



Executive Director's Recommendation

Commission Meeting: May 7, 2020

PROJECT Korean War Veterans Memorial Wall of Remembrance National Mall Daniel French Drive and Independence Avenue, NW Washington, DC	NCPC FILE NUMBER 8107
	NCPC MAP FILE NUMBER 1.71(73.10)45107
SUBMITTED BY United States Department of the Interior National Park Service	APPLICANT'S REQUEST Approval of preliminary and final site development plans
REVIEW AUTHORITY Commemorative Works per 40 U.S.C. § 8905	PROPOSED ACTION Approve preliminary and final site development plans
	ACTION ITEM TYPE Staff Presentation

PROJECT SUMMARY

The National Park Service, on behalf of the Korean War Veterans Memorial Foundation (KWVMF), has submitted the Korean War Veterans Memorial Wall of Remembrance for preliminary and final review. The Commission provided comments on the concept review at the October 2, 2019 meeting, and commented favorably on the preferred “low wall” concept because it is consistent with the original memorial design, is integrated into the landscape, and minimizes visual and environmental impacts to the National Mall, while improving access and circulation.

The project will add a Wall of Remembrance to the existing Korean War Veterans Memorial to honor the 36,574 members of the Armed Forces of the United States killed or missing in action in the Korean War. In addition, the wall will list approximately 8,000 members of the Korean Augmentation to the United States Army (KATUSA). The applicant intends to organize the names on the new engraved granite wall by service and rank.

Dedicated on July 27, 1995, the anniversary of the Korean War Armistice, the existing memorial is located to the southeast of the Lincoln Memorial on West Potomac Park. The memorial occupies 7.5 acres within Ash Woods. It is surrounded by Ash Road to the north, the US Park Police Stables to the east, Daniel French Drive to the west, and Independence Avenue to the south. The Korean War Veterans Memorial site has a symmetrical relationship to the Vietnam Veterans Memorial site located on the north side of the Reflecting Pool.

On October 7, 2016, Congress enacted the “Korean War Veterans Memorial Wall of Remembrance Act” (Public Law 114–230). This legislation authorized the KWVMF to construct a Wall of Remembrance at the Korean War Veterans Memorial. The Act required that the wall include a list of names of members of the Armed Forces of the United States who died in the Korean War, as determined by the Secretary of Defense. The wall may include other information

about the Korean War, including the number of members of the Armed Forces of the United States, the Korean Augmentation to the United States Army, the Republic of Korea Armed Forces, and the other nations of the United Nations Command who were prisoners of war, killed, wounded or missing in action. This additional information will be included on the back of the existing mural wall.

In order to reduce impacts to the memorial and the National Mall, the preferred design has a minimal approach. The design consists of adding a low angled wall integrated into the landscape surrounding the original memorial; expanding the circular plaza outside the two rows of linden trees by nine feet to provide circulation around the new curvilinear wall; raising the existing berm from the surrounding landscape from four to ten percent to conceal most of the wall and maintain reciprocal views of the memorial and the National Mall; providing two new pedestrian paths to connect the Pool of Remembrance to Ash Road and Independence Avenue; and rehabilitating the existing memorial.

KEY INFORMATION

- The Commission reviewed the concept design at its October 2, 2019 meeting, and commented favorably on the preferred “low wall” concept because it is consistent with the original memorial design, is integrated into the landscape, and minimizes visual and environmental impacts to the National Mall, while improving access and circulation.
- On October 7, 2016, Congress enacted the “Korean War Veterans Memorial Wall of Remembrance Act” (Public Law 114–230). This legislation authorized the KWVMF to construct a Wall of Remembrance at the Korean War Veterans Memorial. The Act required that the wall include a list of names of members of the Armed Forces of the United States who died in the Korean War, as determined by the Secretary of Defense.
- The design for the Wall of Remembrance has four guiding principles: 1) maintaining the integrity of the original memorial design; 2) minimizing the impact of the proposed wall as viewed from adjacent National Mall areas; 3) incorporating the new wall as if it had been part of the original design; and 4) limiting the area of names to less than the name area on the Vietnam Veterans Memorial (VVM).
- Additional principles include providing a better edge to the circular plaza around the Pool of Remembrance, currently defined by a post and chain fence and two rows of shrubs, and formally incorporating the “desire lines” of pedestrian travel from the memorial to Ash Road and Independence Avenue.
- NPS analyzed the VVM wall surface area and determined that the wall area utilized for names at the Wall of Remembrance should be less than 2,600 square feet.
- The proposed wall will have a length of 380 linear feet to accommodate the list the names of the fallen, including the US and KATUSA forces, while providing an enclosure to the memorial space.
- Construction will begin in April 2021. The project will be completed on July 27, 2022, the 69th anniversary of the Korean War Armistice. NPS will keep portions of the memorial open to the public during the 15-month construction period.

RECOMMENDATION

The Commission:

Approves the preliminary and final site development plans for the Korean War Veterans Memorial Wall of Remembrance, located on the National Mall in Washington, DC.

Finds the proposed Wall of Remembrance is consistent with the original memorial design, is integrated into the landscape, and minimizes visual and environmental impacts to the National Mall, while improving access and circulation.

Notes that NPS proposes two new connections to the memorial – one from Ash Road to the north and one from Independence Avenue to the south. Both connections would bring visitors directly into the circular Pool of Remembrance.

Finds that the proposed connections from Ash Road and Independence Avenue will improve the visitor experience and connectivity of the memorial with the surrounding context. Ash Road connects the Korean War Veterans Memorial to nearby memorials and attractions on the National Mall, including the soon-to-be-renovated US Park Police Stables located immediately to the east. The path from Independence Avenue will provide access from the south for visitors coming from the Martin Luther King Jr, Memorial and West Potomac Park.

Finds that the wall profile has been simplified by eliminating the stone cap and lighting fixture on the top, and the slope of the wall has been modified, lowering the wall's overall height, while increasing visibility to and from the Memorial.

Finds that the overall lighting design for the memorial is relatively simple, improves needed night time visibility, and respects the hierarchy of memorials, monuments, and important civic buildings and spaces in the nation's capital, with the U.S. Capitol and Washington Monument the most prominent features in the nighttime skyline.

Notes the Wall of Remembrance's intersection with the existing Mural Wall has been revised to include a simple extension of the Wall of Remembrance's curved metal rail, with no lighting, and paving matching the Plaza of Remembrance.

PROJECT REVIEW TIMELINE

Previous actions

June 24, 1993 – Approval of final plans for the Korean War Veterans Memorial, West Potomac Park (Ash Woods Site), Independence Avenue and Daniel Chester French Drive, SW (NCPC File No. 2815)

	October 2, 2019 – Approval of comments on concepts for the Korean War Memorial Wall of Remembrance.
Remaining actions (anticipated)	– None

PROJECT ANALYSIS

Executive Summary

The Korean War Veterans Memorial Wall of Remembrance will honor the 44,574 service members from the US forces and the Korean Augmentation to the United States Army killed or missing in action from the Korean War by adding their names to the existing memorial. Staff's analysis focuses on the project's consistency with the National Mall setting, the existing memorial character, circulation, landscape, and visitor experience. Overall, staff finds the proposed design appropriately integrates the new Wall of Remembrance into the memorial context, while minimizing visual impacts and limiting changes to the existing memorial elements. The design solution is responsive to the existing conditions. The project is generally consistent with the policies included in the *Comprehensive Plan for the National Capital*. In particular, the Urban Design, Federal Environment, Historic Preservation, Visitor and Commemoration, and Parks and Open Space Elements. Therefore, staff recommends the **Commission approve the preliminary and final site development plans for the Korean War Veterans Memorial Wall of Remembrance, located on the National Mall in Washington, DC.**

Analysis

Existing Memorial

The memorial is composed of two simple geometries, a triangle, and a circle. The key memorial elements include:

- **Field of Service:** Located to the west, it consists of a sunny and open triangular area characterized by the fragrant smell of juniper bushes. Nineteen stainless-steel soldiers, standing seven feet tall, are scattered across the length of the field. Narrow granite bands alternate with lines of low juniper shrubs. The sculptures represent an ethnic cross section of America, including servicemen from the Army, Navy, Marines, and Air Force. They emerge from a grove of trees, planted on the western end of the memorial, toward the American flag, the focal point of the memorial. The field, defined by two paths, gently rises towards the flagpole at the memorial's apex. A large granite triangle completes the field at the base of the flagpole where the memorial theme is inscribed.
- **Mural Wall:** A polished mural wall flanks the memorial's southern boundary. The wall consists of 41 panels extending approximately 164 feet in length. The mural wall is approximately 12 feet high at its west end and tapers to approximately five feet on the east

end as a result of the topography. Viewed from the north pathway, the mural reflects an abstract landscape that resembles the mountain ranges of Korea. A composition of faces, military hardware, and scenes of service unfold when viewed from the south pathway. The images etched into polished granite panels embody over 2,500 faces taken from historic photographs who supported the soldiers in the field. The reflective quality of the academy black granite illustrates a total of 38 sculptures, symbolic of the 38th parallel and the 38 months of the war (1950-1953). The granite wall extending into the pool is inscribed with the words "Freedom is not Free."

- United Nations Wall: A curbstone aligned with the visual axis between the Lincoln and Jefferson Memorials along the north path inscribes the names of the 22 countries who contributed to the United Nations efforts during the Korean War. The names are arranged alphabetically.
- Pool of Remembrance: The field of service, mural wall, American flag, and two pathways converge into the commemorative grove and its quiet circular Pool of Remembrance at the top of the hill. Located to the east, it consists of a shaded and secluded circular plaza that fosters quiet reflection. The plaza has a radius of 64' - 6" and features a central fountain that buffers the noise of the surrounding traffic along Independence Avenue. The perimeter of the plaza is planted with two rows of pleached linden trees that provide shade, contribute to a microclimate, and strengthen the memorial composition and contemplative character. Circulation space and benches are provided beneath the grove of pleached linden trees.

Other memorial elements include a low granite curb defining an interior edge of the pool, which lists the number of the casualties from the war.

"Low Wall" Design

As indicated during the concept review, the applicant's preferred design is the "low wall" approach, which the Commission commented favorably upon at its October 2, 2019 meeting. The design consists of a circular area surrounding the existing Pool of Remembrance defined by a low, angled wall at the edge. The new Wall of Remembrance will add approximately 7,638 square feet of hardscape to the existing memorial, including 1,494 square feet of paths and 6,144 square feet of Wall of Remembrance and paving. The limits of disturbance include 102,000 square feet.

The wall will measure approximately five feet and two inches (5' - 2") in width and three feet and eight and a half inches (3' 8 ½") in height. The names of the fallen will be located on the sloped wall facing the Pool of Remembrance while additional information will be incorporated on the south side of the existing mural wall. The proposed text consists of 7/16" high letters, with text arranged in 5'-2" tall columns with 5 columns on each 3'-10" wide panel. With this layout, approximately 100 panels will be needed to list all the names of the fallen and necessitates at least 380 linear feet of wall length.

The paving around the Pool of Remembrance will be extended as the radius of the plaza will increase by nine feet from 64'-6" to 73'-6". The new paving and wall will be constructed of the same Academy Black granite used in the original memorial. However, the paving will be larger to differentiate the new addition. The wall finish will be polished with the names sandblasted into the finish to maximize the contrast between background and lettering. The granite wall will end at a modestly visible distance above the berm and have a simple granite "mow strip" around the outside as the berm transitions to the grass surrounding the Memorial. The landscape design strategy consists of raising the existing berm from the surrounding site to conceal most of the new wall while retaining views to the space under the linden trees and to the "Freedom is not Free" inscription wall.

As part of the project scope, NPS will rehabilitate the existing memorial. The rehabilitation efforts include repairing paving around the pool, replacing tree grates, repairing joints in and around the fountain, adding a pool water heater, replacing sandblasted country names and casualty curb information with stainless steel letters, refinishing the stainless-steel statues, replacing the juniper in the Field of Service with the originally specified plant material, addressing drainage issues at the west end of the memorial and replacing the existing memorial lighting with LED lamps.

The juniper located in the triangular field of service will be replaced with the dwarf juniper "blue pacific" species that was specified in the original memorial landscape plan. The original species was shorter and provided a better view of the narrow granite bands. NPS is consulting with arborists to limb up the linden trees in order to increase headroom at the memorial. Currently, the space under the canopy provides only six feet of head clearance.

Circulation

As noted during the concept review, the only formal access to the memorial is from the west via two pathways. The memorial is oriented towards the Lincoln Memorial. The scale and angle of the walkways attracts visitors walking along Ash Road or Daniel French Drive into the memorial. The primary entry to the memorial extends from the Lincoln Memorial. Additional access is provided through another pathway that extends eastward from French Drive. The existing pathways are approximately 16 feet wide. Both of these paths converge and extend into a circular memorial pool, forming a peninsula. The orientation of the sculptures, located in the field of service, encourage visitors to walk and make eye contact with the soldiers from west to east, reinforcing the arrival experience. The memorial is open and welcoming on the west and closed and secluded on the east. Visitors coming from the Washington Monument and World War II memorial must walk longer as the memorial lacks direct access from the east.

The memorial internal circulation starts at the triangular Field of Service along the United Nations Wall, continues around the circular Pool of Remembrance. Some visitors sit on the benches under the linden trees and walk along the path next to the mural wall, toward Daniel French Drive to the west. The existing pedestrian circulation will be maintained, with the additional option of walking along the Wall of Remembrance.

In order to improve the visitor experience and connectivity among nearby memorials, such as World War II and Martin Luther King, Jr, the design includes two new paths. The paths will be eight feet wide and match the adjacent concrete sidewalks. The new wall will have two breaks at the proposed paths to allow pedestrians access from Ash Road to the north and Independence Avenue to the south without stepping over plant materials, walls, or chains. Therefore, staff **notes that NPS proposes two new connections to the memorial – one from Ash Road to the north and one from Independence Avenue to the south. Both connections would bring visitors directly into the circular Pool of Remembrance. Furthermore, staff finds that the proposed connection from Ash Road and Independence Avenue will improve the visitor experience and connectivity of the memorial with the surrounding context. Ash Road connects the Korean War Veterans Memorial to nearby memorials and attractions on the National Mall, including the soon-to-be-renovated US Park Police Stables located immediately to the east. The path from Independence Avenue will provide access from the south for visitors coming from the Martin Luther King Jr, Memorial and West Potomac Park.**

Proposed Wall

One of the project design principles is limiting the area of names to less than the name area on the Vietnam Veterans Memorial (VVM). As a result, the applicant conducted a wall surface area analysis to determine the adequate wall area for names at the Wall of Remembrance. The study considered text size, wall length, wall area, text area, and percentage of text of the existing VVM Wall and the proposed Wall of Remembrance concept. Based on the analysis, NPS determined that the text area at the Wall of Remembrance should be less than 2,600 square feet. The analysis assumes that names are arranged in columns rather than running text. The study assumes that Korean Augmentation to the United States Army (KATUSA) names are written in Hangul (Korean alphabet).

The VVM wall lists the names of 58,267 servicemen and women who gave their lives or remain missing in service in the Vietnam Conflict in chronological order. Dedicated in 1982, the simple, V-shaped, sunken wall of polished black granite reflects the images of the surrounding landscape and monuments. The VVM text is approximately 1/2" high. The design team considered different text heights from 5/8" down to 7/16" high. In order to avoid exceeding the text area of VVM, they determined that 1/2" high text was the maximum height that could be provided. The design team determined that by going to 7/16" high text, they could reduce the radius of the wall without significantly impacting the visibility of the names. By reducing the radius, the design also minimized the amount of new hardscape while maintaining an intimate connection between the Wall of Remembrance and the existing Pool of Remembrance.

The existing memorial includes two low angled walls, including the 22 United Nations curbstone and the curb that defines an interior edge of the pool which lists the number of the casualties from the war. One minor modification to the existing memorial is proposed in the design. The existing UN Curb terminates on the east side at the edge of existing Plaza of Remembrance. Given that the paving is being extended out approximately 9 feet at the perimeter of the circular plaza, the existing curb would present a tripping hazard and circulation barrier if it were to remain. By shortening the overall length of the existing UN Curb by 5%, from 180 feet to 171 feet, the modified UN Curb

would align with the inside face of the Wall of Remembrance. In order to shorten the overall curb by 9 feet, the design proposes to decrease the individual country curb pieces and text to approximately 95% of the original length. The existing UN logo curb pieces that are between each country will not be modified given their square proportion. This does not conceptually change the existing memorial but rather modifies it in a discreet way in order to better incorporate the new Wall of Remembrance.

The proposed wall has a height of 3'8 ½" tall, reduced from the height of 3' 9 ¼" tall at the concept review. The wall will be approximately eight inches higher than the proposed berm. The wall includes a black granite frame around the perimeter. In response to comments under the concept review, the applicant has simplified the wall profile by removing the stone cap and lighting fixture at the top. In addition, the applicant modified the slope of the wall to lower the overall height and increase visibility to and from the memorial.

The new wall will intersect with the existing Mural Wall within the Plaza of Remembrance. The interface of the two walls creates a small space where the Wall of Remembrance ends and does not engage with the existing Mural Wall. In order to discourage visitors from attempting to use this space to access the memorial, the curved metal rail on posts near the base of the stone panels containing the lighting will be extended towards the Mural Wall, but not attaching to the Wall. The paving from the Plaza will be used in this space, and will remain flush with the ground level, with no curbs. Therefore, staff **notes the Wall of Remembrance's intersection with the existing Mural Wall has been revised to include a simple extension of the Wall of Remembrance's curved metal rail, with no lighting, and paving match the Plaza of Remembrance.**

South Side of Mural Wall

According to the submission materials, the names of the fallen will be on the sloped wall facing the Pool of Remembrance while additional information will be incorporated on the south side of the existing mural wall.

On the south side of the mural wall, NPS is proposing to include engraved text with additional information about the Korean War, including the number of members of the Armed Forces of the United States, the Korean Augmentation to the United States Army (KATUSA), the Republic of Korea Armed Forces, and the other nations of the United Nations Command. NPS is also proposing to include the United Nations Security Council Resolution as well as excerpts from the Armistice. The exact text has not been determined by the applicant. The applicant envisions the text will be limited to no more than five panels on the south side of the mural wall and there will be a panel between the new text and the existing dedication panel.

Lighting

As the existing Korean War Veterans Memorial has significant challenges with lighting at night, the applicant has submitted a lighting plan and night views of the proposed wall as well as the rest of the Memorial.

Lighting for the Wall of Remembrance will be achieved utilizing a curved metal rail on posts near the base of the stone panels. Evocative of an exhibit rail, this stainless-steel rail in a black oxidized finish will conceal the light fixtures while locating the light source in the ideal position for illuminating the names on the stone panels. The angle and position of the lights is such that they cannot be seen from outside the Memorial. Additionally, the rail will be a deterrent for climbing or misuse of the Wall of Remembrance.

To increase the visibility at night, the applicant will utilize a variety of LED lamps throughout the memorial, including replacing the existing mushroom light fixtures in the plaza under the Linden trees, with poles with LED canister lighting fixtures.

Based on the applicant's light plan and the night views, staff **finds that the overall lighting design for the memorial is relatively simple, improves needed night time visibility, and respects the hierarchy of memorials, monuments, and important civic buildings and spaces in the nation's capital, with the U.S. Capitol and Washington Monument the most prominent features in the nighttime skyline.**

Stormwater Management

The project will disturb 102,000 square feet. As the project will disturb more than 5,000 square feet of land, it will trigger the requirements included in the Department of Energy & Environment (DOEE) Stormwater Management Guidebook of 2013, as well as Section 438 of the Energy Independence and Security Act of 2007 (EISA).

Stormwater runoff leaves the Memorial site at four different locations, forming four separate Drainage Areas (DA). Drainage Area #1 runoff sheets off into the stand of trees southeast of the Memorial. Drainage Area #2 drains to an existing grate inlet (1557) where runoff is conveyed towards Independence Avenue via 6" pipe. Portion of the existing subdrains under the existing pavers are conveyed to DA #2. Drainage Area #3 consist of a small area south of the Mural Wall that is captured by existing grate inlet 1314. Drainage Area #3 also includes flow from Field of Service and the entire plaza surrounding the Pool of Remembrance. Drainage Area #3 outfalls by way of an existing 15" RCP towards Daniel French Drive SW. Drainage Area #4 is made up of everything north of the Field of Service and the north half slopes surrounding the new Wall of Remembrance. A series of existing storm inlets and pipes ultimately converge at existing grate inlet 375 where runoff is directed north via a 12" pipe.

Stormwater Retention Volume (SWRv)

The estimated required SWRv for the entire site is 3,113 CF. At least 50% of the required stormwater retention volume (SRv) for each drainage area must be provided in each respective area or a DOEE waiver claiming "extraordinarily difficult site conditions" must be applied for. If the minimum of 50% of the required SWRv can be met, then off-site retention credits may be used to provide the Site's remaining required SWRv. Below is a summary of the SWRv requirements for each Drainage Area and the proposed facilities necessary for compliance.

• Drainage Area #1 will likely need a waiver as the existing grades sheet away from the Memorial with no existing low point in the proposed LOD to provide a traditional BMP and the ability to grade the area is constrained by existing trees. These constraints have been coordinated with DOEE and no treatment will be required in Drainage Area #1 so long as the required SWRv is captured by the other three drainage areas. Roughly 22 existing trees within DA#1 will reduce the retention volume required to be made up in the other three drainage areas

• Drainage Area #2: SWRv req.= 185 CF

- BMP: Dry Swale

◦ Cross-section- 3" Ponding, 18" bioretention media, 12" No.57 aggregate, 6" perforated PVC underdrain with Surface Area= 383 SF

◦ Provided SWRv= 236 CF

• Drainage Area #3: SWRv req.= 1,989 CF

- BMP: Standard Bioretention

◦ Cross-section- 6" Ponding, 24" bioretention media, 12" No.57 aggregate, 6" perforated PVC underdrain with two cleanouts.

◦ Surface Area= 2,500 SF

◦ Provided SWRv= 2,139 CF

• Drainage Area #4: SWRv req.= 395CF

- BMP: Dry Swale

◦ Cross-section- 3" Ponding, 18" bioretention media, 12" No.57 aggregate, 6" perforated PVC underdrain with two cleanouts.

◦ Surface Area= 640SF

◦ Provided SWRv= 395 CF

The proposed SWRv provided by the entire site is 3,143 CF. It is assumed the two- year detention requirement does not apply to this project as the site discharge flows directly to storm sewer that outfalls into the Tidal Basin. This assumption will be discussed with DOEE. The fifteen-year detention requirement has been met by the proposed BMPs.

Energy Independence and Security Act of 2007 (EISA 438)

As a federal facility with construction disturbance exceeding 5,000 square feet, the Korean War Veterans Memorial Wall of Remembrance must be developed in compliance with EISA 438. The EISA LID volume required for reuse, evapotranspiration, or infiltration is 112 cubic feet.

The primary stormwater management practice employed is evapotranspiration via the Best Management Practice (BMP) plantings located within the bioretention area, and Bio-Swales. Stormwater will infiltrate into the soil media for storage for use by the BMP plantings and will be filtered for quality control prior to the stormwater discharging from the site. These practices are employed in order to ensure the 95% rainfall event of 1.7 inches is prevented from discharging off-site to the maximum extent technically feasible. The proposed best management practices

provide an accumulated storage volume of 3,143 cubic feet which meets and exceeds the required EISA 438 LID volume.

Landscaping

The memorial landscape design reinforces its formal composition. It is characterized by a commemorative grove, composed of two rows of linden trees around the Pool of Remembrance, that create a circle of pleached trees, and a triangular field of low juniper bushes emerging from the forest. The proposed design minimizes the amount of new hardscape and avoids impacts to existing trees.

The juniper located in the triangular field of service will be replaced with the dwarf juniper “blue pacific” species that was specified in the original memorial landscape plan. The original species was shorter and provided a better view of the narrow granite bands. The existing two rows of Linden trees around the Pool of Remembrance will remain. Eight red maples will be planted, and shrubbery will consist of Blue Pacific Juniper and Korean spice Viburnum.

New double-width benches for seating and reflection under the linden trees have been incorporated to provide additional seating at the memorial. This enables visitors to view both the Pool of Remembrance and the Wall of Remembrance from a shaded area.

CONFORMANCE TO EXISTING PLANS, POLICIES AND RELATED GUIDANCE

Comprehensive Plan for the National Capital

As noted above, this project meets basic goals of the Comprehensive Plan. In particular, the Urban Design, Federal Environment, Historic Preservation, Visitor and Commemoration, and Parks and Open Space Elements. The Urban Design element encourages agencies to respect the National Mall’s historic open space and monumental character for the benefit of future generations. The proposed design minimally increases the circular plaza to protect the experience of the National Mall as a public space within a parklike setting. The low wall respects existing lines of sight from the National Mall and the existing memorial. The project will increase access to a major destination.

The Historic Preservation Element encourages federal agencies to protect the settings, including viewsheds, greenspaces, and tree canopies, of historic properties, as integral parts of the property’s historic character. The proposed Wall of Remembrance is compatible with the qualities and character of the existing memorial and the National Mall. The Visitors and Commemoration Element encourages agencies to enhance visual and functional connections to visitor attractions through well designed pathways, streetscaping, and programming. The proposed pathways will improve access and circulation. In addition, the project is consistent with policies that encourage agencies to design commemorative works with durable materials and sustainable landscape features.

Lastly, the Parks and Open Space Element contains policies that aim to consider the original design intent when making adaptations or improvements to designed landscapes and maintain and improve a strong physical and/or visual connectivity with the surrounding context. The proposed Wall of Remembrance is consistent with the original memorial design.

National Mall Plan

The project is generally consistent with the National Mall Plan, which was approved by the Commission in December 2010, because it will improve circulation. The National Mall plan proposed widening the walkways on the west side of the memorial to accommodate changing circulation patterns and group visitation.

Commemorative Works Act

The Commemorative Works Act (CWA) states that in considering site and design proposals, NCPC shall be guided by the following criteria: 1) surroundings, 2) location, 3) material, 4) landscape features, 5) museums, 6) site-specific guidelines, and 7) donor contributions. The applicable criteria for this proposal relate to materials and landscape. Based on the CWA, a commemorative work shall be constructed of durable materials suitable to the outdoor environment, while landscape features shall be compatible with the climate. Staff evaluated the design against these criteria.

National Historic Preservation Act

The Korean War Veterans Memorial is a contributing site to the National Mall Historic District and is also within the boundaries of the East and West Potomac Parks Historic District. Both districts are listed in the National Register of Historic Places and the DC Inventory of Historic Sites. NCPC and NPS each have an independent responsibility to comply with Section 106 of the National Historic Preservation Act (NHPA). NPS formally initiated Section 106 consultation with the District of Columbia Historic Preservation Office on August 5, 2019. NPS determined that the project does not result in adverse effects to historic properties. The DC SHPO concurred with the determination of no adverse effect on January 17, 2020.

National Environmental Policy Act

NCPC and NPS each have an independent responsibility to comply with the National Environmental Policy Act (NEPA); NCPC's responsibility stems from its approval authority over the project. Pursuant to Section 601.12 of NCPC's NEPA Regulations, NCPC staff has determined that the project may be categorically excluded from further environmental analysis based on categorical exclusion #2, which pertains to the "approval of the installation or restoration of minor site elements, such as but not limited to identification signs, sidewalks, patios, fences, curbs, retaining walls, landscaping, and trail or stream improvements." Prior to applying this categorical exclusion, NCPC staff determined that no extraordinary circumstances were present as required by the Commission's NEPA Regulations under § 601.11. NPS is also using a categorical exclusion to meet their NEPA compliance responsibilities.

CONSULTATION

National Capital Memorial Advisory Commission

On September 14, 2011, the National Capital Memorial Advisory Commission (NCMAC) reviewed the legislation to authorize a Wall of Remembrance as part of the Korean War Veterans Memorial. As required under CWA, NPS consulted with the NCMAC on the memorial design in March 2020.

Coordinating Committee

The Coordinating Committee reviewed the proposal at its April 15, 2020 meeting. Without objection, the Committee forwarded the proposed comments on concept plans to the Commission with the statement that the proposal has been coordinated with all participating agencies. The participating agencies were NCPC; the National Park Service; the US General Services Administration; the Washington Metropolitan Area Transit Authority; the District of Columbia Office of Planning; the District of Columbia State Historic Preservation Officer, and the District Department of Energy and Environment.

U.S. Commission of Fine Arts

The U.S. Commission of Fine Arts approved the final design for the Korean War Memorial Wall of Remembrance at its April 16, 2020 meeting. See attached letter.

ONLINE REFERENCE

The following supporting documents for this project are available online at www.ncpc.gov:

- Submission Package

Prepared by Lee Webb
04/14/2020

POWERPOINT (ATTACHED)

Korean War Veterans Memorial Wall of Remembrance

Daniel French Drive and Independence Avenue, Washington DC

Approval of Preliminary and Final Site Development Plans

United States Department of the Interior

Project Summary

Commission Meeting Date: May 7, 2020

NCPC Review Authority: 40 U.S.C. § 8905

Applicant Request: Approval of Preliminary and Final Site Development Plans

Session: Open

NCPC Review Officer: Lee Webb

NCPC File Number: 8107

Project Summary:

The National Park Service, on behalf of the Korean War Veterans Memorial Foundation, Inc (KWVM), has submitted the Korean War Veterans Memorial Wall of Remembrance for preliminary and final review. The project entails the addition of a Wall of Remembrance to the Korean War Veterans Memorial. Constructed in 1995, the memorial is located to the south east of the Lincoln Memorial on the National Mall, adjacent to the US Park Police Stables. The Commission provided comments on the concept designs at the October 5, 2019 meeting.

On October 7, 2016, Congress passed the “Korean War Veterans Memorial Wall of Remembrance Act” (Public Law 114–230). The Act authorized the KWVM to construct a Wall of Remembrance at the site of the Korean War Veterans Memorial. According to the Act, the Wall of Remembrance shall include a list of names of members of the Armed Forces of the United States who died in the Korean War, as determined by the Secretary of Defense. The Wall of Remembrance may include other information about the Korean War, including the number of members of the Armed Forces of the United States, the Korean Augmentation to the United States Army, the Republic of Korea Armed Forces, and the other nations of the United Nations Command who, in regard to the Korean War A) were killed in action; (B) were wounded in action; (C) are listed as missing in action; or (D) were prisoners of war. There are 36,574 killed in action from the Korean War, including 7,900 missing in action. These killed and missing service members will be remembered by the proposed Wall of Remembrance to be added to the existing Korean War Veterans Memorial.

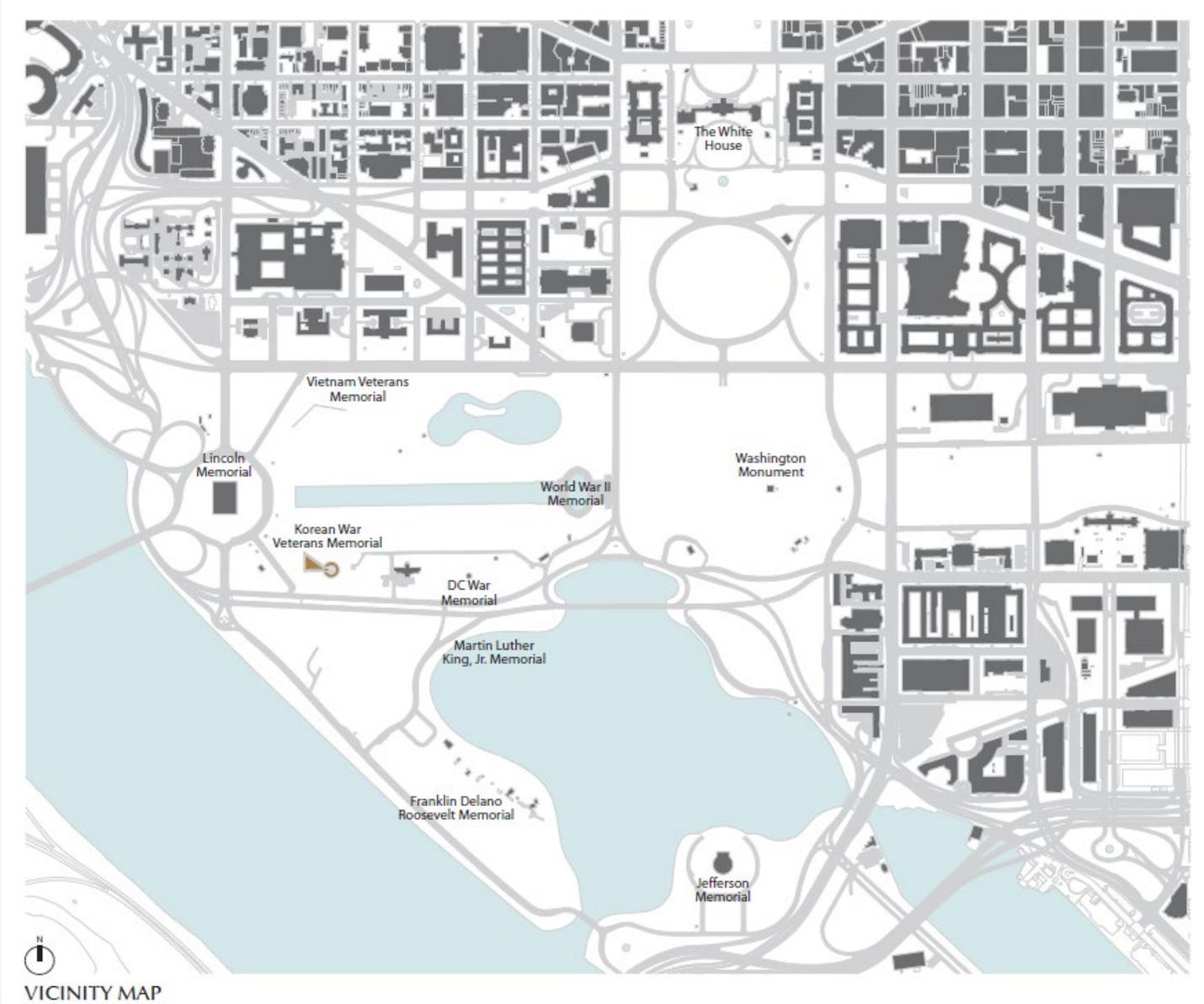
Construction will begin in April 2021. The memorial, including the new Wall of Remembrance, will reopen on July 27, 2022.

Site Location



Location Map

Korean War Veterans Memorial Location Vicinity Map



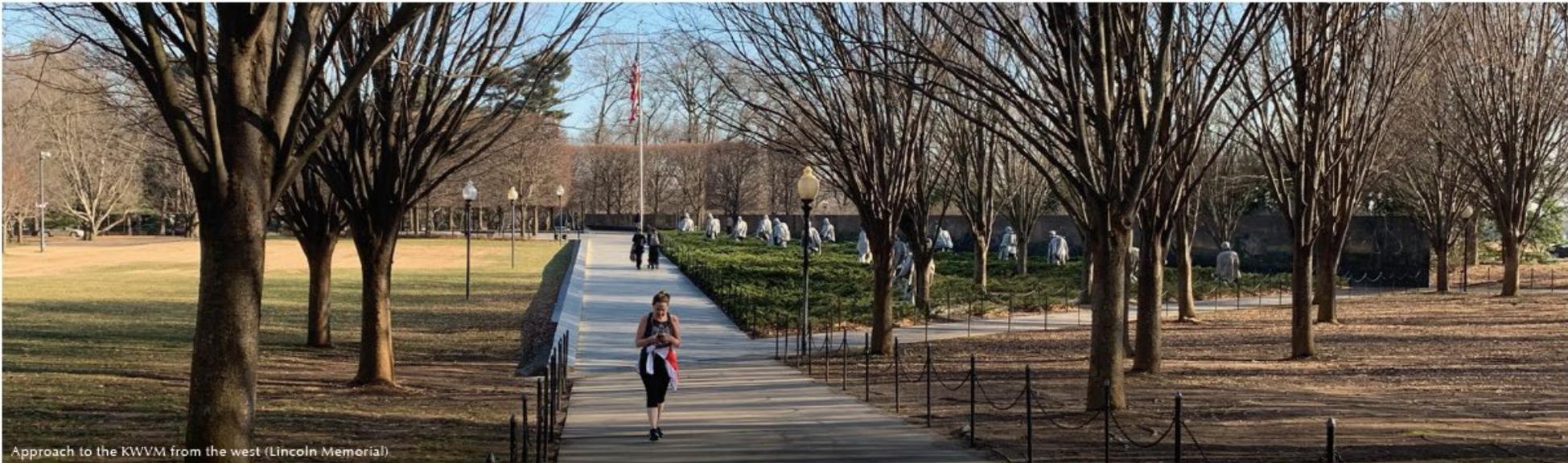
Project Summary

Summary

This project proposes the addition of a Wall of Remembrance to the Korean War Veterans Memorial. This memorial, constructed in 1995, is located to the south east of the Lincoln Memorial on the National Mall.

About ten years ago, the KWVM Foundation started an effort to honor the servicemen who did not return. The 114th Congress passed Public Law #230 authorizing a Wall of Remembrance at the memorial and it was signed into law by President Obama in October 2016. There are approximately 44,574 killed in action (KIAs) from the Korean War; this number includes the approximately 7,900 missing in action (MIAs). These killed and missing service members will be remembered by the proposed Wall of Remembrance to be added to the existing Korean War Veterans Memorial.

We anticipate that the design and approval process will be ongoing through 2020. Construction will begin in April of 2021 and the Memorial, including the new Wall of Remembrance, will reopen on July 27, 2022.



Existing Conditions

Existing Conditions

The Korean War Veterans Memorial is a contributing site to the National Mall Historic District and is also within the boundaries of the East and West Potomac Parks Historic District. Both districts are listed in the National Register of Historic Places and in the DC Inventory of Historic Sites.

The existing memorial is described by the National Park Service as follows:

The Korean War Veterans Memorial is a tribute to the perseverance and solidarity of the many Americans, and people from other nations, who sacrificed and served for the cause of freedom and the defense of the Republic of South Korea. The memorial is a vivid and enduring expression of America's gratitude.

The Korean War Veterans Memorial was authorized on October 28, 1986 to honor members of the United States Armed Forces who served in the Korean War. On September 16, 1988, Congress approved the present site of the Memorial. That decision placed the Memorial adjacent to the Lincoln Memorial, directly across the Reflecting Pool and the Vietnam Veterans Memorial in Washington, D.C. In 1989 a design developed by a group of architects from State College, Pennsylvania was selected from a national design competition. In 1991 the Army Corps of Engineers officially selected Cooper-Lecky Architects in Washington, D.C. to develop and complete the project. Frank Gaylord of Barre, Vermont was selected as the sculptor for the 19 stainless steel ground troopers in the composition; Louis Nelson Associates of New York City, was selected to develop the etched granite mural; Henry Arnold of Princeton, New Jersey was the landscape architect.

The Memorial has two components, a triangular Field of Service and a Pool of Remembrance. In the Field, 19 battle-clad foot soldiers advance toward the flag. A polished granite wall reflects the scene, intermingling the soldiers with etched faces of supporting forces. The over 2,500 faces are taken from archival photographs, making the mural representative of all who served. The names of the 22 nations who supported the United Nations' actions are etched on a low curb. Beyond the flagpole, a grove of linden trees surrounds the circular Pool of Remembrance, which provides a setting for quiet reflection. Inscribed at its focal point, below the American flag, is the underlying message of the Memorial: "Our nation honors her sons and daughters who answered the call to defend a country they never knew and a people they never met!"

Additional elements of the existing memorial include a low granite curb that defines an interior edge of the pool which lists the number of the casualties (dead, captured, wounded) from the war for both the United States and the United Nations. Opposite that curb are the words "Freedom is not Free" inscribed on the tall granite wall face that extends into the Pool of Remembrance.

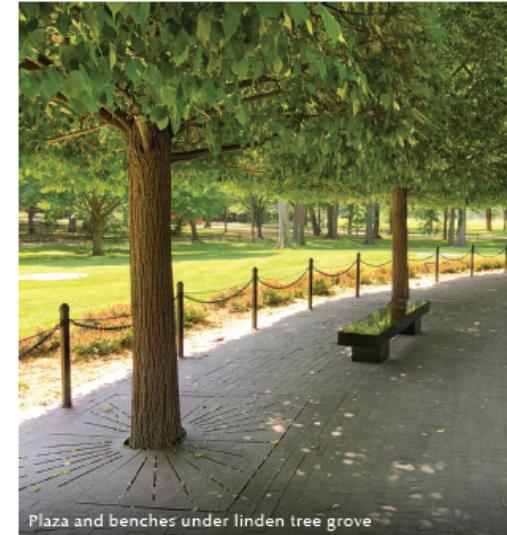
Enabling Legislation

In October 2016, Congress authorized a Wall of Remembrance "at the site of the Korean War Veterans Memorial."² The legislation authorized the Wall of Remembrance to "list the names of the members of the Armed Forces of the United States who died in the Korean War."³ It also authorized the inclusion of additional information about the Korean War, including "the number of members of the Armed Forces of the United States, the Korean Augmentation to the United States Army (KATUSA), the Republic of Korea Armed Forces, and the other nations of the United Nations Command."⁴ All of this information has been integrated into the proposed design.

1 National Park Service Pamphlet, 1995
2 P.L. 114-230, 130 Stat. 947, October 7, 2016
3 P.L. 114-230, §2(a)(2)(A)
4 P.L. 114-230, §2(a)(3)



Pool of Remembrance



Plaza and benches under linden tree grove



Soldiers in the Field of Service

Project Design Concept

Design Concept

The goal of adding the Wall of Remembrance is to remember the missing and killed in action by adding their names to the Memorial. In developing the concept for the Wall, we had numerous other guiding principles:

1. Maintain the integrity of the original Memorial design
2. Minimize the impact of the proposed wall as viewed from adjacent mall areas
3. Incorporate the new wall as if it had been part of the original design
4. Limit the area of names to less than the name area on the Vietnam Veterans Memorial (VVM)

To address principle #4 above, a series of calculations and studies were completed. Based on the tabulation of the granite area and corresponding area of names at the VVM, we determined that the wall area utilized for names at the Wall of Remembrance should be less than 2,600 square feet. All design alternatives that were pursued met this criterion. The proposed design utilizes 7/16" high letters with text arranged in 5'-2" tall columns with 5 columns on each 3'-10" wide panel. With this layout, approximately 100 panels will be needed to list all the names of the fallen and necessitates at least 380 linear feet of wall length. These considerations were made through consultations with the Korean War Veterans Memorial Foundation but may be adjusted pending receipt of the final list of names (to be provided by the Department of Defense).



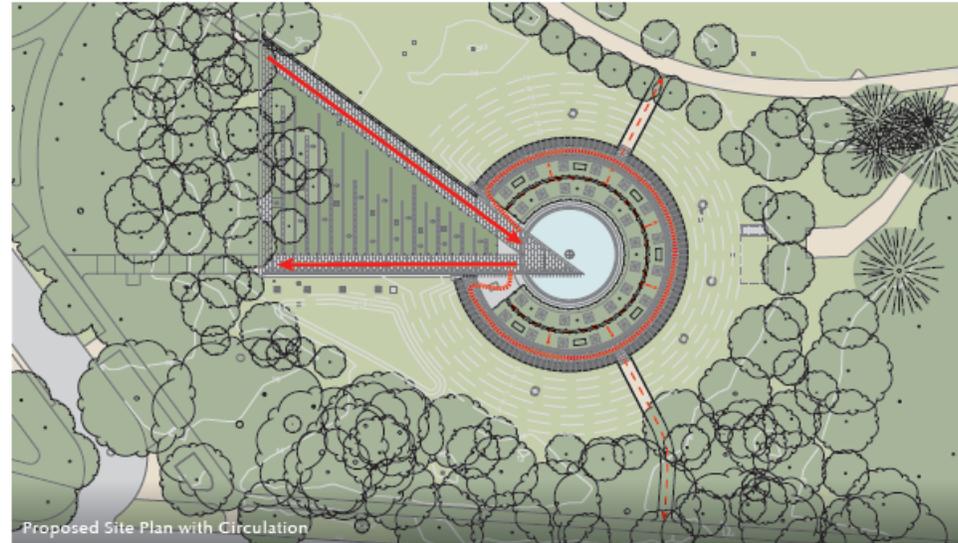
Korean War Veterans Memorial Wall of Remembrance - Surface Area Analysis

DESCRIPTION	WALL LENGTH	WALL AREA	TEXT AREA	PERCENTAGE OF TEXT
Vietnam Veterans Memorial	493'-6"	3,003	2,613	87%
1/2" high letters, 3'-4" wide panels, 144 panels* with running text				
Korean War Veterans Memorial Wall of Remembrance Proposed Design	389'-0"	2,140	1,945	91%
7/16" high letters, 3'-8" wide panels, 5'-0" tall columns - 5 per panel, 102 panels				

*Wall height of Vietnam Veterans Memorial varies.

In addition to the four guiding principles listed above, we desire to provide a better edge to the circle of paving around the Pool of Remembrance, currently defined by a post and chain fence and two rows of barberry shrubs. Another consideration is to formally incorporate the "desire lines" of pedestrian travel from the Memorial to Ash Road and to Independence Avenue.

The proposed design provides a low, angled wall surrounding the original memorial. Leaving the existing memorial plaza intact, the paving around the Pool of Remembrance will be extended outward, expanding the circle outside the two rows of linden trees. At a radius of 73 feet 6 inches, the new granite wall will provide the wall length needed to list the US and KATUSA names as well as provide enclosure to the memorial space. The names of the fallen will be on the sloped wall facing back to the Pool of Remembrance while the additional information will be incorporated on the south side of the existing mural wall.



Proposed Site Plan with Circulation



Proposed Wall of Remembrance

Project Description

The views from around the memorial will be changed only modestly. The existing berm from the surrounding landscape will be raised upward to conceal most of the new wall; views to the space under the linden trees and to the letters inscribed in the wall at the Pool of Remembrance "Freedom is not Free" will be retained.

Most visitors begin their visit from the west, predominately coming from the Lincoln Memorial. They walk along the Field of Service and arrive at the Pool of Remembrance. From this point, some walk around the pool, some sit on the benches under the lindens, and some walk directly along the path next to the Mural Wall, arriving back at Daniel French Drive to the west. This pedestrian circulation will be maintained, with the additional option of walking along the Wall of Remembrance.

The new paving and wall will be constructed of the same granite used in the original memorial: Academy Black. Paving adjacent to the Wall of Remembrance will be large format similar to the granite pavers at the existing paths of the memorial and will continue the radial pattern from the pool. The wall will be of polished granite with the names sandblasted and highlighted into the finish. The intention is to maximize the contrast between background and lettering. The granite wall will end at a modestly visible distance above the berm as it transitions to the grass of the mall surrounding the Memorial.

One minor modification to the existing memorial is proposed in the design. The existing UN Curb terminates on the east side at the edge of existing Plaza of Remembrance. Given that the paving is being extended out approximately 9 feet at the perimeter of the circular plaza, the existing curb would present a tripping hazard and circulation barrier if it were to remain. By shortening the overall length of the existing UN Curb by 5%, from 180 feet to 171 feet, the modified UN Curb would align with the inside face of the Wall of Remembrance. In order to shorten the overall curb by 9 feet, the design proposes to decrease the individual country curb pieces and text to approximately 95% of the original length. The existing UN logo curb pieces that are between each country will not be modified given their square proportion. We feel this does not conceptually change the existing memorial but rather modifies it in a discreet way in order to better incorporate the new Wall of Remembrance.

Some visitors continue their tour of the mall by walking directly from the Pool of Remembrance to Ash Road and onward to the National World War II Memorial. Others walk from the plaza to Independence Avenue and from there to the Martin Luther King Memorial. We propose to enhance these paths by breaking the Wall of Remembrance at two points to allow pedestrians to access both Ash Road to the north and Independence Avenue to the south without stepping over plant material, walls, or chains.

Lighting for the Wall of Remembrance will be achieved utilizing a curved metal rail on posts near the base of the stone panels. Evocative of an exhibit rail, this stainless-steel rail in a black oxidized finish will conceal the light fixtures while locating the light source in the ideal position for illuminating the names on the stone panels. The angle and position of the lights is such that they cannot be seen from outside the Memorial. Additionally, the rail will be a deterrent for climbing or mis-use of the Wall of Remembrance.

Once the final list of names is received from the Department of Defense, anticipated early summer of 2020, a final layout of names of the fallen will be submitted for review.

As part of the scope of this project we will also be rehabilitating the existing memorial. This includes: repairing causes of differential settlement in paved areas around the pool, replacing the tree grates, repairing the joints in and around the fountain, replacing sandblasted country names and casualty curb information with stainless steel letters, refinishing the stainless steel statues, replacing the juniper in the Field of Service with the originally specified plant material, addressing drainage issues at the west end of the memorial and replacing and enhancing the existing memorial lighting with LED lamps.



Previous Commission Comments

Previous Commission Comments

The following comments were received at the NCPC Concept Review on October 3, 2019. Our response follows each of the comments.

- 1. Requests** that NPS further evaluate how many visitors would be likely to access the memorial from the proposed Independence Avenue connection.
While we aren't able to quantify the number of people that would access the memorial from the proposed Independence Avenue connection, we can state that the desire lines from both Independence and Ash Road are utilized on a daily basis by visitors to the National Mall. Whereas the proposed connection to Ash Road will improve connectivity to the Mall to the north, the proposed connection to Independence on the south will provide connection for those visitors that are heading to MLK Memorial or West Potomac Park. Additionally, the two proposed paths balance each other in the overall design and provide added egress from the plaza for safety measures.
- 2. Requests** that the applicant address the following comments regarding the wall visibility, angle, and finish to improve the preferred concept design:
 - Consider simplifying the wall profile to soften the transition into the landscape and maintain open views between the existing memorial components and the National Mall.
We have simplified the wall profile by removing the stone cap and lighting fixture at the top. In addition, we modified the slope of the wall to lower the overall height and increase visibility to and from the memorial.
 - Provide a mockup on-site of a segment of the proposed wall to evaluate how the reflective finish and angle impact glare and legibility, as well as visual impacts to the memorial and surrounding context.
A mock-up was provided on-site on March 2, 2020 and reviewed by members of NCPC, CFA, NPS, KWVMF and the design team. As a result of that mock-up, we confirmed that a polished finish was preferable and that the names were legible in all orientations. Additionally, a lighting mock-up was conducted later that evening where we determined that the original design concept of lighting the panels from a concealed fixture at the top of the panels was ineffective. There was glare from the light source at certain angles and the spread of light didn't transfer across the panels. Locating the light source horizontally at the lower end of the panels provided uniform light across the panels; this prompted the revision to the concept lighting design.
- 3. Recommends** that the applicant provide a landscape plan at preliminary review that incorporates the following components:
 - Low impact development features integrated into the proposed berm to comply with federal and local stormwater management regulations.
Landscape and Stormwater Management plans are provided in this document.
 - Benches along the proposed walkway that connects to Ash Road to allow for opportunities for rest and contemplation, and if possible, in areas of shade.
Double-width benches for seating and reflection under the linden trees have been incorporated to provide additional seating at the memorial. This enables visitors to view both the Pool of Remembrance and the Wall of Remembrance from a shaded area.
- 4. Requests** that the applicant provide the following information:
 - A lighting plan and night views of the proposed wall consistent with the overall lighting design for the memorial that respects the hierarchy of memorials, monuments, and important civic buildings and spaces in the nation's capital, with the U.S. Capitol and Washington Monument the most prominent features in the nighttime skyline.
Lighting Plans and night views are included in this document.
 - Details showing the proposed improvements to the back side of the existing mural wall and how the Wall of Remembrance will terminate at the Mural Wall.
We have provided details and renderings of the back side of the existing wall and details of the wall termination in this document.
 - Eye-level views from Independence Avenue looking north to better understand the impacts of the proposed design.
We have provided eye-level views from Independence Avenue.

Outreach and Coordination

Public outreach occurred through the Section 106 process, consultation with NCPC and the U.S. Commission of Fine Arts (CFA), and through the National Capital Memorial Advisory Commission (NCMAC). The NPS and the Foundation conducted a Section 106 consulting parties meeting on October 11, 2019 and opened up public comment for two weeks. During the period, the NPS received four comments that expressed concern about the addition of pathways, the ongoing cumulative effort of the militarization of commemoration in the western portion of the National Mall, the addition of a funerary component to the existing Korean War Veterans Memorial, accessibility of reading names on the Wall of Remembrance, and the lack of a repository for mementoes. NCPC, CFA, and NCMAC considered the project at commission meetings on October 3, 2019; September 19, 2019; and February 11, 2020, respectively. Because the project has been determined as a Categorical Exclusion by the NPS, no public comment opportunity was afforded through the NEPA process. Documentation of agency reviews is provided in Appendix A.

Environmental and Historical Considerations

The NPS will continue to adhere to the National Environmental Policy Act (NEPA) and Section 106 of the National Historic Preservation Act (Section 106). As mentioned previously, the NPS has determined a Categorical Exclusion is the appropriate level of NEPA documentation for this project and would therefore not result in significant adverse impacts on environmental resources. In addition to the Section 106 meeting, the District of Columbia Historic Preservation Office concurred that the project would result in no adverse effect on historic properties on January 17, 2020.

Public Realm and View Sheds

Some tree and plant removal will be required in order to accommodate the proposed design and associated stormwater management strategies. Eight existing red maple trees at the north end of the project, all in poor health, will be replaced with the same species in similar locations. On the south side of the site, the overgrown existing Rose of Sharon shrubs and additional trees of various species will be removed as they conflict with the new berm and bioswale. New Koreanspice Viburnums will be incorporated at the edge of the woodland area to provide screening and act as a transition from the large scale trees to the lawn of the memorial. Finally, the existing juniper shrubs in the Field of Service will be replaced with the originally specified plant material.

The view from the entrance to the Memorial at the west end of the site will not be changed. The views from around the Memorial will be changed only modestly because the existing berm from the surrounding landscape will be raised upward to conceal most of the new wall. Views to the space under the linden trees and to the letters inscribed in the wall at the Pool of Remembrance "Freedom is not Free" will be retained.

The new Wall of Remembrance is very low in height and does not affect light and shadow within the existing memorial.

There will be no perimeter security features.

Floodplain and Flooding Impacts Information

Floodplain and Flooding Impacts

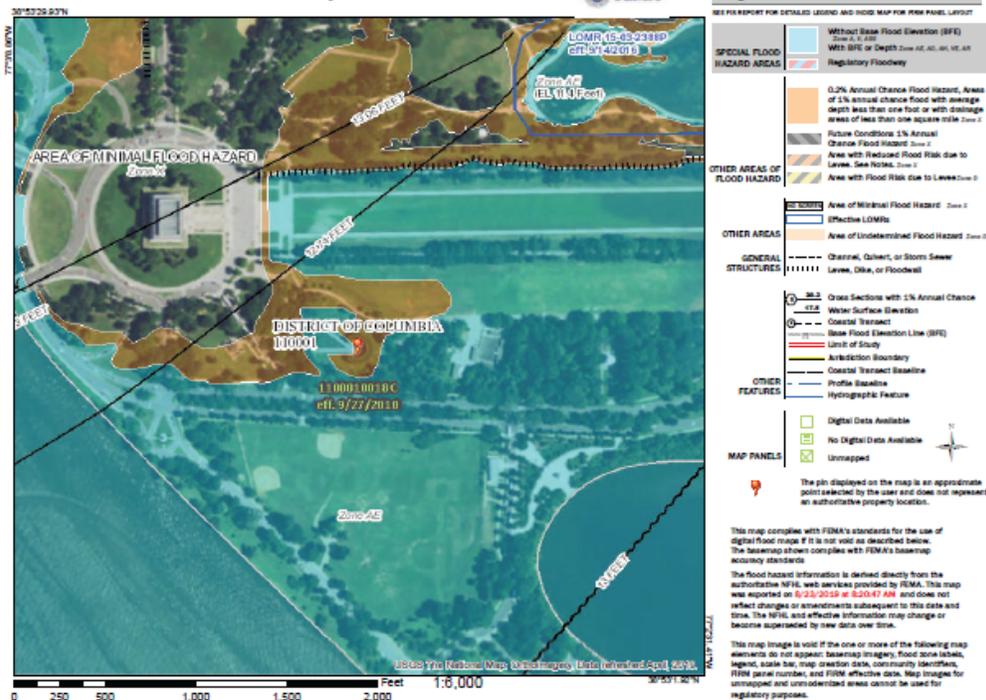
The proposed Wall of Remembrance is not classified as a critical action activity as defined by E.O. 11988. The project will include earthwork which could possibly have a minor impact on the floodplain limits but it does not appear the project will impact or be impacted by neighboring properties.

The Wall of Remembrance will require earthwork to ensure the new memorial ties into the existing plaza with little slope. The majority of the existing site is classified by FEMA as an Area of 0.2% (500-year) Annual Chance of Flood Hazard, Zone X (shaded). This means much of the proposed work will likely see less than 1' of flood water depth during a 100-year storm event.

Earthwork will be limited to the maximum extent possible while providing an ADA accessible site and the desired visitor experience.

The proposed earthwork will take place in Zone X while the portions of the site located in Zone AE (100-year floodplain) are outside the limits of construction.

National Flood Hazard Layer FIRMette



Schedule

Design Phase or Process	start date	end date
Design Development	12/24/19	3/16/20
Construction Drawings	3/17/20	8/28/20
Construction	4/20/21	4/21/22
NEPA process	8/5/19	4/2/20
NHPA process	8/5/19	1/17/20

Project Cost and Funding

The overall project cost is estimated to be \$30M for design, construction, management and QA. Close to \$3M has been raised to date, with a significant pledge to cover construction costs from the Republic of Korea.

Stormwater Management

Site Outfalls

Stormwater runoff leaves the Memorial site at four different locations, forming four separate Drainage Areas (DA). Drainage Area #1 runoff sheets off into the stand of trees southeast of the Memorial. Drainage Area #2 drains to an existing grate inlet (1557) where runoff is conveyed towards Independence Avenue via 6" pipe. Portion of the existing subdrains under the existing pavers are conveyed to DA #2. Drainage Area #3 consist of a small area south of the Mural Wall that is captured by existing grate inlet 1314. Drainage Area #3 also includes flow from Field of Service and the entire plaza surrounding the Pool of Remembrance. Drainage Area #3 outfalls by way of an existing 15" RCP towards Daniel French Drive SW. Drainage Area #4 is made up of everything north of the Field of Service and the north half slopes surrounding the new Wall of Remembrance. A series of existing storm inlets and pipes ultimately converge at existing grate inlet 375 where runoff is directed north via a 12" pipe.

Stormwater Retention Volume (SWRv)

The estimated required SWRv for the entire site is 3,113 CF. At least 50% of the required stormwater retention volume (SRv) for each drainage area must be provided in each respective area or a DOEE waiver claiming "extraordinarily difficult site conditions" must be applied for. If the minimum of 50% of the required SWRv can be met then off-site retention credits may be used to provide the Site's remaining required SWRv.

Below is a summary of the SWRv requirements for each Drainage Area and the proposed facilities necessary for compliance.

- Drainage Area #1 will likely need a waiver as the existing grades sheet away from the Memorial with no existing low point in the proposed LOD to provide a traditional BMP and the ability to grade the area is constrained by existing trees. These constraints have been coordinated with DOEE and no treatment will be required in Drainage Area #1 so long as the required SWRv is captured by the other three drainage areas. Roughly 22 existing trees within DA#1 will reduce the retention volume required to be made up in the other three drainage areas
- Drainage Area #2: SWRv req.= 185 CF
 - BMP: Dry Swale
 - Cross-section- 3" Ponding, 18" bioretention media, 12" No.57 aggregate, 6" perforated PVC underdrain with two cleanouts.
 - Surface Area= 383 SF
 - Provided SWRv= 236 CF

Drainage Area Information

- Drainage Area #3: SWRV req.= 1,989 CF
 - BMP: Standard Bioretention
 - Cross-section- 6" Ponding, 24" bioretention media, 12" No.57 aggregate, 6" perforated PVC underdrain with two cleanouts.
 - Surface Area= 2,500 SF
 - Provided SWRV= 2,139 CF
- Drainage Area #4: SWRV req.= 395CF
 - BMP: Dry Swale
 - Cross-section- 3" Ponding, 18" bioretention media, 12" No.57 aggregate, 6" perforated PVC underdrain with two cleanouts.
 - Surface Area= 640SF
 - Provided SWRV= 395 CF

The proposed SWRV provided by the entire site is 3,143 CF.

Note, it is assumed the 2 year detention requirement does not apply to this project as the site discharge flows directly to storm sewer that outfalls into the Tidal Basin. This assumption will be discussed with DOEE. The 15 year detention requirement has been met by the proposed BMPs.

Energy Independence and Security Act of 2007 (EISA 438)

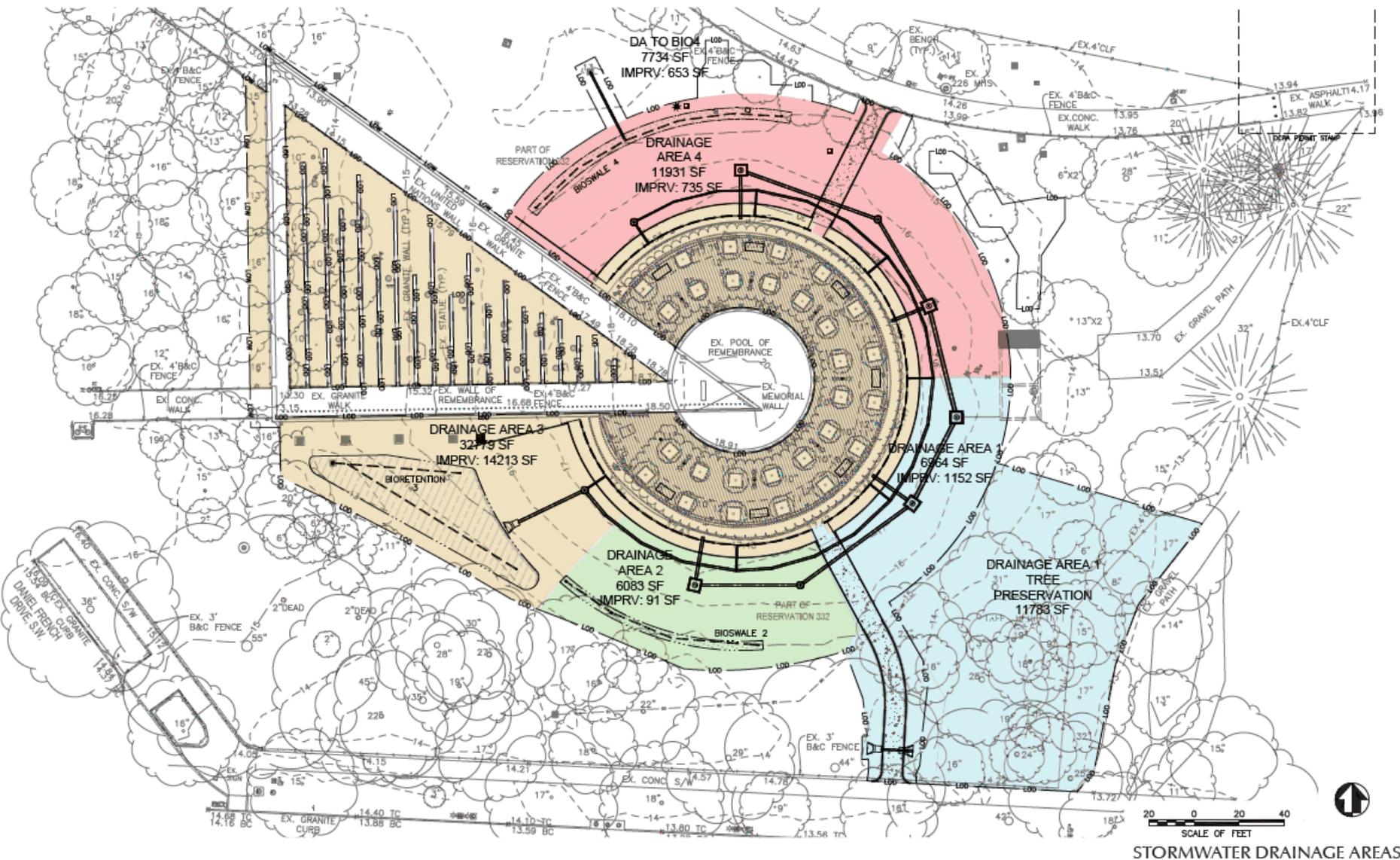
As a federal facility with construction disturbance exceeding 5,000 square feet, the Korean War Veterans Memorial Wall of Remembrance must be developed in compliance with EISA 438. The EISA LID volume required for reuse, evapotranspiration, or infiltration is 112 cubic feet.

The primary stormwater management practice employed is evapotranspiration via the Best Management Practice (BMP) plantings located within the bioretention area, and Bio-Swales. Stormwater will infiltrate into the soil media for storage for use by the BMP plantings and will be filtered for quality control prior to the stormwater discharging from the site. These practices are employed in order to ensure the 95% rainfall event of 1.7 inches is prevented from discharging off-site to the maximum extent technically feasible.

The proposed best management practices provide an accumulated storage volume of 3,143 cubic feet which meets and exceeds the required EISA 438 LID volume.

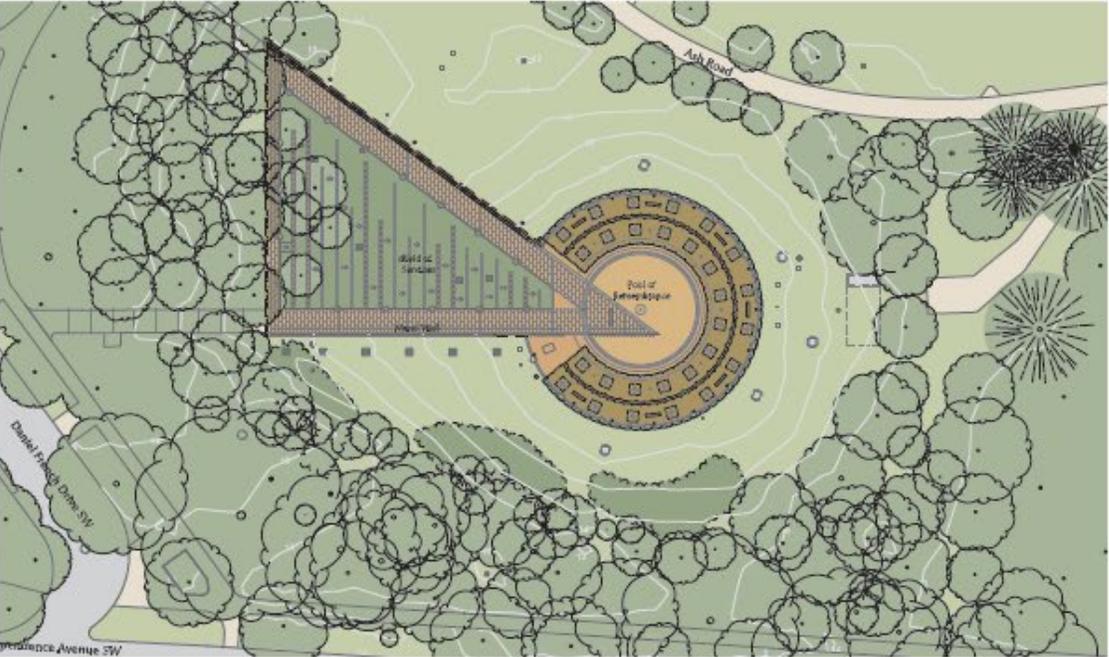
KWVM EISA					
P (95% Storm Depth) (inch)		1.7			
Soil Type(s)		Hydrologic Soil Grade			
Soil 1		A			
Soil 2		B			
Soil 3		C			
Soil 4		D			
		Land Use Description		NRCS Curve Number	
Cover Type 1		Forest, Soil A		30	
Cover Type 2		Turf, Soil A		39	
Cover Type 3		Forest, Soil B		55	
Cover Type 4		Turf, Soil B		61	
Cover Type 5		Forest, Soil C		70	
Cover Type 6		Turf, Soil C		74	
Cover Type 7		Forest, Soil D		77	
Cover Type 8		Turf, Soil D		80	
Existing Impervious Cover		Impervious (Roofs, Paved Areas)		98	
User Defined Cover Type		description			
Site Area					
Pre-Development			Post Development		
	Land Use Description	Area [acre]		Land Use Description	Area [acre]
Cover Type 1	Forest, Soil A	0	Cover Type 1	Forest, Soil A	0
Cover Type 2	Turf, Soil A	0	Cover Type 2	Turf, Soil A	0
Cover Type 3	Forest, Soil B		Cover Type 3	Forest, Soil B	
Cover Type 4	Turf, Soil B		Cover Type 4	Turf, Soil B	
Cover Type 5	Forest, Soil C		Cover Type 5	Forest, Soil C	
Cover Type 6	Turf, Soil C	1.26	Cover Type 6	Turf, Soil C	1.22
Cover Type 7	Forest, Soil D		Cover Type 7	Forest, Soil D	
Cover Type 8	Turf, Soil D		Cover Type 8	Turf, Soil D	
Existing Impervious Cover	Impervious (Roofs, Paved Areas)	0.33	Impervious Cover	Impervious (Roofs, Paved Areas)	0.37
User Defined Cover Type	description		User Defined Cover Type	description	
Total Pervious Area [acre]		1.26	Total Pervious Area [acre]		1.22
Total Impervious Area [acre]		0.33	Total Impervious Area [acre]		0.37
Total Area [acre]		1.59	Total Area [acre]		1.59
Pre-Development Weighted Curve Number		79	Post Development Weighted Curve Number		80
Potential Maximum Retention After Runoff Begins (S)					
S _a = (1000/CN) - 10					
S _{pre} [inch]		2.661			
S _{post} [inch]		2.565			
Runoff Depth (Q)					
Q _a = (P-0.25) / (P+0.85)					
Q _{pre} [inch]		0.356			
Q _{post} [inch]		0.375			
Q [inch]		0.019			
Q [feet]		0.002			
LID Volume (V _{LID})					
V _{LID} = Q * A					
V _{LID} [cf]		111.7	V _{LID} is the LID volume for reuse or infiltration		

Stormwater Drainage Areas

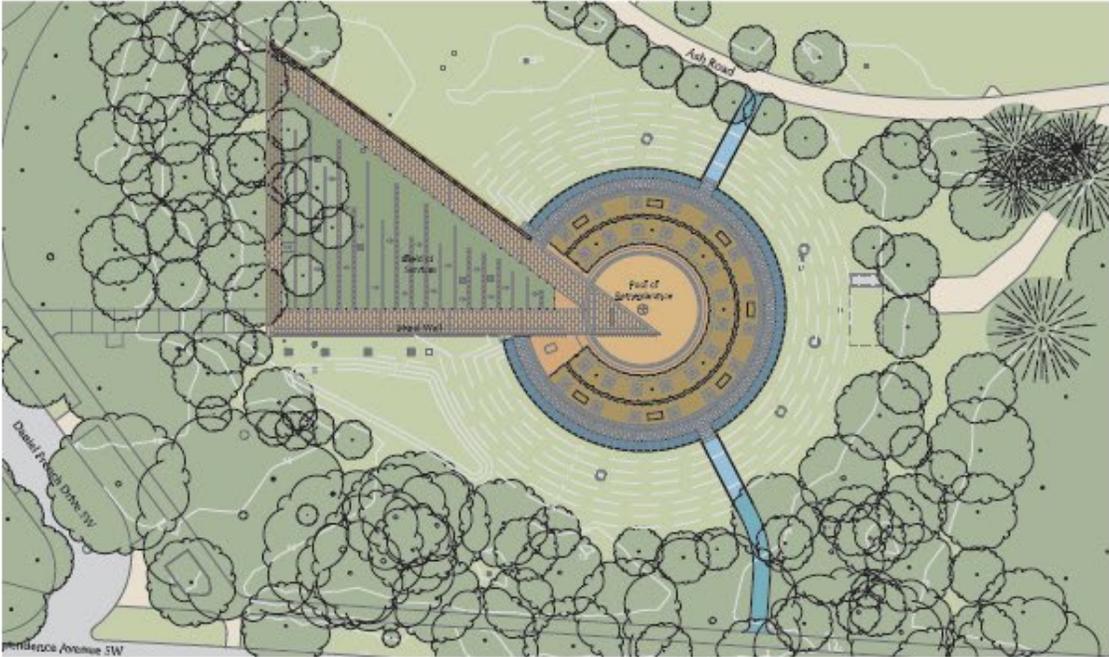


STORMWATER DRAINAGE AREAS

Impervious Area Diagrams



EXISTING SITE PLAN



PROPOSED SITE PLAN

<u>IMPERVIOUS AREA CALCULATIONS</u>		
	EXISTING AREA	18,975 SF
	ADDITIONAL AREA (PROPOSED)	7,577 SF
	<i>PATHS</i>	1,642 SF
	<i>WALL OF REMEMBRANCE AND PAVING</i>	5,935 SF
	TOTAL IMPERVIOUS AREA	26,552 SF

Existing Site Photos



View from Northwest Memorial Entry



View from North Pathway Looking South



View of Pool of Remembrance



View from Pool of Remembrance Looking West



View from Ash Road



View from Southwest Memorial Entry

EXISTING SITE PHOTOS

Existing Site Photos



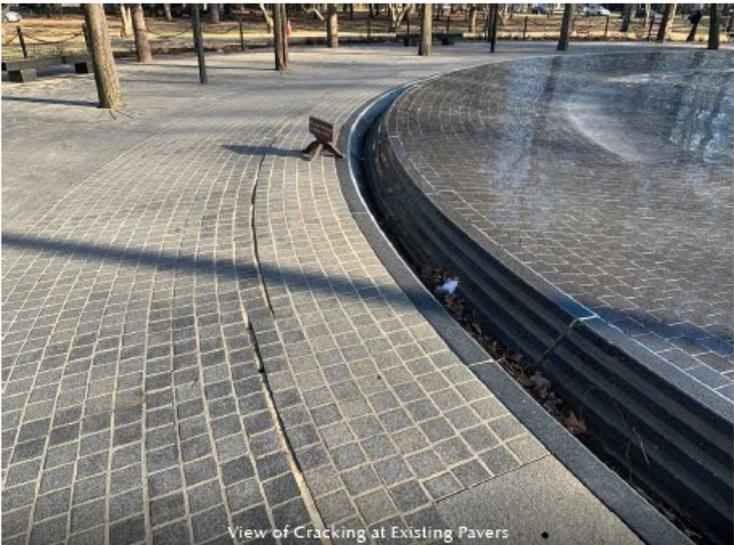
View of Southwest Memorial Entry



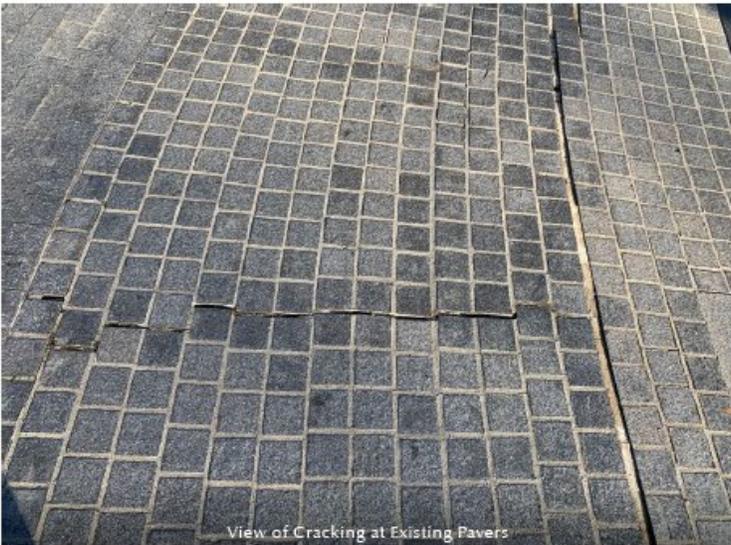
View from Independence Avenue Looking North



View from Ash Road Looking South



View of Cracking at Existing Pavers



View of Cracking at Existing Pavers



View of South Side of Existing Memorial Wall

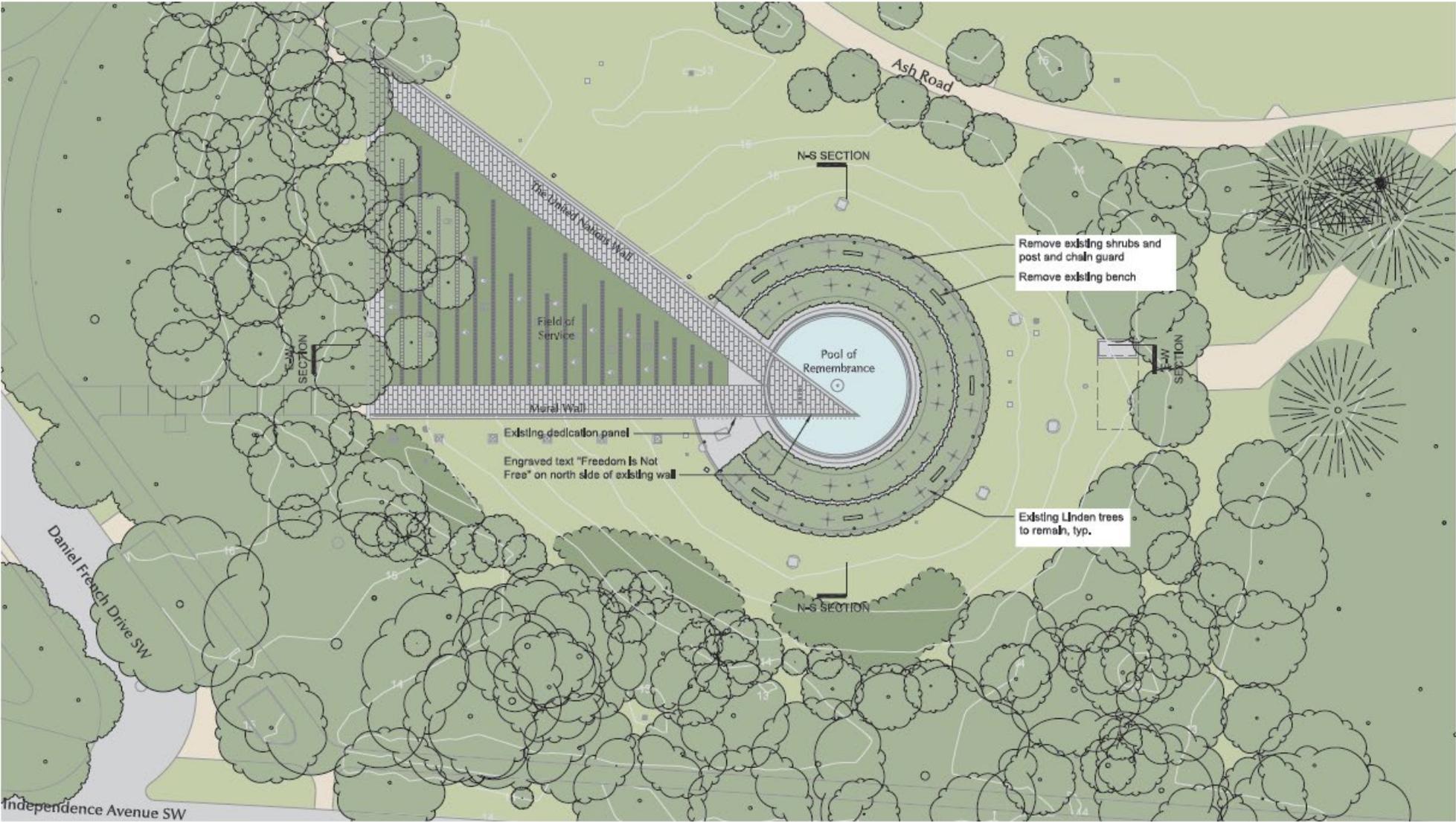
EXISTING SITE PHOTOS

Aerial View of Context



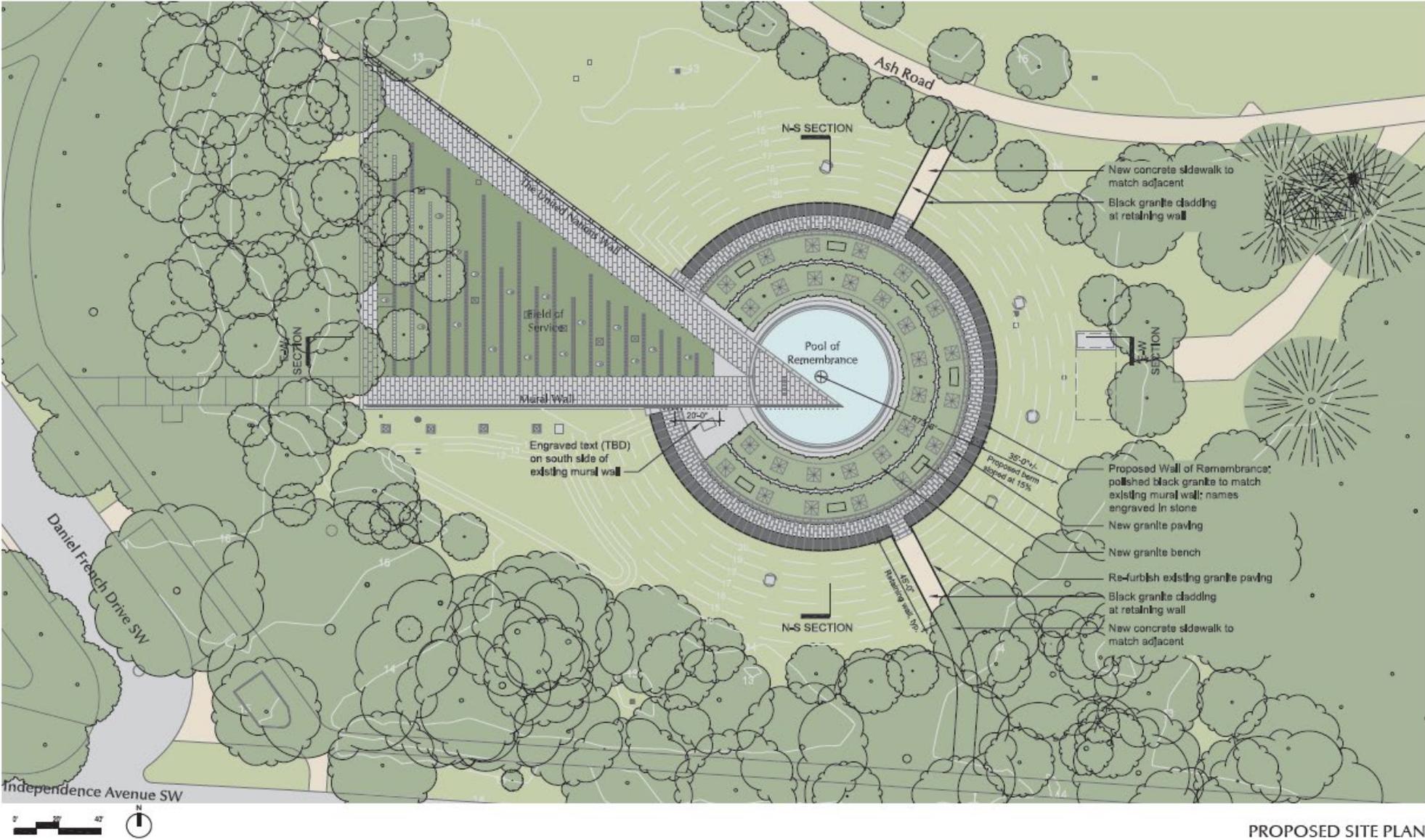
AERIAL VIEW OF CONTEXT

Existing Site Plan



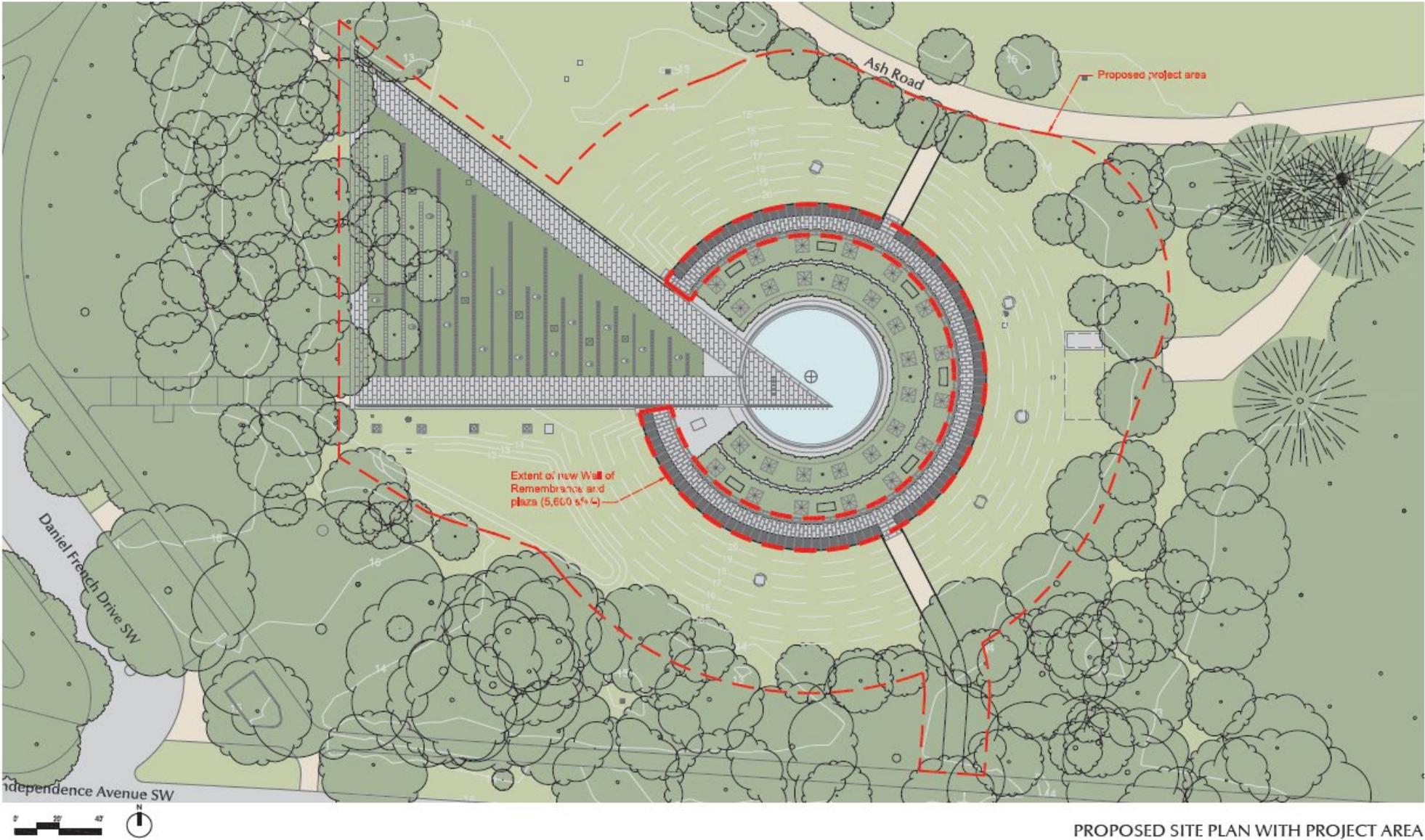
EXISTING SITE PLAN

Proposed Site Plan



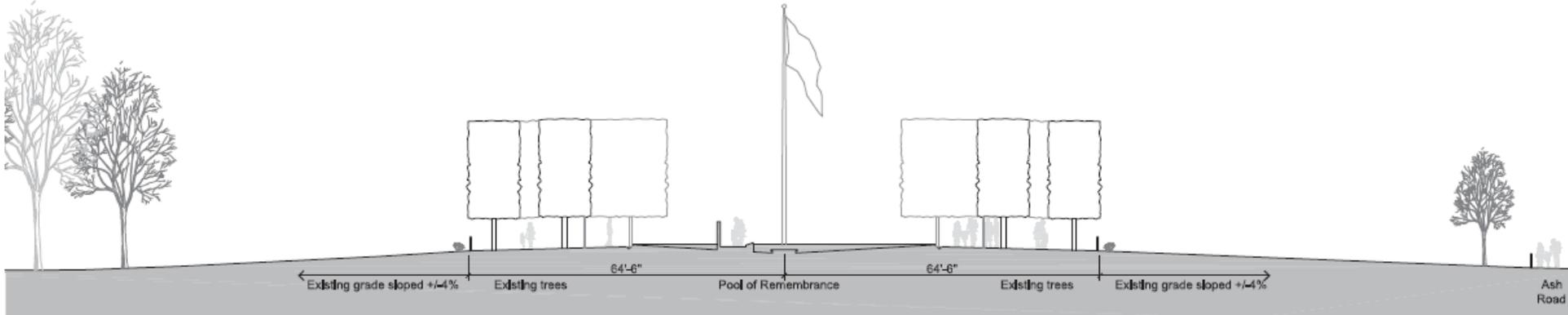
PROPOSED SITE PLAN

Proposed Site Plan with Project Area

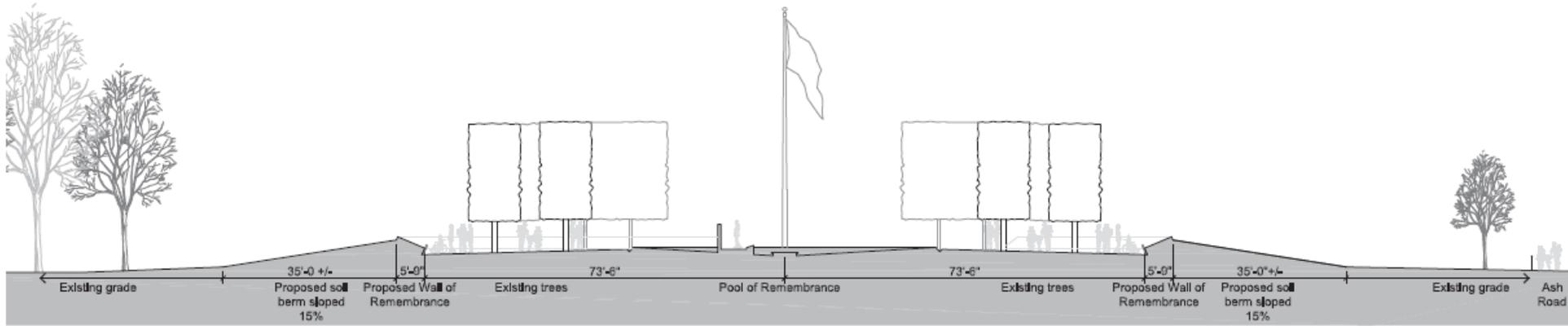


PROPOSED SITE PLAN WITH PROJECT AREA

North-South Site Sections Through Pool of Remembrance



EXISTING

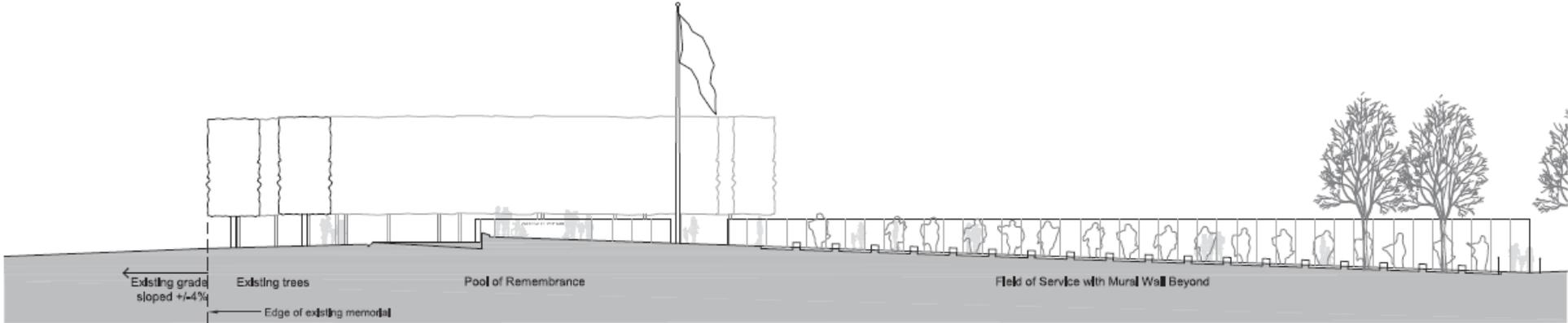


PROPOSED

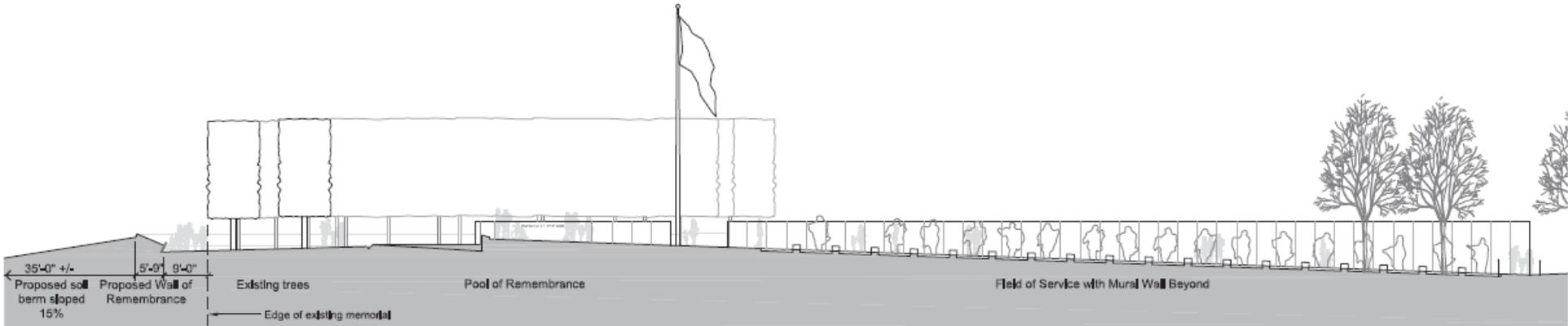


NORTH-SOUTH SITE SECTIONS THROUGH POOL OF REMEMBRANCE

East-West Site Sections



EXISTING

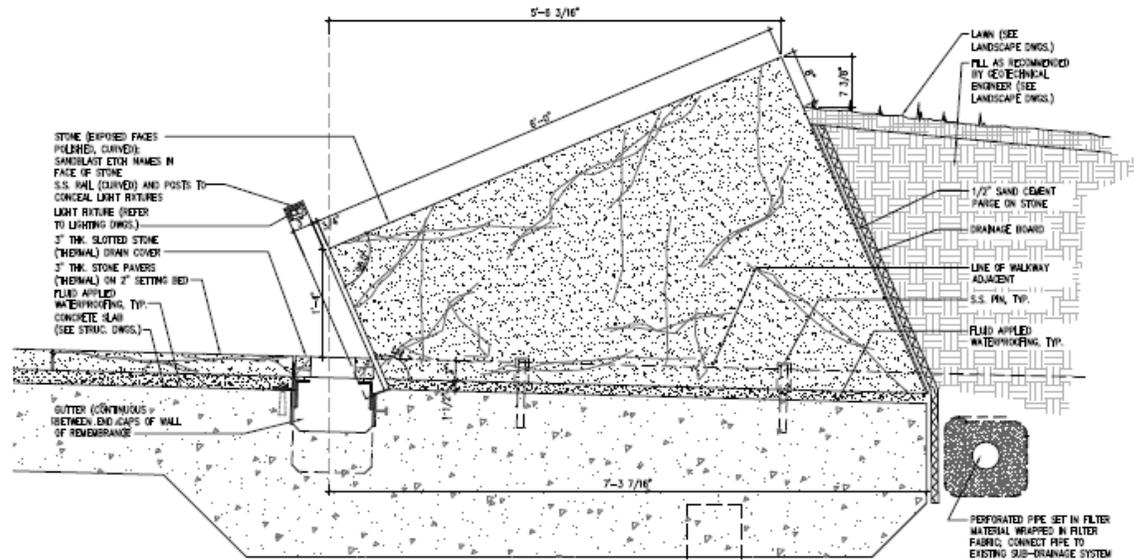


PROPOSED

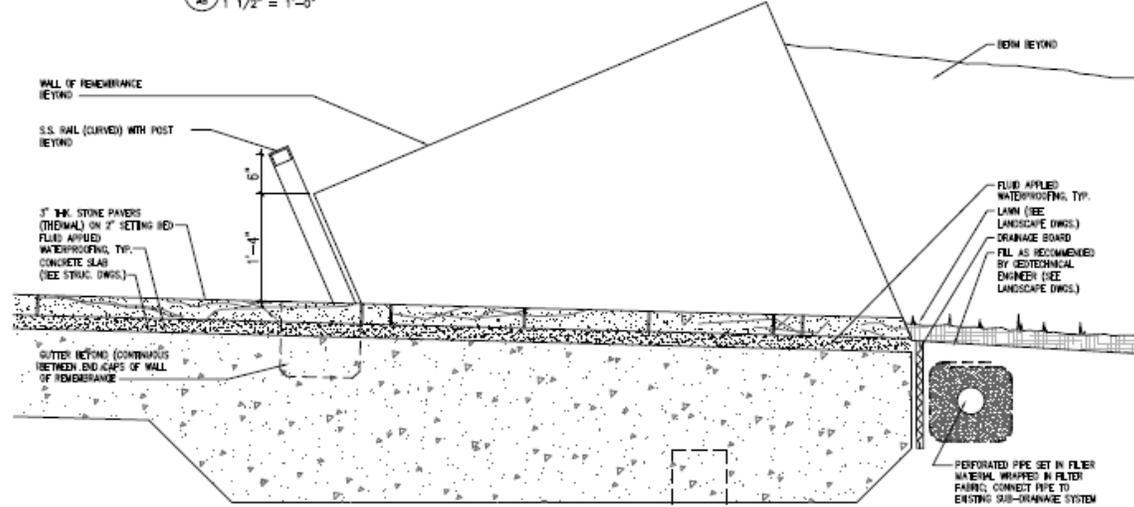


EAST-WEST SITE SECTIONS

Detail Drawing



2 SECTION DETAIL AT WALL OF REMEMBRANCE
 1/2" = 1'-0"

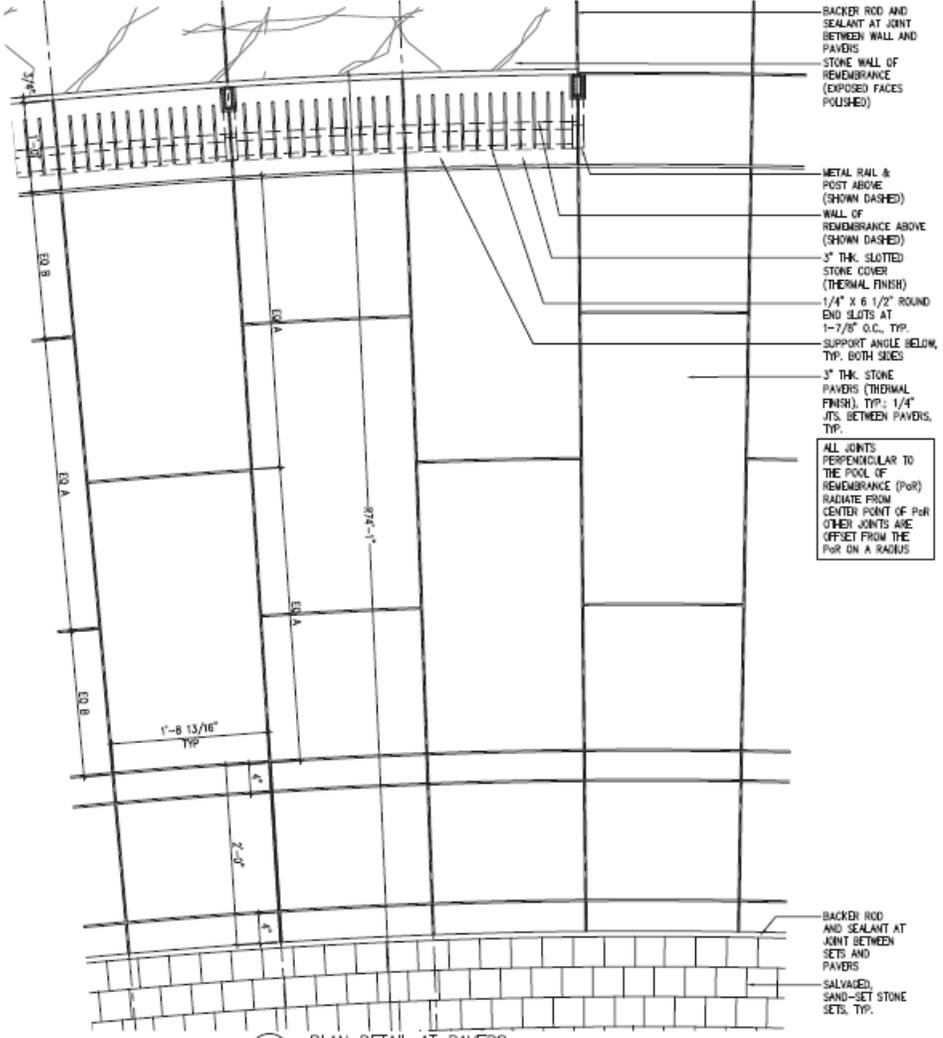


1 SECTION DETAIL MURAL WALL GAP
 1/2" = 1'-0"



* REVISED PAGE *
 DETAIL DRAWING

Detail Drawing



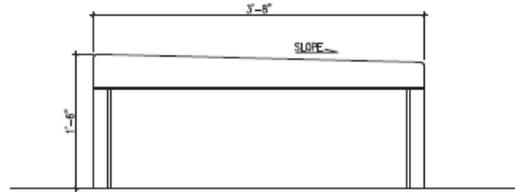
ALL JOINTS PERPENDICULAR TO THE POOL OF REMEMBRANCE (PoR) RADIATE FROM CENTER POINT OF PoR OTHER JOINTS ARE OFFSET FROM THE PoR ON A RADIUS

1 PLAN DETAIL AT PAVERS
 1-1/2" = 1'-0"

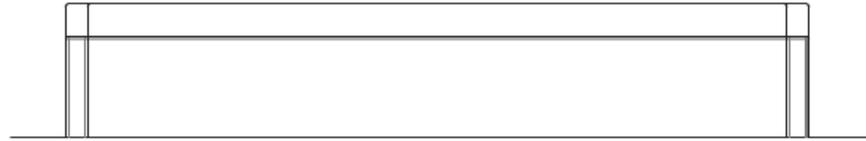


DETAIL DRAWING

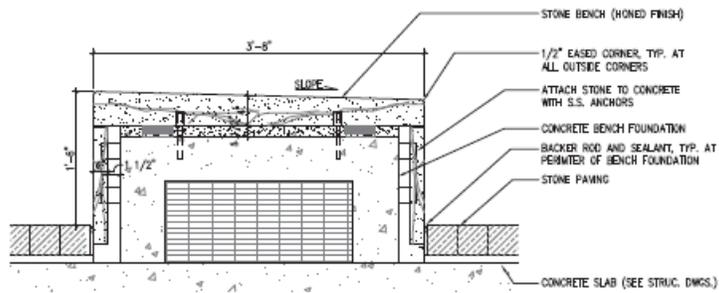
Detail Drawing



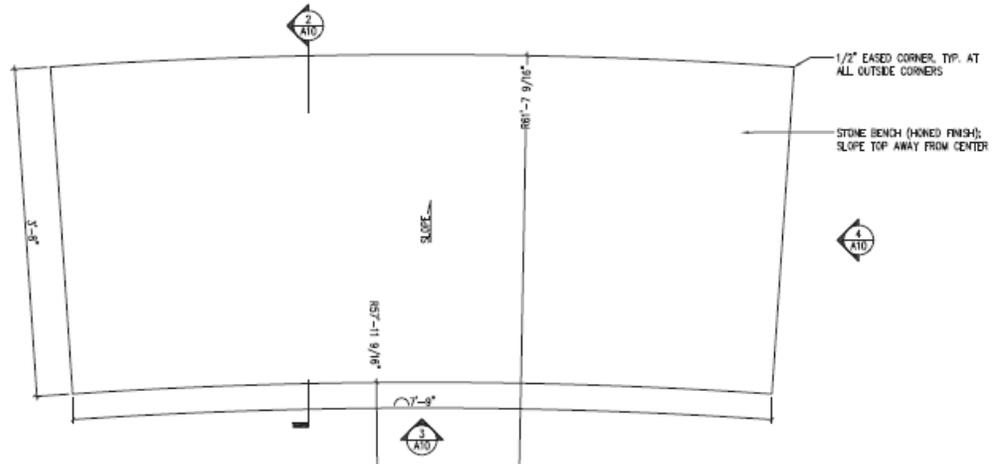
4 BENCH ELEVATION - SHORT SIDE
A10 1-1/2" = 1'-0"



3 BENCH ELEVATION - LONG SIDE - INSIDE FACE
A10 1-1/2" = 1'-0"



2 SECTION DETAIL AT BENCH
A10 1-1/2" = 1'-0"



1 ENLARGED PLAN AT BENCH
A10 1-1/2" = 1'-0"

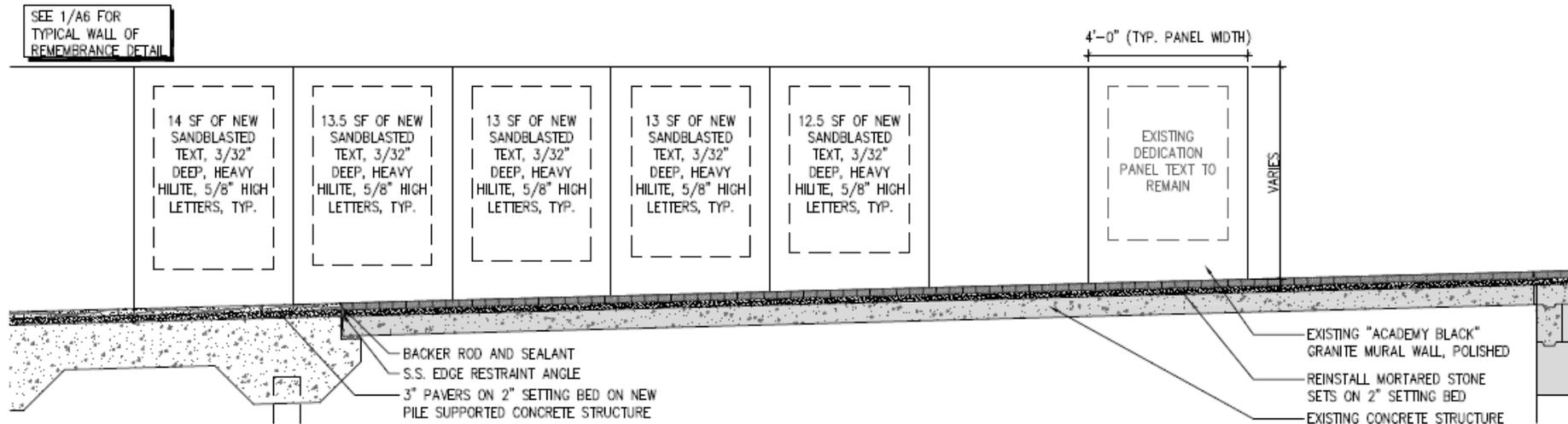


DETAIL DRAWING

Existing Mural Wall with Proposed New Text



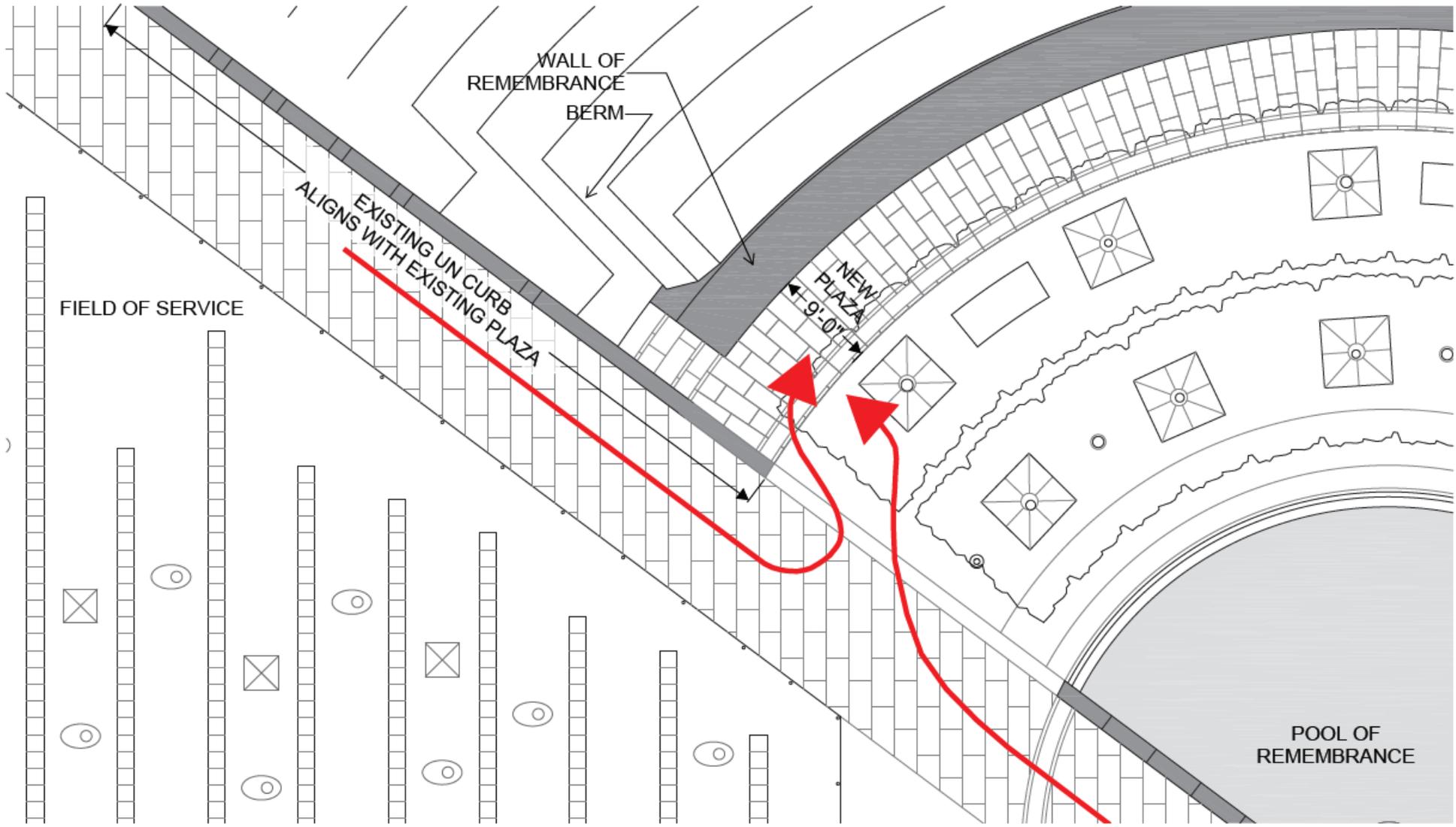
EXISTING ELEVATION OF SOUTH SIDE OF MURAL WALL



Note: This shows maximum extent of engraved text. Content and final layout is still pending.

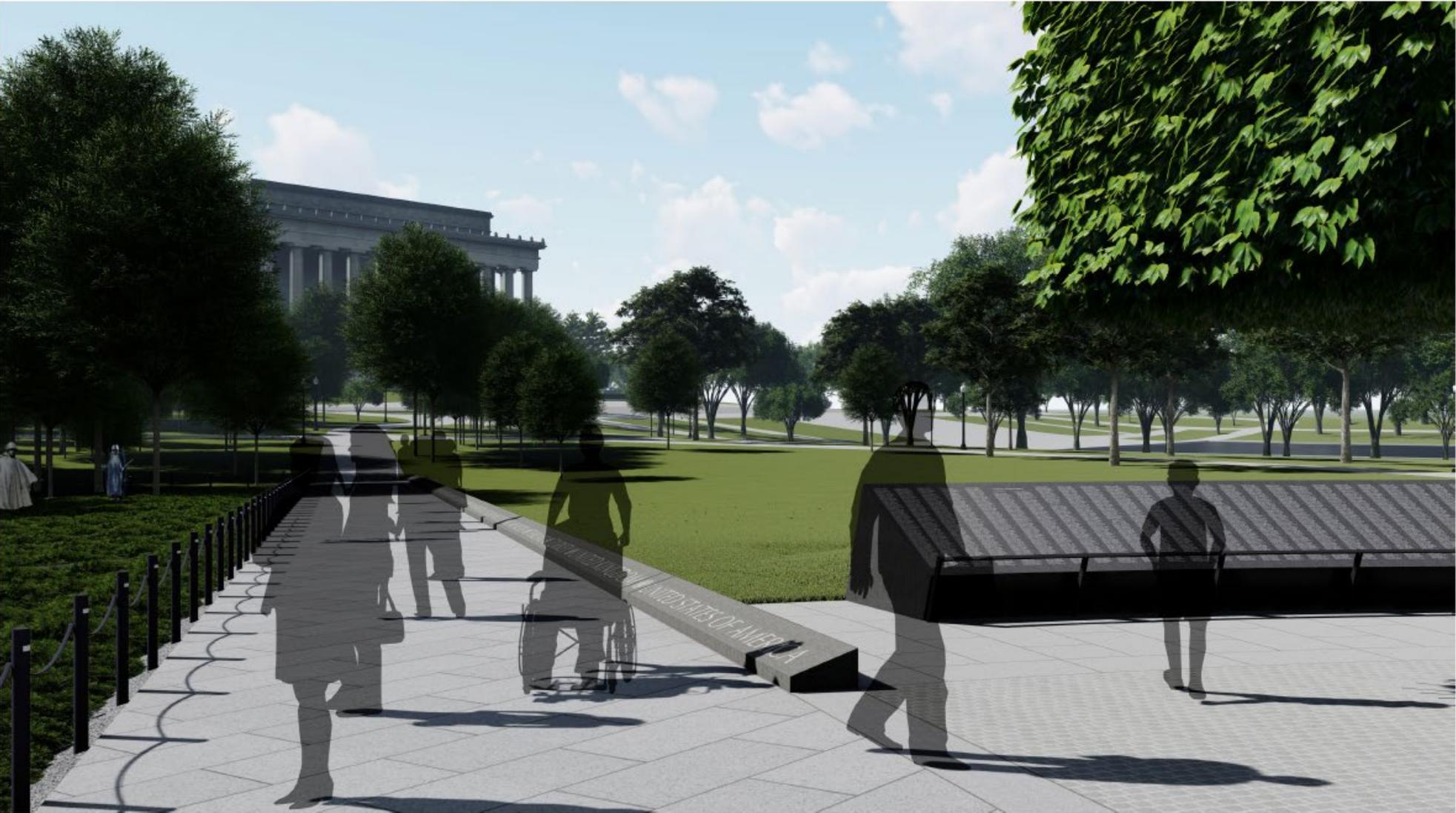
* NEW PAGE *
MURAL WALL ELEVATION

Maintain Existing UN Curb



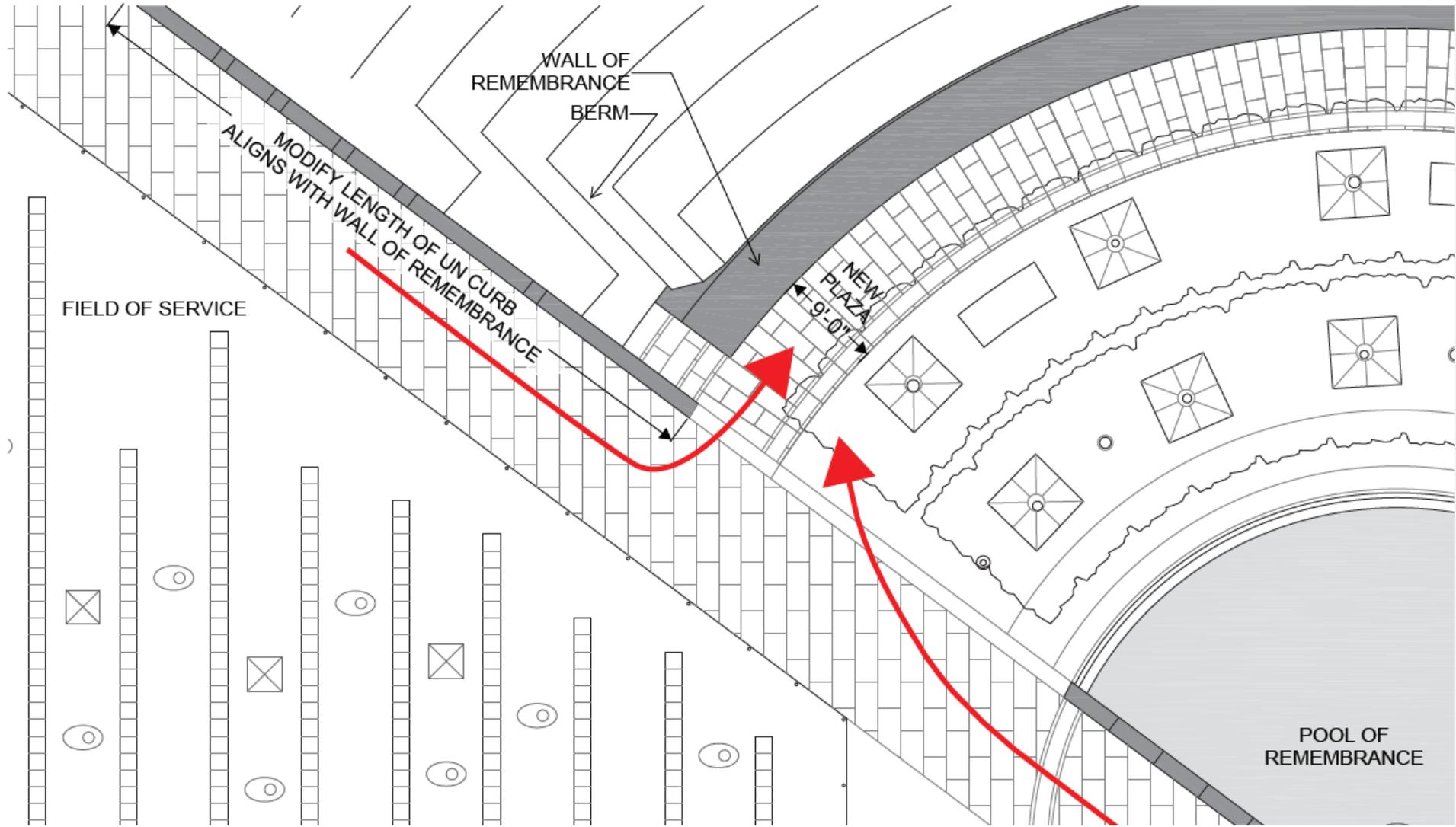
MAINTAIN EXISTING UN CURB

View of Existing UN Curb



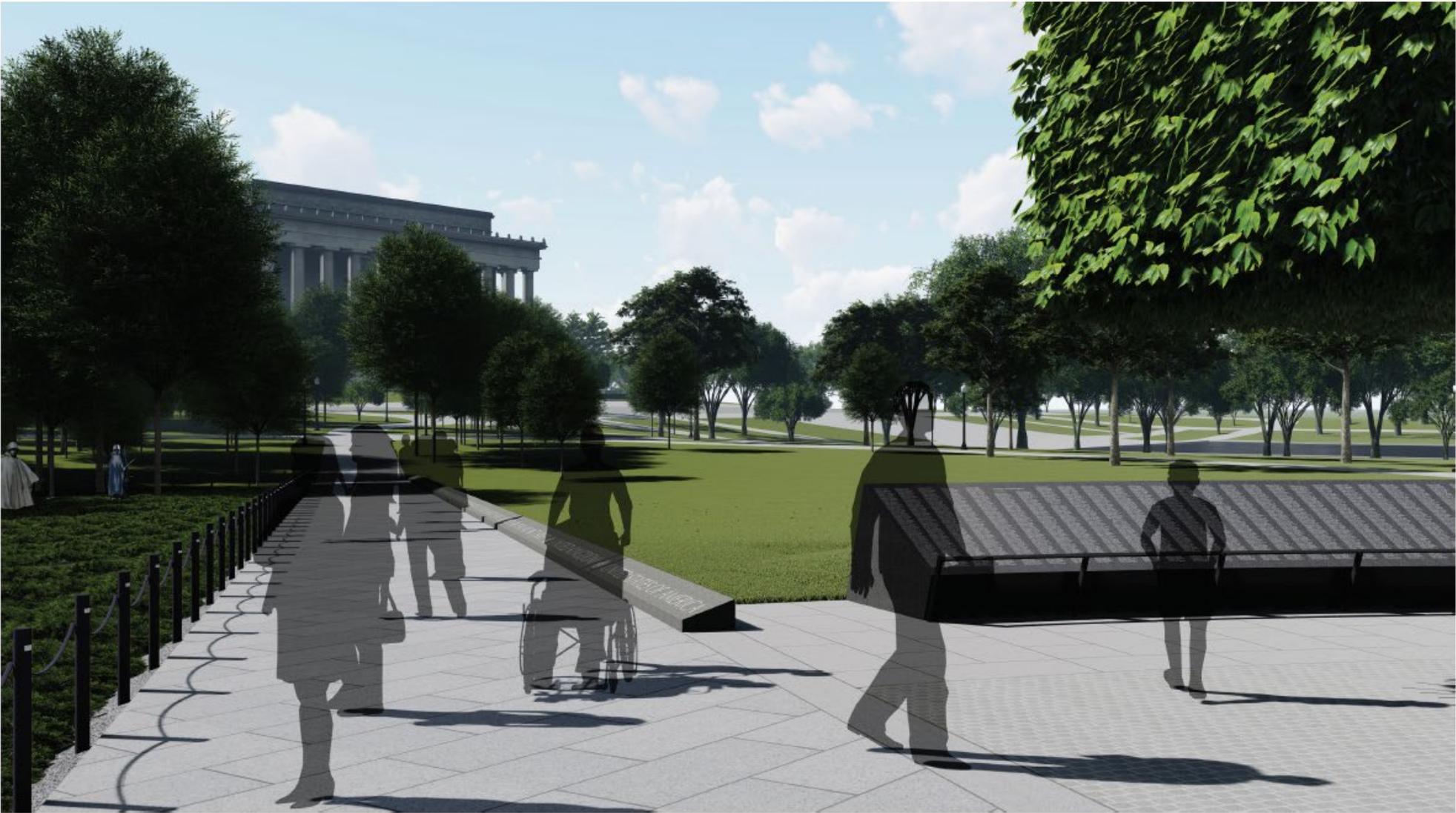
* REVISED PAGE *
VIEW OF EXISTING UN CURB

Modifying Existing UN Curb



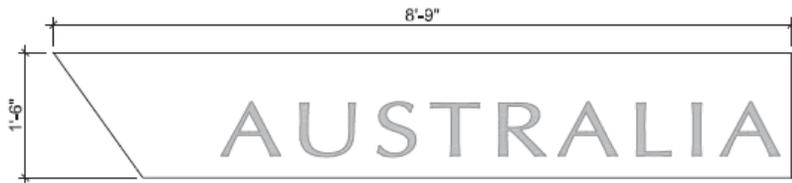
MODIFY EXISTING UN CURB

View of Modified UN Curb



* REVISED PAGE *
VIEW OF MODIFIED UN CURB

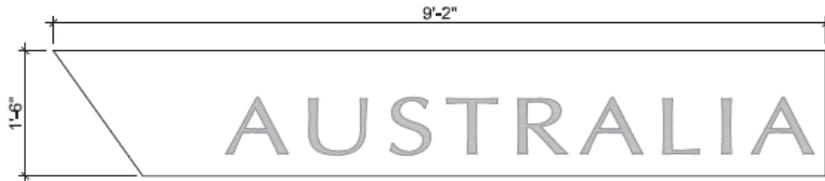
UN Curb Country Elevation Comparisons



Modified UN Curb (95% of Original)



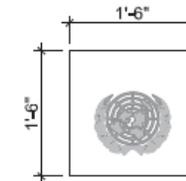
Modified UN Curb (95% of Original)



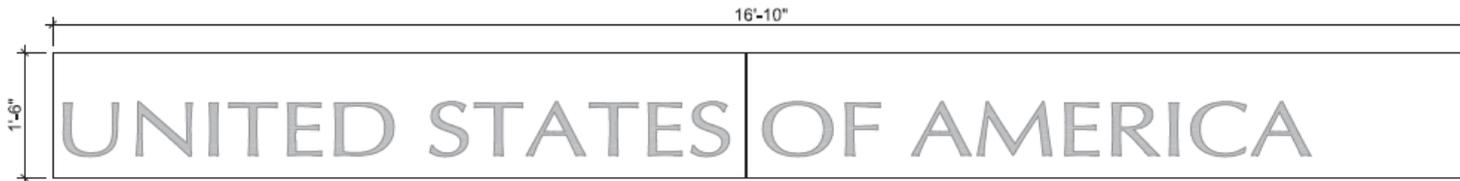
Existing UN Curb



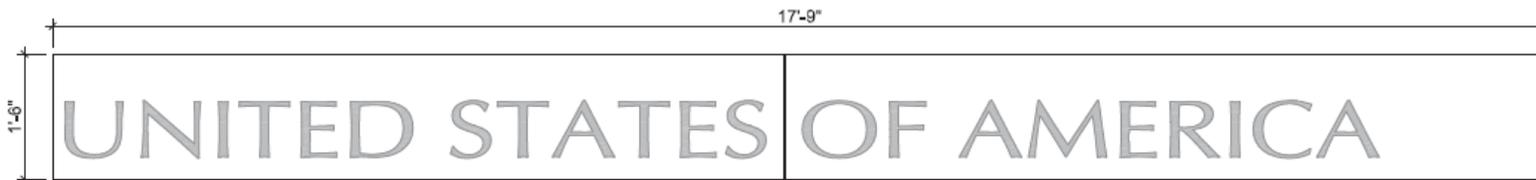
Existing UN Curb



Existing UN Emblem
No Change



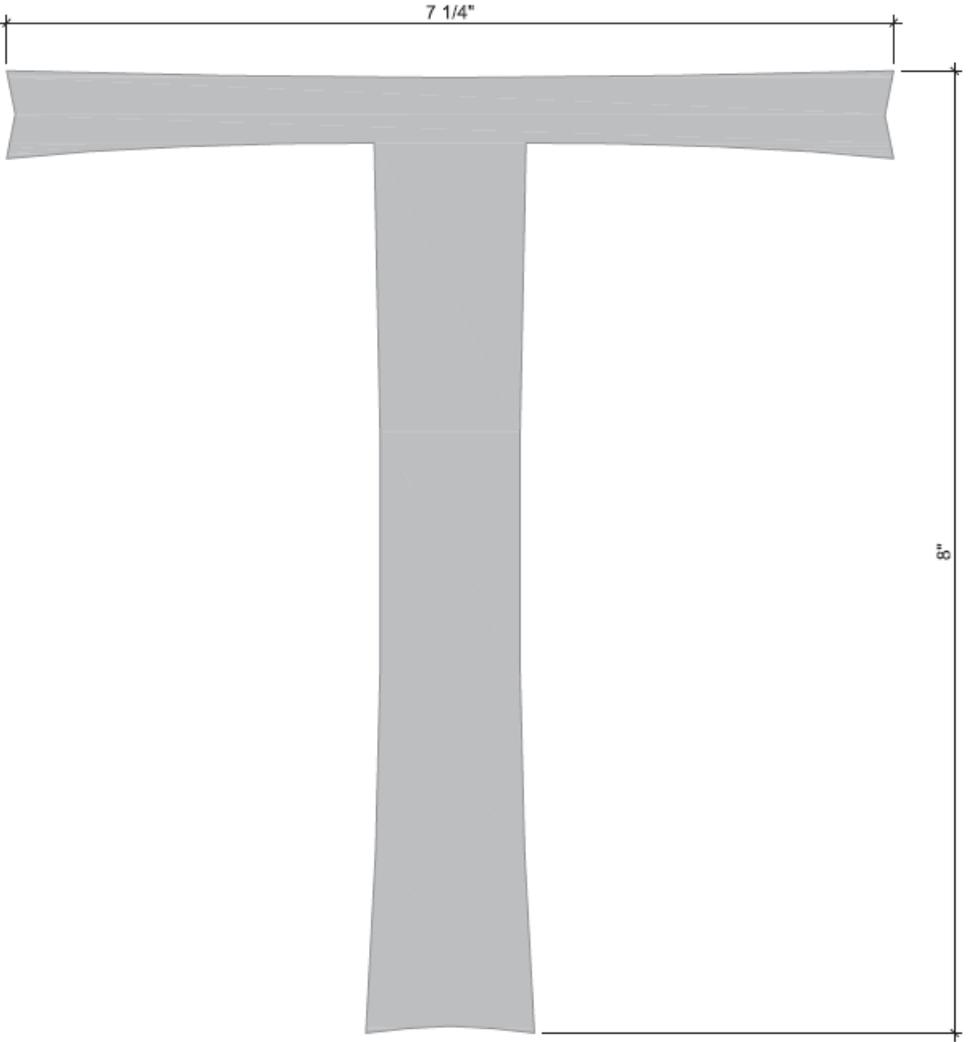
Modified UN Curb (95% of Original)



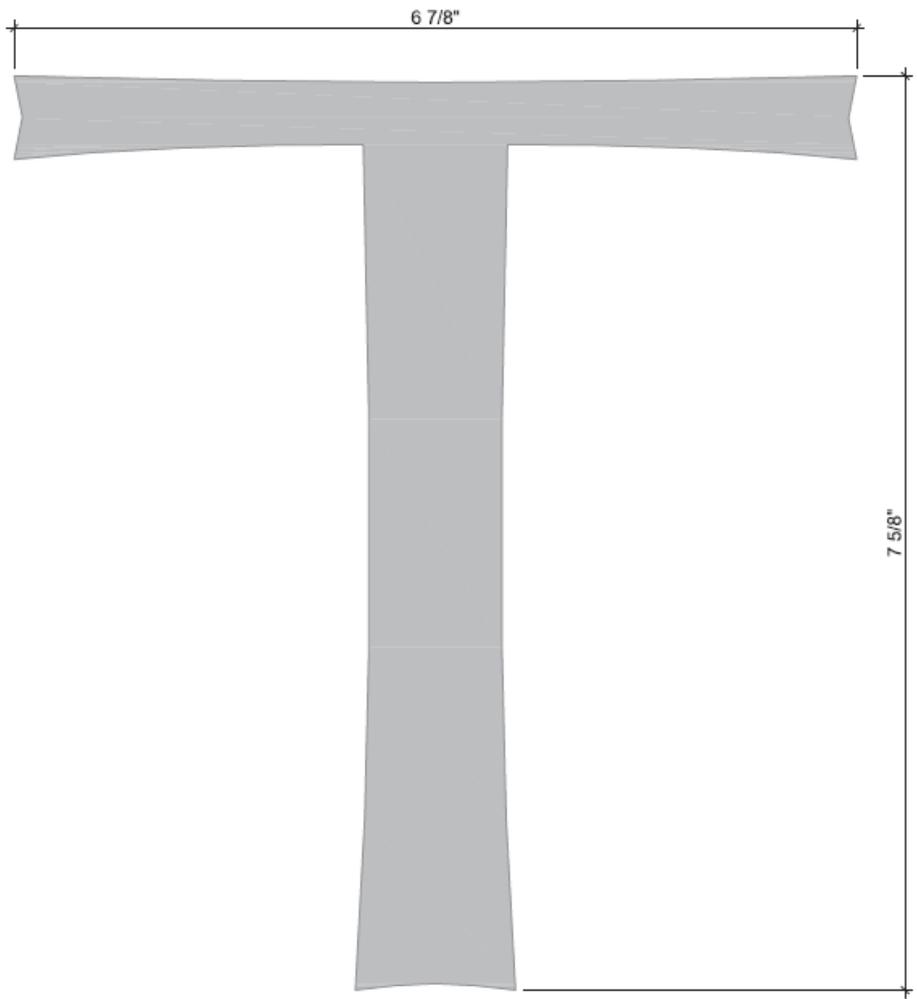
Existing UN Curb

UN CURB COUNTRY ELEVATION COMPARISONS

UN Curb Text Size Comparisons



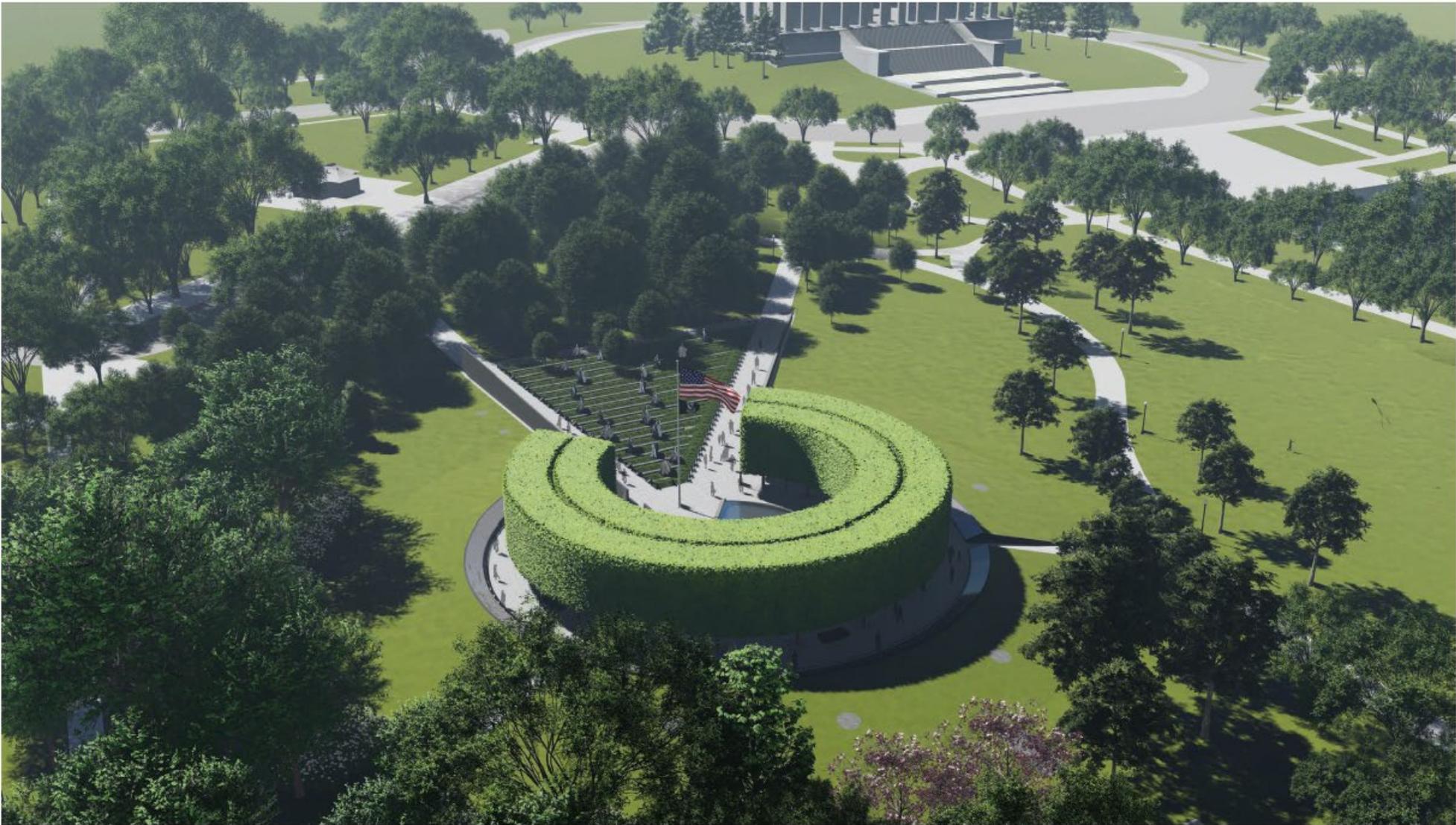
Existing UN Curb Full Size Letter



Modified UN Curb Full Size Letter

UN CURB TEXT SIZE COMPARISONS

Bird's Eye View Looking West



BIRD'S EYE VIEW LOOKING WEST

Bird's Eye View Looking East



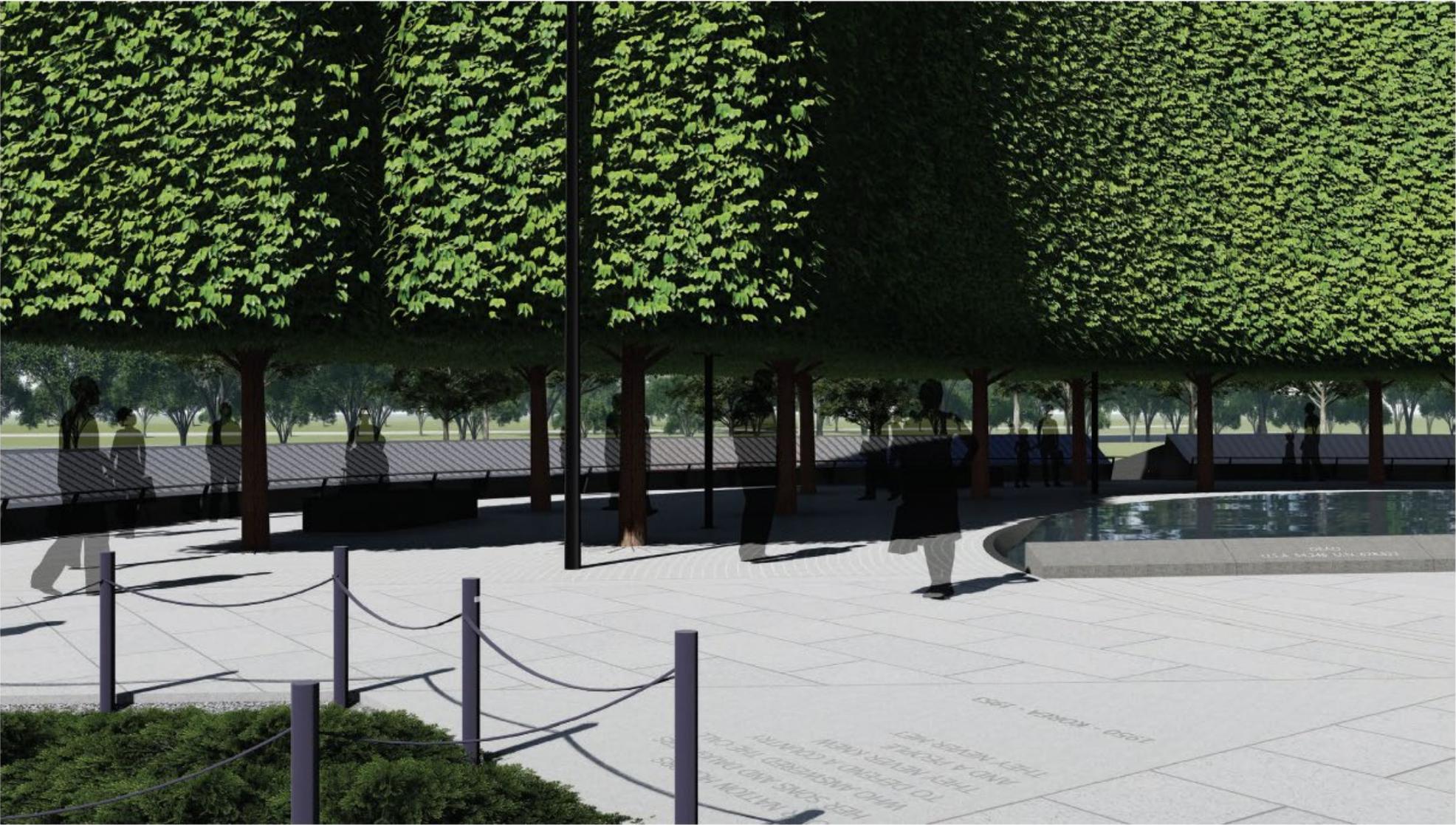
* REVISED PAGE *
BIRD'S EYE VIEW LOOKING EAST

View from Northwest Memorial Entry



* REVISED PAGE *
VIEW FROM NORTHWEST MEMORIAL ENTRY

View from Pool of Remembrance Looking North



VIEW FROM POOL OF REMEMBRANCE LOOKING NORTH

View from Within Wall of Remembrance



VIEW FROM WITHIN WALL OF REMEMBRANCE

View from Within Wall of Remembrance



* REVISED PAGE *
VIEW FROM WITHIN WALL OF REMEMBRANCE

View from Within Wall of Remembrance



* REVISED PAGE *
VIEW FROM WITHIN WALL OF REMEMBRANCE

View from Pool of Remembrance Looking West



VIEW FROM POOL OF REMEMBRANCE LOOKING WEST

View from Southwest Memorial Entry



* REVISED PAGE *
VIEW FROM SOUTHWEST MEMORIAL ENTRY

View from Ash Road



VIEW FROM ASH ROAD

View from Ash Road



VIEW FROM ASH ROAD

View from Independence Avenue



VIEW FROM INDEPENDENCE AVENUE

View from Independence Avenue



VIEW FROM INDEPENDENCE AVENUE

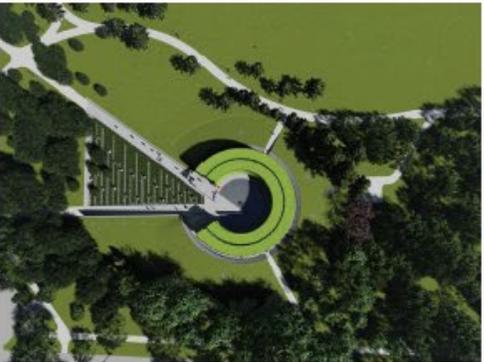
Solar Studies



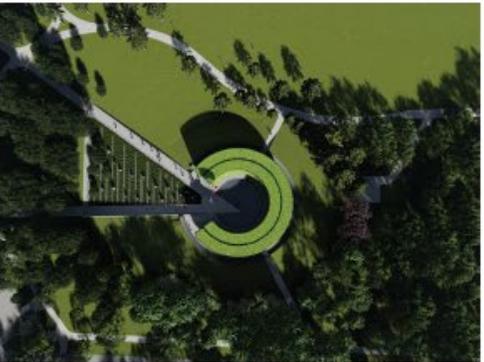
MARCH 19 10:30AM



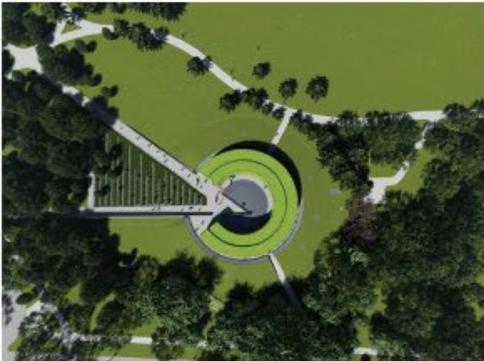
JUNE 20 10:30AM



SEPTEMBER 23 10:30AM



DECEMBER 21 10:30AM



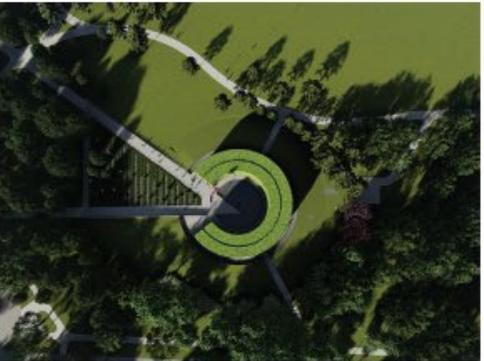
MARCH 19 2:30PM



JUNE 20 2:30PM



SEPTEMBER 23 2:30PM

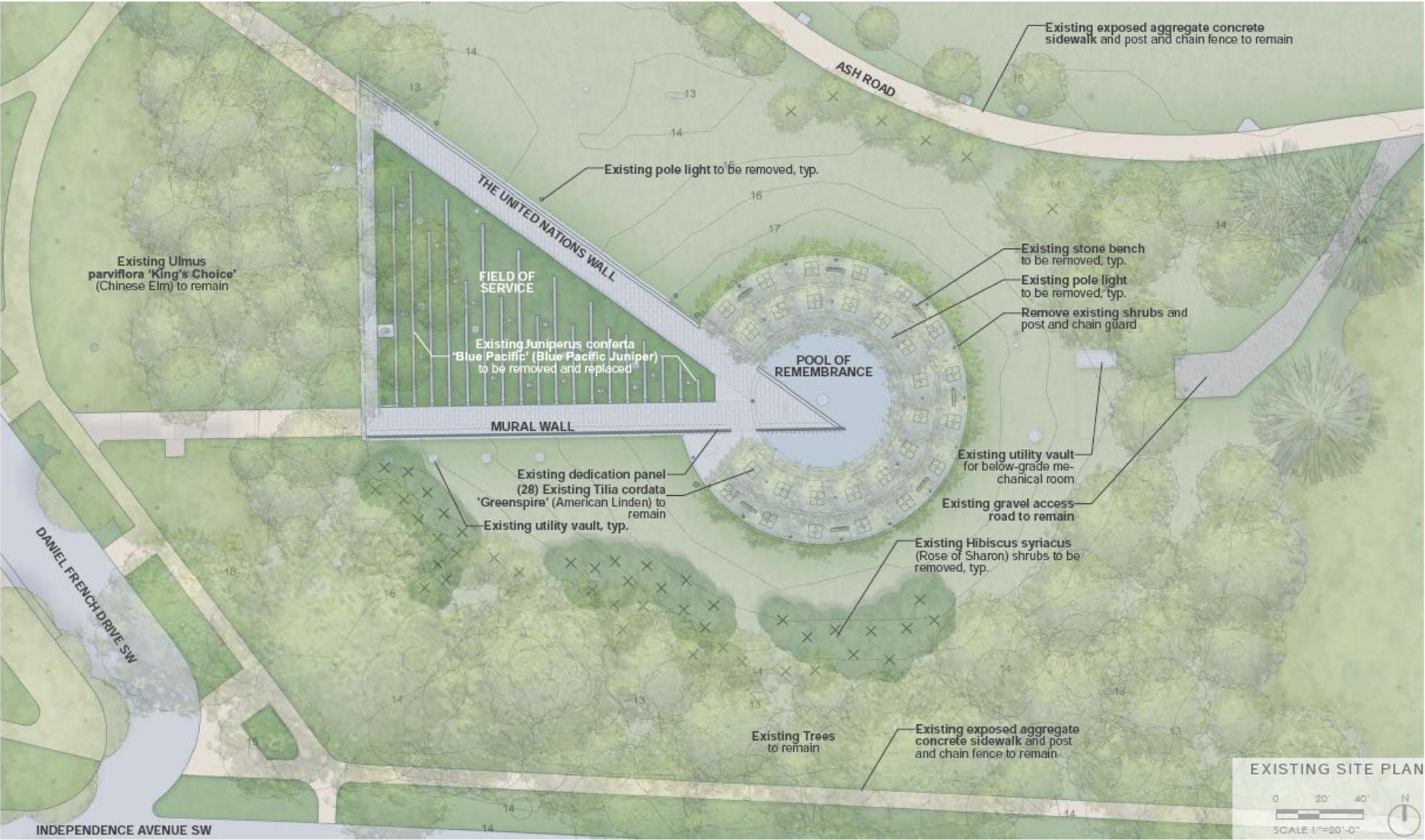


DECEMBER 21 2:30PM

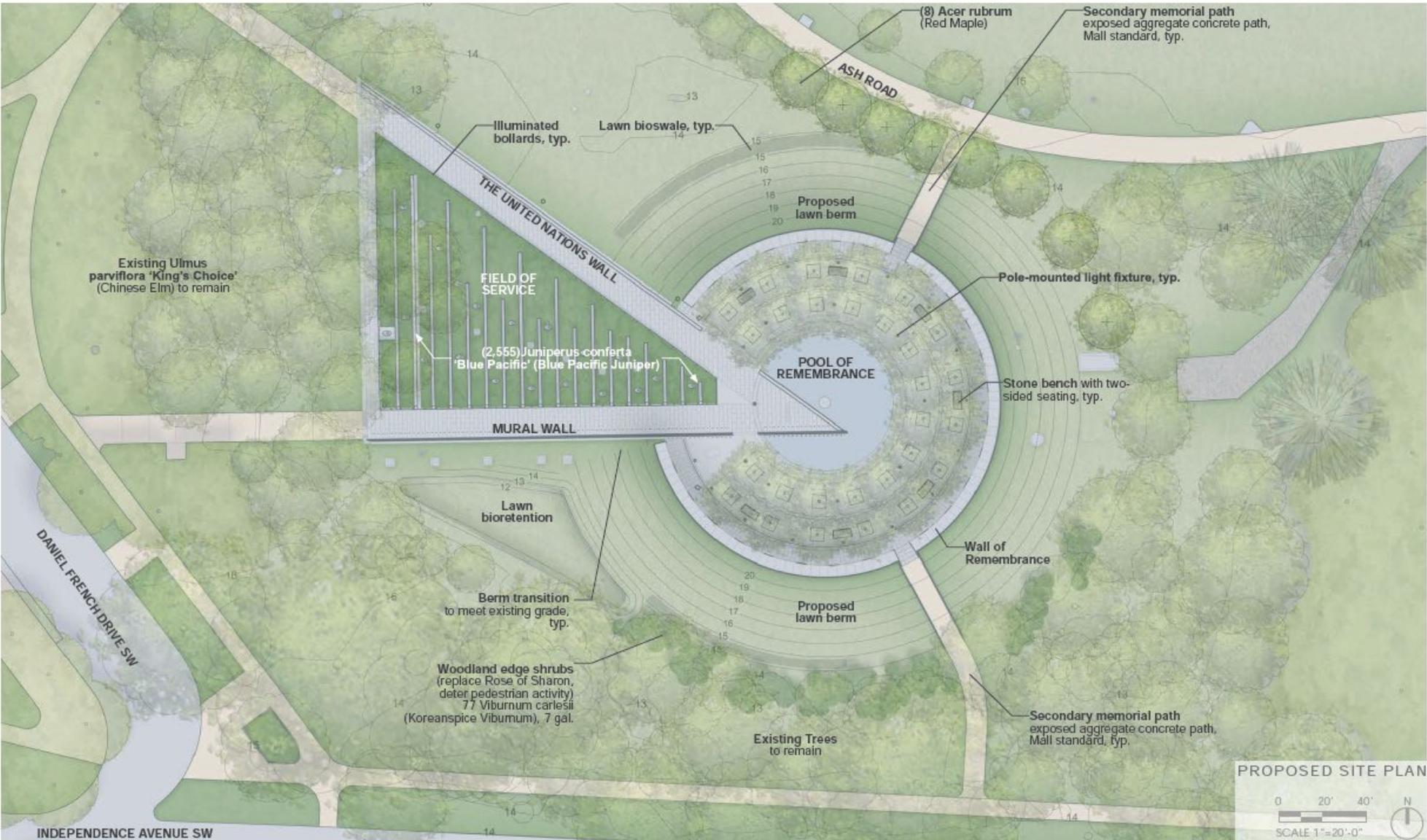


SOLAR STUDIES

Existing Site Plan



Proposed Site Plan



Planting Materials List and Images



Acer rubrum



Tilia cordata 'Greenspire'*



Juniperus conferta 'Blue Pacific'



Viburnum carlesii

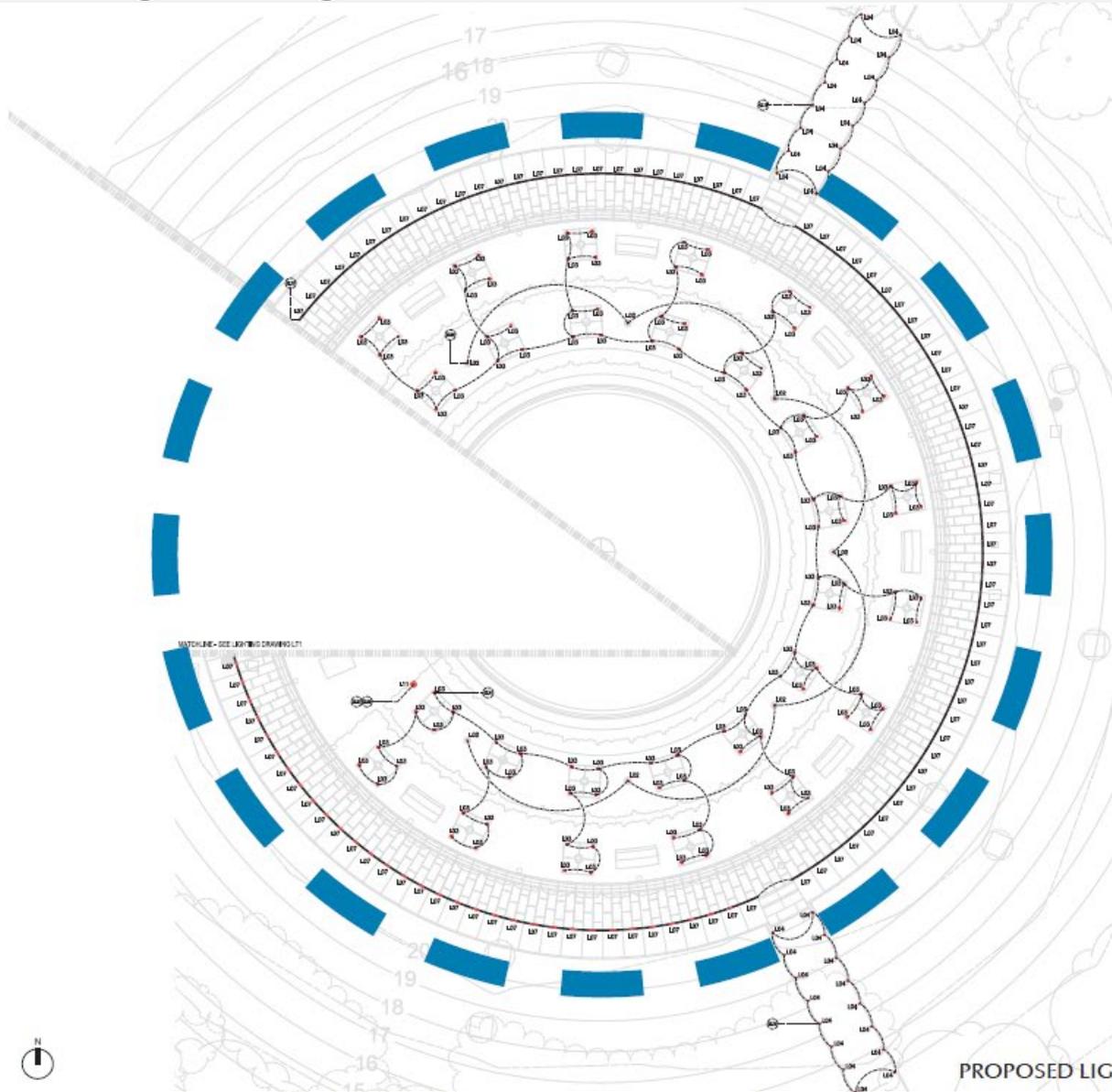
TREES

Qty	Botanical	Common	Size	Spacing	Remarks
8	<i>Acer rubrum</i>	Red Maple	3-4" Cal.	As Shown	specimen, cultivar TBD
28*	<i>Tilia cordata</i> 'Greenspire'*	Greenspire Littleleaf Linden*	Varies: 9-12" Cal.*	As Shown*	*Existing to remain

SHRUBS

Qty	Botanical	Common	Size	Spacing	Remarks
2555	<i>Juniperus conferta</i> 'Blue Pacific'	Blue Pacific Juniper	3 gal.	24" o.c.	
77	<i>Viburnum carlesii</i>	Koreanspice Viburnum	7 gal.	As Shown	ALTERNATE <i>Hibiscus syriacus</i> - Rose of Sharon

Proposed Lighting Plan Wall of Remembrance and Plaza



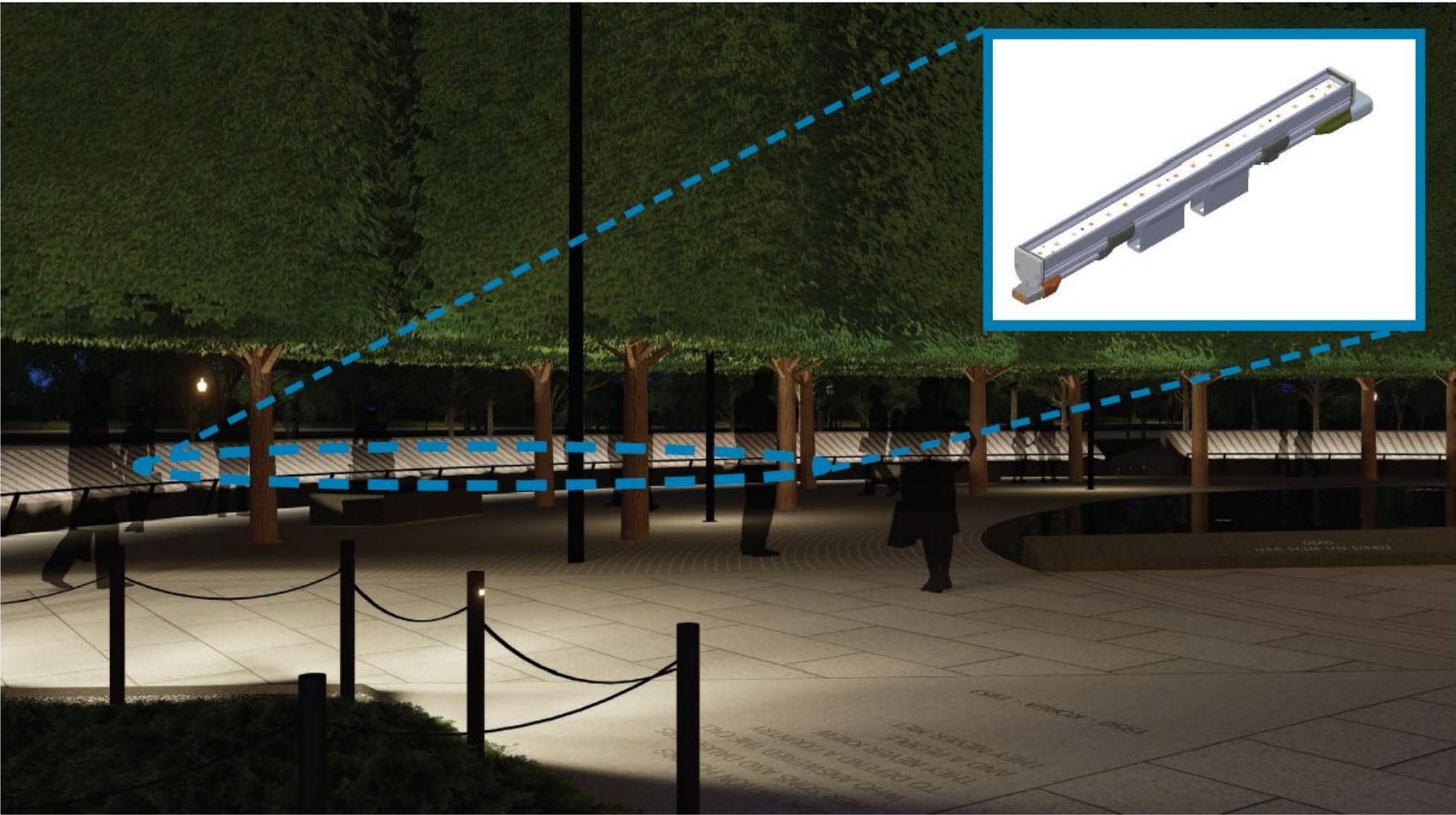
PROPOSED LIGHTING PLAN - WALL OF REMEMBRANCE AND PLAZA

Existing Site Photos of Pool of Remembrance



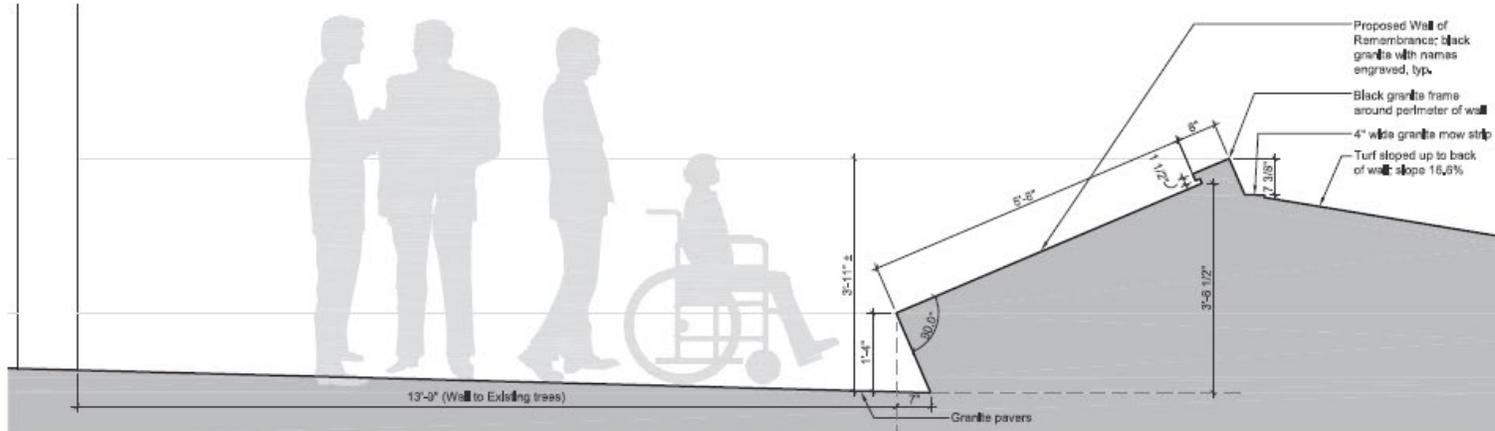
EXISTING SITE PHOTOS - POOL OF REMEMBRANCE

Night Rendering of Wall of Remembrance Looking North



NIGHT RENDERING OF WALL OF REMEMBRANCE LOOKING NORTH

Lighting Mock-up of Previous Design



PREVIOUS PROPOSED SECTION THROUGH WALL OF REMEMBRANCE



LED light strip at top beneath stone trim
- Visible hot spot
- Not enough light at bottom of wall



LED light strip at top beneath stone trim
- Visible hot spot



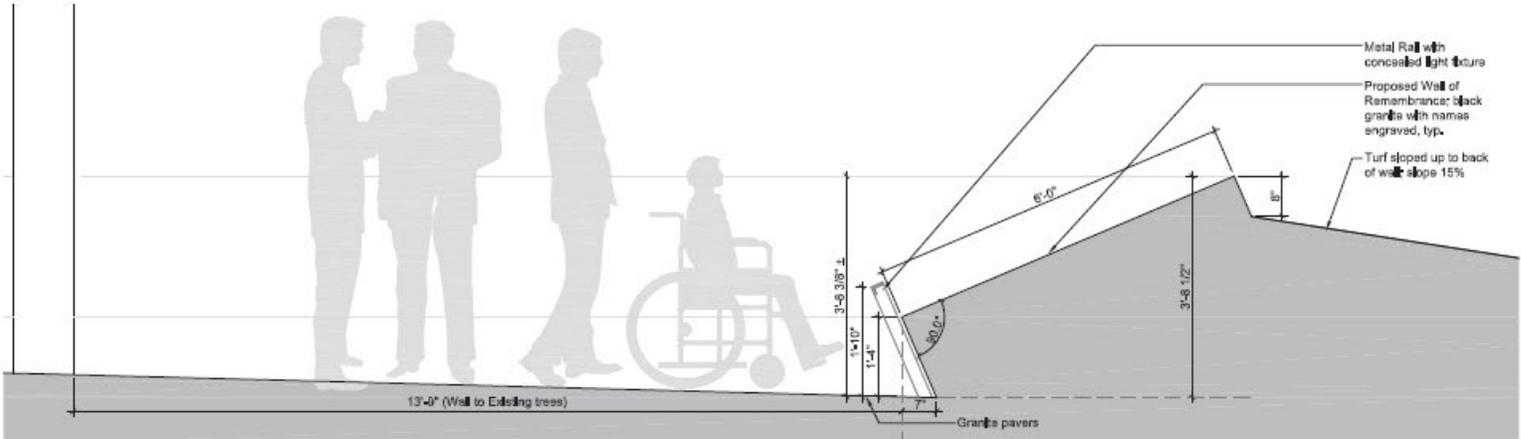
LED light strip at top beneath stone trim
- Visible hot spot



Overhead light source
- Light source visible
- Additional poles conflict with pedestrian circulation

LIGHTING MOCK-UP OF PREVIOUS DESIGN

Lighting Mock-up of New Design



NEW PROPOSED SECTION THROUGH WALL OF REMEMBRANCE



LED light strip (vertical orientation) at bottom of wall
 - Visible hot spot
 - Uneven illumination at bottom of wall

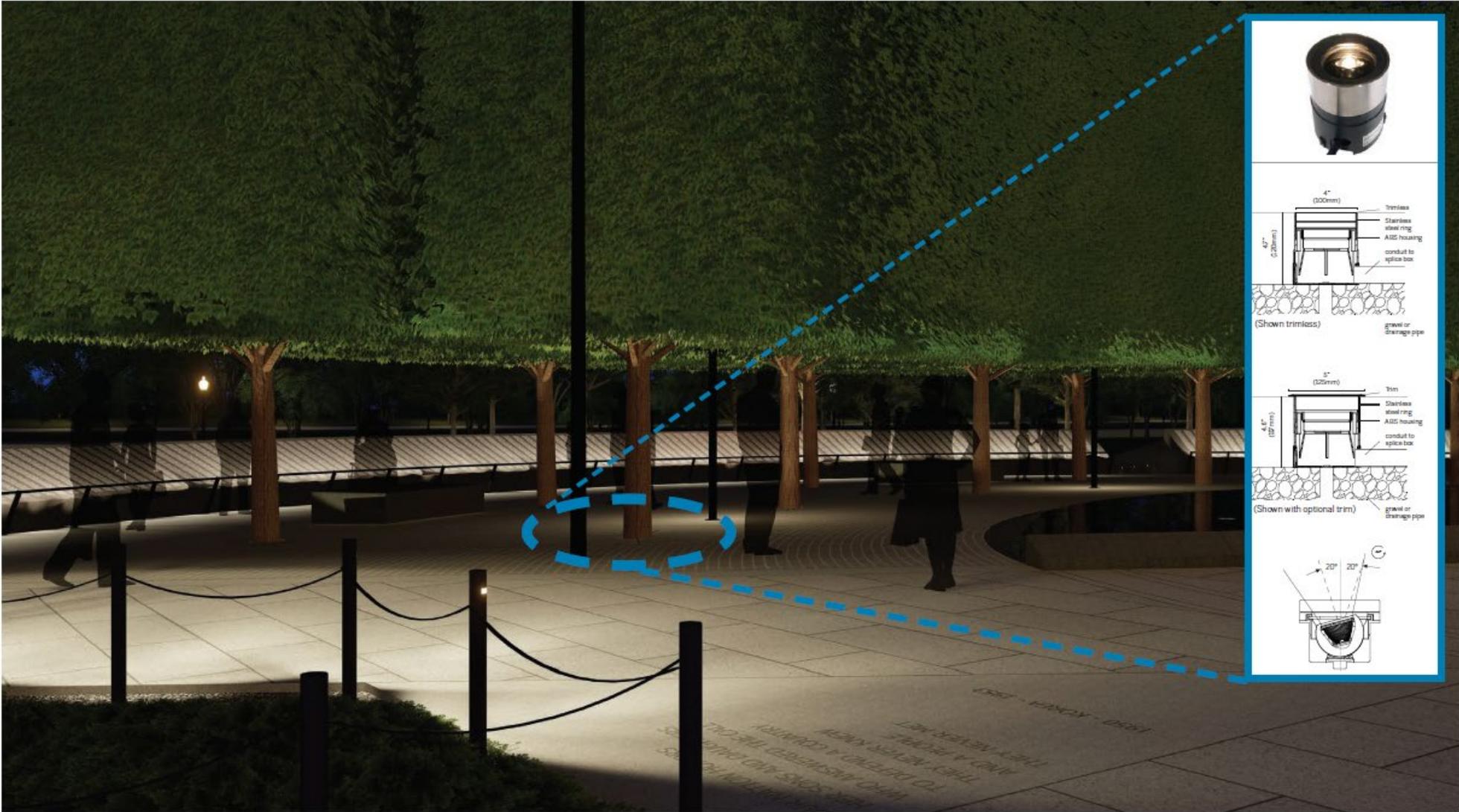


LED light strip (horizontal orientation) at bottom of wall
 - No hot spot
 - Even illumination at top and bottom of wall



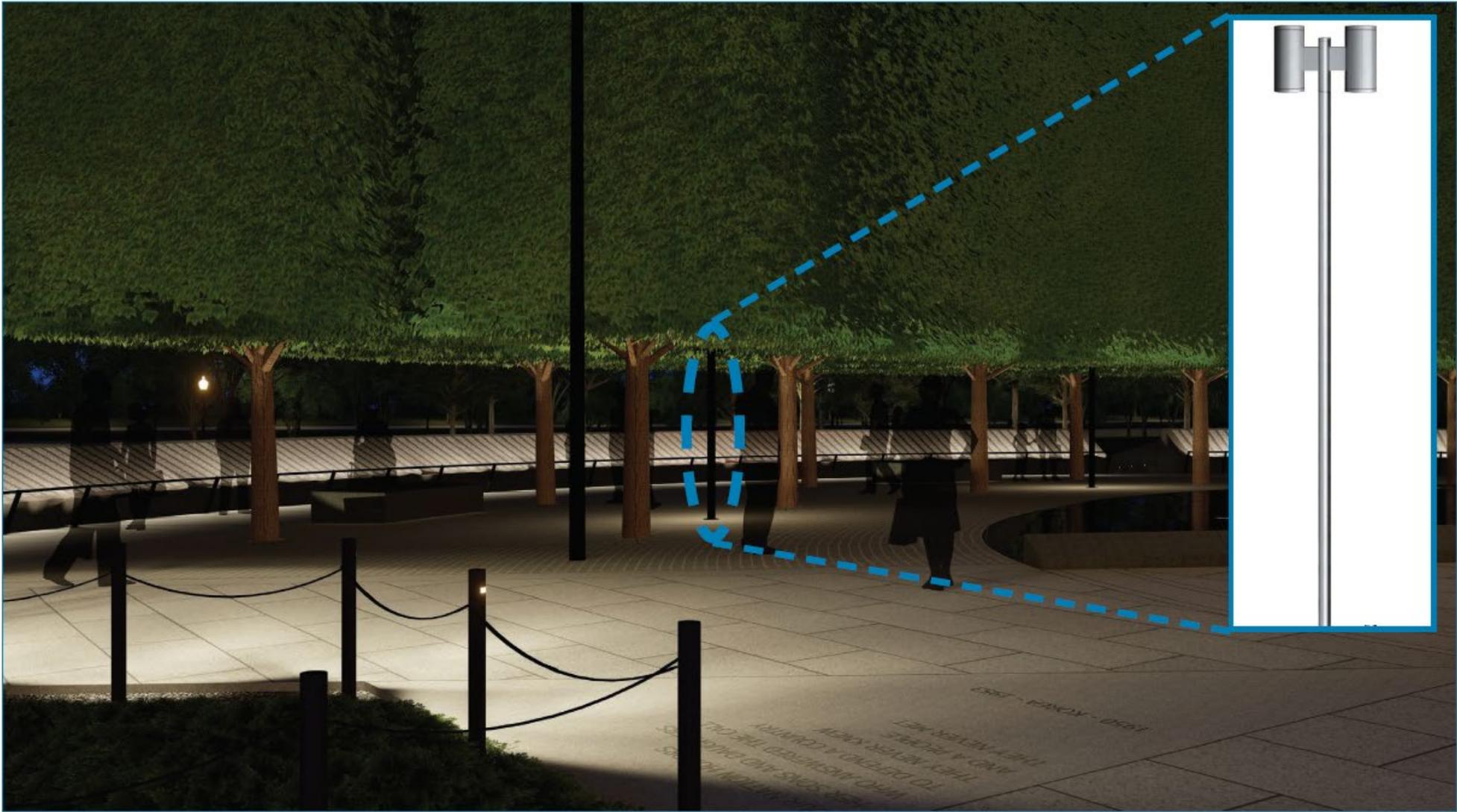
LIGHTING MOCK-UP OF NEW DESIGN

Night Rendering of Tree Canopy Lighting



NIGHT RENDERING OF TREE CANOPY LIGHTING

Night Rendering of Plaza Lighting



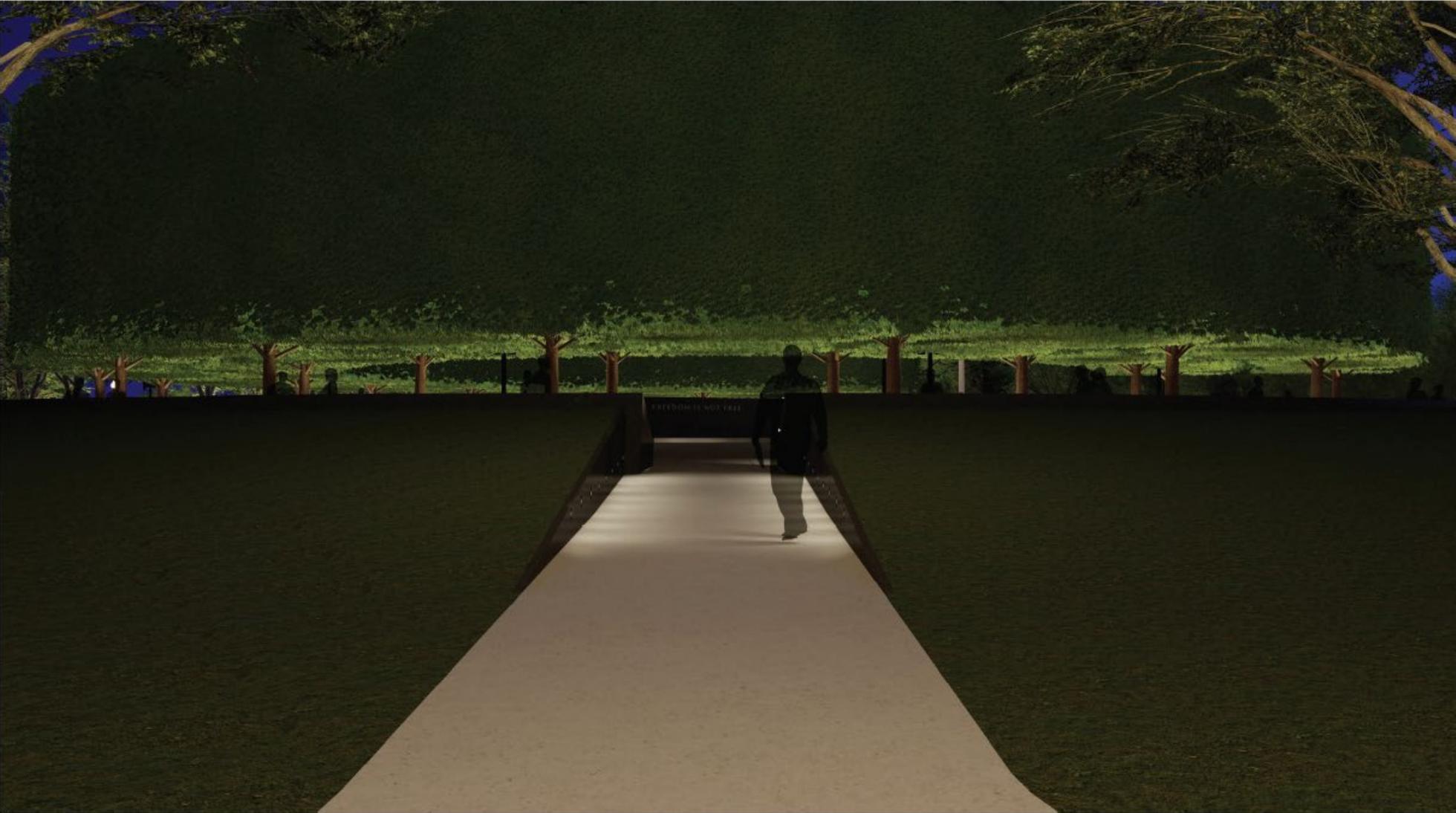
NIGHT RENDERING OF PLAZA LIGHTING

Night Rendering of Wall of Remembrance and Plaza



NIGHT RENDERING OF WALL OF REMEMBRANCE AND PLAZA

Night Rendering of Wall of Remembrance From Ash Road



NIGHT RENDERING OF WALL OF REMEMBRANCE - FROM ASH ROAD

Vietnam Veterans Memorial Lighting



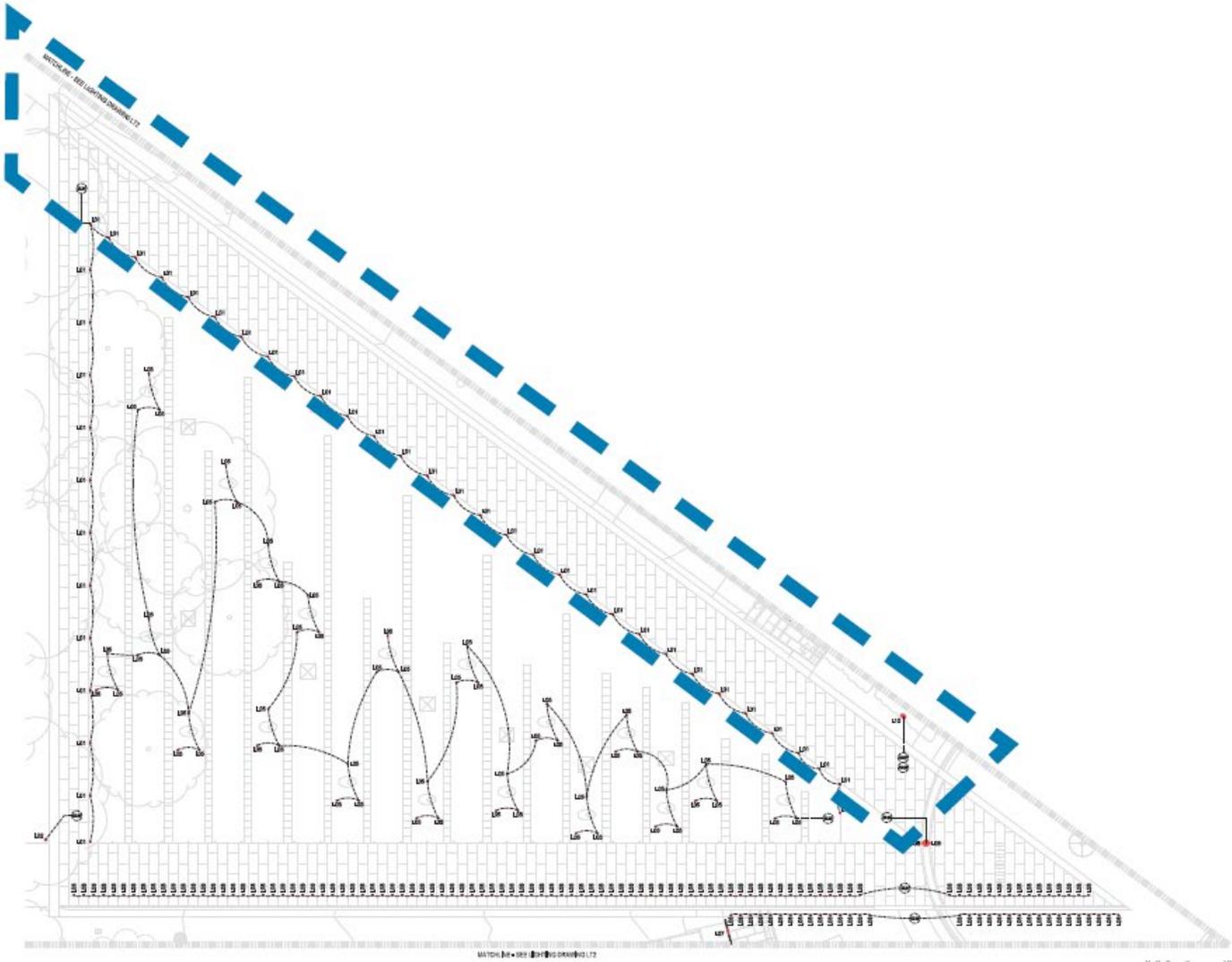
VIETNAM VETERANS MEMORIAL LIGHTING

Night Rendering of Wall of Remembrance – Detail View



NIGHT RENDERING OF WALL OF REMEMBRANCE - DETAIL VIEW

Proposed Lighting Plan for UN Curb and North Pathway



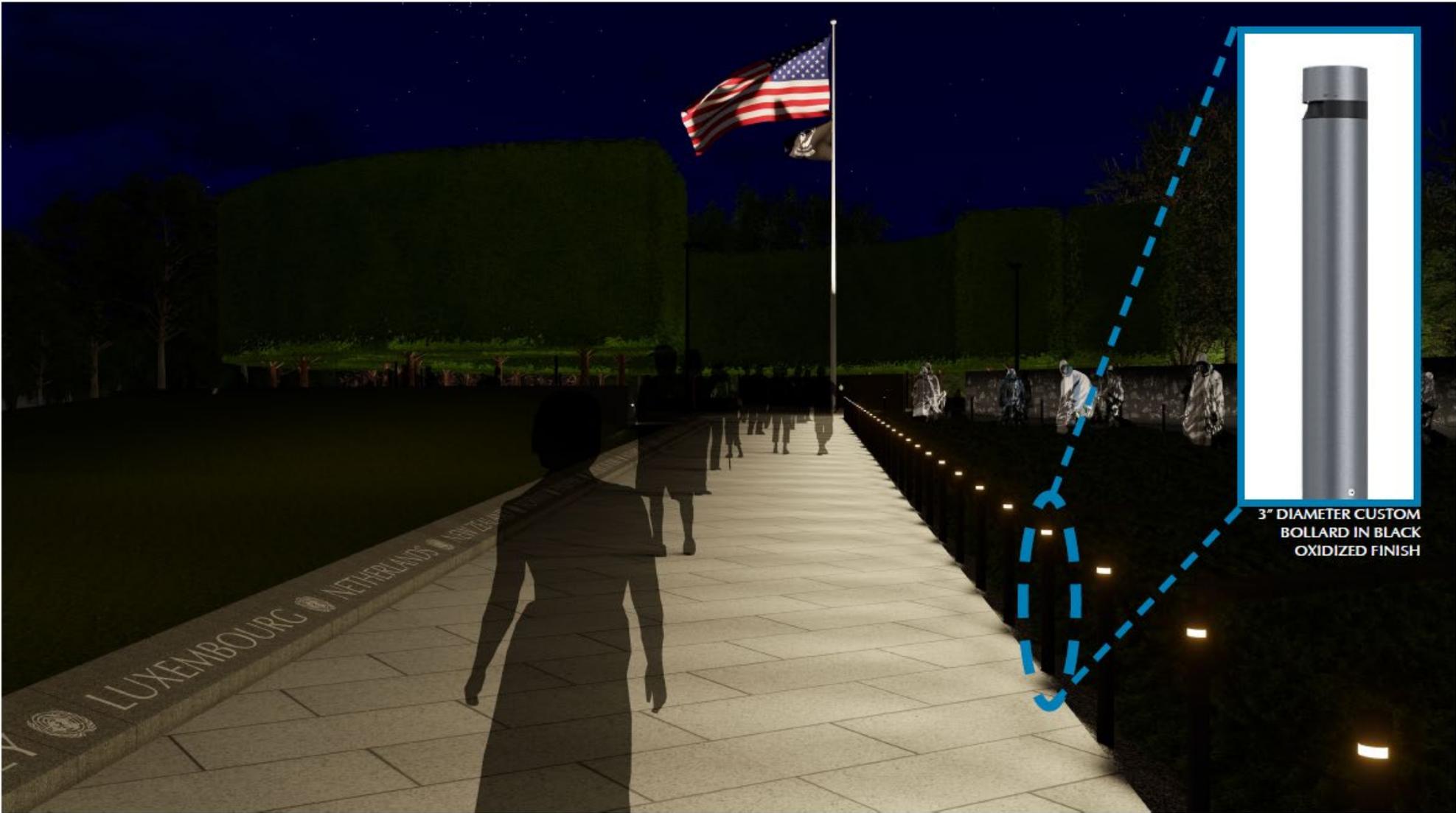
PROPOSED LIGHTING PLAN - UN CURB AND NORTH PATHWAY

Existing Site Photo of UN Curb and North Pathway



EXISTING SITE PHOTO - UN CURB AND NORTH PATHWAY

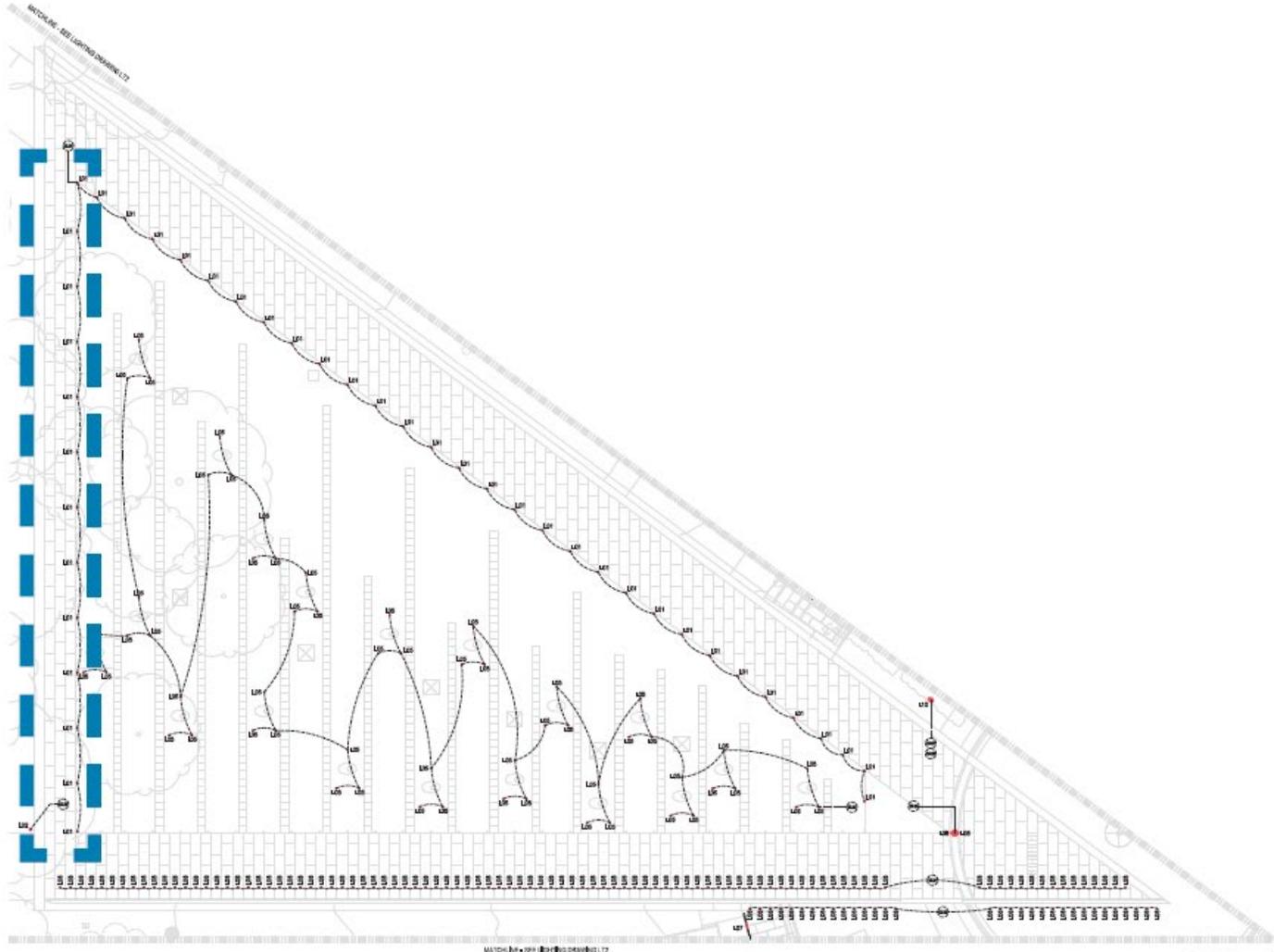
Night Rendering of UN Curb and North Pathway



3" DIAMETER CUSTOM
BOLLARD IN BLACK
OXIDIZED FINISH

* REVISED PAGE *
NIGHT RENDERING OF UN CURB AND NORTH PATHWAY

Proposed Lighting Plan West Side of Field of Service



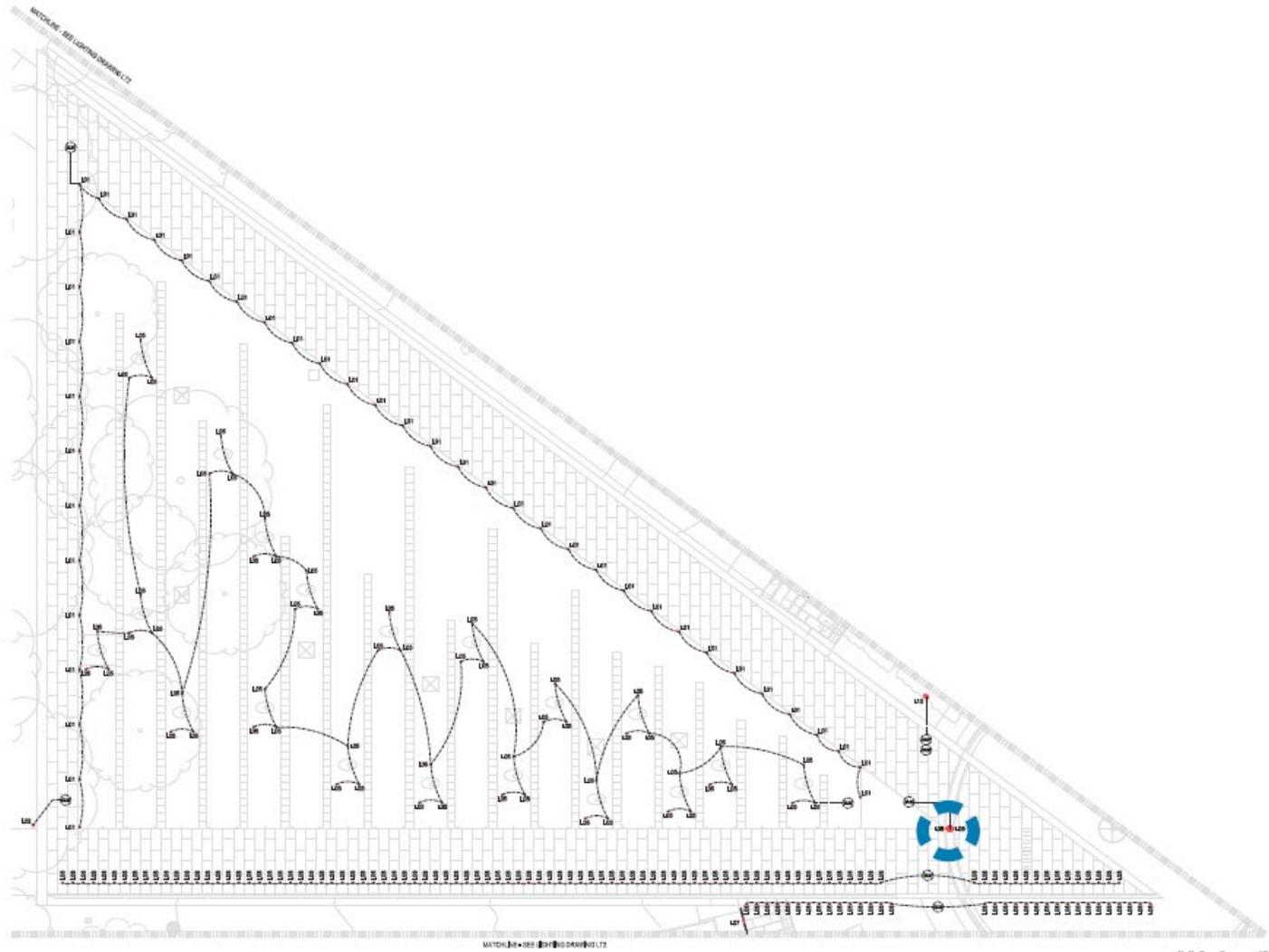
PROPOSED LIGHTING PLAN - WEST SIDE OF FIELD OF SERVICE

Night Rendering of West Side of Field of Service



NIGHT RENDERING OF WEST SIDE OF FIELD OF SERVICE

Proposed Lighting Plan for Flagpole



PROPOSED LIGHTING PLAN - FLAGPOLE

Existing Site Photos of Flagpole



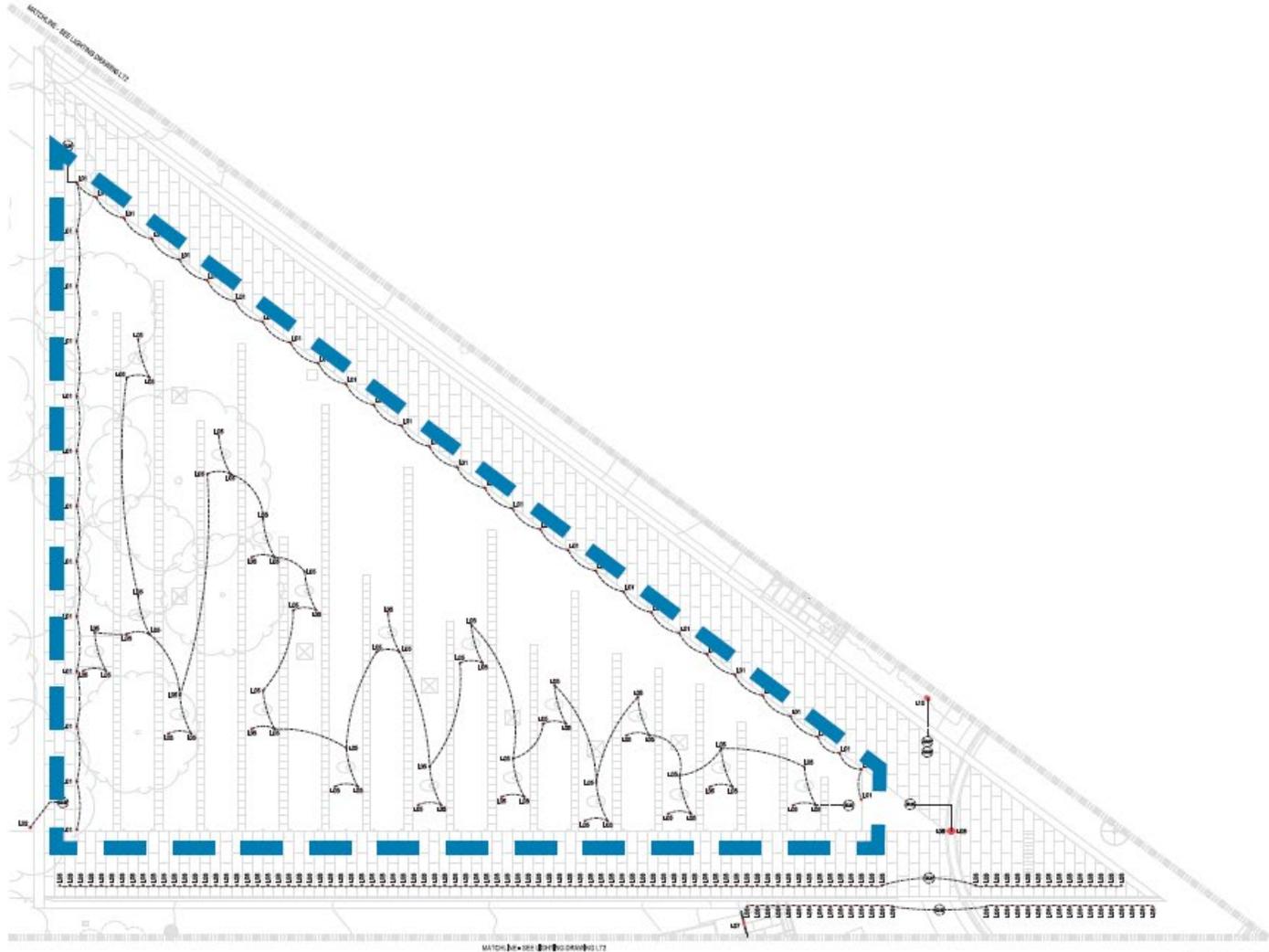
EXISTING SITE PHOTOS - FLAGPOLE

Night Rendering of Flagpole



NIGHT RENDERING OF FLAGPOLE

Proposed Lighting Plan of Field of Service



PROPOSED LIGHTING PLAN - FIELD OF SERVICE

Existing Site Photos of Field of Service



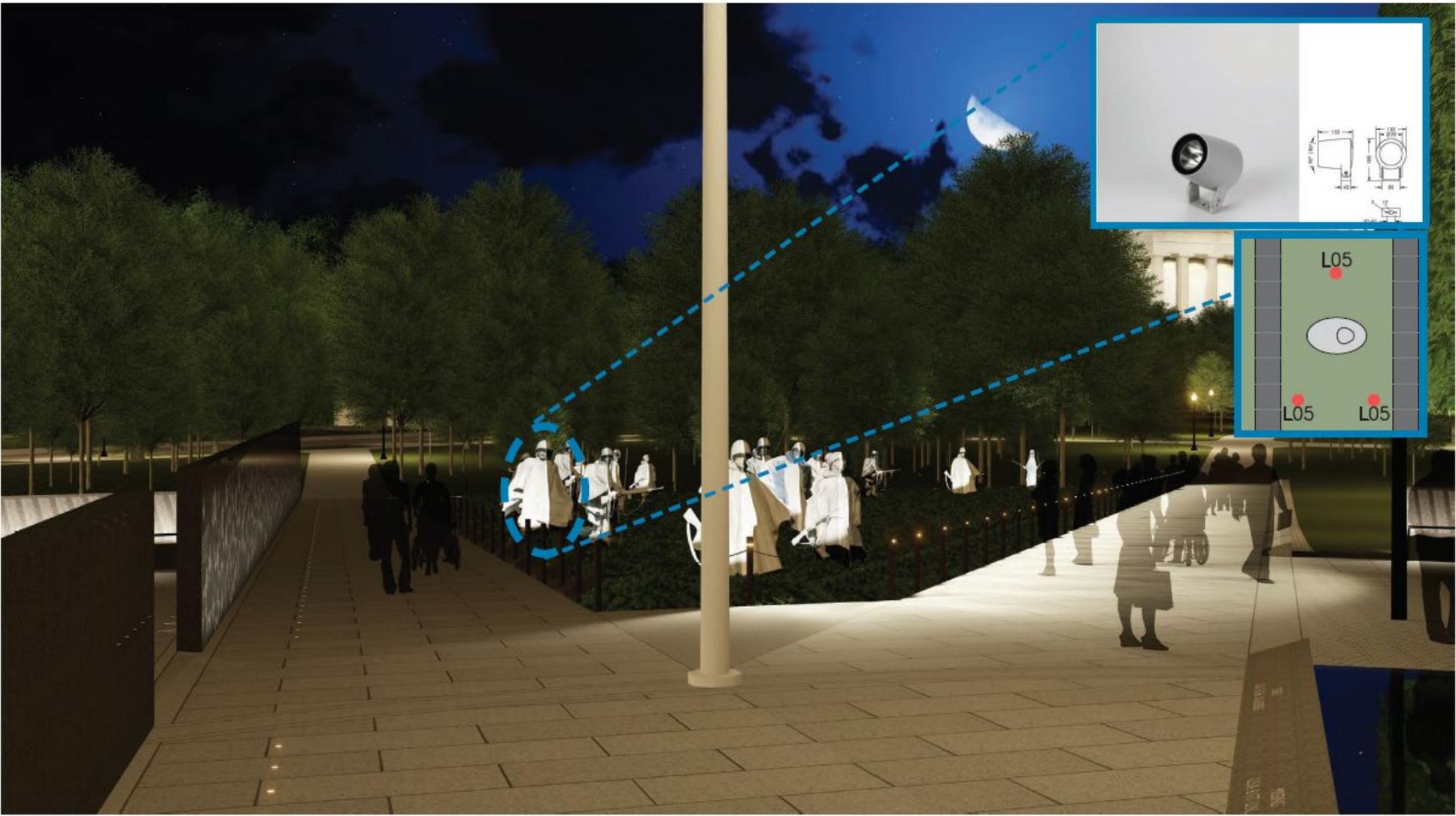
EXISTING SITE PHOTOS - FIELD OF SERVICE

Existing Site Photo of Field of Service



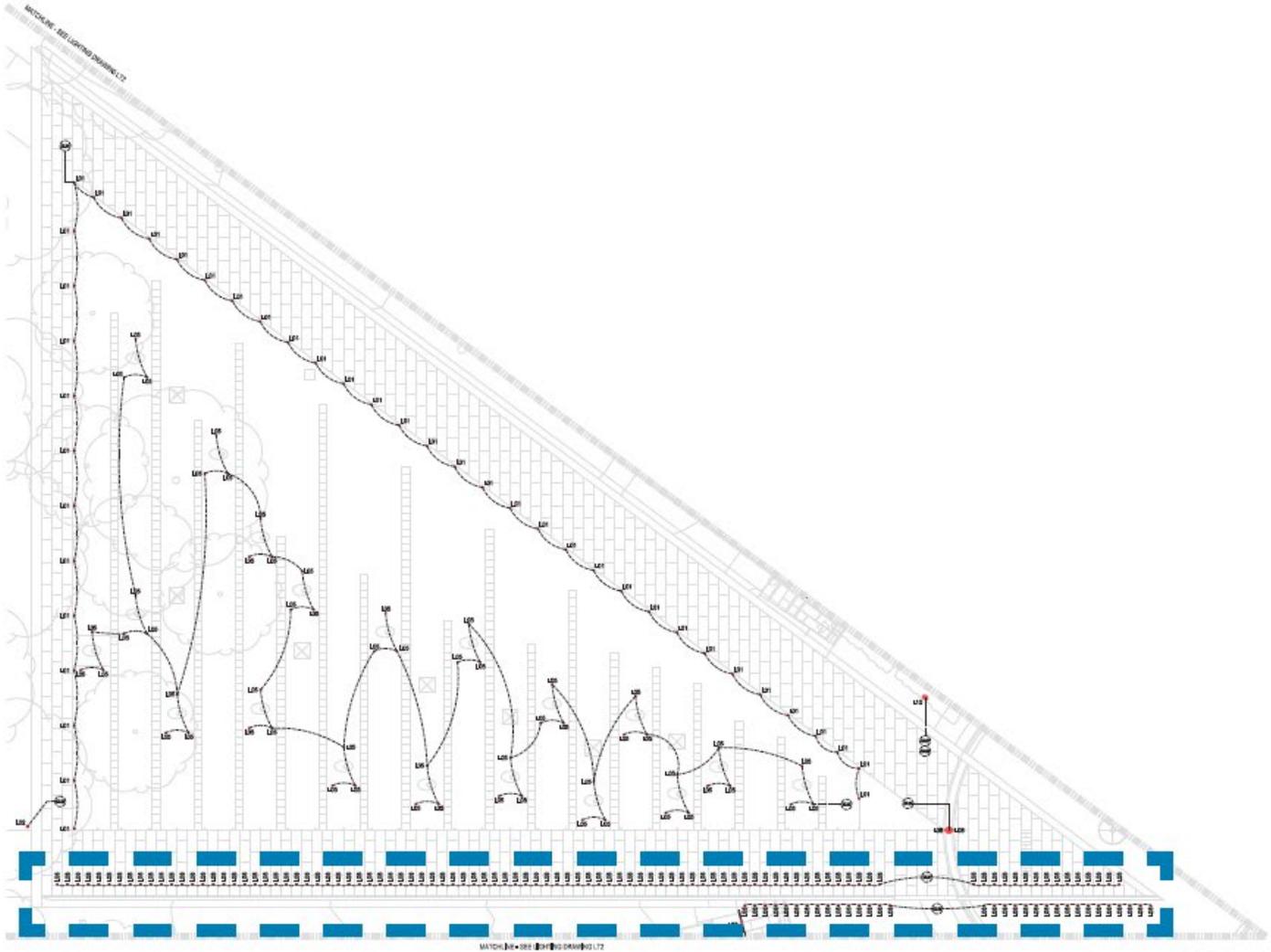
EXISTING SITE PHOTO - FIELD OF SERVICE

Night Rendering of Field of Service



NIGHT RENDERING OF FIELD OF SERVICE

Proposed Lighting Plan for Mural Wall



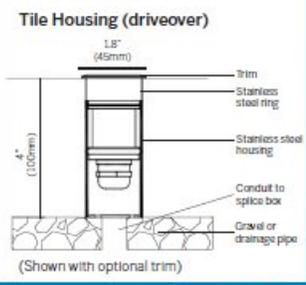
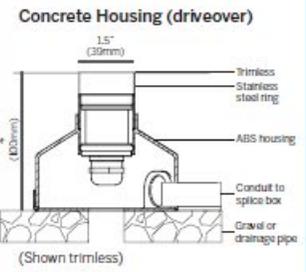
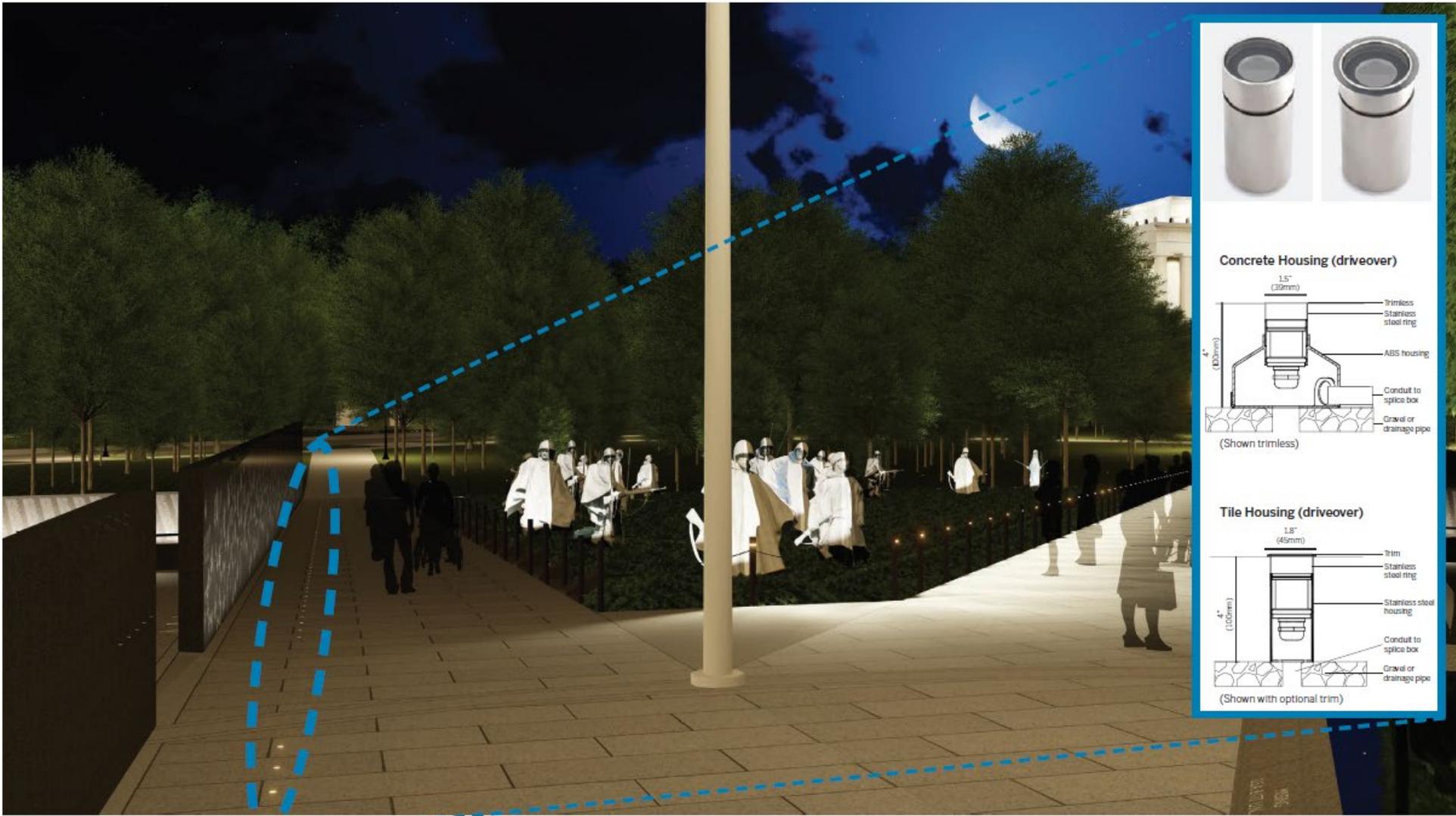
PROPOSED LIGHTING PLAN - MURAL WALL

Existing Site Photos of Mural Wall



EXISTING SITE PHOTOS - MURAL WALL

Night Rendering of Mural Wall



NIGHT RENDERING OF MURAL WALL

Night Rendering of Mural Wall – South Side



* REVISED PAGE *
NIGHT RENDERING OF MURAL WALL - SOUTH SIDE

U.S. COMMISSION OF FINE ARTS

ESTABLISHED BY CONGRESS 17 MAY 1910

401 F STREET NW SUITE 312 WASHINGTON DC 20001-2728 202-504-2200 FAX 202-504-2195 WWW.CFA.GOV

23 April 2020

Dear Ms. Mendelson-Ielmini:

In its public meeting of 16 April conducted by videoconference, the Commission of Fine Arts approved, based on its prior review of the submission materials, the proposed final design for the addition of a Wall of Remembrance at the Korean War Veterans Memorial in West Potomac Park. In the Commission's overall support for the design, this approval action excludes the treatment of the termination of the new wall behind the existing mural wall, a detail that continues to require refinement; the Commission requested further study of the resolution of this detail, delegating its approval to the staff.

The Commission appreciates the careful design of the proposed addition to this national memorial. For the completion of the final review process, please coordinate with the staff, which is available to assist you as always.

Sincerely,



Thomas E. Luebke, FAIA
Secretary

Lisa Mendelson-Ielmini, Acting Director
Region 1–National Capital Area
National Park Service
1100 Ohio Drive, SW
Washington, DC 20242

cc: Mary Kay Lanzillotta, Hartman-Cox Architects