
National Park Service
Cultural Landscapes Inventory

2015

Revised: 7/2025



Fort Tilden
Gateway National Recreation Area

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Introduction

The Cultural Landscape Inventory (CLI)

The Cultural Landscape Inventory (CLI) is a comprehensive inventory of all cultural landscapes in the National Park System. Landscapes that are listed, or eligible for listing, on the National Register of Historic Places, or are otherwise managed as cultural resources and in which the National Park Service has, or plans to acquire, legal interest are included in the inventory. The CLI identifies and documents each landscape's location, size, physical development, landscape characteristics, character-defining features, and condition. Cultural landscapes have approved CLIs when concurrence with the findings is obtained from the park superintendent and all required data fields are entered into the Cultural Resources Information System (CRIS-CL) database. In addition, for landscapes not currently listed on the National Register and/or without adequate documentation, concurrence is required from the State Historic Preservation Officer, Tribal Historic Preservation Officer, or the Keeper of the National Register.

Scope of the CLI

The information contained within the CLI is compiled from primary and secondary sources and through on-site surveys of the landscape. The level of investigation is dependent upon scoping the need for information. The baseline information collected provides a comprehensive look at the historical development and significance of the landscape. Documentation and analysis of the existing landscape identifies character-defining characteristics and features and allows for an evaluation of the landscape's integrity and an assessment of the landscape's condition. The CLI also includes historic maps, drawings, and images; photographs of existing conditions; and a site plan that indicates major features. The CLI documents the existing condition of park landscape resources and identifies impacts, threats, and measures to stabilize condition. This information can be used to develop strategies for improved stewardship. Unlike a Cultural Landscape Report (CLR), the CLI does not provide management recommendations or treatment guidelines for the cultural landscape, but it may identify stabilization measures.

The Cultural Resources Information System (CRIS)

CRIS is the National Park Service's database of cultural resources on its lands, consisting of archeological sites, historic structures, ethnographic resources, and cultural landscapes. Cultural Resources Inventory System (CRIS) replaces three legacy inventory systems: ASMIS (archeology), CLI (cultural landscapes), and LCS (historic structures); and it reinstates the former ERI (ethnographic resources). This Cultural Landscape Inventory document reflects the information in a corresponding CRIS Cultural Landscape record.

Statutory and Regulatory Foundation

The legislative, regulatory, and policy directives for conducting and maintaining the CLI within CRIS are:

- National Historic Preservation Act (NHPA) of 1966 (16 USC 470h-2(a)(1)) Sec. 110
- Executive Order 13287: Preserve America, 2003. Sec. 3 (a and c)
- Secretary of the Interior's Standards and Guidelines for Federal Agency Historic Preservation Programs
- Pursuant to the National Historic Preservation Act, 1998. Std. 2
- Cultural Resource Management Guideline, 1997, Release No. 5, page 22; issued pursuant to Director's Order #28 (DO-28)

The NHPA requires the identification, evaluation, and nomination of historic properties to the National Register of Historic Places and the maintenance and expansion of an inventory of cultural resources. DO-28 requires a cyclic assessment of the current condition of cultural landscapes based on an assessment interval, with a default of six years.

Use

Beyond fulfilling legal and policy requirements, park staff can use the Cultural Landscape Inventory in the following ways:

- To learn about park cultural landscapes (all staff)
- To inform management decisions (park managers)
- To inform project planning and development (park managers, facility managers, project managers, compliance specialists)
- To monitor the condition of the cultural landscape and take measures to protect its significance and integrity (cultural resource managers, facility managers)
- To recognize the stabilization and treatment needs of landscape features and plan work within cultural landscapes to address the needs (facility managers, cultural resource managers)
- To understand the cultural value of natural systems in a cultural landscape (natural resource managers)
- To create programming and educational materials based on site history (interpretation and education specialists)
- To recognize impacts within cultural landscapes and enforce protection measures (visitor and resources protection staff)

General Information

Property Level and CLI Numbers

Inventory Unit Name:	Fort Tilden
Resource Classification:	Cultural Landscape
CLI Identification Number:	650081
Parent Landscape:	650081
Inventory Status:	Complete

Park Information

Park Name:	Gateway National Recreation Area
Alpha Code:	GATE
Park Organization Code:	1774
Park District:	GATE
Region:	Northeast
Restricted:	No

Landscape Description:

Situated along the south shore of western Long Island, Fort Tilden is a historic Army base commissioned in 1917 as part of the harbor defenses of New York, and transferred in 1974 to the National Park Service (NPS) as part of the Jamaica Bay Unit of Gateway National Recreation Area (NRA). Gateway NRA, which encompasses numerous former military and city park lands in lower New York Harbor and adjoining coastal areas, was established by Congress in 1972 along with Golden Gate National Recreation Area in San Francisco, as the first park systems specifically intended for urban recreation. The primary purpose of Gateway NRA is to “preserve and protect for the use and enjoyment of present and future generations an area possessing outstanding natural and recreational features.”

Fort Tilden is located within the New York City borough of Queens, approximately six miles east of the mouth of New York Harbor, and on the eastern end of the narrow Rockaway Peninsula barrier beach framed by the great expanse of the Atlantic Ocean. The property includes a fortification area with defensive works, and a post and wharf (Quartermaster) area with support facilities such as barracks, warehouses, drill grounds, and a parade ground (see Site Plans at the end of the report). Today, Fort Tilden illustrates changes in management that, over the course of four decades, have altered and concealed its historic military character. From a largely open landscape with inconspicuous military works and a dense cluster of support buildings, the landscape today has evolved to a natural maritime woodland and recreational area that retain many traces of Fort Tilden’s historic strategic role in the New York harbor defenses.

The landscape of Fort Tilden consists of three landscape character areas, which reflect the historic use and development of the property, as well as current park operations (see Site Plan, Drawings 1 and 2). These areas—the fortification, post, and wharf areas—are consistent in large part with the organization used in previous planning efforts, which identified the fortification area as “Fort Tilden/West” and the post and wharf areas as “Fort Tilden/East.” Within and separate from the park landscape is a U.S. Army Reserve Center on Rockaway Beach Boulevard, at the northeast portion of the fortification area. It is comprised of a 1950s-era group of buildings on approximately eight acres retained by the military after the park was created in 1974. It is the only remaining active military use within the original limits of Fort Tilden, and presently houses the 449th Maintenance Company.

Fortification Area:

This is the western two-thirds of the park containing Fort Tilden's abandoned gun batteries and defensive support structures, the most prominent being Battery Harris with its two enormous concrete and earthen casemates. Also known today as the "back fort," the fortification area is bounded by Rockaway Beach Boulevard to the north; Beach 193rd Street to the west, Hero Road/Building 13 (post area) to the east, and the Atlantic Ocean to the south, encompassing approximately 200 acres. The NPS manages the fortification area primarily as a natural area, and the formerly open landscape has become wooded. It has limited public access and is used primarily for bird watching and nature education purposes. Public interest in the history of the fortification area is reflected in occasional interpretive tours, and the ongoing private development of the extensive website, "History of Fort Tilden 1917–1974," containing historic maps, photographs, primary documents, and reminiscences from veterans. (CLR 2013: 6-7)

Post Area:

This is the eastern third of the park that forms the primary public entrance to Fort Tilden. The post area is bounded by Rockaway Beach Boulevard to the north, Beach 169th Street to the east, the Atlantic Ocean to the south, and Hero Road/Building 13 (fortification area) to the west, containing approximately one hundred acres. Within the post area is the one-time ceremonial center of Fort Tilden, the parade ground, around which there was once a dense complex of barracks, officer's quarters, administration buildings, and a chapel. At its height during World War II, the post area contained over one hundred buildings, but today there remain just thirty. The most prominent is Building 1, the former administration building built in 1937–1938 that formerly housed the park visitor center and offices. Other buildings have been leased to community groups, and most of the open fields, where buildings once stood or which served as the parade and drill grounds, are used as ball fields. (CLR 2013: 7)

Wharf Area:

This is the small 10-acre portion of Fort Tilden north of Rockaway Beach Boulevard that fronts on the Rockaway Inlet. It is bounded by the former U.S. Coast Guard Station Rockaway to the east and the community of Roxbury to the west. Historically used by the Army Quartermaster and later the Post Engineer, the wharf area contained the main dock, warehouses, maintenance facilities, and administration buildings, with rail lines connecting from the main dock through the post area to the fortifications. At its peak during World War II, the wharf area contained nineteen buildings, but today it retains eight and only the pilings remain from the main dock. A large parking lot and new ferry dock were constructed here in 2003 as part of the transportation-related redevelopment, Riis Landing, named after adjoining Jacob Riis Park. The Riis Landing development includes the adjoining complex of buildings that once formed the U.S. Coast Guard Station Rockaway, which has since moved to other facilities. (CLR 2013: 7)

HISTORICAL OVERVIEW

Until the late nineteenth century, the site of Fort Tilden was open water south and west of shifting barrier beaches that separated Jamaica Bay from the Atlantic Ocean. The largest of the barrier beaches was known by the native Canarsie people as Reckowacky, from which Europeans derived the later name, Rockaway. By the early twentieth century, the barrier beach had extended westward beyond the future site of Fort Tilden. (CLR 2013: 4)

In the summer of 1916, in response to efforts to upgrade the nation's harbor defenses, the United States War Department purchased land on Rockaway Point for a new installation to defend the eastern channel entrance to New York Harbor. In the fall, the Army Corps of Engineers conducted a comprehensive survey of the selected site, and on February 19, 1917 the U.S. Army commissioned the Rockaway Point Military Reservation. In August of that year, the reservation was officially dedicated and named Fort Tilden, after the former New York Governor Samuel J. Tilden. (CLR 2013: 4-5)

In its initial development during World War I, the fort was laid out in two areas: the fortification area along the Atlantic beachfront, and the post area and wharf (Quartermaster) area on Rockaway Inlet at the northeast corner of the fort, adjoining the Rockaway Naval Air Station, which was being developed at the same time. The fortification area consisted of an elaborate system of fire control stations, searchlights, submarine mine defenses, and two 6-inch gun batteries at the eastern and western ends of the fort (later known as Batteries Ferguson and Kessler). A four-gun 12-inch mortar battery was located in the Rockaway Naval Air Station. The main area of the post was laid out along Beach 169th Street at the northeastern corner of the fort, adjoining the naval air station, and served as the housing and administrative center of Fort Tilden. The initial World War I construction consisted mostly of wood-frame, Series 600 temporary buildings that included barracks, mess halls, stables, warehouses, and recreational facilities. North of the main post, across the state road (now Rockaway Beach Boulevard), a complex of Quartermaster warehouses and maintenance facilities were built at the wharf on Rockaway Inlet, providing the fort with access to a major shipping

lane. Rail lines were laid out from the wharf to the main post and fortification areas. (CLR 2013: 5)

Following World War I, Army installations generally suffered from neglect and lack of funds for routine maintenance. By the early 1920s, however, the Army initiated a number of construction projects at Fort Tilden to improve the living conditions for enlisted men and to augment the armament within the fortification area. At this time, the Army installed two 16-inch guns, three ammunition magazines, three power plants, and a fire control and plotting station, together comprising what was known as Battery Harris. After this through the mid-1930s, the Army made few improvements to Fort Tilden. (CLR 2013: 5)

Beginning in 1937 on the eve of World War II, the Army began a long-awaited program of improvements. The entire post was rebuilt and many upgrades were made to the fortification area. A new installation plan called for new roads to the fortifications, a parade ground, and permanent masonry buildings including officer housing and administrative and office space. Just prior to the U.S. entry into World War II, the Army built a large complex of Series 700 temporary buildings, including barracks, recreational buildings, mess halls, and a chapel to accommodate wartime mobilization. Within the fortification area, a network of concrete roadways and entrance gates was also added to provide vehicular access to the batteries and support structures, supplementing the earlier rail system. At this time, Batteries Harris and Kessler were casemated and covered with earth for additional protection and concealment from aerial attack. By 1944, a mining casemate and Harbor Entrance Command Post was also constructed, and varying types of mobile guns were stationed throughout the fort. (CLR 2013: 5)

At the close of World War II, as soldiers returned home, many of the cantonment barracks at Fort Tilden were converted into housing apartments for veterans. The fort at this time was taken off active duty and was managed by a small care-taking staff, and by 1949 seacoast guns were removed from the batteries. With nation-wide Cold War fortification efforts, the fort resumed active duty in 1951, and by 1955 Fort Tilden was outfitted with a Nike missile launch pad and two tracking stations that were armed and ready through 1967. (CLR 2013: 6)

Fort Tilden continued as an active military installation until 1974 when it was decommissioned and transferred to the NPS as part of Gateway National Recreation Area. The U.S. Army Reserve Center on Rockaway Beach Boulevard was historically part of the fortification area, but after 1974 became a separate property retained by the military. Although some buildings were removed by the Army during the 1960s and early 1970s, the majority of demolition at the fort, primarily wood-frame buildings in the post area, was undertaken by NPS after 1974 as Fort Tilden was retrofitted for non-military uses with little need for so much infrastructure. In the fortification area, the military structures were largely abandoned and the landscape became wooded through natural succession. (CLR 2013: 6)

SIGNIFICANCE SUMMARY

In 2009, the Keeper of the National Register issued a Determination of Eligibility (DOE) that found the fortification, post, and wharf areas of Fort Tilden, except for the Army Reserve Center, are eligible for listing in the National Register of Historic Places under Criterion A in the area of military history. The period of significance begins in 1916 when the War Department purchased and surveyed the site and ends in 1967 when the Nike missile system at the fort was decommissioned. As stated in the DOE:

“Fort Tilden represents a significant collection of historic resources that as an integrated whole continue to document 20th-century efforts to defend New York City and its harbor from attack by sea or by air. Its contributing historic resources include substantial defensive gun emplacements; Nike missile facilities; and significant surviving operational, administrative, housing, and transportation components, all of which combine to form an integrated resource that tangibly reflects the evolution of Fort Tilden as a 20th century coastal defense installation. Furthermore, when considered in combination with other, nearby extant former military facilities such as Sandy Hook and Fort Wadsworth, the surviving historic features and fabric of the Fort Tilden Historic District provide greater understanding of the development of a larger, and more complex, coastal military defense system intended to protect one of the nation's preeminent 20th century coastal cities. (DOE 2009)

ANALYSIS AND EVALUATION SUMMARY AND CONDITION

The historic character of the cultural landscape of Fort Tilden has diminished since the NPS took over the site in 1974. In the fortification area, the loss of character is due primarily to successional vegetation that has altered the historic open space and concealed most of the military structures, most of which remain intact but are in poor condition. This change in character is potentially reversible. In the post and wharf areas, the loss of historic character is due primarily to the extensive building demolition, and also to some new construction. These changes are not easily reversible.

Despite the loss of historic character, the post and wharf areas do retain a number of historic landscape features, including buildings, roads, a flagpole, entrance gates, and a parade ground, that contribute to the historic significance of the property, as determined through the DOE.

In consultation with park staff, the condition of the Fort Tilden landscape is evaluated as “poor.” This indicates the property shows clear evidence of major disturbance and rapid deterioration by natural and/or human forces. Immediate corrective action is required to protect and preserve the remaining historical and natural values.

Landscape Hierarchy Description:

Fort Tilden is a landscape within the park’s Jamaica Bay Unit, which also consists of Breezy Point, Jacob Riis Park, and Floyd Bennett Field. The park’s Staten Island Unit contains Fort Wadsworth (including the Battery Weed Headlands component landscape), Great Kills, and Miller Field. The Sandy Hook Unit contains the Fort Hancock Military Reservation (including the Fort Hancock Post Grounds, the Fort Hancock Coastal Defense Batteries, and the Sandy Hook Proving Ground component landscapes).

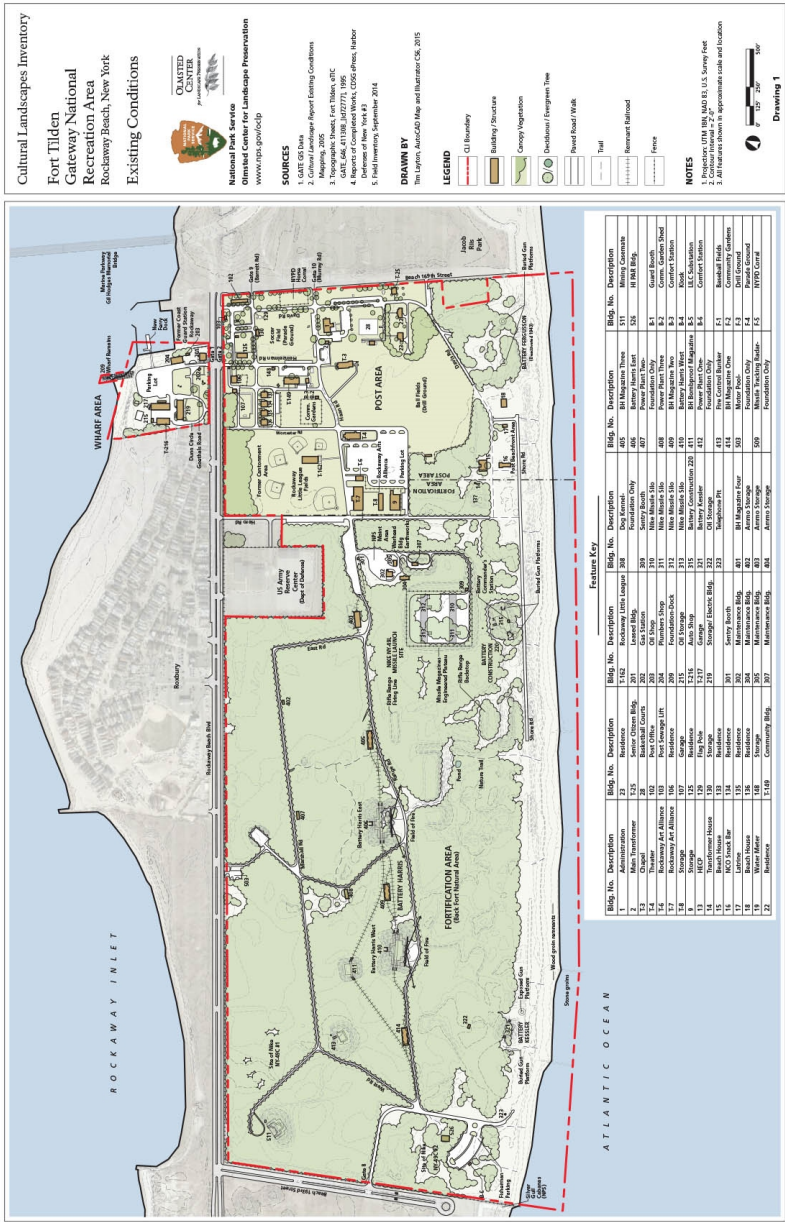
Landscape Type:

Historic Designed Landscape

Other Names:

Other Name:	Rockaway Point Military Reservation	Other Name Type:	Historic
Other Name:	Fort Funston	Other Name Type:	Historic
Other Name:	Fort Tilden	Other Name Type:	Both Current And Historic
Other Name:	Fort Tilden Historic District	Other Name Type:	Current

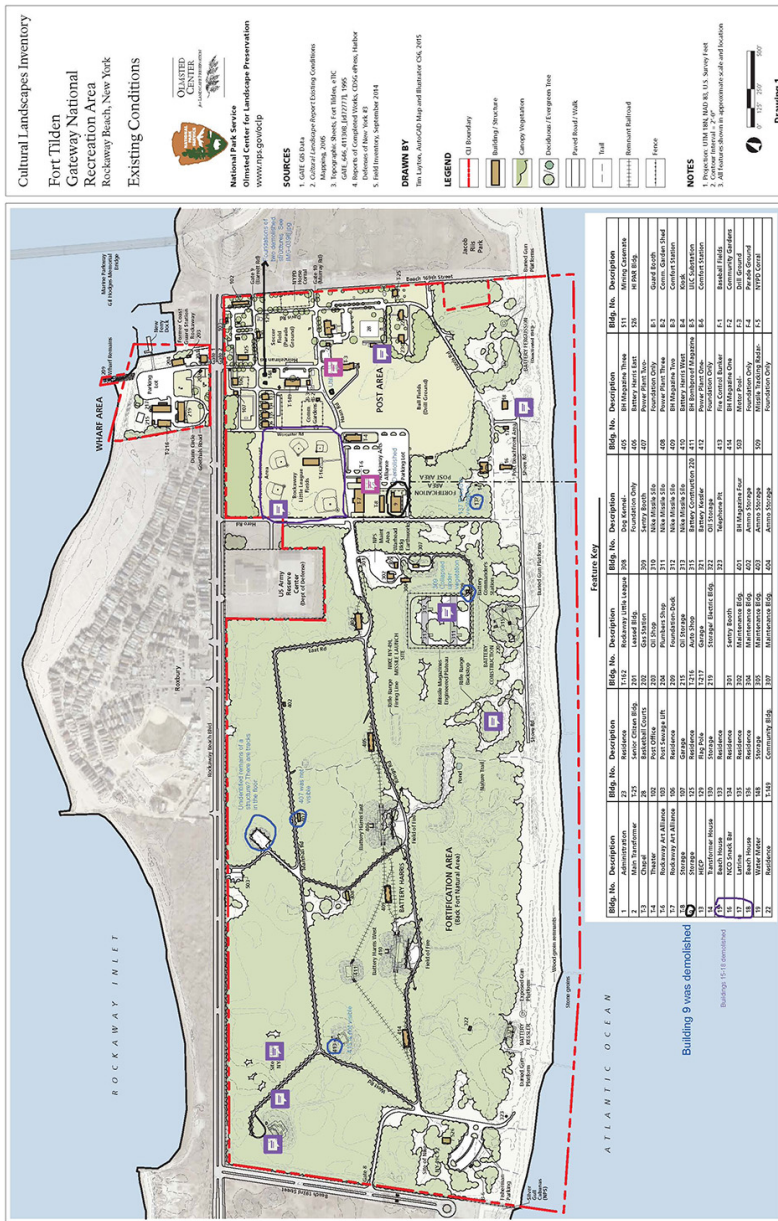
Site Plan

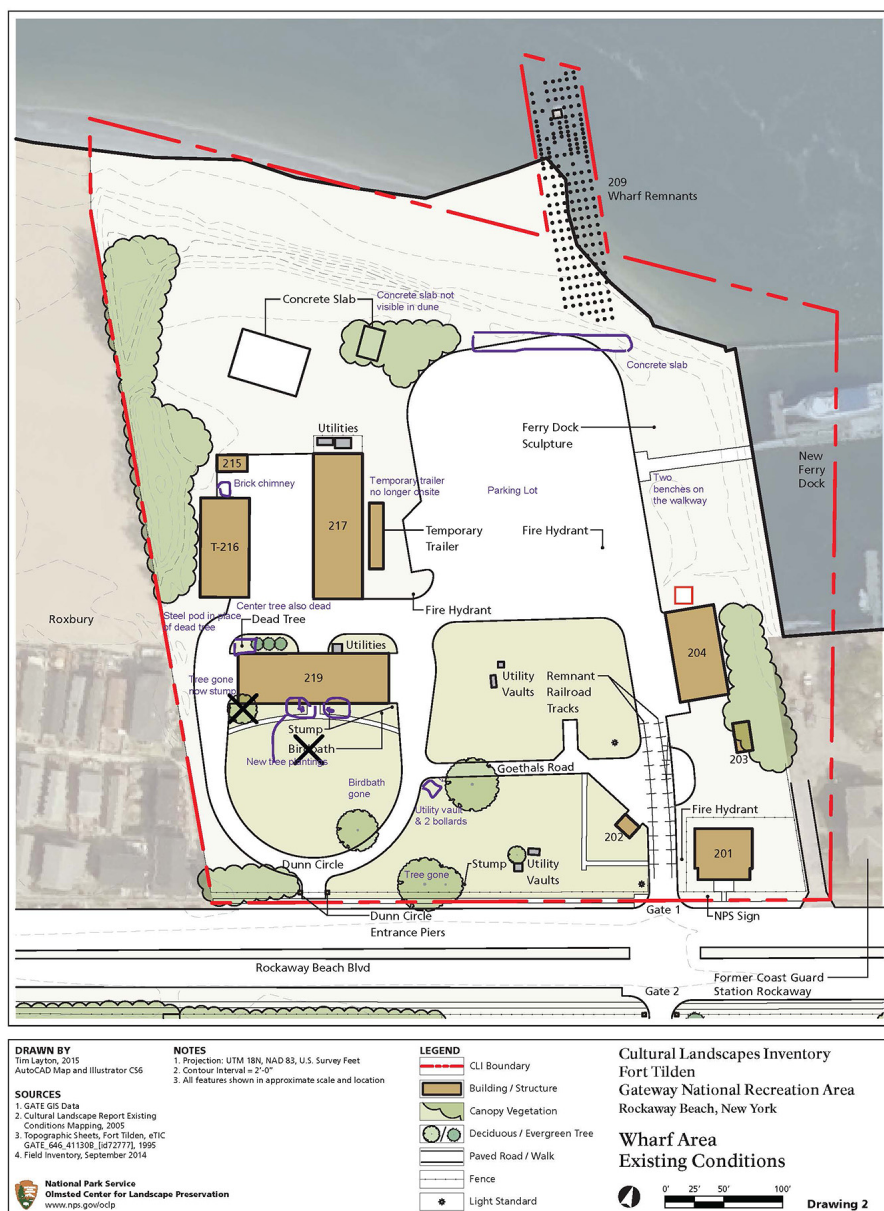




Site plans for Fort Tilden. (Olmsted Center for Landscape Preservation--hereafter OCLP--2015)

Site map 1, 2025 edits.





Site map 2, 2025 edits.

Concurrence Information

Concurrence Status:

Park Superintendent Concurrence:	Yes
Park Superintendent Date of Concurrence:	09/23/2015

Completion Status Explanatory Narrative:

Information in this CLI is extracted from the "Cultural Landscape Report (CLR) for Fort Tilden, Gateway National Recreation Area, Rockaway Beach, New York," prepared by the Department of Landscape Architecture in the State University of New York College of Environmental Science and Forestry, through a cooperative effort with the NPS Olmsted Center for Landscape Preservation and Gateway National Recreation Area. The authors were Christina Selvek and John Auwaerter, with George W. Curry serving as project director.

The CLR was substantially completed in 2005, but was not finalized due to difference of opinion between the NPS Northeast Regional Office and the New York State Historic Preservation Office (SHPO) over the eligibility of the post and wharf areas for listing in the National Register of Historic Places. The revisions made to the CLR in 2013 included updates to the Analysis and Evaluation chapter to reflect the findings of the Keeper of the National Register in 2009, which stated in a Determination of Eligibility (DOE) that the entire Fort Tilden property under NPS jurisdiction is eligible for listing in the National Register during a period of significance from 1916 to 1967. Existing conditions documentation was not updated at this time. (CLR 2013: ix)

In 2013, Jeff Killion, Historical Landscape Architect and Northeast Region CLI Coordinator, and Jaime Young, Student Conservation Association intern, completed the conversion of the CLR into this CLI. Historical Landscape Architect Tim Layton updated the existing conditions map and evaluated resources in the post and wharf areas. The park's cultural resources contact is Marilou Ehrler. She can be reached at 718-354-4561.

Concurrence Graphic Information:

Attachment File Path

CULTURAL LANDSCAPES INVENTORY
CONCURRENCE FORM

Fort Tilden
Gateway National Recreation Area

Gateway National Recreation Area concurs with the findings of the Cultural Landscape Inventory (CLI) for Fort Tilden including the following specific components:

MANAGEMENT CATEGORY: Should Be Preserved and Maintained

CONDITION ASSESSMENT: Poor

Good: indicates the inventory unit shows no clear evidence of major negative disturbance and deterioration by natural and/or human forces. The inventory unit's cultural and natural values are as well preserved as can be expected under the given environmental conditions. No immediate corrective action is required to maintain its current condition.

Fair: indicates the inventory unit shows clear evidence of minor disturbances and deterioration by natural and/or human forces, and some degree of corrective action is needed within 3-5 years to prevent further harm to its cultural and/or natural values. If left to continue without the appropriate corrective action, the cumulative effect of the deterioration of many of the character defining elements will cause the inventory unit to degrade to a poor condition.

Poor: indicates the inventory unit shows clear evidence of major disturbance and rapid deterioration by natural and/or human forces. Immediate corrective action is required to protect and preserve the remaining historical and natural values.

The Cultural Landscape Inventory for Fort Tilden is hereby approved and accepted.



Superintendent, Gateway National Recreation Area 9.23.15
Date

Park concurrence form, September 23, 2015.

**Cultural Landscapes Inventory
CLI Update Certification Form
2025**

Gateway National Recreation Area
Battery Weed Headland, Floyd Bennett Field,
Fort Hancock Post Grounds, Fort Tilden

Gateway National Recreation Area concurs with the updates for the following CLIs,
including:

CONDITION ASSESSMENT: Fair – Battery Weed Headland
 Fair – Floyd Bennett Field
 Fair – Fort Hancock Post Grounds
 Poor – Fort Tilden

Good: indicates the inventory unit shows no clear evidence of major negative disturbance and deterioration by natural and/or human forces. The inventory unit's cultural and natural values are as well preserved as can be expected under the given environmental conditions. No immediate corrective action is required to maintain its current condition.

Fair: indicates the inventory unit shows clear evidence of minor disturbances and deterioration by natural and/or human forces, and some degree of corrective action is needed within 3-5 years to prevent further harm to its cultural and/or natural values. If left to continue without the appropriate corrective action, the cumulative effect of the deterioration of many of the character defining elements, will cause the inventory unit to degrade to a poor condition.

Poor: indicates the inventory unit shows clear evidence of major disturbance and rapid deterioration by natural and/or human forces. Immediate corrective action is required to protect and preserve the remaining historical and natural values.

The CLI Updates at Gateway National Recreation Area are hereby approved and accepted.

EMINA SENDICH  Digitally signed by EMINA
SENDICH
Date: 2025.07.23 16:31:33 -04'00'

Acting Superintendent, Gateway National Recreation Area

Date

Park concurrence form, July 23, 2025.

Revision:

Revised By	Type of Revision	Revision Date	Revision Narrative
Jeff Killion	CLI Update	07/23/2025	Three levels of effort have been developed for CLI Updates: A, B, and C. Level C is limited to a condition reassessment of the landscape; Level B includes C and is a targeted update of select data fields; Level A includes C and is a comprehensive update of all data fields. This 2025 update to the Fort Tilden CLI has been conducted at a Level C effort. See Landscape Documents in CRIS-CL for correspondences with park.

Geographic Information

State and County:

State	County
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Size (Acres): 309.9

Land Tract Number(s)

01-102
01-103
01-104

Boundary Description:

The expanded boundary for the Fort Tilden Historic District, as described in the 2009 Determination of Eligibility (DOE), is coterminous with the boundary of the Fort Tilden property as currently administered and maintained by the NPS. This boundary includes the fortification, post, and wharf areas in their entirety. The district boundary does not include the Army Reserve Center area, which includes buildings 415 and 416 that do not relate directly to Fort Tilden's historic twentieth-century function as a defense facility intended to protect New York City and its harbor. They are also not properties currently administered by the NPS. (DOE 2013)

Encompassing all of the former Fort Tilden Military Reservation except for small parcels retained by the military as an Army Reserve Center (01-129) and by the U.S. Coast Guard (01-128), the park is bounded by the Atlantic Ocean on the south, Rockaway Beach Boulevard on the north, Beach 169th Street to the east, and Beach 193rd Street to west. A small northern extension of the fort fronts on the Rockaway Inlet (Jamaica Bay) north of Rockaway Beach Boulevard between the former U.S. Coast Guard Rockaway Station and the community of Roxbury. For the purposes of the CLI, the CLI boundary extends north from the northernmost tract, 01-104, to include the entirety of the Wharf Remnants (Building 209). The acreage of the CLI boundary is 309.90 acres. (CLR 2013: 1)

Boundary Coordinates

Source	Type of Point	Latitude	Longitude	Narrative
	Area	40.568673	-73.884601	
	Area	40.56738	-73.884004	
	Area	40.566877	-73.885781	
	Area	40.5669001	-73.885792	
	Area	40.568292	-73.886848	
	Area	40.568501	-73.886953	
	Area	40.568606	-73.885508	
	Area	40.568986	-73.885785	
	Area	40.5690001	-73.885598	
	Area	40.56862	-73.885322	
	Area	40.56744	-73.882829	
	Area	40.56382	-73.880736	
	Area	40.563618	-73.881334	
	Area	40.562904	-73.88081	
	Area	40.563074	-73.880304	
	Area	40.561663	-73.879487	
	Area	40.557219	-73.895004	
	Area	40.556026	-73.900413	
	Area	40.561988	-73.902041	
	Area	40.565408	-73.889942	
	Area	40.563726	-73.889187	
	Area	40.564193	-73.887582	
	Area	40.564891	-73.887936	
	Area	40.565079	-73.88724	
	Area	40.566039	-73.88771	

Location Map:

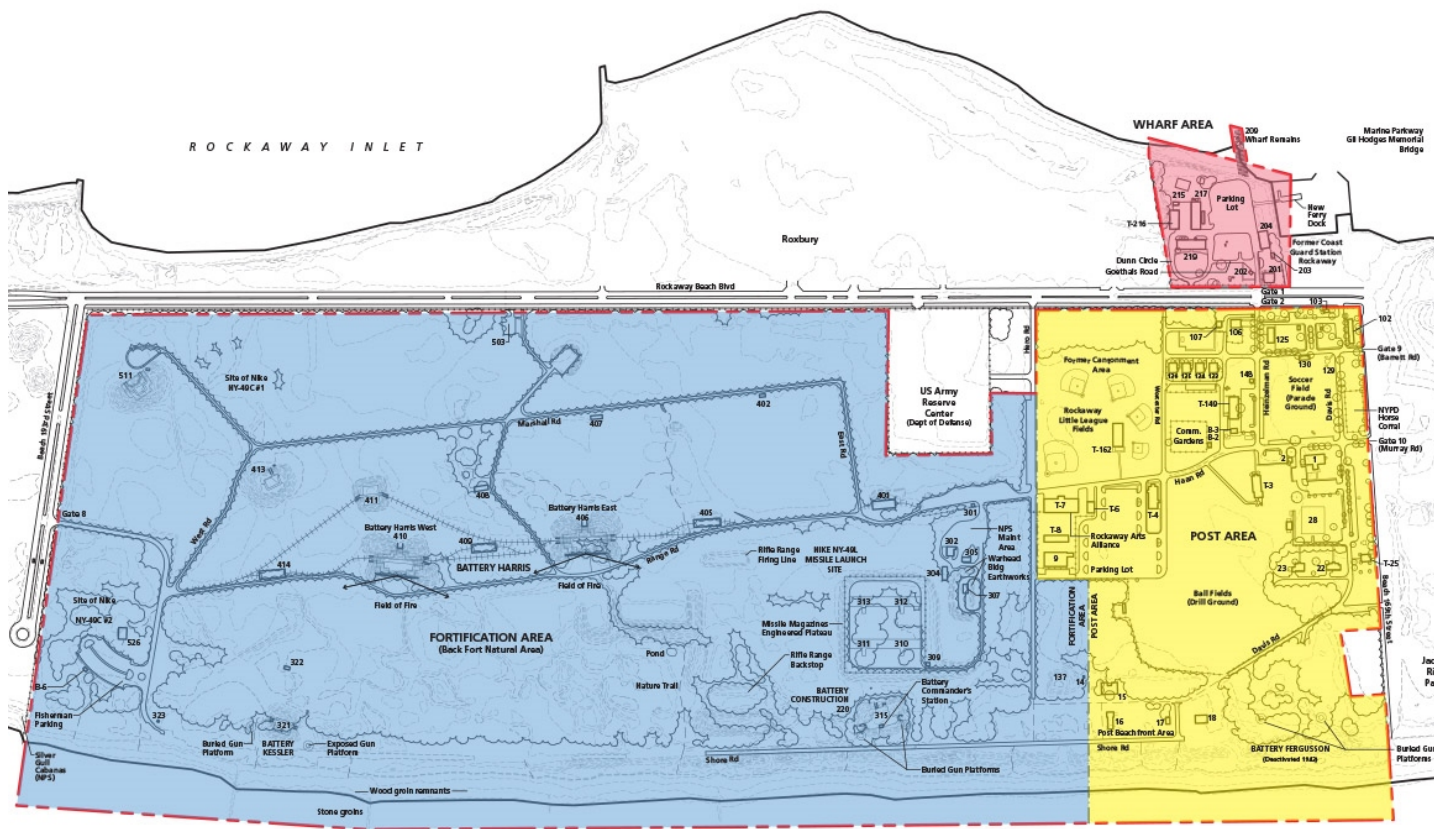


Diagram of Fort Tilden illustrating local setting and boundaries and three character areas: fortification area (blue), post area (yellow), and wharf area (red). The outer red dashed lines represent the CLI boundaries. (Olmsted Center)



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Fort Tilden
Gateway National Recreation Area



Map of lower New York Harbor showing the location of Fort Tilden and its relationship to other components of Gateway National Recreation Area (NRA). (Final General Management Plan/Environmental Impact Statement 2014: 5)



AL

Regional Landscape Contexts:

Type of Context: Physiographic

Description:

Fort Tilden is on the eastern end of the Rockaway Peninsula, a barrier beach along the southern shore of western Long Island. The area is part of the Atlantic Coastal Plain physiographic province, which extends from the north shore of Long Island to Florida along the Atlantic Ocean and westward to the Appalachian Piedmont. The area is composed of thick sedimentary deposits derived from the eroding Appalachian Mountains, and soil and rock materials deposited as the continental ice sheet retreated along Long Island. Within the coastal plain, numerous slender and elongated barrier islands and beaches protect the coast from waves. The Rockaway Peninsula barrier beach was formed as a result of a compound re-curved spit. A re-curved spit is a long narrow accumulation of sand with one end joined to the mainland and the other projecting out to deep water. As increasing volumes of sand are required to build above the watermark, the spit turns to where it is shallower. (CLR 2013: 73)

Type of Context: Cultural

Description:

The landscape of Fort Tilden is today characterized by a mix of maintained and naturalized areas that originated from military use and development between 1916 and 1974. Fronting on the Atlantic Ocean, the landscape consists of scattered buildings, lawns, ball fields, parking areas, paved roads, and large areas of successional woodlands surrounding abandoned gun batteries and other military structures (see Regional Landscape Context graphic). Once containing more than 160 buildings and structures at its height during World War II, Fort Tilden today contains approximately thirty maintained buildings. (CLR 2013: 73-74)

Type of Context: Political

Description:

Fort Tilden is located in Queens County, a borough of New York City, and the area on the Rockaway Peninsula is generally known as "The Rockaways." Surrounding Fort Tilden are additional park properties within the Jamaica Bay Unit of Gateway National Recreation Area: to the east, Jacob Riis Park and the former U.S. Coast Guard Station Far Rockaway, and to the west, the Silver Gull Beach Club cabanas and open land. To the north across the Rockaway Inlet is Floyd Bennett Field, location of the main visitor center for the Jamaica Bay Unit. Surrounding communities include Roxbury directly north of Fort Tilden, a dense neighborhood of former seasonal bungalows. To the west is Breezy Point, a larger bungalow colony that, with Roxbury, has a population of approximately 2,250. A mile east of Fort Tilden is the main village on the peninsula, Far Rockaway, a former nineteenth-century summer resort area and a now a year-round community of approximately 12,000 people. (CLR 2013: 73)

Management Information

General Management Information

Management Category: Should be Preserved and Maintained

Management Category Date: 09/23/2015

Management Category Explanatory Narrative:

Fort Tilden meets the requirements of the management category, "Should be Preserved and Maintained," because it meets National Register of Historic Places criteria. The property is significant under Criteria A in the area of military history, as a significant collection of historic resources that as an integrated whole continue to document twentieth-century efforts to defend New York City and its harbor from attack by sea or by air. Fort Tilden's fortification area was listed in the National Register in 1984. The post and wharf areas were determined eligible for listing in the National Register in 2009 by the Keeper of the National Register.

Fort Tilden also meets this management category because it is compatible with the park's legislated significance. Gateway National Recreation Area was established on October 27, 1972 to "preserve and protect for the use and enjoyment of present and future generations an area possessing outstanding natural and recreational features." The legislation created four units of Gateway: the Jamaica Bay Unit, Breezy Point Unit, Sandy Hook Unit, and Staten Island Unit. Fort Tilden was included in the Breezy Point Unit, described as "the entire area between the eastern boundary of Jacob Riis Park and the westernmost point of the peninsula." The property is now part of the Jamaica Bay Unit, and is used primarily for recreational activities such as surfcasting, bird watching, gardening, walking, and team sports by approximately 300,000 visitors per year. (GMP/EIS 2014: 607; CLR 2013: 74)

Management Agreements:

Type of Agreement: Cooperative Agreement

Management Agreement Expiration Date:

Management Agreement Explanatory Narrative:

Rockaway Artists Alliance

Type of Agreement: Cooperative Agreement

Management Agreement Expiration Date:

Management Agreement Explanatory Narrative:

Rockaway Theatre Company

Legal Interests:

Type of Interest: Fee Simple

Narrative:

Type of Interest: Less Than Fee Simple

Narrative: Tracts 01-102 (1.64 acres) and 01-103 (300.90 acres) are fee interest tracts. Tract 01-104 (1.63 acres) is a less than fee interest easement. Total acreage of the three tracts is 304.17. (http://landsnet.nps.gov/tractsnet/documents/GATE/Segment_Maps/gatesm01.pdf, accessed October 2013)

Located in managed wilderness?: Unknown

Adjacent Lands Information

Do Adjacent Lands Contribute? No

Adjacent Lands Narrative:

Adjacent lands are lands outside of the boundaries of the park that contribute to its significance and retain integrity. In 1955–61, the U.S. Army Reserve Center was constructed in the fort's fortification area along Rockaway Beach Boulevard, just west of Hero Road. It consists of an assembly structure (Building 415) and vehicle storage structure (Building 416) that is enclosed by chain link fencing. The 9.5-acre property remains under Department of Defense jurisdiction.

National Register Information

National Register of Historic Places

Documentation Status: Keeper Documented

Documentation Narrative Description:

Fort Tilden is part of Gateway National Recreation Area (NRA), which was established on October 27, 1972. In 1976, Gateway NRA prepared an initial draft of a National Register of Historic Places nomination form for the fortification area of Fort Tilden, but did not include the post and wharf areas of the fort. The proposed area of significance was military history, beginning with the establishment of Fort Tilden in 1917 and ending with the decommissioning of the Nike missile system in circa 1967. The nomination encompassed all of the primary fortifications, including the Cold War era Nike missile silos and two tracking stations. This draft was submitted to the New York State Historic Preservation Office (SHPO) in 1979. The SHPO concurred with the documentation and the nomination was forwarded to the National Register program for review. In 1980, the National Register sent the nomination back to the park to address a number of deficiencies.

In November 1980, the park completed a Historic Structure Report/Historic Data Section (HSR) that provided additional information on the fortification area resources in the proposed nomination. Based upon this expanded documentation and the earlier comments from the National Register program, the park revised the nomination form in 1982 and forwarded it to the SHPO. The nomination included revised boundaries and period of significance, changes in terminology, new historical documentation, and additional resources. The SHPO concurred with the revised draft in 1983 and forwarded it to the National Register program. On April 20, 1984, the Keeper of the National Register approved the nomination and the Fort Tilden Historic District was listed in the National Register of Historic Places. As listed, the property excluded the Nike missile launch pad and two tracking stations, and included only the portion of the fortification area immediately surrounding and in-between the fortification structures, from Marshall Road on the north to Shore Road on the south. The district was basically rectangular in shape with three narrow extensions to include the Harbor Entrance Command Post (Building 13) on the southeast, Battery Harrison Magazine (401) on the northeast, and the Mining Casemate (511) on the northwest. Total acreage of the historic district was listed as 98 acres.

As stated in the approved 1984 nomination form, the fortification area at Fort Tilden was listed for its national significance in the area of military history during the first half of the twentieth century as part of the harbor defenses of New York City. The period of significance was described as beginning in 1917, the year the fort was established, and extending through 1945. The seacoast artillery, anti-aircraft artillery, submarine mining and observation structures, and lighting and listening posts at Fort Tilden were recognized as illustrating technical improvements that took place in military weaponry between the two World Wars. The nomination form identified the following buildings and structures as contributing resources: Battery Harris Casemates (406, 410); Battery Harris Magazines (401, 405, 409, 414); Battery Harris Bombproof Magazine (411); Igloo Magazines (403, 404); Six-inch Gun Batteries (315/Construction 220, 321/Battery Kessler); Support Buildings (322, 402); Power Plants (407*, 408, 412*); Fire Control and Plotting Room (413); Mine Casemate and Plotting Room (511); Harbor Entrance Command Post (13); and Telephone Pit (323). The following resources were identified as management exclusions (non-contributing resources), either because they no longer existed or did not relate to the harbor protection theme of the fort as documented for the National Register: rifle range support structures (316–320); Buildings 324, 325, and 514; Pistol Range (site- no building number); and utility building (14). Note: * = Demolished since 1984 listing.

As part of its cultural resource inventory for the fortification area at Fort Tilden following the 1984 National Register listing, the NPS added eligible resources within the Fort Tilden Historic District to its List of Classified Structures (LCS), initially drafted in 1986 and sent to the SHPO in 1996. There were a number of differences in names between the resources listed in the 1984 National Register nomination and in the

1996 LCS records. The LCS included all of the extant resources identified in the National Register nomination, except for the Telephone Pit (323). In addition, five Nike-era structures located outside of the National Register boundaries were identified in the LCS because of NPS interest in their interpretive value, and were recommended for management as cultural resources. These resources were Nike Silos 310, 311, 312, and 313, and the gatehouse (Launch Pad sentry station/309). The SHPO concurred with the LCS records on October 25, 1996.

In 2005, a Cultural Landscape Report (CLR) was completed for all three areas of the fort (fortification, post, and wharf) by the NPS Olmsted Center for Landscape Preservation. The CLR concluded that the post and wharf areas did not appear to be eligible for listing in the National Register because they did not retain sufficient integrity to convey the significance of the property, primarily because of the extensive loss of physical material. In a letter dated July 12, 2007, the New York SHPO disagreed with this conclusion, stating, "Fort Tilden unquestionably retains historic integrity as a listed site," and recommending that the park expand the boundaries of the historic district to include the post and wharf areas. The SHPO also recommended extending the end date of the period of significance from 1945 to 1967, to include the Nike missile resources. Due to this difference of opinion between the NPS Northeast Region Office and the New York SHPO, the Keeper of the National Register was contacted in 2008 to make a Determination of Eligibility (DOE) on the boundary expansion.

In a memorandum dated May 12, 2009, the Keeper issued a DOE that that expanded the Fort Tilden Historic District boundaries to encompass the entire Fort Tilden property (all three areas), except for the Army Reserve Center that remained under Department of Defense jurisdiction. The DOE also revised the period of significance to begin in 1916 and end in 1967. The DOE stated that Fort Tilden was eligible under National Register Criterion A for its significance in military history during the period 1916–1967, and was potentially eligible under Criterion D for archeological resources, pending further archaeological study. The DOE found that Fort Tilden met Criterion Consideration G (Properties that have Achieved Significance within the Last Fifty Years) to address the Nike Hercules-period Cold-War resources that were not yet 50 years old. The DOE did not include a detailed list of contributing and non-contributing resources, but did state that contributing resources should include the surviving World War I-II gun emplacements and associated structures, and surviving features from the Nike missile installations. With regard to the post and wharf area, the DOE stated that:

"Despite some significant loss of period buildings, the vast majority of surviving historic buildings and structures located in the property's post and wharf area (including such historic features as roads, circulation patterns, overall plan, waterfront ruins, and shoreline beach groins) retain sufficient integrity as a whole to contributing district's significance as an integrated 20th-century coastal defense installation under Criterion A."

According to research conducted for this CLI and the categories of National Register documentation outlined in the "CLI Professional Procedures Guide," the areas and periods of significance for Fort Tilden have been adequately documented in the National Register and through previous consultations with the New York SHPO and the Keeper of the National Register. The existing documentation adequately describes the site's numerous historic resources that contribute to its significance. Therefore, for purposes of the CLI, the Fort Tilden landscape is considered "Keeper-Documented."

Eligibility: Eligible -- Keeper

Concurrence Eligibility Date: 05/12/2009

Concurrence Narrative:

Significance Level: National

Contributing: Individual

Classification: District

Statement of Significance for National Register of Historic Places:

The following Statement of Significance is extracted from the Determination of Eligibility Notification, dated May 12, 2009, for the expanded Fort Tilden Historic District, which encompasses the fort's fortification, post, and wharf areas. The period of significance begins in 1916, the year the location of the fort was selected and surveyed, and ends in 1967 when the Nike missile system at the fort was decommissioned.

NATIONAL REGISTER CRITERION A

"All of the Fort Tilden property as currently administered by the NPS is determined eligible for listing in the National Register of Historic Places as an historic district under Criterion A for its significance within the context of military history during the period 1916 to 1967. Fort Tilden represents a significant collection of historic resources that as an integrated whole continue to document 20th-century efforts to defend New York City and its harbor from attack by sea or by air. Its contributing historic resources include substantial defensive gun emplacements; Nike missile facilities; and significant surviving operational, administrative, housing, and transportation components, all of which combine to form an integrated resource that tangibly reflects the evolution of Fort Tilden as a 20th century coastal defense installation. Furthermore, when considered in combination with other, nearby extant former military facilities such as Sandy Hook and Fort Wadsworth, the surviving historic features and fabric of the Fort Tilden Historic District provide greater understanding of the development of a larger, and more complex, coastal military defense system intended to protect one of the nation's preeminent 20th century coastal cities. (DOE 2009)

"Contributing resources to the Fort Tilden Historic District fortification area should include the surviving gun emplacements and associated structures dating from World War I and World War II eras, as well as the surviving features and fabric associated with the district's utilization as a Cold War-era base for both Nike-AJAX and Nike-Hercules missiles. Despite some significant losses of period buildings, the vast majority of surviving historic buildings and structures located in the property's post and wharf areas (including such historic features as roads, circulation patterns, overall plan, waterfront ruins, and shoreline beach groins) retain sufficient integrity as a whole to contribute district's significance as an integrated 20th-century coastal defense installation under Criterion A. (DOE 2009)

NATIONAL REGISTER CRITERION D

"Based on a detailed analysis of the documentation provided by [the NPS], as well as information obtained during two onsite inspections of the property by staff from the Keeper's office, it appears highly likely that the expanded Fort Tilden Historic District includes a significant number of archeological resources that will qualify listing as contributing to the significance the district eligibility under National Register Criterion D. The Keeper therefore strongly recommends that an appropriately qualified historical archeologist synthesize the extensive land use documentation already available for the historic district, and identify and complete such further work as may be necessary to specifically identify and evaluate district archeological resources. (DOE 2009)

NATIONAL REGISTER CRITERION CONSIDERATION G

"While some of the resources associated with Fort Tilden's surviving Nike missile facilities are slightly less than 50 years old, enough time has elapsed and perspective gained to consider the Cold War as a defined historical period in its own right. The fort's surviving, Cold War-era Nike missile facilities contribute to a fuller understanding of the ongoing significance of Fort Tilden as a 20th century coastal military installation, as well as part of a larger coastal defense system that operated well into the 1960s. (DOE 2009)

National Register Significance Criteria:

A - Associated with events significant to broad patterns of our history

D - Has yielded, or is likely to yield, information important to prehistory or history

Area of Significance:

Area of Significance Category: Military

Area of Significance Subcategory:

Explanatory Narrative:

National Register Criteria Consideration:

G -- A property less than 50 years of age

National Register Periods of Significance (with Historic Context Themes):

Time Period: CE 1916 - CE 1967

Historic Context Theme	Subtheme	Facet	Other Facet
Shaping the Political Landscape	Political and Military Affairs 1865-1939	World War I, 1914- 1919	
Shaping the Political Landscape	Political and Military Affairs After 1945	The "Cold War" With The Soviet Union	
Shaping the Political Landscape	World War II	The Home Front	

NRIS Information:

NRIS ID: 84002917

Primary Certification Date: 04/20/1984

State Register Documentation:

National Historic Landmarks:

National Historic Landmark? No

Theme:

Contributing:

NHL ID:

NHL URL:

Date:

Statement of Significance for National Historic Landmark:

World Heritage Site:

World Heritage Site? No

Category:

WHS ID:

WHS URL:

Date:

Is Resource within a designated National Natural Landscape: No

Chronology and Physical History

Chronology:

Year	Event	Major Event Narrative
BCE 8000 - 1890	Inhabited	Site of Fort Tilden is open water in Atlantic Ocean near inlet to Jamaica Bay. Waters are part of the homeland of the Canarsie people prior to European colonization of the area in the 17th century. Barrier beaches may have existed on the site of Fort Tilden prior to the 18th century.
CE 1885	Explored	Map of New York City, Brooklyn, and Vicinity (Colton, 1885) shows Rockaway Peninsula east of future site of Fort Tilden.
CE 1898	Altered	USGS map shows the westward drift of the barrier beach over much of future site of Fort Tilden.
CE 1915	Altered	By this time, the westward drift of the Rockaway Peninsula barrier beach extends beyond future site of Fort Tilden.
CE 1916	Purchased/Sold	In July, the War Department allocates \$1,400,000 for the purchase of the site on Rockaway Point, initially known as the Rockaway Military Reservation.
CE 1916	Planned	By the fall, Colonel Frederic V. Abbott, Army Corps of Engineers orders a comprehensive survey of the selected site.
CE 1917	Established	Congress votes to appropriate \$51,000,000 for coastal defenses, of which \$2,000,000 is for establishing Fort Tilden.
CE 1917	Built	In February, contracts are let to the firm of William D. Cederhurst of Long Island to provide an artificial layer of bedrock at the battery sites. On February 8, eleven carloads of cut bluestone arrive and forty horse-drawn and motor trucks with 150 workmen cart the stone to the fort to build foundations and platforms to hold the 6-inch gun emplacements.
CE 1917	Built	The 82nd Coastal Artillery Company from Fort Totten, Queens arrives on February 19th and begins building several makeshift structures to serve as temporary barracks in the post at the northeast corner of the site, adjoining the Rockaway Naval Air Station. A portion of the post is built on land belonging to the Coast Guard, which granted the Army permission to erect temporary structures on the narrow strip of land that extended from the Atlantic Ocean to Jamaica Bay along the west side of Marginal Ave (Beach 169th Street) between the two Rockaway Life Saving Stations.

Year	Event	Major Event Narrative
CE 1917	Built	On March 3, the Army completes construction of the first temporary 6-inch gun battery, while the second is completed only days later. Each battery is armed with two 6-inch guns on pedestal mounts. The eastern battery is located 250 feet west of the Rockaway Beach Lifesaving Station. The other battery is built about 800 feet from the western boundary of the fort. Both are situated 300 feet from the Atlantic Ocean. The two batteries become known as East and West Batteries. Each battery has a separate magazine, also of temporary construction, built of corrugated iron; and coincidence rangefinders provide fire control. Two 60-inch seacoast searchlights are also installed at opposite ends of the reservation along with their 25 KW power plants.
CE 1917	Built	Construction begins in April on a temporary 12-inch mortar battery consisting of 12-inch mortars mounted on carriages that are located in the Rockaway Naval Air Station east of the post. A temporary magazine is also built between the mortar platforms, and a battery plotting room is constructed about 100 feet northwest from the battery. Around this same time, the dock (formerly Dock No. 70, later Building 209) is built in the wharf area on the Rockaway Inlet, and serves as the primary transportation link to Fort Tilden.
CE 1917	Built	In May, Rockaway Beach citizens donate and present a flag and flagpole to Major H. J. Hatch.
CE 1917	Built	By the end of October, the Army completes construction of seven officer's quarters, two enlisted men's barracks, seven non-commissioned officers' quarters, one headquarters building, one hospital, one commissary, two mess halls, one lavatory, one stable and wagon shed, and a number of roadways.
CE 1917	Built	A contract is awarded in November to James Steward and Company of New York City to build a temporary cantonment that included two sixty-six man barracks, an officer's quarters, mess hall, and latrine. These temporary structures are built in an area separate from the permanent garrison structures and were located in the northeast corner of the post. In addition to the structures, the Steward Company also lays out over 3,000 feet of concrete slab roadways in the post.

Year	Event	Major Event Narrative
CE 1917	Built	During the month of November, the Army builds a guardhouse, ordnance building, post exchange, oil house, firehouse, stable, forage barn, storehouses, and hospital annex, and also improves the original quarters. Coal pockets and an incinerator are also constructed, probably on the Coast Guard property near the wharf area. For mortar ammunition storage, a storage shed, connected to the 12-inch mortar battery by platforms, is built. Additional storage space is provided with the construction of two large 20 by 196-foot warehouses located along the western edge of the post. Under the direction of the Army Corps of Engineers, a small standard gauge railroad is constructed, connecting the dock on Jamaica Bay, coal pockets and the two warehouses. For recreation, the Young Men's Christian Association (Y.M.C.A.) and Knights of Columbus erect buildings in the post.
CE 1918 - 1919	Built	Between 1918–1919, the Army completes construction of the Double Non-Commissioned Officers (NCO) Quarters (formerly Building 60A and 60B, now Building 106) in the post area and the Engineer's Office (formerly Building 49, now Building 201) in the wharf area. The Engineer's Office would serve as a headquarters. The Army also emplaces two anti-aircraft guns and mounts within the northeast section of the fortification area. The initial phase of construction at Fort Tilden is completed in February 1919.
CE 1919	Removed	In November, the Army authorizes the removal of the 12-inch mortar battery from within the Rockaway Naval Air Station in order to dismantle it for transfer to Fort Caswell, North Carolina.
CE 1920	Built	By this time, the Army has installed a balloon hanger and generator house within the fortification area along Rockaway Beach Boulevard (State Road). Bulkheads and jetties along the Atlantic shoreline are strengthened. The east 6-inch gun battery receives high beam lights, and two powerhouses are modified with the conversion to gas motors. In December, an allotment of \$70,000 is approved for building emplacements of two 16-inch guns, later known as Battery Harris.
CE 1922	Built	The Army begins construction of two new batteries (formerly Battery No. 1 and No. 2, now Buildings 406 and 410), located between the old Battery East and Battery West. The two 16-inch gun batteries are located 850 feet apart and include two 16-inch guns mounted on a barbette carriage and two gun platforms. Gun emplacement No. 1 is assembled in June 1923 and gun emplacement No. 2 is assembled the following year. This battery is named Battery Harris in honor of Colonel Henry Leavenworth Harris. During this year, a letter from the Secretary of the Navy states that Fort Tilden is comprised of 303.5 acres.

Year	Event	Major Event Narrative
CE 1922 - 1923	Built	Between 1922–1923, a building contract is awarded to the Concord Construction Company for the construction of three concrete-and-tile ammunition magazines to supply Battery Harris. Each magazine is a single story rectangular building built over a spur of the narrow gauge post railroad. At the end of each magazine are corrugated steel rolling lift overhead doors. The magazines are located adjacent to Battery Harris and approximately 1000 feet from one another.
CE 1923	Built	By the end of the year, the Army completes construction of three power plants servicing Battery Harris. Power plant No. 1 and No. 2 supply electricity to Battery Harris East and West and are located some 500 feet north of the batteries. Power plant No. 3 is a reserve plant situated between the other two power plants and about 250 feet to the north. Each power plant is constructed on concrete foundations with 8-inch hollow tile and low gabled roofs of reinforced concrete. In conjunction with the construction of Battery Harris, the magazines, and the power plants, the standard gauge rail line is rerouted to connect to the dock in the wharf area and to the two, 16-inch gun batteries. Spurs of narrow gauge rails are built to service the three ammunition magazines and three power plants. The tracks run parallel to present day Range Road.
CE 1923 - 1924	Built	Between 1923–1924, wooden penthouses are constructed over the East and West Batteries to protect the four, 6-inch guns from drifting sand. The Army also completes the Engineer Storehouse (formerly Building 44, now Building 204) and the bombproof fire control and plotting room (now Building 413) for Battery Harris. The plot room is sited 600 yards northwest of battery No. 1 emplacement and constructed of reinforced concrete.
CE 1924	Built	During this year, telephone and fire control instruments are installed in the fire control and plotting room, magazines and related structures. Four lights mounted on pipe frames are installed at Battery Harris.
CE 1925 - 1926	Planted	Between 1925–1926, the Army plants beach-type grasses in critical areas of the fort to reduce drifting sand. Species include American Marram (American beachgrass), which was noted for its ability to stabilize sand dunes.
CE 1928	Land Transfer	On November 2, thirteen acres of Coast Guard land located along the eastern edge of Fort Tilden's post are transferred to the Army.
CE 1929	Built	In June, eight concrete platforms for 3-inch anti-aircraft guns are constructed.
CE 1931	Built	The Army constructs a fourth ammunition magazine to serve Battery Harris, located approximately 800 feet east of the Number Three Magazine. Each of the original three magazines is enlarged to hold additional powder and ammunition rounds.
CE 1931	Moved	The Rockaway Naval Air Station is relocated to the east side of Floyd Bennett Field, and the old complex adjoining Fort Tilden is demolished.

Year	Event	Major Event Narrative
CE 1935	Developed	An Army survey of the post shows little change since 1920, with the exception of removal of several buildings in the central area (present parade ground).
CE 1937	Planned	The Army begins the long-awaited redevelopment of Fort Tilden based on a master plan that redesigns the entire post and portions of the wharf and fortification areas.
CE 1937	Built	One of the first major building projects is the construction of an ordnance building (Building 20, now Storage Building 219) in the wharf area. Built with WPA labor, the new streamlined Colonial Revival-style structure replaces an old ordnance building, machine shop, and storeroom buildings built during World War I. The two-story structure, facing a circular drive, is built of brick-faced cinder concrete blocks.
CE 1937	Built	The WPA constructs a Detachment Barracks (Building 1). The two-story Colonial Revival-style brick building is initially named the New Detachment Barracks, serving as quarters to forty-nine enlisted men. The building faces the future parade ground (not completed until 1941).
CE 1937 - 1938	Built	Between 1937–1938, the dock undergoes major repairs including replacing rotted piles, timbers, creosoted timbers, docking, dock sheathing, bolts, nuts, cross bracing, etc. A standard gauge railroad track is laid to the full length of the dock.
CE 1937 - 1938	Built	Between 1937–1938, 5-inch naval deck guns are installed along Shore Road to defend the beach from possible amphibious landings.
CE 1938	Planned	In this year, contracts consisting of over \$750,000 are let for new building construction at Fort Tilden. The fort consists of 309.9 acres plus an easement of 1.63 acres of filled land in an unknown location.
CE 1938	Planted	WPA crews are assigned to various work such as grading and landscaping the grounds.
CE 1938	Built	A third 3-inch anti-aircraft gun is mounted forming Anti-Aircraft (AA) Battery No. 5 located north of Battery Harris Magazine Four.
CE 1938	Built	In August the WPA begins construction on two Officer's Quarters (Buildings 22 and 23). Originally listed as Building No. 30, Building No. 22 is a two-story Colonial Revival-style brick building with a one-story attached garage and a two-story sleeping porch.
CE 1939	Built	The WPA completes construction of the post hospital (Building T-194).
CE 1939	Memorialized	Batteries "West" and "East" are dedicated "Battery Kessler" and "Battery Ferguson" respectively, in honor of Colonel Kessler and Brigadier General Ferguson of the US Army.
CE 1939	Rehabilitated	The ordnance building (Building 20, now Storage Building 219) is converted into the headquarters of Fort Tilden.

Year	Event	Major Event Narrative
CE 1940	Built	At Battery Kessler, concrete loading platforms replace the old timber platforms, and a bombproof service and magazine is erected. A concrete fire control and target plotting structure (now Building 322) is constructed north of the battery.
CE 1940	Built	By December, construction of the Post Exchange, dispensary, and six of the wood-frame cantonment buildings is completed.
CE 1941	Built	To accommodate the rapidly increasing personnel, over ninety temporary barracks and other new buildings are erected, mostly in the post, with two complexes in the fortification area.
CE 1941	Developed	In early 1941, the WPA begins construction of the parade ground, which in typical Army fashion is designed as the primary ceremonial area at Fort Tilden. The rectangular space is three acres in size, bounded by Barrett Road on the north, Heinzelman Road on the west, Murray Road on the south, and Davis Road on the east. Plans call for the land to be seeded, rolled hard, and landscaped.
CE 1941	Planted	Along Barrett, Davis, and Murray Roads a double row of London Plane trees are planted.
CE 1941	Built	In early 1941, at the northeast corner of the parade ground near the main entrance to the fort, the WPA installs a 75-foot tall steel flagpole and a canon is placed nearby. Stone bollards are placed in front of Building 1.
CE 1941	Built	In February, the Recreation Building (Building T-158), a long one-story frame building is completed west of the parade ground, along with the motor repair shop (T-184) in the wharf area. By the end of February, 55 additional wood-frame cantonment type buildings are completed in the post. On February 28, the theater (initially Building 174, now Building T-4), a large one-story frame building, is completed.
CE 1941	Built	In the months before the United States enters World War II, a battery of guns is established at Fort Tilden. The battery is movable to allow for additional anti-aircraft support between Battery Kessler and the planned Battery Construction 220. The Army also establishes anti-aircraft movable guns along the Atlantic shoreline for additional support to AA Battery #5.
CE 1941	Built	In October the chapel (Building T-3) is completed and dedicated. It features timber siding and a roof of green asphalt shingles, and can accommodate 400 people.
CE 1941	Rehabilitated	The Detachment Barracks (Building 1) is used as an auxiliary hospital.
CE 1941 - 1942	Built	The 16-inch gun emplacements at Battery Harris are modernized with reinforced concrete casemates, consisting each of two powder rooms, two projectile rooms, a tool room and latrine. The narrow gauge railway is run through the casemates with a gate at the ends. The casemates are covered in earth, pines, and other vegetation to stabilize the soils and provide additional camouflage.

Year	Event	Major Event Narrative
CE 1942	Developed	Approximately 82 new buildings have been constructed since 1938, costing some \$715,000; \$215,000 is spent on pines and shrubbery and rebuilding the seawall, and \$150,000 was allotted for camouflage.
CE 1942 - 1943	Built	Records of the 3-inch fixed AA battery #5 indicate that the revetment was constructed in January 1942, concrete base extended September 1942, and camouflage structure completed April 1943.
CE 1943	Built	The Army constructs two Igloo magazines (Buildings F-9 and F-10) along Center Road to serve as ammunition storage for the AA Battery #5.
CE 1943	Removed	Battery Ferguson is deactivated and replaced with a new battery known as Battery Construction #220.
CE 1943	Built	The new Battery Construction #220 is completed, similar to Battery Kessler, with additional features that included two air compressor rooms, a plotting room, a radio and a fire control switchboard room, an air conditioning plant, a power generator room, CWS gas proofing equipment and airlocks. The entire structure is covered with earth and sand and provided with two, 6-inch guns mounted on barbette carriages. The battery is not named.
CE 1944	Built	Mining Casemate and Plotting Room (Building F-20, later Building 511) is built along West Road near Gate 7 at the northwest corner of the fortification area. Along the east side of Hero Road at the southeast corner of the post, the Advanced Harbor Entrance Control Post (HECP) Number 2 is constructed. It consists of a mining casemate, two operating rooms, radio room, latrines, a fan room, a CWS equipment room, and a boiler room. A surface search SCR-582 Radar (later Building 12) is installed on a tower to the rear of the Advanced HECP system. Also, one of three SCR-298 Searchlight Radars used throughout the New York Harbor defenses is established at Fort Tilden to support the surveillance efforts (location not known).
CE 1945	Removed	With the end of the war drawing near, the process of retrieving mines in the waters begins.
CE 1945	Abandoned	The Advanced HECP is closed down and taken over by the U.S. Coast Guard ship reporting detachment.
CE 1945 - 1955	Removed	Between 1945–1955, the Army removes one post building, the firehouse (T-195), and eight buildings in the fortification area, including barracks (T-201, T-202, T-203, T-206, T-222, and T-223), mess hall (T-221), and latrine (T-225).
CE 1945 - 1955	Moved	Between 1945–1955, the post chapel is moved a short distance from Worcester Road to the terminus of Heinzelman Road.
CE 1946	Rehabilitated	By January, 46 of the cantonment barracks in the post have been converted to veteran apartments.
CE 1946	Planned	A new master plan for Fort Tilden is completed.
CE 1949	Removed	By this time, all of the old seacoast guns have been removed from the batteries.

Year	Event	Major Event Narrative
CE 1954 - 1955	Built	Nike-Ajax guided surface-to-air missile silos and launch pads are built in the fortification area, south of Range Road just west of Hero Road. Support structures for the Nike missile launch area include two sentry booths, a missile assembly building, gas and paint storage buildings, generator building, warhead building, and dog kennels. Two IFC (missile tracking stations) are constructed, one in the northwest corner of the fortification area and the other in the southwest corner. Each is composed of radar towers, generator buildings, ready rooms, computer buildings, operation buildings, barracks, and storage sheds that controlled the Nike missiles at Fort Tilden. The Army also constructs two Nike-Radar Mast Assembly Stations (RF MAST, Buildings 504 and 514) within the fortification area. The stations are composed of two track-radar frequency band generators and a radar collimation mast.
CE 1955 - 1961	Built	Between 1955–1961, the US Army Reserve Center is constructed along Rockaway Beach Boulevard, just west of Hero Road. It consists of an assembly structure (Building 415) and vehicle storage structure (Building 416) that is enclosed by chain link fencing.
CE 1955 - 1961	Removed	Between 1955–1961, the Army removes thirteen additional wood-frame structures from the post and seven structures from the wharf area, including World War II-era Buildings T-103, T-106, T-109, T-112, T-115, T-121, T-124, T-127, T-128, T-117, T-114, T-162, T-196, T-12, T-163, T-48, T-68, and 3. The hospital ward consisting of five buildings is also removed.
CE 1958	Altered	By this time, the Nike missile launch area is upgraded with Nike-Hercules missiles, requiring reconfiguration of the missile launch area.
CE 1961	Removed	By this time, the Army has closed the gate entrance in front of the former ordnance/administration building (Building 219) in the wharf area and removed Walke Road. Entrance Gate 5 is also closed and the northern portion of East Road is removed.
CE 1961	Built	The Long Island Lighting Company constructs a substation along Rockaway Beach Boulevard between the US Army Reserve Center and Hero Road.
CE 1961	Built	By 1961, the Army has removed the World War II pistol range and constructed a new pistol range west of the Rifle Range between Shore Road and Range Road.
CE 1961	Built	The Army creates a post dump between the new pistol range and the RF Test Mast Building 514, located south of Range Road.
CE 1962	Land Transfer	Around this time the Army acquires land from the Coast Guard at the southeast corner of Fort Tilden.
CE 1964	Removed	By this time, the army demolishes the old frame Coast Guard Station and outbuildings.
CE 1970	Removed	By this time, the acquisition radars and towers in the Nike missile tracking stations have been removed, following disarmament of the system in 1967.

Year	Event	Major Event Narrative
CE 1974	Land Transfer	The Army decommissions Fort Tilden and transfers the property to the National Park Service (NPS) as part of Gateway National Recreation Area. Soon after acquisition, NPS photo documents the former military installation, illustrating a still largely open landscape in the fortification area and World War II-era buildings surrounding the parade ground in the post.
CE 1974 - 1982	Removed	Between 1974–1982, 48 buildings including many of the wood-frame cantonment barracks, administrative quarters, and officer quarters are demolished in the post.
CE 1974 - 1984	Removed	Between 1974–1984, the dock (Building T-209) superstructure is removed from the wharf area.
CE 1974 - 1984	Removed	Between 1974–1984, 20 buildings are demolished in the fortification area. The majority of above-ground structures are removed from the Nike missile tracking station #2, Nike missile launch pad, and rifle target practice area.
CE 1982	Planned	In the spring of this year, NPS proposes the demolition of eight buildings in the post, including Buildings 104, 105, 127, 128, 131, 132, 147, and 164.
CE 1984 - 2002	Removed	Between 1984–2002, two buildings (T-212 and T-210) are demolished in the wharf area.
CE 1984 - 2002	Removed	Between 1984–2002, six buildings (T-5, T-155, T-158, T-159, T-160, and T-161) are demolished in the post area.
CE 1984 - 2002	Removed	The remaining above-ground structures at the Nike missile tracking stations, the rifle and pistol ranges, RF MASTS and hardstand at entrance Gate 6 in the fortification area are removed.
CE 1985	Built	By this time, the NPS constructs the Fisherman Parking Lot and comfort station on the former site of the Nike missile tracking station #2.
CE 1990 - 1999	Moved	Between 1990–1999, the post sewage lift station (Building 103) is moved from its original location along Rockaway Beach Boulevard to the former location of Building T-127.
CE 2001	Removed	Three buildings (T-208, T-218 and 211) are demolished in the wharf area to accommodate planned new construction of a new parking lot for a new ferry dock.
CE 2001	Built	The NPS constructs the parking lot for a new ferry dock, associated with the Riis Landing transportation hub.
CE 2002	Developed	The former cantonment barracks area is converted to five little league baseball diamonds and a community garden.
CE 2005	Rehabilitated	The Rockaway Artists' Alliance occupies Buildings T-4 (Theater), T-6 and T-7; special use permits and senior citizen groups occupy and maintain post Building T-25; and the Rockaway Little League rehabilitates a former wood-frame barracks (Building T-162) into a clubhouse. NPS employees continue to live in many of the permanent officer quarters.
CE 2005	Developed	The U.S. Park Police maintains a horse corral adjacent to the parade ground.

Physical History:

The following section provides information on the physical development and evolution of the site, organized by time periods. This information is extracted from the "Cultural Landscape Report for Fort Tilden, Gateway National Recreation Area, Rockaway Beach, New York," dated 2005 and revised in 2013. The report was written by Christina Selvek and John Auwaerter, State University of New York College of Environmental Science and Forestry, in partnership with the NPS, Olmsted Center for Landscape Preservation. Graphics associated with this section are located at the end of this section.

Since the late nineteenth century, the landscape of Fort Tilden has undergone a dramatic transformation, from open water and emerging barrier island along the Atlantic shoreline of Long Island, to a highly developed military installation, and finally, to a multi-purpose recreation area characterized by a mix of maintained and naturalized areas.

ROCKAWAY BEACH, PRE-HISTORY TO 1916

Until the late nineteenth century, the future site of Fort Tilden was open water south and west of shifting barrier beaches that characterized the south shore of Long Island and separated Jamaica Bay from the Atlantic Ocean. The barrier beaches naturally drifted westward due to sand deposition from the ocean currents, with significant shifts often occurring during major storms. The largest of the barrier beaches near the site of Fort Tilden was known by the native Canarsie people as Recko [u]wacky, translated as meaning “neck of land,” “lonely place,” and “place of waters bright.” From this, Europeans derived the name Rockaway, with the barrier beach known both as Rockaway Peninsula and Rockaway Beach. At the west end of the peninsula was the Rockaway Inlet, the channel where Jamaica Bay opened into the Atlantic Ocean. Between 1888 and 1911, concurrent with increased development on Rockaway Peninsula and efforts to improve Jamaica Bay into a major port, the barrier beach was engineered to stabilize its ocean shore through the construction of stone and wood groins. This effort resulted in accelerated westward drifting of the barrier beach, resulting in the extension of Rockaway Peninsula by more than two miles after 1866 (Figures 1 and 2). (CLR 2013: 13)

In 1609, Henry Hudson visited the Rockaway Peninsula and cast anchor in the Rockaway Inlet to study maps and compass readings while searching for a northwest passage to China. Within a short time after Hudson had laid anchor, the Dutch established settlements on Manhattan Island and Brooklyn. By the latter seventeenth century, Dutch and later English immigrants settled over much of the region surrounding Jamaica Bay in southern Brooklyn and Queens counties, which had been the homeland of the Canarsie people. In 1685, Captain Palmer, an English settler, purchased the Rockaway Peninsula for a little more than thirty-one pounds sterling. In 1687, after ownership disputes, Captain Palmer sold the land to Richard Cornell, who built a house on the peninsula. The Cornell family continued to own the peninsula through the eighteenth century, a period when the barrier beach extended only across the eastern two-thirds of Jamaica Bay. Despite Cornell's settlement, the Rockaway Peninsula remained a remote and undeveloped place well into the nineteenth century. (CLR 2013: 13)

After the Revolutionary War, the new United States realized the importance of proper coastal defenses, and President Washington urged Congress to provide defenses for its seaports. On February 28, 1794, a special committee of the House of Representatives submitted recommendations concerning the kind of proposed fortifications that should be erected. Although work on the new fortification system was slow to begin, by 1808 an extensive plan for the fortification of New York Harbor had been prepared. The harbor defense system consisted of six new fortifications and two magazines. In addition to the earthen fortifications and major seaward batteries, blockhouses were constructed to guard the landward sides. The war with England from 1812–15 continued to stimulate the construction of fortifications. (CLR 2013: 13-14)

In 1812, the United States government acquired land on the western end of the Rockaway Peninsula from Nathaniel Ryder, a descendent of Richard Cornell, to construct a blockhouse. The “Report of the Commissioners of Fortifications to New York Governor Tompkins” stated:
“The entrance to Jamaica Bay, [Rockaway Inlet] on the south side of Long Island, affording to the enemy a safe landing for boats of small burthen to within a few miles of the (Brooklyn) Navy Yard, it was judged prudent to fortify that passage, as well as to guard that landing, as to afford protection to our coasters, who frequently take shelter in that bay from the enemy's cruisers. This according with your Excellency's sentiments, we caused a strong block house [Fort Decatur], mounting a 24-pounder in the top, to be erected on the west end of Rockaway Beach, at the entrance of that bay. This has been taken charge of by the United States and an adequate force is stationed there-at...”
(CLR 2013: 13, citing Wrenn 1975: 64)

The blockhouse, located east of present-day Fort Tilden, was demolished a short time afterward, in 1818. Title to the land, however, would remain with the United States government through the nineteenth and twentieth centuries. It may have been on this same government property that the U.S. Life-Saving Service, a predecessor of the U.S. Coast Guard, built a Life-Saving Station in 1856 at what then was the western extremity of Rockaway Peninsula, probably within the area now occupied

by Jacob Riis Park. This station, which helped distressed mariners, remained in service at various locations on the shifting barrier beach through the 1960s. (CLR 2013: 14)

The future site of Fort Tilden remained in open water into the 1880s. By the turn of the century, however, the point of the Rockaway Peninsula had drifted westward to the future site of Fort Tilden, creating the upland needed for the military fortification. (CLR 2013: 14)

ESTABLISHMENT OF FORT TILDEN AND THE WORLD WAR I ERA, 1916–1937

In the late nineteenth century, the United States realized the vulnerability of its coastal cities and fortifications. It was during this time that Secretary of War William Endicott recommended that the National Coast Artillery defense system be constructed. Between the late 1880s and 1910, harbor defenses were constructed at major ports along the East Coast and West Coasts. New York City's harbor was identified as a high priority and it received six harbor defense installations. (CLR 2013: 18)

The origins of Fort Tilden date to the Taft period of harbor defenses, and the increase in range of naval guns that occurred between 1910 and 1915. The Taft period began with the recommendations issued in 1905 by the so-called Taft Board, headed by Secretary of War William Taft, for upgrading the nation's harbor defenses, particularly fire-control systems. This program made particular use of advances in electrical motors, lights, and communications. In response to these developments, the U.S. War Department Board of Review recommended increasing the size of the Coast Artillery Corps by some fifty percent and identified the need for a new installation to protect the eastern approach to New York harbor along the south shore of Long Island. After a six-month survey conducted by the Army Corps of Engineers, a site was selected in latter 1916: a large parcel of barrier beach at the western end of Rockaway Beach. Some filling in this area may have occurred as early as 1911, but for the most part it was unimproved. At the same time, the U.S. Navy began development of its Rockaway Naval Air Station immediately east of the Army's new reservation. The ninety-six acre naval installation contained over eighty buildings and structures. (CLR 2013: 18)

The new military reservation was organized and established on February 19, 1917. It was initially called the Rockaway Point Military Reservation, and was unofficially dedicated as Fort Funston in recognition of General Funston who led the punitive expedition into Mexico during the Spanish-American War. Apparently because of another Fort Funston in the Harbor Defenses of San Francisco that was established in 1917, the new reservation was officially dedicated on August 1, 1917 as Fort Tilden in honor of Samuel J. Tilden, the 25th Governor of New York State (1875–76) and winner of the popular vote for U.S. President in 1876. (CLR 2013: 18)

At this time, most of the fort's Atlantic frontage was reserved for gun batteries and other armament. Clustered along the public road at the northeast corner of the fort was the post (Main Post of Fort Tilden), with a wharf (Quartermaster area) on the Rockaway Inlet side of the barrier beach adjacent to the Rockaway Naval Air Station. By February 1917, a garrison of 130 enlisted men and four officers initiated construction of barracks, mess halls, and other living quarters and service facilities within the post (Figures 3 and 4). Beginning in the spring, seacoast gun batteries were emplaced along the Atlantic shoreline, and a 12-inch mortar battery was constructed east of the post on land within the Rockaway Naval Air Station. To aid the delivery of supplies, concrete roads and walks connecting the buildings were also under construction by late 1917. (CLR 2013: 18-19)

Plans drawn by the War Department for Fort Tilden in 1918 show that as many as four 16-inch guns, eight 6-inch guns, and four mortar pits were planned (only two of the 16-inch guns, four of the 6-inch guns, and one of the four mortar pits were built). Plans also called for two searchlights and two 25 KW power plants located at each 6-inch gun battery. Another 1918 map of Fort Tilden reveals that construction of the post began along Marginal Street (now Beach 169th Street) in the northeast corner of the fort and stretched from the Atlantic Ocean to Jamaica Bay. Additional temporary wood frame buildings constructed included a row of officer's quarters, a hospital, mess halls, stable, latrine, storage sheds, post exchange, ordnance office, guardhouse, and a Y.M.C.A. (Figure 5). North of State Road (now Rockaway Beach Boulevard) in the northeastern end of the post, a dock was constructed extending into Rockaway Inlet, with rail lines to receive supply shipments. At this time, the rail lines extended southward into the post and terminated at a pair of warehouses along the western edge of the post. (CLR 2013: 19)

With the end of World War I, construction at Fort Tilden slowed. At this time, the wharf area consisted of six large coal pockets, an engine house, an office, and other support buildings. The rail lines had been expanded southward from the post warehouses and spurs veered westward along what is now

Shore Road. While the Army faced little need to enlarge or improve its post facilities, the defenses were another matter because World War I had demonstrated that the nation's harbors faced a new threat of attack by air. In response, the Army developed plans for construction of an anti-aircraft battery at Fort Tilden, outfitted with 3-inch anti-aircraft guns on open platforms. The Army also developed a balloon field along the northern side of Fort Tilden, to accommodate zeppelin-like air ships used as part of an expanded fire-control system for the batteries. (CLR 2013: 19)

In 1922 administration of Fort Tilden was withdrawn from the Coastal Defenses of Southern New York and reassigned to the Harbor Defenses of Sandy Hook, New Jersey. During this time new installation plans were approved for the addition of two 16-inch gun batteries on open platforms, named Battery No. 1 and No.2 (later renamed Battery Harris East and West), designed to defend against attack from both sea and air (Figure 6). The two batteries were completed by 1924 and located approximately 850 feet apart, centralized within the fortification area. Rail lines were extended during this period to connect the dock on Jamaica Bay to the 16-inch gun batteries and their three separate magazines and three power plants constructed from 1922–23. (CLR 2013: 19–20)

After completion of Battery Harris, Fort Tilden became subject to serious criticism as the condition of the temporary wood-frame structures in the post and wharf area deteriorated. An investigation into the condition of the fort in 1927 revealed that many structures were found to be in a poor state of repair and a number of them never utilized for their intended purpose. Contributing to the deterioration of the structures was the blowing and shifting sands over the post and fortification areas. Although an effort was made in 1925 and 1926 to plant beach-tolerant vegetation in the vicinity of the batteries, the general appearance of the post and battery areas remained rundown. By the end of the 1920s, the U.S. Army was looking towards augmenting Fort Tilden's role in New York City's coastal defenses. At this time, the Army acquired thirteen acres of land previously owned by the U.S. Coast Guard within the post to construct new cantonment buildings. However, few improvements were made to the fort through the mid-1930s. (CLR 2013: 20)

During this period of relative quiet at Fort Tilden, there was a large amount of development occurring in the surrounding area. To the north across the state road, a large bungalow colony known as Roxbury was developed, and an even larger colony known as Breezy Point was developed on 500 acres to the west. In 1931, Floyd Bennett Field, New York City's first municipal airport, opened on Barren Island across Rockaway Inlet from Fort Tilden. As part of this development, the Navy relocated its Rockaway Naval Air Station to the new airfield in 1931, and the old station adjoining Fort Tilden was demolished. Soon after, a system of parks and parkways, planned under New York City Parks Commissioner Robert Moses, was advanced in the area. On the remaining air station property, a new ocean-front park was developed during the 1930s. It was named after the noted photographer, writer, and social advocate, Jacob Riis, who died in 1914 and is best known for his book, "How the Other Half Lives." The park system also included construction of Shore (Belt) Parkway in southern Brooklyn and Queens, and a connecting bridge via Flatbush Avenue to Rockaway Peninsula. Completed in 1937, the new bridge, named the Marine Parkway Bridge (later renamed Gil Hodges Memorial Bridge), was located off the northeastern edge of Fort Tilden, with a traffic circle built on part of the old Naval Air Station property. (CLR 2013: 20)

WORLD WAR II ERA, 1937–1945

During the late 1930s on the eve of World War II, funding appropriations to the military increased modestly and the War Department was able to finally carry out improvements at the nation's coastal fortifications first planned in 1926. These improvements were largely aimed at replacing World War I temporary wooden structures. Carried out by the Army Quartermaster, the Army's plan focused on functionality, unity, and a distinct hierarchy of areas such as industrial, residential, officer quarters, and administrative and community functions. Architectural styles were created to respond to the local climate and architectural history. Colonial Revival-style architecture was favored for new construction at installations located in the Northeast. (CLR 2013: 31)

Beginning in 1937, the U.S. Army initiated the long-awaited improvements at Fort Tilden, which included a complete redevelopment of the post. Much of the work was accomplished through the federal Works Progress Administration (WPA). Plans called for the removal of all of the mostly wood-frame structures in the post, but retained the masonry Double NCO (Building 60AB), Headquarters (Building 49), and the Engineer Storehouse (Building 44). A new vehicular roadway system was also built in the post, using concrete paving, and trees and shrubs were planted along roads and around buildings (Figure 7). During this time prior to World War II, Fort Tilden was garrisoned with a "caretaking" detachment of approximately thirty-three men. (CLR 2013: 31)

In 1939, with the outbreak of war in Europe and declaration of a national emergency in the U.S., Fort Tilden was brought back to active status and plans were made to practice with the 16-inch guns of Battery Harris. Beginning in September 1940, the post garrison was augmented by the arrival of Batteries E and F, transferred from Fort Hancock, New Jersey. The military contingent at Fort Tilden again increased between January and June 1941 from the small "caretaker staff" to over 1,000 personnel. To accommodate this wartime mobilization, a new wave of construction was authorized for the construction of standardized Series 700 temporary buildings, which included ninety barracks along the west side of the central post, along with a post chapel (Figure 8). Work also continued on improvements planned prior to the war, including the laying out of a parade ground (Figure 9). (CLR 2013: 31)

Another component of the nation-wide construction program carried out at Fort Tilden was modernization of the defensive works to enhance protection from aerial attack through concealment and bombproofing. The old batteries and secondary defensive works were casemated and covered with protective earthen cover (Figure 10). Plants were established on the earthen cover to stabilize the soil and provide concealment through blending with the natural surroundings. In addition to upgrading the existing batteries, new batteries and movable guns were added to the fortification area primarily for anti-aircraft defenses (Figure 11). The Army also emplaced 5-inch naval deck guns along the Atlantic shoreline, between Battery Construction 220 and Battery Kessler. New concrete roads were built throughout the fortification area to provide vehicular access to the batteries from adjacent roadways and the post. (CLR 2013: 31-32)

Between 1942 and 1944, other bombproof command posts were constructed within the fort. The Advanced Harbor Entrance Control Post (HECP) Number 2, also known as the Groupment Command Post (Building 13) was built to maintain surveillance of the approaches to the harbor entrance and provide fire control data to the gun batteries. In the northwest corner of the fortification area, a mine casemate (Building F-20, later 511) was constructed to control groups of submarine mines planted between Rockaway Point and the Ambrose Channel, located off the entrance of New York Bay just east and south of Sandy Hook. There were also several radars such as a surface search SCR-582 Radar and a SCR-296A Fire Control Radar used to maintain surveillance of the harbor. (CLR 2013: 32)

As the war began to wind down in 1945, the New York Harbor defenses were drastically reduced in size as the threat of naval attack largely disappeared. At Fort Tilden, only Battery Kessler was kept in active status. By March 1945, downsizing of the harbor defenses continued as the submarine mines were retrieved from the entrance to New York Harbor. By June, the HECP and Mine Casemate at Fort Tilden were taken over by the U.S. Coast Guard. The entire concept of coastal fortifications was on the verge of abandonment as the success of the D-Day invasion proved. As historian Emanuel Raymond Lewis has noted, "men and material could easily be landed under supporting air cover without the benefit of port facilities." (CLR 2013: 32, citing Lewis 1979: 124)

THE COLD WAR ERA, 1945–1974

After the surrender of Japan in 1945, the Army began to retrofit Fort Tilden to serve as emergency civilian housing for returning veterans and their families. In January 1946, forty-six of the temporary barracks were converted to single, two, and three bedroom apartments. The civilian housing at Fort Tilden was short lived, however, for in late 1950 the installation was brought back to active status with the announcement of an installation of a 1,000-man battalion intended to train new recruits and provide anti-aircraft protection for New York City. In December 1950 at the start of the Korean War, one battalion, numbering 1,000 men, was assigned to Fort Tilden as a regular anti-aircraft group. The 69th AAA Battalion staffed four batteries of 90 mm guns. By early spring of 1951, the 281 veterans and families living at Fort Tilden were forced to leave to make way for the new battalion. This was the beginning of the Cold War and the nuclear arms race, initiated when Russia announced in 1949 they had a working atomic device. This and the beginning of the Korean War in 1950 generated renewed concern over the coastal defenses of New York City, in which Fort Tilden continued to play an important role. (CLR 2013: 42)

Advances in modern bomber technology led the U.S. government to question whether anti-aircraft artillery was sufficient defense against possible enemy attacks. In response, Bell Laboratories, Inc. and Western Electric began developing new surface-to-air missile defense program entitled Project Nike (named after the Greek goddess of victory) in June 1945. Following the start of the Korean War in 1950, the Department of Defense wanted a working version of the Nike system. The first surface-to-air missiles produced were the Nike-Ajax, a two-stage supersonic guided missile with a range of about thirty miles. Between 1952 and 1957, several harbor forts defending the New York City area were outfitted with Nike missile defense systems. They were constructed in underground emplacements and were located at Fort Tilden and two other forts in New York Harbor: Fort Hancock (Sandy Hook, New Jersey) and Fort Slocum (Long Island Sound, Queens), with Highlands Air Force Base (Monmouth County, New Jersey) serving as the area control and command site. (CLR 2013: 42)

A typical Nike missile battery was divided into three areas: the launch area containing the missile launchers, magazines, and support buildings; the Integrated Fire Control (IFC) area containing the radars that tracked the missiles; and an administrative area. The three components were often located on separate parcels of land. At Fort Tilden, the Nike site, designated NY-49, included a single launch area (Figure 12). Two IFC stations were developed at the western end of the fortification area. The administration area occupied undetermined buildings in the post or wharf area. In the same year Nike-Ajax missiles became operational, the Army began developing a more advanced generation of Nike missiles, Hercules, in 1953. Nike-Hercules improvements over the first generation included four solid-fuel boosters, a burn out speed of Mach 3.5, and a range of about one hundred miles. In the spring of 1958, Fort Tilden was half-outfitted with the Nike-Hercules missiles that replaced the Nike-Ajax system. Coordinating the numerous Nike sites within the New York area was an Army Air Defense Command Post (AADCP) that operated the Missile Master which ensured only one battery engaged a target at a time. The Fort Tilden system was never fired. (CLR 2013: 42-43)

With replacement of the old harbor defenses with the Nike missile system, the Army faced a large amount of surplus property and infrastructure at Fort Tilden. In response, the Army redeveloped some of the land, such as for a post dump, demolished approximately 25 World War II temporary buildings, and created a trailer park to address acute housing needs (Figure 13). The former HECP (Buildings 12–13) and mine casemate (Building 511) were leased to the Navy. The U.S. Army Reserve also used the site for training, and built its own reserve center along Rockaway Beach Boulevard at the north side of the site in the late 1950s. (CLR 2013: 43)

The area surrounding Fort Tilden also underwent some significant changes during this period. Most notably, all of the land west of Breezy Point (Rockaway Point) and north of Fort Tilden including Roxbury was acquired by Northern Properties for \$17.5 million to erect a high-rise development with a projected population of 220,000. Residents in the Breezy Point and Roxbury communities formed a cooperative and acquired their land for \$11.5 million. Northern Properties advanced its construction plans for the open land immediately west of Fort Tilden. Here, construction was begun on several

high-rise apartment buildings, but the project soon came to a halt when the city announced in 1963 plans to acquire the property as parkland (Figure 14). The unfinished shells of the buildings would remain standing for a decade and a half. (CLR 2013: 43)

As development and conservation efforts collided in the surrounding area during the 1960s, the Army slowly began to shut down Fort Tilden. The Nike missile technology was becoming obsolete, and in 1967 the Nike missiles were put into launch position for one of the last times. Later that year, NY-49 was decommissioned. With lack of defensive purpose, the Army began to explore new uses for Fort Tilden. In 1969, for example, the U.S. Department of Agriculture proposed developing an animal quarantine station at Fort Tilden, a project that was never realized. Instead, conservationists—spurred by the Northern Properties development—were successful by 1972 in having Fort Tilden dedicated as open space as part of a planned new national park unit in New York City. It would be another two years, however, before the Army would fully decommission Fort Tilden. (CLR 2013: 43-44)

NATIONAL PARK SERVICE ERA, 1974–PRESENT

The uncertain future of numerous antiquated military facilities around the country, particularly those in sprawling metropolitan areas, spurred public interest during the 1960s in conserving these facilities as public parkland. In New York City, legislation was initiated in 1968 calling for the NPS to establish "...a national seashore at the entrance to New York Harbor, stretching from Riis Park on the Rockaway Peninsula to Sandy Hook in New Jersey." Most of the proposed parkland, which included Fort Tilden, consisted of military bases. Instead of a national seashore, these initial plans instead led to a new type of national park, known as a National Recreation Area. The New York City park, named Gateway National Recreation Area, was the first of its type in the country, followed closely by Golden Gate National Recreation Area in the San Francisco Bay Area. (CLR 2013: 49, citing "Statement for Management and Environmental Assessment" 1976: 43)

Legislation establishing Gateway National Recreation Area in the states of New York and New Jersey was passed by Congress on October 27, 1972. The act created four units of Gateway: Jamaica Bay, Breezy Point, Sandy Hook, and Staten Island. The bill provided for land acquisition and established the Gateway Advisory Commission. Fort Tilden was included in the Breezy Point Unit (now part of the Jamaica Bay Unit), along with Jacob Riis Park and the shoreline adjoining the Breezy Point Cooperative, acquired from the city. The Breezy Point Cooperative, including Roxbury north of Fort Tilden, was excluded from Gateway. Although Gateway was created in 1972, it would be another two years—1974—before the Army fully decommissioned Fort Tilden and turned it over to the NPS. At the time of its closing, Fort Tilden employed 200 people. The NPS acquired a total of 309 acres, amounting to all of the Fort Tilden property except for the Army Reserve Center that encompassed an eight-acre parcel at the northeastern corner of the fortification area on Rockaway Beach Boulevard and retained by the Army. (CLR 2013: 49)

Shortly after the Army turned Fort Tilden over to the NPS, the park began researching and developing alternative recreational uses for the property, including its enormous physical plant of buildings, batteries, and roads. One of the first planning documents, the "Statement for Management and Environmental Assessment," was completed in 1976. It included short-term and long-range planning alternatives in order to meet the recreational and leisure demands of the New York City population. For Fort Tilden, some of the suggestions included that the military beach structures be renovated to provide group beach support facilities, and that the open spaces be used for field sports. Also suggested was the demolition of wood-frame buildings in the post to improve the visual quality of the site. (CLR 2013: 49-50)

From September 1975 through February 1976, the public was involved in the initial stages of the general management planning process for Fort Tilden. Completed in 1979, the "General Management Plan for Gateway National Recreation Area, New York" proposed additional recreational expansions, adaptively reusing historic structures, accommodating a ferryboat dock, and providing shuttle service to and from Fort Tilden. Specifically, the fortification area was to be managed as a natural area, while a new beach center was to be constructed in the post. Select buildings were planned for reuse as hostels and environmental study centers. Also envisioned were substantial athletic, recreational and picnicking areas. These proposals were aimed at increasing site visitation to the park. Plans recognized the historic significance of the fortification area, including its resources dating from World War II and earlier. (CLR 2013: 50)

As the NPS was developing these planning documents, it was also making changes to the Fort Tilden landscape, especially to the post and wharf area, which at the time were considered lacking in historic significance. The extensive number of buildings in these areas contained far more building space than the park could use, and the cantonment-style buildings, initially built for the short term, were apparently not perceived as worth preserving. As early as the mid-1970s, the park removed fifty-six buildings from the post, the majority being wood-frame barracks, officer quarters, mess halls and day rooms. In the wharf area, the dock (Building T-210) planking and rails were removed. During this same time, the park also began to dismantle structures from the Nike missile launch area and tracking stations, demolishing approximately twenty buildings in total. The launch area was used as a park maintenance area and dump. (CLR 2013: 50)

In contrast to the post and wharf area, park planners did consider the fortification area outside of the Nike complexes worthy of preservation, primarily the large concrete and earthen batteries dating from World War II. In 1984, a large part of the fortification area was listed in the National Register of Historic Places as the Fort Tilden Historic District. Despite this designation, the structures were not maintained or interpreted in any significant way, although many park staff and visitors took great interest in them. The fortification area was instead managed primarily for passive recreational uses such as walking and bird watching. Here, the park largely allowed nature to take its course, resulting in successional woods to take over most of the fortification area except along the beachfront, in many cases concealing the historic fortifications from view. A nature trail was laid out from the beach to Battery Harris, and an observation platform was built on top of the battery, providing panoramic views of the ocean. At the west end of the fortification area at the site of Nike Tracking Station 2, the park constructed a parking lot and comfort station, geared primarily toward visitors coming to fish (Figure 15). (CLR 2013: 50-51)

In 1986 and 1988, the NPS prepared two “Development Concept Plan/Environmental Assessment” (DCP/EA) reports, which detailed implementation of plans outlined in the General Management Plan, including the construction of sports fields, parking areas, restrooms, parking areas, and a consortium of cabins for a youth hostel. Implementation of the DCP/EA recommendations began during the 1990s. Into the first decade of the 2000s, the park removed additional buildings and structures throughout Fort Tilden. These included abandoned facilities in Nike missile tracking stations #1 and #2, as well as roads and remaining Series 700 World War II buildings in the post and wharf area to provide room for baseball diamonds, community gardens, and development of the Riis Landing transportation hub intended to provide ferry service to Manhattan. (CLR 2013: 51)

Recent planning documents include the 2013 report, “Cultural Landscape Report for Fort Tilden, Gateway National Recreation Area, Rockaway Beach, New York: Site History, Existing Conditions, Analysis and Evaluation, and Treatment Guidelines,” which recommends rehabilitation (as defined by the Secretary of the Interior’s Standards) as the appropriate treatment for Fort Tilden to allow the continued adaptive reuse of the historic landscape. In April 2014, the park completed “A New Vision for a Great Urban National Park, Gateway National Recreation Area: Final General Management Plan/Environmental Impact Statement.” The NPS preferred alternative provides the widest range of activities and most recreation opportunities in dispersed locations throughout the park, and offers the most instructional programming and skills development and draws people into the park to increase awareness and enjoyment of Gateway’s historic resources and the natural environment. (GMP/EIS 2014: viii)

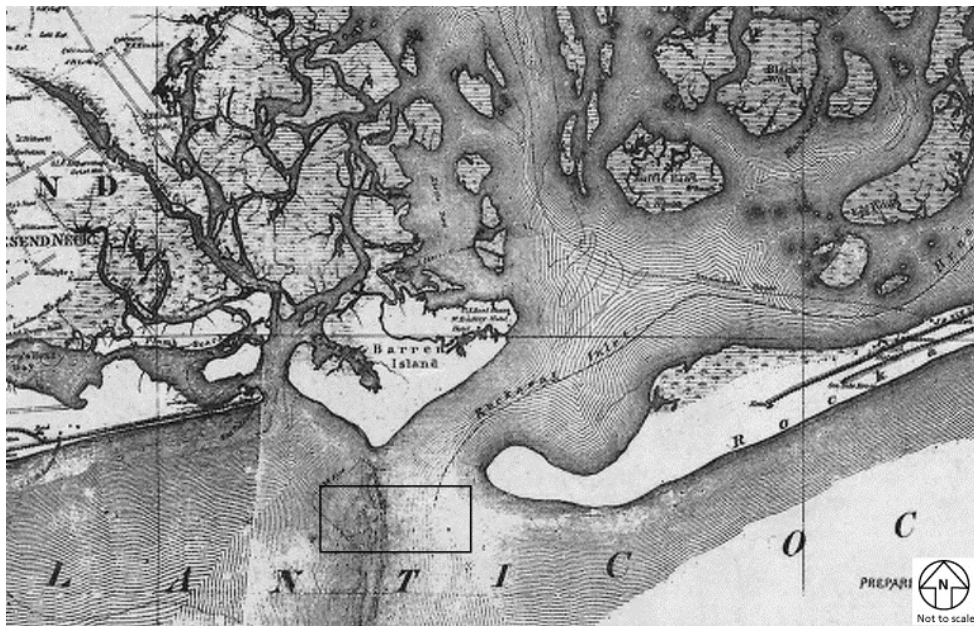


Figure 1. 1885 map illustrating extent of Rockaway Peninsula, with future site of Fort Tilden (rectangle) in open water. (G.W. & C.B. Colton & Co, "Map of New York City...", Library of Congress, American Memory Collection, annotated by SUNY ESF)

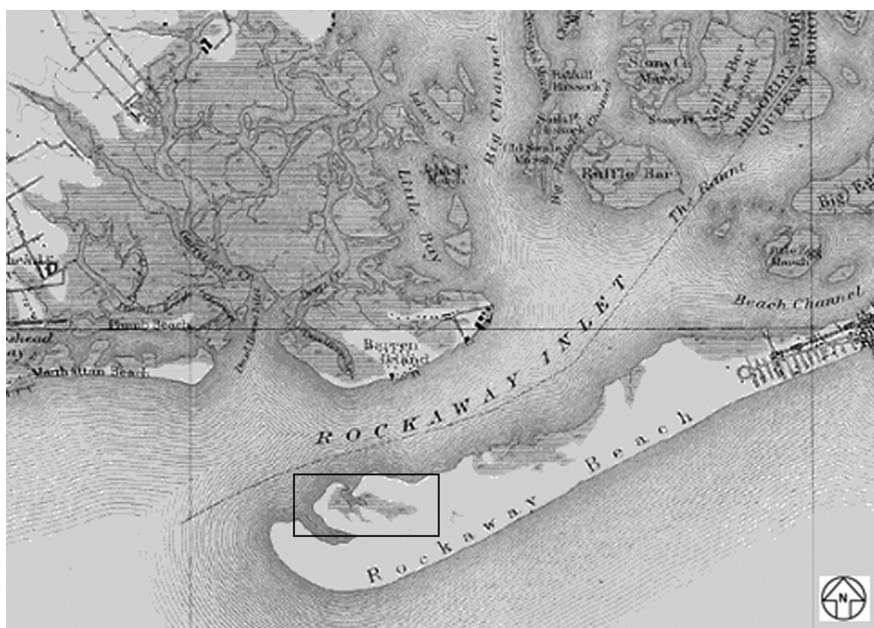


Figure 2. An 1898 map illustrating westward drift of Rockaway Beach (Peninsula) over much of future site of Fort Tilden (rectangle). (U.S. Geological Survey, Brooklyn Quadrangle, 15 Minute Series Map, 1898, annotated by SUNY ESF)

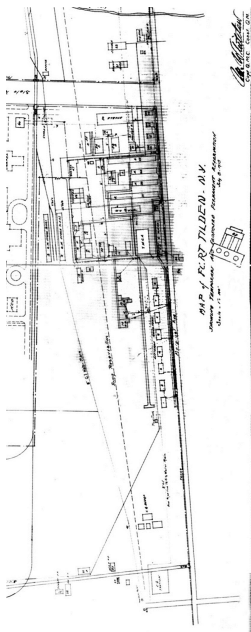


Figure 3. Map of Fort Tilden, 1918. Features with dashed lines indicate unrealized plans. Note 12-inch mortar battery to east within Rockaway Naval Air Station. Dashed boundary line shows original east boundary of Army reservation. (Library of Congress)



Figure 4. View east across Fort Tilden post and Rockaway Naval Air Station, circa 1919. Post buildings (left to right) include NCO quarters, stable and forage shed, barracks and mess hall, hospital annex, and post exchange. (National Archives)



Figure 5. The double non-commissioned officer (NCO) quarters (Building 60), looking northwest soon after its completion, circa 1919. (National Archives)

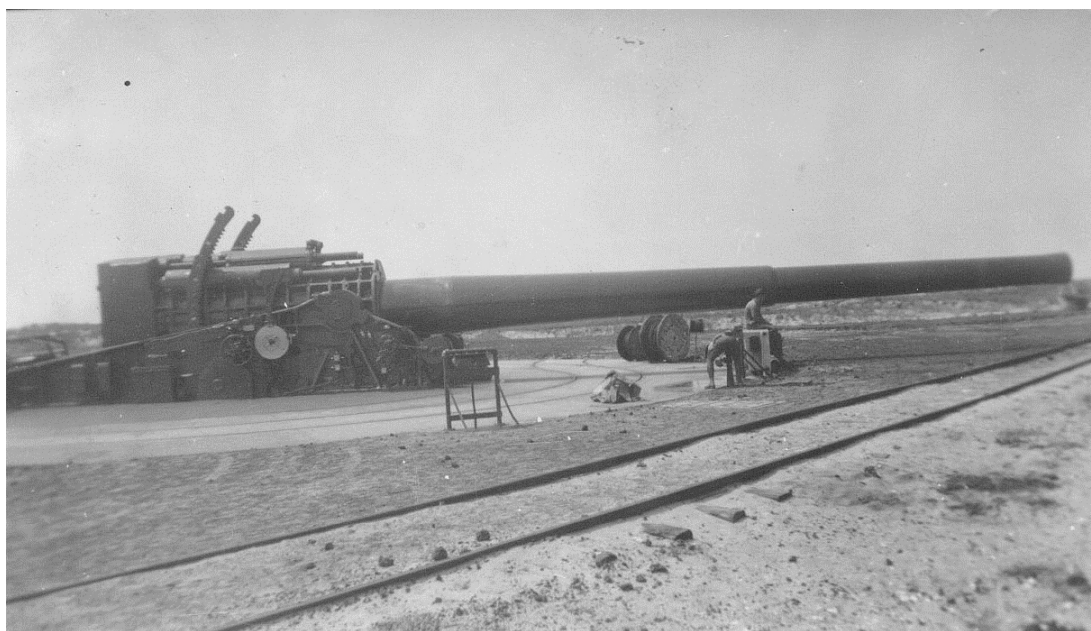


Figure 6. One of two 16-inch guns on concrete platforms that comprised Battery Harris, looking southwest across the narrow-gauge rail line, 1930. These guns were designed to hit targets at sea up to 25 miles away. (Gateway Museum Collection, GATE 533)



Figure 7. View looking southeast at front of Barracks/Administration Bldg (Bldg 1), 1941. Note newly planted trees and bollards lining roadway and parade ground. Left background shows Series 700 temporary officer's quarters (T-170). (National Archives)

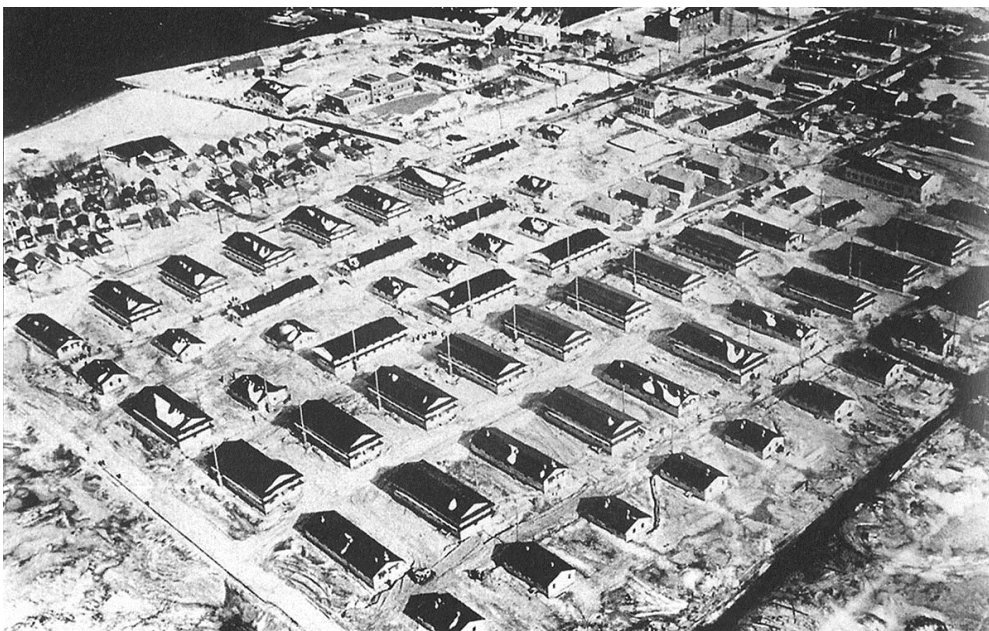


Figure 8. View northeast at redeveloped post, c.1941, Series 700 barracks and mess halls. At top of image is wharf area, between adjacent Coast Guard Station and bungalows at Roxbury. Unfinished parade ground is at upper right. (National Archives)



Figure 9. Soldiers drill on parade ground, view northwest, 1941. Buildings left to right: recreation hall (T-158), tailor shop (T-44), guest house (T-160), post restaurant (T-161), double NCO quarters, dispensary 10 (60 AB). (GATE Museum Collection 13105)



Figure 10. View northeast, ca. 1974, Battery Harris East (Bldg 406). Earthen/concrete casemate dates 1941-42. Army planted open grasslands and pines on casemate and in foreground during World War II. Gun removed ca. 1949. (GATE Museum Collection 21047)



Figure 11. Soldiers and a movable 155mm GPF gun, looking southeast toward the ocean, c.1941. Note sandy ground and beach grass in the background. (Gateway Museum Collection, GATE 19013)

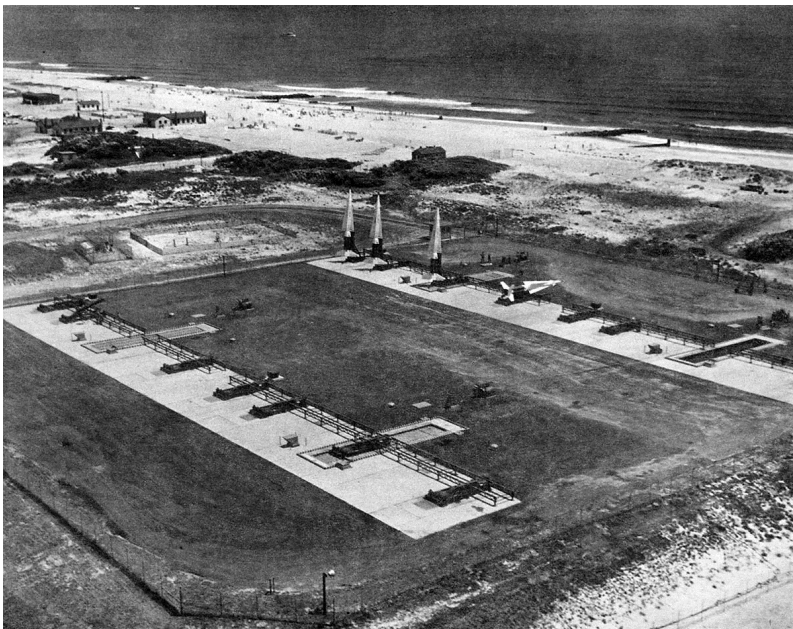


Figure 12. Nike NY-49 launch site, looking southeast in 1959, showing Hercules modifications. Directly east of Nike area is Harbor Entrance Command Post (HECP) (later Bldg 13). In background are remaining World War II structures along beach. (U.S. Army)



Figure 13. Former Provost Marshall building (T-128) on parade ground, typical of many Series 700 Army buildings of World War II era at Fort Tilden, circa 1974. This and most other frame buildings were razed in 1980s. (GATE Museum Collection 20980)



Figure 14. Nike tracking station #2 looking southwest, 1970, at (L to R) (518, 517, 516, 515, T-522, Radar Tower 525, and 526). High-rise housing constructed in ca. 1962 gave momentum to preserve Fort Tilden as open space. (GATE Museum Collection 20979)



Figure 15. HIPAR station (Bldg 526) and radar platform of Nike tracking station #2, circa 1974. In 1980s, NPS redeveloped tracking station site as Fisherman's Parking Area, retaining only the HIPAR station. (Gateway Museum Collection, GATE 21034)

Uses

Functions and Uses:

Major Category	Category	Use/Function	Historic	Current	Primary
Defense	Arms Storage	Arms Storage	Yes	No	No
Defense	Fortification	Battery (Defense)	Yes	No	No
Defense	Fortification	Parade Ground	Yes	No	No
Defense	Military Facility (Post)	Military Facility (Post)	Yes	No	Yes
Recreation/Culture	Outdoor Recreation	Outdoor Recreation	No	Yes	Yes

Public Access:

Public Access: Other Restrictions

Public Access Narrative:

Visitors to Fort Tilden can enter the property through several entrances off Rockaway Beach Boulevard, a four-lane arterial highway, or two side streets, Beach 169th and Beach 193rd. Primary regional highway access is from the Gil Hodges Bridge, built in 1937 and formerly called the Marine Parkway Bridge. The bridge is an extension of Flatbush Avenue, one of the main thoroughfares from downtown Brooklyn. (CLR 2013: 74)

There is no fee to enter the park, but public access to portions of the fortification area is restricted. The NPS also leases out portions of the post area to community groups and municipal departments, including the Rockaway Little League, Rockaway Artists' Alliance, and the Rockaway Theater Company. Other post and wharf buildings are used for park housing, offices, storage, or are currently abandoned. (CLR 2013: 74)

Associated Ethnographic Group

Ethnographic Study Status: No Survey Conducted

Ethnographic Narrative:

Analysis & Evaluation of Integrity

Analysis and Evaluation of Integrity Narrative Summary:

Landscape characteristics identified for Fort Tilden include natural systems and features, spatial organization, land use, circulation, topography, vegetation, buildings and structures, views and vistas, small scale features, and archeological sites. Many of these characteristics include features that contribute to the site's overall historic character. The features that contribute were present during the period of significance and retain integrity.

The physical integrity of the Fort Tilden landscape is evaluated by comparing landscape characteristics and features present during the period of significance (1916–1967) with current conditions. The natural, sandy landform of the Rockaway Peninsula still contributes to the historic character of the fortification, post, and wharf areas. The sandy soils influenced methods of construction and use of plant materials. The alignment of the ocean beach in particular is a significant component of the overall military design of the landscape, although the existing prominence of the sand dunes most likely reflects non-historic natural resource management. The growth of successional maritime woods has also altered the historic character of the landscape. Summary evaluations of other relevant landscape characteristics for each area at Fort Tilden are described as follows:

Fortification Area:

Landscape characteristics identified in the fortification area are spatial organization, land use, circulation, topography, vegetation, buildings and structures, views and vistas, and small-scale features. While the landscape retains the same spatial organization defined by location of defensive works, circulation corridors, and perimeter security fence, the loss of defined spaces within the larger landscape, such as the rifle ranges and Nike NY-49 radar tracking stations, and conversion to a largely enclosed wooded area, has significantly altered the historic character of the landscape. Only the Nike NY-49 launch site retains its historic spatial character. The existing natural resource management and recreational uses, along with visitor parking and park maintenance uses, do not contribute to the historic character. While similar to secondary historic uses by the military, the existing land uses were mostly introduced after 1974 following the decommissioning of Fort Tilden. Overall, these uses do not detract from the historic character, although management as a natural area and resulting encroachment of vegetation has diminished the historic character. Circulation is a defining historic characteristic of the fortification area, and roads and rail lines remain largely intact, although Hurricane Sandy destroyed sections of Shore Road, and some other roads are concealed by vegetation. Circulation features dating from the NPS era are generally minor and do not detract from the overall historic character. The existing built topography is also a defining characteristic of the fortification area landscape. The earthen covers are a hallmark of seacoast defenses from the post-World War I through World War II period, intended for protection and concealment from aerial attack. Since the historic period, erosion and the development of social trails has slightly impacted historic topographic features. Most notably, Hurricane Sandy washed away large portions of Battery Kessler's earthen casemate. Vegetation, dominated by successional woods, does not contribute to the historic character, since it developed after the historic period, with the exception of the beach grasses along the beachfront and dunes, and planted pines around the defensive works. The successional woods detract from the historic views and spatial character of the landscape, but attest to the sense of abandonment and time passage. Buildings and structures are defining characteristics of the fortification area landscape. The majority of the World War I and II-era buildings and structures remain, but many of the Nike buildings and structures, particularly within the two control sites, have been removed. Deterioration and erosion are impacting the historic character of buildings and structures, along with vandalism and encroaching vegetation. The current views and vistas, while extensively reduced from their extent during the historic period, do survive in part and are defining characteristics of the landscape. These views convey the strategic design of the landscape and its fortifications. Because the reduction in views is a result of successional vegetation, the existing condition is potentially reversible. Aside from chain-link fencing, iron manhole covers, and possibly a fire hydrant, there are no known surviving small-scale features in the fortification area from the early historic period. Most of the small-scale features date from the Cold War era. The small-scale features added by NPS are generally inconspicuous and do not detract from the historic character of the landscape. (CLR 2013:98-100,105-106,108-109,120-121)

Post Area:

Landscape characteristics identified in the post area are spatial organization, circulation, topography, vegetation, buildings and structures, and small-scale features. The landscape today has a far more open spatial

character than it did at the end of the historic period, and the parade ground lacks the enclosure it once had. Several new spaces have been introduced, including a community garden and a horse corral. In addition, successional woody vegetation has enclosed the once-open southwest and southeast corners of the post. Overall, the existing circulation retains historic character, with the exception of the removal of walks and minor roads in the demolished barracks area. The topography retains historic character, as does the overall vegetation with the exception of the growth of successional woods in the southern area and addition of community gardens. Overall, buildings and structures do not retain historic character due to extensive demolition and alteration. Several individual buildings, most notably Building 1 (administration) and Building T-8 (Ordnance Repair Shop) remain unaltered on the exterior. Overall, small-scale features do not retain historic character, but there remain a number of historic features, notably the entrance piers and parade ground flagstaff. (CLR 2013:148-150,152,154)

Wharf Area:

Landscape characteristics identified in the wharf area are spatial organization, circulation, vegetation, buildings and structures, and small-scale features. The spatial organization of the wharf area does not retain historic character to the end of the historic period. Numerous building demolitions and construction of a large parking lot have altered the historic spatial character, but the front lawn space of the ordnance/administration building remains intact. Overall, circulation within the wharf area does not retain historic character due to removal of road and rail sections, and addition of the Riis Landing parking lot. The circular drive (Dunn Circle) to the ordnance-administration building (Building 219) remains intact, except for loss of the entrance on Rockaway Beach Boulevard. The entrance walk to the original administration building (Building 201) also remains intact. Overall, vegetation in the wharf area retains historic character. Historic features include the ordnance/administration building front lawn and specimen trees. Overall, buildings and structures in the wharf area do not retain historic character due to extensive building demolition and renovation. Only remnants of the historic wharf remain. Existing historic buildings include the ordnance/administration building, original administration building, and three warehouses. Small-scale features in the wharf area overall do not retain historic character. However, no accurate record of small-scale features was found for this report. Existing historic small-scale features are limited to the perimeter fence and gates along Rockaway Beach Boulevard. (CLR 2013:155-159)

INTEGRITY

Integrity is the ability of a property to convey its historical significance. The National Register identifies seven aspects of integrity for historic properties: location, design, setting, materials, workmanship, feeling, and association. To retain integrity, a property needs to possess several or most of these qualities to convey the sense of a particular time and place.

An evaluation of the seven aspects of integrity reveals that, despite a number of changes since the property was initially listed in 1984, the cultural landscape of the fortification area retains overall integrity to the end of the period of significance in 1967. Deterioration and loss of a number of secondary buildings and structures, along with the changes from an open to largely wooded landscape, has affected integrity, but the cultural landscape still conveys its historic significance. There has been little new construction. Setting has been most seriously compromised through changes in the landscape; however, the change due to growth of succession woods is potentially reversible. The integrity of the cultural landscape of the post and wharf areas have suffered additional loss of integrity, due primarily to the removal of buildings, but also due to modern alterations to buildings, and addition of new features such as fences, horse corrals, and community gardens. Despite the loss of integrity in the cultural landscape, the overall property of the Fort Tilden Historic District retains sufficient integrity for listing in the National Register, as determined by the Keeper of the National Register in 2009. (CLR 2013: 92-94)

Location:

Location is the place where the historic property was constructed or the place where the historic event occurred. The fortification, post, and wharf areas are in their original locations.

Design:

Design is the combination of elements that create the form, plan, space, structure, and style of a property. Most of the major defensive structures, support buildings, and circulation systems that made the fortification area operational remain intact. The historic layout and spatial organization of the post and wharf areas also remain intact overall, despite extensive building demolition and some new construction.

Setting:

Setting is the character of the physical environment of a property. The relationship of the main fortifications to the ocean and roads remains, but the change from an open to a largely wooded landscape has altered an important aspect of the historic setting, including strategic views and fields of fire. Due to extensive building demolition, the density that defined the open spaces has been substantially lost in the post and wharf areas.

Materials:

Materials are the physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property. In the fortification area, buildings, roads, and structures remain and have not been altered, despite deterioration that is accelerating at a number of buildings. Only one modern building and a parking lot have been added. Overall, the post and wharf areas exhibit extensive building demolition and the removal of some roads and walks. A number of buildings have been renovated with incompatible modern materials. Several new parking lots, contemporary lighting, and a new comfort station have also been added.

Workmanship:

Workmanship is the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory. The buildings and structures in the fortification area retain their original construction materials and thus display historic workmanship. Overall, the post and wharf areas have been subject to diminution in workmanship due to extensive building demolition and the use of incompatible modern materials in renovation of surviving buildings.

Feeling:

Feeling is the expression of the aesthetic or historic sense of a particular time resulting from the presence of physical features that, taken together, convey a property's historic character. The growth of successional woods in the fortification area and management as a natural area has altered or concealed the historic military character of the fortification landscape. The historic military feeling of the post and wharf areas has been reduced overall due to extensive building demolition and new uses as a recreational area.

Association:

Association is the direct link between an important historic event or person and a historic property. Although no longer an active military property, the fortification, post, and wharf areas remain as a vestige of the harbor defense system of New York City.

Landscape Characteristic:

This section presents an analysis of landscape characteristics and their associated features and corresponding List of Classified Structures names and numbers, if applicable. It also includes an evaluation of whether the feature contributes to the property's National Register eligibility for the historic period (1916–1967), contributes to the property's historic character, or if it is noncontributing, undetermined, or managed as a cultural resource. Graphics associated with this section are located at the end of each characteristic.

Landscape Characteristic: Natural Systems and Features

Natural systems and features are the natural aspects that have influenced the development and physical form of a landscape.

Historic and Existing Conditions (to 1967):
Fortification, Post, and Wharf Areas.

As early as the eighteenth century, the Rockaway Peninsula protruded westward from Long Island with an accretion of hooks that had developed from the deposition of sand along the ocean shore. This expansion took place over a period of several hundred years. Developing between the peninsula and the mainland were shallow lagoons, bays, and marshes that currently characterize Jamaica Bay. During the early twentieth century, culminating with the construction of Fort Tilden in 1916–18, the barrier beach was engineered to stabilize its shifting nature with a stone and wood groin field along the ocean shore and the uplands were filled in preparation for the construction of Fort Tilden (Figure 16). Natural dunes were probably removed by the Army to maintained lines of fire, especially after construction of Battery Harris in the interior of the site in 1922. (CLR 2013: 97,147,155)

Since 1967, the beach has remained relatively stable due to the groin fields. The NPS has encouraged accumulation of sand dunes along the beach through addition of snow fencing. Maritime deciduous woods, which may have begun to grow during the historic period, spread across the areas. (CLR 2013: 97,147,155)

Landscape Characteristic Graphics:



Figure 16. Stone groin and remnant wood groin/bulkhead (B-1) along the ocean beach of the fortification area, view from Battery Construction 220 (B-315), 2014. (Olmsted Center)

Landscape Characteristic: Spatial Organization

Spatial organization is the three-dimensional organization of physical forms and visual association in a landscape creating ground, vertical, and overhead planes that define and create spaces.

Historic Condition (to 1967):
Fortification Area.

During the World War I era (1916–37), the fortification area was a loosely defined space of open sand and grassland that occupied much of Fort Tilden. Ancillary batteries were located outside of the fortification area within the Rockaway Naval Air Station prior to 1919 (site of Jacob Riis Park) and at Breezy Point during World War II. The main fortifications were located along the entire Atlantic frontage, anchored by East Battery and West Battery (later reconfigured as Battery Ferguson and Battery Kessler). Supporting structures were mainly constructed along the northern part of the area along Rockaway Beach Boulevard. The interior of the fortification area remained undeveloped until 1922 when Battery Harris was built. This battery required the construction of additional rail lines and support structures that were located primarily in the northern half of the fortification area to retain strategic open views of the ocean to the south. (CLR 2013: 97-98)

During the World War II era (1937–45), the fortification area was reduced in size at its eastern end, where the site of the original East Battery was redeveloped as part of the post. The limits of the fortification area were defined on the east primarily by Hero Road, with the Harbor Entrance Command Post the only fortification-related structure east of Hero Road. The north and west limits of the fortification area remained bounded by Rockaway Beach Boulevard and Beach 193rd Street. The perimeter of the fort was marked by a chain-link fence. (CLR 2013: 97-98)

In the interior of the fortification area, a new road system divided the area into three loosely-defined rectangular areas. The fortification area overall remained an open grassland space, with dunes most likely removed to maintain lines of fire. The artificial dunes at Battery Harris and other defensive works punctuated the interior of the space. During the Cold War Era (1945–74), the Nike missile launch pad and radar tracking stations were positioned within the fortification area, each within its own secured, fenced area. (CLR 2013: 98)

Post Area.

During the World War I era (1916–37), the post occupied a small portion of Fort Tilden along the northeastern boundary bounded by Beach 169th Street (Marginal Street) and Rockaway Beach Boulevard (State Road). Initially, most of the post was built on land belonging to the U.S. Coast Guard Life Saving Station Rockaway Point that was soon transferred to the Army. The post was organized around a rectangular arrangement of roads, with the buildings sited in an irregular and compact manner. At the center of the post was a headquarters and Y.M.C.A. building, surrounded by warehouses, barracks, and stables. A row of Non-Commissioned Officer's quarters and associated structures stretched southward, paralleling Beach 169th Street; one NCO quarters was isolated at the northwest corner of the post, across from the wharf area. (CLR 2013: 147)

During the World War II era (1937–45), the Army redesigned and enlarged the post, resulting in complete change to its spatial organization, although it remained the same at the northeast corner of the fort. The redesign created zones for industrial, recreational, administrative, and residential uses. As redesigned, the post extended west to Hero Road and south to the ocean, site of the East Battery. The majority of World War I structures and landscape features were demolished to implement the new installation plan. All of the new buildings were sited close to one another and were aligned either in a north-south or east-west orientation. The central space of the redesigned post was the parade ground, constructed circa 1941, around which was organized many of the post's buildings. Administrative and medical buildings were arranged along one side of the parade ground, with the barracks, theater, recreation, post exchange, and offices located on two other sides of the parade ground. The NCO quarters were arranged in a block within the cantonment area, while officers' housing was placed along Davis Road. Warehouses and industrial facilities were located primarily at the edge of the new installation plan, primarily within the wharf area. The consistent scale and style of the buildings created a unified ensemble that was backed by an outer ring of utilitarian structures out of view of the central parade ground. Aside from the parade ground, other spaces within the redesigned post included the cantonment-style barracks complex to the west, consisting of long, wood-frame buildings; the open drill ground to the south of the barracks complex; the tent area west of the drill ground; and the beach-front area, site of the officers' mess and bath house. (CLR 2013: 147)

Aside from the removal of some barracks and storage buildings, and replacement of the tent area with a trailer park, the Army did not make any substantial changes to the spatial organization of the post during the Cold War era (1945–67). (CLR 2013: 147)

Wharf Area.

The wharf area (Quartermaster area) was originally constructed during the World War I era (1916–37) as the primary support area within the fort, occupying a ten-acre rectangular parcel north of the post that extended into Rockaway Inlet. Here was the dock (wharf) along with an ordnance building, oil house, coal pockets, engineer office (administration building), and warehouses. The buildings were mostly wide apart and did not define or enclose the space. Running through the middle of the wharf area was a standard gauge rail line leading to the batteries, via the post. In conjunction with the redesign of the post during the World War II era (1937–45), the Army constructed twenty additional buildings in the wharf area, requiring the removal of many of the earlier structures. This new construction filled up most of the space in the wharf area, except for a lawn framed by a circular drive in front of the ordnance building (Building 219), built in 1937–38, which opened onto Rockaway Beach Boulevard through a gate framed by brick piers. Adjacent to the east side of the wharf area was the new Coast Guard Station, completed by circa 1942. Aside from the removal of the coal pockets and several small storage buildings, the Army did not make substantial changes to the spatial organization of the wharf area during the Cold War (1945–67). (CLR 2013: 155)

Post-Historic and Existing Conditions:
Fortification Area.

After 1967, change included the natural transition from a largely open landscape to a wooded one, the redevelopment of the southwest corner (Nike missile tracking station #2) as the Fisherman Parking Lot, and the removal of the Nike missile tracking station #1. The space is now defined by Hero Road/HECP and the post on the east, Rockaway Beach Boulevard on the north, Beach 193rd Street on the west, and the Atlantic Ocean on the south. The fortification area correlates with the park's "Back Fort Natural Area," and with the western section of Fort Tilden defined in the park's planning documents. The fence-enclosed Nike NY-49 launch site remains a distinct space in the landscape. The spatial definition of the rifle range, miniature AA range, and two Nike NY 49-missile tracking stations (control areas) are no longer evident due to growth of successional woods, removal of perimeter fencing, and/or addition of new features (Fisherman Parking Lot) (Figure 17). (CLR 2013: 98)

Post Area.

Following the decommissioning and transfer of Fort Tilden to NPS in 1974, the spatial organization of the post was altered considerably through extensive building demolition. The barracks complex, including buildings and roads, was completely removed, and approximately half of the buildings surrounding the parade ground were removed (Figure 18). (CLR 2013: 148)

Wharf Area.

After 1974, the spatial organization of the wharf area was considerably altered by building demolition. Approximately thirteen World War II-era buildings were demolished, and the superstructure of the dock was removed (Figure 19). Much of this change has occurred recently with the construction of a large parking area for Riis Landing (an area that also includes the adjoining Coast Guard Station not owned by NPS), a federally-funded transportation project intended to provide fast ferry service to Manhattan. Today, the densely developed character of the wharf area during World War II has been opened considerably, and is dominated by the new parking lot (Figure 20). The lawn space in front of the ordnance building (Building 219) survives, although it no longer opens onto Rockaway Beach Boulevard. (CLR 2013: 155)

Landscape Features:

Feature Name	CLI Feature ID	Feature Contribution	CRIS-HS Resource ID	Associated CRIS-AR ID	FMSS Record Type	FMSS Record Number	FMSS Exact Match
--FORTIFICATION AREA--	173444						No
Nike NY-49 Launch Site	173446	Contributing					No
--POST AREA--	173448						No
Parade ground	173450	Contributing					No
Drill ground (large ball field)	173452	Contributing					No
NYPD horse corral	173454	Noncontributing – Incompatible					No
Community gardens	173456	Noncontributing – Incompatible					No
Rockaway Little League baseball diamonds (former barracks area)	173458	Noncontributing – Incompatible					No
Beachfront area	173460	Contributing					No
--WHARF AREA--	173462						No
Ordnance building (Building 219) front lawn space	173464	Contributing					No

Landscape Characteristic Graphics:



Figure 17. West Road looking southeast toward Marshall Road showing remnant telephone poles from site of Nike missile tracking station 1, 2014. (Olmsted Center)



Figure 18. Looking south to administration building (Building 1) and flanking London plane trees, 2014. The area left of Building 1 was lined by buildings during World War II. (Olmsted Center)



Figure 19. Remnant pilings from the Fort Tilden wharf (Building 209), looking northwest from Riis Landing parking area, 2014. (Olmsted Center)



Figure 20. View northeast across Wharf Area, 2014, formerly site of dense complex of buildings. In foreground are manholes and utility vaults, in right background is World War I-era warehouse, and to left, the Gil Hodges Memorial Bridge. (Olmsted Center)

Landscape Characteristic: Land Use

Land use describes the principal activities in a landscape that form, shape, and organize the landscape as a result of human interaction.

Historic Condition (to 1967):

Fortification Area.

Throughout the historic period (1916–67), the fortification area was used as a military installation with gun batteries, ammunition storage, communication facilities, power plants, and fire practice areas, along with roads and rail tracks used to transport supplies and troops. During the World War II era, land use within the fortification area became more diversified as two housing areas consisting of barracks and mess halls were built at the northeast and southwest corners of the fortification area. During the Cold War era, the fortification area continued to be used for training and fortification purposes, primarily for the Nike missile system; the World War II-era barracks and mess halls were removed during this time, as were most of the major guns, but the casemates and magazines were left standing. By 1955, the Army had completed construction of Nike site NY-49 as one of a series of Nike missile sites in the New York City area. Between 1955 and 1961, the Army built a Reserve Center at the northeast corner of the fortification area. (CLR 2013: 98-99)

Post-Historic and Existing Conditions:

Fortification Area.

At the time the NPS took over Fort Tilden in 1974, the Army retained the Reserve Center, and it remains the only current military use within the historic limits of the fortification area. Today, the fortification area is used and managed primarily as a natural area, surrounding the abandoned military facilities. Other uses include park maintenance facilities at the Nike missile launch pad area, and visitor parking and comfort stations at the site of the Nike missile tracking station #2. (CLR 2013: 99)

Landscape Characteristic: Circulation

Circulation is the spaces, features, and applied material finishes that constitute the systems of movement in a landscape.

Historic Condition (to 1967):

Fortification Area.

During the World War I era (1916–37), circulation within the fortification area initially consisted of standard gauge rail lines extending from the southern portion of the post toward the 6-inch gun Battery East (Battery Kessler). When construction of Battery Harris began in 1922, the rail lines were rerouted extending westward from the post along the entire length of the fortification area and aligned with present day Range Road. The rail lines provided a means of transporting ammunition from the magazines to Battery Harris and eventually to the dock within the wharf area. Extending off the primary rail line, another rail line was constructed to service the three power plants for Battery Harris. Although not depicted on period maps, there was probably an informal network of sand tracks in the fortification area that allowed for movement of vehicles between the rail lines and the fortifications. (CLR 2013: 99)

When the U.S. Army redesigned Fort Tilden beginning in 1937, a permanent system of concrete roadways was constructed within the fortification area (some may also have been asphalt). This system supplemented and in part replaced the rail system. Based on the new installation plan, this circulation system created a loop road enclosing Battery Harris, the magazines, and power plants. These roads included Range Road and Marshall Road to the north and south and East Road and West Road along the east and west sides. Range Road extended from the post to the far western edge of the fortification area and terminated at entrance Gate 8 on Beach 193rd Street. East Road also terminated at an entrance gate, Gate 5. Center Road, located within the loop just east of Magazine Three (Building 405), provided access to two Igloo magazines (Buildings 403 and 404). A

service road was built to access Power Plant Two (Building 408) from Marshall Road. Across from the service road were entrance Gate 6 and the roadway that accessed the Gas Generator House (Building 68A). In the northeast corner were entrance Gate 7 and a roadway that connected the Mining Casemate and Plotting Room (Building 511) to Marshall Road. Along the Atlantic shore, Shore Road was constructed to service Battery Kessler and Battery Construction 220 and eventually connected to East Road. When the Bombproof Magazine (Building 411) was built in 1942, additional rail lines were constructed to connect the structure to the existing rail system, apparently replacing the line to the World War I-era power plants. (CLR 2013: 99-100)

During the Cold War, many of the concrete roads were repaved in asphalt. Changes to the road layout include the removal of a portion of East Road, the closure of entrance Gates 5, 6, and 7, extension of the service road accessing Power Plant Two (Building 408) to connect with Range Road, and the addition of three access roads to service the Nike missile launch pad and radar tracking stations. (CLR 2013: 100)

Post Area.

During the World War I era (1916–37), the main public road providing vehicular access from the Long Island mainland and Far Rockaway to the east was Washington Street (roughly following today's alignment of the boardwalk at Jacob Riis Park), which terminated at the south end of Beach 169th Street (originally known as Marginal Street). Rockaway Beach Boulevard, probably just a public right-of-way when Fort Tilden was established, defined the northern edge of the fort and terminated at Beach 169th Street. Access into the post was through two gated entrances along Beach 169th Street. Within the post was a rectangular road circuit, with a southern extension paralleling Beach 169th Street that provided access to a row of nine officer's quarters; there were no interior roads connecting to the wharf area or the post. No documentation has been found on the construction of these initial roads in the post. The primary transportation from the post and wharf to the fortification area was a standard-gauge rail system, which originally extended due south from the wharf area along the west side of the post to East Battery. During the construction of Battery Harris in the early 1920s, the rail lines were rerouted through the middle of the fortification area to serve Battery Harris and the supporting magazines and power plants. (CLR 2013: 148)

During the World War II era (1937–45), the circulation pattern was completely changed as part of the redevelopment of the post carried out in accordance with the Army's nation-wide modernization program during the lead-up to World War II. The plan called for a geometric organization with a loop road providing access to the beach. All of the roads were constructed of concrete, some with concrete gutters and curbs. The primary north/south roads consisted of Hero Road, Davis Road, and Heinzelman Road. The two primary east/west roads were Murray Road and Haan Road (extension of Range Road in the fortification area). Hero and Davis Road eventually joined along the southern edge of the post to create the external loop road. Entrance gates were placed at terminuses of Hero Road, Heinzelman Road, Barrett Road, and Murray Road along Rockaway Beach Boulevard and Beach 169th Street. Pedestrian walkways were also added to the post in the area surrounding the parade ground; however the exact location of the walkways is unknown. (CLR 2013: 148-149)

Few changes were made to the circulation within the post during the Cold War (1945–67), with the exception of asphalt paving over the original concrete. (CLR 2013: 149)

Wharf Area.

During the World War I era (1916–37), bulk transportation of goods to Fort Tilden was mostly by boat given the limited roads on the eastern end of the Rockaway Peninsula (Washington Street along the ocean beach from Far Rockaway provided the only vehicular access to the mainland until the Marine Parkway Bridge was completed in 1937). The wharf area developed around the wharf and bulkhead/dock built along the Rockaway Inlet as part of the initial development of Fort Tilden in circa 1917. In order to move supplies across the unstable, sandy earth to the post and fortification areas, a standard-gauge rail line was built extending due south from the dock; a short spur ran to an engine house along the west end of the dock. A road paralleled the tracks from Gate 1 on Rockaway Beach Boulevard. By World War II, a number of new concrete roads had been built through the wharf area. These included a formal circular concrete drive, Dunn Circle, built in front of

the new ordnance building (Building 219), accessed by a new gate on Rockaway Beach Boulevard. During the Cold War (1945–67), the Army closed the gate at Dunn Circle, and the rail line went out of operation. (CLR 2013: 156)

Post-Historic and Existing Conditions:
Fortification Area.

The circulation system within the fortification area consists of remnants of a rail system dating to the World War I and World War II eras, and a system of concrete and asphalt roads dating to the World War II era (see Figure 17). The NPS built the Fisherman Parking Lot in circa 1985 within the southwestern Nike missile tracking station 2. Much of Shore Road was damaged or lost to Hurricane Sandy. Pedestrian circulation features that have been added include a wooden stairway that originates at the base of Battery Harris East and extends to the top of the battery and an observation deck and sandy trail paths that connect the beachfront to Battery Harris and Range Road (Figure 21). Center Road, connecting Marshall Road on the north with Range Road on the south, is presently covered and almost completely concealed by vegetation. This former vehicular route now appears as an unmaintained trail. (CLR 2013: 100)

Post Area.

As part of the extensive building demolition undertaken after the fort was transferred to NPS in 1974, walks and several small connecting roads in the barracks area were removed or truncated, including Doe, Murray, and Walke Roads. Other roads, such as the south end of Heinzelman Road, were repaved, realigned, and fitted with raised concrete curbs. Most of the railroad tracks bordering Haan Road were also removed. Existing circulation consists of roads, paths, steps built by the Army, and several parking areas built by the NPS (Figure 22). (CLR 2013: 149)

Wharf Area.

With transfer of Fort Tilden to the NPS in 1974, rail lines were removed and a large parking lot was constructed for Riis Landing. The new asphalt lot required the removal of short sections of concrete roadway and the rail spur and northern part of the main line (Figure 23). (CLR 2013: 156)

Landscape Features:

Feature Name	CLI Feature ID	Feature Contribution	CRIS-HS Resource ID	Associated CRIS-AR ID	FMSS Record Type	FMSS Record Number	FMSS Exact Match
--FORTIFICATION AREA--	173468						No
Range Road (including entrance Gate 8)	173470	Contributing			Location	36014	No
East Road (including entrance Gate 5)	173472	Contributing					No
West Road (including entrance Gate 7)	173474	Contributing					No
Marshall Road	173476	Contributing					No
Center Road	173478	Contributing					No
Power Plant Three Service Drive	173480	Contributing					No
Motor Pool Service Drive	173482	Contributing					No
Shore Road	173484	Contributing			Location	31597	No
Standard Gauge Rail Lines	173486	Contributing					No
Fisherman Parking Lot	173570	Noncontributing – Incompatible					No

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Fort Tilden Nature Trail	173572	Noncontributing – Compatible					No
Battery Harris Observation Stairway and Platform	173574	Noncontributing – Incompatible					No
--POST AREA--	173576						No
Barrett Road	173578	Contributing					No
Basketball courts (Cold War-era tennis courts, Building 28)	173580	Contributing					No
Burgess Road	173582	Contributing					No
Coe Road	173584	Contributing					No
Davis Road	173586	Contributing					No
Heinzelman Road	173588	Contributing					No
Haan Road	173844	Contributing					No
Hero Road	173846	Contributing					No
Martin Dele Road	173848	Contributing					No
Murray Road	173850	Contributing					No
Parade ground parking lots	173852	Noncontributing – Incompatible					No
Remnant railroad tracks (north end of Heinzelman Road)	173854	Contributing					No
Rockaway Artists' Alliance parking lot	173856	Noncontributing – Incompatible					No
Shore Road (east end)	173858	Contributing					No
Steele Road	173860	Contributing					No
Walks	173862	Undetermined					No
Worcester Road	173864	Contributing					No
--WHARF AREA--	173866						No
Dunn Circle	173868	Contributing					No
Goethals Road	173870	Contributing					No
Heinzelman Road (north)	173872	Contributing					No
Remnant railroad tracks, new Riis Landing parking area	173874	Contributing					No
Building 201 entrance walk	173876	Contributing					No
Walk to new ferry dock	173878	Noncontributing – Compatible					No

Landscape Characteristic Graphics:



Figure 21. Wood stairway leading to Battery Harris Observation Platform, looking northeast from Range Road, 2014. (Olmsted Center)



Figure 22. View north at Gate 2, primary park entrance to Fort Tilden within post area, 2014. Building 106 at far left is only structure in post from initial World War I development. London Plane trees were planted during World War II. (Olmsted Center)



Figure 23. Heinzelman Road in the wharf area showing remnant rail lines, looking south with the old administration building (204) at left, 2014. (Olmsted Center)

Landscape Characteristic: Topography

Topography is the three-dimensional configuration of a landscape surface characterized by features, including built landforms.

Historic Condition (to 1967):
Fortification Area.

The natural topography of Fort Tilden consisted of an overall level, sandy surface with numerous shifting dunes. During the World War I era (1916–37), the Army constructed earthen berms surrounding the East and West Batteries and built a bombproof fire control and plotting room covered with earth, creating rises upwards of ten feet. Beginning in the late 1930s during the World War II era (1937–45), the Army significantly regraded the southern part of the fortification area, probably as part of the construction of the concrete road system and earthen-covered casemates at Battery Harris, Kessler, and Construction 220 (Buildings 406, 410, 315, 321). By 1943, the mining casemate (Building 511) was constructed and covered with earth creating additional topography within the fortification area. The Army probably removed dunes along the beach to maintain open firing lines from the batteries. These practices likely stopped after World War II. Engineered earthworks were also constructed at the Nike launch site to cover the Missile Magazines (310, 311, 312, 313) and protect adjacent areas from an accidental explosion at the Warhead Building (307). (CLR 2013: 105)

Post Area.

During the initial development of the post through the World War I era (1916–37), the overall level topography of the post contained several small rises, probably natural sand dunes. Along the ocean beach, the East Battery was built on a small rise. As part of the redesign of the post during the World War II era (1937–45), the small rises were leveled to create flat topography for buildings and the parade and drill grounds. Battery East was removed, although part of the mound on which it was built was retained. During the Cold War (1945–67), there is no record of any substantial change to the topography of the post. (CLR 2013: 149-150)

Post-Historic and Existing Conditions:
Fortification Area.

No significant changes in topography have occurred within the fortification area since 1967, with the exception of grading for the Fisherman Parking Lot and erosion of the earthen fortifications. The dunes along Shore Road shift naturally and as a result of the bulkheads. The topography of the ocean beach may have also changed since the historic period due to the deterioration of the wooden groins (bulkheads). Battery Harris is the tallest point within the fortification area at approximately fifty feet above mean sea level. (CLR 2013: 105)

Post Area.

There is no record of any substantial changes to the topography of the post after 1967. Minor grading was undertaken by NPS as part of building demolition, road removal, and parking lot construction. (CLR 2013: 151)

Wharf Area.

There is no record of any substantial changes to the topography of the wharf area after 1967. Minor grading was undertaken by NPS as part of building demolition, road removal, and construction of the Riis Landing parking area and ferry dock. (CLR 2013: 151)

Landscape Features:

Feature Name	CLI Feature ID	Feature Contribution	CRIS-HS Resource ID	Associated CRIS-AR ID	FMSS Record Type	FMSS Record Number	FMSS Exact Match
--FORTIFICATION AREA--	173528						No
Warhead Building Earthworks	173530	Contributing					No
Nike Missile Magazines Engineered Plateau	173532	Contributing					No
Rifle Range Firing Line	173534	Contributing					No
Rifle Range Backstop	173536	Contributing					No

Landscape Characteristic: **Vegetation**

Vegetation is the planted or managed deciduous and evergreen trees, shrubs, vines, ground covers and herbaceous plants, and plant communities.

Historic Condition (to 1967):
Fortification Area.

During the World War I era (1916–37), vegetation within the fortification area consisted of mainly beach-type vegetation such as grasses, giving the landscape an open character. Beginning in 1937, the Army planted an unknown amount of woody plant material to stabilize the sandy soil and camouflage the gun emplacements. Aside from these plantings, the fortification area remained primarily open without woods or other large-scale vegetation. During the Cold War, the amount of vegetation began to increase. (CLR 2013: 106)

Post Area.

During the World War I era (1916–37), there was very little vegetation planted within the post, except for beach grasses that—as in the fortification area—were planted from an early date to control blowing and drifting sand. During the World War II era (1937–45), the redesign of the post beginning in 1937 incorporated ornamental plantings and areas of lawn. The three-acre parade ground was seeded in circa 1941, and the larger drill ground was probably treated in a similar fashion. The Army also planted London plane trees along some of the roads in the post, including Davis, Murray, and Barrett Roads around the parade ground, and south of the four NCO quarters (Buildings 133-136). Foundation plantings, typically yews and pines, were also added around the Dispensary (Residence, Building 125), Quartermaster's Office (Post Office, Building 102), and Administration Building (Building 1), among other buildings, probably through the Works Progress Administration. There is little record of change to the vegetation in the post during the Cold War (1945–67). (CLR 2013: 150)

Wharf Area.

During the World War I era (1916–37), beach grasses were planted throughout the fort to minimize blowing and drifting sand. In the mid-1930s, beach grasses and trees were planted in front of the headquarters building (Building 201) outside of the perimeter fence. With the construction of the ordnance building (Building 219) in 1937–38, the front space was established as a lawn, with beach grass planted outside of the gate along Rockaway Beach Boulevard. Conifers were planted along the front of the new building. Poplars were planted along Goethals Road. No documentation was found concerning changes to vegetation in the wharf area during the Cold War (1945–67). (CLR 2013: 156-157)

Post-Historic and Existing Conditions:
Fortification Area.

Since the Army decommissioned Fort Tilden in 1974, most of the fortification area has reverted through natural succession from grasses to thickets and maritime upland forest (Figures 24 and 25). The successional areas include an abundance of exotic invasive species such as Japanese honeysuckle (*Lonicera japonica*), Asiatic bittersweet (*Celastrus orbiculata*), and porcelainberry (*Ampelopsis brevipedunculata*). Beach-type grasses continue to dominate the sand dunes along Shore Road. (CLR 2013: 106)

Post Area.

The NPS retained most of the roadside London plane trees, along with the lawns at the parade and drill grounds, and evergreen shrubs in front of the Administration Building and Chapel (see Figures 18 and 22). The most significant change to vegetation in the post since 1967 has been the growth of successional woods along the perimeter and in the southwest and southeast corners of the post. Additional lawn has been created with development of ball fields, and new types of vegetation have been introduced at the community gardens. (CLR 213: 150)

Wharf Area.

After 1974, the beach grasses along Rockaway Beach Boulevard had disappeared, but the lawn in front of the ordnance building (219) remained, along with several conifers along its front and the poplars along Goethals Road. Several new trees were planted around Building 219. (CLR 213: 157)

Landscape Features:

Feature Name	CLI Feature ID	Feature Contribution	CRIS-HS Resource ID	Associated CRIS-AR ID	FMSS Record Type	FMSS Record Number	FMSS Exact Match
--FORTIFICATION AREA--	173538						No
Beach Grasses	173540	Contributing					No
Planted Conifers	173542	Contributing			Asset	552996	No
Successional Woods	173544	Noncontributing – Incompatible					No
--POST AREA--	173546						No
Parade Ground lawn	173548	Contributing			Asset	201844	Yes
Drill Ground lawn	173550	Contributing			Asset	201889	No
Little League field lawn (former barracks area)	173552	Noncontributing – Incompatible			Asset	201905	No
Roadside London plane trees	173554	Contributing			Asset	552977	No
Building 1 evergreen shrubs	173556	Contributing			Asset	552973	No
Chapel (Bldg T-4) yews	173558	Contributing			Asset	552988	No
Successional woods	173560	Noncontributing – Incompatible					No
Community gardens	173562	Noncontributing – Incompatible					No
--WHARF AREA--	173564						No
Ordnance Building (Bldg 219) lawn	173566	Contributing			Asset	201670	No
Specimen deciduous trees	173568	Contributing			Asset	552995	No

Landscape Characteristic Graphics:



Figure 24. Gated entrance to earth-covered Mine Casemate and Plotting Room (B-511), 2014. (Olmsted Center)



Figure 25. Park maintenance building (B-307), formerly the Nike missile warhead assembly building, looking northwest, 2014. (Olmsted Center)

Landscape Characteristic: Buildings and Structures

Buildings and structures are the elements constructed primarily for sheltering any form of human activity in a landscape.

Historic Condition (to 1967):
Fortification Area.

During the World War I era (1916–37), buildings and structures within the fortification area consisted of gun emplacements and magazines. These included Battery East and West (later rebuilt and renamed Battery Ferguson and Battery Kessler), which had four 6-inch guns and Battery Harris East and West, which had two 16-inch guns. A number of 5-inch naval deck gun batteries were also located throughout the fortification area along Shore Road. By 1919, two 3-inch anti-aircraft guns were mounted northeast of East Road. Buildings and structures supporting Battery East and West included two shell and powder magazines and a coincidence rangefinder (CRF) associated for each battery. Adjacent to Battery East and West was a seacoast searchlight and a 25 KW power plant. The supporting buildings and structures for Battery Harris East and West included four ammunition magazines, three power plants, and a fire control and plotting station. There were also an incinerator, balloon hangar, and generator house located to the north of Battery Harris along State Road (Rockaway Beach Boulevard). (CLR 2013:107-108)

In 1941, Battery Harris was casemated, and additional secondary defensive works were built, which included a storage shed along Marshall Road, two igloo magazines along Center Road, and a Mine Casemate and Plotting Room near Gate 7. By 1943 Battery Ferguson was decommissioned and replaced with Battery Construction 220, a similar 6-inch gun battery built south of Battery Harris magazine four. One of the last structures built during World War II within the fortification area was the Advanced Harbor Entrance Command Post (HECP, later known as the Groupment Command Post) and the surface search SCR-582 radar installation located just east of Hero Road. The World War II era also saw the addition of two housing areas in the fortification area that included seven barracks, two mess halls, and two latrines. A rifle and pistol firing range, located south of Range Road, was also built for training the stationed soldiers. (CLR 2013:108)

During the Cold War, the Army changed the design of its defensive buildings and structures as the need for concealment from sea and air disappeared. The Nike buildings were generally of concrete block or corrugated metal, with concrete foundations and near-flat or gable roofs. Standard plans for Nike facilities were employed at Fort Tilden's Nike site NY-49. (CLR 2013:108)

Post Area.

During the World War I era (1916–37), there were approximately thirty-three buildings and structures in the post. These were initially built into two phases: temporary quarters erected in 1917 by the 82nd Company, and a cantonment complex erected by the firm of James Steward and Company of New York City in 1918. Consisting primarily of wood-frame Series 600-type temporary buildings all painted a uniform gray color, they included officer and NCO quarters, mess halls, enlisted men's barracks, warehouses, offices, stables, and barns. In 1919, construction of a double non-commissioned officers quarters (Building 106) was completed, designed in a Colonial Revival style using masonry construction and featuring a full-length porch. This building was the only one in the post positioned along Rockaway Beach Boulevard. The majority of post buildings were clustered to the southeast along Beach 169th Street (Marginal Street). Two stables (Buildings 31 and 32) were located on the site of the later Coast Guard Station (Riis Landing), outside of the present limits of Fort Tilden. During the interwar years, as staff at the fort was reduced, many buildings were removed and the overall condition/appearance of the post became rundown. (CLR 2013: 151)

In 1937 on the eve of World War II, the Army began to implement an improvement program at Fort Tilden as part of a national-wide program aimed at replacing World War I wood-frame buildings with permanent buildings. All of the remaining buildings from the post were removed with the exception of the masonry double NCO quarters (Building 106). The Army had developed a standardized

architectural program to organize the complex spatial requirements of the modern military installations. These plans included architectural designs that responded to local climate conditions and reflected local history. A Colonial Revival style, characterized by use of symmetry, gable roofs, classical detailing, and red brick, was used for installations from New England to Virginia. The most formal of the new buildings in the post included Building 1 (barracks/administration) and Building 22 (Commanding Officer's Quarters), which featured grand massing and classical details around windows and doors. Most of the buildings, such as Building 125 (Dispensary), were simple in design with brick walls, gable roofs, six-over-six double-hung sash windows, and little if any ornamentation. As part of the World War II mobilization that began in 1940, the Army constructed a large complex of Series 700 temporary-style buildings including barracks, recreation and mess halls, and administrative offices, mostly in the western part of the post, but also surrounding the parade ground. These buildings typically consisted of low gable roofs with exposed rafters and ridge ventilators, novelty siding, and multi-paned double-hung sash windows. There were also wood-frame warehouses and the steel-frame Ordnance Repair Shop that formed an industrial complex at the western edge of the post along Hero Road, fronting on the fortification area. (CLR 2013: 151-152)

During the Cold War period (1945–67), there were apparently few new buildings and structures constructed in the post. A trailer park was created on the site of the tent area. (CLR 2013: 152)

Wharf Area.

During the World War I era (1916–37), there were approximately nine buildings and structures within the wharf area. By 1920, the Army had constructed an office (later headquarters building, Building 201, designed in a Colonial Revival style), an engine house, coal pockets, and warehouses to store supplies and armament unloaded from docked ships. The industrial buildings were built of wood frame or concrete and terra-cotta tile construction. One large timber dock (wharf) was built into the Rockaway Inlet, the entire frontage of which was bulkheaded. As part of the modernization of Fort Tilden that began in 1937, fifteen buildings and structures were added to the wharf area (three World War I buildings were removed to make way for new construction). These buildings provided fueling stations and repair shops for army vehicles, storage facilities for armament unloaded from the dock, and general maintenance shops serving the post and fortification areas. The new ordnance building (Building 219) also served as the headquarters for Fort Tilden during this time. During the Cold War era (1945–67), the Army removed several small buildings in the wharf area. (CLR 2013: 157)

Post-Historic and Existing Conditions: Fortification Area.

The fortification area consists of sixteen buildings, the most prominent being the dual casemates of Battery Harris (Figure 26). The ammunition magazines that supported Battery Harris—Buildings 401, 405, 409, and 414—all have partially collapsed roofs. Battery Harris and the ammunition magazines are all abandoned and are not being maintained. The west concrete gun platform from Battery Kessler and the concrete platforms from Battery Construction 220 and Battery Ferguson are most likely covered by sand. Hurricane Sandy eroded the south slope of Battery Kessler's engineered earthen cover. The storm exposed and fragmented the 18-inch thick concrete burster course covering the casemated powder and shell rooms. Three World War II-era fortification-related buildings (402, 407, and 503) have been demolished, along with approximately twelve temporary barracks/mess halls. (CLR 2013: 108)

Within the Nike missile launch pad there are six remaining buildings, plus the four underground silos (all have been filled); most of these support buildings are being used by the park. Within the Nike missile tracking station #2, only the HiPAR Building (Building 526) remains. All other buildings and structures associated with the Cold War era, amounting to approximately eighteen plus the above-ground structures at the missile silos, have been removed. NPS has only added one building to the fortification area since it took over Fort Tilden in 1974: the Fisherman Parking Lot comfort station (Building B-6). (CLR 2013: 108)

Post Area.

By the latter 1960s and early 1970s, and especially after the transfer of Fort Tilden to NPS in 1974,

many buildings were demolished in the post. Not counting the trailer park, over eighty buildings dating to the World War II era were removed, leaving approximately thirty standing today (2005). Major changes included the removal of the entire cantonment barracks complex, except for Building T-162 that today serves as a Little League clubhouse (Figure 27). Most of the buildings in the beachfront are abandoned, along with the steel-frame Ordnance Repair Shop and wood bowling alley (Buildings T-8, 9) along Hero Road (Figure 28). Most of the brick buildings were retained; the administration building (Building 1), the most prominent of the post, remains unaltered on the exterior (see Figure 18). The former Quartermaster's Warehouse (Building T-7, Rockaway Artists' Alliance) on Hann Road and officer's quarters (Building T-25, senior citizen building) on Davis Road, however, have been substantially remodeled and bear little resemblance to their historic military appearance. Architectural details, including siding and windows, have been altered on the Double NCO Quarters (Building 106), Commanding Officer's Quarters (Building 22), and recreation hall (Building T-149), among others (Figure 29). Since 1974, NPS has added a concrete-block comfort station and kiosk near the parade ground. (CLR 2013: 152)

Wharf Area.

During the NPS era after 1974, numerous buildings were demolished in the wharf area. Of the twenty-three buildings that stood in the wharf area in 1945 (approximately 20 in 1967), only nine remain standing today (2005). Many of these were demolished in circa 2001 for construction of the Riis Landing parking area. Prior to this time, the superstructure of the dock was removed, but many of the wood pilings remain (see Figure 19). Building 201, the World War I-era headquarters building, is currently occupied by Park police and has been retrofitted with modern windows and a new front dormer. Steel windows bars were added to the exterior of the ordnance/administration building (Building 219) at some point after 1945 (Figure 30). (CLR 2013: 157)

Landscape Features:

Feature Name	CLI Feature ID	Feature Contribution	CRIS-HS Resource ID	Associated CRIS-AR ID	FMSS Record Type	FMSS Record Number	FMSS Exact Match
--FORTIFICATION AREA--	173688						No
Harbor Entrance Command Post (BP-13)	173690	Contributing	23514		Location	35938	Yes
Utility Building (Transformer House) (BP-14)	173692	Contributing					No
Nike NY-49 Launch Area Sentry Booth (BP-301)	173694	Contributing					No
Nike NY-49 Missile Assembly Building (BP-302)	173696	Contributing					No
Nike NY-49 Generator Building (BP-304)	173698	Contributing					No
Nike NY-49 Ready Room (BP-305)	173700	Contributing					No
Nike NY-49 Warhead Assembly Building (BP-307)	173702	Contributing					No
Nike NY-49 Launch Pad Sentry Booth (BP-309)	173704	Contributing					No
Nike NY-49 Missile Silos-Launch Pad (BP-310)	173706	Contributing					No

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Nike NY-49 Missile Silos-Launch Pad (BP-311)	173708	Contributing					No
Nike NY-49 Missile Silos-Launch Pad (BP-312)	173710	Contributing					No
Nike NY-49 Missile Silos-Launch Pads (BP-313)	173712	Contributing					No
Battery Construction 220 (BP-315)	173714	Contributing	8383		Location	35943	Yes
Battery Kessler (BP-321)	173716	Contributing	8384		Location	35944	Yes
Battery Kessler Oil Storage Shed (BP-322)	173718	Contributing	8385		Location	35945	Yes
Telephone Pit (BP-323)	173720	Contributing					No
Battery Harris Magazine (BP-401)	173722	Contributing	8387		Location	35946	Yes
AA Battery #3 Support Building (Storage Shed 402) (BP-402)	173724	Contributing	8388		Location	35947	Yes
Igloo Magazines (BP-403)	173726	Contributing	8389		Location	35948	Yes
Igloo Magazines (BP-404)	173728	Contributing	8390		Location	35949	Yes
Battery Harris Magazine (BP-405)	173730	Contributing	8391		Location	35950	Yes
Battery Harris East (Battery Harris Casemate) (BP-406)	173732	Contributing	8395		Location	35951	Yes
Battery Harris Power Plant Three (BP-408)	173734	Contributing	8397		Location	35953	Yes
Battery Harris Magazine (BP-409)	173736	Contributing	8392		Location	35954	Yes
Battery Harris West (Battery Harris Casemate) (BP-410)	173738	Contributing	8394		Location	35956	Yes
Battery Harris Bombproof Magazine (BP-411)	173740	Contributing	23523		Location	35957	Yes
Battery Harris Fire Control and Plotting Room (BP-413)	173742	Contributing	8398		Location	35959	Yes
Battery Harris Magazine (BP-414)	173744	Contributing	8393		Location	35960	Yes
Mine Casemate and Plotting Room (BP-511)	173746	Contributing	8408		Location	35961	Yes
Nike NY-49 HIPAR Building (BP-526)	173748	Contributing					No
Wood Groin Field (part) (BP-600)	173750	Contributing					No
Fisherman Parking Lot Comfort Station	173752	Noncontributing – Incompatible					No
--POST AREA--	173754						No

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Administration Building/NPS Visitor Center (1)	173756	Contributing					No
Main Transformer House (2)	173758	Contributing					No
Chapel (T-3)	173760	Contributing					No
Theater (T-4)	173762	Contributing					No
Rockaway Artists' Alliance (Radio Shelter Building) (T-6)	173764	Undetermined					No
Rockaway Artists' Alliance (Quartermaster's Warehouse Building) (T-7)	173766	Noncontributing – Compatible					No
Storage (Bowling Alleys Building) (T-8)	173768	Contributing					No
Storage (Ordnance Repair Shop) (9)	173770	Contributing					No
Transformer House (14)	173772	Contributing					No
Beach House (former Enlisted Men's Mess) (15)	173774	Contributing					No
NCO Snack Bar (former Officers Mess) (16)	173776	Contributing					No
Latrine (Officers Latrine) (17)	173778	Contributing					No
Beach House (Officers Bath House) (18)	173780	Contributing					No
Water Meter (19)	173782	Undetermined					No
Residence (Officers' Quarters) (22)	173784	Contributing					No
Residence (Officers' Quarters) (23)	173786	Contributing					No
Senior Citizen's Building (Officers' Quarters) (T-25)	173788	Noncontributing – Compatible					No
Post Office (Quartermaster Office) (102)	173790	Contributing					No
Post Sewage Lift (Sewage Lift Station) (103)	173792	Contributing					No
Residence (Double NCO Quarters) (106)	173794	Contributing					No
Garage (107)	173796	Contributing					No
Residence (Post Dispensary) (125)	173798	Contributing					No
Storage (Telephone Booths) (130)	173800	Contributing					No
Residence (NCO Quarters) (133)	173802	Contributing					No
Residence (NCO Quarters) (134)	173804	Contributing					No

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Residence (NCO Quarters) (135)	173806	Contributing					No
Residence (NCO Quarters) (136)	173808	Contributing					No
Storage (Gas Station) (148)	173810	Contributing					No
Community Bldg (Recreation Building) (T-149)	173812	Contributing					No
Rockaway Little League Clubhouse (Mess Hall) (T-162)	173814	Contributing					No
Guard Booth (B-1)	173816	Contributing					No
Community Garden Shed (B-2)	173818	Noncontributing – Incompatible					No
NPS Comfort Station (B-3)	173820	Noncontributing – Incompatible					No
Wood Groin Field (part) (BP-600)	173822	Contributing					No
--WHARF AREA--	173824						No
Leased Building (Fort Tilden headquarters) (201)	173826	Contributing					No
Gas Station (T-202)	173828	Contributing					No
Oil Shop (203)	173830	Contributing					No
Plumbers Shop (Engineer Warehouse) (204)	173832	Contributing					No
Dock (wharf) (remnants) (209)	173834	Contributing					No
Oil Storage (215)	173836	Contributing					No
Auto Shop (Motor Repair Shop) (T-216)	173838	Contributing					No
Garage (Motor Pool and Garage) (T-217)	173840	Contributing					No
Storage/Electric Building (Ordnance, Headquarters) (219)	173842	Contributing					No

Landscape Characteristic Graphics:



Figure 26. Battery Harris East Casemate (B-406), view north from Range Road showing protruding circular concrete hood and interior steel grill gates, 2014. The gun was removed in circa 1949 during the historic period. (Olmsted Center)



Figure 27. The Rockaway Little League clubhouse (T-162), the only remaining Series 700 building from the World War II-era barracks complex west of the parade ground, looking north, 2014. (Olmsted Center)



Figure 28. The World War II-era Ordnance Repair Shop (Building 9) with NPS parking area at right, 2014. This building, along with nearby warehouses (Buildings T-6, T-7) formed an industrial complex at the western side of the post. (Olmsted Center)



Figure 29. View northwest of officer quarters built in 1919 (former Double NCO, Bldg 106), 2014. Front porch was originally open; vinyl windows are recent addition. This is only remaining World War I-era building in post. (Olmsted Center)



Figure 30. The WPA-built ordnance-administration building (Building 219, now storage) completed in 1937, looking north across Dunn Circle and lawn showing remnant ornamental plantings, 2014. (Olmsted Center)

Landscape Characteristic: Views and Vistas

Views and vistas are the prospect created by a range of vision in a landscape, conferred by the composition of other landscape characteristics and associated features.

Historic Condition (to 1967):

Fortification Area.

During the World War I era (1916–37), the open spatial character of Fort Tilden, with its grassy barrier beach environment, permitted panoramic views to the Atlantic Ocean and New York Harbor, as well as north to the Rockaway Inlet. With the construction of elevated earthen structures at Battery Harris, Battery Kessler, Battery Construction 220, and numerous other fortifications, the Army had multiple elevated views of the landscape and ocean horizon. Although the Army planted Jack pines and other trees in the fortification area, these were planted outside of the lines of fire from the batteries and strategic sight lines from battery control stations. During the Cold War, sight lines were maintained between the Nike NY-49 launch site and the two radar tracking stations (control areas), as part of the system used to align the radar units. (CLR 2013: 120)

Post-Historic and Existing Conditions:

Fortification Area.

Successional woods cover approximately ninety percent of the fortification area, blocking once panoramic views needed for strategic purposes. Interior views between the fortifications along the road and rail corridors have also been eliminated. Views of the ocean from the Battery Harris casemates, as well as from Battery Construction 220, Battery Kessler, and the HECP (Building 13) do remain in part. The views between the Nike launch and control sites were lost with demolition of the control sites and growth of successional woods. (CLR 2013: 120)

Landscape Features:

Feature Name	CLI Feature ID	Feature Contribution	CRIS-HS Resource ID	Associated CRIS-AR ID	FMSS Record Type	FMSS Record Number	FMSS Exact Match
--FORTIFICATION AREA--	173610						No
Battery Kessler downrange views from emplacements	173612	Contributing					No
Battery Construction 220 downrange views from emplacements and battery commander's station	173614	Contributing					No
Battery Harris East downrange views from emplacement	173616	Contributing					No
Battery Harris West downrange views from emplacement	173618	Contributing					No

Landscape Characteristic: Small Scale Features

Small-scale features are the elements that provide detail and diversity combined with functional and aesthetic concerns such as fencing, light poles, and signs.

Historic Condition (to 1967):
Fortification Area.

During the historic period, there was a variety of small-scale features that supported the military use of the fortification area, although no accurate record of these has been documented. Up through World War II, these included perimeter security fences and gates, fire hydrants, manhole covers, and signs, along with moveable vehicles and equipment. During the Cold War, several small-scale features were added to the landscape, primarily new fences and utility light poles around the Nike launch site and two radar tracking stations. (CLR 2013: 120)

Post Area.

Little documentation has been found on small-scale features in the initial development of the post during the World War I era (1916–37), aside from a flagpole and a perimeter fence of undetermined type. Beginning with the redesign of the post in 1937, a variety of small-scale features were added to the landscape for both utilitarian and security purposes: chain link fencing enclosing the perimeter of the post; brick entrance piers with concrete caps and lanterns flanking the entrances to gates 2, 9, and 10; and a flagpole on the parade ground set in a cut stone base with inscriptions of the installation, organization, and United States Coast Artillery insignia. There were also a series of stone bollards placed along Murray Road in front of the Building 1. During the Cold War era (1945–67), the stone bollards in front of Building 1 were removed. Overall, there is no accurate record of the small-scale features that were erected by the Army through 1967. (CLR 2013: 153)

Wharf Area.

During the World War I era (1916–37), there was a variety of small-scale features in the wharf area pertaining to the industrial and transportation-related operations there. A chain-link fence with barbed wire and ball finials on the posts ran along Rockaway Beach Boulevard. At the entrance walk to the headquarters building (Building 201), there was an approximately three-foot high wood sign that read: “Headquarters Fort Tilden.” On the dock, there was a series of iron bollards. During the World War II era (1937–45), various small-scale features were added to the wharf area as part of the redesign of Fort Tilden. These included a pair of brick piers and the new entrance at the ordnance/administration building (Building 219). No record was found of small-scale features during the Cold War era (1945–67). (CLR 2013: 158)

Post-Historic and Existing Conditions:
Fortification Area.

Since 1974, NPS has added some small-scale features, such as trash receptacles, benches, and signs, and has removed some of the fencing. (CLR 2013: 120)

Post Area.

Upon transfer to the NPS in 1974, Army signs were removed. There are few remaining small-scale features in the post landscape dating from the Army’s tenure through 1967. These include the post flagpole (presently in storage), the entrance gate piers (lanterns have been removed), and perimeter chain-link fencing. The NPS has added signs, lighting, trash receptacles, picnic tables, soccer goal posts, split-rail fencing, and sundry other small-scale features since 1974. Other groups, such as the Rockaway Artists’ Alliance and Rockaway Little League, have added backstops, goal posts, and outdoor sculpture, including a missile on the parade ground. (CLR 2013: 153-154)

Wharf Area.

Most of the historic small-scale features were removed from the wharf area after 1974 when Fort Tilden was transferred to the NPS. Surviving small-scale features dating from the historic period include the chain link perimeter fencing and entrance gate piers south of Building 219. A concrete birdbath is located along the western side of Dunn Circle close to Building 219 (origin unknown). Through the Riis Landing project completed in circa 2004, wood railings, iron and wood benches, and lights were added in and around the new parking area and ferry landing. A piece of outdoor sculpture was added near the new ferry dock. (CLR 2013: 158-159)

Landscape Features:

Feature Name	CLI Feature ID	Feature Contribution	CRIS-HS Resource ID	Associated CRIS-AR ID	FMSS Record Type	FMSS Record Number	FMSS Exact Match
--FORTIFICATION AREA--	173620						No
Power Plant (Battery Harris Power Plant #1 Fuel Tank) (BP-412)	173622	Contributing	23521				No
Power Plant (Battery Harris Power Plant #2 Fuel Tank) (BP-407)	173624	Contributing	8396		Location	35952	Yes
Perimeter Fencing	173626	Contributing					No
Manhole Covers	173628	Contributing					No
Nike NY-49 Security Light Poles	173630	Contributing					No
Telephone Poles	173632	Contributing					No
Fire Hydrants	173634	Undetermined					No
NPS Trash Receptacles	173636	Noncontributing – Compatible					No
NPS Signs	173638	Noncontributing – Compatible					No
--POST AREA--	173640						No
Basketball hoops	173642	Noncontributing – Compatible					No
Entrance gate piers	173644	Contributing					No
Fire hydrants	173646	Undetermined					No
Parade ground missile	173648	Noncontributing – Incompatible					No
Perimeter chain-link fencing	173650	Contributing					No
Post flagpole	173652	Contributing					No
NPS park and traffic signs	173654	Noncontributing – Compatible					No
NPS picnic tables	173656	Noncontributing – Compatible					No
NPS portable bleachers	173658	Noncontributing – Compatible					No
NPS street and parking-area lights	173660	Noncontributing – Compatible					No
NPS trash receptacles	173662	Noncontributing – Compatible					No
NYPD corral split-rail fencing	173664	Noncontributing – Incompatible					No
--WHARF AREA--	173666						No

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Benches	173668	Noncontributing – Compatible					No
Birdbath	173670	Undetermined					No
Dunn Circle/Building 219 entrance gate piers	173672	Contributing					No
Ferry dock sculpture	173674	Noncontributing – Incompatible					No
NPS park and traffic signs	173676	Noncontributing – Compatible					No
Parking lot and ferry walk lighting	173678	Noncontributing – Compatible					No
Perimeter chain-link fencing	173682	Contributing					No
Trash receptacles	173684	Noncontributing – Compatible					No
Wood railings at Riis Landing parking area	173686	Noncontributing – Compatible					No

Landscape Characteristic: Archeological Sites

Archeological sites are sites containing surface and subsurface remnants related to historic or prehistoric land use. Evaluation of archeological resources was beyond the scope of the CLR and this CLI. The following information is extracted from the 2013 CLR.

**Historic and Existing Conditions:
Fortification Area.**

As of 2005, a comprehensive archeological survey has not been undertaken to locate and evaluate archeological resources within the fortification area. There are numerous sites of buildings and structures related to the military use of the property between circa 1916 and 1974, but there is a low probability of prehistoric archeological resources because the site was open water into the nineteenth century. However, there may have been earlier barrier islands; coring samples undertaken in 1921 near Battery Harris revealed evidence of an earlier beach, with charcoal and wood traces in sands ten feet below sea level. (CLR 2013: 124)

Post Area.

As of 2005, there has not been a comprehensive archeological survey undertaken for the post area. As with the fortification area, there is little probability of pre-historic resources given that the site was open water into the nineteenth century. However, there may have been earlier barrier islands; coring samples undertaken in 1921 near Battery Harris revealed evidence of an earlier beach, with charcoal and wood traces in sands ten feet below sea level. Historic-period archeological remains of undetermined significance exist throughout the post, most relating to the demolished buildings and structures. Aside from the resources related to the military use of the post, there is also the site of the Coast Guard Life Saving Station Rockaway at the southeast corner of the post. This station was replaced by the large brick building completed in circa 1942 north of the post (Riis Landing); the Army acquired the site of the old station in circa 1962, and the frame station building was demolished around the same time. There were also a number of ancillary buildings. (CLR 2013: 154)

Wharf Area.

As of 2005, there has not been a comprehensive archeological survey undertaken for the wharf area. As with the fortification and post areas, there is little probability of pre-historic resources given that the site was open water into the nineteenth century. However, there may have been earlier barrier islands; coring samples undertaken in 1921 near Battery Harris revealed evidence of an earlier beach, with charcoal and wood traces in sands ten feet below sea level. Historic-period archeological remains of undetermined significance exist throughout the wharf area, most relating to demolished Army buildings and structures. The remnant pilings of the wharf are an archaeological resource. (CLR 2013: 159)

Condition

Assessment Interval (Years): 7
Next Assessment Due Date: 07/23/2032

Condition Assessment and Impacts

Condition Assessment: Poor
Assessment Date: 07/23/2025

Condition Assessment Explanatory Narrative:

While considerable progress has been made on improving the condition of existing landscape features since Superstorm Sandy through stabilization, rehabilitation, and replacement projects, the site is in a deteriorated state. Several features have been removed due to storm damage and/or lack of use. There are instances of vegetation encroachment and structural deterioration at the site. Maintenance activities have impacted the NIKE Launch Site and Missile Magazines.

Condition Assessment: Poor
Assessment Date: 09/23/2015

Condition Assessment Explanatory Narrative:

Vegetation in the fortification area continues to conceal structures and circulation systems, but vegetation and open spaces in the post and wharf area is maintained. A garbage transfer site is located around the buildings north of the Nike site, although dumping has stopped. Some buildings at the fort have been rehabilitated, but most remain abandoned and are in very poor condition. In October 2012, Hurricane Sandy destroyed the beachfront dune, exposed a previously unknown bulkhead, and damaged or destroyed about one-third of Shore Road. Sandy also damaged and destroyed buildings along the beach, impacted several roofs, and flooded several basements. After the storm, the park removed loose material and metal from the exposed bulkhead but subsequently, sand has recovered a majority of the structure.

In consultation with park staff, the condition of the Fort Tilden landscape is evaluated as “poor.” This indicates the property shows clear evidence of major disturbance and rapid deterioration by natural and/or human forces. Immediate corrective action is required to protect and preserve the remaining historical and natural values.

Impacts

Type of Impact:	Exposure to Elements
Other Impact:	n/a
External or Internal:	Internal
Impact Narrative:	Allowing weathering of the buildings, structures, roads, and small-scale features imparts a compatible sense of time passage and history to the landscape, but has led to substantial loss of historic character in the landscape.
Date Identified:	08/19/2015
Type of Impact:	Structural Deterioration
Other Impact:	n/a
External or Internal:	Internal
Impact Narrative:	Within the fortification area, the military buildings and structures, such as the casemates, magazines, power plants, gun platforms, and Nike launch pads, are among the most important landscape features. Several buildings are in an advanced state of deterioration: the roofs have collapsed on several magazines, earthen casemates are eroding, concrete wingwalls are spalling, and vandals are causing damage. Many buildings and structures have been obscured by blowing and drifting sand.
Date Identified:	08/19/2015
Type of Impact:	Release To Succession
Other Impact:	
External or Internal:	Internal
Impact Narrative:	Successional woody vegetation has taken over much of the site especially in the Fortification Area.
Date Identified:	07/23/2025
Type of Impact:	Accretion of noncontributing features
Other Impact:	
External or Internal:	Internal
Impact Narrative:	Ball fields, the 'Rockaway Little League Fields', and the community gardens encroach on the landscape.
Date Identified:	07/23/2025

Type of Impact: Erosion

Other Impact:

External or Internal: Internal

Impact Narrative: Erosion around the Rockaway groins is an ongoing problem at this coastal site.

Date Identified: 07/23/2025

Type of Impact: Fire

Other Impact:

External or Internal: Internal

Impact Narrative: Building T-9 was demolished after a fire destroyed the structure.

Date Identified: 07/23/2025

Type of Impact: Inundation/Flooding

Other Impact:

External or Internal: External

Impact Narrative: The site's flat topography and high-water table make it vulnerable to flood events.

Date Identified: 07/23/2025

Type of Impact: Inundation/Sea Level Rise

Other Impact:

External or Internal: External

Impact Narrative: An increase in the elevation of the mean sea level (MSL) of ocean and bay waters may cover typically dry land at the site.

Date Identified: 07/23/2025

Type of Impact: Inundation/Storm Surge

Other Impact:

External or Internal: External

Impact Narrative: Amplified tides during severe low pressure weather systems may flood the site.

Date Identified: 07/23/2025

Type of Impact: Operations On Site

Other Impact:

External or Internal: Internal

Impact Narrative: Park maintenance activities have impacted NIKE resources

Date Identified: 07/23/2025

Type of Impact: Planting Practices

Other Impact:

External or Internal: Internal

Impact Narrative: There is a community garden onsite.

Date Identified: 07/23/2025

Type of Impact: Vandalism/Theft/Arson

Other Impact:

External or Internal: Internal

Impact Narrative: Structural deterioration of various structures has allowed access to vandals. Graffiti is an ongoing problem.

Date Identified: 07/23/2025

Type of Impact: Vegetation/Invasive Plants

Other Impact:

External or Internal: Internal

Impact Narrative: While natural succession imparts a compatible sense of time passage and history to the landscape, it has led to substantial loss of historic character in the landscape. In the fortification area, successional woods and invasive vines have taken over former open spaces and earthen-covered defensive works, obscured historic roads and rail lines, and blocked strategic views and vistas that are an integral part of interpreting the historic design of the fortifications.

Date Identified:

Treatment

Stabilization Measures

Treatment Documents

Treatment Type: Rehabilitation

Treatment Completed: No

Document Type: General Management Plan

Document Date: 2014-06-11

Title:

IRMA Link:

Narrative:

In April 2014, the park completed “A New Vision for a Great Urban National Park, Gateway National Recreation Area: Final General Management Plan/Environmental Impact Statement.” The NPS preferred alternative—“Alternative B: Discovering Gateway”—provides the widest range of activities and most recreation opportunities in dispersed locations throughout the park, and offers the most instructional programming and skills development and draws people into the park to increase awareness and enjoyment of Gateway’s historic resources and the natural environment. (GMP/EIS 2014: viii)

Recreation and Visitor Experience in the Jamaica Bay Unit:

The Jamaica Bay Unit would offer an unmatched variety of recreational opportunities. In partnership with New York City and other groups, the NPS would attract neighborhood, regional and distant visitors with new and improved amenities and recreation facilities (e.g., trails, camp sites); more community-based recreation such as sports leagues and event spaces; and enhanced interpretive and environmental educational programming. With development of water trails, water skills programming, equipment rentals, and the expansion of beach access, the Jamaica Bay Unit would be established as a popular recreation destination for water-based activities. The combination of improved transportation infrastructure and widespread outreach and promotion, would ensure that these new opportunities for outdoor recreation, learning and skill building are accessible and popular among diverse audiences.

Under this alternative, the park lands would provide opportunities for youth and families to experience nature and to develop the skills and knowledge that will foster a lifelong stewardship and enjoyment of the outdoors. New facilities at Fort Tilden and Bergen Beach areas including trails, overlooks, viewing blinds, kayak launch sites, outdoor classrooms and campsites would provide more convenient access to natural areas and facilitate the exploration of Gateway’s varied natural environments. These resource-based experiences would be complemented by opportunities to experience and learn about history and the park’s significance through guided interpretive activities, interpretive media, and educational programming.

New multiple day experiences would be developed and promoted on NPS and New York City park lands throughout Jamaica Bay. A variety of camping options from special programs in unique locations to a variety of tent, structural and recreational vehicle (RV) sites would enhance the national park experience. Lodging accommodations in historic buildings and associated support areas would be explored. (GMP/EIS 2014: viii-ix)

Resource Management in the Jamaica Bay Unit:

Partners sharing the NPS vision for a healthy and restored Jamaica Bay are numerous. In both action alternatives, NPS would continue cultivating and leveraging partnerships to accomplish natural resource objectives. Improving water quality within Jamaica Bay would be prioritized along with restoring degraded stretches of coastal habitats. Natural resource protection and restoration efforts in the Jamaica Bay Unit would focus on softening hardened coastal edges, restoring wetland and coastal habitats, and creating additional freshwater wetlands. Increased use would be balanced with additional monitoring and management of wildlife and habitats. NPS would work closely with New York City and other landowners to build the resiliency of coastal habitat and to improve conditions along the entire Rockaway coastline. Together the agencies would produce a

holistic shoreline management plan that would help guide recovery efforts and future uses and development.

Historic structures and landscapes would be stabilized, and preserved for recreation, visitor services, education, and sustainable energy. Creative solutions would be found to continue use and adapt to future flooding, storms and other climate change related events. Mobile technology and other innovative media would enrich communication about the park land's history and significance. (GMP/EIS 2014: ix)

Access and Transportation in the Jamaica Bay Unit:

Access to and within Jamaica Bay would be made more affordable and convenient through improved bike infrastructure, public transportation, ferry service and park shuttles. In partnership with its New York City partners, NPS would complete and expand the Jamaica Bay Greenway and trail network. The Jamaica Bay park lands and surrounding communities would also be connected via a system of land-based shuttles as well as water trails, water taxis and ferry service. (GMP/EIS 2014: x)

The 2013 report, "Cultural Landscape Report for Fort Tilden, Gateway National Recreation Area, Rockaway Beach, New York: Site History, Existing Conditions, Analysis and Evaluation, and Treatment Guidelines," recommends rehabilitation (as defined by the Secretary of the Interior's Standards) be adopted as the appropriate treatment for Fort Tilden to allow the continued adaptive reuse of the historic landscape. This treatment approach is compatible with the park's Development Concept Plan/Environmental Assessment (completed in 1986, revised 1988) and its most recent planning document for Fort Tilden. (CLR 2013: 8)

Within the fortification area, the CLR's general treatment recommendations including clearing successional woods from select areas, in a manner compatible with natural resource protection. Such limited clearing would enhance the historic character of primary structures and make visible key defensive and operational relationships in the landscape, particularly sight lines to the Atlantic Ocean, and road and rail corridors. Historic structures should be repaired and protected. (CLR 2013: 8)

Within the post and wharf areas, surviving features from the military use and development of the property, including streets, trees, flagpole, entrance gates, perimeter fences, and buildings, should be retained to enhance the historic military character of the landscape and retain a sense of place. Existing historic materials should be retained and repaired, rather than replaced with incompatible materials, such as vinyl windows and siding. New construction should be designed in keeping with the overall style of extant World War II-era red brick and frame structures, and be sited to enhance historic spatial organization, especially at the parade ground. (CLR 2013: 9)

Approved Treatment Costs

Cost Narrative:

Treatment Type: See CLR

Treatment Completed: No

Document Type: Cultural Landscape Report

Document Date: 2013-01-01

Title: Fort Tilden: Cultural Landscape Report, Gateway National Recreation Area, National Park Service

IRMA Link: <https://irma.nps.gov/DataStore/Reference/Profile/2197717>

Narrative:

Approved Treatment Costs

Cost Narrative:

Bibliography and Supplemental Information

Bibliography:

Citation Author	Citation Title	Year of Publication	Citation Publisher	Citation Type	Citation Location	Citation Number
G.W. & C.B. Colton & Co.	"Map of New York City, Brooklyn, and Vicinity..."	1885	Library of Congress			
n/a	"Statement for Management and Environmental Assessment, Gateway National Recreation Area, New York/New Jersey."	1976	U.S. Department of the Interior, North Atlantic Region, National Park Service			
Wrenn, Tony P.	"General History of the Jamaica Bay, Breezy Point, and Staten Island Units, Gateway National Recreation Area, New York, NY."	1975	U.S. Department of the Interior, North Atlantic Region, National Park Service			
Selvek, Christina and John Auwaerter	"Cultural Landscape Report for Fort Tilden, Gateway National Recreation Area, Rockaway Beach, New York: Site History, Existing Conditions, Analysis and Evaluation, and Treatment Guidelines."	2013	State University of New York and National Park Service			
Pitcaithley, Dwight and Michael Wurm	"National Register of Historic Places Inventory-Nomination Form, Fort Tilden Historic District." 23 June 1982 (revision of 1979 draft).	1982	n/a			

Fort Tilden
Gateway National Recreation Area

National Park Service	"A New Vision for a Great Urban National Park, Gateway National Recreation Area: Final General Management Plan / Environmental Impact Statement."	2014	U.S. Department of the Interior, National Park Service			
National Park Service	"General Management Plan, Gateway National Recreation Area, New York/New Jersey."	1979	U.S. Department of the Interior, North Atlantic Region, National Park Service			
National Park Service	"Draft Development Concept Plan/ Environmental Assessment, Jacob Riis Park/ Fort Tilden, Breezy Point District, Gateway National Recreation Area, New York."	1988	U.S. Department of the Interior, National Park Service,			
National Park Service	"Development Concept Plan/Environmental Assessment, Jacob Riis Park/Fort Tilden, Breezy Point District, Gateway National Recreation Area, New York."	1986	U.S. Department of the Interior, Denver Service Center, National Park Service			
National Park Service	"Determination of Eligibility Notification: Fort Tilden Historic District."	2009	n/a			
Lewis, Emanuel Raymond	Seacoast Fortifications of the United States: An Introductory History	1979	Annapolis, MD: Naval Institute Press			

Fort Tilden
Gateway National Recreation Area

Greenwood, Richard and Ricardo Torres	"National Register of Historic Places Inventory-Nomination Form, Fort Tilden Historic District." 30 June 1976, revised April 1977.	1977	n/a			
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Landscape Documents:

File Name	Date	Attachment Type
GATE_Battery Weed-Floyd Bennett-Fort Hancock Post Grounds-Fort Tilden_CLI Updates Notes_2025.pdf		

Source