National Park Service
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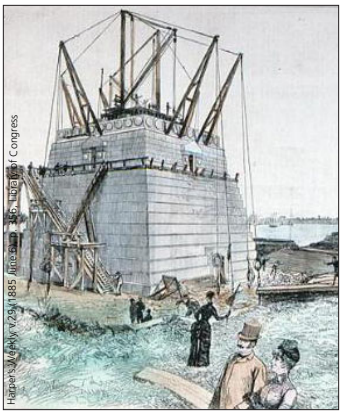
Cultural Landscape Report for Liberty Island

Statue of Liberty National Monument



"I always hoped that Americans would see the splendid use that is to be made of the island as I see it ... Liberty Island is obviously destined to be made into a pleasure ground for the soul of the American people, a place of pilgrimage for citizens of the whole nation, a National Museum of the glories and memories of the United States."
Frederic August Bartholdi, 1890

Cultural Landscape Report for Liberty Island

Statue of Liberty National Monument

New York and New Jersey

Site History

Existing Conditions

Analysis and Evaluation

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2024

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Cover Photo: Photograph of the Statue of Liberty, looking south from the exterior steps of the new Statue of Liberty Museum 08:05, 12 July 2018, Olmsted Center for Landscape Preservation.

Title page thumbnail image: Harper's Weekly v.29 (1885 June 6, p356) Library of Congress))

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Figure 1.53. "Map of Bedlow's Island, New York Harbor. Survey of Lieut. Fredrick E. Prime on Jan. 20, 1851, with corrections & additions to date Nov. 1886, Redrawn by L.R. Dugan 8/14/1981." This drawing documents the island's primary buildings, as well as the presence of six different wells throughout the island (National Park Service, Technical Information Center).

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Figure 1.57. Image accompanying the Sedley Chaplin Quartermaster General report of 1905. Notes on reverse of this image indicate this as the route all visitors took to visit the statue, via the south-facing postern door. Note the timber stairs providing access over the steep embankment of the external battery, and the boardwalk leading to the south facing postern (National Archives I, RG92, file 177699).

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Figure 1.69. Oblique aerial photograph, May 24, 1939. With early concepts for the redesign of the island complete by 1938, this image documents the recently completed demolition of the large warehouses formerly located on the island's western shoreline, as well as the long warehouse, formerly atop the wharf projecting to the southeast (National Archives II, Still Pictures Branch, Airscapes Program, RG18-AA-93).

Figure 1.70. "Proposed Plan for Ultimate Development – Statue of Liberty National Monument, May 4, 1938." This new design fashions a neoclassical landscape setting to complement the statue, prescribing a processional way subordinating all other buildings and landscape elements to the primacy of the statue. Neither the small boat basin, nor the turf panel north of the cross-axis would ever be realized (Statue of Liberty National Monument, Bob Hope Library).

Figure 1.71 Architectural rendering of the 1938 National Park Service Master Plan for Liberty Island. All of the former military buildings are shown removed, with proposed new visitor infrastructure and park housing lacking ornament and visually unremarkable in order to place emphasis on the statue (Statue of Liberty National Monument, Bob Hope Library).

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Figure 1.75. Demolition sequence, Building 16, Nov. 30, 1939 (Statue of Liberty National Monument, Bob Hope Library).

Figure 1.76. Demolition sequence, Building 16, March 29, 1940 (Statue of Liberty National Monument, Bob Hope Library).

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Figure 1.79. Oblique aerial photograph, October 28, 1941, showing progress to date toward remaking the Fort Wood military post as a unit of the national park system. Note the hand drawn annotation indicating work yet to be completed on the eve of United States' entry into World War II (Statue of Liberty National Monument, Bob Hope Library).

Figure 1.80. Historic photo of Liberty Island, 1948, showing dilapidated buildings and debris on the northern portion of the island. The new design remained incomplete in December 1941, and no progress was made on implementing the master plan during World War II (Statue of Liberty National Monument, Bob Hope Library).

Figure 1.81. "Submerged Land Boundaries," 1948. This drawing shows the post-WWII existing and proposed outline of the island. Note that by this time, the proposed small boat basin at the north of the island had been omitted. (National Park Service, LandsNet)

Figure 1.82. "Topographic Base Map," Drawing NM-SL 2134, 195Figure 2. This drawing, prepared during the Korean War, shows the new arrangements for park staff housing, placed at the north end of the island. At the time of this drawing, two former Army officer's quarters remained in place along the island's eastern shoreline. (NPS Denver Service Center, eTIC)

Figure 1.83. Oblique aerial photograph, July 14, 1955. With the exception of the continued presence of two Army officer's quarters on the eastern shoreline, key elements of the master plan developed prior to WWII had been implemented. Note the presence of a tall privacy wall or screen separating public space from the residential and service area at the northern part of the island (Statue of Liberty National Monument, Bob Hope Library).

Figure 1.84. Evolution/Analysis drawings illustrating Fort Wood conditions c.1960 (Fort Wood Historic Structure Report, John G. Waite Associates, Architects).

Figure 1.85. Preliminary design, Sheet 1 of 4, 1958, American Museum of Immigration

(AMI). Cross sections showing the proposed museum structure designed to rest within the exterior walls of the star fort have been highlighted in yellow by the authors. The museum design provided for an upper promenade encircling the masonry pedestal, an unrealized element of the pre-WWII master plan (NPS Denver Service Center, eTIC).

Figure 1.86. Preliminary design, Sheet 2 of 4, 1958, American Museum of Immigration (AMI). Cross sections showing the proposed museum structure designed to rest within the exterior walls of the star fort have been highlighted in yellow by the authors (NPS Denver Service Center, eTIC).

Figure 1.87. Removal of the stone pavement at the star fort's terreplein c.1960 revealed intact historic fabric that had survived the installation of the statue's concrete foundation and masonry pedestal (Statue of Liberty National Monument, Bob Hope Library).

Figure 1.88. Because the museum construction was undertaken prior to passage of the National Historic Preservation Act of 1966, the project was enormously destructive of original features of the fortress. Most of the historic structure to the north of the stepped concrete foundation was demolished, leaving only the exterior granite walls. (Statue of Liberty National Monument, Bob Hope Library).

Figure 1.89. During construction of the new museum in the early 1960s, visitors continued to access the statue via the star fort's north facing postern door. A temporary flight of stairs followed the general profile of the former earthen mound, formerly at the base of the masonry pedestal (Statue of Liberty National Monument, Bob Hope Library).

Figure 1.90. Oblique aerial photograph, c.196Figure 1. This image documents excavated material being dumped over the side of the star fort's parapet wall, for later removal from the island (Statue of Liberty National Monument, Bob Hope Library).

Figure 1.91. Historic photograph showing the cast-in-place concrete walls of the new museum being constructed above the terreplein level (Statue of Liberty National Monument, Bob Hope Library).

Figure 1.9Figure 2. Historic photograph, September 1, 1964. Construction of the new museum again altered the star fort's north facing sally port. This design for the museum entrance provided separate routes for museum visitors, and those wishing to access the exterior promenade levels overlooking New York Harbor (Statue of Liberty National Monument, Bob Hope Library).

Figure 1.9Figure 3. The new museum structure was fundamentally complete by 1964, but the interior and the exhibits would not be ready for visitors for nearly ten more years. (Getty Images – permission requested - Editorial image # 955025050 (rt010637.jpg)

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FOREWORD

When the National Park Service began its stewardship of Statue of Liberty National Monument in 1937, we undertook a redesign of the Bedloe's Island landscape to complement the Statue of Liberty and provide for the comfort of future visitors. This was the first time that the Statue and Bedloe's Island would be brought together into a unified design. Landscape architect Norman T. Newton created the 1939 master plan that would transform Bedloe's Island. Newton's plan was intended to attract visitors to the island and provide a proper setting for the Statue, now a national monument. Work on the island was completed by 1957. The renovation transformed the island from an unused military installation into a park. To commemorate this event, Bedloe's Island was renamed Liberty Island in 1956 through a joint resolution of Congress and signed into law by President Dwight D. Eisenhower.

With a longstanding recognition of the significance of the island and its setting, this Cultural Landscape Report describes in detail the evolution of the Liberty Island landscape and documents those individuals playing a major role in shaping its design and physical appearance. A full understanding of the significance of this cultural landscape will ensure better protection of the island's nationally significant resources and a more complete and meaningful experience for visitors.

John Piltzecker

Superintendent, Statue of Liberty National Monument and Ellis Island

ACKNOWLEDGMENTS

Completing the Cultural Landscape Report for Liberty Island has been a collaboration between many individuals and groups. This has been a challenging project involving many who have been rendered star-struck to find themselves working in service to this national icon. At the Olmsted Center for Landscape Preservation, early drafts of the report were prepared by Julia Miller, a graduate of the Carleton College history program and Lance Guerro, a graduate of the Boston Architectural College landscape architecture program. Lance and Julia worked with the center through a cooperative agreement with the National Council for Preservation Education. Carlos Silva-Trejo, a recent landscape architecture graduate from Iowa State University worked with the center through a cooperative agreement with Environment for the Americas. The involvement of Julia, Lance and Carlos was facilitated by Paloma Bolasny, Youth Programs Coordinator in the WASO Cultural Resource Office of Interpretation and Education. Other Olmsted Center staff assisting with this project include "Designing the Parks" internship coordinator Jennifer Hanna, and James Mealey, who accomplished map revisions, and former staff member John Hammond, who assisted with editing and layout. Eliot Foulds served as the Olmsted Center project manager, and Olmsted Center Program Director Bob Page provide general project oversight and guidance. Lisa Cutone provided administrative support.

At the State University of New York – College of Environmental Science and Forestry, Assistant Professor of Landscape Architecture Aidan Ackerman, coordinated the combined efforts of work-study students Meaghan Keefe, Elise Robinson, and Anna Tiburzi to accomplish digital 3-D visualizations of Liberty Island over time. The combined effort of the SUNY team has made the Cultural Landscape Report for Liberty Island truly one of a kind. We are aware of no other cultural landscape report where readers are furnished with both "period-plans" and "period-models" to guide them in understanding the evolution of the landscape. The digital modeling is especially useful in helping to understand the pre-statue configuration of Fort Wood's defensive structures which are nearly impossible to comprehend in flat 2-D plan view. Professor Ackerman has thought deeply about the implications of representing history digitally and has prepared and delivered a presentation to the annual meeting of the American Society of Landscape Architects, summarizing his work on the Liberty Island project. Aidan's paper is

provided for reference as an appendix at the end of the report.

This work draws upon the work of many who have come to Liberty Island before us. There has been so much written about the Statue of Liberty, and Liberty Island that it would be surprising to encounter an entirely new source of information. Important secondary works include the 2006 "Condition Survey, Construction History and Preservation Plan, Fort Wood, Statue of Liberty National Monument," prepared by Naomi Kroll, Senior Conservator with the Northeast Region's Historic Architecture Program, and the 2007 "Fort Wood, Statue of Liberty National Monument Historic Structure Report" prepared under contract by John G. Waite Associates, Architects. The "Evolution Analysis" drawings found in the 2007 John G. Waite Associates Historic Structure Report, illustrating the evolution of the star fort in plan and elevation, were particularly helpful. The authors wish to acknowledge the contributions of Carole L. Perrault, former Architectural Historian and Conservator with the Northeast Region's Cultural Resource Center in Lowell, Massachusetts. Carole's voluminous "Unedited Draft Transcriptions/ Notes of Statue of Liberty and Liberty Island Research," (1984-1986) of primary source material was transcribed in 1995 and later transferred to the collections of the Statue of Liberty National Monument, Bob Hope Library in 2006. We thank Carole, Naomi and the John G. Waite project team for their careful and painstaking work. Although the authors of the following cultural landscape report have relied on this prior work, any flaws or errors encountered in the following pages are entirely our own.

At the Statue of Liberty National Monument the authors thank Superintendent John Piltzecker for his leadership and for extending to us this opportunity to be of service. We further recognize the contributions of John Hnedak, Deputy Superintendent of Statue of Liberty National Monument for his careful review of multiple drafts; both John's criticism and encouragement were instrumental in guiding the report to completion. We also extend thanks to former Cultural Resource Program Manager Noah Lumsden for his assistance with early drafts. The park review team has included Statue of Liberty National Monument Chief of Project Management Chris Parsons; Museum Services Division Chief Diana Pardue; Archivist Matthew Housch, and Cultural Anthropologist Kelsey Taormina. The authors thank the park team for their patience and support, their contributions greatly adding to the quality of the final product.

We also acknowledge that the following report cannot possibly serve as the definitive or "final" word on Liberty Island. It has been our great privilege to complete this work and to log it onto the chronology of Liberty Island's documentation. There will always be more to learn and more to examine and reconsider. To those who follow us in keeping the preservation conversation going, we hope that this report is helpful to you, both in providing some insights, and perhaps suggesting some questions for further exploration.

"The artist ought to choose his site in such a way that the lines of the ground and the coloring of the background will become his assistants in heightining the proper appearance of his work and the impression to which it is to produce..."
Frederic August Bartholdi, 1885

INTRODUCTION

Liberty Island is a 14.1-acre historic district located in New York Harbor, primarily significant as the designed landscape setting for the monumental Statue of Liberty. The small harbor island is also found within the homelands of three federally recognized Lenape Nations. These include the Delaware Nation, the Delaware Tribe of Indians of Oklahoma, and Stockbridge-Munsee Community Band of Mohican Indians.

Public access to the island is by way of ferries departing from Liberty State Park in New Jersey and The Battery in lower Manhattan. Along with Ellis Island to the north and Governor's Island to the east, Liberty Island represents one of three prominent island landmarks of the harbor. The most dominant feature and the most significant cultural resource on the island is the sculpture by Auguste Bartholdi, *Liberty Enlightening the World*, better known as the Statue of Liberty. The Statue and its masonry pedestal sit atop the walls of former Fort Wood, a star-shaped, 11-pointed granite fort built between 1808 and 1811.

Visitor and administration facilities are concentrated in the northwest corner of the island. These include a covered boat pier, visitor orientation/administration building, concessions building, gift pavilion, and maintenance and facilities structures. The largest structure on the north end of the island is the new Statue of Liberty Museum, finished in 2019. Landscape features include two intersecting avenues (the Approach Mall and the Main Mall), a flag plaza, the Statue lawn, and treed southwest and northeast lawn. A brick promenade extends along the perimeter of the island and encircles the Statue. The perimeter paths offer broad views of the Manhattan skyline and neighboring Ellis Island, New Jersey's Liberty State Park, the towers of Jersey City, as well as New York Harbor, the Narrows, Staten Island, and the Verrazano-Narrows Bridge.

PROJECT SCOPE AND METHODS

The following report satisfies a stipulated requirement of the 2016 Memorandum of Agreement regarding the construction of the new Statue of Liberty Museum. Intending to address and mitigate potential adverse effects due to the construction of the large new facility, the multi-party agreement was negotiated

between the National Park Service the New York State Historic Preservation Officer, the New Jersey Historic Preservation Officer, the Advisory Council on Historic Preservation, the Delaware Tribe of Indians, the Stockbridge-Munsee Community, the New York City Landmarks Preservation Commission, and the Statue of Liberty-Ellis Island Foundation, Inc.

According to the terms of the agreement, this cultural landscape report addresses the use of Liberty Island by Native Americans prior to European settlement through its present use as the National Monument, including the construction of the new museum. While this report is consistent with this requirement, the report is fundamentally focused on the 19th and 20th century program of construction that rendered the island in its present form. There remains much to be learned about the island's pre-contact history. Much of the Native American history of Liberty Island presented in this report is derived from scholarship of the broader indigenous occupation of the lower Hudson Valley summarized in "Archeology of a Prehistoric Shell Midden, Statue of Liberty National Monument, New York," edited by William A. Griswold. Bill Griswold's 1999 report uses scholarship of the lower Hudson Valley as a context or framework for understanding the specific artifacts recovered within a Native American shell midden inadvertently found on Liberty Island during excavations for underground utilities. Anticipating continued interest and subsequent investigation, the conversation regarding the archeological record on Liberty Island is ongoing. Moving forward, beyond the brief summary included in this cultural landscape report, new research into the documentary and archeological record of Liberty Island would do well to draw upon Native American traditional knowledge preserved within the communities claiming the lower Hudson Valley as their ancestral homeland.

Throughout the national park system, the National Park Service uses cultural landscape reports as the primary document guiding landscape preservation and long-term management. Cultural landscape reports provide treatment guidance within the context of the site's history and significance, extant features and historic character, and current planning objectives and management goals. Treatment guidelines and recommendations developed in the cultural landscape report are grounded in research, inventory documentation, and analysis and evaluation of the landscape characteristics and features that contribute to the site's historic character.

The methodology used in this report follows *A Guide to Cultural Landscape Reports: Contents, Process, and Techniques* (1998). Methodology includes primary and secondary historical research to develop a narrative site history; surveys of existing documentation, including historic photographs, plan drawings, and narrative descriptions, to determine historic site conditions; and documentation of existing conditions through direct site observations, photography, and surveys of current and recent site plans and aerial photographs.

This volume, the *Cultural Landscape Report for Liberty Island*, includes a site history, documentation of existing conditions, and analysis and evaluation of the site's significance, integrity, and contributing landscape characteristics and features. While this volume does not include landscape treatment recommendations, the findings in this report may be used to inform general treatment guidelines or detailed treatment recommendations in the future.

This project employs new methods that have yet to come into widespread use in cultural landscape preservation work. Conventionally, cultural landscape reports include illustrated and annotated two-dimensional site plans documenting existing landscape conditions paired with additional two-dimensional site plans, commonly referred to as "period plans." Period plans illustrate and graphically describe the subject landscape at important inflection points in the past. Period plans are typically prepared with the same uniform scale, orientation to north, and graphic conventions as existing conditions mapping, facilitating an easy comparison between present-day and former landscape conditions. While this graphic juxtaposition of existing conditions versus former conditions has been found helpful to many, Olmsted Center project staff have long observed that the interpretation of two-dimensional site plans is quite difficult for many persons. Given the iconic status of Liberty Island and the Statue of Liberty, and the island's relatively modest size, this project suggested an opportunity to explore new visualization methods derived from the field of computer graphics and the video gaming industry; tools that make the visualization of landscape history more accessible. Working with university partners at the State University of New York, College of Environmental Science and Forestry in Syracuse, New York, the project team has wielded powerful new tools to include digital 3D period-models, supplementing the more traditional 2D period plans. Additionally, these new digital modeling and visualization tools have made it possible to take the practice of "repeat-photography" to another level. It has been a longstanding practice in historic preservation resource documentation to pair existing conditions photographs next to a historic photograph of a building or landscape. Using three-dimensional digital modeling in preparation of the Cultural Landscape Report for Liberty Island has made it possible to pair a series of images across multiple time periods, all composed from a consistent vantage point, or point-of-view. These new digital tools have made it possible to include paired imagery from dates prior to the advent of photography, or otherwise from locations where no photographer ever stood.

Using these powerful visualization tools has literally improved the perception of this report's authors. Perhaps it is a painfully obvious statement to say that the greater one's visual acuity - the more one sees. However, in the context of this project, the improved visual clarity that these tools provide, has also brought to attention the limits of our present knowledge of the details of Liberty Island's landscape characteristics and features. Digital visualization tools have developed

to such a degree of sophistication, that it could be most tempting to compose a confident, photorealistic portrait of former landscape conditions, and to represent these persuasive images as the unalloyed truth. The authors have instead carefully chosen otherwise, especially regarding paired imagery. In the case of paired imagery, digital filters have been applied rendering the digital model as pencil sketches. Taking the form of a sketch, the authors hope to convey these images as interpretations of what can be learned from the historic record, and in humility, suggest that we do not know all there is to know.

PROJECT BACKGROUND

The composition and operation of Liberty Island and the Statue of Liberty have undergone substantial changes over the past two decades, primarily in response to security needs and environmental impacts. Following the terrorist attacks of September 11, 2001, the island acquired an ad hoc collection of security and temporary visitor services infrastructure necessary to protect the important landmark. These facilities, including a large security screening tent that extended along the Main Mall before the northwest entrance to the Statue, were incompatible with the historic character of the Statue's setting and did not provide an appropriate visitor experience.

The need to address site conditions was increased after 2012, when Hurricane Sandy inundated much of the island and caused extensive damage to the island's buildings, landscape, utilities systems, and other infrastructure. The removal of several damaged buildings and the extensive repairs required across the island offered an opportunity for a holistic design approach that would meet security requirements, improve visitor experience, and increase the resilience of the island's facilities. Between 2016 and 2019, the new 26,000-square-foot Statue of Liberty Museum was constructed on the north side of the Flag Plaza. The design of the single-story structure was in part determined by National Park Service resiliency requirements and by the conditions of the 2016 Memorandum of Agreement (MOA) regarding construction of the new museum facility. (PEPC 53263, 2016). The museum was made resilient by placing the main floor nineteen feet above the flood zone upon a robust foundation designed to include ground level openings allowing storm surges to enter and leave without doing significant damage. The MOA required that the new museum building be subordinate to the monument by limiting its height to that of Fort Wood at the base of the statue. The new museum features a glass façade facing the statue and a low horizontal roof, featuring an observation deck and is partially covered by a "green-roof" supporting the growth of native plants.

To help mitigate the adverse effect created by the construction of the large museum, the following report places the current landscape conditions and the recent changes within the context of the island's long history and its significance

in American history.

REPORT ORGANIZATION

This report is organized into three chapters: Site History, Existing Conditions, and Analysis and Evaluation. Landscape Treatment Recommendations are not included in this volume.

Site History

The first chapter presents a narrative site history of Liberty Island, organized according to historic periods and illustrated with images. The narrative is accompanied by a series of period plans and 3-D computer models documenting the landscape conditions at the end of each historic period. Sections of the history correspond to the following historic periods:

- Prior to 1840 (1840 Period Plan)
- 1841 to 1880 (1880 Period Plan)
- 1881 to 1902 (1902 Period Plan)
- 1903 to 1937 (1937 Period Plan)
- 1938 to 1956 (1956 Period Plan)
- 1957 to 1986 (1986 Period Plan)
- 1986 to Present (Existing Conditions Plan)

Existing Conditions

The second chapter describes the existing conditions of the landscape as documented in 2021, including narrative descriptions of major landscape characteristics and features, site mapping, and photography. Documentation includes a plan of existing landscape conditions on Liberty Island.

Analysis and Evaluation

The Analysis and Evaluation chapter includes a summary of the site's significance and integrity according to the evaluation criteria of the National Register of Historic Places, as well as documentation of extant landscape characteristics and features that contribute to the significance of the property. Information about each landscape feature, including its historic and existing conditions, evaluation status, and an image documenting current conditions, is presented in a chart format for easy reference.

SITE HISTORY

"The colossal statues which have been executed up to the present time are far from the proportions of the Statue of Liberty. Yet we must not expect its appearance to be colossal when it is in place. In the immense picture which will surround it, it will appear simply in harmony with the whole...
Frederic August Bartholdi, 1885*"*

LIBERTY ISLAND PRIOR TO 1840

The following pages outline a brief history of Liberty Island up to 1840, covering geologic history, seasonal Indigenous habitation, European settlement, and the construction of Fort Wood. This narrative refers to the site uniformly as Liberty Island to reduce confusion. The island has been known by many names throughout history, including Oyster Island, Kennedy Island, and interchangeably Bedloe's, Bedloo's or Bedlow's Island. Congress officially changed the island's name from Bedloe's Island to Liberty Island in 1956.

Prior to the arrival of European settlers, Liberty Island was part of a rich landscape of forests, meadows, rivers, and salt marshes that provided abundant resources for the people living there. The three federally recognized Lenape Nations, the Stockbridge Munsee Community of Wisconsin-Band of Mohicans, the Delaware Nation, and the Delaware Tribe of Indians of Oklahoma, all recognize Liberty Island as within their historic homelands. Direct evidence of habitation on Liberty Island dates to the Middle Woodland Period, approximately CE 0–1000 (Common Era).[1] From the early seventeenth century, Dutch colonists, and later the English, displaced Indigenous populations and established what would become New York City. Liberty Island's strategic location in the harbor led to its use for coastal defense, and by 1811 the island was home to a masonry eleven-point star fort, later named Fort Wood.

EARLY HISTORY

Liberty Island lies at an intersection of biomes at the mouth of the Hudson River in New York Harbor. The Lower Hudson Valley environment, between the mouth of the Hudson River and the Atlantic seacoast, is a brackish estuary that supports fin and shellfish as well as a variety of coastal birds. Historically, hardwood forests covered the landscape surrounding New York Harbor and supported a diverse assortment of life (Figure 1.1).[2]

During the last glacial advance, ice cover shaped the New York Harbor and its islands, depositing banks of gravel and sediment pushed forward at the leading edge

Figure 1.1. Early drawing of New York Harbor 1776 by Wm. Faden, "Geographer to the King." Bedloe's Island lies along the left edge of the map, on the outer margin of the area labeled as 'Oyster Bay.' Liberty Island has been annotated with a dashed circle by the authors of this report (Library of Congress).

of the glacier. While historical use has reshaped Liberty Island's glacial terrain, its composition of sand and gravel, overlain by silts and shell deposits, continue to mark the southern limits of the glacial ice sheet. Between 2000 and 600 BCE (Before Current Era), sea levels remained relatively low and the harbor islands stood as low hills rising above marsh grasses. As sea levels continued to rise, marshes were inundated and the harbor encircled Liberty Island, cutting it off from the New Jersey mainland only several hundred years ago.[3]

Humans are believed to have arrived in the lower Hudson Valley area approximately 11,000 years ago, well after the retreat of glacial ice and the establishment of the northern conifer/hardwood forest. During this time, when the site was not an island, but connected to the adjacent western landmass, the earliest Indigenous peoples likely hunted large herbivorous mammals and other smaller game. Later, as the level of the ocean began to rise with the warming climate, the Indigenous people are believed to have traveled widely according to the season of the year to hunt animals and collect varied food and other materials for clothing, tools, medicine, ornament and ceremony. Liberty Island bears evidence of seasonal indigenous occupation during the Woodland Period, beginning about three thousand years ago and ending in the 1600's around the time of European contact. This evidence includes ceramic shards and a stone weapon point found within a pit of burned charcoal carbon-dated to circa 990 A.D. This evidence was found overlain by piled discarded oyster shells and animal bones, known as a midden, preserved in the soil below the existing surface of the ground.[4]

The wet marshland formerly surrounding Liberty Island would have provided Indigenous people with an ideal hunting environment. Maps mark Liberty Island, Ellis Island and a third, now submerged, island collectively as the "Oyster Islands" of "Oyster Bay" until at least the mid-nineteenth century, indicating the presence of, and association with, shellfish (Figure 1.2). The shell midden site on Liberty Island dates the earliest known use of the island to approximately 900 to 1500 years ago (500 to 1100 CE). Middens are archeological features preserving the refuse of daily life, including food wastes like shells, bones, and seeds. In addition to shells, the midden on Liberty Island also contained remnants of hickory nuts, indicating hickory trees may have grown on the island or nearby.[5]

The first documented European ownership of the island began when Dutch Governor Richard Nicholls granted the island to a Captain Needham who soon sold it to Dutch merchant and ship-owner Isaac Bedlow (variously spelled Bedloe or Bedloo) in 1667.[6] At that time, the landform was described as "tear-shaped [and] ringed by a sandy beach visible at low tide and surrounded by shallow, oyster-bed rich waters."[7] From 1667 to 1746 Liberty Island changed hands from Bedlow to Adolph Philipse and Henry Lane, and then to Archibald Kennedy. During this period of private ownership, the government would periodically commandeer the island for quarantine purposes.[8] The island was used in 1738 to inspect incoming

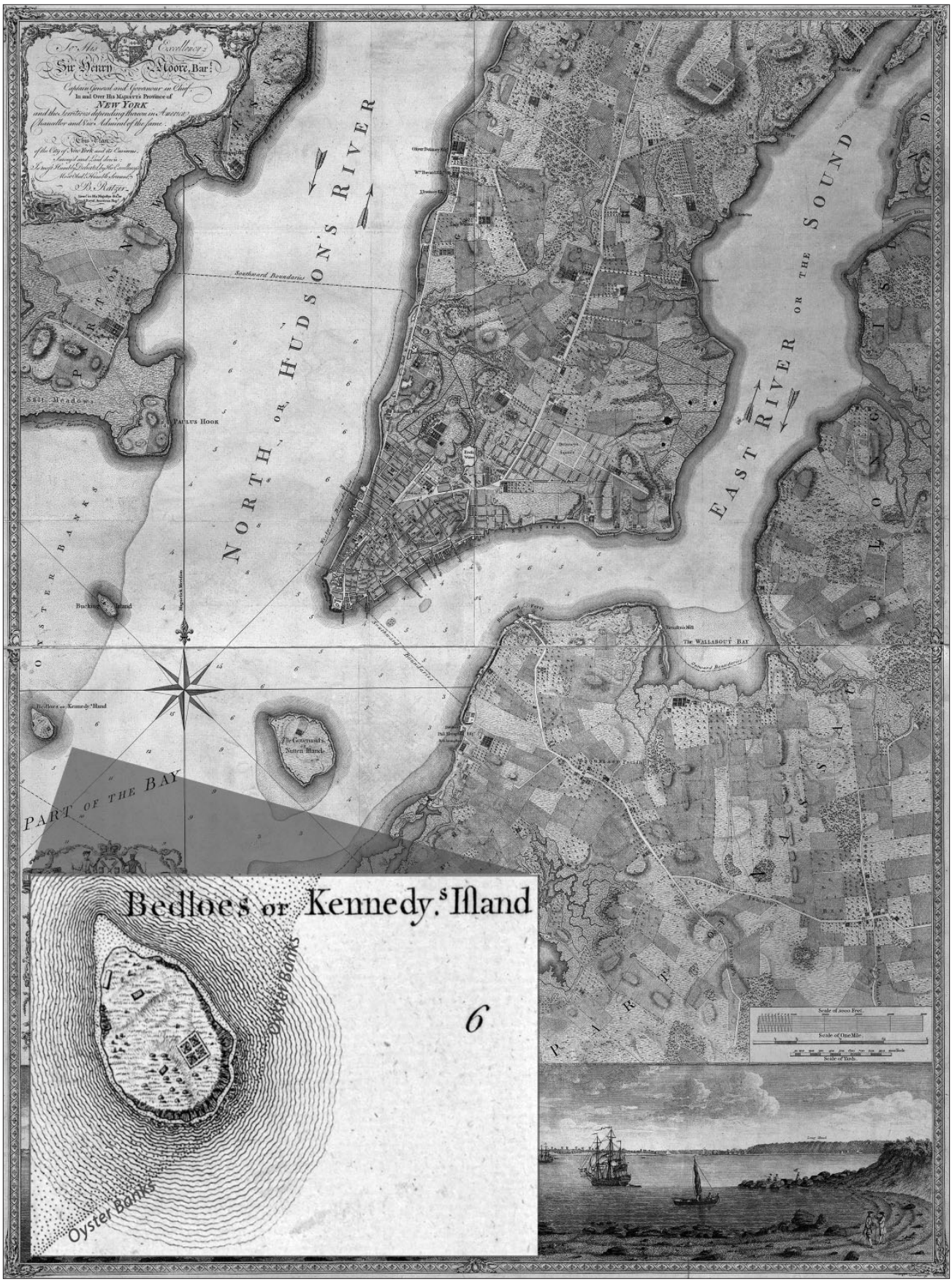


Figure 1.2. Detail of Liberty Island [Bedloes or Kennedy Island], surveyed 1766-67. The map depicts the island with three buildings and what appears to be a fenced garden (National Archives II, Cartographic Branch, Fortification File, NAID 102280035).

Figure 1.3. "Plan of Governor's, Kennedy's and Brown's Islands, with Paulus and Red Hook together with parts of the Bay and Soundings Shewing (*sic*) the position they bear to each other and New York" (Library of Congress).

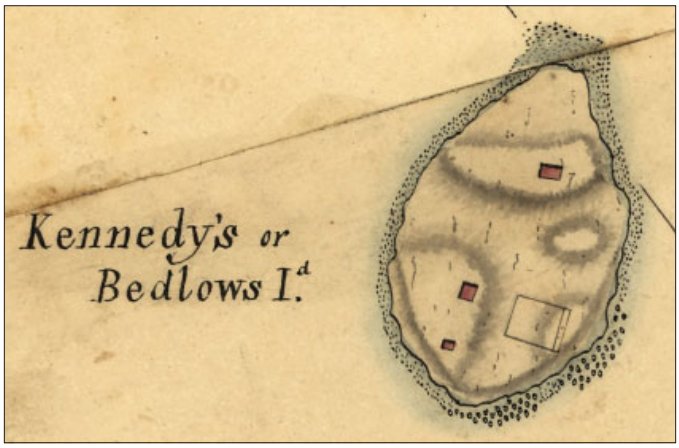


Figure 1.4. Detail of previous figure showing Liberty Island in 1766. The map depicts three buildings and what appears to be a fenced area (Library of Congress).

Figure 1.5. Detail of the Faden map of 1776. The journals of British Captain Montressor suggest that the British took cannon and musket fire from American forces located on Liberty Island (Library of Congress).

ships for contamination or disease, and in 1755-1757 it was used as an area to quarantine smallpox patients away from the populated city.[9] In 1758, New York City took possession of the island to build a "pest house" or hospital building.[10] According to a 1766 map of the wider harbor drawn by the prominent British military engineer Captain John Montresor, the island contained several buildings by that time (Figures 1.3 and 1.4).

A 1776 map by British cartographer William Faden, made during the American Revolutionary War (1775-1783), depicts the battle lines of the local conflict along the shores surrounding Liberty Island (Figure 1.5). No map has been located definitively indicating a durable military presence on Liberty Island during the war, but by British Captain Montresor's account, there was at least one instance of soldiers transporting arms to the island and constructing field works. Montresor documented his experience of having been fired upon by hostile colonial forces occupying Liberty Island:

> "I went in a Whale Boat, escorted with 2 flat bottomed Boats, with 2 officers, and 40 of the 43rd Regt., and proceeded towards New York from Staaten Island in August 1776, and received the fire from the Cannon of the several Batteries and Musquettry from Kennedy's [Liberty] Island"[11]

The works from which Montresor was fired on were likely hastily constructed from local materials. Alonzo Chappel's painting "Alexander Hamilton in the Uniform of the New York Artillery" imagines Hamilton at the time of the Revolution standing behind a rough earthen parapet that would have been similar to any of the field works located on Liberty Island (Figure 1.6). Other reports show that during this time, the island was briefly abandoned, used as a refuge for Tory sympathizers, and then raided by colonial insurgents who burned many of the buildings.[12]

Following the war in 1784, New York State again used Liberty Island as a quarantine station before

Figure 1.6. "Alexander Hamilton in the Uniform of the New York Artillery," by Alonzo Chappel. This imaginative illustration, made long after the fact, suggests the character of the temporary field works that may have been in place on Liberty Island during the Revolution.

gaining title to the property in 1796. Though the federal government acquired the property shortly thereafter in 1800, the state continued to use it as an area to sequester and treat the sick as needed.[13]

WARS AND FORTIFICATION PLANS

Following the American Revolution, tensions between England and France stemming from the Napoleonic Wars intensified and entangled the United States. In the ongoing conflict, both France and England attacked the United States' trade routes to indirectly assail the economy of their primary foe. The United States felt especially pressured by the British Navy, which seized American vessels and impressed American sailors into British service.[14]

The leaders of the United States foresaw further conflict and sought to secure the new nation's vulnerable coastline. In 1794, Congress appropriated funds for the construction of a system of coastal defenses, which would come to be known as the First American System. This system was intended to protect the entire eastern seaboard and encompassed sixteen locations, including New York City.[15] Naval artillery and that of the defensive fortifications of the late 1700s required proximity to targets. Inner harbor sites, close to cities, became favored locations for First System fortifications. Discussion about the practical need to fortify the outer harbor and the Narrows took place in the state legislature, but appropriations supporting such an ambitious effort failed to materialize.[16]

In 1794, the War Department commissioned Charles Vincent, a French engineer, to assess conditions and recommend an expedient means of defending New York's Harbor. Vincent surveyed locations that could create intersecting fields of fire between existing and planned harbor fortifications and recommended construction of new defensive works on Liberty, Ellis, and Governors Islands. Henry Knox, George Washington's Secretary of War, budgeted less than $13,000 to fortify New York City's harbor, instructing that parapets for all defensive works should be "made of earth and the embrasures of wood…properly stopped and sodden, and sewn with a certain species of grass."[17] To compensate for the inadequate federal funds, New York directed $30,000 to support this early effort.[18] The state-led project was overseen by a Board of Commissioners of Fortifications, including New York's Governor George Clinton.

As early as May 1794, the Board recognized that available funds could not even support modest plans for a new system of defensive works, writing: "…the Engineer be directed to confine his plan to the repair of the old works so as to render them safe against any sudden attempt from landing men on board of ships."[19] Concessions to economy continued to be made throughout the duration of the project, such as reducing the number of the fortifications faced with masonry.

In 1798, a recently constructed state hospital on Liberty Island was dismantled to facilitate construction of new defensive works, but progress on the new fortifications was slow.[20] In 1802, the U.S. Inspector of Fortifications stated that, "should it be thought proper hereafter to erect a Battery there capable of as much Defense as the Nature of the Position will allow, the work which has already been done will be found to be of trifling accord compared with what will remain to be done."[21] By September 1805, a survey of fortifications defending New York Harbor found that any prior work towards fashioning defensive works on Liberty Island had been dismantled.

FORT WOOD AND THE SECOND AMERICAN SYSTEM

In 1805, the United States Congress commissioned a second program to assemble a working system of coastal defenses. This Second American System, led by Lieutenant Colonel Jonathan Williams (1751-1815), Inspector of Fortifications, was in part a response to mounting tension between Great Britain and the United States that would ultimately lead to the War of 1812.

Lieutenant Colonel Williams, grandnephew of Benjamin Franklin, and as a young man accompanied the statesman to Paris as part of the ambassadorial entourage. While in France, Williams continued his education, studying fortifications and

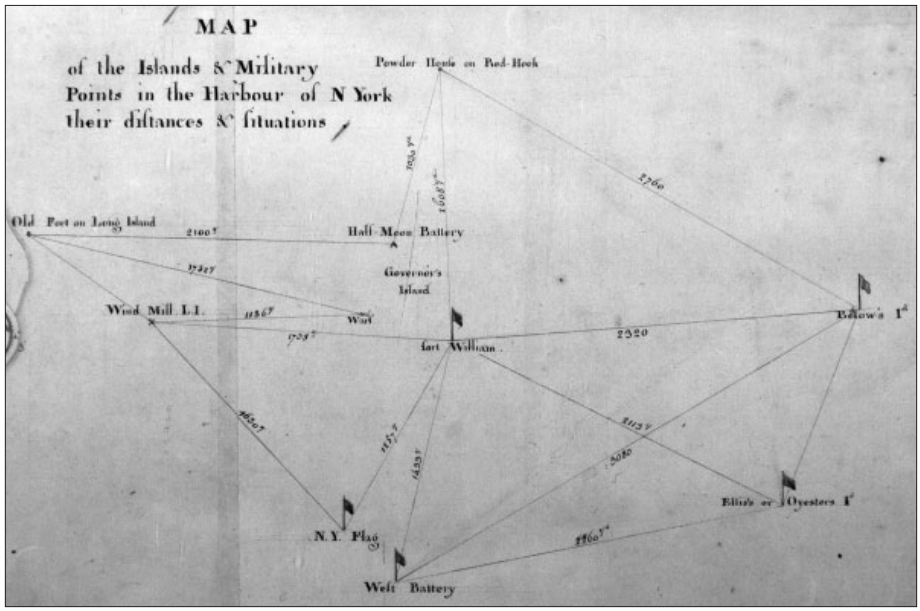


Figure 1.7. "Map of the Islands & Military Points in the Harbour of N. York their distances and situations," showing bearings and distances, New York Harbor. This diagram, oriented with north at the bottom edge, is sketched into Mangin's detailed 1813 drawing, delineating New York harbor defenses, and their physical interrelationship (National Archives II, Cartographic Branch, Fortification File, NAID 102280039).

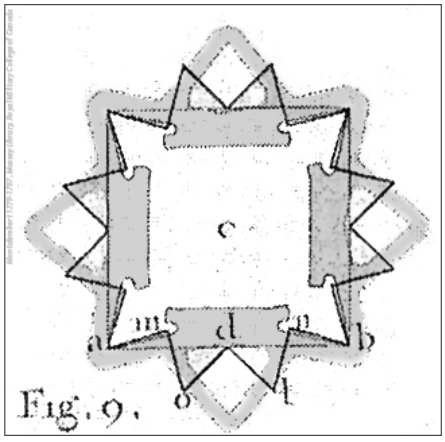
military science while working as an American commercial agent in the port of Nantes. He rose to prominence and in 1801 was appointed Junior Major of the 2nd Regiment of Artillerists and Engineers. Later that year, Williams rose to Inspector of Fortifications and commander of the post at West Point. In 1802, Williams became the first superintendent of the United States Military Academy.

In order to develop a comprehensive plan for upgrading New York's defenses, Williams documented the distances between existing defensive works and areas yet to be fortified throughout the harbor. The weaknesses of existing defensive works were surveyed, notably the undefended distance between fortifications on the east side of the upper harbor and the New Jersey shore. These shortcomings would potentially allow an enemy force to sail up the Hudson River undeterred, past the lightly defended Narrows.[22]

Williams proposed strengthening works at the Narrows and creating intersecting fields of fire triangulating between the old battery on the southern tip of Manhattan, Governor's Island, and Ellis Island. The fortifications on each site were to combine to create a gauntlet of cross-fire at the entrance to the inner harbor, as illustrated by a 1813 diagram (Figure 1.7).[23] As part of that system, Williams noted that "Bedloe's Island, though very small, has been considered proper for defensive operations, and, in some degree, prepared to annoy the enemy."[24] He explained that previous accounts recommended this place as a superior location, but that time and weather had worn away earlier defenses.[25]

As Williams began implementing the new system, conflict escalated between Great Britain and the United States. In June of 1807, off the coast of Norfolk, Virginia, British troops attacked and searched the *USS Chesapeake* for deserters. The following year, serious repairs to Liberty Island's fortifications began, facilitated by construction of a more permanent wharf.[26] Lieutenant Colonel Williams described his plans for the new wharf in a letter to Captain R. Whiley of the Corps of Engineers, directing that:

> . . .a sufficiency of rough logs for the part under the water, but all above should be squared Timber with the cross pieces well dove-tailed in and the interior



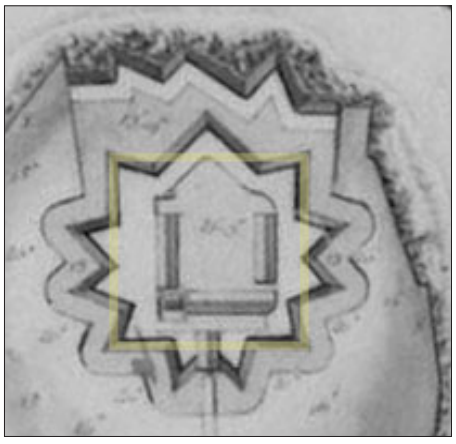


Figure 1.8. (Left) Diagram from Montalembert's notebooks illustrating how a pre-existing bastioned fortress (in gray) might be remade (in black lines) to conform to the "perpendicular system" (Royal Military College of Canada).

Figure 1.9. (Right) Detail from the 1813 Mangin drawing of New York Harbor fortifications. The light yellow box superimposed on the drawing by the authors of this report highlights where the angles of the Fort Wood star-fort may not have been rigorously symmetrical (National Archives II, Cartographic Branch, Fortification File, NAID 102280046).

> made as solid as possible with Stone, taking care that except the timber necessary for the form of the Wharves, nothing but stone or very coarse gravel is to be put in, and of this last only to fill the interstices of stone.[27]

Even before work began, Williams drew inspiration from what he had learned abroad from French engineer Marc-René de Montalembert (1714–1800). Montalembert's designs provided for a system of walls set at outward-facing right angles that would allow soldiers to fire perpendicular to the parapets. Additionally, Montalembert proposed that the inner angles of the fort should "be a minimum of 60° to prevent crowding at the tip" (Figures 1.8 and 1.9). [28] Williams appears to have adapted these basic principles to create the plan for an eleven-point star fort on Liberty Island.[29]

Outside of the main star-shaped fort, Williams planned for a mortar battery on the shoreline facing the Harbor. He provided further explanation for his designs in a document titled "Why is the front of the [exterior] mortar battery at Bedlow's Island angular rather than elliptical?"

> 1. The Ground was an irregular Land bank and the form adopted has been governed by the shape of the Precipice, or as far as consistent with the requisite direction of the Fire. An Ellipsis would have extended either far into the Bank on one hand or far into the River on the other.
>
> 2. An Ellipsis must have had to support the wall counterforts against the pressure of the earth. The angular shape has required no counterforts and it will be found that the quantity of wall in the Ellipsis including Counterforts would have been more than the angular shape without Counterforts.
>
> 3. As mortars fire at an angle of about 45 degrees they can (each one) fire in every point of a Semicircle whatever may be the shape of the parapet.
>
> 4. The angular shape is better capable to resist the Battery of a ship than the Elliptical one and the shape their front is so constructed that a ship could not easily bring his Broadside to bear at rightangles.
>
> 5. A Curve is weaker than a right Line when the pressure is from within to without and a long right Line is weaker than one composed of angles and short faces.
>
> 6. A passing ship could bring her whole Broadside to bear upon an elliptical or a right line, but not in an angular front.[30]

Williams included a detailed description of the plans for the repairs to the fortifications in an 1808 report to the Secretary of War, explaining that the mortar battery would "command all the anchoring Ground between Red Hook and the Quarantine, and… afford protection to Ellis's Island which being very low and only 1,300 yards distant is completely commanded by it."[31]

The final plan for the outer mortar battery included asymmetrical angles between the redans that extended into the water (Figure 1.10). Williams wished to build the mortar battery on the southeast side of the island, facing the mouth of the harbor, but could not do so on account of the sandy soil there. He reported that:

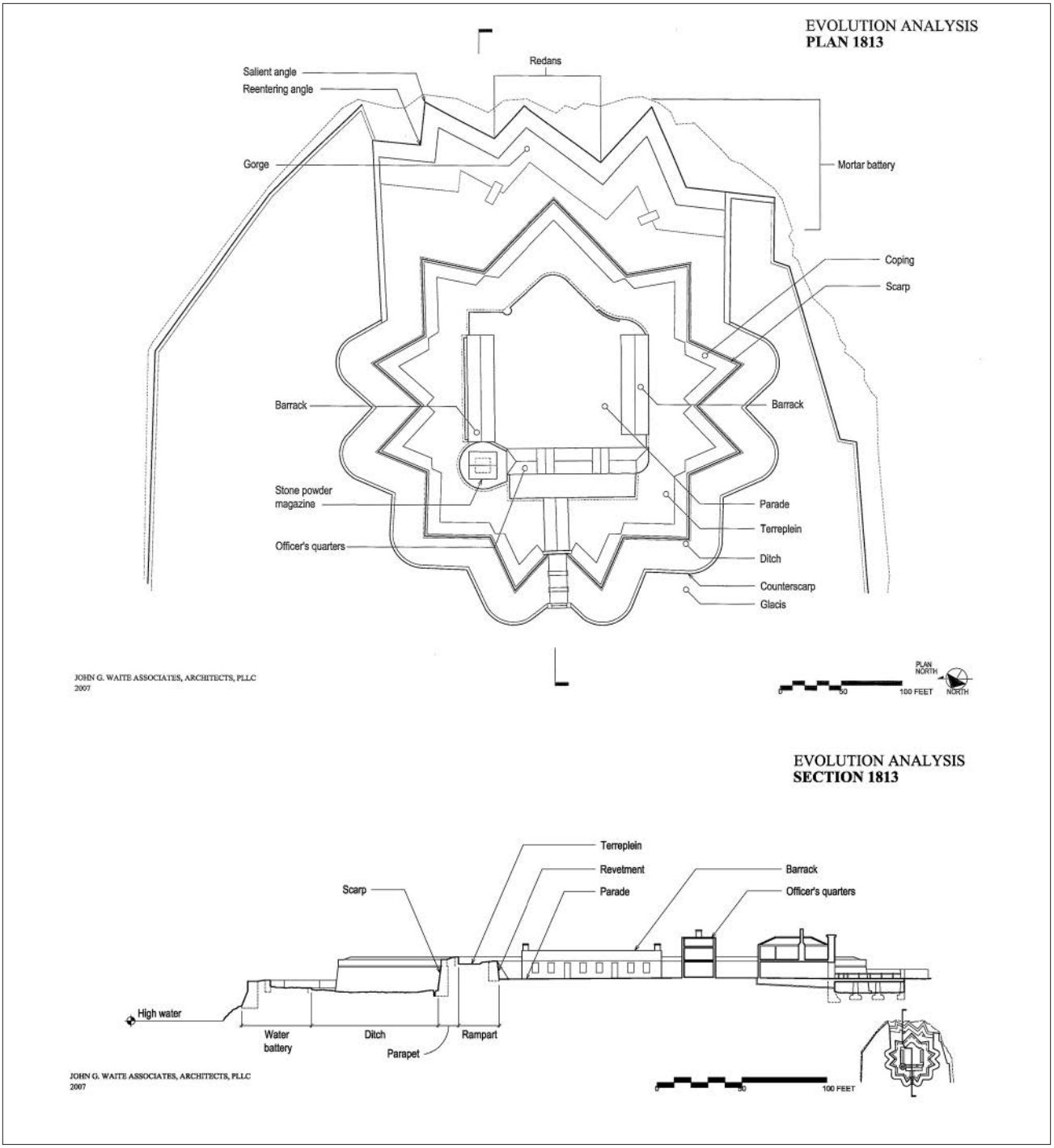


Figure 1.10. "Fort Wood Evolution Analysis Plan and Cross-Section, 1813." This diagram, excerpted from the 2009 Fort Wood Historic Structure Report, prepared by John G. Waite Associates, illustrates the general layout of the star fort and the external battery c.1813. Later documentation from the late 1830s suggests that the angles of the star fort were somewhat less symmetrical than shown here (Fort Wood Historic Structure Report, John G. Waite Associates).

Figure 1.11. Cross-section from 1813 Mangin drawing, documenting the topography of the entire island, with north to the right and south to the left. Mangin indicates the presence of the southern postern entrance in this early drawing (National Archives II, Cartographic Branch, Fortification File, NAID 102280039).

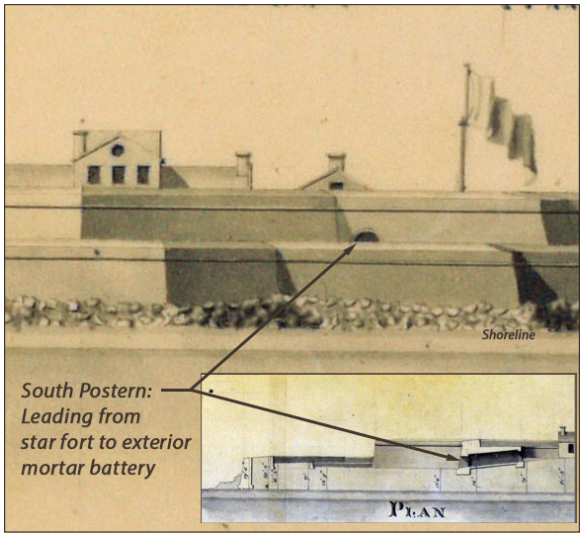


Figure 1.12. Detail from 1813 Mangin drawing indicating the location of the flagstaff and the presence of the southern postern, providing soldiers with a covert passageway between the star fort and the external battery (National Archives II, Cartographic Branch, Fortividcation File, NAID 102280039).

> …owing to the irregular Bank of loose sand in this part, which is highest on the island, it became impossible to determine on any regular shape consistent with a proper direction without either extending into the water on one hand or digging very far into the bank on the other. It was therefore determined to make the front of several Redans or alternate salient & reentering angles so constructed that the longer sides would be at right angles with the Course of the Channel the shorter ones serving as flanks to them.[32]

By December 1811, the fortifications on Liberty Island were described as "a star fort of masonry, mounting twenty-four heavy guns, a stone magazine, which will contain two hundred barrels of powder; a brick barrack for one company of men and officers, and a brick arsenal."[33] Funding was not yet available to construct a permanent seawall on the north and south fronts.

Joseph Francois Mangin's plan and elevation drawings from 1813 illustrate the star fort and its exterior battery, served by a long barracks building and small square structure at the north of the island (Figure 1.11). Inside the star fort two barracks buildings had been built, one each along the east and west walls, and an officer's quarters building was built at the north end of the fort's central parade. The stone powder magazine stood in the northeast corner of the parade. Mangin's profile drawing shows a drawbridge spanning the dry moat, affording access to the star fort through the north sally port, shown embellished with a high decorative archway. The south facing postern consisted of an angled passageway through the star fort southeast curtain wall, providing access to the exterior mortar battery (Figure 1.12).

The defenses constructed on Liberty Island were not called into service during the War of 1812. In 1814, the eleven-pointed star fort on Liberty Island was named Fort Wood in honor of Lieutenant Colonel Eleazer Wood, an engineer who had served with distinction during the war.[34] Following the end of the war, the facilities on the island deteriorated quickly, and by August 1815, the Corps of Engineers submitted a report indicating that the fort's escarpment already needed repair. Subsequent reports continued to report the fort in an increasing state of need.[35]

THE THIRD AMERICAN SYSTEM

In 1817, the War Department initiated a Third American System of coastal defense. This new effort was led by French Engineer Brigadier General Simon Bernard with assistance from American Brevet Lieutenant Colonel Joseph G. Totten. General Bernard had served as aide-de-camp to Napoleon from 1805 to 1812. After Napoleon's fall from grace, Bernard found asylum in the United States where he consulted on construction of several defensive works. He ultimately returned

to France in 1830, serving as minister of war to Louis Philippe.[36]

Beginning in 1816, General Bernard prepared a series of reports describing the condition of the nation's coastal defenses and the degree to which they were prepared to confront an enemy. He concluded that the existing defensive system, designed to protect against eighteenth-century threats, was inadequate to meet the technological advances in artillery, ship building, and defensive works of the early nineteenth century. According to Bernard, "Most of the existing forts only defend single points…[and] satisfy only a few conditions; and they have not been planned with a view to the defense of the frontiers."[37] While Bernard argued that defenses should be located closer to the ocean coastline in order to challenge the improved artillery aboard ships, he argued that old forts should be maintained until they could be replaced by an effective coastal system. Plans for the new system did include some recommendations for repairing and modifying pre-1816 forts.[38]

Figure 1.13. Detail from 1836 "Topographical map of the city and county of New-York, and the adjacent country…" The inset detail provides a generalized, inaccurate layout of Fort Wood. The diagram does accurately depict the layout of the central cart path connecting the wharf with the star fort's northern sally port (Lionel Pincus and Princess Firyal Map Division, The New York Public Library Digital Collections https://digitalcollections.nypl.org/items/510d47da-effa-a3d9-e040-e00a18064a99

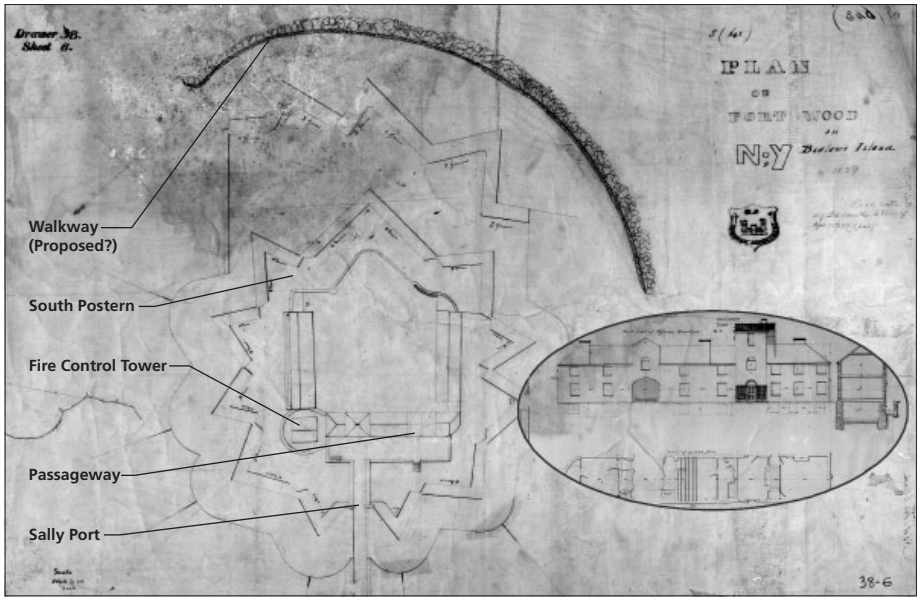


Figure 1.14. "Plan of Fort Wood on Bedlow's Island." Drawing of existing conditions at Fort Wood in 1839. The drawing has been supplemented with labels and an inset image by the authors. The inset image shows the officer's quarters, including the passageway to the interior courtyard, offset from the sally port, and the rooftop fire control tower, placed to observe and direct the fire of the fort's guns. A walkway is indicated atop a seawall to the southeast. The asymmetrical angles of the star fort in this drawing appear to facilitate a parallel relationship between the walls of the star fort and certain walls of the external battery. Marginal notes indicate draftsman as C.A. Fuller (USMA, 1834) (National Archives Cartographic Branch, Fortification File, RG77, NAID77313516).

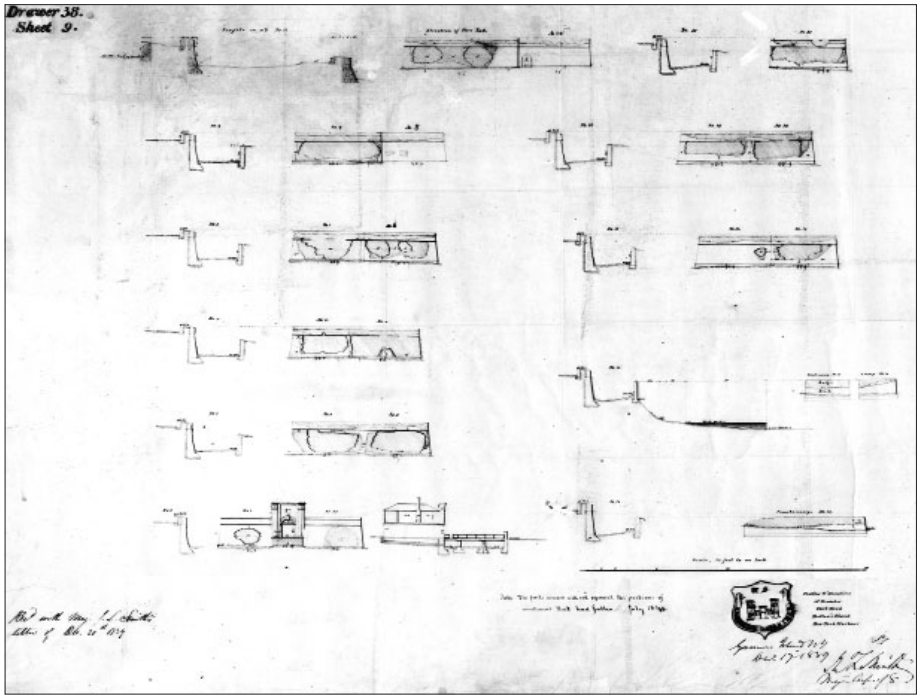


Figure 1.15. "Profiles and Elevations of Breeches, Fort Wood." This 1839 drawing indicates the various places where the existing masonry of the star fort and the exterior battery had failed. The decorative architrave built atop the southern sally port is shown in the sketch at the lower left, concealing the quarters behind it. To the right of this is seen a cross-section of the bridge over the dry moat, which includes a segment that could be raised in the event of an emergency, similar to that found at Fort Jay on Governors Island. The arched southern postern gate is shown top center, within "Wall No. 10." Marginal notes indicate draftsman as C.A. Fuller (USMA, 1834) (National (National Archives II, Cartographic Branch, Fortification File, RG77, NAID77313516).

As improvements to harbor defenses were being considered, long simmering disagreements between New Jersey and New York over land jurisdiction in New York Harbor were brought to the fore. These were ultimately resolved through a mutual agreement called the Compact of 1834, which gave the State of New York jurisdiction to the existing lands of Ellis and Liberty Islands above the low water line and gave to New Jersey jurisdiction over the waters surrounding the islands and the submerged lands below the low water level.[39] By 1836, Governors, Ellis and Liberty Islands each contained their own defensive infrastructure. Fort Columbus stood at the high ground at the center of Governor's Island, with Castle Williams positioned below it at the shoreline. To the northwest, Fort Gibson occupied the south end of Ellis Island, and Castle Clinton, with its placement at the

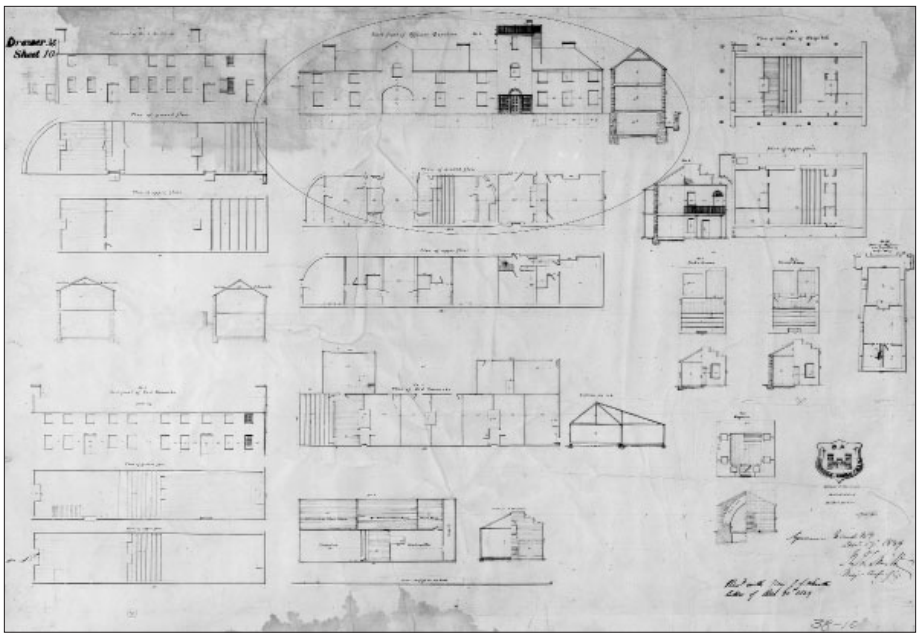


Figure 1.16. "Detail of Buildings, Bedlows Island." This drawing made in 1839 indicates the scale and geometry of the buildings inside the star fort, including the Officer's Quarters (top center), the West Barracks (top left), East Barracks (bottom left) and the Magazine (lower right). The authors have superimposed an oval on this drawing corresponding to an inset provided in Figure 1.14. Marginal notes indicate draftsman as Charles A. Fuller (USMA, 1834), who would later become a member of the CSA Congress, representing North Carolina (National Archives II, Cartographic Branch, Fortification File, RG77, NAID77313516).

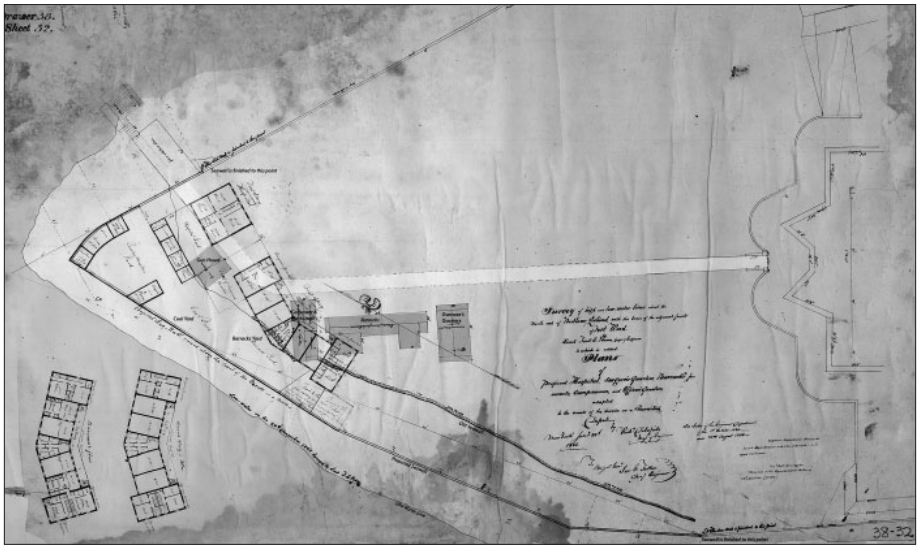


Figure 1.17. "Survey of high and low water lines about the north end of Bedlow's Island, with the trace of the adjacent fronts of Fort Wood…." This drawing made in 1851, graphically superimposes recommended new buildings over a map of structures present at the north end of the island c.1840. The central path connecting the wharf at the northern end of the island with the fort's sally port is clearly in view. This drawing has been digitally enhanced and labeled by the authors to emphasise existing versus proposed conditions (National (National Archives II, Cartographic Branch, Fortification File, RG77, NAID77313516).

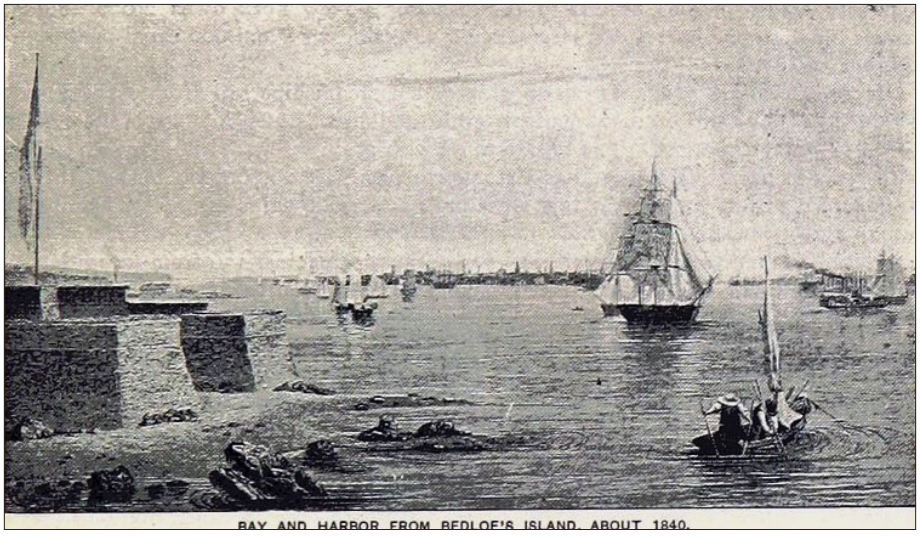


Figure 1.18. "Bay and Harbor from Bedloe's Island, c.1840." This small engraving, c.1840, depicts an earlier date, prior to enclosing the outer battery behind a seawall as seen previously in Figure 1.14 above. This image depicts a small shallop with men tonging for oysters, as Bedlow's Island was known as one of the "Oyster Islands" ("King's Handbook of New York City," 1893, Moses King, ed).

Figure 1.19. New York City as seen from the Fire Signal on Staten Island, 1840, by Lt. John Farley (USMA Class of 1823). Image annotated by the authors to include inset detail of Bedlow's Island (NOAA Rare Book Library).

Battery on Manhattan, created intersecting lines of fire (Figures 1.13). Drawings of New York Harbor from around 1840 show the relationship of Fort Wood on Liberty Island to the fortifications on Governors and Ellis Islands (Figures 1.14 and 1.15).

In 1839, soon after the establishment of the U.S. Army Corps of Topographical Engineers, a survey was prepared of the island's topography and structures. The survey, apparently prepared in anticipation of making improvements, documented extensive deterioration of the island's facilities. The outer scarps of Fort Wood were depicted as crumbling, and large areas of almost every face of the star fort required attention (Figures 1.16 and 1.17). Profiles of each wall face showed the relation of the walls to the terreplein level, the ditch, or dry moat, and the outer battery, revealing the fort to be made of a core of rubble and earth, faced with cut blocks of stone.[40] The drawings appear to indicate that fill had been placed in front of the exterior battery, as the intertidal shoreline no longer extended to the base of the walls.

1840 LANDSCAPE DESCRIPTION

In 1840, Liberty Island was a teardrop-shaped island, oriented with the narrow end at the northwest and the rounded end at the southeast. Masonry seawall extended around much of the island, with an approximately 500-foot section of old stone seawall along the northwest shoreline. Vegetation on the island was sparse, composed primarily of grasses, low scrub, and possibly a few small trees.[41] The vegetation would have been kept low and open to maximize views and facilitate lines of fire.

Fort Wood occupied the highest point on the island, a roughly eight-foot-high embankment on the south end of the island. The fort walls formed an eleven-point star, based roughly on a square form with two angular redans on each of the northwest, northeast, and southwest sides, and a wider single redan on the channel-facing southeast side. The walls were composed of masonry faces with rubble cores and were surrounded on the outside by a dry moat. Below the main fortification walls was the mortar battery, which featured three angular redans that protruded southward toward the water.

Inside the star fort a square parade was defined by two long brick barracks on the east and west and an officers' quarters building on the north (Figure 1.16). Together, these quarters housed the twenty-five men that comprised the peacetime garrison, with accommodations for 225 men required in times of war.[42] A square fire-control platform stood above the officers' quarters, providing viewpoints for officers to direct artillery fire. An arched passageway through the officer's quarters provided access to the parade from the north sally port. This passageway through the officer's quarters was offset from the main sally port to prevent a direct line of fire through the entrance. A stone powder magazine still stood inside the small circular alcove built into the northwest corner of the courtyard.

Beyond the fort walls a cart path led from the north sally port to the wharf constructed at the northeastern end of the island. The wharf consisted of rough log cribbing set underwater and filled with large stones. The top of the wharf was made of squared timber structure around a loose gravel surface. Near this wharf, four buildings lined the western side of the cart path, providing further infrastructure supporting the garrisoned troops (Figure 1.17). At the north end of this cluster was a small, square gun house. To the south of the gun house was a rectangular multi-use building that served as a storeroom for the commissary and quartermaster, as well as workshops for carpentry, painting, sawing, and blacksmithing.[43] To the south of the workshop building was a barracks and another small dwelling.

Cultural Landscape Report for Liberty Island

Statue of Liberty National Monument
New York and New Jersey

1840 Period Plan

National Park Service
Olmsted Center for Landscape Preservation
www.nps.gov/oclp

in partnership with
Department of Landscape Architecture
Center for Cultural Landscape Preservation
SUNY College of Environmental
Science and Forestry, www.esf.edu/la/cclp

SOURCES

1. "Plan of Fort Wood on Bedlow's Island, NY." 1839 National Archives, Cartographic Branch, Fortification file, Drawer 38, Sheet 6.

2. "Plan and Sections of the Water Battery of Fort Wood, showing the state of the work," Sept. 30th, 1842, Drawn by Lt. H. Wager Halleck, Corps of Engineers, Oct. 1, 1842. National Archives, Cartographic Branch, Fortification file, Drawer 38. Sheet 15.

3. "Survey of high and low water lines about the North end of Bedlows Island, with the trace of the adjacent fronts of Fort Wood." By Lt. Fred E Prime, Corps of Engineers. To which is added - Plans of Proposed Hospital [et al], 1851. Plans show pre-existing buildings at north end of island. National Archives, Cartographic Branch, Fortification file, Drawer 38, Sheet 32.

DRAWN BY
James Mealey, Illustrator CC, 2021

LEGEND

- Building
- Cart path
- Masonry seawall
- Old stone seawall
- Tree
- Grass
- Exposed earth
- Intertidal zone
- Water
- 1' contours
- Feature removed during period (dashed)
- *Lorem ipsum* — Removed feature label (italics)
- (1892) — Date feature added during period

NOTES

1. All features shown at approximate scale and location.
2. Drawing shows landscape circa 1840.
3. Dates of construction/removal shown where known.

North

0 87.5 175 feet 350

Drawing 1.1

Cultural Landscape Report for Liberty Island

Statue of Liberty National Monument
New York and New Jersey

1840 Digital Model
Plan View

National Park Service
Olmsted Center for Landscape Preservation
www.nps.gov/oclp

in partnership with
Department of Landscape Architecture
Center for Cultural Landscape Preservation
SUNY College of Environmental
Science and Forestry, www.esf.edu/la/cclp

SOURCES

1. "Plan of Fort Wood on Bedlow's Island, NY." 1839 National Archives, Cartographic Branch, Fortification file, Drawer 38, Sheet 6.

2. "Plan and Sections of the Water Battery of Fort Wood, showing the state of the work," Sept. 30th, 1842, Drawn by Lt. H. Wager Halleck, Corps of Engineers, Oct. 1, 1842. National Archives, Cartographic Branch, Fortification file, Drawer 38. Sheet 15.

3. "Survey of high and low water lines about the North end of Bedlows Island, with the trace of the adjacent fronts of Fort Wood." By Lt. Fred E Prime, Corps of Engineers. To which is added - Plans of Proposed Hospital [et al], 1851. Plans show pre-existing buildings at north end of island. National Archives, Cartographic Branch, Fortification file, Drawer 38, Sheet 32.

NOTES

1. All features shown at approximate scale and location.
2. Model shows landscape as of c.1840.

0 87.5 175 feet 350

Drawing 1.2

Cultural Landscape Report for Liberty Island

Statue of Liberty National Monument
New York and New Jersey

1840 Digital Model
Oblique View

National Park Service
Olmsted Center for Landscape Preservation
www.nps.gov/oclp

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SOURCES

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NOTES

1. All features shown at approximate scale and location.
2. Model shows landscape circa 1840.

North

Drawing 1.3

TRANSITION FROM FORT TO STATUE: 1841–1880

During the middle of the nineteenth century, Fort Wood underwent extensive repairs and reconfiguration, serving during this time as a recruiting station, a prison for captured Confederate soldiers, and as a quarantine site isolating the city's sick. After the Civil War, however, as advancements in military technology made the fortifications inadequate and as funding for such forts was significantly constricted, a new purpose for Liberty Island emerged. By 1880, planning was underway for the construction and installation of a colossal statue on the island. The statue, entitled *Liberty Enlightening the World*, was to be a gift from the people of France to the United States, celebrating the centennial of American independence and the ongoing friendship of the two nations.

IMPROVEMENTS TO FORT WOOD AND LIBERTY ISLAND

While the Third American System placed new emphasis on ocean-facing coastal defenses, there was still a desire to retain and improve inner-harbor forts. Renewed investment in Fort Wood likely came at the behest of Brevet Lieutenant Colonel Joseph G. Totten, who in 1838 became the Army's chief engineer following the establishment of the U. S. Army Corps of Topographical Engineers. Having studied under Jonathan Williams at West Point, Totten was an advocate for the improvement of defensive works for New York harbor.[44]

Between 1841 and 1843 new guns were mounted, a temporary wharf and shot furnace were built, and the terreplein was graded.[45] The most significant repairs and reconstruction at this time took place on the walls, parapets, and exterior battery of the fort. Surveys from the period indicate that the irregular and asymmetric angles of the star fort's redans were reconfigured to improve the symmetry of the polygon (Figure 1.20). The exterior battery was also reconfigured, replacing the angular redans with a masonry parapet and earthen embankment that followed the island shoreline. The 990 feet of seawall around the battery were constructed as part of this redesign.[46] In November of 1842, Lieutenant H. Wager Halleck, of the Corps of Engineers sent a plan to Major J.L. Smith "showing the state of the work Sept. 30th, 1842" done on the seawall, with section drawings detailing the different elevations of the exterior battery from shoreline to land (Figure 1.21).

Some modifications to the fort anticipated emplacement of new, heavier armaments, including preparations at the advanced battery in 1843 "for 45 guns of the heaviest caliber."[47] To facilitate moving heavy ordnance and munitions about the island, a temporary railroad was installed from the eastern wharf to the north sally port of the fort during the 1840s.[48]

Between 1844 and 1847, construction work continued. This work included refacing the star fort's exterior scarp walls with cut granite blocks, adding parade

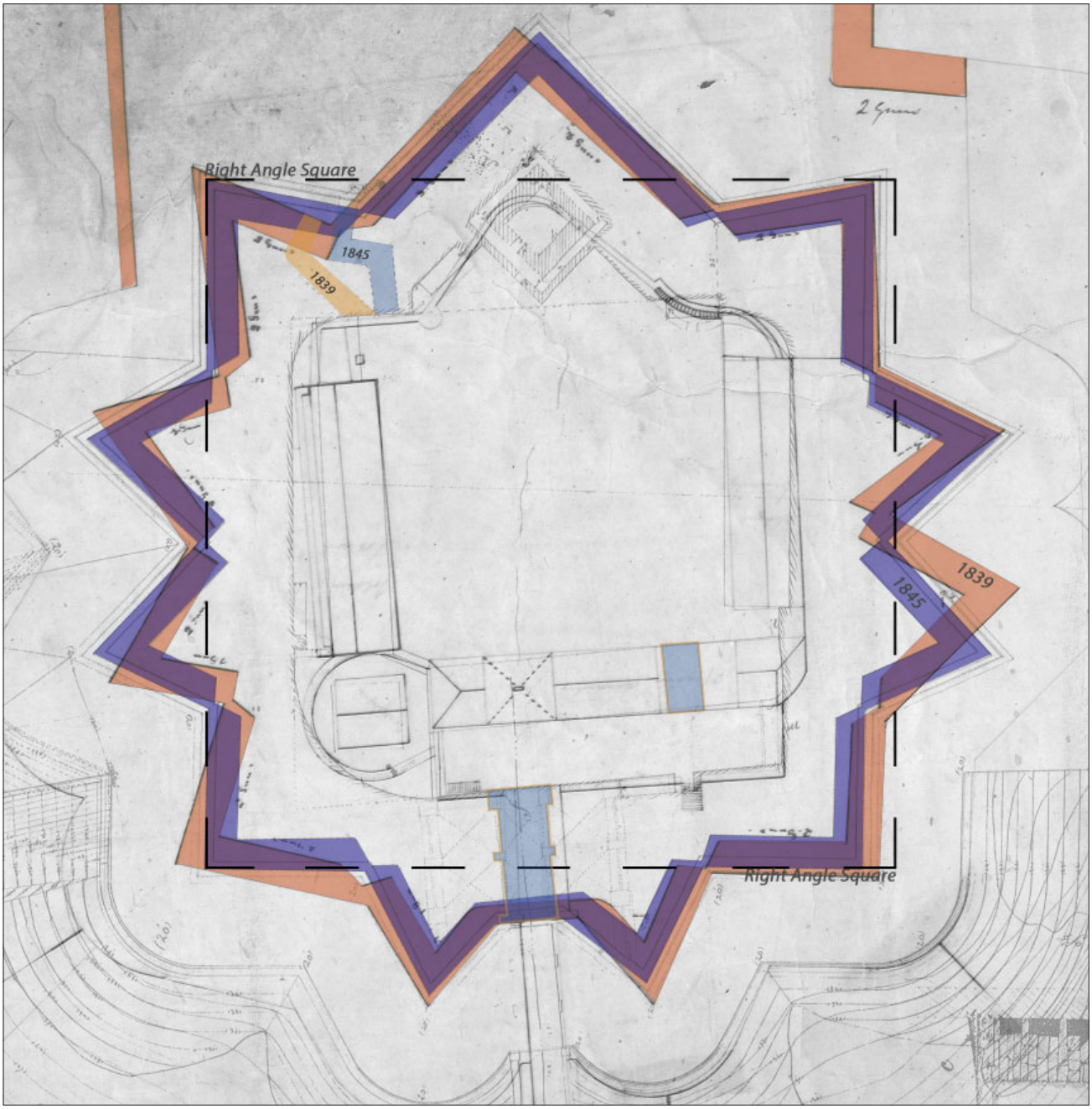

Figure 1.20. Overlay of drawings of Fort Wood made in 1839 and 1845. This graphic analysis suggests that alterations to the star-fort at this time were of a greater scope than generally understood. A comparison of these two drawings suggests that the geometry of the angles and curtain walls were reconfigured in favor of a more symmetrical arrangement. Beyond a desire for symmetry the imposition of machicolations at the interior, or reentrant, angles required a complete deconstruction of the masonry at these points. With the interior angles deconstructed, revisions to the geometry of the adjacent walls would have appeared as a practical opportunity to make improvements (National Archives II, Cartographic Branch, Fortification File, RG77, NAID77313516).

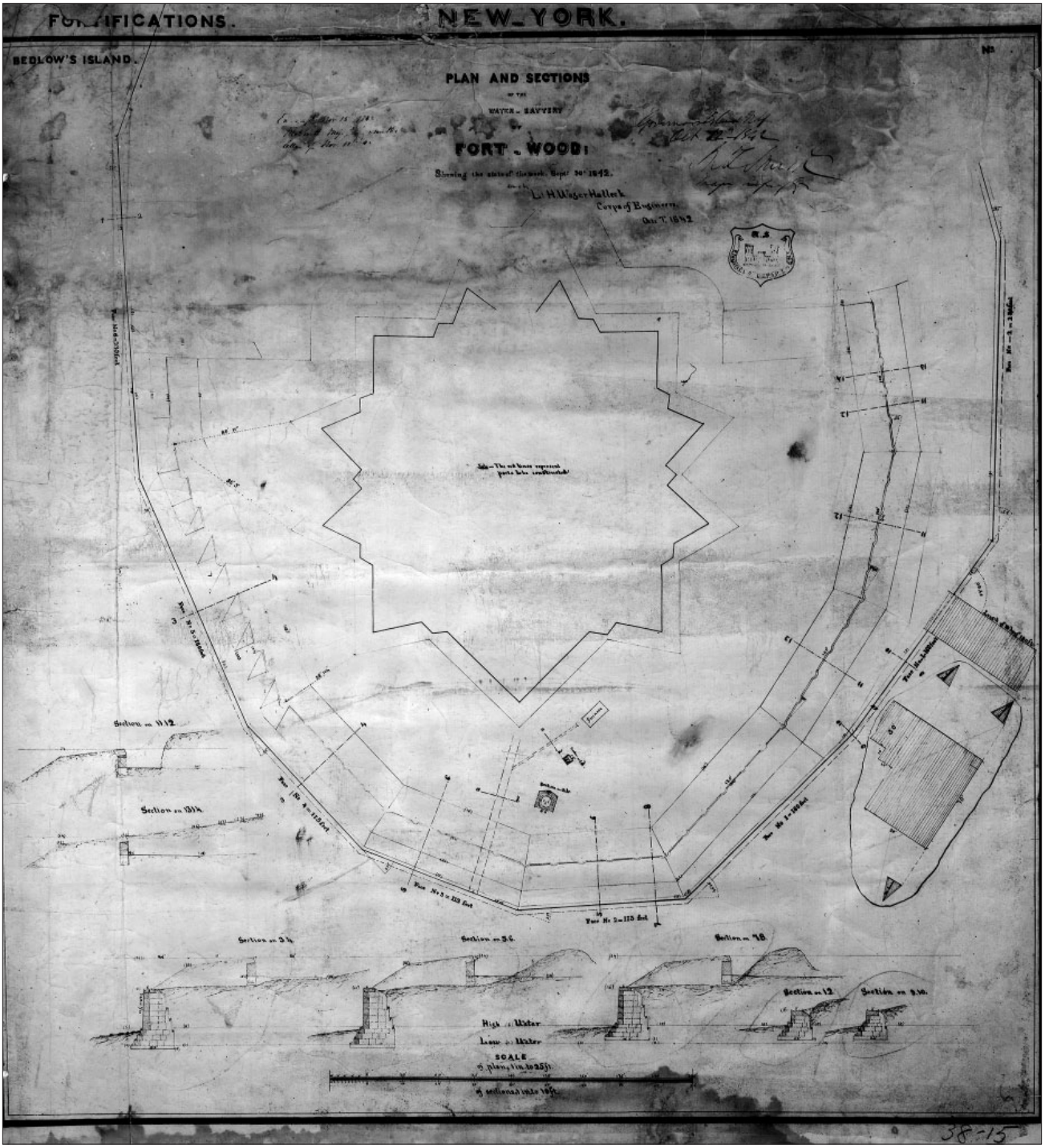

Figure 1.21. "Plan and Sections of the Water Battery of Fort Wood: Showing the State of the Work, Sept. 30th 1842." Drawn by Lt. H. Wager Halleck (USMA, 1839), Corps of Engineers, Oct. 1st, 1842. The focus of this drawing is the reconfiguration of Fort Wood's exterior battery (National (National Archives II, Cartographic Branch, Fortification File, RG77, NAID77313516).

walls and flights of steep steps from the parade level up to the terreplein, and grading the terreplein for proper drainage. The project also included removing and rebuilding the parapet to include openings known as machicouli, which directed water off the terreplein surface and allowed soldiers to drop projectiles onto enemies who might find cover below the curtain wall (Figure 1.22).[49] The south postern entrance was also rebuilt, by this time opening onto a more expansive grassy area between the star fort and the rebuilt mortar battery (Figures 1.23 and 1.24).

At the north sally port, the main gate was repaired, a drawbridge constructed across the dry moat, and new bombproof rooms were excavated below the terreplein on both sides of the main gate.[50] In 1845, a new powder magazine was also constructed atop the terreplein, its square form in plan view set at a forty-five-degree angle to the courtyard.[51]

In 1848, while repairs and new construction continued, the United States Army showed interest a new non-defensive use for Fort Wood, stating that it was "much wanted for a recruiting depot."[52] The recruiting depot would fill a need that the

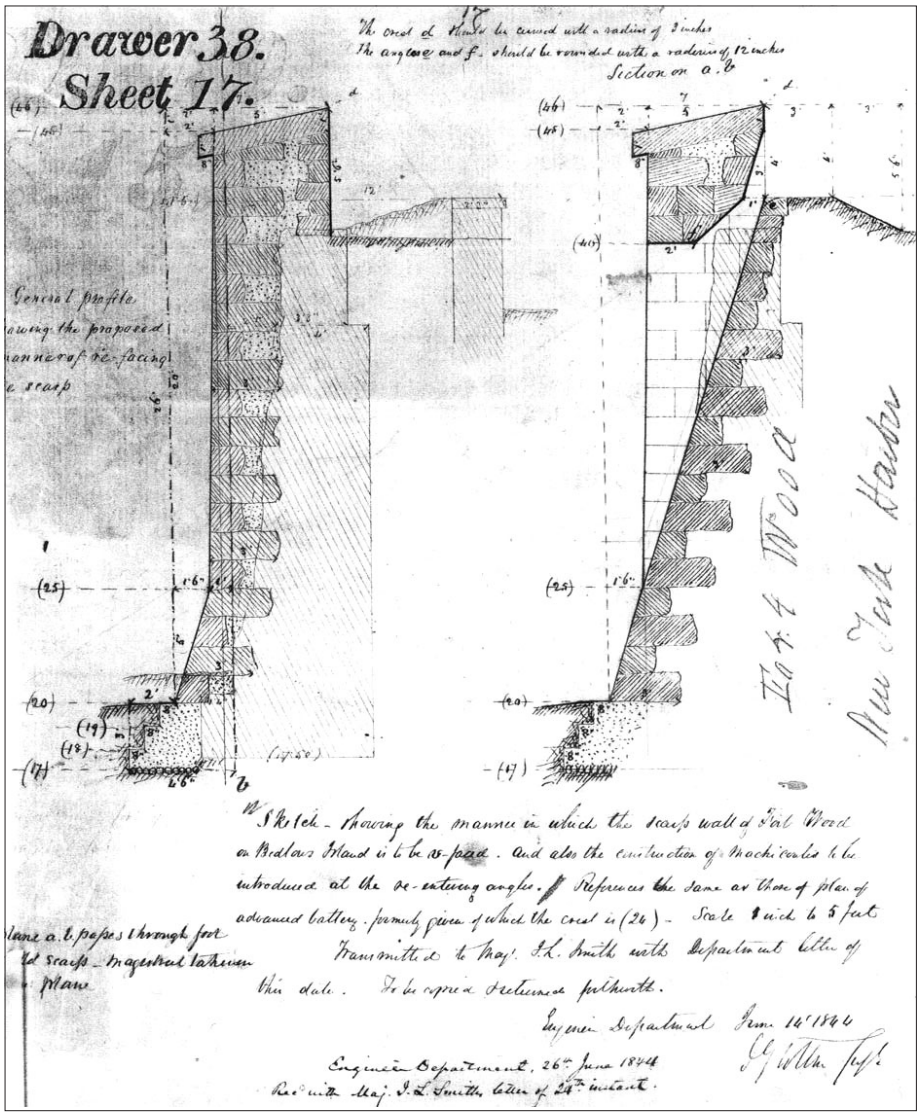

Figure 1.22. "Sketch – showing the manner in which the scarp wall of Fort Wood on Bedlow's Island is to be re-faced. And also the construction of machicolis to be introduced at the re-entering angles…." The work required dismantling the star fort's interior angles, suggesting that the geometry of the fort was significantly altered at this time, imposing more rigorous angular symmetry (National (National Archives II, Cartographic Branch, Fortification File, RG77, NAID77313516).

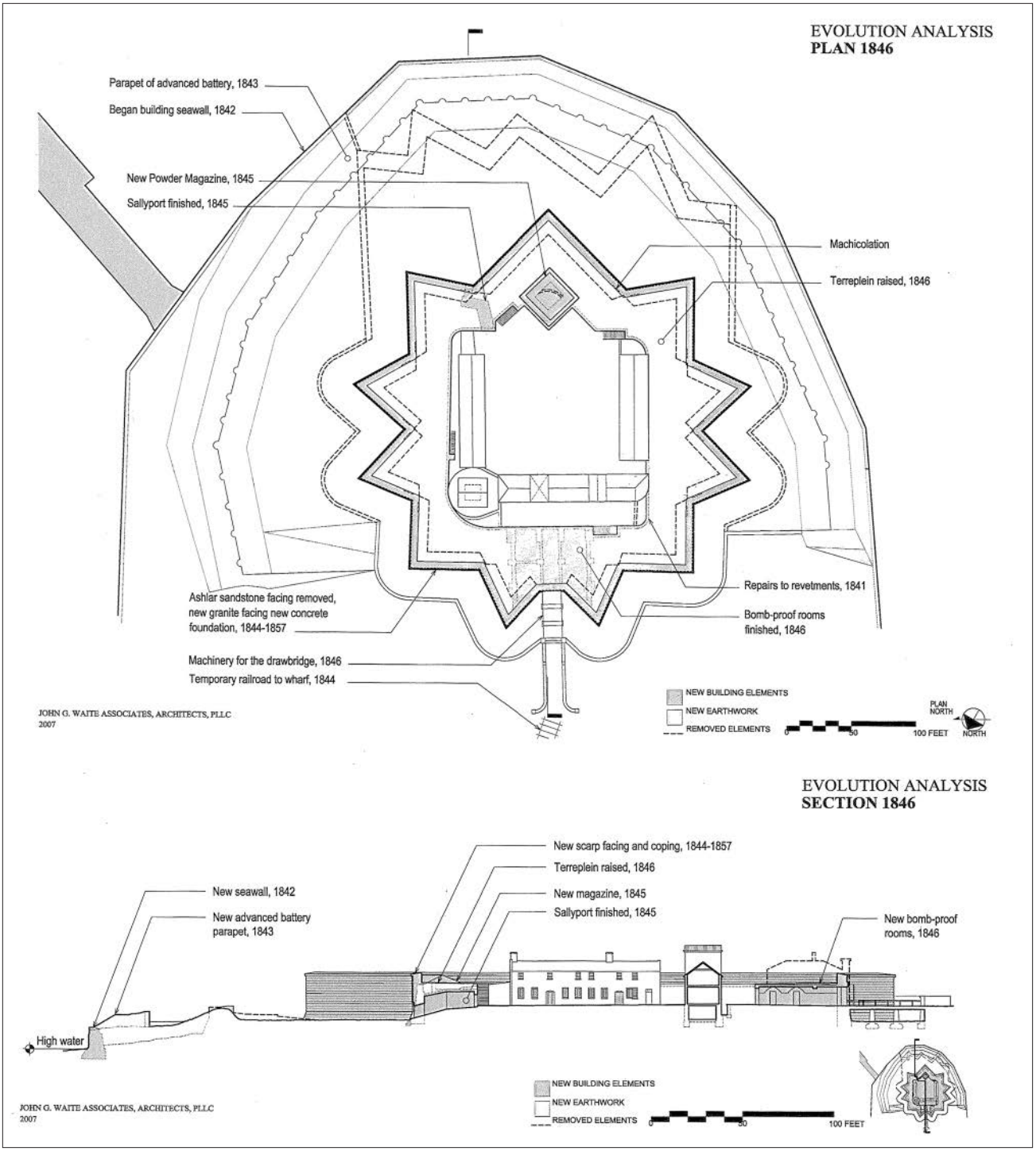

Figure 1.23. Diagrams indicating the layout of Fort Wood, both star-fort and exterior battery, c.1846 (Fort Wood Historic Structure Report, John G. Waite Associates, Architects, 2009).

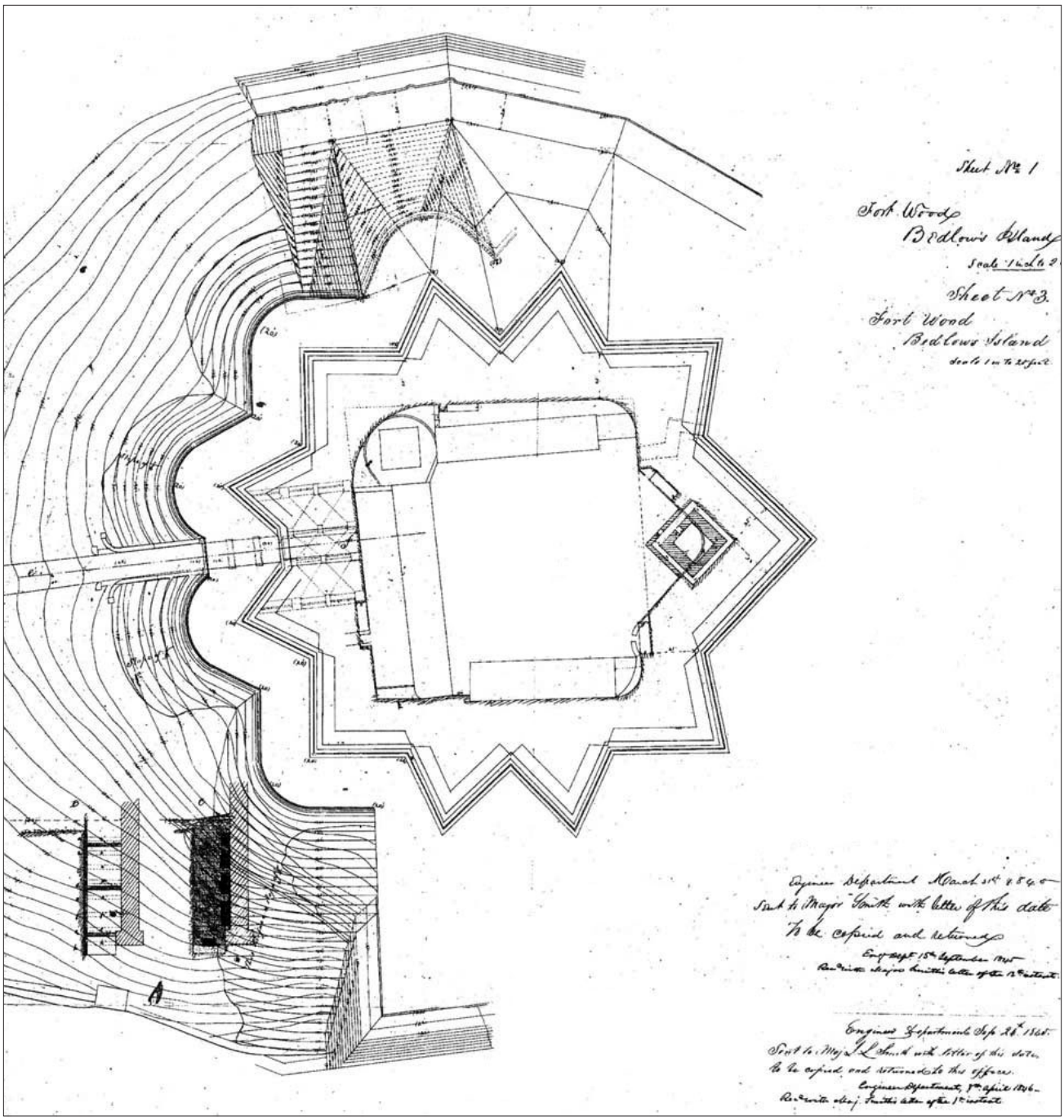

Figure 1.24. "Sheet No. 1, Fort Wood, Bedlow's Island," Engineer Department, 1845. This drawing shows the detailed proposed topographic grading required in order to unify the new external battery with the pre-existing moat and counterscarp to the north of the star-fort (National (National Archives II, Cartographic Branch, Fortification File, RG77, NAID77313516).

officers of the area felt keenly, the annual report stated. To accommodate this new use, many of the island's buildings would need repairs, and the majority of construction work on the island in the late 1840s centered on the barracks, offi cer's quarters, and storehouses.[53] The work of making the barracks ready was delayed and complicated by their ongoing occupation while under construction.[54] In 1849 a new bakery building was constructed to replace the old building that had been flooded by storm tides and had collapsed. A new joint commissary and quartermaster building was built into the south end of the east and west barracks.[55]

QUARANTINE AND CHOLERA

In 1849, the work to upgrade Fort Wood's infrastructure was laid aside for four months, when the entire island was used as a hospital during a local outbreak of cholera.[56] The island had a long history as a quarantine location outside of the populated city, including during the first New York City cholera outbreak in 1832. The outbreak of 1849 killed ten percent of the city's population and focused attention on the unregulated disposal of both human and livestock waste.[57] Measures imposed after an 1832 outbreak were revisited, and aqueduct systems were installed eliminating the need for troublesome public wells. Approximately 20,000 swine were removed from the city.[58] The divestment of swine, and the growing perception of the good effects of fresh air motivated action toward creation of New York's famed Central Park, which ultimately became the first major landscape project of Frederick Law Olmsted.

By 1850, the outbreak of disease had subsided, and Liberty Island was no longer needed as a quarantine station. The United States Army renewed its advocacy for investment in the fort to support garrisoned troops. The 1850 Corps of Engineer's annual report described "essential accommodations for this military post," including a permanent wharf, a hospital building, and a storehouse, improvements that would ready the island for use as a recruitment depot.[59] Plans prepared by the Corps of Engineers in 1850 show proposed development at the north end of the island including "proposed hospital, surgeon's quarters, Barracks for recruits, Campwomen, and Officer's Quarters" (Figure 1.25). The year 1851 saw the completion of a three-story hospital building measuring forty by forty-nine feet, as well as the addition of a storehouse inside the star fort. Although other repair, maintenance, and some small construction projects were completed in 1851, other proposed building projects were not realized, and in 1852 construction funding

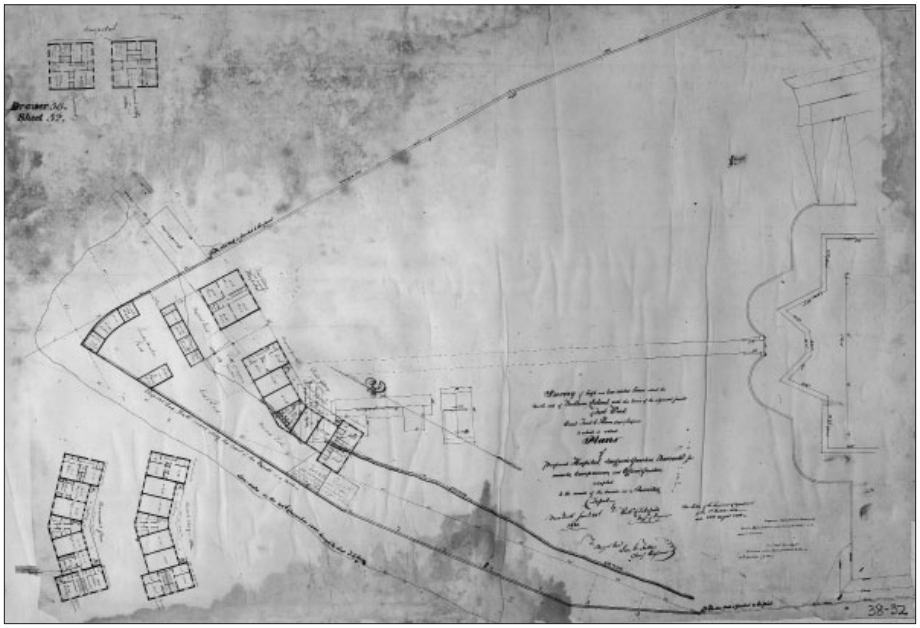

Figure 1.25. "Survey of high and low water lines about the north end of Bedlow's island with the trace of adjacent fronts of Fort Wood, by Frederick E. Prime (USMA, 1850), Corps of Engineers, to which is added - Plans of Proposed Hospital, Surgeon's Quarters, Barracks for recruits, Camp women, and Officer's Quarters, adapted to the wants of the services as a Recruiting Depot," by Richard Delafield (USMA, 1818), Major of Engineers, January 20, 1851 (National (National Archives II, Cartographic Branch, Fortification File, RG77, NAID77313516).

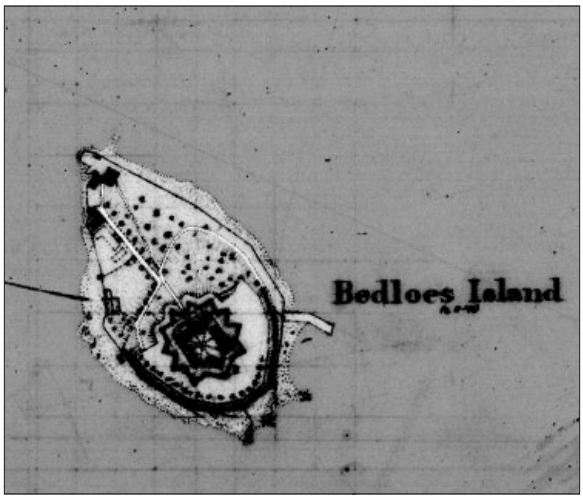

Figure 1.26. Detail - "New York Harbor, Governors Island, U.S. Coast Survey," T-677, August 1857. This small drawing, accomplished with technical rigor, accurately documents those landscape details of Liberty Island typically omitted from engineering drawings of this period. (National Oceanic and Atmospheric Administration)

expired and new requests were denied.[60]

Over the next decade, troops continued to be garrisoned at Fort Wood and the island served as a recruiting and ordnance depot.[61] At mid-century, the pre-Civil War layout of the entire island was documented as part of the United States Coast Survey of New York harbor (Figure 1.26). This detailed drawing shows the arrangement of groves of trees, the diagonal layout of walkways bisecting the star fort's interior courtyard, the remade exterior battery, and pathways outside of the star fort. The drawing also provides a graphic status report on the yet to be completed seawall project.

In 1859, the Corps of Engineers officer overseeing fortification projects throughout New York Harbor, Major J. G. Barnard, recommended that the fort's exterior battery be armed, with twenty-five eight-inch Columbiads, large guns that were capable of firing fifty-pound projectiles. Plans drawn under his direction detailed positioning of the platforms for these new artillery pieces (Figure 1.27). Though funding was delayed, these platforms were completed by 1861, at which point Fort Wood was deemed to be "'in serviceable condition and entirely ready for the whole of [its] armament,'" just in time for the Civil War.[62]

CIVIL WAR

While most of the fighting during the Civil War took place well south of New York, Fort Wood supported the Union effort as both a military prison and hospital. Along with troops garrisoned there, an 1862 letter from Major Richard A. Delafield to New York Governor Edwin D. Morgan documents that "Fort LaFayette - Fort Wood, Bedloe's Island - Fort Columbus & Castle Williams on Gover-

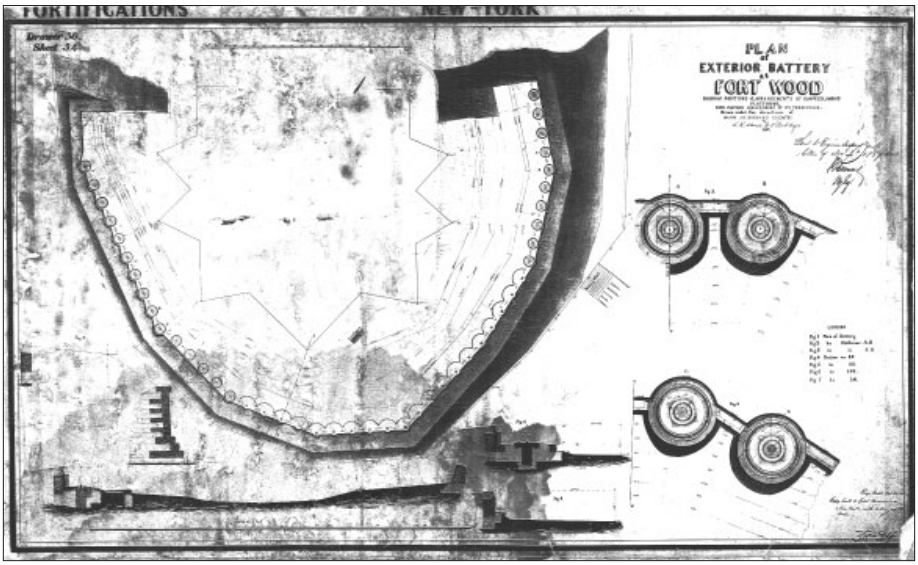

Figure 1.27. "Plan of Exterior Battery at Fort Wood...," drawn under the direction of Major J.G. Barnard, U.S. Eng. by R.K. Meade (USMA 1857) 2nd Lieut. 1859 (National Archives II, Cartographic Branch, Fortification File, RG77, NAID77313516).

nor's Island [were used] as prisons for the large numbers of rebels, both military, and State prisoners," and provided hospital infrastructure for wounded Union soldiers.[63]

The first photographs of Liberty Island were taken during this time. They show the garrison of Union troops there, along with the barracks buildings inside the star fort and other buildings throughout the island (Figures 1.28 to 1.30). Other depictions of Fort Wood and Liberty Island during the Civil War show uniformed soldiers with bayonets standing guard inside the southern postern door (Figure 1.31). A report from June 30, 1865 sent to General Barnard documents the status of guns at the fort (Figure 1.32).

Figure 1.28. Historic photograph of the mess house on Bedlow's Island, 1864. Note provisions for collecting and storing rainwater shed from the building roof. The edge of the brick hospital is visible at the far left of the photo (National Archives II, Still Pictures Branch, RG77.4).

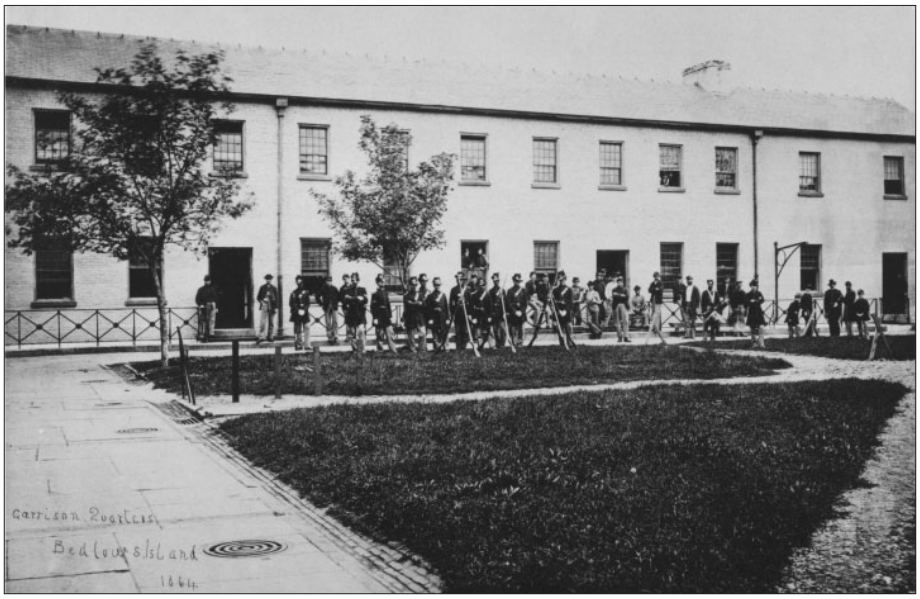

Figure 1.29. Historic photograph showing the garrison quarters, Bedlow's Island, 1864 (National Archives II, Still Pictures Branch, RG77.4).

Figure 1.30. Early photograph of the Fort Wood interior courtyard (National Archives II, Still Pictures Branch, RG77.4).

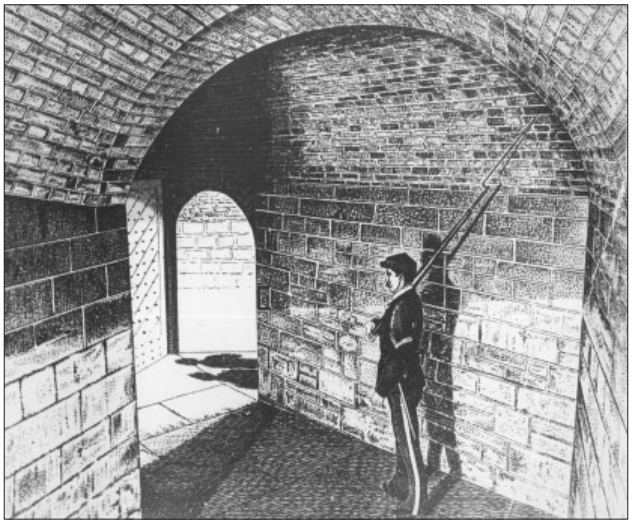

Figure 1.31. Engraving depicting the south postern, post Civil War, c 1890. This secure passageway, a feature of Fort Wood since 1811, provided secure access between the star-fort and its external battery (engraving derived from a S.R. Stoddard photograph for publication in an illustrated weekly).

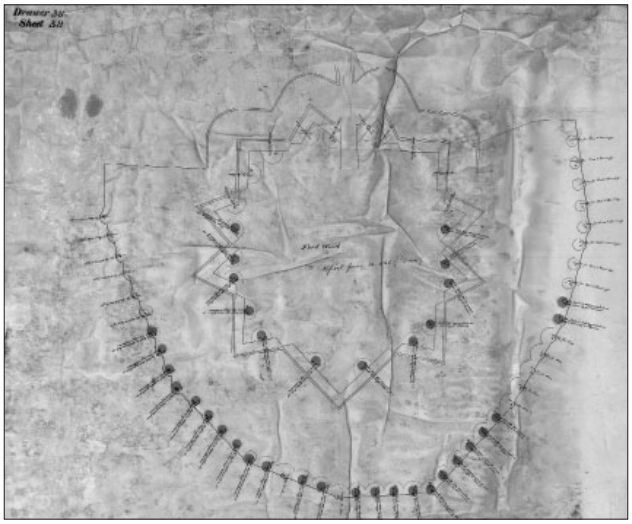

Figure 1.32. "Fort Wood," Report, June 30, 1865, documenting mounted and unmounted ordnance. The authors of this report have enhanced this drawing with grey circles emphasizing locations of mounted guns (National Archives II, Cartographic Branch, Fortifications File, Drawer 38/Sheet 38, NAID77313516).

A GIFT OF LIBERTY

The idea that would transform Liberty Island from an obsolete harbor fort to the site of one of the most iconic American symbols began in 1865 with Édouard René Lefèbvre de Laboulaye, a French legal scholar and leading commentator on American culture. De Laboulaye, an abolitionist and advocate for democracy in France, felt that highlighting the recent events in the United States, including the Union victory in the Civil War and the abolition of slavery, as well as the upcoming American centennial, would promote similar freedoms in his own country.[64] He proposed that France make a gift of a monument to the United States, commemorating the long friendship between the two nations. De Laboulaye recruited sculptor Frédéric-Auguste Bartholdi to help realize the ambitious gift, and in 1871, the two began to explore prospective locations for a colossal statue.[65]

Bartholdi departed Paris with instructions to meet with Laboulaye's well-connected friends, and both men worked in concert to develop financial and ideological support for the monument. Bartholdi had developed an interest in colossal statuary during his travels through Europe and the Middle East. In 1869 he had proposed a design for a colossal statue that would serve as a beacon, marking the entrance to the recently completed Suez Canal.[66] While his journey to the Middle East may have helped shape the vision for the Statue of Liberty, according to Bartholdi, it was New York Harbor that inspired his full vision of 'Liberty Enlightening the World,' and he knew immediately that it was where he wanted to build the statue. "Bartholdi saw New York [City] as the gateway to America and it was at [Liberty Island] that Bartholdi envisioned the Statue rising out of the star-shaped Fort Wood."[67] The sculptor spoke of the beauty of the harbor, saying "it is, indeed, the New World, which appears in its majestic expanse with the ardor of its glowing life."[68] At this time, most travelers entering the United States from Europe arrived via New York Harbor, and the location of Liberty Island would make it a prominent and symbolic site for the statue.[69]

Bartholdi envisioned the statue as not only a beacon to be admired from afar, but also as a destination for visitors. As such, he conceived the entire island, which he referred to for the first time as Liberty Island, as a grand and inspiring setting for the statue.

> "I always hoped that Americans would see the splendid use that is to be made of the island as I see it ... Liberty Island is obviously destined to be made into a pleasure ground for the soul of the American people, a place of pilgrimage for citizens of the whole nation, a National Museum of the glories and memories of the United States."[70]

While the early plans for the statue were developing, fortifications on Liberty Island continued to receive maintenance and repair. In 1871, the same year Bartholdi scouted locations in New York Harbor, five traverse magazines were installed atop the exterior battery, and in 1874 the new magazines were graded and sodded. These new features, built to house ammunition below mounds of sheltering earth,

were located between gun mounts in order to store projectiles at the ready, and to protect artillerists from the potential explosion of an adjacent gun. Along with installing traverse magazines, the terreplein of the star fort at this time was raised. A report from 1877 suggests the gun platforms and artillery intended for emplacement between the exterior battery's traverse magazines were never fully completed.[71]

In 1875 the Franco-American Union was established to cultivate financial and political support for the project in both the United States and France. The French aimed to fund and fabricate the statue, while Americans were to take on responsibility for constructing an appropriate pedestal. In 1877, Congress formally authorized the President to accept the gift of "Liberty Enlightening the World" from the French citizens and identified either Liberty Island or Governors Island as the location. In that year, the American Committee for the Statue of Liberty was created as the American half of the Franco-American Union to raise money for the pedestal and for the installation of the statue. [72]

Figure 1.33. Bartholdi's sketch of the statue on its island setting (Statue of Liberty National Monument, Bob Hope Library).

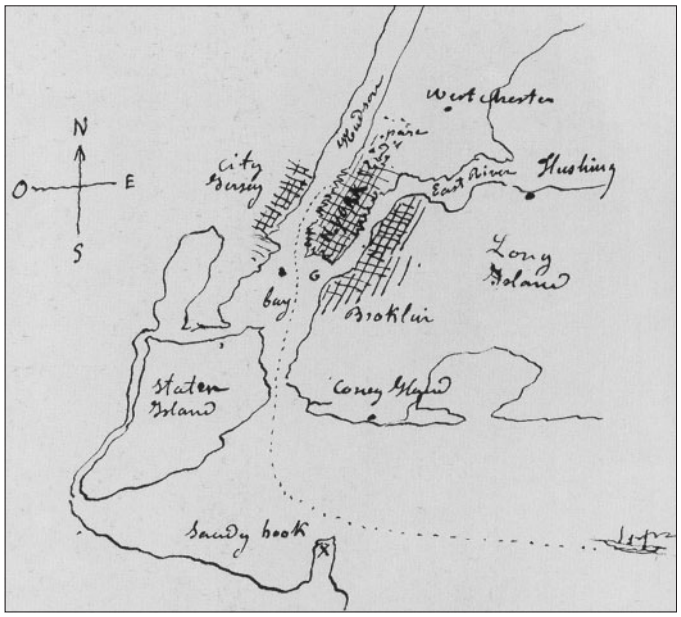

Figure 1.34. "Bartholdi's illustrated map of New York," (Manuscripts and Archives Division, The New York Public Library Digital Collections. https://digitalcollections.nypl.org/items/8b834c59-6520-6cce-e040-e00a18064af7

Bartholdi and Laboulaye both advocated for Liberty Island as the preferred site for the statue, and President Rutherford B. Hayes delegated the final decision to General William T. Sherman. General Sherman had risen to prominence during the Civil War and later served as commander-in-chief of the U.S. Army from 1869 to 1883. As Governor's Island had recently received significant investment in the construction of new housing and a hospital, Sherman chose Liberty Island as the site of the statue.[73]

An 1877 engraving of the southwest side of Liberty Island shows a well-wooded area, with the wharf and its boathouse extending from the southeast shoreline, various military buildings arranged throughout the island, a tall flagstaff rising above the fort to the south, and the hospital building commanding the land to the north (Figures 1.33 and 1.34). The American Committee described the setting for their project as:

> a solid and admirably built star shaped fortification of dressed granite, having a diameter of almost 300 feet, the parapets rising 25 feet above the surface of the water. The fortification encloses a rectangular space 160 feet square, which is now occupied by brick barracks facing towards an inner court of

> about 80 feet square. The exterior boundary of the fortification is a moat 20 feet wide, and beyond this encircling sea wall, with a small intervening space of turf included.

Placing the statue entirely within the star fort's courtyard allowed attention and funding to focus on the design and fabrication of the masonry pedestal.[74] The committee fully appreciated the symbolism provided by the fort, commenting that "appropriating the star-shaped fortification for the base, emblematic as it is of our constellation of states, and nationality" seemed almost "the most acceptable [design] that could be devised, were it now the subject of an original design."[75]

The American Committee outlined a preliminary plan for the statue's foundation on February 16, 1877, explaining that in order to accommodate the eighty-foot by eighty-foot pedestal footprint, they planned to remove existing buildings from the perimeter of the courtyard.[76] The concrete pedestal foundation would stand inside the resulting open space, with the future pedestal atop the foundation rising entirely above the walls of the star fort. With respect to the continued operation of Fort Wood, the committee observed:

> The only portion of any value for offensive purposes is the exterior water battery, as it is the only place where guns of heavy calibre, suited to contend with armored ships, can be placed. The main work is valuable simply as a keep for the water battery, and as its defense would be mainly by musketry, with perhaps a few light guns, the placing of the statue on its parade would not, . . . seriously interfere with such defense.[77]

At the commencement of the foundation construction, the garrison at Fort Wood was four officers and thirty-two enlisted men. Soon thereafter, almost all military personnel departed, although the Army continued to plan for resumption of smaller scale military operations. In 1877 the American Committee, working to survey and prepare the site for its new role as home of the monument, created a detailed inventory of buildings (Figure 1.35). Briefly having during this time much control over the island and its infrastructure, the committee planned to sell, "all of the buildings on the island, which the proper authorities may decide shall not be retained. . . at public auction at as early a day as possible," and thereafter listed these as:

> 1, 2 & 3. Three brick buildings situated within the fort heretofore used for Officers Quarters, offices, Library, &c. &c. The dimensions of these buildings are as follows:
>
> No. 1. is 97'x22'-6," No. 2 is 117' x 21,' No. 3 is 109'-6" . . .two stories and attic.
>
> No. 4. One Large brick building. . . used as Post hospital. . . 49'-6'' x41'-6''.
>
> No. 5. One frame building, 40' x 25', used as Post Stable.
>
> No. 6. One frame building, 135' x 41', used as Barracks for troops.

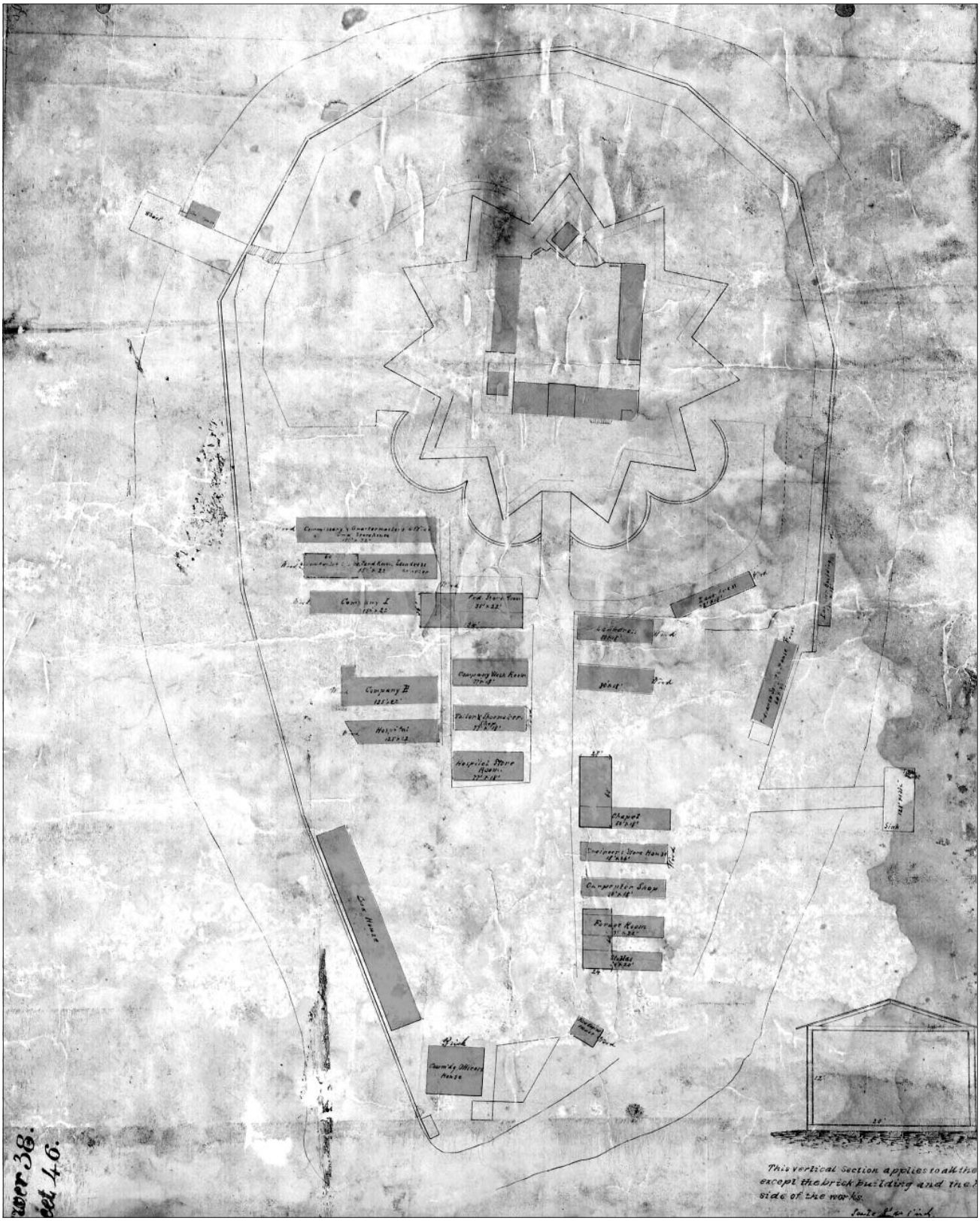

Figure 1.35. Undated map of Liberty [Bedlow's] island, post Civil War. The authors have added an overlay of gray to building footprints to improve the legibility of this faded document (National Archives II, Cartographic Branch, Fortifications File, Drawer 38/Sheet 46, NAID77313516).

> No. 7. One frame building, 61' x 28'-6'', containing four sets of Laundresses' Quarters.
>
> No. 8. One frame building used as a storehouse and carpenter shop.
>
> No. 9. One frame building, 30' x 20' (?) used as Quarters for Ordnance Sergeant.
>
> No. 10. One frame building, 35' x 20', used as boat house, situated on the wharf.
>
> The buildings numbered 1, 2, 3, and 4… "of a permanent character.[78]

As the American Committee worked to remove existing military structures, the Army remained interested in potential future uses of the island. A note attached to the copy of the 1877 building survey sent to the Adjutant General of the Army offered that:

> Although the garrison at Fort Wood has been withdrawn, and there is only an Ordnance Sergeant there, I do not feel justified in dismantling the post, or directing the disposition of the public buildings there. If only a portion of them are removed, and no other occupation of the post is made, a guard will still be necessary to look after the remainder. There is no definite information here as to what is to be done with the island. I suppose the "Statue of Liberty" will be placed there ultimately and there is a rumor that it may be turned over temporarily to some other department of the government than the War Department…[79]

In 1879, the commissary and quartermaster building constructed in 1849 on the southern end of the east barracks burned down, along with several other wooden buildings.[80]

A report prepared in 1880 stated no work on the pedestal had been completed that fiscal year and that the redesigned exterior gun battery had yet to be completed.[81] By 1880, no construction work for the pedestal or demolition of the barracks in the courtyard had begun; all military construction had ceased; the site stood largely vacant (Figures 1.36 to 1.38).

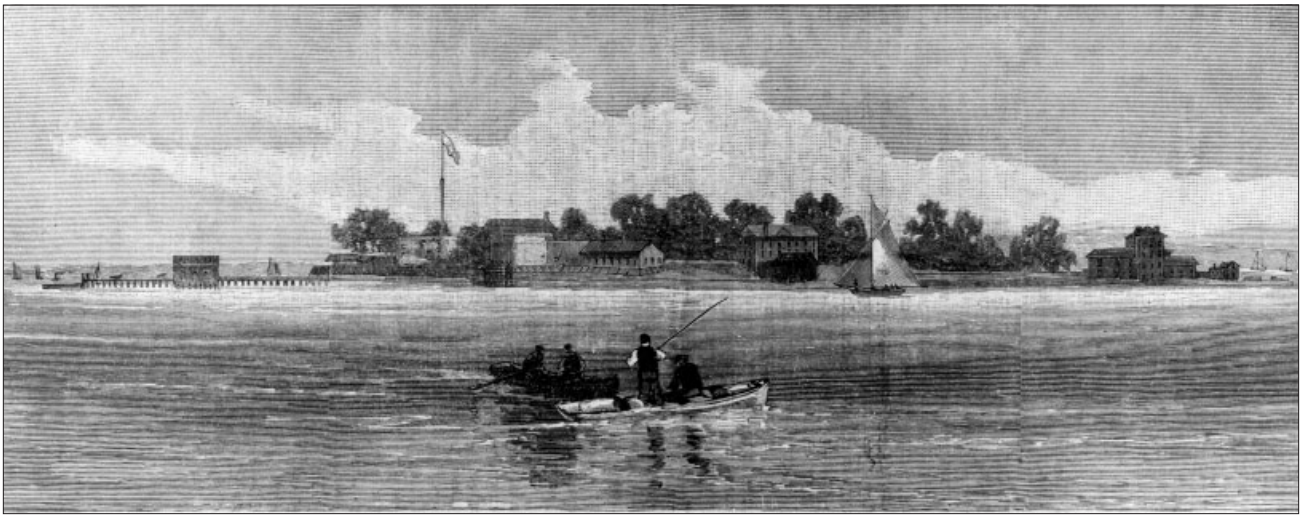

Figure 1.36. Engraving, "The Statue of Liberty – The Site on Bedloe's Island Selected for the Statue," 1883, Liberty (Bedloe's) Island (Frank Leslie's Illustrated Newspaper AKG-638367).

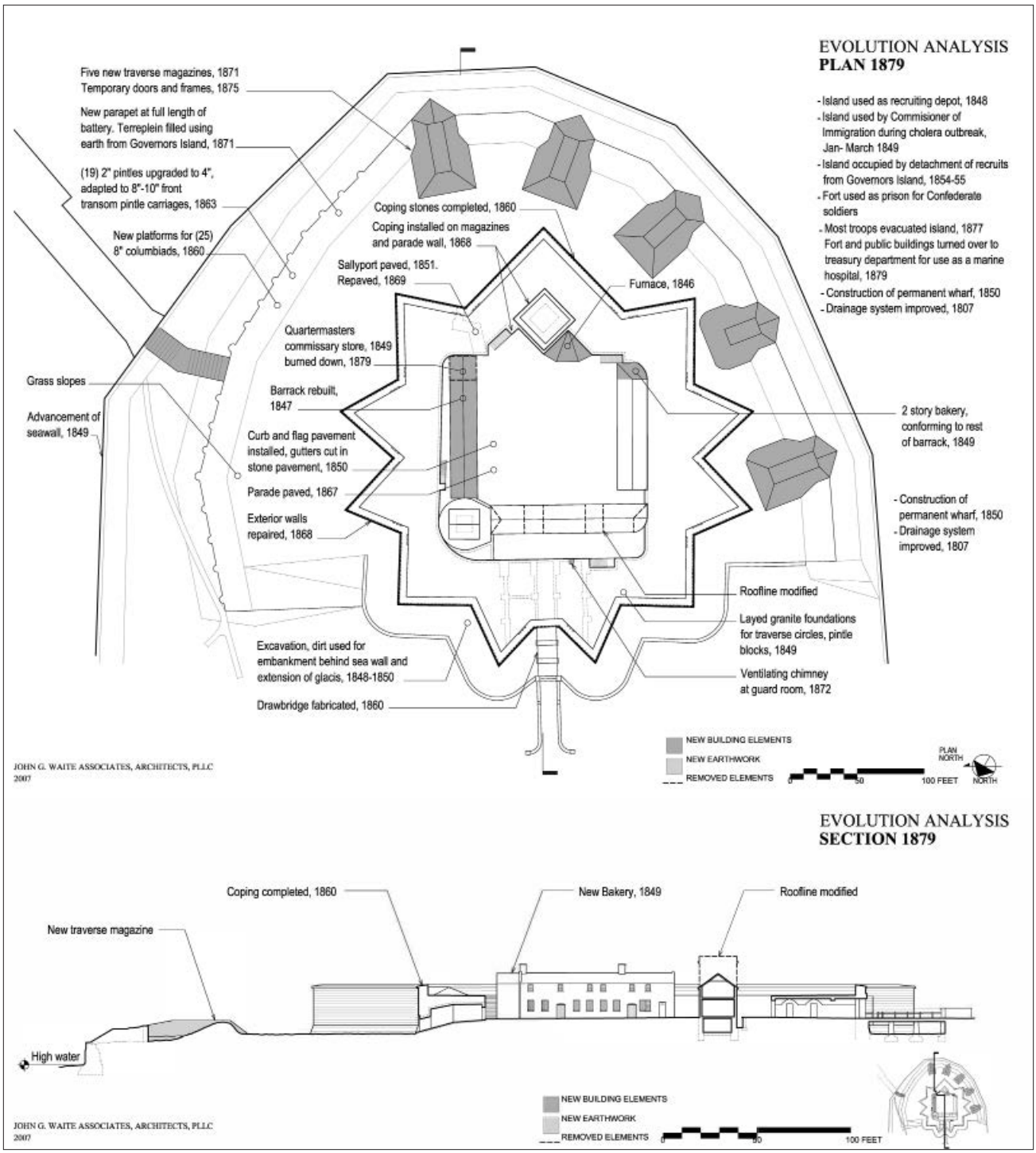

Figure 1.37. Diagrams indicating the layout of Fort Wood, both star-fort and exterior battery, c.1879 (Fort Wood Historic Structure Report, John G. Waite Associates, Architects).

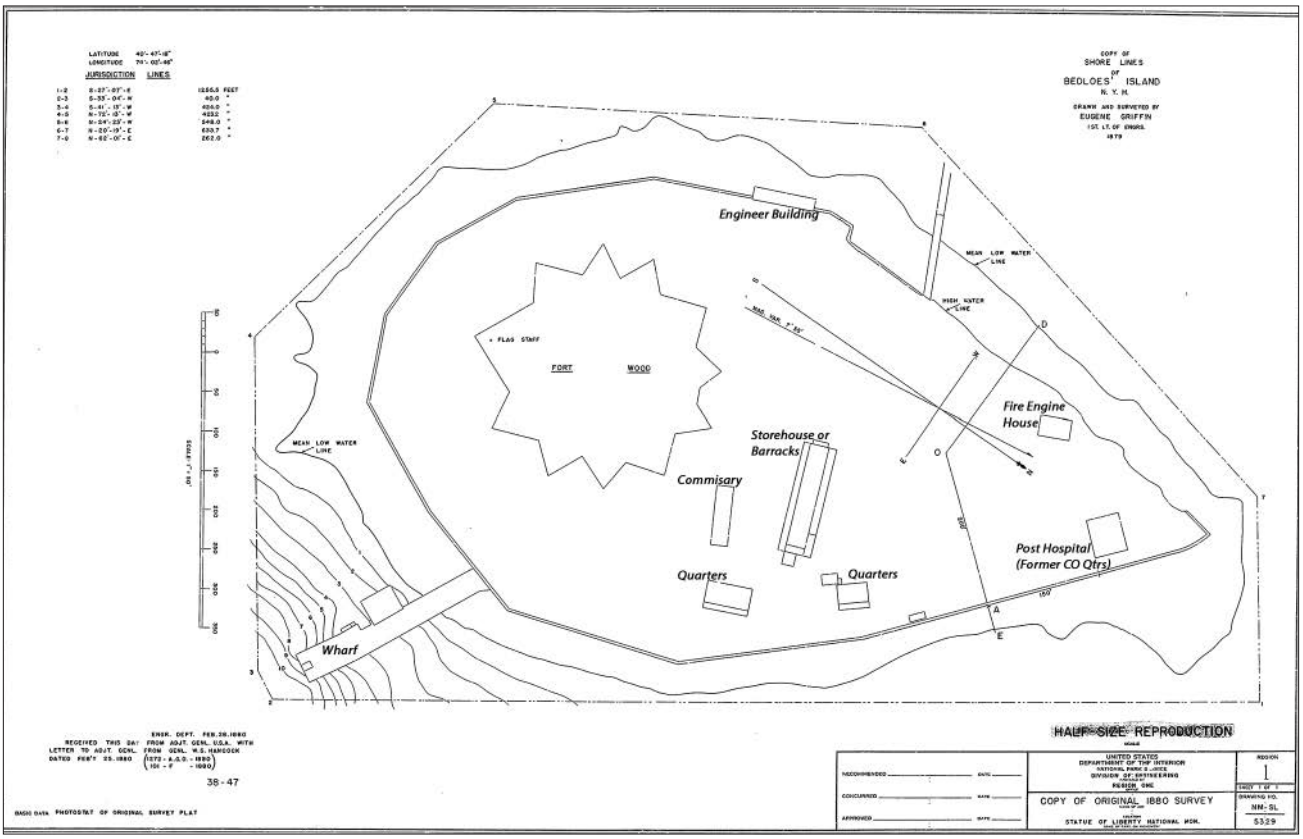

Figure 1.38. "Copy of the Shore Lines of Bedloes' Island, NYH." Drawn and surveyed by Eugene Griffin (USMA, 1875), 1st Lt. of Engineers, 1879. This survey depicts the outline of the island and the buildings upon it just prior to commencement of work on the masonry pedestal for the Statue of Liberty. The authors have added labels to this drawing indicating the purpose of the buildings indicated (National Park Service, Denver Service Center, eTIC).

1880 LANDSCAPE DESCRIPTION

By 1880, planning and fundraising for the Statue of Liberty were well underway, but construction of the pedestal had not yet begun. The structures at that time still reflected the island's military uses, consisting of the star-shaped fort and its arrangement of brick buildings, as well as the exterior battery along the southern shoreline and a collection of buildings scattered across the northern half of the island.

Inside the fort, two long brick barracks buildings and a brick officers' quarters building defined the east, west, and north sides of a square courtyard. Smaller structures within the fort included a square stone powder magazine built against the parade wall in a point, diagonal to the orientation of the courtyard. A furnace used for heating shot stood next to the powder magazine, in the triangular area between the powder magazine and the courtyard walls. Another powder magazine occupied the northeast corner of the fort's interior, forming the corner between the officers' quarters and the eastern barracks building. Except for the diagonal powder magazine and shot furnace, the arrangement of the interior buildings had changed little since 1840.[82]

Along the south shoreline, the exterior battery reflected its 1842 reconfiguration, which had replaced the angular redans with a masonry parapet and earthen embankment that followed the island shoreline. By 1880, this battery contained only six Rodman guns, arranged behind the parapet with five sod-covered traverse-

magazines between them.[83] The south postern provided access between the star fort and the exterior battery via a tunnel through the fort walls.

Beyond the walls of the fort was a collection of buildings that had been built to provide additional support to the fort's garrison. At the north end of the island was a three-story brick hospital, and near the hospital was a utilitarian engine and boiler house. Along the east shore was a cluster of buildings that included a long frame barracks building, a quarters for non-commissioned officers, a commissary building, and another quarters building that may have housed laundresses, as described in the 1877 building survey.[84]

A long narrow building was located on the seawall on the western shoreline. This building may have been the post stable mentioned in the 1877 building survey of the island.[85] The building's dimensions appear similar to those referenced in a period building inventory, and the proximity to the water being practical to accomplish convenient waste disposal. Because of similar logistical needs, the building could perhaps also be an undocumented latrine or washhouse facility. Also on the seawall, on the northeastern shoreline, was a small building of unknown function. This building does not appear labeled in maps or is otherwise mentioned in available building surveys.

Circulation around the island consisted of informal foot and cart paths. One path loosely encircled the base of the star fort, while a second pathway followed the shoreline. A third path crossed the island east to west. The only wharf at the time was located on the southeastern point of the island, near the exterior battery. This wharf supported a frame boathouse. Vegetation was primarily grass, but by this time, a number of trees had grown up, scattered across the northern half of the island.

Cultural Landscape Report
Liberty Island

Statue of Liberty National Monument
New York and New Jersey

1880 Period Plan

National Park Service
Olmsted Center for Landscape Preservation
www.nps.gov/oclp

in partnership with
Department of Landscape Architecture
Center for Cultural Landscape Preservation
SUNY College of Environmental
Science and Forestry, www.esf.edu/la/cclp

SOURCES

1. "Copy of Original 1880 Survey" Statue of Liberty National Monument, photostat of drawing accompanying correspondence from Genl. W. S. Hancock, 25 February 1880, (eTIC drawing 356-5329).

2. "Map of Bedlow's Island, New York Harbor, "Survey of Lt. Frederick E. Prime, November 1886, (Park files).

DRAWN BY
James Mealey, Illustrator CC, 2021

LEGEND

- Building
- Informal paths
- Masonry seawall
- Old stone seawall
- Tree
- Grass
- Exposed earth
- Intertidal zone
- Water
- Wood surface
- 1' contours
- Feature removed during period (dashed)
- *Lorem ipsum* Removed feature label (italics)
- (1892) Date feature added during period

NOTES

1. All features shown at approximate scale and location.
2. Drawing shows landscape circa 1880.
3. Dates of construction/removal shown where known.

North

0 87.5 175 feet 350

Drawing 1.4

Cultural Landscape Report
Liberty Island

Statue of Liberty National Monument
New York and New Jersey

1880 Digital Model
Plan View

ESF
State University of New York College of Environmental Science and Forestry

Olmsted Center for Landscape Preservation

National Park Service

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SOURCES

1. "Copy of Original 1880 Survey" Statue of Liberty National Monument, photostat of drawing accompanying correspondence from Genl. W. S. Hancock, 25 February 1880, (eTIC drawing 356-5329).

2. "Map of Bedlow's Island, New York Harbor, "Survey of Lt. Frederick E. Prime, November 1886, (Statue of Liberty National Monument, Bob Hope Library).

NOTES

1. All features shown at approximate scale and location.
2. Model shows landscape circa1880.

North

0 87.5 175 feet 350

Drawing 1.5

Cultural Landscape Report
Liberty Island

Statue of Liberty National Monument
New York and New Jersey

1880 Digital Model
Oblique View

National Park Service
Olmsted Center for Landscape Preservation
www.nps.gov/oclp

in partnership with
Department of Landscape Architecture
Center for Cultural Landscape Preservation
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SOURCES

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2. "Map of Bedlow's Island, New York Harbor, "Survey of Lt. Frederick E. Prime, November 1886, (Statue of Liberty National Monument, Bob Hope Library).

NOTES

1. All features shown at approximate scale and location.
2. Model shows landscape circa 1880.

North

Drawing 1.6

STATUE AND PEDESTAL CONSTRUCTION: 1881–1902

After 1880, preparations began for the installation of Bartholdi's colossal statue. Military buildings were demolished and the statue's concrete and masonry foundation and pedestal were constructed inside Fort Wood's courtyard. The statue, fabricated in France and shipped across the Atlantic Ocean in pieces, was assembled on its pedestal by October 1886, and the island became home to the *Statue of Liberty Enlightening the World*. The southern portion of the island, and about five acres in the north, was reconfigured to accommodate visitation and maintenance of the statue as an aid to navigation.[86] During the construction of the foundation, pedestal, and installation of the copper statue, management of the island was shared between the War Department, the American Committee, and the Lighthouse Board. The American Committee found it difficult to fund repairs and provide visitor amenities, and in 1902 President Theodore Roosevelt restored control of the entire island to the War Department.

FUNDRAISING AND CONSTRUCTION

No military construction occurred on Liberty Island in the early 1880s, although in early 1883 the Army requested an appropriation to mount new guns. The request was denied, and instead, after giving families stationed at the Marine Hospital on the island time to pack and move, workers began to excavate the star fort's interior courtyard to make room for the pedestal's foundation. The American Committee hired General Charles P. Stone to manage the work. Stone predicted "work on the pedestal would be completed by the summer of 1884," allowing the statue to be placed that autumn.[87]

A *New York Times* article from May 1883 detailed the proposed engineering for the concrete foundation below the pedestal, explaining that the pedestal would consist of masonry laid atop a concrete base built fifteen feet deep at the center of the courtyard (Figures 1.39 and 1.40). Arrayed around the pedestal, "the walls of the fort making a girdle in the shape of a star will not detract from the pedestal but

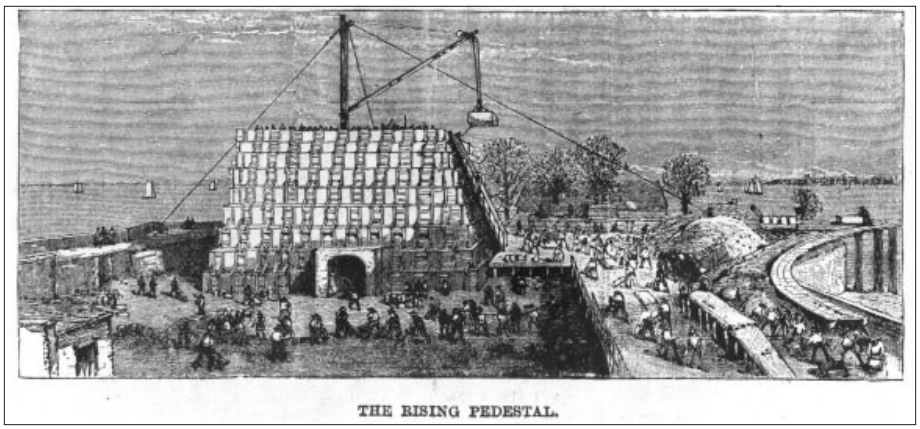


Figure 1.39. Engraving, Leslie's Illustrated Newspaper, 1883 (Statue of Liberty National Monument, Bob Hope Library).

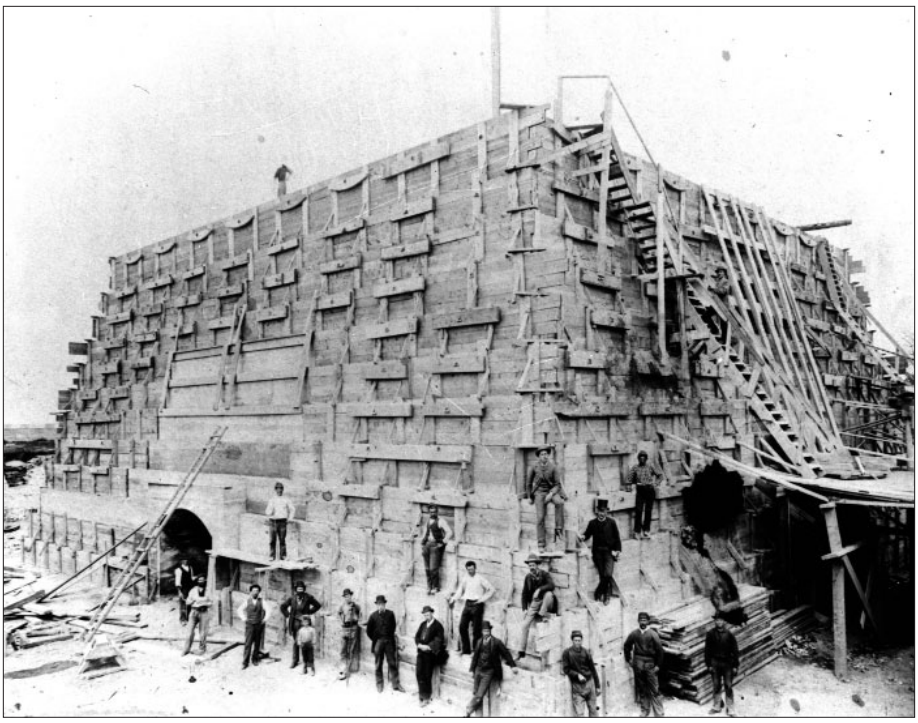


Figure 1.40. Photograph of stepped concrete foundation under construction, c. 1883 (Statue of Liberty National Monument, Bob Hope Library).

add to it. At a distance it will appear as a part of it."[88]

Work began with construction of forms for the concrete foundation and demolition of the officer's quarters and west barracks buildings at the perimeter of the parade. Workers accessed the interior courtyard both over the walls of the fort, and through a temporary opening made by dismantling portions of the star fort walls. This breach in the massive granite walls allowed small "rail cars to transport the granite for the pedestal from the dock to the work site…[and]…the blocks from the dismantled section of wall were stockpiled and later replaced."[89] Later drawings of the construction of the foundation and pedestal document the breach, with the rail lines leading into the fort.

Fundraising for the construction of the pedestal and statue continued both in the United States and in France. Fundraising appeals took many forms including from newspaper accounts, artist's renderings, and at public showings of completed portions of the statue assembly. In 1883, Emma Lazarus contributed her poem *'The New Colossus'* as part of the Pedestal Art Loan Exhibition fundraising event. Born in 1849 to a wealthy Jewish family, Lazarus worked extensively with Russian-Jewish immigrants at Ward's Island, and her work there helped to inspire her poem.[90] As a writer and activist, Ms. Lazarus contributed frequently to literary magazines, and was part of New York City's Jewish social elite.[91] When she wrote *"The New Colossus"* in 1883, James Russell Lowell, the U.S. ambassador to Great Britain, wrote to her that he "liked your sonnet about the Statue—much better than I like the Statue itself," saying that the poem "gives its subject a *raison d'etre* which it wanted before quite as much as it wanted a pedestal."[92] Lazarus died just one year after the statue's dedication, and almost twenty years before a plaque

bearing her poem was hung on the wall inside the pedestal.

Construction of the concrete foundation briefly stalled in 1883 over litigation related to the contract, but was finally finished in May 1884, about six months behind schedule. The completed foundation, composed of concrete made of Portland cement, sand, and broken stone, weighed 24,000 tons and was "reported to be the 'largest solid mass of concrete above ground in the world'."[93] A *New York Times* article described the foundation, as "it consists of a step pyramid…[rising] from the centre of the old fort 22 feet above its walls…Two arched passageways extend through the foundation mass at the ground level, each 10 feet in height, and with a 10-foot span…"[94]

The American Committee engaged architect Richard Morris Hunt to design the pedestal that would stand atop the bare concrete foundation (Figure 1.41). Richard Morris Hunt, schooled at Boston's Latin School and in Paris at the École de Beaux-Arts, worked on projects throughout New York City and Newport, Rhode Island. A prominent architect prior to the pedestal commission, Hunt had in 1857 helped to establish the American Institute of Architects.

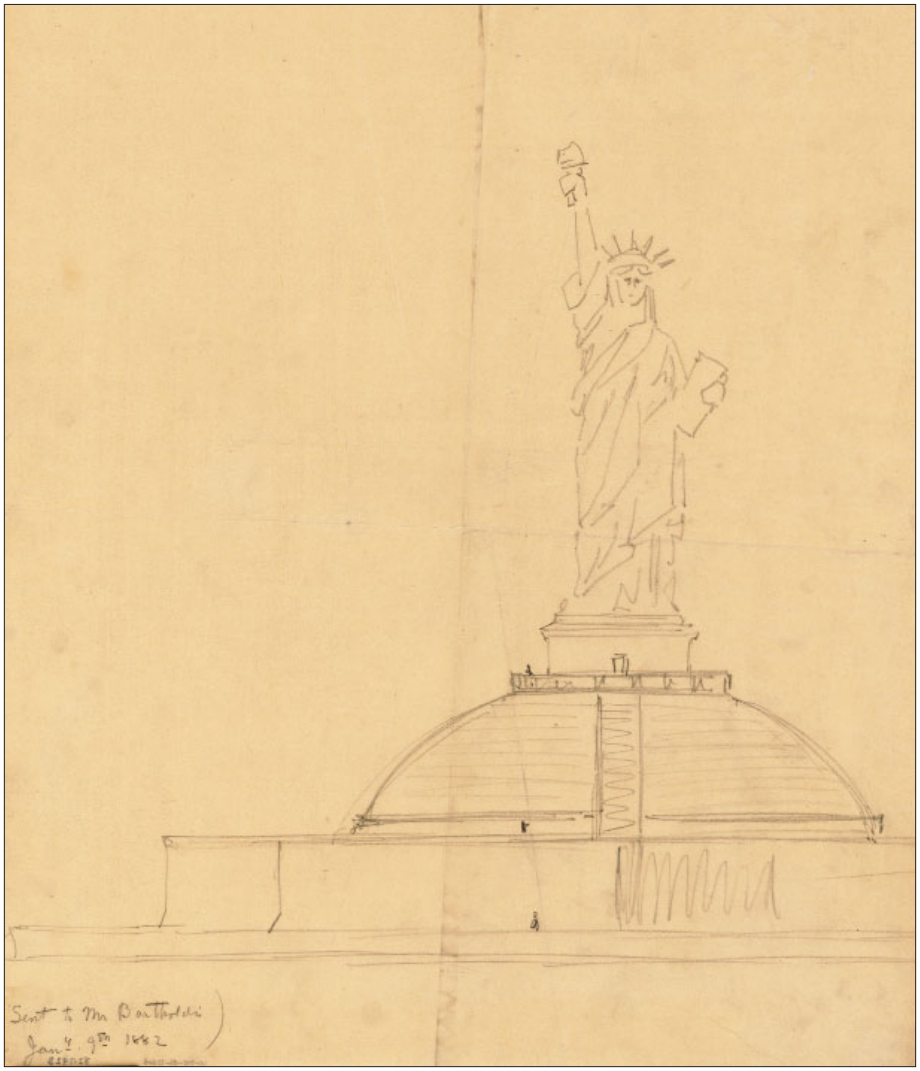
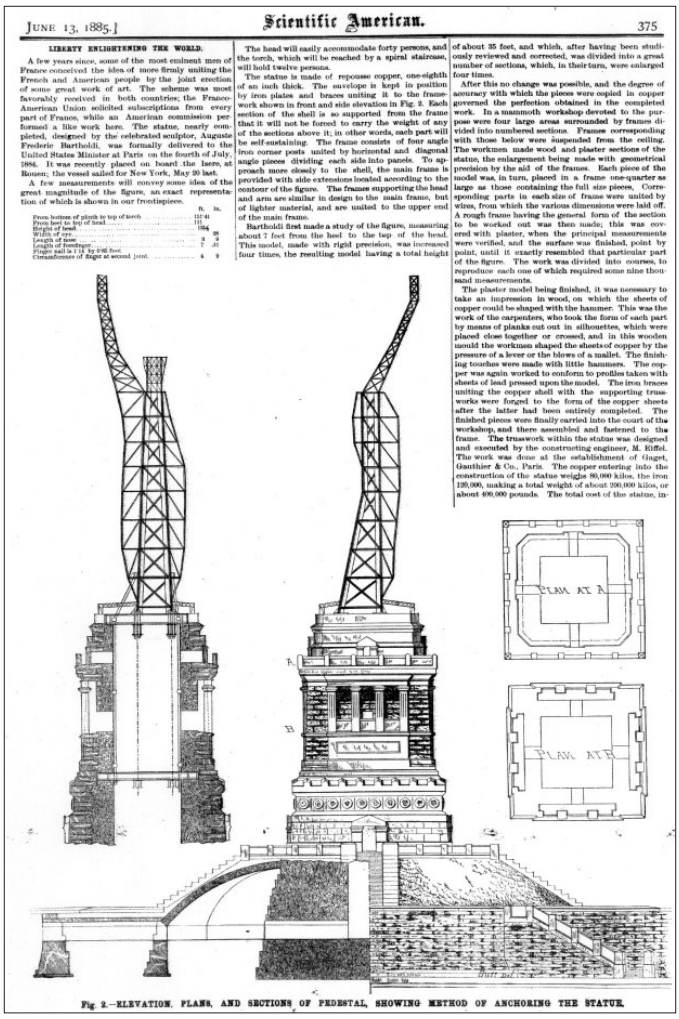


Figure 1.41. Pencil sketch showing one of Hunt's early pedestal schemes, suggesting a simple plinth crowning a broad square-vaulted roof. The square vault, or dome, as shown here bears similarities to the roof of the Louvre's Pavilion Sully, designed by Jacques Lemercier (1585-1654) and later remodeled by Hunt's mentor Hector Lefuel (1810-1880). Featuring a similar square-vaulted "pavilion" roofline, the central block of the Tuileries Palace stood opposite Pavilion Sully, until it burned during the 1871 Paris Commune (Library of Congress, https://lccn.loc.gov/2019630623).



JUNE 13, 1885.] Scientific American. 375

LIBERTY ENLIGHTENING THE WORLD.

A few years since, some of the most eminent men of France conceived the idea of more firmly uniting the French and American people by the joint erection of some great work of art. The scheme was most favorably received in both countries; the Franco-American Union solicited subscriptions from every part of France, while an American commission performed a like work here. The statue, nearly completed, designed by the celebrated sculptor, Auguste Frederic Bartholdi, was formally delivered to the United States Minister at Paris on the fourth of July, 1884. It was recently placed on board the lsere, at Rouen; the vessel sailed for New York, May 20 last.

A few measurements will convey some idea of the great magnitude of the figure, an exact representation of which is shown in our frontispiece.

	ft.	in.
From bottom of plinth to top of torch	151	01
From heel to top of head	111	06
Height of head	16	
Width of eye		30
Length of nose	3	3
Length of forefinger	7	11
Finger nail is 1 1/2 by 0.85 foot.		
Circumference of finger at second joint	4	9

The head will easily accommodate forty persons, and the torch, which will be reached by a spiral staircase, will hold twelve persons.

The statue is made of repoussé copper, one-eighth of an inch thick. The envelope is kept in position by iron plates and braces uniting it to the framework shown in front and side elevation in Fig. 2. Each section of the shell is so supported from the frame that it will not be forced to carry the weight of any of the sections above it; in other words, each part will be self-sustaining. The frame consists of four angle iron corner posts united by horizontal and diagonal angle pieces dividing each side into panels. To approach more closely to the shell, the main frame is provided with side extensions located according to the contour of the figure. The frames supporting the head and arm are similar in design to the main frame, but of lighter material, and are united to the upper end of the main frame.

Bartholdi first made a study of the figure, measuring about 7 feet from the heel to the top of the head. This model, made with rigid precision, was increased four times, the resulting model having a total height of about 35 feet, and which, after having been studiously reviewed and corrected, was divided into a great number of sections, which, in their turn, were enlarged four times.

After this no change was possible, and the degree of accuracy with which the pieces were copied in copper governed the perfection obtained in the completed work. In a mammoth workshop devoted to the purpose were four large areas surrounded by frames divided into numbered sections. Frames corresponding with those below were suspended from the ceiling. The workmen made wood and plaster sections of the statue, the enlargement being made with geometrical precision by the aid of the frames. Each piece of the model was, in turn, placed in a frame one-quarter as large as those containing the full size pieces. Corresponding parts in each size of frame were united by wires, from which the various dimensions were laid off. A rough frame having the general form of the section to be worked out was then made; this was covered with plaster, when the principal measurements were verified, and the surface was finished, point by point, until it exactly resembled that particular part of the figure. The work was divided into courses, to reproduce each one of which required some nine thousand measurements.

The plaster model being finished, it was necessary to take an impression in wood, on which the sheets of copper could be shaped with the hammer. This was the work of the carpenters, who took the form of each part by means of planks cut out in silhouettes, which were placed close together or crossed, and in this wooden mould the workmen shaped the sheets of copper by the pressure of a lever or the blows of a mallet. The finishing touches were made with little hammers. The copper was again worked to conform to profiles taken with sheets of lead pressed upon the model. The iron braces uniting the copper shell with the supporting trusswork were forged to the form of the copper sheets after the latter had been entirely completed. The finished pieces were finally carried into the court of the workshop, and there assembled and fastened to the frame. The trusswork within the statue was designed and executed by the constructing engineer, M. Eiffel. The work was done at the establishment of Gaget, Gauthier & Co., Paris. The copper entering into the construction of the statue weighs 80,000 kilos, the iron 120,000, making a total weight of about 200,000 kilos, or about 400,000 pounds. The total cost of the statue, in-

PLAN AT A

PLAN AT B

Fig. 2.—ELEVATION, PLANS, AND SECTIONS OF PEDESTAL, SHOWING METHOD OF ANCHORING THE STATUE.

Figure 1.42. Excerpt from *Scientific American*, 1885. This engraving is derived from Hunt's final design for the masonry pedestal, which extends well above the dentilated plinth indicated in early designs. Hunt's design included modifications to the walls of the star-fort in order to incorporate a flight of steps (Statue of Liberty National Monument, Bob Hope Library).

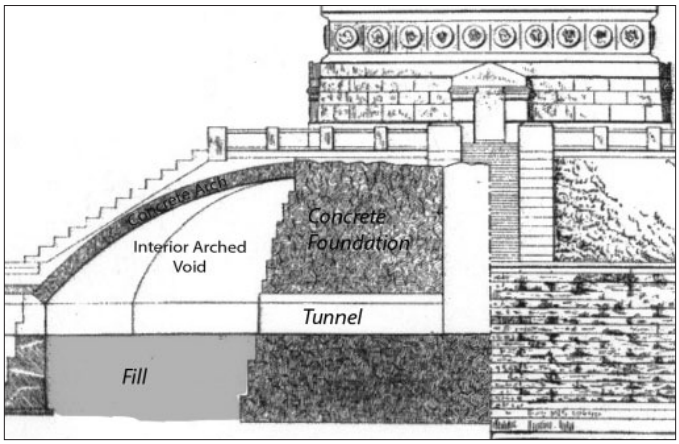


Figure 1.43. Detail from *Scientific American* (Figure 1.42), annotated by the authors, showing the cross-section of the proposed vaulted interior space embracing the concrete foundation. An upper promenade is shown resting atop the arches enclosing the interior space (Statue of Liberty National Monument, Bob Hope Library).

The New York Times description of Hunt's design for the pedestal included his provisions for obscuring the unfinished concrete foundation below the pedestal. Hunt did not plan to simply fill the empty space between the fort's interior walls and the pedestal foundation with earth and rubble. Hunt proposed instead arched buttresses spanning the void between the walls of the fort and the new concrete foundation, creating a roof over a vast subsurface chamber. The roof supported by the arches was to be covered with earth, and sodded with turf, forming a verdant band of green between the dark stone walls of the fort below and the granite of the new pedestal above. Cross-sections of Hunt's design, reproduced in *Scientific American,* reveal details about the engineering for the foundation, pedestal, and statue, including the arches that were to hold up the mound of turf (Figures 1.42 and 1.43). The arches were intended to hide the concrete foundation entirely and to support the flight of outdoor steps and the pedestrian terrace at the perimeter of the Beaux-Arts pedestal.

The proposed arch-supported earthen slope would have spanned the twenty-two-foot difference in elevation between the star fort's terreplein and the pedestal's lowest course of masonry. An early artistic rendering of the statue and its pedestal before its installation depicts the intended esplanade (Figure 1.44). However, the installation of the turf-covered mound was not to be realized for many years following the statue's dedication.

In July 1884, Bartholdi completed fabrication of the Statue of Liberty in Paris and formally presented his work to the American ambassador. After the ceremony, the statue was disassembled and packed into enormous crates for shipment. The cornerstone of the pedestal was not laid until weeks later, on August 5. Despite early progress, further work on the pedestal was soon halted due to a shortage of funds, and when the crated statue arrived in New York aboard the frigate *Isére* in June of 1885, the pedestal remained unfinished (Figure 1.45).[95]

Figure 1.44. Engraving depicting the intended turf covered mound transitioning between the star-fort and the pedestal. This design element, supporting an upper promenade level would take years to realize following completion of the statue in 1886 (Library of Congress, https://www.loc.gov/pictures/item/97502754/).

With the statue delivered, fundraisers intensified their efforts to finance the pedestal's completion, with Joseph Pulitzer leading the most successful campaign and raising the last $100,000 through his newspaper, the *New York World*. To assist with fundraising for the pedestal, Bartholdi described his vision for the statue in a pamphlet entitled "The Statue of Liberty Enlightening the World --Described by the Sculptor Bartholdi." His description highlighted the importance that geography and landscape played in a viewer's perception of the work of art. He explained that in the context of the wider harbor, as opposed to the city, the statue does not appear colossal at all, but instead as an appropriately scaled element in an otherwise colossal landscape.

> The artist ought to choose his site in such a way that the lines of the ground and the coloring of the background will become his assistants in heightening the proper appearance of his work and the impression which it is to produce… we must not expect its appearance to be colossal when it is in place. In the immense picture which will surround it, it will appear simply in harmony with the whole, and have the normal aspect of a statue in a public place. It should be thus, because its part is not to appear extraordinary in itself, but to connect itself intimately with an extraordinary whole.[96]

Figure 1.45. Historic photograph, c. 1884. This image shows the railway entering the breech opened in the east-facing scarp walls of the star-fort, accommodating the movement of materials and equipment (Library of Congress, AIA/AFF Collection).

As progress on the pedestal moved forward, the Army grew impatient with the constant presence of the statue's construction team and began to anticipate the disruptive presence of visitors. A 1885 application to the Secretary of War "for a revocable license for a ferry and wharf landing on the easterly shore of Bedloe's Island to commence after the inauguration of the Statue of Liberty" provoked Major of the Corps of Engineers George Lewis Gillespie Jr. to pen an impassioned defense of continued military use of the island to the Chief of Engineers of the

United States Army.[97]

A southerner who remained steadfastly loyal to the Union, Gillespie was commissioned into the Corps of Engineers following his 1862 graduation from the United States Military Academy. Having served under General Philip Sheridan, after the Civil War, Gillespie was quickly promoted, working on harbor improvement projects including the Tillamook Lighthouse off the Oregon coast and later went on to command the Army's Department of the East. In his letter, Major Gillespie argued:

> Bedloe's Island, N.Y. Harbor, is not a "useless military reservation," nor is it proposed to be "abandoned." Fort Wood. . .is one of the inner lines of defense of New York harbor, and with those on Governor's Island is designed to close the entrance to the East River, and to protect New York, part of Brooklyn and Jersey City from bombardment. . ..The placing of the statue upon the island does not change the relations of the Island to the defense of the upper bay, and as the statue will be permanently maintained as a beacon, the island should be forever used as a military reservation, free from civil interference and occupancy. It is inadvisable and inexpedient to allow any civil corporation, or body of men, to occupy, or build structures upon, any portion of the island, or to use exclusively any wharf now built, or to be built thereon, for civil purposes.[98]

Gillespie's letter, in which he argued against proposed new uses of the island that would compromise its military utility, was a defensive response to proposed non-military construction on the island and to plans for accommodating the public. While the United States Army had not maintained an active presence on the island since departing in 1877, Gillespie's letter indicates that military leadership, at a very high level, remained displeased with the decision to locate the statue on their post. As historian Carole Perrault has offered in her voluminous notes on the history of the island, "Major Gillespie's rebuttal set the stage for a half century of little or no commitment to the statue's interpretation by the powers that be."[99] Meanwhile, an outpouring of donations from the public allowed work to resume, and stone masons completed the pedestal in April 1886.

Ultimately, the completion of the pedestal did not include Hunt's ambitious scheme for concrete arches spanning the void between the raw concrete foundation and the terreplein of Fort Wood. In May 1886, the excavation engineer explained that in order to move forward with Hunt's proposed arches, "the interior walls of the fort needed strengthening" and to properly support the arches would "require 3,300 cubic yards of béton [concrete] and very heavy centering."[100]

As metal workers reassembled the Statue of Liberty on the framework atop the masonry pedestal, President Grover Cleveland signed an appropriation bill in August 1886 aimed at readying the island for the completed statue and for public visitation. The bill aimed to "clear the grounds of the island and remove "unsightly structures," repair or altogether replace the wharf, and to install an electric-light plant and elevator in the pedestal."[101] The appropriation bill of 1886 was also meant to fund the work on strengthening the fort's walls and constructing the

arches proposed by Hunt, but even these additional funds were insufficient to complete this design element. With this funding in place, however, metalworkers successfully reassembled the statue atop the completed pedestal and armature in only four months (Figure 1.46). [102] On October 28, 1886, President Cleveland participated in the official dedication ceremony for the monument. Despite cold, rainy weather, celebration filled New York City on the day of the dedication, with parades through the streets, people lining the shore, and boats filling the harbor to witness the ceremony.[103]

Figure 1.46. Photograph taken in 1886, soon after the assembly of the statue atop its masonry pedestal. Note the presence of two figures standing near a sign board, presumably directing visitors to enter at the southern postern door of the star-fort (National Archives, RG 26, Records of the US Coast Guard 1785-2005, Lighthouses Series, 1855-1933).

SHARED MANAGEMENT

Following the October 1886 dedication ceremony, a ferry service provided visitors with access to the island and the statue. Once on the island, visitors were free to explore only a small section of the island adjacent to the statue. Few amenities were in place to support the public, and much of the island, as a military post, was closed to civilians. The United States Lighthouse Board retained jurisdiction over the Statue and was to maintain it as a navigational beacon.[104] The Lighthouse Board, created in 1852, was charged under the Department of the Treasury with the construction and maintenance of a growing nationwide infrastructure of lighthouses and navigational aids.

During planning and construction of the statue, foundation, and pedestal, the War Department and the American Committee had shared administrative jurisdiction over the island. Following the dedication of the statue, the role of the Committee was significantly reduced, but they continued to advocate for completing the improvements to the island grounds. One of the Committee's responsibilities was providing ferry service between New York and the Liberty Island, and they used half of the twenty-five-cent fare charged for a round trip ticket to fund to complete additional work for the benefit of visitors.[105]

Most of the island remained under the control of the War Department, excluding a small portion given over to the Lighthouse Board to the north and the area "enclosed by the walls of the old star fort."[106] In practice, the Army continued to control and occupy the military reservation and performed guard functions around the statue, while the Lighthouse Board supervised the area at the northern end of the island specifically designated as the Lighthouse Reservation and maintained the illuminated beacon and to some extent the statue and pedestal. *The New York World*, described the area controlled by the Lighthouse Board as being "something less than five acres," and explained that "the division of the island is clearly marked by marble slabs set firmly in the earth."[107]

Construction to accommodate the mixed stewardship on the island followed the opening of the statue. In 1887 the three-story hospital in the north of the island was converted into a keeper's dwelling for the Lighthouse Board staff that maintained the beacon.[108] The electric light inside the torch was powered by a generator in the engine house that stood within the Lighthouse Board's designated parcel.[109] The engine house was in poor condition, and despite repairs to the structure completed in 1887, the Lighthouse Board began to draft plans for a new power generating facility, which was completed the following year.[110] In 1889, additional seawall was built to the west of the new engine house to protect it from storms, the wharf was rebuilt, a new coal house constructed, and a steam plant completed.[111] By then, the only buildings that remained from before the statue was installed were the former hospital building (converted as the keeper's dwelling), a long perpendicular barracks, and officers' quarters near the northeast shoreline.[112]

In 1888, the Treasurer of the American Committee addressed a memorandum to Congress explaining "the pedestal remains incomplete; the wooden stairs to one of its doors, and the wooden platform on which the inauguration took place, are still standing as a temporary structure -- a mortification to the people and a discredit to the nation!" The American Committee's ferry service had failed to raise enough money to fund continued work, and so they asked for the additional funds needed to complete ancillary construction associated with the statue.[113] At this time, the Committee still intended to realize Hunt's vision and create the turfed esplanade that would fill in the courtyard with a low mound of turf covered earth and conceal the bare concrete foundation.[114] Continued tension between the military and civil authorities over the purpose the island continued to be reflected in a lack of resolve towards long term funding, and further complicated plans for construction of additional visitor infrastructure.

During the late nineteenth century, immigration laws had begun to shift from state to federal control. The federal government first established regulations in 1875 controlling foreign immigration. In 1890 the Department of the Treasury took sole responsibility for immigration processing, and with the many problems related to New York City's receiving station at Castle Clinton, the federal government searched for better alternatives. Believing that an island in the harbor would better suit their needs, the Department of the Treasury announced their decision to use Liberty Island for the "immigrant landing depot."[115] The announcement was met with outcry, reanimating old debates regarding the use and future of Liberty Island. The *New York World*, the paper that originally led fundraising efforts for the statue's pedestal, posed questions about the intended use of the island and accused the federal government of not fulfilling commitments to the monument they had accepted, saying "the National Government has been shamefully indifferent to the great monument of Liberty from the first. It has never done anything for it except to light it."[116]

This news coverage offers insight into the landscape of the island in 1890, explaining that the main open area of the island lay "at the northeast end of the island, extending from the soldier's barracks to the light-house depot [keeper's dwelling] . . . less than 600 by 350 feet."[117] While the Department of the Treasury ultimately chose otherwise, and located the new immigration station on nearby Ellis Island, the controversy sparked conversation and highlighted unresolved questions about jurisdiction and future use of Liberty Island, as both a military post and the home to the Statue of Liberty.

Many of the opinions published in the *New York World* opposing the proposed immigration station on Liberty Island argued for using the property instead as a public park. Although at the time only a small portion of the island was open for public visitation, the *New York World* argued, "the Island is now a beautiful spot and is a much-needed breathing place for the citizens of our overcrowded cities.

Figure 1.47. Engraving, "Bedlows Island (Liberty)—a Visit to the Statue and Proposed Emigrant Landing Place" ("Once A Week" Magazine," Statue of Liberty National Monument, Bob Hope Library).

It should not be diverted to other uses."[118] A series of drawings published around this time illustrate pleasant vignettes of a visit to the statue, with views of the ferry ride, and a walk along the shoreline (Figure 1.47). The illustrations of the island in the *New York World* did not document the reality of the landscape as it was, but evoked Bartholdi's uncompleted vision, which the columnists hoped would be eventually realized.

This controversy heightened tensions created by the divided jurisdiction of the American Committee, the Lighthouse Board, and the United States Army. The newspaper questioned the use of the island by the military, even going so far as to state "it is certainly an open question whether the Secretary of the Treasury has any right, under the delegation to him by the Secretary of War of the authority which he had, to use the island for defensive purposes."[119] Despite these objections, the War Department still managed the greater portion of the island and continued to garrison troops there.

Momentum created by the initial protest continued for months, with the *New York World* reporting on April 1, 1890 that Senator William E. Chandler, Chairman of the Senate Committee on Immigration and Naturalization had introduced a joint resolution to give the Bartholdi Statue Association permission to improve and build on the whole of Liberty Island "…and provide for the use of the same as a free public park."[120] Senator Chandler's resolution allowed for some continued use by the military, including that "the ownership and control of the said grounds shall remain entirely in the United States, and shall be subject to such changes and uses for military purposes as the Secretary of War may direct."[121] The news article quoted Senator Chandler explaining his resolution, saying:

> …the entire Joint Committee, composed of Committees of the House and the Senate, are in favor of The World's contention that Bedloe's Island should be Liberty Island… devoted in its entirety to the proper display of the Statue of

> Liberty, and consecrated to liberty as a free public park…When the law was passed authorizing the Executive to select a site on Liberty Island for the Statue of Liberty …the Executive ought to have been not only authorized at that time to select a site for the Statue of Liberty Island, but directed to dedicate the entire Island in perpetuity to the idea which the Bartholdi Statue represents…"[122]

In the following weeks, signed petitions were gathered in support of the resolution.[123] Despite public sentiment, the United States Army remained committed to maintaining a military post on the property. It is unclear what became of Senator Chandler's proposal, but Liberty Island continued, as before, under split jurisdiction.

MAINTENANCE CHALLENGES

While enthusiasm for a public park on Liberty Island waxed and waned, visitor amenities and statue upkeep fell consistently behind. A newspaper report from 1890 said, "visitors to the statue were shocked at the general appearance of neglect that is noticeable from the moment they set foot on the island."[124] In 1894 the deterioration of conditions led the *New York Herald* to write a critical column, imagining Bartholdi paying a visit and his corresponding horror at existing conditions. The article described an imagined visitor dropping their ticket into the box on the wharf, navigating around fishing soldiers, and ascending the wooden steps up the rampart of the exterior battery.

> Now we are within the lines of old Fort Wood, whose battlements form the walls about Liberty's pedestal. The boardwalk leans off to the left toward the iron shod doorways of the bastions that form the inner defences [sic] of the old fort. We start to follow the boardwalk. But what is that so peacefully browsing off to the right on the very slope of the rampart?... A young and frisky specimen of the army mule! There he is, tethered by an eighty-foot rope, comfortably cropping the few tufts of parched, stubby grass that grow between the muzzles of those frowning cannons…
>
> We glance with some surprise at the photographer's shanty and the shanties of the gentlemen who have the restaurant and the bar concessions for the island - concessions which they say they hold from the War Department…We retrace our steps a few paces…past the peanut and fruit stand at the sally port [south postern] of the old fort…and then once inside the granite battlements, we begin to mount a wooden stairway, and finally reach a spacious wooden platform at the base of the pedestal proper. Both stairway and platform are just as they were when they were erected for the dedicatory ceremonies in 1886."[125]

The article also describes the landscape around the statue in 1894. While some visitor concessions existed on the island, the 'temporary' wooden stairs from 1886 remained, and the intended arch-supported turf esplanade had yet to be constructed. Six bottle-shaped Rodman guns stood along the southern water battery, surrounded by patchy growths of turf.

Photographs from about 1890 show the area around the wharf with the steps leading up the embankment to the island, and the second set of steps leading up to the

Figure 1.48. Liberty Island, c.1891. (Library of Congress).

Figure 1.49. Photograph, c. 1898, showing the earth-covered traverse magazines of the external battery at the foot of the star-fort's granite walls. Geo. P. Hall and Son, General Photographers, 157 Fulton St., NY. (Irma and Paul Milstein Div. of US History, Local History and Geneology, the New York Public Library Digital Collections https://digitalcollections.nypl.org/items/1dda7040-83b3-0132-0d80-58d385a7bbd0).

statue. This area was the only part of the island open to public visitation. The photographs also show a portion of the granite seawall enclosing most of the island (Figures 1.48 and 1.49). Other images show small structures south of the fort, most likely the concessions buildings mentioned in the article, with additional military buildings standing low, north of the star fort. The area of the fort occupied the highest point of the island, so the military buildings in the background did not rise beyond the walls of the star fort. A few trees stood between the buildings and the fort, and along the shore. A flagpole was installed on the western side of the star fort's terreplein. A small boathouse stood on the southeastern wharf, and a second smaller pier was located on the western shoreline. The images reveal that the traverse magazines remained at that time along the southern shoreline of the island,

rising above the seawall (Figure 1.50).

A photograph taken from a kite-mounted camera shows that, by 1900, new buildings had been added to the island along the western shoreline, with walking paths added between the new structures. This early aerial photo shows the wooden stairs constructed for the dedication ceremony still in place, leading visitors from a platform built at the terreplein level up to the statue's pedestal (Figure 1.51). These new buildings were also documented in a 1901 survey, but the specific uses of the structures were not indicated. The new rectangular building shown along the southeastern shore was likely a storehouse, while buildings along the western shoreline may have been housing and infrastructure for the engine house. The survey also documented the continued work on the seawall surrounding the island, with a cross-section on the wall's construction provided in the bottom-left corner and a proposed segment of seawall noted along the western shore next to the engine house (Figure 1.52).

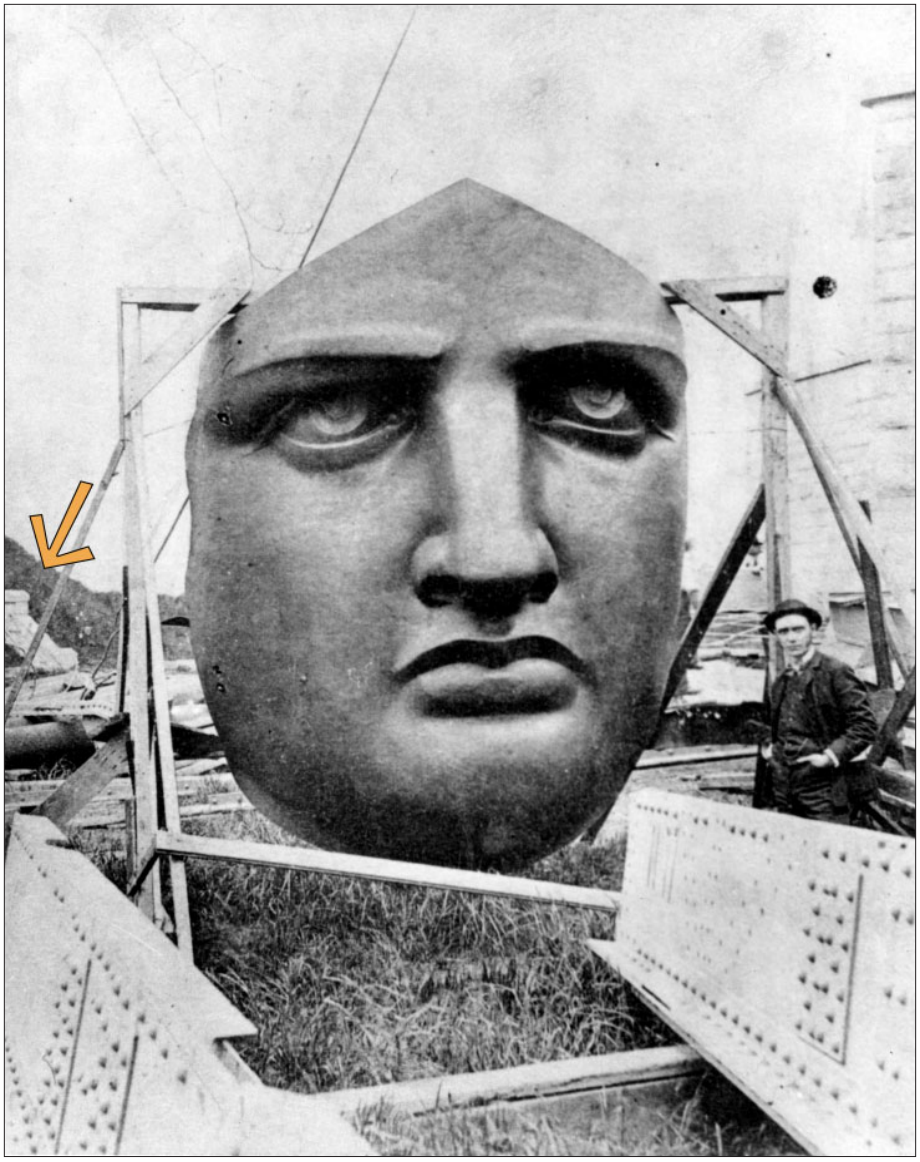


Figure 1.50. Photograph, c. 1885. One of the traverse magazines formerly built into Fort Wood's exterior battery is visible on the left of the photo (arrow). These earthen features remained in place until the U.S. Army regraded the topography of the island in 1907 (image attributed to Andrew J. Spano, Statue of Liberty National Monument, Bob Hope Library).

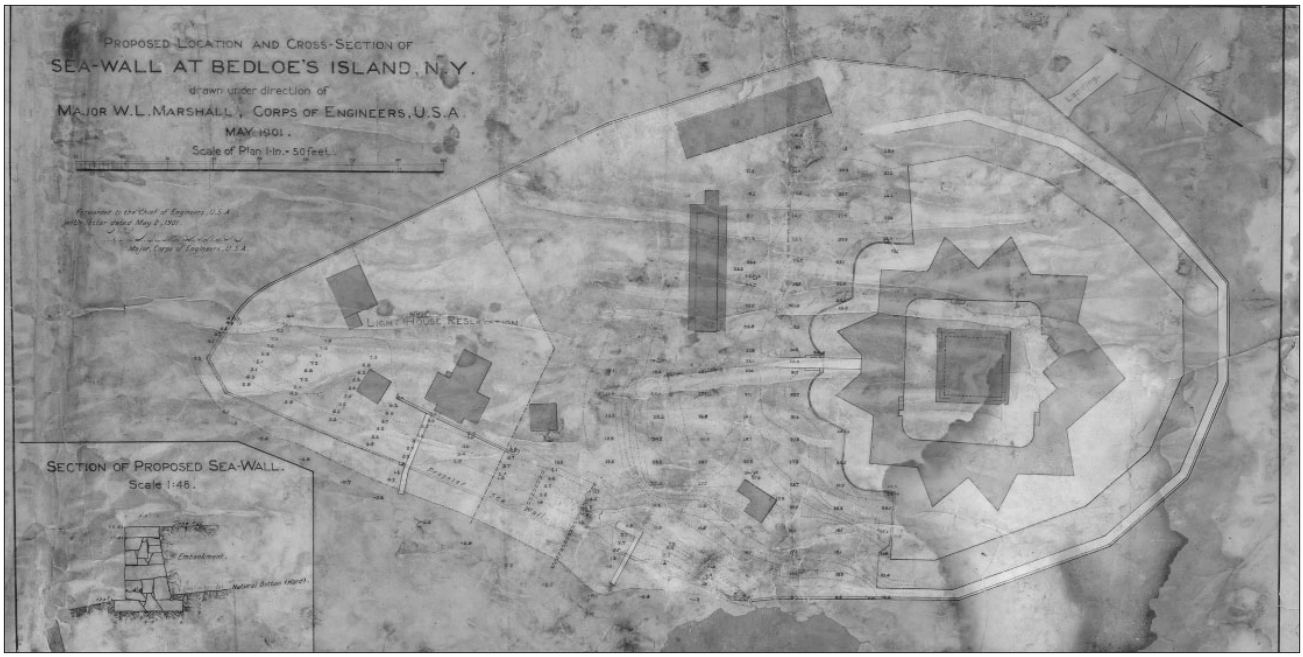
Figure 1.51. (Below) Oblique aerial photograph of Liberty Island, c.1898, by William Abner Eddy in his article, "A Camera in Mid Air," published in 1900, "St. Nicholas: An Illustrated Magazine for Young Folks."

Figure 1.52. (Bottom) "Proposed Location and Cross-Section of Seawall at Bedloe's Island, NY, May 1901." This document has been digitally enhanced by the authors for improved legibility (National Archives II, Cartographic Branch, Fortifications File, Drawer 38/ Sheet 29, NAID77313516).

In 1901, Major A. C. Taylor of the War Department documented existing landscape conditions:

> Outside the statue, immediately surrounding its base, the ground is of cinders with occasional patches of wild grass, at one point an old cistern has partially caved in and at another, a small area has an old broken irregular flag pavement. The surrounding interior wall of the old fort is broken and irregular; discolored by patches of old mortar and the stain of years ... There are practically no toilet accommodations for visitors; a small shed possibly 10 ft. x 10 ft., overhanging the seawall is the only place provided for both sexes.
>
> This place is within 60 feet of the Post Hospital. Efforts have been made for over a year for its removal, but without success. It could of course, have been destroyed or otherwise removed by force, but that would leave the public entirely unprovided for, a condition not entirely satisfactory for the post…
>
> The statue committee as originally organized has practically disappeared… therefore if anything is to be done to prevent this grand work of Art from deteriorating and falling to pieces, it must be done by the General Government. This of course, will require legislation and time; but pending such action much could be done by the War Department, to beautify the immediate surroundings of the statue and entire island."[126]

Taylor requested "a moderate expenditure of money for roads, paths, shrubs, filling in and grading, whitewashing old brick walls, pulling down and removing ruinous portions of the old fortifications, and providing suitable toilet facilities for outside visitors…"[127] At this time, jurisdiction of national monuments, historic areas, and newly formed national parks was not unified under one govern-



ment department, with such sites under the management of either the Department of the Interior, the War Department, or the Forest Service. Government officials debated whether care of the statue should be left to the American Committee, concerned they would continue to lack adequate fundraising capabilities. They concluded that to keep the monument and grounds in a creditable state, the administration of the statue must fall to the federal government.[128]

On December 30, 1901, President Theodore Roosevelt approved the War Department's request and returned the entire island, including the statue and its surroundings, to the military's sole jurisdiction. The War Department was to maintain the statue as an aid to navigation, but no longer as a lighted beacon.[129]

1902 LANDSCAPE DESCRIPTION

By 1902, the Statue of Liberty had been completed for sixteen years, but the island itself still reflected its dual purposes as a military post and the setting of the new statue. Visitors generally had access to the southern portion of the island, arriving at the wharf on the southeast shore. Earthworks, cannons, and traverse magazines remained in place along the exterior battery on the southern shoreline, and some of the buildings associated with the island's former use as a quarantine area and military post remained to the north. These buildings included an engine house, a barracks building, the three-story hospital and an officer's quarters.[130] Several of the other buildings present in 1880 had been removed prior to the dedication (Figure 1.53). The granite seawall continued to encircle the majority of the island, except for an unprotected portion of the northwestern shoreline.[131] Photographs and engravings prepared at the time of the dedication show the ground sloping down to the seawall that stands in front of a rocky intertidal area (Figure 1.54).

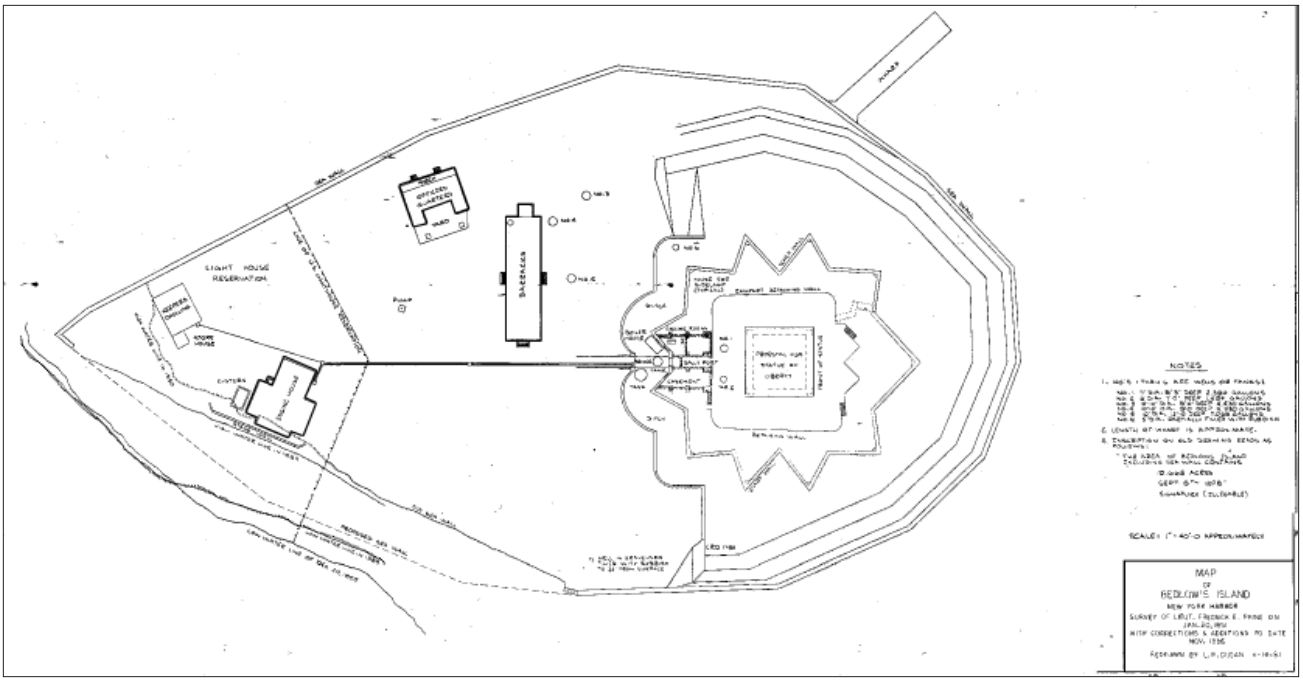
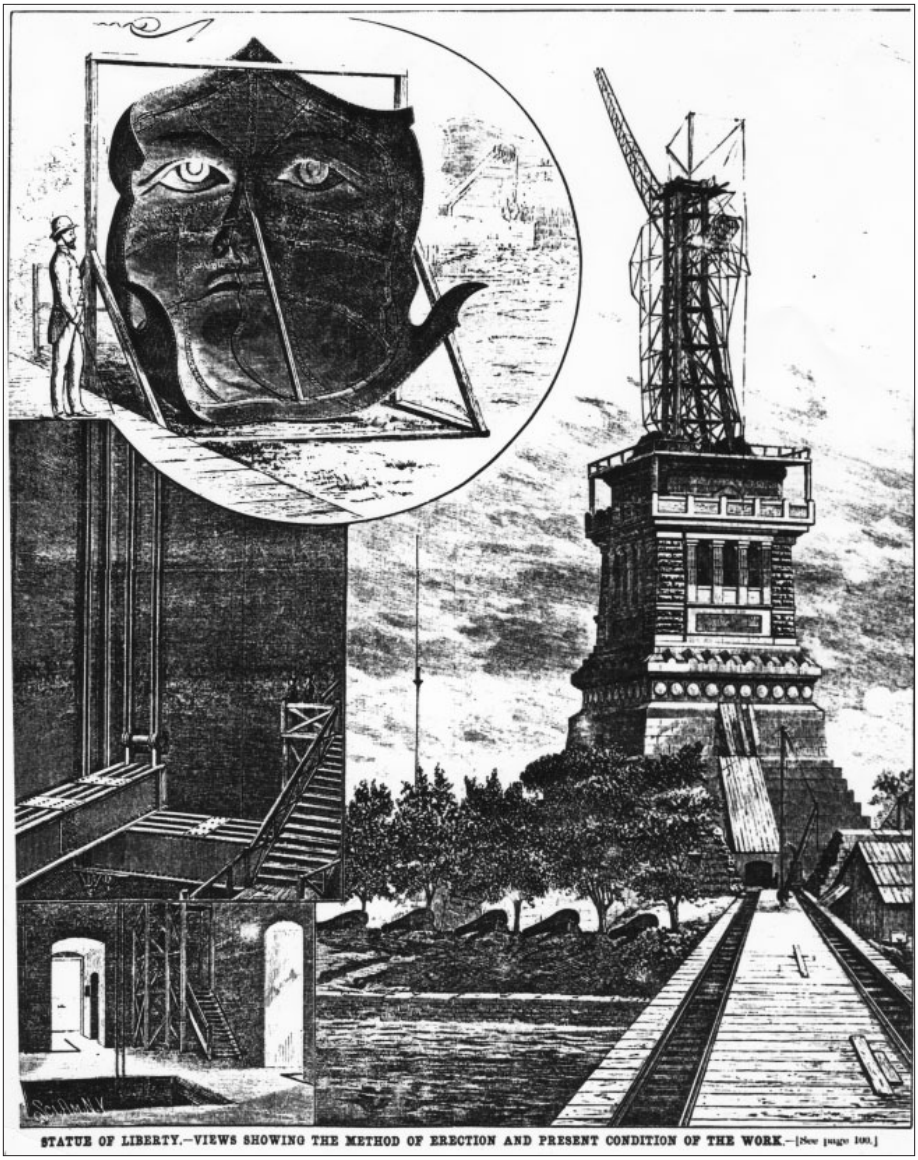


Figure 1.53. "Map of Bedlow's Island, New York Harbor. Survey of Lieut. Fredrick E. Prime on Jan. 20, 1851, with corrections & additions to date Nov. 1886, Redrawn by L.R. Dugan 8/14/1981." This drawing documents the island's primary buildings, as well as the presence of six different wells throughout the island (National Park Service, Technical Information Center).

What had been the fort's parade ground was nearly filled with the statue's concrete foundation, creating a recessed area resembling a dry moat between the foundation and the fort walls. While Bartholdi's design called for this area to be spanned with arches and covered with earth and sod, this had not been accomplished, and by 1902, the former parade ground exhibited a utilitarian and somewhat derelict character, with a surface of cinders, broken flagstones, and patches of wild grass. A flagpole stood on the inner edge of the fort's terreplein north of the statue.[132] The flag would have been most visible from the north and less prominent but still visible from the main dock.

The foundation rose twenty-two feet above the level of the fort walls. The additional height of the pedestal and statue brought the entire assembly to a height of over three hundred feet.[133] Visitors accessed the base of the statue through the southern postern entrance in the southeast corner of the star fort before climbing a flight of stairs that led onto a broad wooden platform, approximately level with the terreplein of the fort. From the platform, another flight of wooden stairs led



STATUE OF LIBERTY.—VIEWS SHOWING THE METHOD OF ERECTION AND PRESENT CONDITION OF THE WORK.—[See page 109.]

Figure 1.54. Engraving, "Scientific American," 14 August 1886, (Statue of Liberty National Monument, Bob Hope Library).

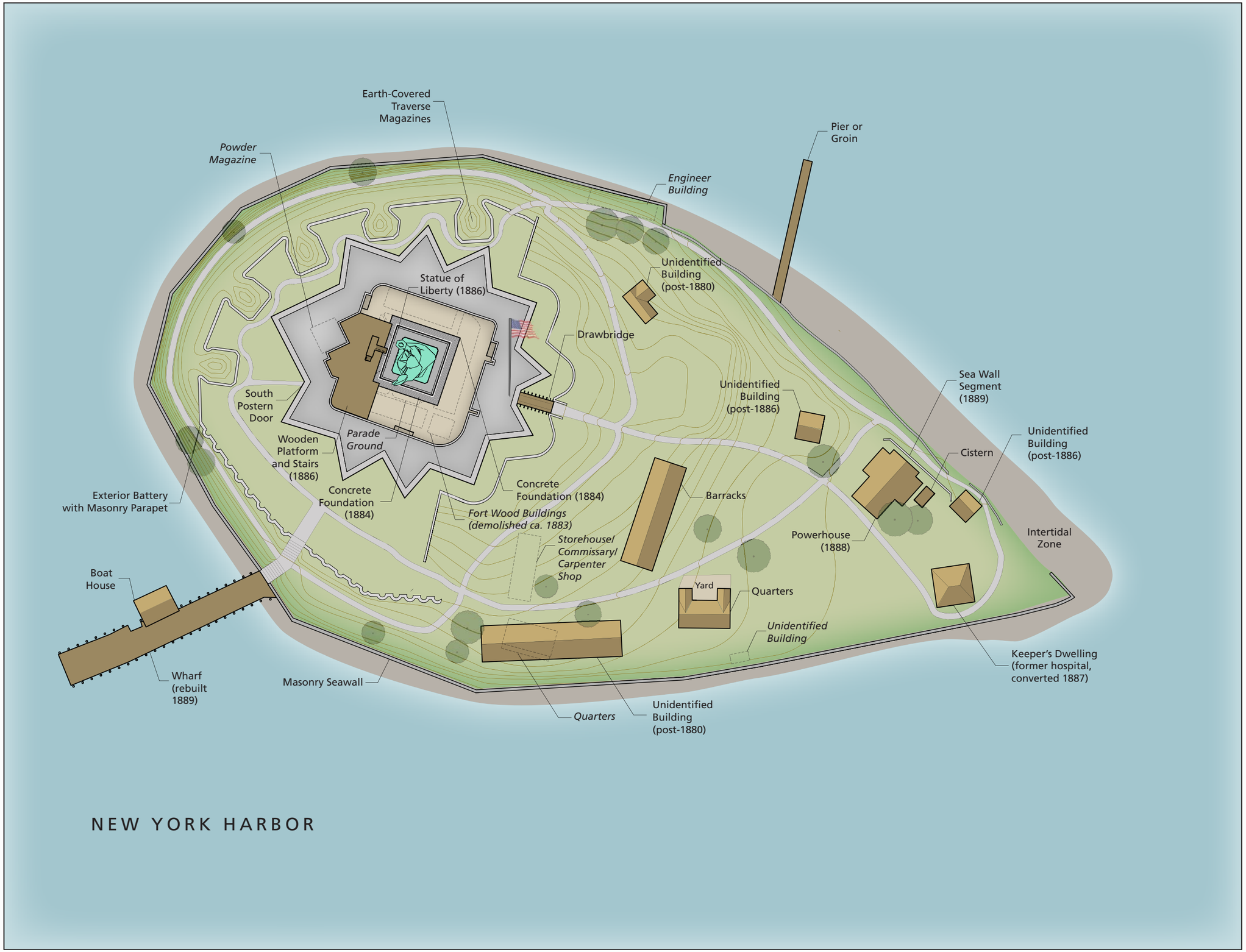
into the statue's pedestal. These wooden structures, originally intended to be temporary, remained in service despite their poor condition and safety issues.[134] From the top of the pedestal, visitors had an unobstructed view of New York Harbor and surrounding areas.

Ferry service provided visitors access to the island, but once there, they found few amenities, and many accounts commented on the site's poor condition.[135] A small collection of wood frame buildings, described as the "photographer's shanty and the shanties of the gentlemen who have the restaurant and the bar concessions for the island," were located between the southern walls of the fort and the battery. The only restroom facility was a ten-foot-by-ten-foot "shed" that overhung the seawall.

The northern two-thirds of the island was divided between the War Department and the Lighthouse Board. The latter managed the northern tip of the island, where the old brick hospital building had been converted to quarters for the lighthouse keeper. Also within the lighthouse reservation was a new boiler/engine house, completed in 1888, which provided the island electricity with steam-powered generators. A third unidentified structure was located on the shore between the engine house and the keeper's quarters. A short stretch of stone wall extended along the west side of the engine house, protecting it from the harbor's tides.

The U.S. Army managed the middle third of the island, ostensibly perpetuating the island's defensive role. By this time, the facilities supporting the military presence had been reduced to four structures—a long barracks building, retained from earlier periods, and three unidentified structures that had been constructed since 1880.

Except for grass and trees, little other vegetation covered the island, with poplar trees found predominantly between buildings northeast of the star fort.[136] Roads and pathways guided pedestrians and wagons around the existing buildings, with one path loosely following the shoreline before curving towards the center of the island to pass between army buildings on the eastern side of the island. One pathway followed the center of the island north-south, and two paths circled around the masonry fort.



Cultural Landscape Report for Liberty Island

Statue of Liberty National Monument
New York and New Jersey

1902 Period Plan

National Park Service
Olmsted Center for Landscape Preservation
www.nps.gov/oclp

in partnership with
Department of Landscape Architecture
Center for Cultural Landscape Preservation
SUNY College of Environmental
Science and Forestry, www.esf.edu/la/cclp

SOURCES

1. "Map of Bedlow's Island, New York Harbor, "Survey of Lieut. Frederick E. Prime, November 1886, (Park files).

2. "Bedlow's Island, New York Harbor," Illustration 9, 1887, "The Statue of Liberty and Liberty Island," compiled by Carole Perrault, 1984.

3. Oblique aerial photograph, by Wm. Eddy, 1900, "A Camera in Mid-Air," published in,"St. Nicholas: An Illustrated Magazine for Young Folks."

4. "Proposed Location and Cross-Section of Sea-Wall at Bedlow's Island, NY." Drawn under the direction of Major W. L. [William Louis] Marshall, Corps of Engineers, USA, May 1901 (National Archives, Fortification files, Drawer 38, Sheet 29).

DRAWN BY

James Mealey, Illustrator CC, 2021

LEGEND

Building	Intertidal zone
Informal paths	Water
Masonry seawall	Wood surface
Old stone seawall	1' contours
Tree	Feature removed during period (dashed)
Grass	*Lorem ipsum* Removed feature label (italics)
Exposed earth	(1892) Date feature added during period

NOTES

1. All features shown at approximate scale and location.
2. Drawing shows landscape circa 1902.
3. Dates of construction/removal shown where known.

North

0 87.5 175 feet 350

Drawing 1.7

Cultural Landscape Report for Liberty Island

Statue of Liberty National Monument
New York and New Jersey

1902 Digital Model Plan View

National Park Service
Olmsted Center for Landscape Preservation
www.nps.gov/oclp

in partnership with
Department of Landscape Architecture
Center for Cultural Landscape Preservation
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NOTES

1. All features shown at approximate scale and location.
2. Model shows landscape circa 1902.

North

0 87.5 175 feet 350

Drawing 1.8

Cultural Landscape Report for Liberty Island

Statue of Liberty National Monument
New York and New Jersey

1902 Digital Model Oblique View

National Park Service
Olmsted Center for Landscape Preservation
www.nps.gov/oclp

in partnership with
Department of Landscape Architecture
Center for Cultural Landscape Preservation
SUNY College of Environmental
Science and Forestry, www.esf.edu/la/cclp

SOURCES

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2. "Bedlow's Island, New York Harbor," Illustration 9, 1887, "The Statue of Liberty and Liberty Island," compiled by Carole Perrault, 1984.

3. Oblique aerial photograph, by Wm. Eddy, c. 1898, in "A Camera in Mid-Air," published in,"St. Nicholas: An Illustrated Magazine for Young Folks."

4. "Proposed Location and Cross-Section of Sea-Wall at Bedlow's Island, NY." Drawn under the direction of Major W. L. [William Louis] Marshall, Corps of Engineers, USA, May 1901 (National Archives, Fortification files, Drawer 38, Sheet 29).

NOTES

1. All features shown at approximate scale and location.
2. Model shows landscape circa 1902.

North

Drawing 1.9

ARMY STEWARDSHIP: 1903–1937

Beginning in 1902, the War Department assumed jurisdiction over all of Liberty Island, including the care of the Statue of Liberty and the granite fort at her base. The War Department decided to use the portion of the island not otherwise devoted to the statue as a Signal Corps station and made a detailed island survey and building inventory. Soon thereafter, a major program of construction significantly reshaped the landscape. Many of the buildings standing on the island in 1902 were demolished and replaced with new structures.

In 1903 efforts to honor Emma Lazarus, author of *"The New Colossus,"* bore fruit. Georgina Schuyler, a friend of Lazarus and great-granddaughter of Alexander Hamilton, lobbied for permission to affix a plaque bearing the text of the poem to the statue's pedestal. On May 5, 1903, the Post Commander of Fort Wood accepted the bronze tablet and installed it on a wall within the pedestal's interior.[137] Doing so brought public attention to the poem, prompting *The New York Times* and the *New-York Daily Tribune* to publish the sonnet for the first time.[138]

Lazarus's sonnet helped to reinforce the statue's growing identification with immigration. The poem's installation inside the pedestal occurred within a major period of immigration extending from the 1880s to 1924. Millions of immigrants arrived in New York Harbor during these years, discovering the Statue of Liberty lighting their way.

The War Department completed long deferred work on the statue's base, finally filling in the star fort's courtyard, and removing the post-Civil War exterior battery, the northern counterscarp wall, and bridge. In 1916, additional lighting was added outside the statue, and Liberty's torch was partially replaced. During World War I, the island served as a Signal Corps station, as well as a quartermaster's supply depot that provided additional support to the warehousing and shipping function on Governors Island. In response to the nation's entry into the war, temporary barracks were constructed on the island and workers placed fill, adding about 1.2 acres to the island beyond the northwest shoreline, creating space for additional warehouses.

The United States government used the symbolism of the Statue of Liberty to bolster patriotism and support for United States participation in World War I. The statue's popularity continued to increase after the armistice. In 1924, the Statue of Liberty was designated as a National Monument and was furnished with its own civilian superintendent. In 1933, an executive order transferred all National Monuments to National Park Service jurisdiction, including the Statue of Liberty and the granite faced star fort serving as her base. After lobbying for several years, the National Park Service assumed jurisdiction over the entirety of Liberty Island in 1937. At the time of the transfer, the island was almost completely occupied with military buildings.

WAR DEPARTMENT STEWARDSHIP OF LIBERTY

At the time it regained jurisdiction over the entirety of the island in 1902, the War Department was undergoing a reorganization to address shortcomings exposed during the Spanish-American War and to be better positioned to play a role in world affairs. To this end, the department made significant investments over the next decade in the infrastructure and facilities of its posts. In New York Harbor, this included modernizing and expanding the facilities at Governors Island, Fort Totten, and Fort Wood.

Despite the loss of the fort itself to the Statue of Liberty, Army leadership remained confident in the War Department's future on Liberty Island. The Army also believed that military stewardship would facilitate improved maintenance of the statue as well as a better visitor experience. Day-to-day management and law enforcement in the western national parks and eastern battlefield parks had long been delegated to the U.S. Army.[139] A letter from the United States Secretary of the Treasury expressed a confidence in the Army's ability to manage the statue, offering that, "the action taken in transferring the statue to the War Department will… result in opening this statue to the public under more favorable circumstances than have hitherto existed."[140]

In May 1904, the year Frédéric-Auguste Bartholdi died, the War Department completed a report documenting the condition of both the statue and its setting.[141] The report acknowledged that, "matters relating to the Statue are at present in a deplorable condition…a great deal of work is necessary to place the grounds in a respectable condition." The deteriorating wooden stairs and platform in place since the dedication ceremony were said to be "urgently in need of repair" with "many of the planks and stringers and uprights… rotted and in a…weakened condition…they are a constant source of danger to visitors."[142]

The 1904 assessment noted that the parade and interior walls of the star fort required repair. "The walls have caved in at places, and a great many of the stones have been displaced from the steps leading from the [parade] to the parapet, and are scattered about."[143] Funding was requested for "a concrete walk and approaches from the dock to the Sally port entering the [parade]" and provisions for "… suitable toilet facilities for visitors… [as] at present, dark corners and out of the way places are being constantly defiled owing to the absence of toilets."[144] The Army's survey documented that Governors Island was then supplying potable water to Liberty Island, and "recommended that a [new] water main be laid between the island and the [New Jersey shoreline], following the route of the [telegraph]cable laid by the Signal Corps and to connect with the water system of Jersey City."[145]

The report discussed the post's role as the setting for the Statue of Liberty, expressing the Army's interest in keeping the grounds around the statue presentable.

> [The post] is probably visited by more people than any other post in the United

> States on account of the Statue of Liberty… the number of visitors at this post…for the year will run well into the thousands….The general dilapidated condition of the statue and post [is] a disgrace to the American people, which has strengthened my opinion that Fort Wood should be made one of the most beautiful spots in or about New York and a credit to the Army and the American people.[146]

Despite increased funding and ambitious intentions, conditions did not improve quickly. Subsequent reports from 1905 and 1906 note a continued state of disrepair. A 1905 inspection report authored by War Department Civil Engineer, Sedley Chaplin described "the apparently neglected and dilapidated state of the grounds, together with the uncompleted work in connection with the foundation and pedestal."[147] The *New York Times* wrote in 1906 that, "there was nothing that suggested care or thought for the convenience of visitors," and that the same broken wooden stairs still lead up to the statue, continuing to endanger visitors.[148] Chaplin's inspection report included many suggestions for improvements, including filling in the dry-moat and re-grading the area around the star fort to create an "unbroken lawn, having a gradual and uniform slope" between the seawall and surrounding the fort.[149] He also suggested an eight-foot wide walk around the perimeter of the star fort and the display of cannon placed at "sightly points," making the setting more "artistic and attractive.""[150]

Signal Corps Station

By August 15, 1904, the War Department had formally communicated its intention to use much of the island as a Signal Corps supply depot and surveyed the island in order to plan necessary improvements. At this time, the Signal Corps remained overwhelmingly focused on wired telegraphy, as radio technology remained then in its infancy. It had only been during the previous year that Guglielmo Marconi had first used his patented technology to transmit a brief intercontinental message.

In order to accommodate the Signal Corps' plans, the Army assessed the utility of the existing building inventory and planned significant new construction. Of the extant structures, the report recommended retaining only the 1888 engine house, and the 1900 post bakery, removing all other buildings. The report further explained, "the bakery is a new building, and in very good condition… The powerhouse is a very good brick building, and, when a few needed repairs have been made, will answer for a plant for steam heating and electric lighting of the post."[151]

The report noted that the keeper's dwelling that had been previously converted from a hospital building at the north of the island should be removed, saying "although a brick building in fair condition, [it] would require considerable alteration and repairs to make it suitable…for an administration building."[152] When demolition of buildings on the island began, however, the the keeper's dwelling, the bakery, and the powerhouse were not removed and continued to be used for

various purposes in subsequent years.[153] Nevertheless, the proposed Signal Corps program for Liberty Island required significant new construction. This included,

> . . .[the] wharf is to be extended and an iron frame storehouse erected thereon; there are also to be built Captains' and Lieutenants' quarters and Non-Commissioned staff quarters. The following buildings will still be required to complete the post: Barracks to accommodate from 130 to 150 men, Headquarters building, a Hospital, Hospital Steward's quarters, Post Exchange, Stable, and Wagon Shed, and an addition to the powerhouse for a coal shed.[154]

The report also suggested that a narrow-gauge railroad should be constructed to move the large quantities of heavy supplies needed for use of the island as a depot. The proposed railroad track would run "from the wharf, connecting with the storerooms, back of the officers' quarters, and terminating at the coal shed near the powerhouse. This will leave very little wagon roads to be made."[155] The War Department report also recommended that heating units located in individual buildings be replaced with a central steam plant. The report explained, "the greatest distance that steam would have to be carried would not exceed 500 feet, and it would save a great deal of labor, and would undoubtedly prove more economical to the government."[156] Similarly, rather than mineral oil, "it is recommended that the post and all of the buildings be lighted by electricity. The present plant is run day and night for. . . lighting the Statue. It is old and should be replaced by one more up-to-date and sufficient to light the entire post."[157]

To realize this ambitious program of remaking island facilities, the report suggested enlarging the north end of the island. Much of the required fill material could be obtained on site by leveling the star fort's existing counterscarp and eliminating the surviving portion of the dry moat at the north side of the star fort. The report explained that doing so would, ". . .not only improve the ground, but would improve the appearance of the statue, and would provide a small parade ground, which is required for a drill ground in the military instruction of the large number of recruits..."[158]

These surveys and plans preceded an extensive military construction program on the island. National Park Service architectural historian Carole Perrault has characterized this episode of development as:

> If a motto could be applied to this development, it would be "form following function." The island served two distinct functions: first and foremost, it was a military post; and secondly it just happened to feature a statue of national monument caliber. The improvements to the island were designed to carry out the mandates of the military post's raison d'être; and if these improvements happened to benefit the statue, then all the better.[159]

Between 1905 and 1908, the War Department added over a dozen new buildings and structures to the property to accommodate the presence of the Signal Corps. By 1905, the keeper's dwelling had been converted into administrative offices and housing for six non-commissioned officers. In 1906, the Army rebuilt the east

wharf with wood pilings and constructed a long storehouse atop the reinforced structure. Workers built another storehouse nearby, along the southeastern shoreline, and built quarters for two captains and two Non-Commissioned officers in the northern section of the island.[160]

A new administrative building was constructed in 1907 on the southwest portion of the island. This addition was accompanied by construction of a new post hospital to its south and a new large storehouse to the southeast. At the north of the island, quarters for two additional non-commissioned officers and a small stable building were built, along with a new post-exchange and gymnasium building near the old post bakery and east wharf.[161] On the southern side of the east wharf, a small waiting room was added for visitors.[162] The Army installed electric wiring and fixtures in the engine house which was renamed as the Electric Light Plant.[163]

Statue Improvements

The 1905 condition report noted the uncompleted work "on the foundation and pedestal of statue," returning to the longstanding issue of the unfilled parade ground. Misinterpreting Hunt's original design, Chaplin offered that, "the designer of the statue, evidently intended that the area inside of the parapet walls from top of same, to top of concrete foundation, be filled in with earth, the entrance for the statue to be through the doors on each side at bottom of pedestal."[164]

In 1907, the War Department began the work of "filling in and grading the area inside the walls of Fort Wood; repairing the granite facing, outside steps, and tunnels within the fort; general repairs to the statue and pedestal; and electrical work."[165] To create the long-planned turfed mound concealing the raw concrete foundation, the Army chose to abandon Hunt's proposed arch-spanned vault, and to instead simply fill the void between fortress and pedestal with earth and rubble. Work began with the removal of all existing wooden structures inside the fort, including the Statue's access stairs and platform, as well as ancillary wooden structures outside the fort including "the wood steps at the end of the wharf, and the drawbridge and bridge over the moat at the north sally port."[166] The next step was "filling in the parade… to the level of the terreplein and then paving the area to [create] an inviting, plaza-like area."[167] Workers used "the stone doorways to old casemates outside the fortification and the stone facing of the counterscarp to the north of the old fortification" as well as "old concrete wall near the wharf and the backing of the wall of the counterscarp" as fill for the courtyard.[168] Most of the fill material was obtained by eliminating the north counterscarp wall, and by removing the large volume of soil south of the star fort making up the exterior battery.[169] The fill was brought to the courtyard and "deposited in regular layers about twelve inches deep and well rolled and compacted as fast as it is placed."[170] These layers of fill, having reached the required elevation, were covered with six inches of loam and seeded with grasses.[171] Following this work, the area around the star fort was

a gently sloping lawn, with a masonry staircase replacing the former drawbridge at the north sally port[172] (Figure 1.55).

Atop the new earthen mound bridging the fort walls and the pedestal, twin concrete stairways led visitors from the terreplein level to the pedestal entrance. The twin staircases rose above the turf mound to close a gap between the top of the slope and the doorway leading into the pedestal. Early plans for the earthen mound show the earth rising to the level of the doorway, perhaps a dozen feet higher than the finished 1907 slope. Of course, Hunt's original concept had been for an arch-supported dome instead of an earthen mound (Figure 1.56). The difference in height may have been due to a shortage of fill material, but it is more likely that there were concerns over soil erosion due to the steepness of the slope, the pitch of the original proposal being well beyond the natural angle of repose of the earthen fill. As fill material was carted across the island, stonemasons repointed the parapet and coping stones, and repaired and refaced the granite blocks of the pedestal. The Fort Wood Historic Structure Report notes that, "although the terreplein had granite flag paving, a map notes the word "concrete" near the inner edge of the rampart. This note may indicate that concrete facing was added to the inner wall before the fill, or concrete underlying the granite paving stones on the terreplein."[173]

Filling the star fort's courtyard required construction of new tunnels between the masonry walls of the star fort and the concrete statue foundation, construction of additional enclosed stairs leading from the tunnels to the terreplein level; and installing new granite facing stones on the pedestal.[174] Visitors were presented with two choices for entering the Statue of Liberty after walking through the entrance at the southern postern. They could either ascend a staircase to the outdoor terreplein and then climb exterior granite stairs leading into the pedestal, or they could enter through a ground level concrete tunnel extending through the filled courtyard directly into the pedestal's concrete foundation, where an elevator installed in 1908 brought visitors to the top of the masonry pedestal.[175]

Many trees on the island were removed during this time, and a new flagpole was installed at the front of the statue.[176] Photos of the island document the Rodman guns still standing as ornament behind the outer battery, with electric wiring visible in the background (Figures 1.57 and 1.58). Disruption caused by the construction program led to complaints about the continued unsettled and dirty state of the grounds, but the War Department officials assured the public that the situation was temporary.[177]

In 1908, the War Department added ornamented hoods, or bulkheads, covering the stairways leading from the former courtyard level up to the terreplein.[178] The military also worked to tidy the area surrounding the statue.[179] Other developments that year included the addition of new officer's quarters along the eastern shore, and the west wharf, and a large U-shaped Signal Corps barracks with a

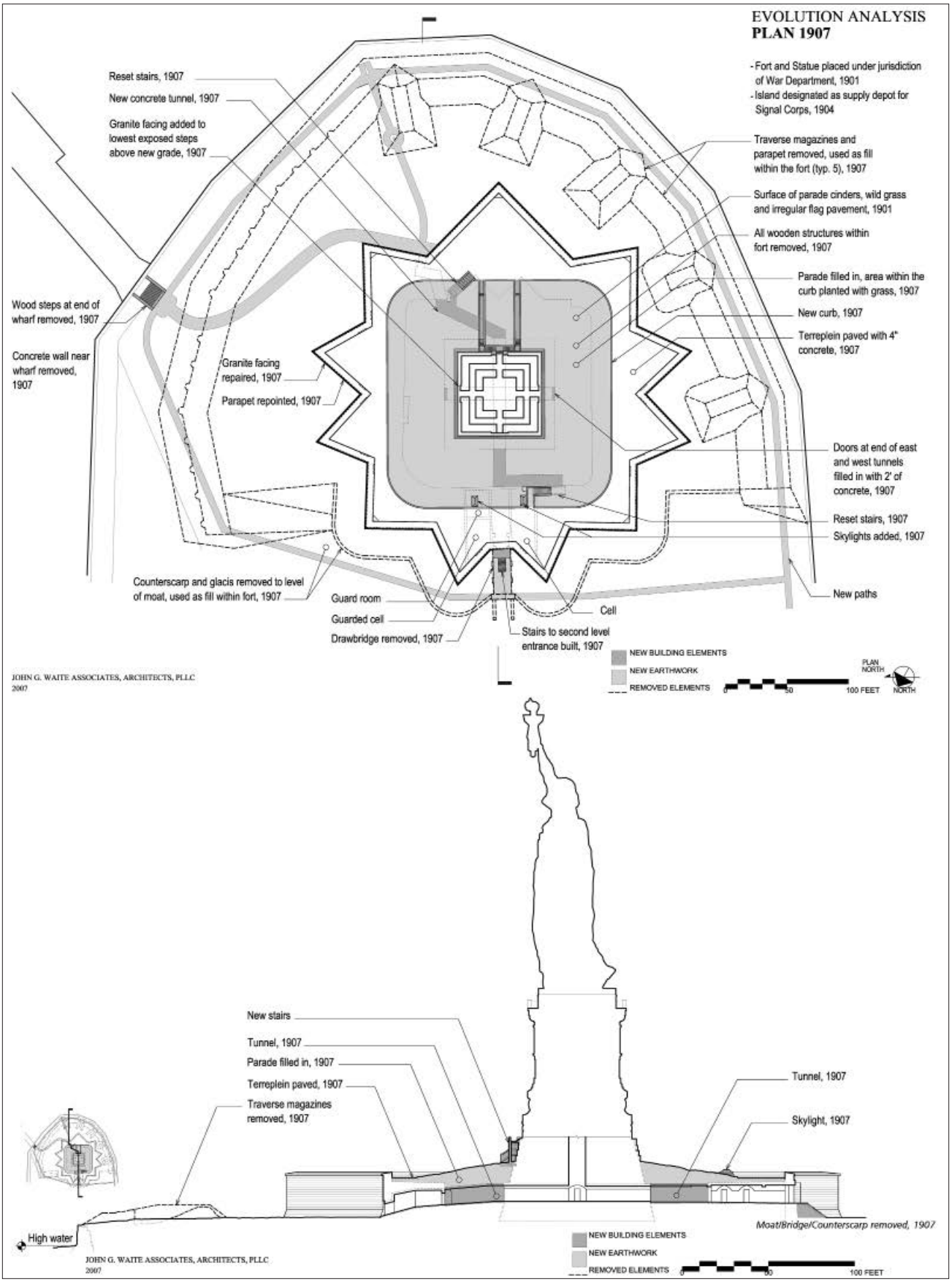

Figure 1.55. Evolution/Analysis Drawings. These drawings show the infill of the star fort central courtyard with material removed from the northern counterscarp and southern external battery. (Fort Wood Historic Structure Report, John G. Waite Associates, Architects)

120-person capacity on the western side of the island.[180] By 1910, construction was complete on a large warehouse standing on 1.91 acres of newly filled land adjacent to the west wharf.[181]

Liberty in Service to the War Effort

By 1916, a new mechanized form of warfare had engulfed much of the world, but the United States remained isolated from the conflict. The distant war did boost patriotism, which the *New York World* used to launch a fundraising campaign for a redesigned torch and a new exterior lighting system.[182] During the fundraising campaign, a powerful explosion rocked Liberty Island. In the early morning of July 30, Black Tom Island, a nearby New Jersey munitions depot exploded when German saboteurs detonated stockpiled munitions intended to supply Allied troops. The explosions shattered windows miles away in Lower Manhattan, damaged buildings on Liberty Island, raining down debris for hours. The power of the blast caused minor damage to the statue's copper cladding, as well as to the structural armature underpinning the Statue's torch-carrying arm.[183] News of the sabotage galvanized fundraising efforts to relight the statue, with more than 50,000 people making contributions within six months.[184] Sculptor Gutzon Borglum redesigned the sculptural flame, adding amber colored glass to its upper portion, replacing the lighting system within the torch, and also increasing the exterior illumination of the statue and pedestal by adding powerful exterior floodlights.[185]

The United States officially entered World War I on April 6, 1917, and work on Liberty Island soon pivoted from beautifying the landscape to constructing additional buildings in support of the war effort.[186] Throughout the remainder of the war and during the lengthy demobilization that followed, the island served as a quartermaster depot for supplies destined for troops deployed overseas.[187] Beyond the new buildings themselves, specialized equipment was necessary to move loads of heavy supplies between wharves and storehouses. According to an article later published in *"Railroad"* magazine, a narrow-gauge railroad, as indicated on the 1904 survey, operated on Liberty Island throughout World War I.[188]

SIGNALING POST-WAR CHANGES FOR LIBERTY ISLAND

In January 1919, Constructing Quartermaster Major Harry C. Sweeney filed his completion report for an engineering project that had added about 1.2 acres of land at the island's northwest shoreline. The new fill created additional space for warehouses and storage facilities.[189] To create the new land, the concrete seawall was extended into the water and then fill was placed in the enclosed area until it reached the level of the top of the wall.[190]

Signal Corps photos show the wall under construction (Figure 1.59). Obtaining suitable fill for the area behind the new sea wall proved challenging until Sweeney

Figure 1.56. Oblique aerial photograph, c.1919, soon after the end of World War I. This photo shows the earthen mound filling the former central courtyard of the star fort with material obtained by removal of the external battery and the northern counterscarp. The barren area to the north of the statue, its topsoil having been removed, would not support the growth of turf given its use as a central gathering area for soldiers garrisoned on the island. Note the short-lived temporary barracks structures placed to the southwest - attributed to U.S. Army Air Service Photographic School, C21604, (Statue of Liberty National Monument, Bob Hope Library).

realized that ships returning to New York from war torn France were carrying earthen ballast.[191] This foreign soil was readily available and, as Sweeney noted:

> In addition to affecting a considerable saving in the cost of this fill it seemed particularly fitting at this time that this French soil should find its final resting place at the foot of the Statue of Liberty as another gift from the French nation. The very fact that such an event could occur is full of significance of the closeness of the ties that bind these two great Republics to each other, a prophecy of the friendship and good-will that shall continue to increase as time goes on.[192]

As part of the post-WWI construction program, the War Department completed work on a pump house at the northern tip of the island and a second large warehouse adjacent to the west wharf.[193] Quartermaster Sweeney also supervised the addition of a small number of new pathways on the island, reporting that on the newly filled area about 150-feet of concrete road had been constructed. The new road was twenty feet wide, including concrete gutters on either side.[194] In addition to the road, about 1,170 feet of concrete sidewalks, five to six feet wide, were built in front of and behind the large U-shaped Barracks and Mess Hall.[195]

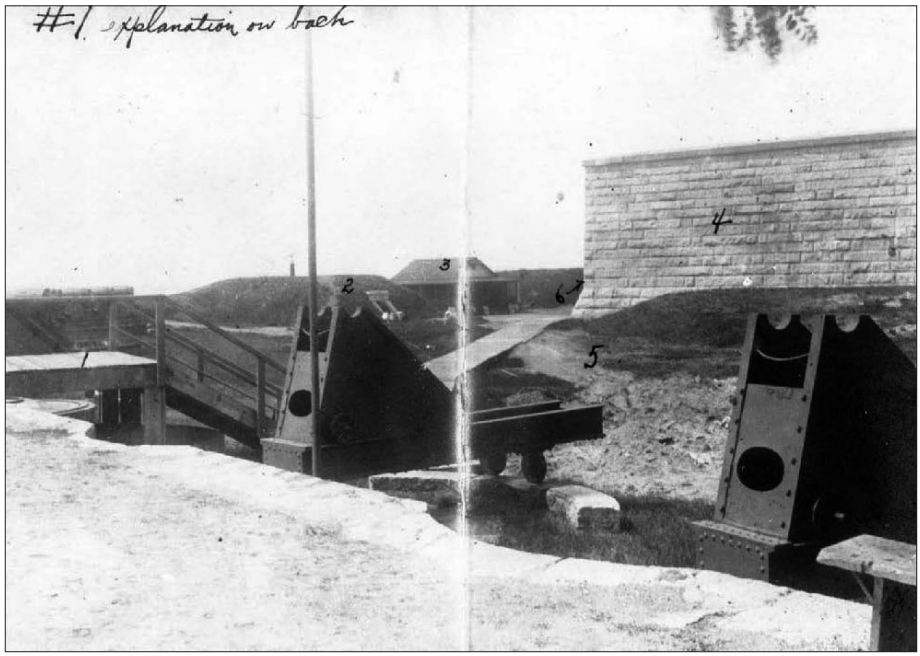

Figure 1.57. Image accompanying the Sedley Chaplin Quartermaster General report of 1905. Notes on reverse of this image indicate this as the route all visitors took to visit the statue, via the south-facing postern door. Note the timber stairs providing access over the steep embankment of the external battery, and the boardwalk leading to the south facing postern (National Archives I, RG92, file 177699).

Figure 1.58. Photograph, from stereocard c.1907, showing the continued ornamental presence of ordnance mounted behind the external battery. Background of photo shows timber stairs used by visitors to cross over the outer battery on the route to accessing the star fort and statue via the south-facing postern door (Library of Congress, 1S07429).

Major Sweeney described Liberty Island as being practically level, mainly composed of sand and "congested with buildings, except for two small areas, directly in the rear and directly in front of the Statue."[196] Photographs from the late 1910s and early 1920s document the density of building development throughout the island, with temporary barracks surrounding the fort walls (soon to be removed) and the newly filled area at the northwest occupied by two large warehouses.[197] With the wartime construction and the new warehouse and pump house, the island at the end of the First World War in 1919 held its greatest number and variety of buildings. A photograph from the north of the island shows the active work

then taking place on the already built-up island (Figure 1.60).

By November 1921, the Captain of the Signal Corps post reported to the Commanding General that the island's grounds were overall in good condition, with groundskeeping projects started and all the temporary war-time barracks razed, with the ground underneath leveled and seeded.[198] At the time of the 1921 report, a contractor was said to be, "razing the last building (hospital annex), on west side by statue" with plans that "when [the] contractor's work is finished this portion of the grounds will be promptly leveled and made presentable."[199]

By 1922, all temporary buildings had been removed as documented in aerial photographs, and attention turned again to accommodating island tourism (Figures 1.61 and 1.62). A memo from the Assistant Corps Area Inspector to the Commanding General noted that "toilet facilities for visitors are at present limited to the facilities available in the waiting room on the wharf. . . the toilet facilities are entirely inadequate with the result that visitors, particularly children, urinate all over the island "[200]

Renewed attention to visitor facilities reflected a wider general shift in the importance of the Statue of Liberty in the public imagination. The increasing attention the statue garnered during wartime as a patriotic symbol continued in peacetime. In 1924, President Calvin Coolidge chose the Statue of Liberty as one of five War-Department-managed areas to be formally designated as national monuments.[201] The outer walls of the star fort marked the boundary of the newly designated national monument area. However, this new designation did not alter the War Department's wider administration of the island.[202] Beyond the fort walls, the balance of the island continued to be occupied by military buildings arranged around a nearly triangular parade ground to the north of the star fort.

That same year, the Immigration Act of 1924 became law, significantly restricting immigration from Asia and many eastern and southern European countries.[203] As a result, immigration to the U.S. decreased by more than half between 1923 and 1925, returning to levels below twenty percent of pre-war tallies.[204] After 1924, far fewer immigrants encountered the Statue of Liberty on their arrival to the United States.

In 1925, responding to designation of the site as a National Monument, the War Department appointed William A. Simpson as its first civilian superintendent. Simpson and his small staff found themselves challenged due to growing numbers of visitors, concerns for public safety, and day-to-day caretaking of a physically deteriorating structure.[205] As Superintendent Simpson began his administration of the Statue, the War Department was experiencing a shortage of housing for officers stationed at nearby urban posts including Governors Island, the headquarters for the U.S. Army's Department of the East.[206] The Army responded by converting several existing buildings on Liberty Island to housing. Plans were prepared

to retrofit the long storehouse located near the east wharf into twelve apartments for married officers. By July 1926, four of these apartment units were ready for occupancy, and all twelve were complete by 1927.[207] The administrative and post hospital buildings that lay close to the star fort were also converted into dwellings for non-commissioned officers and their families.[208] The War Department likewise adapted the post bakery building, then standing between the post exchange and the east wharf, into similar housing units. [209]

Despite a 1926 letter to the Secretary of War criticizing the poor conditions of the north grounds, there was little restorative work apparent prior to 1931.[210] Aerial

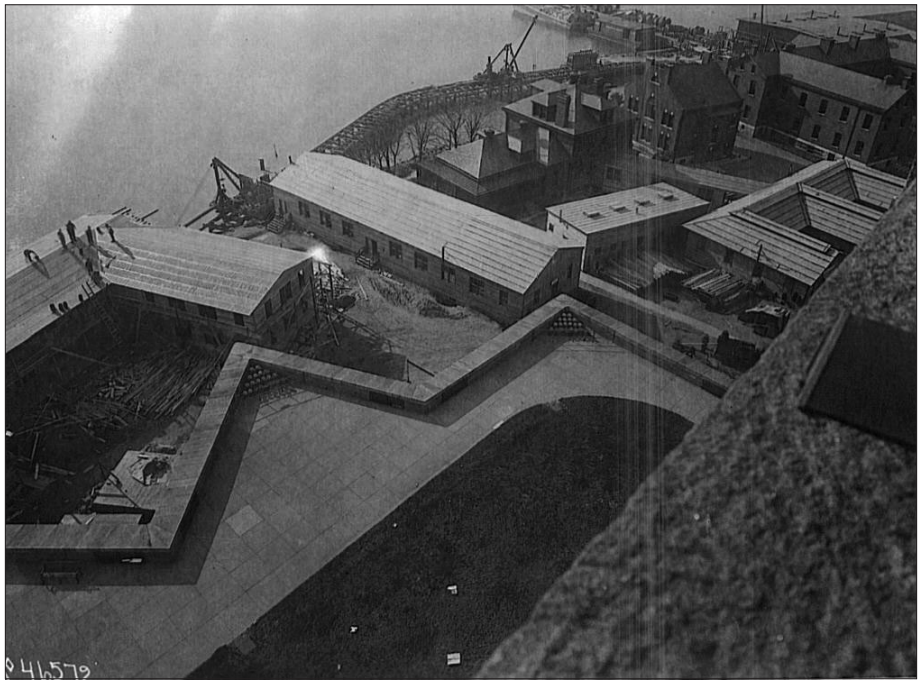

Figure 1.59. Photograph of seawall under construction with the use of cofferdam techniques c.1918. This Signal Corps photograph, taken from atop the pedestal, also shows short-lived WWI era barracks and storehouses, under construction at this time (National Archives II, RG 111, photograph 26572).

Figure 1.60. Photograph of brick quarters under construction along the northeast seawall, c.1920. The two long buildings seen at the center of this image would soon be removed in order to create a central outdoor gathering place to replace the central courtyard within the star fort, which was lost to the pedestal and statue (Library of Congress, 3a40761u).

photos of the island at this time show very little in the way of vegetation, with few trees and patches of worn turf (Figures 1.63 to 1.65). Encouraged by Superintendent Simpson, the War Department undertook minor renovations to the landscape immediately surrounding the statue and the fort walls during the early 1930s. This work program constructed much-needed new toilet facilities, as well as decorative brick-edged geometric flower beds on the turf embankment surrounding the pedestal, and a new exterior lighting system to improve the nighttime visibility of the statue from a distance (Figure 1.66). [211]

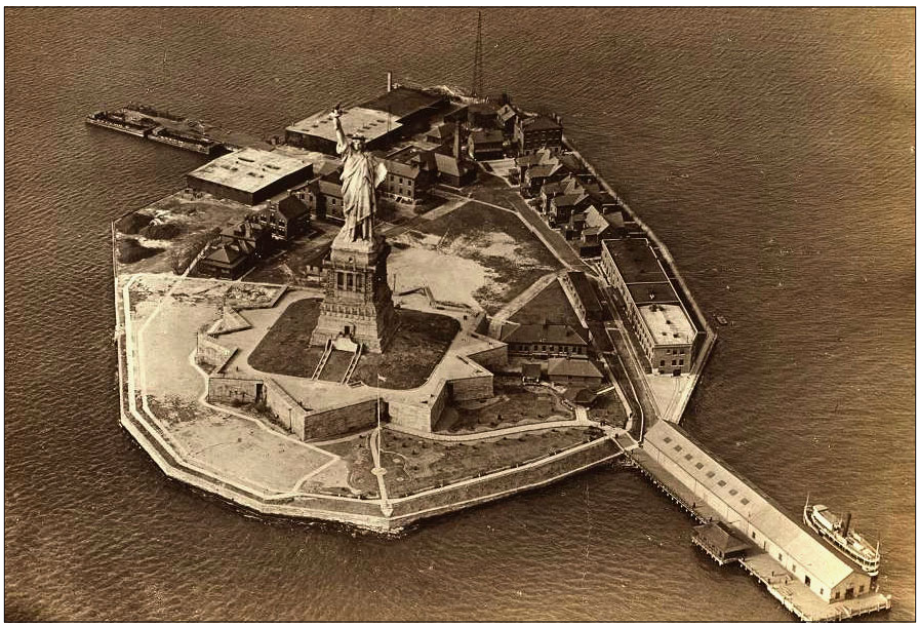

Figure 1.61. Post-WWI oblique aerial photo of Liberty Island, c.1920, showing the removal of temporary wartime structures near the statue base. At the southeast of the island, where those paying a visit to the statue would enter, shows landscape improvements, along with concessions and restrooms - attributed to Maj. Hamilton Maxwell, (National Archives).

Figure 1.62. Post-WWI Signal Corps photograph, c.1921, showing development of a central parade ground replacing the central gathering place inside the walls of the star fort, which had been lost to the pedestal and statue (National Archives, RG 111, 46552).

Reorganization of National Battlefields and Monuments

In June and July of 1933, President Franklin D. Roosevelt utilized the power established by his predecessor to reorganize the executive branch of the government.[212] This reorganization transferred historic sites from the Forest Service, the War Department, and the urban parks of Washington, D.C. to the National Park Service. Effective August 10, 1933 President Roosevelt's order made the National Park Service "the leading historical park management agency in the United States."[213]

As a national monument under the management of the War Department, management of the Statue of Liberty transferred to National Park Service. At that time, visitors remained confined to a small southern quadrant of the island, which offered limited facilities. The ferry service ran unreliably, the pier was deteriorated, the stairs were unsafe, and graffiti was widespread. The primary entrance at the south postern door into the star fort remained an awkward point of arrival, as this doorway had been designed for a purely defensive purpose and not for accommodating large numbers of visitors. Superintendent William Simpson, employed by the War Department, had done his best to make cosmetic improvements, but these measures could not disguise underlying problems.[214]

George A. Palmer took over responsibility from Simpson, becoming the first National Park Service superintendent of the Statue of Liberty National Monument. Palmer reported in 1934, "when I arrived the grass had not been cut, the hedge had not been trimmed, the flower beds were filled with weeds, and the Statue was dirty."[215] Palmer judged that "the Monument is not yet a fitting example of Park Service work"[216] His early efforts focused on addressing the most serious structural and safety problems and creating a modest, but improved visitor area in the small section of the southern end of the island that had been placed under National Park Service jurisdiction.[217] This work proceeded slowly in part because of the constraints of the Depression-era federal employment programs carrying out the work.[218]

The incompatible requirements of the Signal Corps, which shared the island with the National Park Service only complicated matters. In October 1933, shortly after the transfer of the national monument to the National Park Service, Chief of Design C.A. Peters outlined three major barriers to progress. These included high transportation costs, inadequate dock facilities, and shared control of the island. Peters believed the Department of the Interior should request jurisdiction over "the entire island for purpose of converting it into an appropriate setting for the Statue of Liberty. His memorandum argued, "the use of any part of the Island for utilitarian purposes is abhorrent to the conception and message of the Monument." Peters emphasized in his memo that comprehensive planning and development of the island could not proceed until the National Park Service controlled the entire island.[219]

Figure 1.63. Aerial photograph, 1924, US Army Air Service, indicating the poor condition of turf covering the triangular shaped parade ground, likely due to the intensity of use - U.S. Army Air Service, 14th Photo Section, Mitchell Field, Long Island, NY, (Statue of Liberty National Monument, Bob Hope Library).

Figure 1.64. Oblique aerial photograph, June 15, 1925, U.S. Army Air Corps (National Archive II, Still Pictures Branch,, Airscapes Program, 18-AA-92-37-ac).

While Superintendent Palmer concentrated on day-to-day operational issues, National Park Service officials in Washington were busy negotiating to acquire the entire island as Peters recommended.[220] In full agreement with Peters, Superintendent Palmer expressed to the Director of the National Park Service his view that:

> Eventually the entire Island must be under the jurisdiction of The Department of the Interior. The War Department has no common interest in the things for which the National Park Service stands. Dual jurisdiction on the Island greatly retards advancement of those things the service deems essential for the benefit of the public.[221]

In apparent response, Secretary of the Interior Harold Ickes wrote to Secretary of War George Dern, pressing his department's rationale.[222] Secretary Dern agreed with the proposal to close the military post "if Army housing accommodations could be provided elsewhere."[223] Thus, while the War Department senior staff

Figure 1.65. Oblique aerial photograph, March 27, 1927, U.S. Army Air Corps (National Archives II, Still Pictures Branch, Airscapes Program).

Figure 1.66. Oblique aerial photograph, c.1933, showing landscape conditions at the approximate time of the transfer of the national monument from the War Department to the National Park Service (Statue of Liberty National Monument, Bob Hope Library).

agreed in principle, bringing the Army's departure about required additional negotiation before reaching clarity regarding the details of the transfer.[224] As the question of jurisdiction lay unresolved, tensions between the National Park Service and the War Department on the island festered. The Annual Report from Superintendent Simpson for 1933-1934 related that "the foremost administrative problem facing the monument during the year was that of reaching a basis of understanding with the Army at Fort Wood at Bedloe's Island… [with] the chief unsettled problem in regard to the boundaries of the Monument."[225]

In 1934, the National Park Service turned its attention to the landscape, removing the ornate geometric planting beds from the turf around the statue's base, with Palmer disdainfully commenting that the flower beds would be more appropriate

for "a gas station along the highway" than for a national monument. Following the removal, Palmer replanted the terreplein level entirely with grass.[226] Superintendent Palmer consulted frequently with Verne Chatelain, Chief of the National Park Service Historical Division, who helped to develop early museum exhibits and interpretive programming. Yet Palmer's efforts, as those of his successors, were constrained by the ongoing need to provide crowd control with minimal staff.[227]

The statue's 50th anniversary celebration in 1936 brought new attention to the ongoing problems on the island. The celebration drew a large crowd, with President Franklin Roosevelt delivering a speech in front of the statue. This event, as well as early planning for the increased visitation anticipated in conjunction with the 1939 World's Fair focused attention on the island's overtaxed visitor facilities.[228] The year of 1936 also saw the Department of the Interior reopen negotiations with the War Department to transfer the entire island to the National Park Service.[229] The

Figure 1.67. Photograph of President Franklin D. Roosevelt giving an address on the fiftieth anniversary of the dedication of the Statue of Liberty, 1936 (Statue of Liberty National Monument, Bob Hope Library).

parties eventually agreed to the transfer, which was scheduled to take place the following year (Figure 1.67).

On September 7, 1937, President Franklin D. Roosevelt officially signed the Presidential Proclamation expanding the boundaries of the National Monument grounds to include all of Liberty Island. The Proclamation stated,

> . . .that the following- described lands in New York are hereby added to and made a part of the Statue of Liberty National Monument:
>
> All lands on Bedloe's [Liberty] Island, New York, not now a part of the Statue Liberty National Monument, including all islands and marginal submerged lands and such wharves, warehouses, and other lands as comprised Fort Wood prior to evacuation thereof as a military reservation. The Director of the National Park Service, under the direction of the Secretary of the Interior, shall have the supervision, management, and control of this monument as enlarged hereby.[230]

The departure of the military was originally planned to take place on or before September 7, but the deadline was extended to October. By October, most of the military personnel had departed, but the Signal Corps radio station remained in operation until December 23, 1941.[231]

1937 LANDSCAPE DESCRIPTION

On the eve of its transfer to National Park Service management in 1937, Liberty Island continued to reflect its dual uses as a national monument and as a military post and supply depot for the Signal Corps. Visitors to the Statue of Liberty were still confined to the southern end of the island, including the statue and its star fort base, as well as the open park-like area to the south of the fort. The rest of the island contained more than a dozen buildings that had supported Signal Corps and other military functions since 1905, including several officers' quarters, barracks, storehouses, an electrical powerplant, and a hospital, as well as various utility structures, roads, and paths (Figure 1.68).

Visitors arrived on the island at the wharf southeast of the statue. A long corrugated metal storehouse occupied nearly the entire length of the wharf. Also on the wharf was a wooden building providing shelter for those waiting for the ferry. From the wharf, visitors still approached the statue from the southeast, entering the fort through the south postern tunnel before climbing an internal stairway to the terreplein level. Around the statue's foundation, the void of the former parade ground had been filled with rubble and soil, and the statue and its stone-faced pedestal now sat on a square apron of turf grass, level with the terreplein and doming slightly up to the pedestal base. The pedestal was accessed from the terreplein via two parallel flights of granite steps that ascended the new turf apron on the south side of the statue. Exterior lighting illuminated the Statue of Liberty during the evening hours.

Outside of the fort walls, where the exterior battery had once been, was an open area of approximately two acres, with winding pedestrian paths and broad turf panels. This park area provided visitors an opportunity to walk around the statue and enjoy views of the harbor, Manhattan, Governor's Island, and other surrounding areas. A flagpole stood in front of the Statue, to the south, visible for a great distance down New York Harbor.[232] A concrete walkway, furnished with benches, ran along the shoreline at the top of the embankment from the wharf to the northwestern limit of the public area, before completing the loop behind the statue and returning to the wharf area. Created in 1907 and expanded following the removal of the temporary World War I structures in the 1920s, the park represented the first formalized outdoor visitor area intended to beautify the statue's setting.

On the east end of the park, at the head of the wharf, was a cluster of three buildings. A small cinder-block comfort station provided the only visitor restroom facilities on the island, and a one-story rectangular brick building that once served as a museum, concessions stand, and waiting room, now served as non-commissioned officers quarters. North of these two buildings was the former post exchange building, which had been converted to National Park Service offi ces. Also in this cluster was a hexagonal concrete pad marking the former location of a concessions stand.

North of the statue, more than half of the island was reserved for military use. A second wharf was located on the west side of the island, near two large, contiguous storehouses and a large concrete slab, the remnants of a recently removed storehouse. This area, abutting the western seawall, was highly utilitarian in character, facilitating uses that included an incinerator, pistol target range, and ash dump, and featuring cinder and cobblestone surfaces with little or no vegetation.

East of the storehouse area was a row of brick buildings that supported military uses, including (from north to south) the powerhouse, barracks, non-commissioned officers' quarters, and the hospital. Along the eastern shoreline was another row of officers' quarters, including a long rectangular building that had been converted from a storehouse. The military buildings primarily lined the outer edges of the island, leaving a roughly triangular open space at its center. Maple, poplar, pine, horse chestnut, and sycamore trees lined the macadam road on the east side of the parade along both sides of Officer's Row. The northern tip of the island contained a cluster of buildings that included more non-commissioned officers' quarters and utility buildings.

Cultural Landscape Report for Liberty Island

Statue of Liberty National Monument
New York and New Jersey

1937 Period Plan

National Park Service
Olmsted Center for Landscape Preservation
www.nps.gov/oclp

in partnership with
Department of Landscape Architecture
Center for Cultural Landscape Preservation
SUNY College of Environmental
Science and Forestry, www.esf.edu/la/cclp

SOURCES

1. "Topography," Statue of Liberty National Monument, 1937, (NPS eTIC drawing 356-6001).

DRAWN BY

James Mealey, Illustrator CC, 2021

LEGEND

- Building
- Concrete surface
- Macadam road
- Dirt, cinder surface
- Masonry seawall
- Concrete seawall
- Tree
- Grass
- Brick surface
- Wood surface
- Intertidal zone
- Water
- Narrow gauge railroad
- Iron guard railing
- Wood and wire fencing
- 1′ contours
- Feature removed during period (dashed)
- *Lorem ipsum* — Removed feature label (italics)
- (1892) — Date feature added during period

NOTES

1. All features shown at approximate scale and location.
2. Drawing shows landscape as of 1937.
3. Dates of construction/removal shown where known.

North

0 87.5 175 feet 350

Drawing 1.10

Earth-Covered Traverse Magazines (Removed and Used as Fill around Statue Foundation, 1907)
Former Shoreline, Modified ca. 1910–1919
Non-Commissioned Officers Dwellings (Built as Hospital, 1907; Converted 1927)
Non-Commissioned Officers Dwellings (Built as Admin. Building, 1907; Converted 1927)
West Wharf (1908)
Granite Housing over Staircases (1933)
Unidentified Building
Concrete Road (ca. 1919)
Dirt Road
Barracks (1908)
Concrete Surface (Former Warehouse Floor)
Flagpole
Statue of Liberty
Informal Paths (Removed ca. 1905–1908)
Radio Tower
Cobblestone
Intertidal Zone
Warehouse (ca. 1919)
Incinerator
Fort Wood Exterior Battery (Removed 1907)
Fort Wood (Modified 1907)
Dirt Path
Powerhouse
Cistern
Quarters
Garage
Tool-house
Masonry Seawall
Comfort Station
Barracks (Removed ca. 1920)
Unidentified Building
Narrow-Gauge Railroad (ca. 1908)
Wooden Bulkhead
Pump House (ca. 1919)
Ash Dump
Tennis Court
Radio Tower
Signal Corps Radio Station
East Wharf (1906)
Visitor Waiting Room (1907)
Brick Surface
Non-Commissioned Officer's Quarters (1906)
War Dept. Housing (Built as Bakery, 1907; Converted 1927)
Wood and Wire Net Fencing
Iron Guard Railing on Seawall
War Dept.Housing (Built as Post-Exchange, 1907; Converted 1927)
Captain's Quarters (1906)
Administrative Offices and Non-Commissioned Officer's Quarters (*Keeper's Dwelling, converted 1905*)
Apartments for Married Officers (Built as Storehouse, 1906; Converted 1927)
Unidentified Building
Quarters
Storehouse (1906)
NEW YORK HARBOR

Cultural Landscape Report for Liberty Island

Statue of Liberty National Monument
New York and New Jersey

1937 Digital Model
Plan View

ESF
State University of New York College of Environmental Science and Forestry

Olmsted Center for Landscape Preservation

National Park Service

National Park Service
Olmsted Center for Landscape Preservation
www.nps.gov/oclp

in partnership with
Department of Landscape Architecture
Center for Cultural Landscape Preservation
SUNY College of Environmental
Science and Forestry, www.esf.edu/la/cclp

SOURCES

1. "Topography," Statue of Liberty National Monument, 1937, (NPS eTIC drawing 356-6001).

NOTES

1. All features shown at approximate scale and location.
2. Model shows landscape circa 1937.

North

0 87.5 175 feet 350

Drawing 1.11

Cultural Landscape Report for Liberty Island

Statue of Liberty National Monument
New York and New Jersey

1937 Digital Model Oblique View

ESF
State University of New York College of Environmental Science and Forestry

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SOURCES

1. "Topography," Statue of Liberty National Monument, 1937, (NPS eTIC drawing 356-6001).

NOTES

1. All features shown at approximate scale and location.
2. Model shows landscape circa 1937.

North

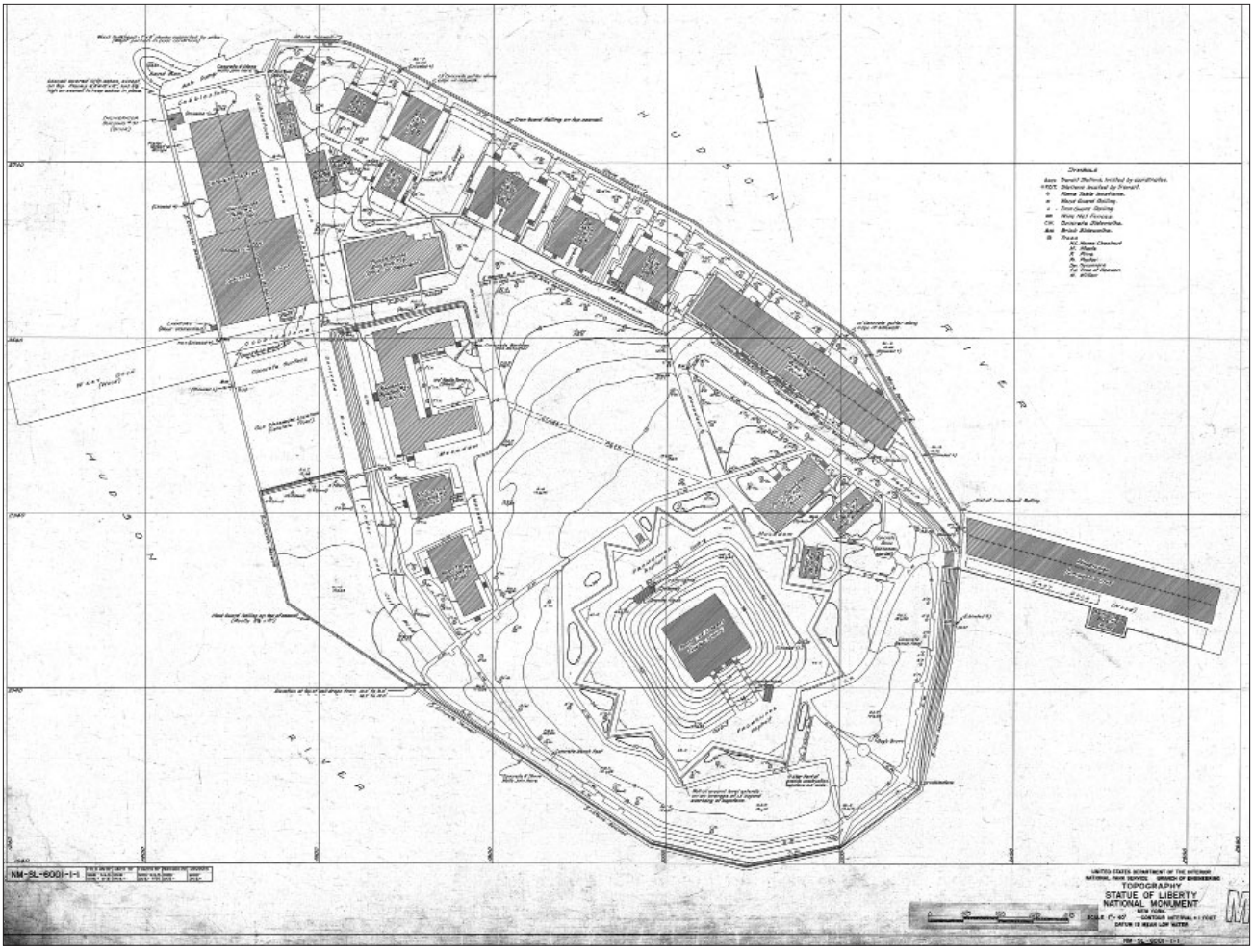
Drawing 1.12

REMAKING LIBERTY ISLAND: 1938–1956

The National Park Service began planning for the redesign of the island in advance of the transfer from the War Department. In April 1937, park administrators recommended that work begin on developing a master plan for the island. In response, Chief Architect Thomas C. Vint assigned Resident Landscape Architect Norman T. Newton "to design a comprehensive scheme for the whole of Bedloe's Island."[233] By mid-June 1937, those involved with Newton in the planning process had agreed on the major objectives for the master plan.[234] Preparatory work included creating a topographical map of existing conditions on the island and a study of "possible reuse of extant army buildings."[235]

As the master planning proceeded, initial site work commenced. By 1938, workers funded through the Works Progress Administration (WPA) had begun clearing debris and unnecessary small structures, especially near the statue, and repairing and rebuilding the seawall.[236] They also began clearing the island of larger military structures, removing the large warehouse next to the west wharf and the long warehouse and waiting room on the east wharf (Figure 1.69).[237] The east wharf was then partially re-decked, with a temporary structure erected there to provide

Figure 1.68. Survey drawing, 1937. This carefully prepared document, a reliable and accurate representations of existing conditions, was necessary following the transfer of the entire island to the National Park Service. The drawing was used as a basemap for the redesign of Liberty Island, which intended to render a more aesthetic landscape setting for the statue and plan for new facilities to better meet the practical needs of visitors (Statue of Liberty National Monument, Bob Hope Library).



shelter for a security guard.[238] Debris from demolished buildings was later used as fill.[239]

During this time, the United States Army continued to use a small portion of the north end of the island as a Signal Corps radio station. The Signal Corps operation occupied a non-commissioned officers' quarters at the northeastern tip of the island designed for two families. They operated the radio station and the two tall radio towers.[240] When National Park Service construction work began, the Signal Corps expressed concern over the lack of clear delineation between United States Army and National Park Service property and requested a more secure boundary.[241]

LIBERTY ISLAND MASTER PLAN

As early as 1918, the National Park Service required the development of comprehensive park master plans prior to design and construction of park facilities. The earliest park master plans were primarily budget documents, prepared by the park superintendents with technical assistance from National Park Service design professionals.[242] As Chief Architect, Vint developed a three-part planning process that included a narrative outline of proposed development, a general development plan showing the location and scope of proposed new park infrastructure, and a list of high priority projects to be completed over a period of six years.[243]

Park master plans were typically presented as a set of large-format drawings, illustrating both existing and proposed site conditions. These drawings were bound together with sheets containing narrative that provided a description of existing conditions, plan objectives, principles of development, general development program, utility recommendations, and cost estimates.[244]

Plans for historic and cultural sites required additional considerations. Unlike the large natural parks of the west, historic sites did not exist to preserve nature, as Vint explained, but rather "to preserve and protect the scene at one of the great moments in our national history, to stop the clock and hold the scene of the moment in history that makes the area important."[245] Plans for cultural parks required additional historic maps and interpretive work, prepared with assistance from experts in history and historic preservation.[246]

Vint initiated the master planning process at the Statue of Liberty by releasing a memorandum in October 1937, outlining key planning objectives. The memo outlined the design of a park-like setting that harmonized the buildings and structures with the environment, and where the statue provided an unambiguous focal point.[247]

The planning principles and values expressed in Vint's memorandum, and refined

during the course of subsequent planning meetings, would later serve as the basis for the park's master plan. These are summarized as:

> The island should be developed so that no other features would compete with the statue itself. The general effect should be that of the statue projected above a tree-lined island.
>
> All facilities for administration, housing and tourist accommodations should be outside the statue itself.
>
> The boat landing should be moved to the northwest corner of the island so that boats would pass around to the west side before landing, giving visitors an opportunity to view the statue from the front.
>
> Provision should be made for landing facilities for small private boats.
>
> The northwest shoreline of the island (near the proposed west dock) should be filled to provide additional area to locate support facilities.
>
> The main entrance to the statue itself should be through the north sally port, the original entrance to Fort Wood.
>
> The following facilities should be built: administration building, museum, comfort stations, dock and landing facilities, facilities for outdoor band concerts, employee quarters, utilities, and concessions.[248]

Figure 1.69. Oblique aerial photograph, May 24, 1939. With early concepts for the redesign of the island complete by 1938, this image documents the recently completed demolition of the large warehouses formerly located on the island's western shoreline, as well as the long warehouse, formerly atop the wharf projecting to the southeast (National Archives II, Still Pictures Branch, Airscapes Program, RG18-AA-93).

Planning Team

The planning effort at Liberty Island was led by Resident Landscape Architect Norman T. Newton. Newton began his career as an aviation cadet in the U.S. Marine Corps before completing two degrees in landscape design at Cornell University."[249] Following his graduation, Newton applied for and was awarded a fellowship to study at the American Academy in Rome for three years, gaining first-hand exposure to classically designed gardens and urban spaces.[250] He opened his own design firm in 1932, consulting often with the Bronxville Civilian Conservation Corps.[251] Newton worked as an associate landscape architect for the National Park Service from 1933 to 1939, with projects including Saratoga National Historical Park, Salem Maritime Museum, and Liberty Island.[252]

Vint, who by 1938 had become the National Park Service Chief of Planning, provided managerial oversight, along with Regional Landscape Architect V. Roswell Ludgate, who was stationed in Richmond, Virginia. Other team members included District Architect J.S. Pierpont, who had primary responsibility for the architectural work, Assistant Architect Stephen Atwood, and gardener Martha Grange, who oversaw the day-to-day labor of workers funded by the WPA.[253]

There was also a hierarchy of National Park Service management. In addition to Oswald Camp, who had replaced George Palmer as Superintendent of Statue of Liberty National Monument in 1937, Elbert Cox of the newly established Morristown National Historical Park was appointed Coordinating Superintendent for the area. Staff advisors with a role at Liberty Island also included Verne Chatelaine, National Park Service Chief Historian, and many others.[254] Outside advisors participating in early planning for Liberty Island included landscape architect Gilmore Clarke, Chairman of the Commission on Fine Arts, and Allyn R. Jennings, General Superintendent of the New York City Department of Parks.[255]

The Master Plan

While Vint had outlined the key programmatic objectives of the Liberty Island landscape, the broader design vision was developed and articulated by Newton. His plan elevated the visitor's experience of the statue above all other site-planning concerns, subordinating elements that might distract from the obvious central feature of the island. It imposed a prescribed order to visitation, intending to provoke an emotional response. The symmetrical plantings framing the Statue, sparse site furnishings, and minimal architectural ornamentation were meant to compel visitors, without distraction, to an appreciation of their personal liberty. These fundamental principles were consistently articulated throughout the master plan narrative.[256]

> The Statue of Liberty is, in a most profound sense, a shrine to American freedom. It is visited daily by thousands of citizens, most of whom are not residents of New York City. Before it can be hoped that these visitors will approach

> the statue with a mental attitude properly attuned to its lofty symbolism, the cramped squalor of the present surroundings must be replaced by a setting of appropriately well-ordered dignity. It is clear that simplicity, rather than ostentation, will be an essential quality of such an environment.[257]

The primary aim of the plan was to improve the experience of moving to, and through the site. Essential to this goal, according to Newton, was moving the arrival point from the southeast corner of the island to the northwest, which allowed visitors to walk the full length of the island before reaching the statue.

> Instead of landing at the present unsightly pier in the shadow of the great structure, the visitor of the figure will go around the front of the Statue on the ferry and obtain the view of it from the water that the sculptor intended. [They] will land at a new pier far enough from the Statue to realize its size and beauty. [They] will proceed along landscaped walks to a new main entrance, now partly constructed, using the principal entrance to the old fort which is the base of the Statue… On [their] way back to the ferry, [the visitor] will be able to pause at the flagpole plaza and view the matchless skyline of Manhattan framed between trees. Still further along the way, [they] may stop at a refreshment and souvenir stand and visit an information booth with displays on the history and meaning of the Statue of Liberty. Other buildings will be concealed by trees and shrubbery.[258]

The design itself was based on Beaux-Arts principles, stressing geometry, axial relationships, and vistas, and incorporating elements of both French and Italian landscape styles. Beaux-Arts formality was frequently employed in the late nineteenth and early twentieth century in association with monumental architecture and in designs for important civic spaces.[259] Both Vint and Newton were fluent with the Beaux-Arts design vocabulary from their studies abroad.

The design was organized around two intersecting axes. Visitors arriving at the new dock would proceed along the minor axis called the Approach Mall, a relatively narrow paved space lined with plane trees (*Platanus* x *acerifolia*). The view from this mall was directed northeastward toward lower Manhattan, while the statue was deliberately obscured. When visitors reached the plaza at the intersection of the axes, they were presented with a dramatic view of the statue from the rear. This view was framed by the Main Mall, which served as the landscape's primary axis. The Main Mall featured broad rectangular turf panels flanked by pedestrian promenades. Low seat walls separated the mall from the adjacent lawn areas, while plane trees enclosed the space[260] (Figures 1.70 and 1.71).

Specific elements of the plan included:

Water Approach to Liberty Island

Tour boats would travel around the south side of the island, so visitors would have a frontal view of the statue, "comparable to the one that greets incoming ships."[261] To accommodate this change, a new pier was planned at the northwest corner of the island.

Land Approach to the Statue

The new pier would allow visitors to arrive via a pedestrian avenue defined by trees and walls at a spacious main plaza, from which the view of the statue was "well related to its majestic proportions." The statue itself would be approached along a broad central mall, again defined by trees and walls, which would lead to the north sally port, described in the plan as "an architectural entry of real force and character."

Building Requirements

The plan recommended removal of all existing military structures except the star fort, and their replacement with new purpose-built park buildings. Planned National Park Service buildings included staff housing, space for interpretation, administrative offices, concession and dining areas, utility buildings, first aid, comfort and waiting areas, and storage. A key premise was that these buildings "remain subservient to the architectural dominance of the Statue and accordingly that they be made a part of the design as inconspicuously as possible."[262]

Although long-term plans for Liberty Island called for "demolition of all buildings that existed outside the walls of Fort Wood in 1937," the National Park Service needed to keep some structures out of practical necessity.[263] Those buildings so indicated in the master plan included the Non-Commissioned Officers Quarters building between the Post Exchange and east wharf to be "used temporarily for concessions, public waiting room, and [to house a] small museum."[264] Other buildings retained temporarily included the Post Exchange building for office and storage space, the comfort station near the pedestal's base, and the incinerator and pump house located at the northern end of the island.[265]

Newton recommended against altering Hunt's masonry pedestal, commenting, "I would not contemplate any change to the external design of the pedestal for I believe its values of association and sentiment are more than sufficient to offset whatever justification might be made of the actual architecture."[266]

Enlargement of the Island

The National Park Service concluded that it could not meet the program requirements presented in the master plan within the existing confines of the island, proposing to expand the northwest shoreline of the island to accommodate the new facilities.[267] Several rough sketches show the areas proposed to receive fill (Figure 1.72).

Vegetation

The 1937 plan called for the removal, over time, of all existing vegetation and the improvement of existing soils through tilling compost and other soil amendments into the soil profile.[268] New plantings of trees were specified as American Plane

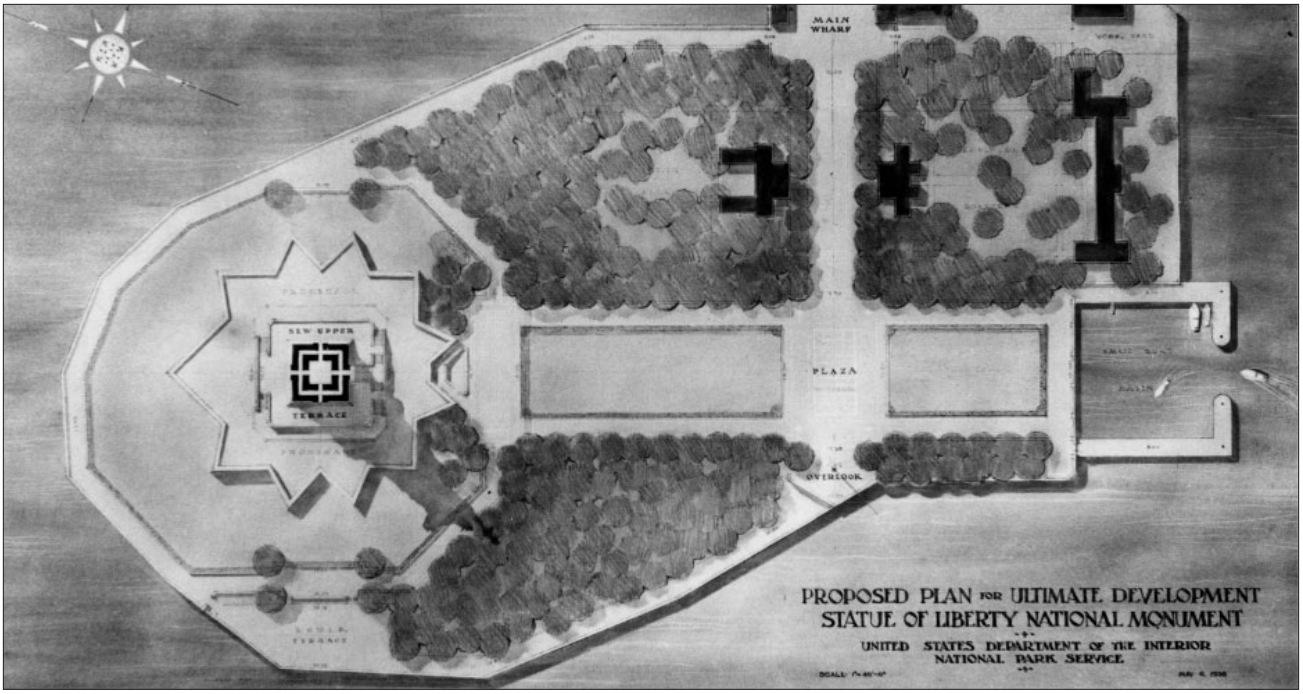


Figure 1.70. "Proposed Plan for Ultimate Development – Statue of Liberty National Monument, May 6, 1938." This new design fashions a neoclassical landscape setting to complement the statue, prescribing a processional way subordinating all other buildings and landscape elements to the primacy of the statue. Neither the small boat basin, nor the turf panel north of the cross-axis would ever be realized (Statue of Liberty National Monument, Bob Hope Library).

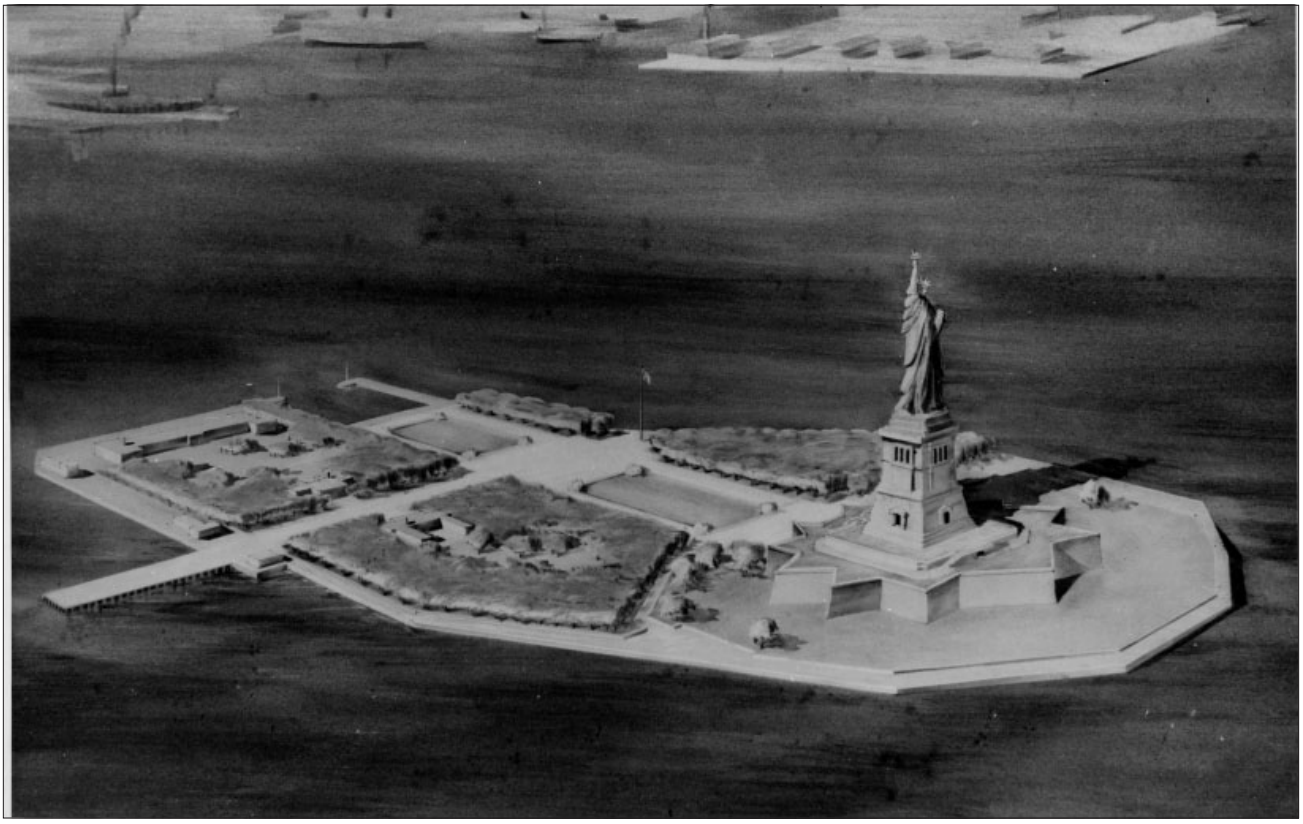


Figure 1.71. Architectural rendering of the 1938 National Park Service Master Plan for Liberty Island published in a 1940 visitor guidebook. All of the former military buildings are shown removed, with proposed new visitor infrastructure and park housing lacking ornament and visually unremarkable in order to place emphasis on the statue (Statue of Liberty National Monument, Bob Hope Library; http://npshistory.com/brochures/stli/1940/sec1.htm).

or Pin Oak, with turf covering open, unpaved spaces. Practical and aesthetically unremarkable ground cover plantings were to be of shade-loving English Ivy or Periwinkle, bedded out in panels flanking the main pedestrian avenues, or where it was otherwise difficult for turf to thrive. Hedges of hardy Japanese Yew or Amur Privet were to be deployed to border pedestrian avenues, or otherwise wherever desirable to control unwanted foot traffic. [269]

IMPLEMENTATION

After the initial site work completed by the WPA in 1938, work got underway in earnest with the formidable task of removing the physical remnants of the military presence from the island, clearing the slate for the new design (Figure 1.73). During 1939 and 1940, warehouses, brick barracks and officers' quarters, roads, sidewalks, utilities, and the tennis court were removed, along with the mature poplar trees standing near the seawall and other mature vegetation(Figures 1.74 to 1.76).[270] Two non-commissioned officer quarters remained on the eastern shoreline, adjacent to the former site of the demolished large warehouse. These waterfront dwellings continued to be used to house National Park Service staff until 1956, when they were finally removed.

Beginning in the spring of 1940, additional fill was added after the United States Army Corps of Engineers approved a permit to fill an area on the northwest shoreline "with non-erodible materials."[271] These non-erodible materials likely contained a large amount of debris from building demolition (Figure 1.77). The new land created by this fill provided additional area for the arrival plaza and Approach Mall, as well as utility and housing structures on the north end of the island. It also sparked a controversy between New York and New Jersey over jurisdiction of Liberty Island that remains today.

With the military buildings removed and the area regraded, the circulation routes and the turf panel belonging to the Main Mall were staked out, and the lawn areas were seeded. Grading the circulation and the mall areas was largely completed by 1941, although these new pathways had an unfinished appearance, as final paving and planting were not completed until after the war. The south end of the island around the granite walls of the star fort was also regraded and reseeded. At the north of the island, construction began on new administration and concessions buildings (Figure 1.78). These buildings were also completed by 1941, although they were not immediately put to use. The statue and pedestal underwent alterations in 1941 as well, with a new granite staircase added to the entrance at the north sally port.[272]

Workers made repairs to the existing pier and used excess funds to construct "retaining walls along the walks, steps in the walks and . . . approach steps at the entrance of the statue."[273] Plans for future construction work included walkway

surfaces, irrigation and drainage systems, demolishing several remaining buildings, and regrading the area where they had previously stood.[274]

Some elements of the plan took longer to realize. There were problems with dredging a channel of sufficient depth permitting large ferryboats to dock at the west side of the island. While the plan was largely unfolding as intended, during the process of construction, there were constant pressures to make revisions that would compromise the clarity and simplicity of the design. An early example of this was a museum building proposed in 1941 that if completed would have blocked the view of lower Manhattan from the Arrival Mall.[275] Associate Landscape Architect Walter Ewald registered an articulate protest:

> The ideology in back of the creation of this axial view was to present the visitor first setting foot on the island at the new pier an inspiring view of the major gateway to the new world- New York, with its opportunity, aspirations and wealth! To place a minor structure in the pier-plaza at the end of the pier, obstructing the view along the cross-mall and the New York Harbor ship channel would at once nullify this basic conception and create a structural barrier, psychologically reminiscent of Ellis Island, at the very entrance, where a feeling of invitation and inspiration were striven for in planning."[276]

While significant progress was made between 1938 and 1941, work was not completed before labor and funding were redirected to prepare the United States for war. By the end of 1941, the planned redevelopment of Liberty Island was beginning to come into focus at its southern half, but the northern portion of the island

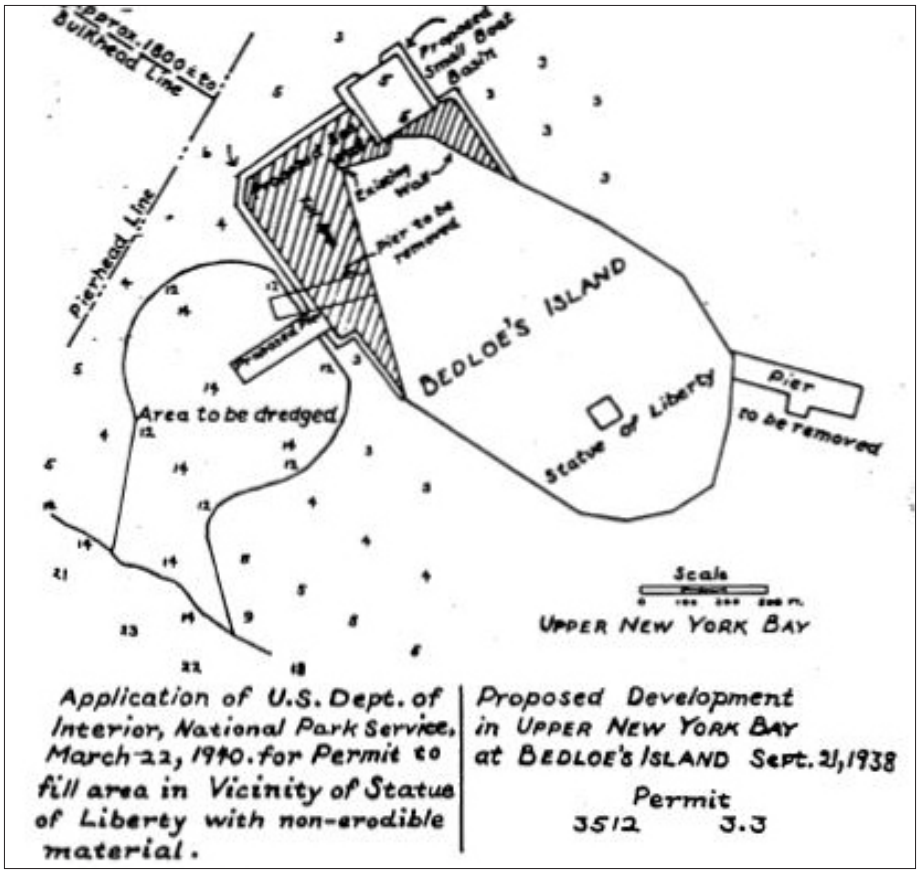


Figure 1.72. Diagram showing areas to be dredged and filled. By 1940, the broad outlines of an ambitious new landscape design for Liberty Island were sufficiently developed to apply for a Army Corps of Engineers permit to both dredge the channel to a new western wharf, and for the placement of fill material behind reconfigured seawalls. (from Perrault, 1984).

Figure 1.73. Oblique aerial photograph March 11, 1940, showing extensive demolition work underway that spring (National Archives II, Still Picture Branch, Airscapes Program, RG18, AA-92-25).

was unfinished (Figure 1.79).[277] After the December 7 Japanese attack on Pearl Harbor and the United States declaration of war, work halted as funds and labor became exclusively directed toward the war effort.[278]

World War II on Liberty Island

World War II activity redirected resources not just from Liberty Island, but from across the entire National Park Service. Before the war began, the National Park Service employed 6,500 people and worked within an annual budget of $30 million. By the war's end the staff numbered 1,500, operating within an annual budget of $4.8 million.[279] Staffing levels declined in large part due to enlistments, with National Park Service offices moving to Chicago in order to make space available in the nation's capital for administration of the war effort. The National Park Service worked to do its part to support the war, while resisting opportunistic proposals for wartime mining, logging and other resource extraction that would have irreparably harmed park lands. Instead, national parks opened as healing spaces and training areas for soldiers, as well as places for the military to conduct operations.

At the Statue of Liberty, the National Park Service reduced staff to a minimum, and restrictions on wartime travel curtailed public visitation. In February 1942, the Signal Corps relocated their radio station from Liberty Island to Governors Island, and by May 1942, they had dismantled the Liberty Island radio towers.[280] In 1943, the Coast Guard established an observation post using space inside the Statue of Liberty's masonry pedestal and base.[281] This observation post would remain in place until well after the war's end, finally removed in late 1949.[282]

Figure 1.74. First photograph in a sequence documenting the demolition and landscape restoration of Building 16, a multi-unit apartment dwelling, August 7, 1939 (Statue of Liberty National Monument, Bob Hope Library).

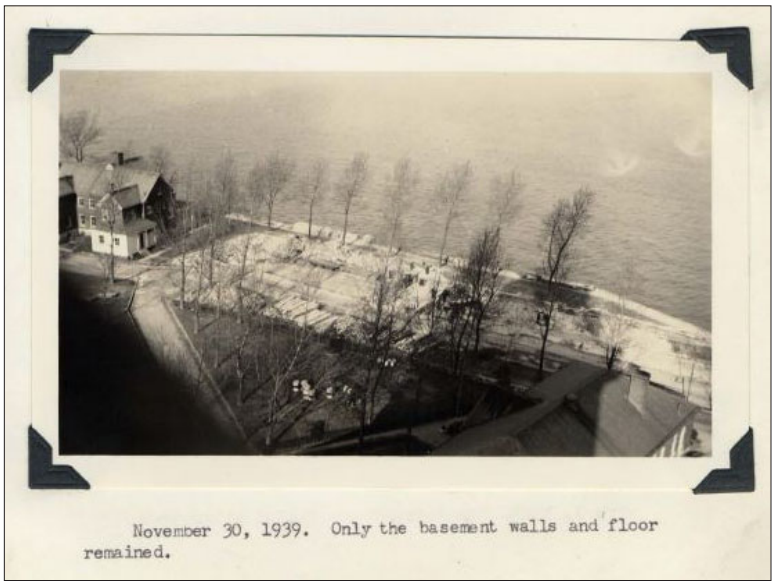


Figure 1.75. Demolition sequence, Building 16, Nov. 30, 1939 (Statue of Liberty National Monument, Bob Hope Library).

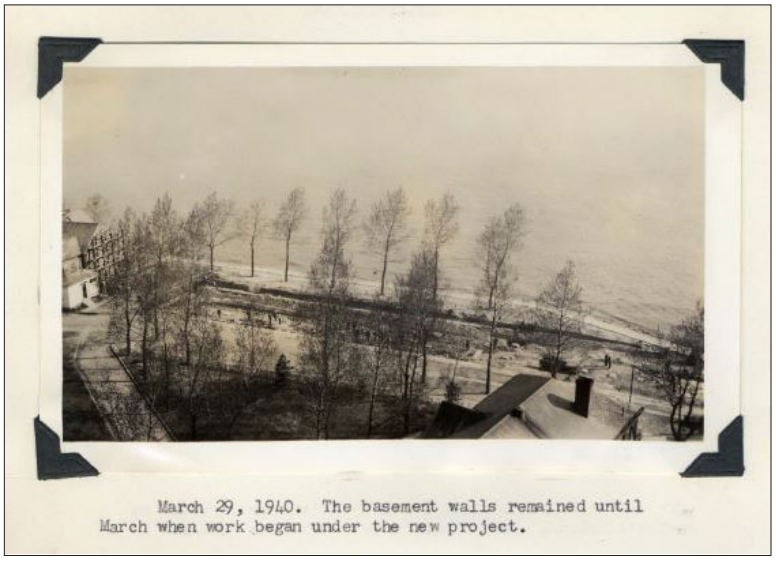


Figure 1.76. Demolition sequence, Building 16, March 29, 1940 (Statue of Liberty National Monument, Bob Hope Library).

Figure 1.77. Photograph from progress report, March 29, 1940. The caption references a controversy over jurisdiction of Liberty Island that remains to this day (Statue of Liberty National Monument, Bob Hope Library).

POST WAR DEVELOPMENT

The conditions of the statue and the grounds of Liberty Island suffered significantly during the Second World War, impacted by the minimal resources available to maintain the facilities during those years combined with what was essentially a construction site that was halted mid-project. While the majority of the old military buildings had been demolished, not all of the demolition debris had been removed from the island (Figure 1.80). The administration and concessions buildings had been completed before the war, as had the general shaping of the malls and plaza, but vegetation had not yet been installed, and no adequate services had been established. The conditions of these facilities, both new and old, deteriorated during the period of inattention. Walter Hugins, in his administrative history of the island, describes the post-World War II landscape conditions:

> The old east pier where visitors landed was a dilapidated and hazardous eyesore. The western end of the island remained closed to the public, for it was covered with rubble remaining from the unfinished demolition work of the WPA period. The only buildings in use in that area were the recently constructed administration building and the two quarters buildings dating from Army days; the new concession building was used largely for storage."[283]

A 1947 report by the *New York Herald Tribune* stated the island was "a national disgrace," "bleak and dismal," and "barren and undeveloped."[284] This account explained that "the 'meager facilities' and several remaining 'broken down buildings' on the island were inhospitable to tourists and visitors."[285] *The New York Times* published similarly disapproving reports, opining that the statue was "standing in a slum."[286] Congressman Ellsworth Buck of New York visited in 1948 and com-

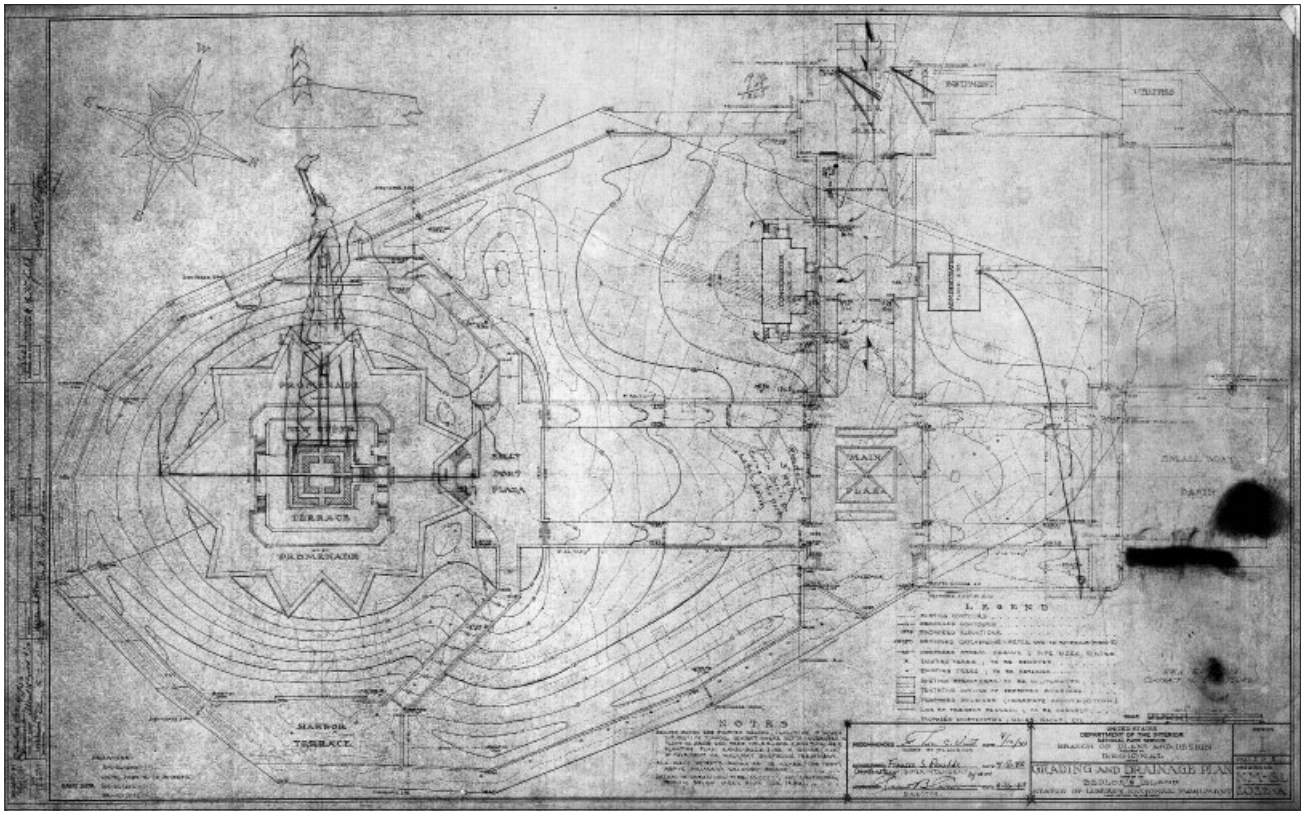


Figure 1.78. "Grading and Drainage Plan, Bedloe's Island, Statue of Liberty National Monument," Drawing NM-SL-2022-A, April 1940. This important drawing superimposes the proposed landscape design, including topographic contours, over site conditions documented in the 1937 survey. Existing topographic lines are dashed and proposed topographic lines are solid. The review tab on the left edge indicated the scheme was designed by Newton and Fay in February of 1940, with approvals by Albert H. Good, April 10, 1940, and final approval by the Director Arno B. Cammerer on April 16, 1940 (Statue of Liberty National Monument, Bob Hope Library.)

mented that "Liberty is disgraced and demeaned by the inexcusable neglect and squalor about her."[287]

Work on the implementing master plan finally resumed in 1948. Priorities included removing the remaining debris and legacy structures, completing the new entrance to the statue at the north sally port and addressing condition issues within the statue and its base, and constructing new quarters for employees. The northwestern corner of the island where the ferries were to arrive would be filled and an new arrival pier constructed, and the protective seawalls repaired and extended. Finally, the landscape plan was to be completed by planting trees, grading and reseeding lawns, establishing a new system of walks and promenades, and installing site furnishings, seat walls, lighting, and other utilities.[288]

Development proceeded steadily between 1948 and 1952, largely in accordance with the 1939 master plan, although by this time the proposed boat basin at the north end of the island had been eliminated from the plan, necessitating some changes at the north end of the Main Mall (Figure 1.81).[289] The paved area originally planned at the intersection of the two pedestrian malls was replaced with a grass panel surrounded by planting beds. The employee housing had also been reconfigured since the early plans.[290]

By September 1951, filling on the shoreline surrounding the new west pier was completed, bringing the island to its present area of 14.1 acres.[291] With the completion of the new pier, visitors aboard the ferry could pass in a dramatic arc around

Figure 1.79. Oblique aerial photograph, October 28, 1941, showing progress to date toward remaking the Fort Wood military post as a unit of the national park system. Note the hand drawn annotation indicating work yet to be completed on the eve of United States' entry into World War II (Statue of Liberty National Monument, Bob Hope Library).

Figure 1.80. Historic photo of Liberty Island, 1948, showing dilapidated buildings and debris on the northern portion of the island. The new design remained incomplete in December 1941, and no progress was made on implementing the master plan during World War II (Statue of Liberty National Monument, Bob Hope Library).

the south side of the island in front of the statue prior to landing.[292] Disembarking, visitors followed broad new walkways on their dramatic procession to their encounter with the statue. Carole Perrault described in her unpublished report

for the National Park Service on "Liberty Island's Physical Conditions and Appearance of the Island, 1871 to 1956," that "the area behind the statue was newly landscaped with more than 550 trees and shrubs [with] an additional thousand trees and shrubs… scheduled to be planted later that fall."[293] The turf panels on the mall areas were re-seeded, the main avenues and perimeter paths were surfaced with broom-finished concrete, and the northeast and southeast lawns were planted with London plane trees and sycamore trees.[294]

On the north end of the island, behind the administration building, a residential complex of four employee quarters and a superintendent's residence was constructed, along with associated walks and facilities. These new residential buildings joined the two remaining Army buildings, former officers' quarters on the east side of the Main Mall, providing staff housing on the island.

In January 1952, Superintendent Foster wrote to the Regional Director of the National Park Service, reporting on the improved visitor experience on the island,

> We believe you will be as pleased to learn of… the many compliments which are now paid the Service by visitors of the Monument… the interior of the pedestal is the best we have seen it. The new rest rooms compare favorably with any public rooms in the City. The stains on the wall tile and terrazzo, the result of ten years in a standby status, have disappeared through regular daily washing and these rooms shine. The public lobbies in the Administration Building and in the concession building are neat, attractive and appointed with comfortable chairs and benches, which are in use, and duly appreciated by the visitors.[295]

The following year, the perimeter walks from the West Pier around the statue and to the employee's quarters were completed.

The final major activities associated with the implementation of the master plan were the demolition in 1956 of the two army dwelling that had served as personnel housing before the new units were built and the construction of the utility building west of the Administration Building later in 1957.[296] Seventy years after

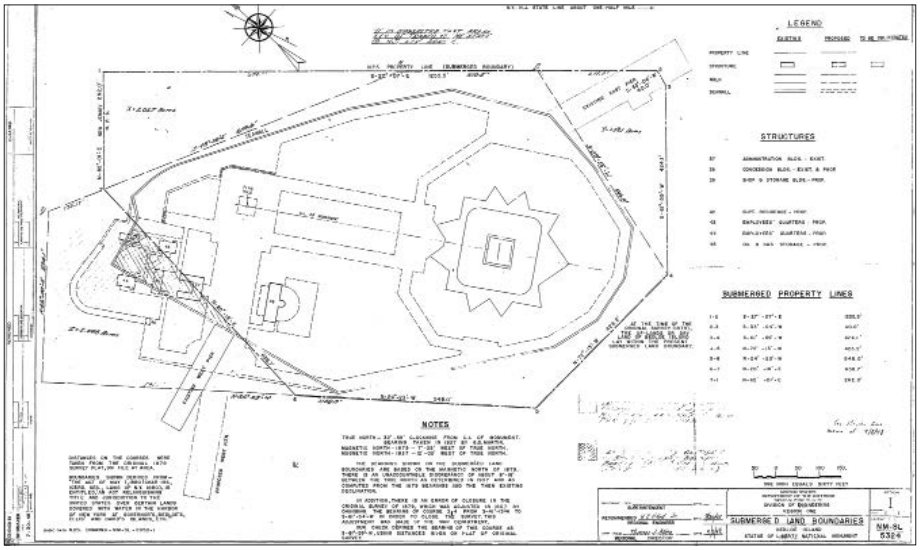


Figure 1.81. "Submerged Land Boundaries," 1948. This drawing shows the post-WWII existing and proposed outline of the island. Note that by this time, the proposed small boat basin at the north of the island had been omitted. (National Park Service, LandsNet)

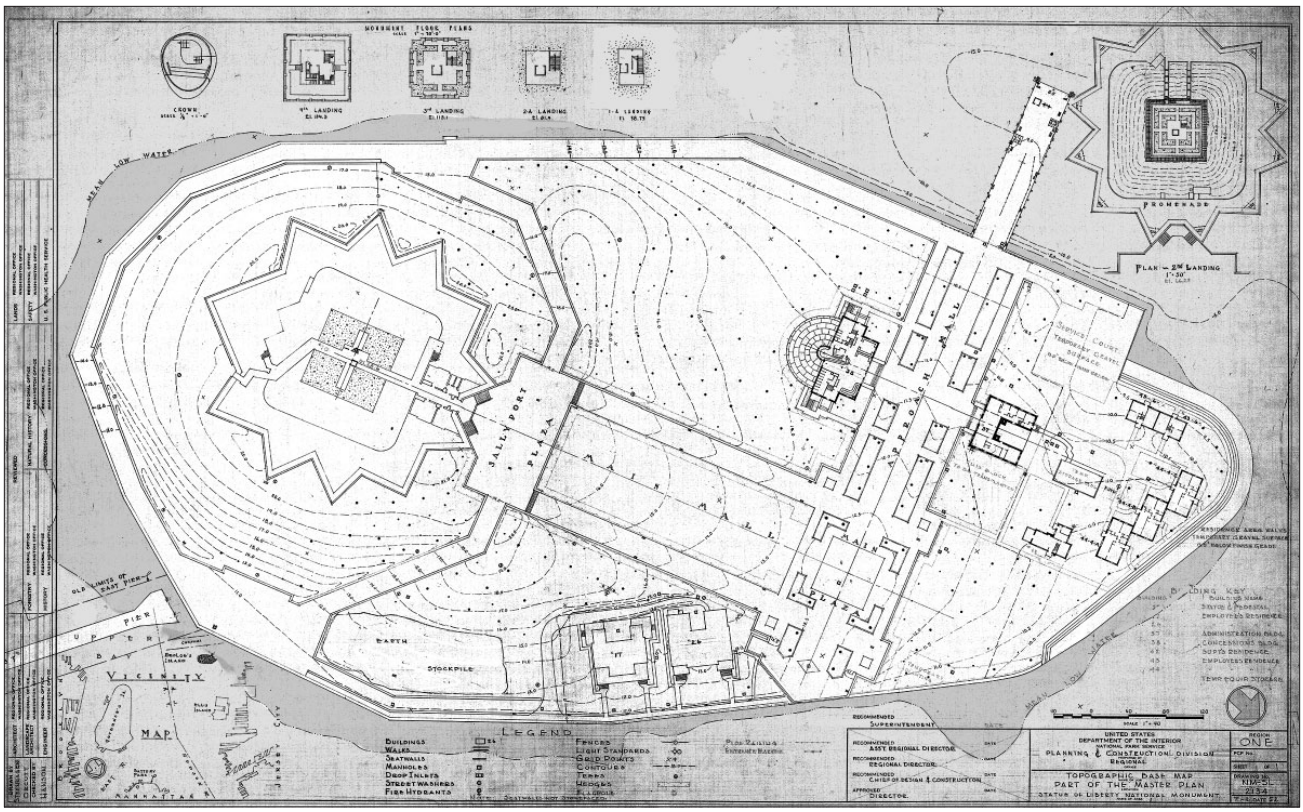


Figure 1.82. "Topographic Base Map," Drawing NM-SL 2134, 1952. This drawing, prepared during the Korean War, shows the new arrangements for park staff housing, placed at the north end of the island. At the time of this drawing, two former Army officer's quarters remained in place along the island's eastern shoreline. (NPS Denver Service Center, eTIC)

Figure 1.83. Oblique aerial photograph, July 14, 1955. With the exception of the continued presence of two Army officer's quarters on the eastern shoreline, key elements of the master plan developed prior to WWII had been implemented. Note the presence of a tall privacy wall or screen separating public space from the residential and service area at the northern part of the island (Statue of Liberty National Monument, Bob Hope Library).

its initial construction, "Liberty Enlightening the World" was about to acquire an appropriate landscape setting. To punctuate the transformation from a cluttered and disparate collection of military, utility, and industrial structures to a unified landscape befitting the monument to liberty and American ideals, in 1956 the island was officially renamed Liberty Island.

1956 LANDSCAPE DESCRIPTION

By the end of 1956, Liberty Island reflected the landscape setting envisioned by Norman Newton nearly two decades earlier (Figures 1.82 and 1.83). Although during the summer of that year, two former U.S. Army officer's quarters dwellings had yet to be torn down, the Statue of Liberty remained standing on watch on its pedestal above the fort walls at the island's south end, looking out toward the mouth of the harbor. Arrayed about it was a neoclassical landscape of broad malls, paved promenades, geometric turf panels, allées of trees, and clipped hedges. Two large buildings served administrative and visitor services functions, and a cluster of residential structures provided staff housing at the north end of the island. The broad areas of lawn and the young plantings gave the landscape an open character, with ample views of the statue and of surrounding metropolis.

The primary organizing elements of the landscape were the two perpendicular intersecting axes created by the Approach Mall and the Main Mall. The Approach Mall extended across the short side of the island, connecting the visitor pier on the southwest side with an overlook plaza featuring a flagpole on the northeast side. This axis was aligned with the Battery on the southern tip of Manhattan, providing framed views of the skyline. An allée of London plane trees (*Platanus* x *acerifolia*) planted within turf panels flanking the paved center of the Approach Mall, and two smaller paved walks extended along the outer sides of the allée.

The Main Mall was oriented northwest to southeast, transiting the long dimension of the island. The south terminus of this axis was the statue itself, the island's dominant feature and clear focal point. The Main Mall was about the same width as the Approach Mall overall, with a broad, turf panel running down the center and two flanking paved promenades. Each promenade was lined on both sides with yew hedges and bordered on the outside by an orderly row of plane trees.

The Main Mall terminated at the Sally Port Plaza, a rectangular terrace elevated above the level of the Main Mall and accessed by steps. The Sally Port Plaza provided direct access to the statue's main entrance through the star fort's historic sally port, as well as to the pedestrian wing walks, interior pathways embracing the fort's walls. The intersection of the Main Mall and the Approach Mall was a square plaza, with a square turf panel at its center and four L-shaped turf panels at the corners. The L-shaped panels contained two plane trees each, in line with the

Main Mall axis.

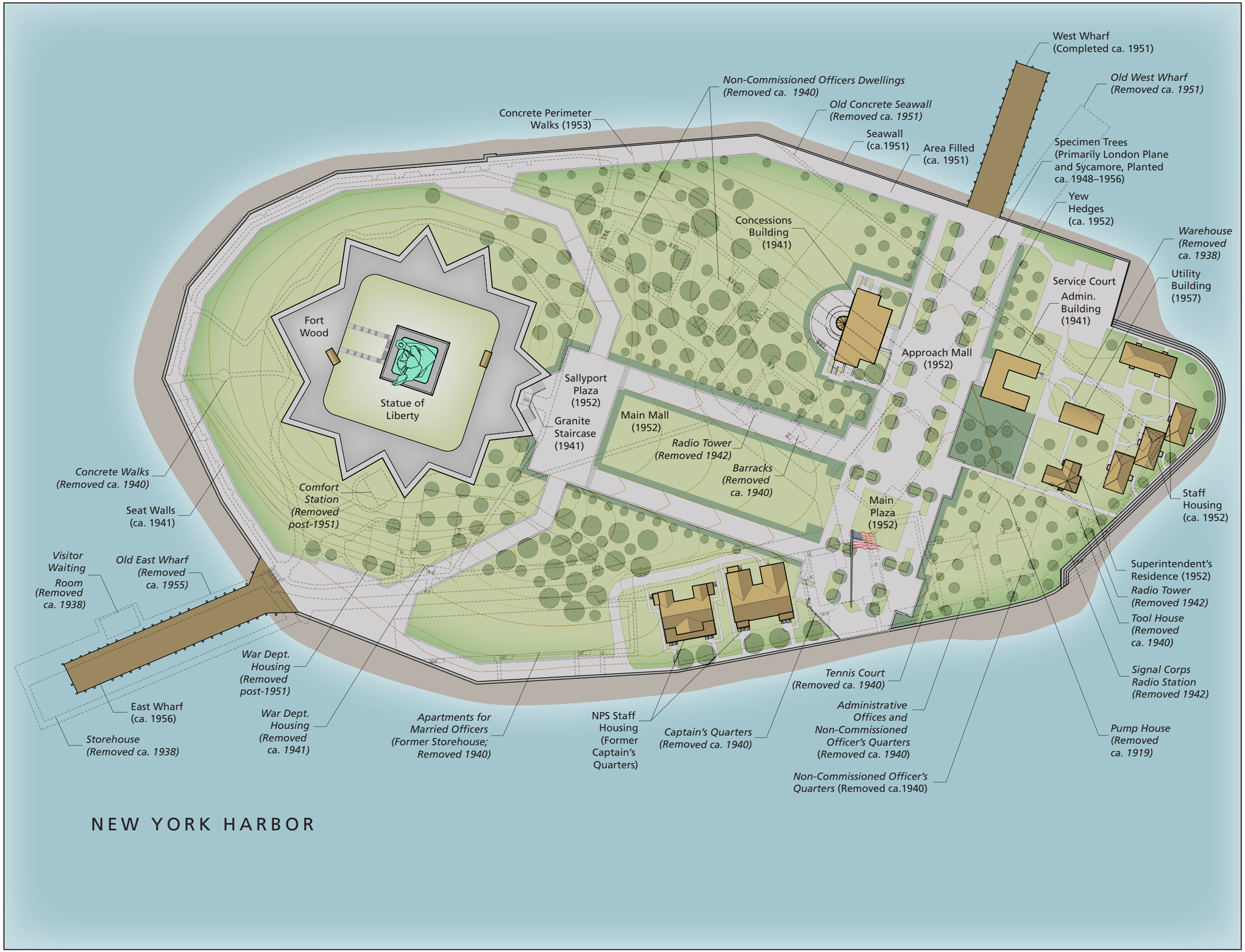
Two buildings flanked the Approach Mall. On the north was a U-shaped Administration Building, and on the south, the Concessions Building providing visitor services. Their orthogonal arrangement, facing each other across the mall, added to the formal character of the landscape, while their simple, unadorned style ensured there would be no distraction from the statue. Staff housing and storage needs were met by an inconspicuous cluster of buildings on the north end of the island. This cluster consisted of three low staff residences, a duplex residence, and a two-story superintendent's residence, as well as a rectangular storage building.

The balance of the island was characterized by open, park-like areas with informal plantings of widely spaced trees, primarily plane trees and sycamore trees (*Plantanus occidentalis*), planted over well-maintained lawns.

Cultural Landscape Report for Liberty Island

Statue of Liberty National Monument
New York and New Jersey

1956 Period Plan



National Park Service
Olmsted Center for Landscape Preservation
www.nps.gov/oclp

in partnership with
Department of Landscape Architecture
Center for Cultural Landscape Preservation
SUNY College of Environmental
Science and Forestry, www.esf.edu/la/cclp

SOURCES

1. "Topographic Base Map," July 1952, Part of the Master Plan, Statue of Liberty NM, (NPS eTIC drawing 356-2134).

2. Oblique aerial photograph, 14 July 1955, park files.

3. "Demolition of Pier and Buildings," July 1956, Liberty Island, Statue of Liberty NM, (NPS eTIC drawing 356-3005).

DRAWN BY

James Mealey, Illustrator CC, 2021

LEGEND

- Building
- Concrete surface
- Masonry seawall
- Concrete seawall
- Tree
- Grass
- Hedge
- Intertidal zone
- Water
- Iron guard railing
- 1' contours
- Feature removed during period (dashed)
- *Lorem ipsum* — Removed feature label (italics)
- (1892) — Date feature added during period

NOTES

1. All features shown at approximate scale and location.
2. Drawing shows landscape as of 1956.
3. Dates of construction/removal shown where known.

North

0 87.5 175 feet 350

Drawing 1.13

Cultural Landscape Report for Liberty Island

Statue of Liberty National Monument
New York and New Jersey

1956 Period Model
Plan View

National Park Service
Olmsted Center for Landscape Preservation
www.nps.gov/oclp

in partnership with
Department of Landscape Architecture
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SUNY College of Environmental
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SOURCES

1. "Topographic Base Map," July 1952, Part of the Master Plan, Statue of Liberty NM, (NPS eTIC drawing 356-2134).

2. Oblique aerial photograph, 14 July 1955, park files.

3. "Demolition of Pier and Buildings," July 1956, Liberty Island, Statue of Liberty NM, (NPS eTIC drawing 356-3005).

NOTES

1. All features shown at approximate scale and location.
2. Model shows landscape circa 1956.

0 87.5 175 feet 350

Drawing 1.14

Cultural Landscape Report for Liberty Island

Statue of Liberty National Monument
New York and New Jersey

1956 Period Model Oblique View

National Park Service
Olmsted Center for Landscape Preservation
www.nps.gov/oclp

in partnership with
Department of Landscape Architecture
Center for Cultural Landscape Preservation
SUNY College of Environmental
Science and Forestry, www.esf.edu/la/cclp

SOURCES

1. "Topographic Base Map," July 1952, Part of the Master Plan, Statue of Liberty NM, (NPS eTIC drawing 356-2134).

2. Oblique aerial photograph, 14 July 1955, (Statue of Liberty National Monument, Bob Hope Library).

3. "Demolition of Pier and Buildings," July 1956, Liberty Island, Statue of Liberty NM, (NPS eTIC drawing 356-3005).

NOTES

1. All features shown at approximate scale and location.
2. Model shows landscape as of 1956.

North

Drawing 1.15

STATUE OF LIBERTY CENTENNIAL: 1957–1986

The Liberty Island landscape in 1957 reflected the culmination of two decades of planning and design, effectively representing the "completed" 1939 master plan. Yet, the new landscape was already experiencing inadequacies with respect to interpretation, visitor services, and capacity. Over the next thirty years, two primary efforts would again reshape the island's landscape: the construction of the American Museum of Immigration, and preparations for the centennial celebration in 1986.

Also beginning in 1956 was a ten-year, service-wide initiative to overhaul park infrastructure and visitor facilities, with the goal of modernizing the nation's park system in preparation for the National Park Service's fifty-year anniversary in 1966. The so-called Mission-66 program pumped over a billion dollars into the national park system, transforming parks across the country with large investments in roads, utilities, and employee housing, as well as new interpretive facilities and visitor centers.[297] At Liberty Island, this program was leveraged to complete the new immigration museum, constructed within the base of the statue.

AMERICAN MUSEUM OF IMMIGRATION

Planning for the new immigration museum began while the master plan was still being implemented. In 1949, Thomas J. Allen, regional director of the National Park Service, reported that interpretive planning was underway.[298] Questions persisted about what interpretation would include. Since the statue was installed, the culture of the United States had experienced sweeping change. The nation had experienced both an immigration surge and dip, and participated in two global wars that pushed ideologies of liberty to the forefront. In the mid-1950s, the nation was engaged in an undeclared "cold" war, consumed with fear regarding the spread of Communist ideology. The post-World War II park master plan's introductory narrative addressed the monument's expanding role in our national identity:

> Although its original purpose… was the commemoration of Franco-American ties, the Statue of Liberty in the succeeding years has come to have an even deeper symbolism. Standing at the very portal of the New World, it has greeted thousands of the oppressed and the venturesome of other lands who have reached these shores in hopeful search of greater freedom and opportunity. To them, and indeed to the whole world, the Statue has become the symbol of those ideals of human liberty upon which our Nation and its form of Government were founded. One may fairly say that, of all the man-made monuments in the United States, the Statue of Liberty has the greatest national significance.[299]

As National Park Service staff on Liberty Island contemplated enhanced interpretation and educational programs, a concept for a new museum was taking form in Manhattan. The idea for the American Museum of Immigration began after Robert Moses, chairman of the Triborough Bridge and Tunnel Authority, announced

his plans to demolish Castle Clinton to construct the Brooklyn-Battery Bridge. Protests against the demolition of the historic fort were led by the American Scenic and Historic Preservation Society, whose members included many of New York's elite. In 1951, one of the society's members, William H. Baldwin, suggested that, rather than demolish the old fortress for a new bridge, Castle Clinton might instead house a museum of immigration, a use especially fitting because of Castle Clinton's history as an immigration processing center from 1855-1890.[300]

The ethos of the post-war United States focused on victory over fascism, and its obsession with racial purity, reanimating wishful "melting pot" metaphors. As stated in the museum prospectus, "Americans sought 'in a time of conflicting ideologies, when the competition for the loyalties of groups and individuals is keen,' to foster national unity by celebrating the collective American identity in new ways."[301] The society approached the National Park Service, but officials were apprehensive about housing the new museum in Castle Clinton, suggesting Liberty Island as a more desirable alternative. Ellis Island, another immigration processing center nearby, was occupied at this time by U.S. Coast Guard programs and remained actively used at that time for immigrant detentions.[302]

The National Park Service team charged with further consideration of the museum proposal included Dr. Francis S. Ronalds, Superintendent of Morristown National Historic Park; Newell Foster, Superintendent of the Statue of Liberty; and Regional Director Ronald F. Lee.[303] The team proposed locating the museum at the base of the Statue of Liberty, which would accomplish the dual goals of providing a fitting setting for the museum exhibits and realizing what they represented as Hunt's original design for the statue's pedestal.

According to the committee, in "the original plans of architect Richard M. Hunt, the monumental figure of Liberty was to rest on a stepped terrace, bounded by the walls of star-shaped Fort Wood."[304] Barbara Blumberg explains in her administrative history of the national monument that Hunt did prepare such a design alternative among others for the American Committee, but this was not the alternative ultimately selected.[305] Blumberg explains that "Ronalds, Foster, and Lee [offered that a] lack of money had forced the American Committee to settle for [what they believed was a] less attractive design, and the National Park Service had never been able to remedy the situation over time due to its limited funds."[306] Ronalds, Foster, and Lee were of the opinion that by placing the museum at the base of Hunt's pedestal, they could realize this alternative stepped design, and create a more suitable location for the proposed museum than what had been proposed for Castle Clinton.

In March 1953, William Baldwin and other members of the American Scenic and Historic Preservation Society established the National Committee for the American Museum of Immigration in order to further publicize their efforts and to

attract prospective donors.[307] In 1955, the American Museum of Immigration became incorporated as a non-profit educational organization established to build a museum dedicated to the immigrants of the United States at the base of the Statue of Liberty. This new group aimed to gather $5 million through public subscription and organized fundraising events, including National Unity Day, to help develop public interest and approval.[308]

By 1958, however, fundraising was stalled, having raised far less money than necessary in order to proceed. Prospects for the museum improved in August 1958 when, through draft legislation, the museum project became linked together with the Mission-66 program, making the prospective museum project eligible to receive matching-funds from the National Park Service.[309]

National Park Service leadership formally approved plans for the American Museum of Immigration in October 1961.[310] The new museum was to be constructed within the base of the statue, with the primary museum spaces and lobby area placed within the star fort walls, around the pedestal foundation. This involved re-excavating the previously filled interior courtyard of the star fort. Rising above the terreplein level of the fort, and replacing the turfed slope surrounding the pedestal, were two stacked, box-like structures that provided additional space for the museum (Figures 1.84 to 1.86).

Excavation work began in November 1961 and was complete by the following March.[311] Approximately 12,000 cubic yards of earth was removed, and the excavated material was temporarily placed immediately outside the fort wall.[312] While plans originally called for immediate removal of the material from the island, reports from 1962 and 1963 indicate that the excavated material was dumped over the seawall in the vicinity of the dock, for later removal.[313] The excavation process uncovered the remains of several former buildings. These building fragments and foundations were removed with the remaining fill (Figures 1.87 to 1.92).[314]

The exposed concrete tunnels leading from the southern postern and north sally port were also removed during this phase of work. Originally, a section of tunnel linking the southern postern entrance to the new museum construction was left in place, but later plans changed, and this section was removed as well.[315] The buttresses on the northern parapet wall and portions of the statue's pedestal were removed to facilitate construction of the museum's foundation and elevator. Excavation for the new transformer room in October of 1962 accidentally caused one of the eastern walls of the star fort to collapse.[316]

On October 28, 1962, the seventy-sixth anniversary of the Statue of Liberty's dedication, a ceremony was held for the formal laying of the new museum's cornerstone.[317] Between the winters of 1962 and 1963, storms, malfunctioning equipment, and labor disputes all delayed progress. Project contractors repeatedly objected to undertaking what they claimed to be extra excavation and stone cut-

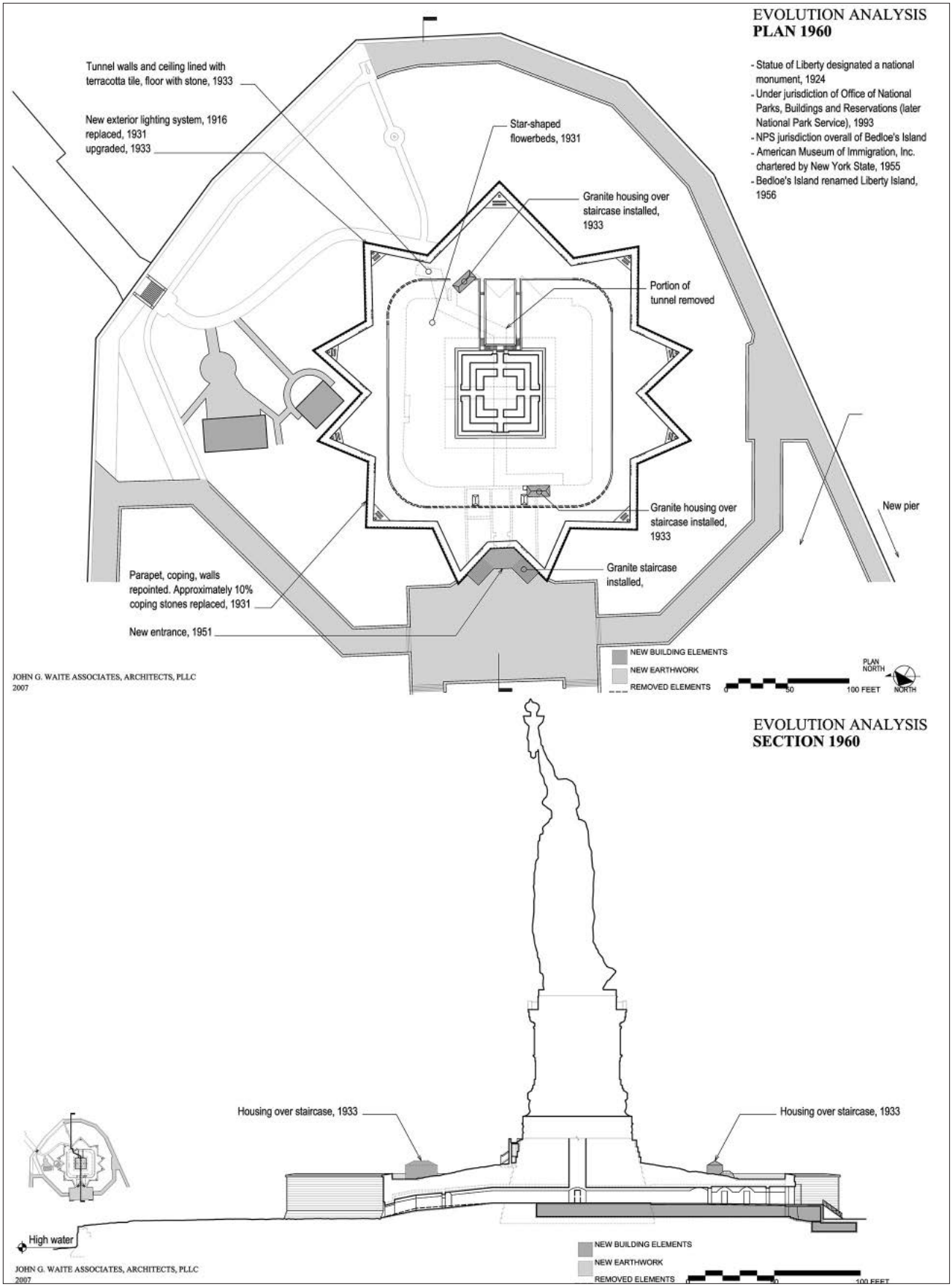


Figure 1.84. Evolution/Analysis drawings illustrating Fort Wood conditions c.1960 (Fort Wood Historic Structure Report, John G. Waite Associates, Architects).

ting, arguing that the additional work was not within their contract.[318] The foundation of the new museum structure also needed to be redesigned because soil tests revealed that the underlying soil was structurally unsuitable.[319] By 1964, the outer box-like structure of the museum surrounding the base of the pedestal had taken form (Figures 1.93 and 1.94).

Landscape improvements overseen at the same time by the National Park Service included repaving the promenade on the star fort's terreplein level, which had been entirely disassembled during excavation for the new museum. Landscape changes were also made to the Main Mall. Paving stones were installed atop the original concrete surfaces, and seat walls became faced with stone veneer. Small hawthorn trees were planted on both sides of the Main Mall, adding ornament to the landscape and providing welcome shade to waiting visitors. The sally port plaza, originally a rectangular plaza raised several feet above the mall level and accessible by two stairways, was lowered to the mall level and the stairs removed. A new set of stairs was constructed at the sally port to accommodate the elevation change to the fort entrance. This program of landscape improvements was completed in 1965.[320]

On May 11, 1965, nearby Ellis Island was added to the Statue of Liberty National Monument. The incorporation of Ellis Island into the park management unit had little direct physical effect on Liberty Island, although the new park site diverted funds and attention as the National Park Service began to grapple with the challenges posed by the poor condition of former immigration station.[321]

On October 3, 1965, President Lyndon B. Johnson signed into law the Immigration and Nationality Act of 1965, commonly known as the Hart-Celler Act, on Liberty Island (Figure 1.95). This progressive legislation overturned the former nationality-based quota system in place since 1924, favoring immigration "on the basis of their skills and their close relationship to those already here."[322]

The dedication of the museum's completed building envelope on October 28, 1965, marked the end of that period of construction on the museum. Work on the interior and exhibits could not continue without further congressional or private funding, and Congress was at this time reallocating domestic funds to the increasingly expensive Vietnam War.[323] In 1967 Congress appropriated sufficient funding for the project to continue, and progress resumed, continuing with intermittent delays until 1972, when the American Museum of Immigration officially opened to the public, interpreting the history of immigration and the heterogeneity of the American people (Figure 1.96).[324]

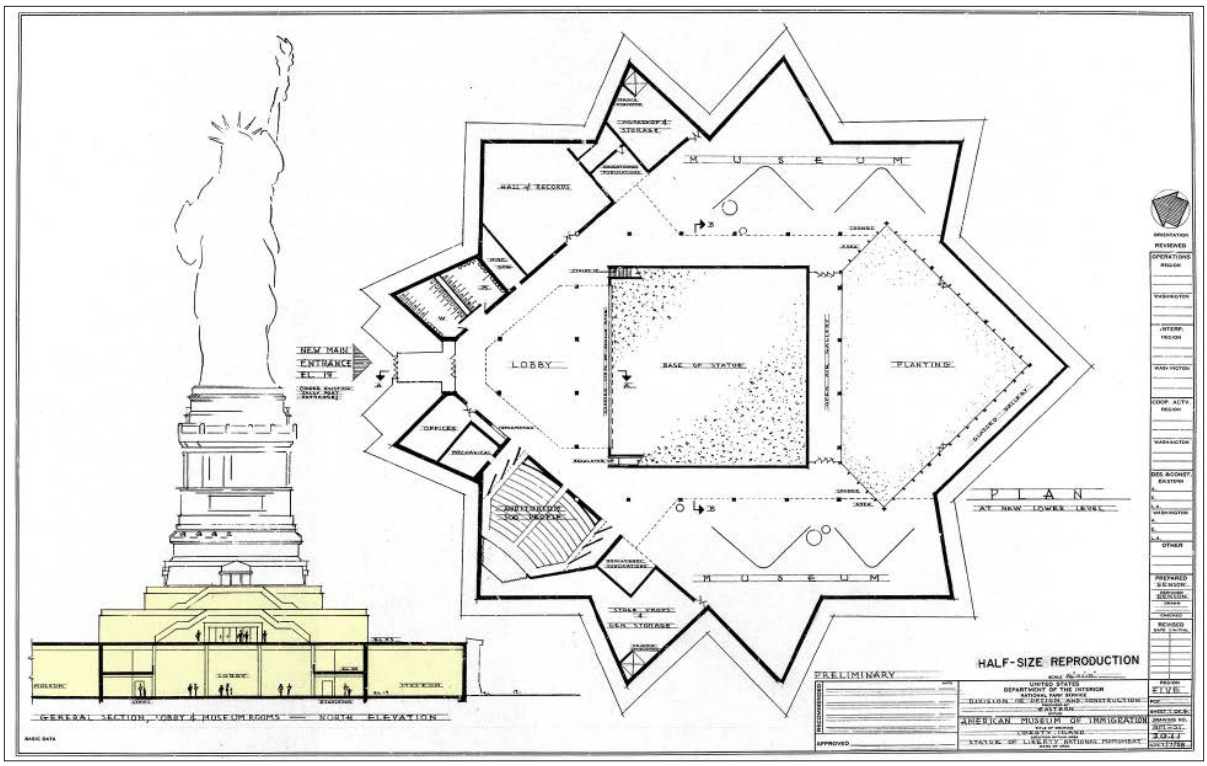


Figure 1.85. Preliminary design, Sheet 1 of 4, 1958, American Museum of Immigration (AMI). Cross sections showing the proposed museum structure designed to rest within the exterior walls of the star fort have been highlighted in yellow by the authors. The museum design provided for an upper promenade encircling the masonry pedestal, an unrealized element of the pre-WWII master plan (NPS Denver Service Center, eTIC).

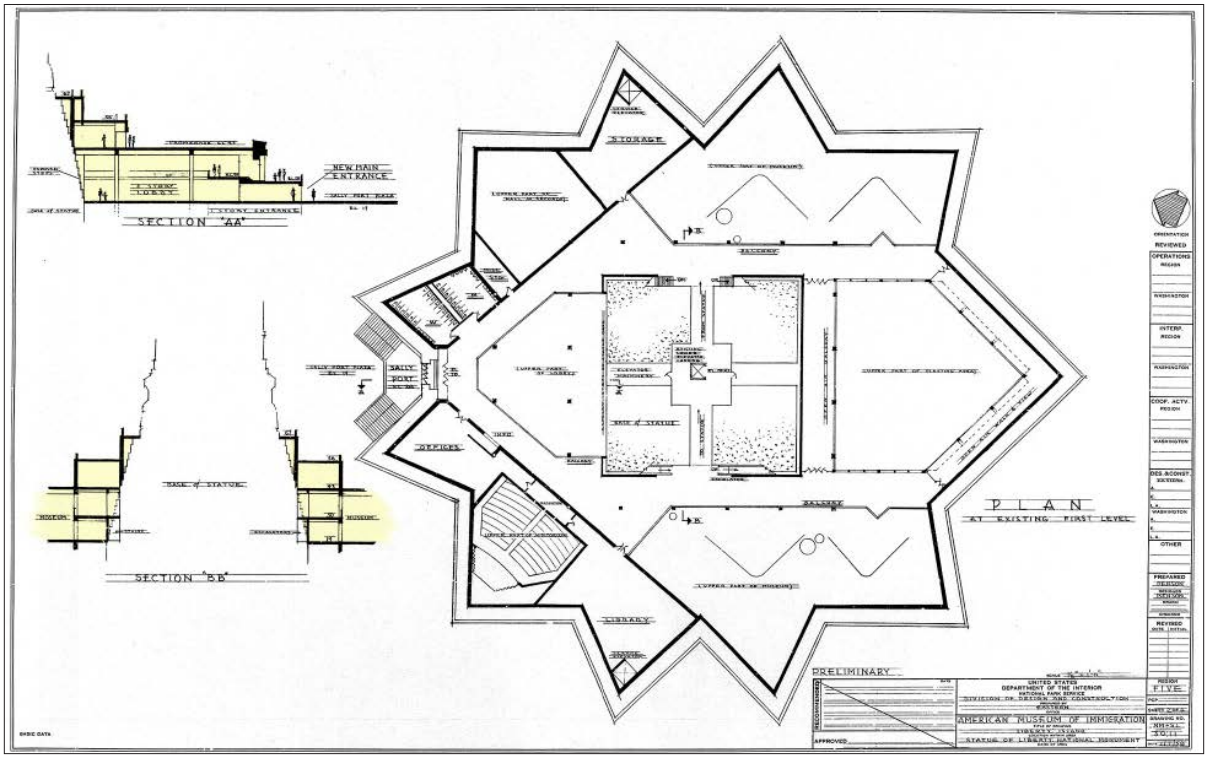


Figure 1.86. Preliminary design, Sheet 2 of 4, 1958, American Museum of Immigration (AMI). Cross sections showing the proposed museum structure designed to rest within the exterior walls of the star fort have been highlighted in yellow by the authors (NPS Denver Service Center, eTIC).

CENTENNIAL PLANNING

After the opening of the American Museum of Immigration, attention turned to the upcoming centennial of the statue in 1986. Preparations for the celebration included correcting several capacity and condition issues that had become increasingly troublesome since the master plan had been implemented. Only minor repairs had been completed around the island during the 1970s, including repair of the concession building's roof in 1975 and stripping the paint from the employee housing to reveal the original brick appearance.[325]

Meanwhile, pressures from visitation had increased significantly since World War II. From a pre-war annual average of around 200,000 visitors, visitation had grown to more than two million people every year in the early 1980s.[326] Overcrowding diminished the visitor experience, particularly within the confines of the statue. Visitors often had to wait hours in the hot sun for an opportunity to climb the steep, winding stairs. Other facilities on the island were regularly exceeding capacity, from the concessions building to circulation features, and the high visitor traffi c was taking a toll on the condition of the landscape.

In 1980, the National Park Service planning team released an Analysis of Alternatives, part of the General Management Plan for Liberty and Ellis Islands.[327] This report recommended strategies to avoid unsafe congestion inside the statue, including timed-access ticketing. The alternatives also suggested relocating museum space then housed in the American Museum of Immigration to Ellis Island or somewhere else in Manhattan. Despite only being open for eight years, the museum facilities within the statue base were already considered "cramped and inadequate."[328]

The poor condition of the statue had also attracted the attention of those outside of the government. In 1981, the French-American Committee was incorporated as a private non-profit with the purpose of providing technical recommendations for the statue's restoration. The committee was established as a collaboration between French nationals interested in preserving the legacy of the gift of the statue and American counterparts. The committee convened a team of architects and engineers to prepare a preliminary technical report on the condition of the statue a program of restoration work.[329] Work recommended by the team included restoring the armature, replacing the torch, and repairing the connection at the frame of the right arm.

In 1982, President Ronald Reagan initiated a four-year initiative to restore the statue and make landscape and facilities improvements to the island in preparation for the centennial. He created The Statue of Liberty-Ellis Island Centennial Commission to advise and guide restoration effort, and The Statue of Liberty-Ellis Island Foundation to coordinate private fundraising. Chrysler CEO Lee Iacocca was appointed to chair both groups.

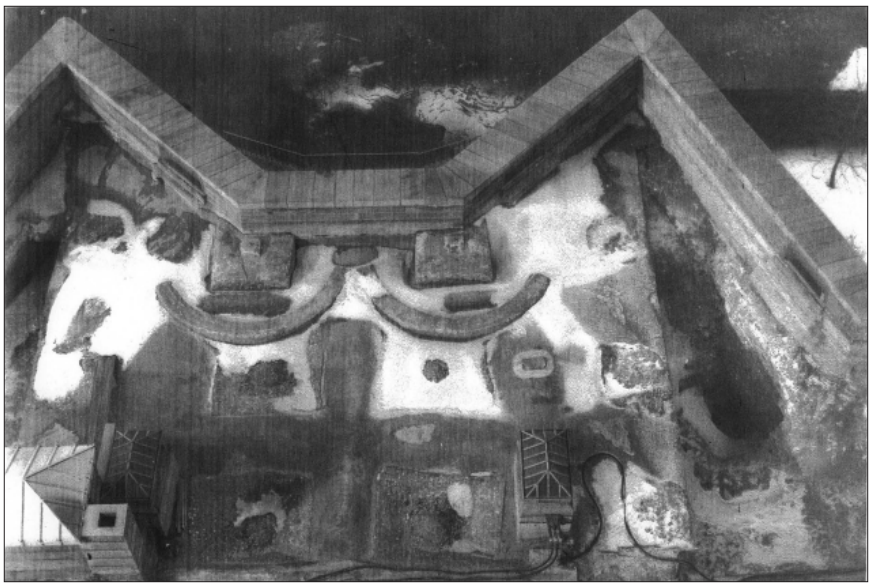


Figure 1.87. Removal of the stone pavement at the star fort's terreplein c.1960 revealed intact historic fabric that had survived the installation of the statue's concrete foundation and masonry pedestal (Statue of Liberty National Monument, Bob Hope Library).

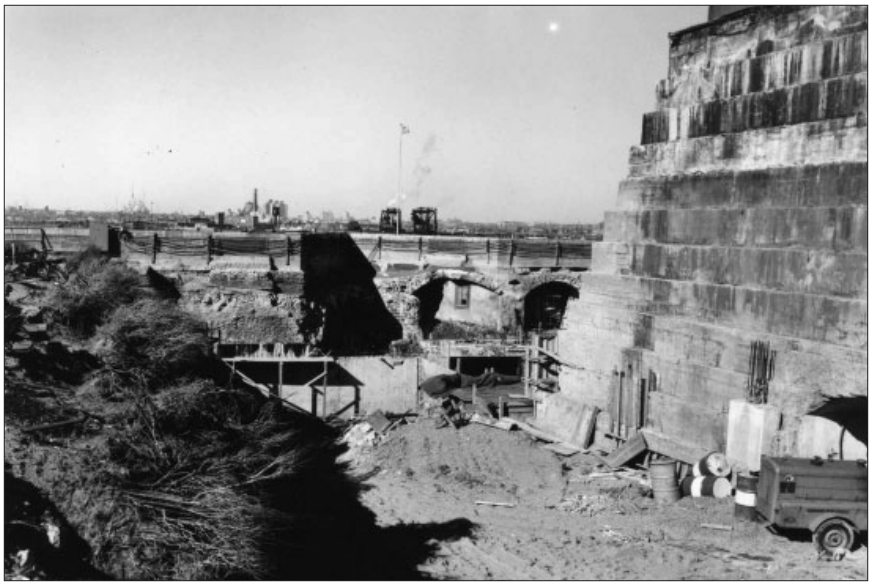


Figure 1.88. Because the museum construction was undertaken prior to passage of the National Historic Preservation Act of 1966, the project was enormously destructive of original features of the fortress. Most of the historic structure to the north of the stepped concrete foundation was demolished, leaving only the exterior granite walls. (Statue of Liberty National Monument, Bob Hope Library).

Figure 1.89. During construction of the new museum in the early 1960s, visitors continued to access the statue via the star fort's north facing postern door. A temporary flight of stairs followed the general profile of the former earthen mound, formerly at the base of the masonry pedestal (Statue of Liberty National Monument, Bob Hope Library).

Figure 1.90. Oblique aerial photograph, c.1961. This image documents excavated material being dumped over the side of the star fort's parapet wall, for later removal from the island (Statue of Liberty National Monument, Bob Hope Library).

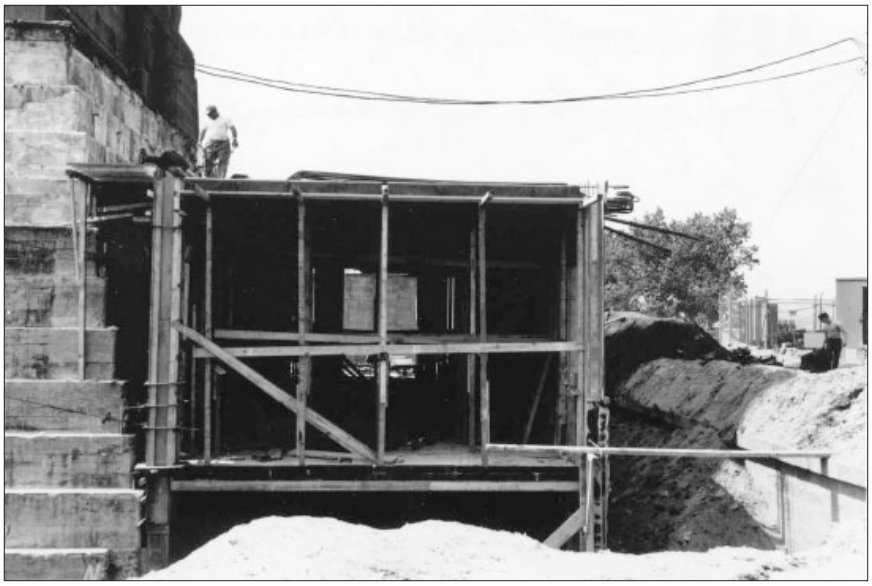


Figure 1.91. Historic photograph showing the cast-in-place concrete walls of the new museum being constructed above the terreplein level (Statue of Liberty National Monument, Bob Hope Library).

Figure 1.92. Historic photograph, September 1, 1964. Construction of the new museum again altered the star fort's north facing sally port. This design for the museum entrance provided separate routes for museum visitors, and those wishing to access the exterior promenade levels overlooking New York Harbor (Statue of Liberty National Monument, Bob Hope Library).

That year, the National Park Service completed a full General Management Plan for Statue of Liberty and Ellis Island. According to Barbara Blumberg's Administrative History, "the 1982 General Management Plan closely followed the preferred alternatives listed in the 1980 Analysis of Alternatives."[330] The new plan focused primarily on establishing a development plan for Ellis Island, but also included the following goals for Liberty Island:

> …return the Statue of Liberty to sound structural condition and repair deterioration through a comprehensive preservation program that will see the statue through a second century; improve information services and expand transportation to and between the islands so that visitors may ascend to the crown in greater comfort and safety.[331]

Debates about future museum expansion and programming continued, failing to reach a meaningful consensus, and Liberty Island was left largely unaddressed by the planning exercise.[332]

The Statue of Liberty-Ellis Island Foundation was very successful in raising funds through private and corporate donations, collecting over $250 million dollars for the combined restoration and improvement projects on Liberty and Ellis Islands.[333] The foundation also took the lead in restoration of the statue itself, managing the budget and contracts for the work, which got underway in 1984. Work included "the replacement of the rusted iron armature bars with stainless steel bars; the removal of multiple coatings from the interior copper skin; and the construction of a new torch covered with gold leaf."[334] For two years, the statue was veiled behind a curtain of scaffolding as workers rushed to have the restoration complete by the centennial.

In October 1985, President Reagan declared 1986 the 'Year of the Lady' as part of the Statue of Liberty Centennial celebration.[335] In December of 1985, the comple-

Figure 1.93. The new museum structure was fundamentally complete by 1964, but the interior and the exhibits would not be ready for visitors for nearly ten more years. (Getty Images)

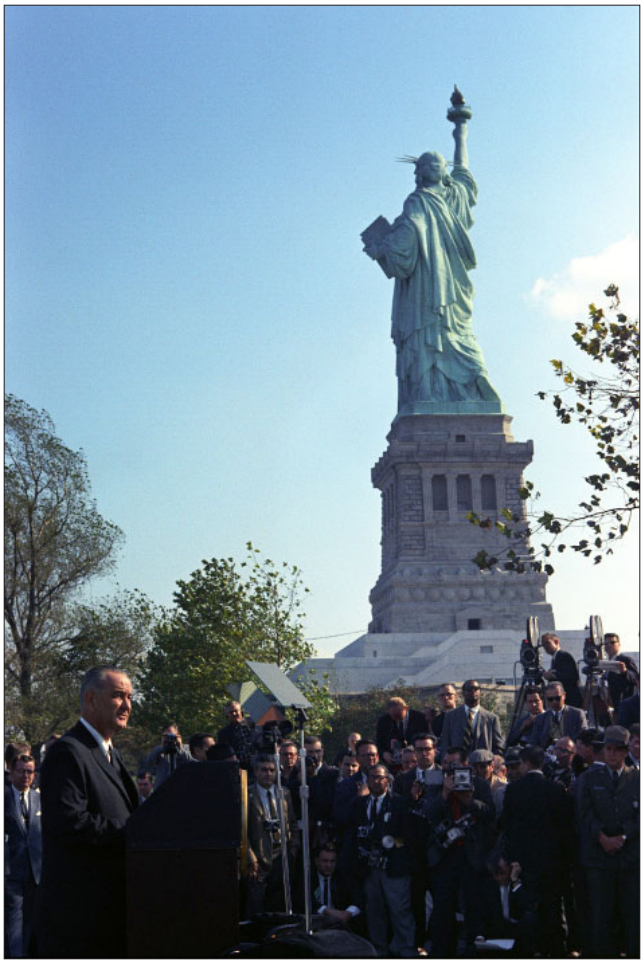
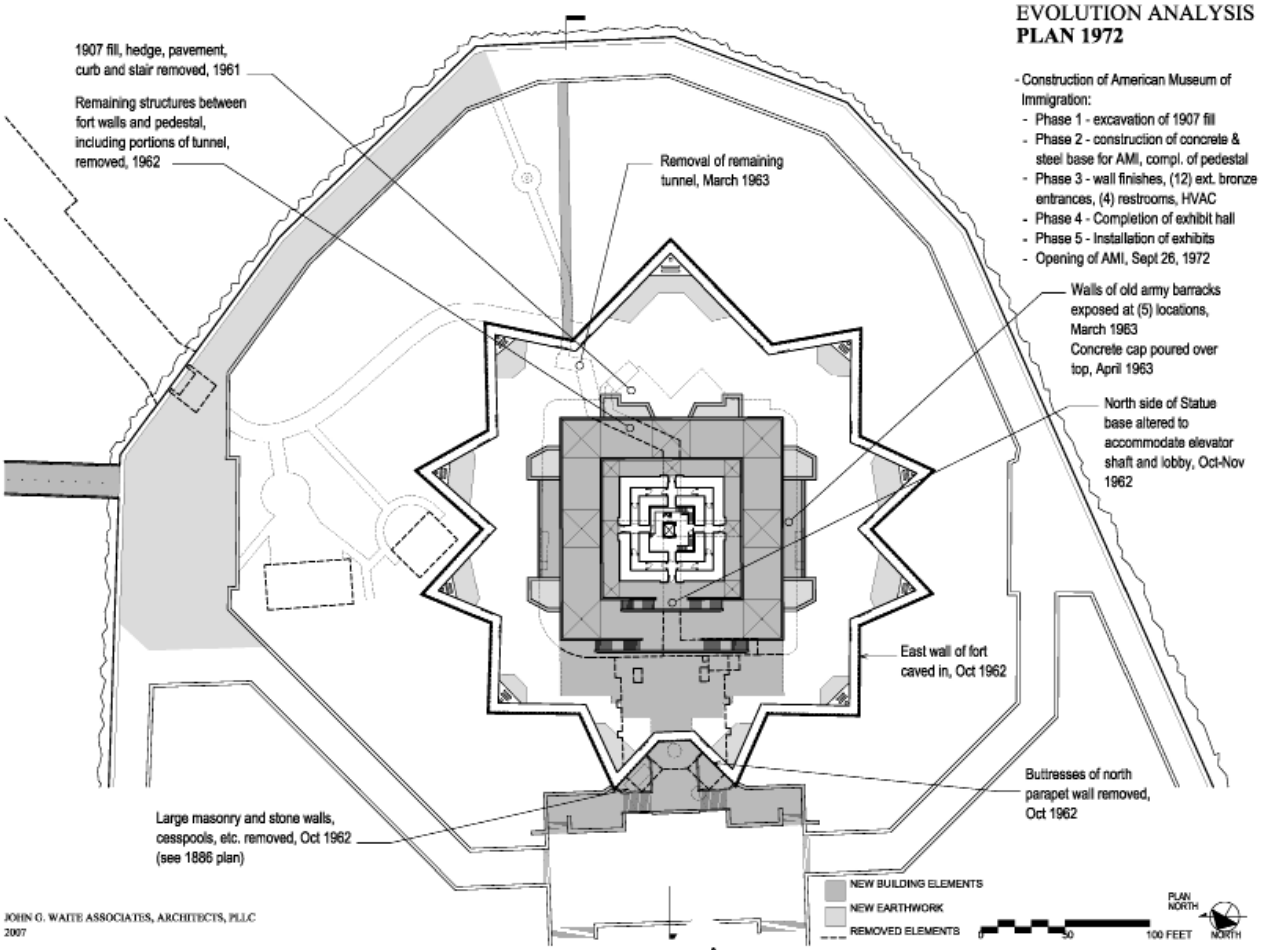


Figure 1.94. (Above) Once the exterior stone cladding had been applied to the museum's concrete walls, the masonry pedestal received a cleaning. Note the MISSION-66 signboard in the foreground (Statue of Liberty National Monument, Bob Hope Library).

Figure 1.95. (Right) President Lyndon B. Johnson speaking on the occasion of his signing of the Immigration and Nationality Act of 1965. The background of this color photograph shows the new museum structure and the cleaned masonry pedestal above it. The new law, known as the Hart-Celler Act, abolished pre-existing immigration quotas, eliminating long-standing barriers to Asian and Eastern European immigration (LBJ Presidential Library C666-16A-WH65)

tion of the exterior work was marked by the reinstallation of the last of the crown spikes, which had been removed for restoration. Indoors, upgrades to the museum exhibits continued.[336] The final tasks of cleaning the interior of the statue's copper skin, repairing corrosion, and replacing the structural supports inside the statue with stainless steel were completed in 1986.[337] Inside the statue the concrete stairs were removed and replaced with stainless steel staircases and a glass-paneled elevator which allowed visitors to appreciate the Eiffel designed inner-structure.[338] When the upper section of the statue's torch and flame was replaced, the original torch was sent on a tour of the nation prior to being put on display in the new entrance lobby in March, 1986.[339] Installation of the torch within the statue's base required enlarging the north sally port, removing the exterior steps and excavating the entrance to the level of the former dry moat (Figure 1.97).

While the attention of the initial fundraising and restoration efforts was primarily on the statue itself, the National Park Service requested that the scope of the project be expanded to include improvements to the island's infrastructure and visitor facilities. They initially requested $15 million be added to the budget for landscape work and improvements to the administration and concessions building. This was later increased to $27 million to include repairs and improvements to the statue's pedestal and museum.[340]



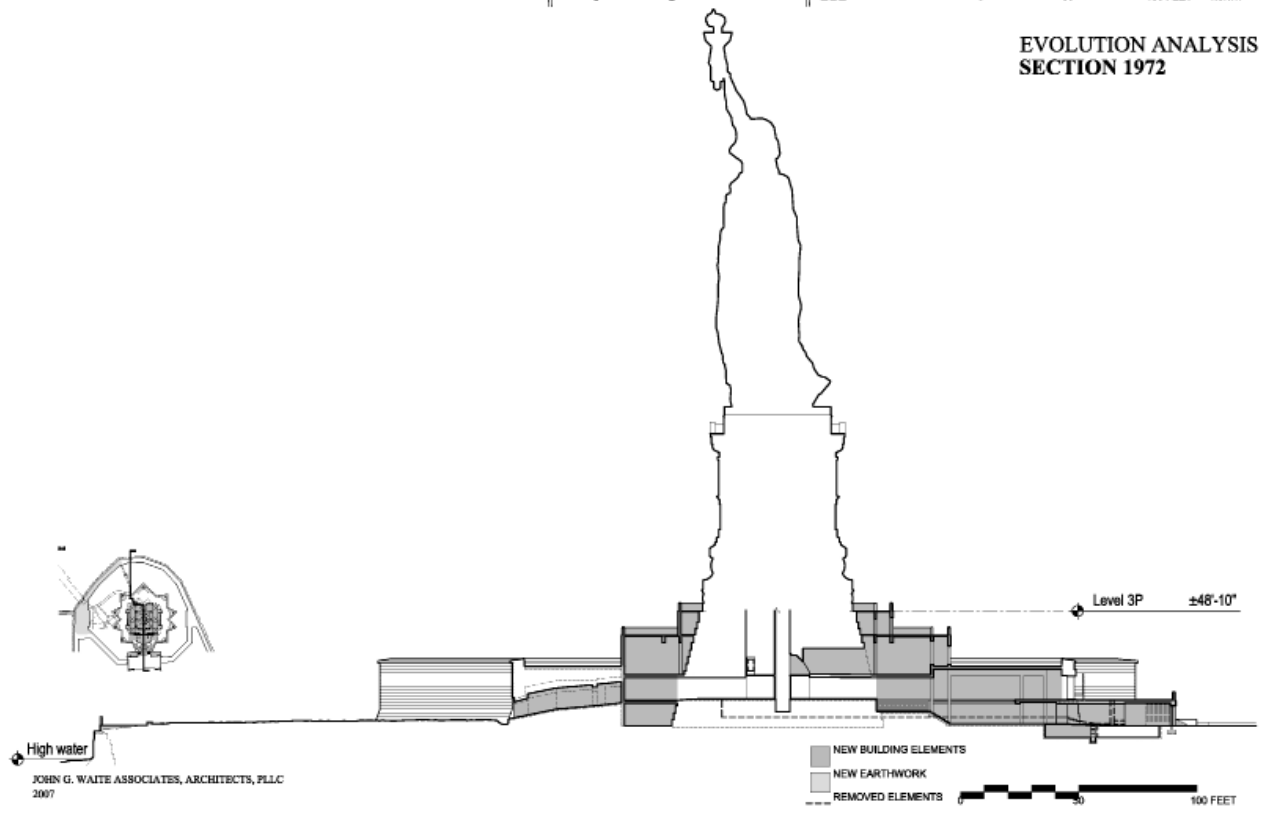


Figure 1.96. Evolution/Analysis drawings illustrating Fort Wood conditions c.1972 when the new museum was opened to the public (Fort Wood Historic Structure Report, John G. Waite Associates, Architects).

The design firm of John Burgee Architects, in partnership with architect Philip Johnson, donated their design services, developing a plan to rehabilitate the Liberty Island landscape. Initial rehabilitation schemes presented by Burgee and Johnson recommended extensive changes to the landscape (Figures 1.98 and 1.99). Entry to the island from the west wharf was to be marked by a steep roofed gateway and canopy feature bisecting the island east-west. The Main Mall, leading visitors toward the statue from the north toward the south, was to be transformed into a circular mounded lawn with the Stars and Stripes displayed at the center and encircled with the flags of the fifty states. Burgee and Johnson also proposed to demolish the recently completed American Museum of Immigration and install an arch-supported vault surrounding the stepped concrete foundation at the base of the masonry pedestal. This element of the new proposal would have realized the design that architect Richard Morris Hunt had envisioned one hundred years earlier. The National Park Service rejected this proposal. Several more iterations developed by Burgee and Johnson met with a tepid response, leading the National Park Service to ask the agency's Denver Service Center to develop additional alternatives for consideration and refinement.[341]

In 1985, Burgee and Johnson sought the services of landscape architectural firm Zion and Breen Associates to prepare the final landscape plans reflecting the consensus reached among the wider design team. Zion and Breen were responsible for many noteworthy projects, including Samuel Paley Plaza, the atrium of the I.B.M Building in New York, and the Abby Aldrich Rockefeller Sculpture Garden of the Museum of Modern Art, also in collaboration with Phillip Johnson.[342] Both Robert Zion and Harold Breen had studied at Harvard University under Norman T. Newton, the landscape designer of the 1939 master plan.

Figure 1.97. The building systems of the statue, the pedestal, and the island were subject to a comprehensive program of repairs and upgrades during the mid-1980s. These projects included the redesign of the north Sally Port entrance to the star fort, making possible the placement of the original torch at the lobby entrance to the museum. (Jet Lowe, Historic American Engineering Record)

The final landscape plan was more conservative than the initial designs presented by Burgee and Johnson, adapting the master plan design to better meet visitation needs rather than completely remaking it. The most significant changes were made to the two malls and the plaza at their intersection. When these features were initially designed in the late 1930s, visitation numbers were much lower, and the paved areas were more than adequate to accommodate the foot traffic. By the 1980s, however, the malls could no longer accommodate the crowds. The turf panels in particular were difficult to maintain, and in the summer months, there was little shade for the visitors waiting to enter the monument.

To remedy this, the central turf panel in the Main

Mall was removed and replaced with paving. The two single rows of hawthorn trees planted on the outer edges of the mall in the 1960s were also removed and replaced with tree bosques comprising three rows of linden trees planted on either side of the mall, providing shade for visitors. The Approach Mall was narrowed by removing the two paved promenades on the outside of the turf panels and replacing them with plantings of additional plane trees and groundcover. A new tall, curved wall and gate were constructed to define an arrival plaza at the head of the wharf, and the square plaza at the north end of the Main Mall was expanded into a large circular plaza with a flagpole at the center, placing it in a more prominent location at the very intersection of the two design axes (Figures 1.100 and 1.101). The circular plaza was originally intended to have been ringed with fifty-four smaller flagpoles representing the US states and territories, but the ring of flags was eliminated, partly to simplify the design and possibly reduce project costs.[343]

Other landscape work included alterations to paving, plantings, and furnishings. Implementation of the 1939 master plan had been realized over such a long period of time, that many details of the landscape lacked unity. The many different types of concrete and stone paving materials projected a haphazard, fragmented appearance. One major goal of the rehabilitation was the imposition of unified paving materials and pattern. Red pavers (an alteration from the original neutral colored paving materials) were proposed by Burgee and Johnson and approved by the National Park Service.[344] Several different styles of furnishings were added to this tree-shaded margin of the Main Mall, including ornate cast-iron seating of Victorian era oak leaf design in the manner of the Coalbrookdale foundry.[345]

During underground utility work in this area adjacent to the Main Mall, landscape construction uncovered a shell midden (Figure 1.102 and 1.103). This important archeological feature was found to contain information documenting the material culture of pre-Colonial Indigenous and post-Colonial European settlement.[346]

Restoration of both the landscape and the statue and its pedestal was completed in time for the 1986 centennial. On July 3, 1986, President Reagan stood on Governors Island and pressed a button to relight the Statue of Liberty. The ceremony included fireworks, a speech, and triumphal music for an audience of 4,000 guests and millions of television viewers.[347] Two days later, on July 5, 1986, the National Monument re-opened to the public (Figures 1.104 and 1.105). Fort Wood's historic structure report notes, "at the end of the day, hundreds of visitors were turned away when it was too late for them to climb to the top of the Statue; when 16 people refused to leave, they 'were placated with a ride in the elevator in order to avoid marring opening day with arrests.'"[348] At the time of the re-opening, according to National Park Service reports, the elevator, pedestal restrooms and public-address system all needed further work. The signs proved unhelpful and inadequate, and the incinerator did not work for days after the opening.[349]

1986 LANDSCAPE DESCRIPTION

Following the centennial rehabilitation of Liberty Island, the landscape continued to reflect the overall structure that was established during the implementation of the master plan. The statue and its star fort base remained the focal point of a two-axis landscape design, composed of the east-west Approach Mall and the north-south Main Mall. This layout established a deliberate arrival and approach sequence and carefully controlled views.

Beyond the basic structure, however, the character of the landscape had changed significantly since the 1950s. The malls had been effectively narrowed with the planting of new vegetation, and the maturation of the trees and shrubs throughout the island contributed to a more enclosed feeling to many of the spaces. This was

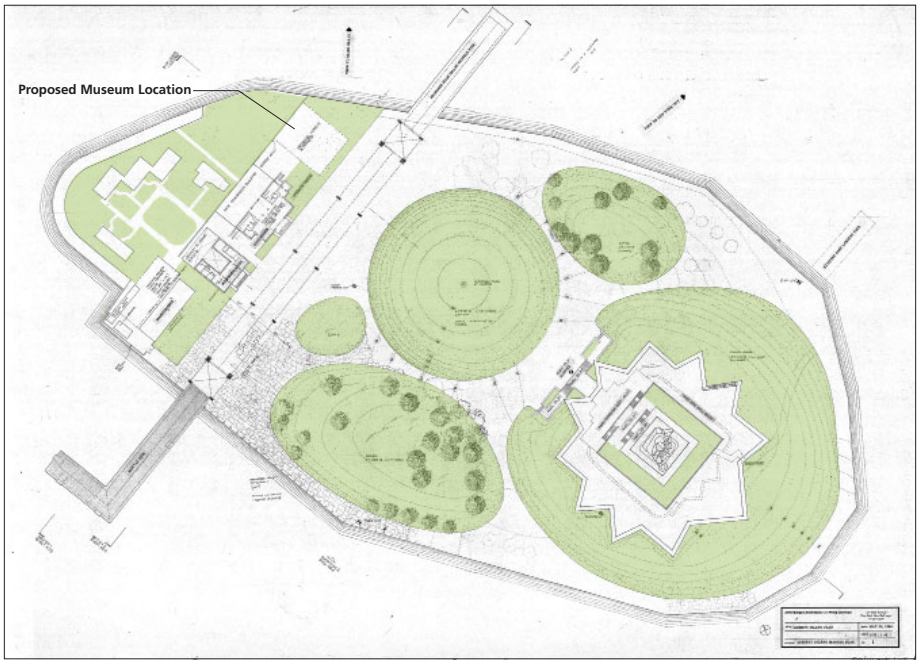


Figure 1.98. "Liberty Island Plan, Liberty Island Master Plan," May 30, 1984, by John Burgee Architects and Phillip Johnson. Turf and planted areas have been highlighted in green by the authors of this report. Note the proposed location for a park museum (NPS Denver Service Center, eTIC).

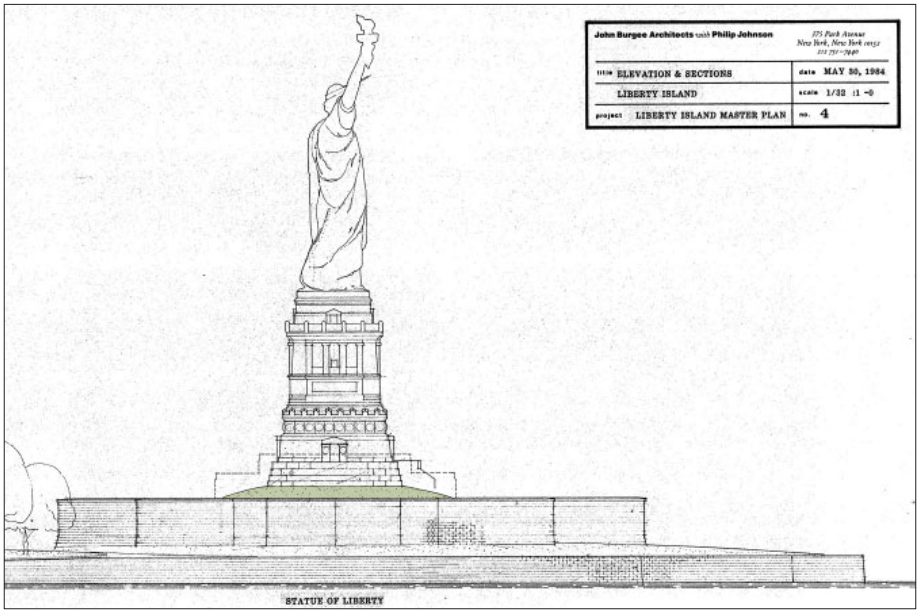


Figure 1.99. "Elevation & Sections, Liberty Island, Liberty Island Master Plan," May 30, 1984, John Burgee Architects and Phillip Johnson. This image illustrates the intended effect of the proposed removal of the museum and restoration of the turf-covered mound at the base of the masonry pedestal. The proposed turf-covered mound is highlighted in green by the authors of this report (NPS Denver Service Center, eTIC).

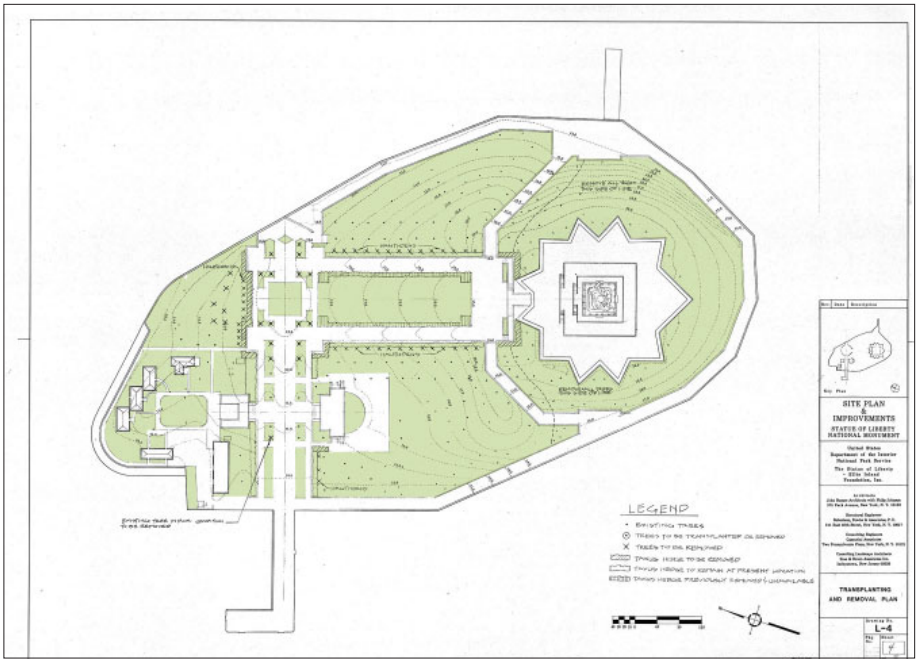


Figure 1.100. "Transplanting and Removal Plan," July 22, 1985. This plan effectively shows the existing conditions of Liberty Island immediately prior to its redesign. Turf and planted areas have been highlighted in green by the authors of this report (NPS Denver Service Center, eTIC).

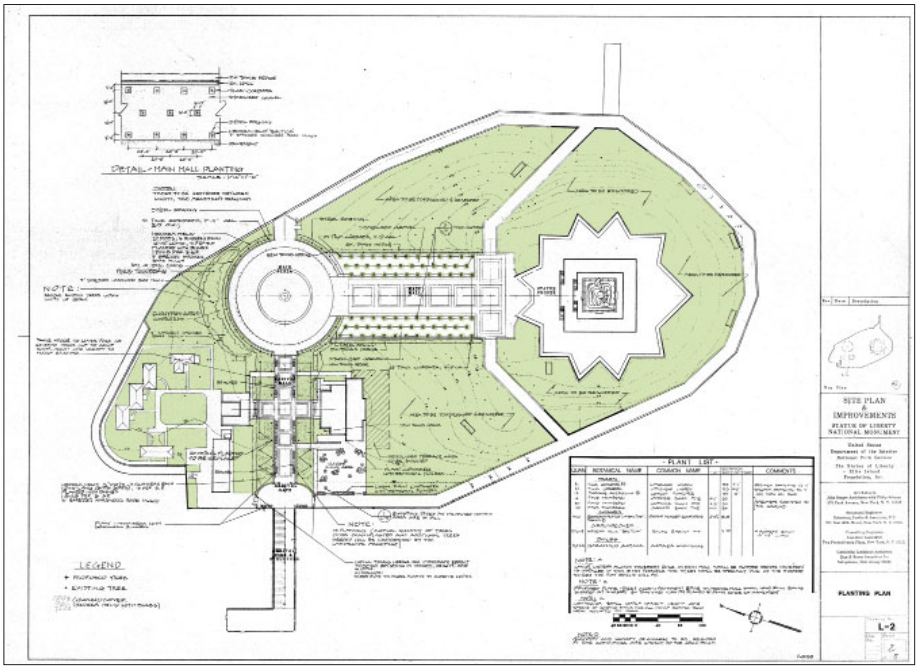


Figure 1.101. "Planting Plan," July 22, 1985, showing the redesigned Liberty Island landscape. Turf and planted areas have been highlighted in green by the authors (NPS Denver Service Center, eTIC).

Figure 1.102. Oblique aerial photograph c.1986, documenting recently completed changes to the island landscape supporting the statue's centennial celebration. Note the white tent on the Main Mall, a temporary measure placed to provide shade for visitors waiting to ascend the statue. (Statue of Liberty National Monument, Bob Hope Library, B12/F3/#171)

particularly noticeable in the Approach Mall, which had been reduced in width with the elimination of the outside promenades and the expansion of plantings into previously paved areas. The enclosure of the arrival plaza with tall, curved walls and gates added to the segmentation of the spaces.

The Main Mall had been reconfigured to feature a central paved area approximately seventy feet wide, bordered on both sides by triple rows of linden trees planted over a stabilized gravel surface. Although the removal of the turf panel at the center of the Main Mall and its replacement with brick pavers increased the area for visitor circulation, the planting of the linden trees visually narrowed the space. The sally port plaza had been lowered to the level of the Main Mall when the sally port was reconfigured, the exterior stairs having been moved indoors to occupy a redesigned interior lobby.

The exception to this general feeling of increased enclosure was the new flag plaza, which had been expanded to become large circular space contributing an open and expansive character. Paved circulation surfaces throughout the island had been unified using red brick with gray granite inlaid pattern.

Primary visitor and administrative services were provided by the two pre-World War II buildings flanking the Approach Mall, with the administration building to the north and concessions building to the south. A new outdoor seating and dining area had been built on the west side of the concessions building. This area was

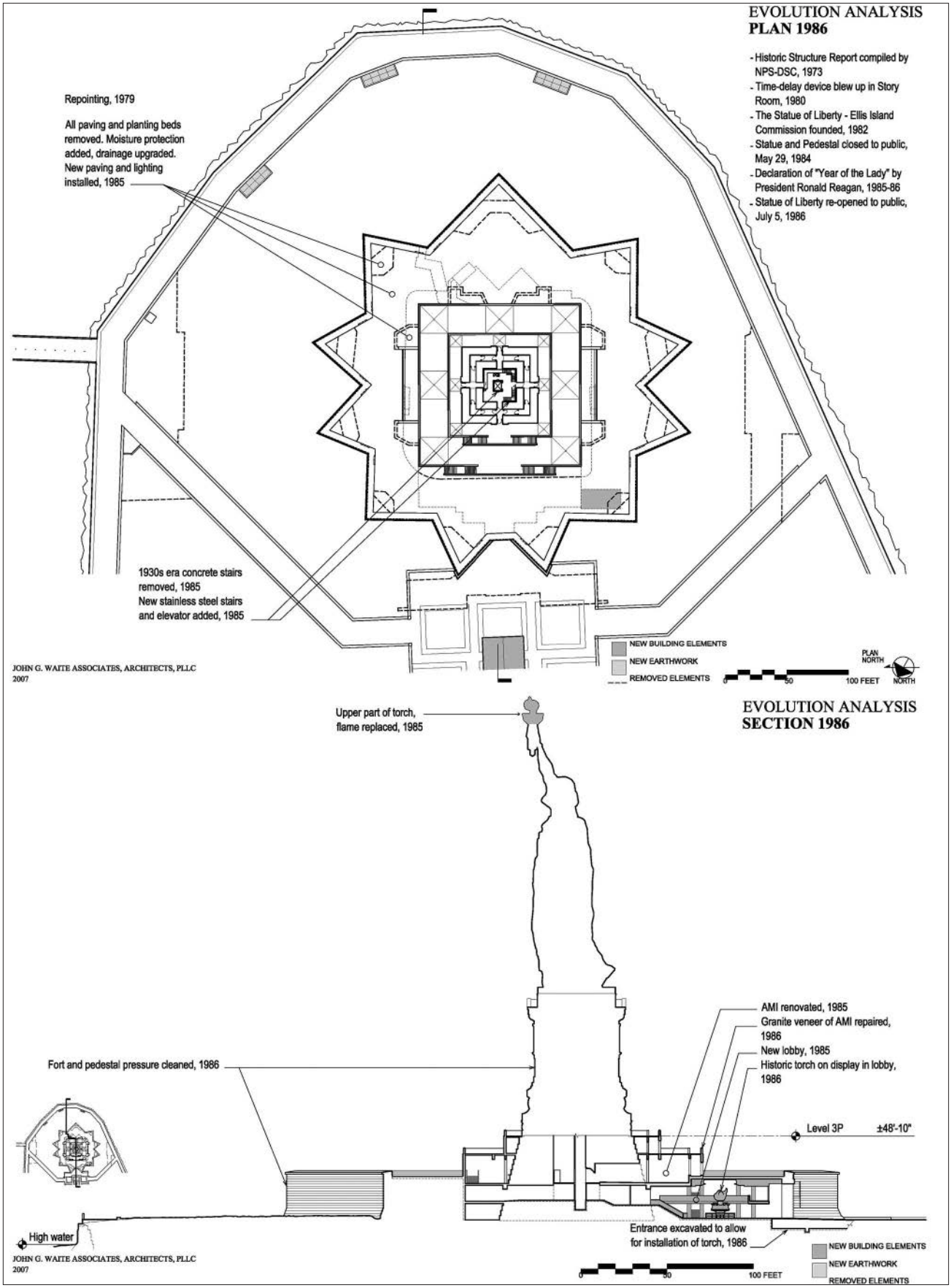


Figure 1.103. Evolution/Analysis drawings illustrating Fort Wood conditions c.1986 (Fort Wood Historic Structure Report, John G. Waite Associates, Architects).

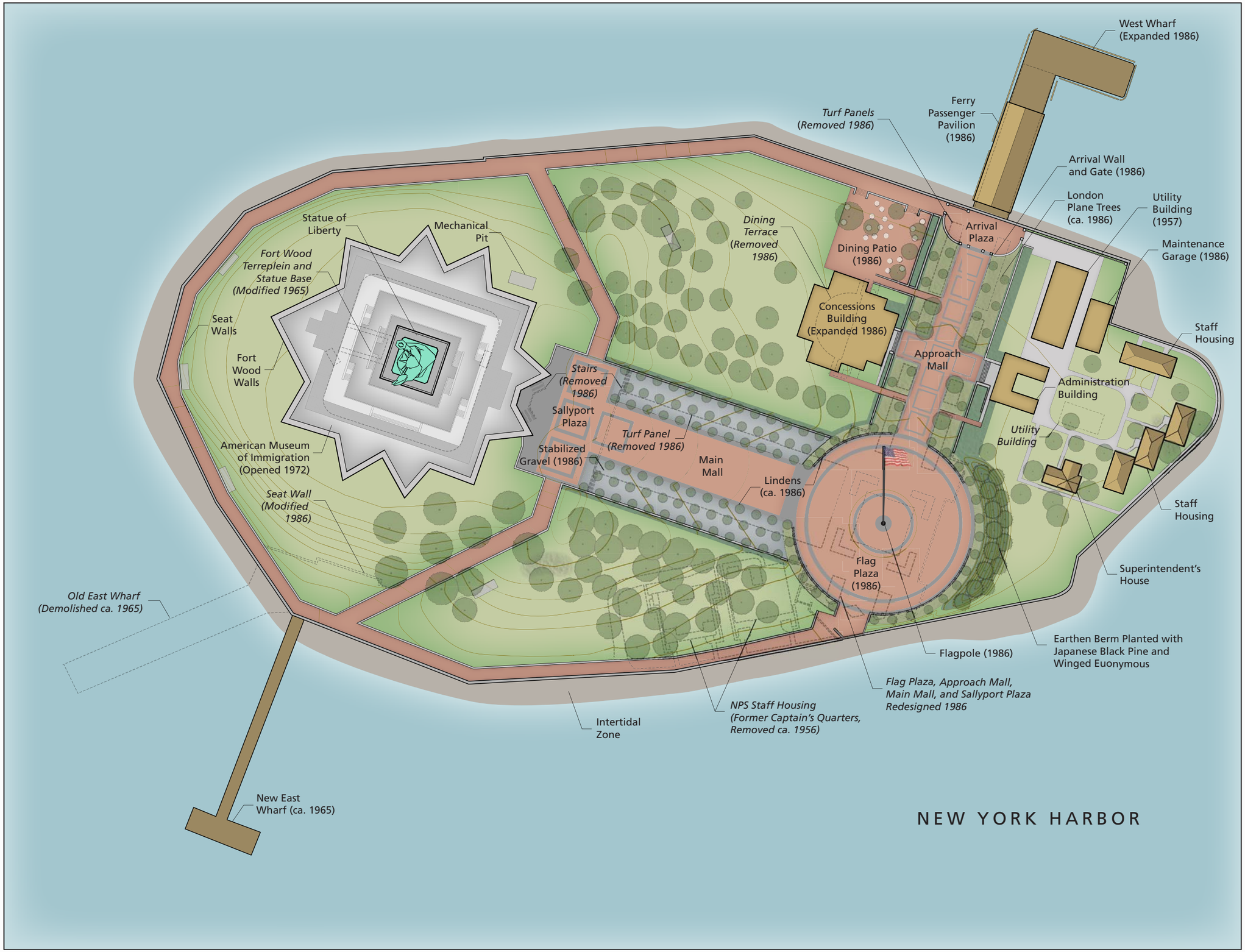
a raised terrace surfaced with brick and enclosed with a brick seat wall and yew hedges.

The rest of the island largely retained the layout that had been established by the master plan. The cluster of residential buildings on the north end of the island remained virtually unchanged, except for the removal of the temporary storage building and its replacement with a larger storage and maintenance building. Likewise, circulation, consisting of the walks around the perimeter of the island and the two interior wing walks that embraced the star fort, largely retained their original alignment with minor adjustments. Trees throughout the island had fully matured and were growing over open lawn areas, creating an open park-like character.

Cultural Landscape Report for Liberty Island

Statue of Liberty National Monument
New York and New Jersey

1986 Period Plan



National Park Service
Olmsted Center for Landscape Preservation
www.nps.gov/oclp

in partnership with
Department of Landscape Architecture
Center for Cultural Landscape Preservation
SUNY College of Environmental
Science and Forestry, www.esf.edu/la/cclp

SOURCES

1. "Site Plan & Improvements," 22 July 1985, Statue of Liberty National Monument. US Department of the Interior, National Park Service, Statue of Liberty - Ellis Island Foundation, Inc.
(Refer to NPS eTIC drawing 356-116034)

DRAWN BY

James Mealey, Illustrator CC, 2021

LEGEND

- Building
- Concrete surface
- Stabilized gravel surface
- Masonry seawall
- Concrete seawall
- Tree
- Grass
- Hedge
- Planting Bed
- Intertidal zone
- Water
- Brick surface
- Wood surface
- 1′ contours
- Feature removed during period (dashed)
- *Lorem ipsum* — Removed feature label (italics)
- (1892) — Date feature added during period

NOTES

1. All features shown at approximate scale and location.
2. Drawing shows landscape circa 1986.
3. Dates of construction/removal shown where known.

North

0 87.5 175 feet 350

Drawing 1.16

LIBERTY'S SECOND CENTURY: 1987–PRESENT

Following the centennial, fifteen years passed with few significant changes to the Liberty Island landscape. The east pier and mall areas saw the addition of two hexagonal concessions kiosks and several mobile food sales units. New canopies and signage were added to the site and the plantings were revised, including the addition of yew hedges to help direct foot traffic, removal of several trees, and replanting of cherry trees and lindens.[350] A long, rectangular tent was added to the Main Mall in the late 1990s to provide shade and shelter for those waiting to enter the statue. On the star fort, routine maintenance was conducted during the spring of 1987, including plans for pointing and caulking the walking surface of all three promenade levels.[351]

Despite all of the work that was completed for the centennial projects, the park continued to struggle with a number of issues related to capacity, visitor services, and the condition of the island's facilities. The American Museum of Immigration, deemed "cramped and inadequate" soon after opening in the 1970s, remained problematic, as its location was within the walls of the star fort, inaccessible to visitors who did not intend to wait in the long line to ascend the statue. In September 1990, the Ellis Island Museum of Immigration opened to the public, offering much of the same programming as its Liberty Island counterpart. The museum on Liberty Island was permanently closed in January of 1991, although an art gallery called the "Bartholdi Gallery" remained open within the museum space for several more years.[352] Concessionaires also used portions of the vacated museum space in support of several commercial ventures and for storage.

9/11 RESPONSE AND SECURITY ISSUES

As the terrorist attacks of September 11, 2001 unfolded, ferry service to Liberty Island was suspended, and no visitors arrived at the island that morning. The stricken towers of the World Trade Center in Manhattan were clearly visible from Liberty Island, less than two and a half miles away (Figure 1.106). The United States Park Police New York Field Office identified the Statue of Liberty, a national icon, as a potential target, and relocated themselves to Ellis Island where they were better positioned to respond if it became necessary.[353] United States Park Police Captain Neal Lauro directed the evacuation of Liberty Island.[354] Park Police ferried staff to the mainland while using boats to form a security perimeter.[355]

As National Park Service staff reacted to the terrorist attack, they tried to assess the risks and to protect potential secondary targets. Culturally and nationally significant sites across the country were put under immediate twenty-four hour security watch, including Boston Navy Yard where the USS Constitution was berthed, Independence Hall in Philadelphia, the Gateway Arch at the Jefferson National Expansion Memorial in St. Louis, Mount Rushmore, and the major monuments

and memorials in Washington, D.C. Although Secretary of the Interior Gale Norton ordered as many parks as possible to re-open on September 12, those in the New York City area were excluded from her order.[356]

Liberty Island remained closed following the attacks as the park worked to ensure adequate screening for visitors before accessing the island and the statue. Prior to 9/11, visitor security screening of statue visitors was initiated in 1993 after the first terrorist attack on the World Trade Center. The pre 9/11 screening station was located inside the lobby of the statue base, applying only to those visitors entering the statue, and leaving those arriving on the island itself unscreened. Following the attacks, visitors underwent enhanced screening at Battery Park and Liberty State Park before they boarded the ferry boats to go to Ellis Island or Liberty Island.[357] With these measures in place, the island reopened to visitors in December 2001, but the statue and pedestal remained closed.

Attention then turned to securing the star fort entrance and providing secondary screening for visitors wishing to ascend the pedestal and statue. A steel security fence was built to fully enclose the sally port plaza, and the white event style tent on the Main Mall was expanded and improved to provide space for security screening, as well as space for lockers for visitors to store personal items while inside the pedestal (Figure 1.107). Two wooden staircases were constructed at the north side of the star fort to provide egress from the terreplein level to the sally port plaza. The pressure-treated timber staircases exited within the fenced enclosure with exit-only turnstile gates providing access back to the Main Mall. (Figures 1.108 and 1.109). The tent and the wooden stairs were meant to be temporary while permanent solutions could be designed and implemented. With these measures in place, the interior spaces of the historic star fort, the vacant museum structure, and the pedestal reopened to the public in 2004.[358] The statue itself

Figure 1.104. Photograph of the Statue of Liberty and the burning World Trade Center on September 11, 2001; photo attributed to NPS employee Gene Kuziw (Statue of Liberty National Monument, Bob Hope Library).

remained closed for five more years, opening with limited capacity on July 4, 2009.

During this time, the park continued to consider additions and alterations to the Liberty Island landscape to improve visitor experience and address ongoing issues. In 2006, the National Park Service undertook a planning project to consider creative ways to improve visitor services and interpretive opportunities in the island. Called Discover Liberty!, the project explored opportunities for outdoor exhibits, interpretive/orientation nodes, and a redeveloped eastern pier (Figure 1.110). Although the planning exercise did not result in landscape changes, it was a step toward reimagining the function of the statue grounds that would lead a decade later to the construction of a new museum and rehabilitation of the island landscape.

In 2010 a temporary gift pavilion was constructed immediately south of the existing outdoor dining patio (Figure 1.111).[359] The gift pavilion was built on pilings driven into the ground and contained a gift shop and visitor restrooms, replacing restroom facilities once located on the mezzanine of the original concessions building. This structure was originally privately owned by the concessionaire, who was required to remove it from Liberty Island when the contract expired, but it was later acquired by the park and retained. A small grove of London plane trees was donated by the Women's Auxiliary of the Veterans of Foreign Wars and planted at the northeast lawn in 2004, dedicated as the 9/11 Memorial Grove. After 9/11, seasonal staff no longer lived on the island, leaving only the superintendent's quarters occupied. The former staff residences were used as offices, day quarters, and storage for law enforcement, emergency responders, and the park's interpretive development program.[360] Plans of the island prepared by the Historic American Building Survey/Historic American Engineering Record document planting and structures on the island in 2011 (Figure 1.112).

The crown of the statue had long remained closed to the public following the 9/11 attacks, as the statue's identification as a potential terrorist target brought into focus many dangers, including multiple code deficiencies. Being directed by Congress to minimize any risks to visitors and to reopen the statue to visitation, the National Park Service designed and implemented approximately two million dollars of safety improvements, including raising the height of the handrailings on the winding helical interior stairway. The statue was reopened to visitors on July 4, 2009.

On October 28, 2011, being at that time fully opened to the public, the Statue of Liberty National Monument celebrated the 125-year anniversary of the *Statue of Liberty Enlightening the World*. The following day, the interior of the Statue of Liberty's pedestal was closed to the public to begin a year-long renovation to improve life-safety conditions. Project elements included new methods of egress from the statue and pedestal, replacing doors and adding staircases, ramps, and openings out of the American Museum of Immigration structure. Along with this work,

Figure 1.105. Oblique aerial photograph, c. 2004, showing security measures put in place following the terrorist attacks of September 11, 2001. These measures included a larger temporary event tent for secondary security screening, steel security fencing at star fort entrance, and temporary timber stairs providing visitor egress from the terreplein level of the star fort (Statue of Liberty National Monument, Bob Hope Library).

steel security plates, fire-suppression systems, and emergency lighting were added or extended inside the monument.[361] This project also included the construction of a permanent flight of stairs leading from the terreplein level of the star fort to the short corridor between the large bronze commemorative sally port doors and the interior lobby. This new set of exterior stairs providing egress from the terreplein level made it possible to remove the temporary pressure-treated wooden staircases accomplishing this purpose since 2004. On October 28, 2012, the interior of the Statue of Liberty briefly reopened on the 126-year anniversary of its dedication, only to be closed once again the following day due to the approach of Hurricane Sandy.

HURRICANE SANDY AND A NEW MUSEUM

On October 29, 2012 Hurricane Sandy made landfall in New York and New Jersey. The large storm brought a fourteen-foot storm surge to New York Harbor, which covered seventy-five percent of Liberty Island and caused major damage to its buildings, infrastructure and landscape.[362] The water flooded the basement of all buildings on the island, except the star fort, and severely damaged the piers, perimeter walkways and railings, as well as the off-site visitor screening stations at Battery Park and Liberty State Park (Figure 1.113). The storm destroyed the infrastructure for electric, water, sewer utilities, HVAC, phone lines, security systems, and radio equipment.[363]

Repairs to the island's infrastructure and many of its buildings occurred in 2013, including extensive repairs to non-residential buildings, gift pavilion, paved walkways, seawalls, and utilities.[364] The perimeter walkway was resurfaced with precast concrete pavers, and the perimeter railing and east pier were rebuilt. Many of the London plane trees on the Approach Mall never recovered from the saltwater inundation, and several trees declined and died over time.

On-site staff residence buildings bore the worst of the storm damage (Figure 1.114).[365] These structures, built as part of the park master plan developed before World War II, had long been plagued with maintenance issues, and except for the superintendent's quarters, had not been used as residences since 2001. As other parts of the island were repaired and the park reopened to visitors, the staff residences remained vacant and unrepaired. Because the residences were identified contributing elements of the National Register district, multiple treatment alternatives were considered, including repurposing the second floors of the duplex and the Superintendent's House. Ultimately, the anticipated cost of the measures necessary to protect these buildings from future flooding was prohibitive and could not be reconciled with National Park Service climate resilience guidelines.[366] In light of the existing damage and the extreme measures required to protect the structures from future storms, park leadership endorsed demolishing the buildings and replanting the area with turf.[367] The compliance consultations for demolition stipulated detailed documentation of the historic staff

Figure 1.106. Photograph, c. 2004, documenting the design of the steel security fencing and the temporary timber stairs installed to facilitate visitor egress from the statue's masonry pedestal and the terreplein level of the star fort(Statue of Liberty National Monument, Bob Hope Library).

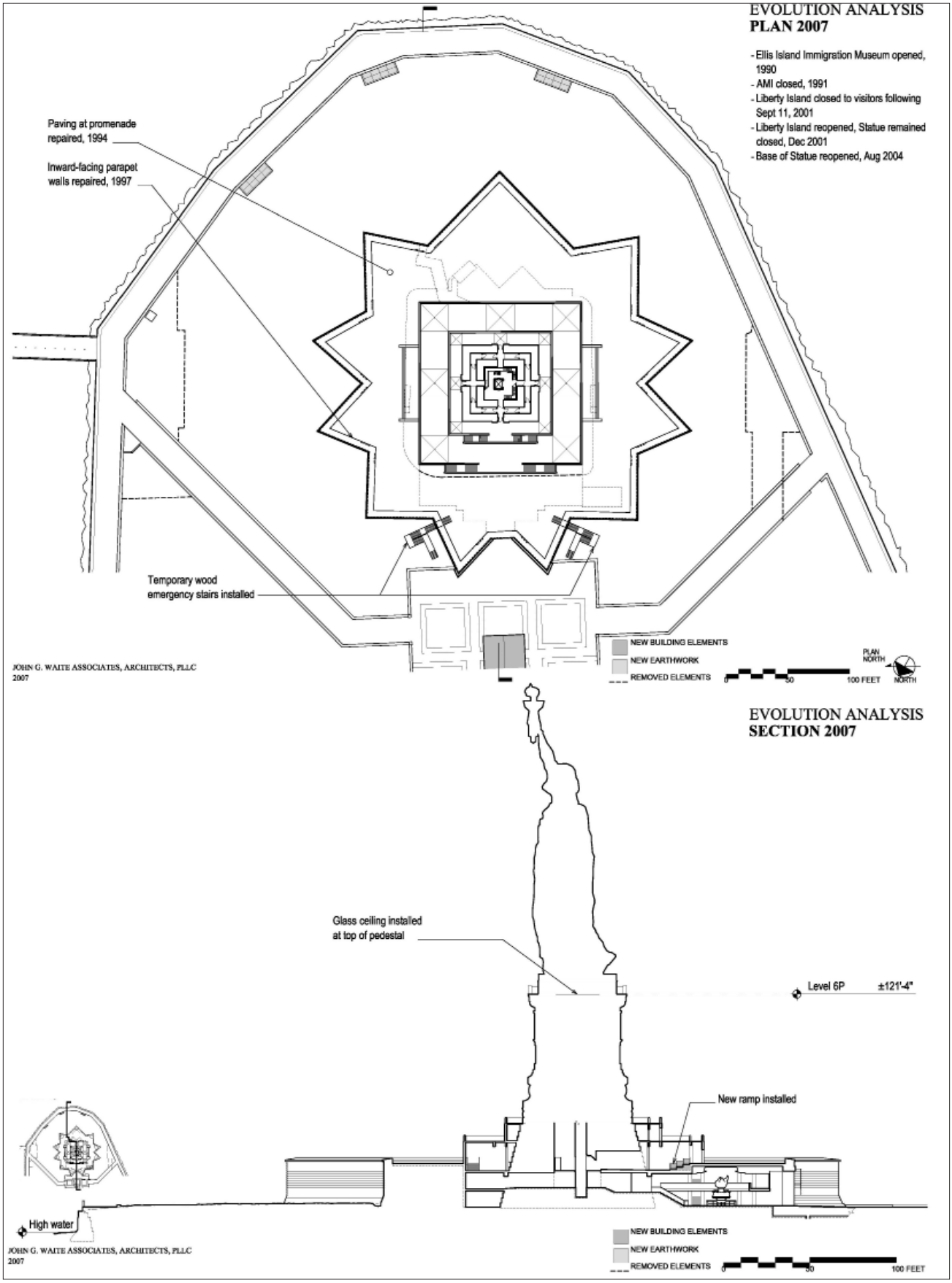


Figure 1.107. Evolution/Analysis drawings illustrating Fort Wood conditions c. 2007. Although in place by 2007, the post 9/11 steel security fencing is not indicated on these drawings (Fort Wood Historic Structure Report, John G. Waite Associates, Architects).

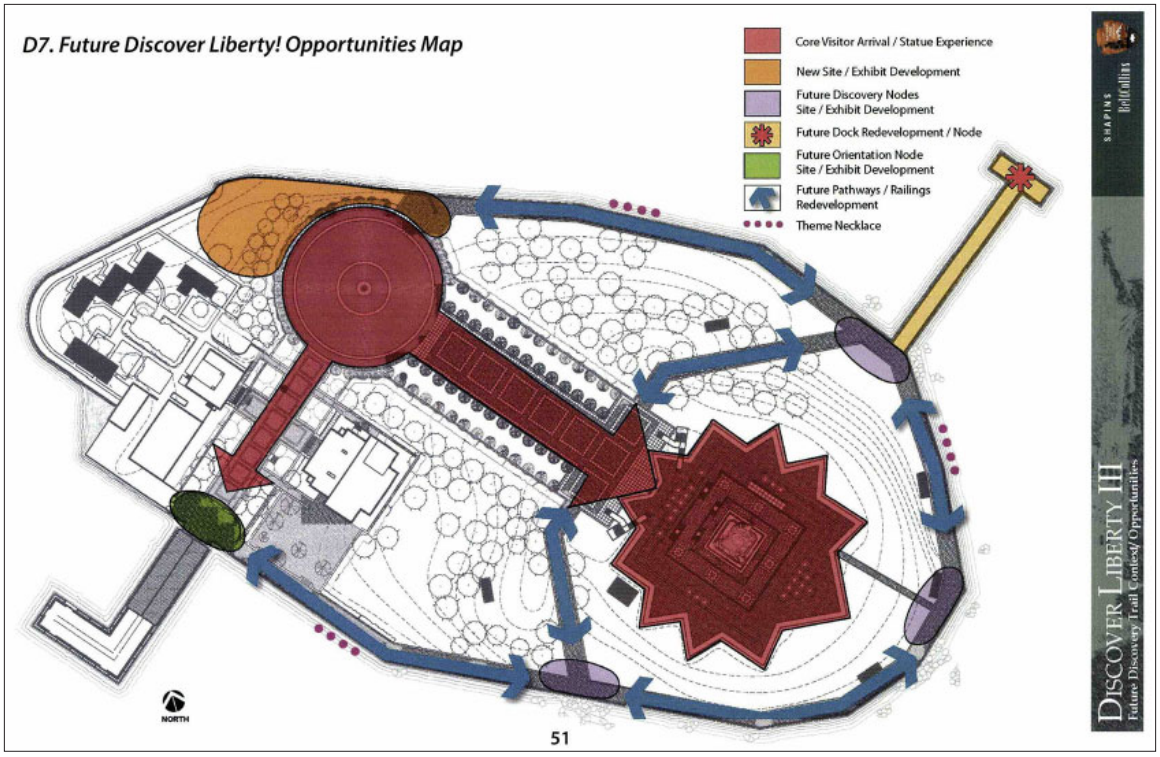


Figure 1.108. Discover Liberty! Opportunities Map. A planning exercise undertaken between 2006 and 2008, Discover Liberty! identified visitor services and interpretive opportunities on Liberty Island, including the need for additional exhibit space development, indicated in organge. (NPS Denver Service Center, eTIC)

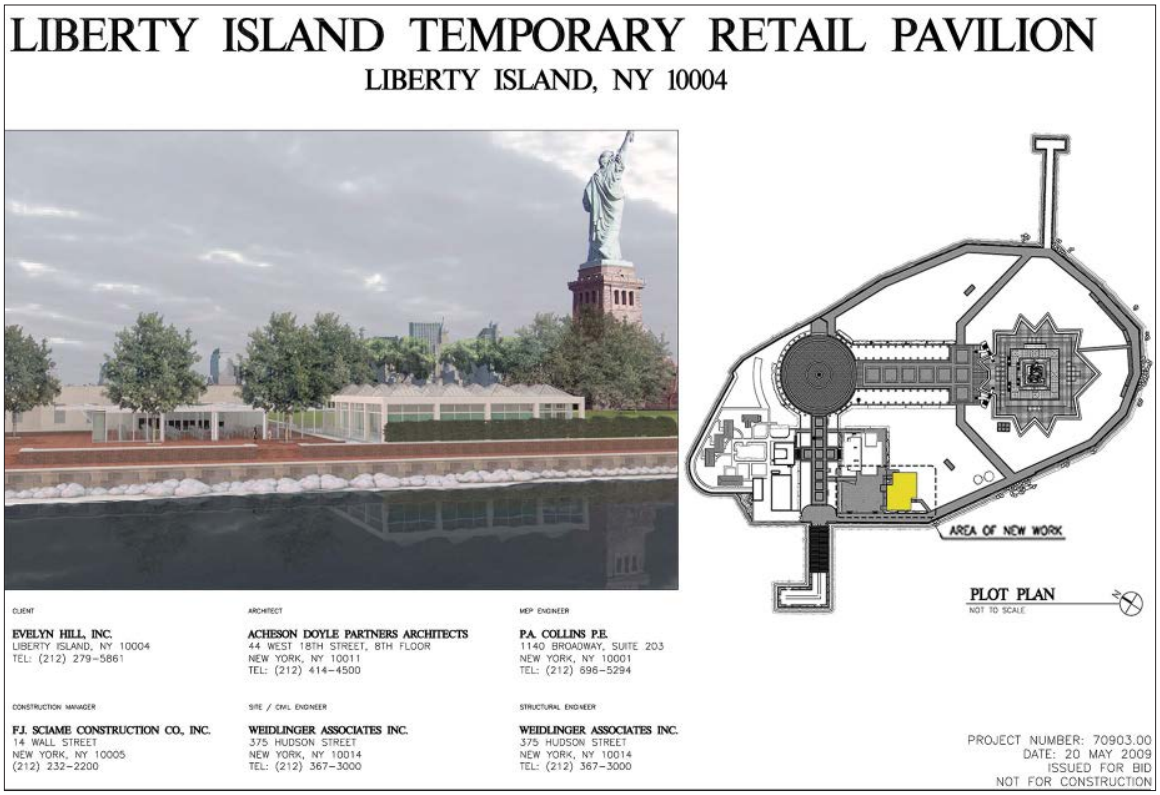


Figure 1.109. Plan showing the location and an architectural rendering of the gift pavilion. The temporary structure, constructed in 2010 on pilings to minimize ground disturbance, was built to add space for expanded retail use and visitor restrooms. Originally the personal property of the park concessionaire, the gift pavilion is now owned by the park. (NPS Denver Service Center, eTIC)

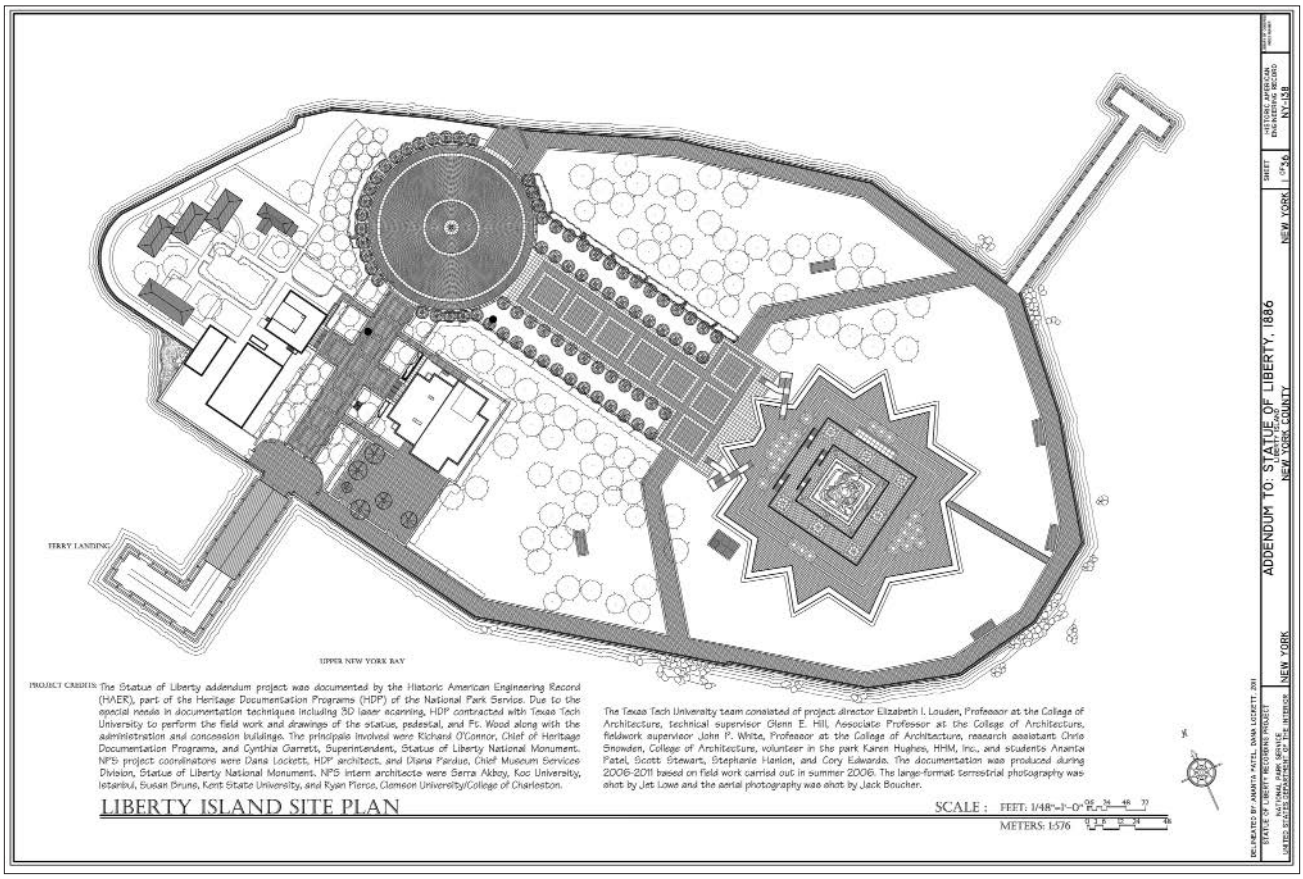


Figure 1.110. "Liberty Island Site Plan," 2011. Preparing this documentation brought the Historic American Engineering Record program into partnership with park staff and with Texas Tech University between 2006 and 2011. This effort employed terrestrial laser scanning in order to achieve extraordinary precision. (Historic American Engineering Survey, Ananta Patel and Dana Lockett, delineators)

residences would take place prior to the removal of the buildings.[368] Additionally, two large office trailers were located on site replace the space devoted to staff locker rooms that had formerly been located inside the residences.

Statue of Liberty Museum

The decision to remove the residence buildings opened space on the island and renewed discussions of building a new museum facility. The concept of a new museum had been under consideration for a number of years, with planning efforts frequently identifying the need for expanded and improved interpretive facilities. In June of 2014, the park submitted a request to build a new museum facility to:

> . . .tell the stories of the Statue, including the history of her creation, her impact around the world, and the ideas of liberty as inspired and represented by the Statue. This will include, but is not limited to, the origins of the idea for the Statue, her construction, the 1986 restoration, the Statue's role as cultural icon appearing in songs, poems, ads, political cartoons, and novelties, the changing meanings of the Statue, and the themes of "Liberty" and "Freedom.[369]

One of the primary benefits of building a new museum building was moving museum functions out of the base of the pedestal, an area that required reserved tickets to enter. Visitors with tickets to enter the statue comprised only about twenty percent of those coming to the island. Most visitors, approximately 80 percent of those stepping off of the ferry boat onto Liberty Island were limited to a

walking tour of the landscape.[370] Except for audio tours, no interpretative materials existed on the island that were accessible to all visitors. A new museum would offer improved interpretive opportunities to all island visitors, as well as provide much-needed visitor services and administration space.[371]

Once again, The Statue of Liberty-Ellis Island Foundation stepped up to raise money for the new museum. Stephen Briganti, President and CEO of the foundation, had been involved in the fundraising for the prior centennial statue restoration, as well as a number of important projects on Ellis Island. Now he enlisted the help of fashion designer Diane von Furstenberg to raise the private funds needed to design and construct the museum. Originally scoped to fund the design and construction of the new museum, the overwhelming success of the partner

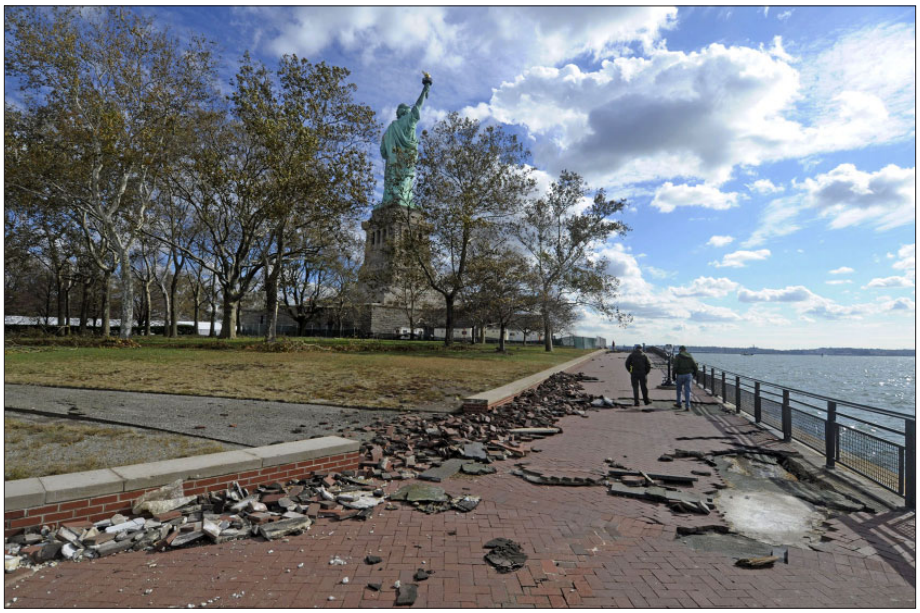


Figure 1.111. Photograph, November 2, 2012, immediately following Hurricane Sandy. Extensive damage to the island's seawall, paved surfaces, and housing units took years to repair. Ultimately, the decision was made not to repar park housing, which was eventually demolished according to the provisions of a Memorandum of Agreement with the New York State Historic Preservation Office (Statue of Liberty National Monument, Bob Hope Library).

Figure 1.112. Photograph, June 18, 2014, showing damage to the exterior of the park housing units. This documentation, prepared according to Historic American Building Survey (HABS) Level 1 standards, was required prior to demolition (Statue of Liberty National Monument, Bob Hope Library).

fundraising campaign generated sufficient funds to adopt the design and construction of a permanent free-standing secondary security screening building. Until this time, responsibility for planning and funding the new security building had belonged solely to the National Park Service. Given that partner fundraising for the museum project had been more successful than anticipated, and the scope of the partnership project was expanded to include the construction of the security building and ancillary landscape improvements. In all, the foundation raised more than $100 million for the project.

In November 2014, the design group ESI Design created a design concept report presenting the plans developed in conjunction with the National Park Service and The Statue of Liberty-Ellis Island Foundation, over the previous four months.[372] The design report outlined project goals, exhibit content, spatial design, visitor statistics, and museum themes, as well as other key planning ideas. This document also set out a plan for an outdoor exhibit called the Reflection Pathways Experience. The proposed outdoor exhibit, which would have allowed visitors to interact with seven full-scale replica pieces of the Statue of Liberty placed around the island's outer perimeter walkway, was later removed from the plan.[373]

Translating these concepts for a new architectural design for the new museum was undertaken by the architecture firm FXCollaborative, led by partner architect Nicholas P. Garrison. The modern building design featured low, horizontal roof lines and walls of glass to help blend the large structure into the landscape and minimize its visual impact (Figures 1.115 and 1.116). In documents submitted to the UNESCO World Heritage Center Director, Stephen Morris, the National Park Service Chief of the Office of International Affairs, explained that "to maintain the integrity of the property and its setting, the proposed museum will be carefully located and designed so as not to create any visual distraction or detriment to the Statue's appearance."[374] Morris further offered that plans to reduce the visual impact of the museum including screens of trees, and the green roof, which "will help it to recede into the background for people viewing it from the pedestal or the Fort Wood terreplein."[375] Also, "the roof of the new building would be approximately at the same height as the top of the walls of Fort Wood, on top of which the Statue pedestal sits" so that the building would not detract from views of the statue rising out of the island (Figure 1.117).[376]

According to FXCollaborative, the design of the new museum enhances the experience of Liberty Island for all visitors by merging building and landscape. Planted with native vegetation, the building's steps, terraces, and roof are "lifted" above the main pedestrian mall, carrying visitors onto the site and creating new environments for viewing, resting, and picnicking. Using materials linking the future of the island with its past, the asymmetrical design of the building embraces its dramatic setting and changes form as visitors move in, on, and around it, reinforcing the idea of liberty as a diverse and pluralistic concept.

To address flood concerns and remain in compliance with National Park Service and federal agency construction guidelines, the museum was specially designed to mitigate potential damages, and be "resilient to future climate change."[377] The site for the new structure lay within the 100-year floodplain, and much of the area was within the FEMA limit of moderate wave action (FEMA 2015).[378] Museum planners justified construction of the museum within the flood zone with the rationale that:

> . . . most of Liberty Island is within a flood zone. . .therefore, although the construction of the new museum must occur within the floodplain, the extent of development, placement of structures, and types of structures and associated facilities would be selected to minimize impacts.[379]

To protect the new museum from flooding, the finished floor elevation was 5.8 meters above the existing topography.[380] This, combined with the objective of minimizing the visual impact of the building and keeping its overall height below that of the historic star fort, presented design challenges.

The museum, which was designed to achieve a Leadership in Energy and Environmental Design (LEED) Silver certification, eventually earned LEED Gold certification following its completion. Design features including the vegetated living roof terraces and extensive landscape planting would play a role in mitigating stormwater runoff, and reducing energy costs.[381] Granite for the museum's steps and terraces was sourced at the same Connecticut quarry that provided the stone for Richard Morris Hunt's statue base.[382] In addition to communicating with the UNESCO World Heritage Center regarding the planned museum, park leadership also consulted with relevant cultural, tribal, and preservation officials.[383] Owing to the high profile of the Statue of Liberty, and Liberty Island, environmental compliance for the proposed new museum included the preparation of a detailed Environmental Assessment (EA).

The statue and the majority of the island remained open during work, with construction taking up the north section of the island and half of the circular flag plaza.[384] In May 2019, the new museum on Liberty Island opened to the public, displaying the statue's original torch, and museum exhibits about the history, construction, and the meaning of the Statue of Liberty as a physical representation of intangible concepts (Figure 1.118).

New Security Screening Building

Part of the money raised by The Statue of Liberty-Ellis Island Foundation was used for the design and construction of a new permanent security screening building to replace the temporary white tent on the mall.[385] The new facility would "contain four screening lanes and be located east of the entrance plaza aligned with the eastern internal path at the southern edge of the northeast lawn."[386] As with the museum, the security screening building was designed to be incon-

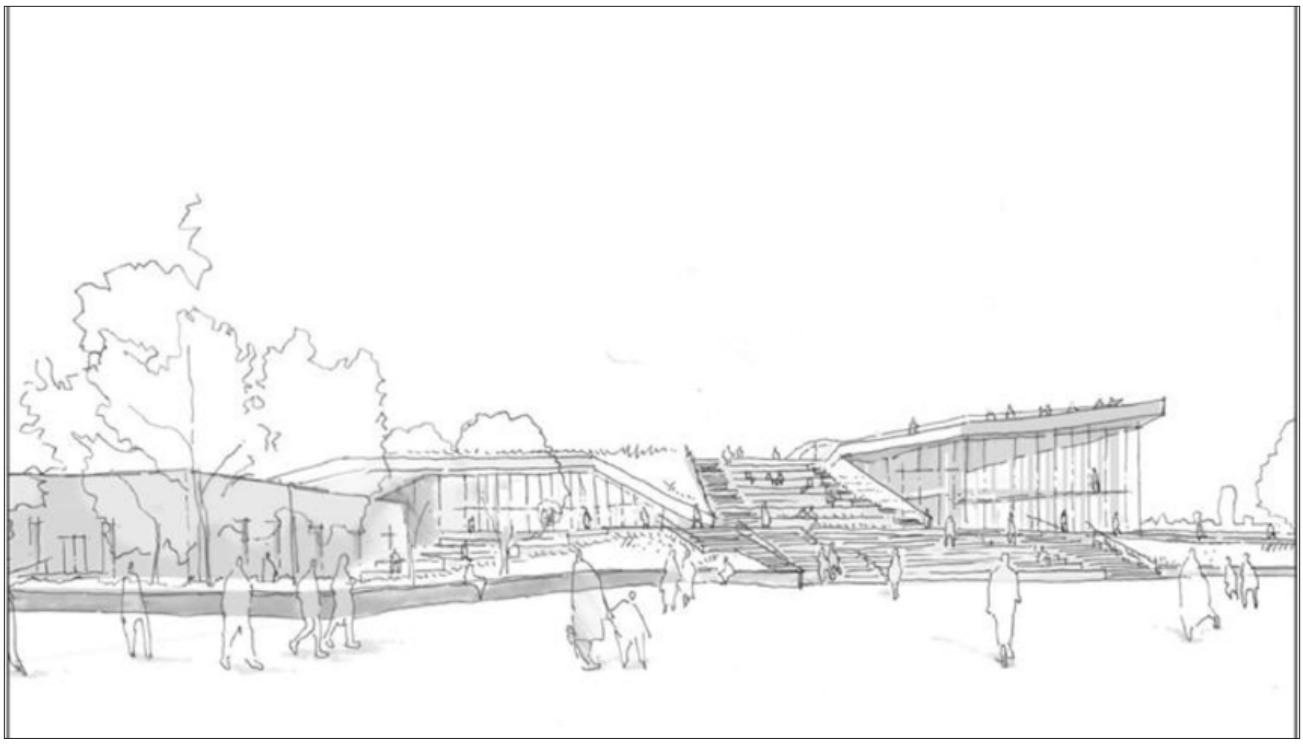


Figure 1.113. "Preliminary Statue of Liberty Museum Concept," Figure 2-2 from the Environmental Assessment for "Statue of Liberty National Monument New Museum Construction," May 2016. (PEPC #53263;Statue of Liberty National Monument).

Figure 1.114. Architectural rendering showing an oblique aerial view of the new museum design. (FXCollaborative)

spicuous in the landscape.

> . . .the view along the Main Mall from the flag plaza toward the Statue was designed as the visitor's first unobstructed view of the Statue. . .However, when visitors turn at the flag plaza, their view now includes a large white security tent at the base of the Monument, which blocks views of Fort Wood and the Monument entrance.
>
> The new facility would not impact views from the Island toward New York and New York Harbor. Although people standing on the terreplein of Fort Wood would be able to look down and see the screening facility, the building would be well below the height of the terreplein walls and the roof is expected

> to blend in either through color or through the use of a living roof, so that it is minimally impactful.[387]

Staff also hoped that moving the facility out of the island's primary outdoor spaces would decongest pedestrian traffic and improve the visitor experience.[388]

Landscape Rehabilitation

After Hurricane Sandy, the worst of the landscape damage was quickly repaired, but numerous problems remained. Much of the storm damage was less obvious and became deferred until funds became available. Issues that had troubled the park long before the storm were made worse by the flooding, while the full scope of some damage, such as the effects of saltwater on vegetation, became more evident with the passage of time.[389] The gray granite inset pavers installed on the malls in 1986 were designed to support pedestrian traffic, and the passage of heavy equipment during two statue rehabilitation projects and Hurricane Sandy recovery work had caused significant damage. The loose, cracked, and uneven pavers presented a safety issue and created unsightly conditions. On the Main Mall, the bosques of linden trees had originally been planted over a surface of stabilized granite. Following the 1986 centennial year, the gravel had become topped with asphalt pavement, and this hastily applied surface itself deteriorated to a poor condition, with cracks, holes, and opportunities for weed growth. Areas of the mall were routinely roped off or barricaded to restrict visitor access out of concern for safety.

On the Approach Mall, the London plane trees had been damaged by the wind and salt water during the storm, and many had died (Figure 1.119). Likewise, the linden trees on the Main Mall were in poor condition, exhibiting storm damage, but also long suffering under inadequate growing conditions. The trees were

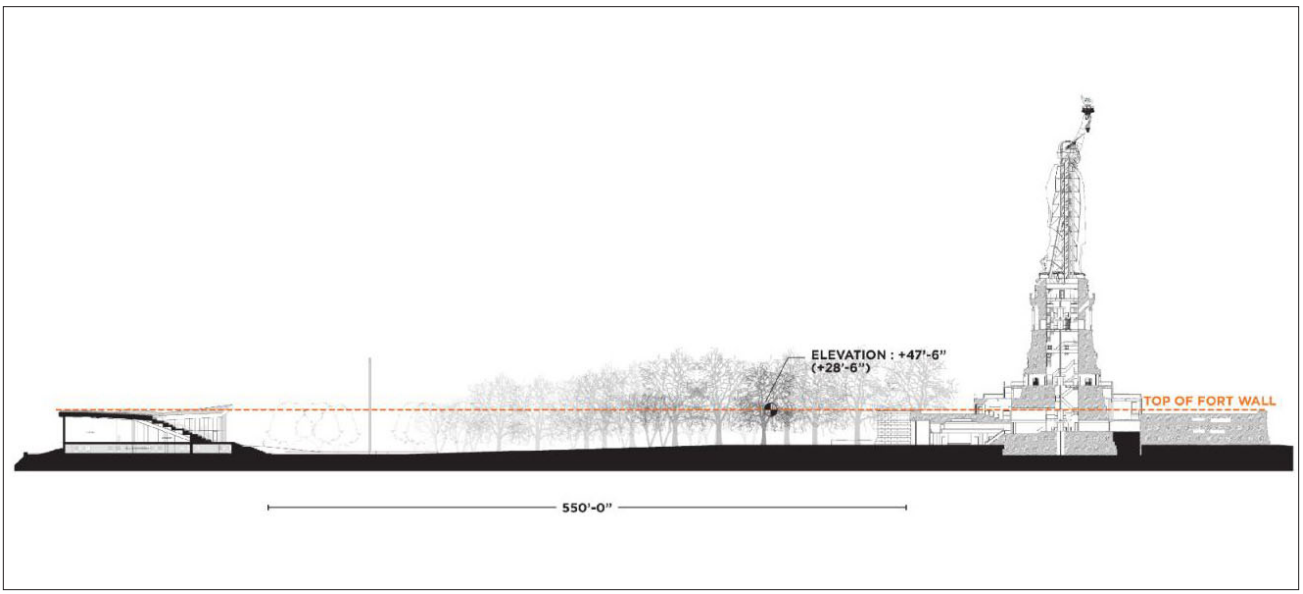


Figure 1.115. "Relationship of the New Museum to the Monument," Figure 2-3, Environmental Assessment for "Statue of Liberty National Monument New Museum Construction," May 2016. The design of the new museum on Liberty Island was to remain true to the fundamental concepts of the pre-war park master plan. Remaining subordinate to both the statue and the star fort, the proposed museum reached no higher than the historic fort's parapet walls. Additionally, the new building was located near where the pre-war master plan had intended a small boat basin. At this location, the new museum provides an effective terminus to the north-south design axes, as had been intended in Norman Newton's original design. (PEPC #53263; Statue of Liberty National Monument).

Figure 1.116. (Right) Photograph looking southeast down the main mall from the interior of the new Liberty Island Museum, July 16, 2019 (National Park Service, Olmsted Center for Landdscape Preservation, hereafter OCLP).

severely root-bound in their four-foot-square tree wells, and their twenty-foot spacing was too close, leading to overcrowding as the trees matured. In 2007, the middle row of trees on each side of the mall was removed to alleviate the crowding, but the surviving rows of trees remained in poor condition.[390] Other problematic vegetation included the yew hedges, which had grossly outgrown their original design intent and were in poor condition.

There was concern, both within the park and at The Statue of Liberty-Ellis Island Foundation, that longstanding landscape condition issues would greatly contrast with the new work underway, and this contrast would detract from the desired effect of the new museum when it opened. Project proposals, including the replacement of the Main Mall bosques and resurfacing the Main Mall had long been under development and various proposed were awaiting National Park Service funding. Leveraging the extraordinary success of fundraising for the new museum, designer Diane von Furstenberg proposed expanding the scope to include landscape "beautification" measures beyond the new building itself which embraced many of National Park Service proposals for the landscape that had been awaiting funding. Coordinating separate yet related landscape projects that maintained strict accountability between federal and private fund sources, the park embarked on a two-year program of landscape rehabilitation. MPFP Landscape Architects were commissioned to produce existing conditions plans and to develop concept proposals for the landscape beautification elements conceived of by von Furstenberg (Figures 1.120 and 1.121).

Early concepts for landscape "beautification" prior to the completion and opening of the new museum took a fanciful turn. Planting concepts initially developed in 2018 by MPFP Landscape Architects in collaboration with French garden designer Louis Benech included graphically arranged stripes of flowering plants intended to evoke the "stars and stripes" of the United States flag in plan-view, as an in-

terpretation of a grand French parterre garden. This idea, entirely counterpoint to the central tenet of the pre-WWII park master plan that subordinated every design element in the landscape to the statue itself. This concept of subordination was well understood by park staff, who unambiguously guided the designer toward less a self-expressive planting scheme, largely limited to replacing the former panels of turfgrass lining the Approach Mall with rows of flowering herbaceous plants. Beyond constraining the designer's imaginative planting designs, park staff further stipulated that the landscape beautification project was not to impose:

- Modifications to existing hardscape
- Removal of recent taxpayer-funded work, already in place or under construction
- Changes to character-defining features of the Liberty Island Landscape, such as the existing circulation pattern, the open area of the Statue's front lawn, axial approach, or other design concepts documented in National Register of Historic Places nomination.

The beautification design team was more positively charged with considering alternatives for seasonal and year-round planting beds, street furniture, signage, appropriate tree species for succession planting, options for replacement of yew hedges and any appropriate means for minimizing maintenance, including long-term landscape service contracts.[391]

Landscape work had been initiated as early as 2015, beginning with the removal of the damaged London plane trees on the arrival mall, this National Park Service funded project was followed by the removal of the linden trees and rehabilitation of the Main Mall in 2017. Park staff consulted with the Northeast Region's Olmsted Center for Landscape Preservation to identify vegetation species replace-

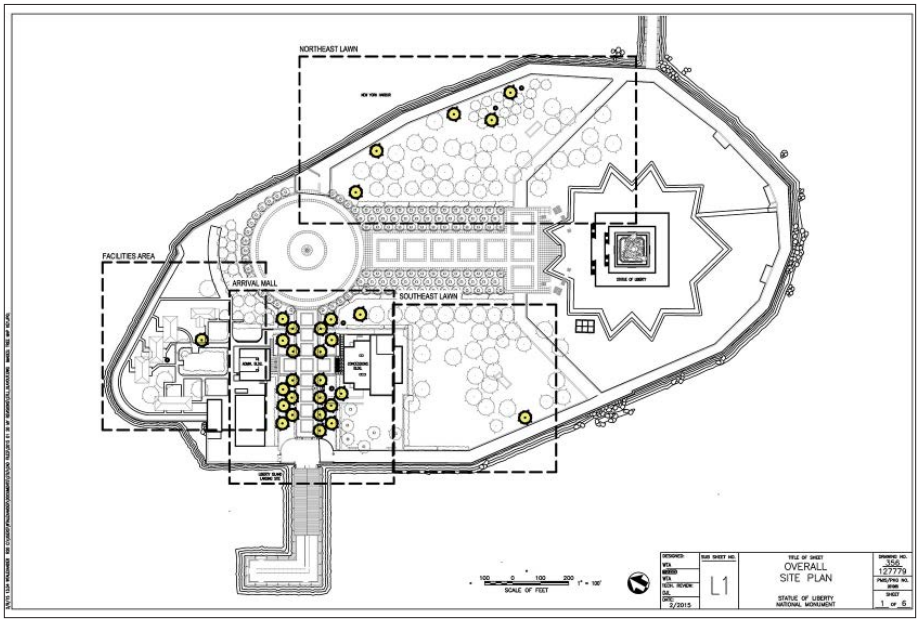


Figure 1.117. "Overall Site Plan" February 2015, identifying storm damaged trees (and stumps) for removal (PEPC #26850; Statue of Liberty National Monument).

ments that would preserve the historic character of the landscape while improving climatological resilience and suitability for the island growing conditions. The London plane trees were replaced with swamp white oak (*Quercus bicolor*), a species more tolerant of periodic saltwater exposure. Partner funded elements of the landscape rehabilitation included the 2018 replacement of the low yew hedges lining the arrival mall with Japanese holly (*Ilex crenata*), and the turf panels were ultimately replaced with flowering perennials planted in rows to emphasize the axial pedestrian movement along the Approach Mall (Figures 1.122 and 1.123).

Paving throughout both pedestrian malls, the flag plaza, and the sally port plaza was rehabilitated, primarily reusing the original red clay bricks. The gray granite inset pavers were replaced with gray bricks, following the 1986 paving patterns. The only portion that did not follow preexisting patterns was the sally port plaza, which was originally paved entirely with gray granite but was redone with red and

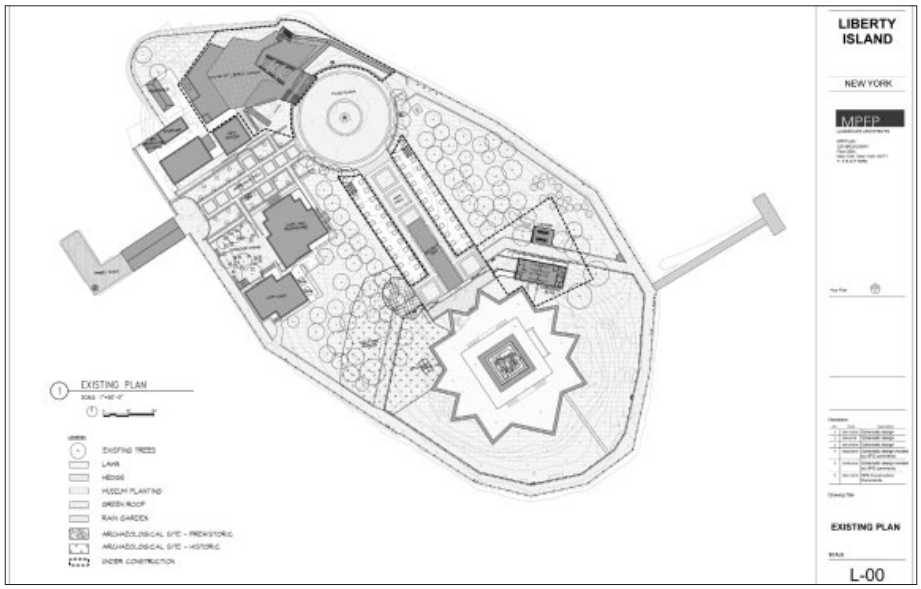


Figure 1.118. "Existing Plan," Construction Drawings for L-00, Liberty Island Landscape Beautification Project, 2018. As both the new museum and new secondary screening facility were nearing completion in 2018, a new project was undertaken to enhance the setting for both the monument and the museum (PEPC #79619; Statue of Liberty National Monument).

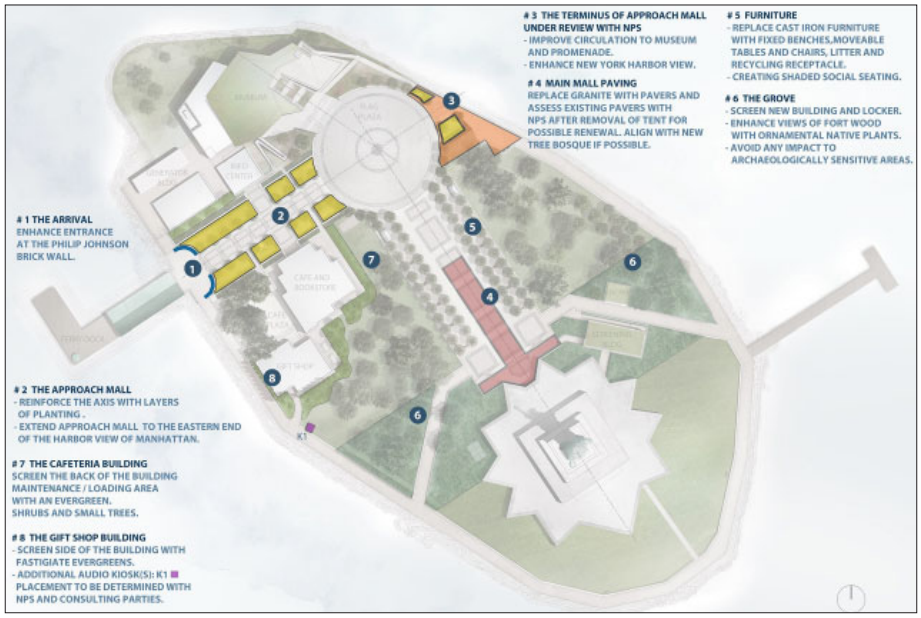


Figure 1.119. "Liberty Island Concept Design," 14 March 2018, Louis Benech/MPFP. This drawing enumerates various proposed elements of the Liberty Island beautification project, intending to improve landscape conditions so that the site would compare favorably with the recently completed museum in time for its dedication and opening the following year. While some of the proposals were incorporated in the final landscape rehabilitation plan, such as the changes to the Approach Mall, others, like the building screening, were not undertaken (PEPC #79619; Statue of Liberty National Monument).

gray bricks in a pattern similar to the malls.

National Park Service funded work on the Main Mall included the removal of the failing linden trees and excavation of the tree pits and soil replacement with a customized structural soil carefully designed for improved drainage and improved health of new plantings. The adjacent walking surfaces were repaved with red bricks with a gray brick pattern matching the rest of the mall. New tupelo trees (*Nyssa sylvatica*) were installed around the circular flag plaza and in tree wells in two rows on each side of the mall, while the overgrown yew hedges that had lined the mall were removed and not replaced (Figures 1.124 and 1.125). While removing the yews, the advanced deterioration of the adjacent seat walls lining the mall became obvious. These deteriorated low walls were entirely rebuilt at great expense. Approximately half of the original granite was found salvageable and reused. The remainder of the required building stone was quarried to match the existing.[392] The effect of this National Park Service funded program of work gave

Figure 1.120. Photograph looking northeast down the length of the Approach Mall showing newly planted swamp white oak trees, holly shrubs, and flowering perennials along the left of the photo, 2019 (OCLP).

Figure 1.121. Photograph looking northeast from the Approach Mall to new Statue of Liberty Museum, July, 2019. The foreground of this image shows the recently completed plantings that were part of the 2018 Liberty Island beautification project (OCLP).

the mall a much more open character, greatly improving views outward through the surrounding trees to the harbor.

A sculptural group of individuals associated with the statue, including Joseph Pulitzer, Emma Lazarus, Frédéric-Auguste Bartholdi, Gustave Eiffel, and Édouard René Lefèbvre de Laboulaye, was moved and reinstalled on the seat wall along the western wing walk near the base of the statue. These existing sculptures, designed by the artist Phillip Ratner that were relocated from their prior location, symmetrically opposite on the east wing walk. This statuary group had long provided an effective backdrop to very popular interpretive talks and were relocated to the new location in order to accommodate a new outdoor locker facility, serving the needs of visitors ascending the statue.[393]

A relatively small but impactful change made to the island landscape in anticipation of the opening of the new museum was the replacement of temporary

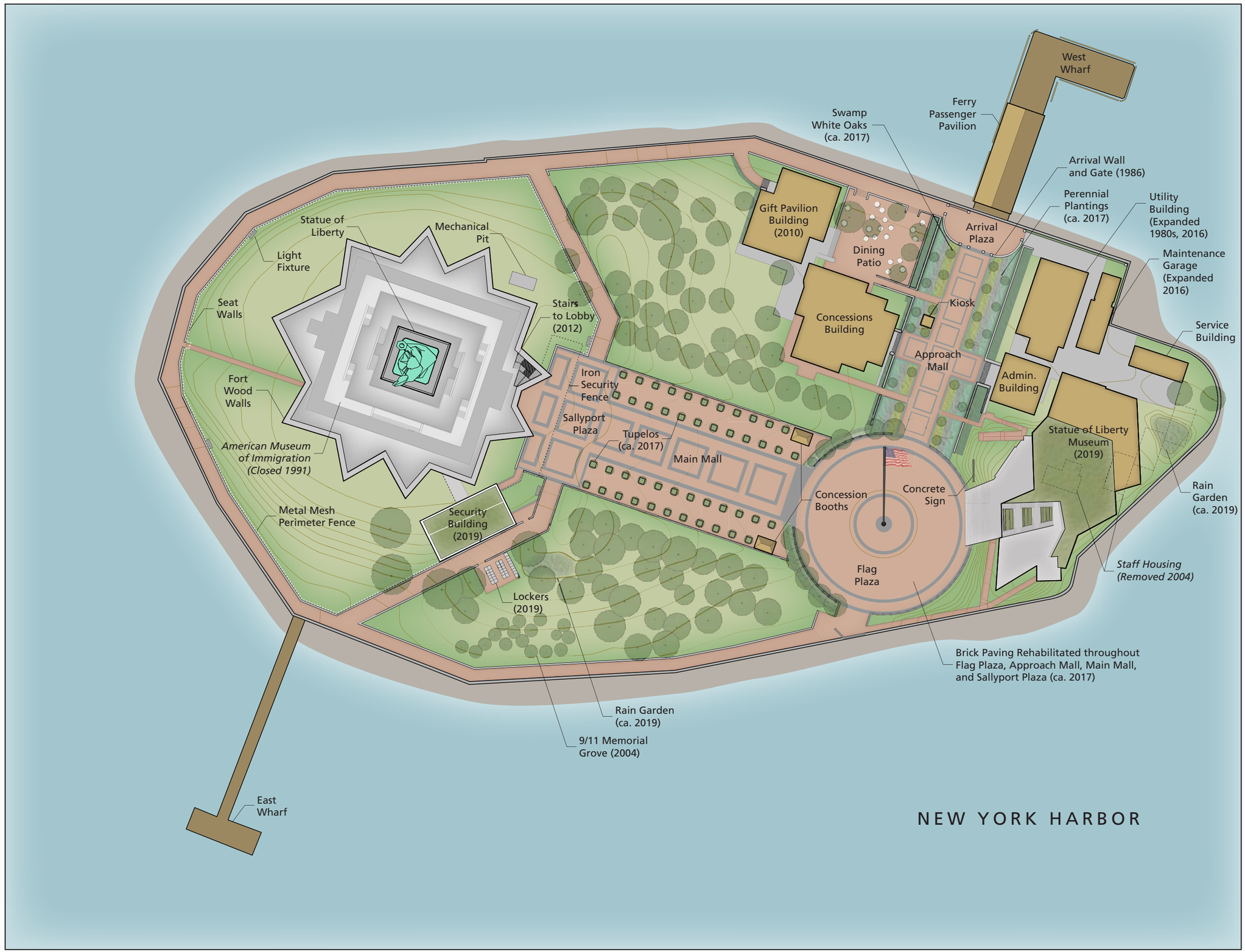
Figure 1.122. View of the main mall looking northwest toward the new museum, showing the newly planted black tupelo trees and white cast iron furnishings (OCLP).

Figure 1.123. View of the Statue of Liberty, main mall, and flag plaza from the roof of the new museum (OCLP).

Figure 1.124. Photograph from the ferryboat looking northeast to the Statue of Liberty, July, 2019. The composition of Bartholdi's copper statue, Richard Morris Hunt's masonry pedestal, and Jonathan Williams' star shaped granite fort has inspired New York City's residents and visitors since 1886. The Liberty Island landscape remains as intended, an appropriate setting for an iconic work of art (OCLP).

pedestrian barriers surrounding the south-facing "front lawn" that lay at the feet of the statue. This temporary barrier system, often seen used in cities to control crowds, had been placed here to enclose the open lawn overlooking the harbor after the terrorist attacks of September 11, 2001. Before the placement of these utilitarian barriers, often referred to as "bike-rack" type barriers, heavy visitation throughout the summer months routinely destroyed this highly visible expanse of turfgrass. Following the placement of the temporary barriers, the lawn experienced a renaissance, and the new untrammeled vitality of the greensward greatly enhanced the artistic effect of the Statue of Liberty. The protected turf thrived to such an extent that the decision was made to make the protection permanent. The temporary pedestrian barriers were replaced with a low fencing system using a loosely woven mesh of stainless steel, stretched tightly between fenceposts. The narrow gage of the mesh rendered the barrier nearly invisible from a distance, while achieving the same discouraging effect on pedestrian traffic as the formerly more visible utilitarian barrier system. [394]

On May 16, 2019 the Statue of Liberty Museum opened to the public following a dedication ceremony presented by the National Park Service and The Statue of Liberty-Ellis Island Foundation (Figure 1.126). At that time, the landscape rehabilitation project was complete, the temporary security tent had been removed, and the new permanent security screening building was made operational. For the first time in nearly two decades, the Liberty Island landscape exhibited a permanent, deliberate character that bore the design hallmarks of both the 1939 master plan and the 1986 centennial redesign, while meeting the needs of the twenty-first century.



Cultural Landscape Report for Liberty Island

Statue of Liberty National Monument
New York and New Jersey

2022 Existing Conditons

National Park Service
Olmsted Center for Landscape Preservation
www.nps.gov/oclp

in partnership with
Department of Landscape Architecture
Center for Cultural Landscape Preservation
SUNY College of Environmental
Science and Forestry, www.esf.edu/la/cclp

SOURCES

1. MPFP Landscape Architecture + Urban Design, New York, 2018, AutoCAD basemap.

2. fxcollaborative, New York, 2018, linework converted from Revit 3D model to AutoCAD

3. Revisions based on field observation, 2022.

DRAWN BY

James Mealey, Illustrator CC, 2021

- Building
- Concrete surface
- Masonry seawall
- Concrete seawall
- Tree
- Grass
- Hedge
- Planting Bed
- Iron security fence
- Metal mesh perimeter fence
- Intertidal zone
- Water
- Brick surface
- Wood surface
- 1′ contours
- Feature removed during period (dashed)
- *Lorem ipsum* — Removed feature label (italics)
- (1892) — Date feature added during period

NOTES

1. All features shown at approximate scale and location.
2. Drawing shows landscape circa 2022-2023.
3. Dates of construction/removal shown where known.

North

0 87.5 175 feet 350

Drawing 1.17

Cultural Landscape Report
Liberty Island

Statue of Liberty National Monument
New York and New Jersey

2022 Digital Model
Plan View

National Park Service
Olmsted Center for Landscape Preservation
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in partnership with
Department of Landscape Architecture
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3. Revisions based on field observation, 2022.

NOTES

1. All features shown at approximate scale and location.
2. Model shows landscape circa 2022-2023.

0 87.5 175 feet 350

Drawing 1.18

Cultural Landscape Report
Liberty Island

Statue of Liberty National Monument
New York and New Jersey

2022 Digital Model
Oblique View

ESF
State University of New York College of Environmental Science and Forestry

Olmsted Center for Landscape Preservation

National Park Service

National Park Service
Olmsted Center for Landscape Preservation
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3. Revisions based on field observation, 2022.

NOTES

1. All features shown at approximate scale and location.
2. Model shows landscape circa 2022-2023.

North

Drawing 1.19

ENDNOTES

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4 Griswold, et al, 2002: 7-11.

5 Griswold, et al, 2002: 7.

6 Benjamin Levine, "History of Bedloe's Island," (Unpublished Thesis, New York University, 1952), as cited in Griswold, 2002: 11.

7 William A. Griswold, "Phase I Archeological Survey, Statue of Liberty Secondary Screening Facility," (National Park Service, Northeast Region Archeology Program, Project No. STLI 2016A, 2017), 3.

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10 Griswold, et al, 2002: 11.

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34 The name "Fort Wood" appears throughout this document as reference to both the physical structure of the star-shaped fort and the larger military presence and mission on the island, see Berg, CLR, 1999, 5, and Fort Wood HSR, 2009,14.

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41 Later photographs show small trees growing within the parade square, although it is unknown when these were planted. See Figure 1.29 and 1.30.

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"Before it can be hoped that these visitors will approach the Statue with a mental attitude properly attuned to its lofty symbolism, the cramped squalor of the present surroundings must be replaced by a setting of appropriately well-ordered dignity. It is clear that ample simplicity, rather than ostentation, will be an essential quality of such an environment."
National Park Service Master Plan, 1939

EXISTING CONDITIONS

Where landscape features and buildings are found capitalized in the following description of existing landscape conditions, such as "Approach Mall," or "West Pier," these names may be understood as consistent with those named features identified and described in the National Register of Historic Places documentation updated 14 September 2017 (NRIS Reference SG100000829).

The Statue of Liberty National Monument – Liberty Island is a 14.1-acre historic district located in New York Harbor. The district is located 1.65 miles southwest of Manhattan, New York and 0.35 miles east of Jersey City, New Jersey. Administratively, Ellis Island is also a part of the Statue of Liberty National Monument, located just to the north of Liberty Island. Liberty Island is a small harbor island approximately 0.25 miles long and 0.15 miles wide at its widest point and has an average elevation of about fifteen feet above sea level. The *Statue of Liberty Enlightening the World*, the iconic colossal statue given to the United States by France and dedicated on 28 October 1886, is located atop the Fort Wood Walls near the south shoreline of the island while most other structures on the island are clustered together near the northern shoreline (Figure 2.1).

Figure 2.1. Existing Conditions. Liberty Island as seen from the water approach from the east, 2023, (Olmsted Center for Landscape Preservation, hereafter OCLP).

Visitors arrive to Liberty Island on the West Pier, an L-shaped structure extending approximately 215 feet off the shore. The pier is approximately forty feet wide and is constructed on timber pilings of heavy wood plank decking with a 120-foot-long copper-clad gable-roofed pavilion on the northern end that connects to the island. A small copper roofed octagonal building stands on the outer southwest corner of the pier (Figure 2.2).

Figure 2.2. The West Pier, Existing Conditions, Liberty Island, 2023 (OCLP).

Moving eastward from the West Pier is the Arrival Plaza. The Arrival Plaza is a semi-circular space paved with red concrete pavers laid in a herringbone pattern and bordered on the north and south sides by tall curved red brick walls. Bronze letters are applied to the southern curved wall identifying the site as the *"Statue of Liberty National Monument, United States Department of the Interior, National Park Service."* Straight brick walls runs along the Liberty Island Seawall on either side of the pier. All brick walls surrounding the Arrival Plaza include brick columns topped with an oversized spherical, cast-concrete finial. These curved walls together with accompanying brick pillars fitted with hinged bronze gates, form a gateway leading visitor into the site, beginning a carefully designed sequence of visitation (Figure 2.3 and 2.4).

Past the gateway at the Arrival Plaza, a visitor enters the Approach Mall extending eastward between the Arrival Plaza and Flag Plaza. The pedestrian route along the Approach Mall is flanked by the Administration and Concessions buildings at the Approach Mall's eastern end. The Approach Mall walking surface is paved with red brick pavers featuring inset panels of red brick pavers outlined with contrasting gray/brown pavers. Garden panels flanking the paved surface of the Approach Mall are planted with herbaceous perennials interplanted within allees of swamp white oak (*Quercus bicolor)*. The garden panels, equipped with a subsurface irrigation system, are further outlined with recently installed shrub plantings of inkberry holly (*Ilex glabra*). Mature shrub plantings of yew *(Taxus sp),* predat-

Figure 2.3. The Arrival Plaza Gateway, Existing Conditions, Liberty Island, 2019 (OCLP).

Figure 2.4. The Arrival Plaza, Existing Conditions, looking west through gateway from the Approach Mall, Liberty Island, 2019 (OCLP).

ing the construction of the new museum, line the edges of the garden panels that lay closest to both the Administration and Concessions buildings (Figure 2.5 and 2.6). The Administration Building is a rectangular, two-story, five-bay by five-bay, limestone-faced steel frame building (Figure 2.7) The Administration Building stands opposite the Concessions building on the southern edge of the Approach Mall. The Concessions Building is irregularly shaped of a single-story with seven-bays by five-bays, with a steel frame. Both buildings include design characteristics associated with the *Art Moderne* style of architecture popular before the Second World War (Figure 2.8).

Figure 2.5. The Approach Mall, South, Existing Conditions, Liberty Island, 2019 (OCLP).

Figure 2.6. The Approach Mall, North, looking toward Flag Pole and city skyline, Existing Conditions, Liberty Island, 2019 (OCLP).

Figure 2.7. The Administration Building, on right, north side of Approach Mall, opposite Concessions building, Existing Conditions,, Liberty Island, 2019 (OCLP).

A cluster of maintenance and service buildings, inaccessible to visitors, is located north of the Arrival Plaza and the Statue of Liberty Museum. These structures are

Figure 2.8. The historic Concessions Building, Existing Conditions, south side of Approach Mall, Liberty Island, 2019 (OCLP).

located to the north of the Approach Mall, behind the Administration Building. The Utility Building, directly north of the Administration Building, was built contemporaneously with the historic Administration and Concessions buildings and is clad similarly with limestone. The Maintenance Garage, constructed of brick in 1986, replaced a smaller garage structure built in the 1950s (Figure 2.9). North and immediately adjacent to the Maintenance Garage, is a twenty-four foot wide opening in the seawall accommodating island access to small watercraft, including moderately sized drop-bow barges and workboats for the delivery and removal of bulk materials or equipment (Figure 2.10) Nearby at the northernmost segment of the island's shoreline there is a small rain garden, designed to process the infiltration of stormwater collected from the roof drains of the adjacent museum building (Figure 2.11)

The Audio Tour Booth is found located between Concessions Building and Arrival Plaza. This compact modular structure is of one-story, featuring two service windows on its front or north-facing façade (Figure 2.12). An accessibility ramp is found adjacent the booth, leading past and to the rear of the Concessions Building into an outdoor dining area paved with red clay pavers laid in a herringbone pattern and furnished with outdoor furniture and sun umbrellas and further shaded by mature London planetrees (*Platanus x acerifolia)* (Figure 2.13). The

Figure 2.9. The Maintenance Garage, brick building at left, from tour boat Existing Conditions, Liberty Island, 2018 (OCLP).

Figure 2.10. Shoreline access point, northwest portion of the island, north of Maintenance Garage, Existing Condition, Liberty Island, 2019 (OCLP).

Figure 2.11. Rain Garden, at northern limit of island, Existing Conditions, Liberty Island Existing Conditions, Liberty Island, 2019 (OCLP).

Figure 2.12. Audio Tour Booth, south side of Approach Mall, Existing Conditions, Liberty Island, 2019 (OCLP).

Gift Pavilion, designed as a removable structure, is clad in white metal panels and is placed atop pilings. The Gift Pavilion is an irregularly shaped, one-story, six-bay by four-bay building located southwest of the Concessions Building and enclosing the south edge of the outdoor dining area (Figure 2.14).

The Flag Plaza is found interrupting the Approach Mall near its eastern terminus at the intersection of the axes of the Approach and Main Malls. The Flag Plaza a large circular space paved with clay pavers, functioning as a hub, or crossroads, for visitor traffic (Figure 2.15). The perimeter of the Flag Plaza is bound by segments of low crenelated seat walls of black granite, installed 1984-1986, pre-dating the more recent construction of the new Statue of Liberty Museum (Figure 2.16). The entrance to the Statue of Liberty Museum is found to the northwest; to the northeast is the continuation of the Approach Mall leading to the Perimeter Promenade surrounding much of the island. The Main Mall is found to the southeast of the circular Flag Plaza, this being the designed approach route leading to the entrance at the former defensive sallyport belonging to the historic 11-point, star-shaped granite fortress serving as the base for the Statue of Liberty. A Flag Pole, approximately 100 feet tall and located at the center of the circular Flag Plaza, displays the United States flag (Figure 2.17). During the evening, the flag is illuminated by two powerful multi-element light fixtures located to the east of the flagpole, just beyond the black granite crenelated seat wall enclosing the Flag Plaza. Beyond the Flag Plaza, the Approach Mall briefly continues, terminating at a low chevron-shaped black granite wall of similar construction to the circular perimeter seat wall. This chevron shaped wall encloses a space serving as an overlook directing the attention of visitors to the greater New York City skyline across the harbor (Figure 2.18). A Copper Specimen from the Vignes mine in Norway is found nearby the chevron-shaped New York skyline overlook, placed in the turf along

Figure 2.13. Concessions Building, Outdoor Dining Area, Existing Conditions, Liberty Island, 2023 (OCLP).

Figure 2.14. The Gift Pavilion, bottom left, Existing Condition, Liberty Island, 2019 (OCLP).

Figure 2.15. The circular Flag Plaza, the crossing point of the Approach Mall and the Main Mall, Existing Conditions, Liberty Island, 2019 (OCLP).

Figure 2.16. Flag Plaza, the crenelated black granite seatwalls installed in advance of the 1986 centennial survive to the present day, Existing Conditions, Liberty Island, 2019, OCLP.

Figure 2.17. The Flag Pole, located at the center point of the circular Flag Plaza, Existing Conditions, Liberty Island, 2019 (OCLP).

the Perimeter Promenade on the northeastern side of the island (Figure 2.19). This small feature is located on a stone pad in the northeast corner of the northeast lawn. An inscription on the plaque reads: "This stone from the mine that produced the copper in the Statue of Liberty was brought with the sailing ship *Sorlandet* as a gift to the United States of America from the citizens of Karmo, Norway, July 4, 1986."

The Statue of Liberty Museum, completed in 2019, is a single-story modern structure designed to be visually secondary to both the Statue of Liberty and to the

Figure 2.18. Terminus of Approach Mall, black granite seatwalls enclose a chevron-shaped city skyline overlook installed in advance of the 1986 centennial, Existing Conditions, Liberty Island, 2019 (OCLP).

Figure 2.19. The Copper Specimen donated by Norway lies to the south of the city skyline overlook. This small feature was installed in advance of 1986 centennial, Existing Conditions, Liberty Island, 2019 (OCLP).

broader Liberty Island landscape (Figure 2.20). A significant portion of the museum's complex roof structure is vegetated with grasses and herbaceous plants to accomplish the intended visual subordination of the modern "LEED Gold" rated structure. Much of the remaining roof is surfaced with thermal-finished granite, serving as a walking surface or platform where visitors may ascend and view the statue and the sights of the surrounding harbor. The south-facing façade of the museum faces the Flag Plaza. Much of the façade of the museum is of structural glazing, enclosing an interior room designed to accommodate the placement and

Figure 2.20. The Statue of Liberty Museum, Statue of Liberty Museum, Existing Conditions, Liberty Island, 2019 (OCLP).

display of the statue's original torch placed on a design axis with both the Flag Pole and the Sally Port entrance (Figure 2.21). The center of the museum's south facing public façade is dominated by a monumental outdoor stairway of pink granite leading to the pedestrian surfaces atop the building.

The Main Mall is found to the south side of the Flag Plaza, leading pedestrian traffic towards the granite Fort Wood Walls and the Statue of Liberty resting atop its Beaux Arts masonry pedestal at the center of the star-shaped fortress (Figure 2.22). The Main Mall is oriented on a northwest to southeast axis along the approximate center of the island, connecting the circular Flag Plaza to the Sally Port Plaza that lay at the foot of the Fort Wood Walls. The east and west extents of the Main Mall are bound by low granite seat walls that are approximately twenty-two inches high. The Main Mall is surfaced with red clay pavers laid in a herringbone pattern and featuring a decorative pattern comprised of large square panels of similar clay pavers enclosed by a perimeter band of contrasting gray/brown clay pavers. The Main Mall is lined on either side with matching allee plantings of young black gum, or tupelo trees *(Nyssa sylvatica)*. These trees are planted in tree pits opened in the paved surface that are approximately seven-feet by seven-feet square (Figure 2.23). Linear trench drains fitted with a stainless-steel grating extend the length of the Main Mall, visually marking a separation between the allee plantings from the central portion of the Main Mall.

The Sally Port Plaza is located at the termination of the Main Mall to the south. This pedestrian plaza, originally intended to function as a forecourt directing visitors toward a large ceremonial doorway constructed at the historic Sally Port has been blocked, restricting direct public access since the terrorist attacks of 2001. Two rows of steel picket security fencing exclude visitors without reservations

Figure 2.21. Statue of Liberty Museum, axial design relationships, looking south, from torch inside the museum, Existing Conditions, Liberty Island, 2019 (OCLP).

Figure 2.22. The Main Mall, Existing Condition, Liberty Island, 2019 (OCLP).

Figure 2.23. The Main Mall, allee plantings of sweet gum (*Nyssa sylvatica*), note security barrier between Main Mall and Sally Port Plaza, Existing Conditions, Liberty Island, 2019 (OCLP).

from entering the pedestal and statue (Figure 2.24). The paired bronze monumental doors and door frames at the Sally Port were installed for the 1986 observance of the statue's centennial and feature bas relief sculptural panels illustrating design elements of the statue and the craftsperson's who built it (Figure 2.25). The Sally Port Plaza also intersects with Liberty Island's Interior Pathways (Wing Walks) embracing the north side of the star-fort and connecting with the outer Perimeter Promenade (Figure 2.26). The steel security fencing, equipped with one-way turnstiles that only permit exit, requires visitors with a timed reservation to gain entrance to the secure area via the nearby green-roofed Security Building located on the eastern Wing Walk.

The Security Building is a non-historic secondary security screening facility located on the east side of the star fort (Figure 2.27). This contemporary building is of a single-story, featuring concrete walls and an inverted gable roof. The roof surface is "green" in that it is engineered to support the growth of living vegetation and to help the building blend in with its surroundings. Tall and narrow windows penetrate the front façade, and a ramp extends its length to the small building's entrance. The exit is found on the northwestern side of the building leading towards the secured Sally Port Plaza. This egress is the only route for ticketed visitors to enter the star fort and begin their tour. Opposite the Security Building are two banks of steel lockers for visitors to stow prohibited belongings while visiting the pedestal and statue (Figure 2.28). Awnings have been placed above the lockers to shelter both lockers and visitors. A small stormwater infiltration basin is located nearby the banks of lockers, found within the adjacent wooded lawn area. This small basin is designed to collect the stormwater runoff from the nearby Security Building, allowing the water to slowly percolate into the underlying soil.

Within the fort walls, visitors that have undergone secondary security screening can view the island and mainland from the vantage point of the Grand Promenade (Figure 2.29). The Grand Promenade is a pedestrian terrace at the fort's historic terreplein level, outlined with the granite parapet of the fort walls and is paved with bluestone and granite. This deteriorated walking surface is scheduled in 2023 to be replaced entirely with granite. Powerful banks of floodlights are located on the Grand Promenade to illuminate the statue during the evening hours. The parapet walls rise approximately three feet above the walking surface and are topped with transversely laid coping stones. Views of the island landscape, the harbor and adjacent city skyline may be seen from the elevated observation deck of the masonry pedestal and through the windows built into the crown of the Statue of Liberty.

Embracing the northwestern side of the fort walls are the Interior Paths, alternately referred to as "Wing Walks." The Interior Paths are paved with Hastings red brick and feature low brick seat walls with limestone capstones running along both sides of the pathways (Figure 2.30). The seat walls retain the topography

Figure 2.24. Sally Port Plaza, steel picket security fencing, Existing Conditions, Liberty Island, 2018 (OCLP).

Figure 2.25. Sally Port Plaza, monumental scale bronze doors installed during the 1986 rehabilitation, Existing Condition, Liberty Island, 2018 (OCLP).

Figure 2.26. Interior Pathways, "Wing Walks," looking east, to Main Mall, Existing Conditions, Liberty Island, 2019 (OCLP).

Figure 2.27. The green-roofed Security Building, Existing Conditions, Liberty Island, 2019 (OCLP).

Figure 2.28. Storage Lockers, provided for visitors to store prohibited belongings while touring inside the secure area, Existing Condition, Liberty Island, 2019 (OCLP).

Figure 2.29. The Grand Promenade, located at the historic terreplein level of the historic star-shaped fort. Note East Pier in background. Existing Conditions, Liberty Island, 2019 (OCLP).

of the adjacent groves of mature London planetrees and other younger specimen trees planted during a recent landscape beautification project. A Sculptural Grouping by the artist Phillip Ratner is located on the north side of the western Interior Path (Figure 2.31). This group of modern statuary consists of five figural sculptures. The sculptures rest atop low pedestals that lift the heads of the figures to a height of approximately seven feet. The Sculptural Grouping includes renderings of Joseph Pulitzer, Emma Lazarus, Auguste Bartholdi, Edouard de Laboulaye, and Gustave Eiffel. Each figure is rendered in a way suggesting the person's relationship to the Statue of Liberty. Bartholdi holds a miniature of the Statue of Liberty, Pulitzer is holding his newspaper, *The World*, Eiffel holds a miniature Eiffel Tower, Lazarus holds a small journal, and Laboulaye is contemplating the idea of a monument dedicated to freedom.

The Interior Paths and Perimeter Promenade provide access to the turfed grove areas north of the star fort (Figure 2.32). On the northern side of the Interior Paths, the lawns are planted predominantly with London plane trees and white oak. London planetrees, originally planted before World War II have matured into beautiful specimen trees. Being less vigorous than young thriving trees, these mature specimens have recently struggled in response to powerful storms inundating the soil with salt water. Elsewhere, the turfed areas immediately surrounding the Fort Wood Walls feature few trees, providing unobstructed view of the statue and pedestal from the vantage point of boats and ships in the harbor (Figure 2.33). The turfed area to the south of the Fort Wood Walls is equipped with two powerful banks of floodlights illuminating the statue during the evening hours. The public is excluded from the turf areas immediately surrounding the Fort Wood Walls by a forty-inch-high barrier system of stainless-steel woven-wire mesh that visually recedes from view when seen at a distance Figure 2.34). This barrier system rests behind and adjacent to an eighteen-inch-tall brick and limestone seat wall. This perimeter seat wall and wire-mesh barrier assembly is equipped with gates to permit the access of staff and grounds maintenance equipment to the turfed area south of the Fort Wood Walls.

The Perimeter Promenade is an approximately twenty-foot-wide pedestrian pathway beginning on the south side of the Arrival Plaza, running along the Liberty Island Seawall and ending of the east side of the island at the Statue of Liberty Museum (Figure 2.35). The Perimeter Promenade does not encircle the entire perimeter of the island, being limited to those portions of the shoreline accessible to the public. The route is paved with red concrete pavers featuring a chamfered edge, laid in a herringbone pattern. The outboard edge of the Perimeter Promenade is bordered by the granite Liberty Island Seawall and topped with a forty-inch-high metal safety barrier system featuring a bronze anodized finish (Figure 2.36).

Projecting out from the Perimeter Promenade on the southeastern edge of the

Figure 2.30. Interior Pathways, or, "Wing Walks" and accompanying seatwalls, Existing Conditions, Liberty Island, 2019 (OCLP).

Figure 2.31. Sculptural Grouping, by artist Phillip Ratner, at north Interior Pathway, Existing Condition, Liberty Island, 2019 (OCLP).

Figure 2.32. Grove turf area, west of Main Mall, Existing Conditions, Liberty Island, 2018 (OCLP).

Figure 2.33. Turf area, south of Wing Walks, is kept free of trees, promoting visibility of the composition of star-fort, pedestal and statue from the harbor, Existing Conditions, Liberty Island, 2019 (OCLP).

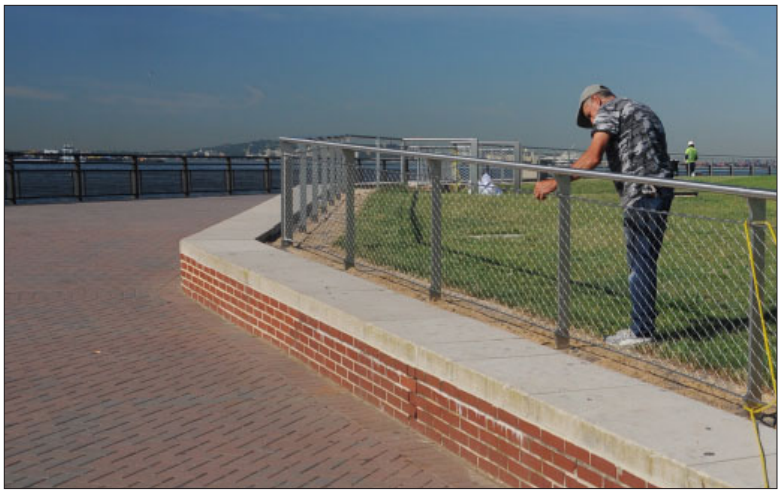

Figure 2.34. Steel mesh pedestrian barrier, enclosing south lawn, on Perimeter Promenade, Existing Conditions, Liberty Island, 2018 (OCLP).

Figure 2.35. The Perimeter Promenade, which does not encircle the entire island, east side, looking south, Existing Conditions, Liberty Island, 2019 (OCLP).

Figure 2.36. Perimeter Promenade, seawall and safety railing, as seen from the East Pier, Existing Conditions, Liberty Island, 2018 (OCLP).

Figure 2.37. East Pier, in foreground, right. Prior to the mid-1950s, this pier served as the access point to visit the Statue of Liberty, before the National Park Service completed its redesign of the island, Existing Conditions, Liberty Island, 2019 (OCLP).

island is the East Pier. The pi er is T-shaped, extending approximately 275 feet into the harbor from the Perimeter Promenade. The T portion at the end of the pier is approximately 75 feet long (Figure 2.37). The pier is constructed upon wood pilings, featuring wood decking, and wood railings.

Site fixtures and furnishings found throughout the site include waste and recycling receptacles, signage, interpretive panels, and benches and seating of various designs.

"The 'Liberty Island Grounds' corresponds to the limits of Liberty Island and incorporates the features of the landscape that were developed as part of the implementation of of the National Park Service's 1939 Master Plan, Statue of Liberty National Monument (Newton 1939)"

National Register Supplementary Listing Record, Statue of Liberty Enligtening the World, New York Harbor, 2017

Analysis and Evaluation

This chapter provides a summary analysis of the historical significance of the Liberty Island landscape and an evaluation of its historic character. The analysis and evaluation has been developed according to the National Register of Historic Places evaluation framework and the National Park Service's *Guide to Cultural Landscape Reports: Contents, Process, and Techniques* (1998). This chapter is divided into two main sections. The first examines the historical significance of the landscape according to the *National Register Criteria for the Evaluation of Historic Properties*. Included within this is a summary of existing National Register documentation for the Statue of Liberty; a statement of significance for the Liberty Island landscape that includes the period of significance and areas of significance; and an evaluation of historical integrity according to the seven aspects defined by the National Register. The second section of the chapter evaluates the historic character of the Liberty Island landscape based on National Park Service cultural landscape methodology that organizes the landscape into landscape characteristics and associated features.[1] Historic and existing conditions of extant features are compared to assess historic character and change over time. Each feature is evaluated to determine whether it contributes to the historic character of the landscape or not, with an inventory of contributing and non-contributing features listed in Table 2.1. The contents of this chapter derive significantly from the 2017 National Register of Historic Places Supplementary Listing Record (SG100000829), intending to supplement yet remain consistent with the findings of that document.

NATIONAL REGISTER STATUS AND SUMMARY OF SIGNIFICANCE

The National Park Service evaluates the historical significance of properties through a process of identification and evaluation defined by the National Register of Historic Places program. According to the National Register, historic significance may be present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association. A property can be found to have a significance on a national, state, or local level, and must meet one or more of the following criteria to be considered

eligible for the National Register:

A. The property is associated with the events that have made a significant contribution to the broad patterns of history;

B. The property is associated with the lives of persons significant in our past;

C. The property embodies the distinctive characteristics of a type, period, or method of construction, or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components may lack individual distinction; or

D. The property has yielded, or may yield, information important to the study of history or prehistory.

EXISTING NATIONAL REGISTER DOCUMENTATION

Statue of Liberty National Monument, including Liberty and Ellis Islands, was administratively listed in the National Register of Historic Places on October 15, 1966 with the establishment of that program under the National Historic Preservation Act. A nomination form, completed on August 9, 1980 and approved on May 19, 1981, documented the significance of the statue, its pedestal, and the walls of Fort Wood in the areas of architecture, engineering, and sculpture for the years 1875 to 1884. The documentation also noted the secondary significance of Fort Wood for its association with military history and coastal defenses, but specifically excluded the structures that post-dated the statue, including the Administration and Concessions buildings, park residences, and docking facilities.

On April 21, 1995, the National Park Service, in consultation with the New York State Historic Preservation Officer, determined that the Administration Building and the Concessions Buildings on Liberty Island were eligible for listing in the National Register. The Liberty Island Seawall was determined eligible on December 14, 2009 through consultation among the same parties.

A Supplementary Listing Record (SG100000829) of National Register documentation was completed and signed by the Keeper of the National Register on September 14, 2017. The revised documentation, categorizing the property as a "district," evaluated all contributing and non-contributing resources within the boundary of the island perimeter, amending the resource count, and providing additional historic contexts regarding other areas and periods of significance not addressed in the original National Register documentation. This includes evaluation of the significance of the Liberty Island buildings and landscape features for their association with early federal efforts to develop a program to administer, preserve, and interpret nationally significant historic properties.

STATEMENT OF SIGNIFICANCE

The Liberty Island Historic District is significant as the site of the *Statue of Liberty Enlightening the World* (period of significance: 1886 to present) and as an example of early National Park Service master planning as applied to historic and cultural sites (1924 to 1957). The following text describing the significance of the Liberty Island landscape is derived from the text of the Supplementary Listing Record, intending full consistency with the 2017 documentation.

As the site of the Statue of Liberty, Liberty Island is significant at the national level under Criterion A in the areas of Politics/Government and Social History and Criterion C in the areas of Art, Architecture, and Engineering. The Statue of Liberty, consisting of the copper statue of *Liberty Enlightening the World*, its Pedestal, and the Fort Wood Walls, in concert, comprise one of the most important symbols of American identity. The statue was initially conceived as a gift of the French people to the American people commemorating the centennial anniversary of American Independence in 1876; the mutual friendship of the two nations during their respective quests to establish free democratic forms of government; and the abolition of American slavery. Over time, and in response to national political events and societal trends, the statue was imbued with additional meanings that made it a national symbol of the American ideals of liberty, freedom, democracy, patriotism, and social justice.

The 1886 completion date of the statue marks the period in which it gained national significance under Criterion C in the areas of Art, Architecture, and Engineering. The Statue of Liberty is the most distinctive and best-known example of colossal sculpture in the United States and was the defining work of French sculptor Auguste Bartholdi, who sought to convey the ideal of liberty through iconography included in the statue. The execution of what was and remains the largest statue ever constructed in the United States was a significant achievement in the area of Engineering made possible by the adaptation of the centuries old technique of repoussé on a massive scale and the employment of an innovative steel skeleton structural system developed by famous French engineer Gustave Eiffel. Significance in the area of Architecture is derived from the statue's Beaux Arts-style pedestal, which is representative of the work of renowned American architect Richard Morris Hunt.

The significance of the cultural landscape under Criterion A in the area of Conservation is derived from its association with early federal efforts to develop a systematic program to administer, preserve, and interpret nationally significant historic properties. The period of significance in that area extends from 1924, when the Statue of Liberty National Monument was established, to 1957, the year that marks the completed implementation of the National Park Service's master plan for the redevelopment of the former Fort Wood military post into a park-like setting for the statue.

Two additional periods consisting of the years between 1000 and 450 B.P. and 1760 to 1910 relate to the landscape's state-level significance under Criterion D in the area of Archeology. The two periods encompass significant archeological sites associated with Native American habitation of Bedloe's Island during the Middle–Late Woodland Periods and its military use from the Colonial period to the early twentieth century. The latter period also covers the construction of Fort Wood in 1811 and the initial development of the seawall surrounding the island in the mid-nineteenth century.

Site of the Statue of Liberty

The Statue of Liberty originated as an idea promoted by Édouard René Lefèbvre de Laboulaye, a French legal scholar and leading commentator on American culture, beginning in 1865. De Laboulaye, an abolitionist and advocate for democracy in France, felt that highlighting the recent events in the United States, including the Union victory in the Civil War and the abolition of slavery, as well as the upcoming American centennial, would promote similar freedoms in his own country.[2] He proposed that France make a gift of a monument to the United States, commemorating the long friendship between the two nations. De Laboulaye recruited sculptor Frédéric-Auguste Bartholdi to help realize the ambitious gift.[3]

Bartholdi's conception of the statue was based in part on the colossal statuary of the classical world, such as the Colossus of Rhodes. In 1869 he had proposed a design for a colossal statue that would serve as a beacon, marking the entrance to the recently completed Suez Canal.[4] While his journey to the Middle East may have helped shape the vision for the Statue of Liberty, according to Bartholdi, it was New York Harbor that inspired his full vision of 'Liberty Enlightening the World,' and he knew immediately that it was where he wanted to build the statue. "Bartholdi saw New York [City] as the gateway to America and it was at [Liberty Island] that Bartholdi envisioned the statue rising out of the star-shaped Fort Wood."[5] The sculptor spoke of the beauty of the harbor, saying "it is, indeed, the New World, which appears in its majestic expanse with the ardor of its glowing life."[6]

The same characteristics that had made Liberty Island a critical part of New York's harbor defensives made it an ideal location for the statue. Towering above the island, the statue would be visible from Manhattan, Brooklyn, New Jersey, and Staten Island, as well as from the countless ships that passed through the busy harbor. At the time, most travelers entering the United States from Europe arrived via New York Harbor, and a colossal statue on Liberty Island would be an awe-inspiring first experience with the new country.[7]

As military technology and tactics changed in the nineteenth century, the necessity

of a harbor fort so close to populated areas diminished. Bartholdi and Laboulaye both advocated for Liberty Island as the preferred site for the statue, and President Rutherford B. Hayes delegated the final decision to General William T. Sherman. The Army was already considering non-military uses for the star-shaped Fort Wood, and with the facilities on nearby Governor's Island serving the needs of the Army better than those on Liberty Island, Sherman made the decision to decommission the fort and offer up it as the site of the new statue. Placing the statue entirely within the star fort's courtyard draw the enormous fort into the overall composition and require less funding for the relatively smaller masonry pedestal build within the ready-made star fort base.[8] The American Committee, in charge of coordinating the design and construction of the statue's pedestal, admired the symbolism of the fort, commenting that "appropriating the star-shaped fortification for the base, emblematic as it is of our constellation of states, and nationality" seemed almost "the most acceptable [design] that could be devised, were it now the subject of an original design."[9]

Following its completion in 1886, the statue atop its pedestal shared its island home with the United States Army for fifty years. The transfer of the country's national monuments from the War Department to the National Park Service in 1933 and the subsequent 1937 transfer of island grounds from Signal Corps Station to the National Park Service realized Bartholdi's original vision of the island as a grand and inspiring setting for the statue.

> "I always hoped that Americans would see the splendid use that is to be made of the island as I see it ... Liberty Island is obviously destined to be made into a pleasure ground for the soul of the American people, a place of pilgrimage for citizens of the whole nation, a National Museum of the glories and memories of the United States."[10]

Since its completion, the significance and symbology of the Statue of Liberty has become inextricably linked to its harbor setting. The UNESCO World Heritage Site listing recognizes two primary factors contributing to the symbolic value for the statue: "its recognition of the establishment of the principles of freedom and democracy by the U.S. Declaration of Independence, which the statue holds in her left hand…" and its status as a "symbol of the migration of people from many countries into the United States in the late 19th and early 20th centuries." In both factors, the statue's position on Liberty Island, standing before an American metropolis, looking not inward toward land but outward toward the world, elevates these values and solidifies its symbolic connection to American ideals.

National Park Service Master Planning

The National Park Service master planning process was initially conceived in the 1920s to address the fundamental problems of long-range planning in the wilderness parks of the western states. The goal of those plans was to strike the proper balance between the development required to provide visitor access and the

protection of the natural landscape and wildlife. With the addition of historic sites to the system in 1933, the planning process was adapted to ensure that important historic resources were appropriately presented to the public, while providing adequate visitor services, concessions, administration, and maintenance needs. As was the case with wilderness parks, scenic values were prioritized, but rather than concealing the influence of design through rustic and naturalistic elements, the emphasis at historic and cultural sites was on engendering a sense of appreciation and respect for the cultural resources. As articulated in the master plan for Salem Maritime National Historic Site, a plan developed contemporaneously with the Liberty Island master plan, the goal was to create an appropriate setting for the historic resources while providing for the operation and enjoyment of the park.

The general goal in planning for historic sites was, as National Park Service Chief Architect Thomas C. Vint described it, "to preserve and protect the scene at one of the great moments in our national history, to stop the clock and hold the scene of the moment in history that makes the area important."[11] Unlike battlefields and other types of historical properties in the national park system, however, the Statue of Liberty, as a monument to an abstract ideal, was not connected to a specific historic event. According to the master plan narrative:

> Unlike most areas in the historical category, the Statue marks the site of no specific event or movement; it has no direct connection with the career of any historic personage; indeed it is only symbolically associated with the life history of the American people…Thus the Statue of Liberty Enlightening the World is itself an interpretation, and the educational program at the Monument becomes one of reinterpretation, with emphasis on the spiritual significance rather than on the physical content.[12]

Its site, while ultimately adding to its meaning as a welcoming signal for incoming immigrants or travelers from abroad, had no historical attachment to the statue. Furthermore, the need to remove the buildings and infrastructure associated with military use of the island prior to 1937 gave the National Park Service a blank slate on which to impose a comprehensive, coherent landscape design.

Under the direction of Vint, the master plan was developed by National Park Service Resident Landscape Architect Norman T. Newton between 1937 and 1939, prior to the onset of the Second World War. Inspired by the ideals embodied in the statue and by its status as a national symbol, Newton and Vint conceived of a formal landscape design that simultaneously elevated the importance of the statue while subordinating landscape components and other buildings. The design itself was based on Beaux-Arts principles, stressing geometry, axial relationships, and grand views, and incorporating elements of both French and Italian landscape styles. Beaux-Arts formality was frequently employed in the late nineteenth and early twentieth century in association with monumental architecture and in designs for important civic spaces, such as the National Mall in Washington D.C.[13]

Implementation of the plan progressed between 1937 and 1941 with the removal

of military buildings and infrastructure, the establishment of the primary pedestrian malls, plazas, and overall landscape structure, and the construction of the administration and concessions buildings. Work was halted during World War II, but resumed following the war with the construction of park housing units, the planting of trees, and the completion of the landscape development. The master plan was completed in 1957 with the removal of the last remaining military buildings and the construction of the park utility building.

EVALUATION OF LANDSCAPE INTEGRITY

Integrity is the ability of a property to convey its significance. For a property to retain its integrity, it must possess the essential characteristics and features that characterized it during the period of significance. The National Register program identifies seven aspects of integrity, including location, design, setting, materials, workmanship, feeling, and association. To retain integrity, a property must possess the aspects that best convey a sense of a particular time and place.

The Liberty Island landscape possesses integrity of location, setting, feeling, and association with respect to the period between 1939 and 1957 when the landscape achieved its significance under Criterion A in the area of Conservation. Changes to the landscape since the end of the period of significance, however, diminish the aspects of design, materials, and/or workmanship that might otherwise qualify it for listing under Criterion C.

The landscape characteristics and features retain their retain in their original locations and spatial relationships and continue to function as originally intended. The order of the processional sequence remains the same as when the primary circulation system was completed in 1952. The arrival point on the island remains the West Pier. Visitors move from this landing point onto the Arrival Plaza, which was demarcated from the Approach Mall 1984-1986 with the imposition of a curved gateway structure. The Approach Mall was completed in 1952, directing pedestrian circulation and views eastward toward the central Flag Pole and the Manhattan skyline beyond, seen across the water. The Administration Building and Concessions Building, both built in 1941, flank the Approach Mall. The view widens as visitors reach the circular Flag Plaza, superimposed on the design in advance of the 1986 centennial of the statue's dedication, comprising the most significant alteration to the primary circulation system since its 1957 completion. In 1986 the formerly square plaza in this location was redesigned and expanded to its current circular form. The redesigned circular Flag Plaza and the gateway feature installed to separate the Arrival Plaza from the Approach Mall are design motif elements of their time, and may be reasonably attributed to influences of the Post-Modernist movement in architecture beginning in the late 1970s and extending into the 1980s. While these more recent insertions have substantially altered the original Beaux Arts-inspired landscape design, the redesigned Flag Plaza con-

tinues to perform the original schematic function as a formal intersection of the east-west Approach Mall and the north-south Main Mall. Here, at this important crossing, the visitor's focus shifts to the south and they acquire a primary dorsal view of the colossal statue from over five hundred feet away as originally intended. Geometrically arranged trees and low seat walls line the broad, open Main Mall, which is intentionally wider than the Approach Mall. The visitor arrival sequence ends at the main entrance to the statue at Fort Wood Walls, adjacent to the Sally Port Plaza.

The island's distinct and dramatic setting in New York Harbor remains largely fundamentally unchanged. While the surrounding harbor shorelines have been redeveloped since the statue was erected, the essence of the setting—an island set apart in the harbor from the surrounding metropolis—and the ferryboat journey to reach it remain among of the most compelling aspects of the statue's location. Two of Bartholdi's main considerations in selecting the site were that the statue be visible from a great distance and that it stand out conspicuously from its surroundings. Those considerations became fully realized during the mid-twentieth century when the buildings of the former Fort Wood military post, which competed with the statue for visual prominence, were razed and replaced by the simple low-slung landscape composed of lawn and trees that has been a characteristic of the statue's immediate setting since that time.

Integrity of feeling and association is also evident in the characteristics of the Liberty Island landscape. The overall arrival sequence that has been part of the visitor experience since the early 1950s remains intact, even though the changes made to create the current circular Flag Plaza in 1986 altered important details of the original design. The statue atop Richard Morris Hunt's masonry pedestal and this assembly resting within Jonathan Williams designed star fort remains as before, the singular focal point of the visitor experience. The statue remains the primary focus of the landscape, and all secondary buildings remain located at the north end of the island away from the statue. The South Lawn surrounding the statue on three sides continues to provide a simple foreground for the main attraction on the island, strongly preserving the design intent of the pre-World War II National Park Service master plan. The private and public spaces remain clearly separated, as do the circulation areas and the green landscaped areas. Key features of the planting concepts included in the plan, such as a tree-covered island with spaces carved out for circulation and buildings, formal and linear plantings lining circulation areas and more informal plantings on the lawns, and a simple palette of hedges and shade tree species, remain largely intact.

Changes made to key elements of the Liberty Island landscape in the mid-1980s and alterations over time to the contributing buildings and structures preclude the landscape's eligibility under Criterion C in the areas of Landscape Architecture or Architecture. The alterations, which were made primarily to increase the capac-

ity of the island for more visitors, affected several aspects of the original design, materials, and workmanship of the original Beaux Arts-style landscape designed by National Park Service landscape architect Norman Newton. The new Arrival Plaza at the west end of the Approach Mall introduced a gated entryway featuring high brick walls that were not contemplated in the original plan. The Approach and Main Malls were widened, and the central turf panel *(tapis vert)* was removed from the Main Mall. The original rectangular main plaza became replaced by the large circular Flag Plaza, altering the original proportion and relationship of the plaza to the remaining features on the island, but leaving intact existing axial relationships. Beyond the new Statue of Liberty Museum building completed in 2019, the next most recent building added to the island is the Gift Pavilion, which was completed in 2010 at its location southwest of the Concessions Building.

The Administration Building and Concessions Buildings have both been enlarged with additions that have altered their original designs and introduced new materials. The former buildings of the employee housing complex were all seriously damaged during Hurricane Sandy. Many of the architectural elements, including windows, doors, and porches, that were part of the original design and materials of the buildings were lost during flooding. The superintendent's house, the duplex housing unit, and the three single units comprising the triplex housing units were demolished in 2016.

ANALYSIS OF LANDSCAPE CHARACTERISTICS

Landscape characteristics are the broad patterns, systems, and feature categories that compose the landscape and determine how people interact with it. The analysis of landscape characteristics and features serves to identify the components of the landscape that define the historic character and contribute to the historic significance of the property. The analysis entails comparing existing conditions to what was present during the historic period and making an evaluation of whether the landscape characteristic contributes to the landscape's historic character. The landscape characteristics evaluated for Liberty Island include natural systems and features, spatial organization, land use, buildings and structures, circulation, vegetation, topography, views and vistas, small-scale features, and archeological sites. For each characteristic, the analysis is organized and presented in the following manner:

Historic Conditions, a brief discussion of the history and evolution of the landscape characteristics as it relates to the period of significance;

Post-Historic and Existing Conditions, an overview of changes that have occurred since the end of the period of significance; and

Evaluation, a determination of whether the landscape characteristic contributes to

the historic character of the landscape.

The following discussion of each landscape characteristic is a general description of the individual features, if applicable, and components that comprise the characteristic. These descriptions have been adapted from the revised National Register documentation completed in 2017 and include contributing and non-contributing determinations and corresponding Cultural Resources Inventory System – Historic Structures (CRIS-HS) numbers, if applicable. Contributing and non-contributing features are also listed at the end of the chapter in Table 2.1.

The following landscape analysis is supplemented with innovative digital visualizations contributed to this project through the work of university partners at the State University of New York, College of Environmental Science and Forestry in Syracuse, New York. In creating these digital visualizations, the project team has taken the practice of "repeat-photography" to another level. Repeat, or paired, photography has been a longstanding practice in the field of historic preservation resource documentation to pair existing conditions photographs next to a historic photograph of a building or landscape. Using three-dimensional digital modeling in preparation of the Cultural Landscape Report for Liberty Island has made it possible to pair a series of images across multiple time periods, all composed from a consistent vantage point, or point-of-view and track the evolution of landscape characteristics and features over time. These new digital tools have made it possible to include paired imagery from dates prior to the advent of photography, or otherwise from locations where no photographer ever stood.

NATURAL SYSTEMS AND FEATURES

Natural systems and features include the natural aspects that have influenced the development and physical form of the Liberty Island landscape.

Historic and Existing Conditions

Liberty Island lies at an intersection of biomes, at the mouth of the Hudson River in New York Harbor. The Lower Hudson Valley environment, between the mouth of the Hudson River and the Atlantic seacoast, is a brackish estuary supporting fin and shellfish as well as a variety of coastal birds. Historically, hardwood forests covered the landscape surrounding New York Harbor and supported a diverse assortment of life. The wet marshland formerly surrounding Liberty Island would have provided Native people with an ideal hunting environment. Early maps mark Liberty Island, Ellis Island and a third, now submerged, island collectively as the "Oyster Islands" of "Oyster Bay" until at least the mid-nineteenth century, indicating the presence of, and association with, shellfish (see Figure 1.2 in the Site History chapter). A shell midden site on Liberty Island indicates seasonal use of the island prior to the arrival of European settlers.

As Europeans established a more permanent and increasingly intensive presence on the island beginning in the late seventeenth century, they drastically altered the natural systems and features of the island itself. Trees were removed to facilitate construction of harbor defenses and to provide unobstructed views and fields of fire for artillery, and the island topography was modified for fort and other building construction as well as for defensive earthworks. Increasing human activity on the island reduced the amount and diversity of wildlife, ultimately limiting it to those species that easily adapt to human presence. By the time the National Park Service began to implement the master plan in the late 1930s, the entirety of the island had been altered from its natural state.

The predominant natural elements that have continued to have an impact on landscape use and design are the forces of water and wind. Early efforts to protect the island from high tides and storm waves included a granite seawall that almost completely encircles the island, constructed in the 1840s and modified and improved several times over the years. The continued vulnerability of the island location was brought into sharp relief with the extensive damage caused by flooding and wind during Hurricane Sandy in 2012. Changes in the landscape since the storm have responded to the threat of future storms, including the selection of salt-tolerant vegetation to replace susceptible species, design elements of the new museum that help protect it from flood waters, and improvements to the island's utility infrastructure to increase resilience. With rising sea levels and the potential for more frequent severe storms due to climate change, issues of vulnerability and resiliency will continue to drive design and management decisions at Liberty Island and throughout the national park system for the foreseeable future.

Evaluation – Non-contributing

The natural systems and features of Liberty Island have changed significantly during and since the historic period, and today the vegetation and other features of the island constitute a wholly contrived and manipulated landscape. Except for the seawall and the recent responses to storm threats, the designed elements of the Liberty Island Grounds do not reflect a significant response to natural systems and features. As such, the natural systems and features specific to Liberty Island do not contribute to the significance of the cultural landscape.

TOPOGRAPHY

Topography includes the three-dimensional configuration of the ground surface characterized by features, such as slope and articulation, and orientation, including elevation and solar aspect.

Historic Conditions

Changes to the topography of Liberty Island during the period of significance

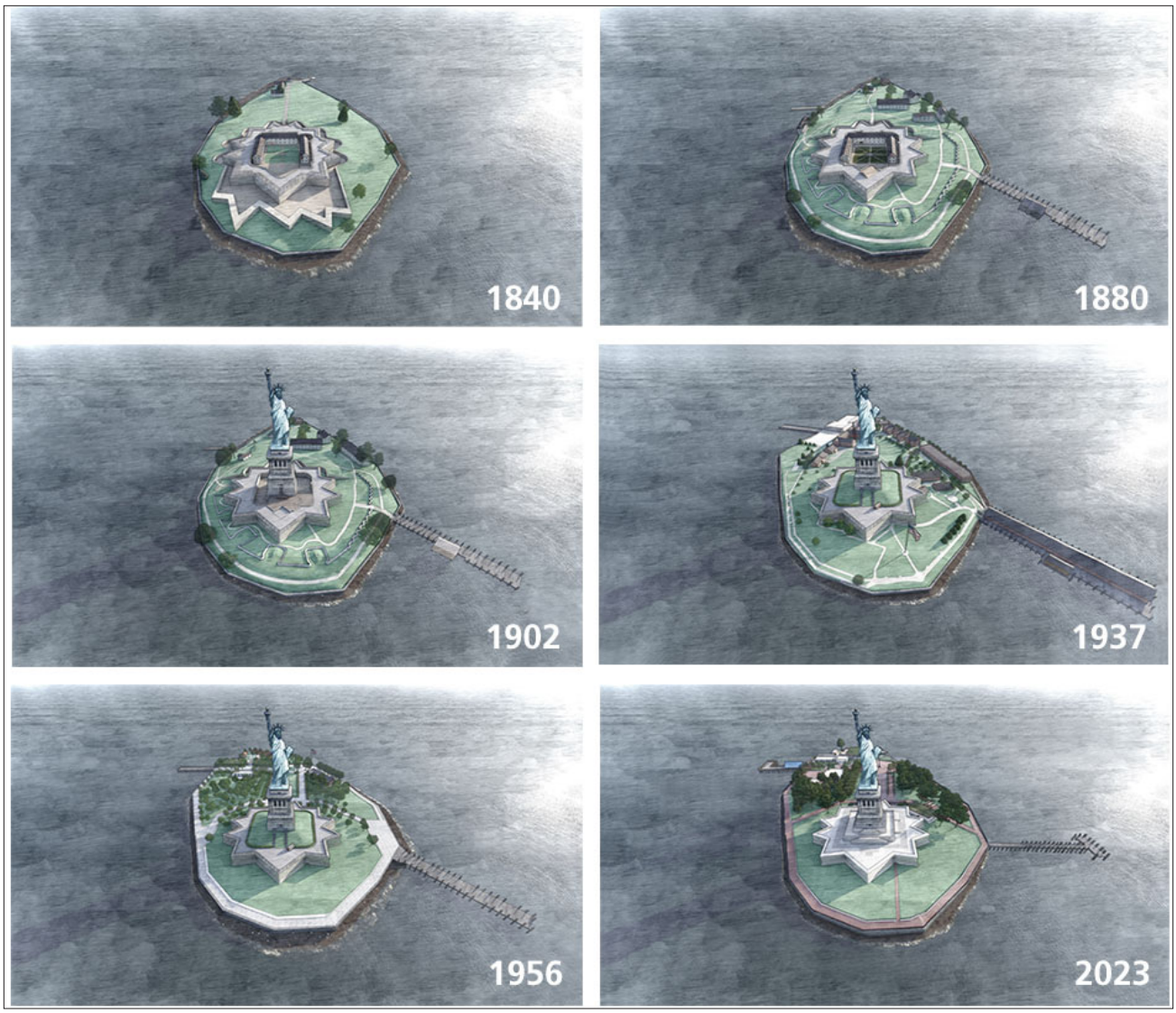

Figure 3.1. Analysis, Topography, oblique aerial, digital model, evolution of Liberty Island, State University of New York, College of Environmental Science and Forestry, Lumion, Student Edition, 2023.

reflect the monumental effort expended on the transformation of the island landscape (Figure 3.1) Newton's plan specifically called for, "the change of all grades on the Island outside of Fort Wood, to meet requirements of the new plan and to allow introduction of liberal depth of good topsoil throughout."[14] The early 1940s re-grading effort resulted in sunken circulation areas (Perimeter Promenade, Main Mall) edged by seat walls and flanked by raised turf and/or treed areas.

In addition to grading the entire island, the National Park Service development effort increased the size of the island by two acres. Vint listed "changing the outline of the island" among his planning principles for the development of Liberty Island, specifying that, "the northwest end of the island should be changed in its general form by adding to the area."[15] Newton also expressed concern about the size of the island prior to the redevelopment: "the present extent of Bedloe's Island cannot accommodate the requirement described above without a degree of crowding that would permanently spoil the Island as a setting for the Statue of Liberty. It has therefore been concluded that certain land additions must be made to the island."[16]

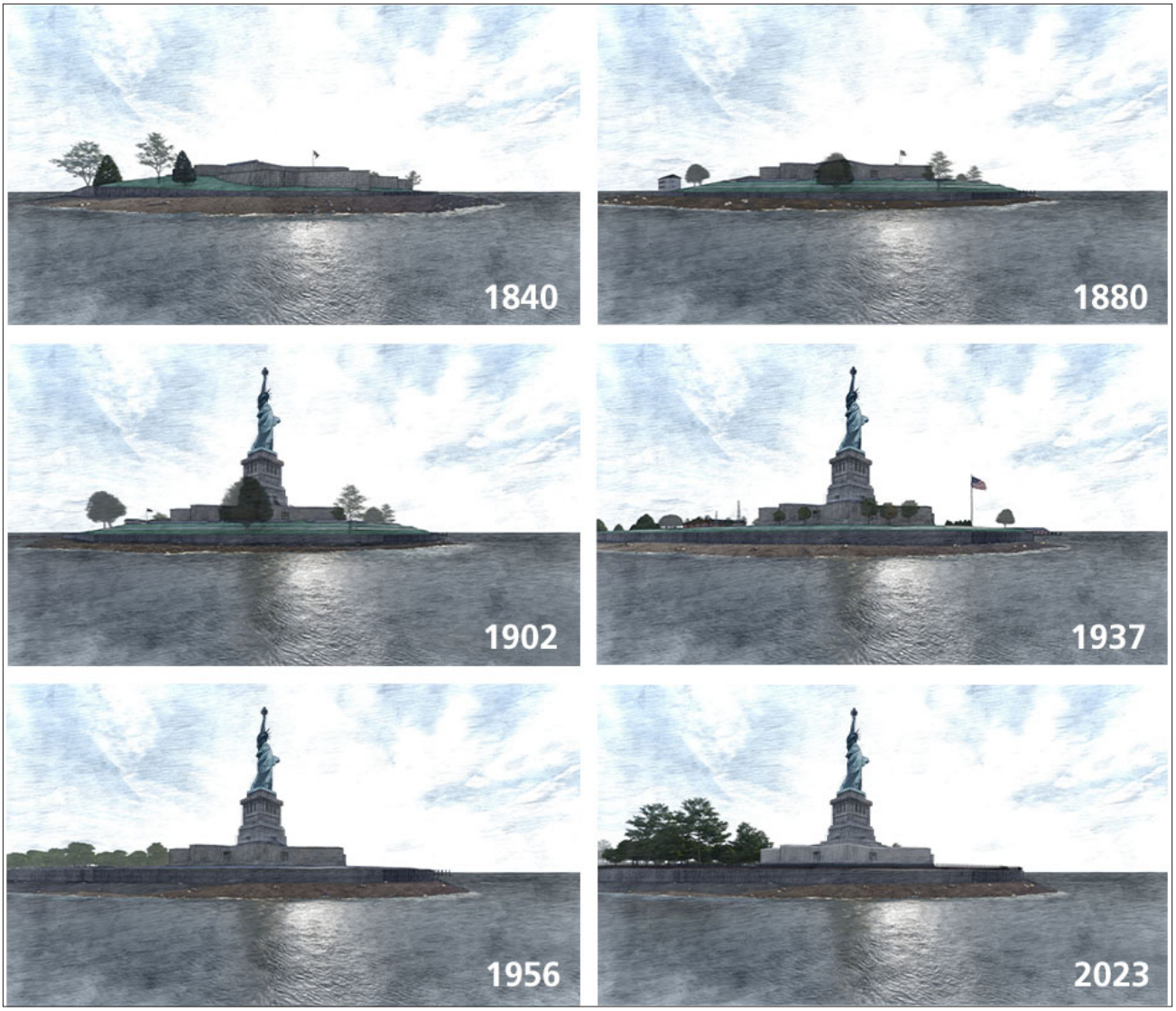

Figure 3.2. Analysis, Topography, harbor view, digital model, State University of New York, College of Environmental Science and Forestry, Lumion, Student Edition, 2023.

Post-historic and Existing Conditions

The 1986 restoration resulted in a subtle change in grade along the Main Mall. Historically, two small sets of stairs on either side of the mall led to a slightly raised entry plaza in front of the entrance to Fort Wood. When the Main Mall was paved in 1986, the area was also re-graded such that the entire mall sloped gradually up to meet the entrance, thereby eliminating the need for the stairs.

Evaluation - Contributing

The topography of the island remains largely unchanged since the 1940s construction and contributes to the significance of the Liberty Island Grounds (Figure 3.2).

LAND USE

Land use describes the principal activities in the landscape that have formed, shaped, or organized the landscape because of human interaction.

Historic Conditions

Prior to the construction of harbor defenses, the primary use of Liberty Island was for quarantine purposes to help protect the city from the arrival and spread of disease. Military use, first as a defensive fort and later as a Signal Corps Station, extended from the Revolutionary War in 1776 until the U.S. Army vacated the island in 1937, coinciding with a portion of the period of significance. With the departure of the Army, the entirety of the island became devoted to its singular role of providing an appropriate landscape setting for the Statue of Liberty.

Post-historic and Existing Conditions

Since the end of the period of significance, use of Liberty Island has continued to be limited to the operation of the national monument, including recreation, interpretation, memorialization, concessions and visitor services, and park administration and maintenance.

Evaluation - Contributing

Land use of Liberty Island related to the visitation, interpretation, and management of the Statue of Liberty is directly related to its significance as a national monument, as well as its association with park master planning. The perpetuation of these uses contributes to the significance of the Liberty Island cultural landscape.

SPATIAL ORGANIZATION

Spatial organization describes the three-dimensional organization of physical forms and visual associations in the landscape, including the articulation of ground, vertical, and overhead planes that define and create spaces.

Historic Conditions

Prior to the installation of the statue, the spatial organization of the Liberty Island Grounds primarily reflected defensive objectives, with the fort and battery oriented to best defend the inner New York Harbor from enemy ships, while also responding to the shape and topography of the island. The fort itself was located on the southeastern end of the tear-shaped island, with the primary fort face and battery oriented directly along the axis of the island facing southeast. While not facing directly towards the mouth of the harbor, this orientation provided a line of fire that covered a large expanse of the main harbor channel. Other structures

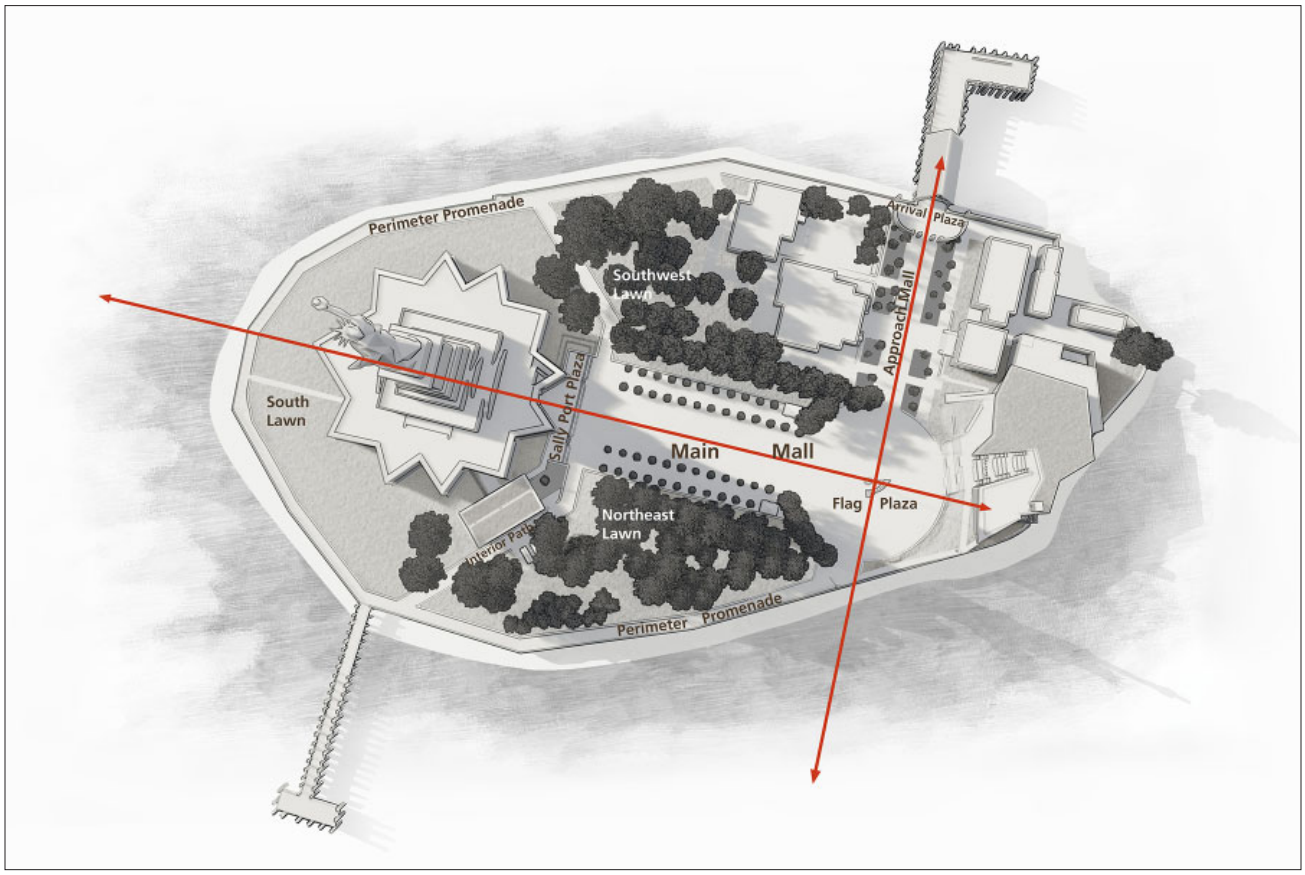

Figure 3.3. Analysis, Spatial Organization. The red-arrows indicate the axial design geometry preserved in the revised design. From digital model, State University of New York, College of Environmental Science and Forestry, Lumion Student Edition, 2023.

were placed on the northern two-thirds of the island in an informal, utilitarian layout.

After the statue and pedestal were completed, filling the former fort's enclosed courtyard removed the defensive utility of the star-shaped fort and the United States Army developed the northern portion of the island with extensive new construction. The layout of the new structures was orderly, with the primary buildings oriented in two rows aligned with the northeast and western shoreline respectively. These two rows of buildings met at an angle at the northern end of the island, and along with the northwestern face of the fort, defined an irregularly shaped open parade ground at the center of the island.

Following the transfer of the entirety of the island to the National Park Service, the work to implement the park's master plan remade the Liberty Island Grounds between 1937 and 1957. The master plan established a strict order based on two intersecting axes, offset to form an L-shape, with the short axis connecting a new arrival pier constructed on the west side, with a central plaza and the long north-south axis anchored by the statue. The two design axes were used to compose two pedestrian malls, creating a controlled arrival and approach sequence, a formal processional designed to maximize the dramatic effect of the statue (Figure 3.3).

This designed approach sequence was further controlled by the dimensions and spatial relationships of the pedestrian malls and the vegetation enclosing these

Figure 3.4. Analysis, Spatial Organization. View from museum site, digital model, State University of New York, College of Environmental Science and Forestry, Lumion Student Edition, 2023.

outdoor spaces. The Approach Mall was designed to be narrower than the Main Mall, with a flagstaff serving as a focal point with the city skyline beyond. The narrow dimensions of the Approach Mall provided a feeling of compression and focus prior to redirection at the intersection with the Main Mall, expanding at the intersection of the two axes to reveal a powerful view to the rear of the colossal statue. The Main Mall was further enclosed with London plane trees on the corners, giving this outdoor space an overall dimension similar to the Approach Mall and framing views out toward Manhattan to the northeast, back to the Approach Mall on the southwest, and toward the Main Mall and the Statue of Liberty on the southeast.

The presentation of the view of the statue from the Main Mall and the experience of pedestrian movement were characterized by the contrast of enclosure versus expansiveness. The Main Mall was designed to be half again as wide as the Approach Mall, and tall vegetation was pushed to its edges, leaving a wide, open corridor before the dorsal elevation of the statue. The pedestrian approach was

pushed toward the edges of the Main Mall, around a central turf panel bordered with low clipped hedges. The overall effect was one of grandeur and monumentality befitting the scale and symbolism of the Bartholdi's masterpiece.

At the north end of the island, the cluster of park residences were arranged in a staggered array around a central courtyard. The orthogonal relationships between the residences, the administration building, utility buildings, service court, and walkways created an orderly, utilitarian character, while the staggered layout and unornamented building styles presented an informality consistent with Modernist principles apparent in National Park Service design during the mid-twentieth century.

Beyond the malls, the arrangement of vegetation followed no formal rule, with trees scattered in naturalistic groupings across open lawn areas.

Post-historic and Existing Conditions

The spatial organization of the Liberty Island Grounds remained virtually unchanged for thirty years following completion of the master plan implementation in 1957. After that, there were two primary phases of landscape changes that altered the spatial characteristics of the island. The first was the landscape rehabilitation completed for the statue's centennial in 1986, during which the pedestrian malls were reconfigured to better accommodate larger numbers of visitors. The spatial organization centered upon the intersection of two design axes was retained, while the dimensions of each space were changed (Figure 3.4).

The Approach Mall was narrowed through the elimination of the flanking promenades that had run along the outside of the plane tree/turf panels. Removing these promenades and replacing them with turf effectively reduced the mall width by about sixty percent, increasing the linearity of the mall and emphasizing the cross-axis form created by the walkway between the administration and concessions buildings. The Main Mall was reconfigured by the removal of the central turf panel and the planting of triple rows of linden trees along both sides of the mall. This alteration moved circulation from the two sides of the Main Mall to its center, simultaneously increasing the area for visitor circulation while reducing the perceived width of the mall. The space at the intersection of the two malls was expanded dramatically, from a small rectangular plaza partitioned by turf panels and trees to an expansive, open circular plaza more than two hundred feet in diameter. This new circular Flag Plaza successfully accommodated large numbers of visitors, but it also changed the spatial relationship between the plaza and the Main Mall, reducing a visitor's impulse to turn and move southward toward the statue.

The second phase of change occurred during the Statue of Liberty Museum construction and landscape rehabilitation in 2016–2019. Most of the changes to the landscape constituted replacements in kind or substitutions of similar materials

that had little impact on the spatial organization, with the obvious exception of the construction of the new museum building. The new museum is located adjacent to the circular Flag Plaza at the northern terminus of the Main Mall axis, a location – terminating the primary design axis - originally intended for the boat basin in the 1939 master plan. The new museum effectively terminates the design axis much as intended in 1939, while carefully designed to be visually subordinate to the Statue of Liberty in the landscape.

Other changes to the spatial organization of the Liberty Island Ground during the 2016–2019 period include the removal of the employee housing at the north end of the island, the construction of the new security screening building, and the removal of the temporary security tent on the Main Mall. The removal of the housing units had little impact on the perceived spatial organization of the island, as the area is sufficiently screened from view and was never accessible to visitors. Today, the former residential area continues to support park operations and remains off-limits to the public. The new security building also reduces its impact on spatial organization through design characteristics similar to those of the new museum.

Evaluation - Contributing

Contributing. Although changes to the Liberty Island Grounds completed since the historic period have altered certain characteristics of the island's spatial organization, the overall structure and ordering elements of the landscape, including the two-axis layout comprising the two pedestrian malls, intersecting Flag Plaza, and statue, as well as the processional experience of moving from West Pier to the statue, remain intact. The spatial organization of the Liberty Island Grounds contributes to the designed landscape's historic character.

BUILDINGS AND STRUCTURES

Buildings are defined as the elements primarily built for sheltering any form of human activities. Functional elements constructed for other purposes than sheltering human activity, including circulation and engineering systems, are considered structures.

Historic Conditions

Early buildings and structures present on Liberty Island prior to the establishment of Fort Wood are imperfectly understood. The island passed through a series of private owners from 1667 onward, but it is not known whether any of these owners built structures. During this period of private ownership, the government would periodically appropriate the island for quarantine purposes.[17] The island was used in 1738 to inspect incoming ships for contamination or disease, and from 1755 to 1757 it was used as an area to quarantine smallpox patients away from the populated city.[18] In 1758, New York City took possession of the island to build

a "pest house" or hospital building.[19] Maps from the period depict at least three buildings on the island, but their nature and function are not well understood (see Figures 1.3 and 1.4 in the Site History chapter).

The star-shaped masonry Fort Wood Walls were first constructed in 1811 as part of the New York Harbor defensive fortification system. The fort underwent improvements and alterations to serve its intended purpose through much of the nineteenth century, including the reconfiguration of its walls in 1845. Following the Civil War, the need for defenses of this type and location declined, and ultimately the fortified structure was selected as the site of the new Statue of Liberty. After the removal of the buildings located on the interior of the fort walls, the statue, its masonry pedestal, and concrete foundation were installed in the center of the star fort in 1886. After this, the star-shaped walls became an integral part of the overall design composition, comprising the statue, pedestal, and star-shaped fort base.

Prior to the transfer of the island from the War Department to the National Park Service in 1937, the buildings on the northern portion of the island served the needs of the United States Army and later as a Signal Corps Station, and included a hospital, barracks and officers' housing, a mess hall, commissary, warehouses, and other structures. The density of the buildings on the island reached a peak during World War I, when it contained more than twenty permanent buildings, plus several temporary barracks and storehouses. While the temporary structures around the statue base were removed soon after the war, the rest of the island remained heavily developed with buildings, structures, roads, and paths serving the Signal Corps Station until the National Park Service began to implement its master plan in 1937.

During the implementation of the park's master plan, all military buildings were removed, with the last two officers' quarters removed in 1957. The master plan included several buildings needed to support park operations and visitor services. The Administration Building and Concessions Building were constructed in 1941, facing each other across the pedestrian Approach Mall. The arrangement of these buildings on a cross-axis of the Approach Mall complemented the formal Beaux-Arts design of the island's master plan.

Construction of six new units of staff housing at the north end of the island began in 1951 and was completed the following year. The housing units were designed by prominent Manhattan architect James McKenzie, known for New York City projects, including the Jacob Riis Houses public housing complex and 1932 Harlem Branch YMCA. These buildings included a superintendent's house, duplex housing unit and three connected single units comprising the triplex housing units. The buildings were arranged around a grass courtyard that was planted with shade trees and provided a play area for children of the employee families.

Post-historic and Existing Conditions

The primary changes to the buildings and structures of Liberty Island since 1957 include the removal of the park housing units at the north end of the island and the addition of the new Statue of Liberty Museum, the Security Screening Building, and Gift Pavilion. The base of the statue, comprising the pedestal and the Fort Wood Walls, have undergone substantial alterations associated with the construction of the American Museum of Immigration in the 1960s, as well as changes to meet evolving visitor use, interpretation, safety, and security requirements (Figure 3.5).

Evaluation – Contributing and Non-contributing

The primary buildings and structures that defined the function and character of the Liberty Island landscape at the end of the period of significance, including the statue, pedestal, Fort Wood Walls, Concessions Building, Administration Building, Utility Building, and Seawall, remain today, substantially unchanged since the National Park Service master plan was implemented. The park housing units, originally part of the master plan, are no longer extant, and several new buildings have been added, most notably the Statue of Liberty Museum. Despite these changes, the surviving historic buildings and structures of the Liberty Island Grounds contribute strongly to the significance of the cultural landscape.

Building and Structures: Features

"Statue of Liberty Enlightening the World" BS-1 (Contributing)

The Statue of Liberty (LCS Nos. 001321 (statue) and 618607 (pedestal)) is a two-part structure consisting of the familiar colossal sculpture of a striding female figure with a torch held aloft set upon a granite-clad, Beaux-Arts-style pedestal. Although these represent two distinct structures, the statue and pedestal are counted as a single resource in accordance with the National Register resource counting guidelines.

The sculptural component of the statue is a 152-foot, 2-inch-tall female figure rendered in panels of thin copper sheeting shaped using the repoussé technique. The skin consists of 3/32-inch-thick hammered copper plates with a verdigris patina that are riveted to a combination of stainless steel and wrought iron armature bars. The skin of the statue is made up of 310 copper plates that weigh a total of 179,000 pounds. The combined weight of the statue and its internal framing is 560,000 pounds.

The only notable alteration to the exterior of the statue was the replacement of the original torch. Bartholdi's original torch was altered in 1916 by the sculptor Gutzon Borglum who would later find wide renown for his Mt. Rushmore presidential figures. Borglum was asked to alter the original torch in order to retrofit electric

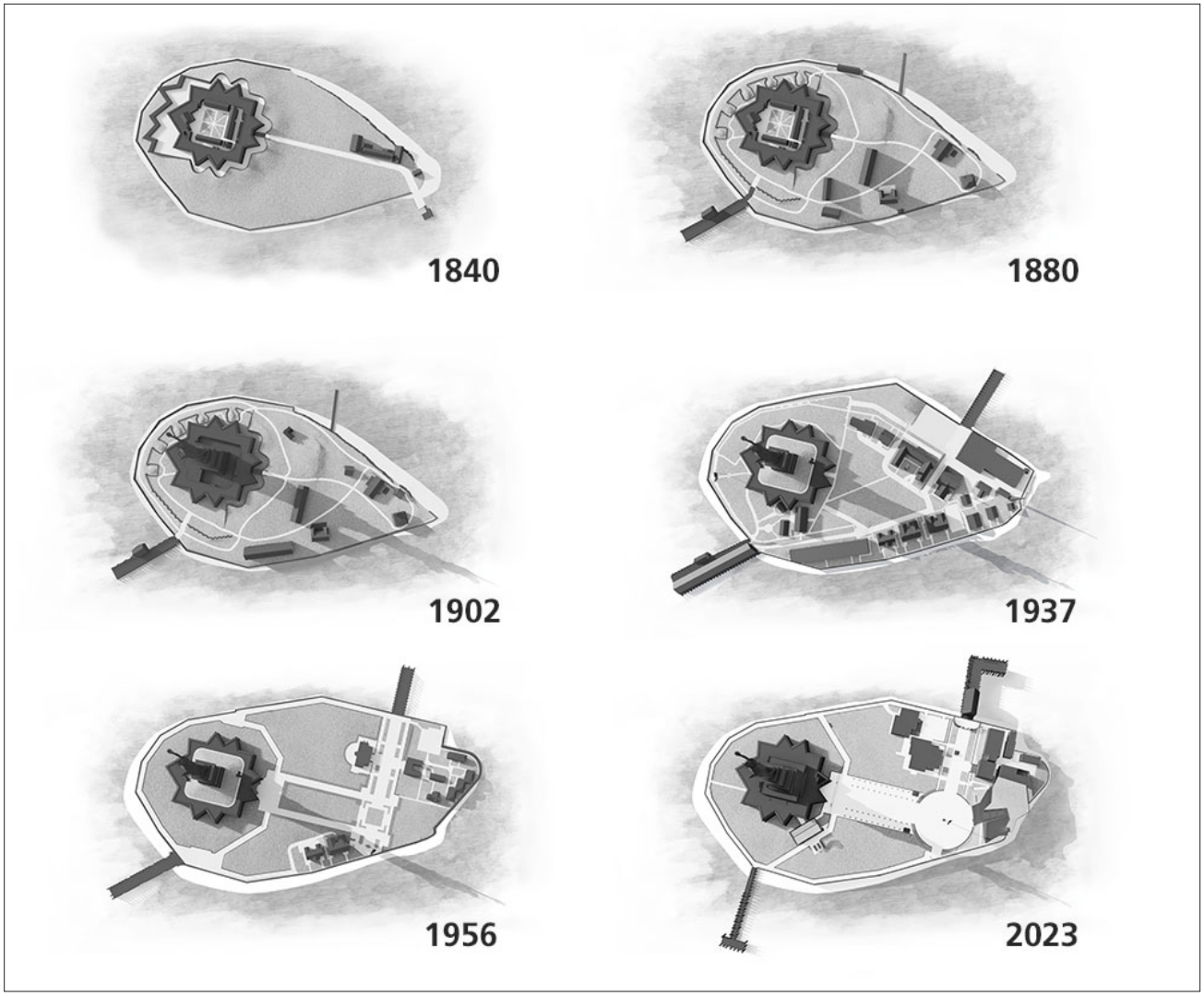

Figure 3.5. Building and Structures Analysis, figure/ground diagrams showing evolution of Liberty Island buildings, structures and circulation, digital model, State University of New York, College of Environmental Science and Forestry, graphic prepared with Lumion Student Edition, 2023.

lighting, a project seeking to improve the utility of the statue as an aid to navigation. During a subsequent restoration of the statue undertaken between 1984 and 1986, the torch that had been illuminated by Borglum, which had become beset by problems and leaks, was replaced with a new torch more in keeping with Bartholdi's original design. Also, during the 1984-1986 restoration, most the statue's iron armature bars, excepting a few bars within the right foot, were replaced with stainless steel components that replicate the contours of the original work. Teflon insulating pads replaced asbestos material between the armature and the statue's skin. A new emergency elevator was added to the statue pylon. New rest platforms and additional handrails were added to the stairs within the pylon at Levels 4S-8S. The stairs between Level 8S and the crown platform also date to this period.

The statue rests on a pedestal and foundation located within the former star fort interior courtyard space. Completed in 1886, the granite pedestal was designed by nationally prominent architect Richard Morris Hunt in the Beaux-Arts style. Hunt's pedestal rests atop an unadorned, stepped concrete foundation. After 1907, the portion of the underlying foundation above the fort's terreplein level

and below the bottom course of Hunt's pedestal was concealed under infill of turf-covered earth. With the 1960s commencement of construction of the former American Museum of Immigration, the former mound of earth was replaced with the box-like forms of the modern museum structure. The total height of the pedestal and foundation is 154 feet. The foundation is 93 feet wide at its base.

The four-sided pedestal has a concrete core and is clad in a combination of hammered and rock-faced granite cladding. It rises 89 feet from the top of the foundation to the base of the statue. Hunt's architectural treatment is identical on all four sides and is organized into a classically inspired, tripartite vertical composition of base, shaft, and attic story with balcony. Ornament on the pedestal is over-scaled to harmonize with the statue and provide a coherent composition from distant vantage points around the harbor.

The greatest alteration to the exterior of the pedestal and foundation was the completion of the American Museum of Immigration in 1972 and associated earth moving operations in advance of its construction in the 1960s. This museum addition entirely enclosed the concrete foundation, the upper portion of which had been formerly concealed below a mound of turf covered earth. The former American Museum of Immigration is a flat-roofed, stepped building finished in gray granite, rectangular in plan, measuring approximately 180 feet by 135 feet at its greatest extents. The building surrounds the upper portion of the concrete foundation of the pedestal, extending from the pedestal-foundation intersection (Level 3P) thirty-eight feet down to Level 0P. Two levels are visible from the exterior – Level 3P and the top half of Level 2P. The roofs of the former museum serve as terraces, or pedestrian promenades, and are paved with granite blocks. The promenades terminate at parapet walls extending extend above the paved walking surface. The museum walls and parapets are constructed of reinforced concrete with a granite slab veneer. Portions of Level 2P and all of Level 1P are hidden behind the star fort walls, with the roof of Level 2P serving as the grand promenade at the former level of the Fort Wood terreplein. Granite surfaced staircases on the north and south elevations of the former museum provide for circulation between the grand promenade and the upper promenades.

Fort Wood Walls BS-2 (Contributing)

The Fort Wood walls (LCS No. 405000) form the base of sculptural composition, below Hunt's pedestal. The walls are the ramparts that belonged to an eleven-point, star-shaped, stone masonry, earth, and rubble military fortress that was originally constructed in 1811 as part of the development of the Second American System of New York Harbor fortifications. The star-shaped fort is a variant on the trace Italienne (Italian plan) of the sixteenth century but lacks the retiring flanks that would make the points into true bastions conforming to the trace Italienne model. Fort Wood retains the scarp (outer walls) and parapets of its ramparts.

Other military elements within the fort are now missing. Behind the parapet and atop the rampart is the Grand Promenade, a contemporary pedestrian surface replacing the fort's former terreplein. The former American Museum of Immigration occupies the space between the fort's ramparts and the base of the statue, which was formerly the parade ground. The Fort Wood Historic Structure Report assigns the walls of the scarp numbers from 1 to 20 in clockwise rotation beginning at the main entrance on the north elevation. This convention is used in the following description (John G. Waite Associates 2009).

The scarp rises about twenty feet above the surrounding grade and is made up of battered, quarry-faced granite ashlar facing set against a rubble masonry substructure. At the base of the walls is a shallow ditch. The fort's parapet walls rise approximately three feet above the paving of the grand promenade and are topped with transversely laid coping stones. At their greatest distance apart, the Fort Wood walls measure 320 feet in span. Many stones have deteriorated at the parapet, and a variety of granite types indicates different construction and repair programs. At each reentrant angle of the star's projecting walls (except the north entrance), there is a narrow horizontal opening, called a machicolation, below the parapet. These defensive features of the walls penetrate through the scarp, exposing would-be attackers at the base of the fort walls to small arms fire.

There are two ground-level entrances through the scarp walls: the main north entry in Wall #1 and a doorway in Wall #11 on the south side of the fort. The main entrance to the statue is through what was originally the principal Sally Port, in the north wall of the scarp. The door surround consists of granite quoins capped with a granite slab lintel. Two massive bronze doors with recessed panels have bas-relief images representing different trades that worked on the statue and portraying elements of the statue itself. The Wall #11 doorway serves as a postern, or "back door" that formerly provided protected access for soldiers moving between the star-shaped fort and external water batteries that have been removed. Prior to the National Park Service acquiring the entirety of the island in 1937, the south-facing postern door was the principal entrance for visitors wishing to ascend the Statue of Liberty. The postern door is fitted with a metal channel frame and a pair of metal slab doors. The postern follows a south-southeast course within the ramparts. It has a brick barrel-vault ceiling, coursed granite block walls, and a sloping stone floor with shallow gutters.

Atop the ramparts and behind the parapet is the grand promenade. This open pedestrian terrace area approximates the former level of the fort's terreplein and is set atop the fort's earthen fill and the concrete and steel structure of the former American Museum of Immigration. The promenade is ringed by the granite parapet and paved with bluestone and granite.

The Fort Wood Walls have undergone a series of renovations during the structure's lifespan as a military installation and national monument. The existing gran-

ite scarp walls replaced earlier sandstone in 1844, and the present machicolations were inserted at the same time. Large portions of the parade ground were excavated for the statue foundation in 1883–1886. Between 1961 and 1972, the American Museum of Immigration was added inside the walls of the fort, necessitating the removal of portions of the interior faces of the ramparts and small portions of wall 1. In 2013 a new concrete and granite stairwell was added by excavating a shaft at the interior of the northwest bastion. The stairwell replaced timber platform stairs that had been in place since the mid-1990s and provides egress from the grand promenade to the exit for the statue at the Sally Port Plaza.

Seawall BS-4 (Contributing)

The Seawall (LCS No. 410002) encompasses nearly the entire island and is identified in four sections. The first section is located on the south and east sides of the island and is comprised of granite blocks set into mortar. It was constructed in two stages in 1842 and 1879 when Bedloe's Island was occupied by the Fort Wood military post. The second section, built in 1949 by the National Park Service, is a large pink granite block shoulder that runs around the north end of the island. It also has smaller granite blocks and a riprap, or loose stone, barrier to support the wall that slopes to the water. The third section is a concrete wall built near the maintenance area in 1950. This small portion of wall, not visible to the public, extends west to meet the fourth section of the seawall and provides a base for the brick maintenance building and wall above it. The fourth section is a granite-faced concrete seawall with riprap below that was built along the west side of the island in 1950–1951.

Portions of the Seawall built in the 1949–1950 were added to accommodate the expansion of the island through filling operations. Because these sections are visible to visitors approaching the island, the granite facing that covers the concrete walls was carefully selected. Some sections to the Seawall originally constructed on the northeast side of the island between 1842 and 1879 were rebuilt in the 1950s to accommodate the expansion as well as address problems caused by erosion and deterioration. Overall, all construction and repairs made in the 1950s were made in kind and with great care to match the original materials.

Further repairs to the Seawall were made in the 1970s and 1980s. Part of the riprap blanket on the north end of the island was replaced, re-pointing was done all around the island, the concrete footings were stabilized, and some granite facing was replaced. In 2003, additional repairs conducted around the east pier included cleaning and repairing granite stones, replacing concrete footings, repairing and replacing lost and/or displaced stones, and re-pointing throughout. The current condition of the Seawall shows some deterioration in the form of wearing of mortar joints, settling of both the concrete slabs and stones, and erosion of soil beneath and behind the wall. The extant metal guardrail that runs along the

top of the Seawall on the south end of the island replaced an earlier chain link fence in 1986. The Seawall along the western side of the island south of the west pier suffered significant damage during Hurricane Sandy. Repairs were made in 2012–2013.

Administration Building BS-7 (Contributing)

The Administration Building (LCS No. 040498) is a rectangular, two story, five-bay by five-bay, brick-and-steel-frame building constructed in 1941 in a restrained Art Moderne style. It is located on the north side of the Approach Mall on a relatively level landscape facing south. The building has a concrete foundation and a flat asphalt roof with aluminum flashing and granite coping. It has limestone veneer walls on the facade and east and west elevations and a granite water table. The north wall is brick veneer in common bond.

The building retains its characteristic Art Moderne streamlined form, smooth stone surface, and symmetry. A raised granite entry porch and stair lead to the main entrance in the center of the facade, which consists of a single-light aluminum door with a single sidelight and plate glass transom in an unadorned opening. A secondary entrance is located in the west end of the north elevation and consists of an aluminum door with a single-light window in a recessed unadorned opening. The secondary entrance sits slightly below grade and is accessed by a shallow concrete ramp. The fenestration on the facade and east and west elevations consists of four-light aluminum sash in a combination of fixed and hopper windows, all set in shallow, recessed, unadorned openings. A decorative metal grate covers the fixed sash at the bottom. Windows on the north (rear) elevation consist of two single-pane, fixed vinyl windows in the center; two smaller, three-pane fixed aluminum windows on the east end; and a two-pane, fixed aluminum window on the west end. All the windows are set in unadorned brick openings with granite sills. An aluminum sign reading "National Park Service" is located above the main entrance on the facade.

The Administration Building has been expanded several times since its construction in 1941. In 1950, in response to increasing visitation to the island, the building was enlarged with a rear addition and its original open front entrance porch was enclosed. A second floor was constructed on the rear of the building in 1995–1996.

Concessions Building BS-8 (Contributing)

The Concessions Building (LCS No. 040499) is an irregularly shaped, two-story, seven-bay by five-bay, steel-frame commercial building. It was constructed in 1941 in a restrained Art Moderne style. It is located on the south side of the Approach Mall on a slightly raised lawn and faces north. The building has a concrete foun-

dation and a flat asphalt roof with aluminum flashing and granite coping. It has limestone veneer walls and a granite water table.

The building retains its characteristic Art Moderne-style streamlined form, smooth stone surface, and symmetry. A granite entry porch and cast concrete stairs in the center of the facade lead to the main entrance, which consists of two pairs of six-light double doors surrounded by plate glass windows with metal sashes, recessed in a shallow unadorned opening. Secondary entrances are located on the east and west elevations. The west entrance consists of four pairs of single-light double doors surrounded by plate glass windows with metal sashes, recessed in a shallow unadorned opening. Fenestration consists of rectangular, two-light, fixed aluminum replacement windows with a single-light hopper window, recessed in shallow unadorned openings. An aluminum sign reading "Refreshments" is located on the facade above the main entrance.

Alterations to the Concessions Building began in 1952 with the addition of the four-bay by three-bay entrance foyer, porch, and stair to the facade. The original facade consisted of a recessed covered entryway supported by six paired columns. A large bay window, original to the 1941 plan, was removed from the south (rear) elevation of the building and replaced c. 1952 by a larger semi-circular, one-story dining area. In 1986, a large, one-story, T-shaped addition replaced the semi-circular dining area. The dining patio south of the building was removed, and a larger patio was constructed in 1986 on the west side.

Audio-tour Booth BS-14 (Non-Contributing)

The Audio-tour Booth is located on the Approach Mall, immediately west of the paved walk leading to the Concessions Building. It was initially constructed as an open-air structure with a standing metal seam hip roof on four corner posts. In 2012, the structure was enclosed with wood walls to match the design of the snack booth. The walls are clad in synthetic boards with recessed vertical and horizontal panels and wood trim. Two service windows are located on the facade and the ease and west sides have rectangular opening. Each window opening has rolling metal overhead doors.

Snack Booths (Non-Contributing)

Three Snack Booths line the primary circulation system. Snack Booth 1 (non-contributing building) is a rectangular, one-story, two-bay by one-bay building constructed after 1998. It is located in the northwest corner of the Main Mall near the intersection with the Flag Plaza and faces east. It has a standing-seam, metal, hipped roof with a moderate overhang and a boxed eave with exposed rafter tails at the corners. The walls are clad in synthetic boards with recessed vertical and horizontal panels and wood trim. Two service windows with projecting wood

countertops and metal awnings are located on the facade. Each window opening has rolling metal overhead doors. Snack Booth 2 (non-contributing building) is a smaller, one-story open-air structure with a standing metal seam hip roof on four corner posts that is located across the Main Mall, at the northeast corner. Snack Booth 3 (non-contributing building), located just to the north of the intersection of the interior and perimeter paths and opposite the east pier, is a small one-story open-air structure with a standing flat roof on four corner posts.

Gift Pavilion BS-11 (Non-Contributing)

The Gift Pavilion (non-contributing) is an irregularly shaped, one-story, six-bay by four-bay building constructed in 2010 on a slight rise southwest of the Concessions Building. It faces north and is bordered by the outdoor dining patio to the north and the southwest lawn to the south. The Perimeter Promenade and seat wall run near the west elevation of the building.

The building has a flat roof, modern composite panel siding with no decorative trim, and a concrete pier foundation. The main entrance is located off center on the facade and consists of aluminum, single-light double doors with a four-light transom, flanked by plate glass windows. A secondary entrance is located off-center on the south (rear) elevation and consists of two sets of aluminum, single-light doors with a four-light transom, flanked by plate glass windows. A flat roof with "Gift Pavilion" in silver letters projects out above the doors at each entrance. Fenestration consists primarily of six-light, full-height, fixed, aluminum windows in the north, south, and west elevations. Additional fifteen-light, full-height, fixed, aluminum windows are in the north, south, east, and west elevations. The lower twelve lights of the fifteen-light windows are opaque. A plastic sculpture that resembles a ribbon is located at the north corner of the roof.

Utility Building BS-9 (Contributing)

The maintenance of the grounds and buildings of Liberty Island required a place to store equipment and conduct shop activities. A maintenance court was included in the planning that resulted in the expansion of the northwest portion of the island through filling operations in the early 1950s. Today, the maintenance court contains two buildings: a contributing utility building constructed in 1957 and a non-contributing maintenance garage (also referred to as the incinerator building) added in 1986.

The Utility Building is the southern building of the court. It is a rectangular, one-story, five-bay by three-bay, steel and concrete block building. The building is oriented with its facade facing north and is sited on a level area surrounded by a poured concrete driveway and parking area. A grass berm topped by a hedge south of the building partially obstructs it from view along the Approach Mall. The

building has a concrete block foundation with a granite veneer and a flat asphalt roof with copper coping and flashing. The facade is clad in glazed brick veneer in a common bond, and the south, east, and west elevations have a limestone veneer. Three deeply recessed metal rolling overhead doors are evenly spaced on the facade. A single steel utility door is located on the west elevation, and steel double doors are located on the east elevation. The fenestration consists of eighteen-light aluminum sash bay windows with two moveable hopper sections in the center and two single-light awning windows in the north end of the west elevation. A rectangular addition the exact width of the original building was constructed on the south elevation in the 1980s, and in 2016 a small, modular addition was installed on the northeast façade, between the utility building and the administration building.

Maintenance Garage BS-10 (Non-Contributing)

The Maintenance Garage also known as the incinerator building, was constructed in 1986 replacing a smaller garage on the site that was built in the 1950s. It is a rectangular, one-story, one-bay by three-bay, brick building with a one-story covered loading dock on its west elevation. Although of a single story, this building is three times the height of other adjacent buildings. The maintenance garage features a brick foundation and a flat built-up roof served by aluminum flashing. The one-story loading dock was enclosed in 2016 to serve as a generator enclosure and this extension of the building also features a flat roof with aluminum flashing, and plain brick walls. The main entrances are evenly spaced across the facade and consist of three rolling metal overhead doors. Three sets of twenty-four-light, full-height, fixed, aluminum windows located above the doors are vertically divided by brick pilasters. Fenestration on the north elevation consists of ten three-light aluminum windows (two fixed sash with a central awning window) with concrete sills separated by brick pilasters. The entrance doors and center bay overhead doors were washed away by flooding caused by Hurricane Sandy in 2012. Repairs included the addition of an interior steel frame second floor, which will elevate the island's electrical equipment and steam boilers to help protect this critical infrastructure from future storm damage.

Piers BS-5, BS-6 (Non-Contributing)

Traffic to Liberty Island arrives at piers on the east and west sides of the island. The east side of the island was the main landing point for boats during the period when Fort Wood was active. The West Pier was an important element in the National Park Service 1939 master plan. By its placement on the west side of the island, ferries from Manhattan or New Jersey would travel around the island providing visitors with a full side and frontal views of the statue from the water, thereby approximating the experience of immigrants and other travelers arriv-

ing in New York Harbor by boat. The West Pier was originally built in 1951 and replaced a small pre-existing pier in the same general location. The original East Pier was subsequently torn down and the current East Pier was constructed in a new location in the mid-1960s. Thereafter, the East Pier served as a landing point for materials and equipment. The West Pier was expanded to improve its capacity to handle more ferry passenger traffic as part of the improvements to the Liberty Island Grounds in advance of the statue's centennial in 1986. Both piers became subject to significant damage during Hurricane Sandy, losing decking and some of the stringers attaching the deck to the piers. The East Pier was completely rebuilt with in-kind materials in 2013. The West Pier was repaired with the replacement of its entire deck and was returned to its function as the primary visitor ferry pier in 2014.

The West Pier (non-contributing) is an L-shaped structure extending approximately 215 feet into the water southwest of the Arrival Plaza. The portion of the pier that extends southwestward about 230 feet from the island was constructed in 1951 and the shorter seventy-five-foot return forming the ell was added in 1986. Both parts of the pier are about forty-five feet wide. The pier is constructed of wood piles and wood plank decking. A 120-foot-long pavilion that provides shade for visitors waiting for the ferry covers the easternmost portion of the pier. The pavilion structure was added in 1986 and has a gable roof constructed of open wood trusses on timber posts. The eaves have carved rafter ends and the roof is clad with copper standing-seam sheathing.

The East Pier (non-contributing) is a T-shaped structure extending northeast from the Perimeter Promenade on the east side of the statue. It extends about 275 feet into New York Harbor as is approximately twenty-five feet in width. The T portion at the end of the pier is about seventy-five feet in length running southeast to northwest. It is constructed of wood pilings with wood decking and wood railings bordering the sides. A metal chain link fence runs on the inside of the wood railings. The short end sits perpendicular and has no railings to provide openings for ship gangplanks.

Statue of Liberty Museum BS-15 (Non-Contributing)

The Statue of Liberty Museum was designed and constructed between 2016 and 2019. The museum is a single-story contemporary building designed to be visually subordinate to the Statue of Liberty. The south-facing front of the museum abuts the Flag Plaza and is marked by a large masonry staircase directing visitors to views available from atop the structure. The building consists of a combination of sustainable materials and materials that complement surrounding structures.

Security Screening Building BS-16 (Non-Contributing)

The Security Screening Building is located on the northeastern side of the Statue of Liberty, just beyond the Fort Wood Walls. The building is a single-story structure with patterned concrete walls and an unusual, inverted gable roof. Tall and slender windows line the front façade and an accessibility ramp extends the length of the east-facing façade, leading to the main entrance. The building's exit is located on the north side of the building leading towards the Sally Port Plaza, which is secured behind steel security fencing.

Lockers BS-17 (Non-Contributing)

Lockers for visitor belongings are located opposite the eastern Interior Path from the Security Screening Building. The lockers consist of two rows of square lockers with the lockers on either side of the structures. Above the lockers are butterfly-styled awnings to shelter the visitors using the lockers from rainfall.

Brick Entry Gateway (Non-Contributing)

A large brick entryway feature separates the Arrival Plaza from the Approach Mall. This curved red brick walls of this structure embraces the east side of the Arrival Plaza, with two openings provided in the center for visitor and service traffic. Each end and column are topped with a concrete ball finial.

Snack Booths (Non-Contributing)

Three Snack Booths line the primary circulation system. Snack Booth 1 (non-contributing building) is a rectangular, one-story, two-bay by one-bay building constructed after 1998. It is in the northwest corner of the Main Mall near the intersection with the Flag Plaza and faces east. It has a standing-seam, metal, hipped roof with a moderate overhang and a boxed eave with exposed rafter tails at the corners. The walls are clad in synthetic boards with recessed vertical and horizontal panels and wood trim. Two service windows with projecting wood countertops and metal awnings are located on the facade. Each window opening has rolling metal overhead doors. Snack Booth 2 (non-contributing building) is a smaller, but of similar construction located across the Main Mall, at the northeast corner. Snack Booth 3 (non-contributing building), located just to the north of the intersection of the eastern Interior Path and the Perimeter Promenade, near the East Pier, is a small one-story open-air structure, build much like a contemporary bus-stop.

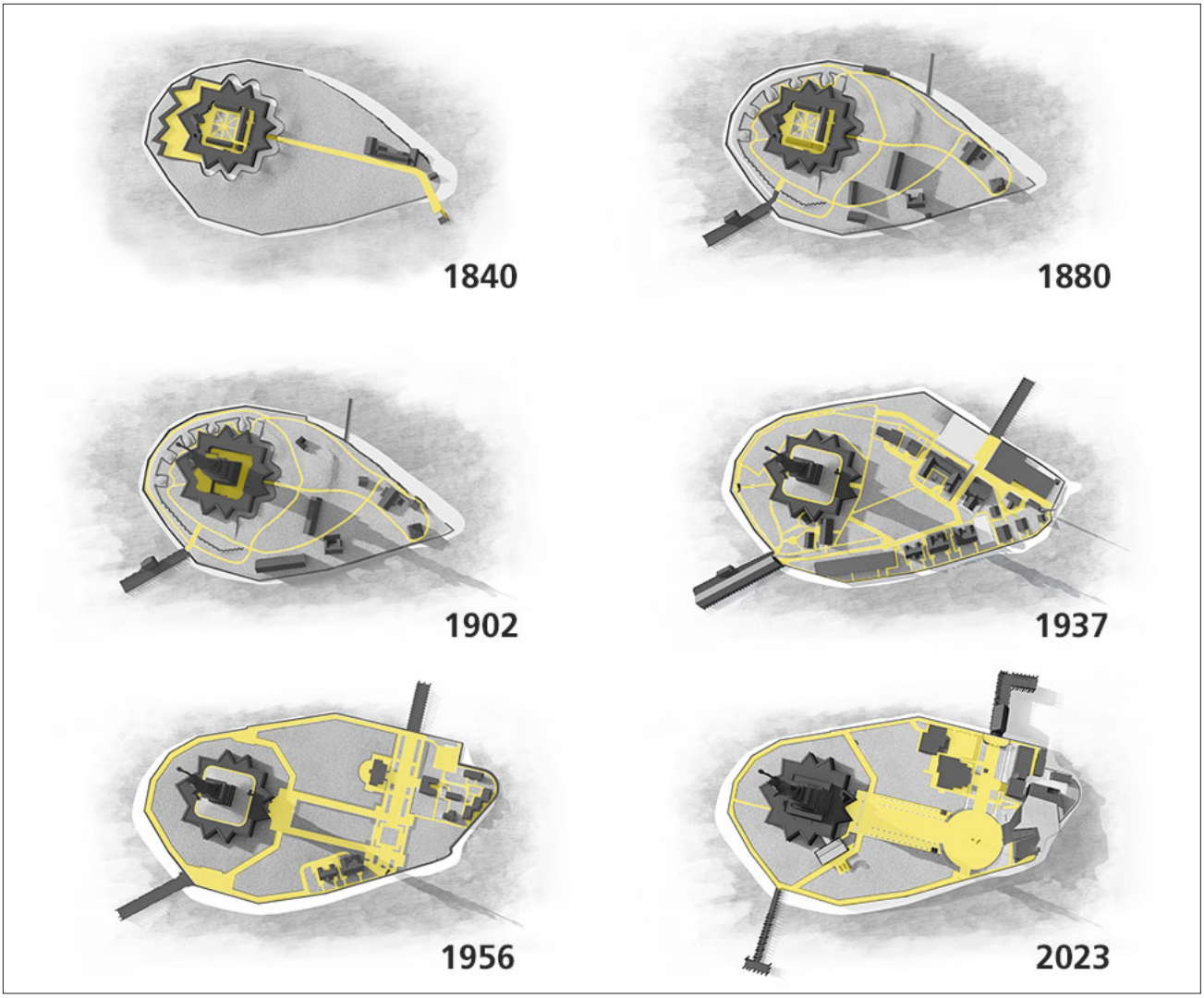

Figure 3.6. Circulation Analysis, figure/ground diagram with yellow overlay showing evolution of Liberty Island pedestrian circulation, Digital model, State University of New York, College of Environmental Science and Forestry, graphic prepared with Lumion Student Edition, 2023.

CIRCULATION

Circulation includes the spaces, features, and applied material finishes that constitute systems of movement in the landscape.

Historic Conditions

Prior to National Park Service planning efforts, most of the island that lay north of Fort Wood remained an active military post and was off-limits to public visitation (Figure 3.6). The National Monument's first superintendent, George Palmer, reflected on the poor visitor experience being offered, saying "I suppose my first impression of the Statue of Liberty operation was the fact that there was almost no consideration of visitors' enjoyment of the statue except to carrying them from the ground floor to the top of the pedestal and to answer questions about the statue and the scene of the harbor when they approached."[20]

Circulation emerged as a primary organizing feature of National Park Service efforts to develop Liberty Island to accommodate public visitation. As articulated by landscape architect Norman Newton, the purpose of the planning effort was "to

define an ample approach to the Statue." The master planning effort thoughtfully addressed three distinct elements of visitor circulation—the ferry approach, the processional arrival sequence, and the perimeter paths—in order to design a visitor experience that "properly attunes" visitors to the statue's "lofty symbolism."[21]

At the onset of the master planning effort, it was determined that the ferry approach to the island was the key element to the visitor experience and needed to be altered. Vint recommended that a deeper channel be created, so that ferries could navigate around the south and west sides of the island and dock at a redesigned west pier.[22] Norman Newton's "basic principles of development" documented the inadequacy of the "flimsy" east pier and proposed a new circuitous route around the south side of the island in order to take in the view and then land at a new west pier. The revised ferry route, a key element of the National Park Service master plan was significant because it afforded visitors remarkable frontal views of the statue from a distant perspective that could only be obtained from the water.

On the island itself, the primary circulation route would follow a processional arrival sequence leading visitors from the new west pier to the base of the statue (Figure 3.7 through Figure 3.9). Newton envisioned "an avenue, defined by trees and walls [that] shall lead from the new west pier to the spacious Main Plaza, some 570 feet from the statue. From this point the view of the statue is well related to its majestic proportions, and the approach along a broad Main Mall, again defined by trees and walls, would lead to the main North Sally Port of Fort Wood, an architectural entry of real force and character."[23]

Framed by plane trees and flanked by the administration and concessions buildings and seat walls, the Approach Mall was designed to draw visitors into the landscape. The Approach Mall as completed in 1952 represented a modification of Newton's original design, which featured an open avenue edged by a row of plane trees The 1952 design featured the plane trees planted in narrow grass panels within the mall, with two pedestrian promenades outside of the turf panels.

Typical of Beaux Arts monument ground design, the central panel of the Main Mall was historically turf, with low hedges surrounding the grass panels and paved paths at the edges. Low seat walls, backed by hedges and plane trees framed the space. The broad, open space was designed to accommodate the procession of visitors as they turned south, saw their first full view of the statue, and prepared to enter the monument.

In addition to the primary processional route of the two principal pedestrian malls, Newton's plan included a secondary circulation system comprised of "wide walks inside the sea wall" extending southward from the pier plaza, around the statue and terminating at the east overlook (Newton, 1939). An additional walk of the same proportions, also framed by seat walls was to encircle the statue and con-

nect with the sally port. The secondary circulation system was installed as Newton intended in the 1950s and remains intact today. Despite the 1986 introduction of red brick surfacing, the perimeter paths retain their historic design, feeling, and location.

In order not to detract from the visitor's experience of the monument grounds, staff and service areas were historically located north of the Approach Mall and were made inaccessible to visitors.

Newton originally intended for paving materials of the visitor circulation areas to be Stony Creek-type granite, similar to the masonry surfaces of statue's pedestal, or typical Hudson River bluestone flagging or "Belgian" paving blocks, or any combination of these materials (Newton, 1939). This material element of Newton's design was never achieved. From the 1930s until 1950s, cinders covered most of the pathways as construction was still ongoing. In 1950 a major paving project was undertaken in which exposed aggregate concrete and bluestone set in concrete were proposed as surfacing materials. Due to budget constraints, the more affordable concrete with a brushed finish was selected and remained the primary paving material until 1965 when the Fort Wood terreplein and the Main Mall were paved with patterned bluestone.

Post-historic and Existing Conditions

The primary changes of the Liberty Island circulation system after the period of significance occurred during the 1984-1986 redesign of the pedestrian malls. These alterations included the removal of the two promenades that passed along the outside of the turf panels on the Approach Mall, the removal of the central turf panel on the Main Mall, and the reconfiguration and enlargement of the former intersection of the two principal malls into what is currently the large, circular Flag Plaza. These changes subtly but significantly altered the way visitors moved through the malls. Along the Approach Mall, pedestrian traffic was constrained, restricted to the central promenade of the mall. On the Main Mall, however, the removal of the turf panel allowed visitors to pass down the center of the mall, as well as across it from one side to the other. The Flag Plaza, significantly enlarged from its original design, could function as a congregation and orientation area for visitors as they navigate the island's attractions. When the Liberty Island Grounds were documented in advance of the 1984-1986 rehabilitation, circulation features were surfaced with a variety of materials, including bluestone pavers on the Main Mall and Sally Port Plaza, asphalt pavers on the Approach Mall, and green painted asphalt on the Perimeter Promenade. These were later changed to uniform red clay bricks laid in a herringbone pattern, with the pedestrian malls featuring large gray granite pavers inset into the brick in a pattern of open squares. The mall surfaces were rehabilitated once again between 2018 and 2019, with gray clay pavers replacing the granite insets.

Figure 3.7. Analysis, Circulation, looking south, digital model, State University of New York, College of Environmental Science and Forestry, Lumion, Student Edition, 2023.

Evaluation – Contributing and Non-contributing

Although the character of the original circulation features implemented as part of the pre-WWII master plan changed during the 1986 redesign, the primary circulation scheme of arrival and approach has remained the same since the master plan was realized in 1957. Visitors continue to arrive at the West Pier after passing around the south side of the island as ferry passengers, then travel the length of the Approach Mall, before turning to encounter the looming statue at the terminus of the Main Mall. The circulation system of Liberty Island, including the Main Mall, Approach Mall, Sally Port Plaza, Perimeter Promenades, and Interior Paths, contribute to the significance of the cultural landscape. The Arrival Plaza and Flag Plaza have been altered substantially since the historic period, no longer reflecting their former historic character. The masonry surfacing of the circulation features throughout the island is a non-contributing element of the circulation system.

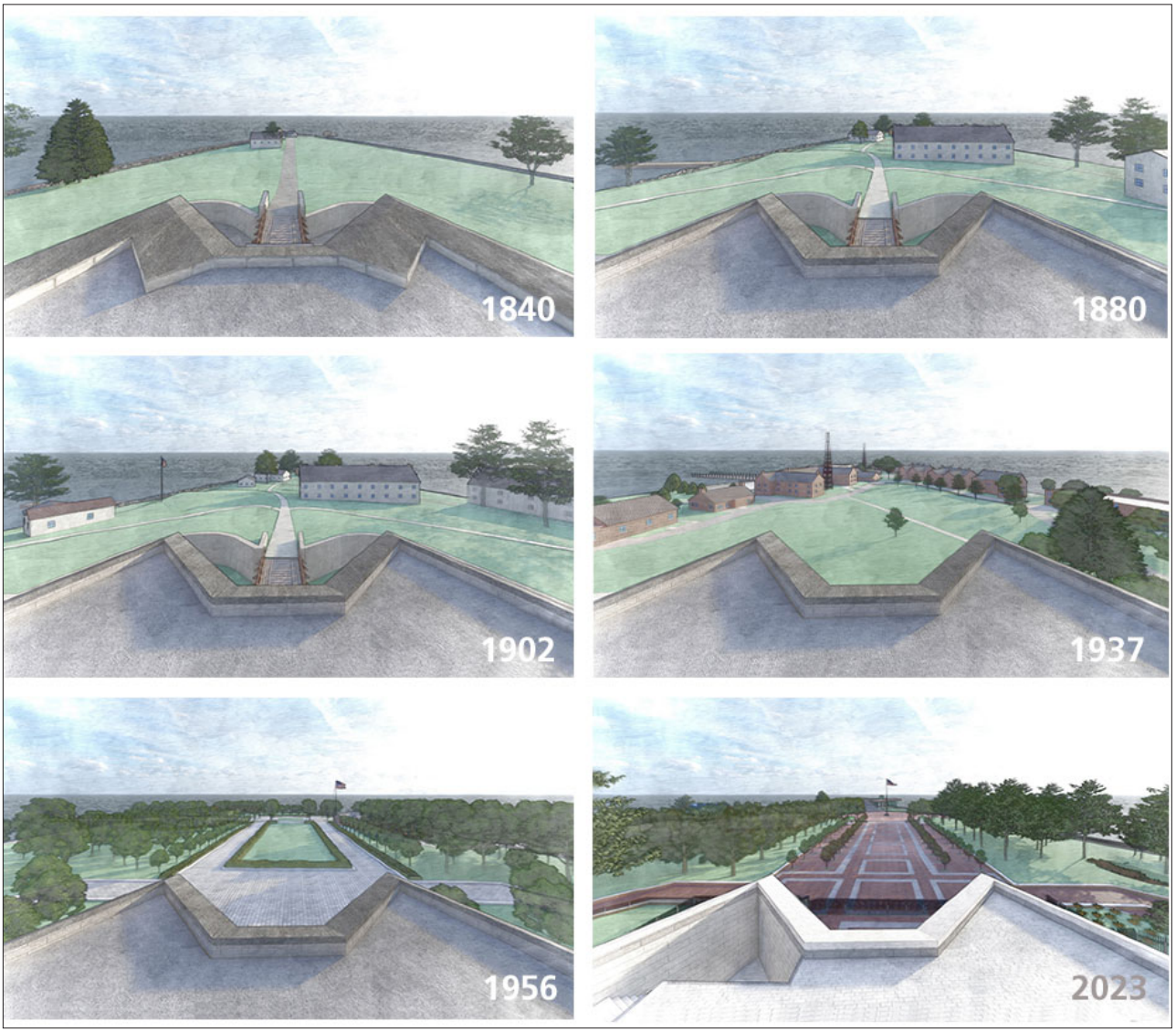

Figure 3.8. Analysis, Circulation, looking north, digital model, State University of New York, College of Environmental Science and Forestry, Lumion, Student Edition, 2023.

Circulation: Features

Primary Circulation System

The designed procession through Liberty Island's primary pedestrian circulation system begins when visitors step from the ferry boat onto the West Pier.

West Pier Ferry Approach (Contributing)

After the National Park Service acquired responsibility for the entirety of Liberty Island, a key element of the master plan for the redesigned landscape included a newly enlarged pier on the island's west side that would require passenger ferries to traverse the harbor waters to the south side of the island to land at the west side. From the harbor waters, south of the statue, visitors could experience an impressive ventral view of the statue, much as Bartholdi had originally envisioned.

The ferry route to Liberty Island, passing around the south side of the island and docking at the West Pier, is perhaps the most significant element of the designed arrival and approach experience, providing visitors with an intentionally designed preview of the statue from the water and bringing visitors to the point of beginning of a subsequent choreographed order of visitation.

Arrival Plaza (Non-Contributing)

Developed as part of the 1984-1986 redesign of the primary circulation system, the current Arrival Plaza is semi-circular in form and is paved with clay pavers. It is bordered on the north and south by curved brick walls that are approximately ten feet tall. The walls are red brick laid in a common bond on granite bases and topped with concrete coping. The walls terminate at brick columns with large concrete ball finials. A straight wall with similar end columns is found running along the Seawall on either side of the pier. An gateway opening at the center of the curved wall directs visitors to the Approach Mall. Within the opening are two freestanding brick columns with concrete ball finials that are connected to the flanking end posts of the curved walls by heavy bronze gates. Openings at the northwest and southeast provide access to the maintenance area and the Perimeter Promenade, respectively.

The Approach Mall (Contributing)

The Approach Mall extends eastward from the Arrival Plaza to the circular Flag Plaza. The Approach Mall is aligned with one of the two major design axes organizing the 1939 National Park Service master plan. The Administration Building flanks the Approach Mall on the north, and the Concessions Building flanks it on the south. The Approach Mall is surfaced with red brick pavers featuring inset panels of red brick pavers outlined with contrasting gray/brown pavers. Vegetated panels containing new plantings of swamp white oak and flowering perennials extend east to west to the intersection with the Main Mall. Low holly hedges planted in 2019 edge the grass panels on either side. Some sections of the brick seat walls that originally lined the Approach Mall were removed in 1986. Original seat walls that remain in place are located near the entrances to the Administration Building and the Concessions Buildings.

The Flag Plaza (Non-Contributing)

The Flag Plaza is located at the eastern end of the Approach Mall. It is a large, circular pedestrian surface with a Flag Pole at its center. The Flag Plaza was constructed between 1984 and 1986, replacing a smaller, generally square main plaza that was completed in 1951 as part of the pre-WWII National Park Service master plan. As originally conceived, this plaza was intended to provide a space linking the Approach Mall with the Main Mall and drawing visitors toward a scenic

overlook of upper New York Harbor on the east side of the island. Its location was determined specifically to provide an optimal view of the immense proportions of the statue before visitors proceeded toward it along the Main Mall. The original plaza was completely redesigned in an expanded circular form between 1984 and1986 and renamed the Flag Plaza. The current Flag Plaza is surfaced with clay pavers and has a pattern of gray pavers inlayed in two concentric circles around the Flag Pole. Polished black granite-faced seat walls surround the plaza, with broad openings in the circle providing pedestrian access to the Approach Mall to the west, the Main Mall to the south, and a chevron-shaped scenic overlook to the east. To the north of the Flag Plaza is the new Statue of Liberty Museum constructed 2016–2019. The Flag Plaza continues to function as the important intersection between the Approach Mall and Main Mall, but its design dates to the mid-1980s.

The Main Mall (Contributing)

The Main Mall, built at right-angles to the Approach Mall, is oriented on a northwest to southeast axis in the approximate center of the island, between the circular Flag Plaza and the Sally Port Plaza. The Main Mall plantings and walking surfaces were last reconfigured in 2017–2019 as a National Park Service funded project. This project was implemented concurrently with other partner-funded work on the new Statue of Liberty Museum and a concurrent island-wide landscape beautification program. Linden trees that had been previously planted in triple rows on either side of the Main Mall were removed between 2018 and 2019 and replaced with salt-tolerant black tupelo trees planted in two rows on either side of the Main Mall. The yew hedges that had formerly bordered the Main Mall above seat walls to the east and west were removed, and the paved masonry walking surface was rehabilitated, with gray clay pavers replacing the former surface of thermal finished granite.

Following the celebration of the statue's centennial, the pedestrian circulation along the Main Mall became altered by the installation of a white vinyl security tent extending nearly halfway down the center of the Main Mall from the Sally Port Plaza. Pedestrian movement was further altered at this time by a line, or queue of visitors, waiting to enter the tent for secondary security screening; the line often extending nearly to the Flag Plaza. For those not wishing to tour the statue itself, this arrangement divided the Main Mall into two sides, with passage from west to the east side of the Main Mall blocked by both the tent and queue of visitors. Following the terrorist attacks of September 11, 2001, the existing tent on the Main Mall was replaced with an even larger white tent that included additional space for retail sales. The opening of the new Security Screening Building in 2019, combined with the construction of the Gift Pavilion, made the removal of the white security tent practical and desirable.

The Sally Port Plaza (Contributing)

The Sally Port Plaza serves as the terminus of the primary circulation system. This paved pedestrian space is located at the south end of the Main Mall, directly before the main entrance to the Fort Wood Walls through the historic Sally Port. The Sally Port Plaza is surfaced in red brick pavers with gray brick inlays installed in 2016 and 2019. Responding to the terrorist attacks of September 11, 2001, the Sally Port Plaza remains enclosed behind a double row of tall steel security fencing. Access to this secure area, and to the statue and pedestal, is only possible by way of the Security Screening Building located along the east Interior Walkway on the north-east side of the statue.

Secondary Circulation System (Contributing)

In addition to the primary processional route composed of the pedestrian malls and plazas aligned with Liberty Island's two design axes, a system of secondary paths provides both visitor circulation around the island and service circulation for park operations.

The Perimeter Promenade (Contributing)

The Perimeter Promenade is an approximately twenty-foot-wide footpath that begins on the south side at the Arrival Plaza, runs along the seawall around the south end of the island, and ends at the scenic overlook on the east side of the island. The Perimeter Promenade had originally been paved with cinder dust, but in the 1960s it was repaved with concrete dressed in a coarse broom finish, and by 1984 it featured a painted asphalt surface. In 1986 the Perimeter Promenade was resurfaced in red Hastings bricks matching the paving on the pedestrian malls. Several portions of the Perimeter Promenade on the west side of Liberty Island were heavily damaged during Hurricane Sandy in 2012, after which the entire Perimeter Promenade was repaved using pre-cast concrete pavers. Low brick seat walls with limestone caps edge the interior side of the walkway. The seat walls were originally constructed about 1955 and were rebuilt in 1986. The exterior edge of the Perimeter Promenade is bound by the granite seawall topped with a metal guardrail.

Interior Paths (Contributing)

Two Interior Paths, or "Wing Walks," designed in 1939 and constructed in 1941 as part of the original National Park Service pre-WWII master plan provide alternative routes to the statue to and from the Perimeter Promenade. The Interior Paths run east-west across the island at the south edge of the northeast and southwest lawns from the Perimeter Promenade, meeting in the middle at the Sally Port Plaza. The evolution of the surfacing of the Interior Paths follows that of the Perimeter Promenade, a succession of cinder dust, concrete, asphalt, and finally

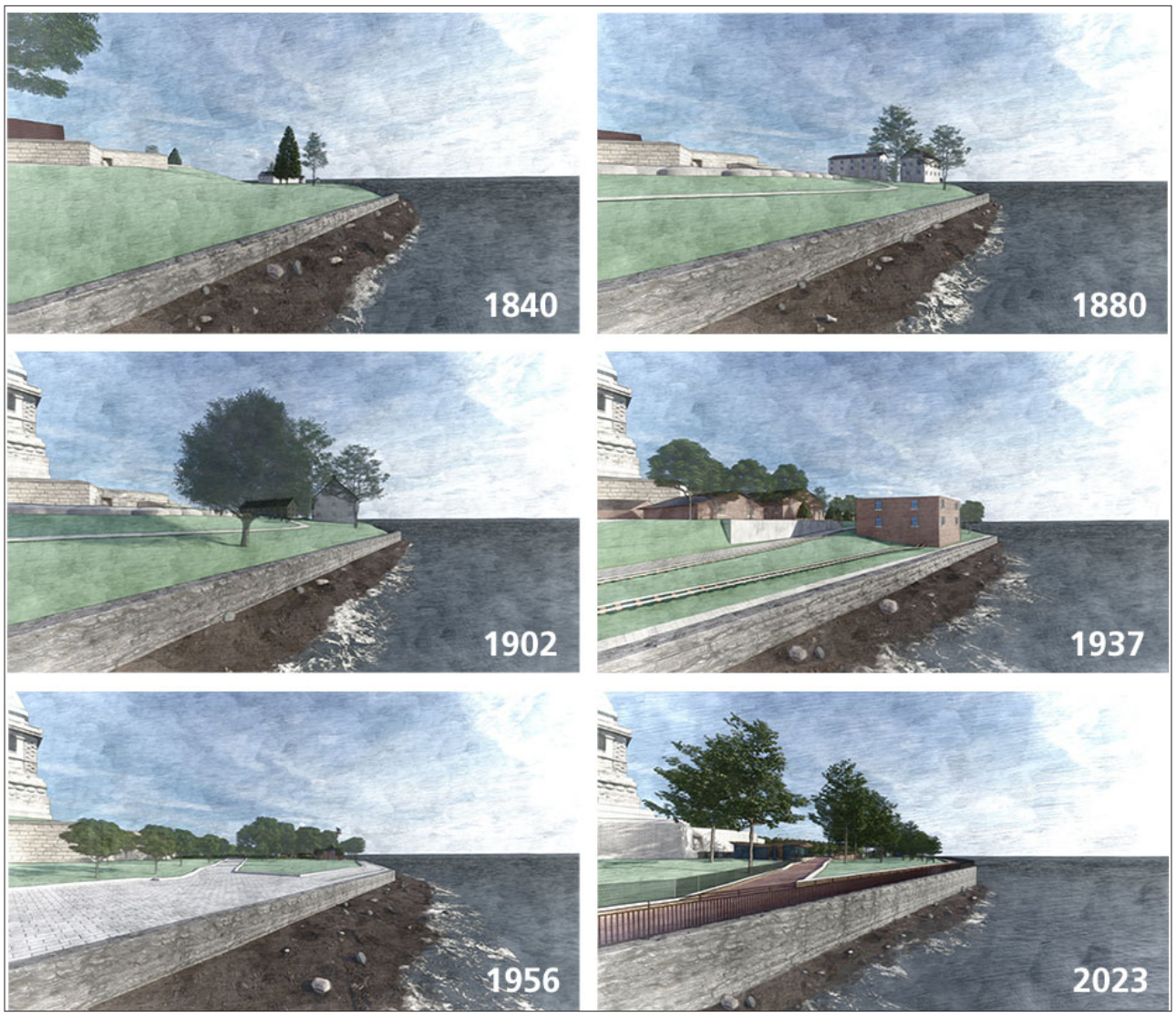

Figure 3.9. Analysis, Circulation, looking north-east, digital model, State University of New York, College of Environmental Science and Forestry, Lumion, Student Edition, 2023.

red clay pavers. The Interior Paths were not resurfaced along with the Perimeter Promenade, and the current surface is Hastings red brick installed in 1986. Also in 1986, the low seat walls with limestone caps running along both sides of the walkways were reconstructed. The seat walls serve a secondary purpose as retaining walls for the adjacent lawn areas.

VEGETATION

Vegetation, or plantings, includes the deciduous and evergreen trees, shrubs, ground covers, and herbaceous plants and their associated plant communities, whether indigenous or introduced to the designed landscape.

Historic Conditions

Early maps that depict Bedloe's Island prior to the development of harbor defenses suggest that the island was largely open, with scattered trees. The maps also

show a square area divided into quadrants, which was likely a vegetable garden supporting the operation of a hospital or quarantine station (see Figure 1.2 in the Site History chapter).

During the early military use of the island, it is unlikely that vegetation was given consideration beyond ensuring that critical defensive views and fields of fire were kept clear. As such, the southern portion of the island around the fort would have contained grass and low plants, with any trees left scattered sparsely on the northern part of the island. Images from the late nineteenth and early twentieth centuries show a small number of mature trees growing near quarters and other buildings on the north part of the island. The area around the fort and statue remained clear of vegetation other than turfgrass.

During the implementation of the master plan by the National Park Service, nearly all existing trees on the island were to be removed, and a new landscape installed consisting of a simplified palette of trees, lawn, and clipped hedges. Turf panels and an allée of London plane trees (*Platanus* x *acerifolia*) were installed along the Approach Mall, emphasizing the linearity and enclosure of the pedestrian space and encouraging forward motion toward the statue. Similarly, London plane trees around the rectangular plaza at the intersection of the two design axes were used to frame views and differentiate the area from the more open Main Mall, further compelling movement along an intentionally designed processional route. The Main Mall, by contrast, contained no trees, featuring instead a broad central turf panel enclosed by low clipped yew (*Taxus* sp.) hedges. The areas on either side of the Main Mall were to be relatively densely planted with groves of trees planted over lawn. These naturalistic wooded areas contrasted with the order of the formal pedestrian procession and emphasized the openness of the Main Mall and statue area.

While the row of shade trees along the malls was retained in the later 1952 landscape plan, the planting in the lawns was sparser to leave larger areas of the lawn open. The northeast and southwest lawns included shade trees retained from the Fort Wood plantings that formerly grew between the buildings, including horse chestnut, oak, maple, and London plane trees. The National Park Service added rows of London plane trees during the 1950s to fill the lawn area and to line the Main Mall.

The southwest lawn mirrored the northeast lawn plantings, but with a monoculture of London planes, as there were few remnant shade trees in this area surviving from the United States Army period. The South Lawn around the statue featured shade trees along its northern edge, lining the Interior Walkways, but otherwise contained no trees or shrubs. The open expanse afforded unobstructed and uncluttered views of the statue, the pedestal, and Fort Wood from the water and the Perimeter Promenade (Figure 3.10).

Post-historic and Existing Conditions

Few substantial changes to the island's vegetation were undertaken during the thirty years following the implementation of the National Park Service master plan. During the 1960s, a row of hawthorns was planted along each side of the Main Mall to provide additional shade for visitors waiting to access to the statue.

The 1984-1986 landscape redesign retained some of the vegetation of the pre-existing design, while making significant changes to accommodate the new mall configurations. The turf panels on the Approach Mall were enlarged and a second row of London plane trees was planted where the peripheral promenades had once been. Numerous trees in and along the edges of the former main plaza, along with several segments of yew hedges, were removed to accommodate the new circular Flag Plaza and other layout changes. The most significant change to the vegetation during the 1984-1986 project was the removal of the hawthorn trees and the planting of linden trees in two triple rows within the two side panels of the Main Mall, increasing the shade available to visitors while decreasing the perceived width of the Main Mall.

The linden trees were planted in tree wells that were discovered to be too small for their root balls, which caused condition issues for both the trees and the adjacent pedestrian surfaces. By the early twenty-first century, the paved walking surface was cracked and buckled from the tree roots, causing unsightly conditions and significant safety hazards for visitors. In 2005, the center row of lindens on each side of the mall was removed and the empty tree wells were covered with asphalt. The lindens were removed entirely and replaced with two rows of black tupelo (*Nyssa sylvatica*) during the 2018-2019 landscape rehabilitation project.

Both National Park Service projects and partner-funded landscape work together resulted in changes to the vegetation along the Approach Mall. During 2016, the National Park Service funded the replacement of failing London Plane Trees along the Approach Mall. The London plane trees, which never recovered from the stress they experienced during Hurricane Sandy, were replaced with salt-tolerant swamp white oak (*Quercus bicolor*). In 2016, the former turf grass within the garden panels alongside the Approach Mall was replaced with a composition of herbaceous perennials planted in rows parallel to the design axis. This work, pursued with partner funding as part of the larger Statue of Liberty Museum construction project, was intended to provide displays of seasonal color through the growing season with their best display in the middle of the summer. Trees, grasses, and flowering forbs were also planted along the north side of the Flag Plaza in as a landscape foreground for the new museum building.

The overall density of shade tree plantings has diminished since the 1950s, as some but not all the aged trees have been replaced. A grove of young London plane trees planted in the northeast lawn memorializes the events of September

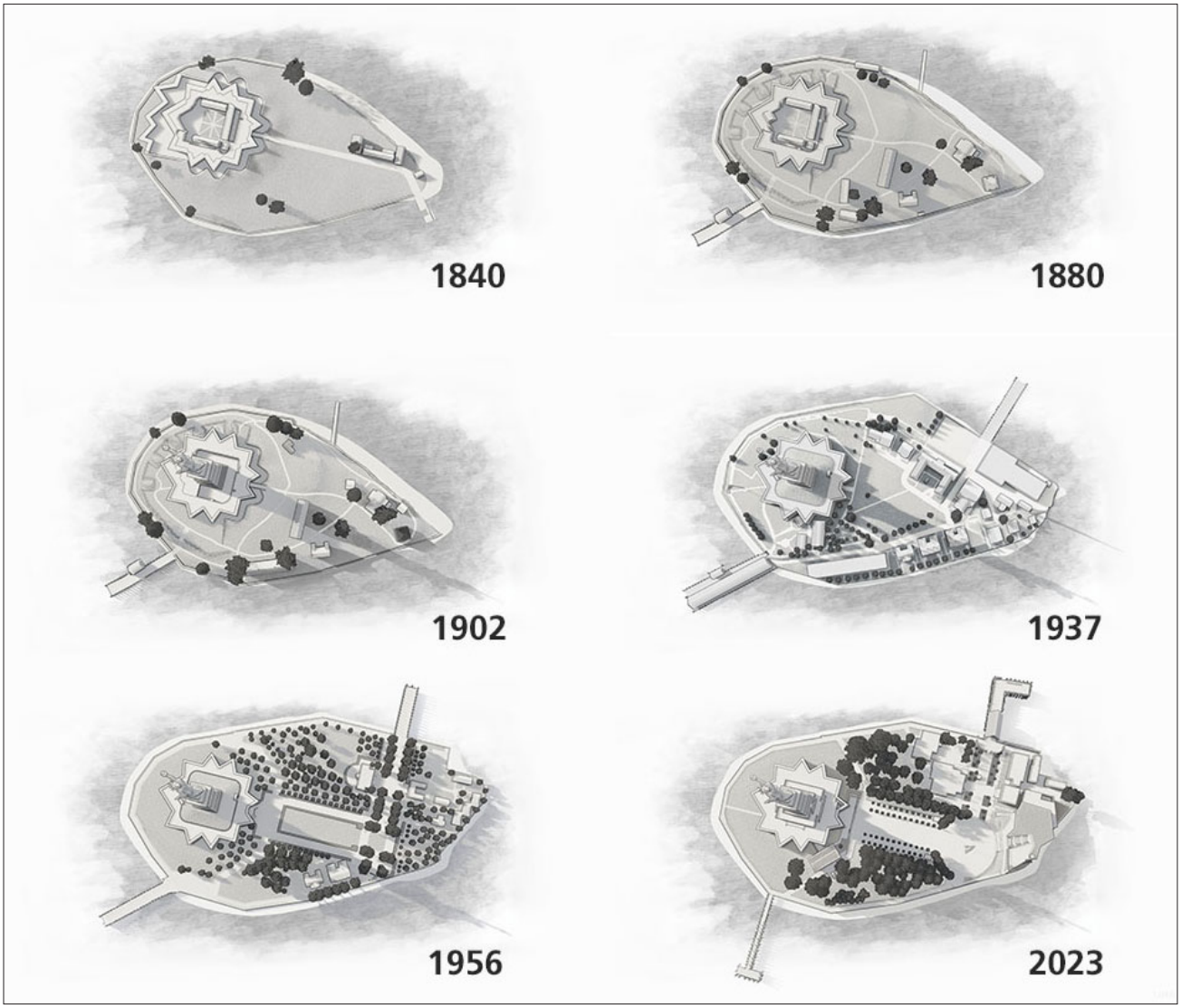

Figure 3.10. Woody Vegetation Analysis, figure/ground diagrams, showing evolution of woody vegetation, digital model, State University of New York, College of Environmental Science and Forestry, Lumion, Student Edition, 2023.

11, 2001 and is known as the 9/11 Memorial Grove. During Hurricane Sandy the Approach Mall and perimeter of the island became inundated with salt water, stressing many of the London plane trees. Similarly, the younger London plane trees of the 9/11 Memorial Grove stressed by saltwater intrusion due to their proximity to the island edge. Trees that did not sufficiently recover from the stress of the powerful storm were eventually replaced by the park with trees purchased with donated funds. Salt tolerant shade tree species that survived in areas of heavy seawater inundation included oaks, maples, honey locust, and linden. Many of the London plane trees that died have been replaced by white oak trees in this area.

Evaluation – Contributing and Non-contributing

The vegetation of Liberty Island continues to reflect the fundamental design intent of the park's master plan, despite reasonable replacement of species promising improved resilience to storms and flooding. The simple plant palette ensures that the vegetation does not compete with the statue for attention, while the contrast

of formal plantings along the pedestrian malls with the more naturalistic groves of trees in the lawn areas emphasizes the importance of the axial structure and helps lead visitors along the processional route toward the statue. These patterns, to the extent that they reflect the master plan's design principles, are a contributing characteristic of the landscape's vegetation.

Individual trees that date to the period of significance, as well as in-kind replacements, are contributing features. More recent vegetation, including the swamp white oak and perennial plantings installed in the garden beds along the Approach Mall, the black tupelos on the Main Mall, and the vegetation associated with the new museum, are compatible with the landscape's historic character, but they do not contribute individually to the significance cultural landscape as an early work of National Park Service master planning.

Vegetation Features

The following specific vegetative features are identified as Contributing. Any other vegetative feature found on Liberty Island that is not listed and described below may be understood as Non-contributing.

London Plane Trees

London Plane Trees (*Platanus x acerifolia*), were a mainstay planting identified for service in the National Park Service pre-WWII master plan for Liberty Island. Specimens that survive from the original National Park Service plantings are now approximately eighty-years old. Well-known as a tree species adapted to challenging urban environments, some of the older London Plane Trees on Liberty Island have lost some measure of youthful resilience, becoming more susceptible to stress from toxic saltwater inundation of their underlying soil occurring during severe storms. Surviving specimens of London Plane Tree are found thriving in groves growing at slightly elevated locations within the Northeast Lawn and the Northwest Lawn.

Japanese Yew Hedges

The National Park Service pre-WWII master plan deployed Japanese Yew Hedges architecturally, using the uniform dark green foliage much as walls, outlining the boundaries of outdoor space. The Japanese Yew Hedges (*Taxus cuspidata*) that once lined the east and west side of the Main Mall had become morbidly overgrown and were removed as part of the 2018-2019 landscape beautification project. Surviving Japanese Yew Hedges survive on the outboard limits of the garden beds lining the Approach Mall and to the east and south sides of the Concessions Building.

Turf

Turfgrass, or lawn, is so ubiquitous that it is literally overlooked in the inventory of many historic landscapes. Nevertheless, turf is a key feature of the Liberty Island Grounds, the landscape is so composed to avoid showy plantings and to rely on grass, trees and non-flowering hedging to organize outdoor space. This simple pallet of plant material is fundamental to the original National Park Service design scheme that would not compete for attention with the Statue of Liberty.

VIEWS AND VISTAS

Views and vistas include the prospects afforded by a range of vision in the landscape, conferred by the composition of other landscape characteristics and associated features.

Historic Conditions

Views and vistas were a primary concern for Newton as he designed the Liberty Island master plan. Linked with the carefully organized circulation system, an orchestrated sequence of views inspired appreciation of the statue. Views to the statue from the water and from points on the island, all factored into the development of the Liberty Island landscape (Figures 3.11 through 3.14).

Bartholdi chose the island for the Statue of Liberty in 1871 so the monument would be prominently seen from the harbor. Newton recognized Bartholdi's aims and the importance of the statue's location: "Standing at the very portal of the New World, it has greeted thousands of the oppressed and the venturesome of other lands who have reached these shores in hopeful search of greater freedom and opportunity."[24]

Newton also documented the inadequacy of the east pier, from which the visitor "…gets no view of the statue from the south, comparable to the one that greets incoming ships and is consequently the best known internationally."[25] By relocating the arrival pier to the west side of the island and forcing the passenger ferries to pass before the front of the statue prior to landing, the National Park Service planners recreated the powerful arrival experience and view of the statue articulated by Newton and originally conceived by Bartholdi.

On the island, the primary views were organized along the mall axes. Along the Approach Mall, the view was directed northeastward toward the skyline of Manhattan, framed by the rows of London plane trees on each side of the mall. Views of the statue looming above the treetops helped emphasize the statue's size and fostered a sense of awe. The first unobscured view of the statue from on the island was available from the Main Mall. This view, framed by London plane trees at the corners of the main plaza, presented the statue and its pedestal at the foot of the

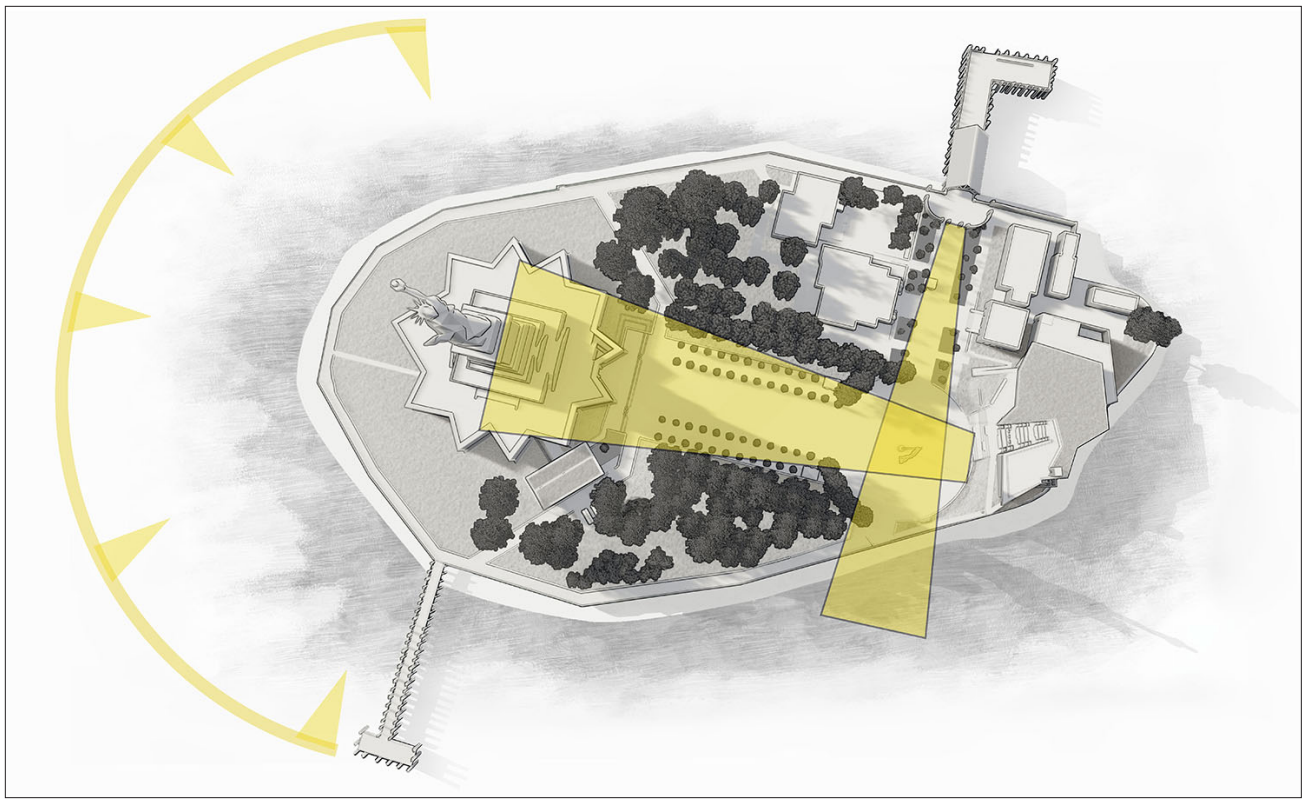

Figure 3.11. Analysis, Views and Vistas, Digital model, State University of New York, College of Environmental Science and Forestry, Lumion, Student Edition, 2023.

broad Main Mall, drawing the visitor onward.

Once at the statue, the subject of the view shifted to the surrounding harbor and landscape beyond. Whether from the crown, pedestal, or the terreplein level of the Fort Wood Walls, the views of New York Harbor and its bustling maritime traffic, the towering Manhattan skyline, and the communities of Brooklyn, Staten Island, and New Jersey were an attraction for visitors. These vantage points also offered views of the island itself, revealing its axial geometry.

Views were available from several places throughout the island. The observation plaza at the east end of the Approach Mall axis (presently referred to as the 9/11 overlook) featured views of lower Manhattan, while the Perimeter Promenade offered 360-degree views of the statue as well as the wider harbor and surrounding areas.

Post-historic and Existing Conditions

Changes to the landscape after the period of significance, including the changes to the pedestrian malls in 1986, and further landscape changes and the construction of the Statue of Liberty Museum in 2019, have had only a modest impact on views. The most significant change was the elimination of the central turf panel and the addition of the linden trees on the Main Mall, as well as the enlargement of the Flag Plaza, in 1986, which altered the composition of the dorsal view of the statue as experienced from the intersection of the two axes. More recently, the removal of the large white vinyl visitor screening tent from the Main Mall, and the removal

of overgrown yew hedges has been a very significant change, making filtered views of the harbor available from the center of the island.

The view from the statue northward along the Main Mall was likewise altered by these changes and altered once again with the completion of the Liberty Island Museum which effectively terminates the primary north-south design axis, accomplishing a role originally intended to be completed by a small boat basin, an unrealized design element of the pre-WWII park master plan. Impacts to views by the addition of the new museum are insignificant given the building's design elements, including its low form, asymmetrical massing, glass walls, and green roof.

Evaluation - Contributing

While changes to the Liberty Island landscape have subtly altered the composition of the historic views, they have not diminished the overall impact of the views of

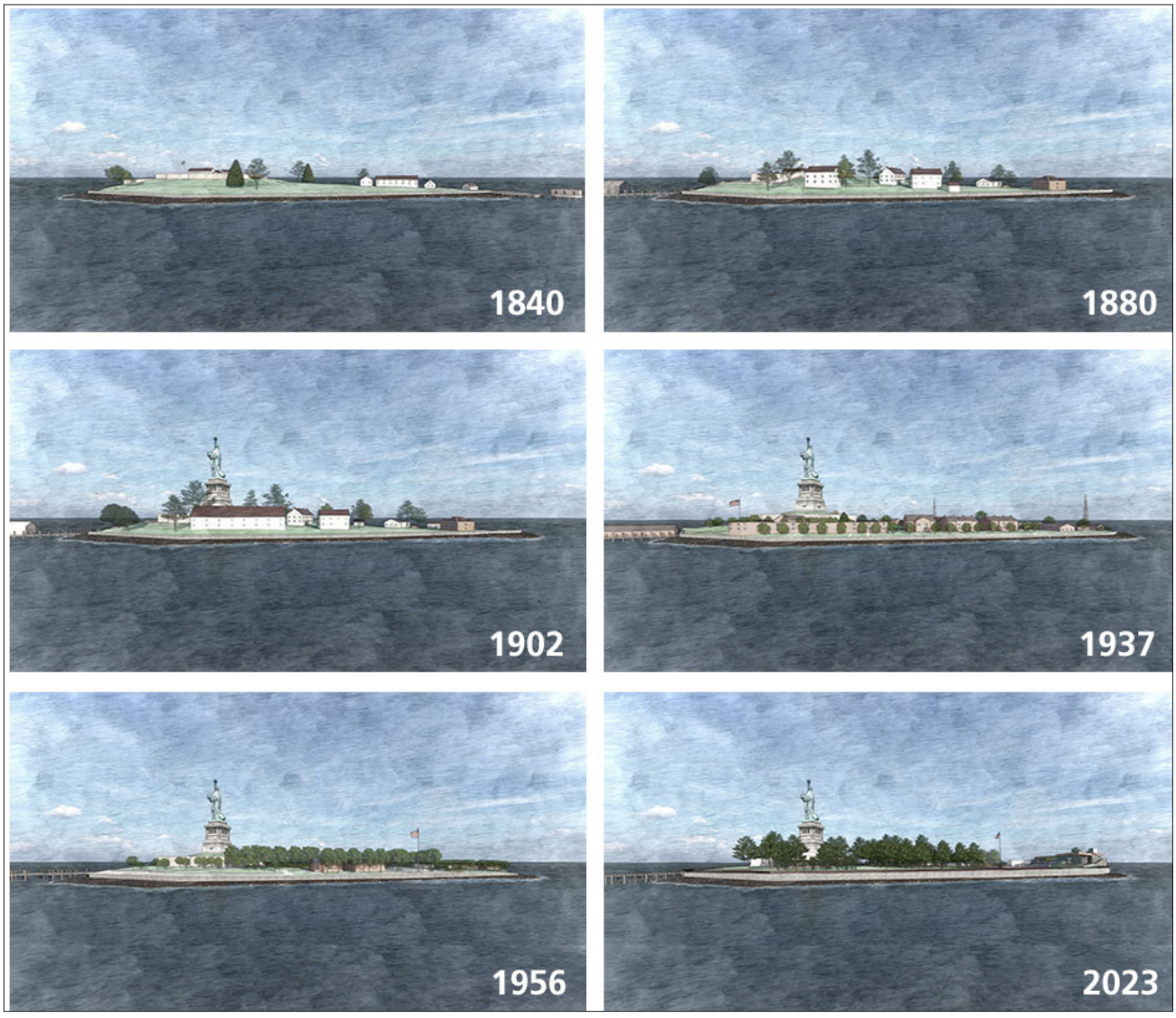

Figure 3.12. Analysis, Views and Vistas, from the harbor, State University of New York, College of Environmental Science and Forestry, Lumion, Student Edition, 2023.

Figure 3.13. Analysis, Views and Vistas, from point of view of the Approach Mall, State University of New York, College of Environmental Science and Forestry, Lumion, Student Edition, 2023.

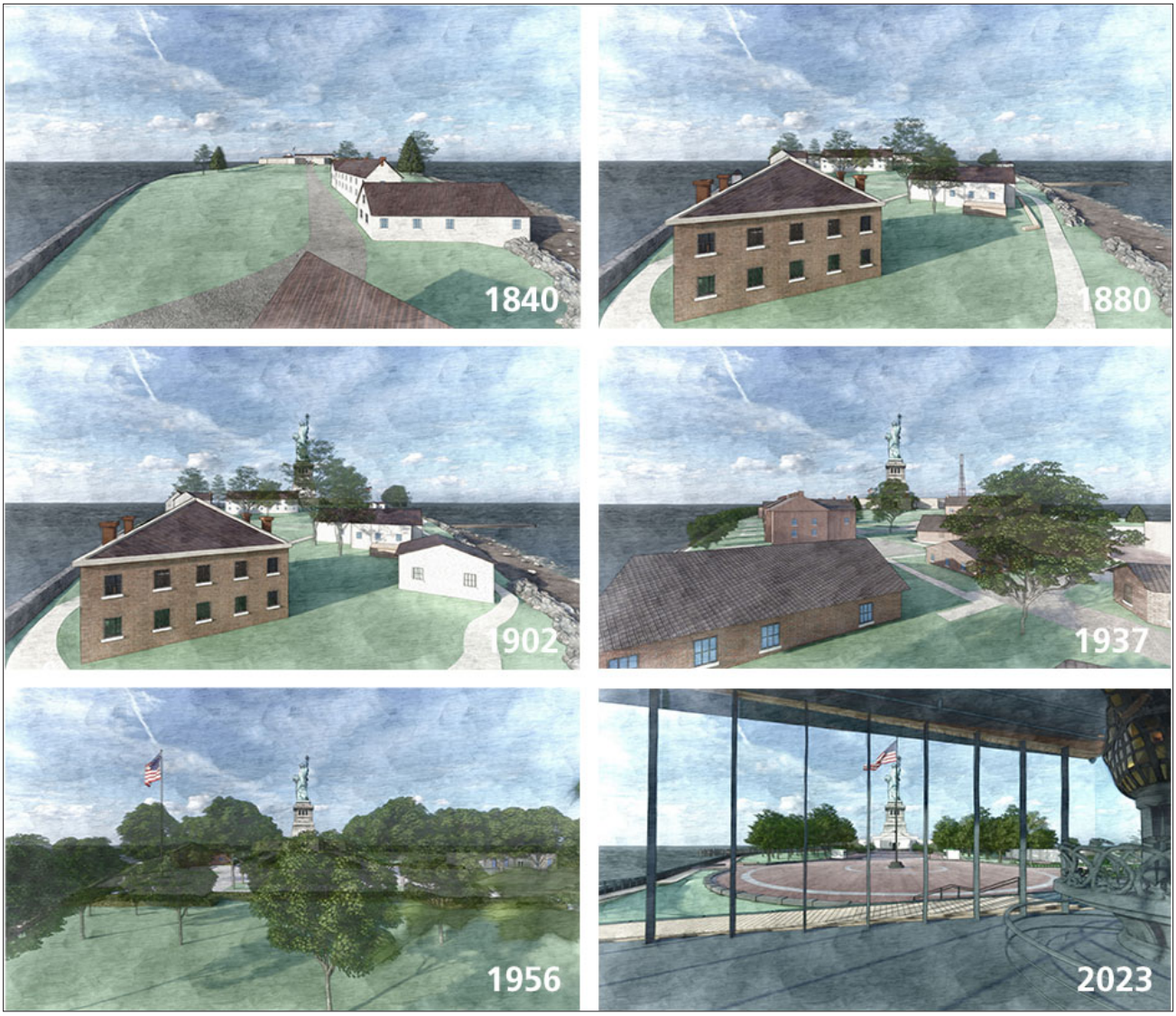

Figure 3.14. Analysis, Views and Vistas, from point of view of the original torch inside the Statue of Liberty Museum, on axis with the statue and flagpole, State University of New York, College of Environmental Science and Forestry, Lumion, Student Edition, 2023.

the statue from the pedestrian malls and other portions of the island. Contributing historic views include views of the statue from the West Pier Ferry Approach and from the pedestrian malls and plazas, views of the Manhattan skyline and other features from the Approach Mall and Liberty Island Museum observation overlook, and views of the harbor and surrounding areas from the statue, pedestal, terreplein-level Grand Promenade, and the island's Perimeter Promenade.

SMALL-SCALE FEATURES

Small-scale features are the elements which provide detail and diversity for both functional needs and aesthetic concerns in the landscape.

Historic Conditions

There is little documentation about historic small-scale features that were used to complement the Liberty Island landscape during the period of significance. The Newton plan and early National Park Service master planning efforts focused on organizing the landscape to develop a distinctive setting for the monument and to create an appropriate visitor experience. While the 1939 Master Plan did not specify what details should be incorporated as functional and aesthetic design elements, Newton did outline the importance of maintaining a well-ordered landscape and stated that "ample simplicity, rather than ostentation, will be an essential quality" of the monument grounds. Similarly, a guiding principle of the development of Liberty Island was that no architectural features would compete with the statue and all structures would be subservient to the monument.[26]

Post-Historic and Existing Conditions

Since the dedication of the Statue of Liberty in 1886, small-scale features in the Liberty Island landscape have been added and changed as needs demanded. The majority of these offered a variety of visitor amenities, including seating, dining, information, and safety. Typical small-scale features included furnishings, trash receptacles, signs and plaques, exhibits, vendor carts, small sculptures, concession kiosks, sightseeing binoculars, and lighting elements. These functions continue to characterize the small-scale features present in the landscape today. Perhaps the most important new small-scale feature added to the Liberty Island landscape has been the low stainless-steel fence or barrier surrounding the South Lawn at the base of the Fort Wood Walls. Prior to the installation of the barrier as part of the 2017-2019 landscape beautification project, park visitors were free to wander and to lounge upon the south-facing lawn. The results of this practice was the near perfect destruction of the turf prior to the conclusion of every summer season, resulting in an unacceptable appearance both up close and from a distance. Following installation of the barrier the turf has thrived and presents an appealing foreground for the national monument.

The extant Flag Pole, part of the original Flag Plaza located nearer the eastern shore of the island, was moved to its current location in the center of the current Flag Plaza between 1984 and 1986. Original elements of the Flag Pole consist of a stepped granite pedestal and a decorative cast iron base. The current mast was added in 1986 and is painted black aluminum. In its current configuration, it is significantly taller and occupies a more prominent position at the center of the Flag Plaza than it did in the original master plan design.

Several small-scale art and commemorative features were added to the landscape during the preparation for the statue's 1986 centennial. They consist of a group of iron sculptures and a stone from the mine in Norway that supplied the copper for the statue's skin. The Sculptural Grouping (non-contributing object) consists of five sculptures that were created by American sculptor Phillip Ratner and installed on the site in 1984. They are intended to honor individuals who were associated with the early history of the statue, including two Americans, Joseph Pulitzer and Emma Lazarus, and the three Frenchmen, Auguste Bartholdi, Edouard de LaBoulaye, and Gustave Eiffel. Each sculpture portrays the honoree in the way that person participated in the founding and history of the statue. Bartholdi holds a miniature of the Statue of Liberty, LaBoulaye contemplates the idea of creating a monument dedicated to the United States, Pulitzer holds his newspaper The World, Eiffel holds up a miniature of the Eiffel Tower, and Lazarus holds a small journal for her poem about the statue. Originally located on the eastern interior path near its junction with the Main Mall at the Sally Port Plaza, the sculptural grouping was moved to the western interior path near its junction with the Perimeter Promenade in 2019.

The Vigsnes Mine, Norway Copper Specimen (non-contributing object) is a stone from the mine in Norway that provided the copper for the original construction of the statue. The ore stone, located on a stone pad in the northeast corner of the northeast lawn near the eastern terminus of the Approach Mall, was given to the park by the citizens of Karmo, Norway in 1986 in honor of the statue's centennial. It is sited on a relatively level lawn surrounded by the polished granite-faced seat walls and a fence with a draped chain on its north and west sides. An brief inscription on a plaque affixed to the top of the stone explains its origin, significance to the site, and the 4 July 1986 date when the feature was gifted in dedication to the

United States.

Evaluation – Non-contributing
The extant small-scale features do not reflect historic conditions and do not contribute to the significance of the cultural landscape.

ARCHEOLOGICAL SITES

Archeological sites include the location of ruins, traces, or deposited artifacts in the landscape and are evidenced by the presence of either surface or subsurface features.

Historic and Existing Conditions
Two archeological sites have been identified on Liberty Island. The first (ASMIS# STLI00001.000) is located immediately north of Fort Wood - west of the Main Mall and spanning both sides of the western Interior Pathways, or Wing Walks. The site, which covers approximately two hundred square meters, comprises a shell midden, an underlying pit feature, and associated precontact materials. Based on the recovered cultural material and radiocarbon samples collected from the pit feature, the deposit is believed to date to the late Middle to Late Woodland periods (ca. 1000 CE), with possible overlap into the Contact period.

The second site (ASMIS# STLI00002.000, contributing site), located northwest of the statue and overlying the first site, was formed by military personnel stationed on the island before the construction of Fort Wood, c. 1794–1811. Historic midden material occurred in twelve separate strata in nine excavations units across an area measuring roughly sixty by forty-five meters and yielded a range of late eighteenth- to early nineteenth-century ceramic types, as well as a large and diverse faunal assemblage.

Additional archeological resources, spanning both pre-contact and military periods, may be in the future identified or systematically evaluated, including resources located within and around the Fort Wood Walls.

Evaluation
The two identified archeological sites contribute to the significance of the cultural landscape with respect to Criterion D for the periods of 1000 to 450 B.P. and 1760 to 1910.

ENDNOTES

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2 National Park Service, "Édouard de Laboulaye." (Web article: https://www.nps.gov/stli/learn/historyculture/edouard-de-laboulaye.htm, accessed Sept. 20, 2019).

3 Fort Wood, 43.

4 "Frédéric-Auguste Bartholdi." *National Park Service, Statue of Liberty National Monument, New York.* Accessed Sept. 20, 2019. https://www.nps.gov/stli/learn/historyculture/fr%C3%A9d%C3%A9ric-auguste-bartholdi.htm.

5 Ibid.

6 Carole L. Perrault, compiler, *The Statue of Liberty National Monument – Documents on the Construction of the Statue of Liberty, the Foundation, the Pedestal, and Lighthouse Establishment* (Lowell, Massachusetts: Building Conservation Branch, National Park Service, 1997).

7 Fort Wood, 44.

8 Ibid, 45.

9 Perrault, 18.

10 Shary P. Berg, Cultural Landscape Report for Liberty Island, Statue of Liberty National Monument: History, Analysis and Treatment Recommendations, (Boston: Olmstead Center for Landscape Preservation, National Park Service, 1999), 6.

11 Stephen Olausen, Matthew Kierstead, Kristen Heitert, Laura Kline, and John Daly (Public Archaeology Laboratory, Inc.), "National Register of Historic Places Registration Form" (Washington D.C.: National Park Service, 2017), Section 8, 55.

12 Newton.

13 Berg, 19.

14 Ibid.

15 Vint.

16 Newton.

17 Berg, 4.

18 Berg, 4.

19 Griswold, et al, 11.

20 George A. Palmer, "Recollections of the 1st NPS Superintendent of the Statue of Liberty" (1984).

21 Newton.

22 Vint.

23 Newton.

24 Ibid.

25 Ibid.

26 Vint; Newton.

Table 3.1. Landscdape Feature Inventory: Liberty Island, Statue of Liberty National Monument

Feature Name	Other Resource Inventory	FMSS Data (Location / Asset records)	Evaluation Status	Evaluation Narrative	Graphic Reference
Spatial Organization Features (Drawing Key: SO)					
SO-1, Liberty Island Grounds	NR: Resource (Contributing) CLI #97541	LIIS Shrubs 59911/1140664 LIIS Trees 59911/1140666 LIIS Lawn 59911/29900	Contributing	**Historic Conditions (1924-1957):** The Liberty Island grounds were implemented as part of the 1939 master plan between the years 1939 and 1957. To accommodate visitors, the grounds were filled, and a primary and secondary circulation system were added in addition to plantings. Each component was constructed in accordance to the 1939 master plan. The grass lawns were raised slightly above the malls. The paths and lawns are planted with shade trees, some retained from the fort wood plantings. **Existing Conditions:** The grounds of the island consist of a primary and secondary circulation system that connect visitors to the statue, buildings, and views. The southeastern part of the island also consists of grass lawns and plantings including London plane trees and oak trees. **Evaluation:** The Liberty Island grounds were identified as a contributing site to the Liberty Island Historic District in the National Register documentation in 2017. The spatial organization of the island, including the intersecting axes and their relationship to the statue; the spatial relationships between the malls and plazas, administration building, and concessions building; and the configuration of the secondary circulation system; contributes to the significance of the cultural landscape.	
Circulation Features (Drawing Key: CL)					
CL-1, West Pier Ferry Approach	CLI #93754		Contributing	**Historic Conditions (1924-1957):** After the National Park Service assumed management of Liberty Island in the 1930s, the ferry route was redirected around the south side of the island to the west pier. From the water, visitors could experience a frontal view of the statue from a farther distance. **Existing Conditions:** Current ferry routes continue to follow a similar path from their origins to the west pier. **Evaluation:** The ferry routes to Liberty Island, passing around the south side of the island and docking on the west pier, are an essential part of the arrival and approach experience for visitors, providing important views of the statue from the water and bringing visitors to the beginning of the processional circulation system.	

Table 3.1. (Continued)

Feature Name	Other Resource Inventory	FMSS Data (Location / Asset records)	Evaluation Status	Evaluation Narrative	Graphic Reference
CL-2, Primary Circulation System	NR Resource: (Contributing) #93749	LIIS Walkways 59911/29901	Contributing	**Historic Conditions (1924-1957):** The Primary Circulation System was constructed in the 1940s and 1950s in accordance with the 1939 master plan. The system was later modified in 1986 in preparation for the statue's centennial. **Existing Conditions:** The Primary Circulation System transports visitors from the west pier, through the arrival plaza, approach mall, flag plaza, main mall, and sally port plaza, to the Statue of Liberty. **Evaluation:** The Primary Circulation System, designed in the 1939 master plan and created in the two decades after, is an essential part of the arrival and approach experience for visitors. Although portions of the system have changed since its period of significance, including the addition of the arrival plaza and sally port plaza, and the renovation of the main plaza into the flag plaza, the route of the pathways and general design have had little change since its establishment and continue to serve their original purpose.	
CL-2.1, Arrival Plaza			Non-Contributing	**Historic Conditions (1924-1957):** During the historic period, the west pier led visitors directly into the approach mall with no distinct arrival plaza. The arrival plaza as it exists today, including the curved brick walls and gates to the approach plaza, was constructed in 1986. **Existing Conditions:** The arrival plaza is situated between the west pier and approach mall. It is a semi-circular space paved with red brick and bordered on the north and south sides by curved red brick walls. A straight wall runs along the Seawall on either side of the pier. All walls end with a brick column topped with a concrete finial. An opening between the curved walls directs visitors to the approach mall. **Evaluation:** The plaza was not a part of the 1939 master plan and was not present during the historic period. Part of the contributing primary circulation system, the plaza in its current configuration is non-contributing.	

Table 3.1. (Continued)

Feature Name	Other Resource Inventory	FMSS Data (Location / Asset records)	Evaluation Status	Evaluation Narrative	Graphic Reference
CL-2.2, Approach Mall			Contributing	**Historic Conditions (1924-1957):** The approach mall was completed in 1951 in accordance with the 1939 master plan. This circulation path both guided visitors to the statue, but also towards administration and concessions buildings. The approach mall originally contained narrow turf panels with peripheral promenades along each side. The panels were enlarged and the promenades were eliminated in 1986. **Existing Conditions:** The approach mall extends eastward between the arrival plaza and flag plaza and is flanked by the administration and concessions buildings. It is paved with red and gray brick pavers. Planted panels containing swamp white oak trees, shrubs, and flowering perennials extend east to west to the intersection with the flag plaza. **Evaluation:** The approach mall is significant as it is an original component of the primary circulation system designed in the 1939 master plan and created during the period of significance. This feature guides guests to the administration and concessions buildings and onwards toward the flag plaza in accordance with its original design.	
CL-2.3, Flag Plaza	CLI #93753	LIIS Plaza Flagpole 59911/29262	Non-Contributing	**Historic Conditions (1924-1957):** The intersection of the island's two organizing axes was originally a small square plaza built in 1951. This plaza connected the approach mall and main mall, providing visitors with the first full view of the statue from the island. The main plaza was enlarged into the circular flag plaza in 1986. **Existing Conditions:** The flag plaza is located at the eastern end of the approach mall and northern end of the main mall. It is a large, circular area with a flagpole at its center. It is paved with red and gray brick pavers laid in two concentric circles around the flagpole. Polished granite-faced seat walls surround the plaza with breaks to the malls. **Evaluation:** The flag plaza represents a significant change from the original, smaller, square main plaza. The change has altered the spatial experience and the character of the views. Although part of the contributing primary circulation system, the plaza in its current configuration is non-contributing.	

Table 3.1. (Continued)

Feature Name	Other Resource Inventory	FMSS Data (Location / Asset records)	Evaluation Status	Evaluation Narrative	Graphic Reference
CL-2.4, Main Mall	CLI #93751		Contributing	**Historic Conditions (1924-1957):** The main mall was first constructed in 1940 to connect the flag plaza with the plaza before the fort walls. The central panel of the main mall was historically turf with low hedges bordering the panels. In 1951, low, polished granite seat walls were added to the plaza and two sets of stairs originally flanked the south end of the grass panel. In 1986, the turf panel was removed and bosques of linden trees were planted in the mall. In 2019, the linden trees were replaced with black tupelo trees. **Existing Conditions:** The main mall is situated on a northwest to southeast axis on the center of the island, connecting the flag plaza to the sally port plaza before the fort walls. It is surfaced with red brick and square thermal inlays and low, polished-granite seat walls line the mall. **Evaluation:** Despite changes to the main mall since the period of significance, it continues to serve an essential role in the arrival and approach sequence between the arrival pier and the statue.	
CL-2.5, Sally Port Plaza			Contributing	**Historic Conditions (1924-1957):** The sally port plaza was constructed sometime between 1940 and 1957 during the construction of the rest of the primary circulation system. The plaza acted as a terminus for the main mall that placed visitors in front of the Fort Wood walls. The sally port plaza was originally at a higher elevation than the main mall, with stairs accommodating the transition between the two. In 1934, the plaza was regraded to the elevation of the main mall, and new stairs were constructed to transition between the sally port plaza and the sally port door. **Existing Conditions:** The sally port plaza is a terminus for the primary circulation system. It is located at the end of the main mall in front of the entrance to the Statue of Liberty. There are no longer stairs between the sally port plaza and the main mall as it was removed when the mall was regraded. The plaza is surfaced with red brick pavers and square thermal granite inlays. **Evaluation:** The sally port plaza continues to serve an essential role in the arrival and approach sequence between the arrival pier and the statue.	

Table 3.1. (Continued)

Feature Name	Other Resource Inventory	FMSS Data (Location / Asset records)	Evaluation Status	Evaluation Narrative	Graphic Reference
CL-3, Secondary Circulation System	NR: Resource (Contributing), CLI #93752	LIIS Walkways 59911/29901	Contributing	**Historic Conditions (1924-1957):** The secondary circulation system was first created between 1941-1952. The perimeter walk was created based upon perimeter walkways used when the Fort Wood military post was operating. The interior paths were constructed to provide alternate routes to and from the statue. **Existing Conditions:** The secondary circulation system transports visitors to the perimeter of the island, offering an alternative to the primary circulation system and views of the coastline and statue. This includes the perimeter walk and the interior paths. **Evaluation:** The circulation system is a contributing feature as it was first created between 1941 and 1952 and continues to retain the same routes and relative character. The most significant change since its creation is the changing of surfacing materials and minor changes to the alignment of the walk intersections, otherwise the system remains accurate to the original design.	
CL-3.1, Perimeter Promenade			Contributing	**Historic Conditions (1924-1957):** The perimeter promenade was finished in 1952 beginning on the south side by the arrival plaza and running along the seawall around the south end of the island to the eastern side. The seat walls that edge the interior side of the pathways were first constructed in 1955. Originally paved with cinder dust, the walkways were repaved with concrete in the 1960s, then asphalt sometime before 1984, and then red brick surfacing in 1986. After the perimeter walk was damaged during Hurricane Sandy, the surface was replaced with pre-cast concrete bricks. **Existing Conditions:** The perimeter walk is an approximately twenty-foot-wide pathway that begins on the south side of the arrival plaza, running along the seawall and ending of the east side of the island. It is paved with red concrete brick surfacing and low brick seat walls with limestone caps edging the interior side of the path. The exterior edge is bordered by the granite seawall and topped with a metal guardrail. **Evaluation:** The perimeter walk is a contributing feature to the district's historic character.	

Table 3.1. (Continued)

Feature Name	Other Resource Inventory	FMSS Data (Location / Asset records)	Evaluation Status	Evaluation Narrative	Graphic Reference
CL-3.2, Interior Paths			Contributing	**Historic Conditions (1924-1957):** The interior paths were constructed in 1941 running east to west and meeting at sally port plaza. The paths were originally surfaced with cinder dust and later concrete (1960s), asphalt (before 1984), and red brick (1986). The interior paths were not resurfaced with concrete bricks when the perimeter walk was. Minor changes to the configuration of the intersections between the interior paths and perimeter walk were effected in 1986. **Existing Conditions:** The interior paths run east-west across the island at the southern portion of the island, meeting in the center at the sally port plaza. They are paved with Hastings red brick surfacing and low brick seat walls with limestone caps run along both sides of the pathways. **Evaluation:** The interior paths largely reflect their original alignment and retain their functional design intent, and they remain today an important component of the secondary circulation system.	
CL-4, Red brick surfacing	CLI #93753		Non-Contributing	**Historic Conditions (1924-1957):** Originally, the circulation surfaces of Liberty Island were a combination of brushed concrete and cinder dust. The malls, plazas, and walkways underwent piecemeal repairs and repaving through the years, and by the 1980s they featured a variety of surfaces, including concrete, asphalt, and bluestone. In 1986, the surfaces were unified with red clay bricks with gray granite inlay patterns. The granite was replaced with gray bricks in 2019. **Existing Conditions:** A majority of the circulation paths on the island consist of a red brick surfacing with patterns of gray bricks. The perimeter walk is surfaced with concrete bricks made to resemble the red clay bricks of the malls. **Evaluation:** The red brick surfacing installed in 1986 creates a significantly different character from the more subdued surfaces specified in the 1939 master plan. While many of the circulation features remain contributing features, the red brick surfacing is a non-contributing characteristic of the circulation system.	

Table 3.1. (Continued)

Feature Name	Other Resource Inventory	FMSS Data (Location / Asset records)	Evaluation Status	Evaluation Narrative	Graphic Reference
Topography Features (Drawing Key: T)					
T-1, Recessed perimeter path and path encircling the statue	CLI #97545		Contributing	**Historic Conditions (1924-1957):** In the 1940s, the island was regraded according to the 1939 master plan. This included the recessed circulation areas edged by seat walls and flanked by raised lawn areas. **Existing Conditions:** The circulation paths continue to be recessed below the elevation of the surrounding landscape and are flanked by seat walls. **Evaluation:** The topography of the circulation paths continues to reflect the original design from the 1940s, having sunken paths with raised lawns on either side.	
T-2, Raised northeast/ southwest lawns	CLI #97544		Contributing	**Historic Conditions (1924-1957):** In the 1940s regrading of the island, the pathways were lowered, and the lawns were alternatively raised above the paths. The change in topography was maintained with the implementation of seat walls, installed in part to prevent erosion. Existing Conditions: The northeast and southwest lawns are raised above the circulation pathways that surround them. This has been maintained with low seat walls that abut the pathways. **Evaluation:** The raised lawns were a part of the 1939 master plan of the island and was originally implemented in the 1940s. Consequently, the lawns are a contributing feature of the landscape.	
Vegetation Features (Drawing Key: VG)					
VG-1, Swamp white oak trees on approach mall			Non-Contributing	**Historic Conditions (1924-1957):** The approach mall was originally lined with London plane trees planted in turf panels. The swamp white oak trees were planted along the approach mall in 2016, after the London plane trees were damaged in Hurricane Sandy. **Existing Conditions:** Swamp white oak trees line the approach mall in two offset rows on each side. **Evaluation:** The swamp white oak trees are compatible replacements for the original London plane trees that were damaged during Hurricane Sandy. The trees themselves are non-contributing features, but the presence of trees along the approach mall is a contributing characteristic of the island's landscape.	

Table 3.1. (Continued)

Feature Name	Other Resource Inventory	FMSS Data (Location / Asset records)	Evaluation Status	Evaluation Narrative	Graphic Reference
VG-2, Treed northeast and southwest lawns	CLI #97549		Contributing	**Historic Conditions (1924-1957):** The northeast and southwest lawns were densely planted in 1956 with London plane trees and American sycamores, as well as a small number of other species retained from the Fort Wood period. **Existing Conditions:** The lawns are still planted with London plane trees and a few historic trees from the Fort Wood period. Some London plane trees have been replaced with white oak as the London plane trees have been damaged by salt exposure. **Evaluation:** The trees in the northeast and southwest lawns are considered a contributing feature. They continue to densely populate the lawns as with the original design and any modifications made have been done to preserve the character of the area.	
VG-3, Lawn surrounding the statue	CLI #97546		Contributing	**Historic Conditions (1924-1957):** In 1956, the landscape around the statue was maintained turf panels to create an unobstructed view of the statue. This was done in accordance to the 1939 master plan that called for the statue to stand out in the landscape. **Existing Conditions:** Currently the land surrounded the Statue of Liberty is still a manicured turf lawn. **Evaluation:** The lawn around the statue is a contributing feature of the landscape as it has not changed in appearance since the period of significance.	
VG-5, Ornamental vegetation on the approach mall	CLI #97552		Non-Contributing	**Historic Conditions (1924-1957):** As part of the 1939 master plan, the approach mall contained turf panels along each side, with a row of London plane trees within the panels. In 1986, the panels were enlarged, and a second row of London plane trees were planted on each side. **Existing Conditions:** Flowering perennials were planted in linear patterns in the former turf panels in 2019. Low holly shrubs were planted around the perimeter of each panel, replacing yews planted in 1986. **Evaluation:** The ornamental plantings were not a part of the original 1956 design and are therefore a non-contributing feature.	

Table 3.1. (Continued)

Feature Name	Other Resource Inventory	FMSS Data (Location / Asset records)	Evaluation Status	Evaluation Narrative	Graphic Reference
VG-6, Rows of black tupelo along the main mall	CLI #97550		Non-Contributing	**Historic Conditions (1924-1957):** Originally, the main mall featured a central turf panel surrounded by yew hedges, and a row of London plane trees bordering each side of the mall. In 1986, the turf panel was removed and linden trees were planted in two bosques along the sides of the mall. **Existing Conditions:** The linden trees were removed in 2017–2019 and replaced with black tupelo trees planted in two rows along each side of the mall. **Evaluation:** The black tupelo trees did not exist during the period of significance and are therefore a non-contributing landscape feature.	
VG-7, Trees and ornamental vegetation associated with the Statue of Liberty Museum			Non-Contributing	**Historic Contribution (1924-1957):** Vegetation associated with the Statue of Liberty Museum did not exist during the period of significance. **Existing Conditions:** Trees, grasses, and other ornamental vegetation were planted around the new museum after its construction. **Evaluation:** Since the trees did not exist during the period of significance and were not part of the original plans, they are a non-contributing feature.	

Table 3.1. (Continued)

Feature Name	Other Resource Inventory	FMSS Data (Location / Asset records)	Evaluation Status	Evaluation Narrative	Graphic Reference
Buildings and Structures Features (Drawing Key: BS)					
BS-1, Statue of Liberty, Enlightening the World	NR: Resource (Contributing) LCS 001321 (Statue); LCS 618607 (Pedestal) CLI #93747 (Statue)		Contributing	**Historic Condition (1886-present):** The pedestal and statue were finished in 1886. French architect, Auguste Bartholdi, designed the statue and American architect, Richard Morris Hunt, designed the pedestal. In 1916, the Bartholdi's torch was replaced with another designed by Gutzon Borglum. Circulation improvements were made in 1907 and from 1937-1938. Beneath the pedestal the American Museum of Immigration was added in 1972. While the structure is still there, the museum has since moved to Ellis Island. During a restoration of the statue between 1984 to 1986, the torch was replaced again with one resembling Bartholdi's design. During the restoration, an extension on the statue's stairs was added from the upper terminus to the crown platform and an elevator shaft was installed. Bronze frames and glazed bronze doors were also added to the base of the pedestal. From 2012-2013, parts of the exterior and interior were renovated to accommodate visitor safety and accessibility. **Existing Conditions:** The statue is a two-part structure consisting of a tall female figure with a torch held aloft in one hand, a stone tablet held in the other and a granite-clad, Beaux Arts-style pedestal beneath. The 152-foot figure consists of thin copper sheeting on the outside and wrought iron framing on the interior. Inside the figure is a network of elevators, stairs, and ladders to provide circulation. The pedestal is executed in regularly coursed, rectangular granite slabs with bush-hammered faces surrounded by chiseled margins. The doorway openings are fitted with bronze frames and glazed bronze doors. An open, four-foot-deep, granite balcony wraps around the top of the pedestal. **Evaluation:** The statue and pedestal is the district's most significant resource and is a contributing feature. Originally given to the United States by France in celebration of the United States' centennial, the resource has become emblematic of the United States and American life. In conjunction with the fort walls, the statue and pedestal are an image that has evolved in meaning over time and remains relevant today. The statue was also the defining work of Auguste Bartholdi and the pedestal demonstrates the work of architect, Richard Morris Hunt. The structure remains the United States' tallest statue in the country.	

Table 3.1. (Continued)

Feature Name	Other Resource Inventory	FMSS Data (Location / Asset records)	Evaluation Status	Evaluation Narrative	Graphic Reference
BS-2, Fort Wood Walls	NR: Resource (Contributing) LCS 040500 CLI #93743		Contributing	**Historic Condition (1886-present):** The Fort Wood walls were originally built in 1811. Large portions of the fort's interior were excavated for the installment of the statue from 1883-1886. The south sally port was added in 1907. The addition of the American Museum of Immigration between 1961 and 1972 caused parts of the interior faces to be removed. In 2013, a concrete and granite stairwell was added at the interior of the northwest bastion, providing an exit from the terreplein level. **Existing Conditions:** The Fort Wood walls form the base of the Statue of Liberty, creating an eleven-point star shape. Other features of the fort are missing. Entrances to the fort are on the northwestern and southeastern sides (wall 1 and wall 11). Behind the parapets and above the ramparts is an open terrace on the terreplein level referred to as the grand promenade. **Evaluation:** The fort walls are a contributing feature since their current condition as the base of the Statue of Liberty has been so since the statue's construction. Despite changes to the inside of the fort, including the addition of the American Museum of Immigration and the establishment of the grand promenade, the walls have maintained their historic character.	
BS-4, Seawall	NR: Resource (Contributing) LCS 410002 CLI #93745 (Seawall) CLI #93746 (Guardrail)		Contributing	**Historic Conditions (1924-1957):** The first section of the seawall was constructed in two stages in 1842 and 1879, comprised on granite blocks and mortar. The second section was built in 1949 and was built with a pink granite block shoulder. The third section is a concrete wall built in 1950. The fourth section is a granite-faced concrete wall built between 1950-1951. Portions of the first section were rebuilt in the 1950s with original materials. **Existing Conditions:** The Seawall encompasses the island and is identified in four sections as described above. This feature does show some deterioration in the wearing of mortar joints, settling of both the concrete slabs and stones, and erosion of soil beneath and behind the walls. **Evaluation:** The seawall is a contributing feature to the district as most of it was first built during the period of significance and has been maintained to resemble its original designs. The section that dates prior to the period of significance also had portions of it replaced during the 1950s.	

Table 3.1. (Continued)

Feature Name	Other Resource Inventory	FMSS Data (Location / Asset records)	Evaluation Status	Evaluation Narrative	Graphic Reference
BS-5, West Pier	NR: Resource (Non-contributing) CLI #93748		Non-contributing	**Historic Conditions (1924-1957):** The west pier was built in 1951 to accommodate the arrival of tourists and the new ferry boat routes. **Existing Conditions:** The pier is an L-shaped structure extending approximately 215 feet into the water. The structure is about 45 feet wide and is constructed of wood piles and wood plank decking. A 120-foot-long pavilion with a gable roof presides on the northern end. **Evaluation:** Although a western pier existed prior to the period of significance, the existing pier has been expanded and altered so that it no longer reflects its historic conditions. While the location of the pier is a contributing characteristic of the spatial organization and circulation patterns of the island, the pier itself is non-contributing.	
BS-6, East Pier	NR: Resource (Non-contributing) CLI #93742		Non-contributing	**Historic Conditions (1924-1957):** Prior to the implementation of the master plan, the east pier was the primary arrival point for visitors to the statue. When the arrival location was moved to the west pier in the 1950s, the east pier was decommissioned. It was later reconstructed to be used as a service pier. The east pier was severely damaged during Hurricane Sandy and was subsequently rebuilt. **Existing Conditions:** The pier is T-shaped, extending approximately 275 feet into the water from the perimeter promenade. The T portion at the end of the pier is about 75 feet long. The pier is constructed of wood pilings, wood decking, and wood railings. **Evaluation:** The east pier was not an integral part of the 1939 master plan, and it has been substantially altered since the historic period. The existing pier is a non-contributing structure.	

Table 3.1. (Continued)

Feature Name	Other Resource Inventory	FMSS Data (Location / Asset records)	Evaluation Status	Evaluation Narrative	Graphic Reference
BS-7, Administration Building	NR: Resource (Contributing) LCS 040498 CLI #93740		Contributing	**Historic Conditions (1924-1957):** The administration building was constructed in 1941 on the north side of the approach mall and has been expanded several times since then. The first expansion occurred in 1950 with an addition to the rear in response to visitor increases. A second floor was constructed in 1995-1996. **Existing Conditions:** The building is a rectangular, two-story, five-bay by five-bay, brick-and-steel frame building located on the north side of the approach mall. It was constructed in a mild art moderne style with a streamlined form, smooth stone surface and symmetrical features. The building has a concrete foundation and a flat asphalt roof with aluminum flashing and granite coping. **Evaluation:** The administration building is a historic building and contributes to the site's historic character. Originally built in 1941, the only significant change outside the period of significance is the second floor constructed in 1995-1996. Otherwise, the building has retained its shape and art moderne design that is common among the historic buildings of the approach mall.	
BS-8, Concessions Building	NR: Resource (Contributing) LCS 040499 CLI #93741		Contributing	**Historic Conditions (1924-1957):** The concessions building was constructed in 1941 on the south side of the approach mall. Additions were added to the building in 1952 including the four-bay by three-bay entrance foyer, porch, and stair to the façade. A second floor was later added in 1995-1996. **Existing Conditions:** The building is irregularly shaped with two-stories, seven-bays by five-pays, a steel frame. It is located on the south side of the approach mall facing north. It has a concrete foundation and a flat asphalt roof with aluminum flashing and granite coping, designed in art moderne style. **Evaluation:** The concessions building is contributing to the district's historic character. The building was constructed during the period of significance in 1941 and received a second-floor addition in 1995-1996. Aside from the second-floor addition, the building has retained its shape and art moderne style reflected in the buildings of the approach mall.	

Table 3.1. (Continued)

Feature Name	Other Resource Inventory	FMSS Data (Location / Asset records)	Evaluation Status	Evaluation Narrative	Graphic Reference
BS-9, Utility Building	NR: Resource (Contributing) CLI #93744		Contributing	**Historic Conditions (1924-1957):** The utility building was constructed in 1957. A rectangular addition was constructed on the south side in the 1980s. **Existing Condition:** The building is a rectangular, one-story, five-bay by three-bay, steel and concrete block building. It is oriented with the facade facing north and has a poured concrete driveway and parking area. A grass berm with hedging on partially screens the building from viewing along the approach mall. The building has a concrete block foundation with a granite veneer and flat asphalt roof with copper flashing and coping. **Evaluation:** The utility building is contributing to the district's historic character. Beside the building's construction in 1957, a rectangular addition was added to the south side in the 1980s. Otherwise, the utility building has remained similar in appearance and continues to be used by park staff as a utility building.	
BS-10, Maintenance Garage	NR: Resource (Non-contributing)		Non-contributing	**Historic Conditions (1924-1957):** The maintenance garage was constructed in 1986. **Existing Conditions:** The garage is a rectangular, one-story, one-bay by three-bay, brick building with a covered loading dock on its west side. It has a brick foundation and a flat roof with aluminum flashing. The main entrances are three rolling metal overhead doors evenly spaced on the front facade and a secondary entrance is within the loading bay. **Evaluation:** The maintenance garage is a non-contributing feature.	
BS-11, Gift Pavilion	NR: Resource (Non-contributing)		Non-contributing	**Historic Conditions (1924-1957):** The gift pavilion, constructed in 2010, was intended to be a temporary structure meeting park concessions needs. **Existing Conditions:** The gift pavilion consists of an outdoor seating pavilion with an irregularly shaped, one-story, six-bay by four-bay building southwest of the concessions building. It is bordered by an outdoor dining patio to the north and lawn to the south. The building has a flat roof, modern composite panel siding, and a concrete pier foundation. The main entrance is a set of off-center, aluminum double doors and a secondary entrance is in the rear with two sets of aluminum doors. A plastic sculpture resembling a ribbon is located on the northern corner of the roof. **Evaluation:** The pavilion is a non-contributing resource for the district.	

Table 3.1. (Continued)

Feature Name	Other Resource Inventory	FMSS Data (Location / Asset records)	Evaluation Status	Evaluation Narrative	Graphic Reference
BS-14, Audio Tour Booth	NR: Resource (Non-contributing)	Information/ Audio Kiosk 59911/29269	Non-contributing	**Historic Conditions (1924-1957):** The audio tour booth was built in 2012 to provide audio tour equipment for visitors. **Existing Conditions:** The booth is a smaller one-story structure with two service windows with rolling metal overhead doors in the front facade. The east and west walls also have openings. It is located on the approach mall, west of the concessions building. **Evaluation:** The audio tour booth is a non-contributing feature.	
BS-15, Statue of Liberty Museum			Non-Contributing	**Historic Conditions (1924-1957):** The Statue of Liberty Museum was constructed between 2016 and 2019. **Existing Conditions:** The museum is a single-story modern structure designed to blend into the Liberty Island landscape. The front of the museum abuts the flag plaza and is marked by a large masonry staircase that directs visitors to views available from atop the structure. The building consists of a combination of sustainable materials and materials that complement surrounding structures. **Evaluation:** The Statue of Liberty Museum is non-contributing.	
BS-16, Pedestal and Crown Entrance (Security Building)			Non-Contributing	**Historic Conditions (1924-1957):** The pedestal and crown entrance was built in 2019 to provide security screening for access to the statue. **Existing Conditions:** The pedestal and crown entrance sits on the northern side of the Statue of Liberty just beyond the fort walls. The building is a single-story building with concrete walls and a unusual inverted gable roof. Tall and slender windows line the front façade and a ramp extends the length of the front to the main entrance. The exit presides on the eastern side of the building leading towards the Fort Wood walls. **Evaluation:** The pedestal and crown entrance is a non-contributing resource.	
BS-17, Lockers			Non-Contributing	**Historic Conditions (1924-1957):** Visitor lockers were constructed in 2019 to provide temporary storage for visitors entering the statue. **Existing Conditions:** Lockers for visitor belongings are located opposite the eastern Interior Path from the Security Screening Building. The lockers consist of two rows of square lockers with the lockers on either side of the structures. Above the lockers are butterfly-styled awnings to shelter the visitors using the lockers from rainfall. **Evaluation:** The lockers are a non-contributing resource.	

Table 3.1. (Continued)

Feature Name	Other Resource Inventory	FMSS Data (Location / Asset records)	Evaluation Status	Evaluation Narrative	Graphic Reference
BS-18, Brick entry gateway	CLI #97540		Non-Contributing	**Historic Conditions (1924-1957):** The brick entry gateway was constructed in 1986 to define the distinct space of the arrival plaza. **Existing Conditions:** A large brick entryway feature separates the Arrival Plaza from the Approach Mall. This curved red brick walls of this structure embraces the east side of the Arrival Plaza, with two openings provided in the center for visitor and service traffic. Each end and column are topped with a concrete ball finial. **Evaluation:** The gateway is a non-contributing feature.	
Views and Vistas Features (Drawing Key: VV)					
VV-1, Views of the Statue from the New York Harbor	CLI #97553		Contributing	**Historic Condition (1886-present):** Bartholdi chose Liberty Island to place the Statue of Liberty for its prominent position in New York Harbor. In the 1930s, National Park Service planners capitalized on this view by building the west pier and having ferries travel around the south side of the island so visitors could view the front of the statue from the waters. **Existing Conditions:** The statue is prominently visible from the harbor. **Evaluation:** Historic views of the statue from the ferry approach as well as other portions of the harbor contribute to the historic character of the land-scape.	
VV-2, Views from Liberty Island of the New York Harbor, New York, and New Jersey	CLI #97555		Contributing	**Historic Conditions (1924-1957):** The 1930s master plan designed views not only of the statue, but also of the surrounding landscape. When visitors traveled down the approach mall, they could clearly see the New York skyline in the distance. The perimeter walk also provides clear views of the surrounding landscape. Existing Conditions: The circulation paths continue to provide visitors with views of the surrounding skylines and harbor. **Evaluation:** The historic views of the harbor and skylines contribute to the historic character of the Liberty Island landscape.	

Table 3.1. (Continued)

Feature Name	Other Resource Inventory	FMSS Data (Location / Asset records)	Evaluation Status	Evaluation Narrative	Graphic Reference
VV-3, Views of the Statue from Liberty Island	CLI #97554		Contributing	**Historic Conditions (1924-1957):** The National Park Service designed a sequence of views in the 1930s master plan that visitors experienced as they approached the statue. From arrival, visitors could see the statue just above the trees until they reached the main mall, where the statue came into full view. From there, visitors could explore the island and the various views of the statue. **Existing Conditions:** The views originally designed in the 1930s master plan are still intact today. **Evaluation:** Views of the statue from the malls and other parts of the island continue to reflect their historic character and contribute to the cultural landscape.	
VV-4, Views from the Grand Promenade (Fort Wood Walls)			Contributing	**Historic Condition (1886-present):** The terreplein level of the Fort Wood walls was an important part of the statue's design, providing 360-degree views of the harbor, island, and statue. **Existing Conditions:** The grand promenade is ringed with the granite parapet of the fort walls and is paved with bluestone and granite. The parapet walls rise approximately three feet above the floor and are topped with transversely laid coping stones. From the grand promenade, visitors can view all around the Statue of Liberty and the surrounding landscape. **Evaluation:** The grand promenade is a contributing resource. The promenade brings visitors to where the original terreplein of the fort stood.	

Table 3.1. (Continued)

Feature Name	Other Resource Inventory	FMSS Data (Location / Asset records)	Evaluation Status	Evaluation Narrative	Graphic Reference
Small-Scale Features (Drawing Key: SSF)					
SSF-1, Sculptural Grouping	NR: Resource (Non-contributing)	De Laboulaye 59911/1516760 Bartholdi 59911/1516761 Eiffel 59911/1516762 Pulitzer 59911/1516763 Lazarus 59911/1516764	Non-contributing	**Historic Conditions (1924-1957):** The sculptural grouping was installed in 1984 on the northwest interior path, near its intersection with the main mall. In 2019, it was moved to the southwest interior path, closer to its intersection with the perimeter walk. **Existing Conditions:** The sculptural grouping is located at the south edge of the southwest lawn along the west interior walkway. It consists of five sculptures created by the American sculptor, Phillip Ratner. The sculptures include figures of Joseph Pulitzer, Emma Lazarus, Auguste Bartholdi, Edouard de Laboulaye, and Gustave Eiffel. Each figure is portrayed in a way that correlates to the person's relation to the Statue of Liberty. Bartholdi holds a miniature of the Statue of Liberty, Pulitzer is holding his newspaper *The World*, Eiffel holds a miniature Eiffel Tower, Lazarus holds a small journal, and Laboulaye is contemplating the idea of a monument dedicated to the United States. **Evaluation:** The sculptural grouping is a non-contributing resource.	
SSF-2, Vignes Mine, Norway copper specimen	NR: Resource (Non-contributing)		Non-contributing	**Historic Conditions (1924-1957):** The copper specimen was installed in 1986. **Existing Conditions:** The Vignes Mine, Norway copper specimen is located on a stone pad in the northeast corner of the northeast lawn. It is sited on a relatively level lawn surrounded by the polished granite-faced seat walls. An inscription on the plaque explains the stone's place of origin, significance, and date of dedication. **Evaluation:** The specimen is a non-contributing resource.	

Table 3.1. (Continued)

Feature Name	Other Resource Inventory	FMSS Data (Location / Asset records)	Evaluation Status	Evaluation Narrative	Graphic Reference
SSF-3, Flagpole	CLI #94970		Non-contributing	**Historic Conditions (1924-1957):** The flagpole positioned was positioned during the original renovation period at the eastern end of the approach mall. It was moved to the center of the flag plaza in 1986 and enlarged with a taller flagpole. **Existing Conditions:** The extant flagpole, part of the original flag plaza located nearer the eastern shore of the island, was moved to its current location in the center of the current flag plaza in 1986. Original elements of the flag pole consist of a stepped granite pedestal and a decorative cast iron base. The current mast was added in 1986 and is painted black aluminum. In its current configuration, it is significantly taller and occupies a more prominent position at the center of the Flag Plaza than it did in the original master plan design **Evaluation:** Because the flagpole is both in a different place than the original and is much larger, the feature is non-contributing.	
SSF-4, Kiosks and Concessions Carts	CLI #94973		Non-contributing	**Historic Conditions (1924-1957):** A variety of snack booths, kiosks, and concessions carts have been added, altered, and removed from the landscape throughout the history of the park. The extant structures date from after the period of significance. **Existing Conditions:** There are currently several kiosks and carts throughout the circulation paths on Liberty Island. These are located in high-traffic areas such as the main mall. **Evaluation:** The kiosks and concessions carts are non-contributing features.	
SSF-5, Trash receptacles	CLI #97539		Non-contributing	**Historic Conditions (1924-1957):** Existing trash and recycling receptacles date from after the period of significance. **Existing Conditions:** Throughout the circulation paths are several trash receptacles to accommodate visitors. **Evaluation:** Since the features did not exist during the period of significance, they are a non-contributing feature.	
SSF-6, Sightseeing Binoculars	CLI #97537		Non-contributing	**Historic Conditions (1924-1957):** The sightseeing binoculars date from after the period of significance. **Existing Conditions:** There are several binoculars established along the perimeter walk facing the Manhattan skyline. Some are the traditional binoculars that pivot on a single post while others are adapted for children's use. **Evaluation:** Since the features did not exist during the period of significance, they are a non-contributing feature.	

Table 3.1. (Continued)

Feature Name	Other Resource Inventory	FMSS Data (Location / Asset records)	Evaluation Status	Evaluation Narrative	Graphic Reference
SSF-7, Lighting Features	CLI #97256		Non-contributing	**Historic Conditions (1924-1957):** The lighting facilities used to light the statue and landscape date from after the period of significance. **Existing Conditions:** Lighting features in the landscape are mostly clustered around the Statue of Liberty and the flag plaza so they can be lit up at night. Smaller spotlights surround the flag plaza just behind the seat walls and large clusters of spotlights can be found on the lawn surrounding the Statue of Liberty close to the perimeter walk. **Evaluation:** Since the features did not exist during the period of significance, they are a non-contributing feature.	
Archeological Sites Features (Drawing Key: AS)					
AS-1, Shell Midden Site	NR: Resource (Contributing) ASMIS STLI00001.000		Contributing	**Historic Condition (1000-450 B.P.):** The Shell Midden Site is believed to date to the late middle to late woodland periods (c. 1000 A.D.) with possible overlap into the contact period. The site covers approximately 200 square feet and comprises of a shell midden and pit feature underneath. Associated precontact materials include a jasper levanna point, sampled shell, and recovered floral and faunal assemblage. **Existing Conditions:** The site is located on the west side of the main mall underneath the lawn. It is assumed that some of the archeological features were damaged during the construction of the promenade and interior pathway. **Evaluation:** The archeological site is a contributing resource. The artifacts in this area date to the middle to late woodland periods and provides evidence that this area was formerly used by indigenous communities as a shellfish collection and processing center. It also suggests significant climate warming around 1000 A.D. as well.	

Table 3.1. (Continued)

Feature Name	Other Resource Inventory	FMSS Data (Location / Asset records)	Evaluation Status	Evaluation Narrative	Graphic Reference
AS-2, Historic Midden #1 Site	NR: Resource (Contributing) ASMIS STLI00002.000		Contributing	**Historic Condition (1760-1910):** The Historic Midden #1 Site overlies the Shell Midden Site and was formed before the construction of Fort Wood, c. 1794-1811. The remains occurred in twelve separate strata, yielding a range of the late eighteenth to early nineteenth-century ceramic types and a large and diverse faunal assemblage. **Existing condition:** The site is located on the west side of the main mall underneath the lawn. It is assumed that some of the archeological features were damaged during the construction of the promenade and interior pathway. **Evaluation:** The Historic Midden #1 Site is a contributing resource. The site yields artifacts from before Fort Wood was built, about 1790-1811. In conjunction with other sites, this site provides insight to the stability of international trade markets during a period of political upheaval.	
AS-3, Fort Wood	ASMIS STLI00003.000		Unevaluated	This site lacks sufficient documentation to evaluate.	
AS-4, Statue of Liberty	ASMIS STLI00004.000		Unevaluated	This site lacks sufficient documentation to evaluate.	
AS-5, Military Housing Site	ASMIS STLI00013.000		Unevaluated	This site lacks sufficient documentation to evaluate.	

APPENDIX A -CULTURAL LANDSCAPE VISUALIZATIONS: THE USE OF NON-PHOTOREALISTIC 3D RENDERING AND DIGITAL REPEAT PHOTOGRAPHY AT STATUE OF LIBERTY NATIONAL MONUMENT

Cultural Landscape Visualization: The Use of Non-Photorealistic 3D Rendering and Digital Repeat Photography at Statue of Liberty National Monument

Abstract

3D visualization of heritage sites allows for a deeper understanding of historical context, and also serves as a powerful tool for preservation. The ability to visualize heritage sites also opens up new ways of presenting them to the public. 3D models created using contemporary rendering technology are extremely effective at depicting historic buildings and landscapes to an audience of all ages and backgrounds. However, highly realistic renderings of historic sites may be based on speculations about how a site appeared, yet their realism conveys a sense of certainty about the historic site being presented. Non-photorealistic rendering offers several advantages over a photorealistic approach, as it provides a wide range of illustrative styles that can be experimented without the pressure to appear completely realistic or congruous. This research combines 3D modeling and non-photorealistic rendering to document the changes to Statue of Liberty National Monument over six periods of historic significance from 1840-2020, using a repeat photography approach. Repeat photography is one of the most effective methods for documenting landscape change, especially useful in national parks where resources are limited and the need to study ever-changing cultural uses with long-term data sets is essential. Use of repeat photography allows study of changes in the landscape over time caused by natural processes or human activities. The use of 3D models to construct a hybrid physical/digital repeat photography archive in this project ultimately exposed gaps in its historic documentation, inciting productive and novel debate over the site's changes over time.

Keywords

3D model, visualization, rendering, repeat photography, cultural heritage, non-photorealistic

1. Introduction

1.1 Visualization of Historic Sites

Digital reconstruction of historic sites has become the most common cultural heritage application of three-dimensional modeling and imaging. Using historic documents such as photographs, maps, drawings, and expert knowledge to reconstruct artifacts that no longer exist is a fascinating opportunity. Digital models and renderings have become typical ways of documenting historic artifacts, buildings, and landscapes (Gavryushkina, 2021). When remnants of a historic site remain to present day, their conversion to 3D models typically relies on one or both of two data acquisition methods: photogrammetry and laser scanning. Both methods are widely documented in research literature and constitute standard approaches to 3D documentation of heritage sites (Balletti et al., 2015). The resulting digital models are then frequently used to create computer-generated

images which can be made to appear incredibly similar to photographs, and which are often used to portray past states of historic places.

Visualization technologies can be used for more than just creating images: they can also be used to help test various reconstruction hypotheses, which will increase knowledge rather than just producing visual representations (Scopigno et al., 2011). Given the potential of archival data to yield a spatial reconstruction of a site's past structure, it is critical to examine methods for translating such data. Three-dimensional visualization of heritage sites is an invaluable tool that can lead to outcomes such as support for restoration efforts, and experts have cautioned against rushing virtual reconstructions, arguing that historical accuracy should be prioritized alongside scientific advancement (Ragia et al., 2015).

1.2. Repeat Photography

Repeat photography is an important technology that provides a way of visualizing change to the landscape by enabling comparison over time. It. Repeat photography is also useful as sociological evidence of change in human environments to display land-use change, urban development, or demographic changes (Pezzoni, 2017). A rephotograph is a photograph that repeats the spatial location of an original image, showing the viewer the same scene once again and inviting comparison. To create a rephotograph, the photographer locates the vantage point of the original image by taking a print of it into the field and locating the subject(s) that appeared in that image. The new image typically replicates the original photograph's vantage point and invites viewers to compare the images. The repeat photographer locates the original photograph's vantage point as precisely as possible, then photographs that vantage point from a different angle (Klett, 2011).

Repeat photography has been used since nearly the invention of photography itself (Webb et al., 2010). Its use in the social and physical sciences has proven to be both useful and versatile, having been used to assess social concerns such as land-use change (Kull, 2005) and a means to assess place meaning and awareness (Smith, 2007). For example, Ken Foote used repeat photography to assess urban change in Austin, Texas (Foote, 1985), while Thomas and Geraldine Vale used repeat photography to assess cultural landscape change (Clay, 1985). Joby Bass' use of repeat photography to assess modernization in Honduran landscapes found that the use of repeat photography as a research tool had value due to the holistic quality of the photographs revealed the interconnections of landscape change (Joby Bass, 2013). The unique abilities of repeat photography may lie in the fact that photographs are dynamic: they allow one to observe the aforementioned cultural underpinnings of photographs as frozen moments in time. It is this "dynamism" that allows one to transcend history, to see from the present day to the time of the original photo (Lemmons et al., 2014).

As dynamic cultural and environmental landscapes, national parks are fertile study sites for fieldwork incorporating repeat photography. As federally protected public lands dedicated to both human use and environmental protection, national parks are often well documented through visual records housed in park collections and regional archives, Libraries, and museums (Meyer et al., 2018). In national parks, repeat photography has been used to gather data on cultural and human-environmental changes in Yosemite (Vale and Vale, 1994) the Grand Canyon (Klett & Wolfe, 2012) and across the border in Canada's Jasper National Park (Cronin, 2011). In Yellowstone, repeat photography was used to study land cover (Meagher and Houston, 1998), sense of place, and historical surveys (Huber, 2016). Compulsory repetition of subjects, vantage points, frames, and atmospheres in this type of photography frees the photographer from self-referential concerns and makes room for other nonhuman agents to influence the process and the final product. Repeat photography therefore can be envisioned as a way to be attuned to non human-centered subjects, objects, and timeframes (Rossetto, 2019).

1.1.3 Computational Repeat Photography

A unique challenge exists when trying to use repeat photography to compare changes to a historic landscape. It is rare if not impossible to have an intact collection of repeat photographs – often the necessary photograph records simply do not exist, which would typically exclude these locations from being used for a repeat photography study (Groom, 2017). Moreover, historic periods of significance frequently extend earlier than the invention of photography. Even after the advent of photography, it is unlikely that someone had a reason to take repeat photographs of a site over its entire period of significance. Additionally, even after a repeat photography project is undertaken, changes in camera technology, such as black and white to color or film to digital, create circumstances where repeat photographs are slightly different from one another due to technology (Boyer et al., 2010). This presents an opportunity to recreate a sense of repeat photography using digital 3D models to depict the site as it existed at various moments in time.

Computational repeat photography has thus far focused on several methods to organize and compare two images. One focus has involved digitally aiding the photographer in repeat photography, by helping to align the positioning of a digital camera according to a previously taken image (Franz et al., 2019, Shi et al., 2018), sometimes with the help of an augmented reality interface (Shingu et al., 2010). Image alignment is also popular, either by helping to register a misaligned historic and contemporary image using point pairs or through inventive techniques such as digital alignment of historic architectural paintings with 3D models(Schaffland et al., 2020). Another focus has been creating digital photo collections which connect with a digital 3D model, creating an interactive "virtual tourism" interface (Snavely et al., 2006). Yet another example is georeferencing for use in repeat photography, such as digitally deriving the real-world position of landscape images using edge features in the photograph (Produit et al., 2012), or the development

of a digital tool to georeference historic photographs and generate a contemporary matching view of the landscape derived from a Digital Elevation Model (Produit & Tuia, 2012).

1.2 Project Site and Research Aims

1.2.1 Project Site and Process: Cultural Landscape Inventory and Virtual Reconstruction of Liberty Island National Monument

The Statue of Liberty Monument is a well-known cultural landmark located on Liberty Island in New York City. Situated on a 12.7-acre island in New York Harbor, the island's most well-known feature is the sculpture by Auguste Bartholdi known as Statue of Liberty Enlightening the World. The Statue of Liberty is an iconic symbol and National Monument located at the entrance to New York City, and one of over 400 National Monuments managed by the National Park Service (NPS) within the United States. It was given to the United States in 1886 by France as a gift celebrating 100 years of American independence and has since become an enduring symbol of freedom, democracy, opportunity, and hope. Liberty Island is owned by the United States government and administered by the NPS. The statue is sited within the walls of Fort Wood, a star-shaped granite fort built between 1808-1811 (NPS Northeast Regional Office, 2010).

As a landscape listed on the National Historic Register of Historic Places, Liberty Island is periodically inventoried by the U.S. National Park Service through a Cultural Landscapes Inventory (CLI), a comprehensive documentation of the island's historical development and significance and an analysis of its present-day condition. The CLI typically includes an illustrative site plan, often accompanied by illustrated period plans depicting the site's prior state during periods of historic significance. In creating period plans for the forthcoming (2022) updated Liberty Island CLI, the U.S. National Park Service opted to include three-dimensional models and illustrated renderings to accompany the historic period plans. This project was motivated by interest in communicating the spatial relationships among historic structures on the island, and their evolution over time. This new approach involved modeling the physical characteristics of the island at six distinct dates denoting the island's primary periods of significance: 1840, 1880, 1902, 1937, 1956, and 2020. The Liberty Island Project uses 3D software to help the public understand, through a series of visualizations, how architectural changes changed views of the Statue of Liberty across time. The ultimate objective of this research was to create a fully immersive interaction with three-dimensional models that support the study of cultural landscapes, providing users with the ability to view historic changes to the landscape.

1.2.1 Research Aims

This is an exploratory study aimed at using 3D modeling and visualization as a research method, with the goal of using these digital tools to provoke deep inquiry into the changes to the landscape of Liberty Island between 1880-2020. Through this research we hoped to

better understand how 3D modeling and visualization can provide new tools to understand the history of cultural landscapes. Our research questions included: First, how has the landscape character of Liberty Island changed over time? Second, what is the visual rendering style that best communicates these changes to a broad audience? Third, what impacts do the use of 3D modeling and visualization have on the collaborative research and documentation process between project partners?

2. Methods

The visualization of historical landscapes is a significant challenge for historians and archaeologists as we cannot directly access past landscapes. The digital model is an effective way to effectively convey the relative positions and relationships of site features. It is also a powerful means for visualizing historic plans, examining the evolution of site form over time, and enabling an understanding of the topography of the site as it evolved.

The process of visualizing Liberty Island across six time periods involved the creation of 2D CAD linework, conversion to 3D models, rendering the eight vantage points for each time period, and post-processing the resulting images for final use. We began by reviewing the large amount of available historic information, using it to create 3D models that were as fully realized as possible. We then sought out missing information to fill informational gaps, reviewing all 3D models throughout the development process as a research team. This workflow allowed us to successfully create 3D models with terrain, building, and site features that corresponded to known historical data.

2.1 3D Modeling

Historic photos of the Statue of Liberty show that the statue itself has remained mostly unchanged since its completion in 1886. However, the surrounding landscape has evolved significantly. Over the years the original buildings were modified, some were removed, and new structures were built. Circulation and topography have changed significantly as the island's primary function has changes from a military site to a National Park with numerous visitors. The complex now includes observation decks and exhibits for tourists, a museum, offices for statue caretakers and concessionaires, maintenance facilities, a gift shop, and even bathrooms. Visualizing these changes required a variety of tactics to model the evolution of the site. The 3D modeling process can be broken down into three categories which we will discuss below: topography, buildings, and site features.

2.1 Topography

Topographic modeling was the most straightforward part of the process, since hand-drawn contour maps were available dating back to 1840. We traced the contours in AutoCAD and assigned an elevation value to each contour line. We then imported each AutoCAD file into Rhino, a 3D modeling program. To generate a 3D model of the terrain from the contour lines we used a script which generated a single triangulated mesh from

the contour lines. We exported each terrain model from Rhino into the 3D modeling program Sketchup for modeling buildings and site details.

2.2 Buildings

The past and present buildings of the National Parks system are a vital part of the visual identity of each park, and as such must be carefully considered in models. Beginning in the 19th century, various housing types were built on Liberty Island to accommodate the needs of the evolving staff and support structure of Fort Wood's role as a military reservation. Architectural drawings exist for infrequent construction projects which occurred through 1916.

The 3D architecture in the models were given only superficial detail, since achieving high levels of individual accuracy for each would require in-depth research and modeling that would detract from time spent focusing on the landscape. Instead, we opted for generalized architectural treatments. By reviewing historic photos of architecture on Liberty Island we identified building styles appropriate for all buildings of a certain time period. 3D modeling treatments to incorporate these styles focused on roofs, windows, and chimneys. These treatments provided enough architectural detail to keep the overall character of each building during each time period, while staying general enough that the architectural detail did not overtake the primary landscape focus of the images.

The team researched a variety of scales of architectural styles from which we could use to develop the 3D modeling treatments that would influence the final product. This research went beyond the scale of individual details and focused on what basic architectural style(s) were appropriate for each time period on Liberty Island. Instead of detailing each individual building, we selected an architectural style for each time period and using this style consistently across all of the buildings that represent that time period. This approach enabled us to develop 3D models quickly and with a consistent architectural style, resulting in the cohesiveness of the final images. All buildings are represented in their correct historical styling to evoke the period of their construction and the progression of the island's transformation.

2.3 Site Features

Landscape features such as roads, paths, walls, fences, and furnishing have a tremendous impact on the site's character. Yet in order to depict numerous features on a large site, we decided that adding more detail to individual elements would take more time than we had available and could run the risk of being visually distracting. Because of this we decided to model site features in a simplified manner, which achieved our goal of creating visual elements that appropriately communicated the spatial reality of the site. Building on the 3D terrain mesh for each time period, we added site features to the 3D model, such as pathways, stairs, walls, and docks. We were able to achieve acceptable accuracy of the historic features in scale, position, and form by referencing period drawings and

photographs, which helped us show how the site appeared at several periods of historic significance.

Trees and other vegetation are typically challenging to work with in 3D modeling software due to the high number of faces needed to capture the organic, irregular nature of plants. The number of triangles required may be too great for a computer to handle, causing problems with rendering, requiring computers to spend more time processing the meshes during the design process, which leads to longer rendering times and slower performance. Decreasing the model's polygon count can speed up modeling, but often distorts the vegetation models. For these reasons we did not model any site vegetation in Rhino and opted instead to export each 3D model to the 3D rendering software Lumion, a real-time rendering program used for adding materials, lighting, and objects such as trees. We added trees to each model in Lumion by referring to the period plans that had been developed by the National Parks Service, selecting the typical species and age that would have existed on the site during each time period.

2.4 Views and Vantage Points

Once constructed, the 3D model allowed us to select significant views and produce a series of images from each vantage point. Visualizing the 3D model would allow the public to easily understand the changes to Liberty Island over time. From photographs across all time periods, we selected eight which captured significant views. We then used Lumion to set up those same views in the 3D for each time period from 1880 through 2020 using Lumion's tools to position a virtual camera within the 3D model. We aligned the virtual camera with the position and angle of historic photographs by visually comparing the rendered output of the virtual camera and the corresponding historic photograph (Figure 1). Once we had successfully positioned the virtual camera we exported rendered views from those vantage points for each time period. The result was a series of views from each important vantage point for each time period of significance, highlighting the changes in the landscape from each viewpoint (Figure 2).

Figure 1

Figure 2

Initially we planned on creating highly realistic renderings with detailed materials, which would result in a photorealistic appearance that would be highly convincing to the viewer. Ultimately we decided to forego photorealistic visualization in favor of a non-photorealistic approach. After experimenting with several solutions, we concluded that a stylized, low detail modeling and rendering solution should be created. This approach allows us to focus on the clear communication of the overall spatial characteristics of each time period instead of attempting to construct a simulated version of an actual photographic replica. We were able to achieve the hand-drawn effect using Lumion image filters which translated the form, material, light, and shadows of each view into a simulated graphite drawing (Figure 3). We pursued a non-photorealistic approach due to our concerns over the ethical issues embedded in realistic visualization of historic sites where not everything could be fully known about the site's past physical states. Inquiry into these issues follows below in Section 3.

Figure 3

3. Theory: Realism vs. non-Photorealism

The level of realism in a virtual heritage representation is central to the image's interpretive use (Roussou & Drettakis, 2003) .The more realistic an image appears, the closer it will appear to a photograph of an actual place. However these nearly perfect and highly realistic renderings of historic sites are also a source of distress to experts in cultural heritage; the renderings may be based on speculations about how a site appeared, yet their realism conveys a sense of certainty about the historic site being presented (Haegler et al., 2009). Regardless of the how complete the background information about a historic site may be, all representation is an interpretive process, influenced by measurements, tools, formats, methodologies, archival documentation, the goals of the visualization, and the education and culture of the individuals creating the representation. As such, any virtual reconstruction of a heritage site represents a critical interpretation of the scholar(s) and its verisimilitude must be carefully considered (Docci, & Maestri, 2009).

In situations where there is some uncertainty about some of the exact physical characteristics of the historic site being represented, as with building details and some site features in the Liberty Island project, there are several options available to the researcher. In the case of a 3D model lacking some details, such as missing parts or generalized massing, the designer may choose to omit that information. However, viewers may find this confusing and not understand how to process this omission. An

alternative solution would be to make educated guesses about what a scene might look like, but this strategy runs the risk of misleading viewers into believing that these guesses are entirely factual. These efforts can cause intense debate, as with the digital reconstruction of a Statehouse and a Barracks building at Jamestown, Virginia, which was completed without any original photographs or architectural sketches (Mark, 2011).

Creating a balance between scientific rigor and visual appeal in public science communication requires careful decision-making at multiple levels, including how much physical detail to model and what materials should be assigned to the model. The decision about whether or not to render an image photorealistically is also important (Haegler, 2009). Photorealistic renderings carry with them an implicit expectation that they represent certainty, yet nearly all historic sites have missing information about their past and gaps in their archives. This incomplete documentation opens up the potential of non-photorealistic rendering of virtual historic sites (De Boer, 2010). Non-photorealistic rendering provides a viable visualization alternative to photorealistic rendering for architectural documentation. Photorealistic rendering by default can lead to speculation being mistaken as proven fact (Strothotte et al., 1999).

Non-photorealistic rendering offers several advantages over a photorealistic approach, as it provides a wide range of illustrative styles that can be experimented without the pressure to appear completely realistic or congruous. For example, uncertainty about a site's past existence can be communicated stylistically with sketchiness, fuzzy edges, transparencies, and saturations (De Boer et al., 2009). Three-dimensional visualization of historic sites can experiment stylistically in order to convey temporal aspects, changes over time, and the creator's overall level of confidence in the information being shown; this transforms the visualization from an illustrative accounting of the past into a more complex translational tool (Brusaporci, 2017). In this context 3D images are no longer seen as pure iconic representation, but as tools for bringing together, transferring and channeling in graphic form a large part of the data acquired by scientific research. The result is the representation, via the immediate language of visual signs, of elements that are indispensable for a correct interpretation and reading of scientific information (Gabellone, 2013).

4. Results & Discussion

The final results of this research were a series of non-photorealistic vantage points which were included in the published Cultural Landscape Report for Liberty Island. In total we created eight views for each of the six time periods from 1840-2020, forty-eight views in total. The images allowed us to capture changes to the island's landscape and architecture from viewpoints that would otherwise have been impossible to observe (Figure 4).

Figure 4

The usefulness of such a 3D model lies in it being a complete, immersive depiction of a real world counterpart. Yet most if not all site archives contain incomplete information about a site's past state. This presented a critical dilemma for our research team: to create a legible set of 3D models we needed to develop strategies to address gaps in archival documentation. This offered different way of doing research, instigated not by a research hypothesis but instead by missing information that has made its presence known to the researcher. In the case of Liberty Island the development of 3D models effectively forced our team to resolve questions about missing information, creating a research environment where deeper probing into a site's past occurs than otherwise would. This opened up new possibilities for innovation. Virtual reconstruction has thus far been the most common cultural heritage application of 3D graphics. The focus of these technologies is not just to produce visual representations, but to permit the experimentation and assessment of different reconstruction hypotheses. These technologies thus increase knowledge rather than just producing visualization-related results (Scopigno et al., 2011).

The 3D models in this project became a repository for the information available about the site, and gaps in its documentation become an invitation to do more research. We asked: how do we fill in these gaps? How can we make sure that these areas are still accounted for and responsibly visualized in our models? Using available historical material such as photographs, maps, drawing, and expert knowledge to reconstruct past states of a site became an opportunity to engage in dialogue and debate about how to resolve unknowns. This was not simply a process of improving the model until there were no more questions to resolve. Rather, it was a continually iterative process of developing the model, encountering new questions generated by the updated model, performing further research to resolve questions, and in some cases backtracking to earlier versions of the model. Each time we made changes to a particular 3D model, each vantage point exported from the 3D model was shared with the historic research team, who then provided

comments to develop the models in order to correct inaccuracies or include additional site features. The research team found that this iterative review and modeling process was extremely helpful in gaining a deeper understanding of the site's landscape at different time periods. In contrast with a conventional heritage documentation process where researchers collect archival information and use it to construct a two-dimensional period plan, the use of 3D models offered a way of seeing more angles and details of the site. In offering more visual information for evaluation, the 3D models provoked deeper exploration of the site's physical changes over time than would have occurred by using only a site plan.

This project also allowed us to investigate new ways of creating a hybrid physical/digital repeat photographic process. Creating 3D models that recreated a photographer's vantage point was itself a way of exploring the priorities and mindset of the photographers at Liberty Island. Individually, each photograph reveals not only what is visible in the scene, but also the photographer's purposeful decision to capture one scene as opposed to another in a particular way: framing the scene or shooting it from a certain angle or distance from the subject and at a particular point in time(Hoelscher, 1998; Sidaway, 2002; Youngs, 2012). Hence, it creates a data set in the form of the photographs themselves and the photo-pairs. The photographs collectively give evidence of the photographer's decision to frame the scene or shoot it from a certain angle or distance from the subject and at a particular point in time. This creates a data set in the form of the photographs themselves and the photo-pairs. Our "digital repeat photography" process may have added new meaning to the implication that photo-pairs are data sets outright.

Indeed, the act of returning to particular vantage points and re-photographing them allows the photographer to construct knowledge about place, environment, and people's relationship with it. Instead of serving as a simple repository for factual information, archives can be thought of as spaces in which to initiate and develop ideas about the space and place of a particular landscape, to discover connections, to find similarities, and to draw together sets of photographs whose patterns can ultimately produce narratives about the landscape. The act of returning to a place and photographing it enables the designer or anthropologist to explore the archive in a particular way (Smith, 2007). With this in mind we can consider whether the act of digitally modeling a place similarly allows one to, in a sense, return to a place and explore its archives.

6. Conclusion

Cultural landscape visualization has the potential to increase historical awareness, educate and promote public discourse, serve as a research tool, assist with resource management decisions, and guide management and restoration activities. The project was critical for the preservation and recognition of this unique site and the history contained within it. By documenting the changes Liberty Island has experienced over time, we were able to present a clear and accurate account of its history as well as show how changes impact what is visible from different vantage points. The use of 3D models

to convey the site's history served as an important tool for increasing knowledge about the site's changes over time. The ability to easily move between time periods within a fixed vantage point also serves as an important management tool, allowing visitors and planners alike to imagine how future changes might impact different parts of the site. By documenting the changes Liberty Island has experienced over time, we were able to present a clear and accurate account of its history as well as create a complete "digital repeat photography" image set for six significant time periods. These digital models of the Statue of Liberty can further be used for preservation and restoration efforts as well as provide tools for public education.

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