

Criteria of Adverse Effect

This document provides an assessment of effects on historic resources associated with the Revitalization of the Historic Core (RoHC) project. Effect assessments are based on the criteria of adverse effect as defined in the implementing regulations of Section 106 of the National Historic Preservation Act (36 CFR Part 800). The criteria of adverse effect are defined as follows:

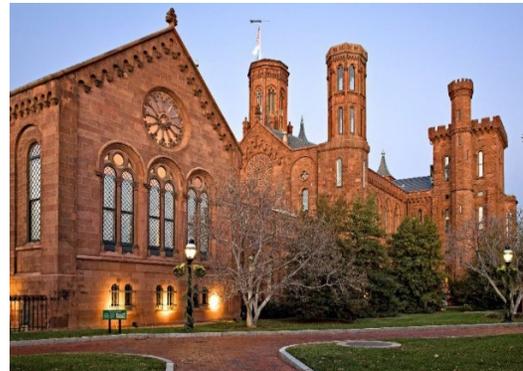
An adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register of Historic Places in a manner that would diminish the integrity of the property’s location, design, setting, materials, workmanship, feeling, or association. Consideration shall be given to all qualifying characteristics of a historic property, including those that may have been identified subsequent to the original evaluation of the property’s eligibility for the National Register. Adverse effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance or be cumulative (36 CFR § 800.5(a)(1)).

Project Background

This project provides a comprehensive rehabilitation of the Smithsonian Institution Building (Castle) and the Arts & Industries Building (AIB) to address physical deterioration, obsolete infrastructure and systems, non-compliance with building codes, construction of a below-grade Central Utility Plant (CUP) and enhanced loading dock that link and serve both buildings. The Castle and the AIB are National Historic Landmarks, individually listed in the National Register of Historic Places and the DC Inventory of Historic Sites, and are contributing elements of the National Mall Historic District listed in the National Register.



Arts & Industries Building, North Elevation.



Smithsonian Institution Building, South Elevation.

Smithsonian Institution Building – Character Defining Features *

The Smithsonian Institution Building (Castle), designed by James Renwick, Jr., in the Romanesque Revival or Norman Revival style is nationally significant for associations with the history of science and scientific institutions, museums and education; for association with prominent American scientists (National Register Criterion A); as a premiere example of mid-19th century romantic architecture and as a seminal work of Renwick; and for incorporation of innovative fireproof floor construction methods (National Register Criterion C).

The period of significance for the Castle is 1847-1910, to reflect the period of time that best demonstrates significance and historic associations. This date range reflects the lengthy construction

that spanned a destructive fire, and later modifications by Adolf Cluss (fireproofing and East Wing reconstruction) and Hornblower and Marshall (Great Hall modifications, Smithson Crypt, and Children’s Room).

Character Defining Feature	Notes
Setting – Area surrounding base of the building to the north, east, and west, and the South Yard (Haupt Garden)	<ul style="list-style-type: none"> - Current hardscape and landscape significantly modified in the last 30 years. - Jefferson Drive only extant roadway from the original landscape setting. - Independence Avenue (B Street) remains but is significantly altered. - Building entrances maintain relationship with grade as original configuration.
Building Massing and Materials	<ul style="list-style-type: none"> - Seneca sandstone exterior. - Decorative masonry trim, carved corbels, parapets, cornices, finials, arches, piers, and texture of hand chiseled stone faces. - Original pointing mortar tinted red to match Seneca sandstone. - Central block with similarly scaled wings and hierarchically arranged towers.
Windows	<ul style="list-style-type: none"> - Majority of the windows are replacements dating to 1987-1992. - c. 1915 windows in the West Range Clerestory and West Wing apse. - Original fenestration wood muntins of square panes set in a diamond pattern. Mostly double-hung sash. - Photographic document pre-1887 shows size of the diamond pane varied for each window type.
Roof Materials and Profiles	<ul style="list-style-type: none"> - Slate shingles and flat seamed lead coated copper. - Roofline follows the massing of the building.
North and South Towers	<ul style="list-style-type: none"> - Significant scale and decorative stone directs visitors to the primary entrances leading to the primary interior public space (Great Hall). Original doors were wood. - North porte cochere indicates primary reception point for visitors by vehicle. Access ramp and stair flanking the North Tower added in 1987. - Original sandstone steps at the South Tower retained beneath access ramp. - Clock added to Flag Tower in 1966.
Perimeter Towers – West Tower, Northwest Tower, Octagon Tower, Campanile Tower, and Southeast Tower.	<ul style="list-style-type: none"> - Three of the perimeter towers provide vertical circulation. - Each tower has distinct design detailing.

* Original National Historic Landmark and National Register nominations are short. Character defining features referenced from “Historic Structure Report, Smithsonian Institution Building, Smith-Group, December 2009.” The Historic Structure Report is available on the project webpage.

Arts & Industries Building – Character Defining Features *

The Arts & Industries Building (AIB), designed by Cluss & Schulze, and built in 1879-1881, is nationally significant as the best-preserved example in the United States of 19th century world exposition hall architecture, purpose built to receive, exhibit, and preserve museum collections. AIB is significant for its monumental scale, visible interior structure, and innovative use of daylight and air for a comfortable

museum experience for visitors. The modern Romanesque Revival style architecture of the building relates to the Castle, and the use of red and polychrome brick is significant as the last surviving brick building on the National Mall where this material was once prevalent. The period of significance for AIB is 1881-1902, to reflect the period of time that best demonstrates significance and historic associations. This date range includes interior modifications with the addition of mezzanine galleries by Hornblower & Marshall.

Character Defining Feature	Notes
Setting	<ul style="list-style-type: none"> - Current hardscape and landscape significantly modified in the last 30 years. - Hardscape paving at immediately adjacent sidewalks and entrance locations. - Building entrances maintain relationship with grade as original configuration.
Building Massing	<ul style="list-style-type: none"> - Interior building volumes articulate the monumental square building on the exterior. Cruciform halls radiate from the central Rotunda capped with a dome and cupola. - Towers mark the hall entrances, and corner pavilions and annexes with tall towers maintain the corners.
Roof Materials and Profiles	<ul style="list-style-type: none"> - Interior building volumes articulate the roof profile, with gable, dome, hip, shed and pyramidal forms. - Clerestories, monitors, and skylights bring in daylight and air, and articulate the expansive roof planes. - Three slate shingle types (gray, red, green) and standing seam stainless steel.
Exterior Masonry	<ul style="list-style-type: none"> - Polychrome brickwork combines red brick with stylized colored bricks (black, buff, blue) that accent the structure. Elevations are symmetrical; decorative brick patterns concentrated below windows, spandrels, and arches over window openings, and cornice. Black bricks form horizontal perimeter bands. - Sandstone sills and door surrounds. Engraved "National Museum 1879" at the north gable.
Windows	<ul style="list-style-type: none"> - Exterior windows are all blast resistant replacements installed c. 2014. - Replacement windows incorporate replicated frosted glazing for light diffusion. - Decorative colored glass retained at windows above primary entrances.
Entrances	<ul style="list-style-type: none"> - Four primary entrances at each hall tower centered on the elevations. Entrance vestibules have glazed brick and vaulted ceilings. Primary entrance doors replaced c. 1970s. - Only remaining historic door at the NW corner tower, featuring wood construction, glass, and iron grille.
Decorative Metal	<ul style="list-style-type: none"> - Along roof edges: acroteria, fan-shaped, finials, cornice. - Iron gates at the primary hall entrances. - Caspar Buberl painted zinc statue at the north entrance of "Columbia protecting science and industry."

* Original National Historic Landmark and National Register nominations are short. Character defining features referenced from "Historic Structure Report and Conditions Assessment, Smithsonian Institution Arts & Industries Building, Ewing Cole, August 2009." The Historic Structure Report is available on the project webpage.

Assessment of Effects on Historic Resources

The following provides an assessment of effects of each feature or action of the Revitalization of the Historic Core. An effect determination is proposed based on the criteria of adverse effect, with additional information or comments provided as applicable. For more images and information on each action and assessment please review the presentation materials from Section 106 Consulting Parties Meeting #3 (Schematic Design – November 16, 2021 and Draft Assessment of Effects – December 14, 2021) available on the project webpage.

Site - General	
Feature/Action	Design Details
Landscape	<ul style="list-style-type: none"> - Landscape features and hardscape disturbed by the project limit of disturbance will be replaced in-kind, including a portion of the Folger Rose Garden, Ripley Garden, Haupt Garden, and its Fountain Garden. - Character of the existing hardscape and landscape will be maintained. - Tree plantings will be setback from the Castle. - Haupt Garden west hardscaped path will be reduced to accommodate AIB areaways.
Images	Additional Information
 <p>Existing landscape character, south of the SIB.</p>  <p>Existing landscape character, west of the AIB.</p>	<ul style="list-style-type: none"> - Setting of the Castle and the AIB are character defining features. - Ripley Garden, Haupt Garden, and Folger Rose Garden are documented in the National Mall Historic District nomination as part of the landscape settings, not as contributing elements. - Current tree plantings are immediately adjacent to the Castle causing biological growth on the Seneca sandstone. - Landscape settings feature a mix of large structural trees (evergreen and deciduous), large shrubs/small trees, low shrubs, and groundcover. Diversity and hierarchy of plantings will be maintained. - Modifications to the eastern portion of the Folger Rose Garden required for accommodation of accessibility within the narrow public sidewalk and site condition. - Further consultation required as the design is finalized to decide the effect determination. - See also “AIB North Entrance – Accessibility” and “Site AIB – Areaways” for more information.
Proposed Effect Determination – Conditional No Adverse Effect	

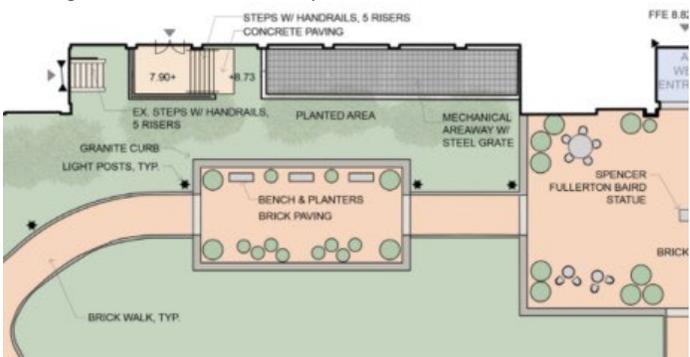
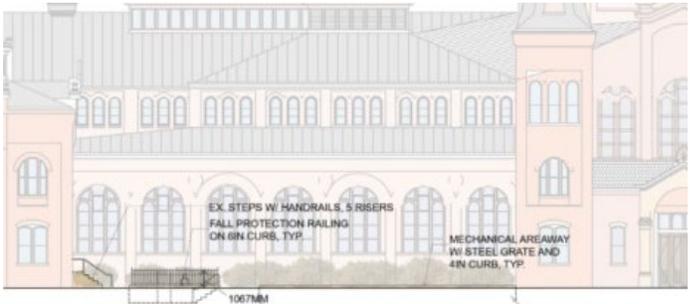
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Site - General	
Feature/Action	Design Details
Perimeter Security	<ul style="list-style-type: none"> - Secure perimeter required around both buildings. Both buildings have no available setback and narrow sidewalks. - Design pursues a combination of hardened bollards (stone and metal), fencing, landscape wall features, benches, and lighting.
Images	Additional Information
 <p>Detail elevation of Castle perimeter security at Jefferson Drive.</p>	<ul style="list-style-type: none"> - Setting is a character defining feature of both buildings. - Perimeter security adversely effects the setting of both buildings, and relationship with the National Mall context. - Buildings have no stand-off distance available from the roadbeds. Castle porte cochere is less than 5' from the roadbed curb. - Bollards proposed at the curbs to maximize security distance. - Retractable bollards at key locations to facilitate maintenance and emergency vehicle access. - Raised planter walls adjacent to the buildings alter their relationship to the ground plane. - Potential to minimize adverse effect through consultation as the design is finalized. - Perimeter security design must provide a secure perimeter without obstructing access to the buildings and sites. - Adverse effect may be minimized through consultation through material selections, other alternatives, and site-specific design detailing.
 <p>Rendering of Castle perimeter security at Jefferson Drive.</p>	
 <p>Rendering of AIB perimeter security at Jefferson Drive.</p>	
Proposed Effect Determination – Adverse Effect	

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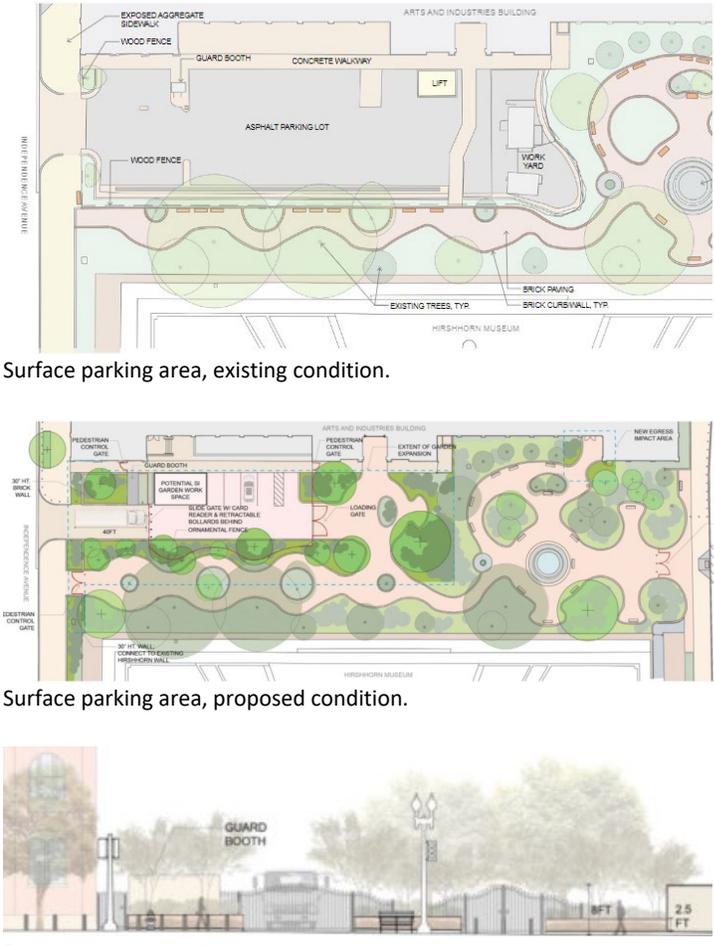
Site - General	
Feature/Action	Design Details
Lighting	<ul style="list-style-type: none"> - Light posts proposed along sidewalks and garden visitor pathways in keeping with the historic context and National Mall light posts. - Light posts will be placed throughout the landscape to provide a unified treatment, and a contextual design for the historic core setting.
Images	Additional Information
 <p>Existing site plan noting project extent and light post locations.</p>  <p>Torchiere light fixture at the AIB north entrance that will be restored and retained.</p>	<ul style="list-style-type: none"> - Light post design is under development and will align with District of Columbia standards and the National Capital Planning Commission’s Monumental Core Streetscape Framework. - Further consultation required on conformance with dark sky requirements in the National Mall setting. - Majority of existing light posts were installed c. 1976. - Existing building specific fixtures will be restored and rehabilitated for energy efficient lighting. - Building façade lighting will be accomplished through discreet fixtures placed in the landscape.  <p>Existing light post in the Haupt Garden.</p>
<p>Proposed Effect Determination – Conditional No Adverse Effect</p>	

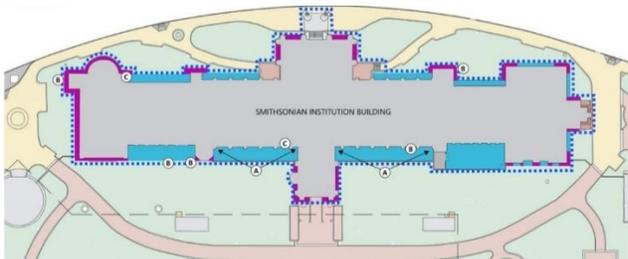
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Site - Arts & Industries Building	
Feature/Action	Design Details
<p>Areaways (Located in the northwest, southwest, and southeast)</p>	<ul style="list-style-type: none"> - Hardscape and vegetation displaced or disturbed by installation of egress and mechanical areaways will be replaced with compatible materials and layout. - Egress areaway landings are partially below-grade. At-grade mechanical areaways are related to the CUP.
Images	Additional Information
 <p>Existing condition at northwest pavilion tower.</p>  <p>Proposed partial plan at the northwest egress and mechanical areaways.</p>  <p>Proposed partial west elevation. Plantings may screen the areaways.</p>	<ul style="list-style-type: none"> - Setting is a character defining feature. - Hardscape and vegetation at the AIB west façade is as designed in 1987. Hardscape is brick paving. - Ripley Garden and Haupt Garden are documented in the National Mall Historic District nomination as part of the landscape setting, not as contributing elements. - Hardscape and landscape character of the Ripley and Haupt Gardens will be maintained. - Haupt Garden west hardscaped path slightly reduced to accommodate egress and mechanical areaways. Hardscape layout and brick paving are maintained. - Mechanical and egress areaway adjacent to the east elevation will be obscured by the surface parking lot and ornamental fence. - Egress doors and fall protection railings for the egress landings will be visible within the Haupt Garden. - Adverse effect may be minimized in consultation through plantings and egress railings as the design is finalized. - See also “Arts & Industries Building Areaways” for more information on building effects.
<p>Proposed Effect Determination – Adverse Effect</p>	

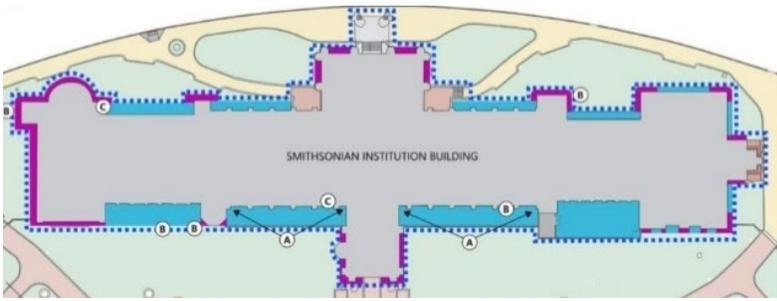
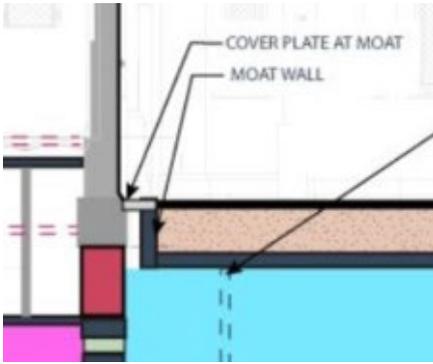
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Site – Arts & Industries Building	
Feature/Action	Design Details
<p>Northeast Building Egress – Ripley Garden</p>	<ul style="list-style-type: none"> - Proposed egress door at AIB east elevation, north side, requires modifications to site walls and a planting bed within the Ripley Garden. - Opening is created in the elevated brick Ripley Garden planter walls. - Brick garden walls and brick paving are extended to create a connection to the new egress door.
Images	Additional Information
<div data-bbox="203 730 867 1083" data-label="Image"> </div> <p data-bbox="203 1083 867 1140">Existing condition at the proposed northeast egress door. Location is noted with a white dotted line.</p> <div data-bbox="203 1140 867 1696" data-label="Diagram"> </div> <p data-bbox="203 1696 867 1753">Proposed Ripley Garden plan. Modified area noted with blue dotted outline.</p>	<ul style="list-style-type: none"> - Ripley Garden is documented in the National Mall Historic District nomination as part of the landscape setting, not as a contributing element. - Ripley Garden planter walls are retaining and are 3’ above grade. - Proposed egress door provides emergency egress from AIB. - Curvilinear hardscape paths, brick material, and landscape character of the Ripley Garden will be maintained. - See also “AIB – Egress Doors on East and West Elevations” for more information.
<p>Proposed Effect Determination – No Adverse Effect</p>	

Site – Arts & Industries Building	
Feature/Action	Design Details
<p>Surface Parking Area East of AIB</p>	<ul style="list-style-type: none"> - Reduction of the existing amount of paved area and parking spaces. - Expansion of the existing design and planted areas at the pedestrian path connecting the Ripley Garden to Independence Avenue. - Installation of decorative iron fencing and gates at the pedestrian path and Ripley Garden entrance at Jefferson Drive for security closure off-hours.
Images	Additional Information
 <p>Surface parking area, existing condition.</p> <p>Surface parking area, proposed condition.</p> <p>Proposed elevation, Independence Avenue.</p>	<ul style="list-style-type: none"> - Ripley Garden is documented in the National Mall Historic District nomination as part of the landscape setting, not as a contributing element. - Hardscape and landscape character of the Ripley Garden will be applied to the expansion. - Parking area is currently obscured with a wood fence at the perimeter of the paved area, which includes workspace for Smithsonian Gardens. - Smithsonian Garden workspace will be maintained in the reduced paved area and screened with an ornamental fence. - Guard booth at Independence Avenue will be replaced. - Decorative iron security gates are proposed at the pedestrian entrances to secure the Ripley Garden and path to Independence Avenue during closed hours. - Proposed security gates are consistent with the decorative gate security measures currently in place at the adjacent Haupt Garden.
<p>Proposed Effect Determination – No Adverse Effect</p>	

Site – Smithsonian Institution Building	
Feature/Action	Design Details
Areaways	<ul style="list-style-type: none"> - Recessed areaways and at-grade aprons proposed around the Castle perimeter. - Recessed areaways bring light to public spaces in the basement level. Recessed areaways are wider on the south side.
Images	Additional Information
 <p>Proposed Castle site plan. Blue indicates recessed areaways. Purple indicates aprons.</p>  <p>Precedent image of vegetation screening an areaway at the West Range.</p>  <p>Proposed open recessed areaway and plantings south of the Castle.</p>	<ul style="list-style-type: none"> - Setting is a character defining feature. - Castle currently has 393' linear feet of areaway (recessed well), and 220' existing linear feet of apron (paving at grade). - Proposed condition combines and regularizes the Castle base condition with 575' of areaways and 640' of apron. - Recessed areaways require fall protection metal railings. - South areaways are open or feature a terraced wall below-grade. - Proposed areaways alter the Castle's relationship with the ground plane. - Areaways and fall protection railings may be visible within the setting. - Adverse effect may be minimized through maintaining hardscape materials and landscape plantings within the Haupt Garden and setting north of the Castle. - Adverse effect may be minimized in consultation through the landscape setting plantings as the design is finalized. - See also "SIB – Areaways" for more information.
Proposed Effect Determination – Adverse Effect	

Updated – Text, Effect Determination

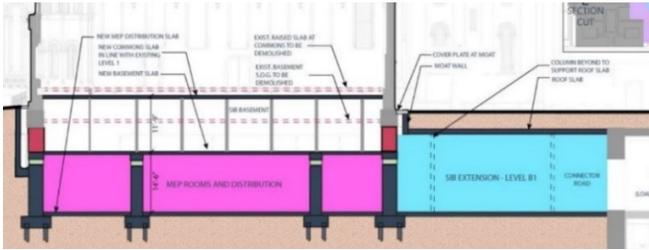
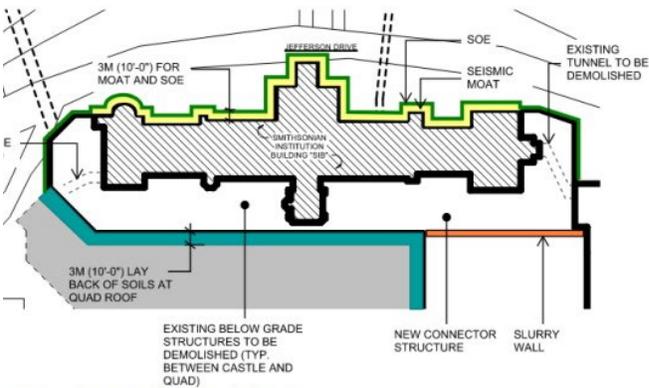
Site – Smithsonian Institution Building	
Feature/Action	Design Details
<p>Seismic Control Joint</p>	<ul style="list-style-type: none"> - Seismic base isolation joint is required around the Castle perimeter. - Seismic control joint cover will be 18-24" in width and visible at grade.
Images	Additional Information
 <p>Proposed Castle site plan. Seismic control joint is noted with a blue dotted line.</p>  <p>Examples of seismic control joint covers that integrate gravel, mechanical vents, and stone architectural features.</p>  <p>Detail section drawing of the seismic control joint cover plate.</p>	<ul style="list-style-type: none"> - Setting is a character defining feature. - Seismic control joint is associated with base isolation, which separates the building from the ground motion. Achieved by creating a plane of separation between the superstructure and the foundations. - Seismic base isolation joint will be incorporated into the recessed areaways and aprons. - Seismic control joint cover plate can accept a variety of finishes, including planting, gravel, pavers, and architectural features. - Adverse effect may be minimized through consultation as the design is finalized considering materials and treatments that minimize visual impact. - Seismic control joint finish options will be reviewed in consultation through field mock-ups. - See also "SIB – Seismic Control Joint" for more information.
<p>Proposed Effect Determination – Adverse Effect</p>	

Below-Grade Central Utility Plant – Castle Expansion (B1 Level)	
Feature/Action	Design Details
Central Utility Plant Excavation	<ul style="list-style-type: none"> - Central Utility Plant (CUP) proposed in unexcavated areas between the AIB, Quadrangle, and Castle. - CUP is connected to an expansion outside of the Castle footprint at the B1 level, which provides connection to the existing Quadrangle loading dock, and service functions. - Requires construction related temporary removals of portions of the Haupt Garden and its Fountain Garden.
Images	Additional Information
<p>Proposed excavation. Blue indicates the Castle B1 service expansion. Purple indicates the CUP. Gray indicates current Quadrangle footprint.</p> <p>CUP section drawing. CUP extent indicated with purple shading.</p>	<ul style="list-style-type: none"> - CUP is designed to serve all the buildings in the South Mall Campus. - CUP provides two levels of mechanical, electrical, and plumbing equipment housing. Stormwater management cistern is at the B3 level. CUP aligns with the depth of the Quadrangle. - CUP enhances all utilities service for the South Mall Campus buildings and reduces greenhouse gas emissions through modern and efficient mechanical systems. - Potential construction related adverse effects from excavation or building vibration. This will be addressed in the Memorandum of Agreement. - Baseline building conditions and development of a Monitoring Plan required by Stipulation 7.C of the South Mall Master Plan Programmatic Agreement. - Monitoring will start a full year before construction activities for the establishment of a baseline for movement and vibrations. Vibration monitoring is required to control vibration during the proposed excavation and other construction activities. Monitoring plans will be provided as the design is finalized.
Proposed Effect Determination – Adverse Effect	

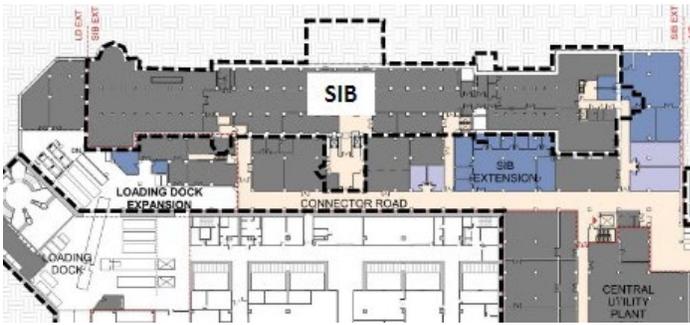
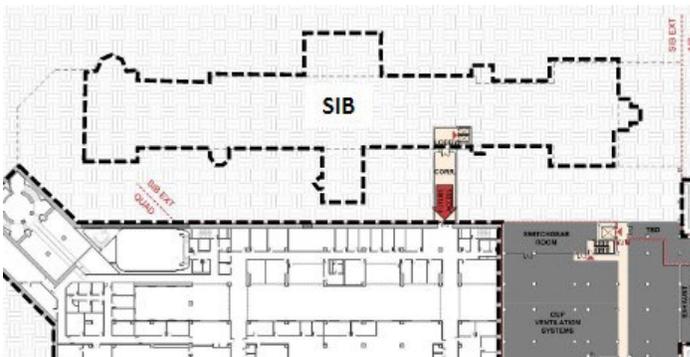
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Below-Grade Central Utility Plant – Castle Expansion (B1 Level)	
Feature/Action	Design Details
Visual Impacts Above-Grade – Exhaust	<ul style="list-style-type: none"> - Exhaust for the Central Utility Plant (CUP) is grouped together at the southeast corner of the Haupt Garden. - Exhaust is grouped together at the National Museum of African Art pavilion paved area, screened with an extension of the existing high granite wall.
Images	Additional Information
 <p>Proposed partial site plan noting the CUP exhaust vents and enclosure wall.</p>  <p>Visibility of the National Museum of African Art pavilion wall from Independence Avenue, noted with a blue arrow.</p>	<ul style="list-style-type: none"> - National Museum of African Art pavilion features a paved area and granite wall adjacent to the AIB and the west Haupt Garden path. Granite wall is approximately 9'6" high. - Air intake for the CUP occurs through the mechanical areaways on the west and east sides of the AIB. - Egress from the CUP occurs through the Castle south areaways or loading dock. No separate egress stairs are required. - Exhaust equipment will not be visible, but the stone enclosure wall will be visible from Independence Avenue and within the Haupt Garden. - Exhaust equipment will create a plume condition at this area of the Haupt Garden, visible in conjunction with the AIB west elevation and the Castle south elevation. - Visibility of plume condition is seasonal to colder months. - Adverse effect and impact is minimized through grouping all exhaust equipment together, and adjacent to hardscape features to minimize impact to the landscape and the African Art pavilion.
Proposed Effect Determination – Adverse Effect	

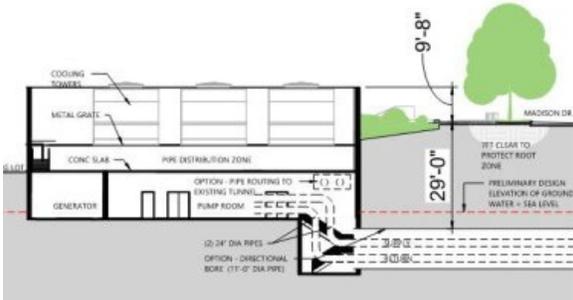
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Below-Grade Central Utility Plant – Castle Expansion (B1 Level)	
Feature/Action	Design Details
<p>Extent of Excavation – Adjacent to Castle</p>	<ul style="list-style-type: none"> - Excavation occurs adjacent to the Castle for the B1 level Castle Expansion proposed in an unexcavated area between the Quadrangle and Castle. - Castle Expansion aligns with the depth of the B1 level of the Quadrangle Building. - CUP is connected to the expansion outside of the Castle footprint at the B1 level, which provides connection to the existing Quadrangle loading dock, and service functions.
Images	Additional Information
 <p>Proposed section through level B1. Blue shading indicates the Castle Extension.</p>  <p>Yellow and green shading notes an approximate 10' of excavation required adjacent to the Castle for support of excavation.</p>	<ul style="list-style-type: none"> - B1 level Castle expansion allows for the majority of service functions and infrastructure to be placed outside the Castle footprint, prioritizing the historic interiors for public programming and use. - Potential construction related adverse effects from excavation or building vibration. This will be addressed in the Memorandum of Agreement. - Baseline building conditions and development of a Monitoring Plan required by Stipulation 7.C of the South Mall Master Plan Programmatic Agreement. - Monitoring will start a full year before construction activities for the establishment of a baseline for movement and vibrations. Vibration monitoring required to control vibration during the proposed excavation and other construction activities. Monitoring plans will be provided as the design is finalized. - Adverse effect is minimized through limiting the Castle adjacent excavation to one level below-grade. - See also “SIB - Excavation Beneath the Castle – Base Isolation” and SIB - Excavation Beneath the Castle for Mechanical Systems and Distribution” for more information.
<p>Proposed Effect Determination – Adverse Effect</p>	

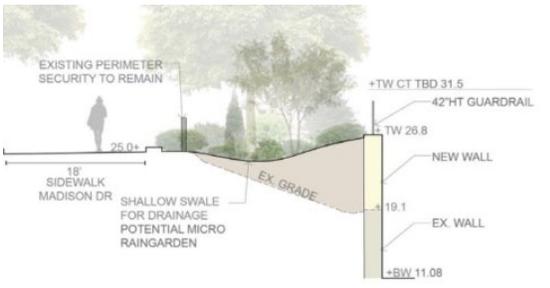
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Below-Grade Central Utility Plant – Castle Expansion (B1 Level)	
Feature/Action	Design Details
Penetrations at Castle Basement Level or Foundations	<ul style="list-style-type: none"> - CUP is connected to the expansion outside of the Castle footprint at the B1 level, which provides connection to the existing Quadrangle loading dock, and service functions. - B1 level Castle Expansion proposed in an unexcavated area between the Quadrangle and Castle. - Four penetrations through the Castle basement or foundation are proposed for staff access to the B1 level Castle expansion.
Images	Additional Information
 <p>B1 level plan. Black dotted line notes the Castle footprint. Peach shading notes the four penetrations and connection to the service corridor.</p>  <p>B2 level plan. Black dotted line notes the Castle footprint. Peach shading notes the one future connection to the Quadrangle.</p>	<ul style="list-style-type: none"> - Utilities will not penetrate historic foundations of the Castle or AIB. - All proposed work is below-grade, with the minimum amount of connections to the B1 expansion. - Narrow future public connection at the B2 level will be constructed. No modifications to the Quadrangle Building are proposed under this project. - Potential construction related adverse effects from creating the openings or building vibration. This will be addressed in the Memorandum of Agreement. - Baseline building conditions and development of a Monitoring Plan required by Stipulation 7.C of the South Mall Master Plan Programmatic Agreement. - Monitoring will start a full year before construction activities for the establishment of a baseline for movement and vibrations. Vibration monitoring required to control vibration during the proposed excavation and other construction activities. Monitoring plans will be provided as the design is finalized.
Proposed Effect Determination – Adverse Effect	

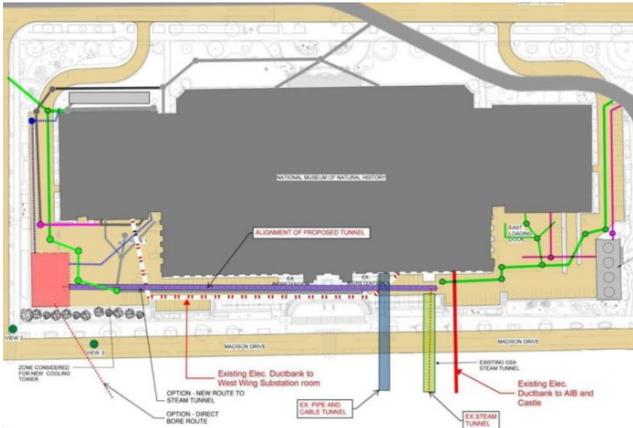
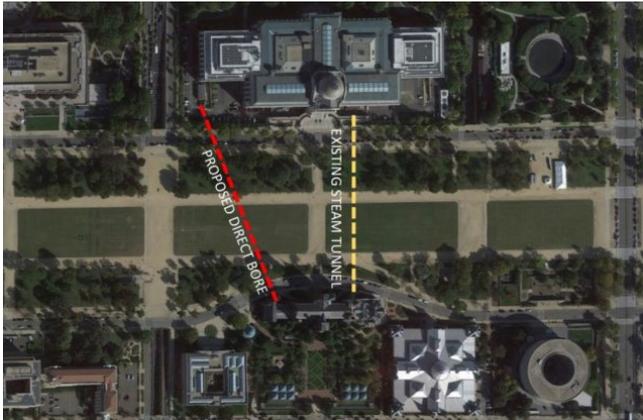
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Cooling Towers	
Feature/Action	Design Details
Enclosure	<ul style="list-style-type: none"> - Exterior cooling towers are proposed within the southwest corner of the parking lot of the National Museum of Natural History (NMNH) connected below-grade to the Central Utility Plant within the South Mall Campus. - Cooling towers and enclosure proposed behind existing granite perimeter security walls and plantings.
Images	Additional Information
 <p>Existing cooling tower enclosure at southeast corner of the NMNH site. View from the Pollinator Garden path.</p>  <p>Section drawing of the proposed Cooling Towers and enclosure.</p>	<ul style="list-style-type: none"> - NMNH is a contributing element of the National Mall Historic District and is individually eligible for the National Register of Historic Places. - Proposed cooling tower location is adjacent to the building loading dock and other small existing service structures. - Parking lot is recessed below the grade of Madison Drive and 12th Street approximately 23'. - Proposed cooling tower enclosure will be 9'8" above the grade of the sidewalks. - Existing cooling towers with a Milford Pink granite enclosure installed c. 1991 at the southeast corner of the site. Enclosure is visible from the sidewalk and is articulated to relate to the NMNH's architectural features. - Existing cooling tower enclosure at the southeast corner of the NMNH site is approximately 7' above the Madison Drive sidewalk grade. - Grade change is steepest at the southwest corner of NMNH, with visibility of the enclosure as the 12th Street grade slopes up to Madison Drive. - NMNH features five different types of historic granites. Majority of the site walls are Milford Pink granite. - Adverse effect and visual presence of the cooling tower enclosure may be minimized in consultation through material selection, articulation, and landscape plantings. - Proposed location partially below-grade within a paved area at NMNH has less adverse effect and impacts than locating the cooling towers at the South Mall Campus with very little available area.
Proposed Effect Determination – Adverse Effect	

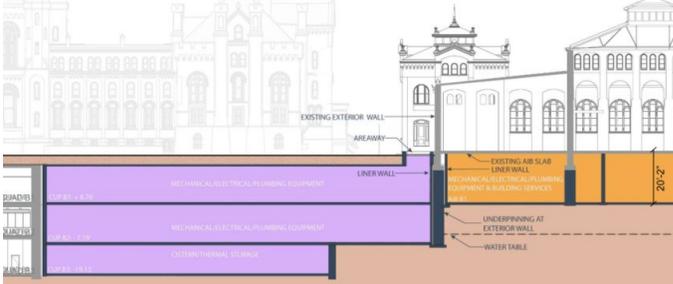
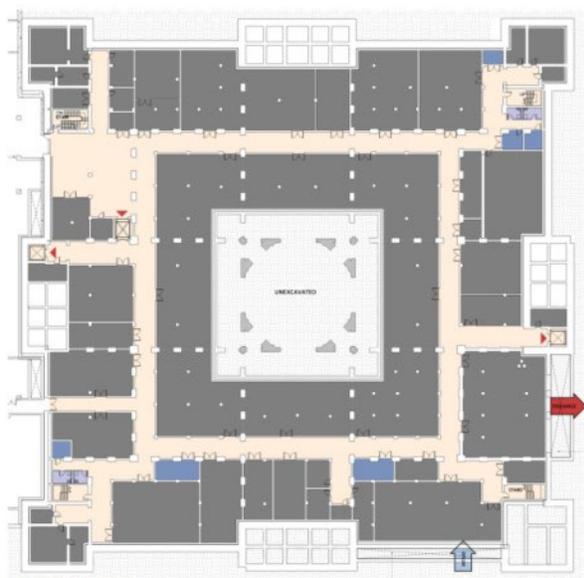
Updated – Images, Text, Effect Determination

Cooling Towers	
Feature/Action	Design Details
Visual Impact to NMNH and the National Mall Historic District	<ul style="list-style-type: none"> - Cooling towers and associated enclosure are proposed at the southwest corner of the NMNH site at a below-grade paved parking area. - Proposed cooling tower enclosure will be 9’8” above the grade of the sidewalks. - Adjacent landscape grade will be raised and remain sloped. Retaining wall heights will be raised with fall protection railings.
Images	Additional Information
 <p>C - PROPOSED VIEW EAST Cooling tower enclosure visibility from Madison Drive.</p>  <p>- PROPOSED VIEW SOUTH Cooling tower enclosure visibility from 12th Street.</p>  <p>Detail section drawing of the landscape, with proposed fall protection railing.</p>	<ul style="list-style-type: none"> - NMNH is a contributing element of the National Mall Historic District and is individually eligible for the National Register. - Parking lot is recessed below the grade of Madison Drive and 12th Street approximately 23’. Fall protection railings are not currently present and is an unsafe condition. - Existing vehicular rated perimeter security fencing will be maintained within the landscape. - Landscape dense plantings and species diversity will be maintained. Landscape is part of Smithsonian Gardens’ Urban Bird Habitat. Landscape regraded and the site retaining walls will be minimally raised. - Cooling tower enclosure will be visible and will interrupt views of NMNH within the National Mall Historic District. - The 10th Street vista looking north and south is a significant viewshed that contributes to the significance of the National Mall Historic District. - Appearance of two visible plumes from the existing and proposed cooling towers will adversely effect the 10th Street vista and the National Mall Historic District. - Visibility of cooling tower plumes is seasonal to colder months. - Adverse effect and visual presence of the cooling tower enclosure, retaining walls, and fall protection railings may be minimized in consultation through material selection, articulation, and landscape plantings.
Proposed Effect Determination – Adverse Effect	

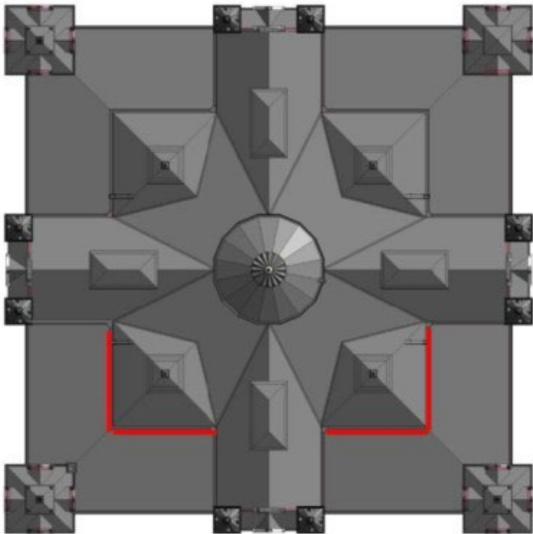
Updated – Text, Effect Determination

Cooling Towers	
Feature/Action	Design Details
<p>Cross National Mall Connection to the South Mall Campus (Below-Grade)</p>	<ul style="list-style-type: none"> - Below-grade connection between the Central Utility Plant and its cooling towers proposed at the southwest corner of the NMNH site. - Two options are under consideration – use of the existing Castle/NMNH tunnel connection or creating a new direct bore. - For all options there will be no visual change to the National Mall principal east-west green lawn, or to the flanking quadruple rows of American elm trees.
Images	Additional Information
 <p>NMNH site plan. Proposed cooling tower location noted with a red rectangle.</p>  <p>Aerial photograph noting the direct bore and existing steam tunnel locations.</p>	<ul style="list-style-type: none"> - There is potential for encountering archaeological resources during excavation or construction. This will be addressed in the Memorandum of Agreement. - Existing General Services Administration steam tunnel is approximately 18’ below-grade. Existing tunnel connection between the Castle/NMNH is approximately 12’ below-grade. - Maintenance holes may be required in select locations. Maintenance holes will have round metal covers flush with the existing grade. - Required maintenance holes will be in keeping with standard sidewalk and street furniture. - Effect analysis will be updated in consultation once the connection method is determined.
<p>Proposed Effect Determination – No Adverse Effect</p>	

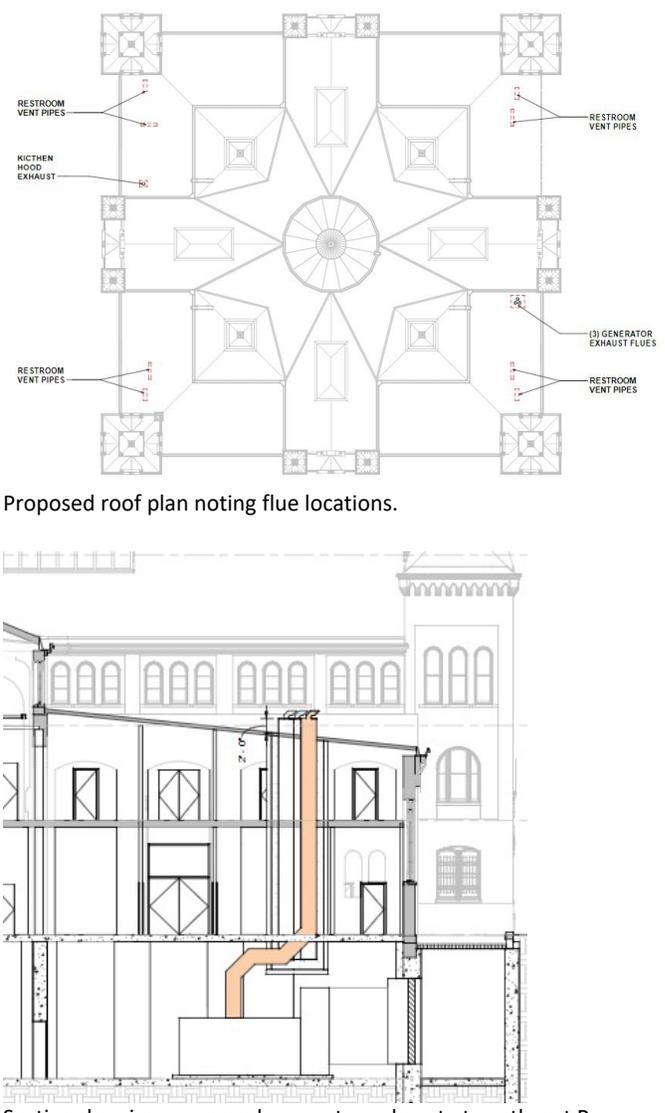
Updated – Text

Arts & Industries Building	
Feature/Action	Design Details
Excavation of Basement Level (B1)	<ul style="list-style-type: none"> - Excavation and expansion of the basement level within the AIB footprint. - Expanded basement level provides building support and infrastructure space and is not intended for public space. - Foundation walls will be underpinned.
Images	Additional Information
 <p>Proposed section through the CUP and AIB. Orange shading indicates extent of basement level excavation at AIB. Purple shading indicates extent of CUP.</p>  <p>Proposed AIB basement level plan. Note unexcavated area below the Rotunda.</p> <p>Program Legend</p> <ul style="list-style-type: none"> Smithsonian Offices Smithsonian Building Services Restrooms Circulation 	<ul style="list-style-type: none"> - Basement level exists at the Pavilion Towers (southwest, northwest, northeast), Central Towers (north, east). - Proposed basement level facilitates the use of the historic interiors for public use and programming by providing separate support space for building functions and infrastructure. - Proposed basement level aligns with the loading dock, CUP, and the Castle Expansion B1. - Basement excavation avoids the Rotunda and construction related adverse effects to the dome. - Potential construction related adverse effects from excavation or building vibration. This will be addressed in the Memorandum of Agreement. - Baseline building conditions and development of a Monitoring Plan required by Stipulation 7.C of the South Mall Master Plan Programmatic Agreement. - Monitoring will start a full year before construction activities for the establishment of a baseline for movement and vibrations. Vibration monitoring required to control vibration during the proposed excavation and other construction activities. Monitoring plans will be provided as the design is finalized.
Proposed Effect Determination – Adverse Effect	

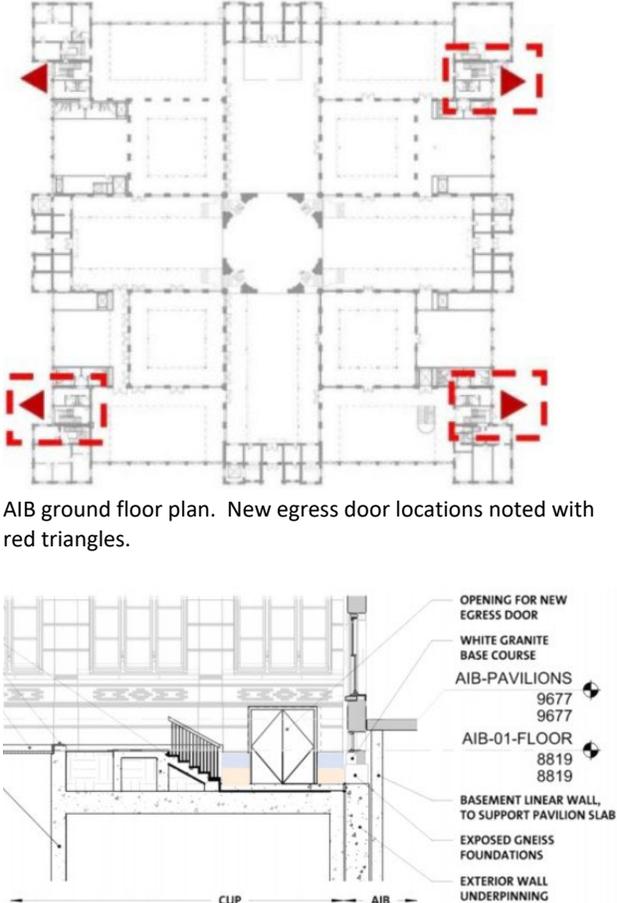
Updated - Text

Arts & Industries Building	
Feature/Action	Design Details
Louvers at Courts Clerestory Windows	<ul style="list-style-type: none"> - Removal of non-historic c. 2014 window sash and installation of mechanical louvers. - Louvers will be concentrated at the southwest and southeast Courts clerestories. - Louvers will not be visible from the National Mall side of the building. - Louvers will have limited visibility from Independence Avenue.
Images	Additional Information
 <p>AIB roof plan. Location of louvers noted with red lines.</p>  <p>AIB south elevation. Louvers location noted with red lines.</p>	<ul style="list-style-type: none"> - Courts historically and currently have monitors with clerestory windows. - Louvers currently exist at all Court clerestories in select locations, with some visibility from the National Mall and the Haupt Garden. - Monitors are character defining features of the Building Massing and Roof Profiles. - Louvers will be finished to match the adjacent window fenestration to minimize adverse effect. - Grouping the louvers at the southern Courts removes visibility of these modern interventions within the National Mall Historic District context and minimizes adverse effect.
Proposed Effect Determination – Adverse Effect	

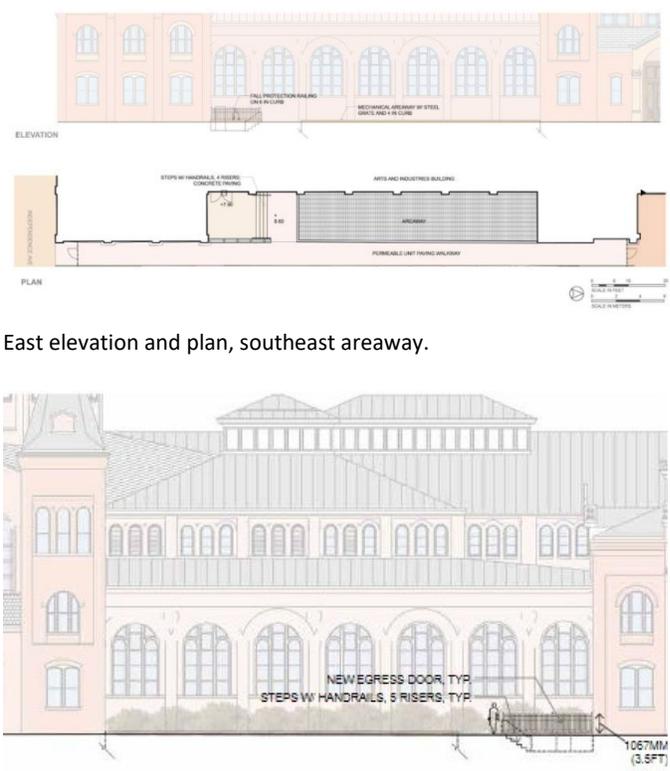
Updated - Text

Arts & Industries Building	
Feature/Action	Design Details
Rooftop Mechanical Vents	<ul style="list-style-type: none"> - Exhaust flues required in limited locations at the AIB roof for restrooms, kitchen equipment, and emergency generators. - Flues do not exceed 24" in diameter and do not project more than 2' above the sloped roofs of the Ranges.
Images	Additional Information
 <p>Proposed roof plan noting flue locations.</p> <p>Section drawing, proposed generator exhaust at southeast Range roof.</p>	<ul style="list-style-type: none"> - Building Massing and Roof Profiles are character defining features. - Proposed design minimizes and consolidates number of required flues. - Historic roof profile is dynamic and expansive. Flue locations limited to the large sloped roofs on the Ranges that lack special roof profiles or clerestories. Full extent of the Range roofs are not visible in AIB's context. - Three (3) emergency generator exhausts are grouped together at the southeast quadrant. Generator exhausts at the southeast range roof will have minimal visibility from a narrow view corridor on Independence Avenue. - Additional renderings and further analysis of visibility of the exhausts will be created for consultation on the final effect determination.  <p>Visibility of the southeast Range roof is the gray line above the large arched windows.</p>
<p>Proposed Effect Determination – Conditional No Adverse Effect</p>	

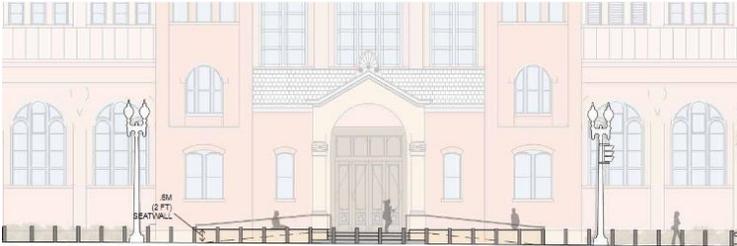
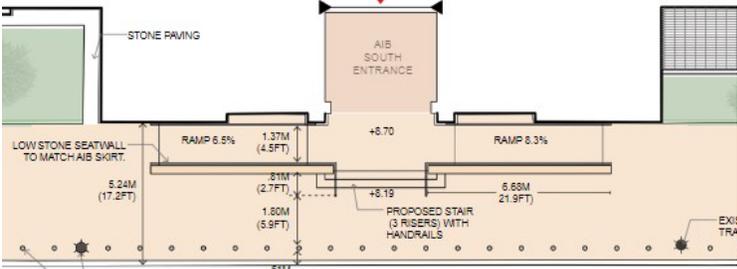
Updated - Text, Effect Determination

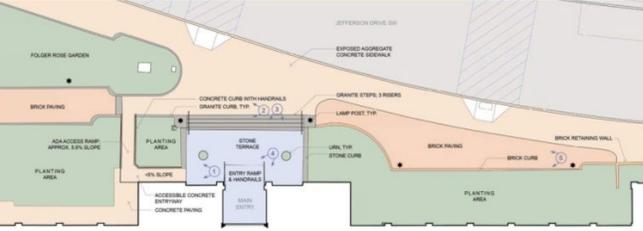
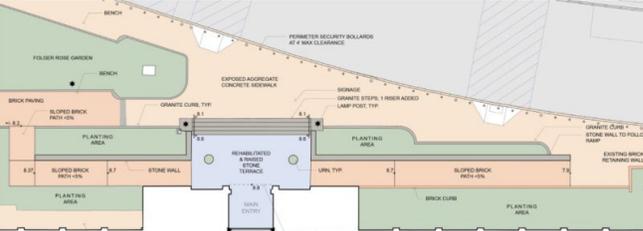
Arts & Industries Building	
Feature/Action	Design Details
<p>Egress Doors on East and West Elevations</p>	<ul style="list-style-type: none"> - New masonry openings required for four (4) egress doors on the east and west elevations. - Egress door at the northeast portion of the building on the east elevation will be close to grade to minimize impacts to the Ripley Garden. - Other egress doors will be partially below-grade and connected to a below-grade landing. - Historic wood door at the northwest Pavilion Tower will be restored and maintained in situ.
Images	Additional Information
 <p>AIB ground floor plan. New egress door locations noted with red triangles.</p> <p>AIB proposed west south elevation. New egress door is partially below grade, with a landing and stair to grade.</p>	<ul style="list-style-type: none"> - Ripley Garden and Haupt Garden are documented in the National Mall Historic District nomination as part of the landscape setting, not as contributing elements. - AIB has brickwork, white granite course, and exposed gneiss foundations (dressed and rough finish) at the base of the building. - New masonry openings require the removal of historic fabric. - Doors and masonry openings will be partially 3' below-grade. Fall protection railings are required at the below-grade egress landings. - Adverse effect may be minimized in consultation through door design details and finish treatments for the exposed portion of the basement level wall. - Wall finish treatment options will be reviewed in consultation through field mock-ups. - Adverse effect may be minimized in consultation through plantings and egress railings as the design is finalized to minimize impact within the settings and the relationship between areaways and egress doors. - See also "Site – AIB Areaways" and "Site-AIB Northeast Building Egress – Ripley Garden" for more information.
<p>Proposed Effect Determination – Adverse Effect</p>	

Updated - Text

Arts & Industries Building	
Feature/Action	Design Details
<p>Areaways (Located in the northwest, southwest, and southeast)</p>	<ul style="list-style-type: none"> - New egress doors on east and west elevations require associated paved landings and stairs up to grade. - Egress landings are approximately 3' below grade and require fall protection railings. - Mechanical areaways covered with steel grates proposed at grade, adjacent to the east and west towers.
Images	Additional Information
 <p>East elevation and plan, southeast areaway.</p> <p>Detail elevation of southwest areaway.</p>	<ul style="list-style-type: none"> - AIB has brickwork, white granite course, and exposed gneiss foundations (dressed and rough finish) at the base of the building. - Historic door at the northwest pavilion tower will be restored and maintained. - Egress landings will expose new portions of the foundations, with options under design development for surface treatments and materials to minimize adverse effect, pending mock-ups. - At-grade mechanical areaways are related to the CUP. - Fall protection railings, egress landings, and mechanical areaways at the base of the AIB and within the Haupt Garden. - Adverse effect may be minimized in consultation through plantings and egress railings as the design is finalized to minimize impact within the settings and the relationship between areaways and egress doors. - See also “Egress Doors on East and West Elevations,” “Northeast Building Egress – Ripley Garden,” and “Surface Parking Area East of AIB” for more information.
<p>Proposed Effect Determination – Adverse Effect</p>	

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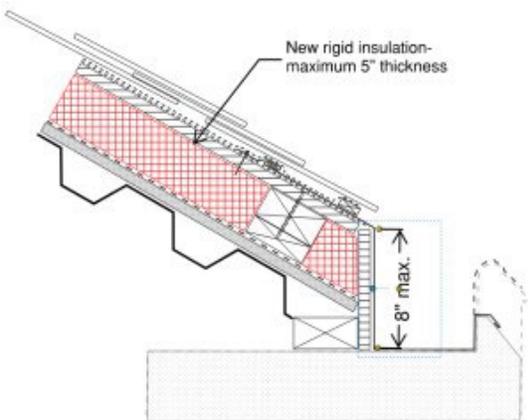
Arts & Industries Building	
Feature/Action	Design Details
<p>South Entrance - Accessibility</p>	<ul style="list-style-type: none"> - Symmetrical accessible walkways to a landing are proposed. - Accessible walkways are 4.5' in width, placed behind a low stone seat wall. - Accessible walkways include a handrail, fall protection railings are not required.
Images	Additional Information
<div style="display: flex; flex-direction: column; align-items: center;">  <p data-bbox="204 1018 597 1045">Existing condition of the South Entrance.</p>  <p data-bbox="204 1329 459 1356">Proposed south elevation.</p>  <p data-bbox="204 1665 505 1692">Proposed South Entrance plan.</p> </div>	<ul style="list-style-type: none"> - Setting is a character defining feature. - South entrance currently has non-historic granite stairs (three risers) up to the South Entrance landing, which features decorative tile and replicated iron security gates. - South entrance is a primary entrance and accessibility is required from Independence Avenue. - Independence Avenue sidewalk is approximately 17' wide. - Central axis is maintained through the symmetrical walkway arrangement and extended landing with central stairs. - Adverse effect is minimized through the stone seat wall design and material to contextualize the walkways with the base of the AIB. - Adverse effect is minimized through the maintenance of the landing material and iron security gates. - Walkways remove or obscure historic fabric at the sandstone piers and landing stairs. - See also "Perimeter Security" for more information.
<p>Proposed Effect Determination – Adverse Effect</p>	

Arts & Industries Building	
Feature/Action	Design Details
<p>North Entrance - Accessibility</p>	<ul style="list-style-type: none"> - Two universally accessible walkways are proposed in an asymmetric plan. Each walkway responds to site constraints, the Folger Rose Garden to the west, and narrow sidewalk conditions to the east. - Existing raised terrace with marble paving will be rehabilitated and elevated level with the North Entrance landing.
Images	Additional Information
<div style="text-align: center;">  <p>Existing condition of the North Entrance.</p> </div> <div style="text-align: center;">  <p>Existing North Entrance plan.</p> </div> <div style="text-align: center;">  <p>Proposed North Entrance plan.</p> </div>	<ul style="list-style-type: none"> - Setting is a character defining feature. - North entrance currently has an elevated marble terrace with granite stairs. Secondary short ramp provides access to the North Entrance landing. - North entrance terrace has marble paving, granite stairs, and the landing features decorative tile and replicated iron security gates. - Existing non-historic ramp to the west of the raised terrace will be removed. - Elevation of the terrace allows the removal of the short access ramp to the North Entrance landing, with the differential accomplished by adding one additional riser at the granite stairs. - Adverse effect is minimized through the stone seat wall design and material to contextualize the walkways with the base of the AIB. - Adverse effect is minimized through the maintenance of the historic landing material, terrace paving, and iron security gates. - Elevation of the raised terrace obscures historic fabric at the sandstone piers. - Landscaped areas will be maintained adjacent to the AIB and installed north of the walkway stone walls to minimize their visual presence and maintain the Folger Rose Garden landscape character.
<p>Proposed Effect Determination – Adverse Effect</p>	

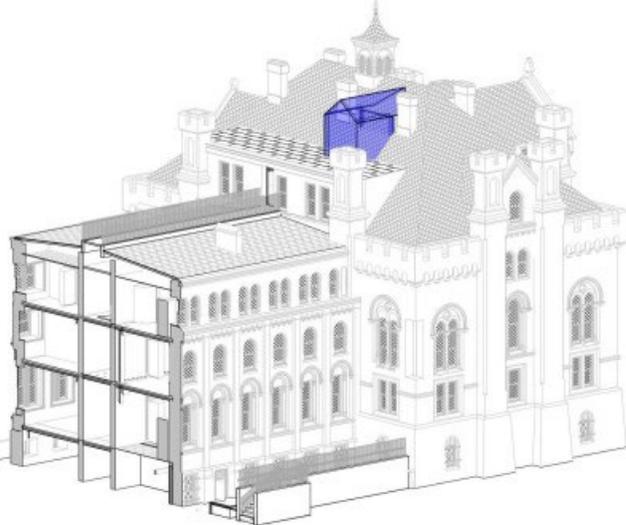
Arts & Industries Building	
Feature/Action	Design Details
Rehabilitation of Historic Interiors	<ul style="list-style-type: none"> - Primary historic interior spaces (Halls, Courts, Ranges, northwest Pavilion Tower) will be rehabilitated to the period of significance of 1881-1902.
Images	Additional Information
 <p>Rendering of potential space use, North Hall.</p>  <p>Rendering of potential space use, Range.</p>	<ul style="list-style-type: none"> - Sound and salvageable historic material will be reused or restored. - Historic finishes will be restored or replicated. - Historic open floor plan will be retained to the maximum extent possible. - Modifications to the historic interiors will be in accordance with the <i>Secretary of the Interior's Standards</i> Rehabilitation approach. - Historic interiors will sensitively accommodate modern system requirements. - Smithsonian does not conduct Section 106 consultation on interior building changes because interior projects are not subject to NCPC review. (See Public Law No. 108-72, 117 Stat. 888, which deems the Smithsonian a federal agency for purposes of compliance with Section 106 of the National Historic Preservation act for projects in the District of Columbia requiring NCPC review and approval.) - Rehabilitation and public use of the historic interiors are a primary goal of the project and are shown for informational purposes. - SI will hold a public informational meeting on the rehabilitation of historic interiors during design development in 2022.

Updated - Text

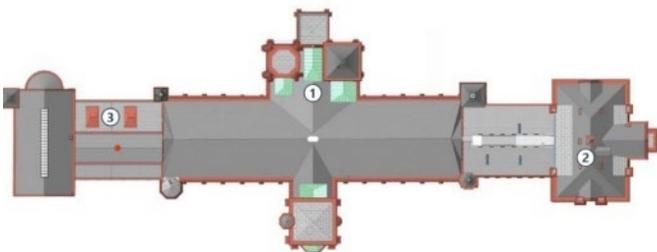
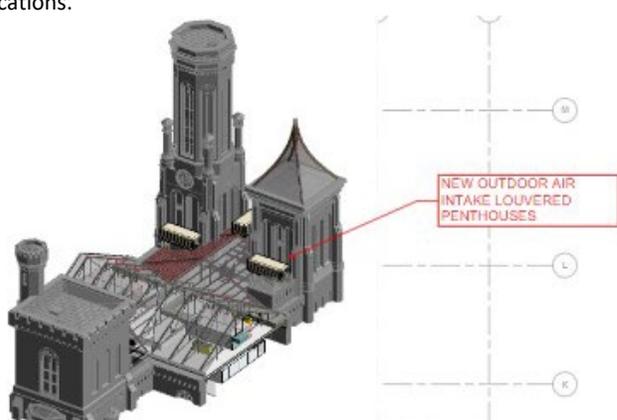
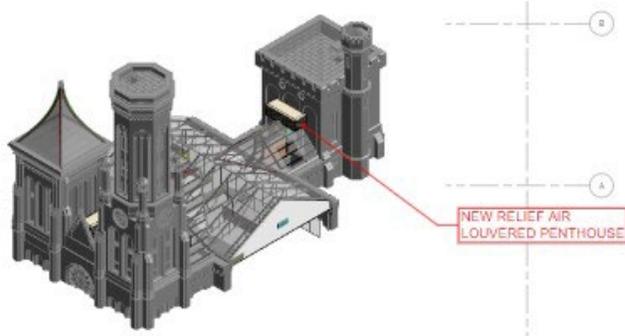
Smithsonian Institution Building	
Feature/Action	Design Details
Roof Replacement	<ul style="list-style-type: none"> - Removal and replacement of existing roofing system, with new underlayments, insulation, gutters, and metal flashing. - In-kind replacement of the slate shingles. - Lead coated copper roofing will be replaced with zinc-tin coated copper.
Images	Additional Information
 <p>Typical conditions of slate roofing shingles.</p>  <p>Typical conditions of flat seamed copper roofing.</p>	<ul style="list-style-type: none"> - Slate shingles are present at the Main Hall, North Tower, and West Wing exteriors. - Flat seamed lead coated copper is present at the West Wing Apse, Flag Tower, West Range, South Tower, and East Wing. - Roof materials are a character defining feature. - Widespread conditions for the slate include missing, broken, or loose shingles. - Lead coated copper roofing has widespread thin solders and heavy-handed sealant repairs.
Proposed Effect Determination – No Adverse Effect	

Smithsonian Institution Building	
Feature/Action	Design Details
Roof Modifications – Energy Improvements	<ul style="list-style-type: none"> - Removal and replacement of existing roofing system, with new underlayments and insulation to meet prescriptive energy requirements. - Roof thickness to increase 5” at roof locations where the dimensional change will not be perceptible. - No changes to roof thickness are proposed at visible roof edges such as the West Wing, or at high peaked tower roofs.
Images	Additional Information
 <p data-bbox="203 1171 771 1228">Proposed gutter detail at the Great Hall roof. Dashed line indicates the top of the parapet crenellation.</p>  <p data-bbox="203 1717 787 1774">Crenellated parapet at the East Wing. No change proposed to the tower roof.</p>	<ul style="list-style-type: none"> - Roof Materials and Profiles are character defining features. - Existing roof system includes little to no insulation. - Most of the Castle’s roof edges are behind crenellated parapets and other architectural features, and are at least 30’ above grade. - Further consultation required as the design is finalized to decide the effect determination. - See “SIB – Roof Replacement” for more information.
<p>Proposed Effect Determination – Conditional No Adverse Effect</p>	

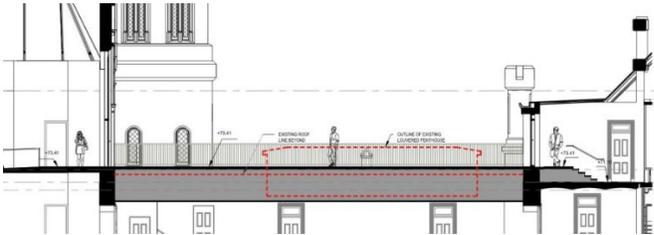
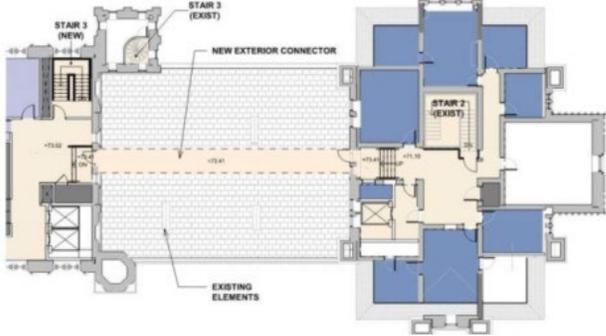
Updated – Text, Effect Determination

Smithsonian Institution Building	
Feature/Action	Design Details
Roof Modifications – Accessible Elevator Penthouse	<ul style="list-style-type: none"> - New accessible elevator at the East Wing requires an elevator rooftop overrun bulkhead. - Existing East Wing elevator bulkhead will be removed.
Images	Additional Information
 <p>Existing East Wing elevator bulkhead noted with a red arrow.</p>  <p>Axonometric drawing of the East Wing with the proposed elevator overrun bulkhead noted with blue shading.</p>	<ul style="list-style-type: none"> - Roof Profile is a character defining feature. - Existing East Wing elevator is not code compliant. - Proposed bulkhead will be visible from the south in the Haupt Garden and the National Mall within the East Wing roofscape, which features decorative chimneys and hip and gable roof profiles. - Adverse effect may be minimized in consultation through consideration of cladding material for the bulkhead. - Adverse effect may be minimized in consultation through the bulkhead height and profile.
Proposed Effect Determination – Adverse Effect	

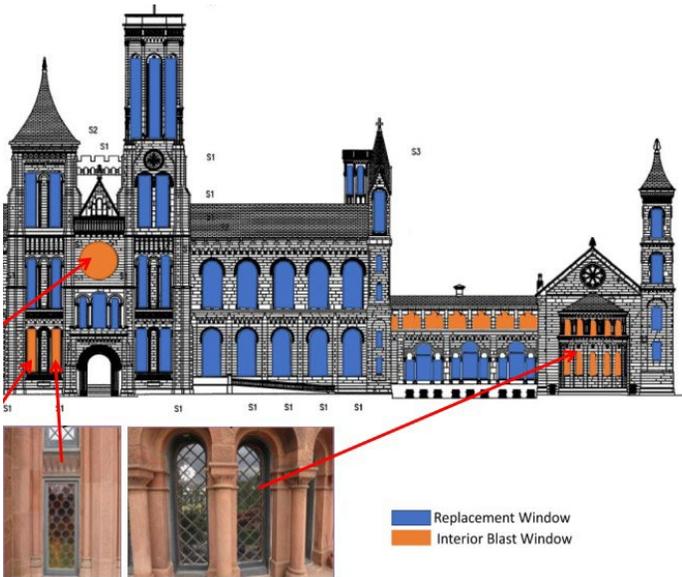
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Smithsonian Institution Building	
Feature/Action	Design Details
Rooftop Mechanical Vents	<ul style="list-style-type: none"> - Six (6) existing rooftop louvered penthouses will be re-used. - Four (4) penthouses on center of the Main Building will be expanded for air intake and exhaust and are non-visible behind existing architectural features.
Images	Additional Information
 <p>Castle roof plan, with enlarged exterior air intake and exhaust locations.</p>  <p>Castle Main Building roof axonometric, view to north.</p>  <p>Castle Main Building roof axonometric, view to south.</p>	<ul style="list-style-type: none"> - Roof Profile and Building Massing are character defining features. - Expansion of the existing louvered penthouses at the West Range will have minimal visual impact from the National Mall. - Enlarged existing outdoor air intake roof penthouses are concealed behind the North and South Towers. - Majority of the associated mechanical modifications occur within the interior attic space, and will not visually impact the roofing systems. - Existing historic cupola with louvers at the East Wing will be re-used without expansion. - Further consultation required as the design is finalized to decide the effect determination.  <p>Existing rooftop mechanical penthouses and louvers.</p>
Proposed Effect Determination – Conditional No Adverse Effect	

Updated – Text, Effect Determination

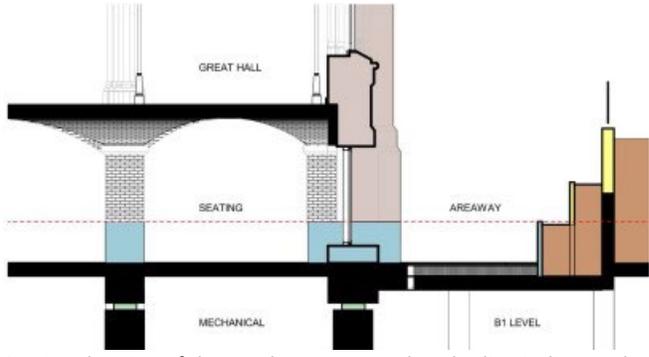
Smithsonian Institution Building	
Feature/Action	Design Details
East Wing – 4 th Floor Egress	<ul style="list-style-type: none"> - Installation of an exterior egress pathway at the East Range roof to provide second means of egress from the East Wing. - Exterior egress pathway is unenclosed with fall protection guardrails. - Modifications to two (2) windows to create access doors.
Images	Additional Information
 <p>Section elevation of the proposed egress path and railings.</p>  <p>Plan of the proposed egress path.</p>  <p>Walkway railing visibility from the middle of the National Mall.</p>	<ul style="list-style-type: none"> - Roof Profile is a character defining feature. - Historic brick chimneys on the East Wing roof installed c. 1900 will be retained. - Fourth floor of the East Wing currently has only one means of egress. A second means is required for occupancy. - Replaces existing visible mechanical penthouse added in 1973. Egress pathway railing and mechanical penthouse are comparable in height. - Egress path railing will be visible from various locations within the National Mall and to the south. - Adverse effect may be minimized in consultation through further design review and the railing design to reduce visibility.  <p>Axonometric view of the egress path and railings.</p>
Proposed Effect Determination – Adverse Effect	

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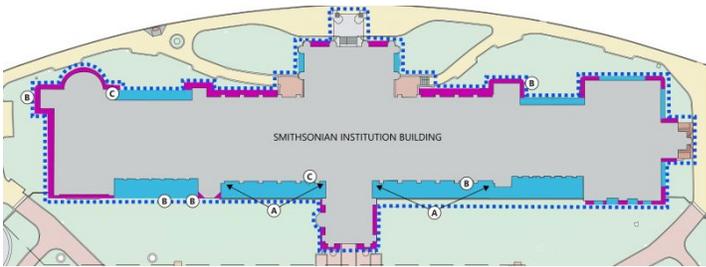
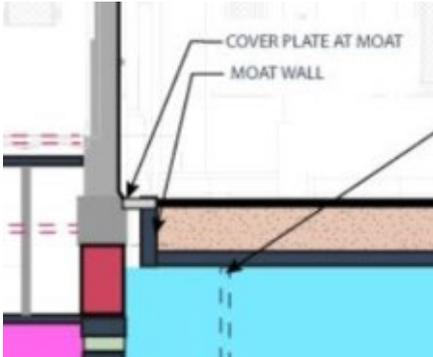
Smithsonian Institution Building	
Feature/Action	Design Details
Windows	<ul style="list-style-type: none"> - Building-wide window replacement of the non-historic window sash with blast resistant windows. - Historic windows c. 1915 present in the West Range Clerestory and West Wing Apse, Smithson Crypt, and West Wing skylights will be restored and retained in-place. Blast resistant storm windows will be installed. - Replacement windows will restore the historic finish color and will retain a diamond pane multi-light configuration.
Images	Additional Information
 <p>Portion of the Castle north elevation. Historic windows at the Smithson Crypt and West Wing Apse depicted.</p>	<ul style="list-style-type: none"> - Windows are a character defining feature. Majority of the existing windows are wood non-historic replacements installed in 1987-1992. - Historic documentation notes that the original window fenestration was primarily wood double-hung sash with wood muntins of square panes set in a diamond pattern. - Photographic documentation pre-1887 indicates the size of the diamond pane varied for each window type. - Representative examples of historic windows at the West Range and North Tower will be retained in an off-site location to serve as an historic record. - Blast resistant windows are required to meet Facility Security Level III. - Blast windows will be steel or aluminum. Further consultation is required as design is finalized on ability of the metal window to accommodate arched profiles and muntin details. - Further consultation required as the design is finalized to decide the effect determination. - Blast window design will be reviewed in consultation through mock-ups.
Proposed Effect Determination – Conditional No Adverse Effect	

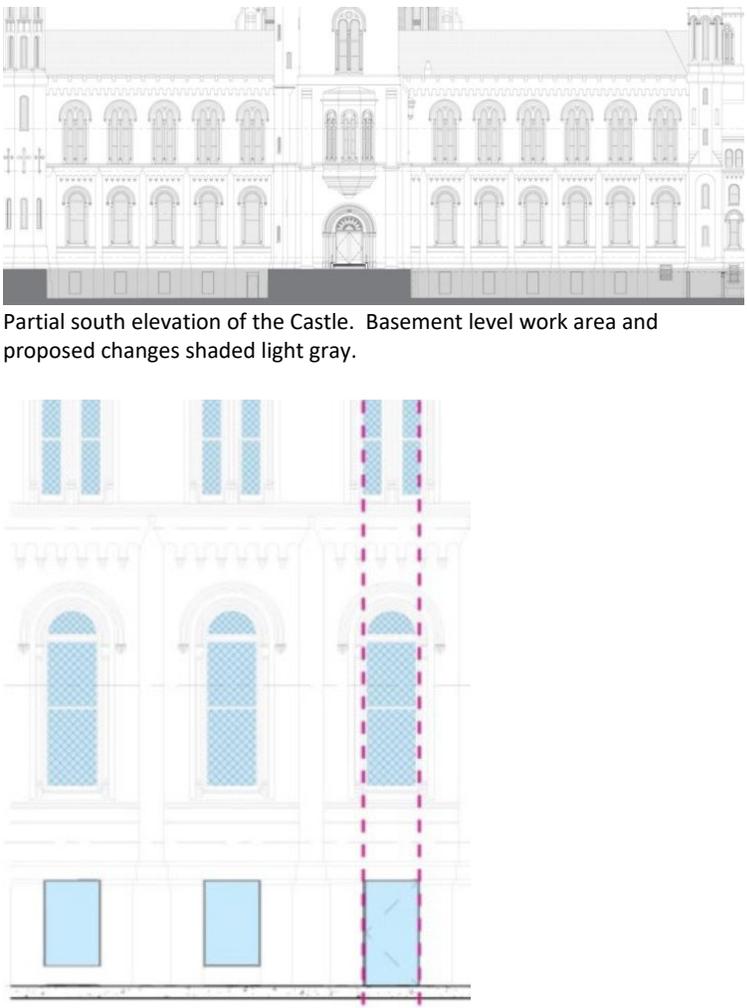
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Smithsonian Institution Building	
Feature/Action	Design Details
Exterior Masonry Restoration	<ul style="list-style-type: none"> - Exterior red Seneca sandstone will be restored, including façade cleaning, and pointing. - Maximum amount of sound sandstone will be preserved. - Stone repairs include reattachment of displaced masonry, Dutchmen repairs, and select full replacement stones.
Images	Additional Information
 <p>Seneca sandstone with biological growth staining.</p>  <p>Displaced Seneca sandstone masonry at the Octagon Tower.</p>	<ul style="list-style-type: none"> - Seneca sandstone exterior is a character defining feature. - Seneca sandstone is no longer quarried, and the SI retains a significant stockpile at a Smithsonian storage facility. - Stone replacement pieces will be in-kind, with hand tooling and finishing to maintain consistency with the stone color ranges, texture, and detailing. - Consistent with the <i>Secretary of the Interior's Standards</i> Preservation approach.
Proposed Effect Determination – No Adverse Effect	

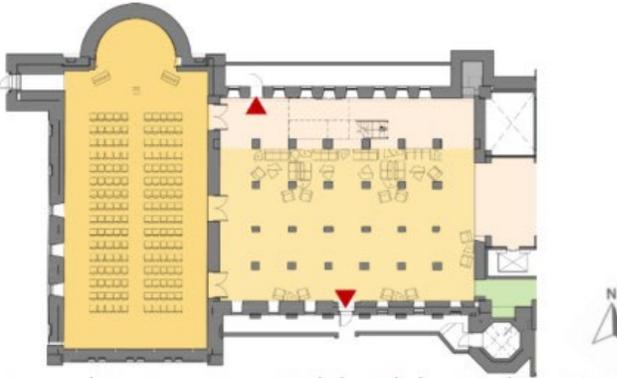
Smithsonian Institution Building	
Feature/Action	Design Details
Areaways	<ul style="list-style-type: none"> - Recessed areaways and at-grade aprons proposed around the Castle perimeter. - Recessed areaways bring light to public spaces in the basement level. Recessed areaways are wider on the south side.
Images	Additional Information
 <p>Existing southwest areaway with parged concrete below the Seneca sandstone.</p>  <p>Section drawing of the southwest area. Blue shading indicates the grade change and areas requiring new finish treatment.</p>	<ul style="list-style-type: none"> - Setting is a character defining feature. - Castle currently has 393' linear feet of areaways (recessed well), and 220' existing linear feet of apron (paving at grade). - Existing areaways feature tinted concrete and dressed sandstone where the grade was lowered. - Proposed conditions combine and regularize the Castle base condition with 575' of areaways and 640' of apron. - Seismic base isolation joint will be incorporated into the recessed areaways and aprons. - Areaways will expose new portions of the foundations, with options under design development for surface treatments and materials to minimize adverse effect, pending mock-ups. - Adverse effect associated with the grade change may be minimized through exposed wall finish treatments as the design is finalized through consultation. - Wall finish treatment options will be reviewed in consultation through field mock-ups. - Areaways and fall protection railings will be visible around the base of the Castle. - Adverse effect may be minimized in consultation through plantings, path placement, and egress railings as the design is finalized to minimize impact of the relationship with the setting. - See also "Site – SIB Areaways" for more information.
Proposed Effect Determination – Adverse Effect	

Updated - Text

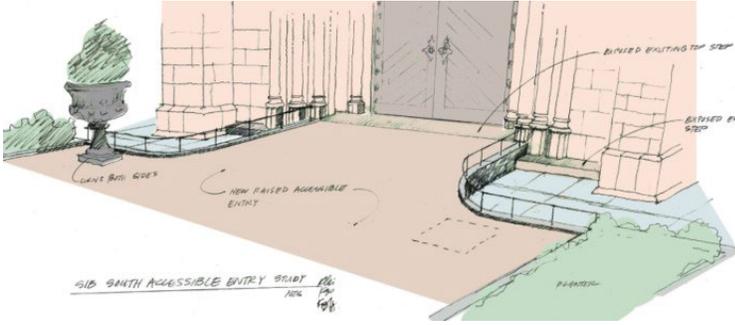
Smithsonian Institution Building	
Feature/Action	Design Details
<p>Seismic Control Joint</p>	<ul style="list-style-type: none"> - Seismic base isolation joint is required around the Castle perimeter. - Seismic control joint cover is 18-24" in width and visible at grade and adjacent to the Castle.
Images	Additional Information
 <p>Castle site plan, seismic control joint location noted with blue dotted line.</p>  <p>Detail section of the seismic control joint cover plate.</p>  <p>Examples images of architectural features and cover plate materials. Red dotted line notes the seismic control joint.</p>	<p>Additional Information</p> <ul style="list-style-type: none"> - Setting and Building Materials are character defining features. - Seismic control joint is associated with base isolation, which separates the building from the ground motion. Achieved by creating a plane of separation between the superstructure and the foundations. - Seismic base isolation joint will be incorporated into the recessed areaways and aprons. - Seismic control joint will be immediately adjacent to the base of the Castle. - Seismic control joint cover plate can accept a variety of finishes, including planting, gravel, pavers, and architectural features. - Adverse effect may be minimized through consultation as the design is finalized through considering materials and treatments that minimize visual impact. - Seismic control joint finish options will be reviewed in consultation through field mock-ups.
<p>Proposed Effect Determination – Adverse Effect</p>	

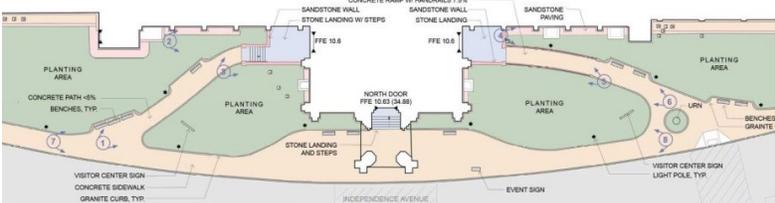
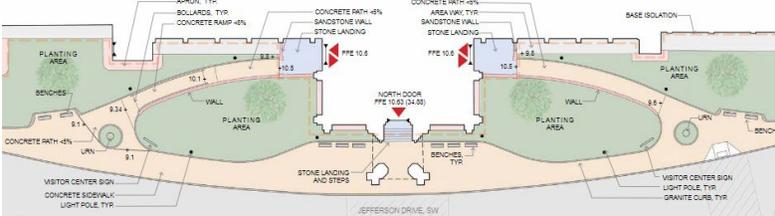
Smithsonian Institution Building	
Feature/Action	Design Details
<p>New Basement Windows</p>	<ul style="list-style-type: none"> - Nine (9) basement windows are proposed at the basement level areaways below-grade on the Castle south elevation. - Castle south elevation at the basement level contains some window openings. Proposed will enlarge existing window openings and create new masonry openings.
Images	Additional Information
 <p>Partial south elevation of the Castle. Basement level work area and proposed changes shaded light gray.</p> <p>Partial detail elevation demonstrating width alignment between masonry openings.</p>	<ul style="list-style-type: none"> - Proposed windows increase natural light to newly occupied public basement spaces utilizing existing window openings and creating new masonry openings. - Masonry opening width will align with the width of the historic windows on the upper floors of the South Elevation. - Proposed window fenestration will be differentiated from the historic consistent with the <i>Secretary of the Interior's Standards</i>. - Proposed work requires the removal of historic building fabric. - New window openings will be visible from within the Haupt Garden. - Adverse effect may be minimized in consultation through plantings and path placement as the design is finalized. - See "SIB – Basement Doors" "SIB – Areaways" for more information.
<p>Proposed Effect Determination – Adverse Effect</p>	

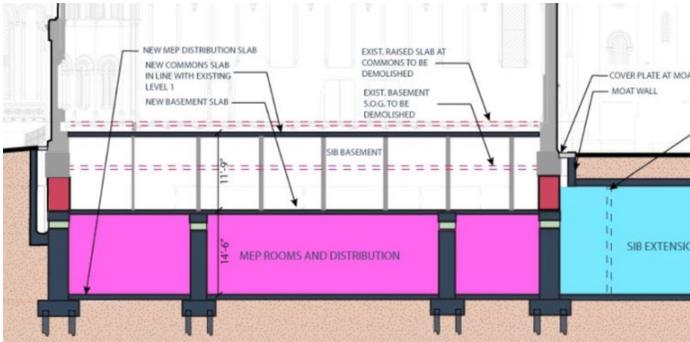
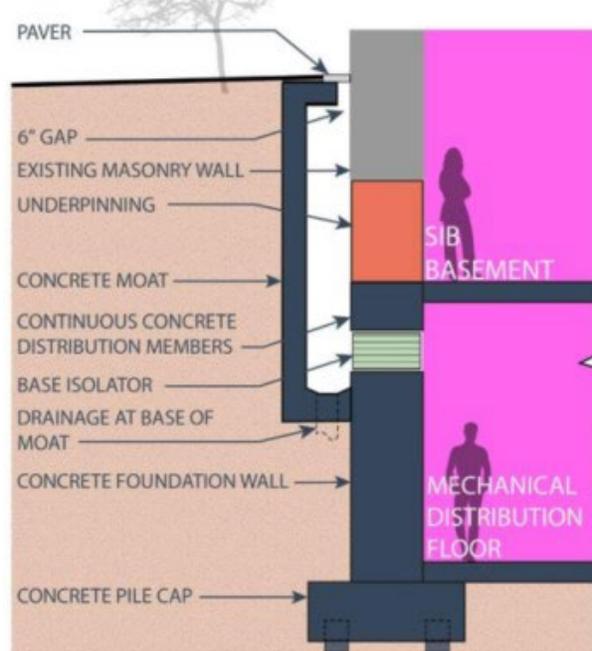
Updated – Text, Effect Determination

Smithsonian Institution Building	
Feature/Action	Design Details
Basement Doors	<ul style="list-style-type: none"> - Total of five (5) exterior doors required at the basement level for emergency egress. - Two existing doors (Ranges) will be modified and re-used. One (1) existing window will be modified to serve as a door. Two (2) new doors openings will be created (Great Hall areaways). - Egress doors will be solid metal or glazed.
Images	Additional Information
 <p>West Range basement level plan. Proposed new egress doors at existing openings noted with the red triangles.</p>  <p>Partial elevation of West Range areaway with new egress door.</p>	<ul style="list-style-type: none"> - Additional egress doors required for life safety based on the increased building population. - All egress doors will be located at the Castle basement level within below-grade areaways. - Areaways will be screened from view through the proposed landscape planting plan. - Proposed work requires the removal of historic building fabric. - Egress doors may have visibility within the setting and Haupt Garden. - Adverse effect may be minimized in consultation through plantings and path placement as the design is finalized.  <p>Existing egress door at the East Range south areaway.</p>
Proposed Effect Determination – Adverse Effect	

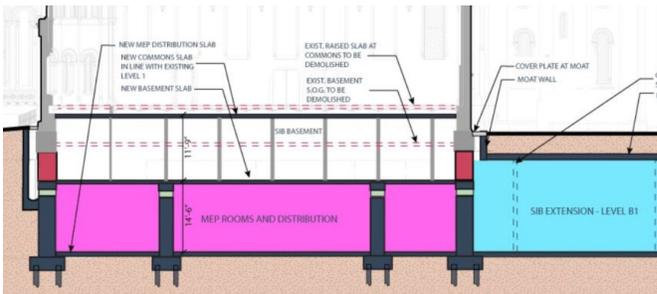
Updated – Text, Effect Determination

Smithsonian Institution Building	
Feature/Action	Design Details
South Entrance - Accessibility	<ul style="list-style-type: none"> - Universally accessible walkway is proposed on axis with the south entrance. - Walkway is flanked with planted areas. - Walkway design does not obscure the architectural features of the decorative south entrance surround. Historic fabric will remain beneath the walkway construction.
Images	Additional Information
 <p>Existing South Entrance conditions.</p>  <p>Detail photograph of the South Entrance door surround colonnettes and partially visible historic stairs.</p>  <p>Proposed South Entrance axonometric view.</p>	<ul style="list-style-type: none"> - Setting is a character defining feature. - South entrance retains historic Seneca sandstone stairs (two risers). - Existing access ramp installed c. 2005 is constructed over the Seneca sandstone historic stairs. - Universal design eliminates the need for a handrail, incorporating the walkway into the Haupt Garden landscape. - Adverse effect is avoided through the use of brick paving and granite curbs in keeping with the Haupt Garden material palette. - Adverse effect is avoided through the design revealing the sandstone door surround colonnettes and top sandstone tread. - Adverse effect is avoided through retaining historic fabric beneath the walkway construction.
Proposed Effect Determination – No Adverse Effect	

Smithsonian Institution Building	
Feature/Action	Design Details
<p>North Entrance - Accessibility</p>	<ul style="list-style-type: none"> - Two universally accessible walkways proposed in a symmetrical plan to the east and west entrances of the North Tower. - Walkways connected to proposed stone landings with Seneca sandstone walls.
Images	Additional Information
 <p>Existing conditions at Jefferson Drive.</p>  <p>Existing site plan.</p>  <p>Proposed site plan.</p>	<ul style="list-style-type: none"> - Setting is a character defining feature. - East entrance to the North Tower features stairs and stone newel posts installed c. 1987. - West entrance to the North Tower features an access ramp installed c. 1987. - North Tower setting features a semi-symmetrical path arrangement to the east and west entrances around undulating planting beds with lush plantings. - Historic fabric will not be removed or obscured by the construction of the walkways. - Adverse effect is avoided through maintaining the existing landscape character and setting through the proposed curvilinear paths, planting beds, and planting diversity. - See Site – Perimeter Security” for more information.
<p>Proposed Effect Determination – No Adverse Effect</p>	

Smithsonian Institution Building	
Feature/Action	Design Details
Excavation Beneath the Castle – Base Isolation and Lowering of the Basement Level	<ul style="list-style-type: none"> - Basement floor level will be lowered 3’ to accommodate public programming. - Seismic base isolation will be inserted.
Images	Additional Information
 <p>Section drawing showing underground construction beneath the Castle. Pink dotted lines indicate the basement level lowering.</p>  <p>Detail section of seismic base isolation. Green shading notes the base isolator.</p>	<ul style="list-style-type: none"> - Castle is an unreinforced masonry building, with a long and narrow profile, and complex building massing. - Castle is at risk for significant seismic related damage, experienced during the 2011 earthquake. - Base isolation separates the building from the ground motion, achieved by creating a plane of separation between the superstructure and the foundations. - Potential construction related adverse effects from excavation beneath and adjacent to the Castle. This will be addressed in the Memorandum of Agreement. - Baseline building conditions and development of a Monitoring Plan required by Stipulation 7.C of the South Mall Master Plan Programmatic Agreement. - Monitoring will start a full year before construction activities for the establishment of a baseline for movement and vibrations. Vibration monitoring required to control vibration during the proposed excavation and other construction activities. Monitoring plans will be provided as the design is finalized. - See also “CUP - Penetrations at Castle Basement Level or Foundations,” “CUP - Extent of Excavation,” and “SIB – Excavation Beneath the Castle for Mechanical Systems” for more information.
Proposed Effect Determination – Adverse Effect	

Updated - Text

Smithsonian Institution Building	
Feature/Action	Design Details
<p>Excavation Beneath the Castle for Mechanical Systems and Distribution</p>	<ul style="list-style-type: none"> - New mechanical level proposed below the Castle basement for building specific mechanical equipment. - Mechanical distribution level is aligned with the existing loading dock, Quadrangle B1 level, and the SIB Expansion.
Images	Additional Information
 <p>Section drawing showing underground construction beneath the Castle. Pink shading indicates the mechanical distribution level.</p>	<ul style="list-style-type: none"> - Mechanical distribution level houses required equipment in addition to the CUP. - Proposed mechanical distribution level reduces the impact of new systems on historic interior spaces. - Mechanical distribution level is 14'6" for sufficient space for operations and maintenance. - Potential construction related adverse effects from excavation beneath and adjacent to the Castle. This will be addressed in the Memorandum of Agreement. - Baseline building conditions and development of a Monitoring Plan required by Stipulation 7.C of the South Mall Master Plan Programmatic Agreement. - Monitoring will start a full year before construction activities for the establishment of a baseline for movement and vibrations. Vibration monitoring required to control vibration during the proposed excavation and other construction activities. Monitoring plans will be provided as the design is finalized. - See also "CUP - Penetrations at Castle Basement Level or Foundations," "CUP - Extent of Excavation," and "SIB – Excavation Beneath the Castle for Mechanical Systems" for more information.
<p>Proposed Effect Determination – Adverse Effect</p>	

Updated - Text

Smithsonian Institution Building	
Feature/Action	Design Details
Rehabilitation of Historic Interiors	<ul style="list-style-type: none"> - Historic interiors will be restored to their appearance within the period of significance of 1847-1910. - Upper Great Hall will return to public use and programming.
Images	Additional Information
 <p>Proposed rendering of the Castle basement.</p>	<ul style="list-style-type: none"> - Principal historic interiors include the Lower Great Hall, Upper Great Hall, Schermer Hall, Children’s Room, Smithson Crypt, and the Commons (West Wing). - Non-historic infill and mezzanine level will be removed from the Upper Great Hall. - Basement level will be reprogrammed for public use. - Sound and salvageable historic material will be reused or restored. - Historic finishes will be restored or replicated. - Modifications to the historic interiors will be in accordance with the <i>Secretary of the Interior’s Standards</i> Rehabilitation approach. - Historic interiors will sensitively accommodate modern system requirements. - Smithsonian does not conduct Section 106 consultation on interior building changes because interior projects are not subject to NCPC review. (See Public Law No. 108-72, 117 Stat. 888, which deems the Smithsonian a federal agency for purposes of compliance with Section 106 of the National Historic Preservation act for projects in the District of Columbia requiring NCPC review and approval.) - Rehabilitation and public use of the historic interiors are a primary goals of the project and are shown for informational purposes. - SI will hold a public informational meeting on the rehabilitation of historic interiors during design development in 2022.
 <p>Proposed rendering of the Commons (West Wing).</p>	

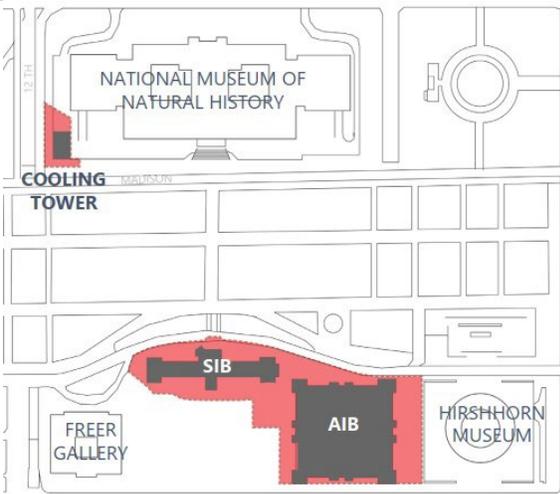
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Arts & Industries Building	
Feature/Action	Design Details
Cumulative Effects	<p>Following actions identified with an adverse effect or potential adverse effect (construction related) for the Arts & Industries Building:</p> <ul style="list-style-type: none"> - Excavation of Basement Level (B1) - Louvers at Courts Clerestory Windows - Egress Doors on East and West Elevations - Areaways - South Entrance – Accessibility - North Entrance - Accessibility
Images	Additional Information
 <p>AIB aerial photograph.</p>	<ul style="list-style-type: none"> - Potential construction related adverse effects from excavation or building vibration. This will be addressed in the Memorandum of Agreement. - Baseline building conditions and development of a Monitoring Plan required by Stipulation 7.C of the South Mall Master Plan Programmatic Agreement. - Monitoring will start a full year before construction activities for the establishment of a baseline for movement and vibrations. Vibration monitoring required to control vibration during the proposed excavation and other construction activities. Monitoring plans will be provided as the design is finalized. - Alterations to historic fabric include removal of historic fabric for new openings, placement of mechanicals to limit visible impact to the National Mall side of the building, and obscuring architectural features associated with accessibility improvements. - Building setting will be altered through egress and mechanical areaways.
<p>Proposed Effect Determination – Cumulative Adverse Effect</p>	

Updated – Text, Effect Determination

Smithsonian Institution Building	
Feature/Action	Design Details
Cumulative Effects	<p>Following actions identified with an adverse effect or potential adverse effect (construction related) for the Smithsonian Institution Building:</p> <ul style="list-style-type: none"> - Roof Modifications – Accessible Elevator Penthouse - East Wing – 4th Floor Egress - Areaways - Windows - New Basement Windows - Basement Doors - Seismic Control Joint - Excavation Beneath the Castle – Base Isolation - Excavation Beneath the Castle for Mechanical Systems and Distribution
Images	Additional Information
 <p>Castle aerial photograph.</p>  <p>Proposed south areaway and landscape treatment.</p>	<ul style="list-style-type: none"> - Potential construction related adverse effects from excavation or building vibration. This will be addressed in the Memorandum of Agreement. - Baseline building conditions and development of a Monitoring Plan required by Stipulation 7.C of the South Mall Master Plan Programmatic Agreement. - Monitoring will start a full year before construction activities for the establishment of a baseline for movement and vibrations. Vibration monitoring required to control vibration during the proposed excavation and other construction activities. Monitoring plans will be provided as the design is finalized. - Cumulative effect of rooftop additions may alter the roof profile or building massing. Further consultation required. - Seismic control joint detailing will adversely effect the base of the Castle, and how its architecture interacts with grade and other building features such as the porte cochere. - Extensive below-grade areaways alter the Castle’s relationship with grade and introduce significant new building features.
Proposed Effect Determination – Adverse Effect	

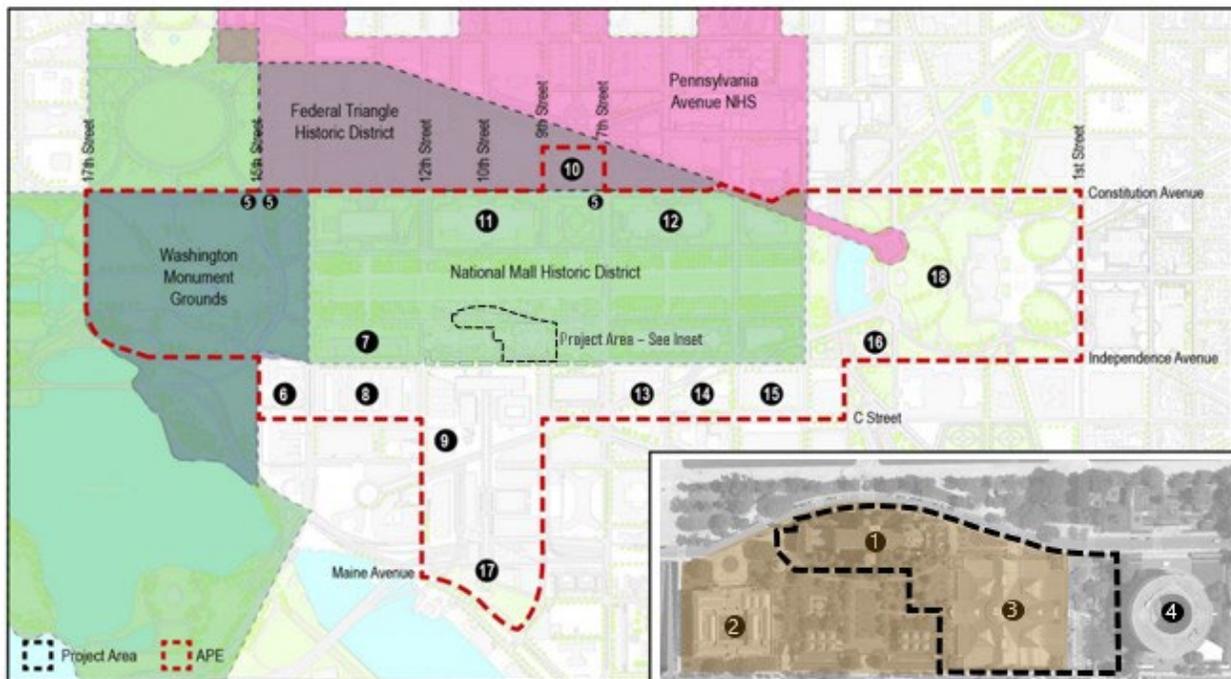
Updated - Text

National Mall Historic District	
Feature/Action	Design Details
Cumulative Effects	<p>Following actions identified with an adverse effect or potential adverse effect (construction related) for the National Mall Historic District:</p> <ul style="list-style-type: none"> - Perimeter Security - Seismic Control Joint - Central Utility Plant Excavation - Castle B1 and Mechanical Distribution Excavation - AIB B1 Excavation - Cooling Towers
Images	Additional Information
 <p>Potential construction staging areas and project limits of disturbance noted with red shading.</p>	<ul style="list-style-type: none"> - Perimeter security adversely effects the setting of both buildings, and relationship with the National Mall context. - Setting is a character defining feature of both buildings. - Potential construction related adverse effects from excavation or building vibration. This will be addressed in the Memorandum of Agreement. - Baseline building conditions and development of a Monitoring Plan required by Stipulation 7.C of the South Mall Master Plan Programmatic Agreement. - Monitoring will start a full year before construction activities for the establishment of a baseline for movement and vibrations. Vibration monitoring required to control vibration during the proposed excavation and other construction activities. Monitoring plans will be provided as the design is finalized. - Haupt Garden, Ripley, Garden, and landscape building settings will be restored in all disturbed areas related to construction. - The 10th Street vista looking north and south is a significant viewshed that contributes to the significance of the National Mall Historic District. - Appearance of two visible plumes from the existing and proposed cooling towers adversely effects the 10th Street vista and the National Mall Historic District. - Temporary construction related impacts will adversely effect the National Mall Historic District.
Proposed Effect Determination – Cumulative Adverse Effect	

Updated – Images, Text

Area of Potential Effects

The area of potential effects is defined as the geographic area within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties. This Assessment of Effects on Historic Resources considered the effects of the Revitalization of the Historic Core project within the below mapped area. This area of potential effects was set by the Programmatic Agreement for the South Mall Campus Master Plan.



Area of potential effects map, noted with the red dotted line. The RoHC project area is noted with the black dotted line on the overall and inset maps.

WITHIN PROJECT AREA		WITHIN AREA OF POTENTIAL EFFECTS	
	National Mall Historic District	Washington Monument Grounds	10 National Archives
	Smithsonian Institution Quadrangle Historic District	Pennsylvania Avenue NHS	11 National Museum of Natural History
	Plan of the City of Washington	Federal Triangle Historic District	12 National Gallery of Art (West Building)
1	Smithsonian Institution Building	2 Freer Gallery of Art	13 Federal Office Building 10B
3	Arts and Industries Building	4 Hirshhorn Museum and Sculpture Garden	14 Federal Office Building 6
		5 Bulfinch Gatehouses and Gateposts	15 Social Security Administration
		6 Auditor's Building Complex	16 United States Botanic Garden
		7 USDA Administration Building	17 Benjamin Banneker Park
		8 USDA South Building	18 U.S. Capitol and Grounds
		9 USDA Cotton Annex	

The historic properties identified in the above maps and table indicate properties that are individually listed in, or have been determined as eligible for individual listing in the National Register of Historic Places.