



Smithsonian Institution
Revitalization of the Historic Core
Smithsonian Institution Building -
The Castle

Commission of Fine Arts
REVISED CONCEPT SUBMISSION

September 15, 2022

EYP-Loring, LLC



Project Name

Revitalization of the Historic Core (RoHC)

Smithsonian Institution Building
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Washington DC 20024

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EYP-Loring, LLC – AE of Record

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RHI (Rhodeside and Harwell) – Landscape Architecture
Simpson Gumpertz & Heger – Building Envelope Consulting
Jensen Hughes – Fire Protection, Life Safety, Accessibility
Sorba (f. Wiles Mensch) – Civil Engineering
Axias (f. Hanscomb Consulting) – Construction Cost Analysis & Estimating
Aerosol Monitoring & Analysis – HazMat Abatement and Analysis
Culinary Advisors – Food Service Design
Phase Shift Consulting – Audio-Visual, Electronic Security
Applied Research Associates – Blast Engineering
Gorove Slade Associates – Traffic Engineering, Materials Handling
C.M. Kling & Associates – Lighting Design
Saunders & Associates - Acoustics
Michael Blades & Associates – Vertical Transportation Systems Design
Building Conservation Services – Materials Conservation Services
Haley & Aldrich – Geotechnical Engineering

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INTRODUCTION

INTRODUCTION

In its meeting of 17 February 2022, the Commission of Fine Arts reviewed a revised concept design submission from the Smithsonian Institution for the renovation of and additions to properties in its historic core—the Smithsonian Institution Building (the Castle), the Arts and Industries Building, and associated underground and site improvements. The Commission approved the revised concept, requesting the presentation of more information and potential alternatives for the proposed remote cooling tower facility, as well as further development of the design for the perimeter security elements.

Since that meeting the scope of the current project has been modified to focus on just the Revitalization of the Castle. The remote cooling towers are not part of the current scope.

The CFA also recommended further development of the detailing and material of the stone planter walls. They also suggested minimizing the presence of bollards at the Castle’s north porch.

The Smithsonian and the EYP-Loring design team have worked closely to review the comments issued by the CFA (shown below in italics) and have addressed these comments in the revised submission as follows:

PERIMETER SECURITY

For the perimeter security system along Jefferson Drive, they endorsed the presented option with raised planter beds, but recommended using only dark-colored metal bollards within the pedestrian paths as a less obtrusive treatment that would visually recede within the landscape context.

Action- The perimeter security element designs have been further studied and are illustrated on page 16, figure 3.1.1.k.

Likewise, they recommended further development of the detailing and material character of the stone planter walls in order to clarify the design treatment for these elements, balanced with the historic building walls and other site walls in this important pedestrian space surrounding the Castle.

Action- Since the last meeting with the Commission and Consulting Parties the design for the perimeter security on Jefferson Drive has been revised based on a revision to the overall security requirements as established by the Smithsonian Institution Office of Protection Services (OPS). The revised requirements focus on protecting the public entrances on Jefferson Drive for the Freer Gallery, the Smithsonian Institution Building (the Castle), and the Arts and Industries Building (AIB). The revised design is illustrated in Section 3.1.1.

The revised design was shared in Consulting Parties Meeting #5 on August 24, 2022.

COOLING TOWERS

Finally, they raised concerns regarding the array of cooling towers proposed to be installed on the grounds of the National Museum of Natural History across the Mall, questioning whether this installation would be the most visionary and sustainable solution. Therefore, they requested an analysis of alternative solutions for this component of the project, including a geothermal well field or other options, potentially designed and sited in cooperation with other agencies.

Action- The project scope has been revised to focus on the Revitalization of the Castle. The Arts and Industries Building (AIB), the Central Utility Plant (CUP), and the cooling towers on the north side of the National Mall are not included in the revised RoHC Revitalize Castle project.

EAST WING ELEVATOR

In response to comments received from the Commission and Consulting Parties the design for the elevator in the East Wing of the Castle has been revised. In coordination with staff at the Smithsonian Institution an alternate type of elevator was studied which requires less overrun space. While this is not the standard type of elevator used in Smithsonian facilities it was accepted in this location to minimize exterior visual impacts to the Castle. Utilizing this alternate type of elevator will result in no rooftop penthouse, as illustrated in Section 3.3.1.

The revised design was shared in Consulting Parties Meeting #5 on August 24, 2022.

1. PROJECT OVERVIEW

1. PROJECT OVERVIEW

1.1 SUBMISSION SUMMARY

The project site is located on the south side of the National Mall in Washington, D.C., within an area that is identified by the Smithsonian Institution as the South Mall Campus. The project site is bounded by the Arts and Industries Building on the East, the below-ground Quadrangle Building (Quad) on the South, and Jefferson Drive on the North. The Quad is connected to the Freer Gallery and contains the Ripley Center, the Arthur M Sackler Gallery, and the Smithsonian National Museum of African Art.

The total area of the site is approximately 2.50 acres. The project site includes one existing building, the Smithsonian Institution Building (SIB/Castle).

The project will include the development of perimeter security design on Jefferson Drive from 12th Street SW (to the west) to the entrance to the Ripley Garden (to the east). The section **perimeter security** directly north of the Castle will be constructed as part of this project. Construction of the **perimeter security** sections to the west and east will be constructed as part of future projects.

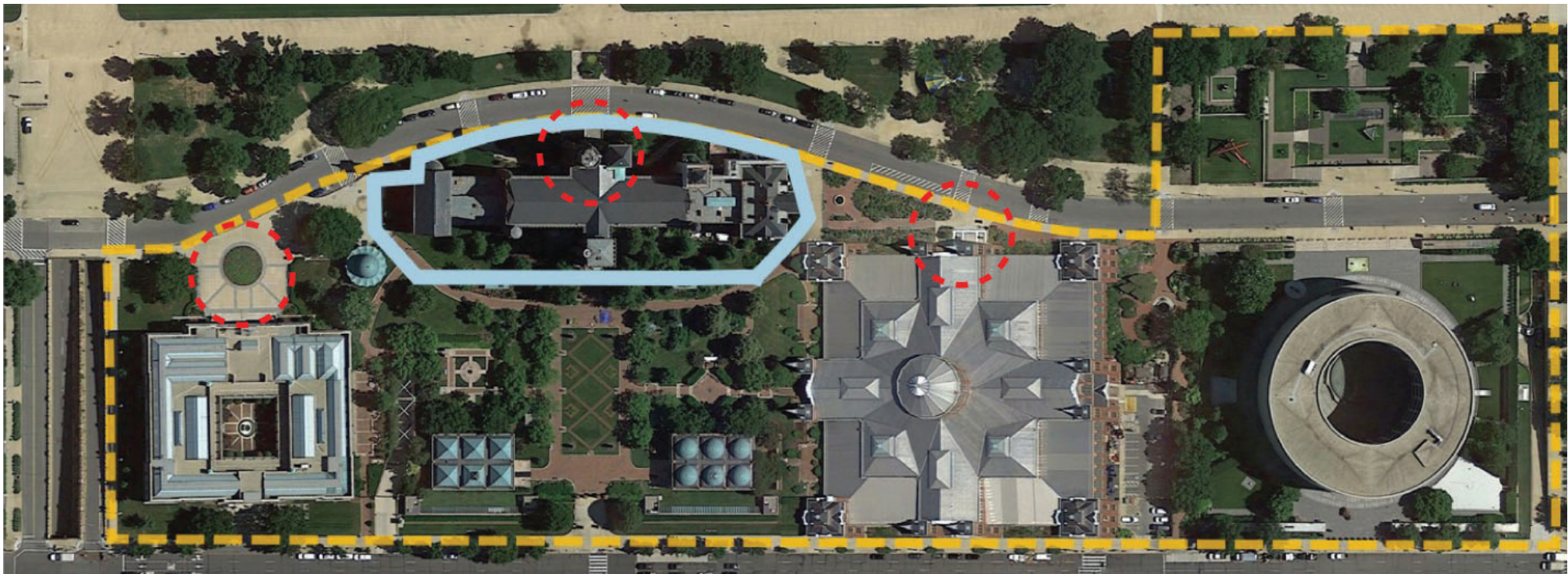


Figure 1.1.a - Project site.

- SMITHSONIAN INSTITUTION CASTLE
- SOUTH MALL CAMPUS
- PROPOSED PERIMETER SECURITY



1. PROJECT OVERVIEW

1.2 DESCRIPTION OF THE PROPOSED PROJECT

1.2.1 SCOPE

There is a need for comprehensive rehabilitation of the Smithsonian Institution Building (SIB or “the Castle”) in order to address physical deterioration, obsolete systems, and non-compliance with construction, accessibility, and life-safety codes. The Castle is a National Historic Landmark, listed in the National Register of Historic Places, and part of the National Mall Historic District.

The Smithsonian Institution Building (SIB), familiarly known as “the Castle”, is located on the National Mall in Washington, D.C. It was designed by James Renwick, Jr., under the direction of the Smithsonian’s first Secretary, Joseph Henry, and the Board of Regents. When completed in 1855, the building housed all the Smithsonian’s operations including research and administrative offices, lecture and exhibition halls, a library and reading room, chemical laboratories, storage areas for specimens, and living quarters for Joseph Henry and his family. As each successive Secretary has redefined the Smithsonian’s mission and managed its growth, the Castle’s interior spaces have undergone many modifications. While the building’s stewards do their best to maintain and repair it, continuing decay and piecemeal remodeling threaten the integrity of the building. In order to prevent impending catastrophic failure of structural, environmental, mechanical, and electrical systems, the building needs a full system revitalization.

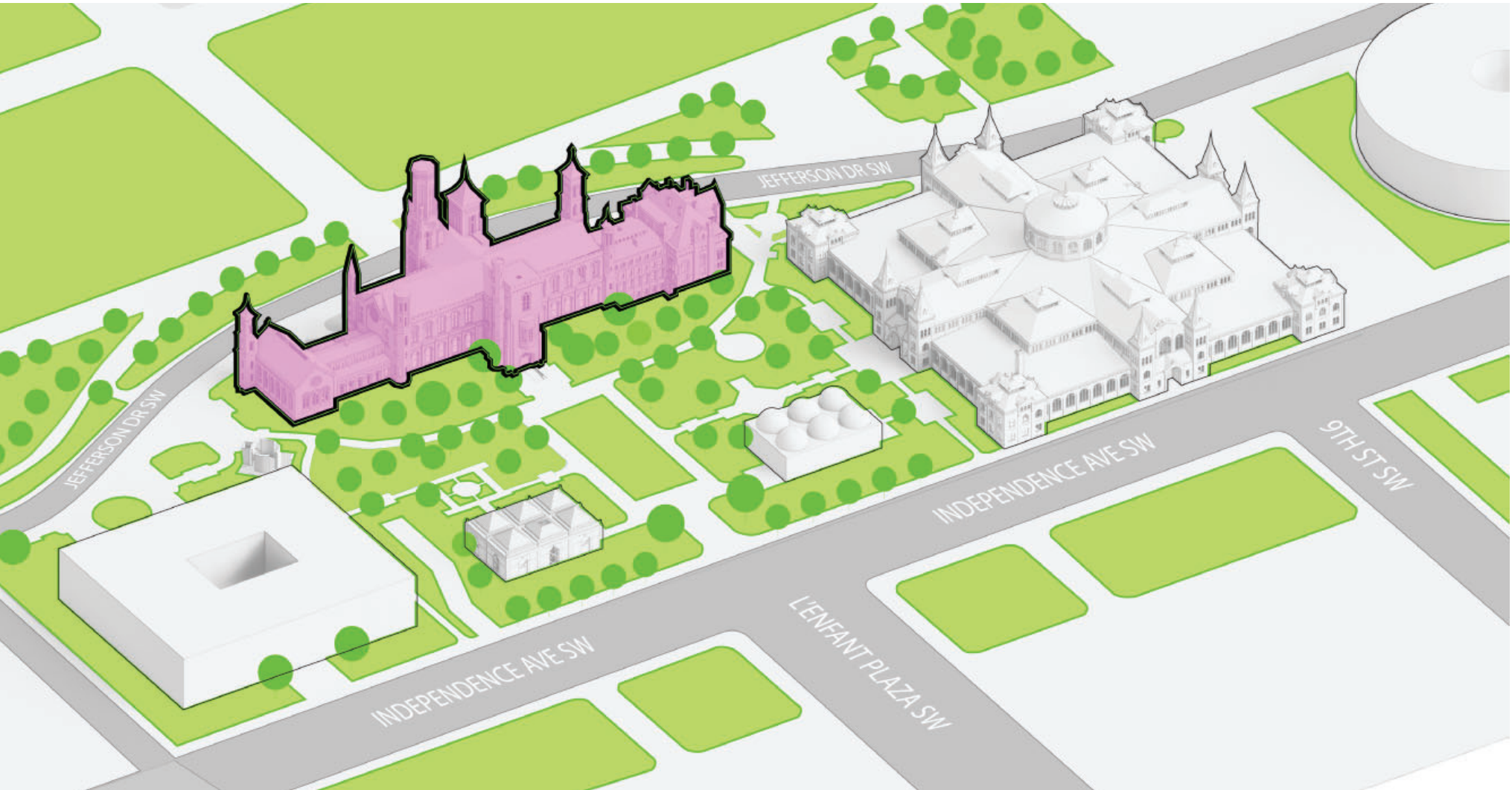


Figure 1.2.1.a - Overall scope.

1. PROJECT OVERVIEW

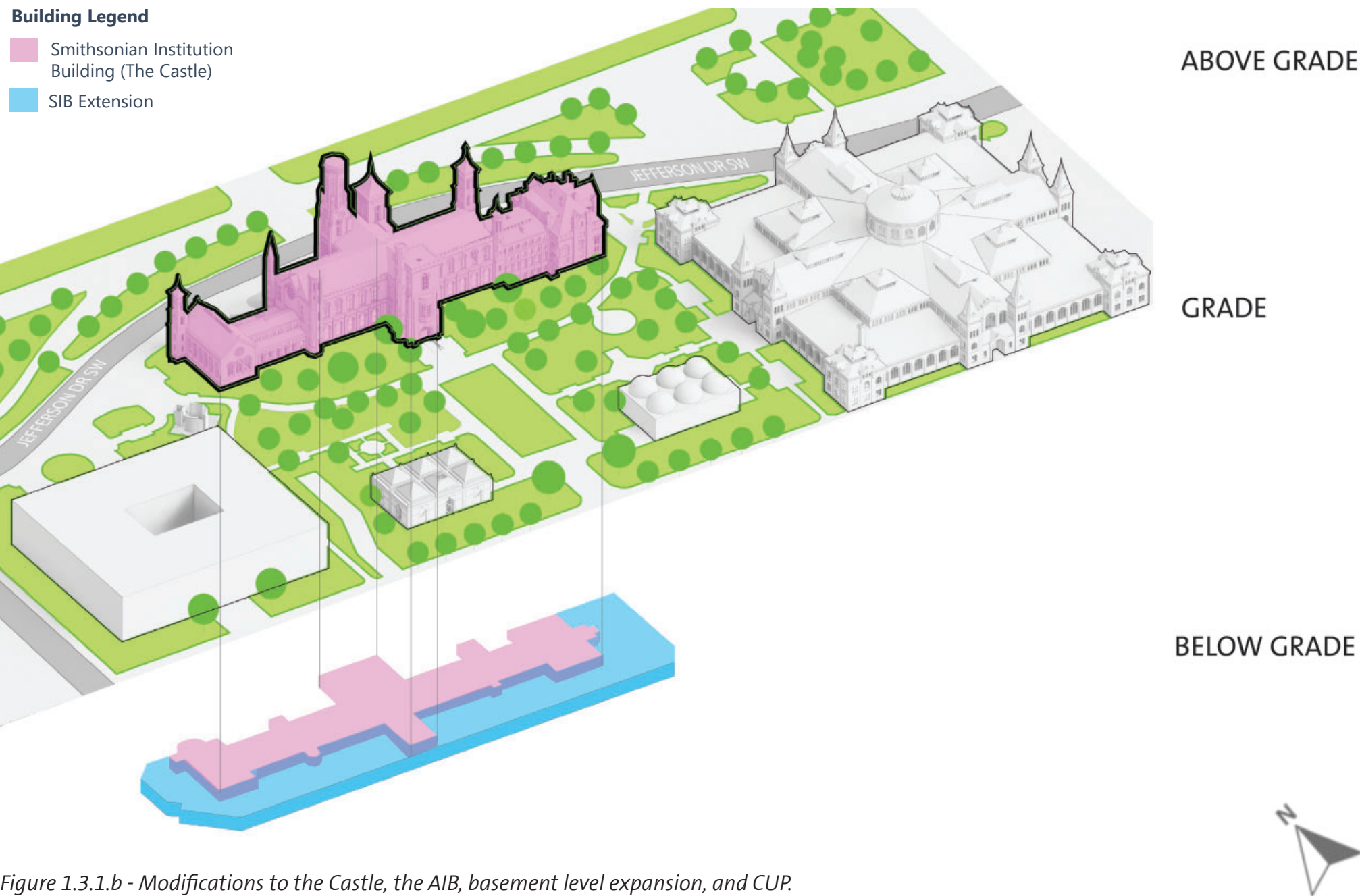
1.2 DESCRIPTION OF THE PROPOSED PROJECT

1.2.1 SCOPE (CONTINUED)

Implementation of the South Mall Campus Master Plan, approved in 2018, included excavation below and adjacent to the Castle to create a mechanical distribution level and increase floor to ceiling height in the basement level. This project will implement these design actions, install seismic base isolation, and proposes a B1 level service extension.

The B1 SIB Extension aligns with the B1 level of the adjacent Quadrangle Building and the existing loading dock and provides space for non-public support functions. The SIB Extension will facilitate the use of the historic interiors of the Castle for public programming.

This project will excavate but not enable a future B2 level connection between the Castle and the Quadrangle. This project will not provide any public circulation between any South Mall Campus buildings.



2. OUTREACH AND COORDINATION

2. OUTREACH AND COORDINATION

2.1 PUBLIC ENGAGEMENT

The South Mall Campus Master Plan Programmatic Agreement provides the framework for and reinforces the importance of ongoing and future public consultations as part of the implementation of the Master Plan in compliance with the National Historic Preservation Act. As part of the Section 106 review process Consulting Parties meetings have been held in alignment with the milestone progress of the project, initiated during Concept Design. In parallel with the public meetings the project has been submitted for review to the National Capital Planning Commission (NCPC) and the Commission of Fine Arts (CFA). All of these formal review processes incorporate public input.

The Section 106 process was initiated in October 2020, and the following meetings have been held virtually:

- 2021-1-13: RoHC Consulting Parties Meeting #1 (Description of the scope of the project and the historic significance of the Castle and the Arts & Industries Building)
- 2021-5-26: RoHC Consulting Parties Meeting #2a (Presentation of the concept design - focus on the rehabilitation of the Castle and AIB)
- 2021-5-27: RoHC Consulting Parties Meeting #2b (Presentation of the concept design - focus on the central utility plant, cooling towers, and landscape).
- 2021-11-16: RoHC Consulting Parties Meeting #3 Part 1 (Presentation of an overall project update during the schematic design phase)
- 2021-12-14: RoHC Consulting Parties Meeting #3 Part 2 (Presentation of the draft Assessment of Effects on Historic Resources)
- 2022-6-15: RoHC Consulting Parties Meeting #4 (Revitalize Castle Scope)
- 2022-08-24- RoHC Consulting Parties Meeting #5, Part 1 online
- 2022-09-07- RoHC Consulting Parties Meeting #5, Part 2 site visit

The Smithsonian has coordinated review of the RoHC in accordance with the Programmatic Agreement Stipulation 1 – Preliminary Project Consultation. The Signatories were convened for preliminary consultation in October 2020, April 2021, October 2021, and May 2022.

On August 12 and September 16, 2021, the Smithsonian met with the National Park Service to discuss the elements of the project that impact NPS property and the Smithsonian’s comprehensive construction schedule for the Smithsonian projects on the Mall. The Smithsonian has set a recurring monthly Consulting Parties meeting to facilitate consultation.

On May 12, 2022, the Smithsonian met with the National Park Service to discuss the Revitalize Castle scope and perimeter security. Consultation and coordination with the National Park Service will continue through 2023.

The Smithsonian Institution has created and maintains a project specific webpage for the RoHC for Section 106 consulting parties and the public: www.sifacilities.si.edu/historic-core

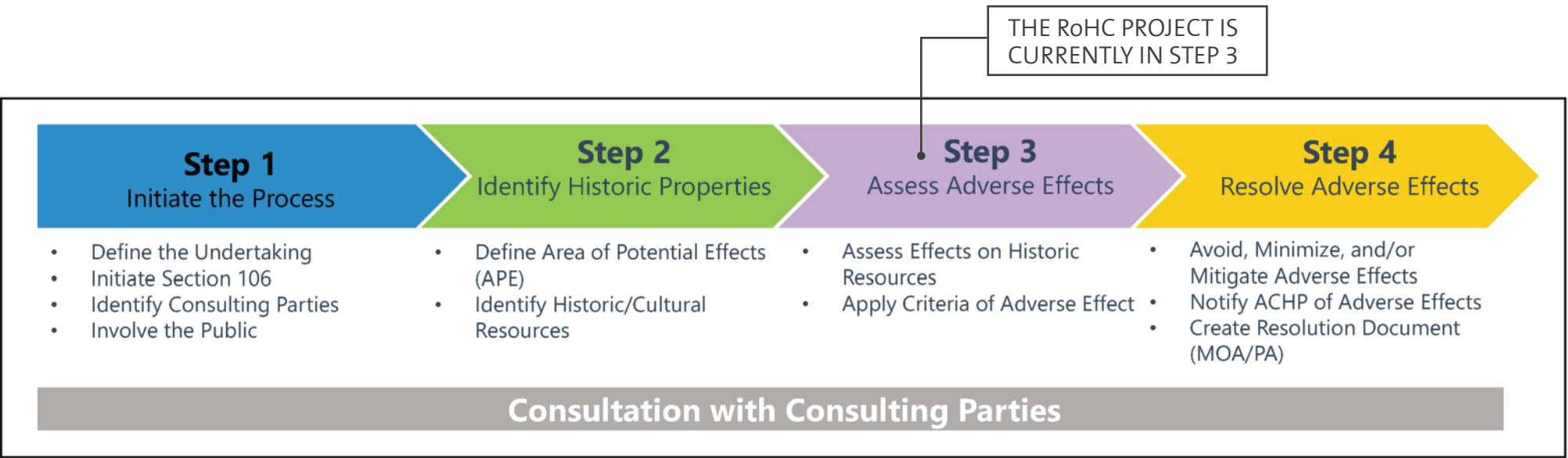


Figure 2.1.a - Section 106 process overview.

3. DETAILED PROJECT INFORMATION

3. DETAILED PROJECT INFORMATION

3.1 LANDSCAPE

3.1.1 PERIMETER SECURITY

EXISTING CONDITIONS – MATERIALS AND FORMS

Historic design elements from the Smithsonian Institution Building (SIB or Castle), the Arts and Industries Building (AIB), and the Freer Gallery of Art inform the materials and forms of the new perimeter security features. Existing materials include the Seneca stone of the Castle, the patterned brick of the AIB, and the lighter stone of the Freer Gallery, as well as various examples of building trim and ornamental metals used for low fencing, railings, and the Haupt Garden fence. In some locations, lush plantings are clearly visible behind these transparent metal features. Paving materials include brick, exposed aggregate concrete, and decorative stone at several of the building entrances. Curbs are typically a medium gray granite.

JEFFERSON DRIVE – PERIMETER SECURITY

Proposed perimeter barriers are designed to minimize adverse impacts on the character of the National Mall and of the historic architecture along Jefferson Drive while also meeting the 2021 Interagency Security Committee Risk Management Process requirements. These elements, sited to protect selected building entries and queuing areas, are incorporated into the streetscape as a strategic sequence of landscape architectural interventions occurring at context-sensitive transition zones. The design of the proposed perimeter security is informed by the National Capital Planning Commission’s Urban Design Element of the Comprehensive Plan for the National Capital (2016), among other resources. Located primarily along the southern edge of the Jefferson Drive sidewalk, proposed anti-ram barriers comprise a hierarchical arrangement of stone and ornamental metal elements including low walls, hardened metal grilles, site furnishings, and metal bollards. These are sited to maximize the stand-off distance, to provide transparency of views, and to minimize visual intrusions upon the historic buildings.



Figure 3.1.1.a - Site plan. Perimeter security diagram.



3. DETAILED PROJECT INFORMATION

3.1 LANDSCAPE

HISTORIC ARCHITECTURAL DETAILS

Details from the site, from the architecture, and from Smithsonian Gardens (SG) Horticultural Artifacts Collection inspire and inform proposed perimeter security features. Pictured are existing fences at the Enid A. Haupt Garden and the Kathrine Dulin Folger Rose Garden, a cast stone lighting base and stone arched entryway at the AIB, a settee and arbor from the SG Collection, grille work at a window of the Freer Gallery of Art, and paving details. Proposed perimeter security elements strive to be compatible with the existing and historic features of the Castle, the AIB, and the Freer Gallery. These features will be designed such that, if SI chooses to expand perimeter security to locations adjacent to the RoHC project area, a compatible system can be developed using many of the proposed elements. Proposed pedestrian gates at the Ripley Garden’s Jefferson Drive entrance will be inspired by the fences and site furnishings. The pedestrian gates will be furthered during a future project.



Figure 3.1.1.b - Image of fence at Rose Garden.



Figure 3.1.1.c - Image of fence at Haupt Garden.



Figure 3.1.1.d - Image of cast stone lighting base at AIB.



Figure 3.1.1.e- Image of black metal settee.



Figure 3.1.1.f - Image of metal arbor at Rose Garden.



Figure 3.1.1.g - Image of typical granite curb.



Figure 3.1.1.h - Image of entryway arch at AIB.



Figure 3.1.1.i - Image of detailing at the Freer Gallery of Art.

3. DETAILED PROJECT INFORMATION

3.1 LANDSCAPE

PERIMETER SECURITY ELEMENTS – MATERIALS AND FORMS SUMMARY

Proposed perimeter security interventions comprise a collection of site furnishings, stone walls, strengthened seating elements, hardened ornamental metal grilles, and related objects. The materials for the perimeter security will have a unified language of color, form, and texture. Generally, security features will be 30 inches to 34 inches in height spaced no more than four feet apart. Linear security features will follow the curvature of adjacent planted areas.

The various elements pictured in Figure 3.1.1.j are shown in greater detail on the following pages.

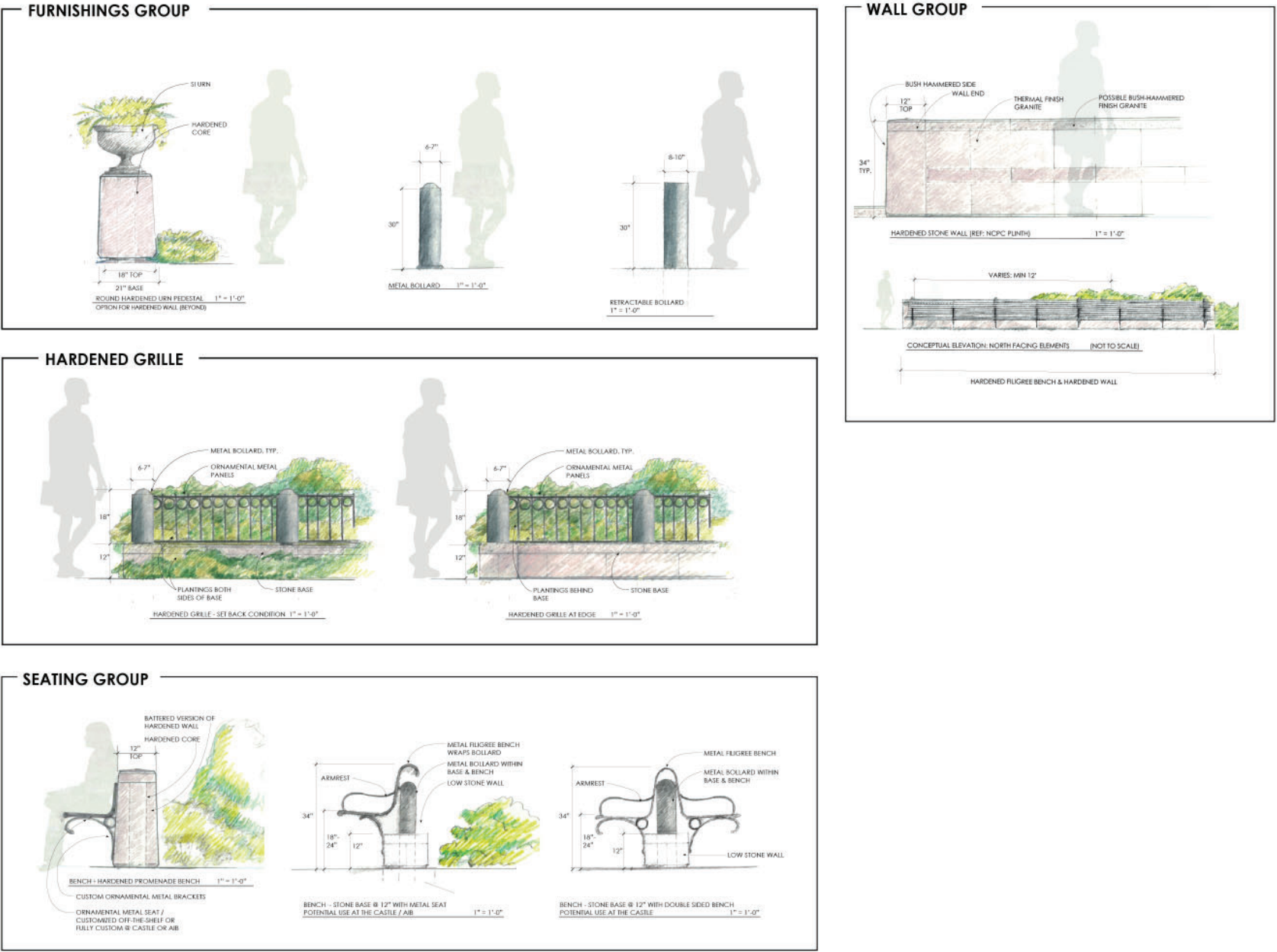


Figure 3.1.1.j - Perimeter security elements.

3. DETAILED PROJECT INFORMATION

3.1 LANDSCAPE

HARDENED OBJECTS

Perimeter security objects include anti-ram bollards and hardened ornamental urn bases (Figure 3.1.1.k). Fixed bollards will be simple, metal bollards with articulated rounded tops. Retractable bollards meeting the security design criteria are required in areas where vehicular access will be needed. Both fixed and retractable bollards will be of similar color and finish for a cohesive appearance. The design team is also studying opportunities for decorative textures on the bollards at selected building locations. In two locations flanking the Castle’s north tower, stone pedestals with hardened cores will be used for perimeter security. Inspired by an urn on display to the west of the North Tower, these may be used for the exhibition of objects from the Smithsonian Horticultural Artifacts Collection. Fixed bollards and the urn base will be filled with 4,000 pound-force per square inch (psi) normal weight concrete.

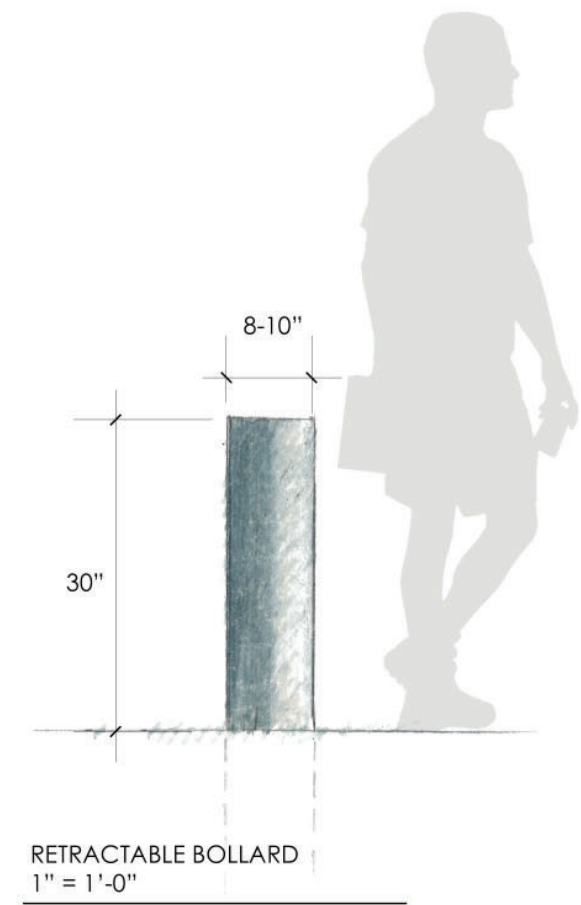
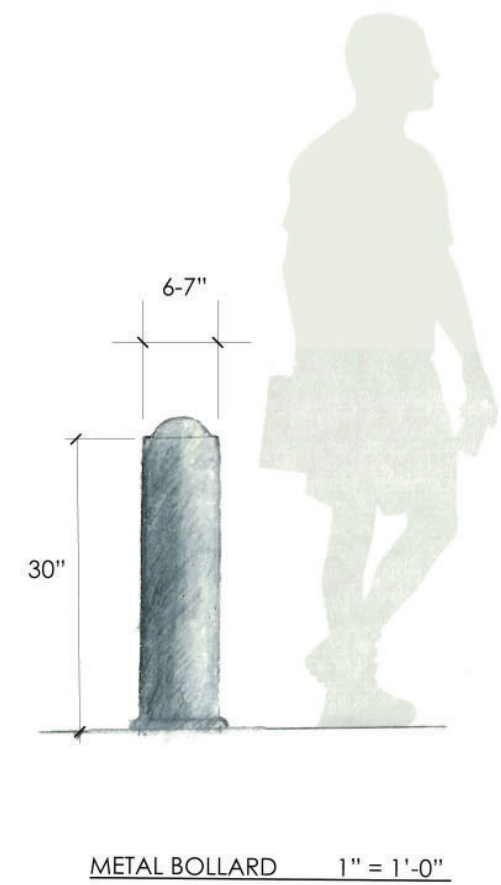
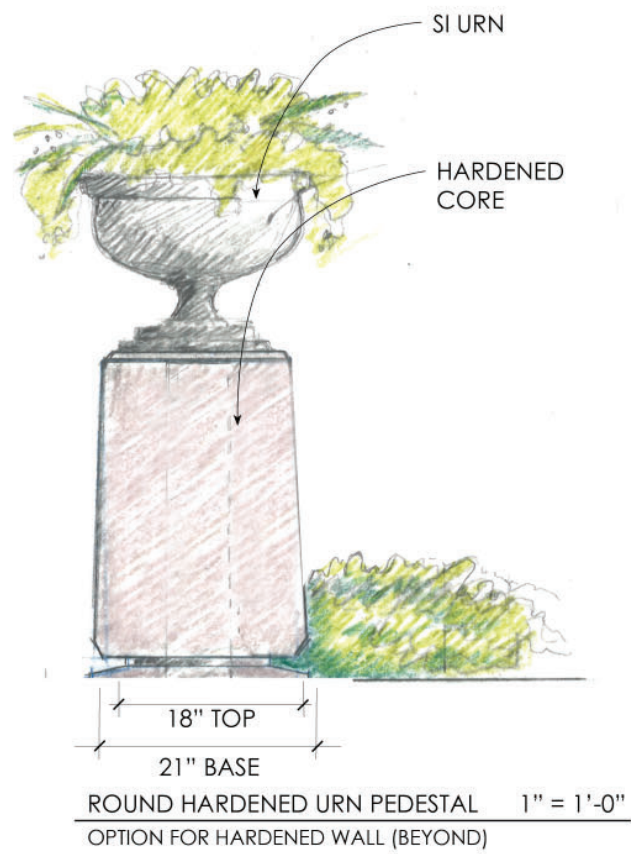


Figure 3.1.1.k - Perimeter security objects..

3. DETAILED PROJECT INFORMATION

3.1 LANDSCAPE

HARDENED STONE WALLS

Hardened stone walls will serve as a unifying component of the perimeter security strategy. The walls will range from 12 inches to 34 inches in height. The walls will support hardened grilles and seating elements, accessible ramp edges, and signage as described later in this report. The detailing of the granite walls is informed by bush-hammered stone features at the Castle. Thermal finishing is also being studied. Selection of granite alternatives, terminal wall endings, and finishing will be determined during Design Development.

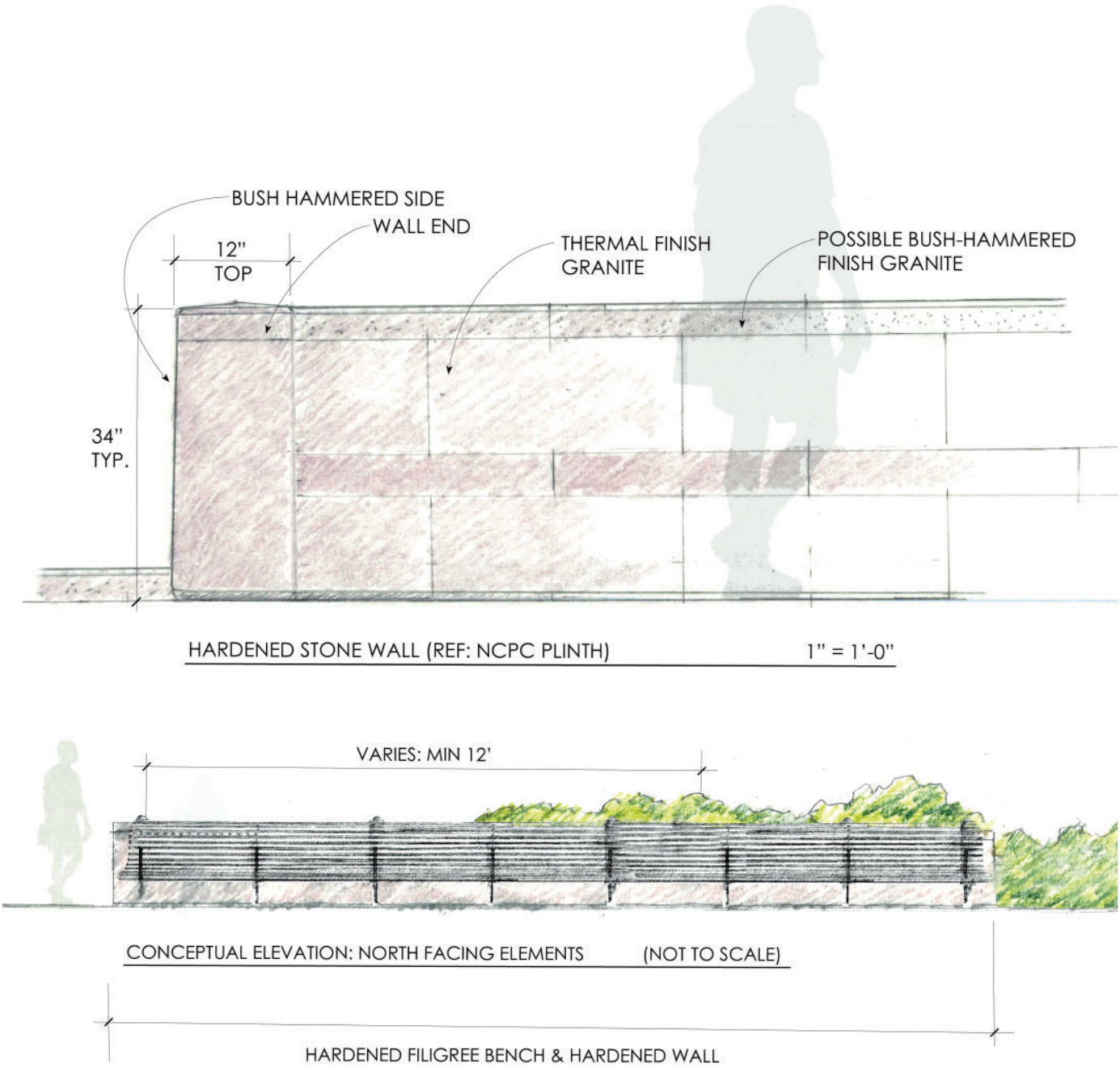


Figure 3.1.1.1 - Hardened stone walls.

3. DETAILED PROJECT INFORMATION

3.1 LANDSCAPE

HARDENED STONE WALLS WITH HARDENED GRILLES

In some locations, such as at the Freer Gallery, a 12-inch-tall stone wall will be employed as perimeter security. It will consist of granite finished to match that of the taller stone wall. Metal bollards will be incorporated into the low stone wall, with a clear space between them of no greater than four feet. Ornamental metal panels will be erected between the bollards. The panels reflect the design of the fences that enclose the Haupt Garden, with metal pickets and geometric accents. In the section west of the Castle, the accents are proposed to be diamonds to reflect detailing found at the Freer Gallery. The details and materials of the walls and grilles will be furthered during the Design Development phase of the project.

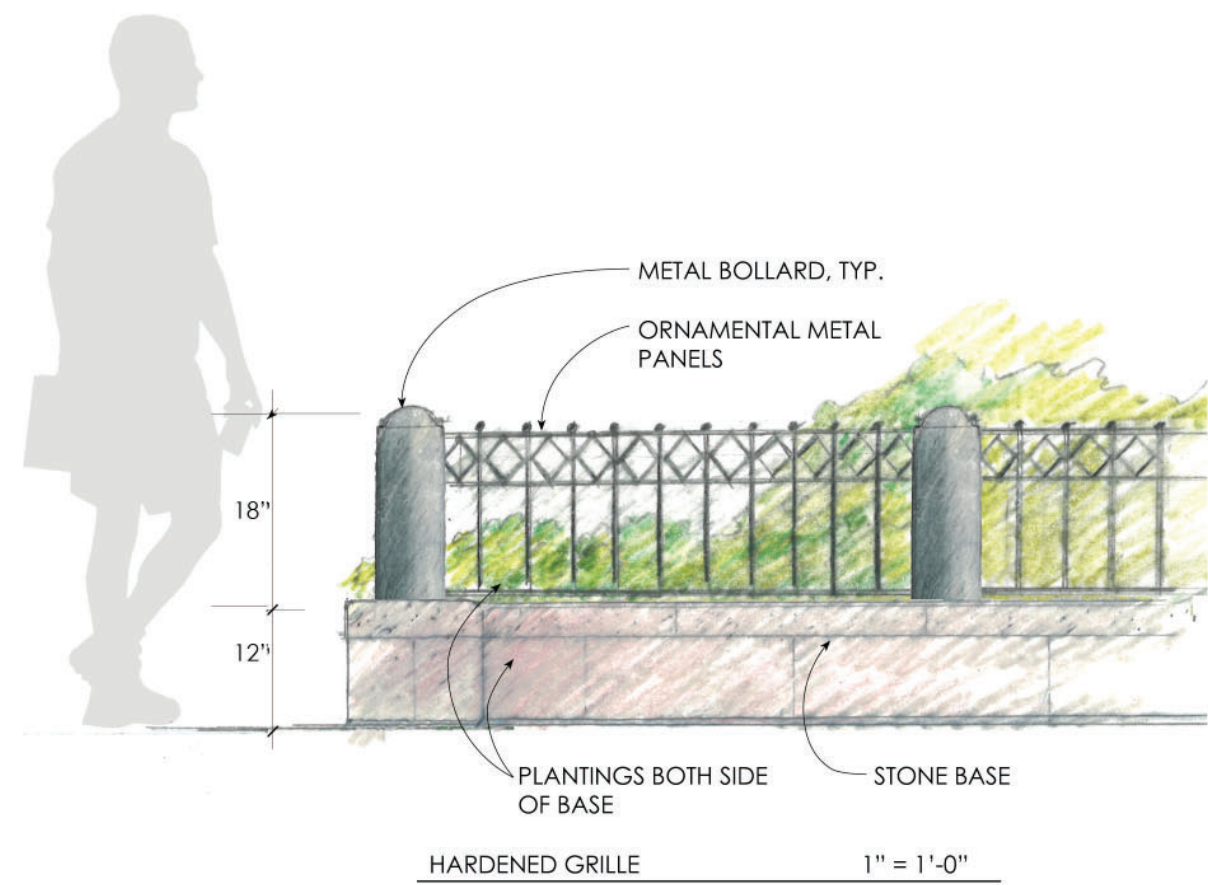


Figure 3.1.1.m - Hardened grille on low stone wall.

3. DETAILED PROJECT INFORMATION

3.1 LANDSCAPE

HARDENED SEATING ELEMENTS

Strengthened seating elements will comprise metal benches attached to the hardened stone walls. These elements will be used at strategic locations along the Castle’s frontage in relation to the east and west ranges looking out to the National Mall. The benches may be off-the-shelf or custom elements. A double-sided bench is anticipated at the porte-cochère entrance to the Castle. Single-sided bench units are suggested along planted areas. Detailing of the benches will be undertaken during the Design Development phase of the project.

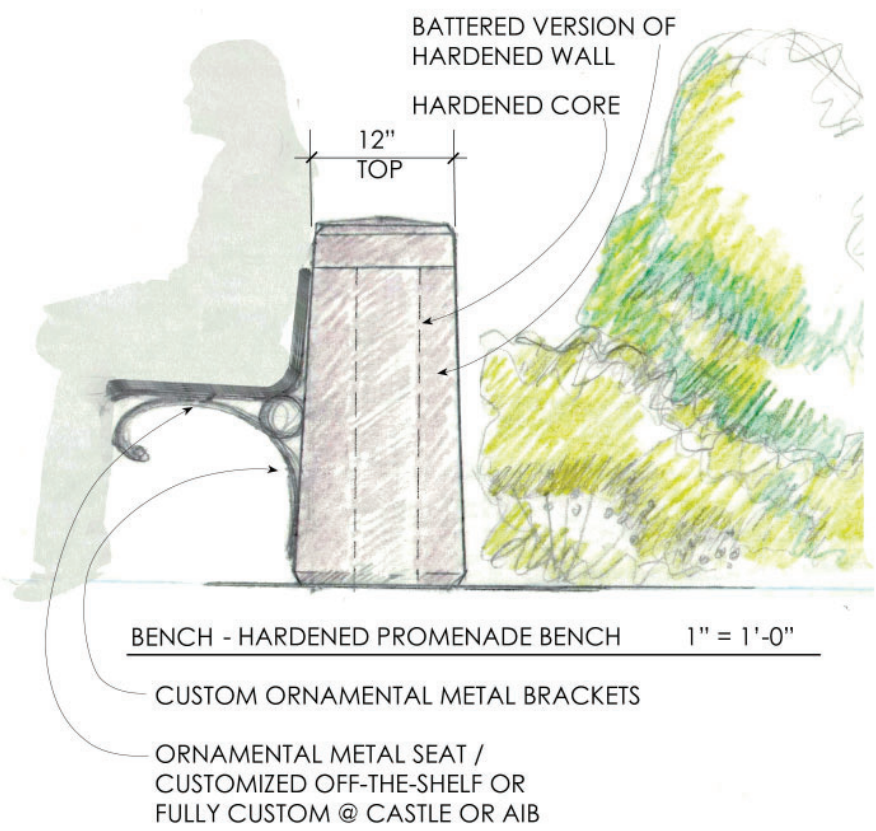


Figure 3.1.1.n - Hardened promenade bench on hardened wall.

3. DETAILED PROJECT INFORMATION

3.1 LANDSCAPE

HARDENED SEATING ELEMENTS

Flanking both sides of the Castle’s porte-cochère, alternative bench designs are being studied. The alternatives consist of a low (12-inch-tall) stone wall with metal bollards spaced to meet the security design criteria. Attached to the bollards and wrapping over top of them, a metal filigree bench will extend the full length of the low stone wall, providing opportunities for seating at these locations. The benches are designed to be double-sided, providing views of both the Mall and the Castle. The design of the metal bench will provide greater transparency in this critical area and will integrate perimeter security with other site furnishings. Single-sided version of this bench is also being considered for other strategic locations along the Castle’s frontage.

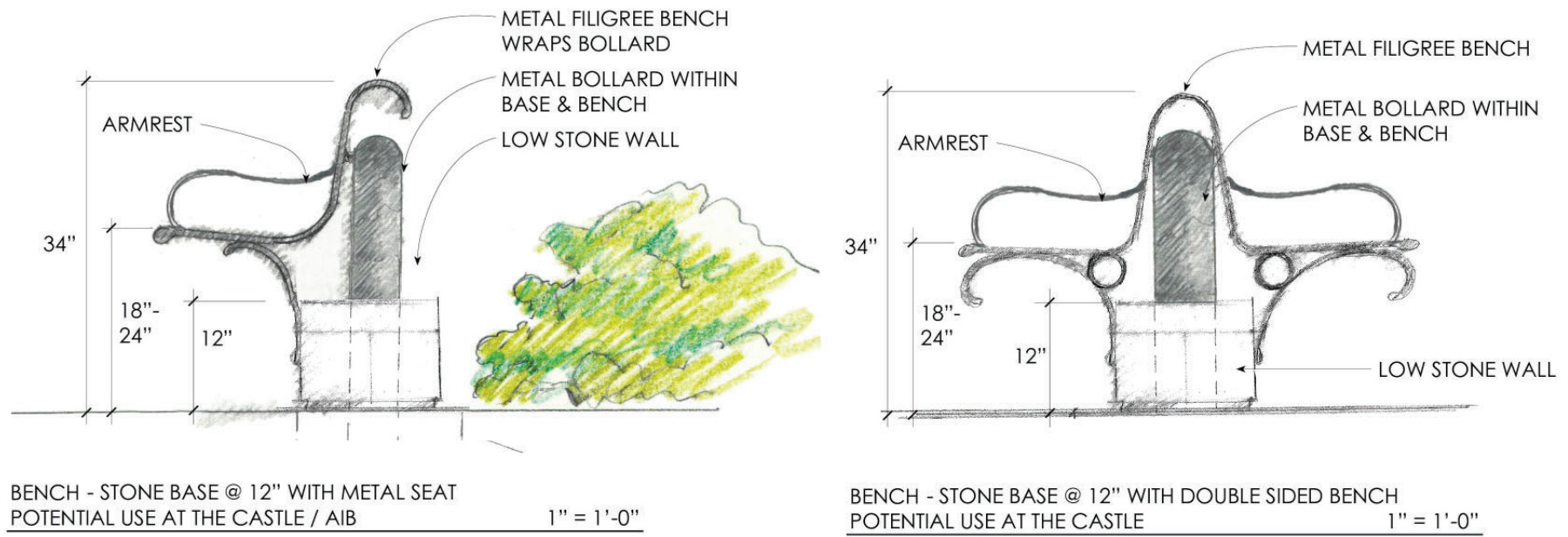


Figure 3.1.1.o - Metal filigree bench on low stone wall.

3. DETAILED PROJECT INFORMATION

3.1 LANDSCAPE

FILIGREE BENCH

The filigree bench concepts incorporate bollards into the design. The armrests of the bench are associated with the locations of the bollards and would be spaced just over four feet apart (the bollards are four-feet clear from edge to edge). Alternative bench designs, such as the concepts pictured here, will be studied further during the Design Development phase of the project.

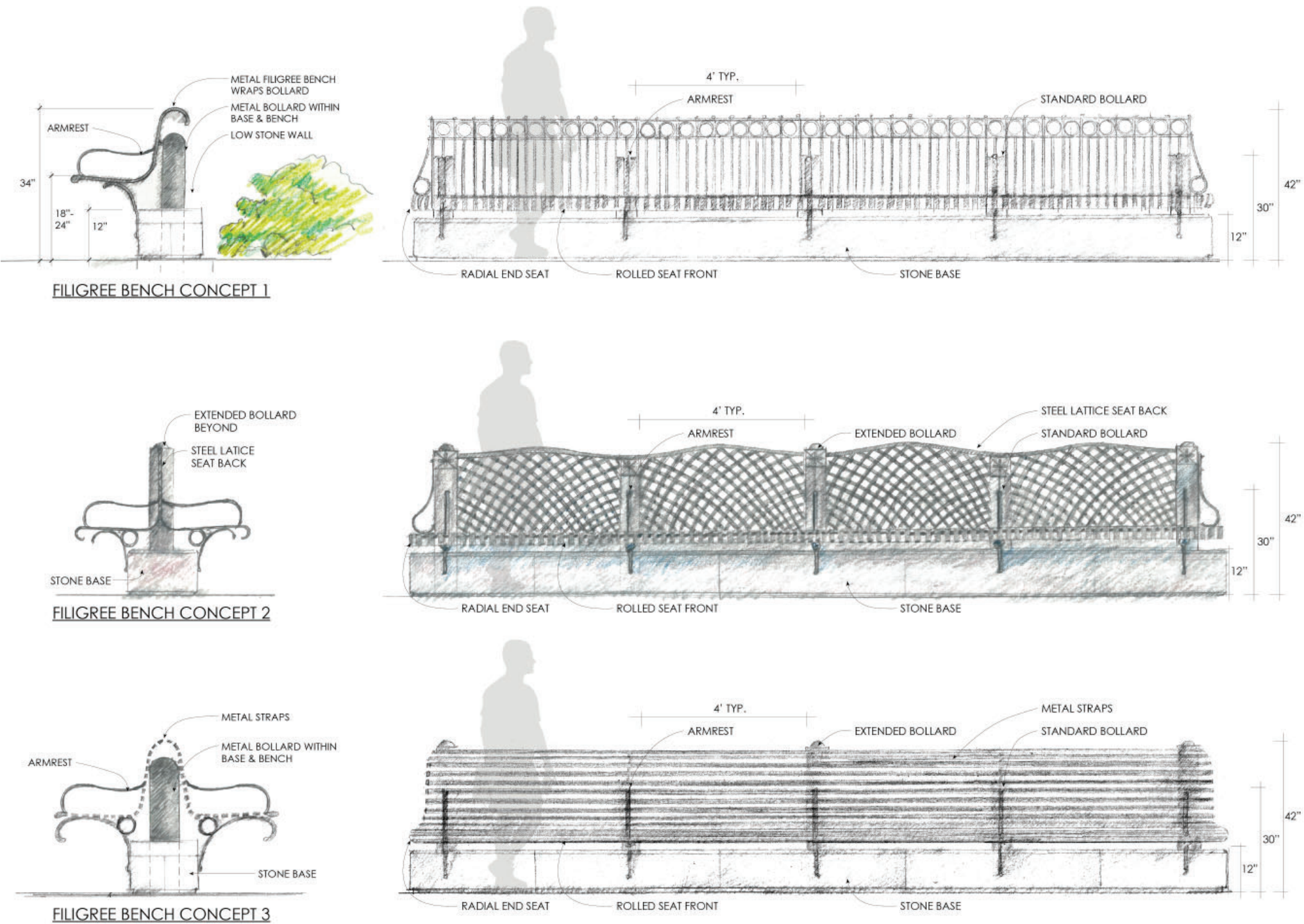


Figure 3.1.1.p - Metal filigree bench on low stone wall studies.

3. DETAILED PROJECT INFORMATION

3.1 LANDSCAPE

JEFFERSON DRIVE PERIMETER SECURITY

The perimeter security elements will be sited to protect selected building entrances and queuing areas for the Freer Gallery, the Castle, and the Arts and Industries Building. As an integrated and cohesive landscape intervention, the perimeter security elements will take the form of site furnishings and garden walls occurring, generally, along transition zones between hardscape and vegetated areas. Figure 3.1.1.q illustrates the locations of the perimeter security interventions.

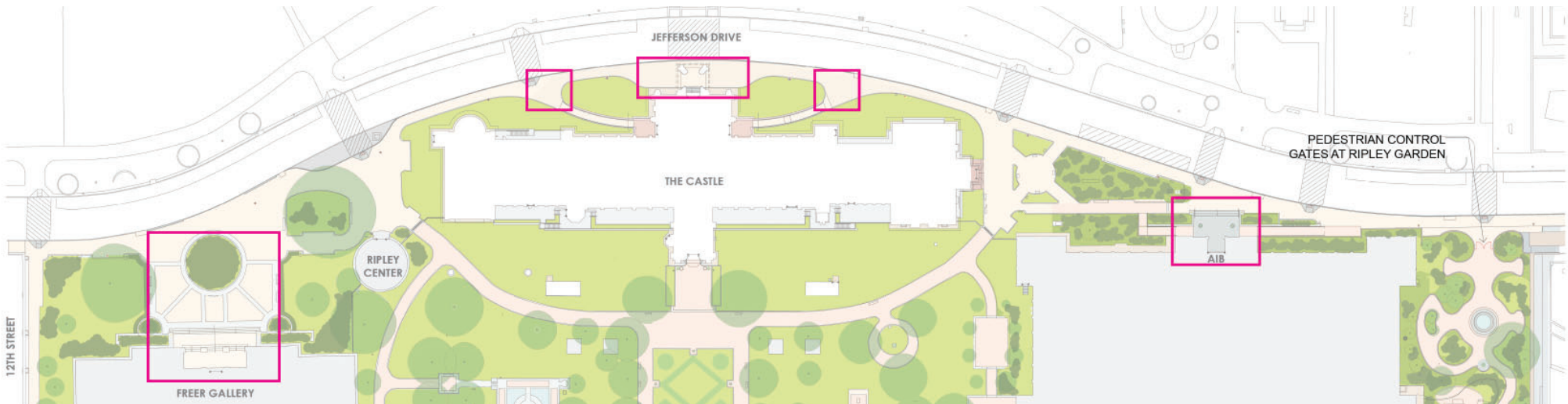


Figure 3.1.1.q - Proposed Jefferson Drive perimeter security locations.

3. DETAILED PROJECT INFORMATION

3.1 LANDSCAPE

JEFFERSON DRIVE – FREER GALLERY, THE CASTLE, THE AIB

Along Jefferson Drive, a unified system of perimeter security interventions will protect select building entrances and queuing areas, establishing site-specific setbacks from the buildings while creating a cohesive, orderly, and integrated experience. Bollards will be used in tandem with other perimeter security elements. Hardened signs may also be employed in specific areas to decrease the number of bollards. Retractable bollards will be used strategically to permit controlled access for small utility vehicles used for maintenance. Except where space prohibits, the perimeter security interventions will be placed at the back of the sidewalk that parallels the south side of Jefferson Drive, rather than at the curb. This provides the opportunity to integrate the various components of the perimeter security system more fully with the hardscape and vegetated areas of the project area. Alternative layouts for perimeter security along Jefferson Drive in front of the Freer Gallery, the Castle, and the AIB were studied and are provided for reference at the end of this section. Detailed plans for the perimeter security interventions are presented in this report from west to east.

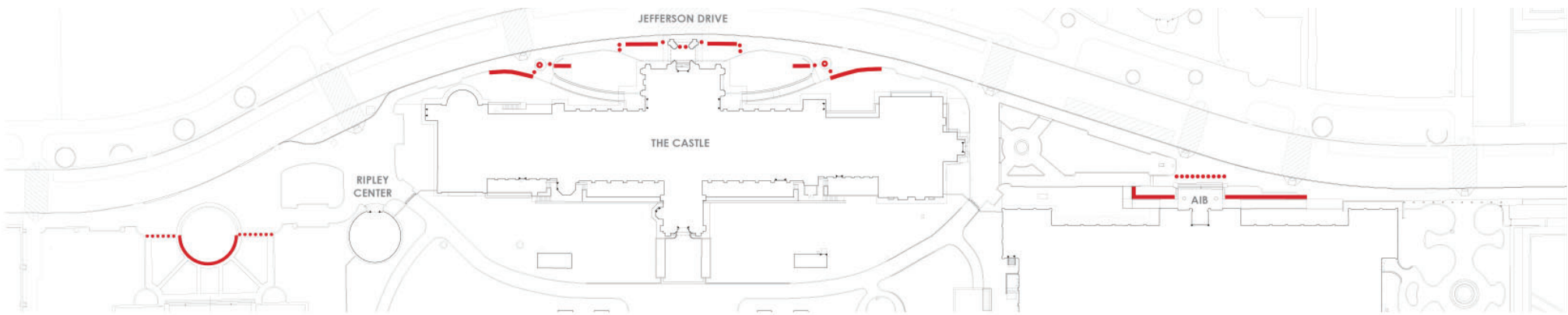


Figure 3.1.1.r - Proposed Jefferson Drive perimeter security: building entrance protection with security as furniture.

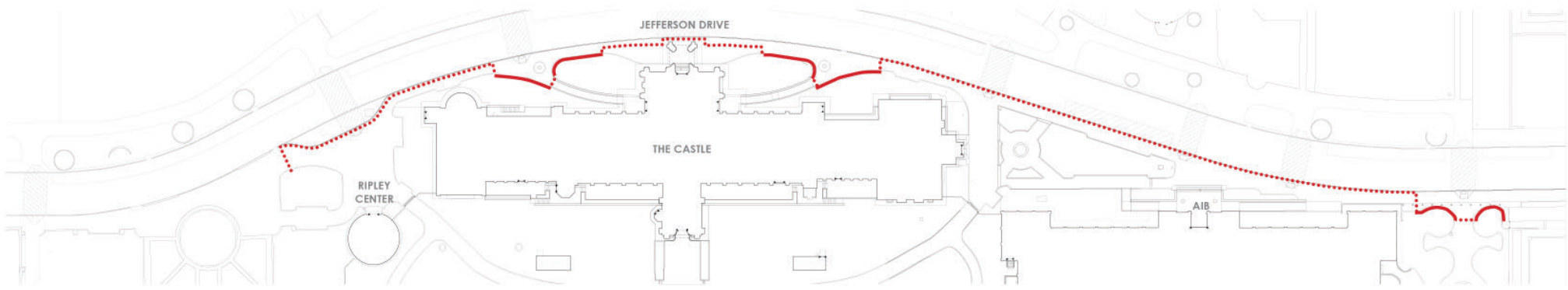


Figure 3.1.1.s - Previously proposed Jefferson Drive perimeter security: pedestrian protection with bollards.

KEY

.....

BOLLARDS

————

HARDENED WALL / GRILLE / SEATS

●

HARDENED URN PEDESTAL

3. DETAILED PROJECT INFORMATION

3.1 LANDSCAPE

JEFFERSON DRIVE – FREER GALLERY

As shown in Figure 3.1.1.t, the perimeter security elements for the Freer Gallery utilizes retractable bollards in the paved forecourt and hardened low stone walls with grilles along the southern half of the planted circle. The existing planted circle and pavement will be retained. Retractable bollards will accommodate controlled vehicular access to the Freer Gallery.

An earlier version of the perimeter security plan (Figure 3.1.1.u) proposed bollards only and did not include protection of the area west of the Castle.

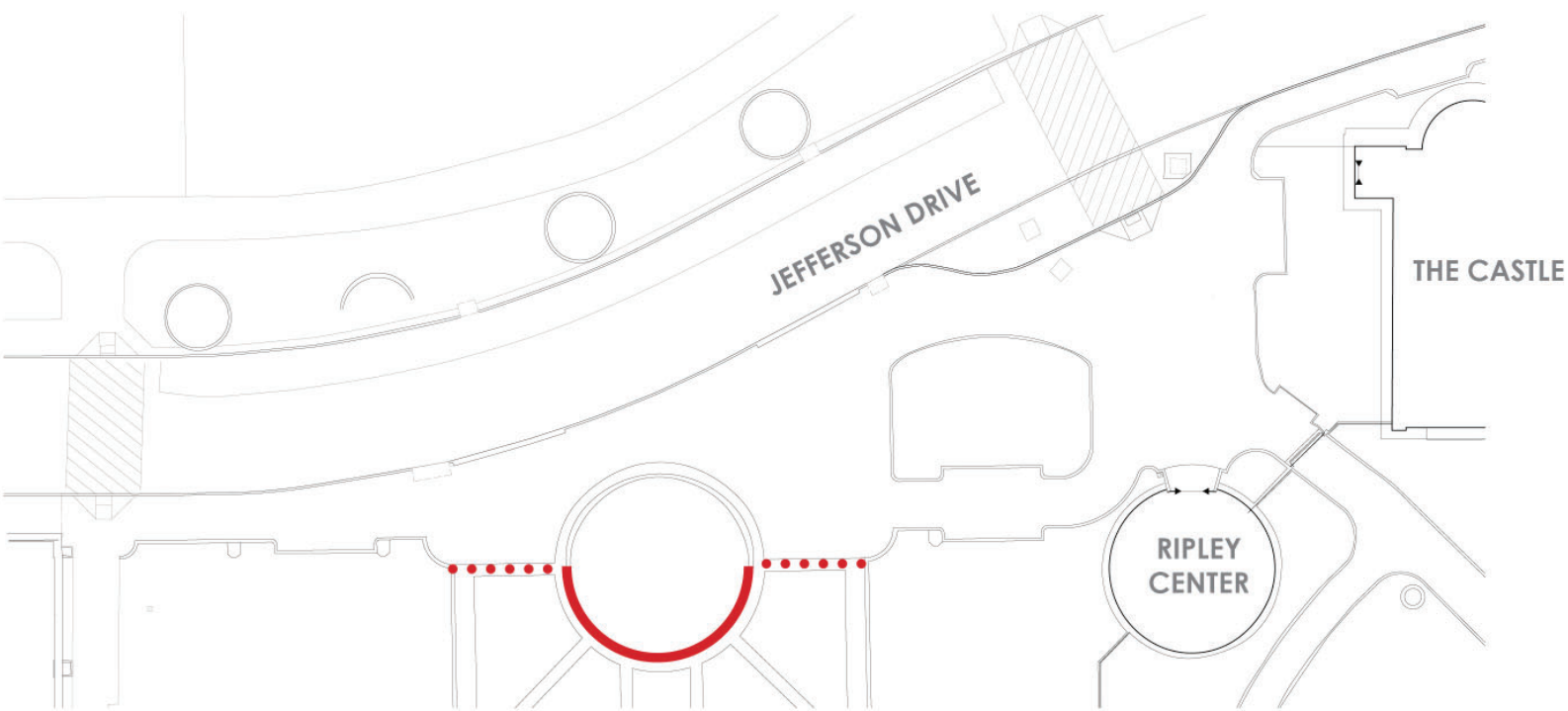
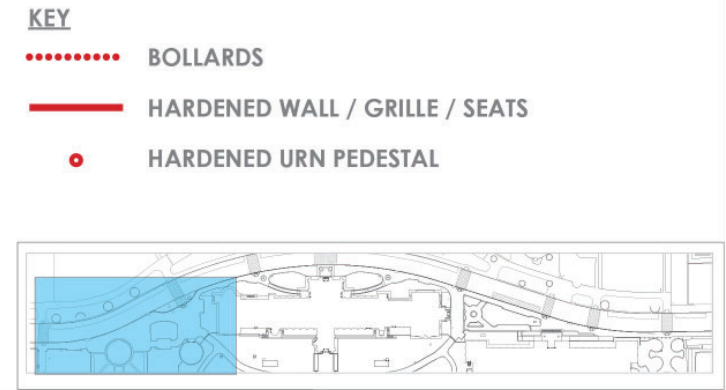


Figure 3.1.1.t - Proposed Jefferson Drive perimeter security: building entrance protection with security as furniture.



- KEY**
- BOLLARDS
 - HARDENED WALL / GRILLE / SEATS
 - HARDENED URN PEDESTAL

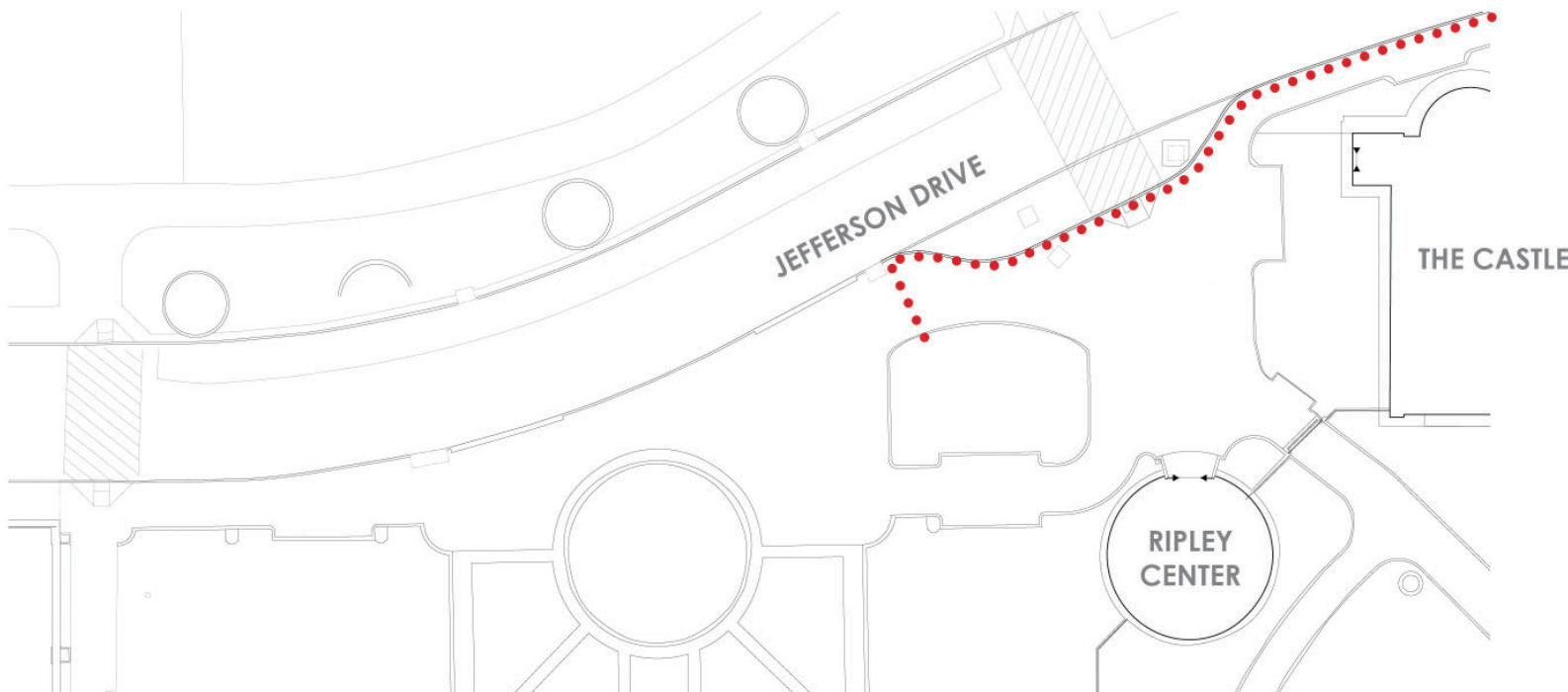


Figure 3.1.1.u - Previously proposed Jefferson Drive perimeter security: pedestrian protection with bollards.

3. DETAILED PROJECT INFORMATION

3.1 LANDSCAPE

JEFFERSON DRIVE – THE CASTLE

Figure 3.1.1.v illustrates the protection strategy developed for the section of Jefferson Drive adjacent to the Castle. Except for the area associated with the Castle’s porte-cochère where setback from Jefferson Drive is minimal, the proposed interventions are located where the Jefferson Drive sidewalk transitions to the Smithsonian’s planted areas. The interventions are a combination of low stone walls, hardened grilles, fixed and retractable bollards, hardened urn bases, and hardened seating elements.

A previous version of the plan (Figure 3.1.1.w) proposed mostly steel and stone-clad bollards along the curb on the south side of Jefferson Drive and utilized raised planting areas with reinforced walls.

KEY

- BOLLARDS
- HARDENED WALL / GRILLE / SEATS
- HARDENED URN PEDESTAL

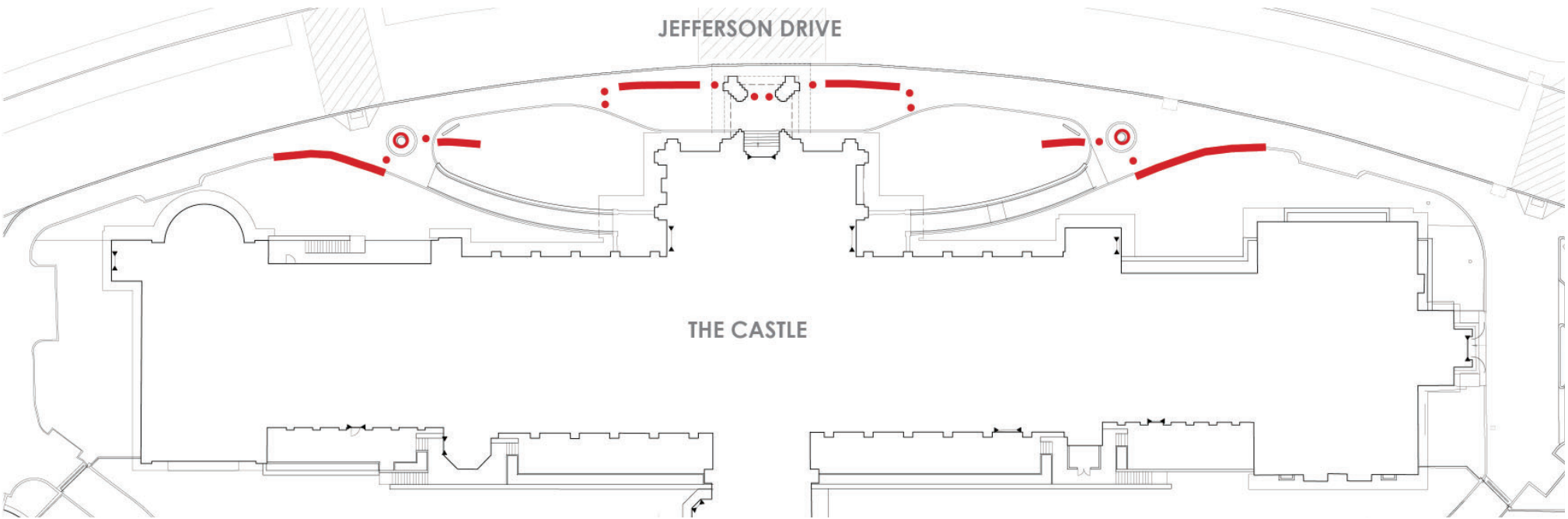
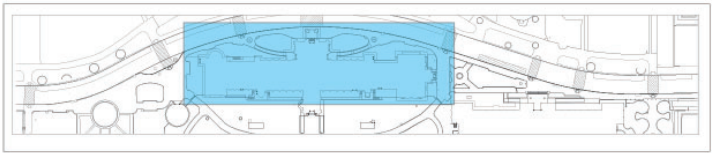


Figure 3.1.1.v - Proposed Jefferson Drive perimeter security: building entrance protection with security as furniture.

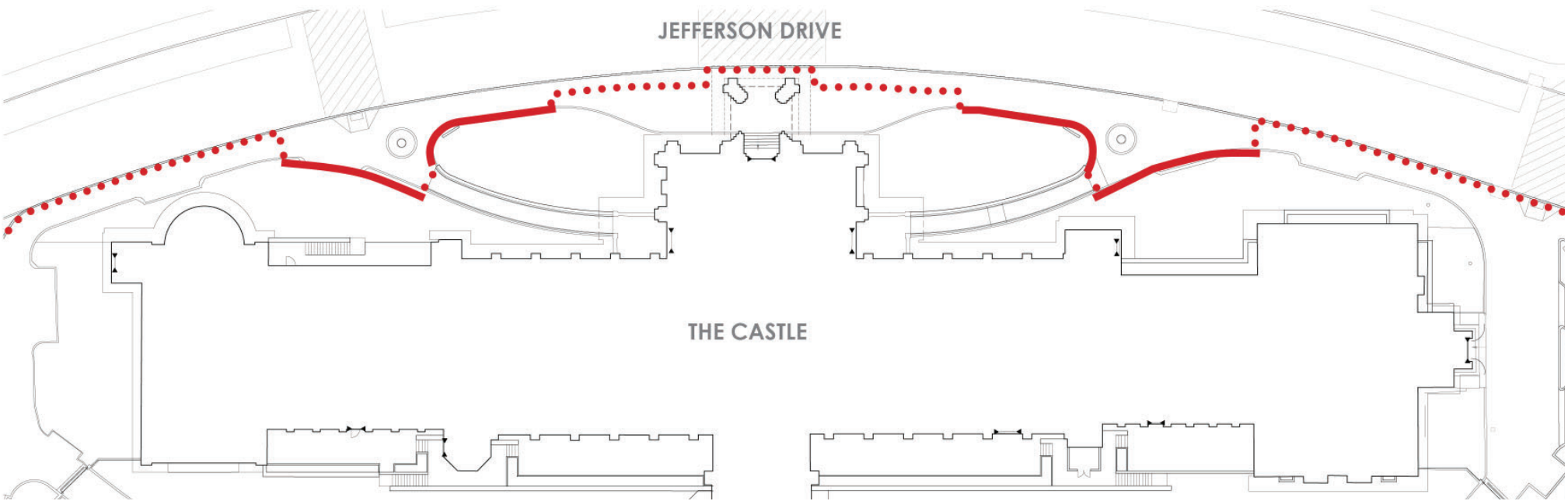


Figure 3.1.1.w - Previously proposed Jefferson Drive perimeter security: pedestrian protection with bollards.

3. DETAILED PROJECT INFORMATION

3.1 LANDSCAPE

JEFFERSON DRIVE – ARTS AND INDUSTRIES BUILDING

Along Jefferson Drive in front of the Arts and Industries Building (AIB), a combination of fixed and retractable bollards and low stone walls with hardened grilles will be employed (Figure 3.1.1.x). At the pedestrian entry to the Ripley Garden, pedestrian gates will provide additional security.

As shown in Figure 3.1.1.y, a previous version of the plan called for a continuous row of bollards to be located along the Jefferson Drive curb.

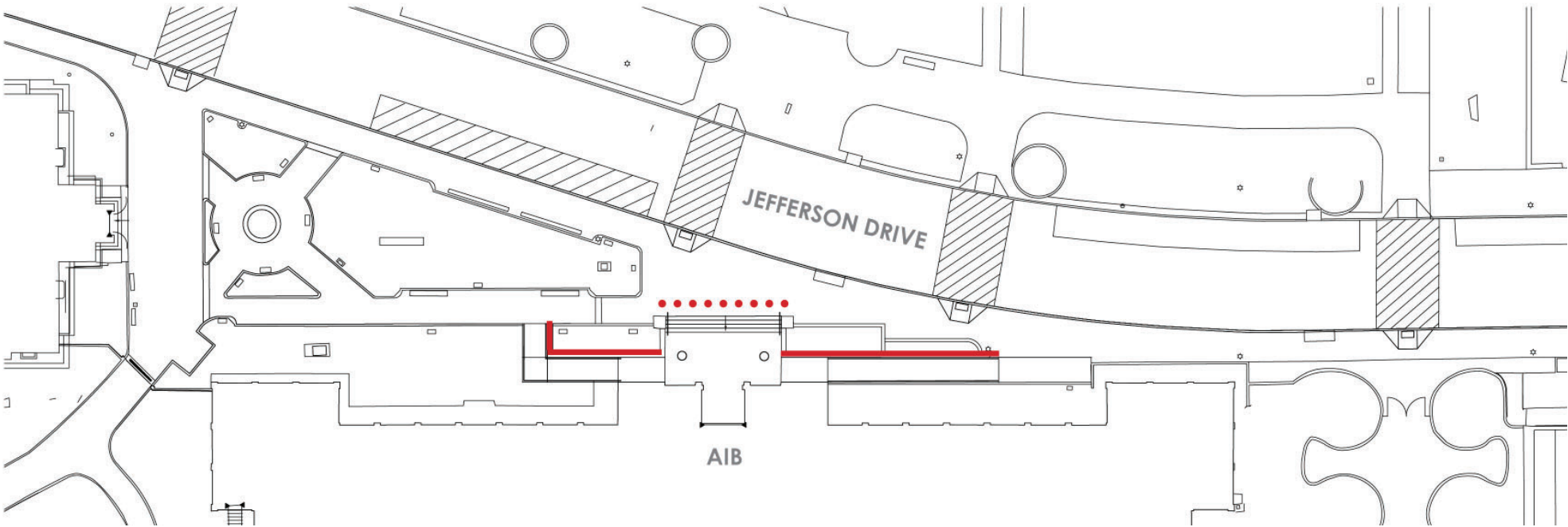


Figure 3.1.1.x - Proposed Jefferson Drive perimeter security: building entrance protection with security as furniture.

KEY

- BOLLARDS
- HARDENED WALL / GRILLE / SEATS
- HARDENED URN PEDESTAL

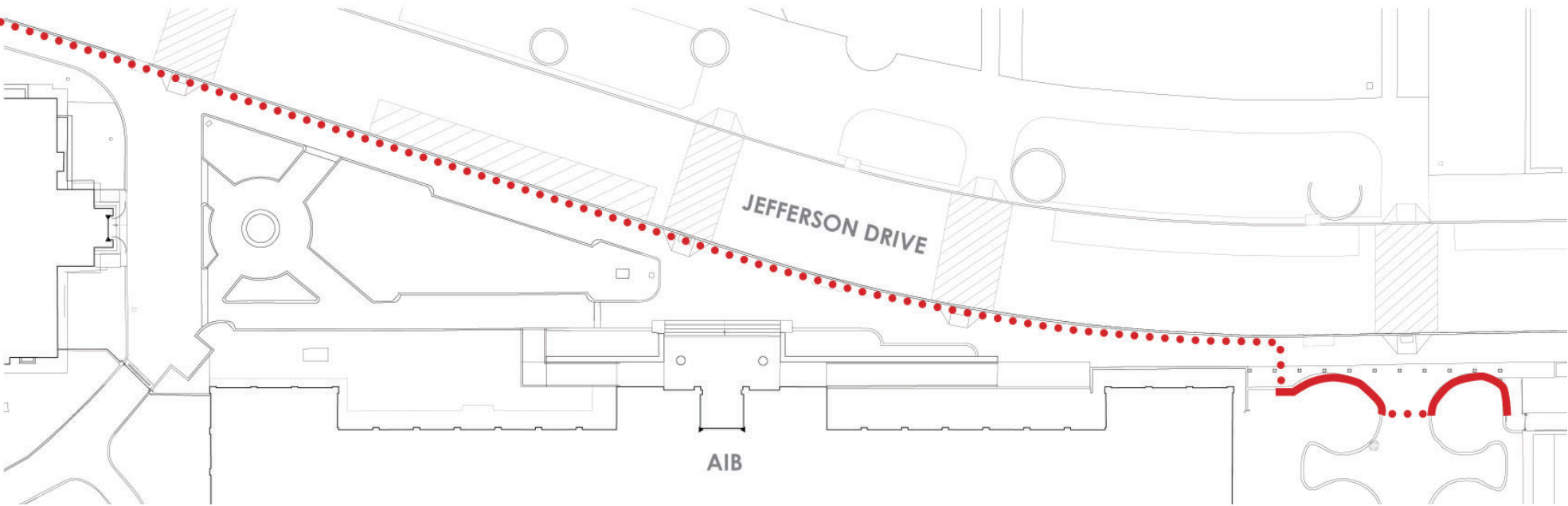
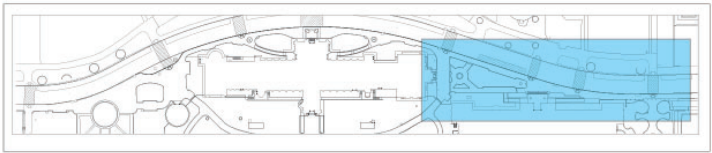


Figure 3.1.1.y - Previously proposed Jefferson Drive perimeter security: pedestrian protection with bollards.

3. DETAILED PROJECT INFORMATION

3.1 LANDSCAPE

JEFFERSON DRIVE – FREER GALLERY

Because of the generous setback from Jefferson Drive to the Freer Gallery of Art, there is ample space to provide a satisfactory set-back of perimeter security elements. The geometries and materials palette of the existing forecourt and planted circle shall be retained. A sequence of retractable bollards will be installed on an existing east-west paving band that is aligned to the center of the planted circle in the forecourt. Through the employment of retractable bollards, the forecourt will continue to be used for programmed activities while allowing for controlled vehicular access. The planted circle will be retained, as will its existing curb on the north side; on the south side of the circle, a low stone wall with hardened grille will serve as perimeter security.

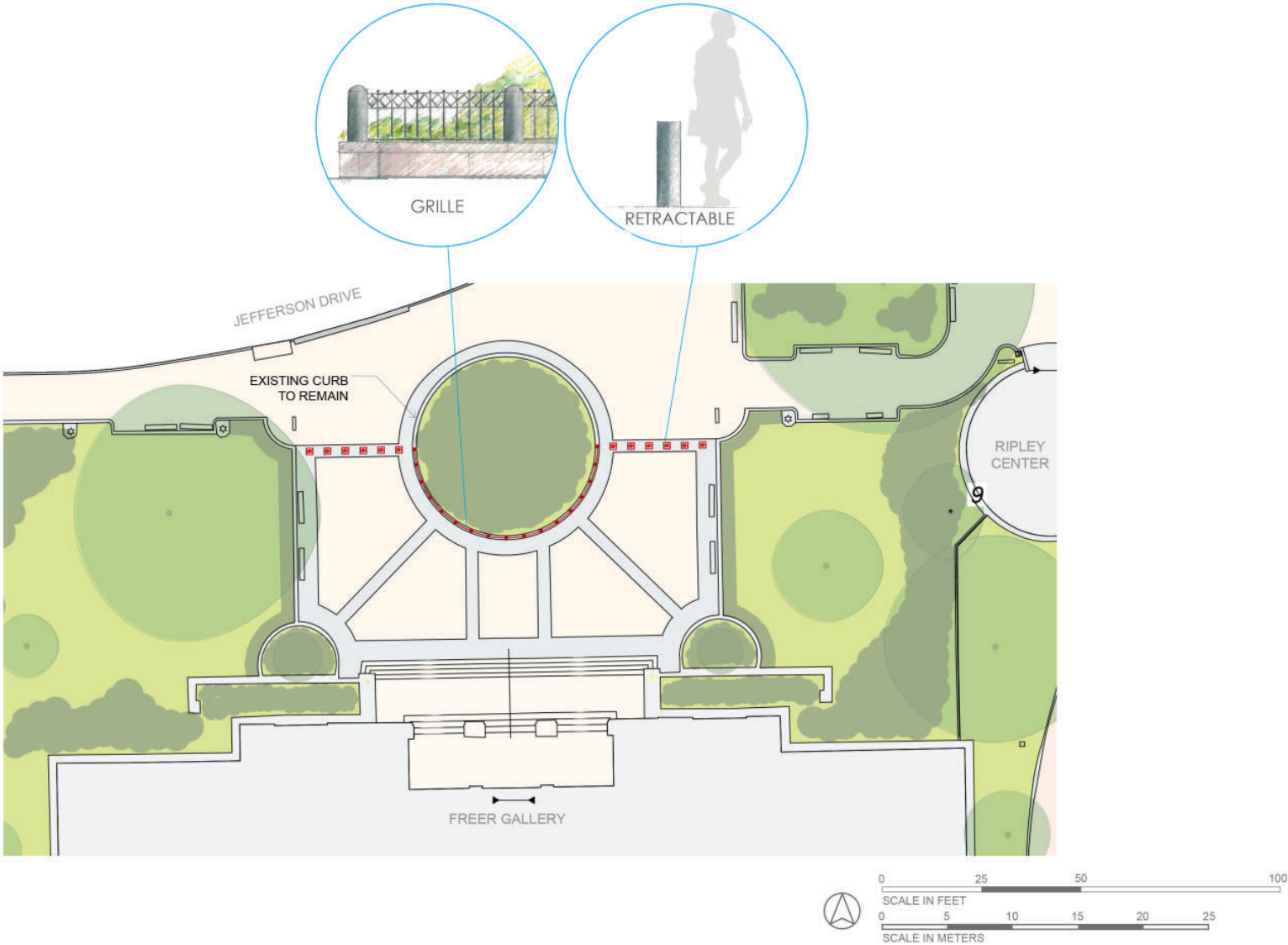


Figure 3.1.1.z - Proposed Jefferson Drive perimeter security enlargement: Freer Gallery.

3. DETAILED PROJECT INFORMATION

3.1 LANDSCAPE



Figure 3.1.1.aa - Rendered view of proposed perimeter security interventions at the Freer Gallery, looking southwest.

3. DETAILED PROJECT INFORMATION

3.1 LANDSCAPE

THE CASTLE

The minor redesign of the landscape that embraces the Castle’s North Tower responds to the design of the proposed seismic protection features and the symmetry of the building in this location. As such, the perimeter security elements associated with the Castle are also symmetrical on either side of the North Tower (Figures 3.1.1.ab, 3.1.1.ac, 3.1.1.ad, and 3.1.1.ae).

Extending along the transition from the Jefferson Drive sidewalk to the Smithsonian’s planted area to the north of the Castle, the perimeter security interventions will be integrated into the landscape. A low stone wall with hardened grille will mark the transition from hardscape to vegetated areas, with plantings located to the south of the wall. A hardened seating element will be installed. At the sidewalk along Jefferson Drive, a hardened pedestal in a planted circle will be installed. This is approximately the location of an existing planted circle that is used for the display of an urn from the Smithsonian Gardens Horticultural Artifacts Collection. The hardened pedestal will function as a fixed bollard, with an urn placed atop it. Retractable bollards will also be installed in this area to provide controlled access for routine maintenance vehicles.

At the porte-cochère where standoff distance is minimal (roughly four feet from the porte-cochère columns to the Jefferson Drive curb) a combination of bollards and hardened seating elements will be used. Retractable bollards in the sidewalk will permit controlled vehicular access for maintenance vehicles. Fixed bollards will be installed to provide anti-ram protection of the porte-cochère columns, which will provide an additional measure of perimeter security. Flanking the east and west sides of the porte-cochère, freestanding walls with integrated hardened seating elements will be installed. Replacing existing freestanding signs, hardened stone museum signs will be installed.

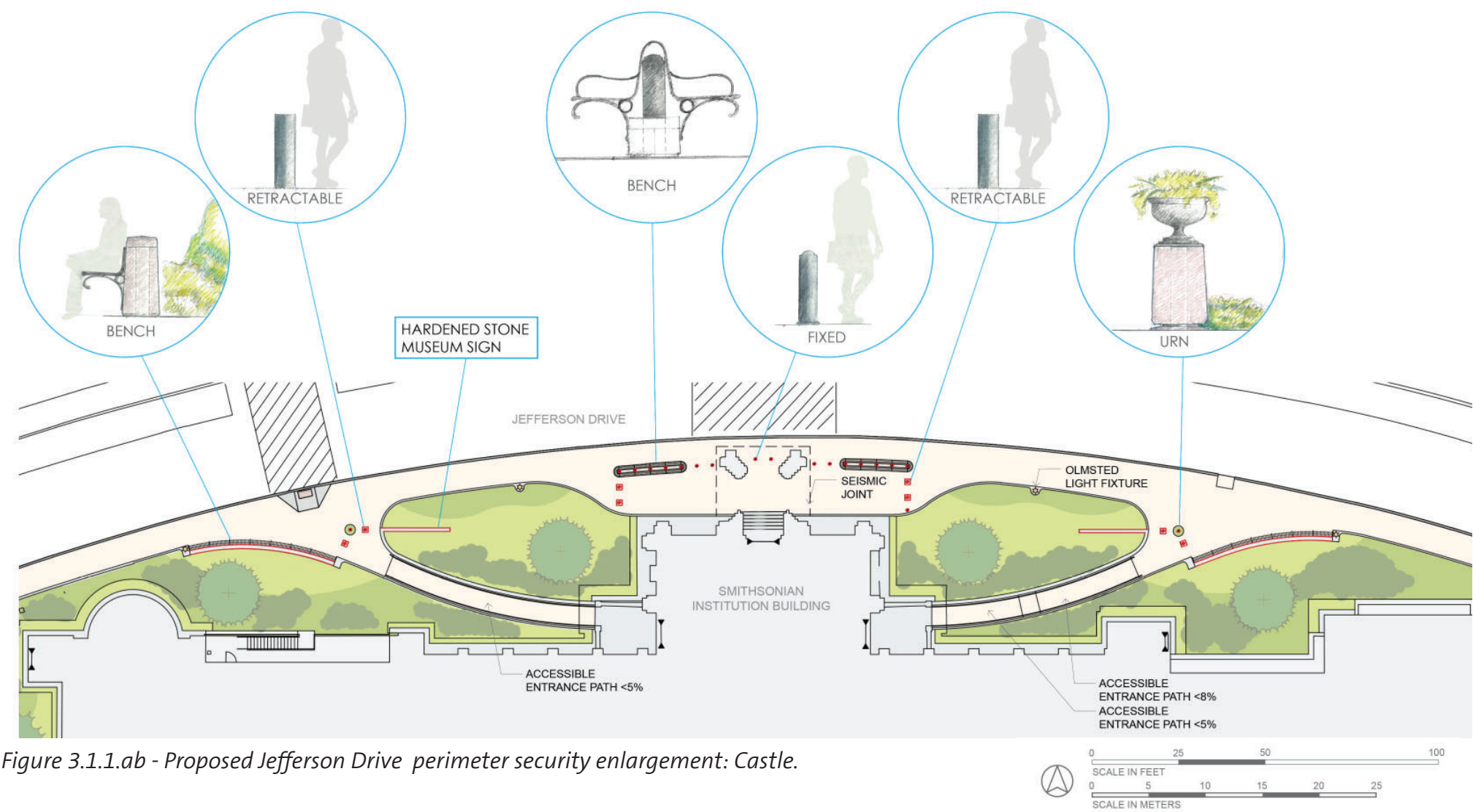


Figure 3.1.1.ab - Proposed Jefferson Drive perimeter security enlargement: Castle.

3. DETAILED PROJECT INFORMATION

3.1 LANDSCAPE

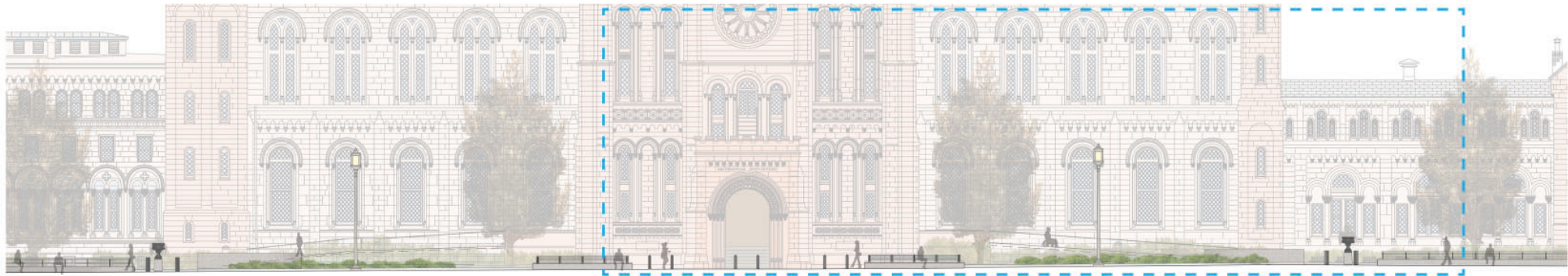


Figure 3.1.1.ac- Proposed Jefferson Drive SW perimeter security elevation: Castle



Figure 3.1.1.ad - Proposed Jefferson Drive perimeter security elevation: Castle (enlargement).

3. DETAILED PROJECT INFORMATION

3.1 LANDSCAPE



Figure 3.1.1.ae - Rendered view of proposed perimeter security interventions at the Castle, looking east.

3. DETAILED PROJECT INFORMATION

3.1 LANDSCAPE

ARTS AND INDUSTRIES BUILDING

Perimeter security elements for the AIB are concentrated at the North Tower entrance. An array of fixed anti-ram bollards will be installed at the base of the steps, sited to provide entrance protection while also maintaining pedestrian circulation to the stairs and points beyond. Flanking the AIB north entrance steps and accompanying the introduction of accessible entrance paths, a low stone wall with hardened grille will be installed, with plantings located to the north of it.

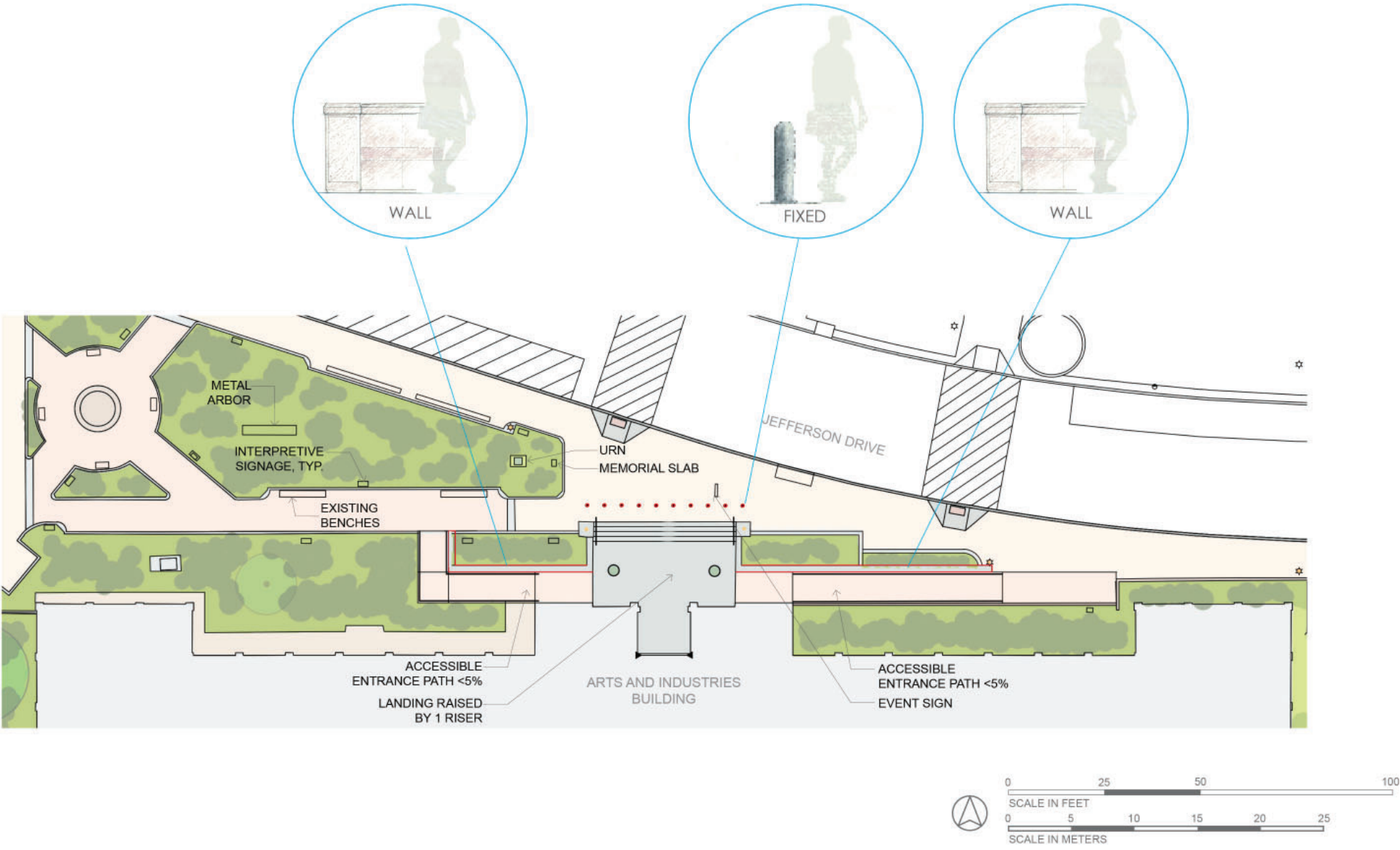


Figure 3.1.1.af - Proposed Jefferson Drive perimeter security enlargement: Arts and Industries Building (AIB).

3. DETAILED PROJECT INFORMATION

3.1 LANDSCAPE



Figure 3.1.1.ag - Rendered view of proposed perimeter security interventions at the AIB, looking southeast.

3. DETAILED PROJECT INFORMATION

3.1 LANDSCAPE

PREVIOUS STUDIES: PERIMETER SECURITY AT THE FREER ALTERNATIVE A

An alternative layout of perimeter security interventions is shown in Figure 3.1.1.ah. This option sited the bollards at the base of the steps that lead to the Freer Gallery. This option is not preferred due to the visual impact of the bollards in direct relation to the Freer’s historic north façade.

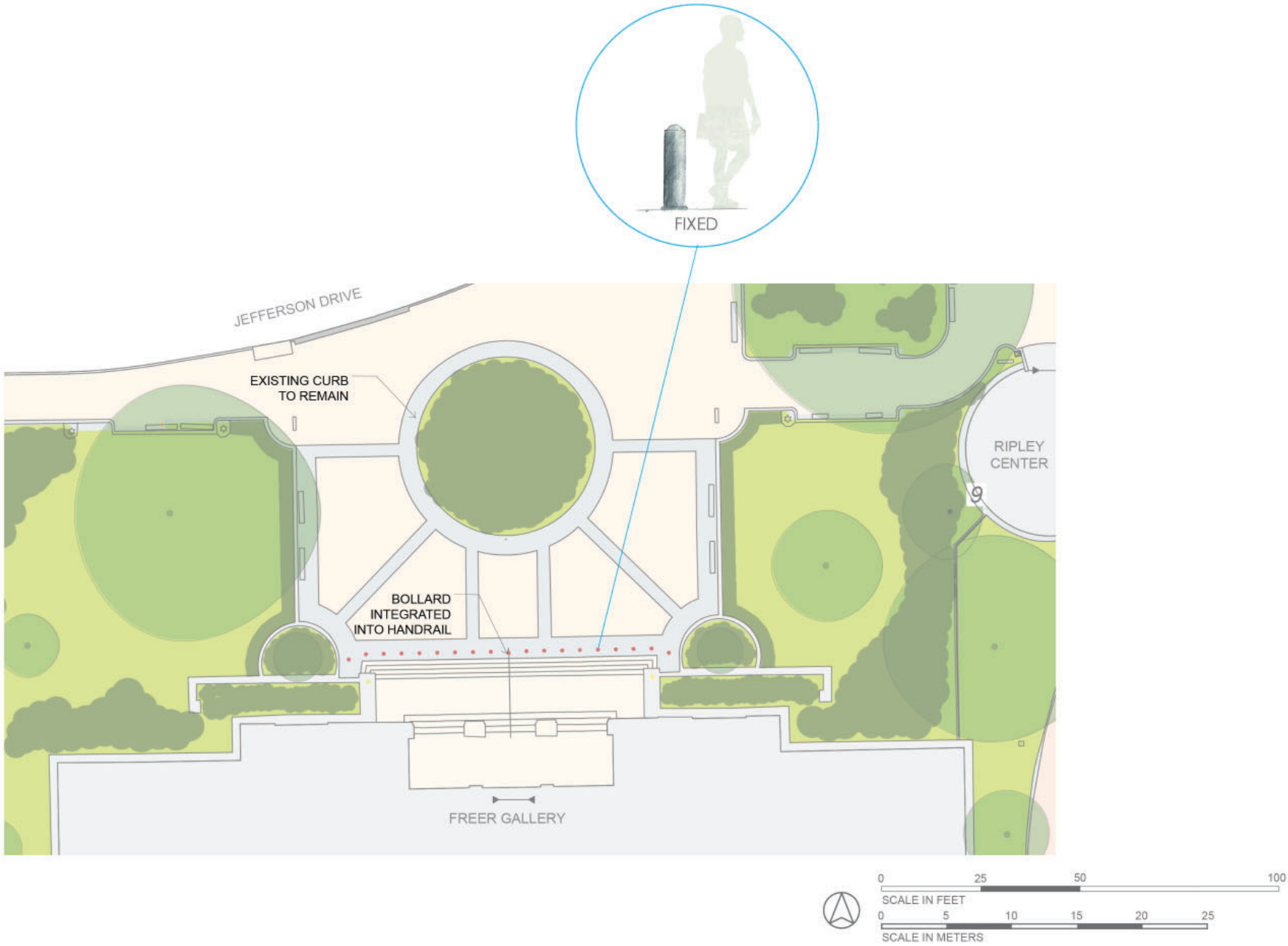


Figure 3.1.1.ah - Previous study for perimeter security at the Freer Gallery. Not preferred.

3. DETAILED PROJECT INFORMATION

3.1 LANDSCAPE

PREVIOUS STUDIES: PERIMETER SECURITY AT THE FREER ALTERNATIVE B

Similar to the previously shown option, an alternative study sited the anti-ram bollards at the stop of the steps in the entrance loggia (Figure 3.1.1.ai). The study examined the integration of the bollards with existing materials such as handrails and the building columns.

This option is not preferred because of the visual affects it has on the historic façade and entrance loggia.

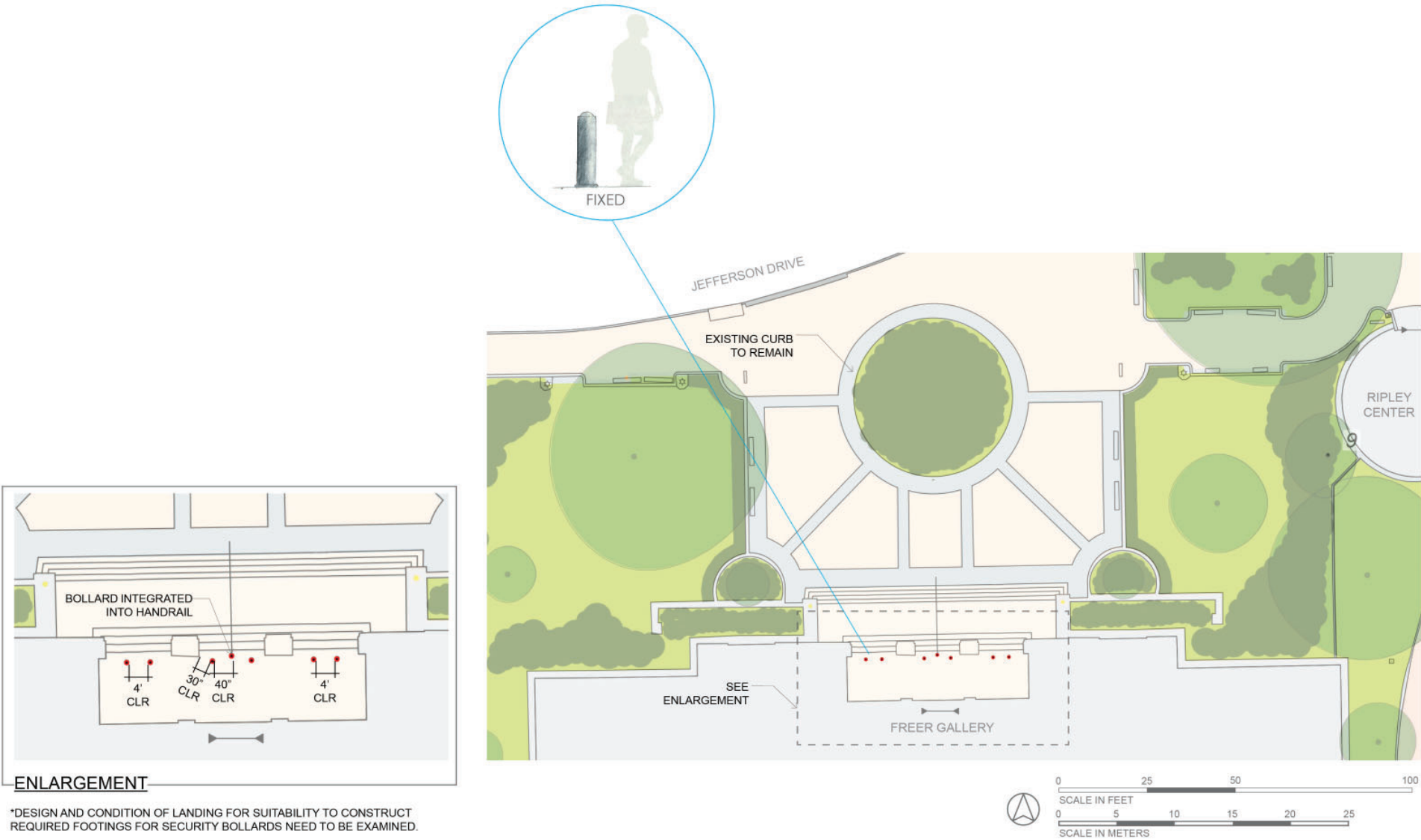


Figure 3.1.1.ai - Previous study for perimeter security at the Freer Gallery. Not preferred.

3. DETAILED PROJECT INFORMATION

3.1 LANDSCAPE

PREVIOUS STUDIES: PERIMETER SECURITY AT THE FREER ALTERNATIVE C

As shown in Figure 3.1.1.aj, another study looked at integrating fixed bollards into the site by extending them into planted areas adjacent to the existing boxwood hedge. Additional plantings would help hide those bollards. The study also utilized more fixed bollards than the preferred option.

This option is not preferred because the level of protection was considered excessive.

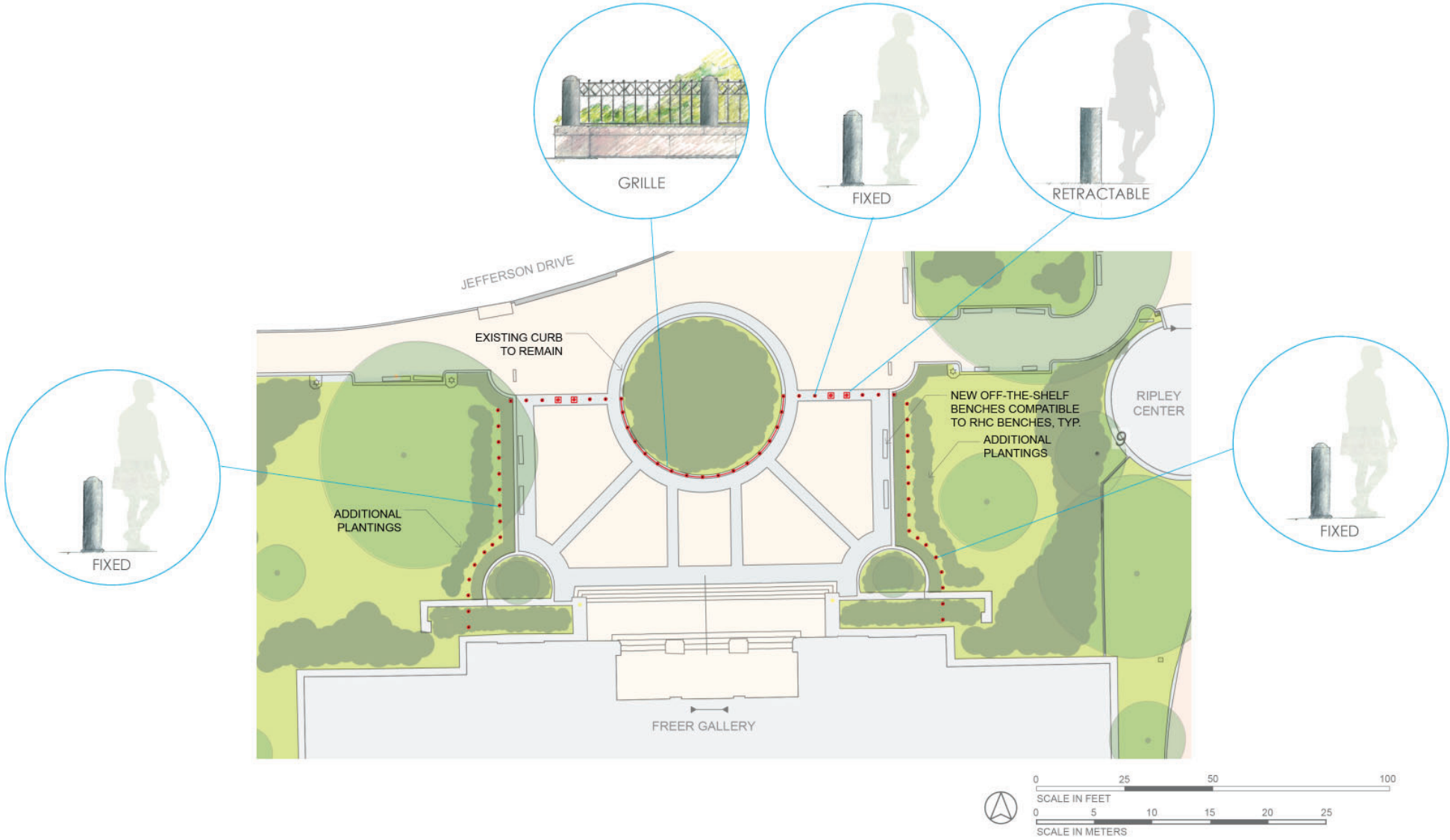


Figure 3.1.1.aj - Previous study for perimeter security at the Freer Gallery. Not preferred.

3. DETAILED PROJECT INFORMATION

3.1 LANDSCAPE

PREVIOUS STUDIES: PERIMETER SECURITY AT THE CASTLE ALTERNATIVE A

An alternative study for perimeter security at the Castle is shown in Figure 3.1.1.ak. In this study, an array of fixed and retractable bollards provides anti-ram protection at porte-cochère, terminating at the face of the Castle. Although this option keeps bollards generally outside of the porte-cochère, east-west pedestrian circulation is impeded by the placement of bollards in the sidewalk as it passes through the porte-cochère. Additionally, this option did not include enough protected space for queuing and gathering. Variations of many of the other elements in this study are included in the preferred option, which adds the hardened seating for improved protection at the porte-cochère and the ranges.

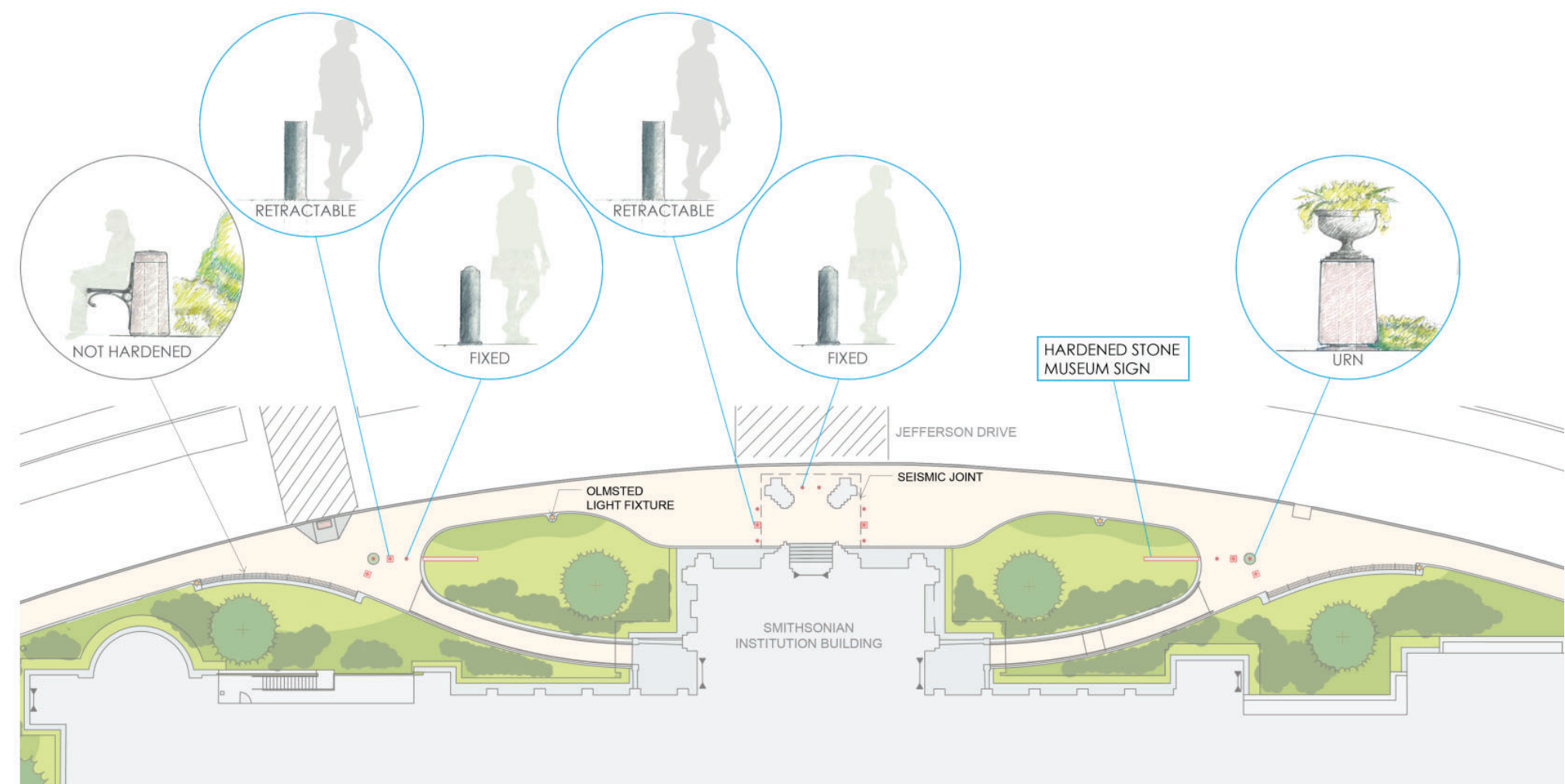


Figure 3.1.1.ak - Previous study for perimeter security at the Castle. Not preferred.

3. DETAILED PROJECT INFORMATION

3.1 LANDSCAPE

PREVIOUS STUDIES: PERIMETER SECURITY AT THE CASTLE ALTERNATIVE B

The previous study shown in Figure 3.1.1.al utilized hardened building identification signs and hardened walls at the base of the proposed pedestrian ramps. The study also did not include hardened elements at the ranges where the pedestrian ramps meet the Jefferson Drive walk. This option is less ideal than the preferred option because the barriers at the pedestrian ramps are not as well-integrated into the site design as in the preferred option, which uses the hardened urn pedestal and associated bollards. In addition, the sign wall becomes more prominent within the landscape. Many of the other elements depicted in the plan at the porte-cochère were incorporated into the preferred option.

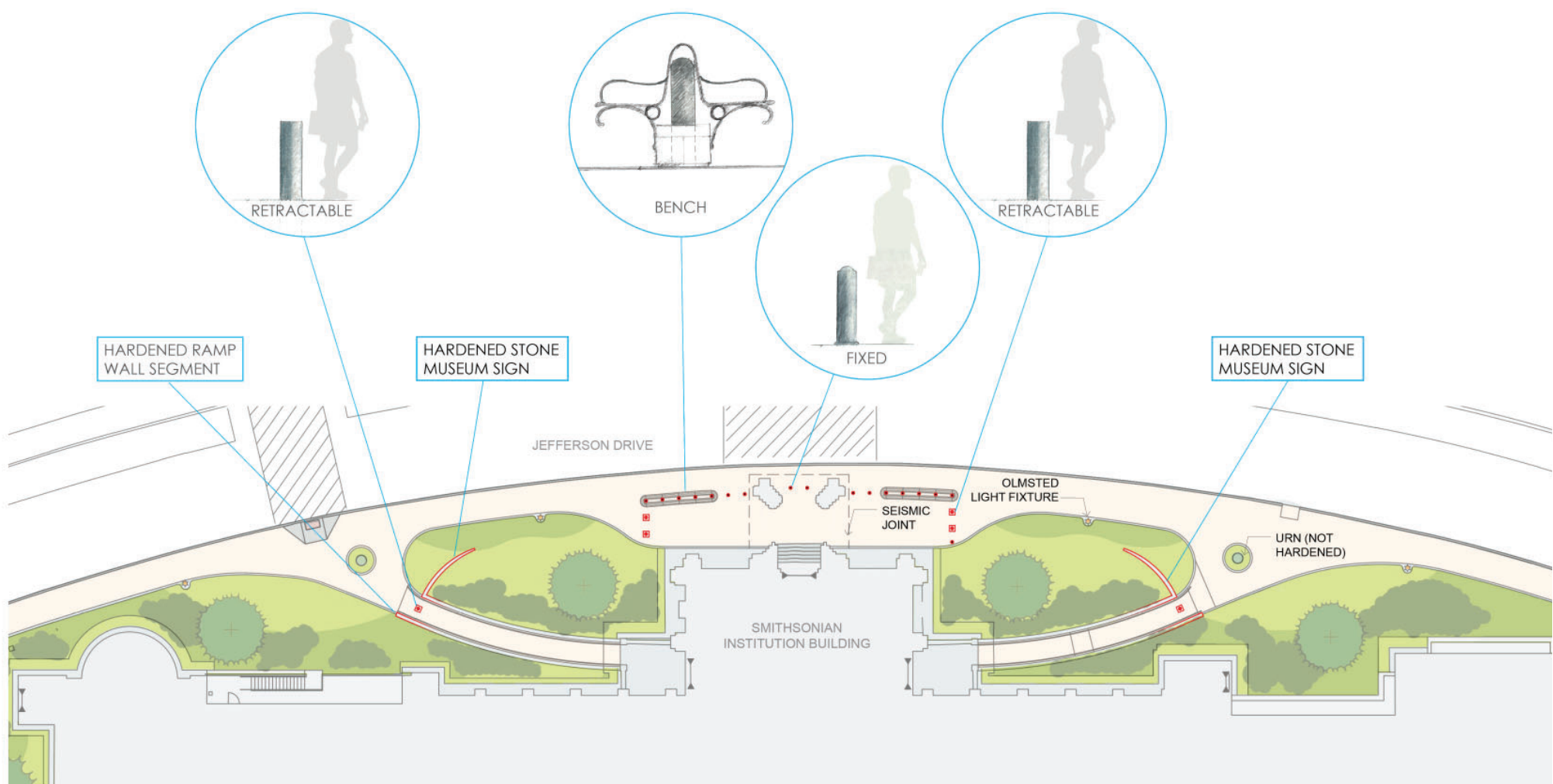


Figure 3.1.1.al - Previous study for perimeter security at the Castle. Not preferred.

3. DETAILED PROJECT INFORMATION

3.1 LANDSCAPE

PREVIOUS STUDIES: PERIMETER SECURITY AT THE CASTLE ALTERNATIVE C

Similar to Castle Alternative B, this previous study (Figure 3.1.1.am) utilized hardened signs and hardened ramp wall segments to provide protection to the queuing areas leading to the North Tower entrances.

This study is not being pursued because the hardened ramp wall segments were determined to be not integrated adequately into the overall site design strategies. Many of the other elements depicted in the plan at the porte-cochère were included in the preferred option.

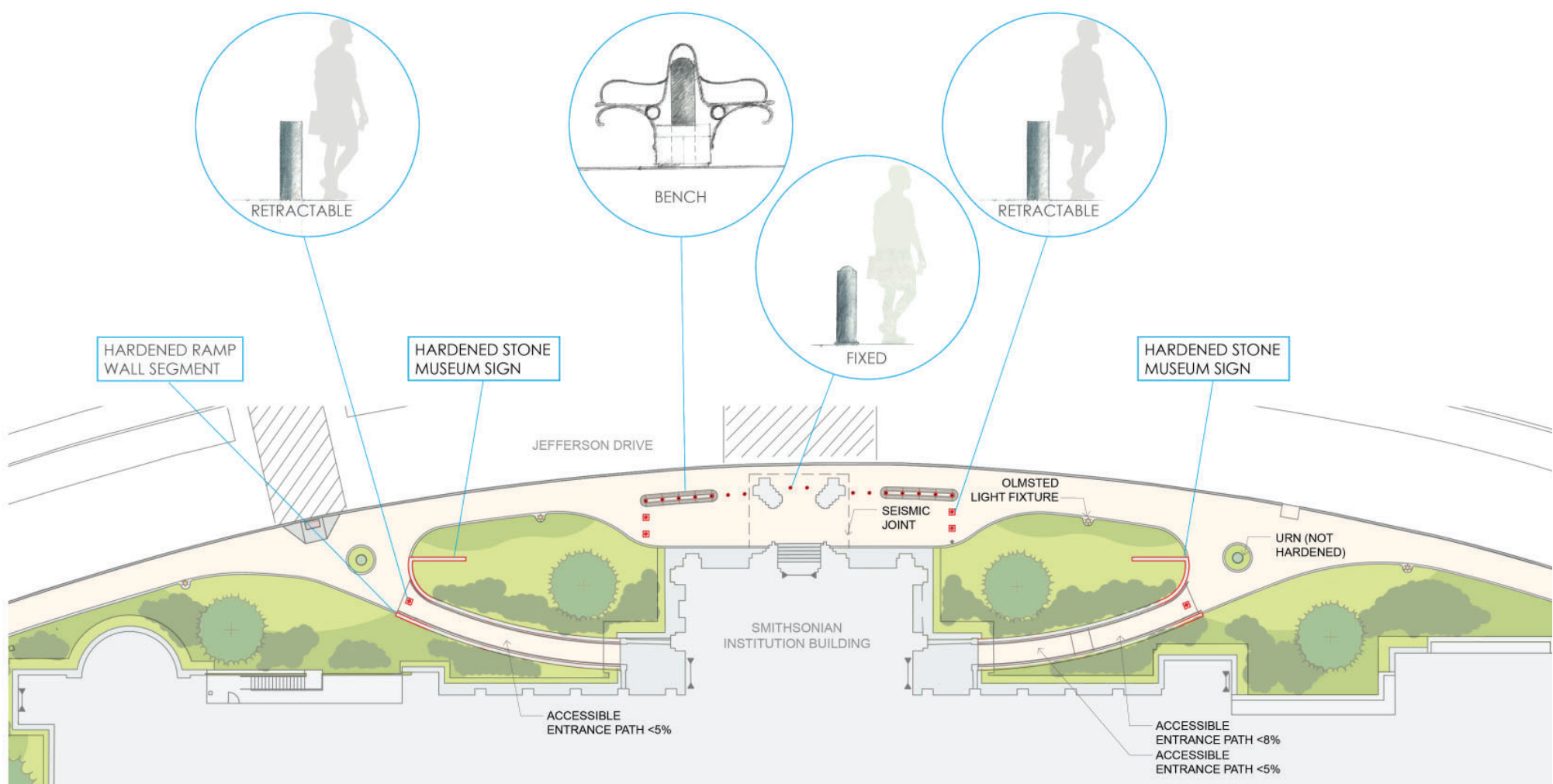


Figure 3.1.1.am - Previous study for perimeter security at the Castle. Not preferred.

3. DETAILED PROJECT INFORMATION

3.1 LANDSCAPE

PREVIOUS STUDIES: PERIMETER SECURITY AT THE AIB ALTERNATIVE A

In this study, shown in Figure 3.1.1.an, perimeter security at the AIB included an array of bollards extending from the existing Folger Rose Garden planted area to the proposed planters that flank the steps. A hardened stone wall with grille provided protection to the proposed accessible ramp to the east of the AIB landing and included fixed and retractable bollards at the proposed accessible ramp entrance.

This option is not preferred because aligning the bollards with Jefferson Drive creates an awkward plaza condition and restricts pedestrian circulation.

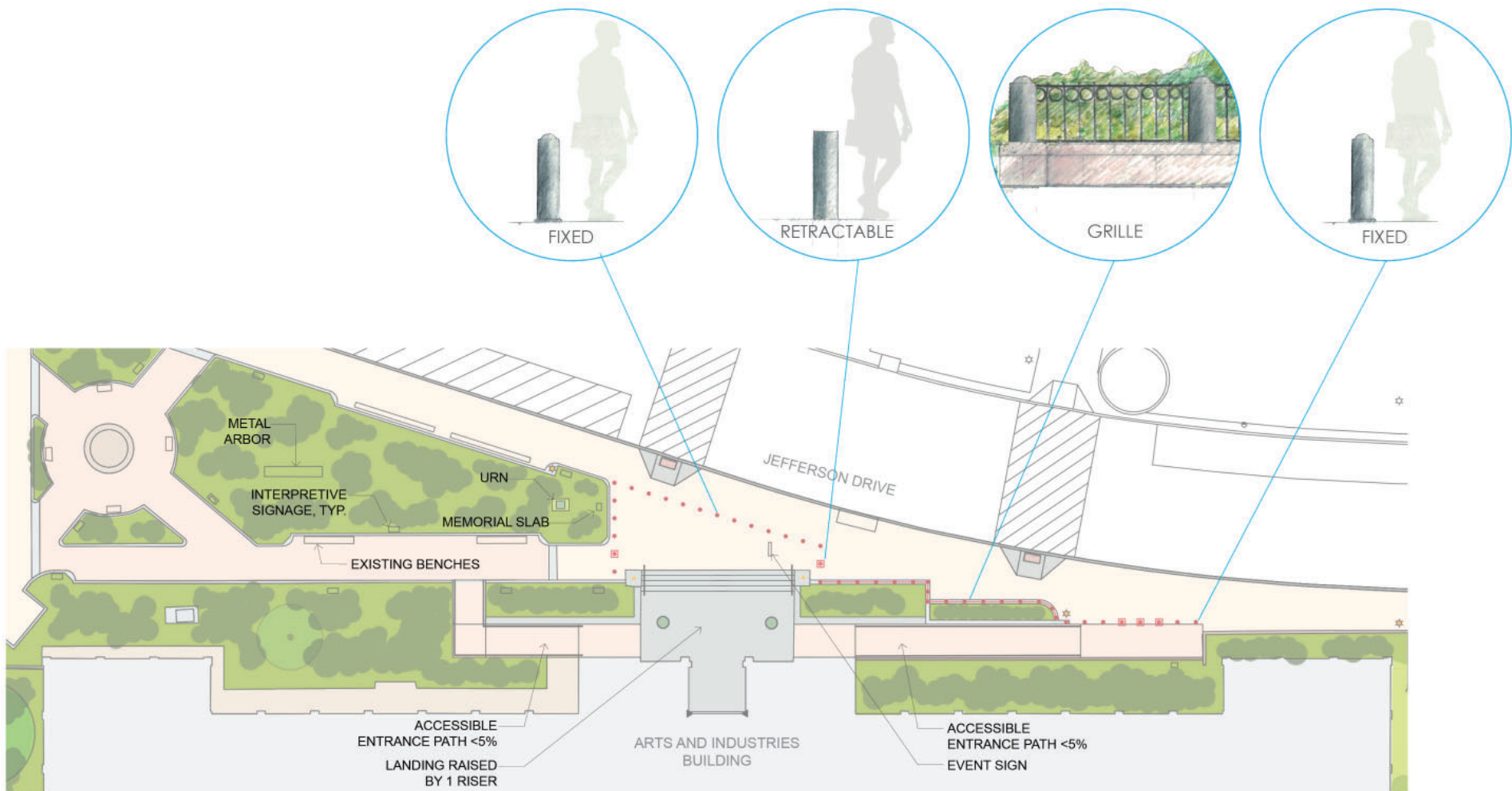


Figure 3.1.1.an - Previous study for perimeter security at the Arts and Industries Building. Not preferred.

3. DETAILED PROJECT INFORMATION

3.1 LANDSCAPE

PREVIOUS STUDIES: PERIMETER SECURITY AT THE AIB ALTERNATIVE B

In this study, an array of fixed bollards protects the steps and a linear hardened wall at the base of the proposed pedestrian ramp served as an anti-ram barrier for that queuing area. Retractable bollards near the accessible ramp entrances would facilitate light-duty vehicular access.

This option is not preferred because aligning the bollards with Jefferson Drive creates an awkward plaza condition and restricts pedestrian circulation. Wall height and planting will be furthered as programming evolves for the AIB.

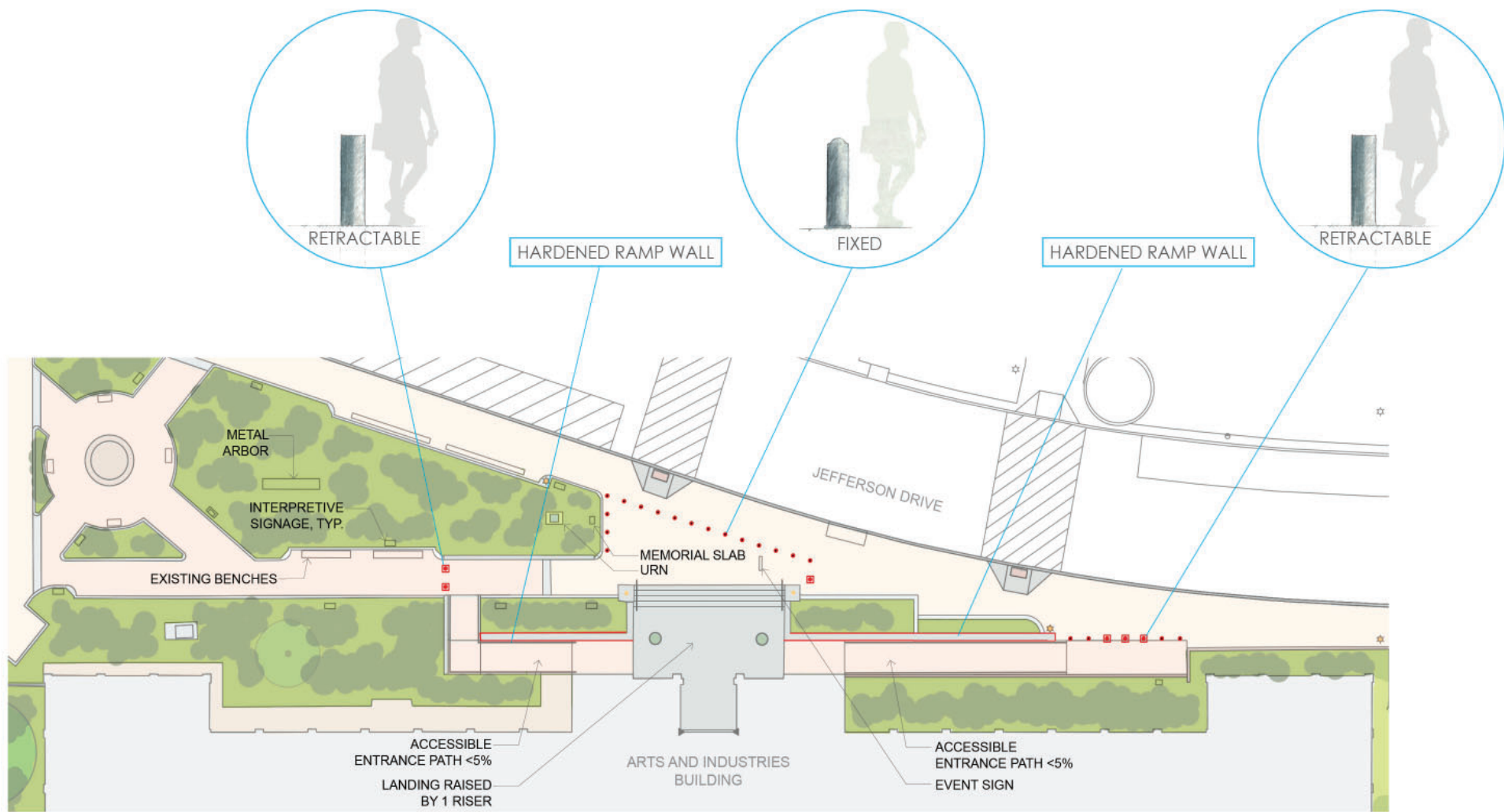


Figure 3.1.1.ao - Previous study for perimeter security at the Arts and Industries Building. Not preferred.

3. DETAILED PROJECT INFORMATION

3.1 LANDSCAPE

PREVIOUS STUDIES: PERIMETER SECURITY AT THE AIB ALTERNATIVE C

In the study shown in Figure 3.1.1.ap, a robust sequence of fixed and retractable bollards and hardened low stone walls with grilles were shown, following the geometries of the existing planting bed associated with the Folger Rose Garden and with proposed planting beds flanking the steps and proposed accessible entrance ramps.

This alternative is not being pursued because the proposed configuration of elements has greater visual presence on the historic building and the setting.

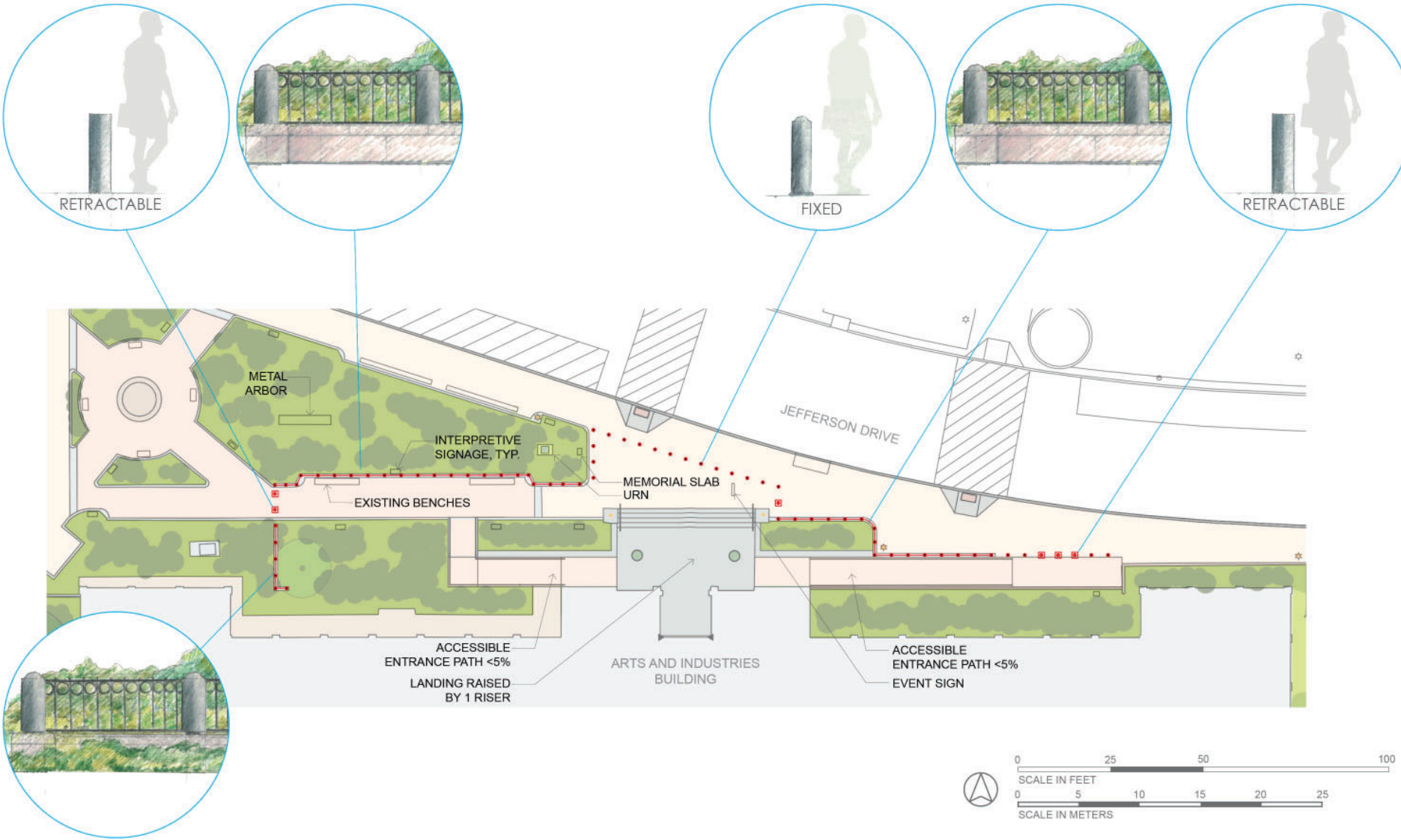


Figure 3.1.1.ap - Previous study for perimeter security at the Arts and Industries Building. Not preferred.

3. DETAILED PROJECT INFORMATION

3.2 LIGHTING

3.2.1 OLMSTED LIGHT FIXTURE

As part of the perimeter security improvements, the existing pole lighting along the south side of Jefferson Drive will be replaced with Olmsted fixtures in keeping with the lighting along the National Mall. Detailed studies of existing plans, satellite imagery, and site visits were used to survey existing pole locations. Throughout the Mall, the Olmsted poles are not perfectly aligned.

In developing the proposed layout of Olmsted fixtures, several options were studied, resulting in three main alternative alignments. The preferred option employs an “aligned radial” configuration as shown in Figure 3.2.a. This option integrates the fixtures most readily into the existing conditions and proposed improvements. Other options studied were found to create conflicts in the landscape, especially in key areas of pedestrian circulation and in places where perimeter security elements are required.

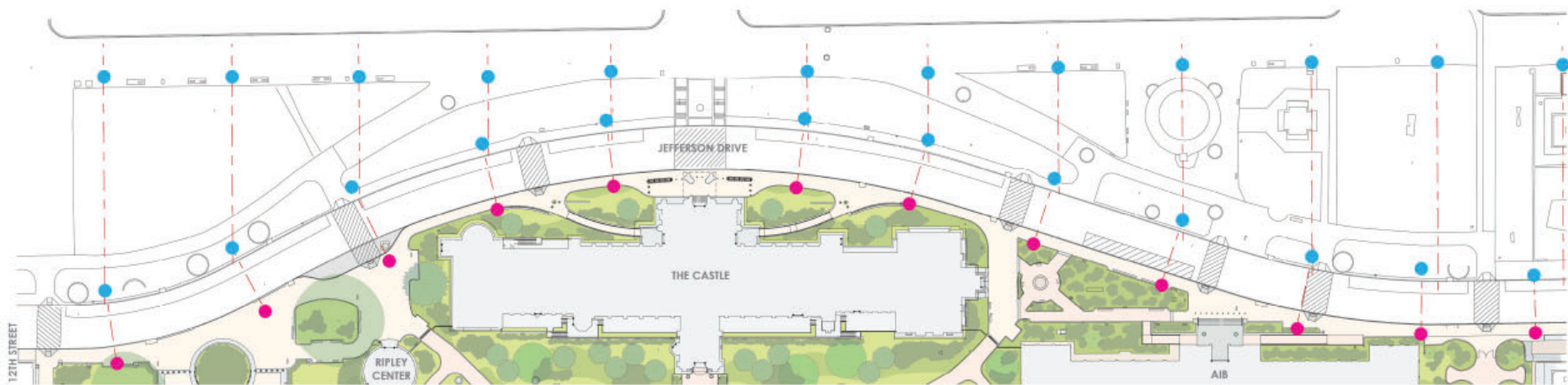


Figure 3.2.1.a - Aligned radial Olmsted light pole locations. Preferred option.

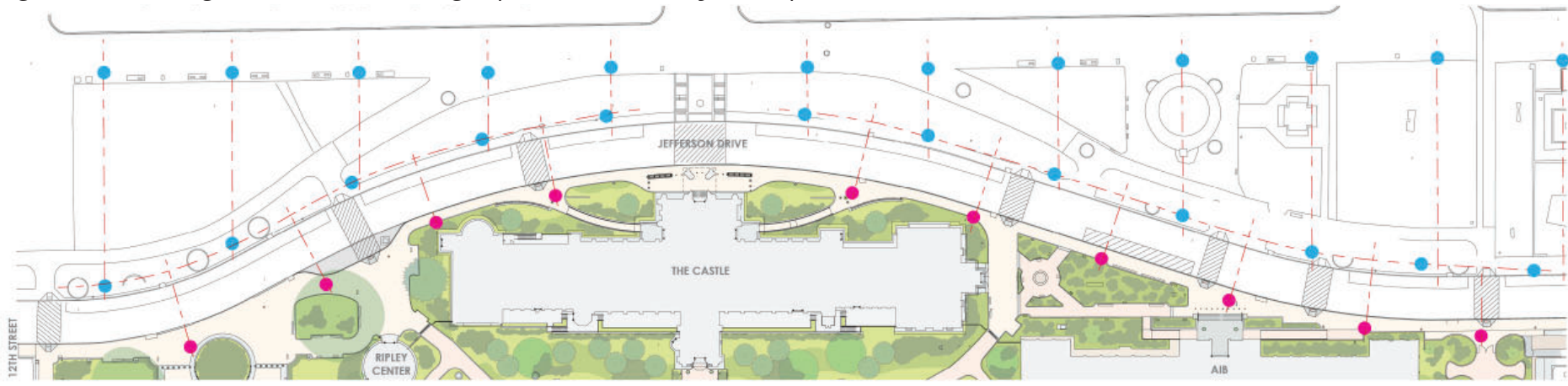


Figure 3.2.1.b - Staggered Olmsted light pole locations. Alternative study.

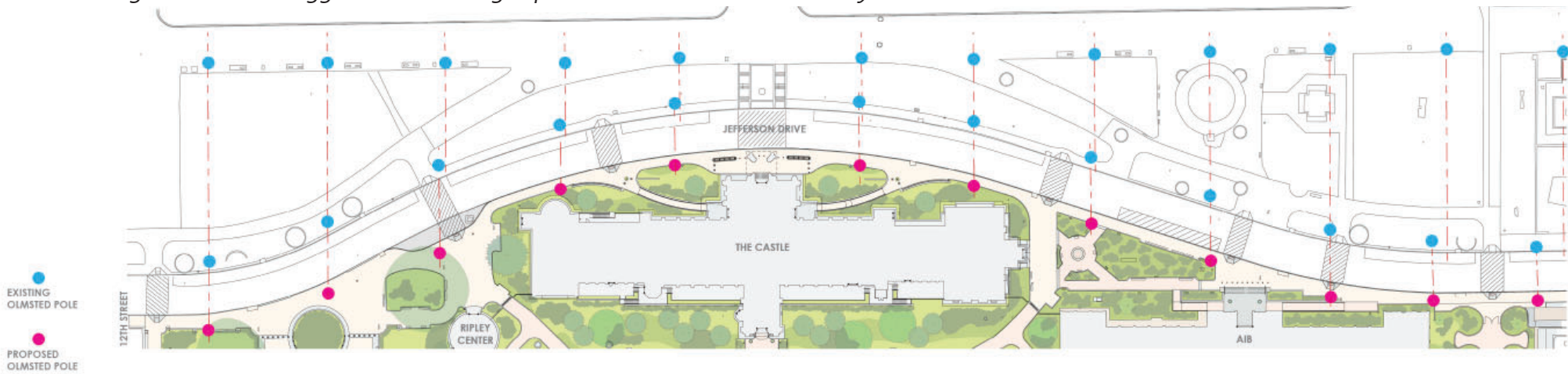


Figure 3.2.1.c - Aligned Olmsted light pole locations. Alternative study.

3. DETAILED PROJECT INFORMATION

3.3 SMITHSONIAN INSTITUTION BUILDING (SIB/CASTLE)

3.3.1 EAST WING ELEVATOR ROOF IMPACT

The existing elevators and wheelchair lifts in the building are older equipment in need of an upgrade to meet code and to provide vertical transportation based on the proposed programmatic uses. A larger elevator is required in the East Wing for code and accessibility requirements.

The impact to the roofscape is caused by the elevator overrun, similar to the existing. The design intent is to minimize the roof impact as much as possible.

The previous proposal placed the elevator penthouse on the west side of the east wing. This penthouse was determined through Section 106 consultation to have an adverse effect from its visibility and impacts to the east wing decorative roofscape.

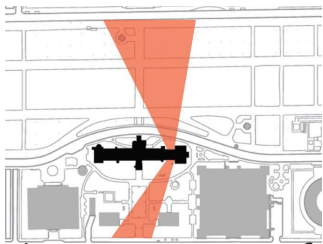


Figure 3.3.1.g - Area of visibility

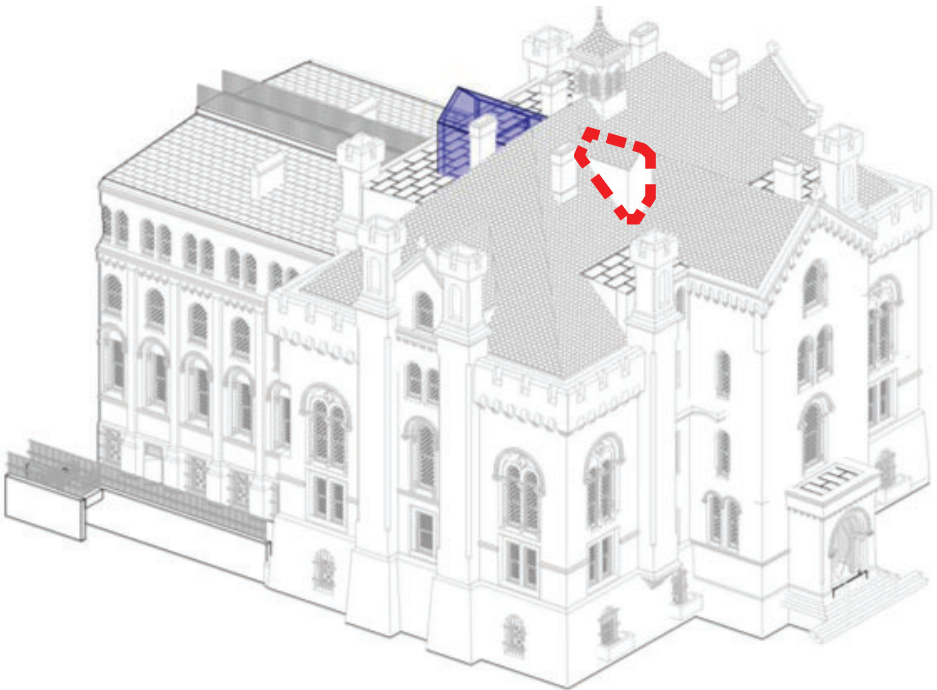


Figure 3.3.1.a - Previous design, visualization of southeast roof. Existing elevator penthouse to be removed (shown in dashed red lines).

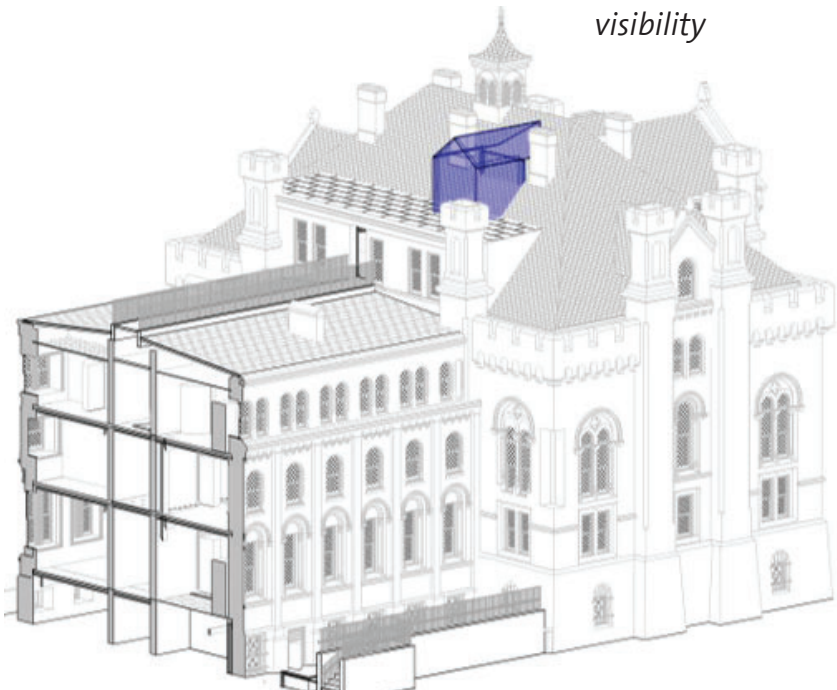


Figure 3.3.1.b - Previous design, visualization of southwest roof. New rooftop penthouse required for elevator overrun(shown in blue).



Figure 3.3.1.c - Image of east wing from Haupt Garden.



Figure 3.3.1.d - Image of southeast roof. Existing elevator penthouse to be removed(shown in dashed red lines).



Figure 3.3.1.e - Previous design, visualization of southeast roof from Haupt Garden. New rooftop penthouse required for elevator overrun.

3. DETAILED PROJECT INFORMATION

3.3 SMITHSONIAN INSTITUTION BUILDING (SIB/CASTLE)

A revised design limited the elevator overrun to a small eyebrow dormer projection on the south side of the east wing roof. This minor projection would still be visible from within the Haupt Garden and from the west but had less visual impact than the previous design.

Utilizing an alternate type of elevator that requires less space above the elevator or overrun was studied with the Smithsonian facilities team. This type of elevator, referred to as a “Machine-Room-Less” (MRL) elevator, will be utilized in this location due to the historic preservation sensitivities of the Castle. No rooftop penthouse will be required. The existing elevator penthouse on the east side of the East Wing roof will be removed and the historic roofline restored.

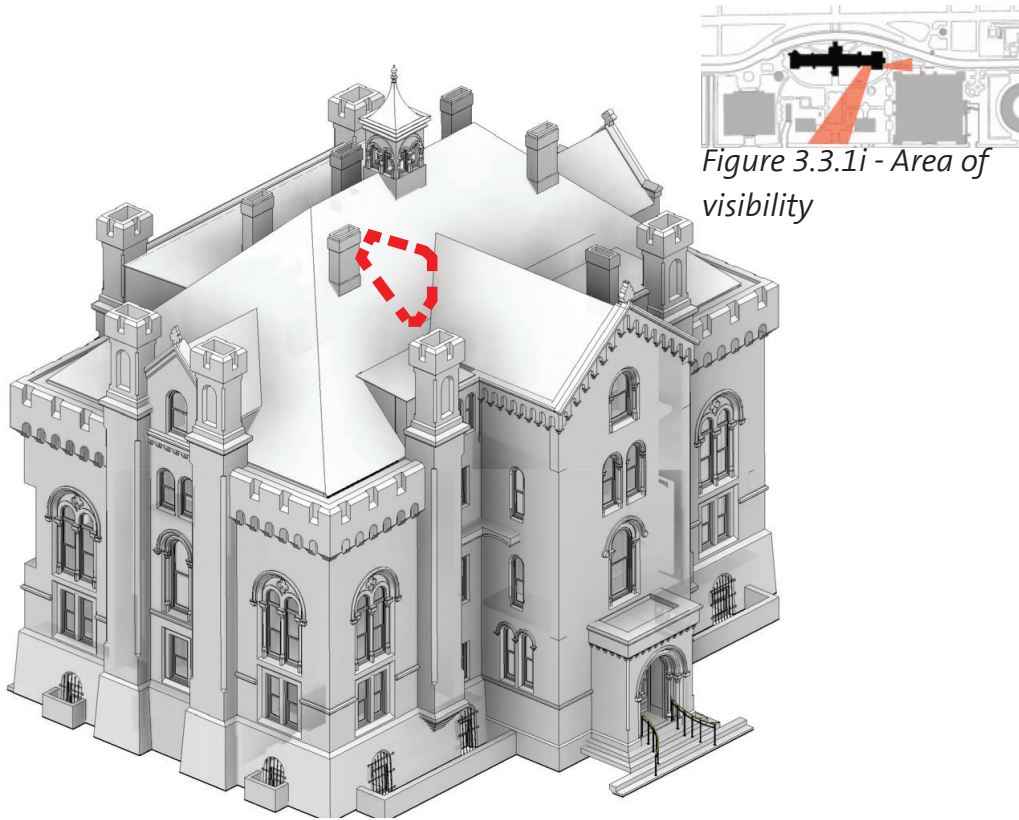


Figure 3.3.1.h - Revised design, visualization of southeast roof. Existing elevator penthouse to be removed (shown in dashed red lines).



Figure 3.3.1.j - Photograph of the East Wing viewed looking northeast from the Haupt Garden. The red arrow indicates the location of the proposed elevator penthouse.



Figure 3.3.1.k - Image of the East Wing from Haupt Garden.