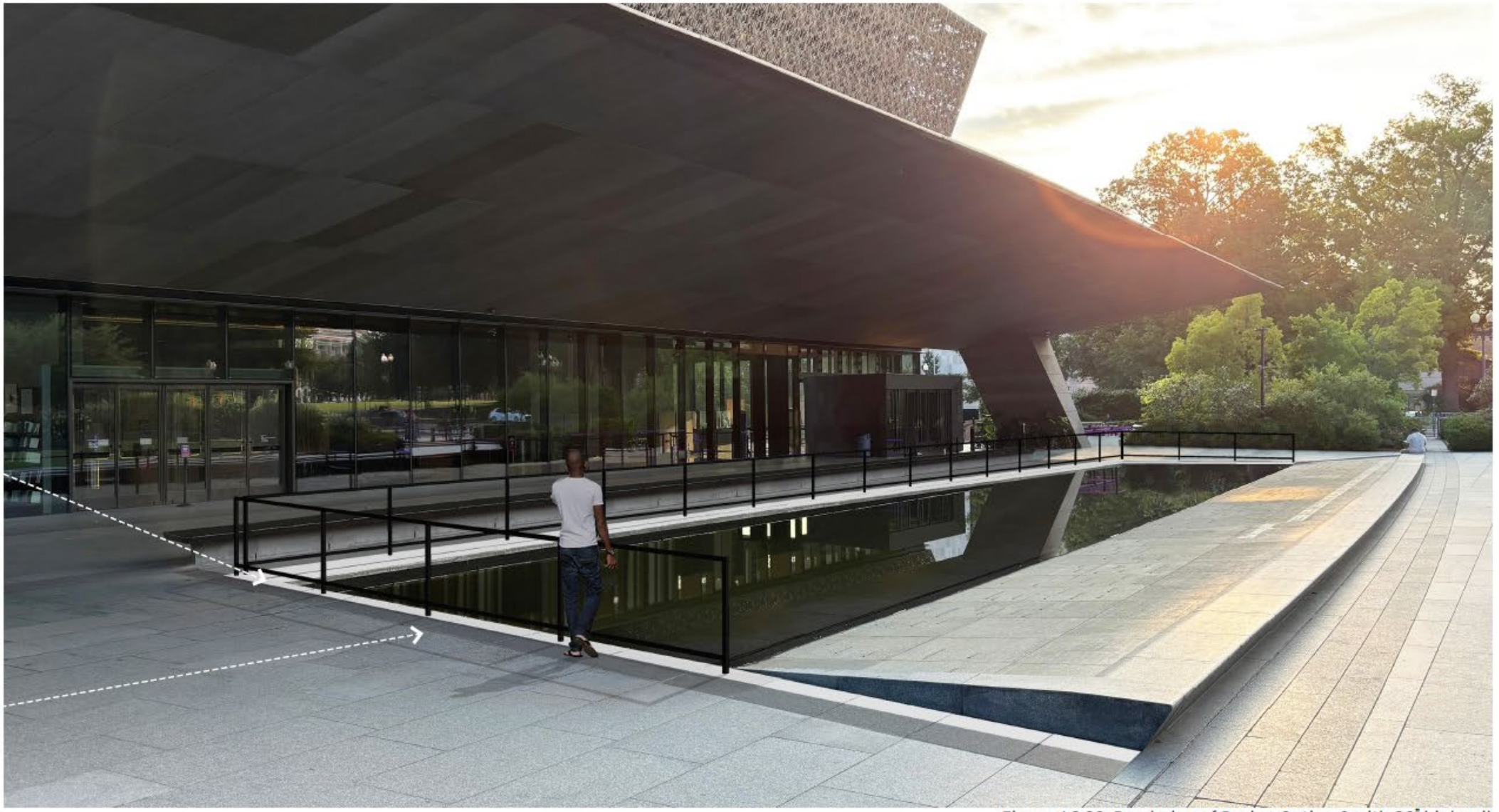


Figure 4.2.22: Rendering of Paving Option 2 with 36" high rail

Water Feature Edge Signage

4.2 WATER FEATURE EDGE - SIGNAGE

To provide an additional layer of visual, sensory, and informational cues warning visitors of the presence of the water feature edge, two types of permanent signage are proposed.

Sign Type 1 - Railing Inscription: This sign is proposed to be a permanent engraved or embossed text on the top of the horizontal railing surface at seven locations around the Water Feature railing. This text would be either an engraving with contrasting color infill (painted), or a raised applied metal.

Sign Type 2 - Paving Plaque: This sign is proposed to be a permanent plaque set into the pavement surface under the railing at seven locations. This plaque would be either an engraved metal or a jetcut granite panel inset flush to the granite paving. Either material would be fabricated of contrasting colors to the adjacent paving.

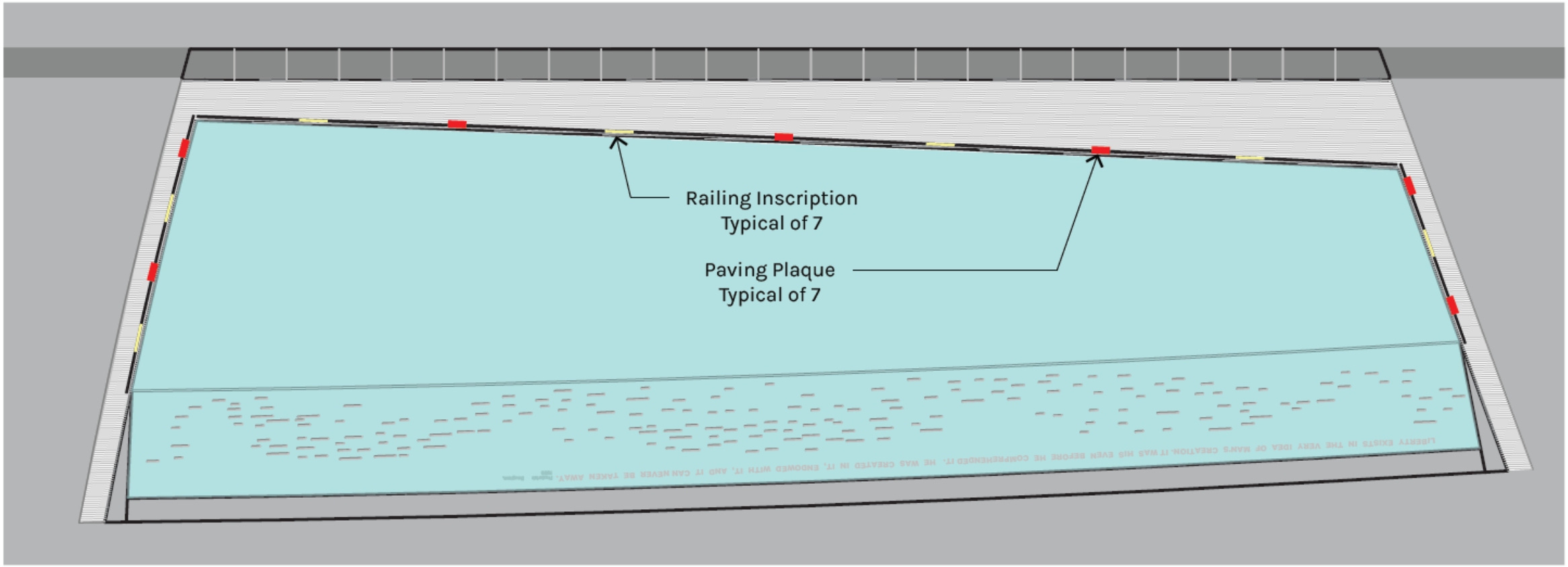


Figure 4.2.23: Site Plan showing location of proposed signage.

Water Feature Edge Signage

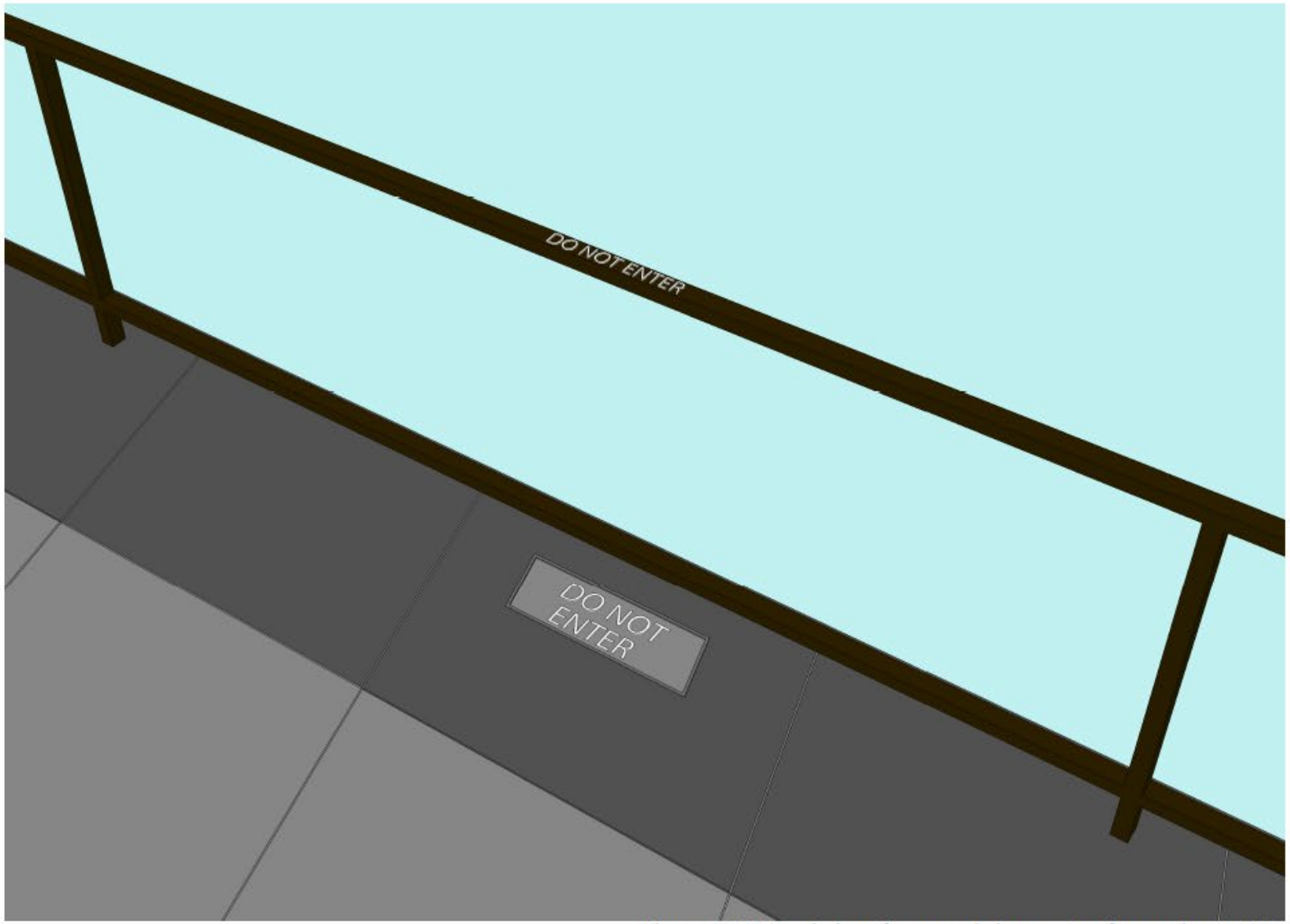


Figure 4.2.24: Rendering of proposed signage, typeface and copy, TBD.



Figure 4.2.25: Example of Sign Type 1 - Railing Inscription



Figure 4.2.26: Example of Sign Type 2 - Paving Plaque

Canopy Light Replacement

Canopy Light Failure

CANOPY LIGHT FAILURE

There are 24 inground incandescent uplights for the Porch Canopy that were installed in 2016 and began showing signs of failure shortly after the museum's opening.

SmithGroup prepared non-destructive probe and water testing instructions, which were executed by a contractor in the early winter of 2024.

These investigations revealed the following:

- The fixture housings are in a constant state of flooding and filling with water. Even after clearing the units out, water continued to ingress for hours following.
- Water is entering the light fixture housings from multiple observable locations: from the surface level via cracked or otherwise damaged lens support housings, from below the fixtures entering at seams in the embedded housing, and communicating between the fixtures via the daisy chained electric conduit.
- Many of the fixtures exhibit some degree of damage to the upper housing ring that supports the lens and lens gasket.

There may be additional sources of water entering the fixtures. It is unclear if this water was entering from the primary incoming conduit feed on east, one of the untested fixtures, or from another location.

Based on these probe observations, SmithGroup initially explored replacement options that were LED based, located at the original fixture locations, and could fit in the 6" available depth. However, as concerns over infiltration from below-grade water sources were realized, maintenance concerns increased, and watertight solutions became ever more complex, a reasonable in ground solution was dismissed.

We also dismissed the use of "submersible" fixtures (IP68) as not realistic since they assume constant submersion (not intermittent wetting and drying) and are not designed for pedestrian traffic.

The Design Team turned to the exploration of above-ground lighting solutions that would illuminate the Canopy in a manner similar to the original design. These solutions can be seen in Chapter 4.3.

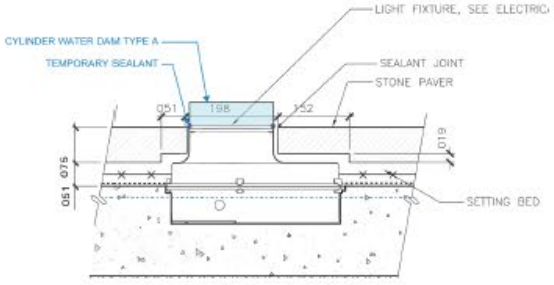


Figure 1.2.6: Detail of the existing in-ground fixture



Figure 1.2.7: Close up of in-ground fixture lens



Figure 1.2.8: Water test of in-ground light fixture



Figure 1.2.9: In-ground Porch Canopy fixtures

Proposed Canopy and Under Bench Lighting

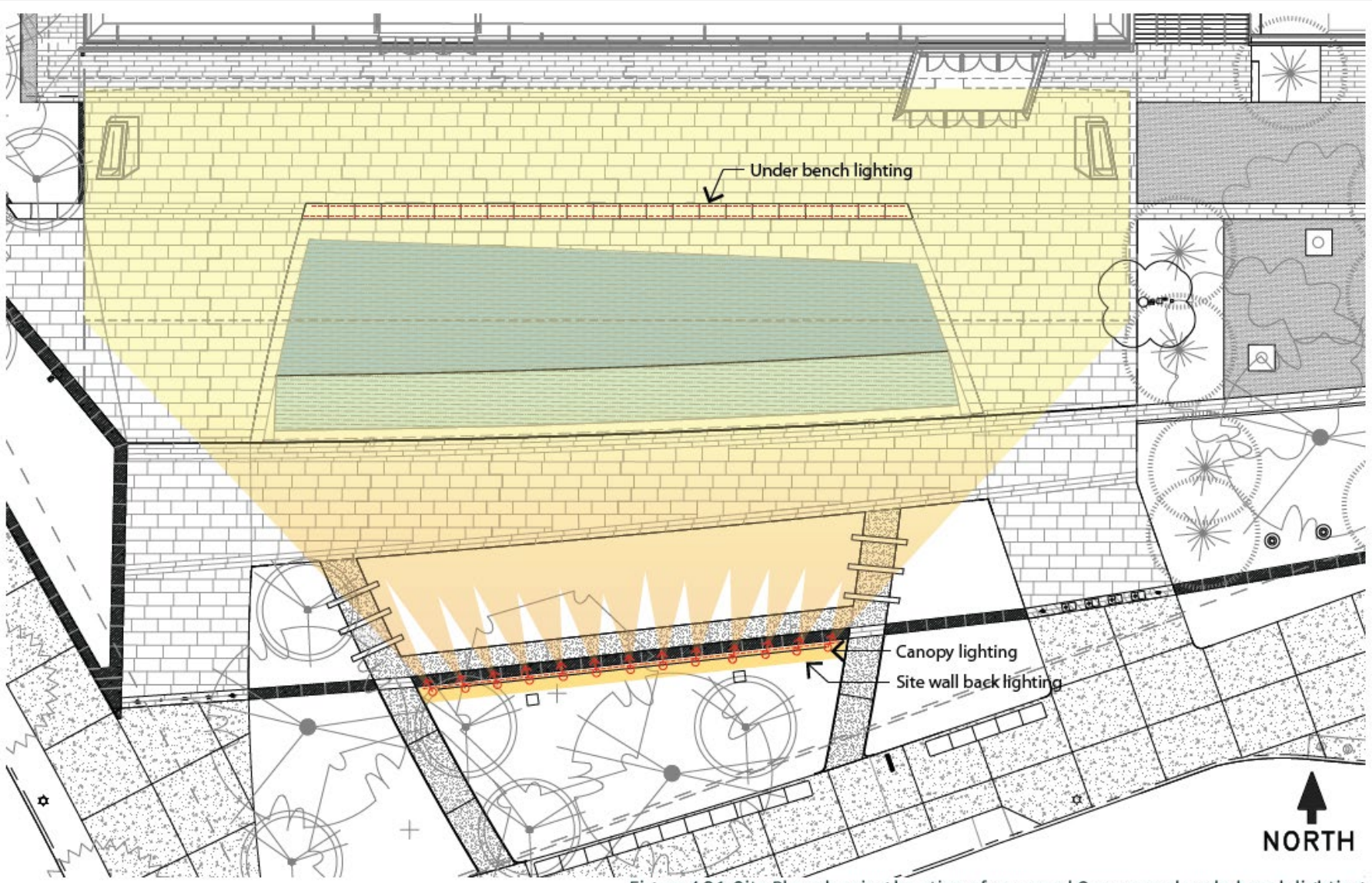


Figure 4.3.1: Site Plan showing location of proposed Canopy and underbench lighting

Canopy Lights - Option 1 - Framing Projector

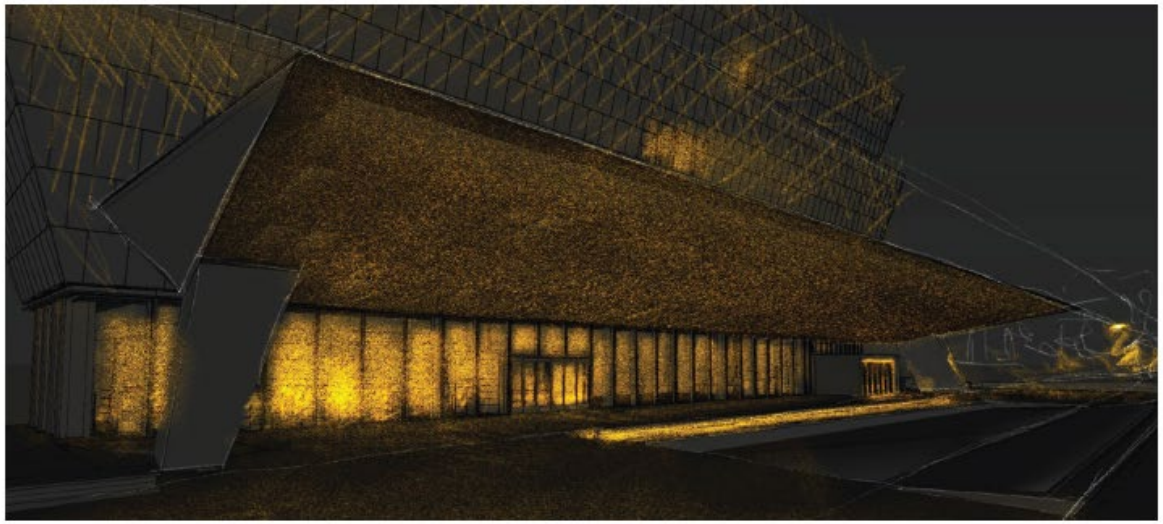


Figure 4.3.4: Rendering of anticipated effect of Option 1 fixtures.



Figure 4.3.5: Option 1 Fixture - ERCO Large Framing Projector

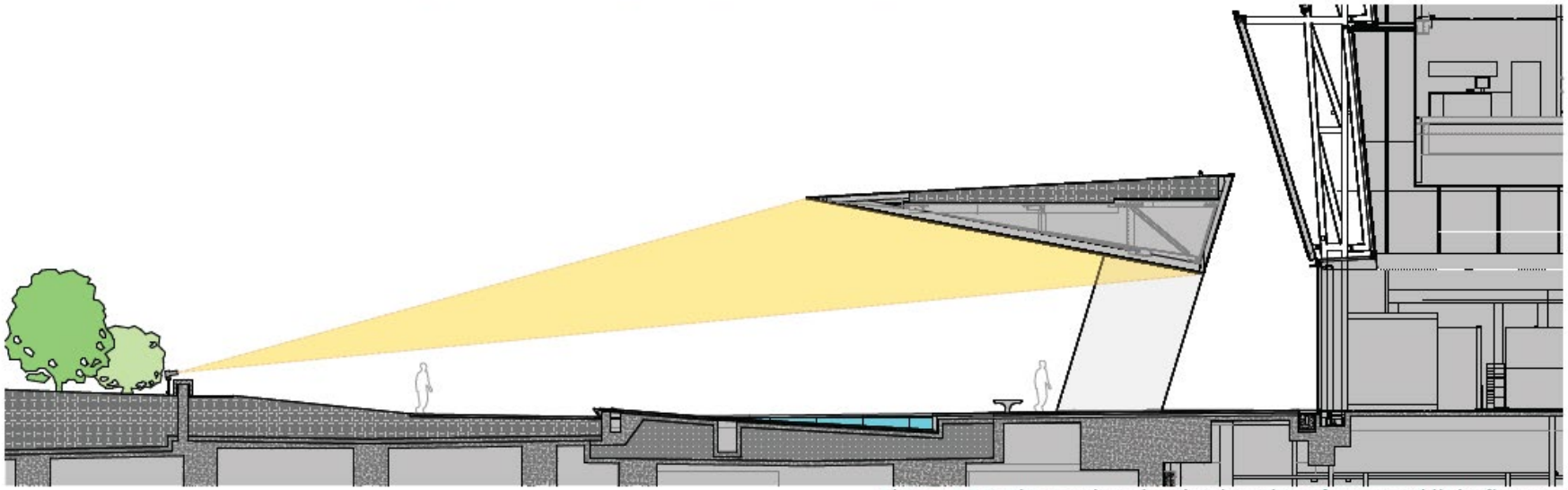


Figure 4.3.6: Site section showing location of proposed light fixtures.

Canopy Lights - Option 1 - Framing Projector

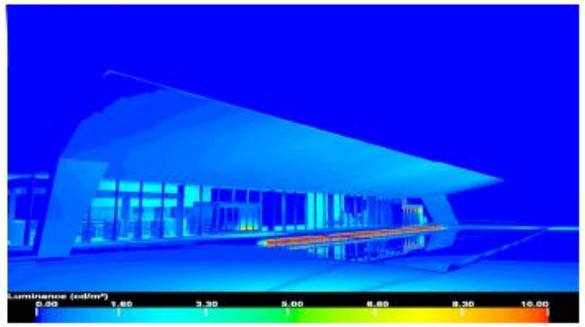


Figure 4.3.7: Photometric Study - Option 1

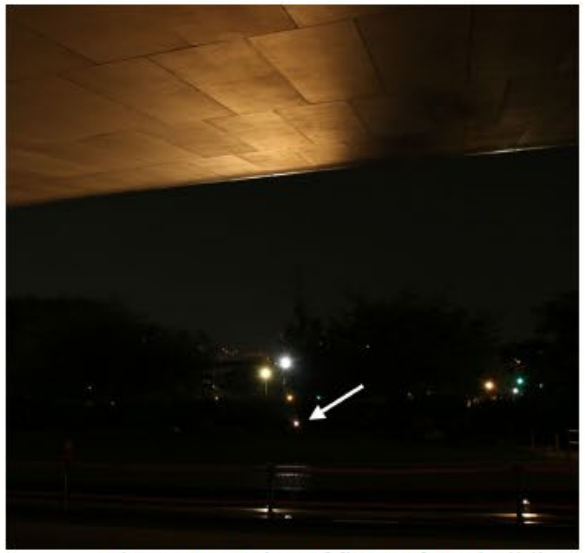


Figure 4.3.8: View of fixture from building.



Figure 4.3.9: View of Canopy with Option 1 fixture projection (single fixture effect).

Canopy Lights - Option 2 - Floodlight

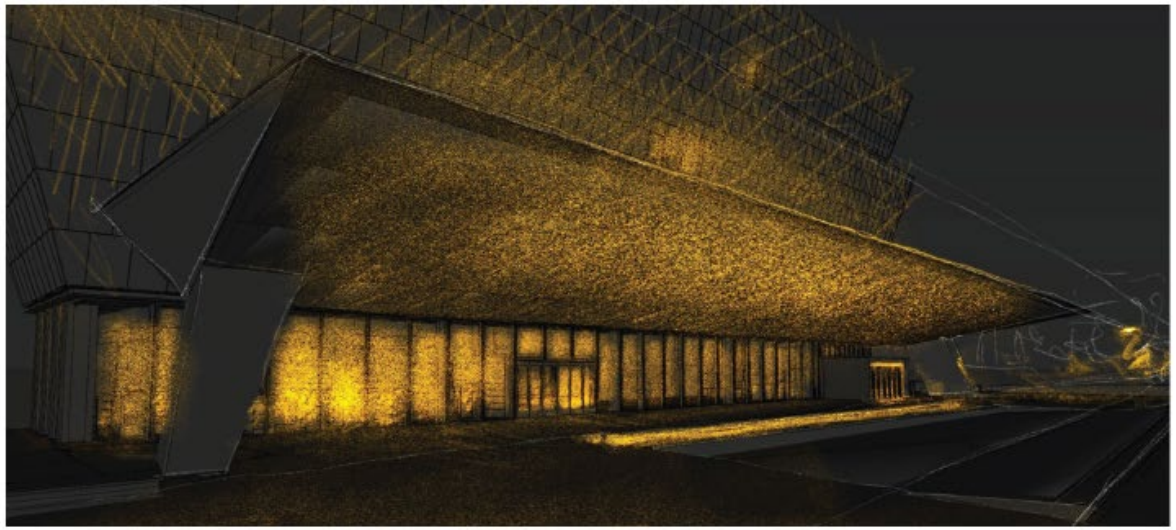


Figure 4.3.10: Rendering of anticipated effect of Option 2 fixtures.



Figure 4.3.11: Option 2 Fixture - ERCO Beamer Large Spotlight

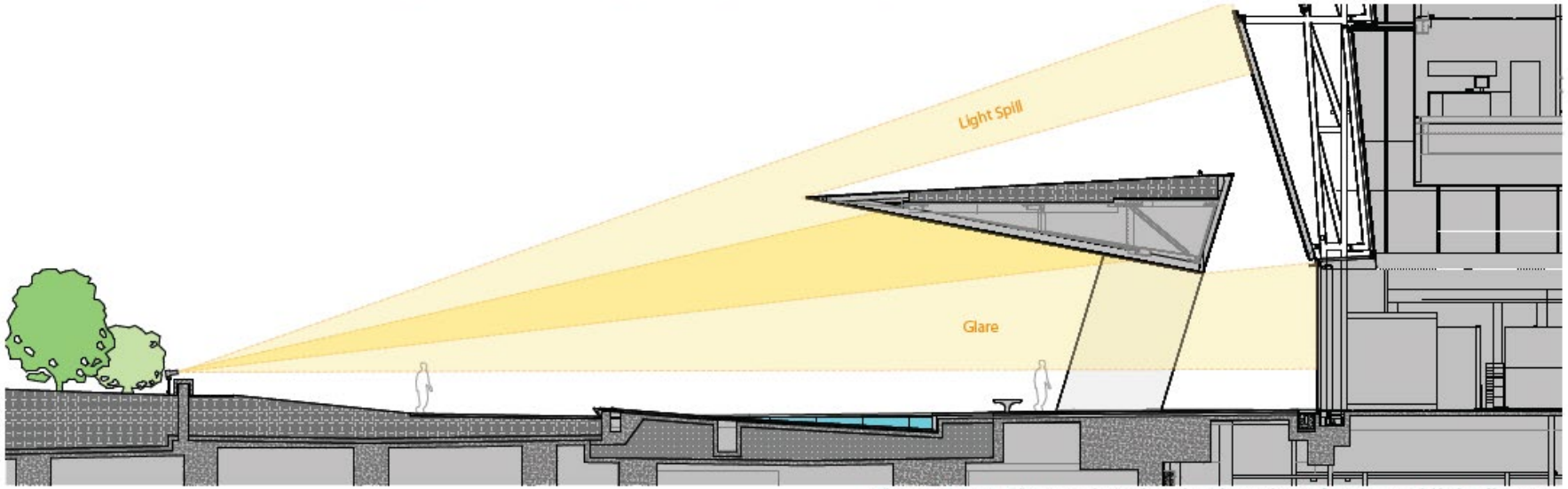


Figure 4.3.12: Site section showing location of proposed light fixtures.

Canopy Lights - Option 2 - Floodlight

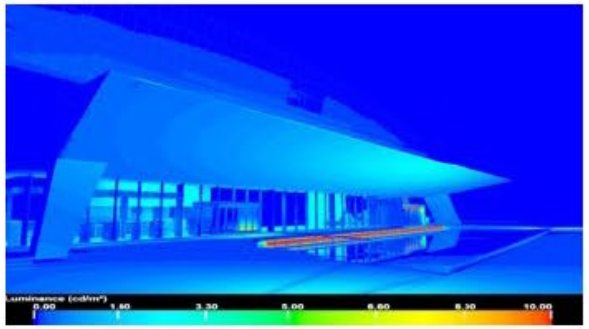


Figure 4.3.13: Photometric Study - Option 1



Figure 4.3.14: View of fixture from building.



Figure 4.3.15: View of Canopy with Option 2 fixture projection (single fixture effect).

Back Light at South Security Wall

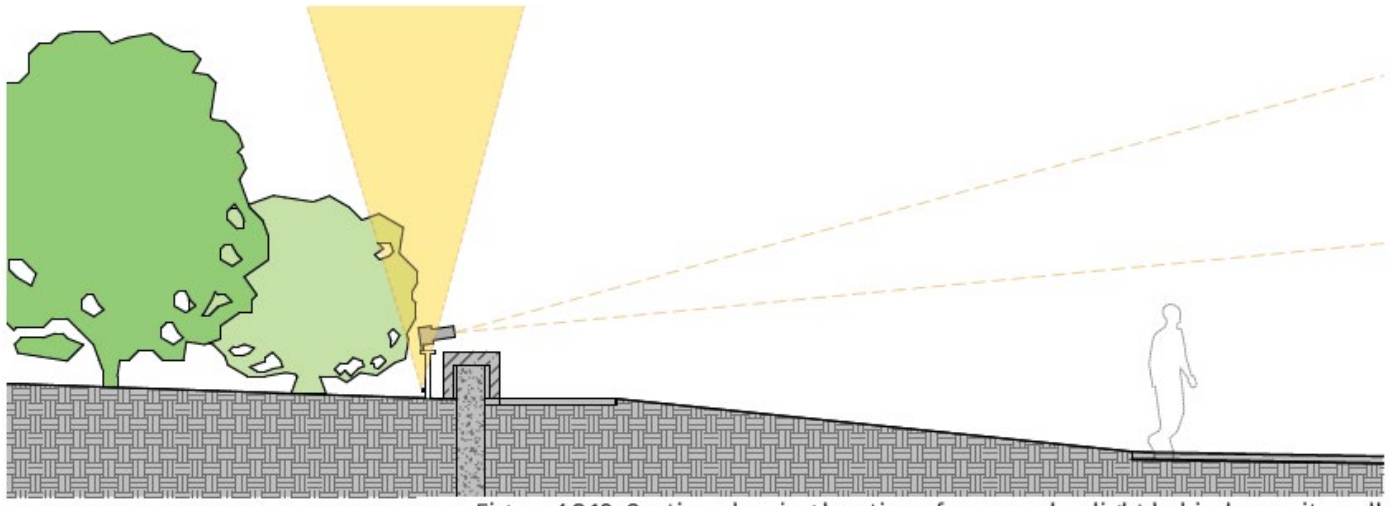


Figure 4.3.19: Section showing location of proposed uplight behind security wall



Figure 4.3.20: Photo of backlight effect of the Canopy fixture at security wall

Under Bench Lighting

4.3 UNDER BENCH LIGHTING

The intent of this proposed lighting component is to improve visibility at the South Plaza ground plane during evening events, and create an additional visual cue to presence of the Water Feature edge.

At the 4/24/25 meeting with Agency Staff, the Design Team provided three different internal light louver options to shield the fixture from glare and reflections when viewed across the water. Even the most effective louver still produced some glare and reflection.

To address this concern further, the Design Team has developed an aluminum angle detail to be placed between the fixture and bench edge in hopes of further shielding the fixture from direct view. A sample of this shield feature and it's effectiveness will be viewed at the 11/2/26 lighting mock up.



Figure 4.3.17: Photo of under bench lighting - building site

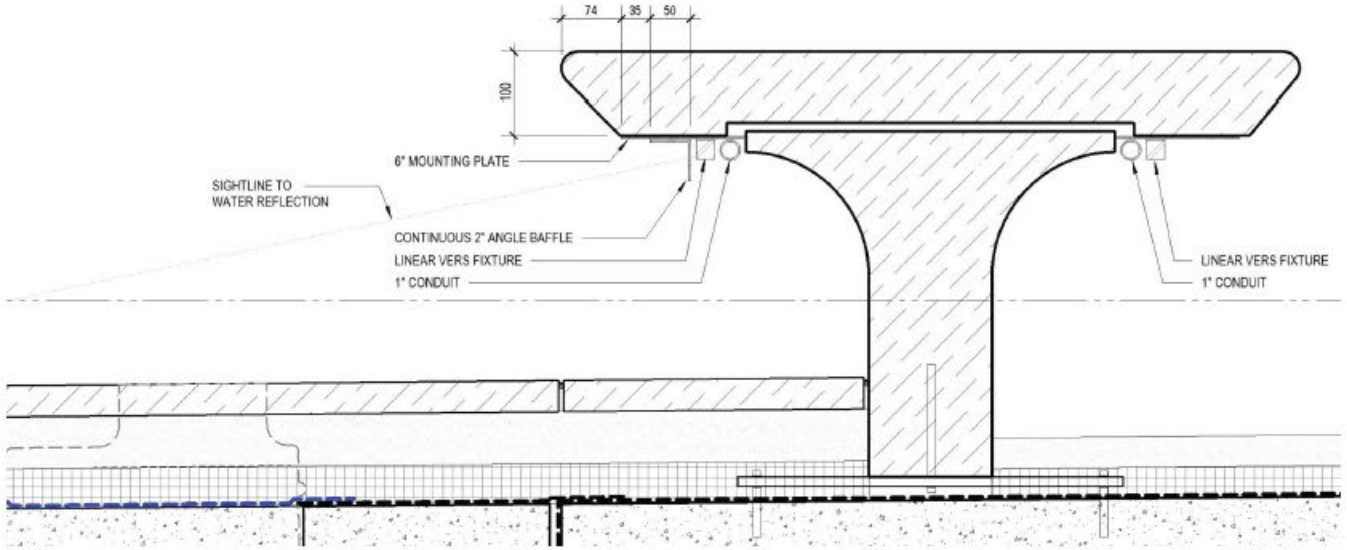


Figure 4.3.16: Detail of under bench lighting



Figure 4.3.18: Photo of bench underlight from across water, looking North