Introduction

The Smithsonian Institution (SI), with the National Capital Planning Commission (NCPC), is undertaking a project 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 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 between the SI, NCPC, and the District of Columbia Historic Preservation Office (DC HPO) and the consulting parties.

The Section 106 implementing regulations provide a definition of the criteria of adverse effect: "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, between SI, DC HPO, and NCPC. Also outlined in the PA are the design parameters 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*.
- 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

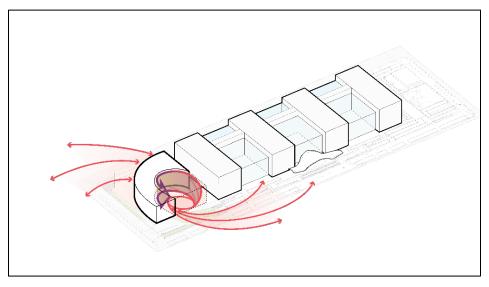


Figure 1: Inspired by spiral galaxies, the spiral force draws people in and diffuses knowledge out. (Perkins&Will, 2023)

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).

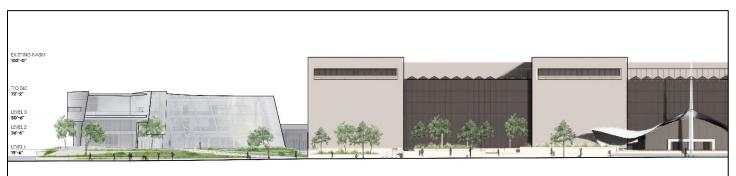


Figure 3: Proposed north section of the building. (Perkins&Will, 2024)



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)

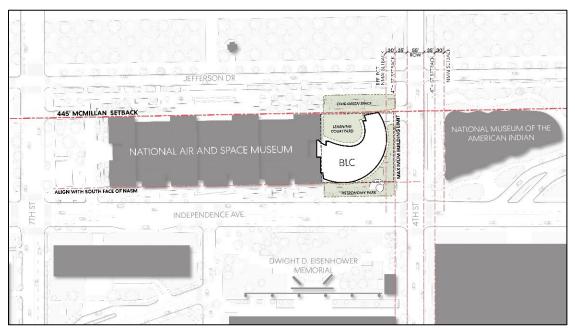


Figure 5: BLC setbacks from L'Enfant Plan streets, protecting viewsheds. (Perkins&Will, 2023)

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 Observatory²

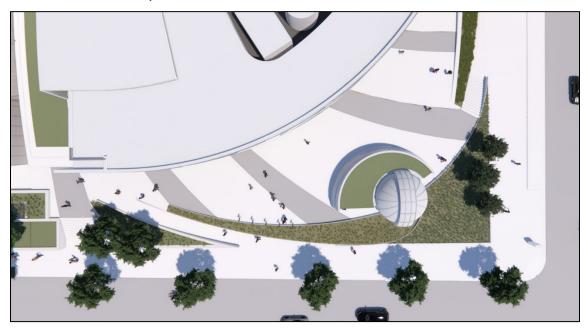


Figure 6: Phoebe Waterman Haas Observatory and Astronomy Park. (Perkins&Will, 2024)

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 astrological 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 Park³

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 universally 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

² This section will be updated as the design develops.

³ This section will be updated as the design develops.

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 universally accessible ramp to Independence Avenue, SW.

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).

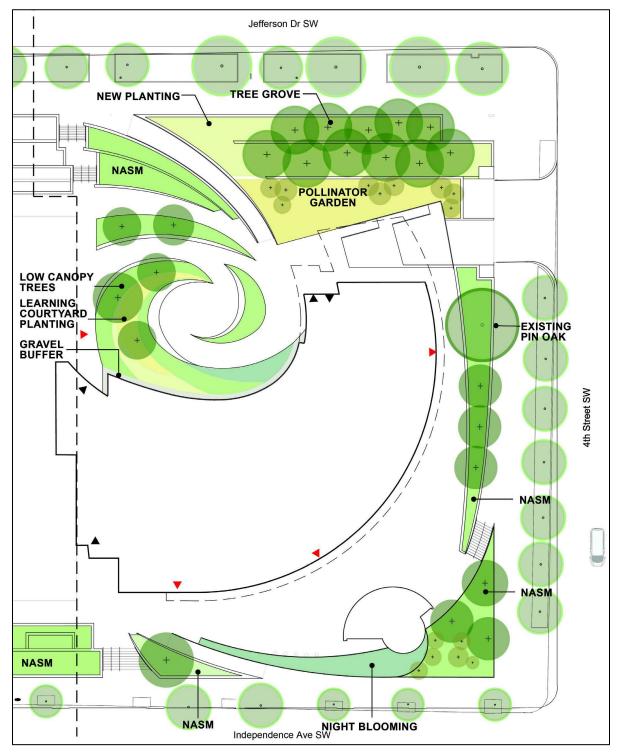


Figure 7: Proposed landscape plan that emphasizes the spiral design concept of the new addition. (Elizabeth Kennedy Landscape Architects, 2024)

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**.

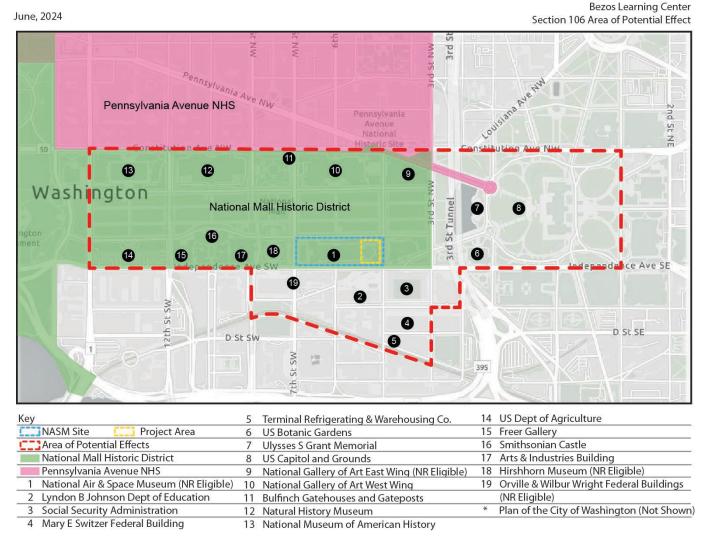


Figure 8: Area of Potential Effects and Identified Historic Resources. (EHT Traceries, 2024)

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 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.

6

Seven-bay building form	-The solid and void pattern of NASM is a critical design element.
with alternating solid-void	-Visible on all elevations.
pattern	-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	-The east and west elevations have solid north/south wings framing a central void
in the east and west	section, which continues the solid-void pattern of the building form.
elevations	-The physical glass and frame are not original and do not retain integrity of material
elevations	
Recessed third-story, linear	-Eight recessed, third-floor balconies are located within the solid sections of the
openings and balconies	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	-Located at the north and south elevations. Incorporated into accessible walkway
north and south elevations	stone walls under the NASM Revitalization project.
Exterior terrace on	-Located on top of the southeast cantilever block, the exterior terrace was part of
southeast cantilevered	Obata's original design.
block	Obata s original design.
Tiered terraces and	Surrounding the site, the historic landscape plan had tiered torraces and planting
	-Surrounding the site, the historic landscape plan had tiered terraces and planting beds.
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	-Located throughout the site, the retaining walls remain but the Tennessee Pink
throughout the site	Marble panels have been replaced with Colonial Rose Granite.
	-Marble retaining walls at the east terrace are in poor condition.
Garage openings and	-Located at the east elevation, the garage opening and ramps flow under the east
ramps	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.
<i>Continuum</i> sculpture	-Sculpture has always been displayed at the building's west elevation.
continuum sculpture	
	-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.

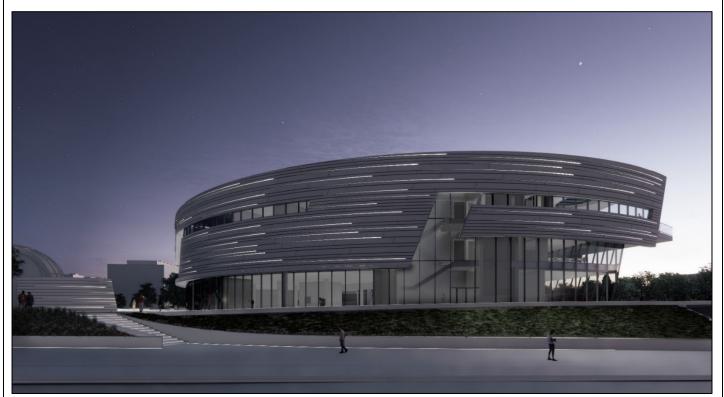
A number of character-defining features of NASM have no potential for adverse effects from the BLC project, including: the recessed third-story, linear openings and balconies; the exterior terrace on southeast cantilevered block; and the *Ad Astra* and *Continuum* sculptures. As such they are not addressed below.

National Air and Space Museum

National Air and Space Museum	
Feature/Action	Design Details
BLC and Haas	- The spiral form and massing of both the BLC and Haas Observatory are distinctive from
Observatory Design and	the large, imposing massing and rigid form of Obata's NASM design. The light and airy
Form / Mechanical	design, showcasing movement, are differentiated as new additions to Obata's original
Systems / Materials and	monumental building form. Both the BLC and Haas Observatory are compatible, but
Integrated Façade	contemporary, and neither's design, nor form, will have an adverse effect on NASM by
Lighting	keeping the NASM's massing and form as the primary feature.
	- All mechanical systems will be integrated within the building designs and forms of the
	spirals will not be interrupted by mechanical equipment, maintaining the distinctive form
	on all elevations. The mechanical systems will not result in adverse effects.
	- The metal panels/fins with integrated lighting are a dynamic texture of light and shadow
	that wrap the spiral building forms evoking the linear energy and dotted landscape within
	the Spiral Galaxy. Reflecting the ephemeral qualities of our cosmos, the aluminum plate
	skin color will strike a delicate balance with NASM's Colonial Rose Granite. As day
	transitions to night, cove lighting will gently illuminate a series of metal fins further
	reinforcing the streaking light pattern of the cosmos and the mission of the BLC as a
	beacon along the National Mall for space exploration and discovery. However, there is no comparable lighting or even design feature on NASM's static, solid, monumental
	architecture. Such dynamic lighting at night directly adjacent to NASM could detract from the NASM's formal setting, resulting in an adverse effect.
	- The Spiral Concourse of BLC faces the Mall and is clad with super clear glass to maximize views and connection between interior and exterior. Horizontal shading elements
	continue the horizontal motif and shade the glass where needed. The clear glass 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 glass, though not as dark as NASM's extant glass, for differentiation.
	All glass will receive a bird-friendly frit. The glazing will not result in adverse effects and
Images	the transparent walls are in accordance with the PA design framework.



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



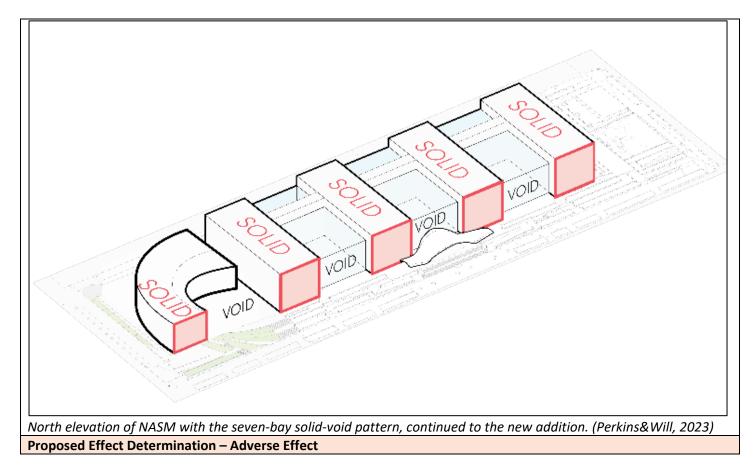
East elevation rendering at night of BLC and Hass Observatory with the integrated façade lighting within the metal panels. (Perkins&Will, 2024)



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 – Adverse Effect

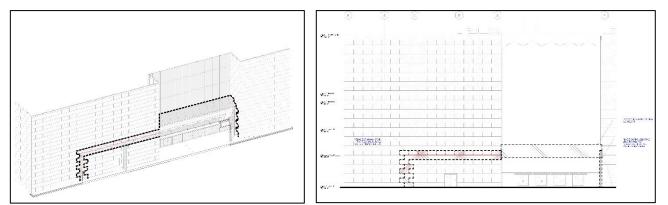
National Air and Space Museum	
Feature/Action	Design Details
Seven-bay building form with alternating solid- void pattern / New addition	 The new addition will not alter the seven-bay solid-void pattern of NASM's north and south elevations. The new addition extends the solid-void pattern, on both the north and south elevations, continuing and emphasizing Obata's original design intent, but resulting in an 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 effects. The addition form respects the NASM building and responds to its architecture and massing in accordance with the PA design framework.
Images	



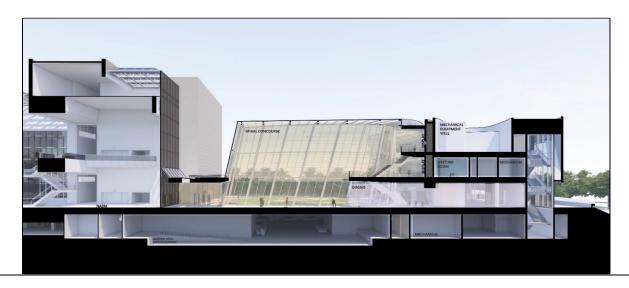
National Air and Space Mu	iseum
Feature/Action	Design Details
Recessed, glazed openings in the east and west elevations / Marble curtain wall panels (no longer extant) / Connection to the east elevation of NASM	 The west elevation of NASM will not be impacted by the Undertaking. Though the Undertaking 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 effects. 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)



Left: Axonometric view of the limits of connection at the east elevation of NASM. Right: East elevation of NASM with the limits of connection. (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
Carved inscriptions on north and south elevations / No action	- The Undertaking will not impact or alter the carved inscription panels on the north and south sides of the building.
Proposed Effect Determination – No Adverse Effect	

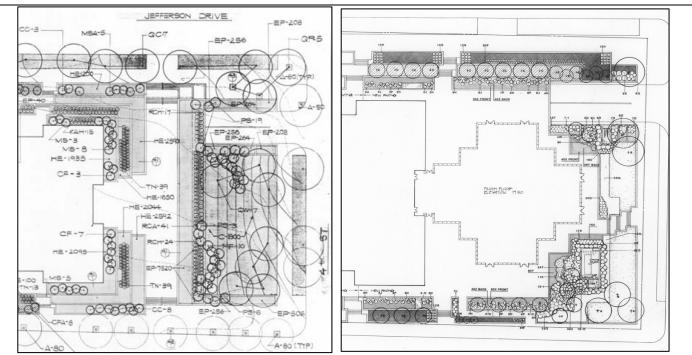
New Signage	- Signage program for the BLC and East Terrace is still in design development. This analysis will be updated in consultation as the design progresses.

Tiered terraces and	- New site access and accessible ramps will require the demolition of tiered terraces,
planting beds / Retaining	planting beds, and retaining walls, resulting in an adverse effect. However, most of the
walls / New addition and	original tiered terraces, planting beds, and retaining walls at the east end of the site
insertion of new site	were demolished and reconfigured in 1988. Only portions of the planting beds and
access, including stairs	retaining wall along Fourth Street, SW, and flanking the garage entrance retain their
and ADA ramps	historic design.

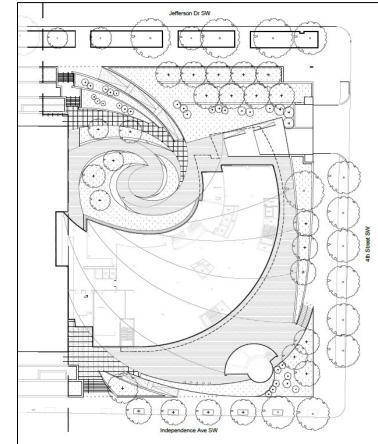
 The stair to Jefferson Drive, SW, currently steps down to the east; the newly configured stair will step down to the west altering the planting beds at the north elevation. However, these planting beds fall outside of the period of significance. This will not result in an adverse effect. The new accessible 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 extant stair to the south, leading to Independence Avenue, SW, will be retained. This will not result in an 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 result in an adverse effect. Alterations to the tiered terraces, planting beds, and retaining wall will have a cumulative impact on these features, resulting in an adverse effect. However, and the prevention of the set starts to the set steries of the period of significance. This will not result in an adverse effect.
alterations will be limited to the east end of the NASM site, minimizing those adverse effects.

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)

Out of scope



Left: Original 1972 landscape and planting plan (Smithsonian Institution, 1972) Right: 1980 restaurant addition and landscape plan showing the alteration of character-defining features. (Smithsonian Institution, 1980)

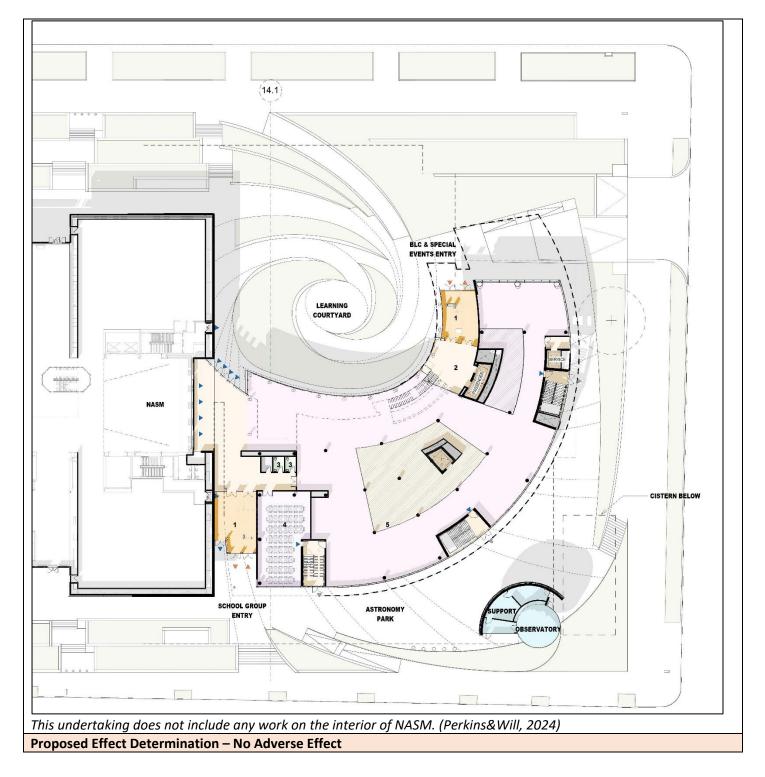


Proposed landscape and planting plan as part of the Undertaking. (Elizabeth Kennedy Landscape Architects, 2024) **Proposed Effect Determination – Adverse Effect**

National Air and Space Mus	
Feature/Action	Design Details
Garage openings and ramps / New addition extending over the garage	-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 o
	Obata's original design intention. The change in the feel of the original ramps and their
Images	relationship with the east elevation of NASM will result in an adverse effect.

Proposed extent of the decking over the exiting garage openings and ramps. (Perkins&Will, 2024) **Proposed Effect Determination – Adverse Effect**

Interior of NASM	 There will be no alterations to the interior 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.

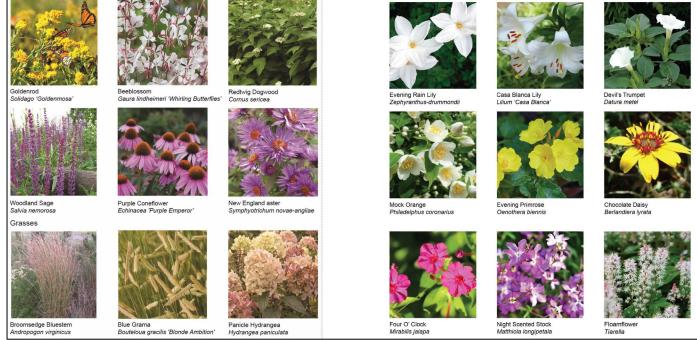


National Air and Space Museum	
Feature/Action	Design Details
Landscape and	- The terrace level paving will be cast-in-place concrete with exposed aggregate and
Astronomy Park features	integral color, in keeping with the extant paving throughout NASM installed in the
including: New paving	Revitalization Project. The use of blocks of granite in ribbons as planters and knee walls,
design and pattern /	undulating in height from zero to eighteen inches and width from four to eighteen inches,

Integrated site lighting / will be compatible w	ith the larger NASM landscape design. Paving joints will be scored or
	sive metal divider strips. The extant pavers are not character-
defining features, an	d the new design and material will be compatible with NASM. They
are distinctive from t	he historic tiered terraces and planters, therefore differentiated
from them, and their effect.	r low height and compatible materials will not result in an adverse
- The Undertaking wi	ill include the use of integrated site lighting features which will not
result in an adverse e	effect as the Design will follow site lighting established throughout
Smithsonian sites and	d the National Mall.
- New vegetation inc	ludes a planting concept of native trees, shrubs, and an understory of
	e plants, which foster biodiversity and support a diverse array of
	ting plan establishes a visual and ecological connection with the
	irie landscape of the National Mall.
	stores the tree canopy to the east end of the NASM site, with native
	riately to provide sufficient sunlight for the planting understory. The
	be high enough to obscure views to the east end of NASM, nor will
	neight of the elm trees on the National Mall. The new vegetation and
	t have an adverse effect.
Images	
Monolithic concrete paving Thermal-finish granite slab	Exterior lighting Granite block ribbons
	HILLS IN LONG
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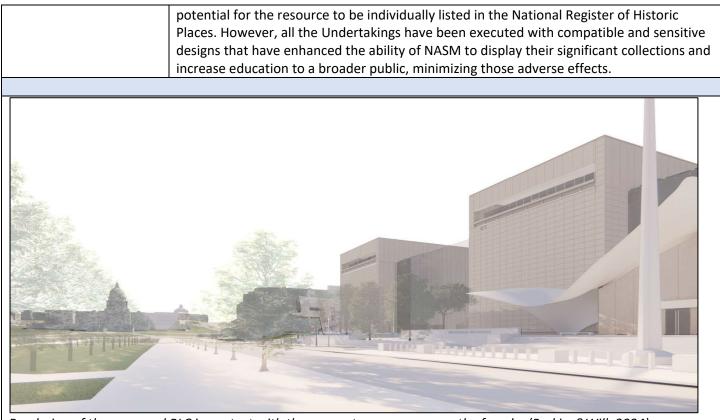
Examples of the different paving, walls, and site lighting proposed on the site. (Perkins&Will, 2024)





Prairie plants (left) and night-blooming plants (right) included within the planting plan. (Perkins&Will, 2024) Proposed Effect Determination – No Adverse Effect

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



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

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 building 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, in accordance with the PA design framework; however, 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 not result in an adverse effect.

Other Historic Resources within the APE

- There is no precedent on the National Mall for the proposed dynamic integrated façade lighting, especially at night, which could result in light pollution on the Mall interrupting its formal setting, resulting in an adverse effect.

- 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.

- Cumulative impacts from this Undertakings, along with the previous Revitalization project, will result in a cumulative impact and adverse effect on National Mall. Continued changes and alterations, such as the new entrance at Jefferson Drive, SW, and dynamic façade lighting of BLC, will have a cumulative adverse effect on the formal setting of the National Mall.



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)



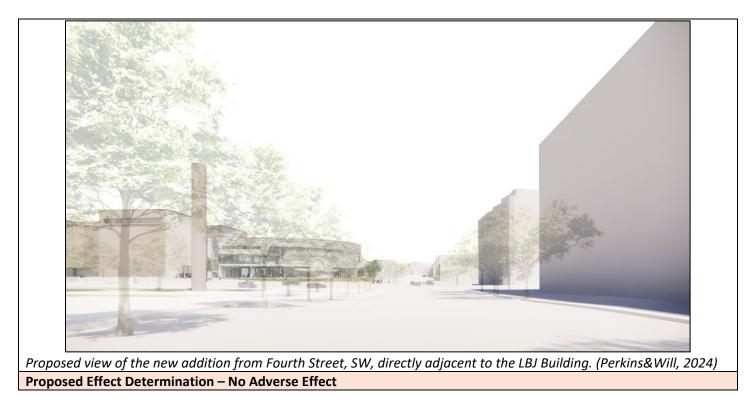
Proposed view of Fourth Street, SW, looking south with the new construction resulting in an adverse effect. (Perkins&Will, 2024)

Proposed Effect Determination – Adverse Effect

L'Enfant's Plan for the City of Washington		
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 street grid of L'Enfant's Plan in accordance with the PA design framework. 30',35 35' 30' RFEIFCT NVALSLIBA ITH ST SETBACK **1TH ST SETBACK** JEFFERSON DR 2-1-CIVIC GREEN SPACE 445' MCMILLAN SETBACK BUILDING L MUMIXAN BLC ALIGN WITH SOUTH FACE OF NASM 5-L ASTRONOMYP 7TH ST 5 INDEPENDENCE AVE. 4TH DWIGHT D. EISENHOWER MEMORIA Diagram showing the addition following all setbacks. (Perkins&Will, 2023) **Proposed Effect Determination – No Adverse Effect**

New Construction near to	- The historic setting of the LBJ Building was previously altered with the demolition of its
the LBJ Building	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.



Social Security Administrat	ion
Feature/Action	Design Details
New Construction near	- The building will retain its setting, feeling, and association on Independence Avenue,
he Social Security	SW, among neighboring federal, museum, and institutional buildings.
Administration	
mages	
Pronosed view of the new of	dition from Independence Avenue, SW. Ipoking west. (Perkins&Will. 2024)
	ddition from Independence Avenue, SW, looking west. (Perkins&Will, 2024)
Proposed Effect Determina	tion – No Adverse Effect

July 10, 2024

New Construction within	- The Undertaking will be visible from the US Capitol steps, altering the character-
View of US Capitol and	defining views and visual relationship of the Capitol and the National Mall, resulting i
Grounds, Ulysses S. Grant	adverse effect. Views from the Capitol will be minimized by respecting the canopy of
Memorial, and US Botanic	American elm trees on the National Mall.
Gardens	- The Undertaking will be minimally visible, due to the dense elm tree canopy, from t Grant Memorial but will not rise to the level of an adverse effect. The memorial will
	retain its setting, feeling, and association with the US Capitol Grounds and National N
La as marries	
A as manine	

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. 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.

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.

Summary Determination of Effect

Summary Determin	Resource	Adverse Effect	Item/Feature	Resolution
	Design and Form	Adverse Effect	Dynamic integrated façade lighting	
	Solid/Void Pattern	Adverse Effect	Extends the pattern	Minimized by the light connection and allowing NASM to remain the primary feature on the site.
National Air and Space Museum	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.
Jace	Inscriptions	No Adverse Effect	N/A	N/A
l Sp	Signage	Undetermined		
al Air and	Terraces/Planting Beds/Retaining Walls	Adverse Effect	Further loss of terraces, planting beds, and retaining walls	Minimized by only impacting the very east end of the NASM site.
Nationa	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.
Mall strict	New Construction	Adverse Effect	Alteration to the setting and addition of dynamic façade lighting	Minimized by the distinctive and carefully conceived design.
National Mall Historic District	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	Adverse Effect (US Capitol and Grounds only)	Viewsheds	Minimized by respecting the tree line of the National Mall
National Gallery of Art 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

ATTACHMENT A: AREA OF POTENTIAL EFFECTS

Delineation of Area of Potential Effects

The Section 106 regulations define an Area of Potential Effect (APE) as "...the geographic area within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist. The area of potential effects is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking" (36 CFR § 800.16(d)). The APE, as seen in Figure 1, is defined to allow for the evaluation of potential effects to historic properties resulting from an undertaking. According to the steps prescribed by the Section 106 regulations, the APE must be defined before the identification of historic properties and evaluation of potential effects occurs. Types of effects may include direct (such as physical destruction, damage, relocation, or alteration of a property), indirect (such as introduction of visual, atmospheric, or audible elements that diminish the integrity of a property's significant historic features), temporary, future, and cumulative effects on historic properties.

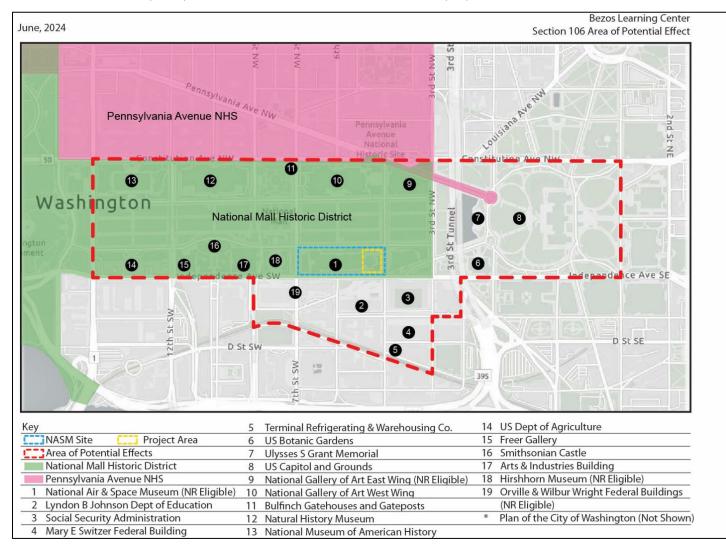


Figure 1: Area of Potential Effects and Identified Historic Resources

Identified Historic Resources

Plan of the City of Washington	The Plan of the City of Washington (L'Enfant Plan; McMillan Plan) is the sole American example of comprehensive Baroque city planning in the United States. The plan consists of a coordinated system of radiating avenues, parks, and vistas overlaid on an orthogonal street grid. Significant views and vistas with the APE that contribute to the Plan of the City of Washington are east and west views along Jefferson Drive, SW, and Madison Drive, NW, north and south views on Third, Fourth, Seventh, and Twelfth streets, NW/SW, and axial views on Pennsylvania Avenue, NW, Maryland Avenue, SW. The Plan for the City of Washington was first listed in the DC Inventory of Historic Sites (DC Inventory) in 1964 and expanded in 1997. It was listed in the National Register of Historic Places (NRHP) in 1997.
National Mall Historic District (Green)	The National Mall Historic District
	The National Mall Historic District was listed in the DC Inventory in 1964 and administratively in the NRHP in 1966 The National Mall Historic District was formally designated in the NRHP in 1981, and in 2016, the NRHP boundaries were expanded.
Pennsylvania Avenue National Historic Site (Pink)	Roughly bound by Third Street, NW, to the east, Constitution Avenue to the south, East Executive Avenue to the east, and E and F streets, NW, to the north, the Pennsylvania Avenue National Historic Site is significant as the national ceremonial route that spans from the White House to the U.S. Capitol, the site of inaugural parades and civic processions. It is also significant as the commercial heart of Washington, DC. The National Historic Site consists of approximately 160 resources ranging from monumental civic buildings to smaller commercial structures that date from c. 1791-1960. The Pennsylvania Avenue National Historic Site was designated in the NRHP in 1966 and in the DC Inventory in 1973. The NRHP documentation was amended in 2007.
Lyndon B. Johnson Department of Education (#2)	Federal Office Building No. 6 (now the Lyndon Baines Johnson Department of Education Building (LBJ Building) was the first of fifteen office buildings erected by the newly created General Services Administration under a 1956 master plan for expanding federal facilities. Its Modernist design initiated a dramatic change in the federal government's image as expressed through buildings. The project was envisioned as the employment center for a redeveloped Southwest neighborhood, advancing the Southwest Urban Renewal Plan and removal of wartime "tempos" from the Mall. Completed in 1961, Federal Office Building No. 6 was first occupied by NASA and the Department of Health, Education and Welfare. The building is now occupied by the US Department of Education. The building was designed in the DC Inventory and the NRHP in 2017 under National Register Criteria A and C.
Social Security Administration (#3)	The Social Security Administration Building (Wilbur J. Cohen Building) was one of the last buildings constructed under a major building campaign to accommodate the growing number of federal employees during the 1930s. ¹ The building was built for the Social Security Board (established 1935) and is associated with the establishment of a nationwide pension program, one of the most enduring accomplishments of the New Deal. The building illustrates the expansion of the McMillan Plan recommendations to Southwest Washington and was jointly planned with the Railroad Retirement Building.

¹ National Register of Historic Places, Social Security's Administration Building, Washington, DC, National Register #07000639.

	the then Supervising Architect of the Treasury, Louis A. Simon (1867-1958). ² The building was listed in
	the DC Inventory and the NRHP in 2007 under National Register Criteria A and C.
Mary E. Switzer Federal Building (#4)	The Mary E. Switzer Building (formerly the Railroad Retirement Building) was one of the last buildings constructed under a major building campaign to accommodate the growing number of federal employees during the 1930s. ³ Built between 1939 and 1940, the building was designed by Charles Z. Klauder, who served as Consulting Architect and implemented by Louis A. Simon, Supervising Architect of Public Buildings Administration, Federal Works Agency. The finished building, in addition to its unusual "fishbone" plan, had elements of both Streamline Moderne and Egyptian Revival in its façade. Although intended for the Railroad Retirement Board, its first occupant was to the United States Department of War. The building was renamed as the Mary E. Switzer Memorial Building on October 21, 1972, thereby becoming the first federal building named for a woman. ⁴ The building was listed in the DC Inventory and in the NRHP in 2007 under National Register Criteria A and C.
Terminal Refrigerating	The building was constructed in 1932 and designed in the Neoclassical style by prominent Washington
and Warehousing	architect Appleton P. Clark, Jr. An unusual and monumental example of an urban cold storage
Company (#5)	warehouse and ice plant, the structure is a rare surviving specimen of a particular type of industrial building that became central to the social and economic function of the twentieth-century city. ⁵ The building was listed in the DC Inventory and in the NRHP in 2014 under Criteria A and C.
U.S. Botanic Gardens	The idea for establishing a United States Botanic Garden was first contemplated in the late eighteenth
(#6)	century by George Washington, Thomas Jefferson, and James Madison. A botanic garden was
	established in 1820; however, its operations ceased in 1837. In 1842, the U.S. Botanic Garden was re-
	established in greenhouses located behind the Old Patent Office Building, and in 1850, the institution
	moved to a greenhouse that had previously been occupied by the Columbian Institute's garden. The
	Botanic gardens moved to its present location in 1933. The Garden includes the Conservatory
	(renovated between 1997 and 2001), the National Garden (opened in 2006), and Bartholdi Park (created in 1932). ⁶ The U.S. Botanic Gardens was listed in the DC Inventory in 1964. It is also a contributing resource to the National Mall Historic District.
Ulysses S. Grant	Located at the eastern edge of the National Mall near the base of the Capitol Building, this memorial
Memorial (#7)	pays tribute to American Civil War General and 18th U.S. President Ulysses S. Grant. At 252 feet long by 71 feet wide by 44 feet high, the Ulysses S. Grant Memorial is the largest equestrian monument in the United States. The statue was erected under an act passed by Congress in 1901. It was designed by sculptor Henry Merwin Shrady. The memorial was dedicated on the centennial of Grant's birthday – April 27, 1922. ⁷ The Grant Memorial is considered a contributing resource to the Civil War Monuments, which was listed in the NRHP in 1978 and in the DC Inventory in 1979.
U.S. Capitol (#8)	The U.S. Capitol is the centerpiece of L'Enfant's federal city and is the seat of government and the symbol of the United States. The U.S. Capitol has been occupied continuously by Congress since 1800 and until 1935 it housed the Supreme Court as well. The Capitol has been associated with nearly all of
	the nation's political leaders. Its legislative chambers have been the site of innumerable debates that have altered the course of history, and the place where presidents, military commanders, and international leaders have addressed the nation. The east and west fronts of the Capitol have been the traditional location of presidential inaugurations. Since the assassination of Lincoln, every president who has died in office has lain in state in the rotunda. The compass rose at the center of the rotunda
	floor marks the original prime meridian for the country and is the measuring point for the layout of the city and boundaries of several states. It is the first major example in America of the Federal

² DC Historic Preservation Office, *DC Inventory of Historic Sites*, accessed May 9, 2024,

 $[\]label{eq:https://planning.dc.gov/sites/default/files/dc/sites/op/publication/attachments/Inventory \end{subarray} 202009 \end{subarray} 200\% \e$

³ National Register of Historic Places, Railroad Retirement Board Building, Washington, DC, National Register #07000638.

⁴ DC Historic Preservation Office, *DC Inventory of Historic Sites*, accessed May 9, 2024,

https://planning.dc.gov/sites/default/files/dc/sites/op/publication/attachments/Inventory%202009%200%20Alpha%20Version%2003%2011.pdf.

⁵ DC Historic Preservation Office, "Terminal Refrigerating and Warehouse Company," *DC Inventory of Historic Sites: FY 2014 Landmarks Update,* accessed May 9, 2024, https://planning.dc.gov/sites/default/files/dc/sites/op/publication/attachments/FY%202014%20Landmarks%20Update.pdf.

⁶ DC Preservation League, "United States Botanic Garden," DC Historic Sites, accessed May 9, 2024, <u>https://historicsites.dcpreservation.org/items/show/619</u>.

⁷ National Register of Historic Places, Civil War Monuments in Washington, DC, Washington, DC, National Register #78000257.

	
	architectural style derived from English Neoclassicism and exhibits numerous efforts at developing an indigenous style of architecture and decorative art drawn from the American environment and reflective of American character and ideals. The U.S. Capitol was designated as a National Historic Landmark in 1960. It was listed in the DC Inventory in 1964 and is exempt from listing in the National Register. The Capitol Grounds are within a L'Enfant Plan reservation. ⁸
Capitol Grounds (#9)	The Capitol Grounds were designed by Frederick Law Olmstead and laid out in an extended project implemented between 1874 and 1892. The Capitol Grounds were listed in the DC Inventory in 1964 and are exempt from listing in the National Register. The Capitol Grounds are within a L'Enfant Plan reservation. ⁹
National Gallery of Art East Wing (#10)	The East Wing of the National Gallery of Art was constructed in 1978 to the Modernist design of I.M. Pei. In 1981, it received a National Honor Award from the American Institute of Architects. ¹⁰ The East Wing is not individually designated. It is a contributing resource to the National Mall Historic District.
National Gallery of Art West Wing (#11)	The West Wing of the National Gallery of Art was constructed in 1941. The Neoclassical style building was designed by John Russell Pope and serves as the United States' national art museum. The institution was established in 1937 via an Act of Congress using funds donated by Andrew W. Mellon. At the time of the building's completion, it was the largest marble structure in the world. ¹¹ The building was listed in the DC Inventory in 1968. It is a contributing resource to the National Mall Historic District.
Bulfinch Gatehouses and Gateposts (#12)	The former gate structures of the Capitol, built after 1814 at the foot of the west Capitol grounds, were part of the reconstruction of the Capitol after the War of 1812. They are generally attributed to Charles Bulfinch, the architect in charge of the restoration. The gatehouses and posts were removed in 1874 and reconstructed at their present locations in 1880; they were restored in 1940. The Bulfinch Gatehouses and Gateposts were listed in the DC Inventory in 1964 and in the NRHP in 1973 under National Register Criterion C. The Bulfinch Gatehouses and Gateposts are within the National Mall Historic District.
National Museum of Natural History (#13)	The National Museum of Natural History, which opened in 1910 as the United States National Museum, is a large Neoclassical Style building that was designed by the local architectural firm of Hornblower & Marshall along with Charles F. McKim and Daniel H. Burnham. The building was built to house the Smithsonian's growing collections. In 1964, the Museum of History and Technology (National Museum of American History) opened next door, followed by the National Museum of American Art-National Portrait Gallery in the Old Patent Office five years later. With these collections in new quarters, in 1969, the building became the National Museum of Natural History. East and west wings, designed by Mills, Petticord and Mills, were added to the original building in 1961-65, with additional changes to the building in the 1970s and 1990s. ¹² The National Museum of Natural History was listed in the DC Inventory in 1964 and was amended in 2023. The building was listed in the NRHP in 2023. The building is also a contributing resource to the National Mall Historic District.
National Museum of American History (#14)	The National Museum of American History opened in January 1964 as the National Museum of History and Technology. It was one of the last buildings to be designed by the renowned architectural firm of McKim Mead & White. The building's exterior was designed in the New Formalist style, which incorporated Classical formal elements such as symmetrical façade composition and monumental scale. The hallmarks of New Formalism also included the use of a podium, abstracted Classical elements such as repetitive column bays and cornices, and planar wall surfaces adorned in high-quality, traditional building materials such as marble. In 1980, the building was renamed the National Museum of American History to better reflect the collections housed within. The National Museum of American History is not individually designated in either the DC Inventory or the NRHP. The building is a contributing resource to the National Mall Historic District.

⁸ DC Historic Preservation Office, *DC Inventory of Historic Sites*, accessed May 9, 2024,

https://planning.dc.gov/sites/default/files/dc/sites/op/publication/attachments/Inventory%202009%200%20Alpha%20Version%2003%2011.pdf. ⁹ DC Historic Preservation Office, *DC Inventory of Historic Sites*, accessed May 9, 2024,

¹⁰ DC Preservation League,

¹¹ DC Preservation League,

¹² DC Preservation League,

 $[\]label{eq:https://planning.dc.gov/sites/default/files/dc/sites/op/publication/attachments/Inventory \% 202009\% 200\% 20Alpha\% 20Version\% 2003\% 2011.pdf.$

U.S. Department of Agriculture (#15)	The Department of Agriculture Administration Building is an extremely long building of white marble located on the National Mall. When it was built, it became one of the first government buildings to use
	reinforced concrete. The significance of the building derives from its Neoclassical architecture. The building is one of many examples of this type of civic architecture that characterizes much of modern Washington. The main portion of the building was designed by Rankin, Kellogg & Crane and built between 1904 and 1908; a central section was added in 1930. ¹³ The U.S. Department of Agriculture
	(Administration Building) was listed in the DC Inventory in 1964 and in the NRHP in 1974. The building is also a contributing resource to the National Mall Historic District.
Freer Gallery (#16)	The Freer Gallery of Art was designed by Charles Adams Platt and built in 1923. The building was designed to house Charles L. Freer's personal collection of American and Asian art. Freer donated his collection and an endowment for the construction of a building, which were accepted by the Smithsonian in 1906. Construction on the Italian Renaissance Revival-style building occurred from 1916 to 1923. Designed by architect Charles Adams Platt, the building's exterior is clad in pink granite, with a prominent interior courtyard clad in white marble. The Freer Gallery was listed in the DC Inventory in 1964 and in the NRHP in 1969 under National Register Criterion C. The building is also a contributing resource to the National Mall Historic District.
Smithsonian Castle (#17)	The Smithsonian Institution Building, also known as "The Castle", was designed by architect James Renwick, Jr. The building is constructed of red sandstone and was designed in the Norman style. Completed in 1855, the Castle became the anchor for the National Mall as additional museums and government buildings were constructed around it. The Castle served as the Smithsonian's single building and home for Joseph Henry, the first Secretary of the Smithsonian, until the National Museum (now the Arts and Industries Building) was erected in 1881. The building was listed in the DC Inventory in 1964, designated as a National Historic Landmark in 1965, and listed in the NRHP in 1966. The building is also a contributing resource to the National Mall Historic District.
Arts and Industries Building (#18)	Constructed between 1879 and 1881, the Arts and Industries Building is the nation's best-preserved example of nineteenth-century world's fair or exposition-type architecture. Built to house the international exhibits I from the Philadelphia Centennial Exhibition of 1876, it reflects the three principal requirements of this architectural type: to enclose a very large area, to present a tasteful, dramatic, and pleasing exterior, and to employ inexpensive construction technology. The architects were Cluss & Schulze. The building was listed in the DC Inventory in 1964. It was listed in the NRHP and designated as a National Historic Landmark in 1971 under National Register Criteria A and C. It is also a contributing resource to the National Mall Historic District.
Hirshhorn Museum and Sculpture Garden (#19)	The Modernist-style Hirshhorn Museum and Sculpture Garden opened to the public in 1974. First comprised of the remarkable modern and contemporary art collection of Joseph H. Hirshhorn, the museum was chartered by Congress in 1966, which accepted Hirshhorn's gift and appropriated funds for the construction of a museum on the National Mall. The building was designed by architect Gordon Bunshaft, who conceived the museum as a "large piece of functional sculpture." The hollow, elevated drum floats above several acres of landscaped grounds for sculpture. The Sculpture Garden was redesigned and renovated in 1981, implementing new accessibility features. The Hirshhorn has been determined eligible for designation under National Register Criteria A and C. The Hirshhorn Museum and Sculpture Garden is also a contributing resource to the National Mall Historic District.
Orville and Wilbur Wright Federal Buildings (#20)	The Orville and Wilbur Wright Federal Buildings were designed by Holabird & Root & Burgee, and Carroll, Grisdale & Van Alen between 1957 and 1960 for the General Services Administration. The buildings are successful examples of the adaptation of the Internal Style to its context and to the needs of the federal office building. ¹⁴ The Orville and Wilbur Wright Federal Buildings have been determined eligible for listing under National Register Criteria A and C.

¹³ DC Preservation League,

¹⁴ "Federal Office Building 10B; Wilbur Wright Building", DC State Historic Preservation Office Determination of Eligibility Form.