Site Evaluation Study | Phase II: Analysis and Modeling

Prepared by
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PageSoutherlandPage

for the
Smithsonian
National Museum of African American History and Culture

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I. INTRODUCTION

The purpose of this study is to thoroughly evaluate the four potential sites for the museum designated by the National Museum of African American History and Culture Act of 2003.

As listed in the order of the National Museum of African American History and Culture Act, the sites under consideration are:

- The Smithsonian Institution’s Arts and Industries Building;
- The Monument site at 14th Street, N.W. and Constitution Avenue;
- The Liberty Loan Building site on 14th Street near the Jefferson Memorial; and
- The Banneker Overlook site at the south end of L’Enfant Plaza on 10th Street, S.W.

The National Museum of African American History and Culture (NMAAHC) Plan for Action Presidential Commission was established on December 28, 2001 by Public Law 107-106 to create an implementation plan for the NMAAHC. After the completion of the Commission’s work, Congress considered legislation to establish the Museum, and on December 16, 2003, President Bush signed the National Museum of African American History and Culture Act (PL 108-184) into law. The final site selection decision will be made by the Smithsonian Board of Regents in January 2006.

The Smithsonian Institution contracted with Plexus Scientific Corporation (Plexus), a minority-owned business management consulting and engineering firm, to accomplish this site evaluation study for the NMAAHC. Plexus teamed with the architectural/engineering firm, PageSoutherlandPage, to complete this study.
Four Potential Sites

Aerial View of 3D Model
1. PHASE II STUDY APPROACH

The site evaluation study for the NMAAHC has been organized into two overlapping phases. Phase I occurred between January 2005 and August 2005 and consisted of two major activities: 1) developing the study methodology and approach, and 2) gathering data on each of the four potential sites. The Methodology and Approach Report was completed in February 2005, and the Phase I Data Gathering Report was completed in September 2005.

During Phase II, which began in April 2005 and continued through October 2005, the team analyzed the collected data and the relative significance of the site attributes and characteristics obtained during Phase I. At least two scenarios for each site have been developed, along with model programming and cost analysis. The Arts and Industries Building site – which has the only existing building being considered for the museum – has an additional scenario. This Phase II report also includes a matrix of site evaluation criteria, according to which sites have been rated in terms of advantages and disadvantages.

The final Phase II study does not include a recommendation for a preferred site. Rather, it is intended to provide the Smithsonian Institution Board of Regents with a comprehensive, objective source of information on the potential museum sites.

Specific activities undertaken during Phase II included:

- Investigating the opportunities and limitations of the four designated sites;
- Establishing site development criteria and at least two “build out” scenarios for each site;
- Preparing blocking, stacking and massing diagrams for each scenario;
- Identifying the order of magnitude construction costs for each site scenario;
- Developing the evaluation matrix;
- Assigning qualitative ratings for each site criterion (Positive, Negative, or Neutral); and
- Providing a Final Phase II Report.

a. Report Layout

This study draws on previously recorded data that has been verified, as well as newly discovered and compiled information.

- Section I, the Introduction, reviews the evaluation criteria and presents a summary of background information that was included in the Phase I report.
- Section II presents site characteristics and model scenarios for each of the four sites, along with estimated costs for each scenario.
- Section III includes the Site Evaluation Matrix and Assessment Narrative.

b. Site Criteria

Seven major criteria have been identified as site evaluation subjects. Sub-criteria have been added to the matrix to provide further detail. The criteria are:

1) Location: Some stakeholders find great symbolism to being located on the central Mall among the row of other national museums. Others simply desire proximity to other cultural institutions and monuments, especially those related to African American history and culture. The Mall is significant, not only for its symbolism, but also as the central axis of the District’s monumental core. However, as the demand for new memorials and museums in the nation’s capital continues to grow, some parties have raised concerns that construction of these attractions will overwhelm the historic open space on the Mall. Other location criteria included the visitation potential of each site, the view each site has of significant landmarks, and how visible the new museum would be from other attractions and viewpoints.
2) **Compatibility with Planning Efforts:** Each of the sites has been evaluated as to how it would impact or be affected by previous plans for Washington, D.C.: L’Enfant Plan (1791); McMillan Plan (1901); The National Park Service National Mall Master Plan (1972); Extending the Legacy: Planning for America’s Capital for the 21st Century (1997); Memorials and Museums Master Plan (2001); and the Federal Elements of the Comprehensive Plan for the National Capital (2004).

3) **Existing Site Conditions:** The site development possibilities and limitations were evaluated, including sufficient acreage for a viable program and building footprint, program events outside the building envelope, security standoff distances, sightlines established by adjacent buildings, opportunities for architectural expression and sustainable design, compatibility with area zoning, existing landscape features and availability of utilities.

4) **Transportation:** Transportation issues were evaluated at each site, including vehicular, pedestrian and bicyclist access to the sites, vehicular traffic volumes on surrounding roadways, and availability of parking and public transit.

5) **Environmental Factors:** Existing environmental factors for each site were identified and evaluated, including subsurface conditions, hazardous materials (including any known or anticipated presence of material that will need to be abated during construction or demolition, such as asbestos, lead-based paints, PCBs, etc.), landforms (including elevations and flood risk), climate, air quality and odors, and noise levels generated by vehicular traffic.

6) **Order of Magnitude of Costs:** Basic budget estimates that include costs for site acquisition (if applicable), demolition (if applicable), construction and site development, equipment, furnishings, design contingency, construction contingency, escalation, design fees, construction management fees, relocation costs (both Smithsonian and non-Smithsonian, if applicable), and start-up and opening costs were developed and evaluated. The intent was to develop reasonable, order of magnitude costs so that a fair comparison between each scenario could occur. These estimates were prepared using Uniformat II, Level 2-3. The quality of methods and materials was assumed to be similar to that used for the National Museum of the American Indian building. Cost sharing opportunities and any other special considerations were also evaluated.

7) **Review Agency and Public Support:** The law creating NMAAHC required the Smithsonian to consult with specified individuals during the site selection process. The Secretary of the Smithsonian requested their written comments on the NMAAHC site selection criteria via letters mailed on February 15, 2005. The Smithsonian also voluntarily sought feedback from other groups and received some unsolicited comments. Summaries of comments, both solicited and unsolicited, are presented, beginning on page 20.

c. **Evaluation Matrix Rationale**

All site scenarios have been evaluated against the common set of criteria noted above. These criteria represent objective factors normally used by planning boards to assist them in making decisions. The evaluation factors represent the collective professional opinion of the Smithsonian staff, Plexus Scientific Corporation and PageSoutherlandPage. The factors are based on experience with similar studies and have been tailored to the specific requirements for a National Museum of African American History and Culture.

The primary purpose of this study is to provide a fair and objective technical evaluation of each site scenario to assist the Smithsonian Board of Regents in its final site selection.
2. SUMMARY OF PAST EFFORTS

a. Presidential Commission Work

The National Museum of African American History and Culture Plan for Action Presidential Commission was established December 28, 2001, by Public Law 107-106, to create an implementation plan for the NMAAHC. The Commission produced two reports: “The Time Has Come” (April 2003) and “Final Site Report” (September 2003). These reports recount the history of efforts to gain approval and commitment from the federal government to authorize and move forward on a national museum to recognize the history and contributions of African Americans. The reports also chronicle the site consideration efforts of the Presidential Commission, which resulted in the recommendation of eleven potential museum sites on or adjacent to the National Mall in Washington, D.C.

The number of sites was eventually reduced to five, including the Arts and Industries Building site, which, while not one of the Commission’s recommended sites, was specifically included in the enabling legislation. Subsequent legislative action in December 2003 reduced the number of potential sites to the four which are the subject of this study.

Following the completion of the Commission’s work, the National Museum of African American History and Culture Act, Public Law 108-184, was signed into law by President George W. Bush on December 16, 2003. The Act required the Smithsonian Institution Board of Regents to select a museum site. The Smithsonian began work on this site evaluation study upon receipt of Congressional funding in December, 2004. The Board of Regents will make a site selection decision at its January 2006 meeting.

b. Phase I Work

The Site Evaluation Study Phase I – Data Gathering Report for the National Museum of African American History and Culture was the final product of efforts from January 2005 through July 2005 to collect and organize data on each of the four potential sites. Data gathering was accomplished through site visits, research of past studies and construction documents, website searches, interviews, and meetings. The report serves as a reference source for this Phase II report.

3. COMMON SITE ISSUES

All four sites are located in downtown Washington, D.C., and all are within less than one mile of each other. The Monument site and the Arts and Industries Building site are on the National Mall, and Liberty Loan and Banneker Overlook are just south of the Mall. The sites share common connections, including:

a. Vicinity and Regional Plans

Planning for the downtown area has evolved considerably from the original 1791 L’Enfant Plan. Major planning efforts, including and following that initial plan, are summarized below:

L’Enfant Plan (1791): As the first plan for the Nation’s capital, L’Enfant’s plan shows a series of large buildings on the north and south sides of the Mall. Two such buildings are shown on the A&I Building and Monument sites.

McMillan Plan (1901): Over one hundred years later, one of the objectives of the McMillan Plan was to restore the framework and grandeur of the L’Enfant Plan. The McMillan Plan envisioned impressive government and museum buildings on the north and south sides of the Mall. Two such buildings are shown on the A&I Building and Monument sites.

National Park Service National Mall Master Plan (1972): This plan, prepared by the National Park Service (NPS), reinforced the National Mall as a single, grand open space, preserving it “as a setting for national memorials and buildings.” Open spaces shown on the
plan, which included the Monument site, were intended to remain open. Changes to the NPS Master Plan have been allowed for other designated, open space sites when involving the construction of the type of significant structures that were envisioned by the McMillan Plan, including the East Wing of the National Gallery, Holocaust Museum, Hirshhorn Museum, National Museum of the American Indian, and the WWII Memorial. In the case of Smithsonian museum buildings, the land reservations were transferred to the Smithsonian Institution, and therefore, left the purview of this plan.

**Extending the Legacy: Planning for America’s Capital for the 21st Century** (1997): Prepared by National Capital Planning Commission (NCPC), the Legacy Plan concluded that unabated construction of memorials and museums in the Washington Monumental Core would overwhelm the historic open space on the National Mall and surrounding area. Instead of continued construction on the Mall, this plan suggested that all new museums and memorials, as well as new public buildings and infrastructure, be dispersed to all quadrants of the city to help generate economic development and renewal in other parts of Washington, D.C.

**Memorials and Museums Master Plan (2001):** This plan, which extended the Legacy Plan’s vision for the Monumental Core, identified planning objectives and 100 potential sites for museums and memorials, and provided guidelines and criteria for siting and implementation. Both Banneker Overlook and Liberty Loan sites are listed as candidate sites.

**Comprehensive Plan for the National Capital: Federal Elements (Amended 2004):** This is the most recent planning effort that supports the intentions of the Legacy Plan.

**Anacostia Waterfront Initiative:** A corporation chartered in 2005 is overseeing a revitalization of the Southwest Waterfront area, which could physically connect the waterfront area to the Mall. The Banneker site overlooks the waterfront.

### b. History of Study Area

**History of the National Mall**

As discussed above, all four potential sites are either on or within a few blocks of the Mall, which is the central axis of the District’s Monumental Core, as originally designed by Pierre L’Enfant. The Mall was to be the foremost avenue of the city, the so-called “Grand Avenue.” It was to run west from the Capitol to a point directly south of the President’s House, where its terminus would be crowned by an equestrian statue of George Washington.

Throughout the 19th century, L’Enfant’s formal design for the Mall was largely forgotten, and the area was used for military purposes during the Civil War.

In 1902, a new plan was submitted to Congress. The McMillan Plan called for the restoration, development, and supplementation of the “Grand Avenue” idea proposed by L’Enfant. The plan extended the National Mall to the west and south to form new parkland (the Potomac Park).

In the 1960s, the National Park Service commissioned a new Washington Mall Master Plan. The NPS Master Plan, which was approved in 1972, reinforces the concept of a single, grand open space to provide better public facilities and to preserve the Mall “as a setting for National memorials and buildings.”

Today, the greater area of the National Mall extends for approximately two miles, from the U.S. Capitol to the Potomac River. It is the central hub of tourist activity, as it contains many of Washington, D.C.’s most famous attractions, and it is also considered the heart of the city’s cultural and recreational resources.
McMillan Plan (1901)
Extending the Legacy Plan (1997)
Memorials and Museums Master Plan (2001): Banneker Overlook and Liberty Loan are both listed as Candidate Sites, Source: NCPC

Waterfront Initiative (2005): (left to right) Anacostia Park East Bank, Bolling Anacostia Waterfront, SW Waterfront, Anacostia Park’s West Bank, Source: NCPC
**African American History**

African Americans have a strong connection to the study area, as there has been an African American presence on the Mall and surrounding areas from the very inception of the nation’s capital. This connection includes the fact that slaves were sold in markets on, and in close proximity to, the Mall. In the pre-Civil War period, laborers, carpenters, and masons – both slave and free – helped build many of the historic structures on the Mall. This African American contribution continued from the post-Civil War era to current times and included the great National Mall area.

Benjamin Banneker, an African American for whom one of the potential sites is named, played a central role in L’Enfant’s original plan. Banneker was a self-taught mathematician and astronomer, and one of the few free blacks living in the vicinity. He assisted Major Andrew Ellicott in laying out forty boundary stones at one-mile intervals, based on celestial calculations, to establish the boundaries of the District of Columbia. Banneker and Ellicott worked closely with L’Enfant, and according to some, Banneker recreated the plans from memory when L’Enfant was dismissed from the project and took his plans with him.

On August 6, 1926, two thousand African Methodist Episcopal Zion Church members met on the west end of the National Mall and held the first civil rights rally. And in 1939, black activists won a permit for a Lincoln Memorial recital by Marian Anderson, who had been turned away from Constitution Hall by the explicit “white artists only” policy of the Daughters of the American Revolution.

Dr. Martin Luther King, Jr. gave his famous “I Have a Dream” speech at the Lincoln Memorial on August 28, 1963. Midway between the Lincoln and Jefferson Memorials, along the Tidal Basin, a bronze plaque was placed in 2000 to mark the spot where a statue of Dr. King will one day stand.

The Liberty Loan site has no known direct connection to African American history.

The Banneker Overlook site along the southern waterfront was originally part of the Notely Young Plantation in the late 1700s. Notely Young owned a number of farms in the area and reported owning 265 slaves in a 1790 census. The southern waterfront of the capital was the site of the near escape in 1848 of 77 slaves aboard the coastal schooner Pearl from the wharf at the end of 7th Street. Anthony Bowen, an educator and former slave, also made his home in the waterfront area a stop on the Underground Railroad.

**c. Points of interest within a one-mile radius of sites**

Each of the four final sites is located within one mile of a number of popular tourist attractions, including:

- The U.S. Capitol Building
- The White House and the Ellipse
- House and Senate Office Buildings
- Smithsonian National Portrait Gallery and Smithsonian American Art Museum (Patent Office Building)
- The National Gallery of Art east and west facilities and the Sculpture Garden
- Botanical Gardens
- Union Station
- Smithsonian Renwick Gallery
- Corcoran Gallery of Art
- National Archives
- National Theater
- Warner Theater
Smithsonian Institution-National Museum of African American History and Culture

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- Ford’s Theater and Lincoln Museum
- Shakespeare Theater
- The Navy Memorial
- D.A.R. Museum
- Latin American Art Museum
- National Aquarium
- MCI Center
- Martin Luther King, Jr. Memorial Library
- The Spy Museum
- The Old Post Office
- The Tidal Basin and Cherry Trees
- Sylvan Theater
- The Washington Monument
- WWII Memorial
- D.C. War Memorial
- Vietnam Veterans Memorial
- Korean War Memorial
- Franklin D. Roosevelt Memorial
- Thomas Jefferson Memorial
- The Lincoln Memorial
- The Holocaust Museum
- U.S. Department of Treasury, Bureau of Engraving and Printing
- Children’s Museum, moving from near Union Station to 10th near D Street, S.W.
- The planned Martin Luther King, Jr. Memorial, to be located on the north side of the F.D.R. Memorial.

Not listed are the numerous federal buildings and agencies, and other lesser known plazas, statues, museums, memorials, theaters, libraries, and institutions that are within or just outside the one-mile radius of all the sites. The recently renovated Arena Stage and the planned new baseball stadium are also noteworthy facilities located approximately one mile and a half away from the sites.

d. Zoning and Land Use

Each of the potential sites is zoned for government use, and areas adjacent to each site are zoned as follows:

- Arts and Industries Building: Government. The adjacent area to the south is zoned C-3-C: Major business and employment centers of medium to high density.
- Monument Site: Government. The site is surrounded by property also zoned for Government use.
- Liberty Loan: Government. The adjacent area to the east is zoned C-3-C: Major business and employment centers of medium to high density.
- Banneker Overlook: Government. North of the site, areas are zoned C-3-C: Major business and employment centers of medium to high density; to the east, the area is zoned C-3-B: medium density business and mixed-use residential; W-1: low density residential, commercial and light industry exist along the waterfront to the south; and R-3: single family residential, churches and schools are southeast of the site.

e. Flood Zones

Two sites, Liberty Loan and Banneker Overlook, are located adjacent to the 100-year floodplain. A major portion of the Monument site is within the 100-year floodplain. This site also experiences localized flooding during heavy rains, due to localized conditions and an undersized storm water drainage system.

f. Public Transportation Systems

Public transportation within the Washington, D.C. area is provided by a large, urban mass transit system, commonly called the “Metro,” which is operated by the Washington Metropolitan Area Transit Authority.
The closest Metrorail stations – the Federal Triangle, Smithsonian, L'Enfant Plaza and Archives/Navy Memorial – are between two to four city blocks from each site.

The L’Enfant Plaza also has a Virginia Railway Express (VRE) station where transfers to and from city buses (Metrobus) and Metrorail can be made. Metrobus operates routes that travel past all four sites. These bus routes can be adjusted to better serve any future new museum location. Taxi service is also available to all four sites.

The Downtown Circulator began service in July 2005, operating a daily network of two shuttle bus routes which will later expand to four. The routes connect landmarks and entertainment locations throughout the city and include stops at several Metro stations. The Circulator could provide service to all four potential sites.

“Tourmobile” is the only commercial sightseeing service federally authorized to operate on the National Mall. It offers narrated tours with stops at museums, major memorials and monuments, as well as at government and historic buildings. The National Park Service (NPS) is currently studying visitor transportation services for the future. Based on input from NPS, which manages the contract for the sightseeing service, there is reason to believe that visitor transportation services would expand existing routes to serve a new major museum as it did for the F.D.R. Memorial.
Adjacent Structures and Proximity to National Mall
Zoning/Land-Use

All proposed sites zoned for government use
100-Year Floodplain
Downtown Metro Routes and Stations

Source: District of Columbia Downtown Circulator Implementation Plan
Downtown Circulator Routes

Source: District of Columbia Downtown Circulator Implementation Plan
Site Lines

PROPOSED NMAAHC SITE

SITE LINES

ADJACENT BUILDING ALIGNMENTS

MAJOR AXIS
4. OUTSIDE GROUP POSITIONS

Required Consultations

The law creating NMAAHC required the Smithsonian to consult with the specific individuals during the site selection process. The Secretary of the Smithsonian requested comments on the NMAAHC site selection criteria from the following people via letters mailed or delivered on February 15, 2005:

- The Chair of the National Capital Planning Commission
- The Chair of the U.S. Commission of Fine Arts
- The Chair and Vice Chair of the NMAAHC Plan for Action Presidential Commission
- The Chair of the Building and Site Subcommittee of the NMAAHC Presidential Commission
- The Chair and ranking minority members of the following congressional committees (the Smithsonian’s authorizing and appropriations committees in the U.S. Congress):
  - U.S. Senate Committee on Rules and Administration
  - U.S. House of Representatives Committee on House Administration
  - U.S. House of Representatives Committee on Transportation and Infrastructure
  - U.S. House of Representatives Committee on Appropriations
  - U.S. Senate Committee on Appropriations

The following comments were received from individuals with whom the Smithsonian was required to consult. Individuals not listed below did not respond to the Secretary’s letter requesting consultation.

John V. Cogbill, III, Chairman, National Capital Planning Commission (NCPC)

Mr. Cogbill stated that a schematic building program was “necessary to properly determine the appropriateness of each potential site for use as the future museum” and recommended that Smithsonian staff and consultants develop such a program. During a briefing on October 6, 2005, representatives of NCPC indicated that they support both the re-use of the A&I Building and the Banneker site.

In a subsequent, unsolicited letter, NCPC staff conveyed additional comments, reiterating the need for a schematic program and noting historic connections related to the African American experience at the Banneker Overlook and the A&I Building sites. The letter also pointed out the symbolic qualities at each site: the Banneker Overlook site relates to the river and “Middle Passage;” Liberty Loan is in proximity to current and future monument sites; the A&I Building is related to hope for the future at the end of the reconstruction period; and the Monument site symbolizes the value of open space on the National Mall. Staff noted that, while the Commission believed the Museum should be on the Mall, the Mall boundaries could be redefined in the future. NCPC is “committed to ensure that the location and design of the museum are of the highest quality and appropriately celebrate the important contributions of African Americans to our nation’s history.”

Thomas Luebke, Secretary, U.S. Commission of Fine Arts (CFA)

The Commission Chair did not respond directly, but provided consultation through a letter from the Commission Secretary. Mr. Luebke stated that “whatever the final location,” the Commission “continues to advocate for the highest quality design.” The Commission “found that the criteria and process that have been established for the site selection were appropriate and applicable.” They felt the Smithsonian should not move forward “without a well-defined building program.”

Smithsonian staff and consultants briefed CFA on the study analysis and findings on October 20, 2005. The commissioners expressed
concern about the fate of the Arts and Industries Building. They stated that, if there were already plans for the building to be renovated in the future, the Smithsonian should seriously consider it for re-use as the NMAAHC. This briefing and the letter from CFA that will follow will conclude the consultation on the site evaluation with CFA.

**Dr. Robert L. Wright, Chairman Emeritus, NMAAHC Plan for Action Presidential Commission**

Dr. Wright reiterated the recommendations of the Presidential Commission that the location for the museum should be on the Mall. As a result, he expressed his preference for the Monument site, due to its high visibility, its accessibility to visitors, and its proximity to the National Museum of American History.

**Claudine Brown, Vice Chairman Emeritus, NMAAHC Plan for Action Presidential Commission**

Ms. Brown favors locating the Museum at the 14th and Constitution Avenue (Monument) site because it offers a highly visible and accessible location on which an “artfully designed, state-of-the-art facility” can be built. She also favors this location because its proximity to the National Museum of American History would “remind visitors that African American history is American history.” She believes that the Arts and Industries Building is not a suitable location because its space is insufficient to accommodate the range of collections and programs that the Museum should feature.

**Robert Wilkins, Chair, Site and Building Subcommittee, NMAAHC Plan for Action Presidential Commission**

Mr. Wilkins reiterated the Presidential Commission’s stance strongly recommending the 14th Street, N.W. and Constitution Ave (Monument) site for the new NMAAHC. He noted specifically that the Mall location would 1) “give voice to the centrality of the African American experience”; 2) represent equality which will “fulfill a quest for human dignity” that African Americans have struggled to achieve; and 3) “contradict the subjugation and segregation African Americans have fought for years.”

The A&I Building location is prominent, but the building’s square footage is too small for the museum’s 350,000 SF program. It will be difficult to control temperature and humidity due to its age and condition, and providing the additional needed space would require costly, below-grade construction.

The Liberty Loan site is not on the Mall and therefore is inappropriate. Small and relatively inaccessible, the site has a large structure that would need to be demolished and tenants who would have to be relocated.

The Banneker Overlook site is not on the Mall and therefore inappropriate. It “is nearly half a mile from the Smithsonian Castle, would require significant enhancements to L’Enfant Promenade, is cut off visually from the Mall by the Forrestal Building, and would require complex coordination with the other stakeholders on the site.” Fundraising for a site off the Mall is also seen as much more difficult.

**Senator Trent Lott, Chairman, Senate Committee on Rules and Administration**

Chairman Lott stated that the NMAAHC site selection criteria developed by the Smithsonian “seems appropriate and comprehensive” and that he was pleased that the Institution had engaged expert contractors to aid them in the information gathering and analysis process.

**Senator Thad Cochran, Chairman, Senate Committee on Appropriations**

Senator Cochran, who is also a Member of the Smithsonian Board of Regents, was pleased to learn of the site selection criteria and expressed his desire to be kept informed of the plans as they move forward.
Representative Juanita Millender-McDonald, Ranking Member, House of Representatives Committee on House Administration

Rep. Millender-McDonald’s principal concerns were location and access, since both would be paramount to launching any successful museum. In her opinion, the Arts and Industries Building and the Constitution Avenue (Monument) sites best meet these goals.

Voluntary Consultations

The Secretary of the Smithsonian also voluntarily requested written comments on the NMAAHC site selection criteria from the following individuals via letters mailed or delivered in early March 2005:

- Senator Sam Brownback, Sponsor of NMAAHC Legislation
- Representative John Lewis, Sponsor of NMAAHC Legislation
- Representative Melvin Watt, Chair of the Congressional Black Caucus
- District of Columbia Mayor Anthony Williams
- Members of the District of Columbia City Council
- Donald Williams, Regional Administrator, National Capital Region, General Services Administration
- Lisa Burcham, District of Columbia Historic Preservation Officer
- Judy Scott Feldman, President, National Coalition to Save Our Mall

The following comments were received from individuals with whom the Smithsonian voluntarily consulted. Individuals not listed below did not respond to the Secretary’s letter requesting consultation.

Senator Sam Brownback, Sponsor of NMAAHC Legislation

Senator Brownback urged the Regents to be mindful of the ideas the museum was designed to showcase (i.e. “the perseverance of African Americans in their struggle for freedom and equality.”) He expressed his desire for the museum to be a catalyst for racial reconciliation in American society. “It is essential that the site selected for NMAAHC encompass national presence – on or adjacent to the National Mall.”

Mayor Anthony Williams (via Stanley Jackson, Deputy Mayor, Planning and Economic Development)

Deputy Mayor Jackson relayed that, absent consideration for environmental and special conditions for each site, the District is not able to fully evaluate the sites at this time. The following site specific inputs were offered:

The Banneker Overlook site is favored by the District, as it sees the site as an opportunity to partner with the Smithsonian to transform the Southwest Waterfront, a redevelopment being led by Anacostia Waterfront Corporation. The Banneker site is the largest site under consideration, and it affords an opportunity to provide a “critical connection” between the National Mall and the Southwest Waterfront. DDOT plans to develop an Intermodal Transportation Center (ITC) under the Banneker site, and major investments planned for the L’Enfant Promenade will ensure a new, positive role for the Promenade in the context of the Monumental Core.

The new National Children’s Museum will be constructed along L’Enfant Promenade in 2008, and both the ITC and National Children’s Museum are anticipated to draw visitors who could patronize the NMAAHC at this location as well. The District also noted the historical connection of African Americans to the Southwest Waterfront area through the slave trade and early land ownership of the Banneker site by a wealthy plantation farmer who owned slaves.

The A&I Building location has high foot traffic and central visibility on the National Mall, but the site is not desirable because the stated size is well below the 350,000 GSF desired for NMAAHC. Also, any demolition proposal would be extremely controversial and costly.

The Liberty Loan site is not desirable because the stated size is
well below the 350,000 GSF desired for NMAAHC, and because any demolition proposal would be controversial. The location is considered “marginal with virtually no synergy with existing or planned museums.”

The 14th, 15th and Constitution (Monument) site has high visibility and easy access, and it will benefit from a healthy flow of tourist, resident, pedestrian and vehicular traffic. As the location provides a comparable status to the National Museum of American History, the National Museum of the American Indian and the Holocaust Museum, it would prevent the museum from looking marginal or less significant in comparison. The location would also allow the use of the grounds and adjacent National Mall for exhibits and cultural events. Concerns exist, however, about a potentially negative impact on the Washington Monument grounds, as well as about the size of a developable NMAAHC building footprint. The footprint would be dramatically limited by setbacks to allow existing federal and Smithsonian buildings to maintain their architectural prominence. This could limit the potential to capitalize on the site’s high visibility location.

General Services Administration

The General Services Administration (GSA) owns the Liberty Loan Building and leases it to the Department of Treasury. While a formal written position has not been submitted to the Smithsonian, GSA staffers indicated that both they and the Treasury Department are opposed to the NMAAHC on this site due to the requirement to relocate 500 Treasury employees into more expensive leased versus owned space. The Liberty Loan Building is in good condition, and current leasing arrangements provide a positive cash flow for the Federal Government. If the Liberty Loan site is selected, both GSA and the Treasury Department would request additional funding to implement a move and to meet increased annual lease expenses.

Judy Scott Feldman, President and Charles Cassell, Vice Chair, National Coalition to Save Our Mall

The National Coalition to Save Our Mall, a nonprofit citizen’s organization opposed to new construction on the Mall, wrote in support of selecting the Banneker Overlook site for NMAAHC. The Coalition has recently released “Third Century Plan for the Mall,” which envisions a planned expansion of the current Mall that would tie together waterfront parks and open space. This new concept for the Mall, if accepted, would mean that the Banneker site could one day be considered as a site located “on the Mall.” The Banneker site is also appropriate because it already has a connection to African American history; it would create a strong connection to the Smithsonian Castle; it is the largest site (offering more architectural freedom); and it revitalizes the L’Enfant Plaza area.

Unsolicited Consultations

The following individuals submitted unsolicited written comments to the Smithsonian on the NMAAHC site selection process:

Members of the U.S. Commission on Civil Rights

The U.S. Commission on Civil Rights urged the Smithsonian Institution’s Board of Regents to select a prominent site on the National Mall. “The placement of the [NMAAHC] on the Mall in Washington, D.C. would appropriately signify the great importance of the cultural contributions of black Americans to American History.”
5. ACKNOWLEDGEMENTS

Numerous agencies, organizations and contacts generously provided materials and input upon request. The study’s authors are grateful to personnel within the Smithsonian Institution; the National Park Service (NPS); the District of Columbia Office of Planning (OP) and Department of Transportation (DDOT); the Anacostia Waterfront Corporation; the National Capital Planning Commission (NCPC); the U.S. Commission of Fine Arts (CFA); past Presidential Commission contractors Interior Systems Inc. and subcontractor E. Verner Johnson & Associates; the General Services Administration (GSA); U.S. Department of Treasury; and many other organizations and individuals interested in the successful future of the NMAAHC.

End notes

1 The Presidential Commission’s most highly recommended site was removed from consideration by Congress in enacting P.L. 108-184. This was the Capitol site just north of the Capitol Reflecting Pool, at the beginning of Pennsylvania Avenue, N.W. This action reduced the number of sites to the four that are the subject of this study.
2 Final Site Plan, NMAAH Plan for Action Presidential Commission.
4 The Time Has Come – Report to the President and to the Congress, NMAAH Plan For Action Presidential Commission, October 2003.
II. EXISTING SITE CHARACTERISTICS AND MODEL SCENARIOS

1. MUSEUM REQUIREMENTS ASSUMPTIONS

The Final Site Report prepared by the Plan for Action Presidential Commission included a preliminary “strawman” program of space requirements for the NMAAHC of 350,000 gross square feet GSF. Assumptions from the earlier study were reviewed and re-evaluated in this study and were considered reasonable.

In this study, the museum model has been sized at 350,000 GSF, which is used as the point of departure for scenario development. The 350,000 GSF would include the 270,000 net square feet (NSF) of assignable area plus an additional 80,000 SF that account for wall thicknesses, building circulation, mechanical systems and building structural elements. A multiplication factor of 1.3 times the net square feet was used to predict the total gross square feet of the NMAAHC.

Additional programming considerations include the possibility of off-site storage, three to five reserved parking spaces, and a bus lay-by area. Consideration also should be given to creating special events spaces for both outside and inside activities at all sites. The entries and exits to these areas need to be controllable for after hours access.

Floor to floor height was considered while developing the scenarios for each site, both in the context of surrounding structures and for interior space. A minimum of 15 feet is required for office, administration and exhibition support areas, 30 feet for exhibit spaces, and 45 feet to accommodate a theater.

Fifty-foot setbacks for security were considered for all scenarios except for the A&I Building site, due to the constraints of the site. Instead, consideration was given to hardening the existing structure.

An Intermodal Transportation Center (ITC) has been proposed for the minimum scenario for the Banneker Overlook site to accommodate the plans of the District of Columbia.

2. CLARIFICATION OF SCENARIO OPTIONS AND COST ESTIMATES

a. Scenario Options

Minimum build-out: This scenario is based on the gross square footage of structure that can be comfortably accommodated above and below ground on a particular site. It takes into account required site lines, building height limitations, security setbacks, floor-to-floor clearances for interior spaces, and pedestrian and vehicular access to the site. The minimum build-out scenario considers opportunities for creating space for outdoor activities, although these are not included in the gross square footage of the structure. In the case of the A&I Building, the minimum build-out area retained the existing building envelope boundaries, even though they exceeded the security setback requirements.

Maximum build-out: This scenario allows the greatest amount of gross square footage of scenario that can be accommodated above and below ground on a particular site, taking into account site lines, building height limitations, security setbacks, floor-to-floor clearances for interior spaces, and pedestrian and vehicular access to the site. The maximum build-out scenario considers opportunities for creating space for outdoor activities. Again, these opportunities are not included in the gross square footage of the structure.

Floors or Levels: Floors or levels of the potential build-outs are equivalent to “office” floors, which are 15 feet floor to floor. Integrated within each office floor are spaces that require larger clear spans, such as 30 feet for exhibit spaces and 30 to 45 feet for theater or performance spaces.
b. Cost Estimates

The cost estimates are based on the museum being classified as a “Monumental Structure.”

*Please note: for cost estimating purposes, all build-out square footages have been rounded off.*

Based on the stage of development of this project, a contingency of 50% has been added to the basic building costs. This is an appropriate percentage according to the Association for the Advancement of Cost Engineering, International guidelines.

Antiterrorism/Force Protection costs include physical security features to protect the structure from a basic threat. These features include laminate or blast resistant windows and doors on the lower levels and anti-ram protection on the exterior, i.e. bollards, heavy landscaping, etc.

Site/Infrastructure costs are based on 30% of the facility cost. These costs include all site utilities, civil and land clearing. They do not include any site improvements such as an amphitheater, pavilion, park setting, etc.

Construction Management includes supervision, inspection and overhead for the agency overseeing the construction project.

Design and Engineering costs include all A/E fees associated with this project, once design has begun. Some of the typical fees include geotechnical surveys, acoustics, security, value engineering, and permits.

Additional, site-specific considerations are noted on the cost estimate for a particular site.
Program Organization Diagram

Adapted from: Presidential Commission Report
Space Study Model
ARTS & INDUSTRIES

Existing Conditions
3. ARTS AND INDUSTRIES BUILDING SITE SCENARIOS

a. Site and Building History

The Arts and Industries (A&I) Building was constructed between 1879 and 1881 as the “National Museum” and was the Smithsonian’s first building designed specifically for exhibitions. The Victorian-style building was designated a Historic Landmark in 1971 and is listed on the National Register of Historic Places. It is considered to be a vital component of the National Mall Historic District.

The A&I Building is located just east of the Smithsonian Castle Building. It is bordered on the north by Jefferson Drive and the National Mall, on the east by the Mary Livingston Ripley Garden and the Hirshhorn Museum and Sculpture Garden, on the south by Independence Avenue, and on the west by the Enid A. Haupt Garden. Underground structures abutting the A&I Building include the 9th Street tunnel on the east and the Smithsonian Quadrangle Building, which houses the Arthur M. Sackler Gallery, the National Museum of African Art, and the S. Dillon Ripley Center. Within the Haupt Garden are pavilion structures that allow visitors to access each of the Quadrangle Building features. Underground structures also include a small tunnel for Smithsonian staff use at the northwest corner of the A&I Building, which connects the building with the Castle.

The land on which the A&I Building is located is part of the original land appropriation by Congress in 1846 for the establishment of the Smithsonian Institution. On March 3, 1879, a Congressional appropriation act provided $250,000 for the construction of a fireproof building to be used as the National Museum.

Originally a one-story, 102,200 SF building, the National Museum initially exhibited materials from the Centennial Exposition in Philadelphia. The future name of this museum was in fact derived from the theme of the exposition. The sculpture above the entrance, created by Caspar Buberl of New York, depicts the figure of “Columbia as Protectress of Science & Industry,” and the two-seated figures are "Science and Industry." In 1910, its name was changed to the Arts and Industries Building, following the removal of all natural history collections from the building to the newly constructed National Museum of Natural History.

The large, open building, which had abundant windows and natural light, was designed by the prominent Washington architectural firm, Cluss and Schulze. Decorative brick patterns adorn the exterior, and stone ornamentation accentuates the entrances to the building. The building has a large rotunda, a symmetrical Greek cross floor plan and exterior gardens. Vibrantly colored materials decorate and accentuate the brickwork in portions of the exterior walls, windows, entry way and interior. The superb craftsmanship found throughout the building is indicative of the trades prevalent during the time of its construction.

The past several decades have brought many physical changes to the once open and airy exposition hall. Courtyards and galleries have been closed off, office spaces have been added, and mechanical systems were updated. Previous renovations have altered the building to such an extent that it can no longer function as originally intended.

b. Existing Site Conditions

The A&I site encompasses approximately 143,000 SF, or 3.25 acres, including the existing building, adjacent parking lot and sidewalks. The two-story, 185,000 GSF structure has approximately 102,200 NSF on the first floor and 67,800 NSF on the second floor (which was added at a later date). The 9th Street tunnel on the east side of the building and the underground National Museum of African Art on the west side limit potential expansion options.

Circulation and Transportation

The site of the A&I Building has multiple options for entry and access and is in close proximity to several modes of public transportation, including Metrorail, Metrobus, Downtown Circulator, and Tourmobile.
Roads for vehicular traffic border the site on the north (Jefferson Drive) and south (Independence Avenue) sides. Independence Avenue is a six-lane, two-way arterial, which carries a moderate volume of traffic. Jefferson Drive is a one-way street beginning at 15th Street and continuing east past the A&I Building site, terminating at 3rd Street. This road carries heavy tour bus and vehicular traffic.

Before its closure to the public in 2004, the A&I Building could be accessed by pedestrians via pathways through gardens on the north and west sides. Ample sidewalk capacity exists along Jefferson Drive and Independence Avenue to travel east and west along the site. The north entrance to the site, off Jefferson Drive, attracts pedestrian traffic from the Smithsonian Metrorail Station, as well as from the neighboring museums located on either side and across the Mall. The entrance on the east side is used for staff and deliveries. The entrance on the south side, on Independence Avenue, has been closed to any use for many years.

**Site Utilities**

Existing site utilities consist of sanitary and storm sewer, natural gas, water, electric and GSA steam and chilled water.

**Soil and Topography**

Soil conditions for the A&I Building are based on borings taken prior to construction of the adjacent Quadrangle on the west side of the building. Several of these soil samples were taken within 45 feet of the A&I Building. The water level was recorded at 39 feet below grade (nine feet below sea level). The borings stopped after 50 feet, but other sources of geological information indicate that solid bedrock is usually found between 70 and 120 feet below sea level in the downtown area.

The A&I Building site is fairly level, with a grade change of approximately six and one-half feet. Elevations across the 3.25-acre site range from eight meters (26.2 feet) above sea level on the northeast side to 10 meters (32.8 feet) on the west side in the Haupt Garden.

**c. Existing Land Use**

**Building Condition**

The Arts and Industries Building is in need of significant renovations and repairs, including the removal of interior portions of the second floor, to return the building to its early 1900s configuration. Previous renovations have resulted in a labyrinth of office space surrounding the open Rotunda.

Building systems have deteriorated, and the original 1881 center roof section has weakened, which could cause a roof member to fail under heavy snow loading. The A&I Building was closed to the public in 2004 by the Smithsonian due to safety concerns for the roofing support system.

A design for a major renovation was commissioned by the Smithsonian to correct structural and building system deficiencies and to return large portions of the interior to the building’s formerly open configuration of space (and its original use as an exhibition hall). This project has been put on hold pending consideration of the site for NMAAHC. The renovation would not, however, bring the building up to current museum standards. Significant portions of the A&I Building rest on “rubble” foundations. Also, certain areas of the building contain hazardous materials, such as asbestos, which will need to be contained and abated. This condition will need to be addressed, along with the foundation issue, in any build-out scenario.

Of particular interest to this study, the building’s construction methods and historic landmark status complicate and may preclude the installation of a vapor barrier and HVAC controls required of a modern museum environment.
Existing Site Characteristics and Design Framework
Site Utilities

PROPOSED NMAAHC SITE

- Electric
- Sanitary Sewer
- Steam
- Chilled Water
- Communications
- Storm Drainage
- Natural Gas
- Water Main
Topography, Existing Exterior Spaces and Landscape Features
The 430 Smithsonian staff members who work in the building have begun phased relocations, for safety as well as to permanently vacate the A&I Building in preparation for improvements when funding becomes available.

**Exterior Spaces and Landscape Features**

Heavily landscaped areas surround the A&I Building on the north, east and west sides, complementing the structure, adding interest and creating places for rest and reflection. The lush landscaping provides linkages between the building and adjacent structures (the roof of the underground Quadrangle complex is landscaped) and creates an inviting atmosphere for pedestrians along the Mall.

Gardens surround the building on three sides. To the east of the building is the Mary Livingston Ripley Garden, a brick-paved Victorian garden with water features. Seating areas have been placed amid hardscape and landscape elements at the north end of the site along Jefferson Drive. A paved brick area near the west entrance creates a formal public space that provides access from the north and south ends of the site.

**Parking Availability**

Two- and three-hour public metered, curbside parking spaces exist along Independence Avenue, and three-hour open public parking is provided along Jefferson Drive. During weekdays, Jefferson Drive parking is regulated from 10 a.m. until 10 p.m. Metered parking on Independence Avenue is available from 9:30 a.m. until 4 p.m. and is free before morning and after evening rush hours. Also on Independence Avenue, east of the building, there is a small Smithsonian-controlled parking lot with approximately 25 spaces for Smithsonian staff, pre-arranged visitors and deliveries. The loading area, with a mechanical lift, is located in this lot. A bicycle rack has been placed at the northwest corner of the building.

d. **Surrounding Resources and Visitation Potential**

The Arts and Industries Building is in a prime location, directly on the National Mall and surrounded by major Smithsonian museums and national monuments, making it easily accessible to pedestrians who are visiting other attractions along the Mall. The Smithsonian Castle, National Museum of African Art and the Hirshhorn Museum and Sculpture Garden are on either side, and the Haupt Garden is immediately adjacent to its west entrance. The building is very visible from Independence Avenue and should capture the attention of visitors traveling on that street. It is also less than a half-mile to the Smithsonian Metrorail station. Prior to closing, the Arts and Industries Building routinely drew 500,000 visitors per year.

e. **Risk and Security Issues**

The *Multi-Hazard Assessment Draft Report* from the Smithsonian Office of Protective Services has identified several security concerns regarding the A&I Building. Its location on the National Mall and proximity to Department of Energy, Department of Transportation and Federal Aviation Administration facilities along Independence Avenue place it in an area that is at high risk for a terrorist attack.

Security at the A&I Building cannot be improved without impacting the structure. Recommended standoff distances of 50 feet from roads are not attainable, and underground utilities cannot easily be relocated away from the building. Hardening the exterior of the building to meet seismic, wind and anti-terrorism standards will be difficult due to the building’s construction methods and historic landmark status. The walls of higher, surrounding buildings would intensify reflective blast waves from an explosion, and they could also be sources of flying debris from wind or explosions. Simply eliminating curbside parking along Independence Avenue would not dramatically increase protection.

The parking lot and loading dock on the east side of the building would prevent placement of anti-ram devices or screening of arriving vehicles within a 50-foot building standoff distance. Even if the parking lot
and the loading dock could be relocated, both Independence Avenue and the 9th Street tunnel would allow a high-speed approach to the building.

The Smithsonian is working with the National Park Service and other federal agencies on Mall security enhancement efforts which focus on improving vehicle and crowd control by installing barriers and devices around the Mall. While this will provide some security improvement, lack of building setback space from adjacent roads is a continuing risk to the A&I Building.

f. Existing Design Framework

The Arts and Industries Building is surrounded by the Freer Gallery, the National Museum of African Art, the Smithsonian Castle, and the Arthur M. Sackler Gallery. At the center of the above-ground facilities is the Enid A. Haupt Garden. The A&I Building's central axis aligns with the east/west center line of the Hirshhorn Museum and the Haupt Garden. The west side aligns with the southeastern side of the main center section of the Natural History Museum.

Looking north, east or west from the north end of the site provides clear views of the National Mall. The view from the south side of the building is a more urban one of Independence Avenue.

End notes

Northeast quadrant of first and second floors of current A&I building: a labyrinth of office spaces has compromised the original open plan, Source: Smithsonian Institution
Arts & Industries building (1969): photographed from the Independence Avenue side, showing the 9th Street Tunnel under construction at lower right.
Views and Site Lines
View from the north end of site looking west toward the Smithsonian Castle

View of the National Mall looking north from the site

View of the site looking east from Independence Avenue
g. Model Program Scenarios

The Arts and Industries Building is the only existing structure that is being considered under the study for retention and reuse. For comparative purposes, the model program scenarios will also include a scenario for a cleared A&I site, since clear scenarios are being considered for the other three sites.

Both the Existing/Minimum and the Existing/Maximum scenarios have been developed using the square footage of the existing facility as a point of departure:

- Level One: 102,200 SF
- Level Two: 67,800 SF
- Other: 15,000 GSF
- Total gross area: 185,000 GSF

There are several issues to consider regarding the use of the A&I Building for the new museum, using either the Minimum or the Maximum Scenario:

- Of utmost importance is that the building is a National Historic Landmark and, therefore, it would require considerable effort to make significant changes to the structure to accommodate the museum. The possibility of substantial schedule delays is almost certain, given the nature of the processes required to approve any designs to alter the original exterior design of the building.
- Providing appropriate humidity control within the building will be difficult. Museum designers would need to develop creative solutions that might not involve controlling moisture at the exterior walls or consider a new expansion with a museum quality air control system.
- Restoring the open layout of the existing building creates a highly inefficient organization scheme for NMAAHC’s proposed program. The majority of the ground floor is open to the floor above. As a result, noise will be carried throughout the facility, and there will be a limit to the ability to provide light changes and quality. The location of all exhibit and theater spaces will be forced to below-grade expansion with little to no exposure to natural light.
  - The existing A&I Building is approximately 185,000 GSF, far less than the model program of 350,000 GSF.
  - An unknown but important consideration is the reaction of the African American community to using the Victorian A&I Building as a representation of their history and culture.
  - Gardens surrounding both the A&I Building and the National Museum of African Art may be used as outdoor exhibition areas. In fact, having a relationship with the neighboring museum can help the new museum be perceived as a part of a larger scheme.
  - Available sections show ground floor ceiling height in the range of 16 feet, which would be insufficient for the required 25-foot exhibit and 45-foot performance/theater spaces which are indicated in the Museum Requirements Assumptions.
  - The existing structural system may limit spaces—such as a theater or auditorium—that require larger clear spans (column free). Clear span spaces will be restricted to the new spaces constructed outside the existing building envelope.
  - The existing building contains hazardous materials, such as asbestos, which would require special handling.
### i. Existing Building – Minimum Build-out

Total existing acreage: 3.25 acres (143,000 SF)

- Level 1: 102,200 GSF
- Level 2: 67,800 GSF
- Basement Level 1: 102,200 GSF
- Basement Level 2: 102,200 GSF

Total potential build-out: 374,400 GSF

The Minimum Build-out would restore the existing building to its original intention – a large, open building with many windows to allow natural light throughout. It would maintain the two above-grade levels of the existing A&I Building and require two levels of underpinning. The two basement levels are adjacent to the Quadrangle Building, which sits three levels below grade.

### Project Costs

Underpinning of the exterior structure, hardening the exterior, restoration of architecturally significant exterior features and reengineering and replacing the roof are included in the cost for the minimum and maximum scenarios.

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<th>Quantity (GSF)</th>
<th>Unit Cost ($)</th>
<th>Cost ($000)</th>
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Subtotal: $195,323

- Antiterrorism/Force Protection: 74,123
- Site/Infrastructure Costs: 58,597
- HABS/HAER Recordation: 1,000

Subtotal: $329,042

- Construction Management (6%): 19,743
- Design/Engineering (20%): 66,796

TOTAL: $415,600

Note: Costs are in 2006 dollars. See page 194 for comparative and escalated costs.
Site Context and Site Plan Diagram

This graphic depicts how the proposed museum might fit onto the site and suggests the best possible entry points. Like all diagrams and models, it is conceptual in nature and is not intended to depict an actual building. Rather, it is meant to help facilitate discussion about the opportunities and limitations offered by the site.

Site analysis based on selection criteria is presented below.

Location

- Adjacent to several well-attended Mall attractions, including Smithsonian Castle, Hirshhorn Museum and Sculpture Garden, and National Museum of African Art
- Views clear to the north of Mall and Mall museums
- Views south are largely toward the Department of Energy building
- Central axis of existing building aligns with central axis of Hirshhorn Museum east of site
- Existing building has two main entries: on the Mall side where pedestrian traffic is moderate, and on the west from the Haupt Garden
- Primary entrance from Mall to be maintained
- Secondary entrance from Haupt Garden to be maintained
- Additional secondary entrance could be re-established on the south side of the building, off Independence Avenue
- Service entrance from eastern lot between existing building and Hirshhorn to be maintained
- All utilities available
- As a National Historic Landmark, required structural reinforcement to withstand attacks would be limited or not possible
- Vehicles exiting the 9th Street tunnel to the south allow a high-speed approach to the building and pose a risk
- Adjacent to landscaped areas of Haupt Garden (west of site), the Folger Rose Garden (north of the site) and Hirshhorn Sculpture Garden (north-east of site), limiting potential for proposed museum-related outdoor gathering and programming spaces
- Both architectural expression and sustainable design opportunities are limited

Transportation

- Pedestrian traffic to site flows from adjacent Mall museums as well as to/from public transportation at the Smithsonian Metrorail station
- One-way vehicular traffic (north of site) on Jefferson Drive moving east
- Moderate vehicular traffic (south of site) on Independence Avenue
- Existing parking lot east of site is tight, limiting loading and receiving potential, but offering more than the five recommended spaces.

Environmental

- Site is essentially flat with existing adjacent landscaped garden areas immediately west, north and east

Existing Site Conditions

- Existing building is highly visible from Independence Ave
- Existing building currently sits outside of 50-ft security setback from adjacent roadways, posing a possible security threat
- Existing building currently sits outside of 50-ft security setback from adjacent roadways, posing a possible security threat
Existing Minimum Conceptual Site Plan
**Proposed Footprint/Build-Out**

- Total acreage for existing site: 3.25 acres (143,000 GSF)
- Existing building Gross Square Footage 185,000 GSF
- Underpinning and expansion considered to meet or exceed model program of 350,000 GSF
- Adjacent 9th Street tunnel limits expansion to the east

**Blocking Diagrams**

This graphic depicts how the proposed museum might be organized, using 350,000 GSF as a point of departure. Like all diagrams and models, it is conceptual in nature and is not intended to depict an actual building. Rather, it is meant to help facilitate discussion about the opportunities and limitations offered by the site.

- National Historic Landmark status limits possibilities for interior development
- Existing building’s original open plan and structural grid would create a “highly inefficient organization scheme,” as well as limit program area and increase cost (per E. Verner Johnson and Associates)
- First floor of existing building would hold all major visitor service functions, as well as access to theater and performance spaces which span three levels
- Second floor would hold limited space for administrative and curatorial office functions
- Limited program area and limitations in air quality control would require majority of exhibit spaces to be pushed below-grade
- Service entrance and receiving would be through the existing service dock east of the building
**Existing Minimum Blocking**

Note: Theater/performance spaces span three levels, and exhibit areas span two levels. Square footage for these areas (indicated by respective color), is included on the potential entry level.
Stacking/Massing and Section Diagrams

These graphics also depict how the proposed museum might be organized, using 350,000 GSF as a point of departure. In addition, they illustrate the height of the potential build-out and show vertical relationships to adjacent buildings and the larger (city) context. Like all diagrams and models, they are conceptual in nature and are not intended to depict an actual building. Rather, they are meant to help facilitate discussion about the opportunities and limitations offered by the site.

- All built program areas, including expansion, would sit within existing envelope or below grade
- As a National Historic Landmark, the exterior envelope offers no opportunities for architectural expression that would be specific to the proposed museum’s function
- Theater and performance spaces are limited and placed in one area, as they would require a clear span of approximately 45 feet, or three typical office floors
- Significant upgrades to existing mechanical and electrical systems required to provide museum-quality environment
- Underpinning below-grade considered for additional useable program area and to provide spaces with museum-quality temperature and humidity control features, a requirement for maintaining artifacts
- Placing majority of exhibit spaces below-grade would severely limit – or require creative solutions for – providing natural lighting
- Proposed underpinning would pose several possible risks, including proximity to the water table and adjacent Quadrangle Building, and additional cost
- Possibilities for underground connection to Quadrangle Building and National Museum of African Art considered in potential build-out
Existing Minimum Stacking and Massing
Existing Minimum Conceptual Site Sections

North-South Section

East-West Section
Existing Minimum Conceptual Massing Models

Southwest view from Jefferson Drive

West view from National Mall

Aerial view of site
**ii. Existing Building – Maximum Build-out**

Total existing acreage: 3.25 acres (143,000 SF)

Level 1: 102,200 GSF  
Level 2: 67,800 GSF  
Basement Level 1 including expansion: 169,260 GSF  
Basement Level 2 including expansion: 169,260 GSF

Total potential build-out: 508,520 GSF

The Maximum Build-out would restore the existing building to its original intention – a large, open building with many windows to allow natural light throughout. It would maintain the two above-grade levels of the existing A&I Building, requiring two levels of underpinning, in addition to a north-west expansion. The two basement levels are adjacent to the Quadrangle Building, which sits three levels below grade.

**Project Costs**

Underpinning of the exterior structure, hardening the exterior, restoration of architecturally significant exterior features and reengineering and replacing the roof are included in the cost for the minimum and maximum scenarios.

<table>
<thead>
<tr>
<th></th>
<th>Quantity (GSF)</th>
<th>Unit Cost ($)</th>
<th>Cost ($000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A&amp;I Maximum Build-out</td>
<td>509,000</td>
<td>$489.40</td>
<td>$249,104</td>
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<tr>
<td>Substructure</td>
<td>509,000</td>
<td>48.08</td>
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<tr>
<td>Superstructure</td>
<td>509,000</td>
<td>119.25</td>
<td>60,696</td>
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<td>Exterior Closure</td>
<td>509,000</td>
<td>60.11</td>
<td>30,597</td>
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<td>Roofing</td>
<td>509,000</td>
<td>4.05</td>
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<tr>
<td>Interior Construction</td>
<td>509,000</td>
<td>28.95</td>
<td>14,738</td>
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<tr>
<td>Interior Finishes</td>
<td>509,000</td>
<td>31.07</td>
<td>15,813</td>
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<tr>
<td>Conveying Systems</td>
<td>509,000</td>
<td>4.66</td>
<td>2,370</td>
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<td>Plumbing</td>
<td>509,000</td>
<td>12.63</td>
<td>6,429</td>
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<tr>
<td>HVAC</td>
<td>509,000</td>
<td>49.50</td>
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<tr>
<td>Fire Protection Systems</td>
<td>509,000</td>
<td>6.48</td>
<td>3,297</td>
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<td>Electric Power &amp; Lighting</td>
<td>509,000</td>
<td>33.59</td>
<td>17,099</td>
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<td>Electrical Systems</td>
<td>509,000</td>
<td>67.92</td>
<td>34,571</td>
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<tr>
<td>Equipment</td>
<td>509,000</td>
<td>22.72</td>
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<tr>
<td>Furnishings</td>
<td>509,000</td>
<td>0.39</td>
<td>197</td>
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<tr>
<td><strong>Subtotal</strong></td>
<td></td>
<td></td>
<td><strong>$249,104</strong></td>
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<tr>
<td>Antiterrorism/Force Protection</td>
<td>94,775</td>
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<tr>
<td>Site/Infrastructure Costs</td>
<td>74,731</td>
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<tr>
<td>HABS/HAER Recordation</td>
<td></td>
<td>1,000</td>
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</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td></td>
<td></td>
<td><strong>$419,610</strong></td>
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<tr>
<td>Construction Management (6%)</td>
<td>25,177</td>
<td></td>
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<tr>
<td>Design/Engineering (20%)</td>
<td>85,181</td>
<td></td>
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<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td></td>
<td><strong>$1,041.26</strong></td>
</tr>
</tbody>
</table>

Note: Costs are in 2006 dollars. See page 194 for comparative and escalated costs.
Site Context and Site Plan Diagram

This graphic depicts how the proposed museum might fit onto the site and suggests the best possible entry points. Like all diagrams and models, it is conceptual in nature and is not intended to depict an actual building. Rather, it is meant to help facilitate discussion about the opportunities and limitations offered by the site.

Site analysis based on selection criteria is presented below.

Location

- Central, visible location on Mall
- Adjacent to several well-trafficked attractions, including Smithsonian Castle, Hirshhorn Museum and Sculpture Garden, and National Museum of African Art
- Views clear to the north of Mall and Mall museums
- Views south are largely toward the Department of Energy building
- Central axis of existing building aligns with central axis of Hirshhorn Museum east of site
- Existing building has two main entries: on the Mall side, where pedestrian traffic is heavy, and on the west from the Haupt Garden
- Primary entrance from Mall to be maintained
- Secondary entrance from Haupt Garden to be maintained
- Additional secondary entrance could be re-established on the south side of the building, off Independence Avenue
- Service entrance from eastern lot between existing building and Hirshhorn to be maintained

Existing Site Conditions

- As a National Historic Landmark, required structural reinforcement to withstand attacks would be limited or not possible
- Vehicles exiting the 9th Street tunnel to the south allow a high-speed approach to the building and pose a risk
- Adjacent to landscaped areas of Haupt Garden (west of site), the Folger Rose Garden (north of the site) and Hirshhorn Sculpture Garden (north-east of site), limiting potential for proposed museum-related outdoor gathering and programming spaces
- All utilities available
- Limited opportunities for either architectural expression or sustainable design

Transportation

- Pedestrian traffic to site flows from adjacent Mall museums as well as to/from public transportation at the Smithsonian Metrorail station
- One-way vehicular traffic (north of site) on Jefferson Drive moving east
- Moderate vehicular traffic (south of site) on Independence Avenue
- Existing parking lot east of site is tight, limiting loading and receiving potential, but offering more than the five recommended spaces.

Environmental

- Site is essentially flat with existing adjacent landscaped garden areas immediately west, north and east
Existing Maximum Conceptual Site Plan
Proposed Footprint/Build-Out

- Total acreage for existing site: 3.25 acres (143,000 GSF)
- Existing building Gross Square Footage 185,000 GSF
- Underpinning and below-grade expansion considered to meet model program of 350,000 GSF and maximize site potential
- Adjacent 9th Street tunnel limits expansion to the east
- Expansion to the west is limited by Quadrangle Building

Blocking Diagrams

This graphic depicts how the proposed museum might be organized, using 350,000 GSF as a point of departure. Like all diagrams and models, it is conceptual in nature and is not intended to depict an actual building. Rather, it is meant to help facilitate discussion about the opportunities and limitations offered by the site.

- National Historic Landmark status limits possibilities for interior development
- Existing building’s original open plan and structural grid would create a “highly inefficient organization scheme,” as well as limit program area, and increase cost (per E. Verner Johnson and Associates)
- First floor of existing building would hold all major visitor service functions, as well as access to theater and performance spaces
- Second floor would hold limited space for administrative and curatorial office functions
- Limited program area and limitations in air quality control would require majority of exhibit spaces to be pushed below-grade
- Additional area for public programming and office functions held below-grade
- Service entrance and receiving would be through the existing service dock east of the building
Existing Maximum Blocking

Note: Theater/performance spaces span three levels, and exhibit areas span two levels. Square footage for these areas (indicated by respective color), is included on the potential entry level.
Stacking/Massing and Section Diagrams

These graphics also depict how the proposed museum might be organized, using 350,000 GSF as a point of departure. In addition, they illustrate the height of the potential build-out and show vertical relationships to adjacent buildings and the larger (city) context. Like all diagrams and models, they are conceptual in nature and are not intended to depict an actual building. Rather, they are meant to help facilitate discussion about the opportunities and limitations offered by the site.

- All built program areas, including expansion, would sit within existing envelope or below grade
- As a Historic Landmark, the exterior envelope offers no opportunities for architectural expression that would be specific to the proposed museum’s function
- Theater and performance spaces are limited and placed in one area, as they would require a clear span of approximately 45 feet, or three typical office floors
- Significant upgrades to existing mechanical and electrical systems required to provide museum-quality environment
- Underpinning below-grade considered for additional useable program area, and to provide spaces with museum-quality temperature and humidity control features, a requirement for maintaining artifacts
- Placing majority of exhibit spaces below-grade would severely limit or require creative solutions for providing natural lighting
- Emergency exit and egress onto Mall from below-grade expansion must be considered
- Proposed underpinning would pose several possible risks, including proximity to the water table and adjacent Quadrangle Building, and additional cost
- Possibilities for underground connection to Quadrangle Building and National Museum of African Art considered in potential build-out
Existing Maximum Stacking and Massing
Existing Maximum Conceptual Site Sections

North-South Section

East-West Section
Existing Maximum Conceptual Massing Models

Southwest view from Jefferson Drive

West view from National Mall

Aerial view of site
### iii. Cleared Site – Maximum/Minimum Build-out

Total existing acreage: 3.25 acres (143,000 SF)

Seven Levels above grade: 76,200 GSF each
- Basement Level 1: 118,240 GSF
- Basement Level 2: 84,330 GSF

Total potential build-out: 735,970 GSF

A new building on this site would occupy less above-ground area in order to comply with security set-back requirements. Below-grade expansion to the north and west allow for large, basement-level footprints. The building would be aligned with the Hirshhorn Museum and Sculpture Garden and the National Air and Space Museum, and would be approximately the same height as the Hirshhorn, 75 feet.

Should the decision be made to clear the A&I site and construct a new building for the museum, the following should be considered:
- Existing structure would require historic evaluation and documentation in accordance with the National Historic Preservation Act.
- Existing building contains extensive hazardous materials which would require special handling and disposal during demolition.
- Despite adjacent building and security setbacks, the site could comfortably accommodate the museum program within the existing footprint and in a building with a profile compatible with its surroundings.
- Service access and required parking, though tight, could be accommodated to the east.
- Public gathering spaces could be accommodated in the west garden.
- Additional outdoor gathering and program space available north and south of site, if present-day site lines and setbacks of adjacent buildings are considered.

<table>
<thead>
<tr>
<th>Quantity (GSF)</th>
<th>Unit Cost ($)</th>
<th>Cost ($000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A&amp;I Cleared Site Build-out</td>
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<tr>
<td>Substructure</td>
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<td>Superstructure</td>
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<td>Exterior Closure</td>
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<td>Conveying Systems</td>
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<td>Plumbing</td>
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<td>HVAC</td>
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<td>Fire Protection Systems</td>
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<td>Electric Power &amp; Lighting</td>
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<td>Electrical Systems</td>
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<td>Equipment</td>
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</tr>
<tr>
<td>Furnishings</td>
<td>736,000</td>
<td>0.36</td>
</tr>
</tbody>
</table>

**Subtotal** | **$349,970**

| Antiterrorism/Force Protection | 36,997 |
| Site/Infrastructure Costs | 104,991 |
| HABS/HAER Recordation | 2,000 |
| Demolition of Existing Facility | 200,000 GSF | 5,000 |

**Subtotal** | **$498,957**

| Construction Management (6%) | 29,937 |
| Design/Engineering (20%) | 101,288 |

Note: Costs are in 2006 dollars. See page 194 for comparative and escalated costs.
**Project Costs**

Demolition and disposal of hazardous materials within existing building has been included.

**Site Context Diagram**

This graphic illustrates the relationship of the proposed site to the surrounding environment. Like all diagrams and models, it is conceptual in nature and is not intended to depict an actual building. Rather, it is meant to help facilitate discussion about the opportunities and limitations offered by the site.

Site analysis based on selection criteria is presented below.

**Location**
- Central, visible location on Mall
- Adjacent to Smithsonian Castle, Hirshhorn Museum and Sculpture Garden, and National Museum of African Art
- Views clear to the north of Mall and Mall museums
- Views south are toward the Department of Energy building
- Central axis of existing building aligns with central axis of Hirshhorn Museum and National Air and Space Museum east of site

**Compatibility with Planning Efforts**
- L’Enfant and McMillan plans both showed buildings on this site

**Existing Site Conditions**
- Existing Historic Landmark sits on site.
- Existing building currently sits outside of 50-ft security setback from adjacent roadways, posing a possible security threat

- With consideration of adjacent buildings setbacks and site lines for a cleared site footprint, 50 ft-security setback from adjacent roadways is achievable
- Vehicles exiting the 9th Street tunnel to the south allow a high-speed approach to the building and pose a risk
- Adjacent to landscaped areas Haupt Garden (west of site), the Folger Rose Garden (north of the site) and the Hirshhorn Sculpture Garden (north-east of site)

**Transportation**
- Pedestrian traffic flows to site from adjacent Mall museums as well as to/from public transportation at the Smithsonian Metrorail station
- One way vehicular traffic (north of site) on Jefferson Drive moving east
- Moderate vehicular traffic (south of site) on Independence Avenue
- Existing parking lot east of site is tight, but offers more than the five recommended spaces.

**Environmental**
- Site is essentially flat with existing adjacent landscaped garden areas immediately west, north and east
Cleared Site Setback Considerations

Smithsonian Institution-National Museum of African American History and Culture
Site Evaluation Study | Phase II: Analysis and Modeling — Arts & Industries Building Site
Site Plan Diagram

This graphic depicts how the proposed museum might fit onto the site and suggests the best possible entry points. Like all diagrams and models, it is conceptual in nature and is not intended to depict an actual building. Rather, it is meant to help facilitate discussion about the opportunities and limitations offered by the site.

Location

- Existing building has two main entries: on the Mall side, where pedestrian traffic is heavy, and on the west from the Haupt Garden
- Primary entrance from Mall to be maintained from existing building layout
- Secondary entrance from Haupt Garden to be maintained from existing building layout
- Potential for alternate or additional secondary entrance from south, off of Independence Ave
- Service entrance from eastern lot between existing building and Hirshhorn to be maintained

Proposed Footprint/Build-Out

- Total acreage for existing site: 3.25 acres (143,000 SF)
- Proposed above-grade footprint at Level One: 76,200 GSF, leaving approximately 66,800 GSF for outdoor programming
- Footprint drawn from adjacent buildings' site lines: 1) northern site line of Hirshhorn Museum; 2) southern site lines of the National Museum of African Art and Arthur Sackler Gallery of Art; and 3) western and eastern site lines of existing A&I Building
- Major axis of existing building maintained for new scenario
- Adjacent 9th Street tunnel limits expansion to the east
- Possibilities for expansion to the north
- Expansion to the west is limited by Quadrangle Building
Cleared Site Conceptual Site Plan

TOTAL AREA (B-3 - L-7):
B-3 - B-2 (15 FT F/F) EACH 79,600 SF
B-1 (15FT F/F) 118,240 SF
L-1 - L-7 (15FT F/F) 76,200 SF
TOTAL 810,840 GSF
**Blocking Diagrams**

This graphic depicts how the proposed museum might be organized, using 350,000 GSF as a point of departure. Like all diagrams and models, it is conceptual in nature and is not intended to depict an actual building. Rather, it is meant to help facilitate discussion about the opportunities and limitations offered by the site.

- First floor would hold all major visitor service functions and access to theater and performance spaces
- Upper floors would hold administrative and curatorial office functions as well as public program and exhibit spaces
- Additional performance space and exhibit support functions held below-grade
- Service entrance and receiving would be through the existing service dock east of the building
Cleared Site Blocking

Note: Theater/performance spaces span three levels, and exhibit areas span two levels. Square footage for these areas (indicated by respective color), is included on the potential entry level.
Cleared Site Blocking

Note: Theater/performance spaces span three levels, and exhibit areas span two levels. Square footage for these areas (indicated by respective color), is included on the potential entry level.
**Stacking/Massing and Section Diagrams**

These graphics also depict how the proposed museum might be organized, using 350,000 GSF as a point of departure. In addition, they illustrate the height of the potential build-out and show vertical relationships to adjacent buildings and the larger (city) context. Like all diagrams and models, they are conceptual in nature and are not intended to depict an actual building. Rather, they are meant to help facilitate discussion about the opportunities and limitations offered by the site.

- Potential build-out approximately 75 feet high, aligned with adjacent Hirshhorn Museum and National Air and Space Museum
- Adjacent buildings of various architecture styles and periods allow opportunities for architectural expression that would be specific to the proposed museum’s function
- Ample space for theater and performance spaces
- Exhibit and public program spaces placed on upper floors, allowing for natural lighting
- Possibilities for underground connection to Quadrangle Building and National Museum of African Art considered in potential build-out
Cleared Site Stacking and Massing
Cleared Site Conceptual Site Sections

North-South Section

East-West Section
Cleared Site Conceptual Massing Models

Southwest view from Jefferson Drive

West view from National Mall

Aerial view of site
## h. Summary of A&I Site Features, Part 1

<table>
<thead>
<tr>
<th>Site Criteria</th>
<th>Common to All Scenarios</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Clear</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Location</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Proximity to Mall</td>
<td>Central, visible location on Mall.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Proximity to African American sites</td>
<td>Taps into Mall’s connection with African American history.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. Visitation Potential</td>
<td>Adjacent to several well-trafficked landmarks: Smithsonian Castle, Hirshhorn Museum and National Museum of African Art, etc. Primary entrance from Mall, secondary entrance from Haupt Garden; service entrance maintained from eastern lot.</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td><strong>2. Compatibility with Planning Efforts</strong></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>a. 1791 L’Enfant Plan</td>
<td>Building intended for current site.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. 1901 McMillian Plan</td>
<td>Building intended for current site.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. 1972 NPS Master Plan</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>d. 1997 Legacy Plan</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>e. 2001 Memorials &amp; Museums</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>f. 2004 Comprehensive Plan</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>3. Existing Site Conditions</strong></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>b. Total Acreage</td>
<td>3.25 acres (143,000 SF)</td>
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<td></td>
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</tr>
<tr>
<td>c. Zoning</td>
<td>Zoned for government use.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>d. Landscaping</td>
<td>Adjacent gardens could potentially be used as outdoor program area.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>e. Security</td>
<td>Access/exit from adjacent 9th Street Tunnel allow a high speed approach to the site. As a National Historic Landmark, modifications / structural reinforcements required to withstand attacks would be limited or not possible. Existing building currently sits outside of 50 ft security setback from adjacent roadways, posing a possible security threat.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>f. Opportunity for Arch. Expression</td>
<td>As a Historic Landmark, the exterior envelope offers no opportunity for architectural expression.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>g. Opportunity for Sustainable Design</td>
<td>Very little opportunity.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>h. Utilities</td>
<td>All utilities available.</td>
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### h. Summary of A&I Site Features, Part 2

<table>
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<th>Site Criteria</th>
<th>Common to All Scenarios</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Clear</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>4. Transportation</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Access</td>
<td>Accessible via foot, bike, car or public transportation. Location, generous sidewalks and adjacent gardens make site easily accessible and pedestrian friendly.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Traffic</td>
<td>Moderate levels of vehicular traffic on Jefferson Drive and Independence Avenue, south of site.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. Parking</td>
<td>Limited metered parking along Jefferson Dr. and Independence Ave. Existing parking lot east of site is tight, limiting loading capacity, however it could offer recommended parking for proposed museum personnel.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. Public Transit</td>
<td>Smithsonian and L'Enfant Plaza metro stations accessible within a half-mile. Circulator, Trolley and Metrorbus stops adjacent, or within half-mile of site.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>e. Pedestrian Circulation</td>
<td>Pedestrian traffic to site from adjacent Mall museums and memorials, and to/from public transportation at the Smithsonian metro station, less than half a mile away.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td><strong>5. Environmental</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Subsurface/Geotechnical</td>
<td>Water table is 25-38 ft below grade</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Hazardous Materials</td>
<td>Existing building contains extensive hazardous materials which would require special handling and disposal during demolition or renovation.</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>c. Landforms</td>
<td>Site is fairly level, with an elevation change of less than 5.5 feet.</td>
<td></td>
<td></td>
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<tr>
<td>d. Climate</td>
<td>Typical of D.C. area.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>e. Air Quality &amp; Odors</td>
<td>Humidity and temperature control issues in existing building. Historic landmark status complicates and may preclude required modifications. New expansion, with museum quality air control, required for maintaining artifacts in future exhibit spaces.</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>f. Noise Levels</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>6. Magnitude of Costs</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>a. Site Prep/Demolition</td>
<td>Costly underpinning.</td>
<td>Costly underpinning.</td>
<td>Demolishing the existing building would require historic evaluation and documentation in accordance with the National Capitol Planning Act.</td>
<td></td>
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<td>c. Cost-sharing</td>
<td>Costly historic renovation.</td>
<td>Costly historic renovation.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. Special Consideration</td>
<td>Building below-grade levels to the water table would be very costly, so that option is not explored here. Preservation, renovation, and upgrading mechanical, electrical, structural, security, and HVAC systems.</td>
<td>Preservation, renovation, and upgrading mechanical, electrical, structural, security, and HVAC systems.</td>
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<td></td>
</tr>
<tr>
<td><strong>7. Review Agency &amp; Public Support</strong></td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>a. Commission of Fine Arts</td>
<td>CPI has stated support for reuse of the A&amp;I Building as NMHC site.</td>
<td></td>
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<td>b. NCPC (Solicited and Unsolicited)</td>
<td>NCPC staff referred to African American experience near the site. They support reuse of building.</td>
<td></td>
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<td></td>
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<tr>
<td>c. U.S. Senate / House of Rep.</td>
<td>Rep. Millender-McDonald supports this site because of location and access.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. Presidential Commission</td>
<td>Commission Chair does not support this site.</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>e. Other Solicited and Unsolicited Comments</td>
<td>D.C. Mayor’s Office finds this site undesirable. Sen. Brownback prefers a site “on or adjacent” to Mall. U.S. Commission on Civil Rights prefers a Mall location.</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>
MONUMENT

Existing Conditions
4. MONUMENT SITE SCENARIOS

a. Site and Building History

The Monument site is part of the original public reservation that came under the control of the United States in 1791. Located on the National Mall, which is listed on the National Register of Historic Places, the site has not been used for a permanent structure since its acquisition by the United States.

Over the years, control of the public lands comprising the National Mall (and including the Monument site) was charged to various entities. Initially, a three-member Board of Commissioners had the responsibility. In 1829, a single Commissioner of Public Buildings was created by Congress and charged with responsibility for all public buildings and public grounds. The Department of the Interior was created in 1849, and supervisory responsibility for the Commissioner of Public Buildings was placed under the Secretary of the Interior. However, in 1867, an Act of Congress abolished the office of Commissioner of Public Buildings and transferred its responsibilities to the Chief Engineer of the Army. Finally, in June of 1933, by Executive Order, responsibility for the National Mall was transferred back the Department of Interior, where it remains today under the control of NPS.

Although never built on, this site near the Washington Monument was identified on both the L’Enfant and the McMillan plans as a potential building site. The McMillan Plan shows proposed buildings between 14th and 15th Streets on the northern end of the Mall at Constitution Avenue (formally B Street North). In 1910, the U.S. Commission of Fine Arts approved the use of this site for a new headquarters building for the State Department. Two of the Commission members at the time had also been members of the McMillan Commission: Daniel Burnham and Frederick Law Olmsted, Jr. The site was also considered in 1995 for the World War II memorial and was discussed informally as a potential site for the African American Museum during a 1990s Smithsonian study.¹

b. Existing Site Conditions

Site and Building Issues

The Monument site has a relatively generous area in which to place a building, and it provides excellent vistas of the Washington Monument. This site also provides potential for an underground connection between the NMAAHC and the National Museum of American History. Some utilities would need to be rerouted, but this should not be a major issue.

Because of its location, any building designed for this site will come under a high level of scrutiny by review agencies, the preservation community and advocates for protecting open space in the National Mall area.

The National Park Service has set up a small, temporary Washington Monument gift shop and fast food operation at Madison Drive and 15th Street which is being used during construction of the Washington Monument security improvements and visitor center.

Circulation and Transportation

The Monument site is bordered by Constitution Avenue on the north, Madison Drive on the south, 14th Street, N.W. on the east and 15th Street, N.W. on the west. Constitution Avenue and 14th Street are major traffic corridors, but Madison Drive and 15th Street have considerably less traffic.

Approximately two blocks each from the site are Metrorail’s Smithsonian and Federal Triangle Stations. Tourmobile stops are located on the south end of the site, along with bus pull-over areas.

Sidewalks ranging in width from six to 18 feet create a border around the site; two other sidewalks intersect diagonally through the middle. ADA-accessible ramps and signalized intersections at all four corners provide sufficient pedestrian access through and around the site.
Existing Site Characteristics and Design Framework
Adjacent Structures and Transit Systems

PROPOSED NMAAH Site

.25 MILE RADIUS

.5 MILE RADIUS

METRO RAIL (GREEN)
METRO RAIL (YELLOW)
METRO RAIL (ORANGE)
METRO RAIL (BLUE)
BUS ROUTES
BUS STOP

METRO STATION

DEPARTMENT OF AGRICULTURE

OLD AUDITORIUM BUILDING
(U.S.D.A. FOREST SERVICE)

1 NATIONAL MUSEUM OF AMERICAN HISTORY
2 DEPARTMENT OF COMMERCE
3 WASHINGTON MONUMENT
4 INTERNAL REVENUE SERVICE
5 RONALD REAGAN BUILDING AND INTERNATIONAL TRADE CENTER
6 THE ELLIPSE
7 SMITHSONIAN STATION METRO RAIL ENTRANCE
8 METRO BUS STOP
9 BUS LAYBY (EXISTING)
10 FEDERAL TRIANGLE STATION METRO RAIL ENTRANCE
11 NATIONAL MUSEUM OF NATURAL HISTORY
12 NATIONAL MALL
Topography, Existing Exterior Spaces and Landscape Features
**Site Utilities**

Existing site utilities consist of sanitary and storm sewer, natural gas, water, electric and GSA steam. The gas line located on the northern third of the property may or may not have to be relocated, depending on the future museum footprint.

**Soil and Topography**

Soil borings for the Monument site were taken from 1931 Office of Public Buildings and Public Parks of the National Capital, Monument Grounds Test Borings, and from the Smithsonian’s National Museum of American History construction file drawings of 1958.

The Monument site slopes upward from two meters (6.6 feet) above sea level on the north end to six meters (19.7 feet) above sea level on the south edge. A major portion of the site is within the 100-year floodplain. In addition, the intersection of 14th Street and Constitution Avenue, N.W. experiences localized flooding during rains due to undersized storm water piping and catch basin capacity.

c. Existing Land Use

No permanent buildings are on this site; as stated before, a National Park Service souvenir and café tent is temporarily located on the southwest corner of the site.

**Exterior Spaces and Landscape Features**

The entire site is an open public space. It is often used as a staging area for marches, rallies and other large gatherings, and the site is a favorite location for recreation activities. The area is also used as needed for a medivac helicopter landing site.

The relatively flat site is covered in grass. Clusters of trees divide the open area, creating more intimate open spaces and serving as buffers to traffic noise. Benches line the east and north sides of the site.

**Parking Availability**

Public parking around the Monument site is minimal. There are a limited number of two-hour metered spaces along Constitution Avenue, a small parking facility south of Constitution Avenue across from the Ellipse, and three-hour public parking along Madison Drive, east of 14th Street. An underground parking area for Smithsonian personnel and a loading dock are located on the west side of the adjacent National Museum of American History building.

d. Surrounding Resources and Visitation Potential

The Monument site is highly visible and accessible from the Mall and several major streets. Pedestrians visiting the Washington Monument, the Holocaust Museum, the American History Museum and the National Museum of Natural History, among other attractions, would find it convenient to also visit the NMAAHC.

e. Risk and Security Issues

The Monument site is at high risk for an attack due to the surrounding federal facilities and highly visible memorials. The Washington Monument is 800 feet to the southwest, and the site is on a direct site line to the White House less than half a mile away. A 50-foot setback on all sides of a new facility from the adjacent streets is achievable. If the site is chosen for NMAAHC, design efforts will need to consider vehicle avenues of approach and other potential opportunities for attacks. 15th Street would allow a direct, high-speed approach to the middle of the site. This site is also at risk from a chemical or biological attack, because it is in a low-lying area. A portion of the site, along Constitution Avenue and in the area of the former Tiber Canal, is within the 100-year floodplain.
Views and Site Lines

- PROPOSED NMAAHHC SITE
- VIEWS
- SITE LINES
- ADJACENT BUILDING ALIGNMENTS
- MAJOR AXE
- TOPOGRAPHY
- AFFECTED VIEWSHEES

Site Evaluation Study | Phase II: Analysis and Modeling — Monument Site
Site line along the west side of site facing north

North and south site lines of National Museum of American History, view facing east

View of the Washington Monument from the northeast corner of 14th Street looking southwest
f. Existing Design Framework

The five-acre Monument site is adjacent to two federal buildings. North of the site is the Federal Triangle, which consists of a mix of traditional and modern federal office buildings. East of the site is the National Museum of American History. These structures are monumental in scale and have granite exterior finishes and features. The Washington Monument is located immediately southwest of the site on the National Mall.

There are several significant views to and from the site. The southeastern corner of the site can be viewed from the Mall through a colonnade of trees, and a panoramic view of the city is visible when looking toward the west and northwest. The view toward Madison Drive at the southeast end of 14th Street opens to the National Mall and Washington Monument. Any construction on the site could potentially obstruct views along Constitution Avenue looking toward the Washington Monument.

In considering various site lines, museum planners could develop useable building footprints ranging from two and a half to three acres.

End notes


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g. Model Program Scenarios

The Monument site offers the potential for a large amount of exposure to the public, simply by virtue of its location at one of the most heavily traveled intersections in the Mall area. There are opportunities for connections, real and symbolic, with the adjacent National Museum of American History.

Conversely, its location at this busy intersection could pose problems with daytime deliveries of goods and exhibition material. Deliveries may have to be restricted to “after-hours.”

As with other sites being considered, the Monument site lends itself to becoming a “gateway” to downtown Washington D.C., inviting the public to explore other venues beyond the National Mall (shops, restaurants, local galleries, etc.).

The Monument site would give the museum a presence, not only on Constitution Avenue, but also on the National Mall. In an urban planning and architectural sense, a museum at this site would help complete both the L’Enfant and McMillan plans. It would, however, conflict with recent plans by federal planning groups, who envision the site as open.

With either build-out scenario, water table levels in this area will require special construction techniques. Additionally, the Tiber Creek, which formerly ran along Constitution Avenue in this area, has been placed in large piping that now runs under the street. The area within the floodplain and localized flooding should be addressed by increasing the size of storm water drainage piping.

Again, with either scenario, preservation of existing trees would be an important part of the design solution. Two existing utilities located on the northern third of the site – GSA condensate make-up water culvert and Washington Gas 24” main transmission line – will need to be relocated for either a minimum or a maximum build-out.
### i. Minimum Build-out

Total existing acreage: 5 acres (217,800 SF)

Five Levels above grade: 69,100 GSF each
Basement Level 1: 69,100 GSF

Total potential build-out: 414,600 GSF

The approximate height of the building – 75 feet – would not exceed the height of the National Museum of American History building. The building’s north-south axis would align with the NMAH, and its east-west axis with the Department of Commerce.

### Project Costs

Higher water table may require special construction, which may affect overall costs.

<table>
<thead>
<tr>
<th></th>
<th>Quantity (GSF)</th>
<th>Unit Cost ($)</th>
<th>Cost ($000)</th>
</tr>
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<td>Monument Minimum Build-out</td>
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<td>Design/Engineering (20%)</td>
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<td><strong>TOTAL</strong></td>
<td></td>
<td></td>
<td><strong>$902.41</strong></td>
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</table>

Note: Costs are in 2006 dollars. See page 194 for comparative and escalated costs.
Site Context Diagram

This graphic illustrates the relationship of the proposed site to the surrounding environment. Like all diagrams and models, it is conceptual in nature and is not intended to depict an actual building. Rather, it is meant to help facilitate discussion about the opportunities and limitations offered by the site.

Site analysis based on selection criteria is presented below.

Location
- Site concludes promenade of buildings on the Mall
- Adjacent to Washington Monument and National Museum of American History, two recognizable landmarks
- Most notable views to/from site are Washington Monument and the White House
- Potential build-out could obstruct views along Constitution Avenue looking toward the Washington Monument
- Other views (to south and east of site) toward adjacent Mall museums
- Site begins row of museums on the west end of the mall
- Any potential build-out should consider major central axis shared by neighboring museums east of site – National Museum of American History and National Museum of Natural History

Compatibility with Planning Efforts
- The L'Enfant and the McMillan plans show this to be a potential building site
- The site is within “The Reserve” area in the 2001 Memorials and Museums Plan

Existing Site Conditions
- 50-feet security setback does not preclude significant, useable building acreage for a museum
- All utilities available; GSA water and gas lines may need to be relocated
- Opportunities for architectural expression and sustainable design

Transportation
- Pedestrian traffic flows to site on route to memorials and museums on the greater National Mall
- Site provides good access to/from public transportation at the Smithsonian and Federal Triangle Metrorail stations
- Heavy vehicular traffic northeast of site on 14th Street and Constitution Ave.
- Heavy tour bus traffic south of the site, loading and unloading Washington Monument visitors, from an existing bus lay-by on Jefferson Drive
Minimum Site Setback Considerations

- Potential NMAAHC Site Build-Out
- Vehicular Traffic
- Pedestrian Circulation
- Site Lines
- Adjacent Building Alignments
- Major Axis

Potential Useable Footprint (L-1): 72,300 GSF

Smithsonian Institution-National Museum of African American History and Culture
Site Evaluation Study | Phase II: Analysis and Modeling — Monument Site

91
Site Plan Diagram

This graphic depicts how the proposed museum might fit onto the site and suggests the best possible entry points. Like all diagrams and models, it is conceptual in nature and is not intended to depict an actual building. Rather, it is meant to help facilitate discussion about the opportunities and limitations offered by the site.

Location

- Adjacency to existing National Museum of American History provides possibilities for symbolically connecting the two museums by expressing continuity between African American and American histories
- Similar service entry as exists for NMAH along 14th Street
- Primary entry proposed from south near Washington Monument
- Major façade would face south, attracting pedestrian traffic from adjacent National Mall museums to the east and southeast of site, as well as traffic from existing bus lay-by on Jefferson Drive
- Secondary entrance proposed from north of site along Constitution Avenue to pick up pedestrian traffic from NMAH and NMNH

Proposed Build-out

- Total acreage for existing site: 5 acres (~217,800 GSF)
- Major axis and site lines of adjacent buildings considered in footprint, leaving ample room for outdoor gathering, performance space or an entry plaza to the south
- Proposed above-grade footprint preserves the majority of existing trees and provides some area for surface parking for buses, VIPs, etc.
- Potential build-out could possibly obscure the view of the Washington Monument at street level
- Proposed above-grade footprint at Level One: 69,100 GSF, leaving approximately 148,700 GSF for outdoor programming
- Footprint drawn from adjacent buildings’ site lines: 1) north-south site lines of National Museum of American History; and 2) west-east site lines of the Department of Commerce
Minimum Conceptual Site Plan

- Potential MMHC Site Build-Out
- Potential Outdoor Program Area/Adjacent Green Space
- Potential Points of Entry

Below Grade Structure:
Opportunity for Underground Connection to National Museum of African American History

Total Area (B-1 - L-5):
B-1 - L-5 (15 FT F/F) 69,100 SF
Total 414,600 GSF
**Blocking Diagrams**

This graphic depicts how the proposed museum might be organized, using 350,000 GSF as a point of departure. Like all diagrams and models, it is conceptual in nature and is not intended to depict an actual building. Rather, it is meant to help facilitate discussion about the opportunities and limitations offered by the site.

- First level would hold all major visitor service functions and access to some performance space
- Upper levels would hold administrative and curatorial office functions, as well as public program and exhibit spaces
- Additional theater, performance space and exhibit support functions held below-grade
**Minimum Blocking**

Note: Theater/performance spaces span three levels, and exhibit areas span two levels. Square footage for these areas (indicated by respective color), is included on the potential entry level.
Stacking/Massing and Section Diagrams

These graphics also depict how the proposed museum might be organized, using 350,000 GSF as a point of departure. In addition, they illustrate the height of the potential build-out and show vertical relationships to adjacent buildings and the larger (city) context. Like all diagrams and models, they are conceptual in nature and are not intended to depict an actual building. Rather, they are meant to help facilitate discussion about the opportunities and limitations offered by the site.

- Potential build-out approximately 75 feet high, aligned with adjacent National Museum of American History and National Museum of Natural History
- Adjacent buildings of various architecture styles and periods allow opportunities for architectural expression that would be specific to the proposed museum’s function
- Ample space for theater and performance spaces
- Exhibit and public program spaces placed on upper floors, allowing for natural lighting
- Possibility for underground connection to National Museum of American History
Minimum Stacking and Massing
Minimum Conceptual Site Sections

North-South Section

East-West Section
Minimum Site Conceptual Massing Models

East view toward Capitol Building

Aerial view of site

West view from National Mall toward the Washington Monument
**ii. Maximum Build-out**

Total existing acreage: 5 acres (217,800 SF)

Seven Levels above grade: 100,500 GSF each
Basement Level 1: 100,500 GSF

Total potential build-out: 804,000 GSF

The height of the building, at approximately 105 feet, would not exceed the height of the Department of Commerce building. The building’s north-south axis would align with the NMAH, and its east-west axis with the Department of Commerce.

**Project Costs**

Higher water table may require special construction, which may affect overall costs.

<table>
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<tr>
<th>Description</th>
<th>Quantity (GSF)</th>
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Note: Costs are in 2006 dollars. See page 194 for comparative and escalated costs.
**Site Context Diagram**

This graphic illustrates the relationship of the proposed site to the surrounding environment. Like all diagrams and models, it is conceptual in nature and is not intended to depict an actual building. Rather, it is meant to help facilitate discussion about the opportunities and limitations offered by the site.

Site analysis based on selection criteria is presented below.

**Location**

- Site concludes promenade of buildings on the Mall
- Adjacent to Washington Monument and National Museum of American History, two recognizable landmarks
- Most notable views to/from site are Washington Monument and the White House
- Potential build-out could obstruct views along Constitution Avenue looking toward the Washington Monument
- Other views (to south and east of site) toward adjacent Mall museums
- Site begins row of museums on the west
- Any potential build-out should consider major central axis shared by neighboring museums east of site — National Museum of American History and National Museum of Natural History

**Compatibility with Planning Efforts**

- The L’Enfant and the McMillan plans show this to be a potential building site
- The site is within “The “Reserve” area in the 2001 Memorials and Museums Plan

**Existing Site Conditions**

- 50-feet security setback does not preclude significant useable building acreage for museum

**Transportation**

- Pedestrian traffic to site from adjacent Mall museums and Washington Monument
- Public transportation to/from Smithsonian and Federal Triangle Metrorail stations, approximately a half-mile away
- Heavy vehicular traffic northeast of site on 14th Street and Constitution Avenue
- Existing bus lay-by sits south of site, across from Washington Monument on Jefferson Drive
Maximum Site Setback Considerations

- Potential NMAAHCC Site Build-Out
- Vehicular Traffic
- Pedestrian Circulation
- Site Lines
- Adjacent Building Alignments
- Major Axis

POTENTIAL USEABLE FOOTPRINT (L-1): 103,000 GSF
Site Plan Diagram

This graphic depicts how the proposed museum might fit onto the site and suggests the best possible entry points. Like all diagrams and models, it is conceptual in nature and is not intended to depict an actual building. Rather, it is meant to help facilitate discussion about the opportunities and limitations offered by the site.

Location

- Adjacency to existing National Museum of American History provides possibilities for symbolically connecting the two museums by expressing continuity between African American and American histories
- Similar service entry as exists for NMAH along 14th Street
- Primary entry proposed from south near Washington Monument
- Major façade would face south, attracting pedestrian traffic from adjacent National Mall museums to the east and southeast of site, as well as traffic from existing bus lay-by on Jefferson Drive
- Secondary entrance proposed from north of site along Constitution Avenue to pick up pedestrian traffic from NMAH and NMNH

Proposed Build-out

- Total acreage for existing site: 5 acres (~217,800 GSF)
- Major axis and site lines of adjacent buildings considered in footprint, leaving ample room for outdoor gathering, performance space or an entry plaza to the south
- Proposed above-grade footprint preserves the majority of existing trees and provides some area for surface parking for buses, VIPs, etc.
- Potential build-out could possibly obscure the view of the Washington Monument at street level.

- Proposed above-grade footprint at Level One: 105,500 GSF, leaving approximately 113,300 GSF for outdoor programming
- Footprint drawn from adjacent buildings' site lines: 1) north-south site lines of American History Museum; and 2) west-east site lines of Department of Commerce
Maximum Conceptual Site Plan

Below Grade Structure:
Opportunity for underground connection to National Museum of American History

Total Area (B-1 · L-7):
B-1 · L-7 (15 FT F/F) Each 100,500 SF
Total 804,000 GSF
Blocking Diagrams

This graphic depicts how the proposed museum might be organized, using 350,000 GSF as a point of departure. Like all diagrams and models, it is conceptual in nature and is not intended to depict an actual building. Rather, it is meant to help facilitate discussion about the opportunities and limitations offered by the site.

- First level would hold all major visitor service functions
- Upper levels would hold administrative and curatorial office functions, as well as public program and exhibit spaces
- Theater, performance space and exhibit support functions held below-grade
**Maximum Blocking**

Note: Theater/performance spaces span three levels, and exhibit areas span two levels. Square footage for these areas (indicated by respective color), is included on the potential entry level.
Maximum Blocking

Note: Theater/performance spaces span three levels, and exhibit areas span two levels. Square footage for these areas (indicated by respective color), is included on the potential entry level.
Stacking/Massing and Section Diagrams

These graphics also depict how the proposed museum might be organized, using 350,000 GSF as a point of departure. In addition, they illustrate the height of the potential build-out and show vertical relationships to adjacent buildings and the larger (city) context. Like all diagrams and models, they are conceptual in nature and are not intended to depict an actual building. Rather, they are meant to help facilitate discussion about the opportunities and limitations offered by the site.

- Potential build-out approximately 105 feet high, aligned with adjacent Department of Commerce
- Adjacent buildings of various architecture styles and periods allow opportunities for architectural expression that would be specific to the proposed museum’s function
- Ample space for theater and performance spaces
- Exhibit and public program spaces placed on upper levels, allowing for natural lighting
- Possibility for underground connection to National Museum of American History
Maximum Stacking and Massing
Maximum Conceptual Site Sections

North-South Section

East-West Section
Maximum Conceptual Massing Models

East view toward Capitol Building

Aerial view of site

West view from National Mall toward the Washington Monument
## h. Summary of Monument Site Features, Part 1

<table>
<thead>
<tr>
<th>Site Criteria</th>
<th>Common to All Scenarios</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Location</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Proximity to Mall</td>
<td>Concludes promenade of Mall.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Proximity to African American sites</td>
<td>Taps into Mall's connection with African American history.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. Views and Site Lines</td>
<td>Notable views of Washington Monument and White House; extensive views of Mall attractions. Adjacency to NMAH could create a symbolic connection.</td>
<td>North-south alignment with NMAH, and east-west alignment with Dept. of Commerce.</td>
<td>Potential build-out could obstruct views along Constitution Avenue, looking toward Washington Monument. Building on this site would displace group assembly area and emergency functions.</td>
</tr>
<tr>
<td></td>
<td>Main facade and primary entry could face south to capitalize on pedestrian traffic from Mall. Service entry on 14th Street. Secondary entrance along Constitution Avenue. Service entry on 14th Street.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>2. Compatibility with Planning Efforts</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. 1791 L’Enfant Plan</td>
<td>A building was intended for this site.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. 1901 McMillan Plan</td>
<td>A building was intended for this site.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. 1972 NPS Master Plan</td>
<td>Does not support site for new museum.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. 1997 Legacy Plan</td>
<td>Site is within prescribed “Reserve” area.</td>
<td>Useable acreage: 72,300 GSF Build-out height: 75 ft, aligned with NMAH Five levels above grade: 69,100 GSF each Basement level 1: 69,100 GSF</td>
<td>Useable acreage: 103,000 GSF Potential build-out: 804,000 SF Build-out height: 105 ft, aligned with Dept. of Commerce. Seven levels above grade: 100,500 SF each Basement level 1: 100,500 SF</td>
</tr>
<tr>
<td>e. 2001 Memorials &amp; Museums</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>f. 2004 Comprehensive Plan</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>3. Existing Site Conditions</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Useable acreage</td>
<td>Potential for underground connection to NMAH.</td>
<td>Useable acreage: 72,300 GSF Build-out height: 75 ft, aligned with NMAH Five levels above grade: 69,100 GSF each Basement level 1: 69,100 GSF</td>
<td>Useable acreage: 103,000 GSF Potential build-out: 804,000 SF Build-out height: 105 ft, aligned with Dept. of Commerce. Seven levels above grade: 100,500 SF each Basement level 1: 100,500 SF</td>
</tr>
<tr>
<td>b. Total Acreage</td>
<td>5 acres (217,800 SF)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. Zoning</td>
<td>Zoned for government use.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. Landscaping</td>
<td>Large, open site (no existing building) provides potential for unique landscape features, specific to proposed museum’s function and character. However, potential build-out would require removal of some of existing trees on site.</td>
<td>Approximately 148,700 GSF for civil, landscaping and outdoor programming.</td>
<td>Approximately 113,300 GSF for civil, landscaping and outdoor programming.</td>
</tr>
<tr>
<td>e. Security</td>
<td>Due to location, the site is at high risk for attack, but there is ample room for 50-ft or greater standoff zones.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>f. Opportunity for Arch. Expression</td>
<td>Site is encumbered by various site line and height limitations which might limit full architectural expression. Also, the site is so visible as to draw the scrutiny of review agencies and public interest groups.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>g. Opportunity for Sustainable Design</td>
<td>Ample opportunity with new structure.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>h. Utilities</td>
<td>All utilities provided. GSA water culvert and gas transmission line running through northern portion of site may or may not need to be relocated.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Site Criteria</td>
<td>Common to All Scenarios</td>
<td>Minimum</td>
<td>Maximum</td>
</tr>
<tr>
<td>---------------</td>
<td>-------------------------</td>
<td>---------</td>
<td>---------</td>
</tr>
<tr>
<td>4. Transportation</td>
<td>a. Access</td>
<td>Accessible, via foot, bike, car or public transportation. Location, generous sidewalks and adjacent greenspace make site easily accessible and pedestrian friendly.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>b. Traffic</td>
<td>Heavy vehicular traffic at 14th Street and Constitution Ave.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>c. Parking</td>
<td>Limited metered/non-metered parking along Madison Drive and Constitution Ave. Potential for an entry-plaza, as well as space to accommodate recommended parking for proposed museum personnel.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>d. Public Transit</td>
<td>Trolley stops are located on the site, and Smithsonian and Federal Triangle Metrorail stations are within two blocks of the site. Bus lay-by area on Madison Drive.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>e. Pedestrian Circulation</td>
<td>Ample pedestrian access on major north-south route to Mall memorials and museums. Southern-facing primary entrance will attract pedestrians from Mall. Secondary entrance on north will bring in pedestrian traffic from NMAH.</td>
<td></td>
</tr>
<tr>
<td>5. Environmental</td>
<td>a. Subsurface/Geotechnical</td>
<td>A good portion of the site is within the 100-year floodplain.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>b. Hazardous Materials</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>c. Landforms</td>
<td>Site slopes up about 13 feet from north to south edges. Storm water drainage piping should be increased to minimize local flooding.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>d. Climate</td>
<td>Climate typical of D.C. area.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>e. Air Quality &amp; Odors</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>f. Noise Levels</td>
<td>Heavy vehicular traffic at 14th Street and Constitution Ave.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>b. Facility</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>c. Cost-sharing</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>d. Special Consideration</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Review Agency &amp; Public Support</td>
<td>a. Commission of Fine Arts</td>
<td>CFA does not support this site, as they value open space on the Mall.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>b. NCPC (Solicited and Unsolicited)</td>
<td>NCPC staff noted that this site symbolized the value of open space on the Mall, therefore they do not recommend this site.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>d. Presidential Commission</td>
<td>Commission strongly recommends this site.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>e. Other Solicited and Unsolicited Comments</td>
<td>D.C. Mayor’s Office supports this site, but has reservations about impact on Washington Monument grounds and the size of building footprint. Sen. Brownback supports a site “on or adjacent” to Mall. Natl Coalition to Save Our Mall is against any new construction on the Mall. U.S. Commission on Civil Rights supports a Mall location.</td>
<td></td>
</tr>
</tbody>
</table>
LIBERTY LOAN

Existing Conditions
5. LIBERTY LOAN SITE SCENARIOS

a. Site and Building History

The Liberty Loan site is located on 2.5 acres at the north terminus of the 14th Street Bridge, just south of the U.S. Bureau of Engraving and Printing Building. The southern end of this site was originally part of the Potomac River tidal flats and marshland that were filled in to expand the National Mall near the end of the 19th century.

The site is occupied by the Liberty Loan Building, which has been in continuous use by the U.S. Department of the Treasury since it was built in the early 1920s. The 155,000 SF structure is one of the few surviving examples of what were known as “World War I temporary buildings.” The narrow, L-shaped building was originally a three-story structure, but the fourth and fifth floors were added in the late 1920s.

The Liberty Loan Building and the land under it have remained in Federal ownership since being reclaimed from the Potomac River tidal flats. The site originally was under the control of the Treasury Department, with the land around the building under the control of the National Park Service. Today, the National Park Service manages the landscaped space, but the building site and parking lots are under the management of the General Services Administration, who leases the building to the Treasury Department. The District of Columbia’s Department of Transportation owns and maintains the paved access ramp from Maine Avenue to 14th Street that cuts through the property and the building.

b. Existing Site Conditions

Site and Building Issues

The Liberty Loan Building is used by the Treasury Department’s Financial Management Services as office space for approximately 500 workers. These workers would have to be permanently relocated to other space if the site is selected for the NMAAHc museum.

The simple, monumental character of the building is typical of 1920s architecture. The 85-year-old facility is in good condition, having undergone a roof replacement in 2000 and substantial electrical and HVAC system upgrades in 1988. The building was modified in the early 1960s to allow the construction of the access ramp.

To make the best use of the proposed site, the Interstate 395 highway ramp passing through the existing building would need to be either closed or rerouted. Either of these options would take time, planning and coordination to execute.

The site is heavily congested with on-site parking, security barriers, constantly moving traffic beneath the building and heavy traffic along the southern and eastern borders. The site provides limited opportunities for an entry plaza or landscaping, and outdoor spaces would be possible only via terrace or roof garden.

Circulation and Transportation

The Liberty Loan site is bordered by Maine Avenue on the south, Raoul Wallenberg Place (15th Street) on the west and 14th Street, S.W. on the east. An existing alleyway to the north is controlled by Department of the Treasury security personnel and is inaccessible to the general public. The DDOT-owned access ramp from westbound Maine Avenue to southbound 14th Street, S.W. passes through the site and under the building. All three of the main roads are heavily used during the morning and evening rush hours.

Public transportation is available via the closest Metro bus stop one block north on 14th Street, N.W. and the Smithsonian Metrorail station on Independence Avenue, which is three blocks northeast of the site. The Tourmobile route passes the site along the eastern side and stops in front of the Bureau of Engraving and Printing Building.

Northbound pedestrian traffic proceeds easily past the Bureau of Engraving and Printing building, but southbound pedestrian traffic from the building is cut off by the 14th Street access ramp. Maine
Avenue pedestrian traffic along the site is impeded by the 14th Street bridge to the east, and is also interrupted by the 14th Street access ramp. Signalized and well-marked crosswalks facilitate pedestrian activity along the Tidal Basin and West Potomac Park to the south.

**Site Utilities**

All utilities are currently available on the site, including sanitary and storm sewer, natural gas, water, electric and GSA steam.

**Soil and Topography**

A review of the building’s archived 1918 and 1919 construction drawings did not yield any soil condition information. Soil conditions have been approximated by referring to soil borings for the nearby Portals project to the east of the Liberty Loan site. The borings were drilled to a depth of 65 to 80 feet below the ground surface. Other sources of Washington, D.C. geological information indicate that solid bedrock is usually found between 70 to 120 feet below sea level in the downtown area. Groundwater was present between 2.7 and 5.1 feet below sea level.

The Liberty Loan site slopes about 13 feet downward from seven meters (23 feet) above sea level on the north end to three meters (9.8 feet) above sea level on the south edge. The 100-year floodplain includes Maine Avenue up to the southern edge of the site, but the actual site is not within the floodplain.

c. **Existing Land Use**

The site is occupied by the 155,000 GSF Liberty Loan Building.

**Exterior Spaces and Landscape Features**

The National Park Service has planted trees and hedges to soften and screen parking lot edges. The east side of the site has a very small grassy area between the building and 14th Street that allows limited pedestrian access.

**Parking Availability**

Public parking around the Liberty Loan Building is minimal. Two small parking lots are bisected by the 14th Street on-ramp and provide parking for approximately 58 Treasury employee vehicles. There is no public parking along 14th Street or Raoul Wallenberg Place. Some public spaces exist along Maine Ave, and there is a public pay lot across 14th Street. However, long-term development plans include a shopping mall along 14th Street just east of the building, which may take up much of the parking currently available in the area. The massing diagrams illustrate that the site can accommodate a lay-by for group buses and could provide an entrance for evening events.

d. **Surrounding Resources and Visitation Potential**

The Liberty Loan site is four blocks south of the historic Mall in the central portion of the National Mall and is not in close proximity of many other Smithsonian Museums. However, it is located within walking distance of the Washington Monument and the Tidal Basin, and it is on the same block as the Holocaust Museum, which has reported over 21.7 million visitors since opening in 1993 (averaging 1.8 million visitors per year). The Bureau of Engraving and Printing, just north of the Liberty Loan Building, draws approximately 250,000 visitors annually.

The Mandarin Hotel is across 14th Street, and a planned shopping mall 100 feet east of the site could make this site attractive for visitors.

e. **Risk and Security Issues**

Given the requirements for a 50-foot setback and the existing road configuration, designers would have a difficult time fitting a museum building of the projected program size on this site. The site is bordered on three sides by roads, and on the north side by an alley between the Liberty Loan and Bureau of Engraving and Printing buildings. Security checkpoints with anti-ram devices exist at both the east and west ends of the alley. The close proximity of the devices to both buildings does
Existing Site Characteristics and Design Framework
Topography, Existing Exterior Spaces and Landscape Features
not provide any standoff distance for explosives, and the alley would amplify a blast. Concrete barricades have been placed along roads around the south and west sides of the site as a security precaution.

With 14th Street to the east, Maine Avenue on the south and Raoul Wallenberg Place on the west, there are close avenues of approach to the facility. The Maine Avenue access ramp forms a passage through the first level of the building to connect with 14th Street. If this ramp remains, then additional protective measures will be required to further harden a new facility. This ramp would provide easy access for vehicles carrying explosives to areas directly under a new facility.

The site is within 300 feet of a railroad line that annually carries six million tons of hazardous chemicals, including chlorine, ammonia, and hydrochloric and sulfuric acid. The CSX railroad company has appealed a court-issued injunction on behalf of the District of Columbia against transporting hazardous materials through the district.

The Tidal Basin and Washington Channel are within 500 feet. Although not within the 100-year floodplain, which ends at Maine Avenue, the elevation is low enough to make the site susceptible to a chemical or biological attack.

Nearby facilities and the planned shopping mall 100 feet to the east make the area a target-rich environment for attacks against large gathering facilities.  

f. Existing Design Framework

The Liberty Loan Building is aligned on the west and the east with the U.S. Bureau of Engraving and Printing and the Holocaust Museum. It can be seen clearly while traveling north on 14th Street. The Washington Monument is visible from the western end of the site, and the Jefferson Memorial is visible to the southwest through a dramatic view of the Tidal Basin. From the south end of the site, there are prominent views of the Jefferson Memorial, FDR Memorial, and the future Martin Luther King, Jr. Memorial.

End Notes

Site line along the west side of site facing north

Site line along the east side of the site facing north
Security, Vehicular and Pedestrian Circulation

EXISTING STRUCTURE + SECURITY: EXISTING BUILDING ON SITE WITH I-395 RAMP FOR TRAFFIC MERGING ONTO 14TH STREET BRIDGE, BUILDING TO BE DEMOLISHED; RAMP TO BE REMAIN IN MIN BUILDOUT ONLY

PEDESTRIAN TRAFFIC: FROM WASHINGTON MONUMENT AND ELLIPSE

PEDESTRIAN TRAFFIC: EXISTING LAY-BY

VEHICULAR TRAFFIC: EXISTING LAY-BY

VEHICULAR TRAFFIC: MONITOR TRAFFIC AREA

VEHICULAR TRAFFIC: HEAVY SUMMER TRAFFIC AREA, MAJOR APPROACH

PROPOSED NMMAHC SITE WITHIN 50 FT SECURITY SETBACK

VEHICULAR CIRCULATION

NOISE

SECURITY: 50 FT SETBACK SHOWN WITHOUT CONSIDERATION OF I-395 RAMP

TIDAL BASIN

JEFFERSON MEMORIAL

WASHINGTON MARINA

WASHINGTON CHANNEL

MIXED-USE (UNDER DEVELOPMENT)

DEPARTMENT OF TREASURY

DEPARTMENT OF ENGRAVING & PRINTING

PEDESTRIAN TRAFFIC: FROM NATIONAL MALL AND HOLOCAUST MUSEUM

MADISON FWY

14TH STREET

16TH STREET
g. Model Program Scenarios

The Liberty Loan site would allow the proposed conceptual organization of the museum with six to eight levels above grade and one partial level below grade.

Some issues to consider regarding either scenario include:

- Existing building contains hazardous materials which would require special handling and disposal during demolition.
- A 50-foot security setback along all but the north side will produce a slightly larger footprint than one formed by the site lines of the U.S. Bureau of Engraving and Printing Building.
- Although the organizational diagram fits on the site, the majority of the open areas is sacrificed.
- The site will not accommodate any exterior activity spaces, including an optional outdoor theater.
- The organizational diagram allows for a roof garden/terrace, but there is very little room on the site for landscaping. Depending on the final design of the building, trees may be planted along 14th Street in order to create a buffer zone.
- The southern third of the site - parallel to Maine Avenue - contains several major underground utilities that must be addressed in order to use the full site, including sanitary sewer mains, major electrical ductwork and a large abandoned steam tunnel.
- To reduce the direct southern exposure on the site, the new building could be placed along the southwest end of the site.
### i. Minimum Build-out

Total existing acreage: 2.5 acres (110,000 SF)

Six Levels above grade-
Level 1: 51,860 GSF
Levels 2-6: 73,950 GSF each
Basement Level 1: 53,840 GSF

Total potential build-out: 475,450 GSF

As this scenario keeps the 14th Street access ramp which passes through the Liberty Loan Building, the first floor would have less square footage. The building would align with the U.S. Bureau of Engraving and Printing with an additional standoff area to the north between the two buildings. The height of the potential build-out is approximately 75 feet.

### Project Costs

The cost of demolition of the existing building has been included.

<table>
<thead>
<tr>
<th>Description</th>
<th>Quantity (GSF)</th>
<th>Unit Cost ($)</th>
<th>Cost ($000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liberty Loan Minimum Build-out</td>
<td>475,000</td>
<td>482.48</td>
<td>229,178</td>
</tr>
<tr>
<td>Substructure</td>
<td>475,000</td>
<td>11.13</td>
<td>5,286</td>
</tr>
<tr>
<td>Superstructure</td>
<td>475,000</td>
<td>149.12</td>
<td>70,833</td>
</tr>
<tr>
<td>Exterior Closure</td>
<td>475,000</td>
<td>62.41</td>
<td>29,645</td>
</tr>
<tr>
<td>Roofing</td>
<td>475,000</td>
<td>2.34</td>
<td>1,112</td>
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<tr>
<td>Interior Construction</td>
<td>475,000</td>
<td>30.06</td>
<td>14,762</td>
</tr>
<tr>
<td>Interior Finishes</td>
<td>475,000</td>
<td>31.08</td>
<td>14,762</td>
</tr>
<tr>
<td>Conveying Systems</td>
<td>475,000</td>
<td>5.29</td>
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<tr>
<td>Plumbing</td>
<td>475,000</td>
<td>12.81</td>
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<td>HVAC</td>
<td>475,000</td>
<td>52.78</td>
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<td>Fire Protection Systems</td>
<td>475,000</td>
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<td>Electric Power &amp; Lighting</td>
<td>475,000</td>
<td>28.82</td>
<td>13,691</td>
</tr>
<tr>
<td>Electrical Systems</td>
<td>475,000</td>
<td>67.98</td>
<td>32,289</td>
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<tr>
<td>Equipment</td>
<td>475,000</td>
<td>21.82</td>
<td>10,365</td>
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<tr>
<td>Furnishings</td>
<td>475,000</td>
<td>0.34</td>
<td>164</td>
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<tr>
<td><strong>Subtotal</strong></td>
<td></td>
<td></td>
<td><strong>229,178</strong></td>
</tr>
<tr>
<td>Antiterrorism/Force Protection</td>
<td></td>
<td></td>
<td>37,532</td>
</tr>
<tr>
<td>Site/Infrastructure Costs</td>
<td></td>
<td></td>
<td>73,753</td>
</tr>
<tr>
<td>Demolition of Existing Facility</td>
<td>155,000</td>
<td></td>
<td>3,875</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td></td>
<td></td>
<td><strong>344,338</strong></td>
</tr>
<tr>
<td>Construction Management (6%)</td>
<td></td>
<td></td>
<td>20,660</td>
</tr>
<tr>
<td>Design/Engineering (20%)</td>
<td></td>
<td></td>
<td>69,901</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td></td>
<td><strong>$915.58</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><strong>$434,900</strong></td>
</tr>
</tbody>
</table>

**Note:** Costs are in 2006 dollars. See page 194 for comparative and escalated costs.
Site Context Diagram

This graphic illustrates the relationship of the proposed site to the surrounding environment. Like all diagrams and models, it is conceptual in nature and is not intended to depict an actual building. Rather, it is meant to help facilitate discussion about the opportunities and limitations offered by the site.

Site analysis based on selection criteria is presented below.

Location
- Site is located at termination of 14th Street (before bridge) on the same block as the Holocaust Museum
- Site will be in clear view of future Martin Luther King, Jr. Memorial (to west of site)
- Site has clear views of Jefferson Memorial and Tidal Basin (southwest of site), as well as of Washington Monument (northwest of site)

Compatibility with Planning Efforts
- The site has been ranked 12th among the top 20 potential sites in the Memorials and Museums Master Plan

Existing Site
- 155,000 SF building located on site
- 50-ft security setback limits useable acreage for building footprint
- I-395 access ramp runs through existing building
- Once existing building is demolished, I-395 access ramp to be maintained in this scenario only
- Maintaining I-395 poses security threats as well as limitations to useable acreage
- Ample opportunity for sustainable design in new structure

Transportation
- Heavy vehicular traffic and associated noise from traffic on 14th Street and Maine Avenue moving through site, toward I-395 and downtown
- Existing bus lay-by sits northwest of site across from Bureau of Engraving and Printing and Holocaust Museum on 15th Street
- Pedestrian traffic from north (Washington Monument and Holocaust Museum)
Minimum Site Setback Considerations

Existing Structure: Existing building removed. I-395 ramp to remain in MIN Buildout only.

Security: By maintaining ramp, vertical security is compromised. Making 50 FT setback negligible.

Diagram shows footprint with 10Ft sidewalk offset from I-395 ramp space.
Site Plan Diagram

This graphic depicts how the proposed museum might fit onto the site and suggests the best possible entry points. Like all diagrams and models, it is conceptual in nature and is not intended to depict an actual building. Rather, it is meant to help facilitate discussion about the opportunities and limitations offered by the site.

Location

- Primary entry proposed from west of site, picking up pedestrian traffic from Washington Monument, with major façade and views toward Tidal Basin and Jefferson Memorial
- Secondary entry proposed from east, to link with main entry of Holocaust Museum on 14th Street and pull traffic from National Mall and Smithsonian Castle
- Service entry proposed for existing alley north of site

Proposed Footprint/Build-out

- Total acreage for existing site: 2.5 acres (110,000 SF)
- Preservation of I-395 ramp further limits possibilities for outside gathering spaces or entry plaza
- I-395 ramp compromises vertical security, therefore making 50-ft setback largely negligible
- Proposed above-grade footprint at Level 1: 53,840 GSF leaves minimal space for outdoor programming
- East and west sides of building footprint determined by site lines of Bureau of Engraving and Printing building
- North side of building footprint determined by distance of adjacent Bureau of Engraving and Printing building from shared existing service alley
- Building footprint offset 10 ft (rather than 50 ft) from ramp, allowing for ample turning radius for merging traffic, as well as room for sidewalks

Transportation

- Existing bus lay-by located across from Holocaust Museum
- Additional bus lay-by proposed at southwest portion of site off Maine Avenue
Minimum Site Conceptual Site Plan

- Potential IMAMC Site Build-Out
- Potential Outdoor Program Area Adjacent Green Space
- Potential Points of Entry

TOTAL AREA (B-1 - L-6):
B-1 (15 FT F/F) 53,640 SF
L-1 (15FT F/F) 51,860 SF
L-2 - L-6 (15FT F/F) 73,950 SF
TOTAL 475,450 GSF
**Blocking Diagrams**

This graphic depicts how the proposed museum might be organized, using 350,000 GSF as a point of departure. Like all diagrams and models, it is conceptual in nature and is not intended to depict an actual building. Rather, it is meant to help facilitate discussion about the opportunities and limitations offered by the site.

- First level bisected by the I-395 ramp
- Northern portion of first level would hold some visitor service functions and receiving with access off the service alley to the north
- Access to theater and performance spaces in the southern portion of the first level would be from the upper levels
- Upper floors would hold additional visitor services, administrative and curatorial office functions, as well as public program and exhibit spaces
- Mechanical spaces distributed to every floor, with major mechanical space and exhibit support functions held below-grade
Minimum Site Blocking

Note: Theater/performance spaces span three levels, and exhibit areas span two levels. Square footage for these areas (indicated by respective color), is included on the potential entry level.
Stacking/Massing and Section Diagrams

These graphics also depict how the proposed museum might be organized, using 350,000 GSF as a point of departure. In addition, they illustrate the height of the potential build-out and show vertical relationships to adjacent buildings and the larger (city) context. Like all diagrams and models, they are conceptual in nature and are not intended to depict an actual building. Rather, they are meant to help facilitate discussion about the opportunities and limitations offered by the site.

- Potential build-out approximately 75 feet high
- Adjacent buildings of various architecture styles and periods allow opportunities for architectural expression that would be specific to the proposed museum’s function
- Views of Tidal Basin, south-west of site, offer distinctive opportunities for architectural expression
- Limited space for theater and performance
- Exhibit and public program spaces placed on upper levels, allowing for natural lighting
Minimum Site Stacking and Massing
Minimum Conceptual Site Sections

North-South Section

East-West Section
Minimum Site Conceptual Massing Models

East view from Jefferson Memorial

Aerial view of site

Northwest view toward the Washington Monument
**ii. Maximum Build-out**

Total existing acreage: 2.5 acres (110, 000 SF)

Eight Levels above grade-
Levels 1-2: 60,000 GSF each
Levels 4-8: 68,650 GSF each
Basement Level 1: 27,510 GSF

Total potential build-out: 559,410 GSF

This scenario removes the 14th Street access ramp which passes through the Liberty Loan Building, allowing more square footage for the first floor. The building would align with the U.S. Bureau of Engraving and Printing with an additional standoff area to the north between the two buildings. The height of the potential build-out will be approximately 120 feet.

**Project Costs**

The cost of demolition of the existing building has been included.

<table>
<thead>
<tr>
<th>Project</th>
<th>Quantity (GSF)</th>
<th>Unit Cost ($)</th>
<th>Cost ($000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liberty Loan Maximum Build-out</td>
<td>560,000</td>
<td>482.75</td>
<td>270,341</td>
</tr>
<tr>
<td>Substructure</td>
<td>560,000</td>
<td>22.45</td>
<td>12,575</td>
</tr>
<tr>
<td>Superstructure</td>
<td>560,000</td>
<td>127.90</td>
<td>71,625</td>
</tr>
<tr>
<td>Exterior Closure</td>
<td>560,000</td>
<td>70.13</td>
<td>39,270</td>
</tr>
<tr>
<td>Roofing</td>
<td>560,000</td>
<td>1.51</td>
<td>848</td>
</tr>
<tr>
<td>Interior Construction</td>
<td>560,000</td>
<td>29.80</td>
<td>16,688</td>
</tr>
<tr>
<td>Interior Finishes</td>
<td>560,000</td>
<td>31.25</td>
<td>17,499</td>
</tr>
<tr>
<td>Conveying Systems</td>
<td>560,000</td>
<td>4.45</td>
<td>2,492</td>
</tr>
<tr>
<td>Plumbing</td>
<td>560,000</td>
<td>12.65</td>
<td>7,083</td>
</tr>
<tr>
<td>HVAC</td>
<td>560,000</td>
<td>6.52</td>
<td>3,651</td>
</tr>
<tr>
<td>Fire Protection Systems</td>
<td>560,000</td>
<td>35.27</td>
<td>19,754</td>
</tr>
<tr>
<td>Electrical Systems</td>
<td>560,000</td>
<td>69.06</td>
<td>38,673</td>
</tr>
<tr>
<td>Equipment</td>
<td>560,000</td>
<td>21.06</td>
<td>11,796</td>
</tr>
<tr>
<td>Furnishings</td>
<td>560,000</td>
<td>0.38</td>
<td>213</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td></td>
<td></td>
<td><strong>270,341</strong></td>
</tr>
<tr>
<td>Antiterrorism/Force Protection</td>
<td></td>
<td>44470</td>
<td></td>
</tr>
<tr>
<td>Site/Infrastructure Costs</td>
<td></td>
<td>86,102</td>
<td></td>
</tr>
<tr>
<td>Demolition of Existing Facility</td>
<td>155,000</td>
<td>3,875</td>
<td></td>
</tr>
<tr>
<td>Demolition of On-Ramp</td>
<td></td>
<td>1,200</td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td></td>
<td><strong>405,987</strong></td>
<td></td>
</tr>
<tr>
<td>Construction Management (6%)</td>
<td></td>
<td>24,359</td>
<td></td>
</tr>
<tr>
<td>Design/Engineering (20%)</td>
<td></td>
<td>82,415</td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td><strong>$915.71</strong></td>
<td><strong>$512,800</strong></td>
</tr>
</tbody>
</table>

Note: Costs are in 2006 dollars. See page 194 for comparative and escalated costs.
Site Context Diagram

This graphic illustrates the relationship of the proposed site to the surrounding environment. Like all diagrams and models, it is conceptual in nature and is not intended to depict an actual building. Rather, it is meant to help facilitate discussion about the opportunities and limitations offered by the site.

Site analysis based on selection criteria is presented below.

Location

- Site is located at termination of 14th Street (before bridge) on block with Holocaust Museum
- Site will be in clear view of future Martin Luther King, Jr. Memorial (to west of site)
- Site has clear views of Jefferson Memorial, Tidal Basin and Lincoln Memorial (south and west of site), as well as Washington Monument (northwest of site)

Compatibility with Planning Efforts

- The site has been ranked 12th among the top 20 potential sites in the Memorials and Museums Master Plan.

Existing Site

- 155,000 SF building located on site
- 50-ft security setback limits useable acreage for building footprint in both scenarios
- I-395 ramp runs through existing building, to be removed in MAXIMUM scenario, providing more useable acreage for building footprint

Transportation

- Heavy vehicular traffic and associated noise from traffic on 14th Street and Maine Avenue moving toward I-395 and downtown

- Existing bus lay-by sits northwest of site across from Bureau of Engraving and Printing and Holocaust Museum on 15th Street
- Pedestrian traffic from north (Washington Monument and Holocaust Museum)
Maximum Site Setback Considerations

- Potential NMAC Site Build-Out
- Vehicular Traffic
- Pedestrian Circulation
- Noise
- Site Lines
- Adjacent Building Alignments
- Major Axis

EXISTING STRUCTURE + SECURITY: EXISTING BUILDING AND I-395 RAMP REMOVED IN MAX BUILDOUT

POTENTIAL USEABLE FOOTPRINT (L-1): 65,000 GSF

SITE LINE: AUDITOR'S BUILDING
SITE LINE: HOLOCAUST MUSEUM

DEPARTMENT OF ENGRAVING & PRINTING
14TH STREET BRIDGE
MIXED USE (UNDER DEVELOPMENT)
TIDAL BASIN
**Site Plan Diagram**

This graphic depicts how the proposed museum might fit onto the site and suggests the best possible entry points. Like all diagrams and models, it is conceptual in nature and is not intended to depict an actual building. Rather, it is meant to help facilitate discussion about the opportunities and limitations offered by the site.

**Location**

- Primary entry proposed west of site, picking up pedestrian traffic from Washington Monument with major façade and views toward Tidal Basin and Jefferson Memorial
- Secondary entry proposed from east, to link with main entry of Holocaust Museum on 14th Street and pull traffic from National Mall and Smithsonian Castle
- Service entry proposed for existing alley north of site

**Proposed Footprint/Build-out**

- Total acreage for existing site: 2.5 acres (110,000 SF)
- Small site limits possibilities for outside gathering spaces or an entry plaza
- Proposed above-grade footprint at Level 1: 60,000 GSF leaves minimal space for outdoor programming
- East and west sides of building footprint determined by site lines of Bureau of Engraving and Printing building
- North side of building footprint determined by distance of adjacent Bureau of Engraving and Printing from shared existing service alley
- I-395 ramp to be removed, allowing for 50-ft setback to be maintained to some degree along 14th Street and Maine Avenue

**Transportation**

- Existing bus lay-by located across from Holocaust Museum
- Additional bus lay-by proposed at southwest portion of site off Maine Ave.
Maximum Site Conceptual Site Plan

- Potential NMAHC Site Build-Out
- Potential Outdoor Program Area/Adjacent Green Space
- Potential Points of Entry

Maximum Site

Total Area (B-1 - L-8):
- B-1 (15 FT F/F) 27,510 SF
- L-1 - L-2 (15FT F/F) 60,000 SF
- L-3 - L-8 (15FT F/F) 68,650 SF
- Total 550,410 GSF
**Blocking Diagrams**

This graphic depicts how the proposed museum might be organized, using 350,000 GSF as a point of departure. Like all diagrams and models, it is conceptual in nature and is not intended to depict an actual building. Rather, it is meant to help facilitate discussion about the opportunities and limitations offered by the site.

- First and second levels set back to allow for bus lay-by and/or entry plaza
- First level holds major visitor service functions, as well as access to theater and performance spaces
- Receiving with access off the service alley to the north
- Upper levels hold administrative and curatorial office functions, as well as public program and exhibit spaces
- Mechanical spaces distributed to every floor, with major mechanical space and exhibit support functions held below-grade
Maximum Site Blocking

Note: Theater/performance spaces span three levels, and exhibit areas span two levels. Square footage for these areas (indicated by respective color), is included on the potential entry level.
Maximum Site Blocking

Note: Theater/performance spaces span three levels, and exhibit areas span two levels. Square footage for these areas (indicated by respective color), is included on the potential entry level.
Stacking/Massing and Section Diagrams

These graphics also depict how the proposed museum might be organized, using 350,000 GSF as a point of departure. In addition, they illustrate the height of the potential build-out and show vertical relationships to adjacent building and the larger (city) context. Like all diagrams and models, they are conceptual in nature and are not intended to depict an actual building. Rather, they are meant to help facilitate discussion about the opportunities and limitations offered by the site.

- Potential build-out approximately 120 feet high, aligned with Bureau of Engraving and Printing
- Adjacent buildings of various architecture styles and periods allowing for opportunities for architectural expression that would be specific to the proposed museum’s function
- Views of Tidal Basin, south-west of site, offer distinctive opportunities for architectural expression
- Exhibit and public program spaces placed on upper levels, allowing for natural lighting
Maximum Stacking and Massing
Maximum Conceptual Site Sections
Maximum Site Conceptual Massing Models

East view from Jefferson Memorial

Northwest view toward the Washington Monument

Aerial view of site
### h. Summary of Liberty Loan Site Features, Part 1

<table>
<thead>
<tr>
<th>Site Criteria</th>
<th>Common to All Scenarios</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Location</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Proximity to Mall</td>
<td>Four blocks south of the Mall center.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Proximity to African American sites</td>
<td>Future MUK memorial will be seen from this site.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. Visitation Potential</td>
<td>Located on same block as Holocaust Museum and just south of the U.S. Bureau of Engraving &amp; Printing.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. Views and Site Lines</td>
<td>Clear views of Jefferson Memorial, Tidal Basin and Washington Monument. Site will be in clear view of the future MUK Memorial west of site.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Alignment with U.S. Bureau of Engraving &amp; Printing.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Primary facade/entry on west side will face Tidal Basin and Jefferson Memorial. Secondary entry will be on the east, linking with entry of Holocaust Museum and pulling visitors from the major museums on the National Mall. Service entry proposed for alley shared with Engraving &amp; Printing,</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>2. Compatibility with Planning Efforts</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. 1791 L’Enfant Plan</td>
<td>Site is shown on plan.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. 1901 McMillan Plan</td>
<td>Site does not appear on plan.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. 1972 NPS Master Plan</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. 1997 Legacy Plan</td>
<td>Fits with Plan’s recommendation to disperse museums and monuments throughout city.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>e. 2001 Memorials &amp; Museums</td>
<td>Site is #12 on list of potential sites.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>3. Existing Site Conditions</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Useable acreage</td>
<td>Useable acreage: 53,300 SF Potential Build-out: 475,450 GSF Build-out height: 75 ft Six levels above grade Level 1: 51,860 GSF (Smaller first floor due to access ramp running through building) Levels 2-6: 73,950 GSF each Basement level 1: 53,840 GSF Access ramp is retained in this scenario.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Total Acreage</td>
<td>2.5 acres (110,000 SF)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. Zoning</td>
<td>Zoned for government use.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. Landscaping</td>
<td>Limited room to accommodate landscaping or outdoor programming space.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>e. Security</td>
<td>50 ft standoff zone limits useable acreage and opportunities for landscaping and outdoor programming. Maintaining I-395 ramp further limits useable acreage at ground floor and compromises vertical security, making 50 ft security standoff largely negligible. Footprint offset only 10 ft from ramp. Additional standoff area to the north between museum and Engraving &amp; Printing building.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>f. Opportunity for Arch, Expression</td>
<td>The small site somewhat limits the ability for full architectural expression, but various styles of neighboring buildings might encourage creative, yet appropriate solutions. Views of Tidal Basin can have a positive impact on design solution.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>g. Opportunity for Sustainable Design</td>
<td>Ample opportunity with new structure.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>h. Utilities</td>
<td>All utilities are provided. Several underground utilities near Maine Avenue will need to be addressed in order to use full site.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### h. Summary of Liberty Loan Site Features, Part 2

<table>
<thead>
<tr>
<th>Site Criteria</th>
<th>Common to All Scenarios</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>4. Transportation</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Access</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Traffic</td>
<td>Heavy vehicular traffic south and east of site on Maine Ave and 14th Street.</td>
<td>I-395 access ramp running through existing building, to be maintained.</td>
<td>I-395 access ramp running through existing building, to be removed.</td>
</tr>
<tr>
<td>c. Parking</td>
<td>Minimal public parking in area. Bus lay-by across from Holocaust Museum.</td>
<td></td>
<td>Potential to setback ground floor(s) to allow for easier access, with bus lay-by or entry plaza.</td>
</tr>
<tr>
<td>e. Pedestrian Circulation</td>
<td>Pedestrian access is available from all sides except where blocked by access ramp. Maintaining I-395 poses potential problem for pedestrian circulation at ground level.</td>
<td>Pedestrian access is available from all sides.</td>
<td></td>
</tr>
<tr>
<td><strong>5. Environmental</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Subsurface/Geotechnical</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Hazardous Materials</td>
<td>Existing building contains hazardous materials which would require special handling and disposal during demolition.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. Landforms</td>
<td>Site slopes 13 feet from north to south sides.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. Climate</td>
<td>Climate typical of D.C. area.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>e. Air Quality &amp; Odors</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>6. Magnitude of Costs</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Site Prep/Demolition</td>
<td>Existing building contains extensive hazardous materials which would require special handling and disposal during demolition.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Facility</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. Cost-sharing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. Special Consideration</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>7. Review Agency &amp; Public Support</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Commission of Fine Arts</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. NCPC (Solicited and Unsolicited)</td>
<td>NCPC staff noted proximity of site to current and future monuments.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. Presidential Commission</td>
<td>Commission Chair feels the site is inappropriate, as it is small, somewhat inaccessible and has a ramp running through the site.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>e. Other Solicited and Unsolicited Comments</td>
<td>D.C. Mayor’s Office considers the site “marginal” and too small. GSA has concerns about moving 500 Treasury staff into more expensive space, as well as losing cash flow from leasing arrangement.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
BANNEKER OVERLOOK

Existing Conditions
6. Banneker Overlook Site Scenarios

a. Site and Building History

The eight-acre Banneker Overlook site is located at the southern terminus of L’Enfant Promenade at the south end of 10th Street. It is about four blocks from the Mall, and on axis with the Smithsonian Castle, but views to and from the Castle are blocked by the Department of Energy’s Forrestal Building. The site overlooks the Southwest Waterfront.

The Banneker Overlook and the southwest areas of the District of Columbia were integral parts of the original L’Enfant Plan for the capital. During the early years of Washington, D.C., the Southwest Waterfront neighborhood was an active port area. The area once consisted of low-lying tidal flats and was prone to flooding. During the late nineteenth century, the U.S. Army Corps of Engineers reclaimed the land in this area by dredging what is now the Washington Channel and using the dredged spoils to fill and create new land, including creation of the mound that is now referred to as the “Banneker Overlook.”

By the twentieth century, the waterfront had evolved into a diverse and active working-class neighborhood. In the 1950s and 1960s, the waterfront experienced both urban renewal and construction of the interstate highway system. The interstate cut the waterfront off from the city, and the development of massive office buildings to the north of the highway destroyed the vibrant mix of homes and businesses in the area – many of them owned or occupied by African Americans.

In June 1970, the District of Columbia’s Redevelopment Land Agency transferred 4.68 acres of the Banneker Overlook site to the United States Government (for use by and control of the National Park Service). The deed of conveyance required that the parcel be devoted exclusively to the uses specified in the District of Columbia’s 1967 Urban Renewal Plan for the surrounding property, i.e., as an overlook and park. On November 19, 1971, a park was created on the site and designated as the Benjamin Banneker Overlook Park. Banneker (1731-1806) was a self-taught, African-American mathematician and astronomer who assisted in the 1791 survey of the “Federal Territory,” a ten-mile square now known as the District of Columbia.

The Banneker Overlook site resides in an area that has figured prominently in the history of African Americans:

- During the late 1770s, the Overlook was originally part of the plantation belonging to Notley Young, who owned a number of farms in the area and reportedly owned 265 slaves. Young’s mansion sat southeast of the current Banneker Overlook Park.
- The southern waterfront of the capital was the site of the near escape in 1848 of 77 slaves aboard the coastal schooner, Pearl.
- Anthony Bowen, an educator and former slave, made his waterfront area home a stop on the Underground Railroad.

b. Existing Site Conditions

Site and Building Issues

There is no building on this site. A non-functioning reflecting pool/fountain sits on the highest elevation of the site in Banneker Park. The fountain is constructed of granite and serves as a terminus for the L’Enfant Promenade and 10th Street. Immediately northeast of this site is the U.S. Postal Service Headquarters; northeast of the site are office buildings and a hotel. Interstate 395, a major artery in the city, is located north of the site, running east-west. South of the site, along the waterfront, are several buildings, including restaurants, a hotel, a disco, and a yacht club. A number of seafood merchants are located in a cluster of temporary frame structures along the southwestern edge of this site.

This nearby fish market can negatively impact air quality of the Overlook site, depending on wind direction and air temperature. When the wind blows from the southwest, odors from the fish market can be powerful and have been the source of complaints by L’Enfant Plaza workers.
Notley Young's Plantation (1797) overlayed on current map of Southwest Waterfront.

Source: Don Alexander Hawkins and Joseph Passonneau and Partners
Circulation and Transportation

The Banneker Overlook site is bisected by two access ramps that connect 10th Street to 9th Street and I-395. Removal of these access streets is preferable if a museum is constructed on the site. Maine Avenue along the south side of the site is a six-lane, divided minor arterial. Current traffic patterns limit the site and pose some potential problems. L’Enfant Promenade would no longer be accessed by the I-395 off-ramp, and traffic would need to be re-routed in at least three ramp locations.

Tour bus parking is available in parking lanes provided on the north side of Maine Avenue along the site. The nearest Metro bus stop is adjacent to the site in front of the U.S. Department of Agriculture Building on Maine Avenue and 9th Street, S.W. The closest Metrorail station is located within a half-mile at L’Enfant Plaza.

The District of Columbia Department of Transportation (DDOT) has expressed an interest in constructing an Intermodal Transportation Center (ITC) on the site, which they envision sharing with a new building. A capacity of approximately 1,200 cars and buses has been projected for the ITC. Construction of the ITC will remove the access roads that now traverse the site.

There is ample pedestrian access to the Banneker site, including a pedestrian bridge on the west end of the site which provides access over the Washington Channel to East Potomac Park.

Site Utilities

Existing site utilities consist of sanitary and storm sewer, natural gas, water, and electric. However, GSA utilities, steam and chilled water, are not available at the Banneker Overlook site, and there are no plans to make them available.

Soil and Topography

Banneker Overlook soil condition information has been obtained from the District of Columbia Department of Transportation.

Overlook site elevations range from 15 meters (49.2 feet) above sea level at the Overlook structure to three meters (9.8 feet). This 40-foot elevation change forms a very steep grade just south of the Overlook structure, continuing down to Maine Avenue. The east side of the site transitions more gradually from the Overlook and ends at an elevation of seven meters (23 feet).

A very small section in the lower portion of the site, along Maine Avenue, is within the 100-year floodplain.

c. Existing Land Use

As stated above, there are no buildings on the site.

Exterior Spaces and Landscape Features

The entire site is an open public space which is mostly covered in grass and various hard surfaces. The non-functioning fountain, on the highest elevation, is surrounded by bench seating. Hedges run along the southeast corner and along the L’Enfant Promenade. Trees are planted in loose clusters on a steep slope at the foot of the circle on the southwestern (Maine Avenue) end.

Parking Availability

Parking along 10th Street includes public metered parking and a public pay lot across the street from the U.S. Postal Service Building. A pull-off parking area for tour buses is located on Maine Avenue at the foot of the site. There is also a public parking garage at L’Enfant Plaza.
Existing Site Characteristics and Design
Adjacent Structures and Transit Systems
Topography, Existing Exterior Spaces and Landscape Features
d. Surrounding Resources and Visitation Potential

The Banneker site is not directly on the Mall. There is minimal pedestrian traffic in the immediate area, and little opportunity currently exists to tap into neighboring tourist attractions. Although the site is in close proximity to the Mall, the Overlook is considered neither a destination nor an attraction and is, in fact, somewhat unkempt.

A new National Children’s Museum is proposed for construction along L’Enfant Promenade in 2008, and that facility is expected to draw 500,000 to 600,000 annual visitors. Both the Children’s Museum and the planned Intermodal Transportation Center are anticipated to attract visitors who might also patronize the NMAAHC at this location.

In 2000, the District of Columbia, the Washington Interdependence Council (WIC), the National Park Service (NPS) and National Capital Region (NCR) agreed to work cooperatively to redesign the L’Enfant Promenade and 10th Street Overlook. The intent of the redesign effort is to revitalize the Promenade and Overlook and to better accommodate vehicular, pedestrian and bicycle traffic.

The WIC is seeking funding to erect a 14-foot statue of Benjamin Banneker, a visitor’s center, a 30- to 40-foot clock tower and historic exhibits on the site and to present a cleaned-up and newly landscaped environment between the National Mall and the waterfront. The target date for completion of the Banneker Memorial and the on-going renovation of its approved site, the L’Enfant Plaza Promenade, is 2006, the bicentennial of Banneker’s death.  

Should the Banneker Overlook site be selected for the NMAAHC, this planned development obviously would not occur. There may be an opportunity for the Smithsonian to work with the WIC to honor Banneker in some other way on the site.

It is anticipated that, once improvements of the site are completed (regardless of if those improvements include the WIC plans or the NMAAHC), the L’Enfant Plaza corridor could serve as the connecting cultural gateway between the National Mall and the newly renovated waterfront.

The surrounding area will also be affected by the Anacostia Waterfront Initiative, a partnership between the District of Columbia, the federal government and the local community. The Initiative hopes to develop and implement a plan to coordinate land use and future mixed-use development in the areas south and southeast of the Overlook.

e. Risk and Security Issues

The Banneker Overlook site could be vulnerable to attack from high-speed vehicles traveling from the north along the Promenade on 10th Street. A vehicle carrying explosives on I-395 passing under the 10th Street Bridge could also be a potential threat. The Washington Channel, approximately 300 feet to the southwest, offers another avenue of approach.

The Overlook site provides enough room to implement 50-foot standoff zones and hardening procedures for a new facility. Future design considerations must be made for protection against vehicle attacks from I-395 or 10th Street. The sloping site allows for some protection from the south and east, but the lower areas are susceptible to chemical and biological attacks. Two large federal buildings along the L’Enfant Promenade are within 500 feet of the site and are both potential targets and/or sources of reflective blasts and debris in the event of explosions.  

f. Existing Design Framework

A view of the marina and Haines Point Park across the Potomac River is visible from the Banneker Overlook. Hedges provide partial definition of the site along L’Enfant Promenade and the circular portion of the overlook.
End Notes

Views and Site Lines

- Proposed NMAAHC Site

- Views

- Site Lines

- Adjacent Build Alignments

- Major Axis

- Topography

- Affected Viewsheds

Major Axis: From National Museum of Natural History, Smithsonian Castle, and National Mall.
Banneker Overlook site from the southeast corner

Access roads from 9th Street to 10th Street

Banneker Overlook fountain, looking north along 10th Street

Banneker Overlook fountain, looking south along 10th Street
Security, Vehicular and Pedestrian Circulation

- Proposed NMHC site within 50 ft security setback
- Vehicular traffic
- Pedestrian circulation
- Noise
- Existing above/below grade structure

Vehicular Traffic
- Security: 50' ft setback
- Interstate 395 Freeway
- Ramp to remain

Pedestrian Circulation
- Existing bike path
- International Trade Center
- Restaurant

Location: Banneker Overlook Site

Smithsonian Institution-National Museum of African American History and Culture
Site Evaluation Study | Phase II: Analysis and Modeling — Banneker Overlook Site

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g. Model Program Scenarios

The Banneker Overlook is a large, open site which could easily accommodate a significant museum program and also provide generous outdoor spaces. With additional development, it is also a potential gateway from the waterfront to the National Mall.

A museum on this site would fit with the Anacostia Waterfront Initiative to redevelop the Southwest Waterfront and would conform with other urban planning initiatives for Washington, D.C. The NMAAHC would become an anchor to the waterfront development and might spur other cost-sharing opportunities, such as the planned Intermodal Transportation Center (ITC). Positive aspects of having the ITC on the site would be additional parking capacity and the potential of attracting more visitors to the museum as their first stop while visiting the museums and monuments area. On the other hand, this structure could potentially compromise the architectural integrity of the museum building, and constructing the ITC under the museum would limit the museum’s use of underground space.

Considerations exist for either of the two build-out scenarios:

- The site already has historic and cultural significance.
- The proposed “Freedom Ship” exhibit could be housed on the nearby waterfront.
- Because of its size and proximity to L’Enfant Promenade and I-395, as well as to the Southwest Waterfront, the site provides room for future expansion and could attract visitors via several traffic routes.
- The topography of the site would allow part of the building to be exposed on one side, enabling more natural light to reach below-grade levels.
- The site would accommodate a low-rise, high square footage building.
- Interior and exterior terraces offer opportunities for special event space.
- The proposed Anacostia Waterfront Initiative has suggested a “southwest market square and civic park” in the area. The impact of urban renewal on the museum could be significant.
- As mentioned above, there are no GSA utilities (steam or chilled water) available at this site, so those utilities will need to be provided to the site.
- The “off the Mall” location could hinder attracting visitors from the Mall.
- The nearby fish market southwest of the site can have a negative impact on the air quality of the site, depending on wind direction and air temperature.
- The Forrestal Building along the L’Enfant Promenade prevents a direct visual connection to the Mall.
- A potential build-out would terminate the L’Enfant Promenade, obstructing the views from the Mall which look south toward the Tidal Basin.
- The site has ample opportunities for both architectural expression and incorporating sustainable design.
i. Minimum Build-out

Total existing acreage: 7.8 acres (343,000 SF)

Three Levels above grade (grade refers to Promenade level) -
Levels 1-3: 147,350 GSF each (additional museum program area, primarily office and mechanical space, could be located on basement levels)
Basement Level 1: 48,340 GSF

Total potential MUSEUM build-out: 490,390 GSF

This scenario accommodates the proposed District of Columbia four-level, Intermodal Transportation Center (ITC), which is planned to provide bus parking and parking for 1,135 cars. The museum building will sit approximately 45 feet high, atop the ITC structure.

Four Levels Intermodal Transportation Center:
Basement Level 1 Car Parking: approximately 255 spaces
Basement Level 2 Car Parking: approximately 350 spaces
Basement Level 3 Car Parking: approximately 530 spaces
Basement Level 4 Bus Parking: approximately 100 spaces

Total potential PARKING build-out: 540,850 GSF

The ITC’s floor to floor heights range from 10 feet to 20 feet clear span for bus parking.

Project Costs

The MINIMUM buildout cost is based on the museum being placed on top of a parking structure that was designed to withstand the load of the museum. The cost for the design and construction of the parking structure is not included.

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Note: Costs are in 2006 dollars. See page 194 for comparative and escalated costs.
Site Context Diagram

This graphic illustrates the relationship of the proposed site to the surrounding environment. Like all diagrams and models, it is conceptual in nature and is not intended to depict an actual building. Rather, it is meant to help facilitate discussion about the opportunities and limitations offered by the site.

Site analysis based on selection criteria is presented below.

Location

- Site is current location of Banneker Overlook Park
- Site is located approximately one-half mile from Smithsonian Castle and National Mall along Southwest Waterfront
- Nearby buildings are largely residential and commercial (nightclubs/restaurants)
- Site is historically rich with references to African-American History and Culture; it is the location of the former Notley Plantation; is near the Southwest Waterfront, where slaves attempted to escape from the coastal schooner Pearl and where A. Bowen’s home served as a stop along the Underground Railroad; and it currently commemorates B. Banneker, an important African American historical figure and one of the planners of D.C.
- Site offers great latitude in terms of architectural and landscape expression, of all the sites under consideration, given no specific architectural context in the area
- The varied, sloping topography would support a variety of “natural” landscaping opportunities; site slopes from approximately 49 feet to 10 and 23 feet at different ends of the site
- At its highest point, the site provides views toward the Southwest Waterfront and the Potomac River and would place the future museum at a visible location
- Site holds clear views to the south of the Washington Channel and to the west of Jefferson Memorial
- Views of site from I-395

Compatibility with Planning Efforts

- Site ties in directly with Anacostia Initiative and Third Century Mall plans to extend the Mall toward the Southwest Waterfront and to expand development along L’Enfant Promenade/Plaza
- The site has been ranked ninth among the top 20 potential sites in the Memorials and Museums Master Plan

Existing Site

- Major axis runs across site from National Museum of Natural History to Smithsonian Castle, through L’Enfant Promenade
- Fifty-foot security setback does not significantly limit useable building acreage for a museum

Transportation

- Heavy vehicular traffic, which runs on I-395 to north of site, would have direct views of museum, but traffic also carries noise and potential for air quality issues
- I-395 ramp runs across northeast portion and through site
- Additional vehicular traffic runs south of site along Maine Ave
- Pedestrian traffic from north along L'Enfant Promenade from National Mall and (south of site) along Waterfront
Minimum Site Setback Considerations

- Potential NWAAHC Site Build-Out
- Vehicular Traffic
- Pedestrian Circulation
- Noise
- Site Lines
- Adjacent Building Alignments
- Major Axis

Vehicular Traffic and Security: 50FT Setback from I-395 Freeway Ramp

Potential Useable Footprint: ITC Parking Garage
Footprint at 150,000 GSF
Site Plan Diagram

This graphic depicts how the proposed museum might fit onto the site and suggests the best possible entry points. Like all diagrams and models, it is conceptual in nature and is not intended to depict an actual building. Rather, it is meant to help facilitate discussion about the opportunities and limitations offered by the site.

Location

• Primary entry proposed from north of site at L'Enfant Promenade, maintaining major axis and picking up pedestrian traffic from National Mall
• Secondary entry proposed from south which holds views toward Washington Channel along Maine Avenue, and would also maintain major axis
• Service entry proposed on east side of site off 9th Street

Potential Footprint/Build-out

• Total acreage for existing site: 7.8 acres (343,200 SF)
• Proposed above grade footprint at Level 1: 155,000 GSF leaves approximately 180,000 GSF for outdoor programming
• Upper levels of footprint to follow major axis of site and will hold all museum functions

Transportation

• I-395 ramp to remain
• Four levels of intermodal transit center proposed in MINIMUM scenario, which may expose museum to high volumes of traffic
• DDOT concept plan for ITC parking garage used as model, with some modifications made
• Buses and vehicular traffic entering parking garage from entry east of the site
Minimum Site Conceptual Site Plan

- **POTENTIAL NMHC SITE BUILD-OUT**
- **POTENTIAL OUTDOOR PROGRAM AREA/ADJACENT GREENSPACE**
- **POTENTIAL POINTS OF ENTRY**

**INTERMODAL TRANSPORTATION CENTER:**
- B-4 (20 FT F/F) 100+ BUS SPACES
- B-3 (10 FT F/F) 530+ CAR SPACES
- B-2 (10 FT F/F) 350+ CAR SPACES
- B-1 (10 FT F/F) 255+ CAR SPACES
- TOTAL PARKING 540,650 GSF

**TOTAL MUSEUM AREA (B-1 - L-3):**
- B-1 (10 FT F/F) 48,340 SF
- L-1 - L-3 (15FT F/F) 147,350 SF
- TOTAL MUSEUM 490,390 SF
**Blocking Diagrams**

This graphic depicts how the proposed museum might be organized, using 350,000 GSF as a point of departure. Like all diagrams and models, it is conceptual in nature and is not intended to depict an actual building. Rather, it is meant to help facilitate discussion about the opportunities and limitations offered by the site.

- Upper parking levels could serve as green roofs, providing landscaping and outdoor programming space
- Integrated in the upper parking level are several office functions
- First level holds major visitor service functions and public programs, access to theater and performance spaces and potential outdoor landscaping on upper level of parking garage
- Receiving from basement level off potential service road to be located east of site
- Upper levels hold administrative and curatorial office functions, as well as additional public program and all exhibit spaces
- Mechanical spaces distributed on every floor
**Minimum Site Blocking**

Note: Theater/performance spaces span three levels, and exhibit areas span two levels. Square footage for these areas (indicated by respective color), is included on the potential entry level.
Minimum Site Blocking

Note: Theater/performance spaces span three levels, and exhibit areas span two levels. Square footage for these areas (indicated by respective color), is included on the potential entry level.
Stacking/Massing and Section Diagrams

These graphics also depict how the proposed museum might be organized, using 350,000 GSF as a point of departure. In addition, they illustrate the height of the potential build-out and show vertical relationships to adjacent buildings and the larger (city) context. Like all diagrams and models, they are conceptual in nature and are not intended to depict an actual building. Rather, they are meant to help facilitate discussion about the opportunities and limitations offered by the site.

- Potential build-out approximately 75 feet high from L’Enfant Promenade level
- Adjacent buildings of various architecture styles and periods allow opportunities for architectural expression that would be specific to the proposed museum’s function
- A significant grade change and views of Washington Channel, south of site, offer unique opportunities for architectural expression and outdoor programming
- Visitor services, including dining area, located southeast to allow for potential views toward Washington Channel and Washington Marina
- Upper floors hold administrative and curatorial office functions, additional public program and all exhibit spaces, allowing for natural lighting and potential views toward Washington and Washington Marina
- Creative solutions for integrating parking structure with proposed museum above should be considered, as drivers along Maine Avenue and pedestrians along Southwest Waterfront will have views of its upper levels
Minimum Stacking and Massing
Minimum Conceptual Site Sections

North-South Section

East- West Section
Minimum Site Conceptual Massing Models

Northwest view from Interstate 395

Northeast view from Maine Avenue

Aerial view of site
**ii. Maximum Build-out**

Total existing acreage: 7.8 acres (343,000 SF)

Eight Levels above grade -
Five Levels below L’Enfant Promenade level-
Basement Level 1 - Level 8: 157,540 GSF each

Total potential build-out: 2,048,000 GSF

In this scenario, the museum would occupy the entire site. The potential build-out would be approximately 120 feet high, above the L’Enfant Promenade level, and aligned with the U.S. Post Office and adjacent buildings located across I-395.

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Note: Costs are in 2006 dollars. See page 194 for comparative and escalated costs.
Site Context Diagram

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Site analysis based on selection criteria is presented below.

Location
- Site is current location of Banneker Overlook Park
- Site is located approximately one-half mile from Smithsonian Castle and National Mall along Southwest Waterfront
- Nearby buildings are largely residential and commercial (nightclubs/restaurants)
- Site is historically rich with references to African-American History and Culture; it is the location of the former Notley Plantation; is near the Southwest Waterfront, where slaves attempted to escape from the coastal schooner Pearl and where A. Bowen’s home served as a stop along the Underground Railroad; and it currently commemorates B. Banneker, an important African American historical figure and one of the planners of D.C.
- Site offers great latitude in terms of architectural and landscape expression, of all the sites under consideration, given no specific architectural context in the area
- The varied, sloping topography would support a variety of “natural” landscaping opportunities; site slopes from approximately 49 feet to 10 and 23 feet at different ends of the site
- At its highest point, the site provides views toward the Southwest Waterfront and the Potomac River and would place the future museum at a visible location
- Site holds clear views to the south of Washington Channel and to the west of Jefferson Memorial
- Views of site from I-395

Compatibility with Planning Efforts
- Site ties in directly with Anacostia Initiative and Third Century Mall plans to extend the Mall toward the Southwest Waterfront and to expand development along L’Enfant Promenade/Plaza
- The site has been ranked ninth among the top 20 potential sites in the Memorials and Museums Master Plan

Existing Site
- Major axis runs across site from National Museum of Natural History to Smithsonian Castle, through L’Enfant Promenade
- Fifty-foot security setback does not significantly limit useable building acreage for a museum

Transportation
- Heavy vehicular traffic, which runs on I-395 to north of site, would have direct views of museum, but traffic also carries noise and potential for air quality issues
- I-395 ramp runs across northeast portion and through site
- Additional vehicular traffic runs south of site along Maine Avenue
- Pedestrian traffic from north along L’Enfant Promenade from National Mall and south of site along Waterfront
Maximum Site Setback Considerations

VEHICULAR TRAFFIC

PEDESTRIAN CIRCULATION

NOISE

SITE LINES

ADJACENT BUILDING ALIGNMENTS

MAJOR AXIS

VEHICULAR TRAFFIC AND SECURITY: I-395 FREWAY RAMP TO REMAIN
Site Plan Diagram

This graphic depicts how the proposed museum might fit onto the site and suggests the best possible entry points. Like all diagrams and models, it is conceptual in nature and is not intended to depict an actual building. Rather, it is meant to help facilitate discussion about the opportunities and limitations offered by the site.

Location
- Primary entry proposed from north of site at L'Enfant Promenade, maintaining major axis and picking up pedestrian traffic from National Mall
- Secondary entry proposed from south, which holds views toward Washington Channel along Maine Avenue, and would also maintain major axis
- Service entry proposed on east side of site off 9th Street

Potential Footprint/Build-out
- Total acreage for existing site: 7.8 acres (343,200 SF)
- Proposed above-grade footprint at Level 1: 157,540 GSF leaves approximately 180,000 GSF for outdoor programming
- Upper levels of footprint to follow major axis of site and will hold all museum functions

Transportation
- I-395 ramp to remain
**Maximum Site Conceptual Site Plan**

**Legend:**
- Potential National Museum of African American History and Culture Site Build-Out
- Potential Outdoor Program Area Adjacent Green Space
- Potential Points of Entry

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**TOTAL AREA (B-5 - L-8):**
B-5 - L-8 (15 FT F/F) 157,540 SF
TOTAL 2,048,020 GSF

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Smithsonian Institution-National Museum of African American History and Culture
Site Evaluation Study | Phase II: Analysis and Modeling — Banneker Overlook Site
**Blocking Diagrams**

This graphic depicts how the proposed museum might be organized, using 350,000 GSF as a point of departure. Like all diagrams and models, it is conceptual in nature and is not intended to depict an actual building. Rather, it is meant to help facilitate discussion about the opportunities and limitations offered by the site.

- Lower levels hold public program and administrative and curatorial office functions with views along Maine Avenue toward Washington Channel
- First level, at L’Enfant Promenade level, holds visitor service functions
- Upper levels hold exhibit, theater and performance spaces and potential outdoor landscaping on upper level of parking garage
- Receiving from basement level off potential service road to be located east of site
- Mechanical spaces distributed on every floor
**Maximum Site Blocking**

Note: Theater/performance spaces span three levels, and exhibit areas span two levels. Square footage for these areas (indicated by respective color), is included on the potential entry level.
Maximum Site Blocking

Note: Theater/performance spaces span three levels, and exhibit areas span two levels. Square footage for these areas (indicated by respective color), is included on the potential entry level.
Maximum Site Blocking

Note: Theater/performance spaces span three levels, and exhibit areas span two levels. Square footage for these areas (indicated by respective color), is included on the potential entry level.
Stacking/Massing and Section Diagrams

These graphics also depict how the proposed museum might be organized, using 350,000 GSF as a point of departure. In addition, they illustrate the height of the potential build-out and show vertical relationships to adjacent buildings and the larger (city) context. Like all diagrams and models, they are conceptual in nature and are not intended to depict an actual building. Rather, they are meant to help facilitate discussion about the opportunities and limitations offered by the site.

- Potential build-out approximately 120 feet above L’Enfant Promenade level, aligned with U.S. Post Office and adjacent buildings located across I-395 freeway
- Adjacent buildings of various architecture styles and periods allow opportunities for architectural expression that would be specific to the proposed museum’s function
- A significant grade change and views of Tidal Basin, south of site, offer unique opportunities for architectural expression and outdoor programming
- Visitor services located south and southeast to allow for potential views towards Tidal Basin and Washington Marina
- Upper levels hold administrative and curatorial office functions and all exhibit spaces, allowing for natural lighting and potential views toward Washington Channel and Washington Marina
Maximum Stacking and Massing
Maximum Conceptual Site Sections

North-South Section

East-West Section
Maximum Site Conceptual Massing Models

Northwest View from Interstate 395

Northeast View from Maine Avenue

Aerial view of site
### h. Summary of Banneker Overlook Site Features, Part 1

<table>
<thead>
<tr>
<th>Site Criteria</th>
<th>Common to All Scenarios</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Location</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Proximity to Mall</td>
<td>Located four blocks from the Mall, at the end of L'Enfant Promenade, and one half-mile from Smithsonian Castle.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Proximity to African American sites</td>
<td>Area is historically rich with ties to African American history. Current site of Banneker Park and former Notley Young Plantation; adjacent Southwest Waterfront is the site of an attempted escape by slaves from a schooner; and an Underground Railroad stop was nearby.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. Visitation Potential</td>
<td>Visitation is largely limited to late afternoon and evening SW Waterfront visitors and stray pedestrians visiting site from Mall. Visitation should increase with proposed Anacostia Waterfront Initiative, future National Children’s Museum (to be located just north of site at L’Enfant Plaza) and proposed Inter-modal Transit Center.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. Views and Site Lines</td>
<td>Views from site toward SW Waterfront, Potomac River; Washington Channel, Tidal Basin and Jefferson Memorial. Site is very visible to and from I-395. Site line of U.S. Post Office (north of I-395) crosses site. The major axis crosses site from NMNH to Smithsonian Castle, through L’Enfant Promenade. Primary entry at north end on L’Enfant Promenade. Secondary entrance off north side faces Tidal Basin. Service entrance off 9th Street.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>2. Compatibility with Planning Efforts</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. 1791 L’Enfant Plan</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. 1901 McMillan Plan</td>
<td></td>
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<tr>
<td>c. 1972 NPS Master Plan</td>
<td></td>
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<tr>
<td>d. 1997 Legacy Plan</td>
<td>This site would fit with plan’s recommendation to disperse new museums to other parts of the city.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>e. 2001 Memorials &amp; Museums</td>
<td>Banneker is listed 9th among top 20 sites.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>f. 2004 Comprehensive Plan</td>
<td>Supports the Legacy plan.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>3. Existing Site Conditions</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Useable acreage</td>
<td>Useable acreage: 200,000 SF. Must also consider footprint of ITC parking garage. Potential build-out: 490,390 GSF. Build-out height: 75 ft above L’Enfant Promenade level. Three levels above grade: 142,350 GSF each. One level below grade: 48,340 GSF. In this scenario museum sits on top of the proposed ITC facility. Total parking area: Four basement levels: 540,850 GSF.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Total Acreage</td>
<td>7.8 acres (343,000 SF)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. Zoning</td>
<td>Zoned for government use, with residential zones nearby.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. Landscaping</td>
<td>Minimal currently, but the sloping site would support a variety of landscaping opportunities. Fountain at top is out of service, meanwhile promenade and park have been poorly maintained.</td>
<td>Exposed, upper parking levels could serve as green roofs, providing unique landscaping and outdoor programming space.</td>
<td></td>
</tr>
<tr>
<td>e. Security</td>
<td>Vulnerable to attacks from multiple points. Ample room for 50 ft standoff zones.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>f. Opportunity for Arch. Expression</td>
<td>Spacious site with few site or height lines or architectural context to limit design. Building has opportunity to rise above surrounding area. Less scrutiny from review agencies due to distance from Mall.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>g. Opportunity for Sustainable Design</td>
<td>Ample opportunity with new structure.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>h. Utilities</td>
<td>GSA steam and chilled water not available and will have to be provided within the building.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### h. Summary of Banneker Overlook Site Features, Part 2

<table>
<thead>
<tr>
<th>Site Criteria</th>
<th>Common to All Scenarios</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>4. Transportation</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Access</td>
<td>Easily accessible via streets and sidewalks.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Traffic</td>
<td>Heavy traffic on surrounding streets and I-395. Ramp to I-395 running north-west portion of site to remain.</td>
<td>Buses and cars could enter ITC from east. ITC will expose museum to high levels of vehicular traffic.</td>
<td></td>
</tr>
<tr>
<td>c. Parking</td>
<td>Banneker site has ample public parking in the area.</td>
<td>This scenario accommodates the ITC below the museum building. Four basement levels will accommodate parking for buses and 1,135 cars.</td>
<td></td>
</tr>
<tr>
<td>d. Public Transit</td>
<td>Metrorail station one-half mile away at L’Enfant Plaza.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>e. Pedestrian Circulation</td>
<td>Sidewalks available to and through the site. Pedestrian traffic primary along L’Enfant Promenade from Mall and along Waterfront.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>5. Environmental</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Subsurface/Geotechnical</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Hazardous Materials</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. Landforms</td>
<td>Site is very steep, with elevation changes of 40 and 23 feet at different ends of site.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. Climate</td>
<td>Climate typical of D.C. area.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>e. Air Quality &amp; Odors</td>
<td>Odors from waterfront seafood vendors can be strong, depending on wind direction and temperature.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>f. Noise Levels</td>
<td>Heavy traffic carries noise and potential air quality problems.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>6. Magnitude of Costs</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Site Prep/Demolition</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Facility</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. Cost-sharing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. Special Consideration</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>7. Review Agency &amp; Public Support</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Commission of Fine Arts</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. NCPC (Solicited and Unsolicited)</td>
<td>NCPC staff noted symbolic relationship with and historic connection to African American history. Recognized as one of two preferred sites.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. Presidential Commission</td>
<td>Commission Chair feels site is inappropriate, as it is not on the Mall.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>e. Other Solicited and Unsolicited Comments</td>
<td>D.C. Mayor’s Office favors this site. Natl Coalition to Save Our Mall prefers this site.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
7. COMPARATIVE MUSEUM COSTS

On the following page are two graphics which present a comparison of museum costs.

The top graphic presents the proposed costs for NMAAHC scenarios (costs are valid as of January 2006). These costs were also escalated to midpoint of construction using 6% per year (2006 - 2008) and 3% per year, thereafter, as per guidance from the Smithsonian Institution.

Since the original model museum program was 350,000 SF, the cost for a museum of this size has also been presented for each Minimum scenario.

In the lower graphic, six museums are presented, along with the year completed, size, and cost per square foot at time of completion for each museum. The costs represent completed, comparable costs to the NMAAHC. The actual construction costs have been escalated to January 2006 to compare with those of the proposed NMAAHC scenarios.
### Comparative and Escalated Museum Costs

<table>
<thead>
<tr>
<th>NMAAHC Scenario</th>
<th>GSF</th>
<th>$/SF Escalated to Jan. 2006</th>
<th>Costs Escalated to Jan. 2006</th>
<th>Midpoint of Construction</th>
<th>$/SF Escalated to Midpoint</th>
<th>Costs Escalated to Midpoint of Construction</th>
<th>Costs for 350,000 GSF Model (per site)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A &amp; I - Minimum</td>
<td>375,000</td>
<td>$1.108</td>
<td>$415,600,000</td>
<td>July 1, 2013</td>
<td>$1,508.00</td>
<td>$565,500,000</td>
<td>$527,800,000</td>
</tr>
<tr>
<td>A &amp; I - Maximum</td>
<td>509,000</td>
<td>$1.041</td>
<td>$530,000,000</td>
<td>Oct. 1, 2013</td>
<td>$1,427.31</td>
<td>$726,500,000</td>
<td></td>
</tr>
<tr>
<td>A &amp; I - Cleared</td>
<td>736,000</td>
<td>$856</td>
<td>$630,200,000</td>
<td>Oct. 1, 2013</td>
<td>$1,173.64</td>
<td>$863,800,000</td>
<td></td>
</tr>
<tr>
<td>Monument - Minimum</td>
<td>415,000</td>
<td>$902</td>
<td>$374,500,000</td>
<td>July 1, 2013</td>
<td>$1,227.71</td>
<td>$509,500,000</td>
<td>$429,700,000</td>
</tr>
<tr>
<td>Monument - Maximum</td>
<td>804,000</td>
<td>$836</td>
<td>$672,400,000</td>
<td>Jan. 1, 2014</td>
<td>$1,154.73</td>
<td>$928,400,000</td>
<td></td>
</tr>
<tr>
<td>Liberty Loan - Minimum</td>
<td>475,000</td>
<td>$916</td>
<td>$434,900,000</td>
<td>July 1, 2013</td>
<td>$1,245.68</td>
<td>$591,700,000</td>
<td>$436,000,000</td>
</tr>
<tr>
<td>Liberty Loan - Maximum</td>
<td>560,000</td>
<td>$916</td>
<td>$512,800,000</td>
<td>Oct. 1, 2013</td>
<td>$1,255.18</td>
<td>$702,900,000</td>
<td></td>
</tr>
<tr>
<td>Banneker Overlook - Minimum</td>
<td>490,000</td>
<td>$726</td>
<td>$355,900,000</td>
<td>July 1, 2013</td>
<td>$988.16</td>
<td>$484,200,000</td>
<td>$345,900,000</td>
</tr>
<tr>
<td>Banneker Overlook - Maximum</td>
<td>2,000,000</td>
<td>$702</td>
<td>$1,404,200,000</td>
<td>July 1, 2014</td>
<td>$983.90</td>
<td>$1,967,800,000</td>
<td></td>
</tr>
</tbody>
</table>

### Comparative and Escalated Museum Costs Table

<table>
<thead>
<tr>
<th>Museum</th>
<th>Year Finished</th>
<th>GSF</th>
<th>$/SF</th>
<th>Costs Escalated to Jan. 2006</th>
<th>$/SF Escalated to Jan. 2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>Walter and Suzanne Scott Pavilion</td>
<td>1994</td>
<td>58,000</td>
<td>$275</td>
<td>$19,282,078</td>
<td>$332</td>
</tr>
<tr>
<td>Holocaust Museum</td>
<td>1993</td>
<td>265,000</td>
<td>$340</td>
<td>$111,703,865</td>
<td>$422</td>
</tr>
<tr>
<td>National Museum of the American Indian</td>
<td>2004</td>
<td>350,000</td>
<td>$487</td>
<td>$225,426,637</td>
<td>$501</td>
</tr>
<tr>
<td>Rock and Roll Hall of Fame and Museum</td>
<td>1995</td>
<td>150,000</td>
<td>$560</td>
<td>$98,874,548</td>
<td>$659</td>
</tr>
<tr>
<td>Milwaukee Art Museum</td>
<td>2001</td>
<td>143,000</td>
<td>$856</td>
<td>$130,102,900</td>
<td>$913</td>
</tr>
<tr>
<td>MOMA</td>
<td>2004</td>
<td>630,000</td>
<td>$1,349</td>
<td>$874,943,567</td>
<td>$1,389</td>
</tr>
</tbody>
</table>
III. APPLICATION OF SITE EVALUATION CRITERIA

The matrix on the following page presents the site evaluation criteria in a comparative layout. Each major criterion was investigated during the Phase I Data Gathering efforts and has been analyzed and addressed in previous sections of this Phase II report.

The criteria have been applied to each site scenario, and an assessment was applied in the form of a positive (+), neutral (o), or negative (-) rating. Criteria with an equal rating for each site scenario were retained to provide a record of the issues considered. It is important to note that the criteria are not weighted, which will allow the reviewer to assign his or her own level of importance to each category.

Following the matrix are brief, explanatory paragraphs which clarify the criteria and ratings and are based on the more detailed information presented earlier in the report.
### Site Evaluation Matrix

<table>
<thead>
<tr>
<th>Site Criteria</th>
<th>Scenario</th>
<th>A&amp;I (existing)</th>
<th>A&amp;I (clear)</th>
<th>Monument</th>
<th>Liberty Loan</th>
<th>Banneker</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Location</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Proximity to National Mall</td>
<td>All</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>b. Proximity to African American sites</td>
<td>All</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>+</td>
</tr>
<tr>
<td>c. Visitation Potential</td>
<td>All</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>d. Views and Site Lines</td>
<td>Minimum</td>
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<td>0</td>
<td>0</td>
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<td></td>
<td>Maximum</td>
<td>0</td>
<td>0</td>
<td>0</td>
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</tr>
<tr>
<td><strong>2. Compatibility with Planning Efforts</strong></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>a. 1791 L’Enfant Plan</td>
<td>All</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>0</td>
</tr>
<tr>
<td>b. 1901 McMillan Plan</td>
<td>All</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>0</td>
</tr>
<tr>
<td>c. 1972 NPS Master Plan</td>
<td>All</td>
<td>+</td>
<td>+</td>
<td>-</td>
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</tr>
<tr>
<td>d. 1997 Legacy Plan</td>
<td>All</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>0</td>
<td>+</td>
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<tr>
<td>e. 2001 Memorials &amp; Museums</td>
<td>All</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>0</td>
<td>+</td>
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<tr>
<td>f. 2004 Comprehensive Plan</td>
<td>All</td>
<td>+</td>
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<td>-</td>
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<td>+</td>
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<tr>
<td><strong>3. Existing Site Conditions</strong></td>
<td></td>
<td></td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>a. Useable Acreage</td>
<td>Minimum</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>+</td>
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<td></td>
<td>Maximum</td>
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<td>-</td>
<td>+</td>
<td>+</td>
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<tr>
<td>b. Total Acreage</td>
<td>All</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>+</td>
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<tr>
<td>c. Zoning</td>
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<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
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<tr>
<td>d. Landscaping</td>
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<td>+</td>
<td>+</td>
<td>-</td>
<td>+</td>
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<tr>
<td>e. Security</td>
<td>Minimum</td>
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<td>Maximum</td>
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<tr>
<td>f. Opportunity for Arch. Expression</td>
<td>All</td>
<td>-</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>g. Opportunity for Sustainable Design</td>
<td>All</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>h. Utilities</td>
<td>All</td>
<td>0</td>
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<td>0</td>
<td>0</td>
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</tr>
<tr>
<td><strong>4. Transportation</strong></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>a. Roads</td>
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<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>b. Traffic</td>
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<td>0</td>
<td>0</td>
<td>-</td>
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</tr>
<tr>
<td>c. Parking</td>
<td>Minimum</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<td>+</td>
</tr>
<tr>
<td></td>
<td>Maximum</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0</td>
</tr>
<tr>
<td>d. Public Transit</td>
<td>All</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>e. Pedestrian Circulation</td>
<td>All</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>0</td>
</tr>
<tr>
<td><strong>5. Environmental</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Subsurface</td>
<td>All</td>
<td>0</td>
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<td>-</td>
<td>0</td>
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</tr>
<tr>
<td>b. Hazardous Materials</td>
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<td>-</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>c. Landforms</td>
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<td>-</td>
<td>0</td>
<td>+</td>
<td>-</td>
<td>+</td>
</tr>
<tr>
<td>d. Climate</td>
<td>All</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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</tr>
<tr>
<td>e. Air Quality &amp; Odors</td>
<td>All</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td>f. Noise Levels</td>
<td>All</td>
<td>+</td>
<td>+</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>6. Magnitude of Costs</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Site Prep/Demolition</td>
<td>Minimum</td>
<td>+</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>+</td>
</tr>
<tr>
<td></td>
<td>Maximum</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>0</td>
<td>+</td>
</tr>
<tr>
<td>b. Facility</td>
<td>Minimum</td>
<td>-</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>+</td>
</tr>
<tr>
<td></td>
<td>Maximum</td>
<td>-</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>+</td>
</tr>
<tr>
<td>c. Cost-sharing</td>
<td>Minimum</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>+</td>
</tr>
<tr>
<td></td>
<td>Maximum</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>+</td>
</tr>
<tr>
<td>d. Special Consideration</td>
<td>All</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>+</td>
</tr>
</tbody>
</table>

**Key to Ratings**

+ Positive  
0 Neutral  
- Negative
2. EXPLANATION OF EVALUATION CRITERIA

1. Location

a. Proximity to the National Mall: Mall sites are prestigious sites with high visibility.

b. Proximity to African American Historic Sites: The ratings under this sub-category are reflective of the significance of African American history at or near each site. A connection to African American history is considered a positive factor.

c. Visitation Potential: Considerations include access to sites from public transportation assets and surrounding attractions. National Mall sites are anticipated to draw more visitors than sites off the Mall based on the large number of visitors who already visit existing museums.

d. Views and Site Lines: The quality of the views and site lines to and from each site determine the assigned rating.

c. Zoning: All of the potential sites are zoned for government. Surrounding zoning was also considered.

d. Landscape: The aesthetics of the landscaping surrounding each site is the determinative factor in arriving at a rating for this sub-category.

e. Security: The security risk potential for each site determines the assigned rating. Items considered are avenues of approach, susceptibility to natural and man-made disasters, and the potential impact on security factors from the surrounding structures.

f. Architectural Expression: The potential of the site to allow creative solutions for the design of the new museum.

g. Sustainable Design: The potential of the site to all incorporation of sustainable design concepts for the new museum.

h. Utilities: Existing major utilities at and near each site were considered.

2. Compatibility with Planning Efforts

Ratings assigned to a site under this category reflect the compatibility of locating the NMAAHC at each site with each of the listed master plans for Washington, D.C.

3. Existing Site Conditions

a. Useable Acreage: This considers possible building footprint size according to the setbacks required by surrounding buildings and security setbacks.

b. Total Acreage: Total acreage of the site was considered. The larger the site is the more positive the rating.

b. Traffic: High, moderate and low traffic volumes are defined as: high is negative (-); moderate is neutral (=); and low is positive (+).

c. Parking: The availability of existing and potential parking for each site is considered a positive.
d. Public Transit: Public transit considerations include Metro subway, bus service and train service available to reach each site.

e. Pedestrian: The ease and safety of pedestrian access to and around each site formed the basis of each rating.

5. Environmental

a. Subsurface: This rates the suitability of soil conditions and water tables at each site.

b. Hazardous Materials: A review for hazardous materials was made at each site. These included consideration of any possible on-site hazardous materials such as fuel spills or asbestos materials.

c. Landforms: Landform elements include elevation transitions and site characteristics that might affect the placement and design of the museum.

d. Climate: All four sites have the same climatic conditions.

e. Air Quality and Odors: Environmental air quality standards and local conditions impacting each site were considered.

f. Noise: Noise sources at each site and the relative noise level between sites were reviewed.

6. Costs

a. Site Preparation/Demolition: The ratings under this sub-category reflect the amount of work necessary to prepare the site for construction. It includes the cost for demolishing existing structures, including buildings and ramps, unusual foundation requirements such as underpinning buildings, eliminating the presence of water, clearing the site, etc.

b. Facility: The ratings assigned to this element are based on the cost per square foot at the midpoint of construction for a museum. Cost per square foot between $900 and $1,100 received a plus rating. Cost per square foot between $1,101 and $1,300 received a neutral rating. Cost per square foot over $1,301 received a negative rating.

c. Cost Sharing Possibilities: Issues that afford opportunities for concurrent development were considered. The city has mentioned plans to develop an underground parking facility at the Banneker site.

d. Special Considerations: Items include special construction requirements, for example: removing existing ramps.

7. Review Agency & Public Support

Positions of agencies and public groups were solicited by the Smithsonian Institution and ratings assigned to each site based on inputs received. Unsolicited comments were included as well.