Construct Integrated Bezos Learning Center **October 2024**
Draft Assessment of Effects on Historic Resources

Introduction

The Smithsonian Institution (SI), with the National Capital Planning Commission (NCPC), is undertaking a project known as the Construct the Integrated Bezos Learning Center (BLC/Undertaking) which includes the construction of an addition that connects to the National Air and Space Museum (NASM) at the east elevation and the integration of the existing Phoebe Waterman Haas Observatory and Astronomy Park (Haas Observatory and Astronomy Park) within the East Terrace. This Assessment of Effects Report (AOE Report) describes the project and analyzes potential adverse effects on historic properties, including archeological resources, within the project area in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended, and its implementing regulations (36 Code of Federal Regulations [CFR] Part 800 "Protection of Historic Properties"). It has been prepared as part of the continuing consultation process among the SI, NCPC, and the District of Columbia State Historic Preservation Office (DC SHPO) and the consulting parties.

The Section 106 implementing regulations define adverse effect as: "An adverse effect is found when an undertaking may directly or indirectly alter any of the characteristics of a historic property that qualify it for inclusion in the National Register in a manner that would diminish the property's integrity of location, design, setting, materials, workmanship, feeling, or association."[1]

Project Description

The project to Construct the Integrated BLC includes the construction of an above-grade 57,045 square-foot addition and the renovation of an existing 38,064 Basement Level/Loading dock. The addition will be connected to the east elevation of NASM and includes the integration of the Phoebe Waterman Haas Observatory and Astronomy Park within the East Terrace. The Undertaking and subsequent Section 106 process follows the parameters outlined in the NASM East End Project Programmatic Agreement (PA), executed on March 30, 2022, among SI, DC SHPO, and NCPC. Also outlined in the PA are the design framework for the BLC, which include:

1. Design concepts must respect the formal setting of the National Mall and neighboring museums, including the Hirshhorn Museum, National Gallery of Art, and the National Museum of the American Indian. The NASM is sited on center with the Sixth Street axis, designed in a symmetric relationship with the National Gallery of Art west building.
2. Design concepts must respect the NASM building and respond to its architecture and massing with an addition design that maintains the essential form and integrity of the NASM and its environment. Design concepts shall meet the *Secretary of the Interior's Standards for the Treatment of Historic Properties for Rehabilitation*.
3. Design concepts must carefully consider the BLC addition's physical connection to the NASM and materials. Design concepts may consider transparent walls to inspire learning through connection to the National Mall, BLC learner projects, and to the NASM's artifacts.
4. Design concepts must consider and respect contributing vistas of the National Mall Historic District, including the Fourth Street north-south vista, the east-west viewshed of the central greensward, the building line established by the Plan of the City of Washington and views to the flanking elm trees and buildings along the Mall from pedestrian paths and the central greensward.

The complete project scope includes: a three-story addition that holds a 600-700 seat restaurant on its ground floor, BLC programming, and building support spaces on the upper floors; a new east vestibule directly connected to NASM on its level one; an upper terrace for BLC related programming at the addition's northeast corner; a new permanent location for the Haas Observatory and Astronomy Park at the East Terrace; outdoor educational programming space; new accessible walkways to the north and south sides of the addition; and new landscape design at the east end of the site.

[1] 36 CFR 800.5(a)(1).

Bezos Learning Center

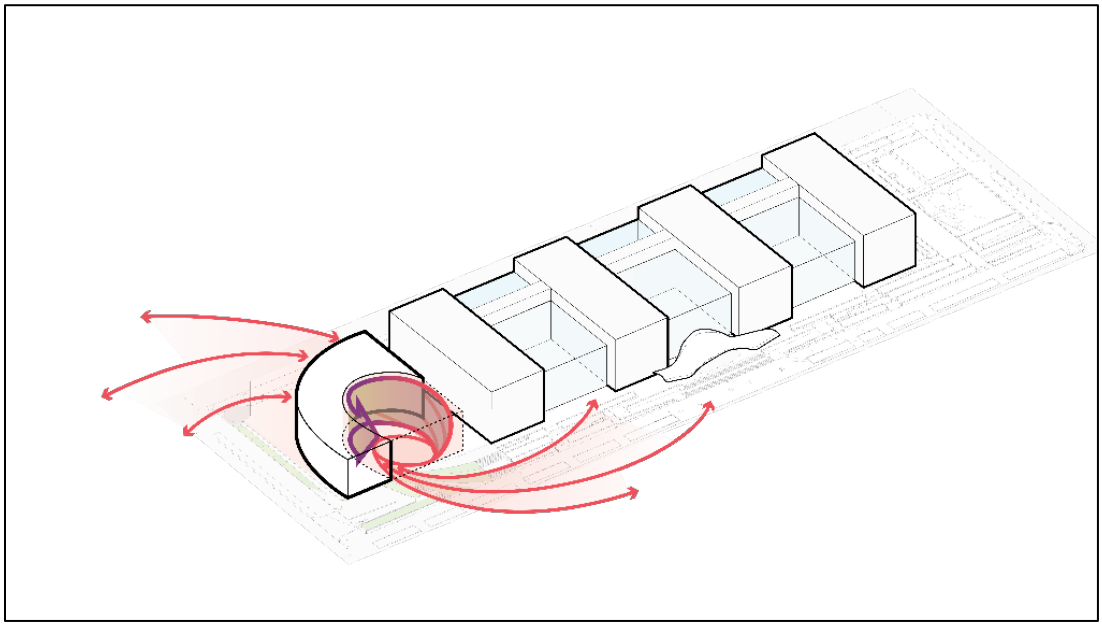


Figure 1: Inspired by spiral galaxies, the spiral force draws people in and diffuses knowledge out. (Perkins&Will, 2023)

The inspiration for the form of the BLC is a spiral galaxy, a form that reflects two-thirds of the known galaxies, including the Milky Way (Figure 1). The building's architecture metaphorically places the individual student, educator, and visitor at the core of the galaxy, surrounded by educational experiences and paths of discovery that lead to infinite possibilities for their future in science, innovation, and leadership.

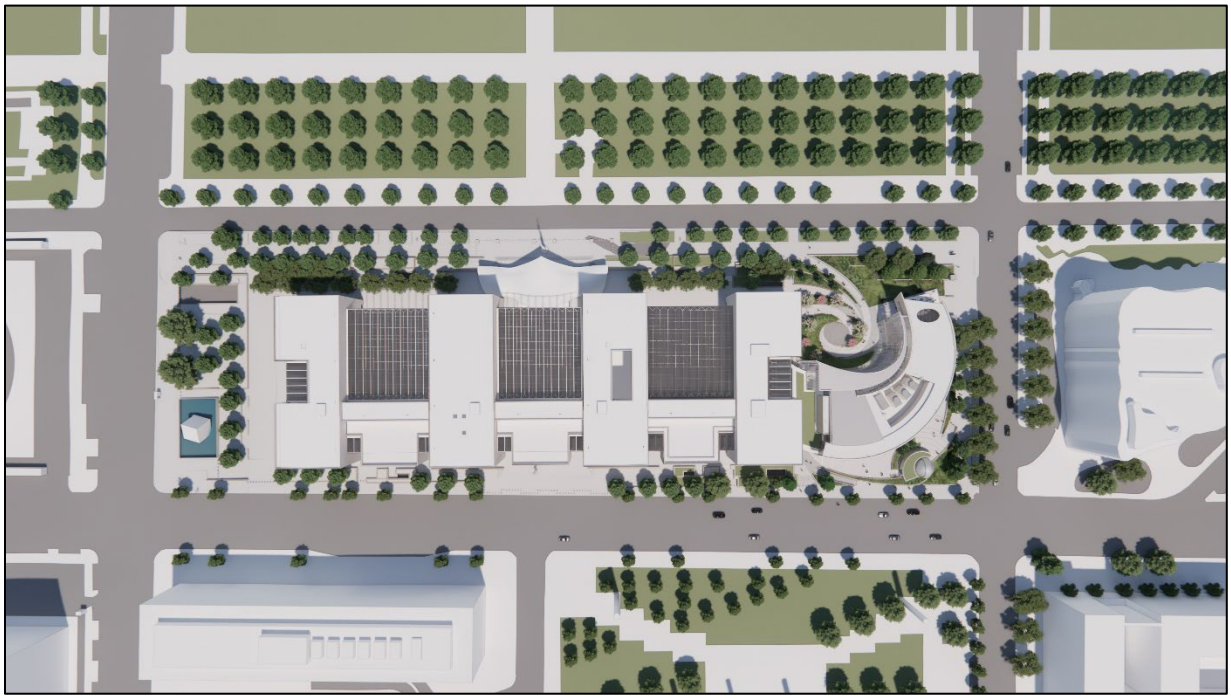


Figure 2: NASM and BLC proposed site. (Perkins&Will, 2024)

The central circulation spine of NASM, which takes visitors through the legacy of aviation and spaceflight, evolves into an energizing, spiral geometry within the BLC, and creates a symbolic destination for the study of the universe. The spiral trajectory extends out into the landscape to create the Learning Courtyard and Astronomy Park (Figure 2). From the National Mall, visitors will see the Learning Courtyard framed by the addition rising skyward, recalling the form of the

galaxy. The design of the exterior enclosure uses texture to create dramatic shadow patterns by day that reinforce the energy and movement within the BLC. At night, these openings transform into streaks of subtle light, recalling shooting stars in the night sky.

The addition will connect to the east elevation of NASM with a one-story glazed hyphen to allow maximum views of the east elevation of NASM from inside the new addition and recalling the stone and glass composition of the NASM's atriums. The main mass of the addition will be pulled back from NASM, sloping to the east, spiraling up to the north, exercising motion and allowing further separation from NASM (Figures 3 and 4). The height of the west end of the addition is sixty-seven feet, while the highest point at the northeast corner reaches seventy-two feet. The proposed addition will be set back 445 feet from the National Mall, following the McMillan Plan, thirty feet from Fourth Street, SW, to conform to the adjacent National Museum of the American Indian's setback, and aligns with the southern elevation of NASM on Independence Avenue, SW (Figure 5).

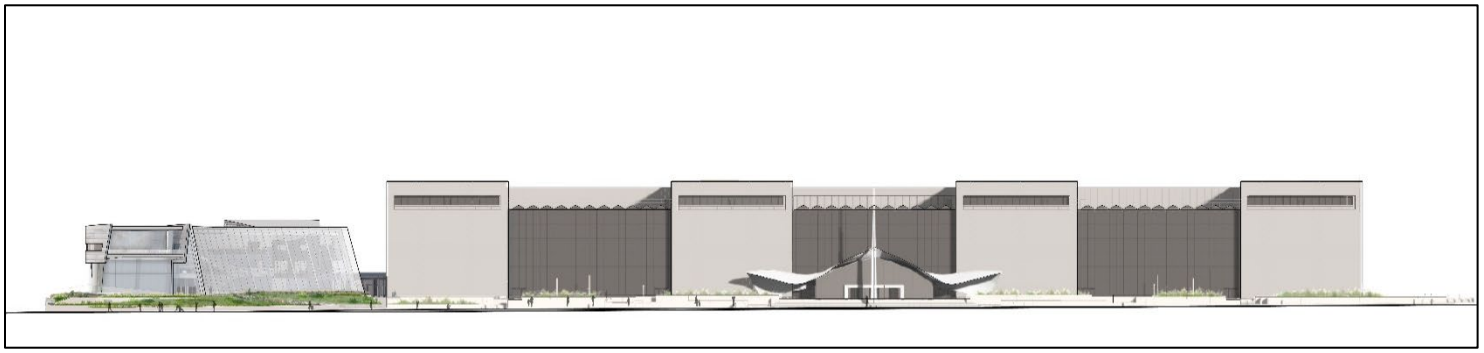


Figure 3: Proposed north section of the building. (Perkins&Will, 2024)

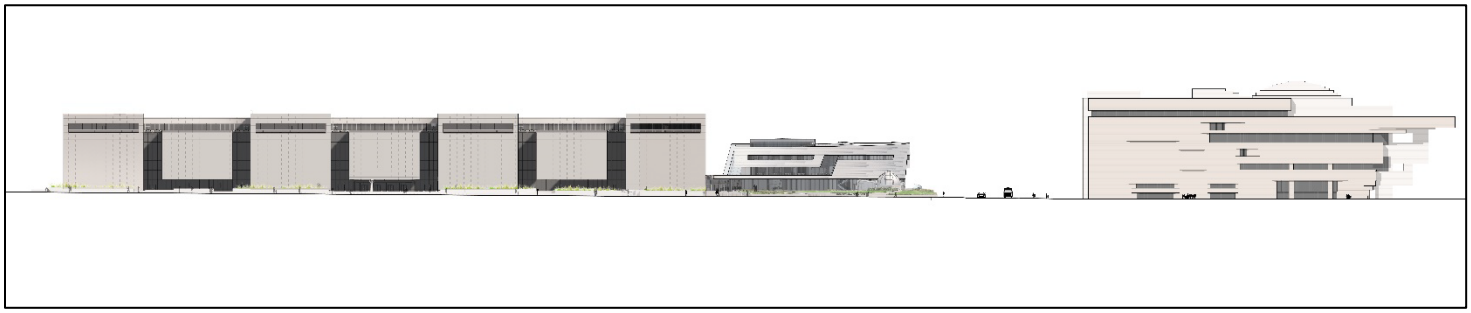


Figure 4: Proposed south elevation of the addition. Note the main mass of the new construction set back, and leaning away from the NASM, to allow the east elevation to remain visible and create a visual separation between the museum and the BLC. (Perkins&Will, 2024)

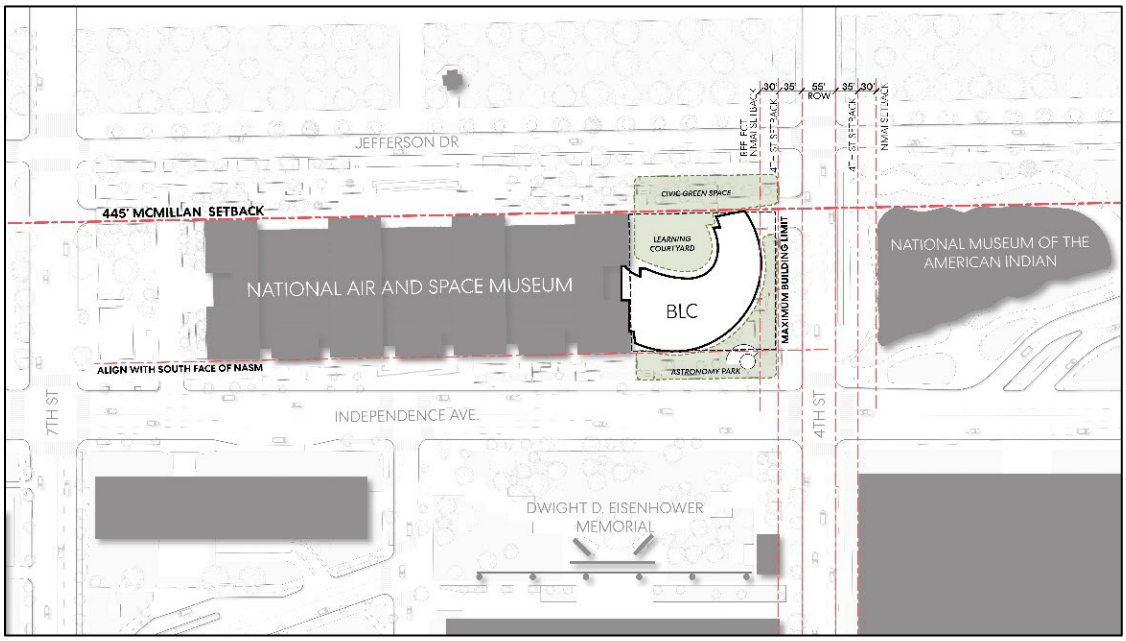


Figure 5: BLC setbacks from L'Enfant Plan streets, protecting viewsheds. (Perkins&Will, 2023)

The main mass of the addition will be concentrated at the southeast end of the site, opening the northwest landscape to the National Mall. The interior curve of the spiral will be a two-story glazed curtain wall to maximize views to and from the National Mall, and in keeping with the NASM's rhythm of facade composition. At the east and south elevations, the addition is clad in aluminum panels with tapered eight-inch deep, aluminum fins. The fins have continuous two-inch tall reveals which could incorporate lighting, to accentuate the spiral motion of the addition's form.

Phoebe Waterman Haas Observatory[2]

Figure 6: Phoebe Waterman Haas Observatory and Astronomy Park. (Perkins&Will, 2024)

[2] This section will be updated as the design develops.

The permanent Phoebe Waterman Haas Observatory will be located at the southeast corner of the site (Figure 6), the best location on the site for astronomical events and viewing. The proposed building to house the Observatory is a twenty-six-foot-wide dome containing the telescope, with a curved, ten-foot-fourteen-inch-tall entrance, office, and storage space wrapping around the northwest end of the Observatory. The Observatory will be clad in the same aluminum panels and tapered fins as the new addition.

Landscape Design and Phoebe Waterman Haas Astronomy Park[3]

The galactic spiral that informs the BLC architectural form introduces an organic, outwardly expanding landscape scheme with two program areas: the north-facing Learning Courtyard fronting Jefferson Drive, SW, and the south-facing Astronomy Park, which provides the Observatory and telescope array the best views of the night sky. The design promotes visual and spatial continuity between the addition's interior and exterior spaces on the main floor and at Level Two to planted roofs and canopy vegetation, including canopies of trees on the National Mall.

The new landscape will be a spiral form at the Learning Courtyard with low canopy trees at the center to allow for temporary projections on the east elevation of NASM (Figure 7). The landscape spirals out towards the National Mall with a new accessible ramp connecting to Jefferson Drive, SW. The extant terraced stair to Jefferson Drive, SW, will be reconfigured to better align with the new curved ramp and landscape. A new pollinator garden will be inserted in the top tier of the extant NASM terraced walls, with a grove of trees on the middle and bottom tiers, increasing the tree canopy around the National Mall and NASM site. The east end of the landscape will be altered with a new curved stair extending from the Haas Observatory to Fourth Street, SW. The south end will contain the Astronomy Park, with the extant stairs to remain and a new curved accessible ramp to Independence Avenue, SW. A radiating pattern in the terrace paving is centered from the Observatory.

For more images and information on each element of the Undertaking, please refer to the presentation materials from past Section 106 Consulting Parties meetings available on the project webpage (https://airandspace.si.edu/about/major-projects/bezos-learning-center).

[3] This section will be updated as the design develops.

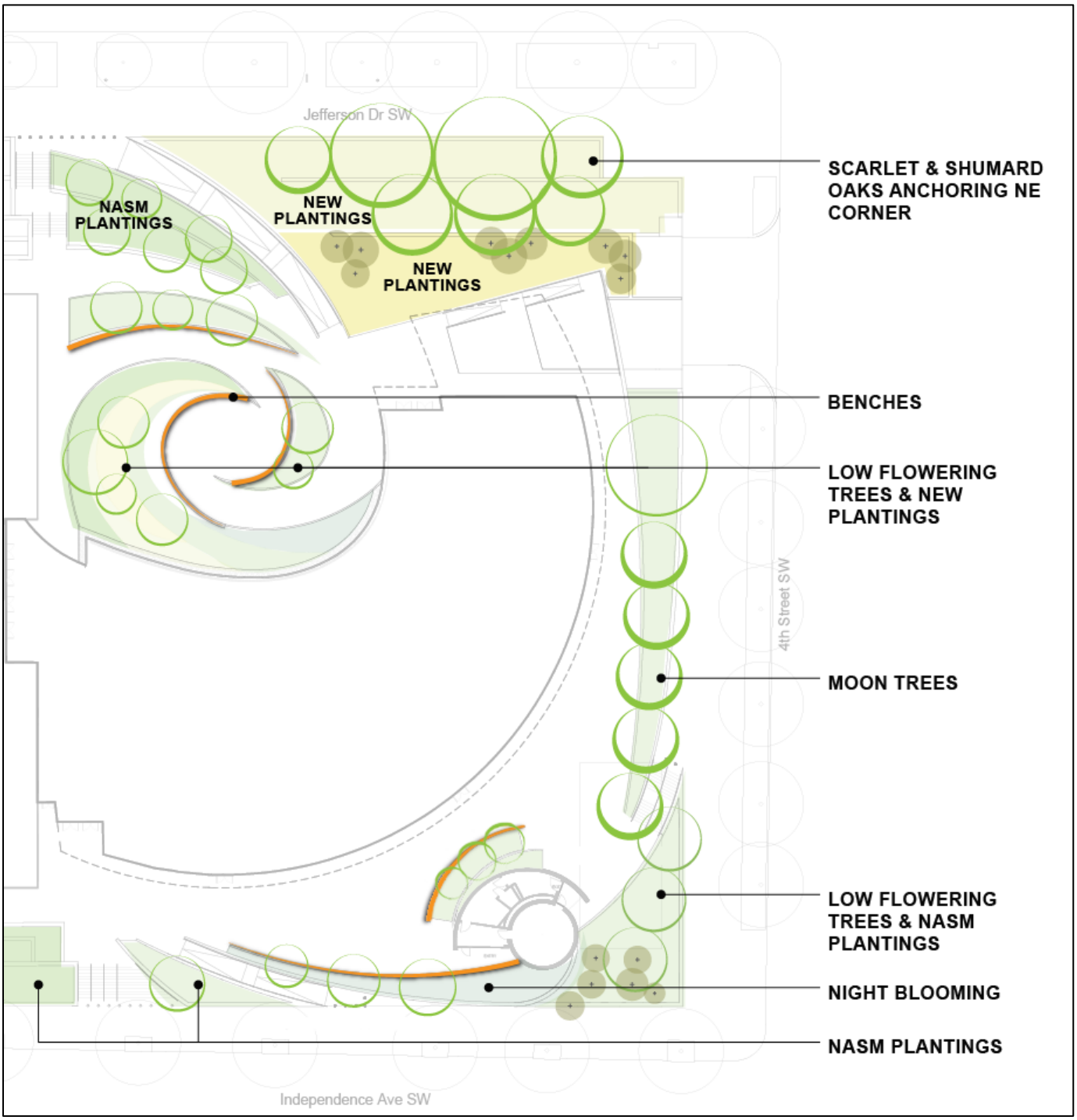
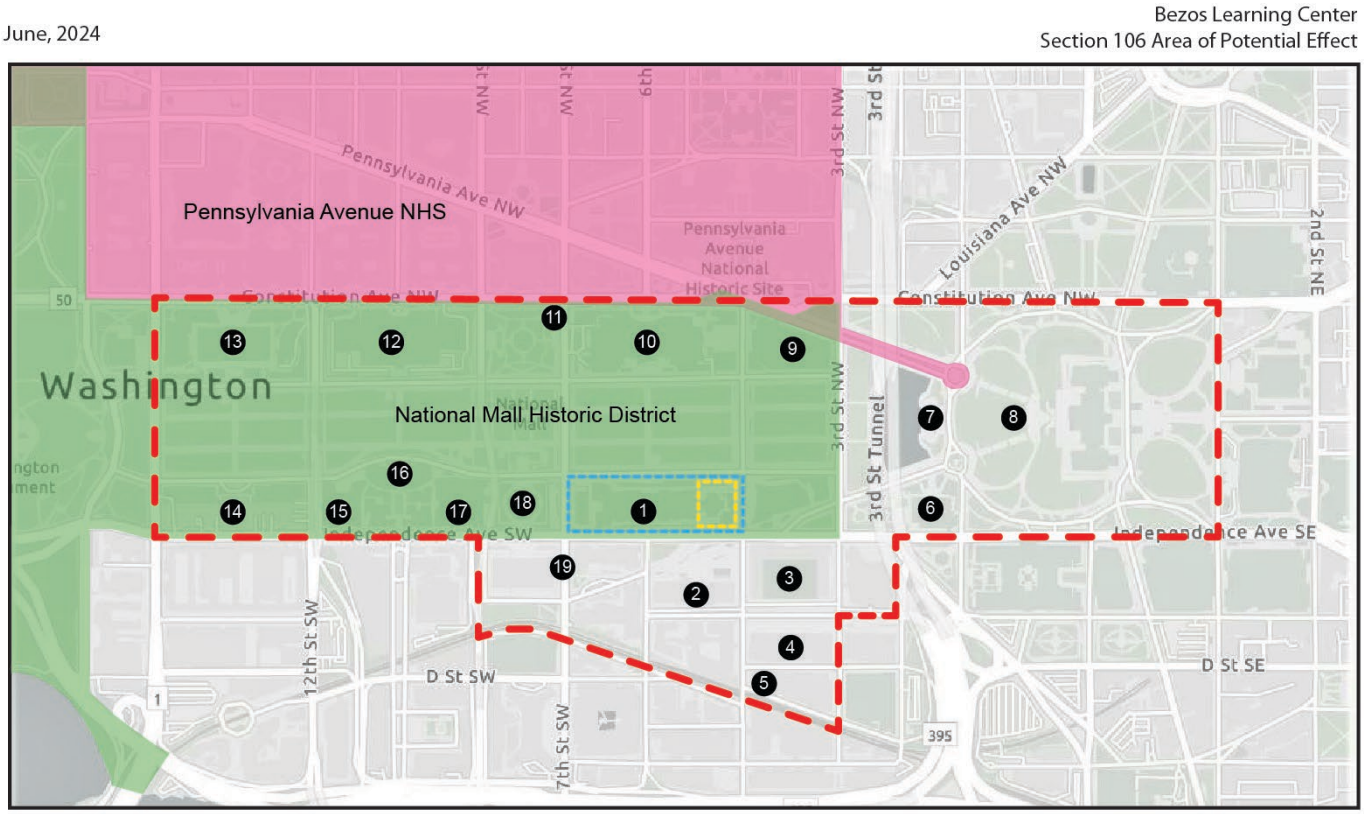


Figure 7: Proposed landscape plan that emphasizes the spiral design concept of the new addition. (Elizabeth Kennedy Landscape Architects, 2024)

Area of Potential Effects

The APE (Figure 8) is defined as the geographic area within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties under the implementing regulations Section 106 (36 CFR § 800.16[d]). This AOE Report on Historic Resources considers the effects of the Undertaking within the APE outlined in the below mapped area. This APE was presented and finalized during the Section 106 consultation process. More information on the APE and descriptions of the identified historic resources can be found in **Attachment A**.



Key					
NASM Site	Project Area	5	Terminal Refrigerating & Warehousing Co.	14	US Dept of Agriculture
Area of Potential Effects		6	US Botanic Gardens	15	Freer Gallery
National Mall Historic District		7	Ulysses S Grant Memorial	16	Smithsonian Castle
Pennsylvania Avenue NHS		8	US Capitol and Grounds	17	Arts & Industries Building
1	National Air & Space Museum (NR Eligible)	9	National Gallery of Art East Wing (NR Eligible)	18	Hirshhorn Museum (NR Eligible)
2	Lyndon B Johnson Dept of Education	10	National Gallery of Art West Wing	19	Orville & Wilbur Wright Federal Buildings (NR Eligible)
3	Social Security Administration	11	Bulfinch Gatehouses and Gateposts		
4	Mary E Switzer Federal Building	12	Natural History Museum	*	Plan of the City of Washington (Not Shown)
		13	National Museum of American History		

Figure 8: Area of Potential Effects and Identified Historic Resources. (EHT Traceries, 2024)

National Air and Space Museum – Character Defining Features

The NASM is the largest museum building on the National Mall and showcases a nationally significant collection of artifacts documenting the history of flight and space travel. The Modernist style building was designed by Gyo Obata of Hellmuth, Obata & Kassabaum and opened to the public in 1976. NASM is a contributing element to the National Mall Historic District under Criterion A. The building itself has been evaluated and may be eligible for individual listing in the National Register of Historic Places under Criteria A, C, and Criteria Consideration G with a period of significance of 1976. Later additions and changes made to the building and site after 1976 are not considered contributing features. Below is a list of character-defining features that are contributing to NASM's historic significance.

Character Defining Feature*	Notes
Seven-bay building form with alternating solid-void pattern	-The solid and void pattern of NASM is a critical design element. -Visible on all elevations. -At the north façade, four solid sections are divided by three void sections, with the void sections continuing to the roof, with large skylights that continue to the building's central spine. -The south elevation has four solid sections, mimicking the north façade, with three smaller solid cantilevered bays held within void glazing.
Recessed, glazed openings in the east and west elevations	-The east and west elevations have solid north/south wings framing a central void section, which continues the solid-void pattern of the building form. -The physical glass and frame are not original and do not retain integrity of material
Recessed third-story, linear openings and balconies	-Eight recessed, third-floor balconies are located within the solid sections of the design. -Their horizontality, emphasized with their railings and deep recesses, help articulate the monumental solid bays.
Marble curtain wall panels	-The Tennessee Pink Marble exterior panels were replaced with Colonial Rose Granite panels; a substitute material selected as part of the Section 106 process during the NASM Revitalization project. -Installation of new Colonial Rose Granite panels resulted in a loss of integrity of material.
Carved inscriptions on north and south elevations	-Located at the north and south elevations. Incorporated into accessible walkway stone walls under the NASM Revitalization project.
Exterior terrace on southeast cantilevered block	-Located on top of the southeast cantilever block, the exterior terrace was part of Obata's original design.
Tiered terraces and planting beds	-Surrounding the site, the historic landscape plan had tiered terraces and planting beds. -Almost all the tiered terraces and planting beds located at the east end of the site were altered c. 1988 with the restaurant addition; these reconfigured terraces and beds are not considered character defining. -Vegetation within the planters is not considered character defining. -Non-historic stairs, ADA-ramps, and perimeter security features have been inserted into the historic tiered terraces over time and are not considered character defining.
Marble-clad retaining walls throughout the site	-Located throughout the site, the retaining walls remain but the Tennessee Pink Marble panels have been replaced with Colonial Rose Granite. -Marble retaining walls at the east terrace are in poor condition.
Garage openings and ramps	-Located at the east elevation, the garage opening and ramps flow under the east terrace to the museum basement and loading dock. -Historically clad in Tennessee Pink Marble, the material was removed and replaced with Colonial Rose Granite. -There is a non-contributing guardrail atop the garage opening, and non-contributing perimeter security features throughout.
Ad Astra sculpture	-Sculpture has always been displayed at the north façade, main entrance. -Designed by Richard Lippold.
Continuum sculpture	-Sculpture has always been displayed at the building's south elevation. -Designed by Charles O. Perry.

**Please note that there are a number of contributing elements to NASM on the interior of the building, but as work is limited to the exterior of NASM they have not been included within this AOE Report.*

Assessment of Effects on Historic Resources

The following provides an assessment of effects for each of NASM's character-defining features, as well as an assessment of effect for each action of the Undertaking on the identified historic resource within the APE (Attachment A). The effects determination is based on the criteria of adverse effect. For more images and detailed information on each action and assessment, please refer to the presentation materials from past Section 106 Consulting Parties meetings available on the project webpage.

A number of character-defining features of NASM have no potential to be adversely affected by the BLC project, including: the recessed third-story, linear openings and balconies; the exterior terrace on southeast cantilevered block; carved inscriptions on the north and south elevations, and the *Ad Astra* and *Continuum* sculptures. As such they are not addressed below.

National Air and Space Museum

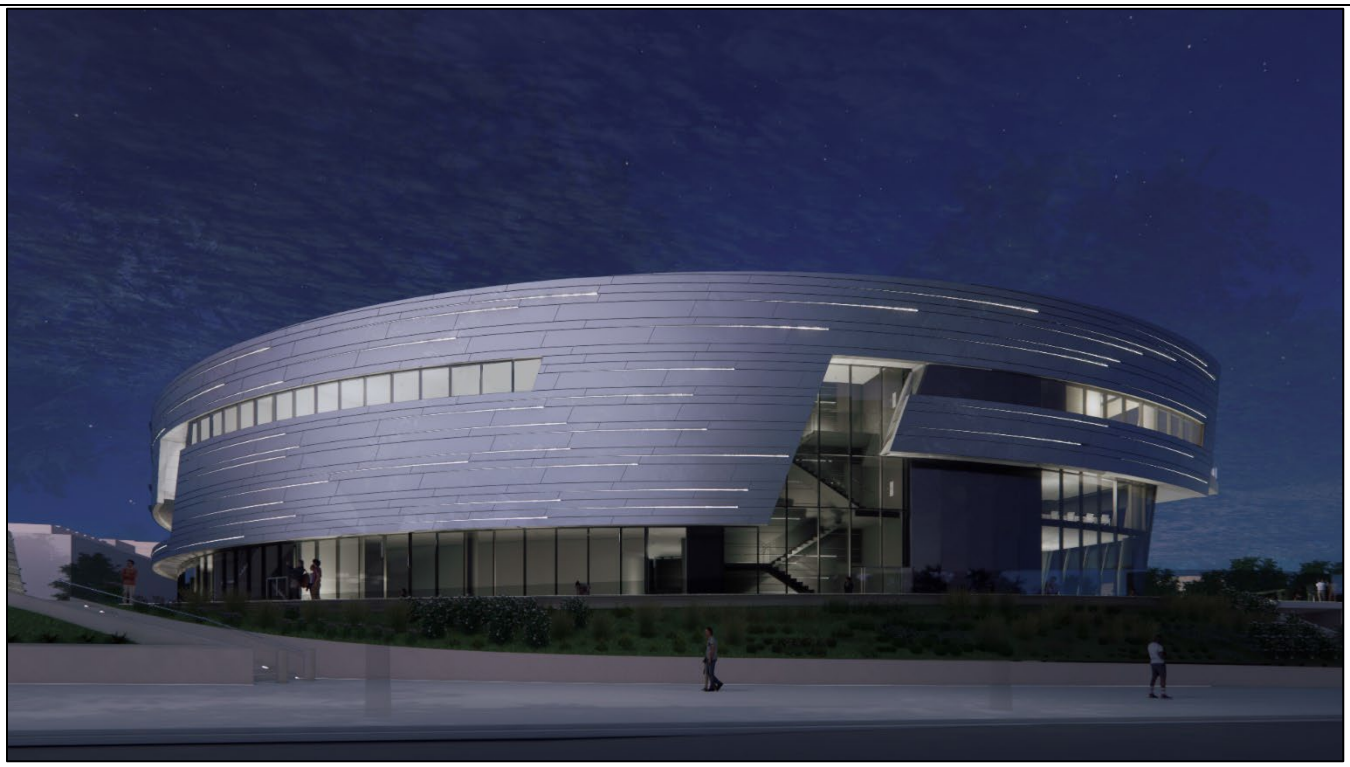
National Air and Space Museum	
Feature/Action	**Design Details**[4]
BLC and Haas Observatory Design and Form / Mechanical Systems / Materials and Integrated Façade Lighting	-The spiral form and massing of both the BLC and Haas Observatory are substantial additions to the NASM and its site, distinctive from the geometric imposing massing and rigid form of Obata's NASM design, resulting in adverse effect. -To minimize adverse effect, the light and airy design, showcasing movement, is differentiated as new additions to Obata's original monumental building form, designed with setbacks and lower height to allow the NASM's massing and form to remain the primary feature of the Museum and site. -The BLC's entry points at the SW and NE portions of the addition call visual attention and may signify that the addition is the primary entrance to the Museum, resulting in adverse effect. This adverse effect may be intensified at night due to lighting. -All mechanical systems will be integrated within the building designs and forms of the spirals and will not be interrupted by mechanical equipment, maintaining the distinctive form on all elevations, minimizing adverse effects. -The BLC's façade cladding with PPG Titanium finished metal panels and fins with integrated cove lighting create a dynamic texture of light and shadow that wrap the spiral building forms evoking the linear energy and dotted landscape within the Spiral Galaxy. The aluminum cladding color will complement the NASM's Colonial Rose Granite to minimize adverse effects. -The size of the panels follows a 1'3" module, derived from NASM's 2'6" stone panel joints. There will be six panel sizes, three thick, three thin, that will be randomized across the elevation and will correspond to the tapered fins and integrated lighting. The size of the reveal between panels was reduced to one inch, bringing the metal panels closer to the monolithic aesthetic of NASM. -As day transitions to night, integrated cove lighting will gently illuminate the metal fins. There is no current comparable lighting or design feature on NASM's static, solid, monumental architecture. Such dynamic lighting at night directly adjacent to NASM may detract from the NASM's formal setting, and further studies will be conducted to evaluate the potential effects. -The Spiral Concourse of the BLC faces the Mall and is clad with clear Viracon GL-01 Make-up glass (with bird frit pattern) to maximize views and connection between interior and exterior in keeping with the NASM's configuration. The Spiral Concourse system will be a custom steel column, steel horizontal connector beam, custom steel mullion, and

[4] This analysis will be updated as the design develops.

	stainless-steel outrigger, with aluminum fins, all to be executed in the Sherwin Williams On the Rocks 7671 in keeping with the NASM's interior space frame structure. The clear glass and spiral concourse system will further communicate the building's lightness, in contrast with NASM's heavy, monumental form and heavy tint of its glazing. -All non-concourse elevations will receive a darker, grey-tinted Interpane GL-02 Make-up #2 glass (with bird frit pattern). This tint is not as dark as NASM's extant glass, for differentiation. -On going review of the tint of the two different glasses, the chosen frit patterns, and shading elements, results in a conditional finding of adverse effect; however, the incorporation of transparent walls are in accordance with the PA design framework.

Images

The form and massing are distinctive and complimentary to Obata's original design intention. (Perkins&Will, 2024)

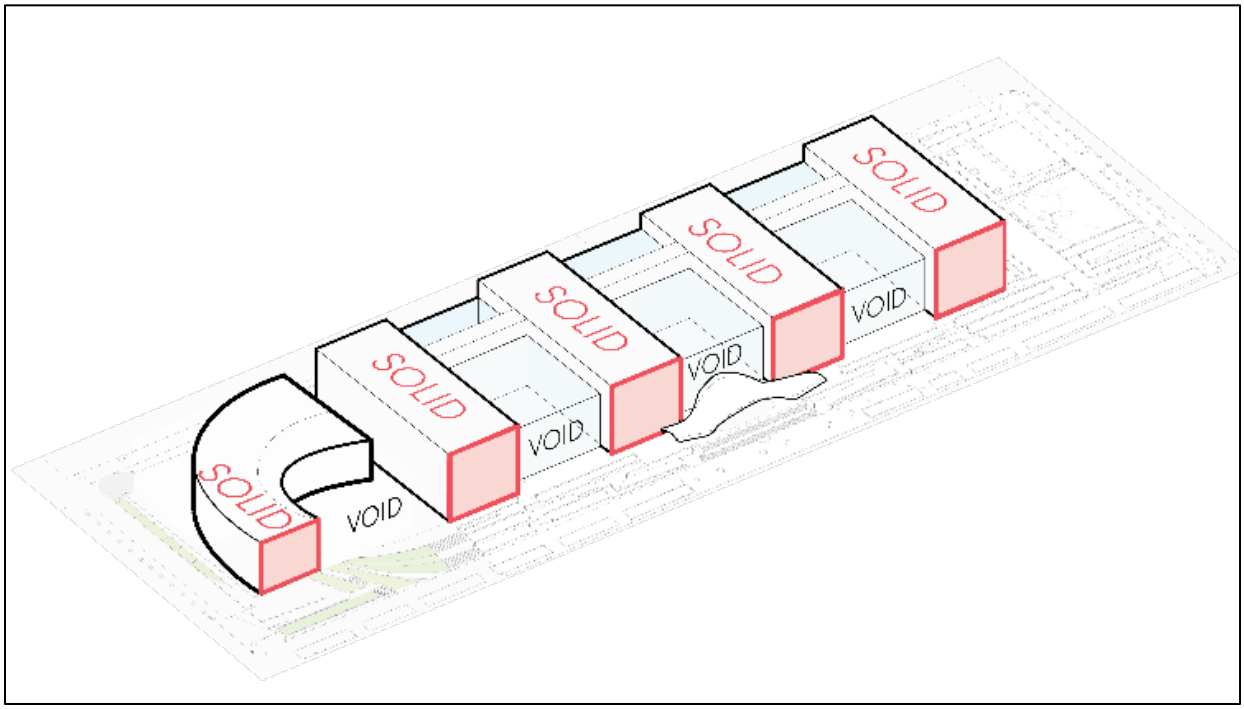


East elevation rendering at night of BLC and Hass Observatory with the integrated façade lighting within the metal panels. (Perkins&Will, 2024)

South elevation rendering at night of BLC and Hass Observatory with the integrated façade lighting within the metal panels. (Perkins&Will, 2024)

Proposed Effect Determination – Potential Adverse Effect

National Air and Space Museum	
Feature/Action	**Design Details**
Seven-bay building form with alternating solid-void pattern / New addition	-The new addition will not alter the seven-bay solid-void pattern of NASM's north and south elevations. Both the north and south elevations, and their solid/void pattern, will continue to be fully legible. -The new addition will extend and reinterpret the solid-void pattern, on both the north and south elevations, relating to Obata's original design intent, -The limited height of the addition and extending the solid-void pattern improves the compatibility of the BLC addition to the NASM's form and this character defining feature of the original design and will not result in an adverse effect. -The addition form respects the NASM building and responds to its architecture and massing in accordance with the PA design framework. -See "Connection to the east elevation of NASM" for related analysis.
Images	



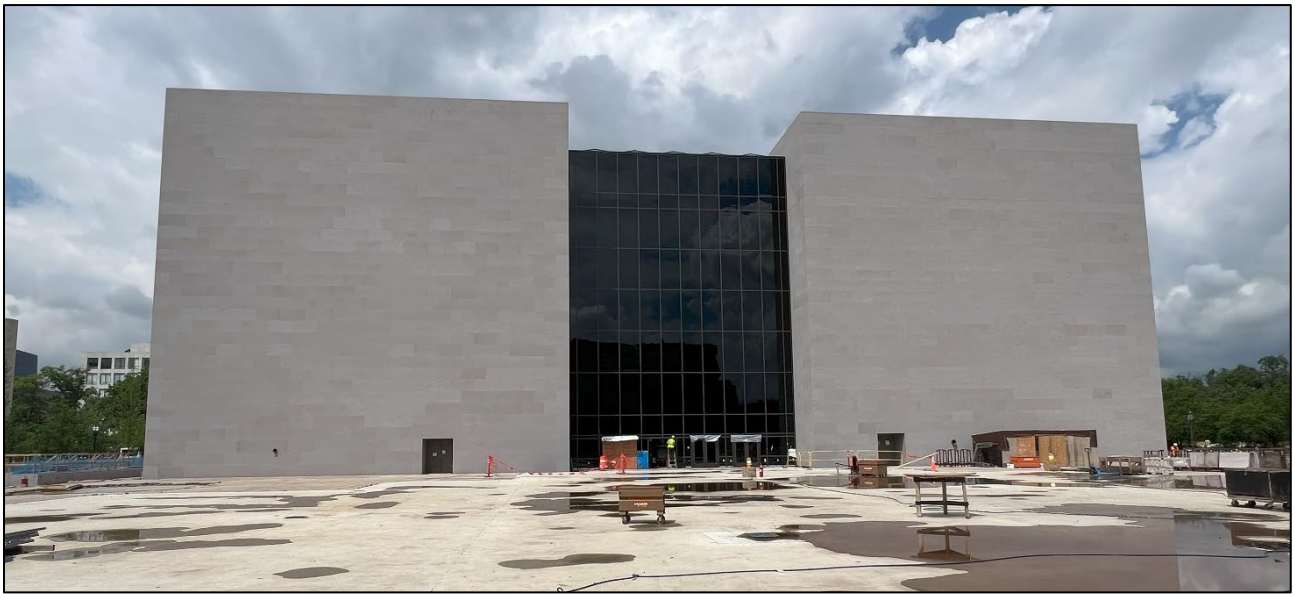
North elevation of NASM with the seven-bay solid-void pattern, continued to the new addition. (Perkins&Will, 2023)

Proposed Effect Determination – No Adverse Effect

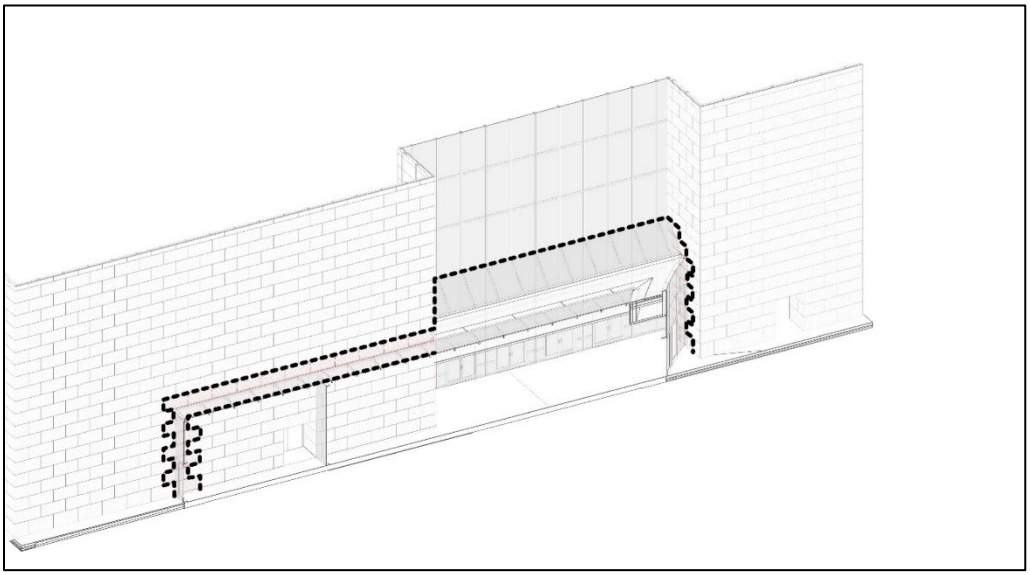
National Air and Space Museum	
Feature/Action	**Design Details**
Recessed, glazed openings in the east and west elevations / Marble curtain wall panels (no longer extant) / Connection to the east elevation of NASM	-The west elevation of NASM will not be impacted by the Undertaking. -Though the Undertaking involves the limited removal of Colonial Rose Granite panels and portions of the east elevation glazing, both materials lack integrity as they were previously replaced, resulting in no adverse effect. -The three-bay solid/void pattern of the east elevation will be partially obscured by the addition resulting in an adverse effect. The pattern will still be communicated, as the main mass of the addition is set back, leaning away from the face of the building, only connected at the first story, with a glazed hyphen, minimizing adverse effect. -The new addition is also reversible as it lightly connects to the east elevation and permits NASM to remain the primary feature on the site, minimizing adverse effect.

	-The hyphen incorporates a skylight at the connection, exposing the east elevation from inside the new addition, further minimizing adverse effects, and recalls the configuration of the NASM's atriums. -The addition's physical connection to NASM was carefully considered and incorporates a light touch and glazed hyphen in accordance with the PA design framework.

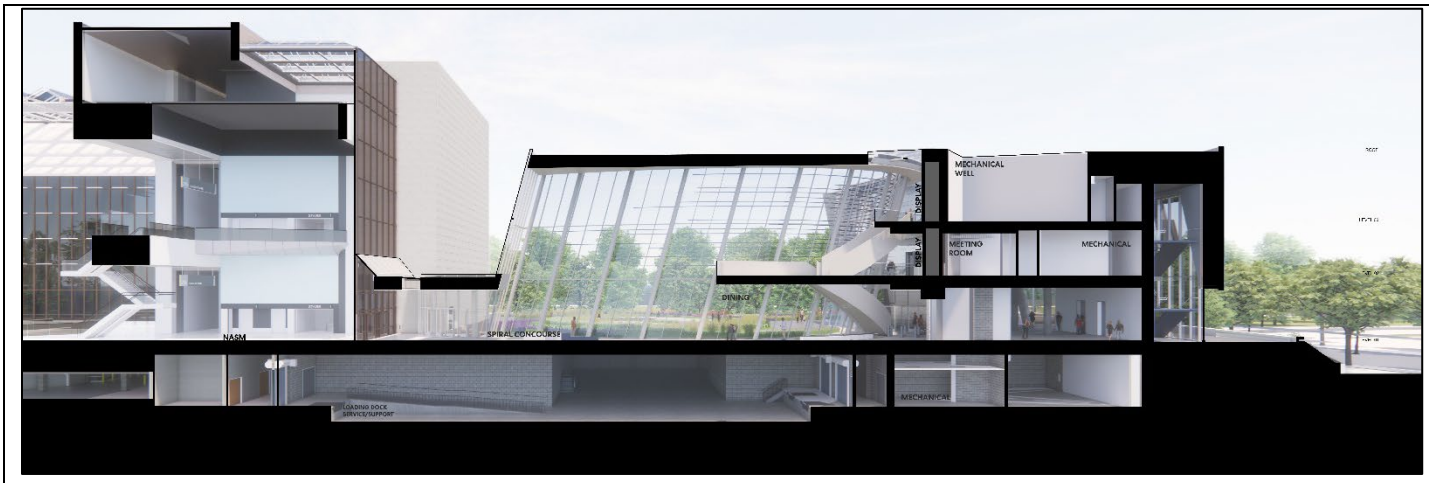
Images



Extant view of NASM's east elevation, looking west, with the solid-void pattern, new glazing, and Colonial Rose Granite panels. (EHT Traceries, 2024)



Axonometric view of the limits of connection at the east elevation of NASM. (Perkins&Will, 2024)



Interior section of the new addition and hyphen connection to NASM. Note the main mass of the BLC angled away from NASM allowing for separation and maintaining views to the museum's east elevation. (Perkins&Will, 2024)

Interior rendering of the connection to NASM with the skylight allowing for views of the east elevation from inside the new BLC hyphen. (Perkins&Will, 2024)

Rendering of the south elevation of BLC and the glazed hyphen connection to the east elevation of NASM. (Perkins&Will, 2024)

Southeast corner where the new connection will be made with the newly installed Colonial Rose Granite panels. (EHT Traceries, 2024)

Proposed Effect Determination – Adverse Effect

National Air and Space Museum	
Feature/Action	**Design Details**
New Signage	-Signage program for the BLC and East Terrace includes engraved signage on the stone walls, in keeping with NASM and other Smithsonian buildings on the National Mall. The signage will not result in an adverse effect.
Images	

Proposed signage at the north elevation with "BEZOS LEARNING CENTER" carved into the stone site wall. (Perkins&Will, 2024)

Proposed signage at the south elevation with "PHOEBE WATERMAN HASS OBSERVATORY" carved into the stone site wall. (Perkins&Will, 2024)

Proposed Effect Determination – No Adverse Effect

National Air and Space Museum	
Feature/Action	**Design Details**
Tiered terraces and planting beds / Retaining walls / New addition and insertion of new site access, including stairs and ADA ramps	-New site access and accessible ramps will require the demolition of tiered terraces, planting beds, and retaining walls, resulting in an adverse effect. However, most of the original tiered terraces, planting beds, and retaining walls at the east end of the site were demolished and reconfigured in 1988. Only portions of the planting beds and retaining wall along Fourth Street, SW, and flanking the garage entrance retain their historic design. -The stair to Jefferson Drive, SW, currently steps down to the east; the newly configured stair will step down to the west altering the planting beds at the north elevation. However, these planting beds fall outside of the period of significance and these alterations will not intensify adverse effects. -The new accessible ramp from the Learning Courtyard to Jefferson Drive, will impact the tiered planting beds at this location; however, these planting beds fall outside of the period of significance. The retaining wall in this location is not original. This will not result in an adverse effect. -The tiered planting beds flanking the garage will be demolished to the south and reconfigured to the north, resulting in an adverse effect. -The planting bed and retaining wall along Fourth Street, SW, south of the garage, was previously reduced in size with the construction of the restaurant addition in 1981. Due to the new location of the addition and expanded Astronomy Park, the planting bed along Fourth Street, SW, will be further diminished in size, resulting in an adverse effect. The location of the opening for the new ramp will result in further loss of the retaining wall, resulting in an adverse effect. -The extant stair to the south, leading to Independence Avenue, SW, will be retained, minimizing adverse effect. -The ADA ramp to the south will be reconfigured to conform with the new spiral design; however, the ramp falls outside of the period of significance. This will not intensify adverse effects. -Alterations to the tiered terraces, planting beds, and retaining wall will have a cumulative impact on these features, resulting in an adverse effect. However, all the alterations will be limited to the east end of the NASM site, minimizing those adverse effects.
Images	

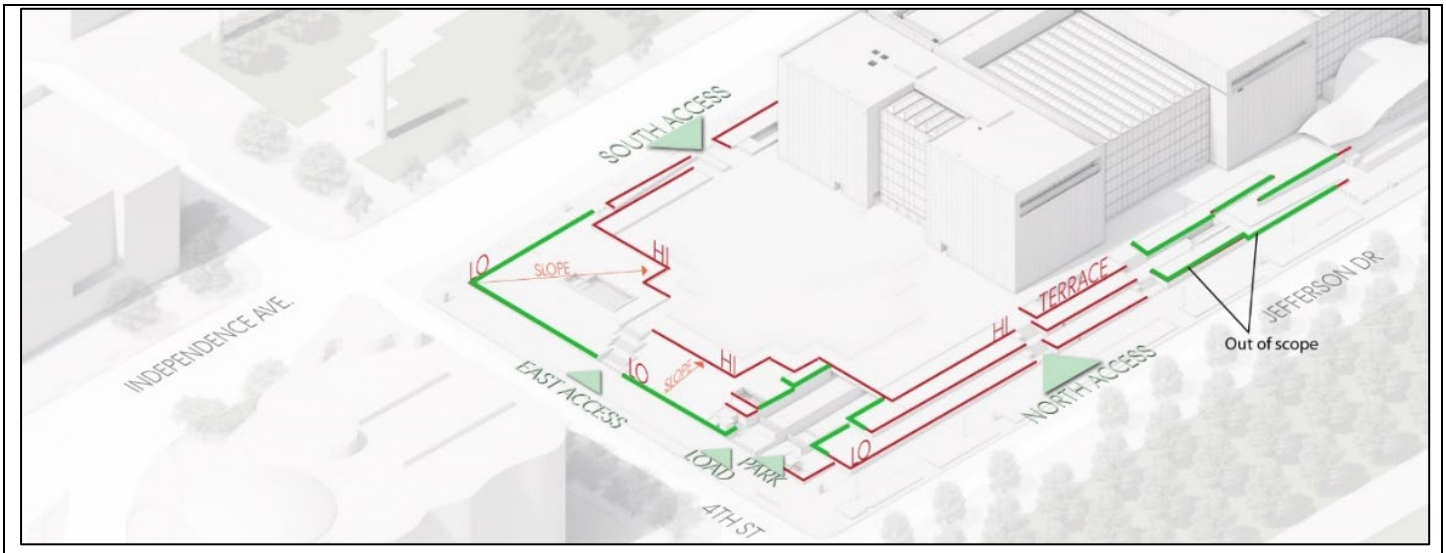
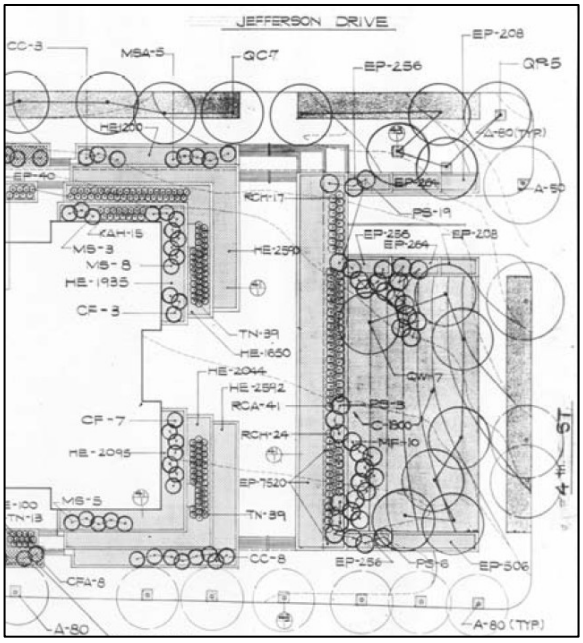
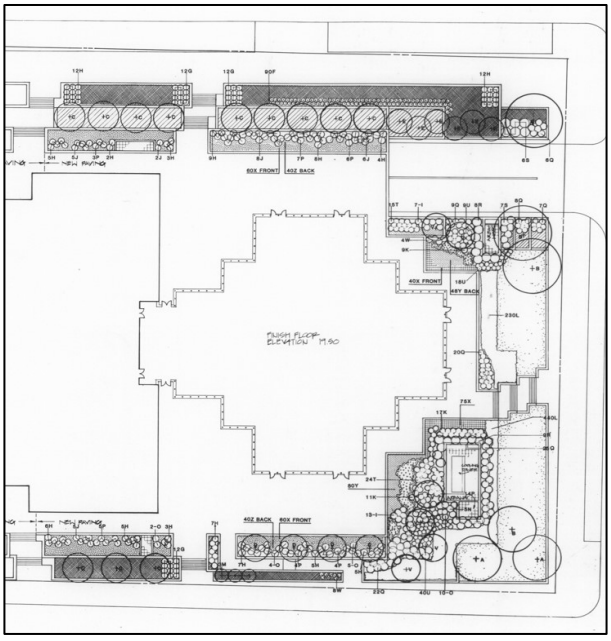


Diagram of the current retaining walls, tiered terraces, and planting beds at the east end of NASM. Walls highlighted in green are part of the original design and are character-defining features; walls highlighted in red were altered in 1988 and are not considered character-defining features. (Perkins&Will, 2023, annotated by EHT Traceries, 2024)



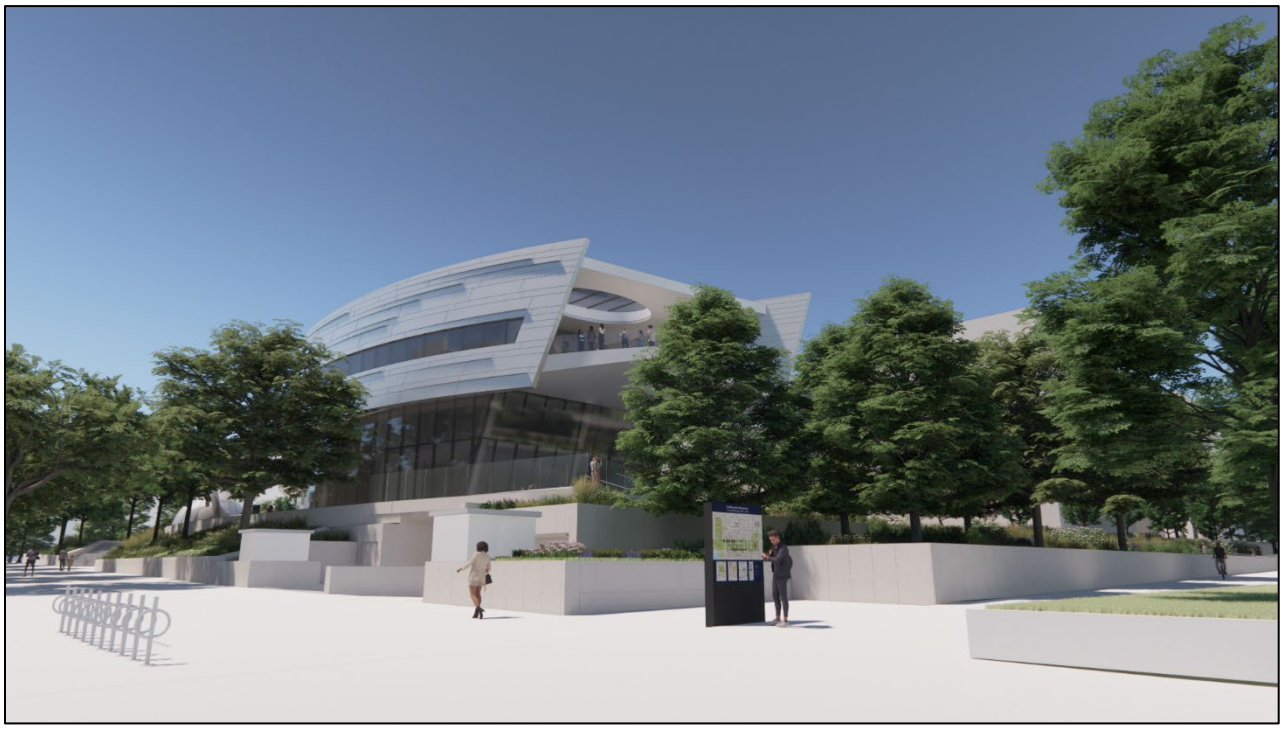


Left: Original 1972 landscape and planting plan (Smithsonian Institution, 1972)
Right: 1988 restaurant addition and landscape plan showing the alteration of character-defining features. (Smithsonian Institution, 1988)

Proposed landscape and planting plan as part of the Undertaking. (Elizabeth Kennedy Landscape Architects, 2024)

Proposed Effect Determination – Adverse Effect

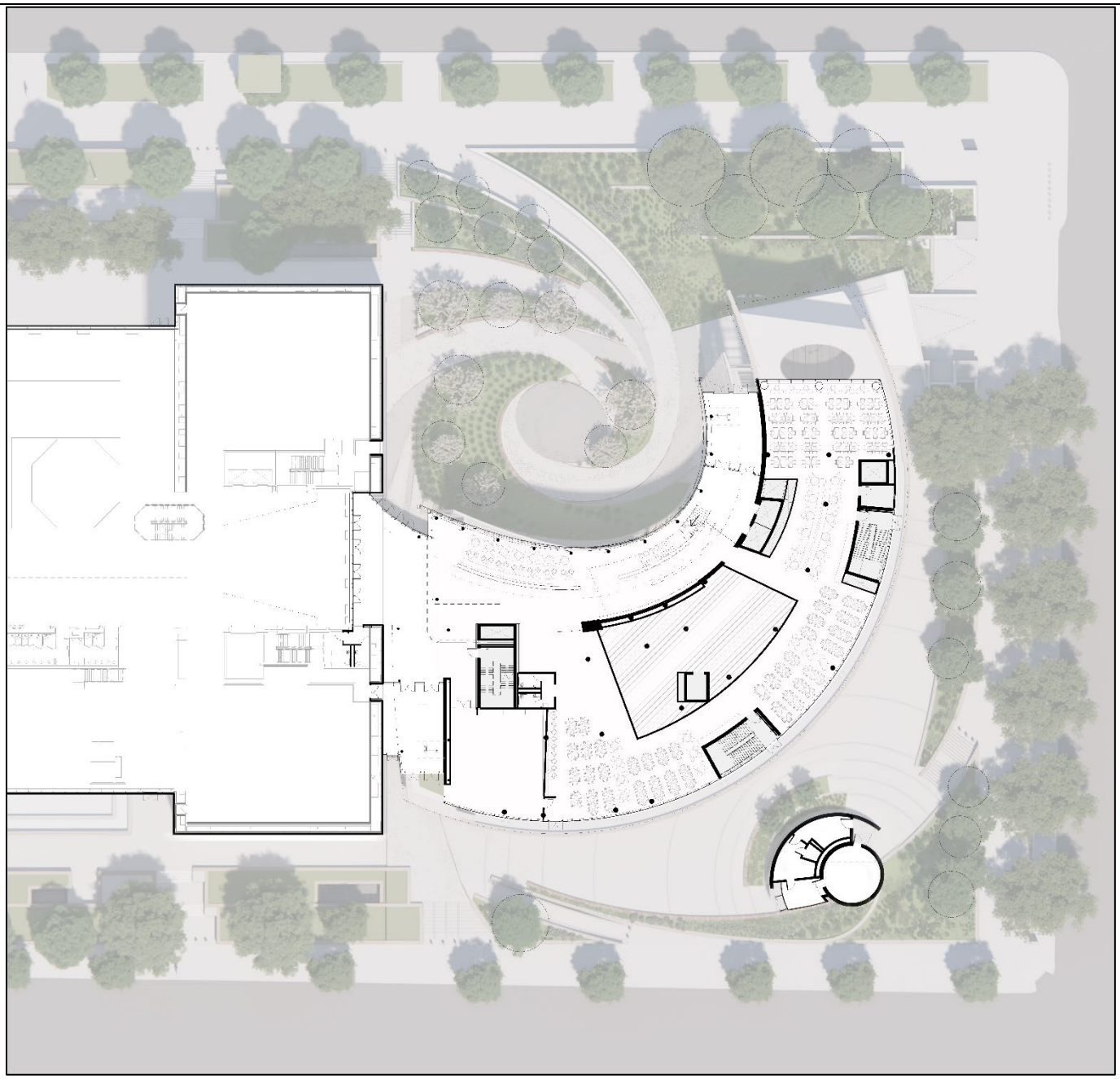
National Air and Space Museum	
Feature/Action	**Design Details**
Garage openings and ramps / New addition extending over the garage	-Vehicular ramps down to the garage will remain, though the marble-clad walls were previously replaced with Colonial Rose Granite. -The new addition, which is pulled further away from NASM towards Fourth Street, SW, will result in decking over both ramps and garage openings. This decking will cause a tunnel effect when entering the garage/loading dock area, an aspect that was not part of Obata's original design intention. The change in the feel of the original ramps and their relationship with the east elevation of NASM will result in an adverse effect.
Images	



Proposed extent of the decking over the existing garage openings and ramps. (Perkins&Will, 2024)

Proposed Effect Determination – Adverse Effect

National Air and Space Museum	
Feature/Action	**Design Details**
Interior of NASM	-There will be no alterations to the historic interior configuration of NASM. All systems will be independent of the main NASM building and the existing doors at the east elevation will be retained. There will be no adverse effect to the interior of NASM.
Images	



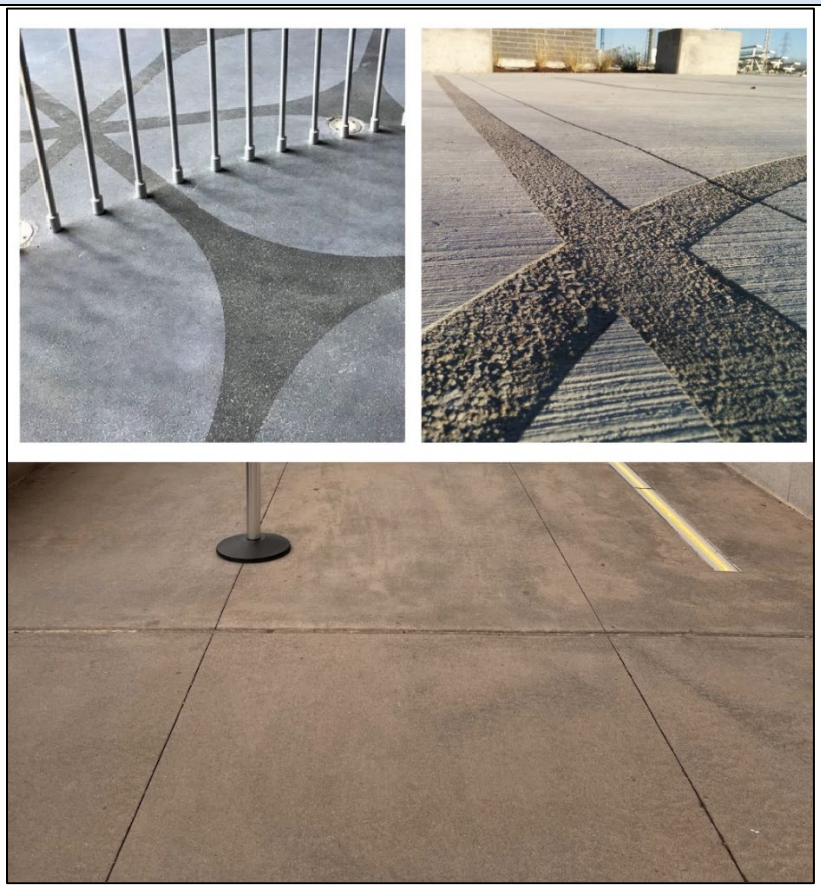
This undertaking does not include any work on the interior of NASM. (Perkins&Will, 2024)

Proposed Effect Determination – No Adverse Effect

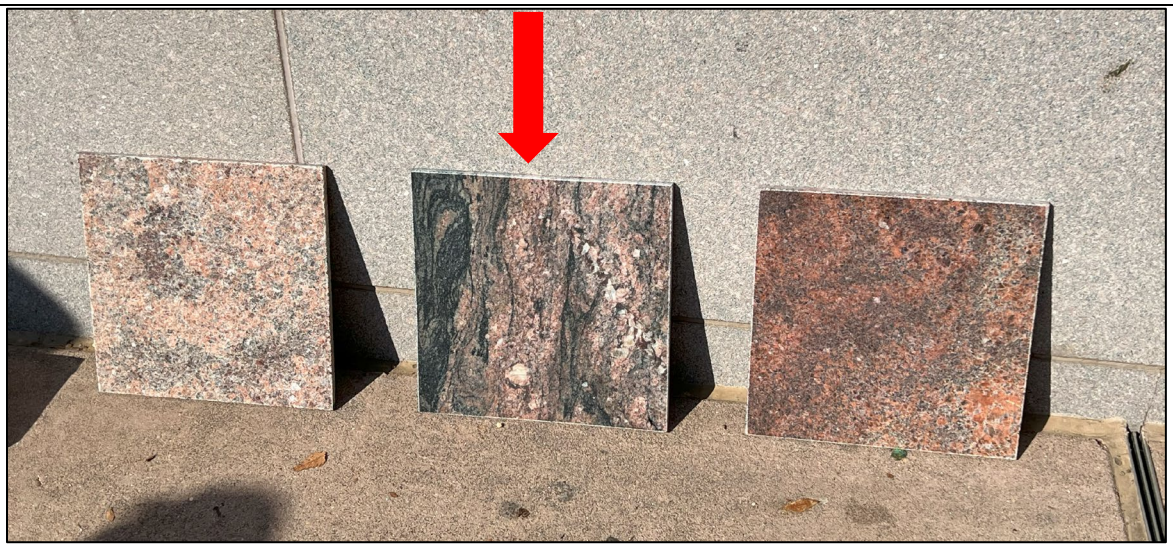
National Air and Space Museum	
Feature/Action	**Design Details[5]**
Landscape and Astronomy Park features including: New paving design and pattern / Integrated site lighting / New vegetation	-The terrace level paving will be cast-in-place concrete with exposed aggregate and integral color, in keeping with the extant paving throughout NASM installed in the Revitalization Project. Varying levels of sandblasting will be used to create the designed paving patterns in both the Learning Courtyard and Astronomy Park. Paving joints will be scored or formed by non-corrosive metal divider strips.

[5] This analysis will be updated as the design develops.

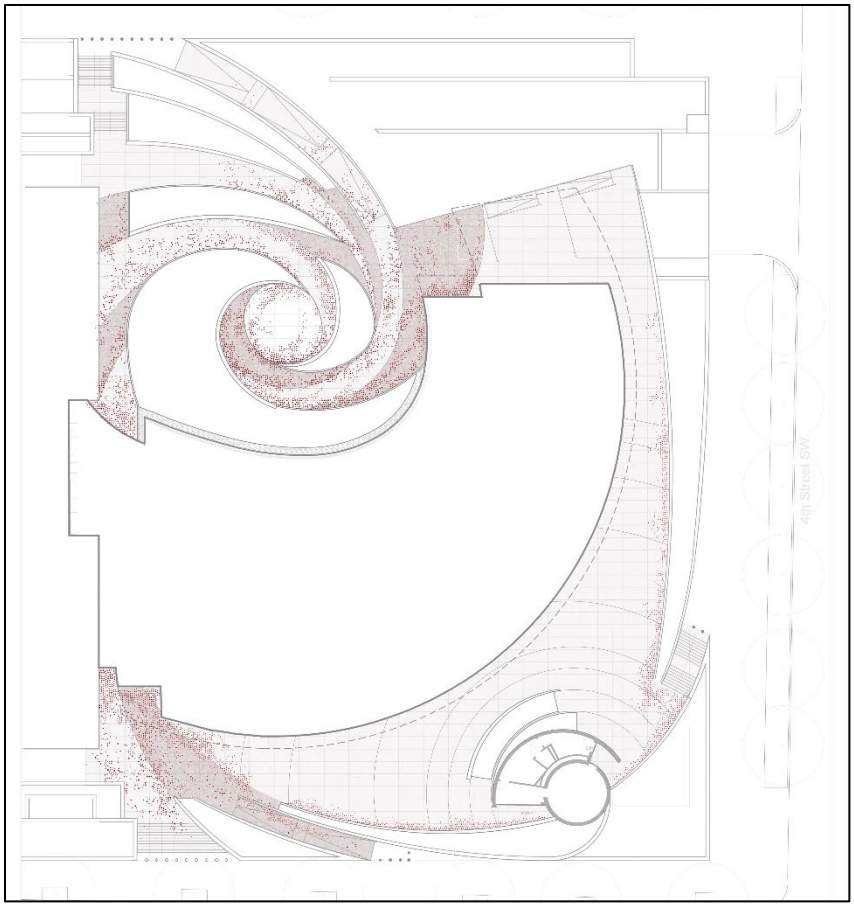
	-In the Learning Courtyard, the use of Rainbow granite, with diamond 8 finish, for planters and knee walls, is a compatible material to the Colonial Rose granite used throughout the rest of the site. The diminutive height of the Learning Courtyard seating walls is compatible with the larger NASM landscape design and will not result in an adverse effect. Paving joints will be scored or formed by non-corrosive metal divider strips. -The extant pavers are not character-defining features, and the new design and material will be compatible with the concrete paving used through the NASM site. -The Undertaking will include the use of integrated site lighting features which will not result in an adverse effect as the design will follow site lighting established throughout Smithsonian sites and the National Mall. -New vegetation includes a planting concept of native trees, shrubs, and an understory of perennial and prairie plants, that foster biodiversity and support a diverse array of pollinators. The planting plan establishes a visual and ecological connection with the broader national prairie landscape of the National Mall. -The Undertaking restores the tree canopy to the east end of the NASM site, with native trees spaced appropriately to provide sufficient sunlight for the planting understory. The tree canopy will not be high enough to obscure views to the east end of NASM, nor will they rise above the height of the elm trees on the National Mall. The new vegetation and planting plan will not have an adverse effect.
Images	



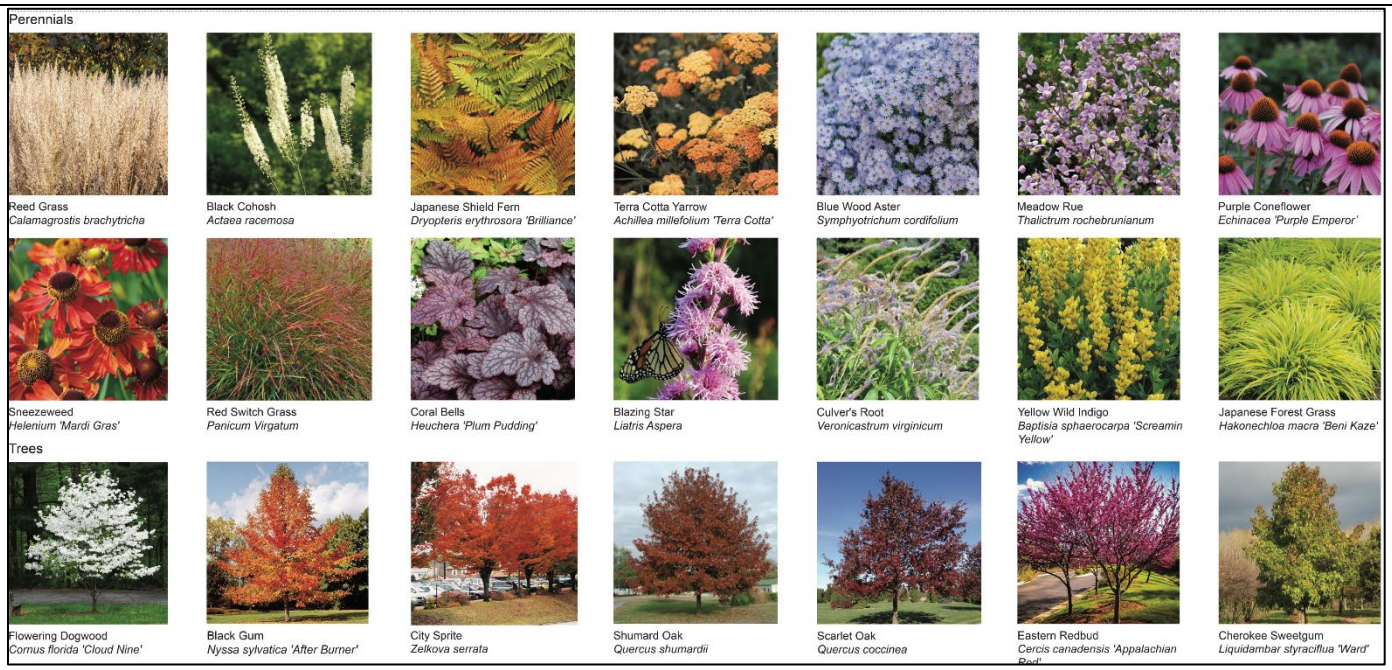
Top Left: Accent A: Sandblast; Top Right: Accent B: Sandblast; Bottom: Existing Field Concrete Pavers (Perkins&Will, 2024)



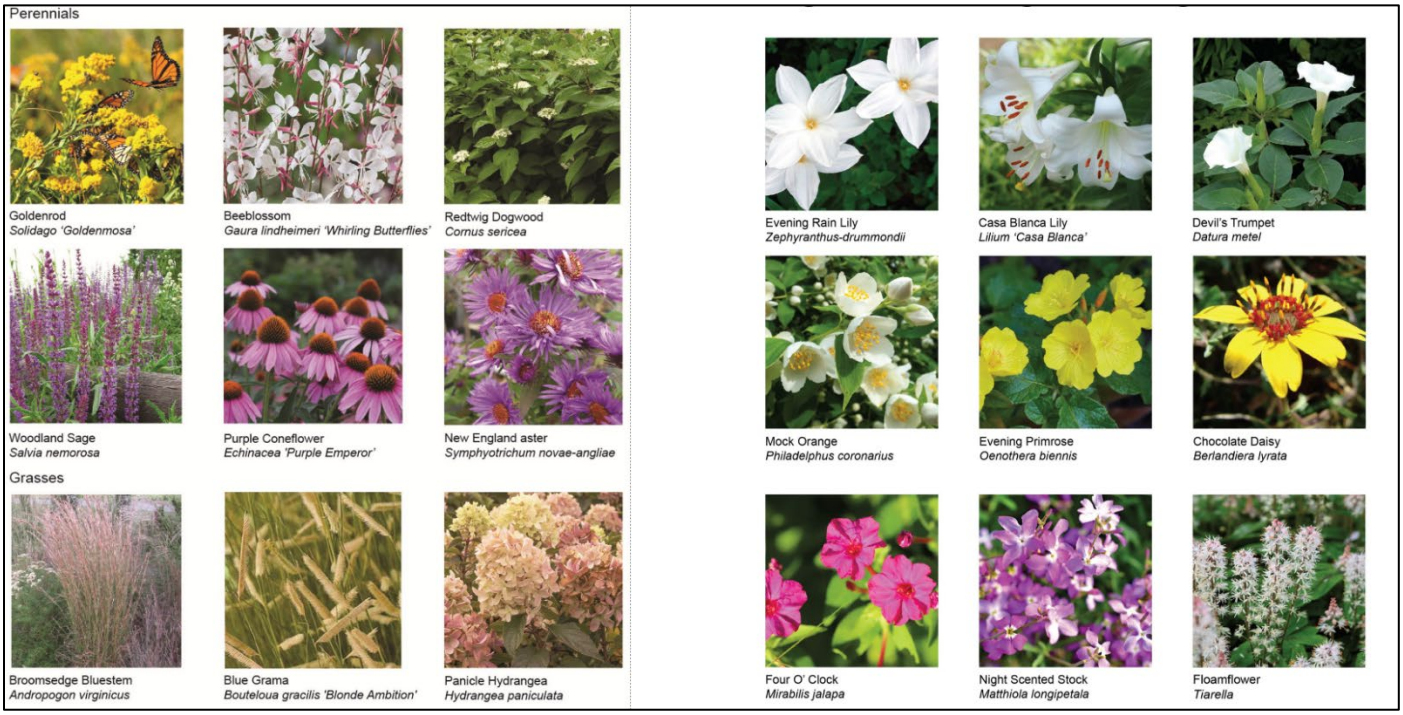
Left: Coldspring Agate Granite with diamond 10 finish; Center: Coldspring Rainbow granite with diamond 8 finish; Right: Coldspring Agate Granite with diamond 8 finish. Samples are laid against the Colonial Rose that will be used in the site walls to match the larger NASM site. (EHT Traceries, 2024)



Proposed hardscape pattern diagram – Light Grey: Concrete field, finish to match existing NASM site; Dark Grey: Sandblasting treatment to concrete (Accent A); Red Circles: Sandblast treatment to concrete (Accent B). (Perkins&Will, 2024)



Native perennials included in the new planting plan. (Perkins&Will, 2024)



Prairie plants (left) and night-blooming plants (right) included within the planting plan. (Perkins&Will, 2024)

Proposed Effect Determination – No Adverse Effect

National Air and Space Museum	
Feature/Action	**Design Details**
Cumulative Impacts	-This undertaking, along with the previous Revitalization project, will result in a cumulative impact and adverse effect on NASM. Continued changes and alterations, such as materials, additions, access, and landscape have a cumulative adverse effect on the potential for the resource to be individually listed in the National Register of Historic Places. However, all the Undertakings have been executed with compatible and sensitive

	designs that have enhanced the ability of NASM to display their significant collections and increase education to a broader public, minimizing those adverse effects.
Images	

Rendering of the proposed BLC in context with the new entrance canopy on the façade. (Perkins&Will, 2024)

Proposed Effect Determination – Adverse Effect

Other Historic Resources within the APE

National Mall Historic District	
Resource/Action	**Design Details**[6]
New construction within the National Mall Historic District	-The National Mall consists of a wide, east-west oriented lawn flanked by paired rows of American elm trees, most of which are sixty to eighty feet in height. This creates a visual screen between the central lawn and the buildings along Jefferson and Madison Drives. The building rooflines and monumental massing form the backdrop setting for the Mall's association with Criterion A. While the maximum height of the addition is seventy-two feet, and the elm trees will largely obscure the addition's visibility from the National Mall, the new construction will alter the setting and will result in an adverse effect. -Both the BLC and Haas Observatory will be directly adjacent to the character-defining Fourth Street, SW, vista within the National Mall Historic District; however, the Haas Observatory, located further east than the BLC, respects the setback from Fourth Street, SW. Its setting will only be altered nominally with slight changes to the retaining walls, tiered terraces, and planting beds along Fourth Street, SW, and none of the changes intrude into the Fourth Street right-of-way. In accordance with the PA design framework the design respects the Fourth Street, SW, vista and therefore will minimize adverse effect. -There is no precedent on the National Mall for the proposed integrated façade lighting, especially at night, which could result in light pollution on the Mall interrupting its formal setting. Further studies will be conducted to evaluate the potential effects to the National Mall.

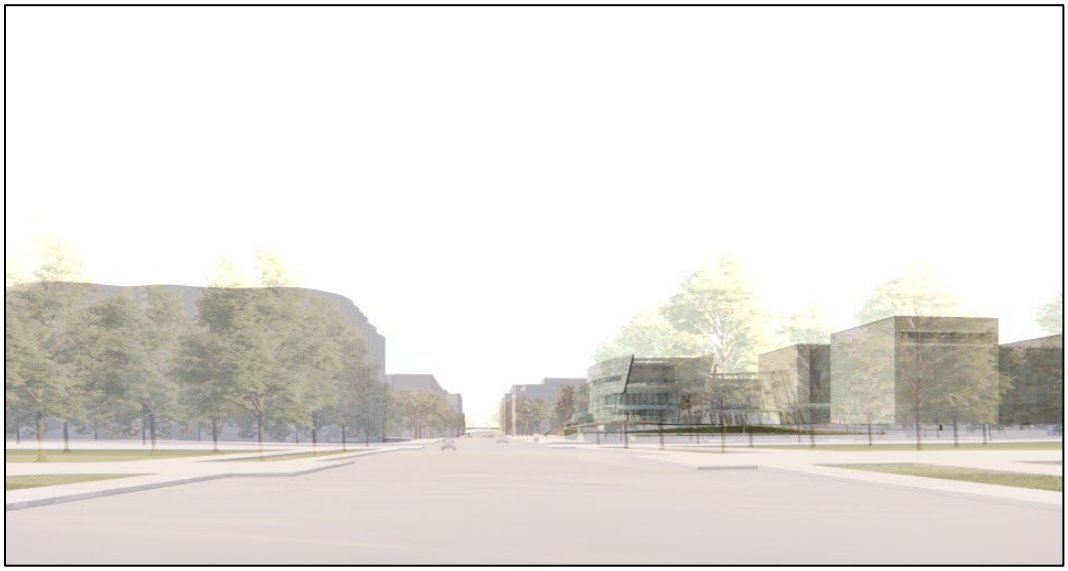
[6] This analysis will be updated as the design develops.

	-These adverse effects will be minimized with the carefully conceived design of the new addition, as well adherence and respect for all setbacks and viewsheds. The spiral form, massing, and complementary landscaping will be compatible with the monumental and significant museums and other federal buildings that line the Mall. The design is contemporary and distinctive from the neo-classical buildings, the modern era museums, and even the contemporary buildings like the National Museum of the American Indian and National Museum of African American History and Culture. This is in keeping with the Smithsonian's building collection, in which the design of each facility reflects prevailing architectural styles of the period. -The proposed PPG Titanium finished cladding panels are a complementary color to the yellow and beige tones of adjacent buildings including the National Museum of the American Indian, LBJ Building, and the Eisenhower Memorial, minimizing adverse effect. -Cumulative impacts from this Undertaking, along with the previous Revitalization project, will result in a cumulative adverse effect on the National Mall. Continued changes and alterations, such as the new entrance at Jefferson Drive, SW, and dynamic façade lighting of the BLC, will have a cumulative adverse effect on the formal setting of the National Mall.

Images

Night-time rendering of the addition's façade, looking south. (Perkins&Will, 2024)

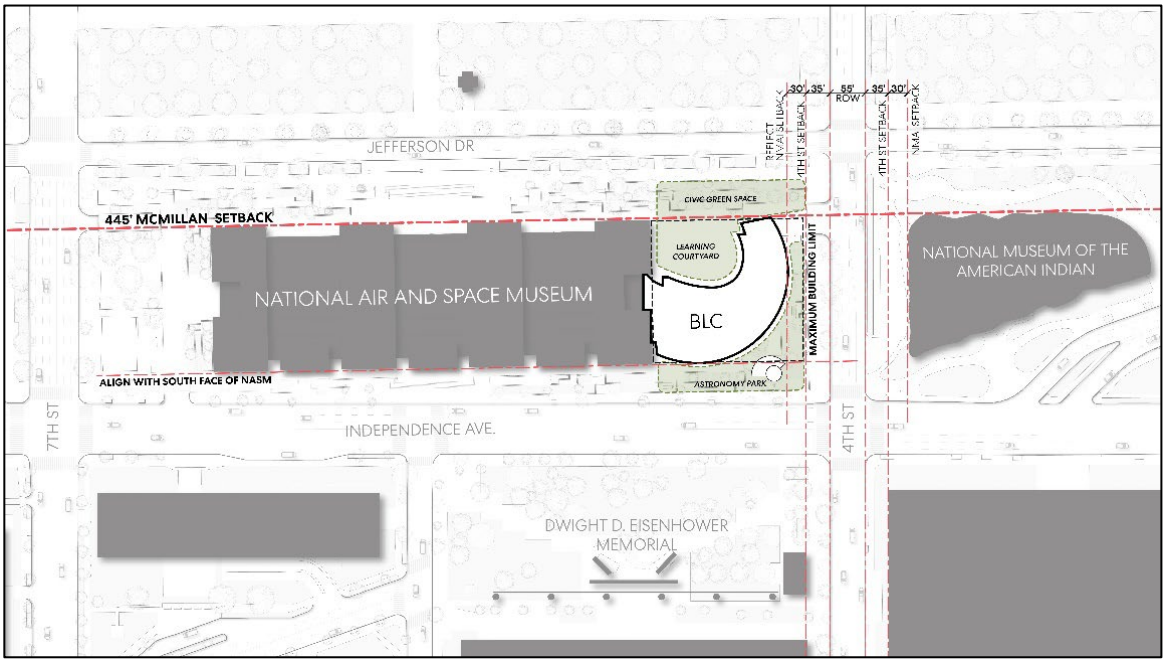

Left: Current view of Fourth Street, SW, looking south. Right: Current view of the corner of Fourth Street and Independence Avenue, SW, looking north. (EHT Traceries, 2023)

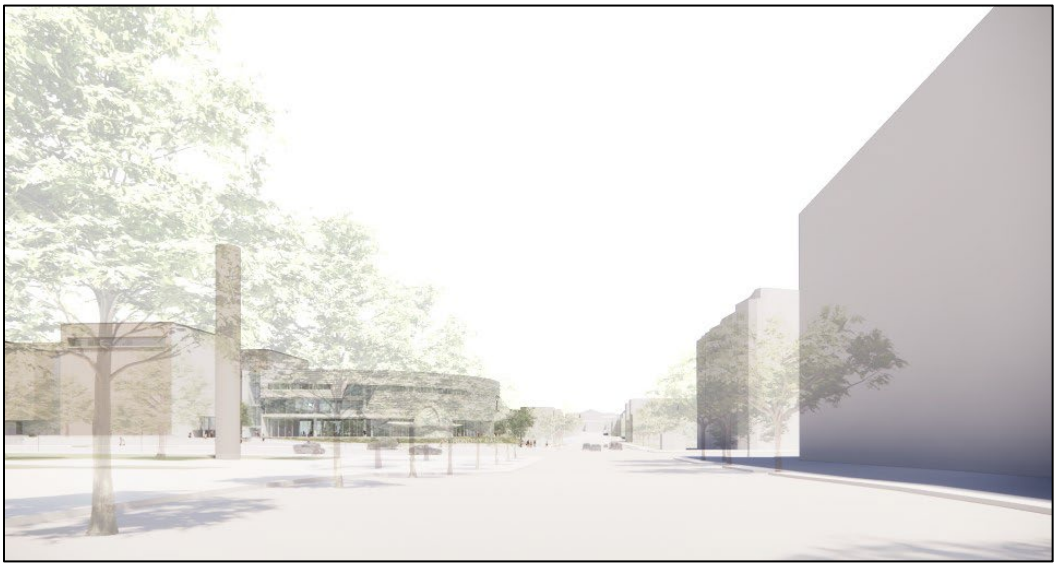


Proposed view of Fourth Street, SW, looking south with the new construction resulting in an adverse effect. (Perkins&Will, 2024)

Proposed Effect Determination – Adverse Effect

L'Enfant's Plan for the City of Washington	
Feature/Action	**Design Details**
New construction within L'Enfant's Plan for the City of Washington	-The Undertaking follows the McMillan set back 445 feet to the north, as well as the setbacks along Fourth Street, SW; however, the Haas Observatory does fall below NASM's south elevation along Independence Avenue, SW. Despite the location of the Haas observatory, there will be no interruption of the historic street grid, and no interruption of the views along the Plan of the City of Washington. There will be no adverse effect to L'Enfant's Plan for the City of Washington. -The Undertaking respects the street grid of L'Enfant's Plan in accordance with the PA design framework.

Images
 *Diagram showing the addition following all setbacks. (Perkins&Will, 2023)*
Proposed Effect Determination – No Adverse Effect

Lyndon B Johnson Department of Education	
Feature/Action	**Design Details**
New construction near to the LBJ Building	-The historic setting of the LBJ Building was previously altered with the demolition of its historic landscape and the insertion of the Eisenhower Memorial. The Undertaking will not further erode the setting. The building retains its association with adjacent federal buildings to the east and west.
Images	
 *Proposed view of the new addition from Fourth Street, SW, directly adjacent to the LBJ Building. (Perkins&Will, 2024)*	
Proposed Effect Determination – No Adverse Effect	

Social Security Administration	
Feature/Action	**Design Details**
New construction near the Social Security Administration	-The building will retain its setting, feeling, and association on Independence Avenue, SW, among neighboring federal, museum, and institutional buildings.
Images	

Proposed view of the new addition from Independence Avenue, SW, looking west. (Perkins&Will, 2024)

Proposed Effect Determination – No Adverse Effect

US Capitol and Grounds and Grant Memorial	
Feature/Action	**Design Details**
New construction within View of US Capitol and Grounds, Ulysses S. Grant Memorial, and US Botanic Gardens	-The Undertaking will be minimally visible from the US Capitol steps, Grant Memorial, and Botanic Gardens. -Visibility of the BLC is minimized through its setbacks and by respecting the canopy of the American elm trees on the National Mall. -The character defining views and visual relationships of the Capitol and the National Mall will be maintained. Although the Undertaking will be minimally visible, all historic resources will retain their settings, feelings, and association with the US Capitol Grounds and National Mall.
Images	

Proposed view of the new addition the US Capitol steps, the addition will be visible. (Perkins&Will, 2024)

Proposed Effect Determination – No Adverse Effect

National Gallery of Art East and West Wings	
Feature/Action	**Design Details**
New construction Near the National Gallery of Art East and West Wings	-The buildings will retain their setting, feeling, and association within the National Mall and the visual connection of the West Wing to NASM will not be altered. -The new addition will not impact the Sixth Street vista between the main NASM building and the National Gallery of Art West Wing, resulting in no adverse effect. The axial and architectural relationship of NASM and the National Gallery of Art will be maintained. -The axial and architectural relationship of NASM and the National Gallery of Art will be maintained as the new addition is located to the east of NASM, opposite the open plaza between the East and West Galleries. The limited height of the new addition, below the height of the elm trees, allows the east ends of NASM and National Gallery of Art to still be understood as the same size and massing (in other words, the new addition will not give the perception of the historic NASM extending out to Fourth Street, being a larger mass than the National Gallery of Art, maintaining architectural balance on the National Mall). -The Undertaking respects NASM's balanced, architectural relationship with the National Gallery of Art and the Sixth Street axis in accordance with the PA design framework.
Proposed Effect Determination – No Adverse Effect	

Remaining Resources within the APE	
Feature/Action	**Design Details**
Mary E. Switzer Federal Building, Terminal Refrigerating & Warehousing Co, U.S. Botanic Gardens, Bulfinch Gatehouses and Gateposts, Natural History Museum, National Museum of American History, US Department of Agriculture, Freer Gallery, Smithsonian Castle, Arts and Industries Building, Hirshhorn Museum, and Orville and Wilber Wright Federal Buildings.	The Undertaking will not have an adverse effect on any of the remaining historic resources within the APE. There will be no impact on the location, design, setting, materials, workmanship, feeling, or association of any of the remaining historic resources.
Proposed Effect Determination – No Adverse Effect	

Summary Determination of Effect

	Resource	Adverse Effect	Item/Feature	Resolution
National Air and Space Museum	Design and Form	Potential Adverse Effect	Dynamic integrated façade lighting	
	Solid/Void Pattern	No Adverse Effect	N/A	N/A
	Recessed Glazed Openings/Marble Wall Panels	Adverse Effect	Partially obscures the east elevation	Minimized by glazed hyphen and skylight, allowing the east elevation to remain visible.
	Inscriptions	No Adverse Effect	N/A	N/A
	Signage	No Adverse Effect	N/A	N/A
	Terraces/Planting Beds/Retaining Walls	Adverse Effect	Further loss of terraces, planting beds, and retaining walls flanking garage and along Fourth Street, SW	Minimized by only impacting the very east end of the NASM site.
	Garage Openings	Adverse Effect	Alter original feel of the ramps by diminishing their size	
	Interior	No Adverse Effect	N/A	N/A
	Landscape	No Adverse Effect	N/A	N/A
	Cumulative Impacts	Adverse Effect		Minimized by enhancing NASM's ability to display their collections and further education.
National Mall Historic District	New Construction	Adverse Effect	Alteration to the setting and addition of dynamic façade lighting	Minimized by the distinctive and carefully conceived design.
	Viewsheds and Vistas	No Adverse Effect	N/A	N/A
	Cumulative Impacts	Adverse Effect	Continued changes to the setting and impacts from light pollution at night	
L'Enfant's Plan	New Construction	No Adverse Effect	N/A	N/A
Lyndon B. Johnson Building	Adjacent New Construction	No Adverse Effect	N/A	N/A
Social Security Building	Adjacent New Construction	No Adverse Effect	N/A	N/A
US Capitol and Grounds and Grant Memorial	Adjacent New Construction	No Adverse Effect	N/A	N/A
National Gallery of Art East and West Wings	Adjacent New Construction	No Adverse Effect	N/A	N/A
Remaining Resources within the APE	Adjacent New Construction	No Adverse Effect	N/A	N/A

Figure 9: Summary Determination of Effect.

Attachment A: Other Identified Historic Resources