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Balancing Past and Present:
The Cultural Landscape of Floyd Bennett Field

Sarah K. Cody

A thesis
submitted in partial fulfillment
of the requirements for the
Master of Science Degree
State University of New York
College of Environmental Science and Forestry
Syracuse, New York
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Approved: Department of Landscape Architecture

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Lastly, I would like to dedicate this thesis to my bike, which made the ultimate sacrifice in the name of Floyd Bennett Field.

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ABSTRACT

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This thesis is based on the methodological framework developed by the National Park Service for use as a Cultural Landscape Report. Through in depth research and analysis of available primary and secondary documentation, the thesis provides a comprehensive history and evolution of Floyd Bennett Field's landscape. When first constructed, Floyd Bennett Field served as New York City's first municipal airport. While it operated as a military base for much of its history, today it is part of Gateway National Recreation Area.

A number of recommendations are included based on the findings of in-depth research and documentation. It is recommended that the period of significance is extended from 1928 – 1945. The National Register historic district boundary should also be expanded to include World War II development. The thesis explores the balance of the landscape's history with the demand for new use and the comprehensive history of the evolution of Floyd Bennett Field provides a framework for future exploration and treatment of the landscape.

Keywords: Floyd Bennett Field, cultural landscape preservation, Cultural Landscape Report, National Park Service, Gateway National Recreation Area, aviation history, World War II

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The ideas and opinions expressed in this publication are those of the author and should not be interpreted as those of the State University of New York College of Environmental Science and Forestry.

INTRODUCTION

Everyday thousands of people board and disembark at John F. Kennedy airport (JFK) in New York City. As aircraft approach, a fraction of those passengers may notice another, seemingly abandoned airfield located just across Jamaica Bay. Even passengers who have flown through JFK many times before wonder what this vast landscape is and how it eluded them for so long. The airport is Floyd Bennett Field, and despite its appearance from the vantage point of a passenger aboard a plane, this landscape is anything but deserted. (Figure 0.1) Floyd Bennett Field has a complicated history that has undergone several transformations, which is evident in the landscape today. Constructed in 1928, Floyd Bennett Field was New York City's first municipal airport. With its long, concrete runways and its unified architectural design, the airport was considered to be one of the finest airports in the world at that time. While it operated as a military base for three decades, today Floyd Bennett Field is one component of Gateway National Recreation Area, a 26,000 acre public park. Today, Floyd Bennett Field is the largest expanse of open land in New York City, totaling approximately 1,450 acres. Every year nearly one million people visit the landscape for its range of recreational facilities. However, few of the visitors know the landscape's true story, a fact which this thesis will begin to change.

The thesis provides a comprehensive understanding of the landscape history and contemporary use of Floyd Bennett Field. The thesis is based largely on National Park Service (NPS) Cultural Landscape Report (CLR) methodology. As defined by the NPS, a CLR is the primary guide for the management of a cultural landscape.[1] While the CLR provides the methodological framework, the thesis adapts it based on site specific characteristics in order to present information on the landscape in a way that is understandable and accessible. Through in depth historical research and an analysis of the landscape's existing character, the thesis seeks an understanding of how to balance history with new use while allowing for continual change. In order to achieve this understanding, the thesis has been developed with four broad research objectives: to provide a comprehensive narrative of the history and evolution of the Floyd Bennett Field landscape; to understand the implications of the landscape's changing use and appearance on its historic significance and interpretation; to provide an understanding of the implications of the interpretation of Floyd Bennett Field's history on management of the landscape; and to foster knowledge of how to document, analyze, and evaluate cultural landscapes. Ultimately, this project weaves together past and present into one cohesive landscape report and analysis, which might serve as a visionary framework for the future of the site.

PURPOSE AND METHODOLOGY

The thesis includes a physical history of the site, documentation of existing conditions, and an analysis and evaluation of landscape characteristics and associated features. Documentation

focuses on the existing National Register-listed Floyd Bennett Field Historic District. It more fully documents the history of its landscape, clarifies National Register documentation, and evaluates landscape characteristics and features contributing to the historic character of the site. In addition to the existing historic district, the thesis also addresses the surrounding landscape that was part of Naval Air Station, New York (NAS, New York), an area that has not been previously evaluated for National Register eligibility.

In addition to the four broad objectives developed to guide the thesis, it also addresses three specific objectives. The first objective is to document the evolution of the municipal and military landscape in order to understand how potential future development might impact significant landscape characteristics and features. Second, the thesis provides contextual documentation on the history of American airfield landscapes, both civilian and military, sufficient to evaluate the historical significance of the landscape at Floyd Bennett Field. Third, the thesis documents and evaluates the changing historical appearance of the overall landscape character and its associated landscape features.

This thesis has been developed following the *Guide to Cultural Landscape Reports: Contents, Process, and Techniques* (National Park Service, 1998, reprinted 2005). Research has been undertaken at a thorough level of investigation, involving studying primary holdings at the Gateway National Recreation Area archives at Fort Wadsworth, Staten Island, and at the National Archives in Washington, D.C. and College Park, Maryland.[2] Primary and secondary sources such as photographs, aerial images, textual descriptions, land use documents, and management documents were examined to gain in-depth information regarding the physical development of Floyd Bennett Field as well as its significance in aviation and military history.

Research included examining all available documentation dating from early settlement of the local area through present-day. Of the available documentation, the majority of information found focused on the Floyd Bennett Airport era (1928 – 1941) and the World War II era (1941-1945). While research uncovered adequate sources that provided information for the post-World War II eras, a lack of primary documentation exists for the Tidal Estuary and Early Development era (pre-history – 1928). For this reason, the pre-history – 1928 section relies heavily on secondary sources.

A series of plans aids in the analysis of the development of the cultural landscape. In order to develop the plans, a combination of methods was employed. Historic photographs and maps were examined and compared to determine what changes occurred in the landscape throughout different periods of history. Field inspections were conducted to determine the existing features in the landscape and identify what remnants might remain from earlier periods. Also, interviews and consultations with knowledgeable individuals, including park staff and architectural historians helped inform the understanding of the landscape's evolution.

Development of the thesis has been overseen by a core faculty committee from the Department of Landscape Architecture at the State University of New York, College of Environmental Science and Forestry (SUNY ESF) and by staff at the Olmsted Center for Landscape Preservation (OCLP).

PROJECT SETTING AND STUDY BOUNDARIES

Floyd Bennett Field is located on the western end of Long Island, at Brooklyn's southeast corner. Directly to the north of Floyd Bennett Field are Brooklyn and Queens. Manhattan and the Bronx are located approximately twenty miles north. Staten Island and New Jersey are located west of Floyd Bennett Field. (Figure 0.2) While New York City is densely developed, Floyd Bennett Field remains comparably open, contrasting with its surroundings. Brooklyn's closest neighborhoods to Floyd Bennett Field include Canarsie, Mill Basin, Sheepshead Bay, and Marine Park. (Figure 0.3) Floyd Bennett Field is considered to be a part of Marine Park. Located at the southern end of Flatbush Avenue in the borough of Brooklyn, Floyd Bennett Field is bordered by water to the east by Jamaica Bay, to the south by Rockaway Inlet, and to the west by Dead Horse Bay. Although the north end of the site is connected with mainland Brooklyn, Mill Basin borders a portion of the northern end of the site. The Gil Hodges Memorial Bridge extends from the southern end of the site across Rockaway Inlet to Rockaway Peninsula, separating the former island from the Atlantic Ocean.

Part of the Jamaica Bay Unit of Gateway National Recreation Area (Gateway NRA), Floyd Bennett Field is an expansive, 1,450-acre former municipal airport and military base. Gateway NRA is divided into three units: Jamaica Bay Unit, Staten Island Unit, and Sandy Hook Unit. In total, Gateway NRA includes nine public sites. Jamaica Bay Unit includes five of the nine sites: Floyd Bennett Field, Jacob Riis Park, Fort Tilden, Jamaica Bay Wildlife Refuge, and Canarsie Pier. (Figure 0.4) It has been used primarily as a recreation park since its inclusion in Gateway NRA in 1972

Currently, the NPS owns most of the land historically associated with Floyd Bennett Field. The NPS property encompasses all areas east of Flatbush Avenue and south of the Shore (Belt) Parkway, except for the area now owned by the U.S. Army and used as a U.S. Armed Forces Reserve Center. The NPS also owns the Gateway Marina, west of Flatbush Avenue. For the purposes of the thesis, the study boundaries include only the property historically associated with Floyd Bennett Field and Coast Guard Air Station Brooklyn, acquired by the NPS in 1996. (Figure 0.5)

Areas of the landscape addressed in the thesis are based on historic and current management practices. The Site History chapter addresses the development of the entire historic parcel, including the U.S. Armed Forces Reserve Center, which historically was part of NAS, New

York. The Existing Conditions and Analysis & Evaluation chapters address areas presently under NPS administration, including the Floyd Bennett Field Historic District, the Coast Guard Air Station Brooklyn and areas the Navy developed during World War II. Secondary areas of focus include post-World War II development and areas that do not retain a high level of integrity. Areas not owned by the NPS are addressed in the Existing Conditions and Analysis & Evaluation chapters only to the extent that they influence the treatment of the focus landscape.

The historic significance of Floyd Bennett Field has been recognized for some time. In 1980, approximately 329 acres of the Floyd Bennett Field landscape were listed in the National Register of Historic Places. The boundary of the historic district follows the boundaries of the original airport property, with the exclusion of a section of one runway which the NPS did not own at the time of the listing. For its inclusion in the National Register, Floyd Bennett Field has been recognized for its significance in both aviation and military history. The historic district is located within the center of the study area. (See Figure 0.5)

REPORT ORGANIZATION

The thesis for Floyd Bennett Field is organized into three chapters: Site History, Existing Conditions, and Analysis & Evaluation. The conclusion provides a summary of the findings of the preceding chapters of the thesis as well as recommendations for further exploration.

CHAPTER 1: SITE HISTORY

This chapter provides a narrative of the physical history of the landscape from pre-history to present day, focusing on the initial development of Floyd Bennett Airport in 1928 to the present. The chapter is broken down into five periods, each representing a distinct time defined by changes in land use, development, and/or ownership. The five historic periods are: Tidal Estuary and Early Development, Pre-History–1928; Floyd Bennett Airport, 1928-1941; Naval Air Station, New York, World War II, 1941-1945; Naval Air Station, New York, The Cold War, 1945-1972; and Floyd Bennett Field, Gateway National Recreation Area, 1972-Present. Historical photographs, base maps, and other illustrations support the narrative for each historic period. Period plans for each period supplement the text. As changes to landscape characteristics and features are described in the text, readers should refer to the appropriate period plan.

CHAPTER 2: EXISTING CONDITIONS

This chapter provides a narrative overview of the landscape and its physical context as it currently exists (in 2007). This is based on site research and surveys, including on-site observations and documentation of existing features. The narrative is organized into six primary landscape character areas: Hangar Row, with the airport entrance as a secondary

character area; the airfield; the Navy Seaplane Patrol Base; Coast Guard Air Station Brooklyn; North 40 Natural Area; and the South Support Area. Supporting photographs and an existing conditions plan supplement the narrative. As landscape characteristics and features are described in the text, readers should refer to the existing conditions plan.

CHAPTER 3: ANALYSIS & EVALUATION

This chapter provides an assessment of historic significance and an evaluation of landscape characteristics and features. Divided into two sections, the first section of the chapter provides the assessment of historic significance, which is based on National Register methodology. It includes a review of existing National Register documentation, recommendations for amending the existing documentation, and an evaluation of landscape integrity according to National Register criteria. The second section is based on current NPS cultural landscape methodology and provides the landscape evaluation, which is organized into two parts. The first focuses on the evaluation of landscape characteristics and features within a proposed expanded Floyd Bennett Field Historic District, which includes Hangar Row, the airfield, the Navy Seaplane Patrol Base, and the Coast Guard Air Station. The second provides a summary evaluation of those areas outside the proposed expanded historic district, the North 40 Natural Area and the South Support Area. Supporting photographs and evaluation plans depicting the level of change that has occurred in the landscape since 1941 and 1945 supplement the findings of the chapter. As landscape characteristics and features are described in the text, readers should refer to the appropriate evaluation plan.

HISTORICAL OVERVIEW

The following historical overviews give a summary of the physical development of the Floyd Bennett Field landscape. The overview is organized by time periods, corresponding to the organization of the Site History chapter. The historical overview is meant to introduce the landscape's development through time.

TIDAL ESTUARY AND EARLY DEVELOPMENT, PRE-HISTORY–1928

Floyd Bennett Field is located in the tidal estuary of Jamaica Bay. Prior to construction, the area of Floyd Bennett Field was comprised of approximately fifteen small islands separated by several creeks, bays and channels. Barren Island was one of the largest in the coastal island system of Jamaica Bay. As its name suggests, Barren Island was a flat, expansive island. While settlers occupied the city of Brooklyn, Barren Island went uninhabited until c. 1800, when a private resident opened a hotel to accommodate local fishermen. Industrial development emerged soon after. Throughout the second half of the nineteenth century, Barren Island developed rapidly. It became an active industrial center, with operations focused on disposal

and rendering of waste from Manhattan. As industry grew, Barren Island developed a permanent population. Since Barren Island was isolated from inland Brooklyn, it was primarily accessed by boat, although during times of low-tide, the island could be accessed by foot. Because of the limited accessibility, it was necessary for a self-sufficient community to develop surrounding the industry. Most residents on the island worked in the factories, although eventually many other businesses and institutions developed to support the growing community. As the surrounding city of Brooklyn grew and vehicular transportation routes were established, the community became much less isolated. The Barren Island community, which emerged during this early period, developed as a distinct cluster on the southeastern corner, leaving a large portion of the island undeveloped marshlands, later to be developed for Floyd Bennett Airport. Industry on the island peaked just after the turn of the twentieth century then rapidly declined.

FLOYD BENNETT AIRPORT, 1928–1941

At the same time that the Barren Island industrial operations were declining, New York City officials recognized the potential for the development of Jamaica Bay. In 1906, efforts began to turn the bay into a major commercial port and industrial center. In 1910, federal and city funds were dispensed to begin dredging Jamaica Bay. The project sought to create not only a valuable harbor, but also developable land. Progress was extremely slow for the harbor project and construction was stopped several times due to legal issues and lack of funds. In spite of the fact that the vision of Jamaica Bay as a grand commercial hub was never realized, city officials did not forget the inherent development potential of Jamaica Bay.

By the mid-1920s, commercial aviation was gaining popularity and municipalities throughout the country were constructing airports. For a number of reasons, city officials were slow to respond to the demand for a local airport; by the time action was taken to establish an airport, New Jersey officials were already constructing Newark Airport, which ultimately limited the potential of commercial success for Floyd Bennett Airport. In 1927, city officials chose Barren Island and the tidal area directly north of the island for the location of Floyd Bennett Airport, New York City's first municipal airport. One of the key reasons New York City officials chose this location was the access to water. Seaplanes were gaining in popularity and it was therefore essential that the airport have the potential to develop seaplane facilities. Construction of the airport began in 1928 with almost all airport facilities located on the western edge of the site, along Flatbush Avenue. The airport officially opened for commercial transport on May 23, 1931.

During the Great Depression, construction and improvements were addressed through the Works Progress Administration (WPA). These federally funded work crews completed several projects on site from 1934-1938 that enhanced existing facilities. Much of the WPA work focused on the western side of the property and on expanding the landing capabilities of the airfield.

With the runway expansion completed, the facilities at Floyd Bennett Airport were considered to be among the best in the nation. Unfortunately, the airport never achieved commercial success. In early commercial aviation development in the United States, most airports could only cover operation costs by securing airmail contracts with the United States Post Office Department. Since the Newark Airport opened in 1928, three years before Floyd Bennett Airport, airmail services to New York City were awarded to Newark. Although New York City officials fought for several years to reverse this decision, there was no way to justify the costs of changing the airmail contract. Financially, the city's first municipal airport was a failed venture.

While Floyd Bennett Airport was designed primarily as a commercial airport, the U.S. military had an influential presence at the airfield. The Navy occupied parts of the Hangar Row facilities for aviation training as early as June 1931. Over the years, the U.S. Navy gradually leased more facilities, expanding the aviation-training base. The Coast Guard also leased an area of the field from the City, erecting a Coast Guard Air Station in 1936 on the eastern side of the airport. Aside from the city's seaplane ramp, the Coast Guard facilities were the first to be established in the eastern side of the field. Similar to the clustered arrangement of Barren Island's factories and of Floyd Bennett Airport's initial buildings, the Coast Guard developed the air station in a distinctive cluster, fronting on Jamaica Bay.

As U.S. involvement in World War II began, the Navy needed to develop a full naval air station in the New York City area. Despite efforts to identify alternate locations, the Department of Defense pressured the Navy to establish the station quickly, and ultimately decided to expand their facilities at Floyd Bennett Field. The financial shortcomings of the airport coincided with the increase in national defense programs, which ultimately created an opportunity for the Navy to obtain ownership of the site.

NAVAL AIR STATION, NEW YORK
FLOYD BENNETT FIELD AND WORLD WAR II, 1941–1945

Discussions between the Navy and New York City officials regarding the sale of Floyd Bennett Airport began as early as 1939. It was not until early 1941 that the Navy submitted a formal request to purchase Floyd Bennett Airport from the City. Not wanting to lose their first municipal airport, city officials resisted, instead offering to lease the property to the Navy. Initially, the Navy accepted the offer, although they continued negotiations to purchase the airfield. On May 26, 1941, the City closed Floyd Bennett Airport to commercial traffic. One week later, the Navy officially commissioned Naval Air Station, New York, Floyd Bennett Field. The Navy leased the property for approximately eight months. After many negotiations, New York City received $9.25 million for the airport. On February 9, 1942, a declaration of taking was filed and the Navy officially owned New York City's first municipal airport.

In its first few years of occupation, the Navy extensively developed the site, filling and grading the areas north and south of the original airport, constructing numerous buildings and improving existing facilities. The resulting air station supported the overall increase in personnel and equipment. The majority of buildings and structures the Navy constructed during World War II were support facilities, such as barracks, transformer vaults, warehouses, and office buildings, and the airport's Administration Building and hangars served as the primary operating facilities. As the Navy continued development along Hangar Row and Jamaica Bay, it also developed the newly filled areas of the site. The Navy erected a communications complex in the site's northern portion, currently known as the North 40 Natural Area and an extensive support area was established in the southern half of the landscape.

NAVAL AIR STATION, NEW YORK
FLOYD BENNETT FIELD AND THE COLD WAR, 1945-1972

At the close of World War II, military operations decreased across the nation, which led to the redesignation of NAS, New York as a naval air reserve training station. With decreased use, there was little new development in the years immediately following the war. The Navy began to lease areas of the field to outside agencies, including the New York City Police Aviation Bureau, the U.S. Air Force, and U.S. Army. In 1946, the Navy made an agreement with the City of New York to allow limited commercial operations. However, in the early 1950s, Floyd Bennett Field was reinvigorated as the United States became involved in the Cold War and the Korean War. The increased demand on the airfield forced the Navy to revoke their permit with New York City and redesignate the airfield as NAS, New York.

The Navy's increased activities at NAS, New York never reached the height of the World War II activities. However, the increase in use of the naval air station lasted until the early 1960s and during the Vietnam War. As troops withdrew from overseas, the United States experienced a widespread military demobilization. Again, the national demilitarization created a drastic decrease in use at Floyd Bennett Field and by the mid-1960s the Navy considered shutting down all operations at the airfield. Rather than a sudden shut down, the Navy gradually slowed operations, closing individual facilities at the site. In June 1971, the U.S. government officially decommissioned NAS, New York. The only on-site Naval operations to remain were at the seaplane patrol base on the eastern edge of the field, operating as Naval Air Reserve Detachment (NARDET).

When the airfield closed, the City proposed a large-scale housing development with industry and retail. Many public officials and community residents opposed the plan, not wanting to see this vast expanse of open land developed. In the end, the Department of Defense transferred ownership of the land to the Department of the Interior for inclusion in a new national recreation area. In October 1972, the federal government passed legislation establishing Gateway NRA, one of the first urban park systems in the nation. The new park was opened to the public in 1974.

Gateway NRA included over 26,000 acres, bringing together recreational, natural, and cultural resources in both New York and New Jersey. Floyd Bennett Field encompassed approximately 1,450 of the total acreage and included most of the former naval air station. Floyd Bennett Field was one of the largest properties within Gateway NRA. (See Figure 0.4) Areas of NAS, New York not transferred to the NPS were 100 acres on Rockaway Inlet, retained by the U.S. Army as an Armed Forces Reserve Center; the southeast half of Runway 12-30, which the NPS transferred to the Coast Guard as part of their air station; and the tract of land surrounding the Navy patrol hangar, which the Navy kept as part of NARDET until its decommissioning in 1983. The NPS also acquired new land not associated with the historic airfield; land west of Flatbush Avenue, including part of the Brooklyn Marine Park, became part of the new park. In 1996, the NPS acquired the Coast Guard property and now leases the area, including the portion of Runway 12-30 to the New York City Police Department. (See Figure 0.5)

Throughout the years, the NPS has developed management documents to guide the treatment of the site, although none focus exclusively on the landscape. Numerous changes have occurred in the landscape. The NPS has worked with a number of not-for-profit organizations to develop different recreational opportunities on site. These include Aviator Sports and Recreation, an organization formed specifically to construct an extensive indoor/outdoor sports complex on Hangar Row; the Floyd Bennett Garden Association, which manages the community garden plots; and the Historic Aircraft Restoration Project (H.A.R.P.) headquartered in Hangar B. Since NPS ownership in 1972, several buildings and structures have been demolished.



Figure 0.1: View looking east towards Floyd Bennett Field from an aircraft approaching John F. Kennedy Airport, 19 April 2007. (Photo courtesy of David Washburn, SUNY ESF).



Figure 0.2: Floyd Bennett Field, located at the western end of Long Island, shown in context with the five boroughs of New York City. (SUNY ESF).

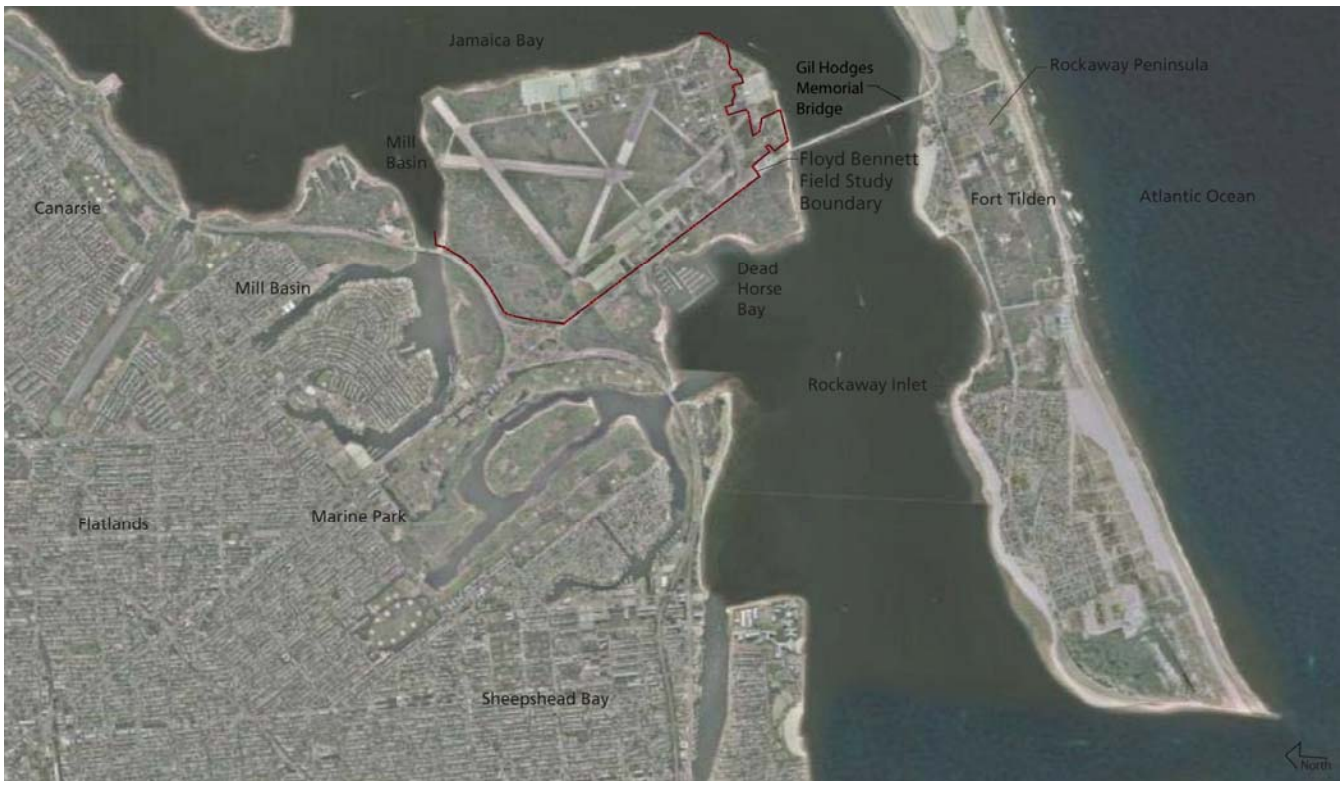


Figure 0.3: Aerial view of Floyd Bennett Field and its surrounding neighborhoods. The open character is in sharp contrast with densely developed Brooklyn. (Google Earth [c.2005], annotated by SUNY ESF).



Figure 0.4: Location map of Gateway National Recreation Area showing Floyd Bennett Field in relation to other park components (in green). (National Park Service, "The National Parks of New York Harbor Regional Map" *Gateway National Recreation Area Maps,* [2004] http://www.nps.gov/gate).



Figure 0.5: Aerial view of Floyd Bennett Field showing study boundaries and important areas. (Google Earth [c. 2005]; annotated by SUNY-ESF).

ENDNOTES

[1] Robert Page, Cathy Gilbert, and Susan Dolan. *A Guide to Cultural Landscape Reports: Contents, Process, and Techniques*, (Washington D.C.: U.S. Department of the Interior, National Park Service, Cultural Resource and Stewardship and Partnerships, Park Historic Structures and Cultural Landscapes Program, 1998), 3.

[2] According to *NPS-28: Cultural Resource Management*, a thorough level of investigation is defined as reviewing "published and documentary sources of known or presumed relevance that are readily accessible without extensive travel and that promise expeditious extraction of relevant data, interviewing all knowledgeable persons who are readily available, and presenting findings in no greater detail than required by the task directive."

CHAPTER 1: SITE HISTORY

TIDAL ESTUARY AND EARLY DEVELOPMENT, PRE-HISTORY–1928

While the present-day Brooklyn developed relatively rapidly, the Jamaica Bay area remained undeveloped during much of this early period. The interior of the bay was made up of a series of islands, creeks, inlets, and marshes. Because the islands were comprised mainly of deposited sand and the natural tides of the bay and the Atlantic Ocean were quite strong, the landforms within the bay continually shifted. This condition resulted in very little stable land in Jamaica Bay, making it difficult to develop.

The largest area of stable land in Jamaica Bay was Barren Island, in the southwest corner of the bay, fronting on the ocean. As industry and manufacturing grew in the city of Brooklyn, this area of Barren Island was used to develop garbage rendering and processing plants. Eventually, the industry began to decline and New York City officials began to consider other possible uses for Jamaica Bay. While the initial proposal concentrated on transforming Jamaica Bay into a major harbor and shipping port, the bay was eventually selected as the site for New York City's first municipal airport. In 1928, New York City's Department of Docks constructed Floyd Bennett Field on an engineered landmass north of Barren Island, within the tidal estuary of Jamaica Bay.

While the pre-history of Jamaica Bay may not directly relate to the physical landscape of Floyd Bennett Field today, it is important to understand the area's natural environment and early developmental history. As the site is essentially landfill, an understanding of the natural processes of Jamaica Bay can help to inform future planning issues relating to natural resource management. It should be noted that a lack of documentation exists for the Tidal Estuary and Early Development era (pre-history – 1928). For this reason, the pre-history – 1928 section relies heavily on secondary sources. Also as a result of available documentation, the period plan included for this era depicts the landscape's condition at the end of the period, in 1928, rather than the changes made throughout the entire period. As landscape characteristics and features are described in the text, readers should refer to Drawing 1.1: Tidal Estuary & Early Development Era, 1928.

NATURAL ENVIRONMENT

Prior to construction, the area Floyd Bennett Field encompasses was comprised of approximately fifteen small islands separated by several creeks, bays and channels. Barren Island was one of the largest in the coastal island system of Jamaica Bay. A peninsula known as Pelican Beach, surrounded by small inlets, extended off the west side of Barren Island, fronting on the Atlantic Ocean. Other prominent landmasses that were part of the city of Brooklyn

included Mill Island, Bergen Island (Bergen Beach), Manhattan Beach, and present-day Rockaway Beach, which is connected with the Long Island mainland. (Figure 1.1)

The islands of Jamaica Bay together with Long Island are comprised of sand deposits, which were susceptible to the shifting tidal forces. Long Island is made up of sand deposited from glaciers during the Pleistocene epoch. The islands of Jamaica Bay formed from sand left behind by the Wisconsin glacier, which receded 12,000 years ago. As the glacier melted, sea levels rose and isostatic rebound occurred, causing the elevation of the underlying topography to rise. The opposing forces of the rise in sea level and rise of the land itself created one barrier island fronting 0n the Atlantic Ocean. Coastal storms caused dramatic sand drifting, separating the barrier island into several smaller islands and creating small inlets and tidal deltas.[12] Strong tidal actions of Jamaica Bay caused more shifting of the sand and coastal erosion.

The common shifting of sand is most evident in the evolution of Rockaway Point, which continually extended further west until an engineering project stabilized the majority of its shoreline in the late nineteenth century. (Figure 1.2) The westward drift made Rockaway Inlet, the waterway created between Rockaway Peninsula and Barren Island, narrower and created much stronger currents. Eventually, Pelican Beach entirely separated from Barren Island and drifted west, connecting with Manhattan Beach.[3] The landmasses that eventually formed were flat salt marshes, on which grew native reed grass, salt grass, and hay. Barren Island consisted of approximately one hundred acres, including thirty acres of upland and seventy acres of salt meadows.[4] All of the barrier islands, including Barren Island, continued to be unstable, changing over time due to shifting sands. (Figures 1.3a-e) Two of the only parcels of solid ground in Jamaica Bay were the south and east shores of Barren Island.[5]

While the strong tidal action of Jamaica Bay impacted the islands, the waters of the bay provided an ideal habitat for marine life. The bay contained a variety of fish, both fin and shell, all of which thrived in the highly turbid waters. The area's relatively mild weather meant that there was an abundance of fish year round, particularly oysters and clams.[67]

In spite of the mild weather, the marshlands of Barren Island did not provide a habitat for a wide variety of vegetation. In fact, the types of vegetation that could grow in the sandy soil were extremely limited. Vegetation on Barren Island consisted mostly of low-lying scrubby undergrowth, native hay and salt grasses, and small deciduous trees.

NATIVE AMERICAN HISTORY

The area surrounding Jamaica Bay was home to thirteen Native American communities located within two or three miles of the bay prior to European settlement in the seventeenth century. (Figure 1.4) A cultural pattern common to many of Native American peoples was to locate

settlements along tidal streams and bays.[8] Since the Native Americans depended on fishing and hunting, the dynamic ecosystem of Jamaica Bay provided the necessary resources for their way of life. The Canarsie were the closest community to Barren Island. The community itself included several smaller settlements surrounding the north and west shores of Jamaica Bay, close to Barren Island. The Native Americans utilized the low, flat inlands of present-day Brooklyn, clearing forests and cultivating the land for crops - particularly corn.[9] While no known evidence of a Native American settlement on Barren Island has been found, the island was within the Canarsie territory. It is likely that the Canarsie people used the island for fishing access, perhaps even establishing seasonal camps.

EUROPEAN SETTLEMENT

In the early seventeenth century, Dutch explorers began to settle on Manhattan Island, approximately twenty miles northwest of Barren Island. Initially, the Dutch established a lucrative fur trade business, however, towards the mid-seventeenth century, they became interested in emigrating to the newly discovered land and creating permanent settlements. In June 1636, the Dutch purchased approximately 15,000 acres of land at the southeast end of present-day Brooklyn. This was one of the first land transactions that occurred between the Dutch and the Native Americans. Initially, the colony was primarily a business venture, however, once the land was purchased, the Dutch wanted to expand their settlement.[10]Settlers began to attack the Native American settlements, significantly decreasing the population. Many of the Native Americans died from the introduction of European diseases. The surviving Native Americans relocated into other parts of Long Island, leaving the Dutch to settle the southeast tract of land into the town of New Amersfoort, later known as Flatlands. Flatlands was only one of six Dutch towns within present-day Brooklyn. While it was comparable in size to the other five towns, it extended south to the Atlantic Ocean and included all of Jamaica Bay, giving it the biggest shoreline and the most water frontage. (Figure 1.5) Although the new Dutch towns developed throughout present-day Brooklyn, Barren Island remained uninhabited.

As the Dutch expanded their settlements, they established agricultural communities in the town of Flatlands. Flatlands was an ideal location for this because Native Americans had already cleared and cultivated large areas of the land for crops. Also, the Flatlands topography was similar to the low-lying homeland of the Dutch settlers, which had been cleared and cultivated for centuries. This was most likely why these 15,000 acres were the first to be purchased by the Dutch.[11]

Through the seventeenth century, the Dutch settlers transformed much of the inland areas into agricultural communities, which included modest farmhouses and cultivated fields, many enclosed by fences. Lands located near the shore of Jamaica Bay, including Barren Island, were developed more gradually due to the extensive marshlands. Although the farmlands did not

extend to Jamaica Bay, the bay played an important role in the development of the community. It provided ample fishing and from the low-lying marshes and settlers harvested reed grass, salt grass, and hay to feed to their livestock.[12] During times of low tide, Barren Island was easily accessible by foot and local farmers would bring horses and other livestock to graze there. While the waters of Jamaica Bay were fairly shallow, small boats could navigate them. Local residents most likely traveled to the shores of Barren Island to fish. A desire by local residents to conserve the natural resources provided by the marshlands for communal use may have been another reason that the Jamaica Bay islands were initially undeveloped.

In the early eighteenth century, many of the small farming towns throughout present-day Brooklyn expanded to include commercial village centers. This was not the case with all areas of Brooklyn; Flatlands still had a largely agricultural character. As the towns throughout the area continued to grow, a network of roads developed. On March 28, 1704, settlers laid out the 'King's Highway,' now Fulton Avenue, running east to west through the center of present-day Brooklyn. This became the main thoroughfare through Brooklyn.[13] The establishment of this main route helped to connect previously isolated towns and communities.[14]

With the new roads, the town of Flatlands as a whole was growing and by the 1790s the population reached nearly one thousand. [15] Manufacturing and industry began to play an important role in the physical development of the town. The first manufacturing establishments in Flatlands were small gristmills, established to serve the needs of the immediate community. As the nineteenth century began, cloth and cotton goods manufacturing was established. Even with the steadily growing population and the start of major industry, Flatlands retained its agricultural character through the nineteenth century. Fields, woodlands, and meadows dominated the landscape. (Figure 1.6) The Jamaica Bay area, including Barren Island, remained for the most part remote and unsettled.

BARREN ISLAND

During the mid-eighteenth century, the town of Flatlands leased Barren Island to William Moore. Instead of establishing a farm on the island, Moore capitalized on the uninhabited marshland, mining sand from the shores. As late as 1762, Moore described Barren Island as "vacant and unoccupied."[16]

Early Settlement, 1800-1859

As Flatlands flourished, settlement finally extended to Jamaica Bay. While William Moore was evidently the first private citizen to make use of the land on Barren Island, Cornelius F. Dooley was the first known resident, building a home on one of the only areas of stable land, the east side of the island in c. 1800. Because the island was also a popular location for fishing, Dooley opened his house to entertain sportsmen and fishermen.[17] While the southern shore also offered

stable land, it is likely that Dooley chose the eastern shore because it was protected and provided better access for fishing in Jamaica Bay, whereas the southern shore at the time fronted on the Atlantic Ocean, where the stronger tidal action may have made fishing access more difficult.

Prior to the nineteenth century, fishing enterprises were primarily for subsistence, as the majority of Flatlands residents were still operating farms. However, by the early nineteenth century, the local residents began to realize the potential commercial value of Jamaica Bay fisheries. By the end of the Civil War in 1865, commercial fisheries developed along the bay as an important industry and businesses catering to the needs of fishermen appeared.[18]

While opportunities for fishing-related businesses thrived, residents began to establish other local industries as well. Barren Island's first industrial operations produced fish oils from menhaden (a species of fish) and fertilizer, including two established in 1859. The first, built by Lefferts R. Cornell, produced fertilizer to ship to London. The second, built by William B. Reynolds, also sent fertilizer to Europe.[19] The island's convenient location along newly established transportation routes encouraged the establishment of industry. Although no evidence was found documenting the traffic in the bay during the nineteenth century, it is likely that Barren Island became favorable for shipping due to its accessible location on the Atlantic Ocean.

Barren Island Community and Industrialization, 1859-1923

Through the remainder of the nineteenth century, Barren Island hosted a succession of industrial plants. Although Barren Island encompassed approximately one hundred acres, development was limited to the eastern and southern shores most likely because these areas provided the most stable ground and were adjacent to navigable waters, while the northern areas were marshy, making them more susceptible to periodic inundation and coastal erosion. Between 1859 and 1934, as many as twenty-six companies had facilities on the island, although never more than seven or eight were present at one time. The majority of the industries were built on long plots, fronting Rockaway Inlet, grouped near the eastern and southern shores. Many of the factories were two-stories with tall smoke stacks, which loomed over the flat landscape. (Figure 1.7) While fertilizers and fish oils were initially the main products, operations quickly shifted to the rendering dead animals, particularly horses, into fertilizer and disposing of refuse from New York City.[20] (Figure 1.8) The Barren Island factories became a popular site for processing because of the distance from densely populated Manhattan. The rendering process resulted in strong odors, which was undesirable in more populated areas. Dead Horse Bay, the interior bay separating the majority of Barren Island from its western peninsula, was named for the industrial practices of the island.

Through the late nineteenth century, the demand for rendering facilities increased and as more factories were constructed, residents settled on Barren Island forming a community on the southeast portion of the island, surrounding the factories. The majority of the new community centered on the daily operations of the industries. The 1880 census listed twenty-three residences on the island and a population of over three hundred. Six of the residences housed anywhere from twenty-two to fifty-five single men. These particular residences served as company-owned dormitory-style housing for the laborers working at the factories.[21] By 1900, the population of Barren Island reached 520 people. The population changed as the trend of company housing slowed; census data shows the large residences of single men were replaced with single family housing. The island was home to 103 separate residences by 1900, many with parents and small children. From period photographs, it appears that the private residences that housed industrial workers and their families were primarily vernacular, one-story frame buildings. The homes were clustered into small bungalow colonies, some surrounded by wooden enclosures most likely used for livestock. (Figure 1.9)

Because Barren Island was still isolated from mainland Brooklyn, independent businesses and services became necessary to support the community. Early in the twentieth century, two churches, a public school, police station, four saloons, a butcher shop, a bakery, and a grocery store were established to meet the needs of the community.[22] As evident in period photographs, public School 120 was a large two-story masonry building, which accommodated the growing population of Barren Island. (Figure 1.10)

Outside the industries and community, the rest of the island remained undeveloped marshland. Although early development was restricted to one corner of the island, residents still took advantage of its many resources. Residents traveled to the northern side of Barren Island, which fronted on Little Bay and Deep Creek. Here local people of all ages would fish and swim in the open water. (Figure 1.11) Around the turn of the century, ferry services started to the island, providing the community transportation from the southern end of Barren Island to Rockaway, Sheepshead Bay, and Canarsie.[23] The ferry service decreased the isolation of Barren Island from mainland Brooklyn.

The Flatbush Avenue extension began in 1921, further connecting Jamaica Bay and Barren Island with the surrounding communities. The project included extending the road southeast to Barren Island and straightening the existing road, which ran north to south through Flatlands. Because of the marshy nature of the Jamaica Bay islands, the extension of Flatbush Avenue required extensive fill. The city of New York most likely dredged areas of Jamaica Bay to obtain the fill materials. The dredging and filling operations may have been part of the continued port development efforts. The extension was completed in 1923, ending the Barren Island community's isolation. Flatbush Avenue was the first paved road on Barren Island, bisecting the island north to south. The extension had a great impact on the physical development of the

island. It was most likely at this time that Pelican Street, a compacted dirt road, was constructed connecting the community not just to Flatbush Avenue, but also to the rest of Flatlands. (Figure 1.12) Prior to the establishment of Pelican Street, there was a minimal road system in place on the island. A few dirt roads ran through the southern and eastern areas of Barren Island. However, because the community was so small and the majority of transportation to and from the island was by boat, many residents most likely traveled by foot within the community.

Industrial Decline, 1923-1928

The industrial development of Barren Island reached its peak just after the turn of the century before rapidly declining. This decline coincided with the development of neighboring communities in Brooklyn and the expansion of transportation routes. By 1920, there were only two rendering factories remaining on the island. There were several reasons for the rapid turnover and decline of industry on Barren Island. Some manufacturers simply shut down or were sold to other companies because by the end of the nineteenth century, menhaden had become scarce, forcing many of the industries to close. At least three factories were destroyed or damaged by fire. In the first decade of the twentieth century, unusually high winds caused landslides, resulting in pieces of the island and the industries built on them, to fall into the bay. These landslides can be attributed to the increasing tidal action of Rockaway Inlet, evidenced through the westward migration of Rockaway Point.[24]

A noteworthy social factor that contributed to the decline of Barren Island industry was the reported nuisance of the refuse industries. The rendering and garbage disposal operations inevitably led to pungent odors arising from the island. As the communities surrounding the bay, such as Sheepshead Bay, Canarsie, and Mill Basin, grew in size, the objections to the industrial operations increased as well. Complaints began as early as 1899, when the state legislature and city government attempted to cease operations on the island to appease residents of the communities surrounding Jamaica Bay, however, no reasonable alternative for the disposal of waste from New York City could be found. Protests continued into the twentieth century. In 1919, the City struggled to find a solution; first it ordered the Barren Island garbage industries to temporarily cease operations during the hot summer months. The amount of refuse sent to the factories was substantially reduced, lessening the demand on the supporting community. As a result, the Barren Island population decreased. By 1930, the population had dropped to 400 from its height of 520 in 1900.[25]

The decline in Barren Island industry combined with the vehicular connection Flatbush Avenue provided brought new development to the island. Small private airfields were beginning to be constructed throughout the nation and Barren Island was no exception. In 1927, pilot Paul Rizzo established a packed dirt runway and called it Barren Island Airport. [26] (Figure 1.13) The small airport foreshadowed what the once uninhabited Barren Island would become.

LANDSCAPE OVERVIEW

The landscape overview gives a summary of the information presented for the Tidal Estuary and Early Development era. Organized by landscape characteristics, the landscape overview is meant to supplement the landscape narrative. It may also serve as a guide for future reference.

Natural Systems and Features

Geology and Geomorphology: The area on which Floyd Bennett Field would eventually be built was part of a tidal estuary in Jamaica Bay, with a series of islands, the largest known as Barren Island. By the eighteenth century, Barren Island was a 100-acre barrier island and beach along the Atlantic Coast of Long Island that had formed from shifting sands deposited by the Wisconsin Glacier. Over time, coastal storms in Jamaica Bay formed several small islands, inlets, salt marshes, deltas and dunes fronting on the ocean. Because of the ocean currents and the strong tidal action in the bay, the resulting islands were somewhat unstable, making it difficult to develop the land in Jamaica Bay.

Climate: Jamaica Bay had naturally mild weather with minimal storms and fog. This condition made the bay an ideal place for fishing and recreational activities, such as swimming.

Flora: The natural geology and climate of the Jamaica Bay area determined the natural flora that thrived. The soil was mostly sand and therefore the types of vegetation that grew on the island were limited. Vegetation that did grow was comprised primarily of salt grass and low-lying scrubby vegetation. Little woody vegetation, such as small, deciduous trees and shrubs, grew naturally on the island. (Figure 1.14)

Spatial Organization

The islands of Jamaica Bay were naturally flat and open. The industrial-based community that developed on Barren Island had few spatial enclosures aside from a few short wooden fences. The buildings were mostly clustered on the eastern half of the island, framing the overall spatial pattern. A feeling of expansiveness dominated the landscape of the bay.

Land Use

Through the end of the eighteenth century, Barren Island and its surrounding barrier islands provided native reed grass, salt grass and hay. Local farmers harvested the natural resources for their livestock. In the mid-nineteenth century, Barren Island was the only Jamaica Bay island on which Floyd Bennett Field would be built that developed, becoming a remote industrial center with a residential community supporting it. The industrial uses concentrated on the rendering of dead animals and production of fertilizers. The supporting community included some commercial enterprises, such as a bakery and a butcher shop. Most development, however, was focused on public service for the growing community, including a public school, church, and

police station. When industrial operations declined and the dredging and filling operations for the extension of Flatbush Avenue occurred, developable land became available and a small private airport was established.

Cluster Arrangement

Development of Barren Island occurred in three primary clusters: two on the south shore and one to the east, leaving the rest of the island open. The cluster arrangement of the Barren Island community defined the shorelines of the island.

Topography

The topography of each of the Jamaica Bay islands was nearly identical to that of Barren Island. As the name suggests, Barren Island was somewhat isolated and undeveloped for much of this early period. The constant tidal action of the bay caused the sands of the islands to shift, which altered their size and shape. Despite the natural flux, the islands remained virtually flat and open.

Vegetation

There has been minimal documentation uncovered regarding planted vegetation. In a historical photograph of Public School 120, a few specimen trees are visible. (See Figure 1.10) It appears that most vegetation existing on the island was natural flora.

Circulation

Barren Island was the only former Jamaica Bay island on which Floyd Bennett Field was built that was developed during this early period. Therefore, it was also the only island to have any form of circulation. Initially, the primary circulation routes were boats traveling through the bay to bring waste to the industries. The circulation that the Barren Island community developed on the island consisted of small dirt roads. While some small dirt routes were established, residents could easily traverse the island without a complex road system due to its flat and open character. One main road, Pelican Street, was established following the completion of the Flatbush Avenue extension in 1923. Pelican Street was a compacted dirt road that connected the community to Flatbush Avenue. Another significant circulation feature included the water routes. The location the Jamaica Bay islands in proximity to the Atlantic Ocean made it easily accessible by ferry.

Buildings and Structures

While much of the lands in Jamaica Bay were marshy and unstable and therefore difficult to develop, Barren Island was the exception. Little is known about the individual buildings that were located on the island. The first known building was the Dooley house. For approximately fifty years Dooley was the only documented permanent resident of Barren Island. In the late 1850s, industry began to be established on Barren Island. The first known buildings and

structures to develop were industrial factories and residences to house the laborers. The factories were primarily two-story wood frame buildings with tall masonry smokestacks that towered over the community. (See Figure 1.8) Since the factories had to receive goods and ship products, wooden docks and piers were constructed near the factories, along Rockaway Inlet and Jamaica Bay. The ferry slip also had a wooden pier. The residences were much smaller than the factories. The vernacular homes were extremely modest one-story wood-frame buildings. The community's other buildings, including the public school and a church, varied in overall size. Most of the buildings and structures were apparently wood-frame and constructed in a simple, vernacular style, although the school was a larger concrete building. (See Figures 1.9, 1.10) Perhaps the most substantial of the public buildings was the school, which reflects the City's investment in the Barren Island community.

Views and Vistas

Although not influential in the initial development of the Barren Island community, the views from the island were expansive. The flat topography of the land created open, unobstructed views. The development along the island's south and east shores did not block views as the majority of the buildings were relatively low, with the tall smokestacks being the dominant landscape features.

Small-Scale Features

The most prominent small-scale features present during Barren Island's development were small, wooden fences. Many residents erected fences around their homes, most likely to contain livestock. The public school included several small-scale features, including a fence and a flagpole. Overheard wires and utility poles provided electrical service to the community.

Cultural Landscape Report

Floyd Bennett Field
Gateway National Recreation Area

Tidal Estuary & Early Development Era 1928



Notes

1. Scale and location of all features is approximate.
2. Only features constructed during this period are labeled with construction dates.
3. As most of the Jamaica Bay islands were too unstable to be developed, many remained unnamed.
4. Due to a lack of available documentation, this plan reflects the site's conditions in 1928, rather than the changes made throughout the early period.
5. Shorelines are approximate according to available data.
6. Property boundaries for individual tracts in the Barren Island community are unknown
7. As illustrated in Figure 1.1, more buildings were located on Barren Island at earlier times through its industrial history.

National Park Service

Olmsted Center for Landscape Preservation

www.nps.gov/oclp

in cooperation with:

Faculty of Landscape Architecture
SUNY College of Environmental Science and Forestry - Syracuse, New York

SOURCES

1. Barren Island & Flatlands Bay, 1926 from Black, 1981, 38. Originally drawn from U.S. Coast & Geodetic Survey, Chart 542, 1926
2. Proposed Municipal Airport Map, Aug. 1931
3. Map of Floyd Bennett Field, Dec. 29, 1941

DRAWN BY

Sarah K. Cody, Illustrator CS2

LEGEND

BOUNDARIES

- Floyd Bennett Field CLR Project Area / NPS Property Boundary

FEATURES

- Buildings & Structures
- Added During Period
- Removed During Period
- Circulation
- Grass / Open Land

Drawing 1.1

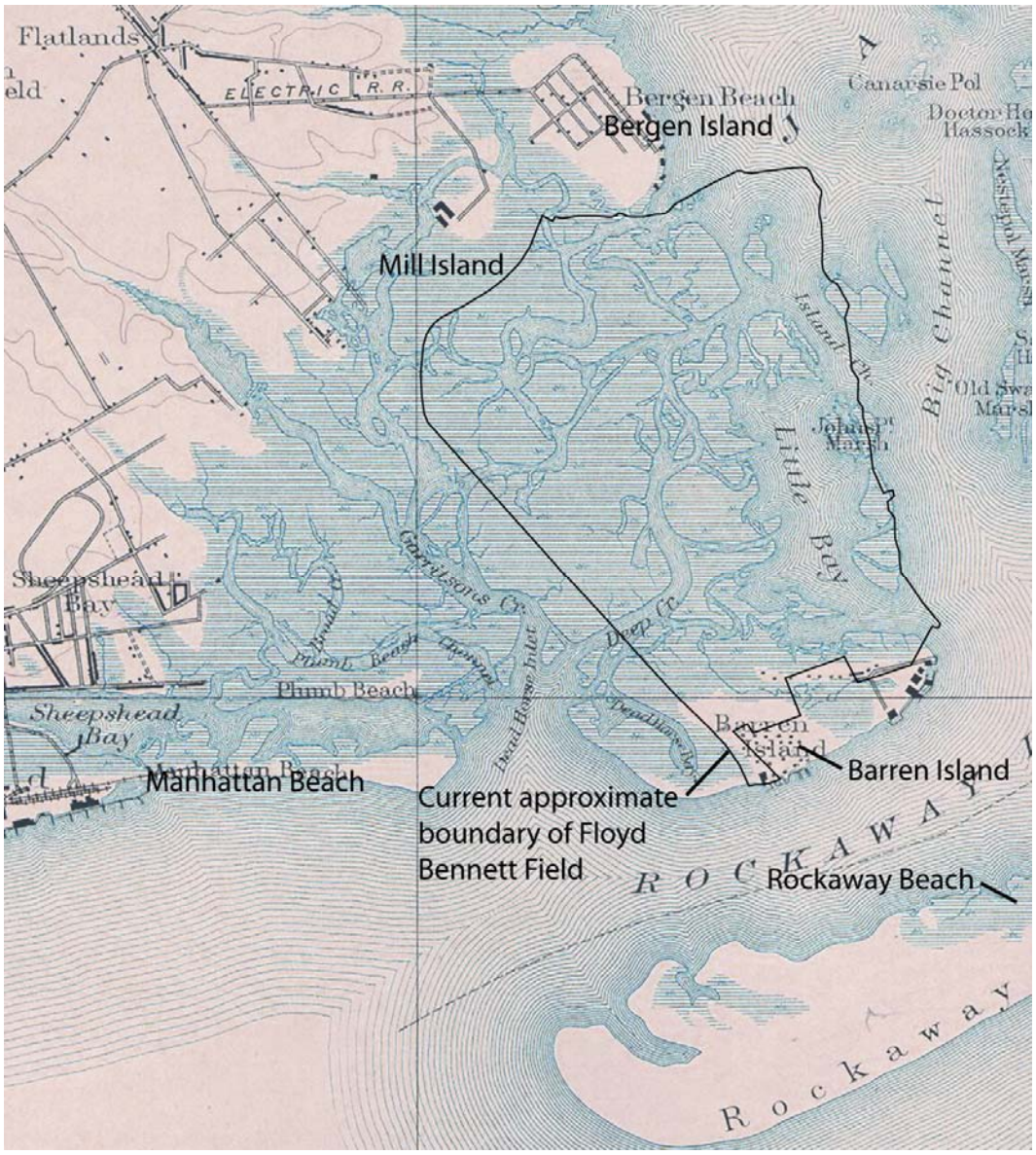


Figure 1.1: Map illustrating the barrier islands of Jamaica Bay within the context of Floyd Bennett Field's current boundaries. The bodies of water between the islands were filled, creating the landmass on which Floyd Bennett Field was built. Upland areas are shown in white and marshland is in blue. Although this map shows Barren Island as an interior island in Jamaica Bay, it was initially fronting on the Atlantic Ocean; as Rockaway Beach migrated westward, it became an interior island. (USGS Brooklyn Quadrangle, 1898; annotated by SUNY-ESF).

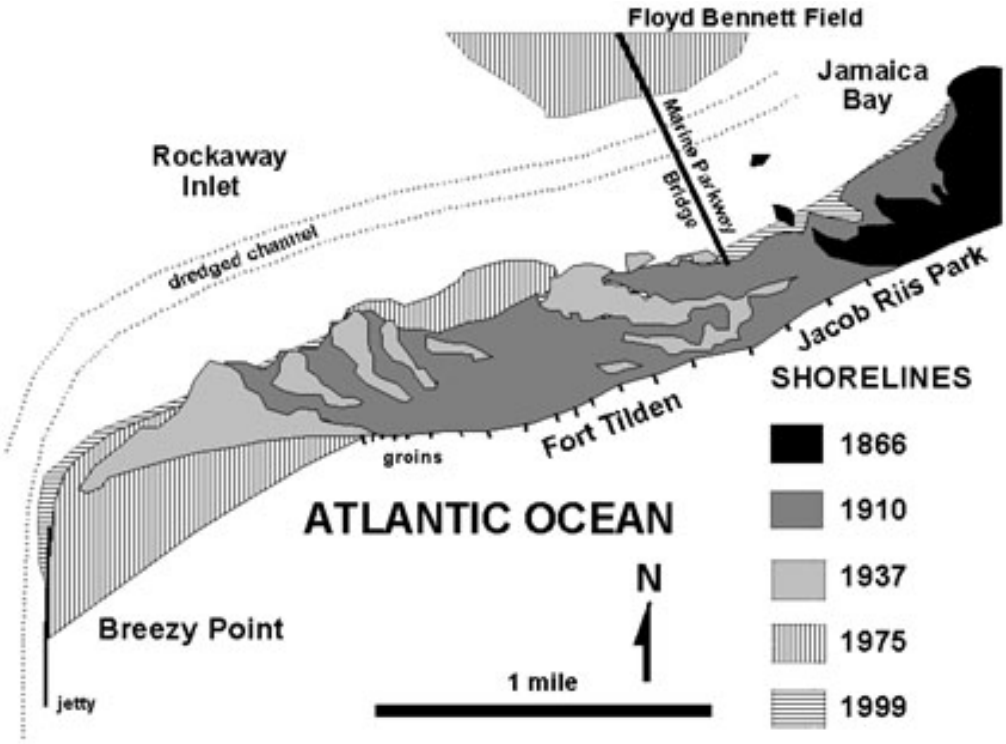


Figure 1.2: Map illustrating the westward drift of Rockaway Peninsula resulting from strong tidal action. (U.S. Geological Survey, "Jamaica Bay [Gateway National Recreation Area]," *New York City Regional Geology,* http://3dparks.wr.usgs.gov/nyc/parks/loc69.htm).



Figure 3.3a: Map depicting Jamaica Bay's barrier island before tidal forces separated it into small interior islands in relation to the current approximate boundary of the Floyd Bennett Field study area, c.1700. (New York Public Library Digital Gallery, http://digitalgallery.nypl.org/nypldigital/); annotated by SUNY ESF).

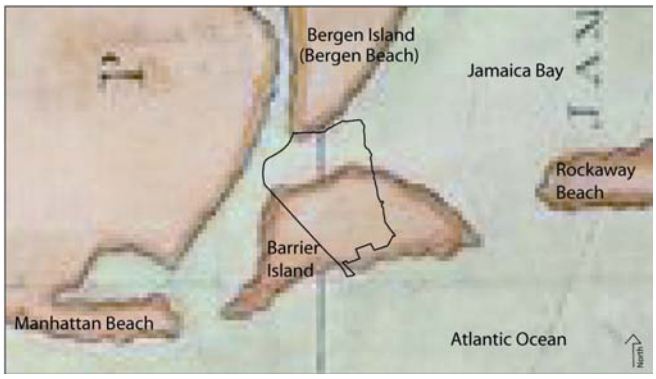


Figure 1.3b: Map depicting Jamaica Bay's barrier island before tidal forces separated it into small interior islands, c. 1737. (New York Public Library Digital Gallery, http://digitalgallery.nypl.org/nypldigital/); annotated by SUNY ESF).



Figure 1.3c: Map depicting Jamaica Bay's islands after tidal forces divided the barrier island, c. 1809. (New York Public Library Digital Gallery, http://digitalgallery.nypl.org/nypldigital/; annotated by SUNY ESF).

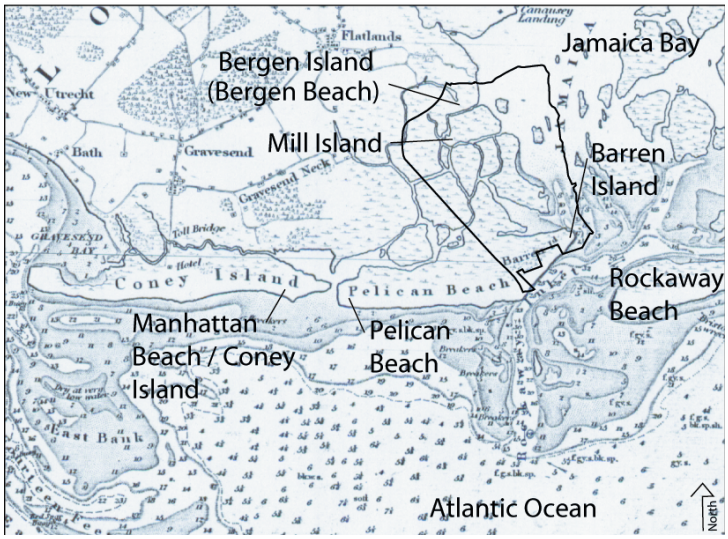


Figure 1.3d: Map depicting Jamaica Bay's islands in 1844. (New York Public Library Digital Gallery, http://digitalgallery.nypl.org/nypldigital/); annotated by SUNY ESF).

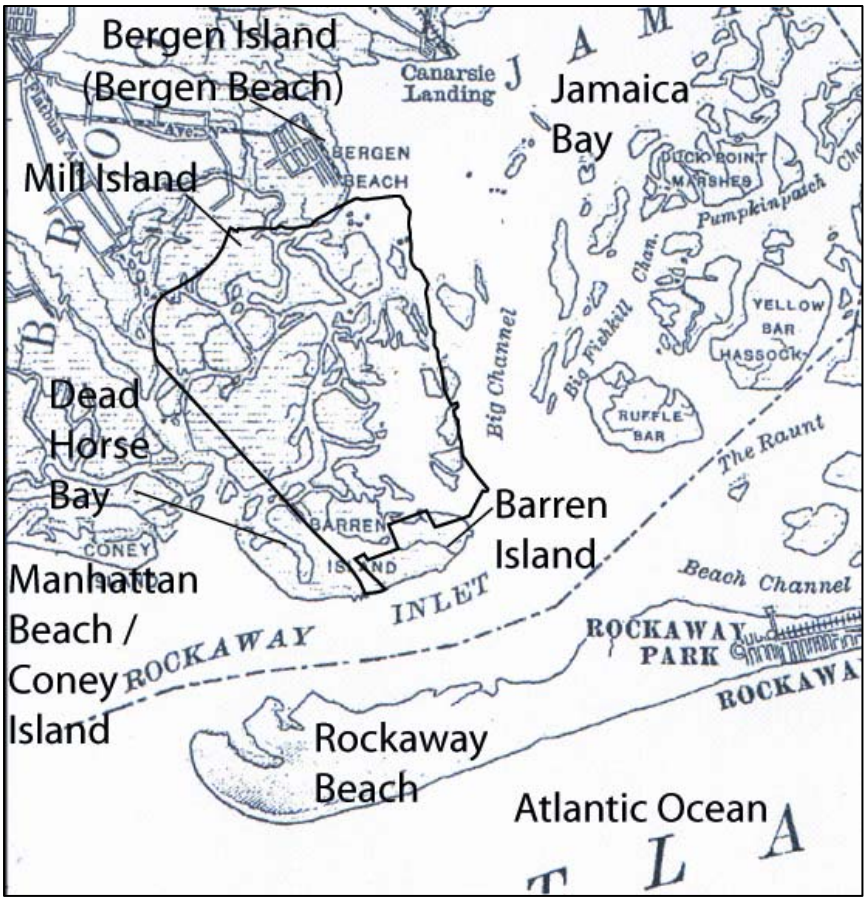


Figure 1.3e: Map depicting Jamaica Bay's islands in 1900. (Hendrick, 40, annotated by SUNY ESF).

The current approximate boundary of the Floyd Bennett Field study area is depicted in figures 1.3a-e. A comparison of the maps illustrates how the tidal action of the Atlantic Ocean and Jamaica Bay continually shifted the sand, impacting the landforms.

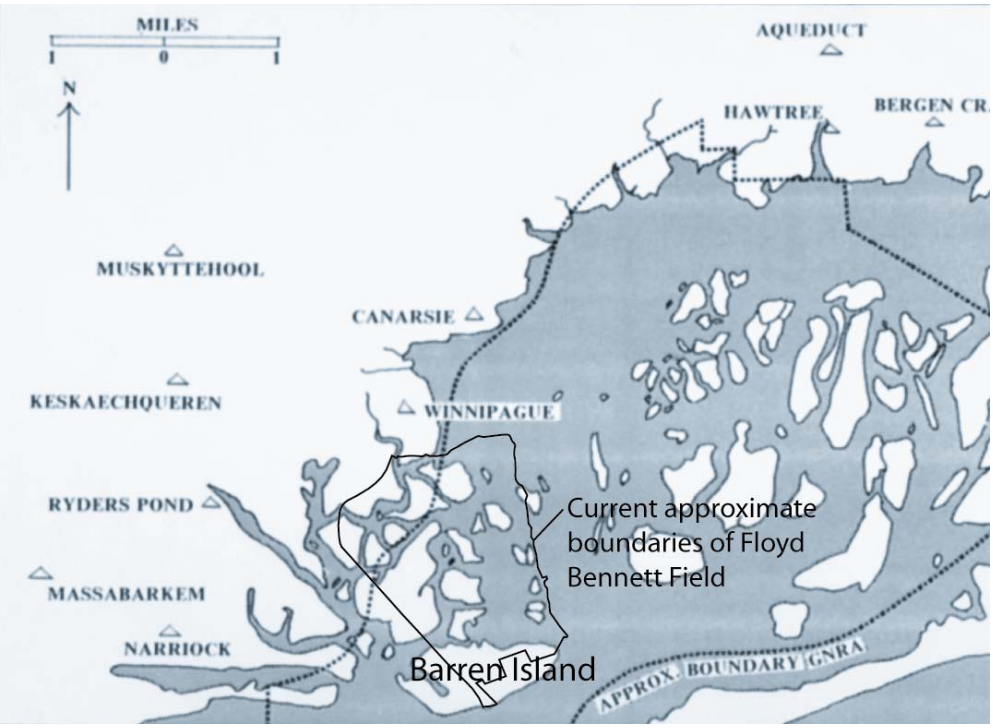


Figure 1.4: Approximate locations of ten of the thirteen Native American communities found in the Jamaica Bay area. (Bolton, Reginald Pelham. *Indian Life Long Ago in the City of New York*, 141-150, as cited in Frederick R. Black, "Jamaica Bay: A History," 9; annotated by SUNY-ESF).



Figure 1.5: Map illustrating the six Dutch towns of seventeenth-century Kings County within the context of present-day Brooklyn. Flatlands occupied the southeast portion. Current approximate boundaries of Floyd Bennett Field and original approximately boundaries of Barren Island are also shown. (Ellen M. Snyder-Grenier, *Brooklyn! An Illustrated History*, 3; annotated by SUNY-ESF).

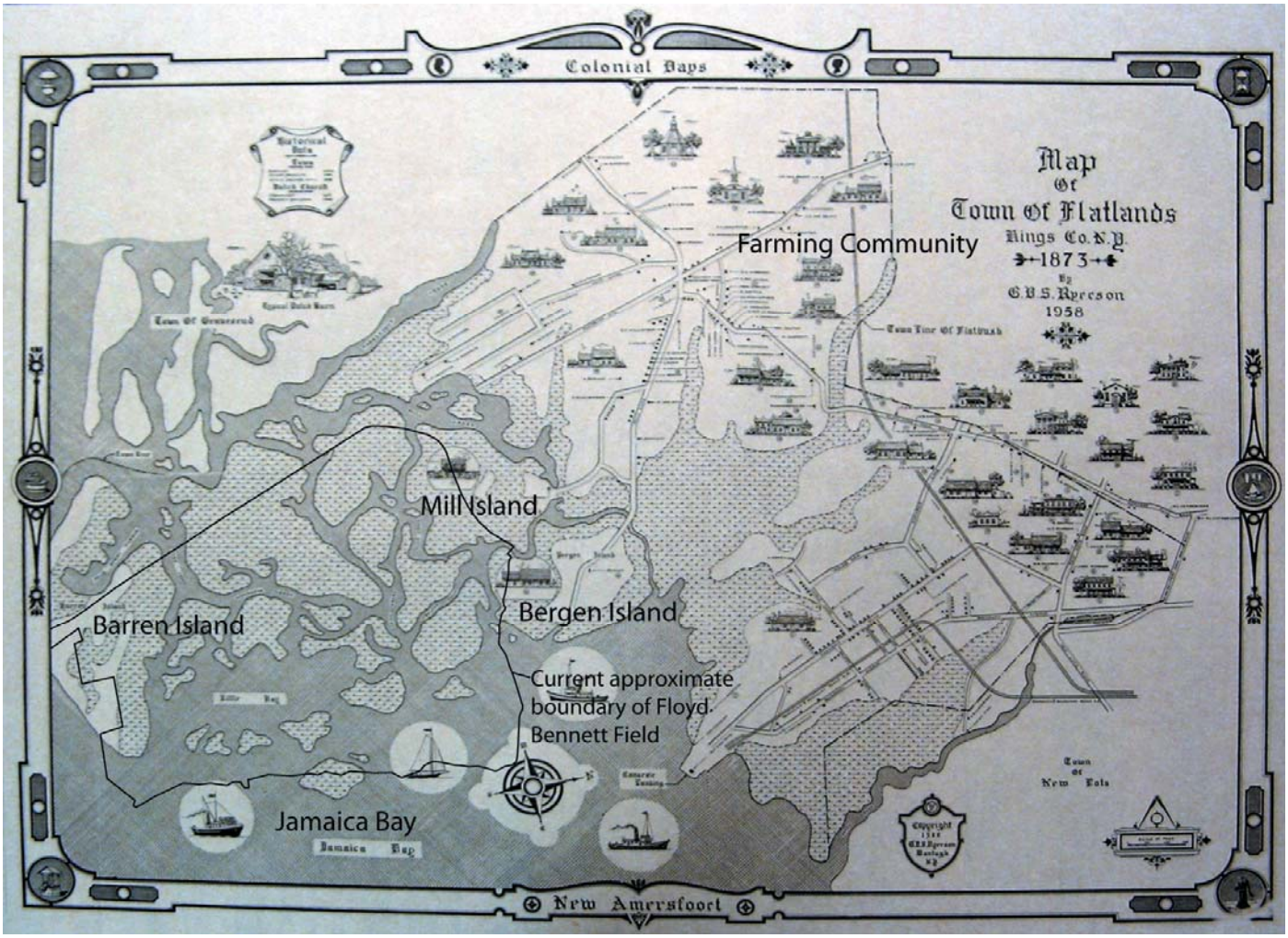


Figure 1.6: Map of the Town of Flatlands, illustrating the inland location of the town's agricultural community and the primarily unoccupied barrier islands of Jamaica Bay, 1873. Note: north is to the right. (Gateway National Recreation Area, Fort Wadsworth, Print and Plan Room; annotated by SUNY-ESF).



Figure 1.7: View looking south towards one of the Barren Island industrial smoke stacks. Because of the minimal development on the island, the smoke stacks dominated the views and contrasted with the natural marshlands of the island, c. 1900. (New York Public Library Digital Gallery, http://digitalgallery.nypl.org/nypldigital/).

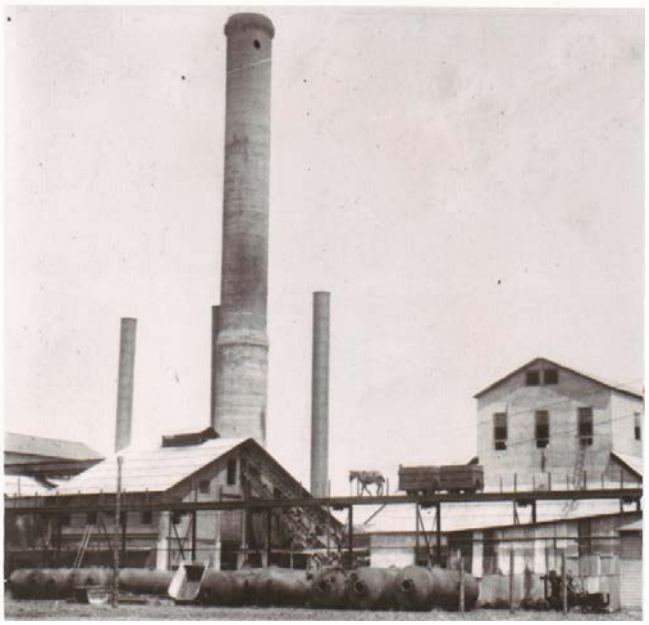


Figure 1.8: View of one of many factories on Barren Island, most likely used for the disposal of refuse from Manhattan, c. 1900. (Photograph 18859, Gateway National Recreation Area Archives, Fort Wadsworth).



Figure 1.9: View of a Barren Island bungalow colony. The private residences were primarily vernacular style. Many homes included rustic wood fences, most likely to enclose livestock, c. 1900. (New York Public Library Digital Gallery, http://digitalgallery.nypl.org/nypldigital/).



Figure 1.10: View of Public School 120, established on Barren Island following the development of a larger community, c. 1910. (New York Public Library Digital Gallery, http://digitalgallery.nypl.org/nypldigital/).



Figure 1.11: View looking east at the north end of Barren Island. Residents of the Barren Island community often traveled to the northern side of the island to fish and swim in the bay, c 1920. (New York Public Library Digital Gallery, http://digitalgallery.nypl.org/nypldigital/).

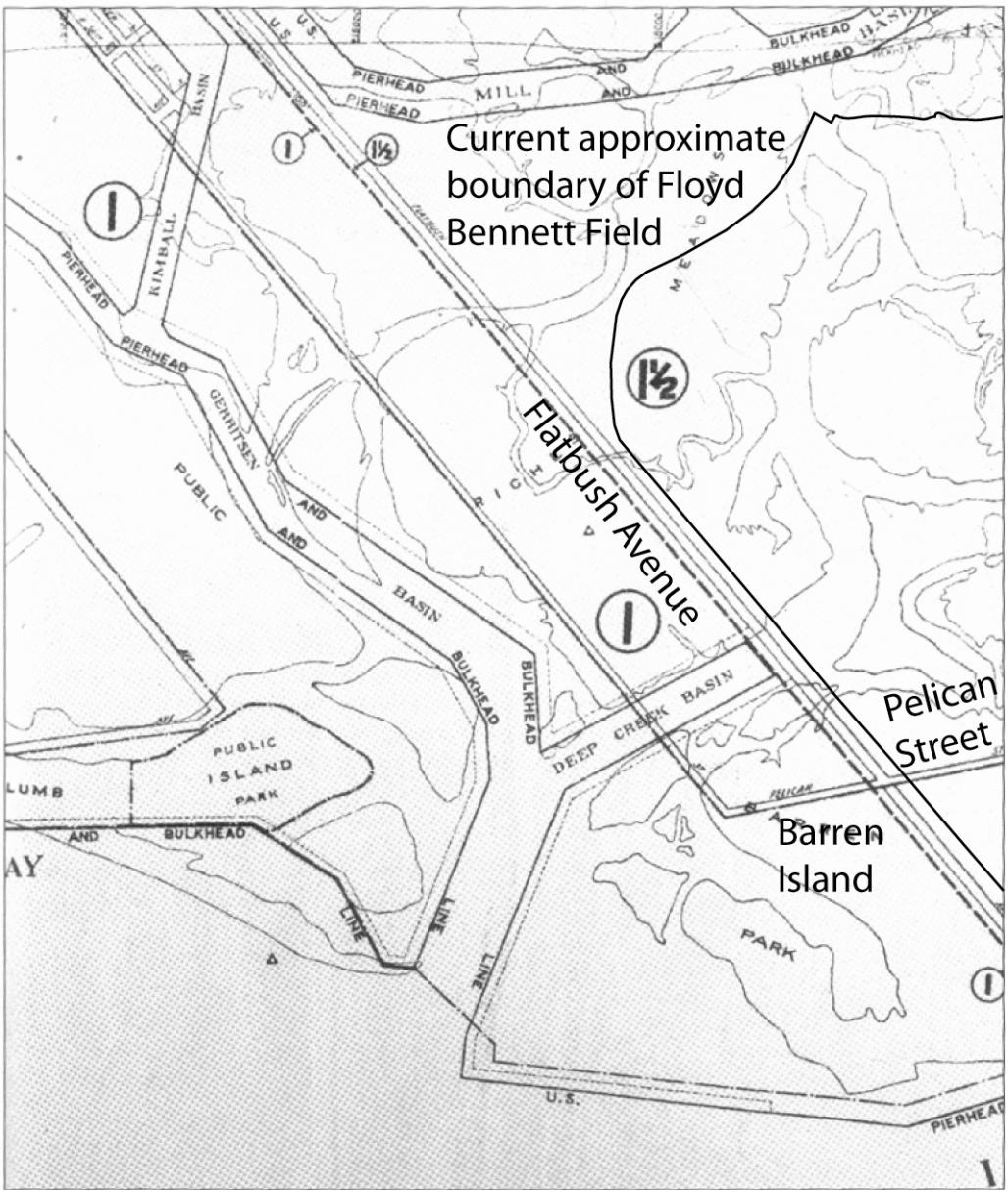


Figure 1.12: Map illustrating the Flatbush Avenue extension. After the Flatbush Avenue extension was completed in 1923, Pelican Street, a compacted dirt road, connected the Barren Island community with the rest of Brooklyn. (Hendrick, 2006, 61; annotated by SUNY ESF).



Figure 1.13: View of an unidentified man at the Barren Island Airport. The airport did not have any support buildings or structures; therefore, the building in the background is most likely an unassociated business or a private residence, c. 1928-1929. (Historic Floyd Bennett Field, http://www.geocities.com/floyd_bennett_field/).



Figure 1.14: View depicting the low-lying scrubby natural vegetation of Barren Island. Grazing livestock are visible in the center. In the background are a small business and a church, c. 1910. (New York Public Library Digital Gallery, http://digitalgallery.nypl.org/nypldigital/).

ENDNOTES

[1] U.S. Geological Survey, "Jamaica Bay (Gateway National Recreation Area)," *New York City Regional Geology,* http://3dparks.wr.usgs.gov/nyc/parks/loc70.htm.

[3] Brian Merlis and Lee A. Rosenzweig. *Brooklyn's Gold Coast: The Sheepshead Bay Communities.* (Brooklyn, NY: Israelowitz Publishers, 1997), quoted at Manhattan Beach Community Group. *"The Creation of Manhattan Beach,"* http://www.manhattanbeachbrooklyn.org/creation.htm.

[4] Frederick R. Black, "Jamaica Bay: A History" (National Park Service North Atlantic Regional Office: Unpublished report, 1981), 17.

[5] Ibid, 13.

[6] U.S. Geological Survey, "Jamaica Bay (Gateway National Recreation Area)," http://3dparks.wr.usgs.gov/nyv/parks/loc70.htm.

[8] Black, "Jamaica Bay: A History," 8.

[9] Ibid, 6.

[10] Henry R. Stiles, *History of the City of Brooklyn, Volume 1* (Brooklyn: Subscription, 1867), 167.

[11] Ibid.

[12] Black, "Jamaica Bay: A History," 13.

[13] Stiles, *History of the City of Brooklyn, Volume 1*, 212.

[14] As with many of the new roads being developed throughout the region, King's Highway closely followed a former Native American trail, illustrating the influence of the Native American's on the development of New York City.

[15] Black, "Jamaica Bay: A History," 14.

[16] Ibid, 17.

[17] Ibid.

[18] Ibid, 26.

[19] Ibid, 19.

[20] Ibid, 28.

[21] Ibid, 36.

[22] Ibid, 40.

[23] Ibid.

[24] Ibid, 32-35.

[25] Ibid, 36.

[26] Ingrid Wuebber and Edward M. Morin. "Modified Phase IA Cultural Resources Inventory, Floyd Bennett Field, Jamaica Bay Unit, Gateway National Recreation Area, Brooklyn, New York" (National Park Service, Denver Service Center: Unpublished report, April 2005), 17.

FLOYD BENNETT AIRPORT, 1928–1941

The following section outlines the changes made to the Floyd Bennett Landscape between 1928 and 1941. As landscape characteristics and features are described in the text, readers should refer to Drawing 1.2: Floyd Bennett Airport Era, 1928 – 1941. During this period, the site of Floyd Bennett Field was transformed in four phases of construction from a series of islands, waterways, and marshes into an expansive, engineered landmass – New York City's first municipal airport. A continued interest in the improvement of Jamaica Bay influenced the development of the landscape. Other outside influences included increasingly standardized airport design and planning, the competition for airmail service, federal work relief programs including the Works Progress Administration (WPA), and a strong military presence. While fundamentally a commercial airport, it was during the 1928-1941 period that military use by the Navy and the Coast Guard first began. Despite development of the airport, remnants of the Barren Island community to the south along Rockaway Inlet persisted through the period.

EARLY PORT PLANNING IN JAMAICA BAY

While physical construction of Floyd Bennett Airport began in 1928, planning to turn Jamaica Bay into a commercial port began as early as 1886, when the U.S. Engineering Department studied Rockaway Inlet, which served as the main point of access into Jamaica Bay. Initially, plans were to deepen the inlet, however no development took place. It would have been an expensive venture and the cost to dredge the channel could not be justified by the amount of existing commerce in the area. In 1906, the idea was revisited when the commercial statistics of the Barren Island industries were presented to Congress as part of an effort to reverse the 1886 decision and gain federal funds for the economic development of Jamaica Bay. From 1910-1911, the federal and New York City governments dredged Rockaway Inlet as the entrance to Jamaica Bay from the Atlantic Ocean. Ultimately, this was part of a larger effort to develop the bay as a major commercial port and industrial center.[1] (Figure 1.15)

New York City officials saw the project as a way to turn Jamaica Bay into a "great world harbor."[2] The proposed plan was to create a sheltered harbor with an area of over twenty-five square miles of wharves by dredging out the bay and using the materials to fill marshes within the bay, creating two large islands.[3] The plan would create a harbor as well as valuable land. When this project was proposed, the New York State Barge Canal system was also under construction. This canal, successor to the Erie Canal, would link the Hudson River with the Great Lakes. The new Jamaica Bay harbor was would serve as the Atlantic terminal.

A lack of wharfage in New York City combined with the overall commerce of the entire city illustrated the necessity of the project. As businesses continued to grow, so would the need for more docking space. New York was also considered the manufacturing center of the United States. The 1905 census valued New York's manufacturing business at $1,526,523,000, an increase of over one billion dollars from the year 1900. The Port of New York also led the world

in commerce, with its annual foreign tonnage increasing dramatically.[4] From these increases and the new barge canal system, it was anticipated that New York City would experience a dramatic increase in business and commerce.

The estimated cost of the Jamaica Bay harbor development project was over one hundred million dollars. The proposal included building a series of docks with warehouses along the islands as well as on the mainland fronting Jamaica Bay. Beyond these would be factories and located further inland would be homes for the workers. Also, a railroad terminal was planned for the site, occupying an area the size of 600 city lots. Railroad tracks and bulkheads would be built on the piers so that cargo could be loaded and unloaded quickly and efficiently. Eventually, a channel would be dredged around the entire bay and more bulkheads would be built. The surrounding 4,200 acres of marsh islands would then be infilled to provide land for construction of more factories and homes.[5] A series of piers were to be located along the south shore of Barren Island and large industrial buildings were to be constructed on the island.

Civil engineers questioned if this project was feasible; Jamaica Bay often experienced strong tidal action. Rockaway Beach had already shifted as a result of these strong forces. Although Rockaway Beach, fronting on the Atlantic Ocean, would serve as a buffer for the tide, it was unclear whether sand would shift back into the bay. Engineers were also unsure of the possible effects of the proposed topographical changes on the surrounding areas, such as Rockaway Beach and Rockaway Inlet. Nevertheless, the decision was made to proceed with the project.[6]

JAMAICA BAY PORT DEVELOPMENT ON BARREN ISLAND

Although the Jamaica Bay Port Development proposed plan was fairly well-developed, actual construction was slow. From 1912-1913, the New York City Department of Docks began dredging the main inlet and using the material to fill the marshes and create Mill Basin and several smaller channels. In 1918, the department approved the construction of fourteen piers, to be located between Barren Island and Mill Basin. Each pier was to be 1,000 feet long and 200 feet wide, with 300 feet separating them. A concrete platform was built at Barren Island as part of the first pier. However, this platform was the only part of the pier system to be completed. There were unspecified legal complications with the project and work was stopped until 1923. Once work resumed, there was a shortage of funds and progress slowed again. Through the rest of this decade and into the 1930s, a series of dredging and filling projects took place on the city-owned lands; almost all the marshes and streams were filled in, creating major topographical changes in the bay and transforming Barren Island into a larger landmass.[7] It is important to note that once the dredging and filling operations were complete, the entire landmass was known as Barren Island, even though much of the developed land was comprised of several smaller, unnamed islands. Therefore, references hereafter to Barren Island include the entire larger landmass.

By 1920, it was clear the original plan for the Jamaica Bay Port Development would never be fully realized due mainly to financial limitations. Another reason was the canal port terminal for the new barge canal system had been changed to New York Harbor, decreasing the demand on Jamaica Bay as a major port.

EARLY COMMERCIAL AVIATION

Despite the demise of the grand plans for Jamaica Bay, New York City officials were beginning to realize the bay's value for new commercial enterprises, particularly in the area of aviation. This was due largely to the widespread use of aircraft in World War I, which made the public aware of the inherent potential in aviation. In spite of this spreading awareness, commercial aviation developed much more rapidly in Europe than in the United States for several reasons. First, as a result of World War I, there was a major breakdown in surface transportation throughout several European countries. Second, during the war, thousands of military aircraft were used in battle, when the war was over, these aircraft were left unused. It was easier to traverse Europe by airplane than automobile or ship because of the numerous bodies of water that made automobile and ship travel time consuming. [8]

Instead of developing aviation technology in the United States, attention was given to improving the transportation methods already in place, including steamships, railroads, and the automobile. In spite of the fact that aviation was not widely accepted as a modern mode of transportation, several private airfields developed in the United States. By the end of World War I, there were 115 permanent airfields in the country, mostly with grass or gravel runways and no administrative buildings.[9]

The driving force behind the development of public commercial aviation in the United States was the U.S. Post Office Department. The department was continually looking for improved ways to transport the country's mail. As aviation technology developed, the Post Office saw it as an efficient, reliable way to transport mail. Airmail service in the United States began in 1911.[10] However, the Post Office did not have the funds necessary to maintain a fleet of their own aircraft and thus looked to outsource the airmail service. By 1919, the department was encouraging local governments to build municipal airports. The Post Office could then contract out its airmail service, and, in effect, sponsor commercial aviation endeavors.

The country's first municipal airport was opened on May 3, 1919 in Atlantic City, New Jersey. From its inception, the purpose of this airport was to function not only as a municipal airport, but as an airmail terminus. Its physical layout and commercial endeavors were meant to serve as a model airport. In establishing this facility, it was believed that the City would then attract a variety of aviation activities. Strangely, little documentation remains of the Atlantic City

Municipal Airport after its opening. The airport never received airmail contracts. The reason for this is unknown, and little is known about the condition of the airport and its facilities. Some articles described the airport simply as 160 acres of open land; there was never any mention of support facilities, such as hangars or an administration building.[11]

Meanwhile, several small, private airfields were developed in the New York City area, including the Barren Island Airport, a small airport with a packed earth runway, established by Paul Rizzo. Apparently, as a result of the numerous private airports, the New York City government disregarded the need for a municipal airport and did not acknowledge the growing importance of municipal airports until 1925.

New York City's first effort to establish a municipal airport was on April 8, 1925. The Chairman of the Landing Places for Commercial Air Lines Committee of the New York Board of Trade and Transportation sent the City Board of Estimate and Apportionment a request to establish a landing field for commercial air transportation in the New York City area. This request was not responded to until September 23, 1925, when the chief engineer of the Board of Estimate and Apportionment recommended that the City "…take active steps in the near future to set aside at least one site for ultimate development as a municipal air field to be operated by the City, and that the day is not far distant when such a field will be self-supporting."[12] However, city officials still did not fully recognize the need for a municipal airport and no action was taken with regard to the recommendations for another two years.

On January 29, 1927, the Port Authority of New York became involved in the efforts. The Port Authority's deputy manager issued a report, which included the statement that existing flying fields in New York City were either inadequate or unsuitably located and none were commercial airports. Also in the report were statements regarding the important relationship between the Post Office and public airports. While by this time, the Post Office had enough funds to maintain minimal airmail fleets, in early 1927 the Post Office decided to entirely forego their fleets and routes. They then began to enter into exclusive contracts with public airports.[13]

Although by 1927 the Post Office had the funds to maintain their own airmail service, there was an attempt to give the struggling airlines boosts in revenue and service. At this early stage of commercial aviation, the cost of operations was still relatively high. In order to attract the general public, the airlines had to offer low fares. Unfortunately, the operation costs could not be covered by revenues based on fares low enough to attract passengers away from surface transportation.[14] The Post Office was instrumental in the success of commercial airports.

Even with the potential support from the Post Office, it would still take a considerable amount of time for New York City to develop its own airport. In August 1927, the process of establishing an airport officially began when Secretary of the U.S. Department of Commerce,

Herbert Hoover, established a fact-finding committee to locate suitable facilities for a municipal airport. The committee consisted of twenty-three New York and New Jersey officials, and commercial and industrial aircraft representatives.

On November 29, 1927, the *Report of the Fact-Finding Committee on Suitable Airport Facilities for the New York Metropolitan District* was released, outlining the results of Hoover's committee. It listed a total of six sites, two in New Jersey and four in New York.[15] As the report became public, further pressure was put on city officials to develop an airport for two key reasons. First, pilots began flying trans-Atlantic flights, increasing public interest in aviation. Second, several of these flights originated in the New York metropolitan area, further highlighting the need for a municipal airport within New York City.

Later in the year, Newark, New Jersey finalized plans for its own municipal airport. Newark Municipal Airport officially opened on October 1, 1928. Residents of New York began to protest the revenue benefits that New Jersey would see from the new airport, which further pressured New York City officials. Only then did New York City take the municipal airport project seriously. [16] New York City officials began investigating the sites recommended in Hoover's Fact-Finding Report. Barren Island was named a secondary site in the report and although the 1910 proposal for Jamaica Bay's industrial center was never fully realized, City officials had not forgotten the potential for development of Jamaica Bay. By 1927, millions of dollars in federal funds had been spent on improving the bay and many public officials felt if the airport was located on Barren Island, the City may actually achieve its goal of turning Jamaica Bay into a thriving commercial and industrial hub.

The City quickly chose Barren Island as the prime location for the airport largely based on the recommendations of the famous aviator Clarence D. Chamberlain. The City hired Chamberlain as a consultant to aid in selecting a proper site. Chamberlain felt Barren Island was ideal because of the potential of its topography and location: the field was flat and open, with no nearby obstructions to hinder take-offs or landings and the island was surrounded by water, making it easily accessible by seaplanes, which were growing in popularity. Chamberlain also noted the favorable weather conditions of the island, with a low record of fog, haze, or storms. Lastly, and perhaps most influential, the site on Barren Island was selected due to the fact that it was already owned by the city of New York, under the jurisdiction of the Department of Docks, unlike all other potential sites, which the city would have had to purchase.[17]

Several other actions had an effect on the decision to turn Barren Island into New York City's first municipal airport. In 1923, the Cross Bay Boulevard, which transected Jamaica Bay from north to south, and the Flatbush Avenue extension were completed. This effectively put an end to the isolation of the Jamaica Bay islands, including Barren Island, connecting them with the rest of Brooklyn. By 1926, as a result of the dredging and filling operations undertaken by the

Department of Docks, the northern boundary of Barren Island had been extended, connecting the landmass to the mainland, further connecting the island to the City. Given all these conditions, New York City considered Barren Island the optimal location to erect its first municipal airport. On February 2, 1928, the Board of Estimate and Apportionment approved the decision and construction began soon after.[18]

When Barren Island was chosen as the future airport site, only two rendering industries remained and neither was still operating. As a result of the industrial decline, the Barren Island community had significantly decreased in population. The remaining residents of Barren Island all relocated to fifty-one acres on the southeast corner of the island. Thomas White, a private citizen, owned the tract. [19]

Development of Floyd Bennett Airport occurred in four distinct construction phases. The first phase, 1928 – 1931, included all initial development of the site and its first buildings and runways. Major projects of the first phase were the filling and grading of the site, construction of the eight hangars and an administration building or passenger terminal, the main apron and taxiway, and the first two runways. It was also during the first phase that New York City officials chose a name for the airport. In October 1928, city officials decided to name their first municipal airport Floyd Bennett Airport, in honor of the famous Naval machinist and aviator, Floyd Bennett, who had died on April 25, 1928.[20] The second phase, 1932 – 1933, focused on the construction of support facilities, such as a sewage disposal system, parking areas, and a transformer vault. During the third phase, 1934 – 1938, the Works Progress Administration (WPA) executed the majority of construction, which included a new runway system. During the fourth construction phase, 1939 – 1941, the Navy constructed a Seaplane Patrol Base on the east side of the airfield, along Jamaica Bay.

FIRST CONSTRUCTION PHASE, 1928-1931

Several different layouts were proposed for the new airport facility. An early plan included a circular layout with two runways in an X formation. It also proposed eleven hangars, clustered on the western side of the site along Flatbush Avenue and a seaplane ramp to the east. (Figure 1.16) The selected plan included two perpendicular runways in a T formation; a row of fourteen hangars and an administration building on the west side of the field, parallel to Flatbush Avenue; and a seaplane base in the southeast corner of the field, fronting on Jamaica Bay and directly north of the private White property.[21] Other proposed developments included a dirigible landing field. The proposed location of the landing field was on the northern side of the site, consisting primarily of sand and marshland. (Figures 1.17, 1.18) This initial plan was accepted and development of the new airport facility began in May 1928.

Before construction of the airport's primary facilities, including the hangars and runways, could begin, a series of preliminary tasks had to be completed in preparation for the major construction. The first contract called for hydraulic filling and grading between Jamaica Bay's interior channel and Flatbush Avenue to create a solid landmass, totaling approximately 350 acres. (Figure 1.19) The filling and grading operations took approximately one year to complete. By mid-1929, a landmass stabilized through the construction of bulkheads, with an elevation of sixteen feet above mean low tide had been established on which to build Floyd Bennett Airport.[22]

In January 1929, shortly before the completion of the filling and grading, the Department of Docks awarded an extensive contract, encompassing a broad range of projects divided into seven sub-projects. (Figure 1.20) The first called for a privet hedge, planted in two parallel rows along northern border of the airport in order to prevent newly filled sand from drifting onto the landing field. Project two of the contract involved constructing two concrete runways. The first, Runway 15-33, was built parallel to Flatbush Avenue and was 3,100 feet long. The second, Runway 6-24, was perpendicular to the first and was 4,000 feet long. Both were initially fifty-feet wide and eight inches thick, constructed of steel reinforced concrete. (Figure 1.21) The flatness combined with the length of each runway helped to reinforce the expansive character of the landscape, particularly of the airfield itself.

Before the runways were completed, the Department of Docks awarded a separate contract to widen the runways to one hundred feet. This was done for two reasons. First the City wanted the airport to receive an A1A rating, the highest possible rating from the Department of Commerce. This rating required runways to be at least one hundred feet wide. When construction began in 1929, the Department of Docks did not have enough money to build runways this wide; however, once the project was underway, the department realized the price to modify the runways was not as expensive as they had initially estimated.[23]

Project three detailed gravel strips to be laid along the edges of the new runways. Each strip was to be two feet wide and eight inches deep, providing drainage and a shoulder between the grass and runways.[24]

To build the runways, the Department of Docks laid out a four-inch layer of clay subsoil, a three-inch layer of topsoil, fertilizer and grass seed as projects four, five, and six. This work created an open, expansive lawn area throughout the central airfield. Project seven included the construction of a temporary, "T" shaped wooden pier, constructed west of Flatbush Avenue at Deep Creek Bay.[25] The Department of Docks most likely used the pier for the transportation of construction materials for the planned hangars and administration building.

By the end of 1929, Floyd Bennett Airport included seeded fields and two concrete runways. While construction of the buildings had not yet begun, the distinct spatial organization of the airport was already developing. The perpendicular arrangement of the runways illustrated the highly geometrical forms common in airport development. Further, the placement of Runway 15-33 parallel to Flatbush Avenue defined the strong linear arrangement of the western side of the airfield, to be further emphasized with the construction of the airport's hangars and administration building.

During construction of the runways, the City awarded a contract for the construction of eight hangars and a concrete apron.[26] Although the airport plan called for fourteen hangars, for financial reasons the City built only eight and planned to build the remaining six at a later date; however, these were never built. The construction drawings were completed in late 1929 and work began on the hangars in early 1930. Construction took nearly a year and a half to complete. Hangar Row, as it came to be known, was located on the west side of the field, parallel to Flatbush Avenue and Runway 15-33. The hangars, numbered 1-8 were constructed in two distinct groups. Hangars 1-4 were constructed south of the Administration Building and Hangars 5-8 were constructed north of the Administration Building. The strong linear arrangement of the hangars defined the western edge of the airfield, reinforcing the distinct axis in the landscape formed by the runways.

Divided into nine sub-projects, the hangar construction included: hangar foundations, steel framing, covering for the framing, floors and sliding doors for the hangars, concrete apron, layer of subsoil for the structures, pavement surrounding the hangars, glazing, and finishing. Because of the nature of Barren Island's soil, the hangars were built on 125 concrete piles, each thirty-five feet deep. The hangar floors were made of steel reinforced concrete. When originally constructed, each pairing of the 120-foot by 140-foot hangars had 50 feet separating them. Each hangar was designed to a set standard that became the overall style used for all the Floyd Bennett Airport buildings, with the exception of the Administration Building. This style, reflecting the modern function and advanced structural engineering of the hangars, was defined by use of buff tapestry brick, parapets, stamped metal gables, expansive areas of glazing, and cast-stone detailing including quoins, coping, lintels, and water tables. The aluminum alloy and glass doors were located on the north and south sides of the hangars, with an overhead clearance of 22 feet. On copper gables above the doors were the hangar number, 'City of New York,' and 'Floyd Bennett Field.' These titles later changed as different agencies occupied the hangars. Each hangar had a 30-foot by 140-foot lean-to attached to either the east or west side. While historical documentation describes the east and west additions as 'lean-tos' they were quite large, extending over half the height of the hangars. The Department of Docks constructed the lean-tos of tapestry brick and cast-stone accents, matching the style of the hangars. (Figure 1.22) The lean-tos were generally used as office and repair space. Because of the strict linear arrangement of the eight hangars, the area acquired the name Hangar Row.

During construction of the hangars, the Department of Docks also constructed the Hangar Row apron. The steel reinforced concrete apron that matched the appearance of the two runways ran along the east side of the hangars and north of Hangars 5-8. Asphalt pavers, laid over compacted earth, covered the ground north and south of Hangars 1-4 and the area south of Hangars 5-8. Asphalt pavers identical to those surrounding the hangars provided the surface for the main parking lot, located along the west side of the building, facing Flatbush Avenue.[27]

Construction of the Administration Building began in 1930, before the hangars were complete. Located directly between the two groups of hangars on Hangar Row, the Administration Building served as the airport's passenger terminal and housed administrative offices. The two-story three-bay rectangular building was designed in a neoclassical style typical for early twentieth-century public buildings such as post offices, court houses, and schools. During the 1920s, it became common for the neoclassical style to be implemented at civic institutions. Because of this, the overall design of the Administration Building was familiar to the public, helping passengers feel at ease at with the new technology of flight.[28] Constructed on concrete piles similar to those on which the hangars were built, the entire building sat on a raised stone base. Characteristic features of the neoclassical style employed on the Administration Building included a symmetrical façade; simple red brick walls set on a raised water table with cast-stone detailing.

The east façade of the Administration Building faced the airfield and the west faced Flatbush Avenue, serving as the visitor entrance. Prominent differences between the east and west façades were the three-story half-octagon control tower at the center and two outdoor dining terraces along the wings of the east façade. (Figure 1.23) A simple stone stairway led up to the entrance portico on the west façade, facing Flatbush Avenue. A bas-relief globe with spread wings was inserted along the west parapet, above the entrance.[29] Passengers entered the building through one of three sets of double doors. Passengers could exit onto the terraces on the airfield side of the building and descend the stairs to the awaiting aircraft on the Hangar Row apron.

As passengers exited the Administration Building, they could easily see across the entire landscape. The dominant features presented to awaiting passengers were the runways, 15-33 and 6-24. Stretching towards the undeveloped eastern side of the airfield, Runway 6-24 most likely drew attention toward the clear views into Jamaica Bay. The fact that the airfield was virtually surrounded by water further enhanced the feeling of expansiveness. Airplane flight was not obscured by trees or buildings.

By the summer of 1930, the City completed the two original runways, the taxiways and aprons, as well as much of the hangar construction. [30] On June 26, 1930, Floyd Bennett Field opened for

limited operations while the City continued work on the remainder of the facilities, particularly the completion of the hangars and the Administration Building. Mrs. Cora Bennett, Floyd Bennett's widow, and Rear Admiral Richard E. Byrd were both present at this initial dedication.[31]

The official dedication ceremony was held nearly one year later, on May 23, 1931. At this point, the airport had eight hangars, two concrete runways, one taxiway, and one apron, all set on axis with Flatbush Avenue. (Figure 1.24) The Administration Building remained incomplete until later that year. Approximately 25,000 spectators attended the ceremony, including famous pilots, notable military personnel, and foreign dignitaries. New York City Mayor James Walker officiated and Mrs. Cora Bennett was present to unveil a plaque, dedicating the field to her late husband. The occasion was broadcast live on nationwide radio, with opening remarks by General Douglas MacArthur, reporting via radio from Washington, D.C. [32]

New York City officials scheduled the dedication ceremony to coincide with a United States Army Air Corps aerial maneuver show, which was bigger than any previous aerial demonstration in the country.[33] The Air Corps flew a series of defensive maneuvers, originating in Dayton, Ohio on May 15 and landing in Washington, D.C. on May 30. While en route to Washington, D.C., the 672 aircraft flew over several cities in the Northeast, including New York City. Almost six hundred of these aircraft flew over Floyd Bennett Field during the dedication ceremony on May 23, 1931. A New York Times article on May 24, 1931 observed:

> *…from early afternoon when Mayor Walker…arrived until hundreds of planes…passed before the Administration Building and reviewing stands in a vast aerial parade twenty miles long, the sky was the focus of all eyes. The air armada appeared in the dim northwest about 6:00 in stately procession above the skylines of Brooklyn and Manhattan. Flies against the clouds, hundreds of them, flies slowly growing in size as the armada drew nearer…*[34]

With this spectacular demonstration, New York City's first municipal airport officially opened; the first planes to land at the field were eight Navy planes commanded by Lieutenant R.F. Whitehead, stationed at the Valley Stream Airport, located on Long Island.[35]

Following the dedication, construction on the facilities continued. In late 1931 a contract was awarded to construct basic landing equipment for the field. This included installing lighted initials 'NYC' on the roofs of Hangars 2 and 6 and a north arrow on the roof of Hangar 4. (Figure 1.25) Lighting the roofs in this manner was also required by the Department of Commerce to receive the A1A rating. [36]

Initial Naval Presence at Floyd Bennett Airport

After World War I, it became common in the U.S. for military facilities to be established at existing municipal airports. The American public had grown weary of military spending, particularly on the development of new bases. It was easier and less expensive for the military to associate themselves with established airports. [37] It also exposed them to the American public traveling out of the new airports and may have made the public more comfortable with military operations.

When Floyd Bennett Airport officially opened for commercial traffic on May 23, 1931, the U.S. Navy had already made an agreement with the City to occupy some of the new airport facilities beginning June 1, 1931. This coincided with the 1931 closing of the Rockaway Naval Air Station located on nearby Rockaway Peninsula. When the air station closed, the Navy relocated some of its operations to Floyd Bennett Airport.[38] A 1931 memo from the First Deputy Commissioner of the Department of Docks to the Bureau of Aeronautics in the Navy Department stated:

> *Permission is hereby granted to the United States to use and occupy one of the hangars at…Floyd Bennett Field… the exact hangar to be designated by the Commissioner of Docks. This permit also includes the right of the United States Navy to have full use of the field and all the airport facilities.*[39]

The Commissioner of Docks chose Hangar 1 (the southeastern-most hangar) and its associated lean-to for the Navy to occupy, for which they paid one dollar per year. The Navy trained reservists and maintained some of their aircraft in the building. The City allowed the Navy to use other facilities as needed, although they were required to pay for any services used, such as necessary lighting and power. By early 1932, the Navy requested use of more facilities. In May of 1932, the City granted the Navy permission to occupy Hangar 5, under the same conditions as the use of Hangar 1.[40]

First Construction Phase Landscape Summary

At the close of the first construction phase, in 1931, Barren Island and the islands and waterways to the north underwent the most dramatic changes in their history. The small one hundred acre Barren Island was increased to over 300 acres. This fact alone greatly altered the nature of the island; Barren Island was no longer an isolated island, at the mercy of the forceful tides of Jamaica Bay. The entirety of the newly created landmass was stable for the first time and its ecological role in the tidal estuary was virtually eliminated. Salt marshes remained, bordering the airfield's northern and southwestern sides; however, the marshland was no longer a primary landscape feature, replaced instead with the manicured lawn of the central airfield.

Although the landmass was substantially altered by the construction of the airport, it retained its overall flat, open character. Many of the largest features were entirely flat, including Runway 15-33 and Runway 6-24, which were the most dominant features in the landscape in 1931. Features that did extend vertically were all located along Hangar Row, parallel to Flatbush Avenue. The cluster of vertical elements along one side of the airfield emphasized the horizontal nature of the overall landscape. While the clustered arrangement of Hangar Row altered views west to Dead Horse Bay, overall, views to the north, east, and south remained open and expansive, which was essential to the operations of the airfield.

At the end of the first construction phase in 1931, Floyd Bennett Field had nine completed buildings, two runways, a taxiway, and an apron. However, there were a number of construction projects underway that would not be completed until the second construction phase. These included the airport's first transformer vault and its first seaplane ramp as well as several other support facilities. In addition to the commercial aviation activities, the Navy also had limited operations based in the Hangar Row facilities. A unified design style was evident throughout the site. The Department of Docks constructed the majority of the buildings in a streamlined utilitarian style. While the neoclassical Administration Building was the exception from the overarching modern architectural style, the use of brick and cast-stone detailing provided a visual continuity among all the buildings.

SECOND CONSTRUCTION PHASE, 1932-1933

The first feature to be constructed on the eastern side of the airfield, the seaplane ramp was located at the southeast corner of the airport property, north of the remaining Barren Island community, extending east into Jamaica Bay. Initial plans specified the development of a seaplane base for the airport, which was to include a hangar, ramp, and bulkhead. The Department of Docks constructed the bulkhead and seaplane ramp. Construction on the airport seaplane ramp began in 1930 but was not completed until 1932. The ramp was approximately 50 feet wide and extended approximately 500 feet into Jamaica Bay. Little documentation has been uncovered during the research for this report regarding the construction details of the ramp. However, in historic photos it appears to have been constructed as a wooden ramp on a series of wooden pylons. (Figure 1.26)

The majority of other projects undertaken during the second construction phase enhanced and supported the airport's operations. The Department of Docks began construction of a brick transformer vault in 1931, completing it in 1932. Located south of Hangar Row, the ten-foot by twelve-foot, flat-roofed building was constructed of brick and cast-stone that matched the materials and the common style of the hangars.[41] There was a single window on both the north and south facades.

Next to the new transformer vault, the Department of Docks constructed a sewage disposal system in 1932. The primary feature was a metal building to house a twenty-six-foot by twenty-four-foot pump well. Also included as part of the sewage disposal system was the installation of plumbing, drainage, and water supplies for all necessary buildings, including the Administration Building and the hangar lean-tos. [42]

Also in 1932, the Sperry Gyroscope Company installed a floodlight system for the airfield. The primary features of the new system included two floodlight towers and floodlights placed on the hangar and Administration Building roofs. The Sperry Floodlight towers, as they were known, stood approximately twenty-eight feet tall and fourteen feet square and were constructed of tapestry brick, matching the standard materials of the hangars.[43] (Figure 1.27) The towers were numbered thirty-nine and forty, although it is unclear which number was assigned to which tower. One tower was located near the southern end of runway 15-33, while the second was along the northern boundary of the site.

The majority of the projects developed during the second construction phase were relatively small and scattered throughout the landscape, having little impact on the overall spatial organization. New landing equipment and a wire fence surrounding the eastern parking areas were also installed at this time, although under separate contracts.[44] (Figure 1.28) Two such projects included the installation of a six-foot tall wooden security fence along the northern edge of the field; and the construction of a parking area north of Hangar Row.[45] Among the final contracts of the second phase, was the installation of four-foot tall wire mesh sand fences along the airport's southern boundary to control drifting, completed on February 2, 1932.[46]

The Department of Docks awarded two final contracts in 1932 to finish all the work completed to date. Three taxiways, where the planes would travel between the apron and the runways, were built to connect the apron and Runway 15-33, two located north of the original taxiway and one south. The steel-reinforced concrete taxiways measured thirty feet across. The City completed work on the taxiways on October 12, 1932. The north and south edges of the taxiways defined five distinct mown-grass panels, matching the airfield turf. The panels served as a physical and visual barrier between passengers awaiting their flight at the Administration Building and the airfield and runways.

Second Construction Phase Landscape Summary

By February 1932, the Floyd Bennett Airport landscape had been significantly developed. The amount of work completed in only a few years illustrated the City's eagerness to establish Floyd Bennett Airport as one of the country's leading airports. This was a goal that the City quickly achieved and for which it was recognized in several publications. The New York City Department of Docks 60th Annual Report, published in 1932, reported that from May 23 through December 31, 1931 Floyd Bennett Field accommodated 1,153 commercial planes, 605 military

planes, approximately 25,000 landings, carried 17,700 passengers, handled 4,000 pounds of mail, and instructed fifty students. The 1932 National Aeronautical Chamber of Commerce Aircraft Yearbook reported, "The year witnessed the opening of several of the finest new airports yet constructed, including New York's new municipal port, Floyd Bennett Field, with the longest runways in the world." With 51,828 landings in 1933, it became the second busiest airport in the nation, second only to Oakland, California with 66,000 landings.[47]

THIRD CONSTRUCTION PHASE, 1934-1938

With the success of Floyd Bennett Airport nationally recognized, new construction and improvements on the existing facilities continued in 1934, with the aid of the WPA. This began the field's third extensive construction phase.

Works Progress Administration

The WPA undertook a variety of projects throughout the country one of which was the expansion of existing airport facilities. Work completed by the WPA significantly modernized the airport facilities. By 1938, federal funds spent on airfield construction far outweighed funds contributed by New York City. During the four years the WPA worked on projects at Floyd Bennett Airport, the federal program spent approximately $4.7 million. During the same period, the city of New York contributed just over $339,000.[48]

Among the first projects undertaken through the WPA program at Floyd Bennett Airport was the construction of several infill buildings between each of the pairs of hangars. Each grouping of three buildings served as one building articulated into three parts with brick piers at each corner defining the bays. An entry door was located on the central bay created by the infill building. Above the entrance door was a steel-framed window. The second story had a single band of similar windows. On each pairing of hangars, either the north or south façade was treated with more detailing. The detailed façade was determined by which side was more visible to the public. Since one façade of each group faced another group of hangars, the opposite was the more visible façade. The visible façade of the central bay was detailed with two sets of smaller brick piers to either side of the entrance. Above the entrance, there was a raised parapet above with a cast-stone bas-relief panel. The panel had the letters 'N.Y.C.' and 'F.B.A.' for Floyd Bennett Airfield in the center surrounding by stylized propellers.[49] (Figure 1.28) The first infill building, constructed in 1934, was a boiler room and machine shop, located between Hangars 3 and 4. Between 1934 and 1937, the WPA constructed the infill buildings connecting Hangars 5 and 6 and Hangars 7 and 8. In 1936 – 1937, the WPA constructed an infill building connecting Hangars 1 and 2. The infill buildings primarily functioned as machine shops, although they also provided additional office space. The Navy used the infill building between Hangars 1 and 2 as part of the Naval Reserve Aviation Base, which occupied some of the field's facilities. With the infill buildings complete, Hangar Row became a distinct edge on

the landscape rather than a series of individual buildings, which strongly defined the western boundary of the airfield.

The WPA developed several facilities and amenities simultaneously at Floyd Bennett Airport. In 1935, during the time period in which the hangar infill buildings were constructed, the WPA also expanded the existing circulation system through the construction of new runways and the expansion of existing taxiways and aprons. The City used WPA funding to construct two entirely new diagonal runways on the field. The first, Runway 1-19, spanned the center of the field north to south, terminating at the southern end of Runway 15-33. The new asphalt runway measured 3,500 feet long and 150 feet wide. The second, Runway 12-30, ran northwest to southeast, originating at the northern end of Runway 15-33. This runway was 3,200 feet long and also 150 feet wide. Contrasting the original runways, 15-33 and 6-24, the WPA constructed the two new runways of asphalt.[50] The runway system now dominates the landscape of the central airfield. The intersections of the runways formed strong geometrical shapes throughout. (Figure 1.29) The expansion of the runway system greatly increased the area of the airfield consumed by the runways. Because the majority of the runways extended towards either Jamaica Bay or Mill Basin, the openness of the airfield was further emphasized.

In addition to establishing new landing facilities, the WPA also expanded the existing infrastructure. In 1935, the WPA lengthened Runway 15-33 from its original length of 3,100 feet to 3,500 feet. They also expanded the Hangar Row apron, which ran along the east side of the Administration Building; it was widened to approximately 400 feet. The three taxiways that the Department of Docks constructed in 1932 were widened from their original 30 feet to 100 feet. These expansions greatly enhanced the landing capabilities of Floyd Bennett Airport, more than doubling the runway area.[51] The expanded runway system made it much easier for pilots to maneuver the aircraft on the ground. While the flat features reinforced the open topography, the expansion of the circulation system and the continued development of the landscape reinforced New York City's commitment to aviation technology. The landscape continued to lose more of its formerly barren appearance. Views to the New York City skyline remained open.

In order to facilitate passenger transportation between the Administration Building and the aircraft, the WPA built a passenger tunnel extending from the basement of the Administration Building in 1935. (Figure 1.30) The tunnel was "T" shaped and ran from the basement east, below the apron, to where the aircraft were located for loading and unloading passengers. The central stem of the tunnel headed 124 feet east, it then branched 120 feet north and south. Each section was 10 feet tall. At the end of the branches, a flight of stairs led to rectangular hydraulically lifted hatches that opened onto the Hangar Row apron. The walls of the tunnel were lined with tile on the lower half. Large sections of the walls were used for advertisement space.[52]

As a part of the same project, the WPA also installed four circular rotating platforms on the Hangar Row Apron on which the aircraft sat, located to the east and west of the passenger tunnel openings. These were installed in order to decrease the turning radius of the aircraft, facilitating quicker arrival and departure times. [53]

Also in 1935, the WPA funded one of its most significant contributions to Floyd Bennett Airport. Four years after the opening of the municipal airport, the WPA designed a formal public entrance to the airport. Before the WPA installed this design, the entrance area lacked any formal features aside from the entry drives. This made the entry experience uninviting and perhaps intimidating to passengers, many of whom had never experienced aviation. The new design created a formal entry space, which helped passengers feel more at ease. The main elements were two diagonal entry drives, several pedestrian sidewalks, and ornamental plantings.[54] (Figure 1.31) The use of ornamental vegetation surrounding the Administration Building illustrated the need to create a welcoming atmosphere for the airline passengers. Because the entrance provided passengers their initial experience with the airport, it was important to create a space that illustrated the formal layout of the airfield while at the same time was inviting and comfortable. (Figure 1.32) The formal entrance matched the neoclassical style of the Hangar Row buildings.

The drives and walkways defined the spatial organization of the redesigned entrance. The linear features created a symmetrical space with geometric forms that mimicked those of the airfield. The two diagonal walkways ran parallel to the entry drives. The east terminuses of the diagonal walks were crossed perpendicularly with a shorter walkway. The fifth walkway was perpendicular to Flatbush Avenue and on axis with the Administration Building. Both the drives and all the sidewalks were concrete. Panels of lawn bordered the entry drives, separating them from the parallel sidewalks. A clipped hedge lined the outside border of the lawn panels and along the perpendicular sidewalks. The area between the three main walkways was planted as lawn. [55] (See Figure 1.31)

Several other features also helped create an inviting entrance. The central sidewalk circled a wooden entry sign and a flagpole, both constructed through the WPA. The middle of the circle was planted primarily with grass; rhododendrons were planted on the north and south side of the entry sign and low-scale perennials lined the east and west sides of the sign. Sycamore trees lined the central sidewalk, creating a visual connection to Flatbush Avenue, which was also planted with sycamore trees. Cast iron lights and poles were installed at the intersection of the central sidewalk and Flatbush Avenue while rustic-style wooden lights and poles were installed at the east side of the main lawn.[56]

In addition to the main lawn area, the WPA also installed ornamental plantings along the west (front) foundation of the Administration Building and along a parking area south of the Administration Building. The foundation plantings consisted of two large planting beds on both sides of the Administration Building entry, bordered with cast-stone, matching the building's detailing. The WPA planted vegetation in four parallel rows in each bed. The rear row was planted with nine rhododendrons; the remaining three rows were cannes lilies. A juniper was planted on each side of the entry stairs.[57] Foundation plantings were typical at the time, adding to the classical style of the building. This gave the Administration Building the character of a public place rather than merely administrative.

South of the Administration Building and adjacent to a small parking area, the WPA planted a variety of shrubs.[58] The planting area was bordered with the same shrubs as the lawn areas of the entry drives. (See Figure 1.31) Within the small border were larger shrubs ranging in height. Research for this report has not discovered documentation of the species planted.

After completing the circulation expansions and the new entrance, the WPA constructed several new buildings. In 1937 – 1938, the WPA constructed a dope shop and a garage south of the Hangar Row apron, adjacent to the first transformer vault constructed in 1931 – 1932.[59] The rectangular dope shop faced the south façade of Hangars 1 and 2. Photographs of the dope shop illustrate that the one-story tall building was constructed of brick with cast-stone accents, following the similar design style of the hangars. The north, or main, façade was divided into three bays, defined by large brick piers and stepped and rounded pediments. The central bay was flanked on either side by large glazed steel doors similar to the sliding hangar doors. Immediately upon the dope shop's completion, the Navy and the City of New York shared occupancy of the building.

While little documentation has been found detailing a description of the WPA-constructed garage, located south of the dope shop, research suggests it was a modest one-story wood frame building.[60] This is further supported by the fact that the garage no longer remains. Typically, wood frame buildings were temporary in nature, particularly when compared with the durable brick construction seen throughout the site.

By 1938, with the completion of the dope shop and garage, a small cluster of support buildings were developed in the area south of the Hangar Row apron. Sited in alignment with the apron and the main airport buildings, these support buildings fit within the overarching axial relationship of Hangar Row.

During the same time period that the WPA funded the construction of the dope shop and garage (1937 – 1938), they also constructed a pump house and a field house. The WPA constructed the one-story pump house with hipped copper roof northwest of the

Administration Building and south of Hangar 6. The twenty-two-foot by thirty-foot building was constructed of brick with a cast-stone parapet, matching the overall style of the hangars. Inscribed on the north and south parapet was the title 'Pump House.' Located north of the Administration Building and east of the pump house, the WPA constructed the one-story brick field house.[61] Its detailing was modest and its overall design was much more utilitarian when compared with the Administration Building, Hangars 1-8, and the dope shop. (Figure 1.33)

In 1938, the WPA constructed two final structures at Floyd Bennett Airport to support existing structures: a second transformer vault and a second seaplane ramp. They erected the transformer vault north of Hangars 7 and 8.[62] The exterior of the fourteen-foot by twenty-two-foot building matched the unified stylized utilitarian style of the other airport buildings, using tapestry brick with cast-stone accents. The last project undertaken by the WPA was the construction of a second seaplane ramp, built directly north of the first ramp, constructed in 1930 – 1932.[63] While little documentation has been discovered regarding a description of the new ramp, the WPA most likely constructed a wooden ramp, similar to the ramp that already existed. (See Figure 1.29) The new ramp helped create a visual marker for the airport property when viewed from within Jamaica Bay.

In addition to the construction of the new entrance and several buildings and structures, the WPA also installed new utility structures. These included storm drains throughout the runway areas. Additional features, such as concrete sewer lines, water mains, additional storm drains, and manholes were installed to manage storm water.[64] As these features were infrastructure, they generally remained out of sight, thus they had little impact on the overall character of the landscape.

WPA Improvements for the Navy

The association between the City and the Navy remained through the 1930s. In 1935, the Navy benefited from the WPA improvements to the field. A December 9, 1935 letter from the Navy's Chief of the Bureau of Aeronautics to the Chief of Naval Operations stated:

> *The Bureau is greatly interested in the provision of adequate facilities for the Naval Reserve Aviation Base, Floyd Bennett Field, and recommends that the Commandant of the Third Naval District be requested to use every possible effort to have the New York City authorities include the work for the Naval Reserve Aviation Base with other work now in progress at Floyd Bennett Field, as covered by approved Works Progress Administration Project #164...*[65]

The WPA performed the work, as documented in a December 15, 1936 letter from the commanding officer of the Naval Reserve Aviation Base to the Chief of the Bureau of Aeronautics. This letter stated:

A separate WPA project sponsored by the City of New York, involving the quarters occupied by this Base is nearing completion. This project involves remodeling the first floor, and the addition of a second floor to the existing lean-to on hangar no. 1. Also, the construction of a building between the hangars no. 1 and 2 to house a storeroom, plane overhaul shop, machine shop, and dormitory. The part concerning the lean-to is 99% complete and this base is occupying the offices, etc., in this two story lean-to.[66]

In addition, the letter stated the other WPA structures being built, although not intended purely for the Navy, were available to be used by everyone at the field, including the Naval Base.

Coast Guard Air Station Brooklyn

The largest project undertaken during this period not completed through the WPA was the construction of the Coast Guard Air Station Brooklyn. In 1936, the U. S. Coast Guard secured a 50-year lease from the city for an area on the eastern side of the site, which was approximately 650 square feet, comprising 10 acres.[67] Prior to construction, this area was open shorefront. No bulkhead had been constructed in this area yet, which meant that the shoreline was still susceptible to the tidal forces of Jamaica Bay.

The development of the new Coast Guard Air Station came about partly because of Henry Morgenthau, Jr. of New York City. In 1934, President Franklin D. Roosevelt appointed Morgenthau the Secretary of the Treasury, which was the department in charge of the Coast Guard at that time. Because Morgenthau was an aviation enthusiast, he supported the expansion of the Coast Guard's aviation unit, including the construction of new air stations. By 1936, the first six Coast Guard Air Stations had been commissioned.[68] When Coast Guard Air Station Brooklyn was commissioned on April 23 1938, it was one of ten in the country.[69]

In 1937, Graves and Quinn Corporation began construction of the air station. Before constructing any buildings, the Coast Guard needed to construct a bulkhead to stabilize the shoreline. In 1937 Graves and Quinn Corporation constructed 685 linear feet of bulkhead in Jamaica Bay. Accompanying the bulkhead was a concrete seaplane ramp, measuring 50-feet by 260-feet. The last feature constructed before the air station buildings was a 'T' shaped concrete taxiway that would eventually connect the south side of the hangar east to the seaplane ramp and south with the existing compact earth road, constructed in 1936-1937.[70] (Figure 1.34)

With the completion of the bulkhead, the land was now stable enough to support the air station's buildings. The first building constructed for the air station was the 161-foot by 182-foot hangar, completed in 1938. Aligned north to south, the northern half of the building included office and administrative space. While initially the air station focused on air and sea rescue, the Coast Guard was also developing helicopter technology. As a result, the hangar was designed

to accommodate Coast Guard helicopters.[71] As evident in period photographs, the two-story concrete hangar was constructed in a streamlined International style. Both levels of the north, east, and west façades included a horizontal band of windows. The only ornamentation present on the white-painted hangar was on the north façade, which bore the title 'United States Coast Guard Air Station', above the five central windows. Above this title, a Coast Guard emblem was encircled in stylized wings. This ornamentation was the only similarity to the Hangar Row buildings, which had similar decoration. The building's main entry was centrally located on the north side. On the south façade were large steel sliding hangar doors, similar to those on Hangars 1-8. The roof covering the hangar was a barrel vault. (See Figure 1.34) Being the first vertical feature in the landscape along Jamaica Bay, the relatively large hangar was prominent in the view from the airfield and Jamaica Bay.

The Coast Guard next built a garage, constructed by Graves and Quinn Corporation, completed in 1937. As illustrated in photographs, the garage, located west of the hangar, reflected the same streamlined International style. A horizontal band of windows was installed along each façade of the one-story, rectangular concrete building. It was constructed with a flat roof and, like the hangar, was painted white. The similarities in the style of the Coast Guard hangar and the Coast Guard garage created architectural unity within the air station. While the garage was much smaller than the hangar, the pairing of buildings visually defined the Coast Guard property. (See Figure 1.34)

In 1938, the Coast Guard formed a board to evaluate experimental aircraft, which included the helicopter. The Coast Guard had an interest in developing helicopter technology as it might aid its search and rescue missions. The Coast Guard Air Station Brooklyn at Floyd Bennett Field became instrumental in the efforts to develop the helicopter. Once the Coast Guard succeeded in developing the helicopter, the air station at Floyd Bennett Field was recognized for its efforts and in 1943, the Coast Guard designated the station a helicopter training base. The Coast Guard installed special training equipment inside the hangar.[72] (Figure 1.35)

The U.S. Coast Guard's first helicopter-flown life-saving rescue in the nation flew out of Floyd Bennett Field in 1944. Beyond being the site where modern helicopter technology first emerged, the Coast Guard also stationed their first aircraft carrier at the Brooklyn facilities.[73] Both these facts illustrate the significance of Coast Guard Air Station, Brooklyn in the development of U.S. helicopter technology.

Third Construction Phase Landscape Summary

The WPA performed the majority of work done during the third construction phase, including nine new buildings that supported the existing facilities. The largest of the WPA-funded buildings were the four infill buildings that connected each pairing of hangars. Each of the nine buildings, all located along Hangar Row, reinforced the linear arrangement of the west side of

the airport. By increasing the number of buildings along Hangar Row, the density of this area was increased. The change in density, in turn, reinforced the Hangar Row development as an identifiable cluster, defining the west boundary. Further, it reflected the continued investment by the City into the airport's infrastructure.

Two additional WPA projects had perhaps the most impact on the character of the landscape. First, the construction of Runways 12-30 and 1-19 redefined the spatial organization of the airfield. While they maintained the flat, open character, their arrangement on the airfield and in relation to each other created a series of distinct geometric forms. The second significant project was the redesign of the airport entrance. Not only did the design provide clear spatial organization for the entrance, it also introduced the first ornamental plantings at Floyd Bennett Airport. The plantings along the entry drives, walkways and surrounding the Administration Building transformed the formerly barren character of the entrance. The WPA-funded design created a space that was welcoming and comfortable to the public arriving at the airport.

The establishment of Coast Guard Air Station Brooklyn also had a significant impact on the overall character of the landscape. Prior to its construction, the only development on Jamaica Bay were the two small seaplane ramps. Because the ramps were level with the ground and extended out into the bay, they had little visual impact on the landscape. Coast Guard Air Station Brooklyn served as a visual marker of the eastern boundary of the airport, helping to define the airfield.

FOURTH CONSTRUCTION PHASE, 1939-1941

By 1939, the commercial success of Floyd Bennett Airport was becoming uncertain while the military presence was growing. During this time, the City made no substantial improvements to the airport. In contrast, while the Navy occupied facilities at Floyd Bennett Airport since 1931, they significantly expanded their facilities in 1939, with the establishment of the Navy Seaplane Patrol Base, located north of the Coast Guard Air Station. The Navy's expansion of their facilities extensively altered the spatial character of the landscape, particularly along Jamaica Bay.

Navy Seaplane Patrol Base

The influence the Navy had on the development of the field during the 1930s, particularly the relationship between the Navy and the WPA improvements, illustrated the importance of the Navy's presence at the airfield. Initially, the Navy needed the support of the airport. However, as the municipal airport struggled to keep its revenue up, the Navy's lease of the portions of the site supported the airport. As the airport continued to decline commercially, the Navy sought to obtain more facilities at Floyd Bennett Airport. By 1937, the Navy had expanded its facilities to include Hangar 2 and half of the airport's dope shop in addition to Hangars 1 and 5.

As World War II broke out in Europe in 1939, U.S. military operations began to expand, especially in the New York region. In response to this overall growth, the Navy requested ownership of more than sixteen acres north of the Coast Guard area, to develop a seaplane patrol base later that year. On January 18, 1940, the City of New York Board of Estimate and Apportionment adopted a resolution, allowing the Navy lease the area and construct the new base.[74]

The Board of Estimate and Apportionment document outlined the conditions of use, which were laid out in more detail in the official lease between the City of New York and the United States. The lease was for one dollar per year and although the term of the lease was only valid for the year of 1940, it stated the Navy had the right to annual renewals, with an increase in cost of $0.10 every renewal. The lease also stipulated in the event the land was given to the United States, the lease would be immediately terminated. If the United States ever ceased use of the facilities, all occupancy and use would be given back to the City of New York.[75]

Under the conditions of the lease agreement, the City allowed the Navy to construct several structures necessary for the operation of both boats and seaplanes, including hangars, ramps, bulkheads, docks, and wharves. Although given freedom to design and construct their own facilities, the documents contained a clause limiting the height of hangars and other structures to 67 feet above mean low water; structures whose highest point was above 35 feet above mean low water were to be constructed no closer than 700 feet to the existing south side of Runway 12-30.[76]

As part of the construction of the new facilities, the Navy filled and graded the area to conform to the adjoining Coast Guard station. The Navy obtained material for this project from the tidal sands directly adjacent to the site. Although the Navy could connect to existing utilities, such as water, electricity, and telephone lines, they were responsible for all costs and maintenance if they chose to install their own services.

Construction began on the Navy Seaplane Patrol Base in early 1940. Initial development included a concrete apron, similar in appearance to the Hangar Row apron. A concrete seaplane ramp extended east of the apron, into Jamaica Bay. The first building the Navy constructed was Hangar A, located approximately in the middle of the apron. The hangar was a rectangular steel frame building with sliding doors on the north and south sides. Dozens of windows spanned the entire length of the hangar along the east and west façades. Larger than any pair of the airport hangars, Hangar A was the largest building in the landscape. Because the seaplane hangar was constructed along Jamaica Bay, where minimal development had occurred, it had a dominant presence.

The Navy constructed two smaller buildings directly south of the new hangar. They served as an office building and a bachelor's quarters. South of the office building and bachelor's quarters, the Navy constructed a wooden pier, which created a visual boundary between their Seaplane Patrol Base and Coast Guard Air Station Brooklyn. The establishment of the Navy Seaplane Patrol Base expanded the development along Jamaica Bay. Although the patrol base and the Coast Guard Air Station reflected different design styles, together the facilities provided a clear edge to the airfield. (Figure 1.36)

The Navy continued to grow and subsequently requested even more space. As early as 1939, the Navy considered purchasing the entire site. While negotiations began between the Navy and New York City officials, the Navy continued to lease space. By the end of 1940, the Navy occupied Hangars 1 through 5, their associated lean-tos, and the new Navy Seaplane Patrol Base. The Navy's presence at the site was clear in the landscape as they had added numerous features to Hangar Row and established their Seaplane Patrol Base in an area that was previously undeveloped.

Fourth Construction Phase Landscape Summary

The Navy constructed all new development during the fourth construction phase. Overall, the new construction along Jamaica Bay served to expand and support existing Naval operations. As U.S. involvement in World War II escalated, it became important that the Navy establish facilities to patrol American waters for German U-boats. In establishing their Seaplane Patrol Base, the Navy constructed six primary features: a concrete apron; a seaplane ramp; Hangar A; an office building; a bachelor's quarters; and a wooden pier. The Navy constructed the features in a cluster north of Coast Guard Air Station Brooklyn, located between the east boundary of the airfield and Jamaica Bay. By increasing the number of buildings located along Jamaica Bay, the density of this area was increased. The change in density transformed the Jamaica Bay development, including the Navy Seaplane Patrol Base and Coast Guard Air Station Brooklyn, into an identifiable cluster, reinforcing the airfield's east boundary. (See Figure 1.36)

DECLINE OF FLOYD BENNETT AIRPORT

Even though Floyd Bennett Airport was located near a dense metropolitan center, early airports could not be financially successful without the support of the Post Office Department. The Air Mail Act of February 2, 1925 allowed contracted carriers to take over airmail service from the U.S. Post Office Department.[77] When Newark Airport opened in 1928, it was the only fully operational commercial airport in the New York City region. The Post Office Department awarded a contract to the Newark airport. Newark also offered efficient transportation to New York City via the newly constructed Pulaski Skyway and the Holland Tunnel.

Although Newark won the contract, New York City officials were confident the airmail service could easily be reassigned to Floyd Bennett Airport once construction was complete. However, unknown to officials, Newark Airport was intentionally built to specifications set by the Post Office Department, unlike Floyd Bennett Airport where the Department of Docks attempted to update the facilities during construction to meet the requirements.[78] Upon the completion of Floyd Bennett Airport, the City began its fight to get New York City's first municipal airport designated as the official airmail terminus.

Mayor Fiorello H. LaGuardia led the battle. LaGuardia, an aviation enthusiast, became Mayor of New York City on January 1, 1934. In the three years prior to LaGuardia's election, city officials unsuccessfully tried to change the airmail terminus. LaGuardia, however, began fighting the battle even before he was inaugurated into office. On November 24, 1933, LaGuardia and his wife were on board a TWA flight from Florida. Their tickets read that their destination was New York City, so when the plane landed in Newark, LaGuardia refused to disembark, insisting that Newark was most definitely not New York City. He put up such a fuss that eventually the plane took off and brought LaGuardia and his wife to Floyd Bennett Airport. Although this stunt brought attention to the controversy between Newark Airport and Floyd Bennett Airport, it ultimately did nothing to change the situation.[79]

LaGuardia continued his battle for several years. The numerous WPA improvements that took place at the airport reflected the City's continued efforts to improve Floyd Bennett Airport in the hopes of securing the airmail contract. Eventually, LaGuardia convinced the Post Office Department to investigate the matter, requiring New York City police officers to perform test runs to determine how quickly Manhattan could be reached from Floyd Bennett Airport. In the end, all the data determined changing the airmail terminus would be too costly and inefficient overall. Several factors, such as Floyd Bennett Airport's relatively small size in comparison with other airport's being developed at the same time most likely contributed to the decline of Floyd Bennett Airport. However, the City's failure to secure the airmail contract was the single greatest factor in the ultimate commercial failure of Floyd Bennett Airport. Still extremely unhappy that the airmail service was provided by an out-of-state entity, LaGuardia opted to build a second airport, closer to Manhattan.

In 1939, Municipal Airport #2 opened, to be renamed LaGuardia Airport in 1947. On November 7, 1939, Mayor LaGuardia finally achieved his goal and LaGuardia Airport and Newark Airport were made co-terminals for the airmail service. Due largely to the more accessible roads, travel time to LaGuardia Airport proved to be short when compared with Floyd Bennett Airport. LaGuardia Airport proved to be so convenient that by December, every major commercial airline except Eastern Airlines transferred operations from Floyd Bennett Airport to the new airfield, which had an immediate impact on Floyd Bennett Airport's financial success.

Perhaps because of its accessible location, LaGuardia Airport quickly reached its maximum capacity and Mayor LaGuardia felt it would not be able to handle the rapid growth of commercial aviation. On December 2, 1941, Mayor LaGuardia announced a plan to develop a third municipal airport in New York City. Despite the commercial failure of Floyd Bennett Airport, the favorable conditions offered by Jamaica Bay were undeniable; New York City officials decided to build the new airport, Idlewild, later to be renamed John F. Kennedy Airport, in Queens, on the opposite side of Jamaica Bay from Floyd Bennett Airport.[80]

LANDSCAPE OVERVIEW

The landscape overview gives a summary of the information presented for the Floyd Bennett Airport era. Organized by landscape characteristics, the landscape overview is meant to supplement the landscape narrative. It may also serve as a guide for future reference.

Natural Systems and Features

Geology and Geomorphology: In 1928, when development of Floyd Bennett Airport began, the islands in Jamaica Bay were unstable because of the strong tidal forces of the bay. Before dredging and filling operations, the area on which Floyd Bennett Airport was to be constructed consisted of a series of islands, inlets, marshes, and creeks. The largest island was Barren Island. The most prominent water features included Little Bay and Big Channel, located at the east side of the future airport; Deep Creek, which ran from Dead Horse Bay through the interior of the site; and Irish Channel, located north of the airport property. When the Department of Docks created an engineered landmass through dredging and filling operations and the construction of a bulkhead, they effectively eliminated the majority of the islands and waterways, stopping the natural processes within this section of the bay.

Climate: Jamaica Bay had naturally mild weather with minimal storms and fog. This condition made the bay and ideal place for the location of New York City's first municipal airport.

Flora: The natural geology and climate of the Jamaica Bay area limited the natural flora that could grow on the site. However, whatever salt grass and low-lying scrubby vegetation existed prior to the development of the airport was most likely removed during construction. It is likely that the natural flora began to reestablish itself in the areas not maintained as manicured grass.

Spatial Organization

During the Floyd Bennett Airport period, the landscape consisted of extensive open land. Much of the original airport development was located on the west boundary, along Flatbush Avenue, in what became known as Hangar Row. Although a seaplane ramp had been constructed for use by the airport, frontage along Jamaica Bay remained minimal and open until the Coast Guard began construction on their air station in 1936. The eastern boundary of the field was

further defined in 1940, when the Navy began construction of the Seaplane Patrol Base. The airfield comprised the central landscape; the runways were its dominant feature. The long, flat runways further emphasized the flat, open character of the landscape. Overall, the landscape was open and expansive through the center with buildings and structures defining the east and west borders. The alignment of the various features, particularly the runways and Hangar Row, organized the site with linear forms and clearly defined angles, creating distinct geometric articulation in the landscape. (See Figure 1.29)

Land Use

From 1928–1941, Floyd Bennett Field operated primarily as a municipal airport, with minimal seaplane facilities. The military presence on the field for the majority of the period (1931–1941) did not affect the land use as they were aviation related. Both the Navy and the Coast Guard used the site for aviation related operations. While the last of the Barren Island community remained on approximately fifty-one acres of privately owned land south of the airport boundary, all the former industries had closed prior to this period, leaving the area a residential community. The Navy introduced residential use as well with the barracks constructed at the Seaplane Patrol Base.

Cluster Arrangement

During the 1928 – 1941 period, the Floyd Bennett Field landscape was primarily broad, open, and expansive. Development was concentrated in two areas: along Hangar Row and Jamaica Bay. (See Figure 1.36) When the municipal airport was first under construction in 1928, to receive the highest rating, A1A, the Department of Commerce required hangars and support buildings to be aligned linearly along one side of the runways.[81] Hangar Row was given its name because of its linear arrangement. A few additional structures were constructed in Hangar Row during this period, further emphasizing its horizontality. Development of the Jamaica Bay cluster began in 1936, shortly after construction of Hangar Row, with construction of Coast Guard Air Station Brooklyn. The air station included a hangar, garage, taxiway, and seaplane ramp. In 1938, the WPA built a second seaplane ramp just south of the air station as part of the municipal airport. In 1940, the Navy continued to develop land along Jamaica Bay with construction of the Seaplane Patrol Base. The new base included a large hangar, apron, another seaplane ramp, and a wooden pier. The building clusters on the east and west sides of Floyd Bennett Field provided clear definitions for the landscape's boundaries. The Barren Island community remained as an identifiable cluster south of the airport.

Topography

During initial construction of the municipal airport, the Department of Docks graded the landscape to be essentially flat, contributing significantly to the broad, open character of the cultural landscape. The expansive character was important to its use as an airfield.

Vegetation

Prior to development of the airport, there was no planted vegetation present within the municipal airport site. When airport construction began, the Department of Docks planted two types of vegetation: mown grass between the runways and a privet hedge along the north boundary. The Department of Docks planted grass between the runways as part of the original airport development in 1928. It appears that this grass was maintained as neatly mown throughout this period. In 1935, the WPA funded a redesign of the main entrance into the airport on Flatbush Avenue. The design included a planting plan that utilized a variety of ornamental shrubs and perennials as well as sycamore trees and lawn areas.

Circulation

During this period, the circulation features were greatly expanded. When Floyd Bennett Airport first opened in 1931, there were only two concrete runways, 15-33 and 6-24. The parking area around the Administration Building and sections of the Hangar Row apron directly surrounding the hangars were constructed of rectangular asphalt pavers. In 1935, the WPA improved the existing circulation system; they lengthened Runway 15-33 and the Hangar Row apron. They also widened the taxiways connecting Runway 15-33 and the Hangar Row apron. In addition to expanded existing circulation, the WPA constructed new features, including Runways 1-19 and 12-30. The new runways essentially formed a diagonal overlay on the original 'T' shaped runway plan. This resulted in distinct triangular forms in the airfield. (See Figure 1.29)

Buildings and Structures

During this historic period, buildings and structures within of Floyd Bennett Airport consisted of facilities essential to the functioning of the airport. These included the Administration Building, hangars, and several support buildings, such as transformer vaults, pump houses, and maintenance shops. Bulkheads and seaplane ramps were also constructed during this period. Apparent in the buildings and structures the Department of Docks and the WPA built is a distinctly unified design. The approach is evident in the design of the Administration Building, the eight original hangars, the dope shop and a number of small, support brick buildings located in Hangar Row. While the Administration Building is unique in its neoclassical style, the unity among the buildings was evident in the materials and details. Each of these buildings was constructed of brick with cast-stone accents with streamlined classical detailing. (See Figures 1.22, 1.23, 1.28, 1.32) While the design of the Coast Guard Air Station Brooklyn buildings did not conform to the unified approach seen throughout the municipal airport, the Coast Guard hangar and garage shared a streamlined design approach, reflecting industrial modernism. The modest appearance of the whitewashed concrete buildings created visual unity within the air station. (See Figure 1.34)

Views and Vistas

The expansive views off and into Floyd Bennett Airport were critical to its use as an active airfield. Despite the cluster of buildings along Jamaica Bay, views across the bay remained open, with no obstructing woods or other vegetation. Airplane flights were easily viewed with no obstruction. The New York City skyline could be seen from the terrace of the Administration Building.

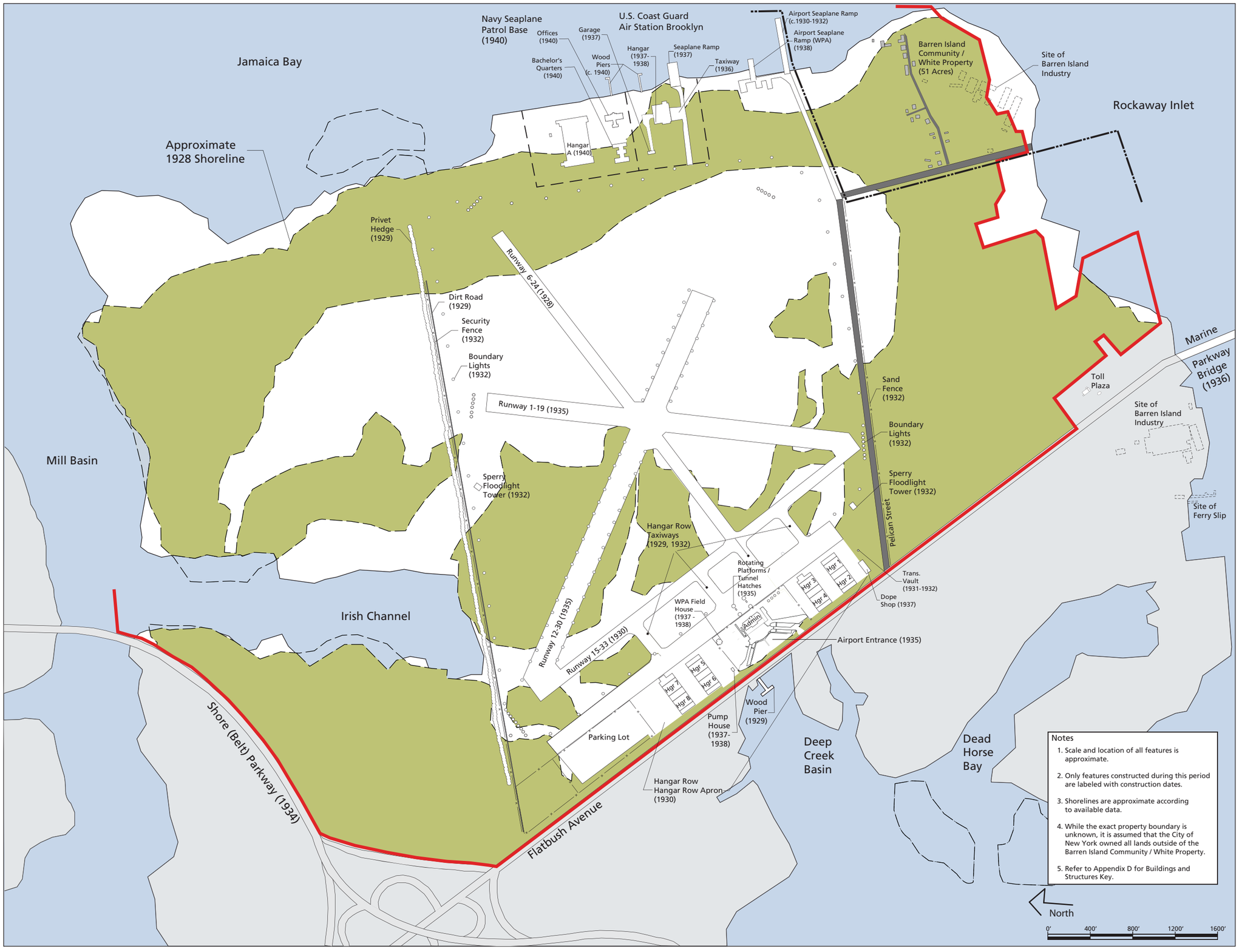
Small-Scale Features

During this period, there were a variety of small-scale features that supported the airport, although no complete record of them has been found. The earliest small-scale feature in the Floyd Bennett Airport landscape was the six-foot tall wooden fence that marked the airport's original north boundary, constructed c. 1930. Shortly after the wooden fence was built, a four-foot tall wire mesh fence was constructed along the airport's original south boundary. Fences were also installed around the parking areas to the north, east, and south of the Administration Building. During this period, the main small-scale features found in the landscape were at the airport entrance. In 1935, the WPA installed a metal flagpole and an entrance sign in the center of the central walkway that circled around these features. There were also two styles of light standards at the entrance: cast-iron and rustic style.

Cultural Landscape Report

Floyd Bennett Field
Gateway National Recreation Area

Floyd Bennett Airport Era
1928 - 1941



National Park Service

Olmsted Center for Landscape Preservation

www.nps.gov/oclp

in cooperation with:

Faculty of Landscape Architecture
SUNY College of Environmental
Science and Forestry - Syracuse, New York

SOURCES

1. Proposed Municipal Airport Map, Aug. 1931
2. Map of Floyd Bennett Field, Dec. 29, 1941

DRAWN BY

Sarah K. Cody, Illustrator CS2

LEGEND

BOUNDARIES

- Floyd Bennett Field CLR Project Area / NPS Property Boundary
- Historical Property Boundary
- Leased Area Boundary

FEATURES

- Buildings & Structures
- Added During Period
- Removed During Period
- Circulation
  Runways, drives, aprons, taxiways, walks
- Fence
- Grass / Open Land

Drawing 1.2

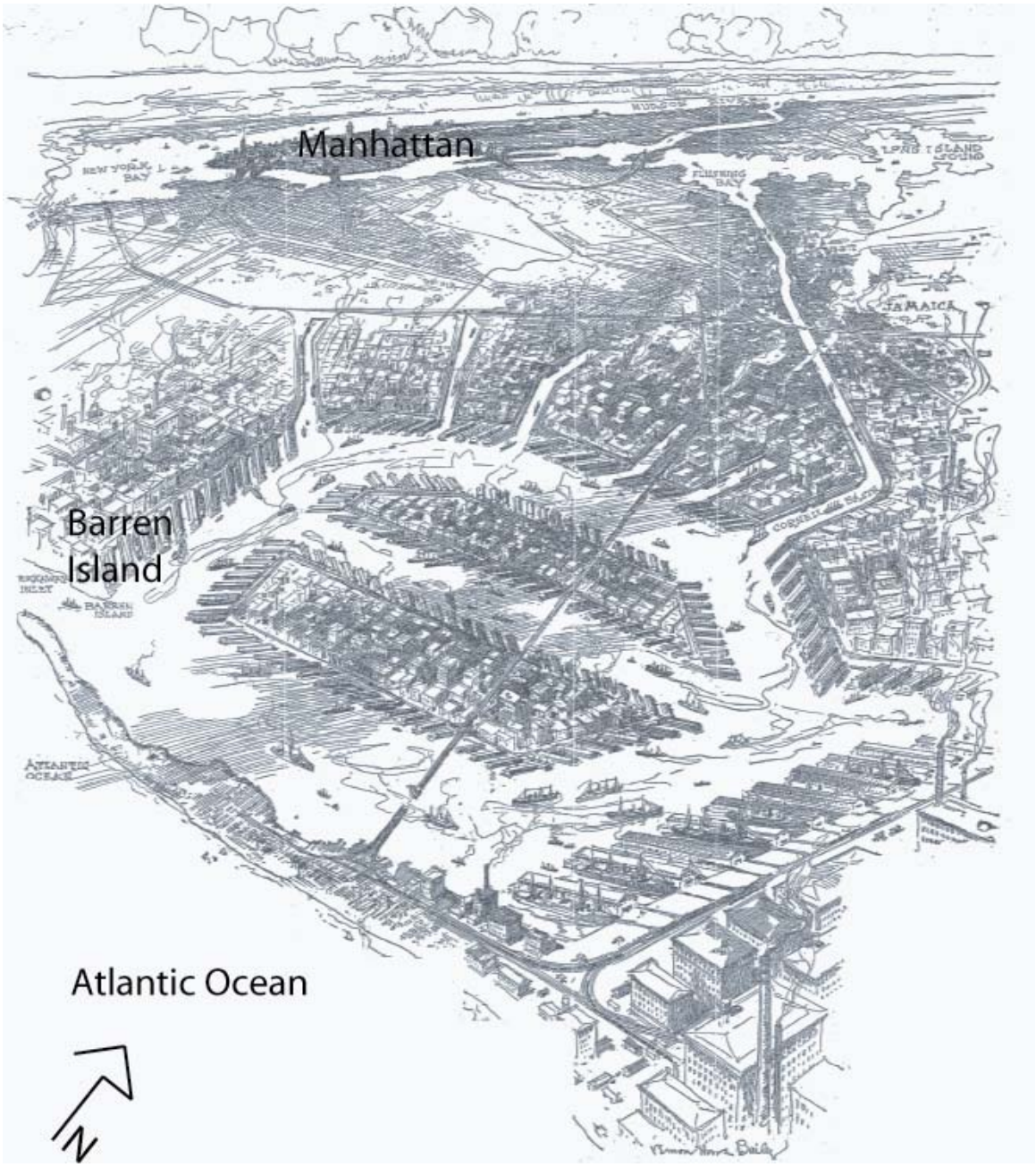


Figure 1.15: View looking northwest of the rendering of the proposed harbor development project for Jamaica Bay, 13 March 1910. (New York Times, "Jamaica Bay to be a Great World Harbor," 13 March 1910. Reproduced at ProQuest Historical Newspapers, http://pqasb.pqarchiver.com/nytimes/; annotated by SUNY-ESF).

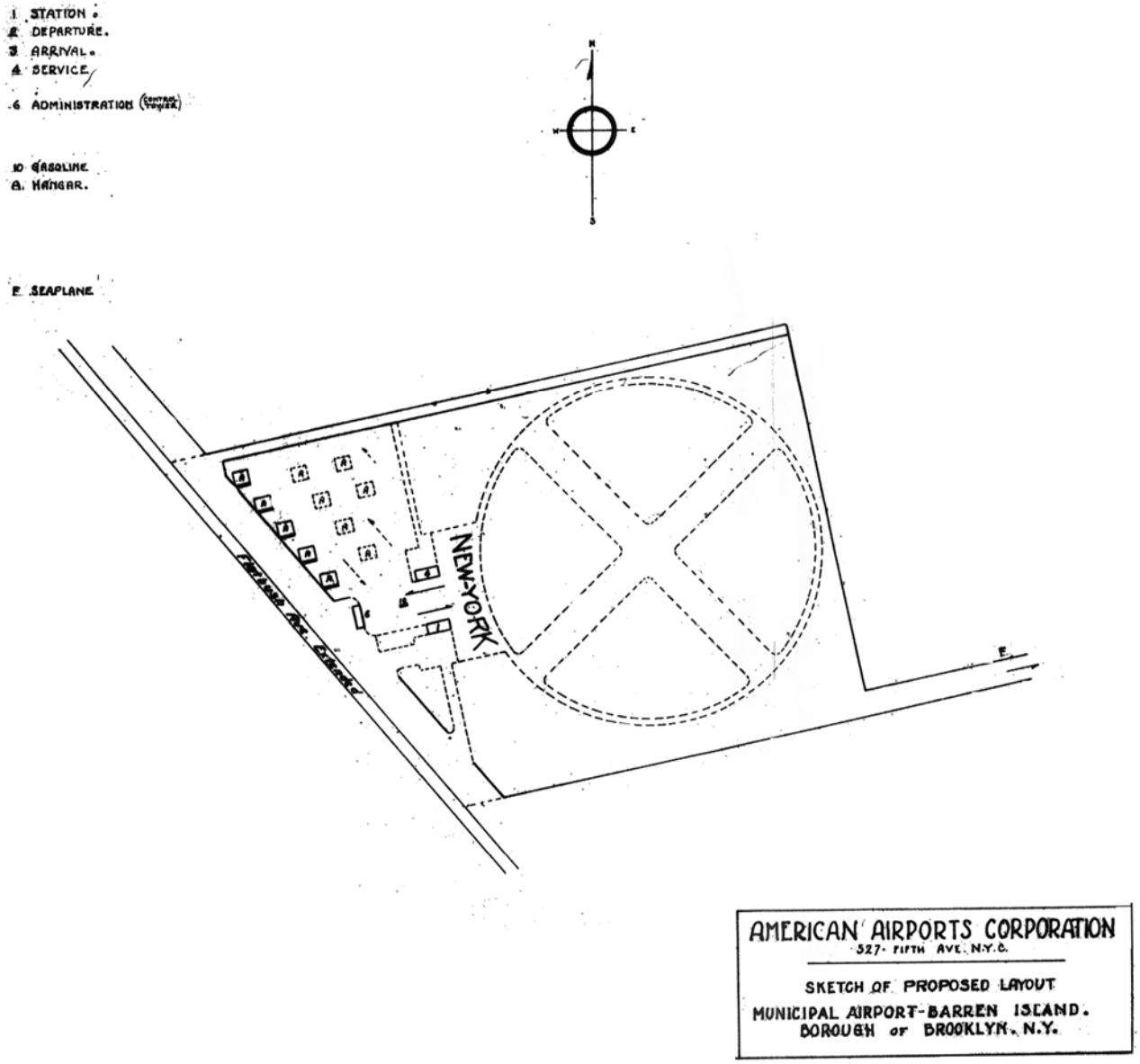


Figure 1.16: One of several proposed plans for New York City's first municipal airport. (Porter R. Blakemore, "Historic Structures Report, Historical Data Section, Floyd Bennett Field, Gateway National Recreation Area, Volume 1," 78).

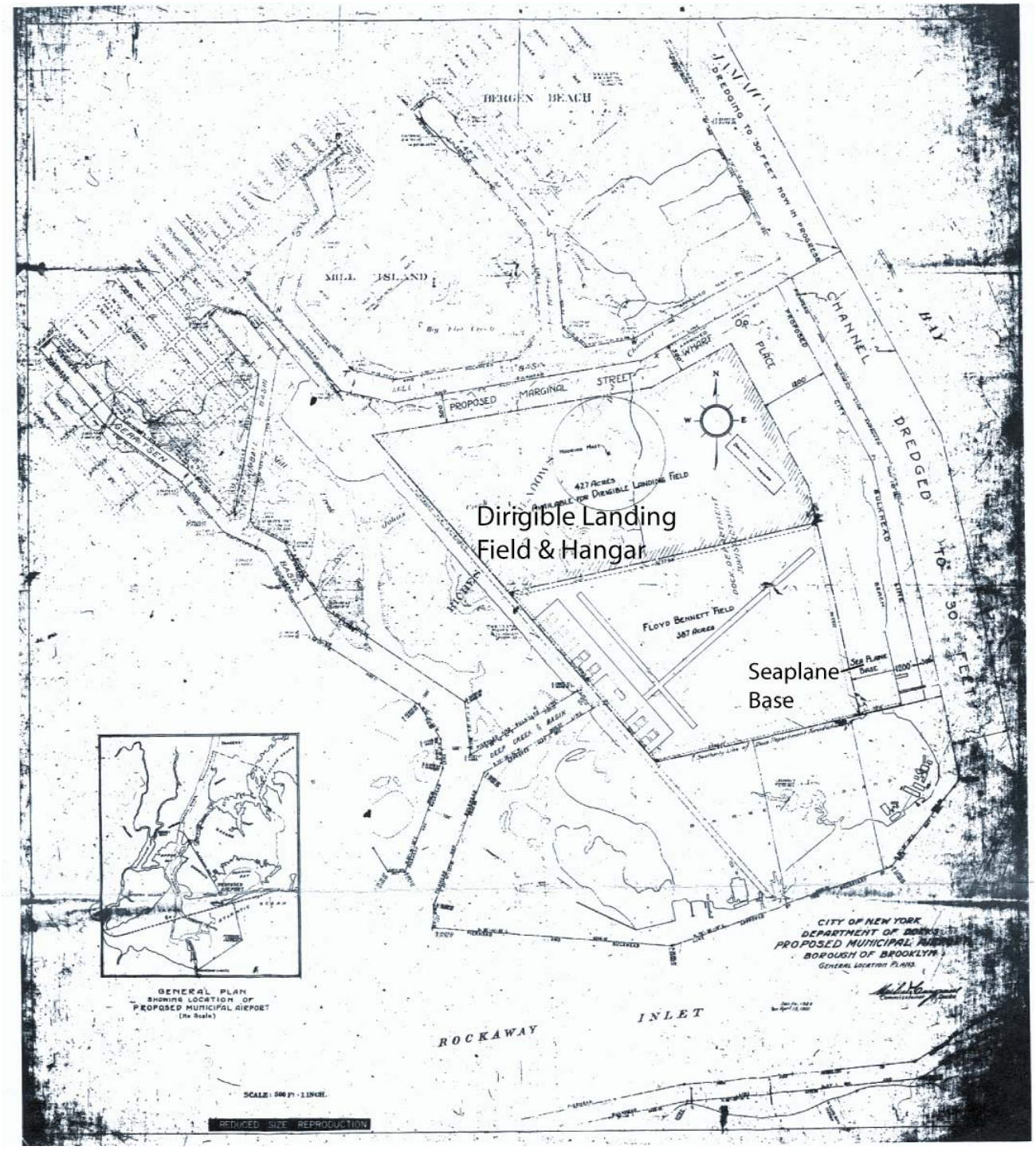


Figure 1.17: Final proposed master plan and adjoining port development for Floyd Bennett Airport. Although not all features depicted on the map were ultimately built, the overall layout was followed. (Blakemore, "Historic Structures Report," 79).

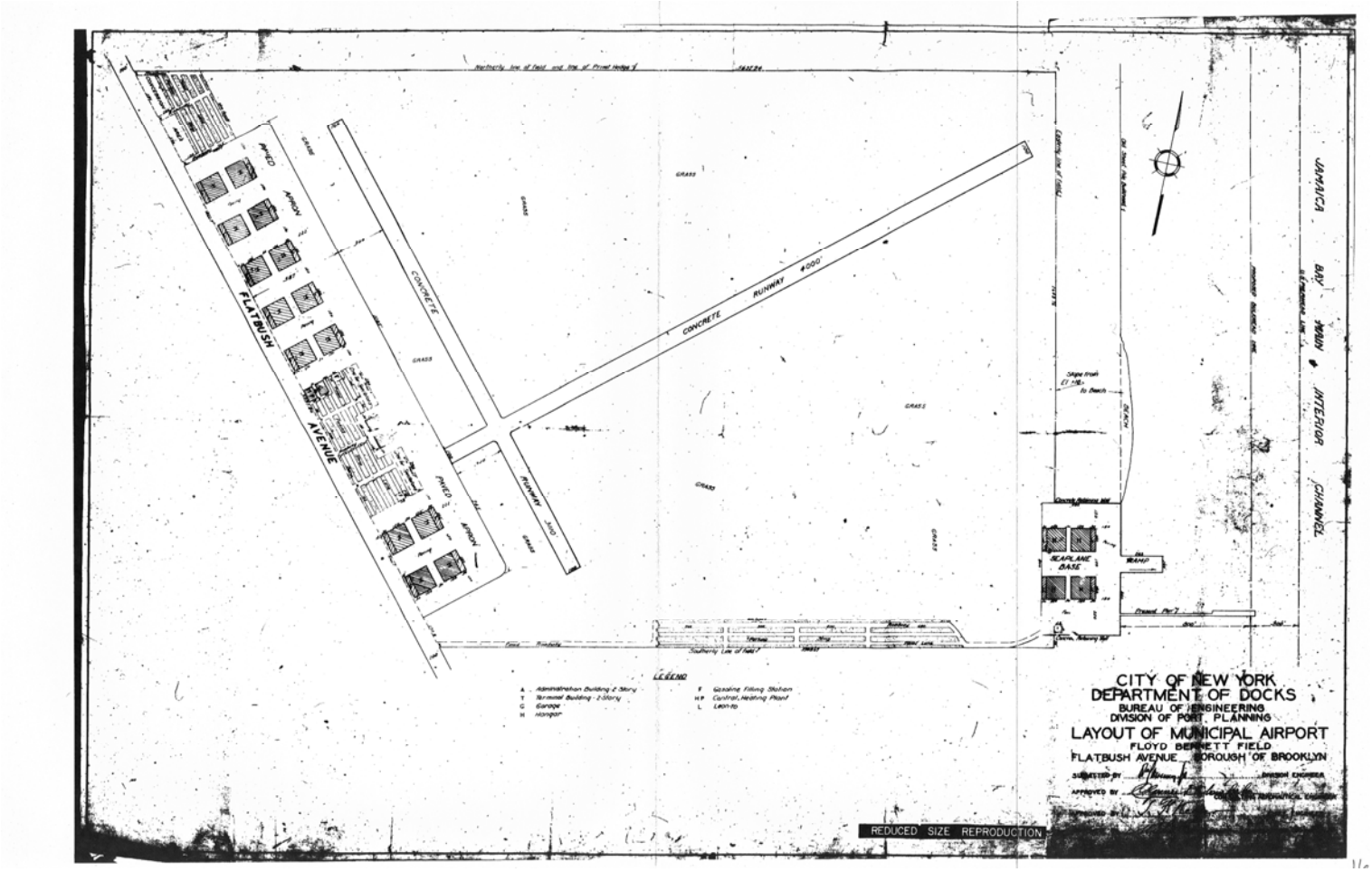


Figure 1.18: Layout plan for Floyd Bennett Airport. Only eight of the fourteen hangars depicted on the plan were built. (Blakemore, "Historic Structures Report," 16).

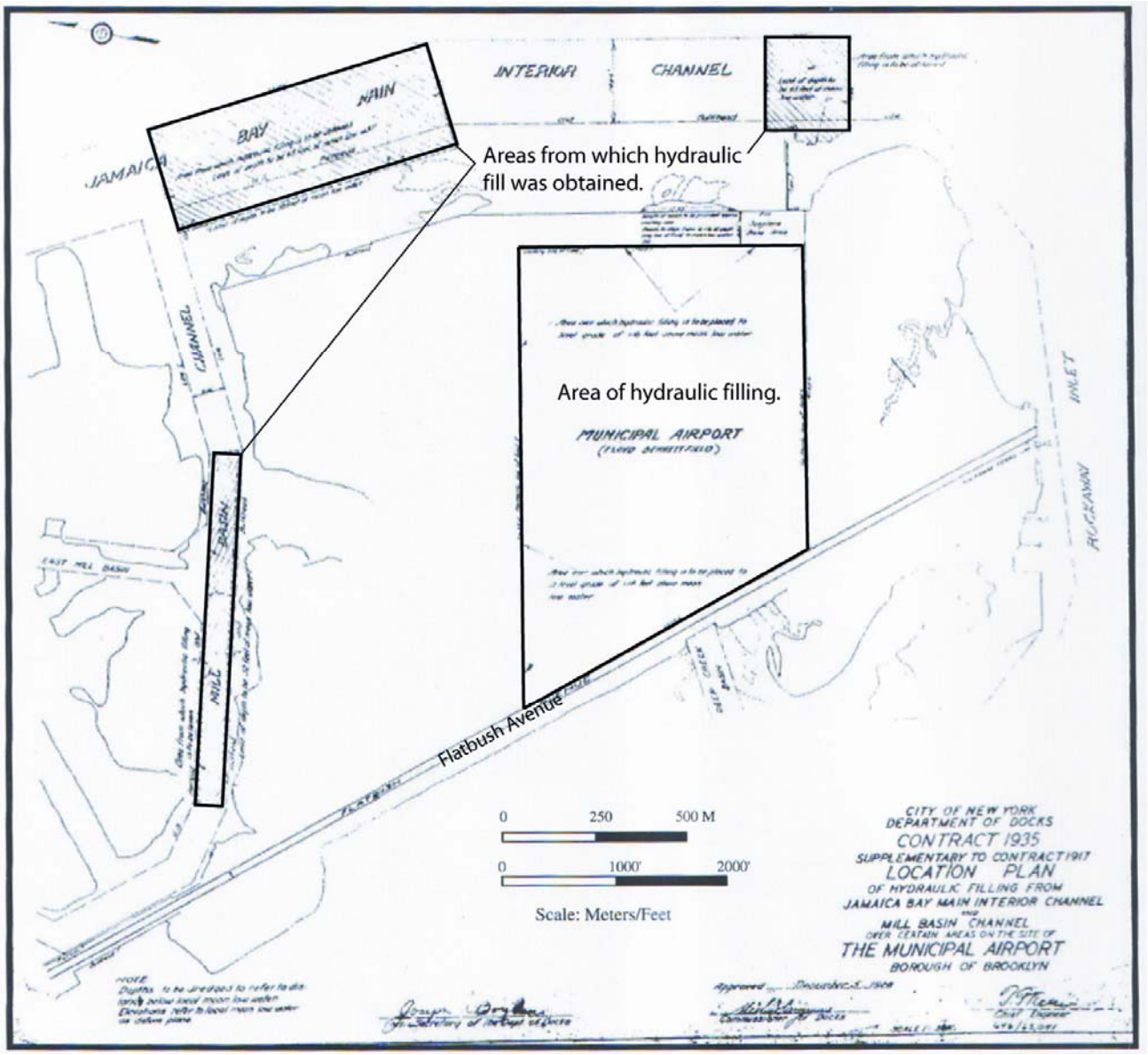


Figure 1.19: Department of Docks supplemental contract drawing illustrating the source of hydraulic filling materials and the area in which they were placed. December 5, 1928. (Ingrid Wuebber and Edward M. Morin. "Modified Phase IA Cultural Resources Inventory, Floyd Bennett Field, Jamaica Bay Unit, Gateway National Recreation Area, Brooklyn, New York," 21; annotated by SUNY-ESF).

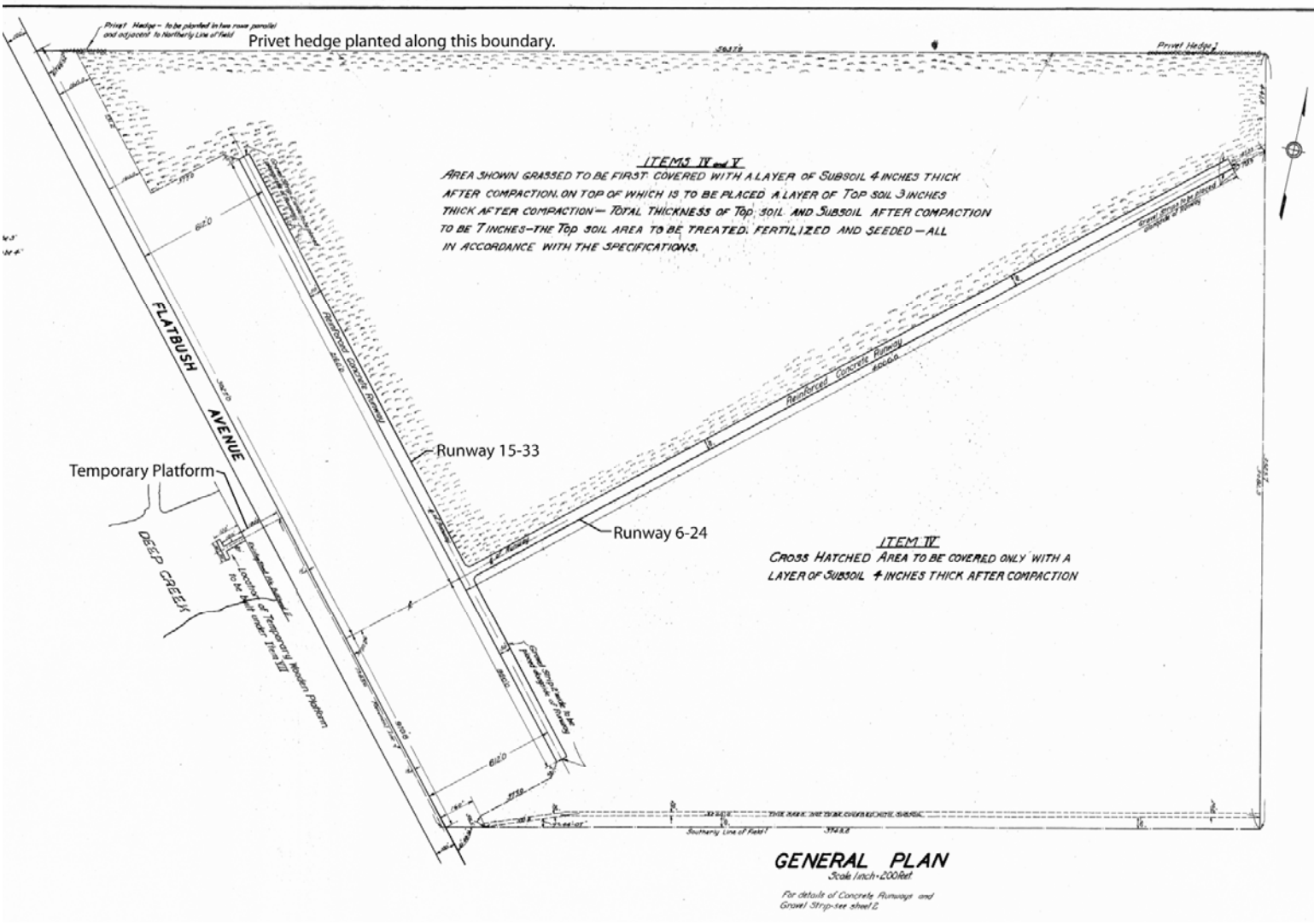


Figure 1.20: Contract plan, awarded in 1928, included seven separate projects. (Blakemore, "Historic Structures Report," 82; annotated by SUNY-ESF).



Figure 1.21: View along a partially constructed runway illustrating the thickness of the concrete. Steel reinforcements are visible on the runway, 1928. (Unnumbered photo, Gateway National Recreation Area Archives, Fort Wadsworth).



Figure 1.22: View looking north along Hangar Row towards the lean-to constructed on the east side of Hangar 1. Despite the name 'lean-to,' the structures were quite large with the same architectural style as the hangars, September 1937. (Blakemore, "Historic Structures Report," 146).



Figure 1.23: View looking west towards the field, or east, side of the Administration Building. The east façade features the central control tower flanked by terraces. One of the hatches to the WPA passenger tunnel can be seen right of center, c. 1932. (Blakemore, "Historic Structures Report," 102).



Figure 1.24: Aerial looking east of the newly opened Floyd Bennett Airport. Each of the airport's features was set on axis with Flatbush Avenue c. 1931-1932. (New York Public Library Digital Gallery, http://digitalgallery.nypl.org/nypldigital/).

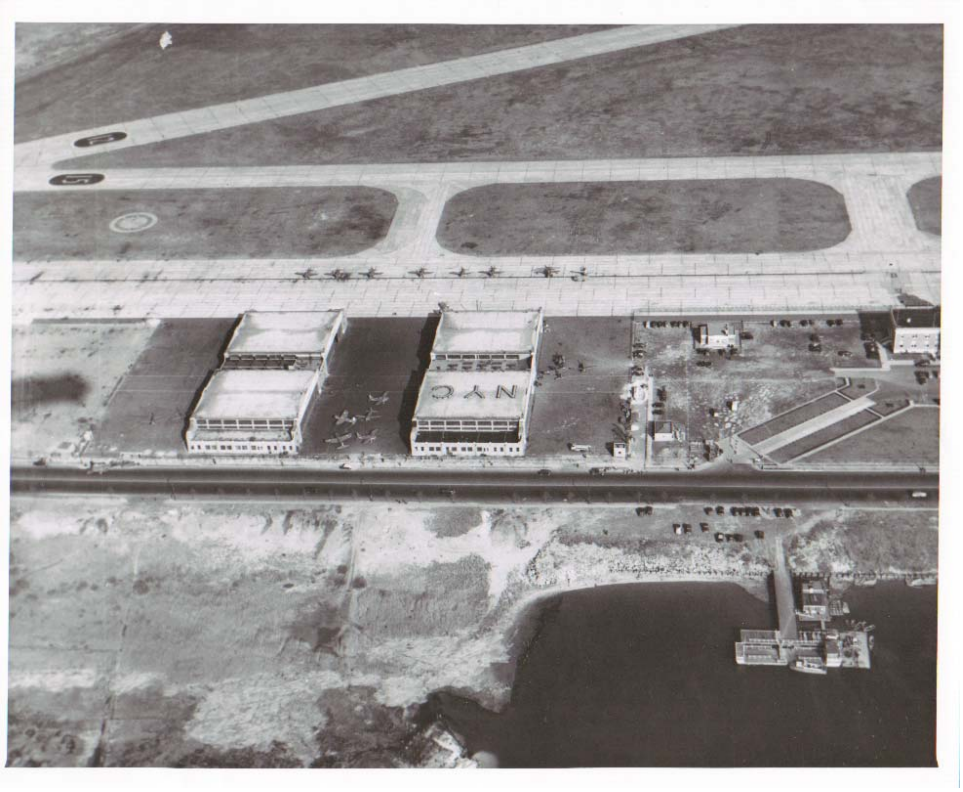


Figure 1.25: View looking east showing the roofs of hangars five through eight; the initials 'NYC' can be seen on the roof of hangar six, c. 1935. (Photograph 18980, Gateway National Recreation Area Archives, Fort Wadsworth).



Figure 1.26: View looking southeast from the Jamaica Bay shoreline. Two unidentified men stand by the wooden pylons that supported the seaplane ramp, c. 1935-1940. (Photograph 15136, Gateway National Recreation Area Archives, Fort Wadsworth).

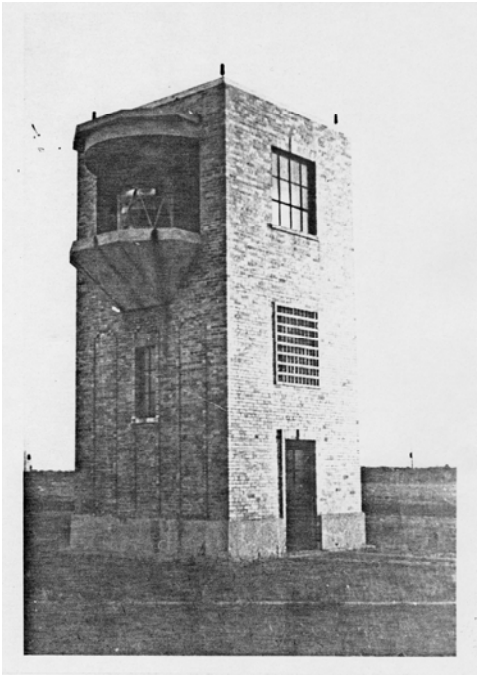


Figure 1.27: View looking northeast towards the Sperry floodlight tower at the south end of Runway 15-33, c. 1935. (Blakemore, "Historic Structures Report," 115).



Figure 1.28: View looking northeast at the parking area north of the Administration Building. The asphalt pavers are visible in the lower right corner. A chain-link fence separated passengers from the Hangar Row apron, c. 1935-1940. (Photograph 18963, Gateway National Recreation Area Archives, Fort Wadsworth).



Figure 1.29: View looking south at the north facade of the infill building connecting Hangars 3 and 4. This facade is more detailed than the south facade because it was more visible to the public, October 1978. (Photograph 22282, Gateway National Recreation Area Archives, Fort Wadsworth).

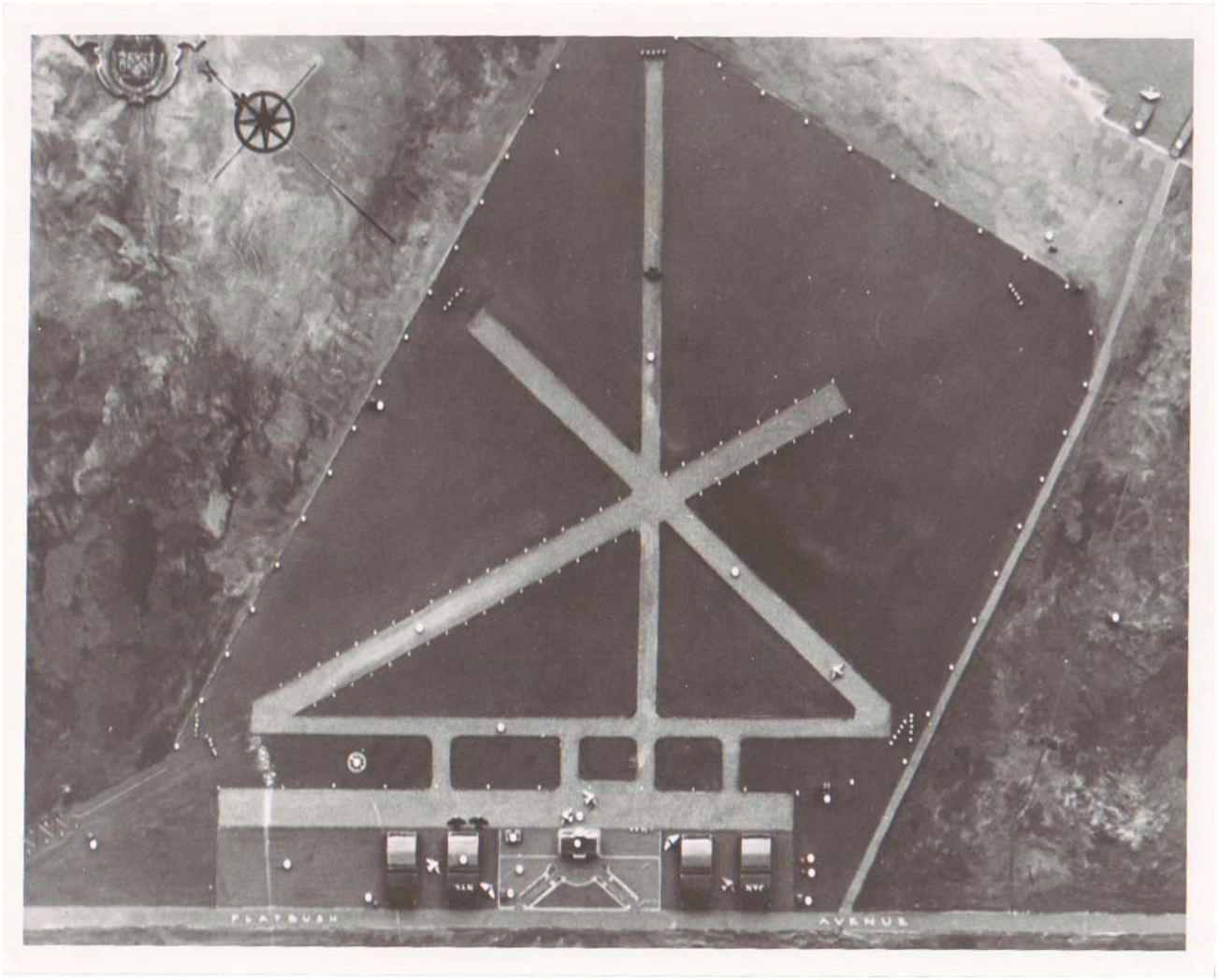


Figure 1.30: Aerial view of Floyd Bennett Field showing the WPA-constructed runways and the impact they had on the spatial character of the airfield. The straight linear arrangement of the runways and Hangar Row created a formal spatial pattern. The airport compass rose is located in the grass panel furthest left. The c. 1930-1932 civilian airport seaplane ramp and the 1938 WPA seaplane ramp are visible in the top right corner, 22 November 1935. (Photograph 18860, Gateway National Recreation Area Archives, Fort Wadsworth).



Figure 1.31: View looking west towards the Administration Building of WPA workers constructing the passenger tunnel from the Administration Building basement to the taxiway, 15 July 1935. (Blakemore, "Historic Structures Report," 129).

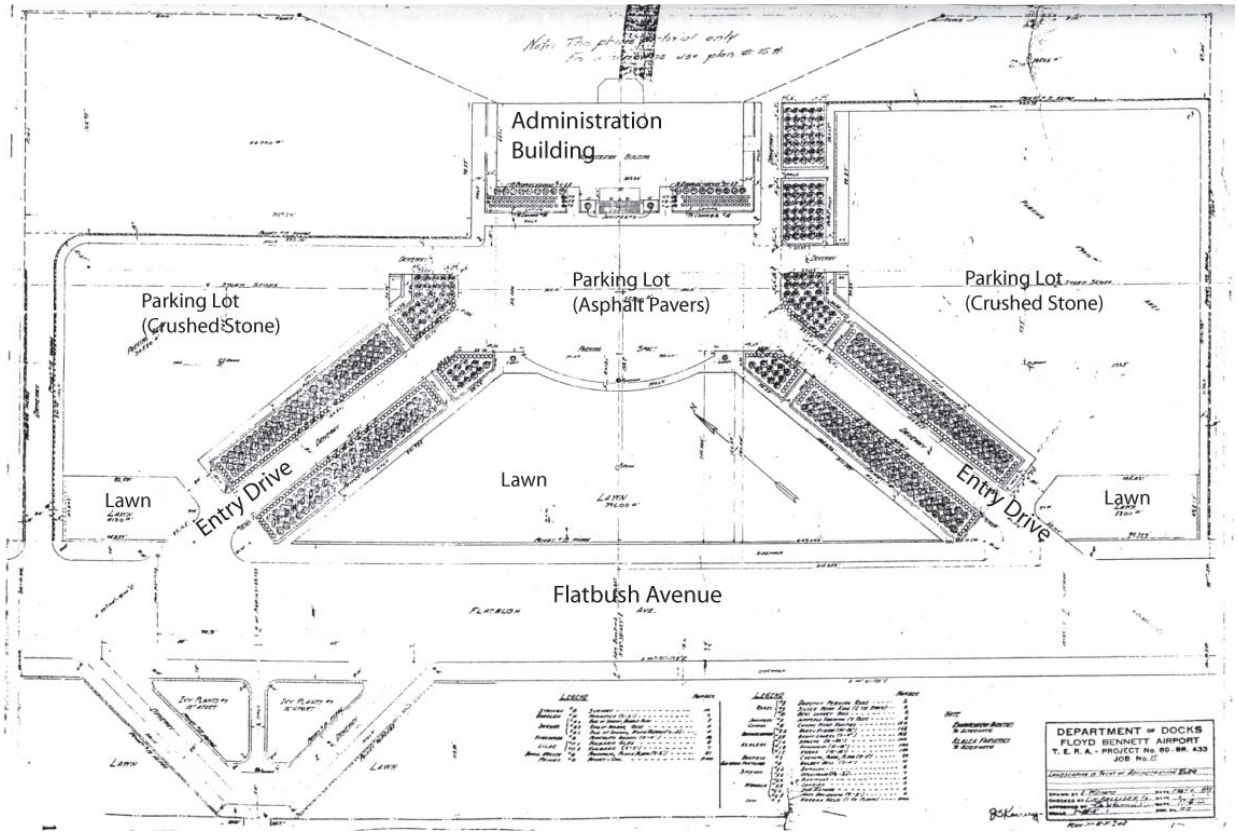


Figure 1.32: Plan of the WPA redesigned airport entrance. For the most part, the plan was installed as shown, however, the ornamental planting beds along the entry drives and to the right of the Administration Building included primarily the border shrubs with the central spaces maintained as lawn, 1935. (Judith A. Quinn, "Historic Structures Report, The Administration Building (The Ryan Center), Gateway National Recreation Area, Floyd Bennett Field," 183; annotated by SUNY ESF).



Figure 1.33: View looking east towards the Administration Building after completion of the WPA entrance design. The new WPA entrance is more welcoming to passengers. The cast-iron light standards can be seen to either side of the central walk and the rustic style light standards can be seen at the far left and right of the Administration Building 20 November 1936. (Blakemore, "Historic Structures Report," 104).

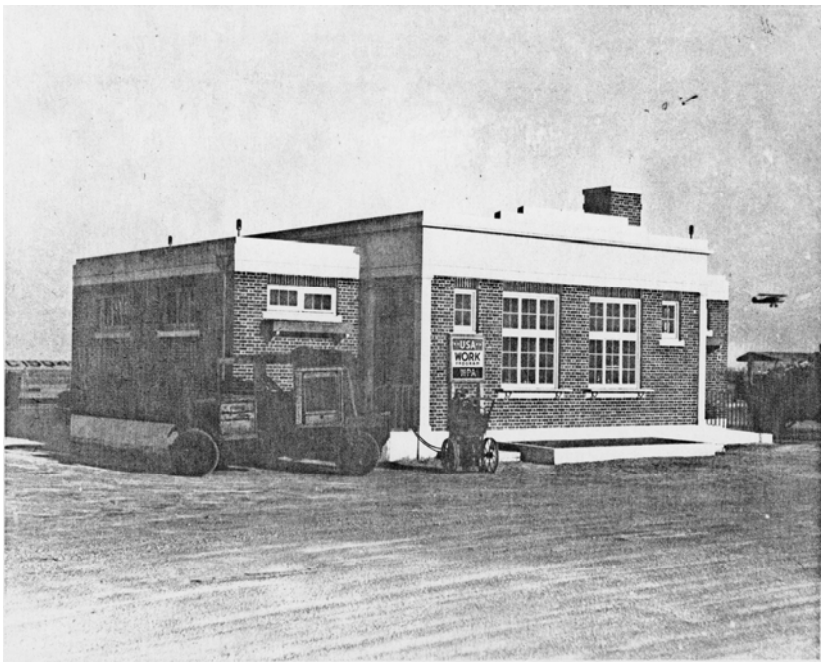


Figure 1.34: View looking southwest towards the WPA Field House, 23 December 1936. (Blakemore, "Historic Structures Report," 133).



Figure 1.35: Oblique aerial view looking north towards the newly constructed Coast Guard hangar, garage, taxiway, and seaplane ramp. Jamaica Bay and the seaplane ramp are to the right of the hangar, 9 January 1938. (Photograph 19625, Gateway National Recreation Area Archives, Fort Wadsworth).



Figure 1.36: View inside the Coast Guard hangar at a helicopter training device, c. 1940. (U.S. Department of Homeland Security. "United States Coast Guard Air Station Brooklyn, New York," *U.S. Coast Guard Aviation History,* http://www.uscg.mil/history/stations/airsta_brooklyn.html).



Figure 1.37: View looking southwest across Floyd Bennett Airport. The 1940-1941 Navy Seaplane Patrol Base and the Coast Guard Air Station are visible in the lower left side of photo, 26 November 1940. (Photograph 18927, Gateway National Recreation Area Archives, Fort Wadsworth).

ENDNOTES

[1] Frederick R. Black, "Jamaica Bay: A History" (National Park Service North Atlantic Regional Office: Unpublished report, 1981), 73.

[2] New York Times, "Jamaica Bay to be a Great World Harbor," 13 March 1910. Reproduced at ProQuest Historical Newspapers, http://pqasb.pqarchiver.com/nytimes/.

[3] From the proposed rendering, it appears that Barren Island would actually make up the southern ends of both East and West Islands.

[4] New York Times, "Jamaica Bay to be a Great World Harbor."

[5] Ibid.

[6] Ibid.

[7] Black, "Jamaica Bay: A History," 78.

[8] Porter R. Blakemore, "Historic Structures Report, Historical Data Section, Floyd Bennett Field, Gateway National Recreation Area, Volume 1" (National Park Service, Denver Service Center: Unpublished report, May 1981), 2-3.

[9] Ibid.

[10] Henry Ladd Smith, *Airways: The History of Commercial Aviation in the United States* (New York: Alfred A. Knopf, 1944), 52-53.

[11] Janet R. Daly Bednarek, *America's Airports: Airfield Development, 1918-1947* (College Station, Texas: Texas A & M University Press, 2001), 16.

[12] Herbert Kaufman, *Gotham in the Air Age.* (New York: Harcourt, Brace, and Company, Inc., 1952), 149-150.

[13] Ibid, 150.

[14] R.E.G. Davies, *A History of the World's Airlines* (London: Oxford University Press, 1964), 53-55. Quoted in Blakemore, "Jamaica Bay: A History," 2.

[15] Kaufman, *Gotham in the Air Age,* 150.

[16] Blakemore, "Historic Structures Report," 5.

[17] Ibid, 9-10.

[18] Kaufman, *Gotham in the Air Age,* 150.

[19] Blakemore, "Historic Structures Report," 13.

[20] Ibid, 25-29.

[21] Ibid, 74.

[22] Ibid, 75.

[23] Ibid, 93.

[24] Ibid, 79.

[25] Ibid, 93-97.

[26] An apron, sometimes called an airport ramp, is an area, typically concrete, where aircraft are parked to be loaded and unloaded, refueled, and boarded by passengers.

[27] Photographs 18392, 18394, 21875, 21876, Gateway National Recreation Area Archives, Fort Wadsworth.

[28] Richard Greenwood and Ricardo Terres. "National Register of Historic Places Inventory Nomination Form, Floyd Bennett Field Historic District," (National Park Service: Unpublished document, 1978), 2.

[29] James Warren. "National Historic Landmark Nomination, Floyd Bennett Field," (National Park Service: Unpublished document, 2005), 4.

[30] A taxiway is an area on which the aircraft can slowly move along the ground, or taxi. The taxiway connects areas such as hangars, the main passenger terminal, aprons, and runways.

[31] Blakemore, "Historic Structures Report," 29.

[32] Tony P. Wrenn, "General History of the Jamaica Bay, Breezy Point, and Staten Island Units, Gateway National Recreation Area," (National Park Service: Unpublished report, October 1975), 3.

[33] Ibid, 3.

[34] New York Times, May 23, 1931, quoted in Wrenn, "General History of the Jamaica Bay, Breezy Point, and Staten Island Units," 4.

[35] Blakemore, "Historic Structures Report," 30.

[36] Ibid, 98-99.

[37] M. L. Shettle, Jr. *United Stated Naval Air Stations of World War II, Volume I: Eastern States.* (Bowersville, Georgia: Schaertel Publishing Co., 1995), 7.

[38] Christina Selvek, "Cultural Landscape Report for Fort Tilden," (National Park Service: Unpublished report, September 2005), 21.

[39] Memorandum, First Deputy Commissioner S. Goldenkranz to Chief of the Bureau of Aeronautics, 15 July 1931, Bureau of Yards and Docks, Navy Property Case Files Records, Box 823, NARA II.

[40] Letter, Commissioner of the Department of Docks to Navy Department Bureau of Aeronautics, 17 May 1932, Bureau of Yards and Docks, Navy Property Case Files Records, Box 823, NARA II.

[41] Blakemore, "Historic Structures Report," 111.

[42] Blakemore, "Historic Structures Report," 117.

[43] Ingrid Wuebber and Edward M. Morin. "Modified Phase IA Cultural Resources Inventory, Floyd Bennett Field, Jamaica Bay Unit, Gateway National Recreation Area, Brooklyn, New York" (National Park Service, Denver Service Center: Unpublished report, April 2005), 20.

[44] Blakemore, "Historic Structures Report," 118.

[45] Ibid, 117.

[46] Ibid, 117-118.

[47] Although technically, Floyd Bennett Airport was the second busiest, this statistic was according to the number of landings; however, Newark Airport carried more passengers and more pounds of mail. Wrenn, "General History of the Jamaica Bay, Breezy Point, and Staten Island Units," 4-8.

[48] Blakemore, "Historic Structures Report," 123.

[49] James Warren. "National Historic Landmark Nomination, Floyd Bennett Field," 8.

[50] Blakemore, "Historic Structures Report," 123-127.

[51] Ibid.

[52] Ibid, 127.

[53] Ibid, 135.

[54] Judith A. Quinn, "Historic Structures Report, The Administration Building (The Ryan Center), Gateway National Recreation Area, Floyd Bennett Field" (National Park Service Northeast Region, Northeast Cultural Resources Center: Unpublished report, 2004), 183.

[55] Ibid, 183.

[56] Ibid.

[57] Ibid.

[58] Ibid.

[59] A dope shop is a maintenance shop where water proof varnish, known as dope, was applied to aircraft.

[60] Blakemore, "Historic Structures Report," 139.

[61] Ibid.

[62] Ibid.

[63] Ibid, 140.

[64] Wuebber, "Modified Phase IA Cultural Resources Inventory," 20.

[65] Letter, Chief of Bureau of Aeronautics Rear Admiral Ernest J. King to Chief of Naval Operations, 9 December 1935, General Correspondence, Bureau of Aeronautics Records, NARA II; quoted in Blakemore, "Historic Structures Report," 135-136. The Bureau of Aeronautics was an agency within the Navy that oversaw Naval Aviation from 1921-1959. Chief responsibilities included the support of Naval aircraft.

[66] Letter, Commanding Officer of Naval Reserve Aviation Base to Chief of the Bureau of Aeronautics, 15 December 1936, General Correspondence, Bureau of Aeronautics Records, NARA II; quoted in Blakemore, "Historic Structures Report," 136.

[67] Blakemore, "Historic Structures Report," 54.

[68] Arthur Pearcy, *A History of U.S. Coast Guard Aviation* (Annapolis, Maryland: Naval Institute Press, 1989), ii

[69] Ibid, 88.

[70] Blakemore, "Historic Structures Report," 140.

[71] U.S. Department of Homeland Security. "United States Coast Guard Air Station Brooklyn, New York," *U.S. Coast Guard Aviation History,* http://www.uscg.mil/history/stations/airsta_brooklyn.html.

[72] Arthur Pearcy, *A History of U.S. Coast Guard Aviation*, 57-59.

[73] Ibid, 88.

[74] Lease NOd-1347, Commissioner of Docks, City of New York and the United States of America, 8 February 1942, Bureau of Yards and Docks, Navy Property Case Files Records, Box 823, NARA II.

[75] Ibid.

[76] Ibid.

[77] John H. Frederick, *Commercial Air Transportation* (Homewood, Illinois: Richard D. Irwin, Inc., 1961), 69.

[78] Blakemore, "Historic Structures Report," 34.

[79] Kaufman, *Gotham in the Air Age*, 153.

[80] Ibid, 159.

[81] Richard Greenwood and Ricardo Terres. "National Register of Historic Places Inventory Nomination Form, Floyd Bennett Field Historic District," 2.

NAVAL AIR STATION, NEW YORK
FLOYD BENNETT FIELD AND WORLD WAR II, 1941–1945

The following section outlines the changes made to the Floyd Bennett Landscape between 1941 and 1945. As landscape characteristics and features are described in the text, readers should refer to Drawing 1.3: World War II Era, 1941 – 1945. During the World War II period, the Floyd Bennett Field landscape reached the height of its development. Floyd Bennett Airport was transformed from a municipal airport into a military base, which served a vital role in the American home front. The Navy significantly expanded the existing facilities of the site and added extensive new features as well. The Navy developed Floyd Bennett Field in four distinct areas: an expansion of the Navy Seaplane Patrol Base; an expansion of the airfield; development of the area south of the original airport boundary (to be referred to as the South Support Area); and development of a radio communications complex (now known as the North 40 Natural Area) north of the original airport boundary.

Influential in the development of the site during this period was U.S. involvement in World War II. Because of its proximity to the Atlantic Ocean, Floyd Bennett Field was an important site for the patrolling of waters for foreign ships and for the repair, maintenance, and shipping of aircraft to be used overseas. In order to support the wartime efforts, the Navy extensively developed the entire site. By the end of the period, Naval development has spread throughout the landscape, creating a sprawling military complex.

Throughout World War II, Floyd Bennett Field was one of the busiest military airports in the United States.[1] The Navy's extensive development of the site reflected the importance of Floyd Bennett Field to the American home front efforts.

NAVY ACQUISITION OF FLOYD BENNETT AIRPORT

The Navy gained control of the entire Floyd Bennett Airport in 1941. However, the Navy had had an interest in acquiring the airport since 1939. When the U.S. became involved in World War II, the Navy realized the necessity of establishing a naval air station in the New York City area. Because the Navy already had facilities at Floyd Bennett Airport, it was the first location they considered.

On November 24, 1939, Naval officials held a meeting with Mayor LaGuardia regarding the City's position on the potential transfer of Floyd Bennett Field to the Navy. LaGuardia was extremely hesitant to close New York City's first airport, which he had fought so hard to keep open. LaGuardia insisted that if the City were to transfer the property, it would not be without considerable cost to the Navy. LaGuardia said this should be equal to the City's financial contribution to the joint city-WPA work, which he claimed was approximately $6 million. He also made clear that even though the United States would hold the title, the City would retain the right to land commercial aircraft at the field in the event of emergency or over-crowded conditions at LaGuardia Airport.[2]

After the initial meeting in 1939, the Navy did not immediately move to purchase the property, giving Mayor LaGuardia time to reconsider his estimate of $6 million for the entire field. The Navy continued to weight its options and by 1941, LaGuardia felt a more accurate price was $15 million; an amount he said was considerably less than the actual value of the site. Offering the airport at such a price, LaGuardia insisted, was "not only a sacrifice, but a direct contribution [to the war effort] because of [the City's] desire to be helpful in every way to the government and the United States Navy in any matter in which national defense [was] involved."[3]

The Navy believed $15 million was an unjustified price and $10 million was much closer to fair market value. LaGuardia did not have a breakdown of how he reached his price, however the Navy estimated the value of the field according to acreage and improvements. Their estimate was based on 1,047 acres of upland, valued at almost $6 million and $3.5 million worth of improvements, totaling $9.5 million. However, once the Navy considered deductions, such as the Coast Guard facilities, WPA improvements, and the 16.4 acres in the process of being deeded to the Navy for the Seaplane Patrol Base, the total was actually just over $8.5 million. Since no value was given to any lands under water, the Navy Department decided that if they moved to purchase the field, they would offer $8.75 million.[4]

Negotiations with the City

The Navy was still considering whether or not to purchase the property when, in May 1941, President Franklin D. Roosevelt declared a national emergency. This was in direct response to Nazi Germany gaining control of the greater part of Europe and parts of Africa. Roosevelt felt the entire Western Hemisphere would soon be in range of Nazi weapons of destruction. One policy of the state of emergency was a major increase in Naval operations. As a result, the Navy began to feel more pressure to establish a naval air station in the New York City area and began a condemnation procedure to purchase the field. While the City did not want to lose control of the field they had worked so hard to establish, given the commercial failure of the airport, it offered to lease the field to the Navy through the period of the national emergency.[5] The Navy accepted the offer and Floyd Bennett Airport was closed to commercial traffic on May 26, 1941. One week later, on June 2, 1941, the Navy opened Naval Air Station, New York, Floyd Bennett Field (NAS, New York) with approximately 50,000 people in attendance at the commissioning ceremony.[6] (Figure 1.38)

Condemnation of the Property

Even while leasing the field, the Navy continued investigating other sites in the area for the establishment of a permanent naval air station. By November 1941, no other site had been found and the Navy determined Floyd Bennett Field to be the only suitable location for a major air station.[7] Several factors contributed to the Navy's interest in transforming the Naval Reserve Aviation Base into a full naval air station at Floyd Bennett Field. A security survey, conducted in February and March of 1941, outlined these factors. The findings of this survey suggested that because the existing Navy Reserve Aviation Base at Floyd Bennett Field was the only base in the third naval district, it was therefore extremely important both in training and patrolling. Flying conditions, however, were described as deplorable, based largely on poor coordination between Naval and civilian flight patterns. The Navy found it was "imperative for the safety of life and

equipment that either the entire field be taken over by the Navy or that all Navy activities be withdrawn and a new base developed."[8] Contributing to these conditions was the fact the Navy only had control over the hangars they leased from the City. This meant they could not control any other site features, such as perimeter fencing and site access, which could affect overall security. They believed that being in such close proximity to civilian hangars was unsafe; the civilian aircraft operated with different flight paths and there had been at least two fatal collisions between civilian and naval aircraft.[9]

Because of the results of the security survey and the fact that no other suitable site had been found, the Navy made serious attempts to purchase the field from the City. In January 1942, city and Naval officials held a conference in Washington, D.C. to discuss transferring ownership of the airfield through "friendly condemnation proceedings."[10]

With the condemnation complete, the City filed a declaration of taking on February 9, 1942. This document gave immediate possession of the entire airport property to the Navy Department, which included the area north of the developed airport. With the City of New York receiving $9.25 million, the Navy gained ownership of approximately 942 acres.[11] Upon the filing of this document, the Navy immediately terminated all other leases held by the City. This included leases with commercial airline companies operating out of the airport as well as with the Coast Guard. However, the Navy made arrangements with the Coast Guard, allowing them to remain on site, as long as they did not interfere with any naval operations. [12]

NAVY REDEVELOPMENT AND EXPANSION OF FLOYD BENNETT FIELD

Even before gaining ownership of Floyd Bennett Airport, the Navy began development immediately upon leasing the property. While the Navy would utilize most of the airport era facilities, these were not substantial enough to support the wartime demands. Because the military demand on NAS, New York during World War II was so great, the Navy extensively developed the entire landscape, including areas already developed for the airport and the Barren Island Community as well as areas previously undeveloped.

Navy Seaplane Patrol Base Expansion

In 1941, the Navy began expanding the Seaplane Patrol Base. The first structure the Navy built was a second seaplane hangar, Hangar B, constructed directly north of Hangar A. Both hangars were identical in their construction. Hangars A and B were both rectangular steel frame hangars with sliding doors on the north and south sides. Window walls spanned the entire length of the hangars along the east and west façades. (Figure 1.39)

In 1941, in the months following the construction of Hangar B, the Navy added an adjoining maintenance complex, which included approximately seventeen buildings. In a linear arrangement from south to north, the Navy constructed the support buildings west of Hangar A and the Coast Guard Air Station. All of the buildings were much smaller than Hangars A and B although they displayed a range of sizes. The largest building in the maintenance complex was a general storage

building. Each side of the three-story concrete building was lined with a single band of triple windows. Loading platforms were located on the north and south sides. Other prominent buildings included a maintenance shop, torpedo storage, a fire station and garage, and a power plant. The maintenance shop was constructed of concrete and had several steel sliding overhead doors along the north and south sides. The torpedo storage building was built north of the maintenance shop and southwest of Hangar B. The Navy constructed the storage facility of sheet metal with a raised center. Metal, sliding overhead doors were centrally located on the east and west sides. The remaining facades were almost entirely covered with plate glass windows. The fire station and garage were built west of the Coast Guard Air Station. The buildings were constructed of concrete and formed the shape of a backwards "L." Power plant B was located northwest of the torpedo storage. It was constructed of brick and had cast-stone accents above the windows and doors as well as a cast-stone parapet. The power plant was one of the only buildings developed by the Navy that matched the unified design approach of the Floyd Bennett Airport era buildings.

The maintenance complex included a number of small buildings as well. These included a sewer pump station, a cold storage and commissary, and a fire protection station and fire protection structure. The sewer pump station was a small brick building located west of the Coast Guard Air Station and south of the fire station and garage. The cold storage and commissary building, located north of the torpedo storage, was constructed of concrete and the north side was faced in brick.[13] Steel frame windows were located on the east and west facades. The fire protection pump station and the fire protection structure were built north of the general storage. The concrete pump station was partially sunken into the ground, extending upward approximately six feet, with stairs leading down to the eastern entry. The fire protection structure was also made of concrete and had two bays extending from the south façade.

In 1942, following the completion of Hangar B and the maintenance complex, the Navy extended the Seaplane Patrol Base apron north, to surround the Hangar B. The extension nearly doubled the size of the original apron.[14]

Unlike the development along Hangar Row, the Seaplane Patrol Base did not present a unified design style. While the two hangars were identical, the support structures varied greatly. As evident in period photographs, the Navy constructed the buildings of unadorned concrete and sheet metal with only two buildings constructed of brick. The variation in appearance was most likely because while the unified, familiar design style of Hangar Row was important with regard to making a comfortable, welcoming environment for the public using the commercial airport, the Seaplane Patrol Base was not visually accessible to the public. Also, the Navy needed to construct these largely utilitarian buildings quickly because of the wartime demands. Essentially, the Navy designed the Seaplane Patrol Base for overall efficiency and function. Therefore, a thoughtful design approach was not necessary. In spite of the varied design approach, the expansion of the Seaplane Patrol Base, particularly the maintenance complex, and its proximity to the Coast Guard Air Station, created a distinct cluster on the east edge of the airfield, clearing defining the Jamaica Bay development. (Figure 1.40)

Barren Island Redevelopment – South Support Area

In late 1941, at the same time that the Navy began the process to obtain the airport, it also began the process of obtaining ownership of the area south of the airport boundary. This included the last remaining privately owned land on the southeastern tip of Barren Island. A few private residences of the Barren Island Community remained on the fifty-one acre tract. In order to properly expand the existing facilities and establish the naval air station, the Navy needed control of this piece of land. The Navy filed the declaration of taking condemning the property on December 29, 1942 and officially instituted the declaration on January 2, 1942. Upon this transference, the Navy immediately evicted all residents.

The Navy utilized the fifty-one acres of the former Barren Island community on the southeastern end of the field to construct support facilities from 1942 through the end of World War II in 1945. Primarily, the Navy used this area to build barracks and classrooms but also included dining and recreation facilities, gasoline pump houses, storage buildings, a boathouse, a laundry house, offices, maintenance shops, and Marine barracks. While documentation has not been discovered that details the design and construction of the South Support Areas buildings, period photographs illustrate that the Navy primarily constructed one-to-two story wood-frame buildings. A marginal wharf used to load aircraft onto freight ships headed overseas to aid in the war effort was built on the southern end of the site, extending into Rockaway Inlet.[15] West of the wharf, a seaplane parking apron and ramp were constructed.

The Navy's development of the southern portion of the property had a marked impact on the overall character of the landscape. The Navy constructed a new circulation system with a series of asphalt roads, which would connect the area with the east and west sides of the airfield. The buildings and structures that had remained from the Barren Island Community's industrial past were relatively small in scale. Since the industrial period, many of the buildings had been demolished, greatly diminishing the density of the area. The Navy's buildings were considerably larger and taller than the private residences, most of which were part of a small bungalow colony. The Navy concentrated its construction on the western half of this southern area, making a distinct cluster of buildings.[16] (Figures 1.40, 1.41)

Radio Communications Complex Development

In addition to developing the southern portion of the property, the Navy also developed the area north of the original airport in 1942. Prior to Naval ownership, these city-owned lands were almost entirely sand and marshland. Irish Channel occupied most of the northern area, extending north into Mill Basin. During early development of Floyd Bennett Airport, this area was proposed to serve as a dirigible landing area. However, the Department of Docks never developed it as a landing area and in 1942 the Navy began preliminary development through dredging and filling operations. Encompassing approximately half of the newly filled area, the Navy expanded the central airfield to the north, using the northern half of the area to erect a radio communication complex, constructing several buildings from 1942 – 1945. (Figure 1.42) Part of the new communication system included a thirty-one-foot by thirty-eight-foot radio transmitter building surrounded by three radio antenna towers.[17] Other buildings constructed included a shotgun range

house and several storage facilities east of the radio towers. West of the radio towers the Navy constructed a series of concrete underground bunkers. An asphalt road and several small drives connected the new complex with the Seaplane Patrol Base and Hangar Row. To support the complex, the Navy installed sanitary sewer lines and electrical cables, expanding the original infrastructure.

The Navy's development of the northern area greatly impacted the natural environment. Prior to development, the northern area was susceptible to inundation, resulting in minimal natural vegetation. Once the Navy filled the area, the shoreline extended further north, into Mill Basin and Irish Channel that once led to the northern boundary of Floyd Bennett Airport was eliminated. Despite the new development, the area retained its flat, open character. The one-story concrete buildings constructed were relatively small and spread out. All the buildings constructed in the west half of the area were underground. It is probable that native reed and salt grass grew in the areas sandy soil; however, the Navy most likely maintained it at a low height, which was necessary to maintain open views off the airfield.

Hangar Row Expansion

While the Navy concentrated a great deal of work on areas not originally associated with the municipal airport, it also established new facilities and improved existing infrastructure within the original airport boundaries. The improvements were necessary because when the Navy gained control of the entire field in 1941, it greatly increased its number of personnel and equipment and the existing facilities could not support the increase. Much of the Navy's expansion concentrated on improving the support facilities located along Hangar Row.

New Development

In January 1942, just weeks before finalizing its purchase of the entire field in February, the Navy secured a lease from the City for a parcel of land south of the dope shop, on Hangar Row, where the WPA garage was located. Since the garage was not necessary for operations, the Navy demolished it to make room for a barracks. The new barracks was a two-story, 'I' shaped wood frame building, which housed one hundred aviation students and a mess hall.[18] (Figure 1.43)

After completing the barracks, the Navy constructed a synthetic training building along with a fire house, located south of the new barracks and perpendicular to Flatbush Avenue.[19] The Navy constructed these two buildings with a similar appearance. They were both one-story wood-frame buildings with white clapboard siding. East of these two buildings, the Navy constructed a number of smaller support structures, including a pump house, a transformer vault, storage facilities, and a recreation building.[20] The Navy constructed the pump house and the transformer vault in tapestry brick with cast-stone accents, similar to the WPA-funded dope shop. While much of the World War II era development reflected a utilitarian design approach, the Navy may have designed the pump house and transformer vault in a similar style to the Floyd Bennett Airport era buildings because these, located along Hangar Row, were readily visible from Flatbush Avenue. While the Navy buildings did not all reflect a similar design approach, their location and spatial configuration with

the existing Hangar Row facilities further emphasized the area's strong linear and horizontal definition. (See Figures 1.41, 1.42)

The Navy also constructed facilities on the north end of Hangar Row. In 1942, the Navy constructed two wood-frame hangars, numbered 9 and 10, located north of Hangars 7 and 8. The new hangars were approximately the same length as Hangars 1-8, but were slightly wider. The Navy constructed the new hangars to accommodate the increase in aircraft being used at the air station.

Another original airport feature the Navy modified was the Administration Building. The most extensive work was done to the interior layout in 1943, although two major exterior changes also were made. The interior modifications were to address the changing needs of personnel. The space was restructured to provide more space for offices and support facilities. Exterior changes included the construction of an addition on the north side of the Administration Building. The Navy constructed the sixty-foot by seventy-three-foot single story wood-frame addition on the Administration Building in 1943 for use as a communication center for the naval air station. (Figure 1.44) It connected to the main building via a narrow corridor, leading into the first floor and a set of stairs leading into the basement.[21]

At the same time as the construction of the addition, the Navy redesigned the Administration Building control tower. The Navy updated the control tower with angled glass and steel windows, replacing the original classical arched window enframements, which increased visibility onto the field.[22] (Figure 1.45) The improvements the Navy made to the control tower were necessary to ensure safe flying conditions at the airfield. However, the modern style of the new tower contrasted with the neoclassical style of the rest of the building.

During World War II, a few other smaller structural modifications were also made to the original Floyd Bennett Airport structures. First, in 1943, the Navy expanded the WPA-constructed transformer vault with a twelve-foot by twenty-six-foot brick addition. The Navy also constructed small wood-frame lean-tos on the southern side of the dope shop and the west side of the pump house, located north of the Administration Building.

Airport Entrance Redevelopment

As part of the new development south of Hangar Row, the Navy also established a new entrance onto the airfield in c. 1942, south of the synthetic training building, fire house, and original airport entrance. The new entrance included a gate house and a public works office/police station. The Navy relocated the entrance most likely because the original airport entrance, with two separate entry drives, may have been more difficult to guard. Initially, the Navy installed guard houses and security gates at the original entrance and security personnel stood guard. (Figure 1.46) However, it may have been more effective to establish a smaller, less conspicuous entrance. Once the Navy relocated the entrance, it installed a property fence along Flatbush Avenue, prohibiting entry into the air station. (Figure 1.47) The closing of the original entrance strongly impacted the overall character of the area. During the Floyd Bennett Airport era, it was important that the entrance seem inviting and comfortable for the passengers arriving at the airport. With the site now operating as a

military base, the Navy essentially needed to create the opposite effect, warning the public to stay out of the air station.

Airfield Expansion

In conjunction with constructing new facilities, the Navy also altered several of the airport's original features, including the runway system, in order to accommodate its new equipment. Military aircraft differed significantly from commercial aircraft in size and weight; therefore, the overall runway system and the individual runways needed modification. In March 1942, the Navy finalized plans to lengthen and widen three of the four existing runways. The only runway not altered was Runway 6-24, one of the two original runways. Since the Navy had extensively developed the Seaplane Patrol Base, which sat at the east end of Runway 6-24, it was unable to be adequately extended. Instead, the Navy decided it would be best to use it as a taxiway. The Navy widened the two WPA-funded runways, 12-30 and 1-19, to 300 feet with concrete extensions and lengthened them to 5,000 feet with asphalt in 1942. While the Navy also widened Runway 15-33 to 300 feet, they only lengthened it to 4,500 feet due to the limited space afforded at its northern and southern ends. Since the Navy now used the second original runway, 6-24, as a taxiway, they constructed a new Runway 6-24 at the northern end of the field, running from west to east, connecting with the northern end of Runway 15-33. The new runway was also 300 feet by 5,000 feet and its entire surface was asphalt.[23] (See Figure 1.42) It is important to note that the northern area where the Navy constructed Runway 6-24 was not within the original airport boundary. Rather, it was located north of the original airport property, on a portion of the area the Navy previously filled. These changes to the runway system reflected the Navy's overall approach to the redevelopment of Floyd Bennett Field. During the Floyd Bennett Airport era, the Department of Docks utilized only the central portion of the overall landscape. The Navy, however, expanded the amount of developable land immediately upon gaining ownership of the airport on February 9, 1942. The Navy sought to improve the facilities partially through an extensive expansion of the physical landscape.

To aid the new runway system and improve landing capabilities, the Navy installed five new asphalt taxiways in 1945. Taxiway 3, the shortest of the new taxiways, connected the northern Hangar Row apron with the western end of Runway 6-24. Taxiway 4 extended east to west, connecting the southern ends of Runways 12-30 and 15-33. Taxiway 5 ran parallel to the Seaplane Patrol Base apron between the eastern end of Taxiway 6-24 and the southern end of Runway 12-30. Taxiway 6 also ran parallel to the Seaplane Patrol Base apron and connected the eastern ends of Runway 6-24 and Taxiway 6-24. Both Taxiways 5 and 6 provided access to the Seaplane Patrol Base. The final taxiway, 7, connected the southern end of Runway 15-33 with the new seaplane parking area to the south. [24] The Navy numbered the new taxiways 3 through 7 because Taxiway 6-24 was considered as taxiways 1 and 2. [25]

At the southern end of the airfield, the Navy planted a pine windbreak in a distinct triangular shape c. 1945. The Navy most likely planted the windbreak to protect the newly constructed support structures located south of the airfield from prevailing north winds. While initially the small trees did not impact the spatial relationships of the airfield, the clear design intent would

eventually alter the spatial character of the airfield, enclosing the southern boundary as well as obstructing views to the south.

Also addressing visibility concerns, the Navy installed a new lighting system in 1945 to improve landing conditions during times of poor visibility, such as nighttime and during storms. Although the original Sperry floodlight system installed during the 1930s was state of the art at the time, it had quickly become outdated. First, the Navy installed approach lights at the end of every runway and a longer series of approach lights at the southeastern end of Runway 12-30. In addition to the lights, the Navy installed a radio approach system to further ensure the safety of the Naval pilots.[26]

COAST GUARD AIR STATION BROOKLYN

During World War II, the Coast Guard did not develop any new facilities with the exception of a barracks north of the hangar. Although the Coast Guard played a significant role in the development of helicopter technology through World War II, these efforts were carried out jointly with the Navy. Because of this relationship, it is likely that the Coast Guard was able to use some of the Navy's facilities, particularly the Navy Seaplane Patrol Base maintenance complex, constructed in 1942.

LANDSCAPE OVERVIEW

The landscape overview gives a summary of the information presented for the World War II era. Organized by landscape characteristics, the landscape overview is meant to supplement the landscape narrative. It may also serve as a guide for future reference.

Natural Systems and Features

Flora: The natural geology and climate of the Jamaica Bay area limited the natural flora that could grow on the site. Whatever salt grass and low-lying scrubby vegetation existed prior to the development of the airport was most likely significantly disturbed during construction, particularly during the filling of the northern area of the naval air station. It is likely that the natural flora began to reestablish itself in the areas not maintained as mown grass.

Spatial Organization

There were significant changes in the spatial organization of Floyd Bennett Field during World War II. First was the expansion of the Seaplane Patrol Base along Jamaica Bay. Before the expansion, the area along Jamaica Bay consisted of the two buildings associated with the Coast Guard Air Station Brooklyn and the first three buildings constructed for the patrol base. While the initial development defined the east border of the airfield, the dense expansion of the Navy's patrol base reinforced the linear arrangement. The Navy also expanded the existing runways and constructed entirely new runways during the war. The long, flat runways further emphasized the flat, open character of the landscape. The Navy redeveloped the area south of the original airport for the first time since its industrial past. The Navy concentrated development in the east half of the area, blocking views towards the southeast from the airfield. While the Navy developed the area north of the original

airport for the first time, the buildings were relatively small and spread out, therefore the northern portion retained its open character. Overall, the landscape was open and expansive through the center with buildings and structures defining the east, west, and southeast borders. The alignment of the various features, particularly the runways, organized the site with lots of straight lines and clearly defined angles, creating distinct geometric forms in the landscape. (See Figure 1.42)

Land Use

From 1941-1945, Floyd Bennett Field operated as the nation's busiest naval air station. While commercial aviation no longer took place on the site, the Coast Guard maintained its air station on the east side of the field. Also, the Navy demolished the last remaining private residences, including the southern area in the expansion of NAS, New York. However, residential use remained on site as the Navy constructed barracks and officer's quarters for Naval personnel.

Cluster Arrangement

During the 1941-1945 period, the Floyd Bennett Field landscape remained largely open and expansive. Development occurred within all areas of the property, although the most densely built up areas were along Jamaica Bay and south of the original airport property. The area along Jamaica Bay, which previously contained only five buildings, was now extensively developed, creating a distinct cluster, enclosing the airfield to the east. The Navy also redeveloped the southern area, where the remaining Barren Island residents had lived. The large buildings were primarily two-stories, which greatly impacted the formerly open character of the area. The Navy also expanded the development along Hangar Row, reinforcing its clustered development. (See Figure 1.42)

Topography

The most significant change in topography during the World War II period was that the Navy filled and graded the entire area north of the original airport property and portions to the south in order to make land suitable to support new development. However, both before and after the filling operations, the landscape was virtually flat.

Vegetation

During World War II, the Navy planted minimal additional vegetation. From historic photos, it appears that the Navy maintained the areas between the runways as mown grass. However, it does not appear that the Navy extended the manicured airfield turf north into the newly filled area, instead allowing rougher scrub vegetation to grow. While it is unclear in period photographs whether the Navy removed some of the airport entrance plantings, it does appear that the Navy did not maintain the ornamental plantings to the same level as the Department of Docks. (See Figure 1.44) The only new vegetation feature introduced was the pine windbreak, planted in a distinct triangular shape c. 1945.

Circulation

During World War II, circulation still consisted primarily of the runways, taxiways, and aprons. The Navy expanded the existing facilities with the widening and lengthening of three of the four existing runways and the construction of two entirely new runways. The Navy also constructed a

series of new taxiways to connect the improved runway system. To support their extensive development, the Navy created a series of vehicular roadways and walkways through both the newly developed northern and southern sections of the site, connecting all areas of the field. (See Figure 1.42)The relocation of the entry drive had a significant impact on the character of the landscape.

Buildings and Structures

During World War II, the Navy constructed many buildings to support the naval air station's operations. The Navy-constructed buildings and structures were in sharp contrast to the unified design style of the Floyd Bennett Airport era buildings. The Navy buildings included the fifteen buildings at the Seaplane Patrol Base and several support buildings located south of Hangar Row. While the Navy designed the transformer vault and pump house, both located on Hangar Row, with a style similar to much of the Floyd Bennett Airport era development, overall the design of the World War II era buildings was distinct from the design of the municipal airport buildings. Further, as a group, they did not represent a unified design. (See Figure 1.40)

Overall, the Naval buildings were developed within three broad types: wood-frame buildings, primarily used for residential support buildings in the South Support Area, although the hangars constructed north of Hangars 7 and 8 and the Administration Building addition were also wood-frame; Aviation related buildings, which were largely steel-frame, utilitarian, such as Hangar B; and ammunition, defense, and aviation support buildings, which were largely concrete, such as the underground bunkers constructed in the radio communications complex, brick, such as the transformer vault constructed near the airport era dope shop, and steel-frame with sheet metal, as seen in the Navy Seaplane Patrol Base maintenance complex. The Navy's varied design approach created a landscape that visually appeared as a place focused on functionality. This was a significant change from the Floyd Bennett Airport era, when the visual appearance of the landscape was that of a place focused on welcoming the public and celebrating aviation technology.

A significant structure the Navy installed during World War II was a second compass rose, located at the northwestern end of Taxiway 5. The Navy constructed the new compass rose of steel-reinforced concrete in 1944. Although there was already a compass rose on site, dating from the Floyd Bennett Airport-era, it could not accommodate the military aircraft, which was much larger and heavier than the commercial aircraft previously used on the airfield. The original airport compass rose was surrounded by mown grass and was not physically connected with the nearby Hangar Row apron or Runway 15-33. It is likely that the military aircraft could not travel over the grass and instead of connecting the existing compass rose to nearby circulation features, it was more beneficial to construct a new compass rose that connected to an existing taxiway and was more accessible from the eastern side of the airfield.[27]

Views and Vistas

The expansive views off and into Floyd Bennett Airport were critical to its use as an active airfield. Despite the Navy's extensive development along Jamaica Bay and in the areas north and south of

the original airport property, views across the bay and Mill Basin remained open. Thus the Navy remained in view of the public.

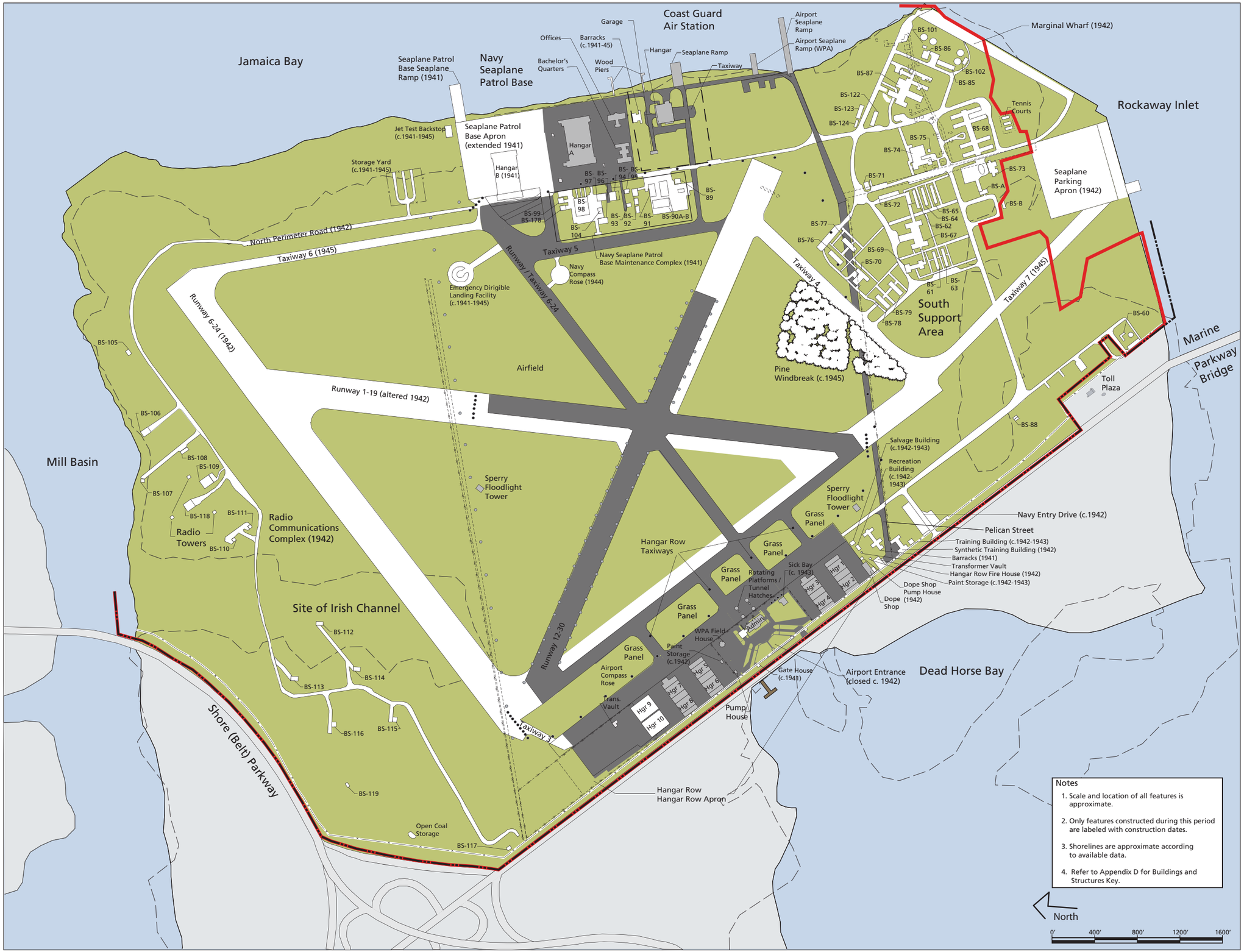
Small-Scale Features

During World War II, the Navy installed a variety of small-scale features that supported the naval air station, although no complete record has been discovered. One small-scale feature that was documented was the property fence the Navy installed along Flatbush Avenue. (See Figure 1.47) It is likely that when the Navy erected this fence, they removed the Department of Docks fences north and south of the original airport boundaries. It is also likely that it was during this time that the original airport entrance sign was removed. While the WPA-installed flagpole remained, no documentation has been found regarding an exact date that the original airport entrance area light standards were removed.

Cultural Landscape Report

Floyd Bennett Field
Gateway National Recreation Area

World War II Era
1941 - 1945



National Park Service

Olmsted Center for Landscape Preservation

www.nps.gov/oclp

in cooperation with:

Faculty of Landscape Architecture
SUNY College of Environmental
Science and Forestry - Syracuse, New York

SOURCES

1. Map of NAS, New York, July 30, 1947
2. Map of Floyd Bennett Field, Dec. 29, 1941

DRAWN BY

Sarah K. Cody, Illustrator CS2

LEGEND

BOUNDARIES

- Floyd Bennett Field CLR Project Area / NPS Property Boundary
- Historical Property Boundary
- Leased Area Boundary

FEATURES

- Buildings & Structures
- Added During Period
- Removed During Period
- Circulation
  Runways, drives, aprons, taxiways, walks
- Asphalt Pavers
- Fence
- Grass / Open Land

Notes

1. Scale and location of all features is approximate.
2. Only features constructed during this period are labeled with construction dates.
3. Shorelines are approximate according to available data.
4. Refer to Appendix D for Buildings and Structures Key.

North

0′ 400′ 800′ 1200′ 1600′

Drawing 1.3



Figure 1.38: View looking southwest towards the crowd that gathered for the official dedication ceremony of the Naval Air Station, New York, Hangars 3 and 4 are visible in the background, 2 June 1941. (Photograph 18949, Gateway National Recreation Area Archives, Fort Wadsworth).

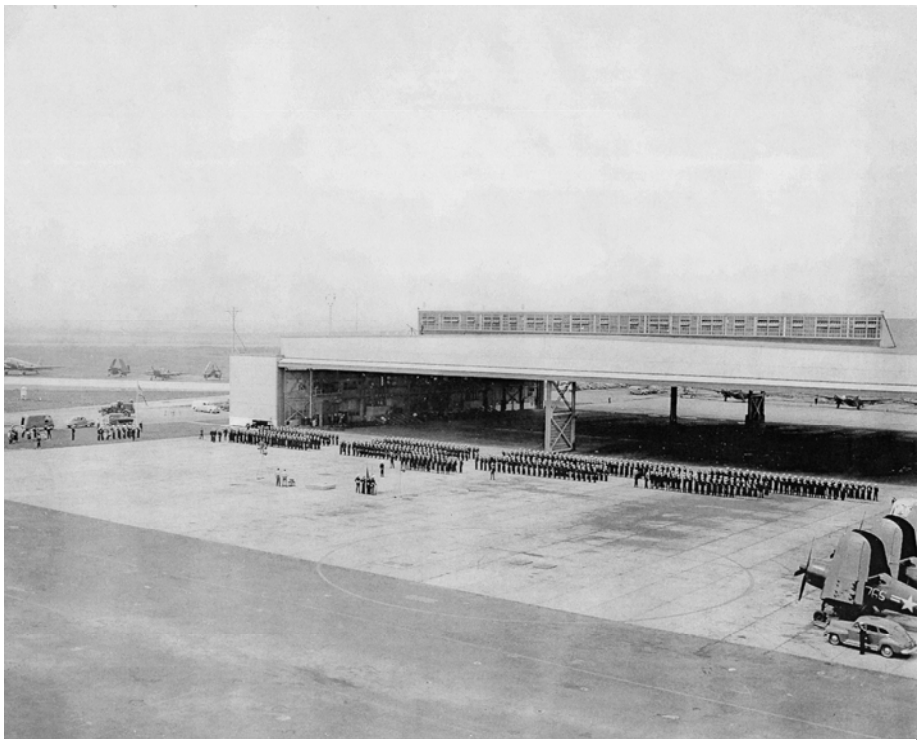


Figure 1.39: View looking northwest towards Hangar B from the roof of Hangar A. The Navy Seaplane Patrol Base apron is seen in the foreground, c. 1942. (Unnumbered Photograph, Gateway National Recreation Area Archives, Fort Wadsworth).



Figure 1.40: View looking northwest towards the Coast Guard Air Station and the Navy Seaplane Patrol Base. The Navy's development of a maintenance complex transformed the Jamaica Bay shoreline into a distinct cluster in the landscape, c. 1942-1945. (Unnumbered Photograph, Gateway National Recreation Area Archives, Fort Wadsworth).



Figure 1.41: View looking northwest towards the Navy's development in the South Support Area. The Navy extensively developed the area into a distinct cluster, c. 1942-1945. (Unnumbered Photograph, Gateway National Recreation Area, Fort Wadsworth).

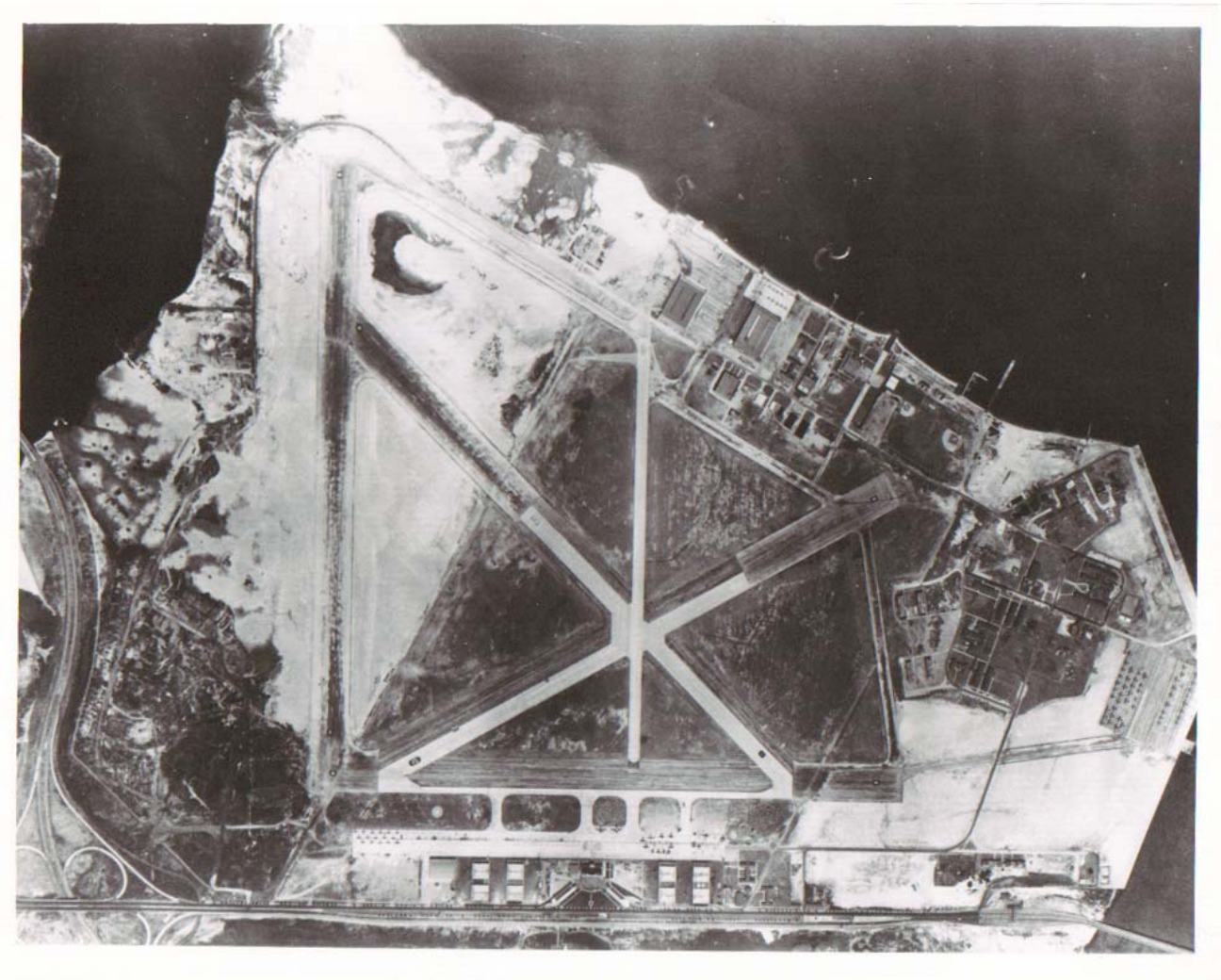


Figure 1.42: Aerial view of Naval Air Station, New York illustrating the extensive development the Navy conducted during World War II. The dense development of the South Support Area reads as a distinct cluster in the landscape. In 1942, the Navy filled the area north of the original airport and developed a radio communications complex. The sandy fill soil is visible as the white area left of the airfield, 23 December 1943. (Photograph 18958, Gateway National Recreation Area Archives, Fort Wadsworth).



Figure 1.43: View looking east across the airfield. The 'I'-shaped barracks and other smaller buildings constructed by the Navy can be seen on the extreme right side of the photo, 24 January 1942. (Photograph 354816, Still Pictures Unit, Record Group 80, NARA II).



Figure 1.44: View looking northeast towards the Administration Building. The 1943 addition is visible at its far end. During World War II, the Navy also did not maintain the entrance area plantings as they had been during the Floyd Bennett Airport era, 1954. (Quinn, "Historic Structures Report," 254; annotated by SUNY-ESF).



Figure 1.45: View from inside the new control tower. The woman pictured was a volunteer with Women Accepted for Volunteer Emergency Service (WAVES), which was a World War II era division of the U.S. Navy. WAVES volunteers were utilized at several Naval facilities during the war, including at Floyd Bennett Field, c. 1943-1945. (The Floyd Bennett Field Task Force, http://www.floydbennett.org).



Figure 1.46: View looking southeast towards the Administration Building. Once the Navy obtained ownership of the site, guard booths were installed at the entrance and access was limited, 1942. (Quinn, "Historic Structures Report," 251).



Figure 1.47: View looking southeast from Flatbush Avenue. Once the Navy relocated the site entrance in c.1942, it installed a chain-link fence in front of the property, seen behind the line of personnel waiting for a bus, c. 1942-1945. (The Floyd Bennett Field Task Force, http://www.floydbennett.org).

ENDNOTES

[1] Ingrid Wuebber and Edward M. Morin. "Modified Phase IA Cultural Resources Inventory, Floyd Bennett Field, Jamaica Bay Unit, Gateway National Recreation Area, Brooklyn, New York" (National Park Service, Denver Service Center: Unpublished report, April 2005), 25.

[2] Letter, Headquarters of the Commandant C.H. Woodward to the Chief of Naval Operations, 27 November 1939, Confidential Correspondence Records, Box 1162, NARA II.

[3] Letter, Mayor Fiorello H. LaGuardia, 26 November, 1941, quoted in Letter, Mayor Fiorello H. LaGuardia to Assistant Secretary of the Navy Admiral Artemus L. Gates, 19 Marsh 1942, Bureau of Yards and Docks, Navy Property Case Files Records, Box 825, NARA II.

[4] Memorandum, Navy Department Personnel L.A. Morrison to Chief of Bureau of Yards and Docks, 10 November 1941, Bureau of Yards and Docks, Navy Property Case Files Records, Box 835, NARA II.

[5] Miscellaneous Bill, s.5128, United States Senate, Committee on Naval Affairs, 20 May 1941, Bureau of Yards and Docks; Navy Property Case Files Records, Box 835, NARA II.

[6] Porter R. Blakemore, "Historic Structures Report, Historical Data Section, Floyd Bennett Field, Gateway National Recreation Area, Volume 1" (National Park Service, Denver Service Center: Unpublished report, May 1981), 54, 59.

[7] Memorandum, Navy Department Personnel H.B. Jones, to Chief of the Bureau of Yards and Docks, 25 November 1941, (Bureau of Yards and Docks; Navy Property Case Files Records, Box 835, NARA II.

[8] Security Survey, 14 March 1941, Confidential Correspondence Records, Box 1162, NARA II.

[9] Ibid.

[10] Letter, Judge Advocate General of the Navy W.B. Woodson to Mayor Fiorella H. LaGuardia, 29 January 1942, Bureau of Yards and Docks; Navy Property Case Files Records, Box 824, NARA II.

[11] Judgment on the Declaration of Taking, No. M-639, United States District Court, Eastern District of New York, 9 February 1942, Bureau of Yards and Docks; Navy Property Case Files Records, Box 824, NARA II.

[12] Letter, Judge Advocate General of the Navy W.B. Woodson to Mayor Fiorella H. LaGuardia, 29 January 1942, NARA II.

[13] A commissary is a building specific to a military base that sells food and supplies to the personnel.

[14] Department of the Navy, Map of U.S. Naval Air Station, New York, NY, 30 July 1947, GNRA Archives, Map Room.

[15] A wharf is a platform, typically built on pilings and projecting into a body of navigable water for the purpose of loading ships. A marginal wharf is a specific type of wharf constructed parallel to the shoreline.

[16] Department of the Navy, Map of U.S. Naval Air Station, New York, NY, 30 July 1947, GNRA Archives, Map Room.

[17] Blakemore, "Historic Structures Report," 155.

[18] Letter, Commandant, Third Naval District, Adolphus Andrews to the Chief of the Bureau of Aeronautics, 7 April 1942, Bureau of Yards and Docks, Navy Property Case Files Records, Box 823, NARA II.

[19] A synthetic training building is a military facility that provides models and simulations designed to support training exercises.

[20] Department of the Navy, Map of U.S. Naval Air Station, New York, NY, 30 July 1947, GNRA Archives, Map Room.

[21] Blakemore, "Historic Structures Report," 164.

[22] Ibid, 163-164.

[23] The original Runway 6-24 will hereafter refer to as Taxiway 6-24. All references to Runway 6-24 will hereafter refer to the new Navy-constructed Runway 6-24.

[24] Department of the Navy, Map of U.S. Naval Air Station, New York, NY, 30 July 1947, GNRA Archives, Map Room.

[25] Department of the Navy, Naval Facilities Engineering Command, Map of Naval Air Station New York, Brooklyn, NY, 16 February 1960, last revised June 5, 1968, GNRA Archives, Map Room.

[26] Blakemore, "Historic Structures Report," 156.

[27] A compass rose is a large paved or concrete area, typically circular, used to calibrate aircraft magnetic compass, which often become unaligned during flight. It is a feature unique to airfield.

The following section outlines the changes made to the Floyd Bennett Landscape between 1945 and 1972. As landscape characteristics and features are described in the text, readers should refer to Drawing 1.4: Cold War Era, 1945 – 1972. It should be noted that there is a lack of available photographic documentation for this period.

While the military operations at Floyd Bennett Field played a vital role in the World War II American home front efforts, once World War II ended, military activities decreased nationally and the demand on NAS, New York dropped significantly. In July 1946, the federal government redesignated the naval air station a naval air reserve training station, a reduced designation among Navy installations. As a result, only minor construction projects took place following the war and the landscape remained largely as developed during World War II.

POST-WORLD WAR II CHANGES TO FLOYD BENNETT FIELD, 1945-1950

The Navy continued to improve the existing facilities as needed. Because military aircraft technology continued to advance, the Navy had to improve existing facilities. In 1946, the Navy improved visibility and landing capabilities at Floyd Bennett Field with the installation of a new approach system. Further improving landing, the Navy constructed a new radio compass location station and ground control approach equipment. With the completion of these new installations, the original Sperry floodlight system became obsolete and the Navy demolished the two brick towers in the late 1940s.[1]

As Naval operations decreased, the Navy began leasing facilities at the field to outside agencies. On September 17, 1946, the Navy granted a revocable permit to the New York City Police Aviation Bureau (PAB). Under this permit, the PAB occupied Hangar 3, located south of the Administration Building.[2] (Figure 1.48) As with most of the permits granted in previous years, the PAB was responsible for all maintenance and costs associated with use of the facilities. One month later, in October 1946, the Navy granted a revocable permit to the City of New York, allowing joint use of Floyd Bennett Field for limited commercial operations to relieve congestion at nearby Idlewild (John F. Kennedy) Airport. It is not clear specifically which structures the City were permitted to occupy. The Navy vacated all of Hangar Row, with the exception of the Administration Building, moving their activities to the South Support Area and the Navy Seaplane Patrol Base. The permit required the City to reimburse the Navy all costs for relocating equipment and the City was responsible for maintenance of all areas they used, including runways and taxiways, although the Navy would ultimately pay back any money spent on facilities jointly used.[3]

In contrast with the Navy's lack of new development, the Coast Guard attempted to expand its facilities. In 1946, the Coast Guard requested to extend its boundaries to include areas occupied by the Navy. The Coast Guard made this request several times, the first time in March 1946. While the Navy did not grant the entire request, in c. 1946 the Navy allowed the Coast Guard to extend their

facilities to the south for use as a recreation area, nearly doubling the area of the air station. The new recreation facilities included a running track, tennis courts, and a boathouse. The Coast Guard also constructed gasoline storage tanks in the area. The Coast Guard continued to request land west of the existing facilities, near the Navy Seaplane Patrol Base maintenance complex and the southeastern end of Runway 12-30. Each time, the Navy denied the request. Because Coast Guard facilities were located directly west of the southeastern terminus of Runway 12-30, which was still being used by the Navy, Naval officials believed it was essential to retain control of this area. The officials further stated that although they wanted to help meet the needs of Coast Guard Air Station Brooklyn, they wanted to do so without jeopardizing the integrity of the airfield. The Coast Guard made several more requests that the Navy denied, the last being in November 1954.[4]

The State of New York Housing Authority also occupied a portion of Floyd Bennett Field in the years after World War II. In early 1947, approximately eight buildings were scheduled to be relocated to the southwest corner of the site; the land and buildings were to be leased to the Housing Authority on a revocable permit. The Housing Authority planned to use the buildings for veteran housing. This plan was not completely carried out and ultimately the Navy relocated only two buildings, numbers eighty and eighty-one, and leased them to the Housing Authority.[5] No plans documenting the original location of these buildings have been discovered during research for this report.

In May 1949, the U.S. Air Force leased, under revocable permit, all land and buildings southwest of Runway 12-30, with the exception of six buildings: the dope shop, a nighttime navigation building, a gate house, and a storage structure all located south of Hangar Row; Hangar 3; and the Administration Building. The permit became effective on July 1, 1949 and required the Air Force to be subject to all rules and regulations set forth by the Navy. Any activities, including construction, were subject to approval by the Navy.[6]

KOREAN WAR ERA EXPANSION, 1950-1959

By 1950, global military issues began to escalate, particularly the Cold War and the Korean War. In response to U.S. involvement, the Navy had a surge in the need for its facilities at Floyd Bennett Field. This resurgence required the Navy to revoke their permit with the City of New York, canceling all commercial traffic at Floyd Bennett Field. The Navy also regained control of many of the facilities leased to the U.S. Air Force. Within the first few years of the 1950s, the Naval Air Reserve Training Station was once again designated Naval Air Station, New York.[7]

While the site operated as Naval Air Reserve Training Station from 1946-c. 1950, there had been significant changes in the size and weight of military aircraft since the end of World War II. These changes required some modifications and additions to the field, in order to accommodate the new equipment. In July 1951, the Navy awarded a contract for general expansion of the air station. Taking nearly two years to complete, work under this contract included lengthening Runways 6-24 and 1-19 by an additional 1,000 feet. The concrete panels extended each runway toward the northeast corner of the site. Once the extension of Runways 1-19 and 6-24 was complete, the Navy

constructed Taxiway 8, connecting the new extensions. The Navy also used concrete panels to lengthen the Navy Seaplane Patrol Base apron further north. In the northern radio communications complex, the Navy installed two new radio towers.

The Navy constructed new buildings as well during this period. In 1951, the Navy added large wood frame lean-tos on the west sides of the Seaplane Patrol Base Hangars A and B. The Navy also built several support structures in the area south of the airfield. These included new barracks and mess hall, a public works garage, and four maintenance buildings (exact locations unknown).

The Navy also made several security modifications. The main entrance to the field was relocated farther south on Flatbush Avenue in c. 1951. (This remains the entrance to the site today.) The reason for this change is unknown. The new entrance, wider than the previous entrance, included two lanes of traffic separated by small medians planted with grass. A guard booth stood between the two lanes and the property fence flanked either side of the new entrance.

The Navy made only slight changes on Hangar Row as part of the redevelopment that took place during the 1950s. To improve security, the Navy installed new lighting around the hangars. They also constructed a jet fuel storage tank west of the pump house and north of the Administration Building.[8]

The reinvigoration of the airfield lasted through most of the 1950s, yet activities at the field did not reach levels comparable to World War II. As a result, the Navy still did not have a need for all the existing facilities. During the period, the Navy continued to lease areas of the site to outside agencies. In 1952, the Navy granted the U.S. Army a revocable permit for land on the southern tip of the field. (Today, this area continues to be used by the Army. It is currently designated a U.S. Armed Forces Reserve Center). The permit specified all Army facilities had to be self-sustaining and the Army had to install a security fence around their facilities.[9] This land included the seaplane parking apron and seaplane ramp the Navy constructed in 1942. The U.S. Army area eventually became designated a U.S. Armed Forces Reserve Center.

In addition to the U.S. Army, other agencies continued to have a presence at the air station. The Housing Authority controlled buildings eighty and eighty-one until 1953. At this point, the Navy transferred control of one of the buildings to the New York State Board of Education. The Housing Authority had been using part of their facilities as an annex to Public School 207. Not wanting to dissolve this arrangement, the Navy gave control to the Board of Education.[10] The U.S. Air Force renewed their lease through 1956. The renewed lease once again gave the U.S. Air Force control of all land and buildings southwest of Runway 12-30. Differing from the previous lease, the Air Force now had use of all buildings, including the Administration Building. The fact that the Navy no longer required use of the Administration Building and its control tower illustrated the drastically lessened demand on the site as a naval air station.

Only a few other construction projects took place at Floyd Bennett Field through the rest of the Cold War period. In 1957, the Navy erected a new, metal beacon tower between Hangar 6 and the Administration Building.

VIETNAM WAR ERA THROUGH DECOMMISSIONING, 1959-1971/1972

By the end of the 1950s, the federal government had begun withdrawing troops from overseas, resulting in a national military demobilization. As was the case at the close of World War II, the national demilitarization created a drastic decrease in use at Floyd Bennett Field. The lessened demand meant that only a few changes were made to the Floyd Bennett Field landscape. The last major project at the airfield was completed by the Air National Guard, which had begun limited operations at the field. From March 1964 through March 1965, the National Guard built a 27,000 square foot nose hangar between Hangar 5 and the Administration Building.[11] In order to make room for this new building, the Air National Guard demolished the WPA field house, built in 1937 – 1938.[12] (Figure 1.49)

The Navy continued to permit outside agencies occupy lands at Floyd Bennett Field. In the early 1960s, the Navy allowed two mobile home parks to be constructed in the area south of the airfield. The parks each consisted of a main asphalt drive and a series of asphalt pads on which the mobile homes were located. The park located in the central portion of the South Support Area also contained a few gazebos for use as picnic areas.

From the mid-to-late 1960s, the U.S. gradually withdrew troops from Vietnam. This led to domestic military demobilization. As with the end of World War II, this national decrease in military activities meant there was significantly less demand on Floyd Bennett Field and the Navy began considering shutting down all operations at the field. By the late 1960s, the Navy began vacating numerous facilities at the air station. The one area the Navy continued to use was portions of the Seaplane Patrol Base, including Hangar B. Because they no longer needed the office building and bachelor's quarters they had constructed in 1940. They demolished both buildings and in1970, the Navy constructed their last new building on the site. The Navy used the new building, Tylunas Hall, as a barracks.

These Navy closings also impacted the Coast Guard Air Station. The Navy cease of operations in combination with the limited water landing capabilities of the Coast Guard aircraft forced the Coast Guard Air Station to limit its operations to helicopter-only.[13]

In June 1971, the Navy officially decommissioned Naval Air Station, New York, Floyd Bennett Field, although the Navy continued limited operations on site for a few more years. Activities were limited to the Seaplane Patrol Base, which the military redesignated as a Naval Air Reserve Detachment (NARDET). While the Navy ceased the majority of their operations, the entire property remained under their ownership until 1972, when the Navy transferred ownership to the U.S. Department of the Interior. Despite the Navy's redevelopment, Floyd Bennett Field remained largely unchanged from World War II.

LANDSCAPE OVERVIEW

The landscape overview gives a summary of the information presented for the Cold War era. Organized by landscape characteristics, the landscape overview is meant to supplement the landscape narrative. It may also serve as a guide for future reference.

Natural Systems and Features

Flora: While the natural geology and climate of the Jamaica Bay area still limited the natural flora that could grow on the site, it is probable that the rough land the Navy filled north of the original airport property was more suitable for natural succession than the clay-topsoil of the airfield. In historic photographs, the natural flora that established itself in the northern area of the property appears to have been sparse and low-lying.

Spatial Organization

While some new development occurred during the Cold War, the overall spatial organization of the landscape remained unchanged. The central airfield remained flat and open. The Navy constructed minimal new development in the northern area, allowing it to maintain its open character. Development was concentrated on the east, west, and south sides of the field. The new development that occurred followed the pre-existing spatial organization. (Figure 1.50)

Land Use

From 1945-1972, Floyd Bennett Field operated primarily as a military base. The Navy leased portions of the air station to outside agencies. While the majority of these agencies were other military units, there was an evident decrease in aviation uses at the airfield as reflected through the lease agreement with the U.S. Army. The only non-military use on the site was two buildings leased first by the New York State Housing Authority and then the Board of Education for use as a public school annex.

Cluster Arrangement

In spite of some development that occurred during the Cold War, the three main clusters of Floyd Bennett Field remained intact. They were the area along Jamaica Bay, which included the Seaplane Patrol Base and the Coast Guard Air Station Brooklyn; Hangar Row; and the support facilities south of the airfield. (See Figure 1.50)

Topography

While the Navy conducted minor grading operations as part of the extension of Runways 6-24 and 1-19 in 1951-1953, the overall topography of the landscape did not change during the Cold War. The landscape of Floyd Bennett Field remained flat and expansive. This condition was essential to the site's use as an active military air station.

Vegetation

Based on available documentation, it appears that the Navy planted no new vegetation during the Cold War. Historic photographs illustrate that the Navy poorly maintained the 1935 WPA-funded plantings at the original airport entrance and may have removed some of the plantings during this period.

Circulation

The most significant changes made to the circulation system at Floyd Bennett Field during the Cold War were the extension of Runways 6-24 and 1-19 in 1951-1953 and the relocation of the site's entrance in c. 1951. At some point (exact date unknown) the Navy again extended both Runways 12-30 and 1-19 towards the west. Unlike the earlier asphalt extensions, the Navy used a soil-cement pavement for these extensions. This suggests the later extensions were not as essential to the daily operations of the airfield, but rather served to keep the western end of the runways clear of vegetation.

The overall circulation patterns within the original airport property dating from earlier periods remained intact, specifically the runways, taxiways, and aprons. One major change that occurred in the South Support Area during the Cold War was the removal of a series of pedestrian pathways and two auxiliary roads connecting the support buildings. Also, two small asphalt drives were constructed in association with the mobile home parks.

Buildings and Structures

The Navy made numerous changes to the existing buildings and structures at Floyd Bennett Field but built few new ones. In the late 1940s, the Navy demolished the brick Sperry floodlight towers after installing a new lighting system. In 1947, the Navy relocated buildings eighty and eighty-one to the southwest corner of the site for use as a public school annex. The most significant changes happened c. 1951. In the northern radio communications complex, the Navy erected two new radio towers.

At the Seaplane Patrol Base, the Navy provided extra office and repair space at Hangars A and B when they constructed large lean-tos on the west sides of each hangar. Also c. 1951, the Navy constructed several new facilities in the South Support Area. These included barracks, a mess hall, a garage, and four maintenance buildings. When the site entrance was relocated c. 1951, the Navy constructed a small wood-frame guard booth.

Three changes occurred on Hangar Row during the Cold War. In c. 1947, the Navy installed a jet fuel storage tank west of the pump house and north of the Administration Building. In 1957, the Navy erected a metal beacon tower, also located west of the pump house. The Air National Guard constructed the largest new building on Hangar Row in 1964-1965. North of the Administration Building, the Air National Guard built a metal-frame nose hangar. The addition of this structure impacted the spatial relationships of Hangar Row, although it did not affect the distinct linear arrangement.

Also in the 1960s, the Navy allowed two mobile home parks to be constructed in the southern area. The southwest park included space for twenty-four units. The centrally located park was approximately the same size.

In 1970, the Navy made the last Cold War-era changes to Floyd Bennett Field. They demolished the 1940-1941 office building and bachelor's quarters, located south of Hangar A, to construct a new barracks, Tylunas Hall. While several changes were made during the Cold War with regard to specific buildings and structures, because the additional buildings and structures were located in areas already densely developed, the changes did not have an effect on the overall character of the landscape

Views and Vistas

The expansive views off and into Floyd Bennett Airport were critical to its use as an active military air station. Views across Jamaica Bay and Mill Basin remained open while the maturing pine windbreak began to block views to the south.

Small-Scale Features

The Navy most likely installed some small-scale features that supported the naval air station, although no complete record has been discovered. One small-scale feature that is known is a prominent entrance sign the Navy erected at the southern entrance, established c. 1951. Documentation has not been found regarding the runway lights; however, it is likely that the Navy removed the lights as they began limiting their aviation activities during this period.

Cultural Landscape Report

Floyd Bennett Field
Gateway National Recreation Area

Cold War Era
1945 - 1972

National Park Service

Olmsted Center for Landscape Preservation

www.nps.gov/oclp

in cooperation with:

Faculty of Landscape Architecture
SUNY College of Environmental
Science and Forestry - Syracuse, New York

SOURCES

1. Map of NAS, New York, July 30, 1947
2. General Development Plan, June 5, 1968
3. Structures Key Map, March 27, 1979

DRAWN BY

Sarah K. Cody, Illustrator CS2

LEGEND

BOUNDARIES

- Floyd Bennett Field CLR Project Area / NPS Property Boundary
- Historical Property Boundary
- Leased Area Boundary

FEATURES

- Buildings & Structures
- Circulation — Runways, drives, aprons, taxiways, walks
- Circulation — Asphalt Pavers
- Added During Period
- Removed During Period
- Fence
- Grass / Open Land
- Low Scrub

Notes

1. Scale and location of all features is approximate.
2. Only features constructed during this period are labeled with construction dates.
3. Shorelines are approximate according to available data.
4. The property boundary of the area leased by the Army follows the fence line.
5. Refer to Appendix D for Buildings and Structures Key.

North

0′ 400′ 800′ 1200′ 1600′

Drawing 1.4



Figure 1.48: View looking south towards Hangars 3 and 4. In 1946, the Navy granted a revocable permit to the New York City Police Aviation Bureau, which occupied Hangar 3, c. 1946. (Photograph 18998, Gateway National Recreation Area Archives, Fort Wadsworth).



Figure 1.49: View looking east towards Hangar Row. The Air National Guard nose hangar, constructed 1964-1965, can be seen left of the Administration Building, c. 1990. (Photograph 18888, Gateway National Recreation Area Archives, Fort Wadsworth).

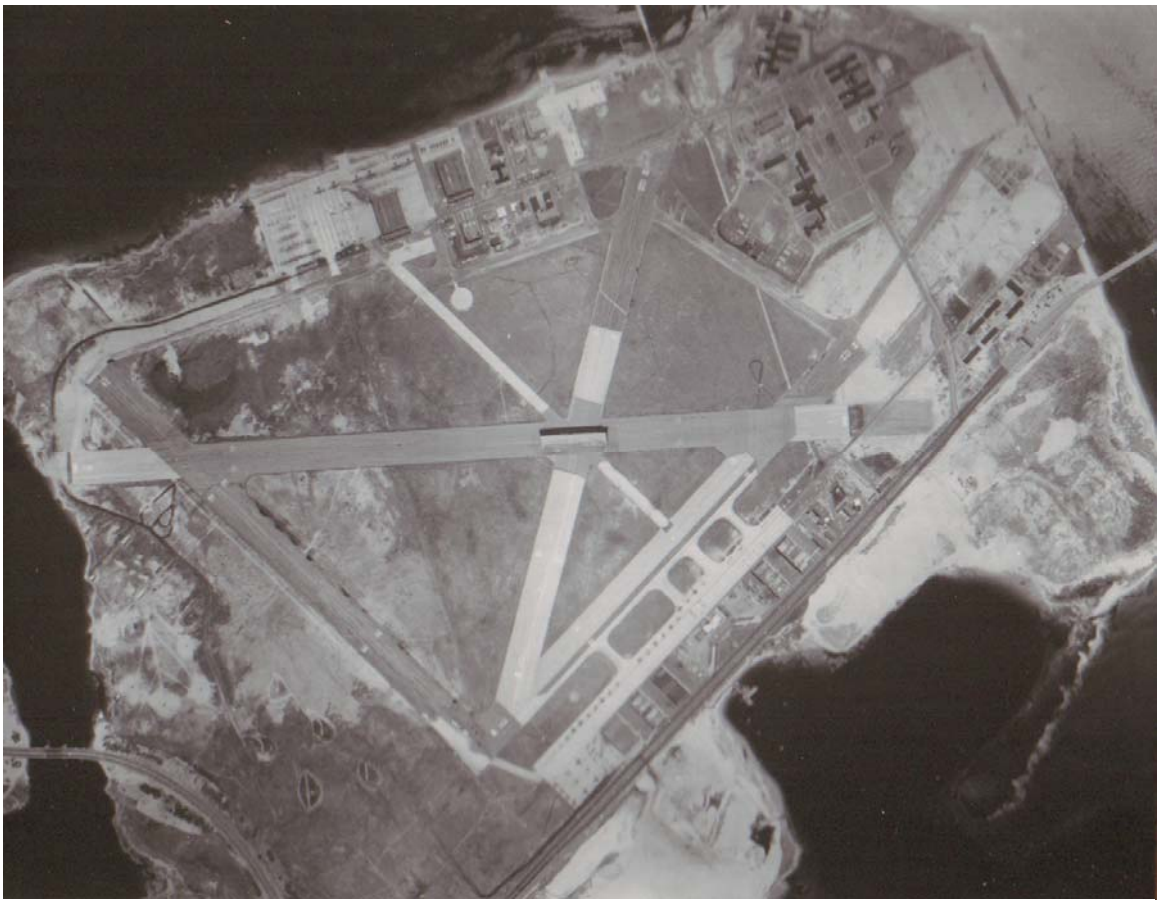


Figure 1.50: Aerial view of Naval Air Station, New York. During the Cold War, the overall configuration of the airfield, Hangar Row and the development along Jamaica Bay remained as it did during World War II. Although the most significant changes occurred in the South Support Area, it maintained its identity as a distinct cluster. (Photograph 674699, Still Pictures Unit, Record Group 80, NARA II).

ENDNOTES

[1] Porter R. Blakemore, "Historic Structures Report, Historical Data Section, Floyd Bennett Field, Gateway National Recreation Area, Volume 1" (National Park Service, Denver Service Center: Unpublished report, May 1981), 54, 165-166.

[2] Revocable Permit between the United States of America and the City of New York, Police Department, 17 September 1946, Bureau of Yards and Docks, Navy Property Case Files Records, Box 824, NARA II.

[3] Ibid.

[4] Letter, J.J. Chew for the Chief of Bureau of Yards & Docks to the Chief of Naval Operations, 29 March 1946, Bureau of Yards and Docks, Navy Property Case Files Records, Box 824, NARA II; Letter, Assistant Chief of Bureau of Yards & Docks J.F. Jelley to Chief of Naval Operations, 26 December 1946, Bureau of Yards and Docks, Navy Property Case Files Records, Box 824, NARA II; Letter, Assistant Chief for Materials and Services, Bureau of Aeronautics C.E. Ekstrom, to Chief of Bureau of Yards & Docks, 17 November 1954, Bureau of Yards and Docks, Navy Property Case Files Records, Box 826, NARA II.

[5] Letter, State of New York, Executive Department, Division of Housing to Public Housing Authority, 6 February 1946, Bureau of Yards and Docks, Navy Property Case Files Records, Box 824, NARA II.

[6] Revocable Permit between the Department of the Navy and the Department of the Air Force, May 1949, Bureau of Yards and Docks, Navy Property Case Files Records, Box 825, NARA II.

[7] Blakemore, Historic Structures Report," 72.

[8] Ibid, 166.

[9] Revocable Permit between the Department of the Navy and the Department of the Army, 1952, Bureau of Yards and Docks, Navy Property Case Files Records, Box 826, NARA II.

[10] Letter, Commandant, Third Naval District R.H. Hillkoetter to Chief of Bureau of Yards & Docks, 3 November 1953, Bureau of Yards and Docks, Navy Property Case Files Records, Box 826, NARA II.

[11] A nose hangar differs from a hangar in that instead of allowing for the storage of an entire aircraft, a nose hangar is large enough for the aircraft to park outside the hangar with just the nose of the aircraft protected within. The Air National Guard nose hangar came to be known as the "blue nose hangar" because it was blue.

[12] Blakemore, Historic Structures Report," 167.

[13] AeroWeb: The Aviation Enthusiast Corner "Floyd Bennett Field," *The History of Floyd Bennett Field and Coast Guard Air Station Brooklyn,* http://www.aero-web.org/history/fbennett/cgframe.htm.

GATEWAY NATIONAL RECREATION AREA
FLOYD BENNETT FIELD, 1972-PRESENT

The following section outlines the changes made to the Floyd Bennett Landscape between 1972 and 2007. As landscape characteristics and features are described in the text, readers should refer to Drawing 1.5: Gateway National Recreation Area Era, 1972 – Present. It should be noted that there is a lack of available photographic documentation for this period.

In 1970, the Department of Defense announced that although the future of Naval Air Station, New York had not yet been determined, the Navy would vacate all lands at Floyd Bennett Field. Three notable proposals immediately emerged. New York City Mayor John Lindsay proposed the site be used for general aviation, which would include use of light planes and corporate aircrafts only. Both the Federal Aviation Administration and the New York General Aviation Development Association, a recently established lobbying group, fully supported the mayor.[1]

State officials as well as the New York City Planning Commission opposed the general aviation use, instead proposing the site be used for a housing complex to absorb the growing needs of Brooklyn. The complex would incorporate not just housing but an industrial park, recreation facilities, and a shopping mall. According to a prospectus of the plan, the proposed layout included a "balanced community of 45,000 apartments for 180,000 people built around an area of civic and community facilities and framed by a thin band of parks and recreation land along the waterfront."[2] Many city officials and New York City residents were in opposition to this plan, instead hoping to see the site turned into a public park. Floyd Bennett Field provided the largest expanse of open land in all of New York City, and many in the community did not want to lose this valuable resource.

The Secretary of the Interior requested that the Department of Defense transfer all lands to the Department of the Interior for use as a national park. The Secretary of the Interior further developed this idea into a proposal to form Gateway National Recreation Area (Gateway NRA), a proposal President Richard Nixon supported.[3] Ironically, New York City Parks Commissioner, Robert Moses, did not support the development of Gateway National Recreation Area. Instead, he favored the housing proposal.

After a series of debates and senate hearings, the decision was eventually made to transfer Floyd Bennett Field to the Department of the Interior for inclusion in the new national park. In October 27, 1972, Congress passed Public Law 92-592 establishing Gateway NRA, one of the first large-scale urban parks managed under the National Park Service. Gateway NRA encompassed over 26,000 acres, bringing together primarily former military bases that offered various recreational, natural, and cultural resources in both New York and New Jersey. The purpose of the establishment of Gateway NRA was "to preserve and protect for the use and enjoyment of present and future generations an area possessing outstanding natural and recreational features."[4]

The creation of Gateway NRA established a precedent for a new type of national park. Before the 1970s, the vast majority of national parkland in the U.S. was located not only in the western half of the country, but was also primarily within the countryside. The prevailing notion was that national parks had to be comprised of scenic landscapes of natural beauty and wonder and that such landscapes did not exist in urban areas. The establishment of Gateway NRA helped not just in providing the surrounding urban population with accessible national parklands, but it also acknowledged that urban environments have as much natural beauty and cultural value as the American countryside.[5]

The Gateway NRA park system, including Floyd Bennett Field, opened to the public in 1974. (Figure 1.51) The NPS organized Gateway NRA into four units: Sandy Hook, Breezy Point, Staten Island, and Jamaica Bay. Floyd Bennett Field served as the headquarters for the Jamaica Bay Unit, which included all lands and lands under water within the bay.[6] At Floyd Bennett Field, the NPS gained ownership of approximately 1,450 acres, including most of Naval Air Station, New York. Areas the NPS did not obtain included one hundred acres on Rockaway Inlet, retained by the U.S. Armed Forces Reserve Center; the southeast half of Runway 12-30, which was transferred to the Coast Guard as part of the air station; and the Navy Seaplane Patrol Base Hangars A and B, which the Navy kept as part of the Naval Air Reserve Detachment (NARDET). The NPS also acquired land not associated with the historic airfield: land west of Flatbush Avenue, including the formerly city-owned Brooklyn Marine Park.

In 1979, the NPS approved a General Management Plan (GMP) for Gateway NRA. This helped the NPS to establish management strategies for Floyd Bennett Field. Part of the management plan was to preserve the historic character of the original airport. In an effort to preserve original features, the NPS designated the Administration Building and Hangar Row as Gateway Village, which was meant to serve as the gateway and visitor center for all of Gateway NRA. In 1980, the approximately 329-acre original airport property was listed in the National Register of Historic Places with a recognized period significance limited to the dates of commercial operations of Floyd Bennett Airport (1931-1941). The Floyd Bennett Field Historic District included most of the original airport land, excluding the southeastern portion of Runway 12-30, of which the U.S. Coast Guard retained control.

As was common throughout the site's history, the NPS leased parts of Floyd Bennett Field to outside groups. This included the Floyd Bennett Garden Association, which established the community gardens in the southern area of the field, used by residents from throughout New York City. The NPS later relocated the community gardens to its current location, south of Hangar Row.

Outside groups, in cooperation with the NPS, established several recreation opportunities on the site: a remote-controlled airplane flying field on the northern most portion of Runway 1-19; a cricket field; archery range; nursery, and campgrounds. The NPS also began to manage much of the formerly manicured vegetated areas as naturalized plant communities. The areas between the runways were managed as naturalized grasslands and wildlife habitats and the former radio

communications complex, now known as the North 40 Natural Area, transitioned to natural woodlands with walking trails. A small natural pond is also located in the North 40 Natural Area.

Two major ownership changes occurred during this period. First, in 1983, the Navy decommissioned the NARDET and transferred the area around Hangar B to the NPS. The hangar is now home to the Historic Aircraft Restoration Project (H.A.R.P.), a local volunteer group, which helps to highlight the site's aviation history. The NPS leased the area directly south of Hangar B to the New York City Department of Sanitation. Second, in 1996, the Coast Guard decommissioned its Air Station and transferred the property, including the portion of Runway 12-30 to the NPS. The NPS then leased the area to the New York City Police Department (NYPD).

Since the NPS has acquired ownership of Floyd Bennett Field, several changes have occurred to the landscape. One considerable change occurred in c. 1996, when the Federal Highway Administration (FHWA) funded the construction of a new access road onto the site. This road connected the entrance established by the Navy c. 1951 and led north to Hangar Row. It was constructed on top of Runway 15-33. The project included four traffic lanes, guardrails, and a large curbed, lighted parking lot built over the Hangar Row apron. Part of this project included several berms constructed over portions of the runways.

Several building changes also occurred. In c. 1998, the NPS tore down the Air National Guard nose hangar north of the Administration Building. This was done to restore Hangar Row to its appearance during the Floyd Bennett Airport era (1928-1941). The NPS demolished a number of other buildings and structures dating from the Navy era, including the 1943 addition to the Administration Building. Little else was done to the Administration Building besides the replacement of the Cold War era windows.

One new project in particular has had a dramatic impact on the character of Floyd Bennett Field and Hangar Row. In 2005, Aviator Sports and Recreation, a park concessionaire, formed and began construction of the Aviator Sports and Recreation complex. The primary structure built was a metal infill building that connects Hangars 5 and 6 with Hangars 7 and 8. There was a large metal structure located between the Administration Building pump house and Hangar 6, which regulated the indoor ice rinks. A new parking lot was installed over the Hangar Row apron east and north of the hangars. A red scale-model airplane sat above the center of the parking area. Two large outdoor fields with bleachers, scoreboards, and stadium lights were located north of the hangars. A large black fence enclosed the fields. The new facilities opened for public use in late 2006.

LANDSCAPE OVERVIEW

The landscape overview gives a summary of the information presented for the Gateway NRA era. Organized by landscape characteristics, the landscape overview is meant to supplement the landscape narrative. It may also serve as a guide for future reference.

Natural Systems and Features

Flora: Since NPS ownership, successional woods have grown in several areas where it was either previously bare or planted with grass, most notably, along the south boundary of Runway 6-24 and the west boundary of Taxiway 6. During the Floyd Bennett Airport era, both these areas were maintained as mown grass. After the closing of the municipal airport, the Navy probably maintained these areas either as mown grass or low, scrubby vegetation. Since 1972, dense successional woods have been allowed to grow up to heights of upwards of twenty feet. Primarily, the successional woods appeared to occur outside the airport's original north boundary. Successional woods were also located in the area surrounding the WPA dope shop, transformer vault, and the Navy barracks, south of the hangars.

The area north of Runway 6-24, now known as the North 40 Natural Area, was characterized by dense successional woods and mown walking trails maintained for recreational use. Vegetation surrounding the trails was so dense it is impossible to enter except in a few areas. The vegetation was a mix of young and mature trees with thick, scrubby underbrush. While on the trails, visitors were visually cut-off from the surroundings; no views remained either to the north towards Brooklyn or south towards the airfield.

In the area south of the original airport boundary (South Support Area), patches of successional woods and scrub were present in several areas: east of the archery range, south of the laundry and power plant B, around the nursery, to the east and west of Taxiway 7, and west of the U.S. Armed Forces Reserve Center. The growth near the archery range was primarily beach grass. Growth in the remaining areas consisted of a mix of trees and scrubby undergrowth. In general, it is relatively sparse. The growth west of the U.S. Armed Forces Reserve Center, however, was tall and dense. Overall, the successional growth was much more established and dense than it was previously.

Spatial Organization

Since NPS acquisition in 1972, the overall spatial organization within the original 329-acre Floyd Bennett Airport property boundaries has not changed. Spatial organization has changed through the growth of successional woods in the northern portion of the site and north of the Seaplane Patrol Base. The remainder of the land between the runways was managed as naturalized grasslands and wildlife habitat. While the NPS has constructed a few small structures since 1972, such as camping shelters, cabins, and tent platforms, these new developments have not affect the spatial organization as they are not readily visible in the landscape. However, the NPS has installed new features that have impacted the spatial organization of the landscape. Within the airfield, the fence surrounding the NYPD area, including the southeastern half of Runway 12-30, created a separation in the landscape that did not exist previously. Also, the FHWA-funded improvement installed c. 1996 have affected the spatial organization of Floyd Bennett Field. These changes include the berms, guardrails along the access road (constructed over Runway 15-33), and the new parking lots west of the Administration Building.

The present spatial organization of the North 40 Natural Area sharply contrasted the area's open, expansive historic condition. The unmanaged vegetation has had dramatic impact on the spatial

organization of the area. Currently, it is extremely enclosed and the extant World War II era buildings are barely visible from the walking trails.

The spatial organization of the South Support Area has also changed since 1972. Today the majority of the buildings and structures remain in the east half of the area, although many buildings have been demolished, which has changed the density of that area. The presence of the successional woods has changed the open character of the western portion, which now reads as a series of smaller, defined spaces. Overall, the open character has been significantly altered, although this condition is reversible.

Land Use

In 1974, Floyd Bennett Field opened as a public recreation area, changing the historic land use to emphasize recreation and natural resource conservation. The Coast Guard Air Station remained on site through 1996, although with increasingly limited operations. Although no part of the landscape is still used for active aviation, the Historic Aircraft Restoration Project (H.A.R.P.) was housed in Hangar B, which was formerly part of the Navy Seaplane Patrol Base.

As part of Gateway NRA's natural resources conservation mission, several areas of Floyd Bennett Field have been managed to establish and conserve plant communities. The areas between the runways were managed as naturalized grasslands in order to provide wildlife habitat. The NPS managed the North 40 Natural Area for both the establishment of native plant communities and for use as a passive recreation area. It was used for recreational walking along the mown trails. No mode of transportation aside from walking is permitted.

The NPS also leased several areas of Floyd Bennett Field to outside agencies and concessionaires. The New York Police Department (NYPD) leased the former Coast Guard Air Station and the New York Department of Sanitation leased the southern portion the Navy Seaplane Patrol Base. The NYPD area included the ten-acre former Coast Guard Air Station and its associated recreation area just south of the air station. In c. 1999, the National Oceanic and Atmospheric Administration (NOAA) constructed a Doppler weather tower in the former recreation area. The southeast portion of Runway 12-30 was included in the NYPD lease and is bounded within their fence.

Concessionaires included the Floyd Bennett Garden Association and Aviator Sports and Recreation. The Floyd Bennett Garden Association established the community gardens, which the NPS located in southern-most grass panel along Hangar Row. The community gardens included garden plots, a composting area, and a picnic/barbeque area. The NPS has established campgrounds within the pine windbreak and west of the Seaplane Patrol Base. Aviator Sports and Recreation constructed the Aviator Sports and Recreation complex in 2006, located on Hangar Row. Its primary facility was centered in Hangars 5-8 and a large infill building constructed by Aviator Sports and Recreation, connecting the two pairings of hangars. Large outdoor playing fields with bleachers, scoreboards and stadium lights were located on the northern-most portion of the Hangar Row apron.

The NPS currently uses the South Support Area for a variety of uses. The NPS Jamaica Bay Unit Headquarters and the park police are stationed in former Navy buildings. Many of the remaining buildings are either abandoned or used only on a temporary basis. Recreation opportunities include two baseball fields, an archery range, nursery, a remote-controlled car track, and fishing access.

Cluster Arrangement

While the NPS has made changes to the Floyd Bennett Field landscape, the three main clusters of development remained intact. They were Hangar Row; the area along Jamaica Bay, which included the Navy Seaplane Patrol Base and the Coast Guard Air Station Brooklyn; and the South Support Area. In the South Support Area, many buildings have been demolished, altering the spatial relationship of the features to each other and the denseness of the cluster. Overall, it remained one of the three main clusters, but the loss of buildings has weakened its identity as a cluster.

Topography

The topography of Floyd Bennett Field remained largely unchanged until c. 1996 when several large berms were constructed along the new access road and on Taxiway 7.

Vegetation

During NPS ownership, the planted vegetation of Floyd Bennett Field changed dramatically. Instead of mown grass between the runways, the area has been managed as naturalized grasslands and wildlife habitat. Little of the 1935 WPA airport entrance plantings remained. The pine windbreak, while more mature, retained its distinct triangular shape. Also, the north side of the Coast Guard Hangar has been lined with ornamental plantings.

Circulation

During NPS ownership, there were two significant changes in the overall circulation patterns of the runways, taxiways, and aprons: the NPS covered the southwest half of Runway 1-19 with vegetation; and the U.S. Coast Guard constructed a chain-link security fence around the southeast half of Runway 12-30.Other features have been compromised with the addition of a new access road, parking lots, and berms, all constructed c. 1996. Also, the Aviator Sports and Recreation complex, built in 2006, has altered the condition of the apron system that surrounded Hangars 5-8.

The circulation patterns in the North 40 Natural Area have also been altered. Many of the current walking trails follow the path of the vehicular access road. Extant asphalt is sparse – small pieces of it are visible at random spots along the walking trails. Parts of the original access road have been overgrown with successional vegetation. New walking trails have been established where previously no roads existed.

The only major change in the circulation in the South Support Area since 1972 has been the construction of a remote-controlled car track on a large portion of Taxiway 7.

Buildings and Structures

Since 1972, many changes have been made with regard to the buildings and structures of Floyd Bennett Field. Sometime after 1980, the NPS demolished Hangars 9 and 10 and the addition to the Administration Building. Both wood-frame structures, located on Hangar Row, were built by the Navy in 1943.The NPS demolished the Navy constructed Hangar A (1940) in 1998. In the former Coast Guard area, the NYPD has added a few structures: a guard booth, a temporary tent-style structure, and a training tower. The National Oceanic and Atmospheric Administration constructed a Doppler Tower in the former recreation area, south of the Coast Guard Air Station c. 1999.

In the North 40 Natural Area, it is difficult to discern what changes the NPS may have made to the buildings and structures since 1972; while it is clear the World War II era radio towers have been removed, the successional vegetation was dense, making it difficult to view extant buildings. At least two of the storage buildings remained on site as well as the sub-station. Presumably the underground buildings remained, although due to the dense successional growth, they are difficult to access. It was not known if the other buildings and structures remained. The NPS has constructed three small, wooden photography shelters around a pond located at the west end of the North 40 Natural Area and wooden announcer's tower on the west side of the Runway 1-19 extension, for use in association with the remote-controlled airplane flying field.

In the South Support Area, the NPS has constructed minimal new facilities.

Views and Vistas

The views out of and into the airfield landscape overall remain. The biggest change has been the view to the north, which was blocked by dense successional woods. The mature pine windbreak south of the original airport boundary also limited historic views. The more spread out arrangement of the existing buildings in the South Support Area and the growth of successional vegetation blocked most views from the area.

Small-Scale Features

Most of the small-scale features that existed before NPS ownership have been lost since 1972. All of the fencing was removed. The NPS installed a new property fence along Flatbush Avenue, with gates at the original airport entrance and the World War II Navy entrance. The new fence did not follow the same alignment as the World War II era Navy property fence. The WPA flagpole remained as it did during earlier historic period. In 2006, the NPS reconstructed the WPA entrance sign. Both of the original light standards have been lost. The NPS has also erected informational and directional signage throughout the site to aid in visitor wayfinding.

The central public entrance into the North 40 Natural Area, located at approximately the halfway point of Runway 6-24, was marked with two signs displaying safety information and common autumn wildlife and vegetation found in the North 40 Natural Area. There was also a wooden stand for a visitor sign-in book, although there was no book present. A plastic trash barrel was located at the entrance and nine wooden bollards prohibit vehicles from entering. At the remote-controlled airplane flying field, bleachers were located to the north side of the announcer's tower

and picnic tables and benches were located to the south. A four-foot tall chain link fence separated the seating area from the adjacent parking area.

Cultural Landscape Report

Floyd Bennett Field
Gateway National Recreation Area

Gateway National Recreation Area Era
1972 - Present

National Park Service

Olmsted Center for Landscape Preservation

www.nps.gov/oclp

in cooperation with:

Faculty of Landscape Architecture
SUNY College of Environmental Science and Forestry - Syracuse, New York

SOURCES

1. Structures Key Map, March 27, 1979
2. Aerial Photograph, 2005
3. Field Survey, December 2006

DRAWN BY

Sarah K. Cody, Illustrator CS2

LEGEND

BOUNDARIES

- Floyd Bennett Field CLR Project Area / NPS Property Boundary
- Historical Property Boundary
- Leased Area Boundary

FEATURES

- Buildings & Structures
- Circulation — Runways, drives, aprons, taxiways, walks
- Circulation — Asphalt Pavers
- Added During Period
- Removed During Period
- Fence
- Berm
- Grass / Open Land
- Successional Woods

Notes

1. Scale and location of all features is approximate.
2. Only features constructed during this period are labeled with construction dates.
3. Shorelines are approximate according to available data.
4. Original concrete and pavers may remain under access road and parking lots.
5. Rotating platforms and passenger tunnel hatches may remain under parking lot.
6. Refer to Appendix D for Buildings and Structures Key.

North

0′ 400′ 800′ 1200′ 1600′

Drawing 1.5



Figure 1.51: View looking southeast towards the Administration Building from Flatbush Avenue. Floyd Bennett Field opened to the public as part of Gateway NRA in 1974, April 1979. (Photograph 22536, Gateway National Recreation Area Archives, Fort Wadsworth).

ENDNOTES

[1] Richard Haitch, "Airport, Housing Project or National Park?" *New York Times,* 28 May 1972, Reproduced at ProQuest Historical Newspapers, http://pqasb.pqarchiver.com/nytimes/.

[2] David K. Shipler, "1-Billion State Development Plan for Bennett Field Scored by City." *New York Times,* 25 May 1970, Reproduced at ProQuest Historical Newspapers, http://pqasb.pqarchiver.com/nytimes/.

[3] Richard Haitch, "Airport, Housing Project or National Park?" *New York Times,* 28 May 1972, Reproduced at ProQuest Historical Newspapers, http://pqasb.pqarchiver.com/nytimes/.

[4] National Park Service, U.S. Department of the Interior, "General Management Plan" (National Park Service North Atlantic Regional Office: Unpublished report, August 1979), 1.

[5] Ibid, vii.

[6] Public Law 92-592, Gateway Enabling Legislation, October 1972. Reproduced at Envisioning Gateway: A Public Design Competition for Gateway National Park, http://www.vanalen.org/gateway/site_primarysources.php.

CHAPTER 2: EXISTING CONDITIONS

This chapter provides a narrative overview of the existing (2007) landscape conditions at Floyd Bennett Field. Documentation for the chapter is based largely on field observation, but also on current National Park Service (NPS) surveys and current aerial photography. As landscape characteristics and features are described in the text, readers should refer to Drawing 2.1: Existing Conditions, 2007 and Drawing 2.2: Airport Entrance Existing Conditions, 2007.

Organized by character areas, the chapter identifies the existing character of the landscape through descriptions of current site boundaries, overall appearance, site access, park administration, visitor use, and setting. The narrative is organized by the landscape's six primary character areas: Hangar Row, which includes a secondary character area of the airport entrance; the airfield; the Navy Seaplane Patrol Base; Coast Guard Air Station Brooklyn; the North 40 Natural Area; and the South Support Area.[1] (Figure 2.1)

ADMINISTRATIVE CONTEXT

On April 11, 1980, approximately 329 acres of the original Floyd Bennett Airport were listed in the National Register of Historic Places. The existing historic district includes Hangar Row, the original airport entrance, and a large portion of the airfield. Because the existing historic district follows the property line of the original airport, it does not encompass the entire site of the airfield as of 1945, much of which the Navy developed during World War II.

Currently, Floyd Bennett Field is one property within Gateway National Recreation Area. Established in 1972, Gateway National Recreation Area (Gateway NRA) is primarily a series of former military sites that have been acquired by the federal government in an effort to provide recreational opportunities in the densely urban area and to create educational programs that promote awareness of the importance of natural and cultural resources. The combined components of Gateway NRA total approximately 18,650 acres and are organized into three units: Jamaica Bay, Sandy Hook, and Staten Island. Floyd Bennett Field is one site within the Jamaica Bay Unit of Gateway NRA. Other sites located within the unit are Fort Tilden, Jacob Riis Park, Canarsie Pier, and Jamaica Bay Wildlife Refuge. Floyd Bennett Field comprises approximately 1,450 of Gateway NRA's total acreage, making it nearly twice the size of Central Park and the largest expanse of open land in New York City.

SETTING

Floyd Bennett Field lies on the southeastern end of Brooklyn on the western end of Long Island. Once a series of ocean fronting islands in the tidal estuary along the western shore of Jamaica Bay, today Rockaway Peninsula and Rockaway Inlet separate the solid landmass of Floyd

Bennett Field from the Atlantic Ocean. Flatbush Avenue transects the site from north to south. It is a four-lane arterial from downtown Brooklyn, with a central, median. Rows of sycamores line both sides of the street and the median. The Shore (Belt) Parkway and Mill Basin define the northern boundary of the site. On the east is Jamaica Bay and Island Channel, to the south lies Rockaway Inlet, and on the west is Dead Horse Bay. The vast expanses of water and distant views seen from Flatbush Avenue dominate the overall character of Floyd Bennett Field.

Directly west of Floyd Bennett Field, across Flatbush Avenue, is Gateway Marina, developed by the City of New York as part of Brooklyn Marine Park in the 1930s. Although the marina is administered as part of the Floyd Bennett Field, Gateway NRA, it was not historically associated with the property and does not fall within the study boundaries of this project. Flatbush Avenue extends south to the Gill Hodges Memorial Bridge (former Marine Parkway Bridge), leading to Rockaway Peninsula and the Atlantic Ocean. Approximately 2500' north of the Gill Hodges Memorial Bridge and south of the original airport is Aviation Road, the only vehicular entrance into the site as the original Floyd Bennett Airport era entrance and the World War II Navy entrance drives from Flatbush Avenue to Hangar Row are closed to the public. (Figure 2.2)

PARK USE AND OPERATION

Visitors approaching Floyd Bennett Field from the north have a clear view of the linear arrangement of Hangar Row, including the Administration Building and the eight original hangars, which run parallel to Flatbush Avenue. A black, steel picket fence approximately ten feet tall separates street traffic from the site. (See Figure 2.2)

Visitors to Floyd Bennett Field are afforded numerous recreational opportunities. Hangar Row, the airfield, a large portion of the Navy Seaplane Patrol Base, the North 40 Natural Area, and the South Support Area are all open to the public. Recreational facilities include sports fields, community garden plots, fishing access, and areas for biking, archery, camping, etc.

In addition to recreational and educational opportunities, Floyd Bennett Field also has three administrative buildings on site. These include the main visitor center, administration offices for the Jamaica Bay Unit of Gateway National Recreation Area, and the NPS Park Police. These facilities are all located in the South Support Area.

The historic Coast Guard Air Station Brooklyn, initially developed from 1936–1938 along Jamaica Bay, has been owned by the NPS as part of Floyd Bennett Field since 1996 and is currently leased to the NYPD Aviation Unit. Enclosed by a chain-link fence, the area is not accessible to the general public. Also not accessible to the public is the Armed Forces Reserve Center. Located on the southern edge of the property, the center is outside the jurisdiction of the

NPS. However, the Navy developed this area as part of Naval Air Station, New York during World War II.

With the exception of the Armed Forces Reserve Center, all others areas associated with the historic landscape are administered as part of Floyd Bennett Field, although not as a formal historic district. These areas include Hangar Row, the airport entrance, the Navy Seaplane Patrol Base, the Coast Guard Air Station, the North 40 Natural Area (former radio communications complex), and the South Support Area.

CHARACTER AREAS

In order to present the existing conditions of Floyd Bennett Field, the landscape has been organized into character areas. As defined by the NPS, character areas are defined "by the physical qualities of a landscape (such as landforms, structural clusters, and masses of vegetation) and the type and concentration of cultural resources."[2] While the boundaries of character areas are typically defined by the existing conditions of the landscapes characteristics and features, the historic development patterns and use has also been examined to determine appropriate character areas for Floyd Bennett Field. For the purposes of this project, the character areas are defined as Hangar Row, the airport entrance, the Navy Seaplane Patrol Base, the Coast Guard Air Station, the North 40 Natural Area, and the South Support Area.

HANGAR ROW

Hangar Row, initially developed during the Floyd Bennett Airport era (1928-1941), is defined by its formal, linear design. The airfield borders Hangar Row to the east; its open character further emphasizes the linearly clustered development of Hangar Row. Spatially, Hangar Row is defined by the flat, open character of the Hangar Row apron and its relationship to the formal, streamlined architecture, which is located along nearly the entire apron. Each feature within Hangar Row is oriented either parallel or perpendicular to Flatbush Avenue. Therefore, although Hangar Row is a distinct cluster of development in the landscape, it reflects the same approach of straight, geometrical forms seen throughout the airfield.

Upon entering the site, the main access road, constructed c. 1951-1953, leads visitors to the four-lane access road constructed over Runway 15-33 in 1996. The presence of successional growth along the sides of the access road restricts visual connection to the historic Hangar Row. As visitors travel north along the access road, they approach the original Hangar Row development, which runs parallel to Flatbush Avenue and the access road. The Administration Building and hangars become visible. Developed continually from 1928-1945, Hangar Row was part of the original Floyd Bennett Airport and the Navy's World War II expansion. Today, the dominant buildings and structures along Hangar Row include Hangars 1-8, the Administration

Building, Aviators Sports Complex, which is housed primarily in Hangars 5-8 with outdoor sports fields to the north, and several support buildings. The main circulation feature is the Hangar Row apron.

When first installed, the Hangar Row apron east of the hangars was constructed almost entirely of concrete, with the areas north and south of Hangars 1-8 constructed of asphalt pavers. Today, the original concrete apron and asphalt pavers remain to the north and east of the new Aviator Sports and Recreation complex and south and east of Hangars 1-4, respectively. (Figure 2.3) Portions of the original concrete apron and asphalt pavers remain visible to the east of the Administration Building as well. In c. 1996, the Federal Highway Administration (FHWA) constructed parking lots east of the Administration Building, covering much of the concrete with asphalt. The parking lots include poured concrete curbs and large contemporary lights. (Figure 2.4) The original concrete remains approximately eighteen inches below grade. In 2006, Aviator Sports and Recreation constructed their outdoor sports fields over the apron. The sports fields include two grass playing fields lined with bleachers. There are scoreboards and stadium lights along the perimeter of the fields. (Figure 2.5) A chain-link fence, approximately twelve-feet tall, encloses the sports fields. Aviator Sports and Recreation installed the fence posts directly into the original concrete.

In order to accommodate the indoor sports facilities, which include two ice rinks, three basketball courts, two volleyball courts, a fitness center, gymnastics space, party rooms, and a food court, Aviator Sports and Recreation extensively renovated the hangars. While the exterior of the hangars remains mostly intact, a large metal infill building now connects Hangars 5 and 6 with Hangars 7 and 8, altering the historic spatial relationship. (Figure 2.6) The largest original features of the hangars to be removed were the glass, sliding doors, which have been replaced with replica doors on the interior of Hangars 7 and 8.

Hangars 1-4, located south of the Administration Building are unoccupied. Though Hangars 1-4 have not undergone rehabilitation to the extent of Hangars 5-8, in c. 2004, the NPS stabilized and rehabilitated the exterior of Hangars 3 and 4, which included roof replacement and improvements to the masonry. Hangars 1 and 2 have not undergone any rehabilitation efforts and remain in poor condition with visible damage on the exterior. In order to restrict access to the vacant hangars and the central space between the grouping, in 2005 the NPS installed a chain-link fence along the west side of the hangars.

South of Hangars 1-4 at the south end of the Hangar Row apron are several buildings that once supported the daily operations of the airfield. The 1937 WPA-constructed brick and cast-stone dope shop, has been unoccupied since 1972, when the NPS gained administration of the site. Because the building has not been used, many of the windows are broken and notices on the

east side of the building warn visitors that the building contains hazardous polychlorinated biphenyls (PCBs). (Figure 2.7)

North of the dope shop are three small structures: a comfort station, the dope shop pump house, and a transformer vault. The NPS constructed the comfort station c. 1990. The building is approximately fifteen feet square and constructed of recycled plastic lumber. The dope shop pump house (constructed in 1942) and the transformer vault (constructed from 1931-1932) are both brick buildings accented with cast-stone, matching the style of the hangars and the dope shop. Both remain in good condition overall. (Figures 2.7, 2.8) A World War II era paint storage building is located slightly south of the dope shop. The parged concrete building has been unoccupied since NPS ownership in 1972 and has deteriorated due to lack of maintenance. The entire northwest corner of the building and roof are missing. (Figure 2.9)

South of the dope shop and the paint storage building are the Hangar Row fire house and the synthetic training building. Both structures date from World War II and are one-story wood frame buildings with white clapboard siding and gabled roofs. Both unoccupied since 1972, the buildings have boarded windows and doors, but appear to be generally sound with the exception of some wooden clapboards that appear to be rotted in some areas. (Figures 2.10, 2.11)

Between the Hangar Row fire house and the synthetic training building is Pelican Street, an asphalt road that connects with Flatbush Avenue at a sharp angle. The NPS fence that separates Floyd Bennett Field from Flatbush Avenue prohibits access onto the site from Pelican Street. South of Pelican Street is the World War II era Navy entrance onto the site. This entry drive has a perpendicular connection with Flatbush Avenue as well as with an unnamed access road at its east end. The access road leads north to the Hangar Row apron. As with Pelican Street, the NPS fence prohibits access onto the site from Flatbush Avenue. While there is a gate at the Navy entry drive, it remains locked at all times. (Figure 2.12)

In the area between the Navy entry drive and the south end of the Hangar Row apron, dense successional vegetation has grown to surround the buildings. Some vegetation has also grown in the central area between Hangars 1 and 2 and Hangars 3 and 4. While not as dense as the area south of the apron, the growth between the hangars disrupts the asphalt pavers. Another area where the original asphalt pavers have been affected is the parking lot west of the Administration Building, which is part of the secondary character area, the airport entrance.

Airport Entrance

The airport entrance, located west of the Administration Building, forms a smaller character area within Hangar Row. The WPA constructed much of the entrance landscape in 1935. The airport entrance space is framed by the Hangar Row development; the Administration Building

encloses the entrance to the east; to the north and south of the entrance are Hangars 3 and 4 and Hangars 5 and 6, respectively; Flatbush Avenue provides the western boundary. The two diagonal concrete entry drives are the visually dominant features of the entrance area. Connecting to the east ends of the entry drives is an asphalt-surfaced parking lot, located along the west side of the Administration Building. The original parking lot, constructed of the same asphalt pavers to the north and south of the hangars, has been covered over with a solid layer of asphalt. However, the asphalt is beginning to crack and break, allowing the form of the pavers to be seen. In some areas, where the asphalt has broken apart, the historic pavers are clearly visible. (Figure 2.13) At the rear (west) of the parking lot is a tall black, metal picket fence, constructed by the NPS, which separates the site from Flatbush Avenue and follows the inner side of the two diagonal entry drives, dividing the entrance area in half.

Much of the original entrance to the airport is located on the west side of the fence. This includes a lawn area, a central walkway perpendicular to Flatbush Avenue, and two diagonal entry drives. The entry drives are no longer accessible from Flatbush Avenue; a line of bollards has been installed to prevent vehicles from entering this area. (Figure 2.14) Gates are located at the eastern end of the diagonal entry drives and the central walkway. While the gates at the entry drives remain locked, the gate at the central walkway is left open for pedestrian access. Concrete walkways are located parallel to the outer edges of the two entry drives with long, hedge-lined grass panels to each side. The central walkway encircles the 1935 flagpole and a rustic wood 'Floyd Bennett Airport' sign, reconstructed in 2006 following the style of the 1935 original. (Figure 2.15)

The prominent feature of the airport entrance east of the Flatbush Avenue fence is the west façade of the Administration Building. The west façade is divided into three main parts: the central pavilion, which includes the main entrance, and two wings. The central pavilion is itself divided into three parts: a portico with two freestanding Doric columns and two wings articulated with quoins. A stone stairway leads up to the portico on the west façade. Visitors enter the building through one of three sets of double doors with fanlights above. (Figure 2.16)

AIRFIELD

The airfield comprises the central space and character-defining landscape features of Floyd Bennett Field. The clustered arrangement of Hangar Row and along Jamaica Bay defines the airfield's west and east boundaries, respectively. To the north and south are the North 40 Natural Area and the South Support Area. (See Figure 2.1)

Overall, the character of the airfield is defined by large expanses of flat, open land. The most dominant features of the Floyd Bennett Field landscape – the runways – are located within the airfield. Runway 15-33, constructed in 1928, defines the western boundary of the airfield,

extending north to south, parallel to Flatbush Avenue and the Hangar Row apron. Serving as the primary visitor access route, the NPS constructed the road over Runway 15-33 with FHWA funding. Construction included metal guardrails along the east and west sides. (Figure 2.17)

Taxiway 6-24 (former Runway 6-24), constructed in 1928 is oriented east to west, located in the center of the airfield, it provides a clear axis in the landscape. While initially the runway was entirely concrete, large portions of the concrete have since been covered with asphalt. Presumably, the concrete remains intact beneath the asphalt. (Figure 2.18) The WPA constructed Runway 1-19 in 1935, orienting it northwest to southeast. The Navy added a concrete extension to the northern most end of the runway in 1951. The concrete extension is used as a remote-controlled airplane flying field. Along the west side of the extension, are an announcer's booth and seating for onlookers. (Figure 2.19) The northeastern half of Runway 12-30 is enclosed by a chain-link fence, altering the open spatial character of the airfield. Runway 6-24, which the Navy constructed in 1942, extends east to west, parallel to Taxiway 6-24. The runways intersect at the center point of the airfield. The sharp angles of the intersection and the long, straight arrangement of the runways create distinct geometric forms that define the spatial organization of the airfield.

The highly geometric spatial relationship of the runways creates a series of primarily triangular open areas. The NPS manages these areas as naturalized grasslands, which also serve as wildlife habitat. Towards the northern edge of the airfield, the grasslands transition into dense successional growth on the formerly open field. (Figure 2.20) The grasslands extend onto the southern end of Runway 1-19, covering the original runway material. In an effort to establish the grasslands, the natural resource management staff laid woodchips over the runway to allow the vegetation to grow. In a compromise with the cultural resource management staff, the idea of vegetating the runways was abandoned, though large piles of woodchips remain on Taxiway 5, west of the Navy Seaplane Patrol Base.3 (Figure 2.21)

In c.1996, the FHWA funded the construction of the access road located on Runway 15-33 as well as the construction of eight berms, which the NPS located over portions of the runway system. Two berms are located at the north end of the access road, one is located at the eastern intersection of the access road and Runway 1-19, one is at the intersection of Runways 1-19 and 12-30, three more are located at the intersection of the access road and the western end of Taxiway 6-24 (former Runway 6-24), the eighth berm is located on a section of Taxiway 7, west of the Armed Forces Reserve Center. The berms, covered in naturalized grasslands, vary in overall size, although each is approximately six to eight feet tall. (Figure 2.22)There is no clear intention or function for the berms, although some NPS staff believe they were meant to control vehicles speeding along the runways.

At the south end of the airfield, east of Runway 1-19, the grasslands border a pine windbreak, planted c.1945 during the Navy's redevelopment of the airport. This densely planting of red pine originally served to protect the South Support Area from prevailing winds. Today, although the pines are in decline, the distinct triangular grouping provides a southern boundary to the airfield and serves as the most distinct vertical feature in the airfield. Clearings in the pine windbreak contain four campgrounds that the NPS established post-1972: Camp Ladybird, Camp Marshawk, and Camp Pheasant and Camp Cherry. These campgrounds all contain small wood-frame shelters with metal roofs and picnic tables beneath. Three campgrounds each have ten wooden tent platforms around the perimeter of the campsite; the fourth has six small wooden cabins with screen doors and windows. (Figures 2.23, 2.24) The NPS established two more campgrounds post-1972, located in clearings in the successional woods from the former emergency dirigible landing area at the intersection of Taxiway 6 and Taxiway 6-24 (former Runway 6-24): Camp Tamarak and Camp Goldenrod. Similar to the campgrounds in the pine windbreak, these two also have shelters with picnic tables. However, there are no cabins or tent platforms. Instead, Camps Tamarak and Goldenrod have plenty of open grass on which to set up tents. (Figure 2.25)

Other recreational opportunities located within the airfield include the community gardens, located between Runway 15-33 and the Hangar Row apron, which are managed as a concession by the Floyd Bennett Garden Association. There are approximately 600 plots enclosed in chicken-wire type fencing with small wooden posts. West of the plots is a compost area and to the south is the community garden picnic area, featuring several picnic tables and pedestal grills. A wooden rustic-style gazebo covers a picnic table at the entrance to the garden plots from the parking area, which separates the garden area from the access road. (Figure 2.26) The dense spatial relationship of the garden plots and the vertical nature of the small-scale features are departures from the formerly open grass panel. (Figure 2.27)

North of the community gardens are two grass panels and the Hangar Row taxiways. The taxiways today provide vehicular access from the access road on Runway 15-33 to the parking lots east and west of the Administration Building. The grass panels are maintained primarily as open lawn although a narrow strip of sand on each serves as a practice cricket pitch. The Floyd Bennett Cricket Club established a cricket field north of Hangar Row on what was once open land. (Figure 2.28)

In the southeast corner of the airfield, just south of the former Coast Guard Air Station, is a portion of the asphalt road dating from the Floyd Bennett Airport era that once connected with Pelican Street. The road runs towards Jamaica Bay, where it leads to the remnants of the Floyd Bennett Airport seaplane ramp. The ramp, which was a modest wooden platform, has since deteriorated. All that is left today is a series of wooden pylons extending into the bay. (Figure 2.29)

NAVY SEAPLANE PATROL BASE

The Navy Seaplane Patrol Base, developed by the Navy from 1940-1945, is a complex of buildings, including a hangar and support buildings, located east of the airfield and north of the Coast Guard Air Station along Jamaica Bay. The support buildings comprised a maintenance complex, located to the west of the seaplane hangar and the Coast Guard facilities, fronting on Taxiway 5. The primary features include an apron, a seaplane ramp, Hangar B, and the maintenance complex. The dense development of the Navy Seaplane Patrol Base in combination with the Coast Guard Air Station creates a distinct cluster of development that defines the east boundary of the airfield character area.

The concrete apron, initially constructed in 1941, extends from its southern border with the Coast Guard Air Station north towards Hangar B. Originally, the apron covered an area less than half of its current dimensions. The original apron surrounded Hangar A (constructed in 1940, demolished in 1998). In 1942, the Navy extended the apron north, doubling its original size. In the early 1950s, the Navy again expanded the apron towards the north, to its current dimensions. It extends approximately 1100′ north of Hangar B. In total the Navy Seaplane Patrol Base apron is approximately 2400′ in length and 700′ in width.

The concrete seaplane ramp, constructed in 1940, extends approximately 300′ perpendicularly off the east side of the Seaplane Patrol Base apron into Jamaica Bay. (Figure 2.30) Today the ramp is used as a boat launch. The NPS also uses the ramp as part of an agreement with the New York Department of Sanitation; the park hauls abandoned boats from Jamaica Bay and stores them on the paved area east of the hangar. The Department of Sanitation then retrieves the boats and disposes of them.[4] Fishing access is allowed along the Jamaica Bay shoreline east of the apron.

The New York Department of Sanitation leases the southern area of the former patrol base, surrounding the site of Hangar A, for use as a driver training area. The department uses a large portion of the apron as well as Tylunas Hall, constructed in 1970, which is today houses office space.

Hangar B, built in 1941, is located in the approximate center of the apron. Along the northern and southern façades of the hangar, the original sliding doors are intact. (Figure 2.31) On the western façade, a large lean-to was built in 1951 to approximately 2/3 the height of the original hangar. Visitors enter the hangar through one of two doors, which are located on the lean-to side of the hangar. Visitors can park along the apron to the north and east of Hangar B.

Hangar B is the home of the Historic Aircraft Restoration Project (H.A.R.P.), a volunteer based project whose mission is to help preserve the important aviation history of Floyd Bennett Field. Several days a week, volunteers work in Hangar B to restore historic aircrafts that were once flown from Floyd Bennett Field. They also re-create model replicas of historic aircrafts. (Figure 2.32)The hangar is open to the public; group tours of the facility can also be scheduled.

The Navy Seaplane Patrol Base maintenance complex, constructed in 1941, is located west of the apron and Hangar B. It extends south, with some of its facilities located directly west of the Coast Guard Air Station. The linear cluster of buildings defines the eastern boundary of the airfield. There are eleven buildings and structures included in the maintenance complex. They are organized into two distinct groups. The north group includes six of the buildings. (Figure 2.33) The NPS uses most of these for general storage and warehouse space. The south group includes five buildings. (Figure 2.34) While the buildings vary greatly in overall size, the Navy implemented two general types for the utilitarian buildings: masonry and sheet metal. The majority of the buildings are two-stories in height although there are a few considerably smaller structures, including a fire protection pump station and structure and a sewer pump station. The largest building is the cold storage and commissary (See Figure 2.33)

Historically all the buildings of the maintenance complex were associated with the Navy Seaplane Patrol Base. Today the New York City Police Department (NYPD) uses the southern grouping as part of their lease agreement with the NPS. The rest of the area that the NYPD uses is within the former Coast Guard Air Station. Visually, this area retains its dense historic spatial character.

COAST GUARD AIR STATION BROOKLYN

South of the Navy Seaplane Patrol Base is the Coast Guard Air Station Brooklyn, developed from 1936-1938. When the Coast Guard decommissioned its operations at this site in 1996, NPS acquired ownership and leased the area to the NYPD Aviation Unit. The boundary of this leased area currently includes the southeastern half of Runway 12-30, which had been transferred to the Coast Guard in 1972. The Navy Seaplane Patrol Base defines the north boundary of this character area; the airfield defines the west boundary; expansive views into Jamaica Bay characterize the east side of the character area; the South Support Area, specifically the archery range, borders the south boundary of the Coast Guard Air Station Brooklyn character area. The development of the area and the Navy Seaplane Patrol Base development to the north and the maintenance complex to the west create a distinct cluster of development along Jamaica Bay, helping to define a clear boundary within the landscape. (Figure 2.35) It should be noted that due to the Coast Guard Air Station's current use by the NYPD, access to the public is restricted, which meant that existing conditions surveying was not as in depth in this area as in the six other character areas.

Another feature that emphasizes the boundary of the character area is a large chain-link fence that runs along its boundary. Police stand guard at the entrance, prohibiting access. In order to gain access to this area, visitors must be escorted within the boundary by a member of the police department. The boundary of this site extends along the eastern portion of Runway 12-30, up to its intersection with Runways 1-19 and the Taxiway 6-24 (former Runway 6-24). This portion of runway was not included in the existing historic district as the NPS did not own it at the time of listing in the National Register.

The primary landscape features in this character area include the Coast Guard hangar, the taxiway, and the seaplane ramp, which were all part of the initial development of the air station. Inside this area, the numerous buildings block views to other areas of the site. The only view off the site is looking east from the southern end of the original Coast Guard hangar. (Figure 2.36) As illustrated along Hangar Row and the Navy Seaplane Patrol Base, the features of the Coast Guard Air Station are oriented in perpendicular forms. The seaplane ramp, constructed in 1937, extends into Jamaica Bay, perpendicular to the apron. The hangar is oriented north to south, with the hangar entrance facing south; the 1936 'T' shaped taxiway connected the hangar entrance with the seaplane ramp to the east. In 1946, the Coast Guard expanded the taxiway west, connecting it with an asphalt access road. Today the taxiway retains its 1946 form and geometry.

The hangar, constructed from 1937-1938, is the largest and dominant feature in the character area. The northern half of the building houses office and administrative space. The hangar portion was designed to accommodate Coast Guard helicopters and now is used for NYPD helicopters and vehicle parking. The two-story hangar is constructed of concrete and painted white. Both levels of the north, east, and west façades include a horizontal band of windows. The streamlined character of the hangar is an industrial version of the International style. (Figure 2.37)

The area south of the hangar and taxiway, which once served as the Coast Guard's recreation area, developed in 1946, is now a primarily open, grassy area used for training exercises. There is also a Doppler weather tower in this southern area that is owned by the National Oceanic and Atmospheric Administration (NOAA) The Doppler tower is comprised of a tall metal base above which sits a large white sphere. Because the overall landscape of Floyd Bennett Field is flat and open, today the Doppler tower is one of the most visually prominent features in the landscape. (See Figure 2.35)

NORTH 40 NATURAL AREA

The North 40 Natural Area, historically the radio communications complex developed by the Navy during World War II, is located to the north of the airfield, specifically Runway 6-34 and extends to Mill Basin on the north and the Shore (Belt) Parkway on the west. Currently this area is characterized by the successional woody vegetation and winding, mown grass walking trails. (Figure 2.38) Along the trails, visitors encounter some of the remaining World War II era structures that remain visible, primarily including storage buildings. Once off the trail, the vegetation is extremely tall and dense, making it nearly impossible to distinguish the presence of the World War II structures, particularly the roofs and air vents of the underground bunkers. (Figure 2.39) The vegetation is so dense in fact, it has been difficult to inventory existing World War II era features.

The natural resource management staff of Gateway NRA has worked with botanists to carefully manage the woody vegetation in the North 40 Natural Area to in effort to establish native plant communities and to provide habitat for a range of wildlife.[5] The density of the vegetation blocks virtually all views out of the area. This natural area provides a sharp contrast to the openness and vast expanses of pavement seen throughout the majority of the site.

A small pond, created post-1972, is located in the west corner of the North 40 Natural Area. Surrounded by natural vegetation, the pond attracts wildlife as well as wildlife photographers. (Figure 2.40) The NPS constructed three photography shelters to accommodate wildlife photographers.

SOUTH SUPPORT AREA

To the south of the airfield is an area that was largely developed during the Navy's period of ownership, from 1941-1945 at the site of the former Barren Island community. The Navy made extensive changes to this area of the landscape. This included construction of numerous buildings for various purposes, including barracks, utilities, offices, and recreation.

During World War II, the Navy constructed approximately thirty-nine buildings and structures in the South Support Area, constructed primarily of either brick, concrete, or wood frame. Most of the buildings were two-story barracks. However, smaller support structures were also built, such as pump stations and storage facilities. Today approximately fifteen buildings and structures remain from the World War II-era. Twenty-four buildings have been lost and eighteen additional buildings and structures have been constructed since the end of World War II, most of which the Navy constructed. The NPS constructed the buildings associated with the nursery and building number 272. There is no unified architectural style apparent in the design of the existing buildings. Most of the buildings dating from World War II era development are

cantonment-type buildings. These are primarily wood-frame with gabled roofs and clapboard siding. A small number of the World War II era buildings were constructed of masonry, such as the theater. Post World War II buildings appear to be primarily masonry and include the brick barracks and stucco ecology village building. Many of the structures appear to be of a temporary nature, including an archery range platform and a plastic greenhouse located at the nursery.

The number of structures and their clustered arrangement decreases the views to other areas of the site. (Figure 2.41) This area has several paved, vehicular roads, which pass by the remaining structures built by the Navy. The majority of the roads were developed by the Navy during World War II; however several roads and walkways have been lost or significantly altered since 1945. Use of many of the extant structures was abandoned after the NPS obtained ownership of the park in 1972. The unused buildings are in various states of deterioration, some with no windows, or collapsing roofs. (Figure 2.42) Several, however, are currently being used by the park. These include the Gateway NRA headquarters, the Park Police offices, and the Jamaica Bay Unit Headquarters.

Recreational facilities in this area include an archery field, which is one of the most used facilities at Floyd Bennett Field, two baseball fields, a remote-controlled car track, fishing access in Rockaway Inlet and Ecology Village. (Figures 2.43, 2.44)

On the eastern edge of this area, along Jamaica Bay, there is a marginal wharf originally developed by the Navy in 1942. In past years, this area had been open to the public and used for fishing access. However, the wharf is currently severely deteriorated and access is prohibited. (Figure 2.45)

To the south of the South Support Area is the U.S. Armed Forces Reserve Center, initially developed in 1952. This included approximately 100 acres, which was retained by the U.S. military when ownership of the historic Floyd Bennett Field parcel was transferred to the NPS in 1972. This area is currently the only part of the historic property the NPS does not own. Personnel traveling into the center enter from the same entrance from Flatbush Avenue as park visitors, onto Aviation Road. A chain link fence, restricting public access, surrounds the reserve center. (Figure 2.46) Most of the center's buildings were constructed after 1950; however it does include the Navy's World War II seaplane ramp and parking area.

LANDSCAPE OVERVIEW

The landscape overview gives a summary of Floyd Bennett Field's existing conditions. Organized by landscape characteristics, the landscape overview is meant to supplement the landscape narrative. It may also serve as a guide for future reference.

Natural Systems and Features

Climate: Jamaica Bay has naturally mild weather with minimal storms and fog. These conditions make the bay an ideal place for an airport and now a public recreation area. Because of its proximity to the water, Floyd Bennett Field can sometimes experience strong wind. This condition allows, in conjunction with the large expanses of paved land offers an ideal location for landsailing on the runways. (Figure 2.47)

Flora: Dense successional woods have grown in several areas of Floyd Bennett Field. The most prominent area is the North 40 Natural Area, where the NPS has worked to establish native plant communities to provide wildlife habitat. The northern end of the airfield, the southern end of Hangar Row and parts of the South Support Area also features the successional woody vegetation, although it is most dense in the North 40 Natural Area. In the South Support Area, patches of successional woods and scrub are present in several areas: east of the archery range, south of the laundry and power plant B, around the nursery, to the east and west of Taxiway 7, and west of the U.S. Armed Forces Reserve Center. The growth near the archery range is primarily beach grass. Growth in the remaining areas consists of a mix of trees and scrubby undergrowth. In general, it is relatively sparse. The growth west of the U.S. Armed Forces Reserve Center, however, is tall and dense. (Figure 2.48)

Spatial Organization

Floyd Bennett Field is organized by an open central airfield dating from 1928, with the clustered development of the Navy Seaplane Patrol Base and Coast Guard Air Station Brooklyn defining the east side and Hangar Row defining the west side. The North 40 Natural Area is an area that is somewhat enclosed and distinctly separate from the rest of the landscape because of the dense woody successional vegetation. The South Support Area encloses the southern end of the site. While historically the eastern half of the South Support Area was a dense cluster of individual buildings, today some of the density has been lost. The development along with the presence of successional growth creates a series of small, defined spaces.

Land Use

Today, Floyd Bennett Field is managed largely for recreation and natural resource conservation, but a wide range of other uses are also accommodated. Although no part of the landscape is still used for aviation, the current land use of Floyd Bennett Field can be organized into three administrative areas: the NPS, public agencies, and concessionaires. The NPS uses include recreational facilities such as walking trails, baseball fields, an archery range, nursery, a remote-controlled car track, fishing access, and boat access. The NPS accomplishes its mission of natural resource conservation through the management of naturalized grasslands and wildlife habitat as well as the establishment of native plant communities in the North 40 Natural Area. NPS administrative offices are housed primarily in the South Support Area as well as in the

Administration Building. In addition to housing offices, the Administration Building also serves visitor interpretation with exhibits of historic events and persons associated with Floyd Bennett Field.

Public Agencies use Floyd Bennett Field through lease agreements with the NPS. The NYPD leases the largest area from the NPS – the Coast Guard Air Station and a portion of the Navy Seaplane Patrol Base maintenance complex for use as an aviation unit. North of the NYPD, the New York Department of Sanitation leases an area of the Navy Seaplane Patrol Base for use as a driver training facility. The NOAA leases a small portion of land within the Coast Guard Air Station, where they erected a Doppler tower.

Concessionaires at Floyd Bennett Field include H.A.R.P., which is housed in Hangar B. The volunteer group restores and replicates historic aircraft, providing a strong interpretive experience for park visitors. Other concessionaires include the Floyd Bennett Garden Association and Aviator Sports and Recreation. The Floyd Bennett Garden Association established the community gardens, located in southern-most grass panel along Hangar Row. The community gardens include garden plots, a composting area, and a picnic/barbeque area. The NPS has established campgrounds within the pine windbreak and west of the Seaplane Patrol Base. Aviator Sports and Recreation constructed the Aviator Sports and Recreation complex from 2005-2006, located on Hangar Row. Its primary facility is centered in Hangars 5-8 and a large infill building connecting the two pairings of hangars. Large outdoor playing fields with bleachers, scoreboards and stadium lighting have been constructed on the northern-most portion of the Hangar Row apron, blocking a former emergency egress route. The Aviator Sports and Recreation complex parking lots and the parking lot constructed east of the Administration Building c. 1996 not dominate the eastern half of the Hangar Row apron.

Cluster Arrangement

There are three main clusters of development on Floyd Bennett Field dating from both the Floyd Bennett Airport era (1928-1941) and the World War II era (1941-1945): Jamaica Bay development, which includes the Navy Seaplane Patrol Base and the Coast Guard Air Station Brooklyn; Hangar Row; and the South Support Area. Although the South Support Area cluster remains, the loss of several buildings has weakened its identity as a cluster.

Topography

The topography of Floyd Bennett Field is flat throughout the site, which is the result of numerous filling and grading operations undertaken from 1928-1945. The only significant change is elevation is the eight berms constructed along the new access road (Runway 15-33) and on Taxiway 7 c. 1996. While the North 40 Natural Area and the Navy expansion of the airfield in 1941 were not graded flat, the topography maintains an overall natural, flat character.

Vegetation

One of the most prominent vegetation features of Floyd Bennett Field today is the naturalized grasslands located between the runways. The red pine windbreak is located at the southern end of the airfield and borders some of the grasslands. At the airport entrance, hedges line the outer edges of the lawn area. Mature sycamore trees lines the central walkway. A few ornamental plantings have been installed in the small lawn area on the north side of the Coast Guard hangar. (See Figure 2.37)

Circulation

The dominant circulation feature of Floyd Bennett Field is the runway- taxiway- apron system, substantially developed from 1928-1942. The largest of these features are the runways, which span the central airfield primarily oriented from north to south or east to west. The runways range in length from 4,000' to 5,000' and in width from 100' to 300'. Runway 15-33 is 4,500' long and 300' wide. Originally concrete, in c. 1996, the NPS covered much of the original concrete with asphalt in an effort to convert the former runway into a four-lane road. While the airport's original runways, 15-33 and 6-24 (now Taxiway 6-24) were constructed entirely of concrete, the runways constructed later primarily used asphalt, although, the Navy constructed extensions on existing runways during World War II using asphalt and concrete for portions of the extensions. Today, only portions of the original concrete of Runway 15-33 and Taxiway 6-24 remain visible. Much of Runway 15-33 has been covered with asphalt for use as the main visitor access road. The Hangar Row apron also has been covered substantially with asphalt for the construction of parking lots. Small portions of the original Hangar Row apron asphalt pavers remain visible today, surrounding Hangars 1-4 and in a small area east of the Administration Building.

In 1942, the Navy expanded the original Runway 1-19 to its current dimensions of 5,000' long and 300' wide. The WPA constructed the original 3,500' by 150' runway of asphalt. The Navy expansion includes asphalt surfacing for the additional 1,500' of length added and concrete for the additional 150' in width. At the same time as the expansion of Runway 1-19, the Navy also expanded Runway 12-30 to its current dimensions. Like, Runway 1-19, the Navy utilized the same combination of asphalt and concrete to extend the original asphalt runway. During the Cold War, the Navy extended Runways 1-19 and 12-30 at their western ends with soil-cement pavement. Located at the northern boundary of the airfield, the Navy constructed Runway 6-24, measuring 5,000' long and 300' wide, entirely of asphalt with the exception of a concrete extension the Navy added to the eastern end in 1951.

The runways serve as the primary circulation routes through the site. However, there are several smaller paved roads connecting the various areas. The South Support Area has the largest system of roads. The North 40 Natural Area also has several paths that mainly follow World War II Navy access roads, although these formerly asphalt roads are today maintained

with mown grass and are used for pedestrian travel only. Because the paths in the North 40 Natural Area were once asphalt roads used for vehicular access, there are pieces of asphalt visible along the walking trails. The primary circulation features directly outside Floyd Bennett Field include Flatbush Avenue, a four-lane divided arterial from central Brooklyn that was extended to its present location in 1923; the Gil Hodges Memorial Bridge, constructed in 1936, which provides a direct route between mainland Brooklyn and Rockaway Peninsula; and the Flatbush Avenue bike path and sidewalks, which allow for alternative modes of transportation into the site.

Buildings and Structures

The primary buildings of Floyd Bennett Field are clustered along the outer areas of the site. The original airport buildings are located along Hangar Row, which was substantially developed during the Floyd Bennett Airport era from 1928-1941, with some Navy expansion during World War II. The buildings along Hangar Row are arranged in a linear cluster, reinforcing the western edge of the airfield. Hangar Row buildings and structures dating from the Floyd Bennett Airport era include the Administration Building, now known as the Ryan Visitor Center; the hangars, four of which house much of the Aviator Sports and Recreation complex; and small support buildings and structures, such as the dope shop; the Administration Building pump house north of the Administration Building; and two transformer vaults, one north of the hangars and one south of the hangars. The buildings constructed during the 1928-1941 airport period all reflect a unified design style through the use of similar materials and detailing, creating a streamlined, classical design approach. While the style of the Administration Building is similar to the other buildings through the use of brick and cast-stone accents, its construction implemented a unique neoclassical style. The red bricks and overall conservative design in combination with the cast-stone accents creates an Administration Building that, while it reads as a unified piece of the airport development, it stands out as the primary public building.

In addition to the original airport development, there are a number of buildings and structures along Hangar Row that the Navy developed during World War II. These include the dope shop pump house, located just east of the dope shop; the Hangar Row fire house and the synthetic training building, both located south of the dope shop; and the paint storage building, located near the southeast corner of the dope shop. In contrast with the unified design approach of the Floyd Bennett Airport era buildings, the Navy approached the design of the wartime buildings much differently. Only the dope shop pump house was constructed with the same tapestry brick and cast-stone as the original Hangar Row buildings. Many of the other buildings the Navy constructed were wood-frame with gabled roofs and clapboard siding. The paint storage building, which has severely deteriorated, is the only building constructed of parged concrete. During World War II, the Navy chose to create a visually unified landscape; instead, the design approach was determined by overall functionality and efficiency. Buildings and structures

located along Hangar Row constructed after 1945 include the metal beacon tower, constructed in 1957 and the structure associated with the Aviator Sports and Recreation complex constructed from 2005-2006, which include the large metal infill building constructed between Hangars 5 and 6 and Hangars 7 and 8, bleachers, stadium lights, goal posts, and scoreboards.

In addition to the Hangar Row development, Navy development at Floyd Bennett Field is also present at the Navy Seaplane Patrol Base. This includes Hangar B, constructed in 1941. The north and south facades of the large steel-frame hangar are faced with glass, sliding doors, which allowed planes to enter and exit the building. Window walls span the entire length of the hangar along the east and west façades. Today, Hangar B is used as the location of H.A.R.P. Other buildings formerly associated with the Navy Seaplane Patrol Base include the maintenance complex, located west of the apron and Hangar B. the 1941 development is today comprised of approximately eleven buildings, divided into two distinct groups. As was seen in the World War II development along Hangar Row, the World War II era maintenance complex does not present a unified design approach. The buildings vary greatly in overall size, materials, and detailing. Again, this illustrates the Navy's focus on functionality and not visual cohesiveness during wartime efforts. Buildings constructed after 1945 at the patrol base include four small utility and storage buildings, located north of the Seaplane Patrol Base apron. The small cluster of buildings is not readily visible in the landscape as they are located along a road that is prohibited to public access and are surrounded by dense successional vegetation.

South of the Navy Seaplane Patrol Base, the Coast Guard Air Station reflects another very different design approach. Initially developed from 1936 – 1938. The original buildings include the hangar and garage. The northern half of the building houses NYPD offices and administrative space. The hangar portion was accommodates helicopters and other NYPD vehicles. Constructed in a matching style, the Coast Guard garage is located west of the garage. A horizontal band of windows spans each façade of the one-story, rectangular concrete garage. It has a flat roof and, like the hangar, was painted white after construction. While the similarities in the style of the Coast Guard hangar and the Coast Guard garage originally created architectural unity within the Coast Guard Air Station, other additions to the air station have detracted from the visual unity. Other buildings and structures include an office building northeast of the hangar, constructed in 1973. The three-story concrete building is oriented parallel to the Jamaica Bay shoreline. It is long and rectangular in shape. Balconies line the second and third floors on the west façade with simple metal railings. There are two sets of external stairs on the west façade; one is open while concrete blocks enclose the other. The building is currently used by the NYPD for office space. Since 1996, the NYPD has also added a few structures: a guard booth, a temporary tent-style structure, and a training tower. The National Oceanic and Atmospheric Administration constructed a Doppler Tower in the former Coast Guard recreation area in c.1999.

In the North 40 Natural Area, it is difficult to discern exactly what World War II era buildings and structures remain; the extremely dense successional vegetation makes it difficult to view the buildings. At least two of the storage buildings remain on site as well as the sub-station. Presumably the underground buildings remain, although due to the dense successional growth, they are difficult to access. The radio communication tower bases may remain, although this is not known definitively. The NPS constructed three small, wooden photography shelters around the pond located at the west end of the North 40 Natural Area sometime after 1972.

In the South Support Area, there are currently approximately fifteen buildings and structures remain from the World War II-era. Eighteen additional buildings and structures have been constructed since the end of the World War II-era. The Navy constructed most of these. The NPS constructed the buildings associated with the nursery and building 272. There is no unified architectural style apparent in the design of the existing buildings. Other buildings that remain are in varying condition. Many of the buildings that remain unoccupied have broken windows and doors. A few are severely deteriorating, like the laundry house, which has a collapsed roof.

Views and Vistas

Overall, the views out of and into the landscape are expansive, although they have been significantly altered. The areas where the views are most noticeably blocked are in the North 40 Natural Area, sections within the South Support Area, and along Hangar Row, particularly with the construction of the Aviator Sports and Recreation complex. The most open views from within the landscape are to the east, towards Jamaica Bay from within the Navy Seaplane Patrol Base. The dense successional growth obstruct views from the entrance across the airfield.

Small-Scale Features

Most of the current small-scale features are either fences or signs. The NPS installed a property fence along Flatbush Avenue after 1972. The current fence is approximately ten feet tall and is constructed of thin black metal pickets and posts. Four gates are located in the fence: one at the World War II-era Navy entrance, one at the east end of both the diagonal drives of the original airport entrance, and one at the east end of the central walk of the original entrance. (See Figure 2.12) The latter gate is the only one that remains unlocked at all times, allowing pedestrians to enter the landscape at the same entrance as airline during the Floyd Bennett Airport era. Mounted on the three gates at the original airport entrance are bas-relief globes with stylized wings, similar to those found on the Administration Building, the eight original hangars, and the U.S. Coast Guard hangar. In 2006, the NPS reconstructed the 1935 rustic style WPA entrance sign. (See Figure 2.15) Also at the airport entrance is the original 1935 flagpole and contemporary Central Park style light standards, which replaced the original 1935 rustic style and cast-iron light standards. The NPS has also erected signs throughout the site to direct park visitors as well as small support features to accommodate visitors. These include picnic benches and pedestal grills at the community garden area; campground facilities, which incorporate

wooden tent platforms, small wood cabins, and picnic shelters; and contemporary light poles along roads throughout the site.

Cultural Landscape Report

Floyd Bennett Field
Gateway National Recreation Area

Existing Conditions
2007

National Park Service

Olmsted Center for Landscape Preservation

www.nps.gov/oclp

in cooperation with:

Faculty of Landscape Architecture
SUNY College of Environmental
Science and Forestry - Syracuse, New York

SOURCES

1. Aerial Photograph, 2005
2. Field Survey, December 2006

DRAWN BY

Sarah K. Cody, Illustrator CS2

LEGEND

BOUNDARIES

- Floyd Bennett Field CLR Project Area / NPS Property Boundary
- Existing National Register Historic District Boundary

FEATURES

- Buildings & Structures
- Circulation
  Runways, drives, aprons, taxiways, walks
- Fence
- Berm
- Woodchips
- Grass / Open Land
- Successional Woods

Drawing 2.1

Jamaica Bay
Navy Seaplane Patrol Base
U.S. Coast Guard Air Station
Rockaway Inlet
Mill Basin
Dead Horse Bay
Brooklyn Marine Park
Gil Hodges Memorial Bridge
Office Building (1973)
NYPD Training Tower
Tylunas Hall
Hangar
Seaplane Ramp
Taxiway
Seaplane Ramp Pylons
NPS Comfort Station
Nursery
Archery Range
Navy Utility and Storage Complex
Seaplane Patrol Base Apron
Hangar B
Site of Hangar A
Garage
NYPD Guard Booth
Woodchips
Navy Seaplane Patrol Base Maintenance Complex
Navy Compass Rose
North Perimeter Road
Taxiway 6
Taxiway 5
Taxiway 4
Taxiway 7
Runway 6-24 Extension
Runway 6-24
Runway / Taxiway 6-24
Runway 1-19 Extension
Runway 1-19
Runway 12-30
C-2, Runway 15-33 / Access Road
Jersey Barriers
Naturalized Grasslands
Airfield
Campgrounds
Pine Windbreak
South Support Area
NPS Housing
U.S. Armed Forces Reserve Center
Mobile Home Park
Mobile Home Court
Community Gardens
Grass Panel
Navy Entry Drive
Pelican Street
Synthetic Training Building
Hangar Row Fire House
Paint Storage
Dope Shop Pump House
Dope Shop
NPS Comfort Station
Trans. Vault
Hangar Row Taxiways
Parking Lots
North 40 Natural Area
North 40 Entrance
Shore (Belt) Parkway (1934)
Flatbush Avenue
Airport Entrance
Airport Compass Rose
Outdoor Fields
Chapel Field
Pond
Photo shelters
Pump House
Beacon Tower
Hangar Row
Hangar Row Apron
BS-97
BS-96
BS-94
BS-98
BS-99
BS-178
BS-91
BS-90A-B
BS-89
BS-107
BS-86
BS-102
BS-85
BS-272
BS-132
BS-129
BS-131
BS-74
BS-75
BS-130
BS-250
BS-72
BS-62
BS-67
BS-70
BS-275
BS-69
BS-258
BS-154
BS-60
BS-267
BS-224
BS-135
BS-887
BS-264
BS-254
BS-109
BS-111
BS-112
BS-113
BS-114
BS-116
BS-115
BS-117
BS-S-2
BS-S-4

Character Areas Legend

- Hangar Row
- Airport Entrance
- Airfield
- Navy Seaplane Patrol Base
- U.S. Coast Guard Air Station

Notes
1. South Support Character Area includes all land within the CLR Project Area that lies south of the Airfield and U.S. Coast Guard Air Station Character Area boundaries.
2. North 40 Natural Area Character Area includes all land within the CLR Project Area that lies north of the Airfield Character Area.

Notes
1. Scale and location of all features is approximate.
2. Only features constructed during this period are labeled with construction dates.
3. Shorelines are approximate according to available data.
4. Original concrete and pavers may remain under access road and parking lots.
5. Rotating platforms and passenger tunnel hatches may remain under parking lot.
6. Refer to Appendix D for Buildings and Structures Key.

North

0′ 400′ 800′ 1200′ 1600′

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Existing Conditions
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SOURCES

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2. Field Survey, December 2006

DRAWN BY

Sarah K. Cody, Illustrator CS2

Grass Panel (1932)

Parking Lots (c. 1996) over Hangar Row Apron

Rotating Platforms / Passenger Tunnel Hatches assumed to be intact under asphalt

Aviator Sports Complex Fence (2006)

Hangars 5 and 6

Hangars 3 and 4

Administration Building

Administration Building Foundation Plantings

NPS Property Fence

Admin. Bldg Pump House

Aviator Sport Complex Ice Rink Support Structure

Beacon Tower

Airport Entrance Flagpole

Airport Entrance Sign

Airport Entrance Lawn Area

Flatbush Avenue Bike Path

Dead Horse Bay

Notes

1. Original concrete and pavers may remain in place under access road and parking lots.
2. Rotating platforms and passenger tunnel hatches may remain in place under parking lot.
3. Scale and location of all features are approximate.

North

0′ 50′ 100′ 150′

LEGEND

BOUNDARIES

- Existing National Register Historic District Boundary
- Floyd Bennett Field CLR Project Area / NPS Property Boundary

FEATURES

- Buildings & Structures
- Circulation — Runways, drives, aprons, taxiways, walks
- Fence
- Light
- Grass / Open Land
- Vegetation
- Assumed Feature

Drawing 2.2

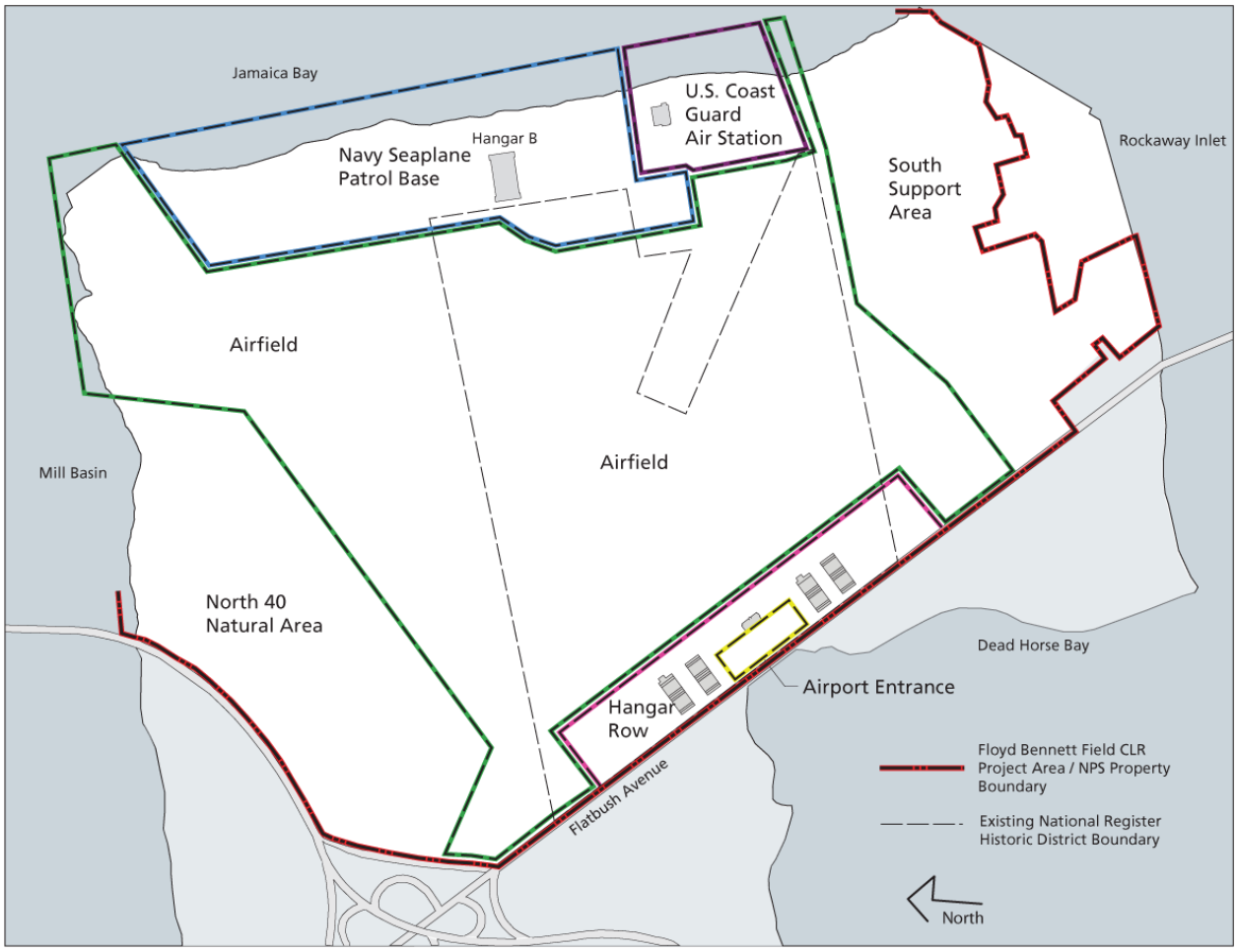


Figure 2.1: The Floyd Bennett Field landscape is organized into six primary and one secondary character areas. (SUNY ESF).



Figure 2.2: View looking south along the Flatbush Avenue bike path with the Gil Hodges Memorial Bridge in the background. The current entrance is at the center, heading left. The NPS property fence can be seen on the left, December 2006. (SUNY ESF).



Figure 2.3: View looking northwest towards Hangars 3 and 4. The original Hangar Row apron asphalt pavers remain in the area north of these hangars, December 2006. (SUNY ESF).



Figure 2.4: View looking northeast from the Administration Building roof. A section of the original concrete of the Hangar Row apron can be seen in the lower right corner. The FHWA constructed the parking lot in c. 1996, December 2006. (SUNY ESF).



Figure 2.5: View looking south towards the Aviator Sports and Recreation outdoor fields, constructed on the northern end of the Hangar Row apron. Other visible features include: the original concrete apron at the front of the photo; stadium lights extending over the fields; the historic brick transformer vault in the center of the photograph, between the outdoor fields' bleachers; and Hangars 7 and 8 in the right-hand background, December 2006. (SUNY ESF).



Figure 2.6: View looking at the north façade of Hangar 7 and the Aviator Sports and Recreation infill building connecting Hangars 5 and 6 with Hangars 7 and 8 for the indoor facilities of Aviator Sports and Recreation complex. Historically, this space remained opened, allowing for views west across Flatbush Avenue, May 2006. (SUNY ESF).



Figure 2.7: View looking south towards the north facade of the dope shop surrounded by the Hangar Row apron. The 1942 pump house can be seen to the left. The darker surface in front of the two buildings is the original asphalt pavers, December 2006. (SUNY ESF).



Figure 2.8: View looking south at the north facade of the transformer vault located at the south end of Hangar Row. Efflorescence can be seen below the parapet. Successional woods have grown in the surrounding area, December 2006. (SUNY ESF).



Figure 2.9: View looking south at the northwest corner of the World War II-era paint storage building, which has suffered severe deterioration, December 2006. (SUNY ESF).



Figure 2.10: View looking north at the south facade of the fire house, showing roof and siding deterioration. Pelican Street is visible in the foreground, December 2006. (SUNY ESF).



Figure 2.11: View looking southwest at the north façade of the former Navy synthetic training building, which has become deteriorated since the historic period. Pelican Street is seen in the foreground, December 2006. (SUNY ESF).



Figure 2.12: View looking west from Flatbush Avenue at the World War II-era Navy entrance drive. The NPS property fence has a gate at the entrance that remains locked at all times, December 2006. (SUNY ESF).



Figure 2.13: View of the surface of the parking lot located west of the Ryan Visitor Center, the cracked and broken asphalt parking lot reveals the underlying asphalt pavers, November 2005. (SUNY ESF).



Figure 2.14: View looking southeast towards the Administration Building and airport entry drive. The NPS installed bollards and the fence to prohibit visitor access from the original airport entrance, November 2005. (SUNY ESF).



Figure 2.15: View looking east towards the Administration Building and the airport entrance from Flatbush Avenue. The flagpole, the central walkway, and the sycamore trees date from the 1935 WPA entrance design. The contemporary Central Park Style light standards are visible to either side of the walkway. The wooden sign, pictured at the center, is a 2006 reconstruction of the 1935 original, December 2006. (SUNY ESF).



Figure 4.16: View looking east at the west facade of the Administration Building. Visitors enter through the central doors, March 2005. (SUNY ESF).



Figure 2.17: View looking south along the four-lane access road constructed over Runway 15-33, November 2005. (SUNY ESF).



Figure 2.18: View looking east along Taxiway 6-24 (former Runway 6-24). Portions of the original concrete remain uncovered by asphalt. In areas where asphalt has been laid, the original concrete remains underneath, November 2005. (SUNY ESF).



Figure 2.19: View looking southeast at the announcer's booth at the remote-controlled airplane flying field, located on the Runway 1-19 extension, December 2006. (SUNY ESF).



Figure 2.20: View looking southeast across the airfield towards the former Coast Guard Air Station from Taxiway 6-24. The majority of the areas between the runways are managed as naturalized grasslands and wildlife habitat throughout the formerly open airfield. The dense successional vegetation is visible left of center. The two structures seen to the right of the successional vegetation are the NYPD temporary tent and the Doppler tower, March 2005. (SUNY ESF).



Figure 2. 21: View looking south along Taxiway 5 west of the Navy Seaplane Patrol Base. Large piles of woodchips remain on site from a previous plan to spread woodchips for vegetating the runways. The woodchips are now used by the Friends of Gateway for use at the nursery in the South Support Area, December 2006. (SUNY ESF).



Figure 2.22: View looking west at one of eight berms constructed c. 1996. The berms are covered with the naturalized grass habitat. This berm conceals the southern end of Runway 1-19. 3 and 4 are visible in the center background, December 2006. (SUNY ESF).



Figure 2.23: View looking northeast into one of the campgrounds in the pine windbreak with picnic shelter and tent platforms, December 2006. (SUNY ESF).



Figure 2.24: View looking west towards of one of the campground cabins in the pine windbreak, December 2006. (SUNY ESF).



Figure 2.25: View looking south of the picnic shelter and open tent area in the eastern campgrounds, located near the Navy Seaplane Patrol Base, December 2006. (SUNY ESF).



Figure 2.26: View looking northwest at the Community Gardens gazebo with the plots to the right. The picnic area is to the left, behind the gazebo, December 2006. (SUNY ESF).



Figure 2.27: View looking northwest from within the community garden plots near Hangar Row, May 2006. (SUNY ESF).



Figure 2.28: View looking south across the cricket field. Aviator Sports and Recreation complex and the outdoor field stadium lights are visible in the background, December 2006. (SUNY ESF).



Figure 2.29: View looking north towards the pylons remaining from the Airport Seaplane Ramp, December 2006. (SUNY ESF).



Figure 2.30: View looking southeast at the Navy Seaplane Patrol Base seaplane ramp, east of Hangar B, November 2005. (SUNY ESF).



Figure 2.31: View looking south at Hangar B. The Navy Seaplane Patrol Base apron is visible in the foreground, December 2006. (SUNY ESF).



Figure 2.32: One of the H.A.R.P. volunteers works on restoring an aircraft inside Hangar B, October 2005. (SUNY ESF).



Figure 2.33: View looking north towards the northern group of buildings within the Navy Seaplane Patrol Base maintenance complex. The cold storage and commissary building is the large tan building, December 2006. (SUNY ESF).



Figure 2.34: View looking southwest towards the southern group of buildings within the Navy Seaplane Patrol Base maintenance complex. Today these buildings are used by the NYPD, December 2006. (SUNY ESF).



Figure 2.35: View looking northeast towards the former Coast Guard Air Station. The spatial character of this area creates an identifiable cluster in along the eastern edge of the airfield, November 2005. (SUNY ESF).



Figure 2.36: View looking east across the former Coast Guard Air Station taxiway towards Jamaica Bay, November 2005. (SUNY ESF).



Figure 2.37: View looking southeast at the former Coast Guard Air Station hangar. The hangar now houses offices in the front and vehicles in the rear for the NYPD Aviation Unit. Ornamental vegetation and lawn have been planted in front of the hangar, November 2005. (SUNY ESF).



Figure 2.38: View looking south along one of the walking trails in the North 40 Natural Area. Dense successional vegetation has grown along the sides of the trails, December 2006. (SUNY ESF).



Figure 2.39: View looking north along one of the walking trails in the North 40 Natural Area. The dense vegetation makes many of the buildings and structures in this area difficult to see. Here a tree is growing out of the air vent from the roof of an underground bunker, November 2005. (SUNY ESF).



Figure 2.40: View looking east at the pond in the North 40 Natural Area. Photography shelters have been constructed along the edges for wildlife photographers, December 2006. (SUNY ESF).



Figure 2.41: View looking west in the South Support Area. The development of the area has clustered arrangements of buildings, blocking views off the site, December 2006. (SUNY ESF).



Figure 2.42: View looking south towards the north façade of the former Navy laundry building, November 2005. (SUNY ESF).



Figure 2.43: View looking east at the archery range in the South Support Area. Successional vegetation surrounds the range, December 2006. (SUNY ESF).



Figure 2.44: View looking southeast at Taxiway 7 with the Armed Forces Reserve Center in the background. A remote-controlled car race track has been constructed over the taxiway, December 2006. (SUNY ESF).



Figure 2.45: View looking east from the severely deteriorating Navy marginal wharf. Building 102 is visible left of the wharf, December 2006. (SUNY ESF).



Figure 2.46: View looking south towards the Armed Forces Reserve Center. Although this property was historically part of Naval Air Station, New York, today it lies outside the southern boundary of the site, December 2006. (SUNY ESF).



Figure 2.47: View looking north along Runway 1-19. The windy conditions of Floyd Bennett Field and the flat, paved runways provide good conditions for landsailing, December 2006. (SUNY ESF).



Figure 2.48: View looking south into the successional vegetation that has grown west of the U.S. Armed Forces Reserve Center, December 2006. (SUNY ESF).

ENDNOTES

1 The titles 'North 40 Natural Area' and 'South Support Area' are not titles that were used historically, but have been defined in association with the current use of Floyd Bennett Field.

[2] Robert Page, Cathy Gilbert, and Susan Dolan. *A Guide to Cultural Landscape Reports: Contents, Process, and Techniques*, (Washington D.C.: U.S. Department of the Interior, National Park Service, Cultural Resource and Stewardship and Partnerships, Park Historic Structures and Cultural Landscapes Program, 1998), 75.

3 Doug Adamo, Chief of Natural Resources, Gateway National Recreation Area, personal communication with author, 12 June 2007.

4 John Lincoln Hallowel, Park Ranger, Gateway National Recreation Area, personal communication with author, November 2005.

5 Doug Adamo, , Chief of Natural Resources, Gateway National Recreation Area personal communication with author, 12 June 2007.

CHAPTER 3: ANALYSIS & EVALUATION

This chapter provides an evaluation of the historical significance and integrity of the Floyd Bennett Field landscape based on the findings of the preceding site history and the existing conditions. The chapter evaluates the entire Floyd Bennett Field landscape east of Flatbush Avenue, excluding the U.S. Armed Forces Reserve Center, which the National Park Service (NPS) does not administer. The chapter is divided into two main sections. The first provides an assessment of the historic significance of Floyd Bennett Field according to the National Register program, focusing on the Floyd Bennett Field Historic District and a recommended expansion of the period of significance and the historic district. The second section provides an evaluation of the site based on NPS cultural landscape methodology. This section is divided into two parts. Part A evaluates the landscape characteristics and features in the proposed expanded historic district while Part B provides a summary evaluation of the landscape characteristics of the areas that lack overall integrity and are therefore not included in the historic district.

Recommendations pertaining to historic significance of both natural and built features of the landscape are based on the *National Register Criteria for Evaluation* and the NPS *Guide to Cultural Landscape Reports: Contents, Process, and Techniques.* (See Appendix C: *Evaluation of Cultural Landscapes*, for the relationship between the two programs.) This report does not evaluate architectural significance of individual buildings under Criterion C, nor archeological significance under Criterion D.[1] Additional research and evaluation may be required to fully document all areas of historical significance for all park resources, such as through existing National Register documentation, the park's List of Classified Structures (LCS) and Archeological Sites Management Information System (ASMIS).

It should be noted that much of the information presented in this chapter has been documented in the Site History and Existing Conditions chapters and is therefore citations are not repeated. New information presented within includes citations. As landscape characteristics and features are described in the text, refer to Drawing 3.1: Evaluation of 1941 & Existing Conditions; Drawing 3.2: Evaluation of 1945 & Existing Conditions; Drawing 3.3: Evaluation of Airport Entrance 1941 & Existing Conditions; and Drawing 3.4: Evaluation of Airport Entrance 1945 & Existing Conditions.

ASSESSMENT OF HISTORIC SIGNIFICANCE

The following section reviews the existing National Register documentation for Floyd Bennett Field Historic District. Based on the research conducted for this report, it is recommended that the period of significance be extended through the World War II period and the historic district boundaries expanded to encompass the entire landscape of the airfield as of 1945 as well as the Navy Seaplane Patrol Base and the Coast Guard Air Station Brooklyn. Areas outside the

airfield, specifically the North 40 Natural Area and the South Support Area, are not recommended for inclusion within the expanded district due to a lack of integrity as a whole.

REVIEW OF EXISTING NATIONAL REGISTER DOCUMENTATION

Floyd Bennett Field was listed as a historic district in the National Register of Historic Places in April 1981.[2] The nomination identifies Floyd Bennett Field as being significant in the areas of transportation and military, with emphasis on transportation during a period of significance from 1931 – 1941. The period begins when the airport was dedicated and officially opened to the public and ends when the Navy gained control of the entire site.

The existing boundaries of the district include most of the 328.5-acre original civilian airport. (Figure 3.1) The National Register documentation identifies contributing resources as well as resources that, while still contributing, are described as being of lesser historic importance. This distinction is a result of the emphasis placed on the municipal airport under the theme of transportation. Resources built after the airport era ended in 1941 have been identified as intrusive in the existing National Register documentation. The contributing buildings associated with the original airport are the Administration Building and the eight original hangars. (Although there are eight hangars, the National Register documentation lists them as only four buildings because of the infill buildings built from 1934-1937, which physically connect each pair.) Also, the hangar lean-tos are included although not called out as separate buildings.

Both original runways, 15-33 and 6-24 (later used as a taxiway), are included as contributing structures. Runways 1-19 and 12-30, constructed by the WPA in 1935, are also identified as contributing structures, although the northern third of 1-19 and the southeastern half of 12-30 extend beyond the historic district boundaries. The southeastern section of Runway 12-30 was excluded because at the time of listing this portion of the runway was under the jurisdiction of the U.S. Coast Guard. The original taxiway surrounding the hangars is also identified as a contributing structure.

Historic resources listed as having less importance are several secondary structures, many constructed by the WPA. Although the reasoning for this distinction was not clearly articulated, it may have been because they were not part of the dominant forms of the airport landscape, such as the Administration Building, the hangars, and the runways. These include the 1937 dope shop, located south of the hangars; the 1942 brick dope shop pump house and 1931-1932 transformer vault, located just east of the dope shop; the 1937-1938 fire pump house, located south of Hangar 7 as well as its 1945 addition; the 1938 transformer vault, north of the hangars; and a gasoline pump station, since demolished.

The National Register documentation addresses several resources that although included within the historic district boundaries, were built after the closing of the municipal airport in 1941, most by the Navy during World War II. While the existing documentation does not use the terms contributing or non-contributing with regard to the landscape's resources, these post-1941 resources are identified as intrusive. These include Hangars 9 and 10, the two wood-frame hangars north of Hangars 7 and 8 (demolished in c. 1998); the Administration Building addition (demolished in c. 1998); a small maintenance shop located between Hangar 3 and the Administration Building; a garage located just south of the WPA dope shop; and five small concrete storage structures (two demolished in c. 1998). Two of the concrete storage structures are located on the east facades of Hangars 3 and 7; the third is southeast of the WPA dope shop. Also identified as intrusive in the National Register documentation was the Air National Guard Nose Hangar (1964-1965), located between the Administration Building and Hangar 5 (demolished in c. 1998)

Outside of the existing National Register historic district boundaries are the resources located in the area currently known as the North 40 Natural Area; the Navy Seaplane Patrol Base along Jamaica Bay; the Coast Guard Air Station; the South Support Area including the former Navy housing area located along Rockaway Inlet (currently used for fishing access); the U.S. Armed Forces Reserve Center; and the current entrance onto the site from Flatbush Avenue.[3]

The statement of significance in the existing National Register documentation consists of the following:

Criterion A: Transportation Significance, Early Commercial Aviation
(Floyd Bennett Airport Era 1931-1941)
The nomination states that Floyd Bennett Field is significant in the areas of transportation under Criteria A and C. Criterion A defines significance when the landscape is "associated with events that have made a significant contribution to the broad patterns of our history."[4] As a municipal airport, Floyd Bennett Field represents the formative period of commercial aviation in the United States with its design closely following the Department of Commerce-defined design guidelines and standards. Although never a commercial success, Floyd Bennett Airport, New York City's first municipal airport, set the stage for the development of the City as a prominent location for the origin and destination of numerous record-breaking airplane flights.

Criterion C: Transportation Significance, Early Municipal Airport Design
(Floyd Bennett Airport Era 1931-1941)
Criterion C defines significance when a landscape "embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity who components lack individual distinction."[5] The existing National Register documentation states Floyd Bennett

Airport is a rare surviving example of early municipal airport design and construction. The original airport design embodied the architectural, landscape architectural, engineering and planning principles that emerged in response to the growing demand for commercial aviation. The design and layout of the original airport illustrates the need to construct airports that were not only functional, but also safe and comfortable for the civilian population.

REVIEW OF PROPOSED NATIONAL HISTORIC LANDMARK NOMINATION

In August 2005, the National Historic Landmarks Program evaluated a draft nomination for Floyd Bennett Field. The nomination identified Floyd Bennett Field as being significant in the area of air-related transportation, under Criteria 1 and 5. Criterion 1 relates to National Register Criterion A, while Criterion 5 does not have a direct relation to the National Register Criteria; Criterion 5 states the property is "composed of integral parts of the environment not sufficiently significant by reason of historical association or artistic merit to warrant individual recognition but collectively compose an entity of exceptional historical or artistic significance, or outstandingly commemorate or illustrate a way or life or culture."[6] The period of significance in the nomination is listed as 1928-1941, which is slightly longer than the 1931-1941 period referenced in the National Register documentation. The earlier date includes when construction began on the airport as opposed to the National Register period of significance, which begins when the airport was officially opened. The proposed boundaries were the same as the National Register Historic District. No mention is made of the military significance of the landscape.

The National Historic Landmark nomination was not accepted due to the fact that Floyd Bennett Field did not meet the criteria required to be listed as a National Historic Landmark, based on a diminished level of integrity. The National Historic Landmarks Program cited the replacement of the control tower in 1942, the widening and lengthening of the original runways, the addition of a fifth runway during World War II, and the construction of a visibly intrusive infill structure built as part of the Aviator Sports and Recreation complex between Hangars 5 and 6 and 7 and 8 as having a negative impact on the property's integrity.[7]

Despite not being eligible as a National Historic Landmark, the National Historic Landmark Program found that Floyd Bennett Field was still nationally significant as an important early municipal airport. It also found that the development of the field by the Navy during World War II and combined effort with the U.S. Coast Guard for its association with the development of early helicopter technology may have national significance.[8] According to an August 2005 letter, the National Historic Landmarks Program stated:

Although Floyd Bennett Field as a whole does not possess the high integrity necessary for National Historic Landmark designation, we recommend that an amended National Register nomination for the field be prepared at the national level of significance with a period of significance extending through 1945.[9]

RECOMMENDATIONS FOR AMENDING EXISTING NATIONAL REGISTER DOCUMENTATION

The National Historic Landmark Program's recommendation that Floyd Bennett Field's period of significance is extended through World War II addresses a deficiency present in the existing National Register documentation. Although the current National Register documentation states Floyd Bennett Field is significant in the areas of both transportation (aviation) and military, it does not provide any discussion pertaining to its contribution to military history. Several revisions should be made to the existing documentation that clarify the military's significant contribution to the physical development of the site both during the Floyd Bennett Airport era and World War II; extend the period of significance; and expand the historic district boundaries. It is recommended that the period of significance extend from 1928 – 1945 to more accurately reflect the significance of Floyd Bennett Field in relation to its military history, specifically its important role in the American home front of World War II, including physical development of the landscape that occurred during the war. The proposed expanded historic district includes all of the original airport property as well as Runway 6-24 constructed by the Navy in 1942; the Navy Seaplane Patrol Base, developed substantially from 1940-1942; and the Coast Guard Air Station, constructed from 1936-1938. The North 40 Natural Area and the South Support Area are not included due to their lack of integrity, as will be discussed in more detail in the next section.[10]

The justification for these recommendations is explained in the following sections. As previously mentioned, potential significance in the areas of architecture, archeology, or engineering is not addressed, as it is beyond the scope of this report. It should be noted that the information provided is a preliminary discussion that requires further elaboration and development to formally revise the existing National Register documentation. Research included in the draft National Historic Landmark nomination should also be incorporated into the future amendment of the National Register documentation.

Recommended Period of Significance

In keeping with the recommendation of the National Historic Landmark program, the period of significance should begin when construction began in 1928, rather than when the airport was dedicated in 1931 and extend through the end of World War II in 1945. Beginning the period of significance in 1931 does not reflect the significant process of transforming the barren landscape into the airport. Rather, it acknowledges the significance of the airport without addressing how it was developed. Defining the period of significance as ending in 1941 does not reflect the

important role the U.S. Navy played in the existing landscape of Floyd Bennett Field. During World War II, the site was an important military training and patrol base and the Navy extensively altered the landscape to meet wartime needs. Following the war, there was much less of a demand for the previous military operations and development of the landscape as well as its association with significant military activity declined.

The lessened demand led to the redesignation of Naval Air Station, New York (NAS, New York) as a naval air reserve training station in July 1946. In addition, almost immediately following the end of the war, the Navy began leasing areas of the station to outside agencies apparently because it no longer needed the extensive facilities it had developed to support the wartime activities. In September 1946, the Navy granted the New York Police Aviation Bureau a revocable permit. One month later, in October 1946, the Navy allowed the City of New York use of the facilities for limited commercial operations. It was at this time that the Navy vacated almost all facilities on Hangar Row, retaining use of only the Administration Building. In c. 1946, the Navy also allowed the U.S. Coast Guard to expand their existing facilities, incorporating land from the field to the south. In 1947, the Navy granted the State of New York Housing Authority a lease to occupy the southwest portion of the site. In 1949, the U.S. Air Force also occupied some of the Navy's facilities.

Although a brief reinvigoration of the airfield occurred in the early 1950s resulting from the Korean and Cold Wars, the resurgence did not last. The Navy continued to grant leases to outside agencies during this time, including the U.S. Army and the Air National Guard through much of the 1950s and into the 1960s. In the early 1960s the Navy allowed two mobile home parks to be located in the southern portion of the site. By the mid-1960s, the U.S. experienced a national military demobilization. As was the case with the end of World War II, this led to a lessened demand on the air station. The Navy began considering closing NAS, New York and investigated the possibility of selling the property back to the City of New York. Ultimately, the Navy did not sell the property to the City. However, in the late 1960s, the Navy slowly began closing its facilities. The Coast Guard Air Station also experienced a lessened demand and became designated a helicopter-only facility. While Floyd Bennett Field was a significant site for the Navy and for the American home front during World War II, it is clear from these developments that the significant contributions of Floyd Bennett Field ended with the war. Thus, it is recommended that the period of significance not extend beyond 1945. As sited in the Site History, while the Navy maintained operations at the site through 1972, little significant new development occurred following 1945. A small number of buildings were constructed in the South Support Area. The area most substantial development that occurred post-World War II was located within the Armed Forces Reserve Center, which is outside the site's boundaries. Although the Navy expanded the Runways 1-19 and 12-30 in 1951 and again in the early 1960s, the extensions were small in comparison with the existing runway system and did not greatly impact the overall spatial character.

Recommended Boundaries

Based on the changes the Navy made to the landscape during World War II and the existing integrity of these areas, the existing National Register historic district boundaries should be expanded north to include all of Runway 1-19, including the 1951 extension of Runways 1-19 and 6-24; east to include the seaplane patrol base and the Coast Guard Air Station[11]; and south to include all of Runways 12-30 and 15-33 as well as the Navy entrance established during World War II. These boundaries encompass the core airfield area, including the Jamaica Bay frontage. Development along Jamaica Bay includes the Navy Seaplane Patrol Base and the Coast Guard Air Station, both of which were essential to the operations of NAS, New York. (See Figure 3.1)

Resource Evaluation

All resources within the proposed expanded historic district constructed through 1945 that retain their historic character are to be considered contributing. Refer to the 'Landscape Evaluation' section for evaluation of contributing landscape features.

RECOMMENDED REVISIONS TO THE STATEMENT OF SIGNIFICANCE

Criterion A: Military Significance
Floyd Bennett Airport Era (1928 – 1941)

While existing National Register documentation states Floyd Bennett Field is significant in the area of military history, it provides no documentation of such significance. The U.S. Navy had a strong presence at Floyd Bennett Field since it was first opened as a municipal airport in 1931. During the early twentieth century, it was common throughout the U.S. for naval air stations to be located at municipal airports. This was a result of the American public's discomfort following World War I about war in general and specifically about federal funds spent on development of military resources. As a result, little money was available for the military to construct new facilities. In 1938, the Naval Aviation Department consisted of only 7 air stations and 2,050 aircraft.[12] The lack of funding forced many branches of the military to establish facilities within other public facilities, including the Navy. The Navy was present at Floyd Bennett Airport from the beginning, occupying Hangar 5 just one week after the airport opened in 1931. Shortly before buying the entire airfield in 1942, the Navy established a Seaplane Patrol Base along Jamaica Bay in 1940. The Navy built Hangar A (demolished in 1998), a concrete apron, and a seaplane ramp into Jamaica Bay. The following year, the Navy expanded its patrol base and built and new hangar, identical to Hangar A; Hangar B remains on the large concrete apron.

Although the Navy and the airport functioned independently, their operations supported each other. The American public was weary of military spending and of the new technology of

aviation. By establishing naval air stations at municipal airports, the military saved money and made themselves more accessible to the public. In turn, it was thought that the public might then feel more at ease with military operations.[13] Many Americans were also uneasy with the idea of recreational flying. Because of this, many of the early commercial airports struggled to become financial successes. Therefore, the relationship that developed between the U.S. Navy and commercial airports was extremely important. In many cases, the two separate agencies needed the support of the other in order to operate a functional airfield.

The U.S. Coast Guard also took advantage of the support offered by civilian airports. The Coast Guard was in the same financial situation as the Navy and therefore it was more feasible to develop facilities where infrastructure already existed. In 1936, the U.S. Coast Guard established an air station along Jamaica Bay, east of Floyd Bennett Field's airport boundary. Initially, the air station consisted of a hangar, garage, taxiway, and seaplane ramp, all of which are extant. The operations of both the U.S. military and Floyd Bennett Airport did not just support each other, but ultimately each also influenced the physical development of the airfield.

Criterion A: Military Significance
(World War II era 1941 – 1945)
The military had an important role in the development of Floyd Bennett Field not just during the Floyd Bennett Airport era, but more noticeably during World War II as well, when the military gained ownership of the entire site and extensively expanded the facilities. By the time the U.S. became involved in World War II, the American public was once again supportive of military development. The Navy purchased several municipal airports, including Floyd Bennett Airport, and expanded the existing naval air stations. U.S. involvement in World War II dramatically increased the demand on all military units. The Naval Aviation Department had to rapidly manufacture equipment and expand development of new facilities to adequately support new aircraft. By 1945, there were 257 naval air stations in the U.S. supporting 40,912 aircraft, an increase of over 200% from 1938.[14]

Floyd Bennett Field, renamed NAS, New York by the Navy after the close of the civilian airport, played a significant role in the American home front. Several aviation units of the Atlantic Fleet, three submarine patrols squadrons, a scout observation service unit, and two Naval Air Transport Service squadrons were based at the station. Two auxiliary airfields operated under the administration of NAS, New York: Naval Air Facility (NAF) Roosevelt Field, located in Mineola, Long Island and NAF Mercer Field, located in Trenton, New Jersey.[15]

NAS, New York was the busiest naval air station in the country during World War II. The most important operations at NAS, New York were maintaining, repairing, and shipping aircraft for use overseas; training personnel; development of helicopter technology (this was done in collaboration with the U.S. Coast Guard Station located on site); and conducting anti-submarine

patrols. Several military aircraft production plants were located in the metropolitan area in New York, in both New Jersey and Long Island. Before aircraft could be sent overseas, they needed to be tested and repaired. NAS, New York was the most convenient station for receiving these aircraft because of its proximity both to the plants and to the Atlantic Ocean. From the station, most aircraft were then loaded on aircraft carriers and transported overseas. Aircraft that had already been used in Europe and needed maintenance were also sent to NAS, New York. As a result of the rapidly increasing number of aircraft being produced, the Navy commissioned several Naval Air Ferry Commands. The purpose of these units was to transport aircraft from the production plants to the test facilities and then overseas. Prior to this, each individual air station was responsible for the transportation of their aircraft. Again, as a result of its location, the Navy headquartered the Naval Air Ferry Command at NAS, New York. While NAS, New York operated as the headquarters for the Naval Air Ferry Command, the squadron was broken into four units, only two of which operated from the site; VRF-2 operated from Columbus, Ohio and VRF-3 operated from Los Angeles, California. The remaining two operated from NAS, New York, VRF-1 and VRF-4. VRF-1 consisted of 1,049 pilots based in Hangars 9 and 10, the two wood-frame hangars constructed north of the airport's eight original hangars; VRF-4 consisted of seaplane specialists, who operated from Hangar B. Within a year of the commission, the VRF-1 unit at NAS, New York had become the largest air squadron in the country. [16]

Criterion C: Military Significance, Early Municipal Airport Design
Floyd Bennett Airport Era (1928 - 1941)
The existing National Register documentation already identifies the civilian airport as being significant under Criterion C. However, the information relating to this criterion is minimal. It states, "The efforts of [Floyd Bennett Field's] planners to follow the 1928 Department of Commerce guidelines for airport construction are readily apparent."[17] The existing documentation should be expanded to include the significance of the municipal airport's design in the area of landscape architecture. The landscape today reflects the overall design intent of the original airport and its improvement through the 1930s.

Aside from the overall layout, one of the most significant landscape features is the WPA entrance and the area surrounding the Administration Building. Through the WPA program, the City of New York installed the new entrance features in 1935. The two diagonal entry drives were already present. The WPA added eight walkways: two parallel to each side of both the entry drives, two perpendicular to these, crossing over the entry drives into the lawn area, one along the east edge of the lawn, and a central walk perpendicular to Flatbush Avenue. The WPA planted the areas between the entry drives and sidewalks primarily with grass, maintained as open lawn. Hedges, edging the perpendicular walks, bordered the smaller lawn areas, to either side of the entry drives. The central walk was flanked by sycamore trees, and encircled a flagpole and an entrance sign. The original sign has been replaced with a reconstructed sign.

The entry drives, pedestrian walkways, and inclusion of ornamental plant materials illustrate the importance of designing airport spaces that would allow the public to feel welcome and comfortable. Ornamental plantings were also installed around the Administration Building, which had two large planting beds to either side of the main entrance. While much of the original ornamental plant materials have been lost, the original WPA design is still evident through the layout of the drives and walkways, the open lawn, and the Administration Building planting beds.

The Administration Building also retains its original neoclassical style design. Use of the familiar style was another way to make passengers comfortable in the new facility. While the architectural style of the Administration Building differed from the streamlined hangars, the building's cast-stone detailing was mimicked in the original hangars and several support buildings. Although it was not necessary to implement such a style in the utilitarian buildings, the unified design style created a streamlined, classical design approach. The initial development at the Coast Guard Air Station included the construction of a hangar and garage. Both buildings reflected a unified style design, creating visual unity within the air station that was distinct from the airport development. While the design of the hangar and garage did not match the unified design of the airport buildings, the white-washed industrial approach to the International style of the created a distinct style within the air station. While the distinct design approach of Hangar Row and within the Coast Guard Air Station helped the airport read as a cohesive landscape, additional research is needed to fully document potential significance in the area of architecture.

Criterion C: Military Significance, Naval Air Station Design
World War II Era (1941 - 1945)

The significance of the design of Floyd Bennett Field extends beyond the Floyd Bennett Airport era into the World War II era. Under Criterion C, NAS, New York is a representative example of a naval air station. Forty-three of the eighty-six Naval Air establishments in the eastern United States during World War II were located at former municipal airports and thus it was characteristic for them to incorporate both civilian and military aspects. It was also typical for naval air stations to be located directly on a body of water. NAS, New York's location in proximity to the Atlantic Ocean had a major impact on its importance during World War II. During the surge of naval air development during World War II, it was important that any station located in an area with favorable or mild weather establish seaplane ramps. NAS, New York was just one of many naval air stations that developed not only seaplane ramps but an entire seaplane patrol base for the purpose of patrolling waters for German submarines.[18]

The establishment of seaplane patrol bases typically included clustered development along the shore of naval air stations. (Figure 3.2) The Coast Guard Air Station, located south of the Seaplane Patrol Base was included in the clustered development along Jamaica Bay.

Naval development that occurred within the proposed historic district aside from the Seaplane Patrol Base along Jamaica Bay was not comparable to the style of the original airport, the patrol base, or the Coast Guard Air Station. Most likely as a result of the heavy demand on the naval air station during World War II, the Navy did not have the time or resources to construct facilities in the earlier decorative style. The Navy expanded the existing facilities of the original airport in response to the difference between the size of military aircraft and the commercial airplanes formerly used at the airport. To improve the landing facilities, in 1942, the Navy widened and lengthened three of the four existing concrete runways with asphalt extensions. Because of the development along Jamaica Bay, there was not enough room to lengthen Runway 6-24; the Navy redesignated it as a taxiway and constructed a new Runway 6-24 at the north end of the field. Changes were also made to features along Hangar Row; in 1943, the Navy completely rebuilt the interior of the Administration Building to accommodate the needs of military personnel and the original control tower was replaced with a more modern glass and steel construction, which greatly enhanced visibility onto the airfield. At the same time, the Navy constructed a one-story wood-frame addition on the north side of the Administration Building and two wood-frame hangars, Hangars 9 and 10 north of Hangars 7 and 8. The NPS demolished all three structures in c. 1998. The simplistic wood-frame style of the Administration Building addition and Hangars 9 and 10 sharply contrasted with the brick and cast-stone buildings on Hangar Row. At the Seaplane Patrol Base, the Navy constructed a maintenance complex of concrete and metal buildings to support the operations of the seaplanes.

The Navy also extensively developed the areas north and south of the original airport boundaries during World War II. (Figure 3.3) The Navy filled the sandy marshlands to the north and developed a radio-communications complex and several high-explosives magazines. This area, now known as the North 40 Natural Area, was flat and open, matching the broad character of the airfield, although the expansion of the airfield was not finished with the same refined turf of the airport, but rather a rougher grassed area. The Navy constructed a system of asphalt roads to connect the new facilities with Hangar Row and the Seaplane Patrol Base. South of the original boundaries, the Navy built support facilities, including barracks, officer's quarters, recreation facilities, and infrastructure support buildings, such as a power plant and pump stations. Although these areas were significant in the functioning of NAS, New York during World War II, they have since undergone considerable alteration. Their apparent lack of integrity makes them ineligible for inclusion in the recommended expansion to the existing National Register historic district.

The U.S. military had a significant impact on the physical development of Floyd Bennett Field during World War II. Much of this development is visible today. The expanded runways are the most dominant Naval feature in the historic district. The Seaplane Patrol Base underwent significant expansion during World War II with the construction of the maintenance complex located to the west of Hangars A and B. The Coast Guard Air Station maintained its original development throughout the war. Both the Navy Seaplane Patrol Base and the Coast Guard Air Station remain largely as they did during the historic period, defining the eastern boundary of the site.

NATIONAL REGISTER EVALUATION OF LANDSCAPE INTEGRITY

According to the National Register, integrity is the "ability of a property to convey its significance."[19] While aspects of a cultural landscape are inherently dynamic, in that they continue to grow and evolve, the evaluation of integrity comes from understanding how the landscape's physical features continue to convey the property's significance and historic character.

The National Register program identifies seven aspects of integrity: *location, design, setting, material, workmanship, feeling and association*.[20] Retention of these qualities is essential for a property to convey its significance; however, not all seven qualities must be present to convey a sense of a property's historic character. A basic test of integrity is whether a participant in the historic period – in this case, perhaps a former Naval officer who served at NAS, New York during World War II – would recognize the property as it exists today. The following section discusses the importance of each aspect to the overall integrity of the proposed expanded historic district and whether or not it is retained, diminished, or lost. While the determinations 'retained' and 'lost' are fairly objective, 'diminished' is a bit more subjective. If certain features contributing to the overall aspect of integrity are not completely lost, but their historic integrity has been compromised or obscured by more recent development, it is considered diminished. Often the diminished determination is a result of an incompatible feature or alteration that can be reversed.

Expanded National Register Historic District

The following analysis of the integrity of the Floyd Bennett Field landscape is based on the proposed expanded National Register historic district, which includes development that occurred through 1945. References to the historic district and the period of significance shall apply to the proposed expanded historic district and the proposed extended period of significance.

The definitions for each of the seven aspects of integrity are from the NPS *Guide to Cultural Landscape Reports: Contents, Process, and Techniques*, which is based on *National Register Bulletin*

15, How to Apply the National Register Criteria for Evaluation. A summary of the site's integrity in each aspect is considered.

Location

This aspect of integrity refers to the "place where the cultural landscape was constructed or where the historic event occurred." All land and associated features within the proposed boundaries were historically part of NAS, New York.[21] The location of the major features that remain on-site – the Administration Building, hangars, runways – have not changed since the end of the period of significance in 1945.

Evaluation: Retains location.

Design

Design is the "combination of elements that create the form, plan, space, structure, and style of a cultural landscape." Since the end of the period of significance in 1945, several features within the Floyd Bennett Field landscape have been changed; however, the overall landscape has not been altered beyond recognition. Overall, spatial relationships, circulation patterns, and buildings remain intact. Therefore, the basic form of the historic design is clearly apparent. Changes that have been made to individual features since 1945 include: the 1935 WPA-designed airport entrance, which has been altered through the removal of plant materials and the addition of the current fence separating the field from Flatbush Avenue; Hangar Row through the addition of the access road; the new sports complex; and three lighted parking lots with concrete curbing constructed on top of the original apron. While much of the open land between the runways is being managed as naturalized grasslands that retain the general open character of the historic turf, the northern areas between Runways 1-19 and 6-24 contain dense successional woods, which detract from the historic design, when these areas were all mown grass or low grasses and shrubs. In spite of changes made to these specific features, the character-defining design of the airport overall remains intact since the end of the historic period in 1945.

Evaluation: Retains design.

Setting

The aspect of setting refers to the "physical environment of the cultural landscape," or how the site is situated and its relationship to surrounding features and spaces. Floyd Bennett Field was originally selected as the location of New York City's first municipal airport specifically because of it setting; its location on Jamaica Bay created ideal conditions for the development of not just the airport, but also as a naval air station. Since the landmass Floyd Bennett Field was constructed on is somewhat isolated, connected to the rest of Brooklyn via Flatbush Avenue, modern development within the city has had little impact on Floyd Bennett Field.

Much of development that took place surrounding Floyd Bennett Field may not have occurred without the presence of the airport. The Gil Hodges Memorial Bridge was constructed in 1936 to address the needs of residents wanting a direct route between Flatbush Avenue and Rockaway Peninsula. When the bridge was constructed, Flatbush Avenue also became a major arterial that connected not just Floyd Bennett Field with the rest of Brooklyn but with Rockaway Peninsula and ultimately with the rest of Long Island.

The context provided by Flatbush Avenue is an important part of the overall character of Floyd Bennett Field. The current condition of Flatbush Avenue reflects the setting of Floyd Bennett Field during the period of significance. In particular, when the WPA designed the main entrance in 1935 and planted two rows of sycamore along the central walkway and Flatbush Avenue, providing a visible connection between the design of Flatbush Avenue and Floyd Bennett Field. Since further development throughout Brooklyn and Long Island have had virtually no visual impact on Floyd Bennett Field, and the surrounding context of Flatbush Avenue and the Gil Hodges Memorial Bridge reflect the historic context in which Floyd Bennett Field was located, its setting remains intact from the end of the historic period in 1945.

Evaluation: Retains setting.

Materials

Materials are the "physical elements that were combined during the particular period(s) of time and in a particular pattern or configuration to form the cultural landscape." All types of construction materials, including paving, plants, and other landscape material are included under this aspect of integrity. Many individual features, such as the Administration Building and some of the hangars, retain their original materials. Some of the original circulation features, such as the runways, have been partially covered with asphalt. A major change can be seen in the new materials of the sports complex, which detracts from the original hangars. Another significant change in materials has been the loss of the plant materials once found at the WPA entrance. While the open lawn remains, the loss of the ornamental plantings has altered the character of the airport entrance, however this condition is reversible. Although changes have been made to the materials of a number of individual features, many of the changes are either reversible or have impacted only portions of historic features, leaving much of the historic materials intact. Overall, the materials of Floyd Bennett Field remain from the end of the historic period in 1945.

Evaluation: Retains materials.

Workmanship

This aspect of integrity refers to the "physical evidence of the crafts of a particular culture or people during any given period in history or prehistory." Although changes have been made to individual features, evidence of the original workmanship of Floyd Bennett Airport and NAS, New York remains evident in the landscape. Many of the buildings and structures retain workmanship and in spite of the addition of asphalt over sections of the runways, the original concrete remains exposed in other areas, clearly displaying the method of construction used during the period of significance. Although some features have been altered, dramatic changes in the character of the landscape have not made it necessary to determine a complete loss of workmanship.

Evaluation: Retains workmanship.

Feeling

Feeling is a "cultural landscape's expression of the aesthetic or historic sense of a particular period of time." The fundamental element contributing greatly to the character of the historic landscape was the feeling of broad open spaces, which remains largely intact despite the growth of successional woods. Despite these changes, the overall development patterns remain intact, particularly the layout of the runways and the buildings and structures both along Hangar Row and Jamaica Bay. These features were important with regard to the site's functioning as a municipal airport and as a naval air station. Although individual features have impacted the historic character of particular areas of the site, overall Floyd Bennett Field's historic feeling remains evident.

Evaluation: Retains feeling.

Association

This aspect refers to the "direct link between the important historic event or person and the cultural landscape." Although no longer an active airport or military property, the overall layout of the remaining features, particularly the runways, buildings on Hangar Row, and the hangars, aprons, and support buildings along Jamaica Bay, accurately portray the function of the landscape as it was during the period of significance.

Evaluation: Retains association.

Integrity of the Expanded Historic District as a Whole

When assessing the integrity of the expanded Floyd Bennett Field Historic District as a broad landscape comprised of many individual features, it retains its identity for which it is significant, thus it retains integrity overall. Specifically, it retains integrity in location, design, setting, materials, workmanship, feeling, and association. While individual features have been

altered, overall the historic character and integrity of the Floyd Bennett Field expanded historic district remains. According to the National Register guidelines, a property either does or does not retain its overall integrity, and does or does not convey its significance. Even though there have been changes since the proposed period of significance (1928 – 1945), the preceding analysis indicates that the landscape at Floyd Bennett Field Historic District possesses the essential landscape characteristics and features that illustrate its historic character and significance. It is important to note that many of the individual features that have been altered could be returned to their historic condition.

Areas Outside the Expanded Historic District

During World War II, outlying areas to the proposed historic district, including the North 40 Natural Area and the South Support Area were integral to the operations of NAS, New York. These areas provided vital support without which NAS, New York would not have played such an important role in the American home front. However, they are excluded from the proposed expanded historic district due to their apparent loss of historic integrity. Although the Navy developed each of these areas during the proposed extended period of significance, based on the findings of this report, the outlying areas have diminished integrity resulting from the loss or alteration of World War II era development and therefore these areas appear ineligible for inclusion in the district.[22]

During World War II, the Navy utilized the newly filled northern area, now known as the North 40 Natural Area, as a radio-communication complex. Little of this infrastructure remains today. The paved roads have been converted to managed grass trails and the open character of the landscape no longer remains, as dense successional woods now cover the area. Also, the character-defining radio towers are gone.

The overall character of the South Support Area and the circulation patterns developed during World War II have been altered. During the period of significance, this area contained approximately thirty-nine buildings and structures. Approximately twenty-four of these have since been demolished; today there are thirty-three buildings and structures in this area, fifteen dating from the period of significance and eighteen of which were constructed after the period of significance. Many of the buildings removed were barracks. Other removed buildings included a mess hall, garage, storage facilities, dispensary, and pump stations. In addition, portions of the South Support Area have been redeveloped after World War II to accommodate new uses.

The U.S. Armed Forces Reserve Center, not located on NPS-owned land, has also undergone significant changes. During World War II, this area was part of the naval air station. It was transferred to the Army in 1952, for inclusion in the newly established U.S. Armed Forces Reserve Center. Included in the area are the World War II era Naval seaplane apron and ramp,

which remain intact. The Army constructed approximately six new buildings in this area after 1952. During World War II, there were no buildings in this area.

Also part of the South Support Area, the former Navy housing area in the southwest corner of the site, which is now used as a fishing pier, has also changed significantly. During the Cold War, the circulation pattern was altered and mobile homes were located along a new cul-de-sac style road. While the mobile homes have been removed, the overall character has been altered with the removal of the barracks and the presence of dense successional woods.

West of the Navy housing area, the current entrance onto the site from Flatbush Avenue has not been included because this entrance was constructed in c. 1951, after the proposed period of significance ended in 1945.

LANDSCAPE EVALUATION

The evaluation of landscape characteristics and associated features compares conditions during the historic period to conditions as they exist today to evaluate the contribution to the property's historic character. Landscape characteristics are tangible aspects that individually and collectively define a landscape's overall character and aid in understanding its cultural value. Landscape features are components of landscape characteristics and represent the smallest unit of study in the analysis process. Not all characteristics contain associated features.

Based on the preceding National Register recommendations, the title "Floyd Bennett Field Historic District" and references to the historic district shall apply to the proposed expanded district, which incorporates the existing National Register historic district and the World War II era development, through 1945. Also, references to the period of significance shall apply to the proposed extended period of significance, 1928 – 1945.

The landscape evaluation is divided into two parts. Part A provides a detailed evaluation of the expanded Floyd Bennett Field Historic District by landscape characteristics and features. Part B is a summary evaluation of the historic condition and post-historic and existing conditions of the landscape characteristics of the North 40 Natural Area and the South Support Area. As previously discussed, the North 40 Natural Area and the South Support Area do not appear to retain sufficient integrity to warrant inclusion in the historic district. For this reason, landscape characteristics and features associated with those two areas are not formally evaluated.

For the purposes of this CLR, the Floyd Bennett Field historic district landscape has been organized into four character area: Hangar Row; the airfield; the Navy Seaplane Patrol Base; and the Coast Guard Air Station. Within the Hangar Row character area, a secondary character area has been identified: the airport entrance. The North 40 Natural Area and the South Support Area are considered two additional character areas, outside the historic district.

PART A: FLOYD BENNETT FIELD HISTORIC DISTRICT

METHODOLOGY

The following section presents first detailed evaluations of each landscape characteristic that is applicable to the entire historic district. Evaluations of each landscape feature are then organized by character area.

In order to evaluate the historic integrity of each landscape characteristic and its associated features within the Floyd Bennett Field Historic District, the following format is used:

Historic Condition: A summary discussion of the history of the characteristic/features during the period of significance: 1928 – 1945, based on the preceding site history. The period of significance encompasses both the Floyd Bennett Airport era (1928 – 1941) and the World War II era (1941 – 1945)

Post-Historic and Existing Conditions: An overview of the existing condition of the characteristic/feature, noting changes since the end of the period of significance in 1945.

Evaluation: A determination of whether the characteristic/feature contributes to the historic character of the landscape based on a comparison of historic and existing conditions. Beyond being evaluated as either contributing or non-contributing, landscape characteristics and features are further designated according to the following terms:

> *Contributing:* Features that were present during the historic period, retain their historic character, and are associated with the landscape's historic significance. Contributing characteristics and features are then described as follows:
>
> Features that prominently add to the historic associations and qualities for which the landscape is significant are described as character-defining. Features unique to the historic period are described as distinctive. Features typical of those extant during the historic period are described as characteristic.
>
> *Non-Contributing:* Features that were not present during the historic period, do not retain historic character, or are not associated with the landscape's historic significance. Non-contributing features are then described as follows:
>
> Features incompatible with the historic character of the landscape, particularly in relation to historic materials, size, scale, proportion, and massing are described as detracting. Features that may have been present during the historic period but have undergone substantial changes or severe deterioration are described as unobtrusive. Features distinguishable from the historic character of the landscape but relate to historic materials, size, scale, proportion, and massing are described as compatible.
>
> *Unevaluated:* Features for which physical or historical evidence is insufficient or inconclusive are not evaluated. In some instances, further research may reconcile this issue. [23]

For each of the areas, the following landscape characteristics are addressed.[24]

Natural Systems and Features: The natural aspects that have influenced the development and physical form of the landscape. This includes geology, hydrology, climate, flora and fauna. An example of a natural feature at Floyd Bennett is the successional woods located in the northern portion of the historic district.

Spatial Organization: The three-dimensional organization of physical forms and visual association in a landscape creating ground, vertical, and overhead planes that define and create spaces. Significant spatial organization at Floyd Bennett Field can be discerned through the layout of the airfield or at the WPA-designed entrance, west of the Administration Building.

Land Use: Describes the principal activities in a landscape that form, shape, and organize the landscape as a result of human interaction. The Coast Guard Air Station and the Navy Seaplane Patrol Base are both examples of land use features

Cluster Arrangement: The location of buildings and structures in the landscape. The development along Jamaica Bay at Floyd Bennett Field is an example of cluster arrangement.

Topography: The three-dimensional configuration of the landscape surface characterized by man-made changes, such as the berms. Much of the landmass Floyd Bennett Field was constructed on would also fall under this characteristic since it was created through a series of dredging and filling operations.

Vegetation: The deciduous and evergreen trees, shrubs, vines, ground covers and herbaceous plants, and plant communities introduced in the landscape. In contrast to the natural flora in the landscape, this refers to planted vegetation, such as the pine windbreak.

Circulation: The elements, such as spaces and materials, that constitute the systems of movement in the landscape. The primary circulation features at Floyd Bennett Field are the runways and taxiways, along with parking lots and pedestrian walkways.

Buildings and Structures: Three-dimensional constructs in the landscape, such as hangars, shelters, seaplane ramps, etc.

Views and Vistas: The prospect created by a range of vision in the landscape, conferred by the composition of other landscape characteristics and features.

Small-Scale Features: Elements that provide detail and diversity combined with functional and aesthetic concerns. At Floyd Bennett Field, small-scale features include fencing, light poles, and signs.

Archeological Sites: Sites containing surface and subsurface remnants related to historic or prehistoric land use. While it is not within the scope of this CLR to evaluate archeological sites, potential aboveground archeological sites are identified and summarized.

EXPANDED FLOYD BENNETT FIELD HISTORIC DISTRICT LANDSCAPE EVALUATION

Natural Systems and Features Characteristic

Geology and Geomorphology

Historic Condition: Prior to extensive filling that occurred with the construction of the airport, the site of Floyd Bennett Field consisted of a tidal estuary, with a series of islands, the largest known as Barren Island. By the eighteenth-century, Barren Island was a 100-acre barrier island along the Atlantic Coast that had formed from shifting sands deposited by the Wisconsin Glacier. Over time, coastal storms in Jamaica Bay formed several small barrier islands, inlets, salt marshes, and deltas. Because of the primary ocean currents and the strong tidal action in the bay, the resulting barrier islands shifted over time, making it difficult to develop the land in Jamaica Bay. However, in the late nineteenth-century, efforts began to shape Jamaica Bay and its estuary into a commercial port.

When the City of New York decided to locate Floyd Bennett Airport in Jamaica Bay in the twentieth-century, there was no landmass large enough to support development. To solve this, the Department of Docks dredged the bay and filled in the small creeks and inlets to create a landmass that was approximately 330 acres, large enough to support the airport. The Department of Docks was able to easily manipulate the shape and size of the landforms in Jamaica Bay due to the naturally shifting character of the bay. The sandy character of the resulting landmass influenced the vegetation that grew on site. During the historic period, the stabilization of the landmass through the construction of seawalls and bulkheads effectively controlled the natural geomorphology, ceasing the natural shifting.

Post-Historic and Existing Conditions: There has been no substantial change since the historic period to the geology and geomorphology of the site.

Evaluation: Contributing

The geology and geomorphology, while altered from their natural condition, contribute to the historic character of the Floyd Bennett Field Historic District as a defining characteristic of the landscape. The geology and geomorphology of lands found within Jamaica Bay, has strongly impacted the physical development of the land.

Climate

Historic Condition: The Jamaica Bay climate greatly influenced the decision to locate Floyd Bennett Airport within the bay; aviator Clarence D. Chamberlain, a consultant for the city of New York, cited the mild and clear conditions at Barren Island as a major advantage for an airfield because of the good sight distances.

Post-Historic and Existing Conditions: These conditions remain unchanged since the historic period.

Evaluation: Contributing

The climate of Floyd Bennett Field Historic District contributes as a defining characteristic of the landscape. The mild climate found throughout Jamaica Bay was one of the primary reasons why Floyd Bennett Airport was located within the bay.

Flora

Historic Condition: The geology of Barren Island and the constructed landmass on which Floyd Bennett Field was built determined the natural flora that thrived. The soil of Floyd Bennett Field was mostly sand; the soil type combined with salt spray from the ocean meant that the types of vegetation that grew on the island were limited. During the historic period, areas that were not seeded and planted with grass were comprised primarily of salt grass and low-lying scrubby vegetation. Minimal successional vegetation grew on the island.

Post-Historic and Existing Conditions: Since the historic period, successional woods have grown in several areas where it was either previously bare or planted with grass, most notably, along the south boundary of Runway 6-24 (C-12) and the west boundary of Taxiway 6 (C-16). During the historic period, this area was maintained as mown grass. Since NPS ownership, dense successional woods have been allowed to grow up to heights of over six feet. Primarily, the successional woods appear to occur outside the airport's original north boundary. Successional woods are also located in the area surrounding the WPA dope shop, transformer vault (BS-57), and the Navy barracks, south of the hangars.

Evaluation: Non-contributing

The natural flora of Floyd Bennett Field does not contribute to the significance of the landscape. The flora of Floyd Bennett Field has always included successional vegetation, however, during the historic period, it was minimal and extremely low-lying. The existing patches of dense, tall successional vegetation detract from the historic character of Floyd Bennett Field as they alter the open, expansive quality of the landscape.

Spatial Organization Characteristic

Historic Condition: During both the Floyd Bennett Airport and World War II eras, the area that is included in the historic district consisted of extensive open land. The majority of the original airport development was located on the west boundary, along Hangar Row, parallel to Flatbush Avenue. (Figure 3.4) Frontage along Jamaica Bay remained undeveloped and open with the exception of the airport seaplane ramp until the U.S. Coast Guard began construction on their new hangar and garage in 1936. The majority of development along Jamaica Bay occurred during World War II, when the Navy constructed a seaplane patrol base and several support structures from 1940-1942. The Navy also expanded the existing runways and constructed entirely new runways during the war. The long, flat runways further emphasized the flat, open character of the landscape. Overall, the landscape was open and expansive through the center with buildings and structures defining the east and west borders. The alignment of the various features, particularly the runways, organized the site with straight lines and clearly defined angles, creating distinct geometric forms in the landscape.

Post-Historic and Existing Conditions: Since the end of the historic period in 1945, the overall spatial organization has not changed, in spite of alterations that have occurred in particular areas. Successional woods have grown in the northern portion of the district, along the southern edge of Runway 6-24 (C-12), the western edge of Taxiway 6 (C-16), and north of the Seaplane Patrol Base and the remainder of the land between the runways is managed as naturalized grasslands and wildlife habitat. A few small structures have been constructed since 1945. Shelters, cabins, and tent platforms have been constructed in the campgrounds (LU-1) both within the pine windbreak (V-6) and within the successional woods west of the seaplane patrol base; five small structures, constructed as a Navy utility and storage complex, are located north of the patrol base. These structures are not readily visible in the landscape as they are all surrounded by tall vegetation.

Evaluation: Contributing

The spatial organization of Floyd Bennett Field Historic District is a defining historic characteristic of the landscape. The organization of the airfield is a broad expansive space with the majority of the site's buildings and structures defining the space to the east and west. The spatial arrangement of Floyd Bennett Field is associated with its historic character as a civilian airport and a naval air station. While the growth in successional woods has restricted some of the open space, this condition is reversible. Overall, the open character of the landscape remains intact and easily recognizable.

Land Use Characteristic

Historic Condition: During the historic period (1928-1945), Floyd Bennett Field functioned as a civilian and military airfield. During World War II, land use became more diversified with the training and housing of military personnel. While most military housing was located outside

the historic district, barracks were located at the Navy Seaplane Patrol Base as well as in the area developed south of the hangars, along Flatbush Avenue.

Post-Historic and Existing Conditions: At the end of World War II, Floyd Bennett Field operated as a naval air reserve training station, training and housing military personnel as well as maintaining aircraft. In 1952, the southern-most seaplane ramp and apron were transferred to the Army as part of the U.S. Armed Forces Reserve Center. In 1972, the NPS obtained ownership of all remaining portions of Floyd Bennett Field, incorporating the site in the newly legislated Gateway National Recreation Area (Gateway NRA) with the exception of the Coast Guard Air Station and the southeastern portion of Runway 12-30 (C-11). In 1974, Floyd Bennett Field opened as a public recreation area, changing the historic land use to emphasize recreation and natural resource conservation. The Coast Guard Air Station remained on site through 1996, although with increasingly limited operations. Although no part of the landscape is still used for aviation, the Historic Aircraft Restoration Project (H.A.R.P.) is housed in Hangar B (BS-100), which was formerly part of the Navy Seaplane Patrol Base. As part of Gateway NRA's natural resources conservation mission, the areas between the runways are managed as naturalized grasslands in order to provide wildlife habitat.

The NPS also leases several areas of Floyd Bennett Field to outside agencies and concessionaires. The New York Police Department (NYPD) leases the Coast Guard Air Station and the New York Department of Sanitation leases part of the former Navy Seaplane Patrol Base. The NYPD area includes the ten-acre Coast Guard Air Station and the former recreation area just south of the station. In c. 1999, the National Oceanic and Atmospheric Administration (NOAA) constructed a Doppler weather tower in the former U.S. Coast Guard recreation area. The southeast portion of Runway 12-30 (C-11) is included in their lease and is bounded inside their fence. (Figure 3.5)

Concessionaires include the Floyd Bennett Garden Association and Aviator Sports and Recreation. The Floyd Bennett Garden Association established the community gardens, located in southern-most grass panel along Hangar Row (SO-1). The community gardens include garden plots, a composting area, and a picnic/barbeque area. The NPS has established campgrounds (LU-1) within the pine windbreak (V-6) and west of the Seaplane Patrol Base. Aviator Sports and Recreation constructed the Aviator Sports and Recreation complex (BS-402) in 2006, located on Hangar Row (SO-1). Its primary facility is centered in Hangars 5-8 and a large infill building it constructed to connect the two pairings of hangars. Large outdoor playing fields with bleachers, scoreboards and stadium lighting are located on the northern-most portion of the Hangar Row (SO-1) apron.

Evaluation: Non-contributing

The current land use of Floyd Bennett Field is a non-contributing characteristic of the Floyd Bennett Field Historic District. Floyd Bennett Field was not a recreational site during its historic period and the majority of the current land uses do not convey the overall feeling of an active airfield. The exception here is H.A.R.P., although their work is not visible in the landscape, but rather is contained within Hangar B (BS-100). While the loss of use as an active airfield alters the historic character of the landscape, the current uses are generally unobtrusive in that are compatible with the historic character of the landscape and they are in line with the mission of Gateway NRA, to provide a range of recreational opportunities and to conserve natural resources.

Cluster Arrangement Characteristic

Historic Condition: During the historic period, the Floyd Bennett Field landscape was broad, open, and expansive. Development within the Floyd Bennett Field Historic District was concentrated in two areas: along Hangar Row (SO-1) and Jamaica Bay. When the civilian airport was first under construction in 1928, the Department of Commerce required hangars and support buildings to be aligned linearly along one side of the runways in order to receive the highest rating, A1A.[25] Hangar Row got its name from its linear arrangement. A few additional structures were constructed in Hangar Row during the historic period; from 1937 – 1938, the WPA built the pump house between the Administration Building (BS-1) and Hangar 6 and a field house just north of the Administration Building. In 1942, the Navy built two wood-frame hangars, Hangars 9 and 10, north of Hangars 7 and 8 (BS-6). The following year the Navy built a wood-frame addition on the north side of the Administration Building. The construction of these additional buildings did not detract from the strong linear appearance of Hangar Row.

Development of the Jamaica Bay cluster began in 1936, shortly after construction of Hangar Row, with construction of the Coast Guard Air Station. The air station included a hangar, garage, taxiway, and seaplane ramp. In 1938, the WPA built a second seaplane ramp just south of the air station as part of the municipal airport. In 1940, the Navy continued to develop land along Jamaica Bay with construction of the Seaplane Patrol Base. The new base included a large hangar, apron, and another seaplane ramp. In 1941, a second hangar, identical to the first was built and the apron was extended. In c. 1941, the Navy built approximately twenty-one more buildings to support the operations of the seaplane patrol base. These were located directly west of the patrol base and the Coast Guard Air Station. The building clusters on the east and west sides of Floyd Bennett Field provided clear definitions for the landscape's boundaries.

Post-Historic and Existing Conditions: After the end of the historic period in 1945, several changes occurred with regard to individual buildings within Hangar Row and along Jamaica Bay. In 1957, the Navy built the beacon tower (BS-145) located next to the pump house. In 1964 the Air National Guard demolished the field house and erected a nose hangar, which has since been

demolished. After 1980, the wood frame Navy hangars and Administration Building addition were demolished. Approximately eleven of the support buildings along Jamaica Bay were demolished prior to NPS ownership. The NPS demolished the nose hangar and the Seaplane Patrol Base Hangar A (A-1) in c. 1998. Two large masonry buildings were constructed in the early 1970s, one south of Hangar A and one east of the Coast Guard Hangar.

Evaluation: Contributing
The clusters of development at Hangar Row and along Jamaica Bay, developed throughout the historic period, contribute to the historic character of the Floyd Bennett Field Historic District as defining characteristics of the Floyd Bennett Airport and World War II eras. Hangar Row is a rare surviving example of typical civilian airport design during the early twentieth-century. While individual buildings have been lost along the Jamaica Bay cluster, overall, the area is still discernable as a distinct cluster because of the overall massing of buildings.

Topography Characteristic
Historic Condition: During initial construction of the municipal airport, the natural topography was altered from a series of islands, marshes, and creeks into an expansive, level surface, raised sixteen feet above the mean water line. The Department of Docks laid a layer of clay and topsoil over the central airfield. The level topography was important to its use both as a civilian airport and a naval air station. When the Navy expanded the site in 1942, it dredged Jamaica Bay and filled in the area north of the original airport. As part of this operation, the land was graded to match the elevation of the airport, although it was not as evenly graded or treated with topsoil as was the original airport. The overall topography remained intact throughout the duration of the historic period.

Post-Historic and Existing Conditions: The topography of Floyd Bennett Field remained largely unchanged until c. 1996 when several large berms (T-1) were constructed along the new access road (Runway 15-33) (C-7).

Evaluation: Contributing
Topography contributes to the historic character of Floyd Bennett Field Historic District as a defining characteristic of both the Floyd Bennett Airport and World War II eras. Except for some minor changes, the overall flat, open nature of the topography remains unchanged since the end of the historic period.

Vegetation Characteristic
Historic Condition: During the historic period, there were four types of planted vegetation: mown grass between the runways, a privet hedge at the north boundary of the airport, ornamental shrubs and trees at the WPA-designed airport entrance (SO-2), and a pine windbreak (V-6) between the southern ends of Runways 1-19 and 12-30. The Department of

Docks planted grass between the runways as part of the original airport development in 1928. It appears that this grass was maintained as neatly mown throughout the historic period. The Department of Docks planted the privet hedge in 1929. (The Navy most likely removed the hedge in 1941, when they expanded the airfield.) In 1935, the WPA redesigned the main entrance into the airport on Flatbush Avenue that included a planting plan with a variety of shrubs and perennials. They also planted sycamore trees in two central lines at the entrance and along Flatbush Avenue. The pine windbreak was planted during the World War II era in a triangular form intended to shelter the South Support Area.

Post-Historic and Existing Conditions: During NPS ownership, the vegetation of Floyd Bennett Field has changed dramatically. Instead of mown grass between the runways, the area is now managed as naturalized grasslands and wildlife habitat. Portions of the northern edge of the historic district have grown into successional woods. Little of the WPA-designed entrance plantings remain with the exception of the lawn areas and the sycamore trees. The mature pine windbreak retains its distinct triangular shape, although the trees are in decline.

Evaluation: Non-contributing
The vegetation of Floyd Bennett Field historic district was an important feature of the original design of the airfield and was important historically to its overall character during the Floyd Bennett Airport and World War II eras. Although the airfield, turf, sycamore trees and the pine windbreak remain largely unchanged, overall the vegetation does not contribute to the historic character of the cultural landscape because much of the original plantings have been lost, particularly in the areas surrounding the Administration Building. It is important to note that the present condition of the vegetation is reversible, which could return it to its condition during the historic period and could then be considered a contributing characteristic.

Circulation Characteristic

Historic Condition: During the historic period, circulation consisted primarily of the runways, taxiways, and aprons. When Floyd Bennett Airport first opened in 1931, there were only two runways, 15-33 and 6-24 (C-7, C-8). The WPA constructed Runways 1-19 and 12-30 (C-10, C-11) in 1935. Originally, the circulation features were constructed primarily of concrete. One exception was the use of rectangular asphalt pavers in the parking area around the Administration Building (BS-1) and in sections of the Hangar Row apron (C-2) directly surrounding the hangars Throughout the historic period, the circulation system at Floyd Bennett Field continually expanded. Most of the expansion involved the interconnected runways, taxiways, and aprons. Parking lots along Hangar Row (SO-1) and access roads connecting the various parts of the landscape were also constructed. Less dominant circulation features included pedestrian pathways. During World War II, existing features were altered, addressing the changing needs of the Navy, including the extension of all existing runways, with the exception of Runway 6-24. Due to space constraints, the Navy redesignated Runway 6-

24 a taxiway and constructed a new Runway 6-24 (C-12) at the northern end of the airfield. Almost all the circulation features added or expanded by the Navy were constructed of asphalt, except for the Seaplane Patrol Base apron and seaplane ramp, which were both concrete.

Post-Historic and Existing Conditions: Since 1945, there have been no significant changes in the overall circulation patterns of the runways, taxiways, and aprons. However, individual features have been compromised by the addition of a new access road over Runway 15-33 (C-7), parking lots, and berms (T-1), all constructed in c. 1996. Also, the Aviator Sports and Recreation complex (BS-402) built in 2006 has altered the condition of the apron system that surrounded Hangars 5-8 (BS-5-6). Access onto the site has also changed since the end of the historic period. In 1951, the Navy relocated the main entrance to its current location (outside the historic district) and installed a tall fence that runs between Flatbush Avenue and Floyd Bennett Field and prohibits all vehicles access to the site from either of the two previous entrances. A gate in the fence located west of the Administration Building (BS-1) allows pedestrians to enter the site from the WPA entrance.

Evaluation: Contributing
Circulation contributes to the historic character of the Floyd Bennett Field Historic District as a defining characteristic of both the Floyd Bennett Airport and World War II eras. Overall, circulation patterns remain intact in the landscape. The primary circulation features, which include runways, taxiways, and aprons, are specific to the site's prior use as an airfield. Further, it is these specific features that most readily illustrate the landscape's association with its historic significance.

Buildings and Structures Characteristic

Historic Condition: During the historic period, buildings and structures within the Floyd Bennett Field Historic District consisted of facilities essential to the functioning of the airport as well as related military operations. These included the Administration Building, hangars, both the airport and the Navy compass roses (BS-277, BS-278), and several support buildings, such as transformer vaults, pump houses, and maintenance shops. Several bulkheads and seaplane ramps were also constructed during the historic period. Apparent in the buildings and structures the Department of Docks and the WPA built during the Floyd Bennett Airport era is a distinctly unified design. The approach is evident in the design of the Administration Building, the eight original hangars, the dope shop and a number of small, support brick buildings located in Hangar Row (SO-1). The unity is seen in the buildings' materials and details. Each of these buildings is constructed of brick with cast-stone accents with streamlined classical detailing. In contrast are the Navy-constructed buildings and structures. These include the buildings at the Seaplane Patrol Base and several support buildings located south of Hangar Row. These buildings do not share the same design style as the civilian airport buildings, but embody a more austere, utilitarian character reflective of war-time conditions. (Although an

exact date of demolition is unknown, the Navy most likely removed the sewage disposal building (1932) during World War II. It was located adjacent to Hangars 1 and 2 (BS-3)).

Post-Historic and Existing Conditions: Since the end of the historic period several historic buildings and/or structures have been demolished and a few have been constructed. In the late 1940s, the Navy demolished both Sperry floodlight towers (1932). In 1964, the Air National Guard demolished the WPA built brick field house (1937-1938) north of the Administration Building (BS-1) to make room for construction of a nose hangar, which has since been demolished. In c. 1970, the Navy constructed its last building at Floyd Bennett Field, Tylunas Hall. In order to build it, the Navy demolished the 1940 office building and enlisted men's barracks located south of Hangar A (A-1). Sometime after 1980, the NPS demolished Hangars 9 and 10 and the Administration Building (BS-1) addition. Both structures, located on Hangar Row, were built by the Navy in 1943.The NPS demolished the Navy constructed Hangar A (1940) in 1998. In the former U.S. Coast Guard area, the NYPD has added a few structures: a guard booth, a temporary tent-style structure, and a training tower. The National Oceanic and Atmospheric Administration constructed a Doppler Tower in the former recreation area, south of the Coast Guard Air Station in c. 1999.

Evaluation: Contributing
Buildings and structures dating from the period of significance (1928–1945) contribute to the historic character of Floyd Bennett Field Historic District as a character-defining characteristic of both the Floyd Bennett Airport and World War II eras. Although some pre-1945 buildings and structures have been lost, overall the major civilian and military buildings remain, except for Hangar A. Extant buildings and structures convey the historic character of the buildings and structures of the Floyd Bennett Field Historic District.

Views and Vistas Characteristic

Historic Condition: During the historic period, the expansive views off and into Floyd Bennett Field were critical to its historic use as an active airfield. Despite the cluster of buildings along Jamaica Bay, views across the bay remained expansive.

Post-Historic and Existing Conditions: Today, the views out of and into the landscape have been altered. The view to the north is blocked by dense successional woods. The growth of successional woods in the airfield also impact historic views. The mature pine windbreak (V-6) south of the original airport boundary limits historic views.

Evaluation: Contributing
Views contribute to the historic character of Floyd Bennett Field Historic District as a character-defining feature of both the Floyd Bennett Airport and World War II eras. The entire landscape was characterized by the openness and broad views out into the surrounding water. Equally

important were the views into the site, for landing aircraft. While individual viewsheds have been altered, overall the representative expansive views into the water remain, particularly into Jamaica Bay.

Small-Scale Features Characteristic

Historic Condition: During the historic period, there were most likely a variety of small-scale features that supported the airport and the naval air station, although no complete record has been discovered during research for this report. The earliest small-scale feature in the Floyd Bennett Field landscape was the six-foot tall wooden fence that marked the airport's original north boundary, constructed in c. 1930. Shortly after the wooden fence was built, a four-foot tall wooden fence was constructed along the airport's original south boundary. Fences were also installed around the parking areas to the north, east, and south of the Administration Building. During the Floyd Bennett Airport era, the main concentration of small-scale features found in the landscape was at the airport entrance (SO-2). In 1935, the WPA installed a metal flagpole (SSF-5) and an entrance sign in the center of the central walkway that circled around these features. There were also two styles of light standards at the entrance. During World War II, the Navy constructed a chain-link property fence that ran along Flatbush Avenue that blocked off the original airport entrance (SO-2). It is likely that during the war, the Navy removed the 1935 entrance sign as well as the fences located along the north and south boundaries of the site.

Post-Historic and Existing Conditions: Most of the original small-scale features were lost after the historic period. All of the fencing was removed. The NPS installed a new property fence along Flatbush Avenue, with gates at the original airport entrance (SO-2) and the World War II Navy entrance. Only the WPA flagpole (SSF-5) remains as it did during the historic period. In 2006, the NPS reconstructed the WPA entrance sign (SSF-6) and installed new Central Park style lights. Both styles of the original light standards have been lost. Contemporary lights have been installed to light the parking lots east of the Administration Building, installed through Federal Highway Administration (FHWA) funding in 1996. As part of the same project, guardrails were installed along the east and west sides of the access road constructed over Runway 15-33. Small-scale features associated with the Aviator Sports and Recreation complex include bleachers, stadium lights, scoreboards, goalposts, and a chain-link fence that surrounded the outdoor fields. The community garden plots are enclosed by chicken-wire type fencing. Picnic tables and pedestal grills are located to the south of the garden plots. The campgrounds also have a number of small-scale features including tent platforms, picnic shelters and tables.

Evaluation: Non-contributing

Overall, the small-scale features do not contribute to the historic character of the Floyd Bennett Field Historic District as most have been added since 1972. While the flagpole (SSF-5) and the reconstructed sign contribute to the airport entrance (SO-2), overall the majority of the small-scale features dating from the historic period have been lost.

SITE WIDE LANDSCAPE FEATURES EVALUATION

While primarily the landscape evaluation is organized by character areas, a few features extend throughout the site, into several character areas and therefore are evaluated independent of any particular area.

Buildings and Structures Features

BS-400.[26] *Underground Utilities*

Historic Condition: The first underground utilities were constructed in 1928 with the initial construction of the airport. Utilities were continually expanded and improved throughout the historic period. Although not visible in the landscape, the series of underground electrical cables and trenches serviced the buildings throughout the site.

Post-Historic and Existing Conditions: The utility lines run primarily where the buildings are located: along Hangar Row (SO-1) and Jamaica Bay as well as through the South Support Area and North 40 Natural Area. Two primary lines run east to west through the historic district. The condition of much of the underground electrical cables has become deteriorated since the end of the historic period. Approximately eight miles of underground electrical cables need to be replaced. (Not all eight miles are within the historic district).

Evaluation: Non-contributing

The underground utilities do not contribute to the historic character of Floyd Bennett Field, as they are not visible features of the landscape.

Small-Scale Features

SSF-1. Flatbush Avenue Fence

Historic Condition: During World War II, the Navy installed a chain-link property fence separating the naval air station from Flatbush Avenue. It was approximately six feet tall.

Post-Historic and Existing Conditions: After NPS obtained ownership of Floyd Bennett Field, the World War II era property fence that separated the naval air station from Flatbush Avenue was removed and a new fence was installed. The current fence is approximately ten feet tall and the portion of fence in front of the Administration Building (BS-1) is constructed of thin black metal pickets and posts. Once the fence reaches the area in front of Hangars 1-4 (BS-3, BS-4) and Hangars 5-8 (BS-5, BS-6), the fence connects to a tall, black chain-link fence that runs the length of the property along Flatbush Avenue. Four gates are located in the fence: one at the World War II era Navy entrance, one at the east end of both the diagonal drives of the original airport entrance (SO-2), and one at the east end of the central walk of the original entrance. The latter gate is the only one that remains unlocked at all times, allowing pedestrians to enter the

landscape at the same entrance as airline during the Floyd Bennett Airport era. Mounted on the three gates at the original airport entrance (SO-2) are bas-relief globes with stylized wings, similar to those found on the Administration Building, the eight original hangars, and the U.S. Coast Guard hangar (BS-407).

Evaluation: Non-contributing
The Flatbush Avenue fence does not contribute to the historic character of the Floyd Bennett Field. It alters the original airport entrance and detracts from the historic character of the original airport entrance experience. Also, its location does not follow the World War II era property fence.

SSF-2. NPS Signage

Historic Condition: The NPS signage did not exist during the historic period.

Post-Historic and Existing Conditions: Since the NPS obtained ownership of Floyd Bennett Field in 1972, numerous signs have been installed throughout the site to aid in visitor wayfinding. The majority of the signs are simple painted metal.

Evaluation: Non-contributing
The NPS signage does not contribute to the historic character of the Floyd Bennett Field because it did not exist during the historic period. The signs are not compatible with the historic character of the landscape; however, they are unobtrusive because of their small size, which minimally impacts the overall landscape.

HANGAR ROW LANDSCAPE FEATURES EVALUATION

When the New York City Department of Docks began construction of Floyd Bennett Airport in 1928, Hangar Row was the first area to be developed. Following Department of Commerce guidelines, the main facilities of the airport were laid out in a strictly linear arrangement along a major roadway. The airfield borders Hangar Row to the east; its open character further emphasizes the linearly clustered development of Hangar Row. Spatially, Hangar Row is defined by the flat, open character of the Hangar Row apron and its relationship to the formal, streamlined architecture, which is located along nearly the entire apron. Each feature within Hangar Row is oriented either parallel or perpendicular to Flatbush Avenue. Therefore, although Hangar Row is a distinct cluster of development in the landscape, it reflects the same approach of straight, geometrical forms seen throughout the airfield. (See Figure 3.4)

During World War II, the Navy expanded the Hangar Row facilities. The design of the Navy-constructed buildings and structures did not match the unified design approach of the Floyd Bennett Airport era. Despite the difference in appearance, the Navy located their additions

primarily south of the existing facilities. The Navy's further development of the area extended the linear spatial organization of Hangar Row.

Spatial Organization Features

SO-1. Hangar Row

Historic Condition: Hangar Row was developed from 1928-1931 parallel to Flatbush Avenue and included the original airport hangars and Administration Building. Hangar Row was articulated by the linear arrangement of the buildings and structures on the apron. It also clearly defined the western limits of the landscape, separating the airfield (SO-3) from Flatbush Avenue. The spatial organization of Hangar Row reflected the Department of Commerce guidelines for airport development in the 1920s. In order for an airport to achieve the highest rating of A1A hangars and support buildings needed to be aligned linearly along one side of the runways and in close proximity to a major thoroughfare.[27] Each feature on Hangar Row was constructed parallel to Flatbush Avenue, illustrating the importance Flatbush Avenue had on the physical arrangement of Hangar Row. During World War II, the Navy constructed a series of support buildings located primarily south of the original Hangar Row development. These included the dope shop pump house (BS-30); the Hangar Row fire house (BS-50); the synthetic training building (BS-54); and the paint storage building (BS-126). Although much of the Navy development presented a design style that contrasted the Floyd Bennett Airport development, the linear arrangement of the new facilities further emphasized the existing Hangar Row spatial character.

Post-Historic and Existing Conditions: The spatial relationships of Hangar Row remain as they did during the historic period. Several support buildings constructed during the period of significance, such as storage facilities, the WPA field house, and the Administration Building addition have been removed. Also, some successional vegetation has grown south of the hangars, near the WPA dope shop.

Evaluation: Contributing

Hangar Row contributes to the historic character of the Floyd Bennett Field Historic District as a character-defining spatial feature of both the Floyd Bennett Airport and World War II eras. While some buildings and structures have been lost and the presence of successional vegetation alters the open character of the southern-most portion, overall the spatial organization of Hangar Row remains as it did during the historic period and is apparent to the visitor.

Vegetation Features

V-1. South Parking Lot Planting Bed

Historic Condition: South of the Administration Building (BS-1) and adjacent to a small parking area, the WPA planted a variety of shrubs. The planting area was bordered with the same shrubs as the lawn areas of the entry drives. Within the small border were larger shrubs ranging

in height. (See Figure 1.44) The use of ornamental vegetation surrounding the Administration Building (BS-1) illustrated the need to create a welcoming atmosphere for the airline passengers. It perhaps also served as a buffer between the passengers and the work being done in the nearby Hangars 3 and 4 (BS-4). The species of plants used is unknown.

Post-Historic and Existing Condition: None of the original plants remain in the area south of the Administration Building. The area is maintained as a lawn. It is not known when the original plant materials were removed

Evaluation: Non-contributing
The south parking lot planting bed does not contribute to the historic character of the Floyd Bennett Field Historic District because it has been significantly altered since the end of the historic period. However, it is a compatible feature because its present condition as a lawn area maintains the historic open character of the area, much of which was used as a parking lot.

Circulation Features

C-1. Pelican Street Remnants

Historic Condition: When the Department of Docks began construction of Floyd Bennett Field in 1928, Pelican Street already existed. The street was a compacted earth road leading from Flatbush Avenue to the Barren Island community. Once the airport was constructed, the road served as a taxiway for the airport's seaplanes, connecting Hangar Row (SO-1) with the seaplane ramp, built in c. 1932 on Jamaica Bay. During the historic period, most likely during the World War II era, the road was paved with asphalt. It is probable that the Navy continued to use the road to access the eastern area along Jamaica Bay from Hangar Row.

Post-Historic and Existing Conditions: Since the historic period, the condition of Pelican Street has deteriorated and portions of the road have been lost. Its connection with Flatbush Avenue up to the Navy entrance drive (C-3) remains paved and in good condition. East of the Navy entrance drive to the access road has been lost perhaps resulting from a post-World War II extension. The section that crosses through the pine windbreak (V-6) remains in fairly good condition, although the asphalt here is cracked and broken. The remaining eastern portion has been lost.

Evaluation: Contributing
Pelican Street contributes to the historic character of the Floyd Bennett Field Historic District as a distinctive feature of the Floyd Bennett Airport and World War II eras. Although sections of the road have been lost, it is the oldest extant feature on site, predating the airport. Despite its diminished surface condition, Pelican Street holds great interpretive value as the only extant feature of the Barren Island community.

C-2. Hangar Row Apron

Historic Condition: In 1930 the Department of Docks built a steel-reinforced concrete apron east of the eight hangars (BS-3-6) and Administration Building (BS-1). The southern-most portion of the apron, surrounding Hangars 1-4 (BS-3-4), and the area west of the Administration Building were constructed with rectangular asphalt pavers. In 1935, the WPA widened the apron from 350 to 400 feet. The apron remained in this condition through the end of the historic period.

Post-Historic and Existing Conditions: Since the historic period, the NPS has altered the Hangar Row apron. With the construction of the access road in c. 1996, a parking lot was constructed over the apron, southeast of the Administration Building. As with Runway 15-33 (C-7), asphalt now covers much of the original apron, although a large area directly east of the Administration Building retains the original concrete. With the construction of the Aviator Sports and Recreation complex (BS-402) in 2006, another asphalt parking lot was installed over the apron east of Hangars 5-8 (BS-5-6). The parking lots include concrete curbs and metal light standards. Outdoor fields including bleachers, stadium lights, and scoreboards were constructed on the apron, north of the hangars. A fence installed around the fields was built directly into the original concrete.

Evaluation: Contributing

The Hangar Row apron, constructed in 1930, contributes to the historic character of the Floyd Bennett Field Historic District as a characteristic circulation feature of both the Floyd Bennett Airport and World War II eras. While the portions of the original apron have been covered with asphalt, it retains its overall form and dimensions. The existing parking lots, outdoor fields, and fence have had a substantial impact on the apron's historic character. The parking lots alter the historic circulation patterns and introduce new materials and the fence damages the original materials. However, if the original apron material remains intact beneath the parking lots and outdoor fields, the diminished condition may be reversible.

C-3. Navy Entrance Drive

Historic Condition: In c. 1942, the Navy closed the original airport entrance (SO-2) west of the Administration Building (BS-1) and created a new entrance farther south along Flatbush Avenue, directly south of the one-story wood-frame barracks constructed in 1942. The asphalt drive came in perpendicular to Flatbush Avenue and ran east before splitting into a "T" formation. At its intersection with Flatbush Avenue, a gatehouse stood to its north side and a public works office and police station to the south. There was also a gate in the fence that ran along Flatbush Avenue, restricting public access into the naval air station. The north stem of the "T" connected with the Hangar Row apron (C-2) and the south stem connected with a road leading to the South Support Area, which contained barracks, offices, dining and recreation facilities. This southern section is not within the historic district.

Post-Historic and Existing Conditions: The Navy entrance drive remains intact, although it no longer functions as the site entrance; it was replaced by the current entrance in c. 1951. The original Navy fence was replaced by a NPS installed fence with a gate along Flatbush Avenue. The gate remains locked at all times, prohibiting any access onto the site from the former entrance. (See Figure 2.11)

Evaluation: Contributing
The Navy entrance drive contributes to the historic character of the Floyd Bennett Field Historic District as characteristic circulation feature of the World War II era. Some loss of historic character has occurred due to the removal of the structures and prohibited access, which alter its setting. Overall, its current materials and dimensions remain as they were during the period of significance and it provides interpretive value.

Buildings and Structures Features[28]

BS-1. Administration Building

Historic Condition: The Administration Building, located in the center of Hangar Row facing Flatbush Avenue, was built in 1930-31 as the civilian airport's passenger terminal and office building. Constructed by the city Department of Docks (architect not known), the two-story three-bay rectangular building was designed in a neoclassical style typical for early twentieth century public buildings such as post offices, court houses, and schools. The conservative and familiar style of the building was most likely intended to make passengers feel comfortable with the new technology of flight.

Characteristic features of the neoclassical style employed on the Administration Building included a symmetrical façade; simple red brick walls set on a raised water table with cast-stone entablature, quoins, and keystones; a prominent recessed central portico with Doric columns ascended by a flight of steps flanked by light standards; a low-pitched roof concealed by a brick parapet; paired double-hung windows with multi-paned upper sash set in arched openings; and glazed doors with fanlight transoms. Features distinctive to the building included a clock and winged modillion above the front (west) entrance; the name of the airport and city agency in the entablature; a balustraded observation terrace; and an integral four-story octagonal control tower in the center of the building, facing the airfield. The lower three stories of the tower were faced in brick with bands of double-hung windows, with the upper story an octagon steel observation deck positioned above the roofline. This part of the tower featured arched windows on all sides, classical ornamentation, and a large clock facing the airfield. The roof of the Administration Building was outfitted with a flagpole, spotlights, signals, and radio antennae.

Starting in 1935, passengers entered the Hangar Row apron (C-2) through hatches leading from the WPA-constructed passenger tunnel accessed from the basement of the Administration

Building. The underground "T" shaped tunnel was constructed to move passengers more efficiently from the terminal to the aircraft. The central stem of the tunnel headed 124 feet east, it then branched 120 feet north and south. Each section was 10 feet tall. At the end of the branches, a flight of stairs led to rectangular hydraulically lifted hatches that opened onto the Hangar Row apron (C-2).

In 1943, the Navy reconfigured the interior of the Administration Building for office space. At the same time, the Navy also replaced the original control tower to increase visibility onto the airfield (SO-3). The new tower was steel-framed with much larger glass windows than the original. To reduce glare, the windows angled sharply outward. The Navy also built a wood frame addition on the north side of the building to serve as a communication center. The addition was one-story and measured 60 feet by 73 feet. It connected to the main building via a narrow corridor that led directly to the first floor.

Post-Historic and Existing Conditions: Since 1945, a few changes have been made to the Administration Building. In c. 1955, the Navy replaced the original windows in an effort to better insulate the building. In 1992, the NPS removed the World War II era wood frame addition. This was done as part of an effort to restore Hangar Row (SO-1) to its condition during the Floyd Bennett Airport era. In c. 2003, the NPS removed the Navy windows on the main building and replaced them with double hung windows similar to the originals.

Evaluation: Contributing
The Administration Building, constructed from 1930-1931, contributes to the historic character of Floyd Bennett Field Historic District as a character-defining building of both the Floyd Bennett Airport (1928-1941) and World War II – eras (1941-1945). While the 1943 wood frame addition has been removed, the original building's materials and overall design intent remain intact. The changes made to the control tower, although not original to the building, reflect the Navy improvements made during World War II. (Figures 3.6, 3.7, 3.8, 3.9) As a visually prominent marker of the site, it remains an important character-defining structure in the experience of the visitor.

BS-3–6. Hangar Row Hangars

Historic Condition: The Hangar Row hangars, located in a line along Flatbush Avenue west of the airfield, were completed in 1930 by the Department of Docks as part of the original development of Floyd Bennett Airport. Built to house and service aircraft, the expansive steel-frame structures were designed in a modern streamlined classical style that was subsequently employed as the standard style for all airport buildings except for the Administration Building. This style, reflecting the modern function and advanced structural engineering of the hangars, was defined by use of buff tapestry brick, parapets, stamped metal gables, expansive areas of glazing, and cast-stone detailing including quoins, coping, lintels, and water tables.

When originally constructed, each pair of the 120-foot by 140-foot hangars had 50 feet separating them. The Department of Docks also constructed lean-tos along either the east or west side and provided shop, office, and repair space.[29] In 1936 – 1937, the WPA constructed an infill building connecting Hangars 1 and 2 (BS-3), which functioned as a machine shop. The infill building of Hangar 3 and 4 was constructed in 1934. Infill buildings were constructed for Hangars 5 and 6 (BS-5) and 7 and 8 sometime between 1934 and 1937.

Each group of three buildings served as one building articulated into three parts with brick piers at each corner defining the bays. The lean-tos and the infill building connected to the hangars from the piers. Between the piers and above the aluminum alloy and glass sliding hangars doors were copper gables. The doors had an overhead clearance of 22 feet. On the copper gables was the hangar number, 'City of New York,' and 'Floyd Bennett Field.' An entry door was located on the central bay (the infill building). Above the entrance door was a steel-framed window. The second story had a single band of similar windows. On each grouping of hangars, either the north or south façade was treated with more detailing. The detailed façade was determined by whichever side was more visible to the public. Since one façade of each group faced another group of hangars, the opposite was the more visible façade. The visible façade of the central bay was detailed with two sets of smaller brick piers to either side of the entrance. Above the entrance, there was a raised parapet above with a cast-stone bas-relief panel. The panel had the letters 'N.Y.C.' and 'F.B.A.' for Floyd Bennett Airfield in the center surrounding by stylized propellers. [30]

Post-Historic and Existing Conditions: After 1945, few changes have been made to Hangars 1 - 4 or their associated lean-tos and infill building. Since 1972, when the NPS gained ownership of the site, the buildings have been unoccupied. Hangar 3 is sometimes used for storage. The NPS removed the labels on the copper gable and their overall physical appearance has deteriorated; the brick is damaged in several area and many of the windows are broken.

Hangars 5-8 remained as they did historically until 2005 when the NPS granted a concessionaire license to Aviator Sports and Recreation, permitting them to build a sports complex at Hangars 5 through 8 and north of the hangars, on the Hangar Row apron (C-2). The Aviator Sports and Recreation complex (BS-402) includes an infill building connecting Hangar 5 and 6 with Hangars 7 and 8 (BS-6). (Figure 3.10) While the facades of the hangars remain intact, the interiors have been completely renovated. Located within Hangars 5 and 6 are ice skating facilities; the lean-tos and original infill building are programmed to be used as entertainment or party rooms, although they remain incomplete as of early 2007. Located within Hangars 7 is space for gymnastics, cheerleading, and dance training; in Hangar 8 are indoor multi-use courts; the original infill building contains a 15,000 square foot gym with exercise equipment and locker facilities.

BS-3. Hangars 1 and 2

Evaluation: Contributing

Hangars 1 and 2 (BS-3) and their associated lean-tos and infill building contribute to the historic character of the Floyd Bennett Field Historic District as a character-defining building of both the Floyd Bennett Airport and World War II eras. While there is some deterioration present, this condition has not impacted the overall historic character of the building.

BS-4. Hangars 3 and 4

Evaluation: Contributing

Hangars 3 and 4 (BS-4) and their associated lean-tos and infill building contribute to the historic character of the Floyd Bennett Field Historic District as a character-defining building of both the Floyd Bennett Airport and World War II eras. While there is some deterioration present, this condition has not impacted the overall historic character of the building.

BS-5. Hangars 5 and 6

Evaluation: Contributing

When evaluated independently from the Aviator Sports and Recreation complex (BS-402), Hangars 5 and 6 (BS-5) contribute to the historic character of the Floyd Bennett Field Historic District as a character-defining building of both the Floyd Bennett Airport and World War II eras. While the extensive changes to the interior and the connecting structure greatly detract from the historic character of the building, much of its original materials and the original design intent remain.

BS-6. Hangars 7 and 8

Evaluation: Contributing

When evaluated independent from the Aviator Sports and Recreation complex (BS-402), Hangars 7 and 8 (BS-6) contribute to the historic character of the Floyd Bennett Field Historic District as a character-defining building of both the Floyd Bennett Airport and World War II eras. While the extensive changes to the interior and the connecting structure greatly detract from the historic character of the building, much of its original materials and the original design intent remain.

BS-26. Dope Shop

Historic Condition: The WPA built the dope shop in 1937 south of the Hangar Row apron (C-2). The rectangular dope shop was constructed of brick with cast-stone accents, following the same streamlined classical style of the hangars and several support structures. The north, or main façade, was divided into three bays, defined by large brick piers and stepped and rounded pediments. On each of the piers and in the center of each bay, a diamond shaped cast-stone accent was set into the brick. The central bay was flanked on either side by large glazed steel

doors similar to the sliding hangar doors. Immediately upon the dope shop's completion, the Navy and the City of New York shared occupancy. In c. 1943, the Navy built a concrete lean-to on the dope shop's south façade. The lean-to was approximately three-quarters of the height of the dope shop with a sloped roof.

Post-Historic and Existing Conditions: After the end of the historic period in 1945, few changes have been made to the dope shop or its lean-to. Since 1972, when the NPS gained ownership of the site, the building has been unoccupied. Its overall physical appearance has deteriorated from lack of maintenance; many of the windows are broken and notices on the east side of the building warn visitors that the building contains hazardous polychlorinated biphenyls (PCBs). (See Figure 2.7)

Evaluation: Contributing
The dope shop contributes to the historic character of the Floyd Bennett Field Historic District as a distinctive building of both the Floyd Bennett Airport and World War II eras. While there is some deterioration present, this condition has not impacted the overall historic character of the building. The building continues to visually mark the former functions of the airport.

BS-29. Administration Building Pump House

Historic Condition: The WPA constructed the one-story pump house between the Administration Building (BS-1) and Hangar 6 (BS-5) in 1937 – 1938. The building employed the unified style of the other airport buildings constructed by the City, using a streamlined classical style with buff tapestry brick and cast-stone details. The twenty-two-foot by thirty-foot building was constructed of brick with a cast-stone parapet, with hipped copper roof. Inscribed on the north and south parapet is the title 'Pump House.' In c. 1942, the Navy built a one-story wood frame lean-to on the west side of the pump house for additional storage space.

Post-Historic and Existing Conditions: No changes were made to the pump house until sometime after 1980, when the NPS demolished the Navy lean-to. The original brick pump house remains intact.

Evaluation: Contributing
The Administration Building pump house contributes to the historic character of the Floyd Bennett Field Historic District as a distinctive building of both the Floyd Bennett Airport and World War II eras. While the Navy lean-to was demolished, the Administration Building pump house remains intact and reflects the unified design approach of the Floyd Bennett Airport era. (Figures 3.11, 3.12)

BS-30. Dope Shop Pump House

Historic Condition: The Navy built the dope shop pump house in 1942 as part of the expansion of the area south of Hangar Row (SO-1). It was built approximately five feet to the east of the dope shop. The Navy designed the pump house to be compatible with the design of the hangars and several support structures. The pump house exterior was constructed of tan tapestry brick with cast-stone accents. The gabled parapet with a cast-stone coping stepped on both the east and west sides. The pump house retained its original character through the end of the historic period.

Post-Historic and Existing Conditions: No major changes have been made to the dope shop pump house since the end of the historic period; some graffiti is present on the north façade. (See See Figure 2.7)

Evaluation: Contributing

The dope shop pump house contributes to the historic character of the Floyd Bennett Field Historic District as a distinctive building of the World War II era as it was the only Hangar Row building in which the Navy implemented the unified design approach of the Floyd Bennett Airport era. While there is some deterioration present, this condition has not impacted the overall historic character of the building.

BS-50. Hangar Row Fire House

Historic Condition: The Navy built the one-story fire house in 1942 as part of the expansion south of Hangar Row (SO-1). Construction of the wood frame building included white clapboard siding and a gable roof, similar to other support buildings the Navy constructed during the war.

Post-Historic and Existing Conditions: No major changes have been made to the fire house since the end of the historic period although some deterioration has occurred in the vacant building; a few vines have grown up the sides of the building, the windows and doors have all been boarded up, at least one garage door has been removed, and wooden clapboards appear to be rotted in some areas. (See Figure 2.10)

Evaluation: Contributing

The fire house contributes to the historic character of the Floyd Bennett Field Historic District as a characteristic building of the World War II era. While there is some deterioration present, this condition has not changed the overall historic character of the building.

BS-54. Synthetic Training Building

Historic Condition: As part of the expansion south of Hangar Row (SO-1) in 1942, the Navy demolished the 1937 WPA garage to make room for a synthetic training building. The training

building was laid out roughly in the shape of an 'I,' with the center stem being longer than the side branches. The new building was oriented perpendicular to Flatbush Avenue and located south of the Hangar Row fire house (BS-50). The building design was simple, characteristic of the Navy's support buildings constructed during World War II. It did not follow the unified theme of many of the brick structures located in the same area. Construction of the one-story, gabled roof wood frame training building included white clapboard siding. The main façade had a single row of six over six double hung windows. Its appearance is similar to the adjacent fire house.

Post-Historic and Existing Conditions: No major changes have been made to the synthetic training building since the end of the historic period although some deterioration has occurred; a few vines have grown up the sides of the building, many of the windows are broken, and wooden clapboards appear to be rotted in some areas. (See Figure 2.11)

Evaluation: Contributing
The synthetic training building contributes to the historic character of the Floyd Bennett Field Historic District as a characteristic building of the World War II era. While there is some deterioration present, this condition has not diminished the overall historic character of the building.

BS-57. Transformer Vault

Historic Condition: The Department of Docks constructed a transformer vault between 1931 and 1932. Located south of Hangar Row (SO-1), the small ten-foot by twelve-foot, flat-roofed building was constructed of brick and cast-stone that matched the unified style of the other airport buildings. There was a single window on both the north and south facades. After the close of the Floyd Bennett Airport, the Navy continued to use the transformer vault through the remainder of the historic period.

Post-Historic and Existing Conditions: The transformer vault remained in use until 1972. Only minor changes have occurred since 1972. The two windows have been replaced and there is some efflorescence present at the parapet. (See Figure 2.8)

Evaluation: Contributing
The transformer vault contributes to the historic character of the Floyd Bennett era. It retains its historic character as it remains intact and reflects the unified building design of the Floyd Bennett Airport era.

BS-120. Transformer Vault

Historic Condition: In 1938, the WPA built the one-story transformer vault north of Hangar 7 (BS-6). The exterior of the fourteen-foot by twenty-two-foot building matched the unified style

of the other civilian airport buildings. The building was constructed of tapestry brick with cast-stone accents, with a flat asphalt roof. In c. 1943, the Navy constructed a twelve-foot by twenty-six-foot addition on the south side of the vault. The tapestry brick matched the original structure, although more cast-stone accents were used in the Navy addition.

Post-Historic and Existing Conditions: No changes have been made to the transformer vault since the end of the historic period; however, its setting was been altered in 2006 when the outdoor fields for the Aviator Sports and Recreation complex (BS-402) were constructed.

Evaluation: Contributing
The transformer vault contributes to the historic character of the Floyd Bennett Field Historic District as a characteristic building of both the Floyd Bennett Airport and World War II eras. Overall, its historic condition remains intact and it reflects the unified design approach of the Floyd Bennett Airport era. However, the presence of the 2006 Aviator Sports and Recreation complex (BS-402) outdoor fields greatly detracts from its historic setting. (See Figure 2.5)

BS-126. Paint Storage

Historic Condition: The Navy constructed the paint storage building in c. 1942 – 1943, approximately ten feet south of the dope shop pump house (BS-30) as part of the expansion south of Hangar Row (SO-1). The less than ten-foot square building was constructed of parged concrete block.

Post-Historic and Existing Conditions: Lack of maintenance has resulted in severe deterioration of the paint storage building. The entire northwest corner of the building and roof are missing. (See Figure 2.9)

Evaluation: Non-contributing
The paint storage building does not contribute to the historic character of the Floyd Bennett Field Historic District because it has suffered severe deterioration since the end of the historic period. However, it is an unobtrusive feature because it was present during the period of significance and was a minor feature in the landscape historically.

BS-145. Beacon Tower

Historic Condition: The beacon tower did not exist during the historic period.

Post-Historic and Existing Conditions: In 1957, the Navy erected the beacon tower next to the Administration Building pump house (BS-29). It is a metal structure with a beacon light affixed to the top. Today it remains as it did when it was first constructed.

Evaluation: Non-contributing
The beacon tower does not contribute to the historic character of Floyd Bennett Field Historic District because it was built after the end of the historic period, in 1945. While it does not date from the historic period, it is a compatible feature because its use is related to the site's aviation history. (Figure 3.13)

BS-401. Rotating Platforms

Historic Condition: In 1935, the WPA expanded several of the existing facilities at Floyd Bennett Field. The main purposes of the improvements were to enhance the efficiency of passenger accommodation and the landing capabilities for aircraft. Included as part of the improvements were four rotating platforms constructed on the Hangar Row apron (C-2), east of the Administration Building. Aircraft would sit on the platforms when passengers were loading and unloading; when the aircraft was ready for taxiing, the platforms would rotate to point the aircraft in the appropriate direction. The establishment of the platforms decreased the area needed for aircraft to move from the apron to the taxiway. It is not known if use of the platforms extended into the World War II era.

Post-Historic and Existing Conditions: The development and condition of the rotating platforms after the end of the historic period remains uncertain. If the rotating platforms remained intact, they would have been covered with asphalt in c. 1996, when the access road over Runway 15-33 (C-7) and parking lots were constructed in that area.

Evaluation: Unevaluated
Further research is required (possibly archeological investigation) to adequately evaluate the historic condition, post-historic and existing conditions of the rotating platforms.

BS-402. Aviator Sports and Recreation complex

Historic Condition: The Aviator Sports and Recreation complex did not exist during the historic period.

Post-Historic and Existing Conditions: In 2006, Aviator Sports and Recreation, a park concessionaire, formed and began construction of the Aviator Sports and Recreation complex. The primary structure built was a metal infill building that connects Hangars 5 and 6 (BS-5) with Hangars 7 and 8 (BS-6). (See Figure 3.10) There is also a large metal structure located between the Administration Building pump house (BS-29) and Hangar 6, which regulates the indoor ice rinks. (Figure 3.14) A new parking lot was installed over the Hangar Row apron (C-2) east and north of the hangars. A red scale-model airplane sits above the center of the parking area. Two large outdoor fields with bleachers, scoreboards, and stadium lights are located north of the hangars. A large black fence encloses the fields. (Figure 3.15)

Evaluation: Non-contributing
The Aviator Sports and Recreation complex does not contribute to the historic character of Floyd Bennett Field Historic District, as it did not exist during the historic period. It detracts from the historic character of the district, particularly pertaining to Hangar Row (SO-1) and Hangars 5 through 8. The other structures, including the ice rink support structure, the airplane, the bleachers, scoreboards, and stadium lights all detract from the historic character of Hangar Row. (Figure 3.16)

Small-Scale Features

SSF-3. Aviator Sports and Recreation complex Fence
Historic Condition: The Aviator Sports and Recreation complex fence did not exist during the historic period.

Post-Historic and Existing Conditions: When the Aviator Sports and Recreation complex outdoor fields were constructed in 2006, Aviator Sports and Recreation installed the approximately twelve-foot high black chain-link fence. The fence is located along the north and east sides of the outdoor fields. (See Figure 3.15)

Evaluation: Non-contributing
The Aviator Sports and Recreation complex fence does not contribute to the historic character of Floyd Bennett Field Historic District because it did not exist during the historic period. It detracts from the historically open character of Hangar Row (SO-1) and has damaged the Hangar Row apron (C-2) because it was installed directly into the original concrete.

AIRPORT ENTRANCE LANDSCAPE FEATURES EVALUATION

The airport entrance forms a smaller character area within Hangar Row and is located west of the Administration Building. The WPA constructed much of the entrance landscape in 1935. The airport entrance space is framed primarily by the Hangar Row development; the Administration Building encloses the entrance to the east; to the north and south of the entrance are Hangars 3 and 4 and Hangars 5 and 6, respectively; Flatbush Avenue provides the western boundary. The two diagonal concrete entry drives are the visually dominant features of the entrance area.

When Floyd Bennett Airport opened in 1931, passengers entered from Flatbush Avenue west of the Administration Building. Initially, the entrance included two diagonal entry drives and little else. The lack of plant materials and walkways created a barren, uninviting entry experience. In 1935, the Department of Docks constructed several new features at the entrance through the WPA program. The new entrance included a large lawn area lined with hedges and several pedestrian walkways. The entrance to the Administration Building was flanked by two large

perennial planting beds. The use of plant materials helped to create an inviting environment for airline passengers.

During World War II, it became necessary for the Navy to alter the airport entrance. The Navy constructed guard booths and eventually installed a chain-link fence, restricting access into the landscape. Despite the Naval changes to the entrance's features, the lawn area remained intact. Today, the lawn area, walkways, and a reconstructed "Floyd Bennett Airport" sign help to recreate the entry experience of early airline passengers that visited the site in the 1930s, although the lack of access is a major deterrent.

Spatial Organization Features

SO-2. Airport Entrance

Historic Condition: The WPA redesigned the public entrance to the airport in 1935, four years after the opening of the civilian airport. The main elements were two diagonal entry drives and eight pedestrian walkways. The most prominent walkway was the central walk, perpendicular to Flatbush Avenue, which articulated the symmetry of the diagonal entry drives and lawn areas. Wide panels of lawn to the north and south of each entry drive separated them from the Administration Building parking area and the parallel sidewalks. Shrubs lined the outside border of the lawns. The area between the entry drives was also planted as an open lawn. The central sidewalk circled around a wooden entry sign, also constructed by the WPA, and a flagpole (SSF-5). The middle of the circle was planted with grass and small shrubs. Flatbush Avenue framed the airport entrance on the west, particularly the sycamore trees lining its sidewalk. In 1942, the Navy relocated the main entrance onto the site and installed a chain-link fence along Flatbush Avenue; this however did not significantly alter the spatial organization of the entrance.

Post-Historic and Existing Conditions: Minor changes to the space have occurred since the end of the historic period; the NPS removed the Navy's chain-link fence and installed a large, black, metal fence. The NPS fence runs along the outside border of the lawns to the north and south of the entry drive and follows the east border of the main lawn. A gate located at the east end of the central walkway is always open, allowing pedestrians to enter the landscape from the original entrance. Gates are also located at the entry drives, although they remain locked. While the open lawn between the entry drives remains, many of the hedges have been lost.

Evaluation: Contributing

The airport entrance contributes to the historic character of the Floyd Bennett Field Historic District as a character-defining spatial feature of both the Floyd Bennett Airport and World War II eras. While details have been changed regarding the use of the entrance, overall the spatial organization of the airport entrance remains unchanged since the end of the historic period. (Figures 3.17, 3.18)

Vegetation Features

V-2. Airport Entrance Lawn and Plantings

Historic Condition: In 1935, the WPA designed the airport entrance (SO-2) from Flatbush Avenue. The entrance consisted of two diagonal drives with parallel sidewalks. Areas between the diagonal entry drives and sidewalks were planted as lawn. The WPA planted shrubs along the borders of the smaller lawns while the main lawn remained open. Rhododendrons were planted on the north and south side of the entry sign and small perennials lined the east and west of the sign. The WPA also planted sycamore trees lined the central walkway and along Flatbush Avenue, which provided cohesiveness between the airport and its surrounding context.

Post-Historic and Existing Condition: While most of the ornamental plantings in the airport entrance area lawn are gone, the lawn, two of the diagonal rows of hedges and the sycamore trees. The mature trees frame the Administration Building (BS-1) entrance walk along Flatbush Avenue.

Evaluation: Contributing

The vegetation of the airport entrance lawn area contributes to the historic character of the Floyd Bennett Field Historic District as a distinctive vegetation feature of both the Floyd Bennett Airport and World War II eras. While much of the ornamental shrubs and perennials have been lost, the sycamore trees and the open lawn reflect the character of the area during the historic period. (See Figures 3.17, 3.18)

V-3. Administration Building Foundation Plantings

Historic Condition: In 1935, the WPA installed two large planting beds on both sides of the Administration Building entry, bordered with cast-stone, matching the building's detailing. They planted vegetation in four parallel rows in each bed. The rear row was planted with nine rhododendrons; the remaining three rows were cannes lilies. A juniper was planted on each side of the entry stairs.

Post-Historic and Existing Condition: Little of the WPA-designed Administration Building foundation plantings remain. The cast-stone edging of the plant beds remain, although the beds contain mainly woodchips. Of the two original junipers, only the one to the north of the entrance stairway remains.

Evaluation: Non-contributing

The Administration Building foundation plantings do not contribute to the historic character of the Floyd Bennett Field Historic District. Nearly all the historic plant materials have been lost. The Administration Building foundation plantings were an important part of the landscape's

historic design. The use of ornamental vegetation on the entrance side of the building illustrates the need to create a welcoming atmosphere for the airline passengers. The present lack of plants detracts from the historic character of the landscape. However, this condition could be reversed through reintroduction of the historic plant materials.

Circulation Features

C-4. Administration Building Parking Lots

Historic Condition: During the Floyd Bennett Airport era, the Department of Docks and the WPA constructed a total of three parking lots to the north, west, and south sides of the Administration Building (BS-1) as well as a small parking area to the east of the building. The parking lot directly to the west of the Administration Building was the first to be constructed and served as the primary visitor parking area. When first constructed, the central parking lot was surfaced with asphalt pavers identical to those located around the Hangars. The 1935 WPA redesigned airport entrance included the construction of larger parking areas to the north and south of the Administration Building, which were surfaced with fine crushed stone gravel. To the east of the Administration Building, a small number of parking spaces lined the foundation. Like the west, central parking lot, the east parking area was surfaced with asphalt pavers. A chain-link fence, approximately three feet tall enclosed the four parking areas, restricting access to the hangars and the Hangar Row apron. During World War II, the Navy continued use of the north, west, and south parking lots. It is unlikely that they continued use of the small east parking area.

Post-Historic and Existing Condition: Of the three parking lots and one parking area that surrounded the Administration Building during the historic period, only the central parking lot west of the building remains today. The remaining parking lot maintains its overall size, although in c. 1996 the NPS covered the asphalt pavers with a layer of solid asphalt. However, the asphalt is beginning to crack and break, allowing the form of the pavers to be seen. In some areas, where the asphalt has broken apart, the historic pavers are clearly visible. (See Figure 2.12) The north parking lot today is primarily an open asphalt area with an access road connecting the west parking lot with the parking lots constructed on the Hangar Row apron (C-2). The south parking lot is a large grass panel today. Much of the asphalt pavers remain at the former parking area along the east foundation of the Administration Building, although the area is no longer used for parking.

Evaluation: Non-contributing

The Administration Building parking lots do not contribute to the historic character of the Floyd Bennett Field Historic District. Of the three parking lots and one parking area constructed during the historic period, only the east parking area maintains its historic character. Overall, the west parking lots maintains its historic form, although the asphalt laid over the historic

pavers detracts from its historic character. The north and south parking lots no longer remain intact and therefore do not contribute to the historic character of the airport entrance.

C-5. Diagonal Airport Entrance Drives

Historic Condition: In 1935, the WPA redesigned the airport entrance. The dominant feature of the new entrance was two symmetrically-placed concrete, diagonal entry drives framing the central lawn area. Allowing vehicular access from Flatbush Avenue, the entrance drives connected with the central visitor parking lot (C-4) located west of the Administration Building (BS-1). During World War II, the Navy constructed a new entrance drive south of the 1935 WPA drives. Although the Navy no longer allowed access into the site from the diagonal drives, they were left intact.

Post-Historic and Existing Condition: Today the diagonal entrance drives remain as they did through the historic period although the installation of two small-scale features has changed the overall character. The NPS does not allow vehicular access into the site from the drives. To restrict access, the NPS installed a tall, black fence constructed of posts and pickets. The fence runs along the inner edge of the entrance drives, dividing the airport entrance character area in half. While a gate is located at the east end of each entrance drive, they remain locked at all times. The NPS also installed a line of bollards along the west end of each drive, further restricting access. (See Figure 2.13)

Evaluation: Contributing

The diagonal airport entrance drives contribute to the historic character of the Floyd Bennett Field Historic District as a character-defining circulation feature of the Floyd Bennett Airport era. The entrance drives were the main visitor access roads during the airport era and helped define the entry experience. Although the entrance drives are no longer used, they retain their historic character and are integral to the integrity of the entrance sequence and the Hangar Row landscape.

C-6. Airport Entrance Walkways

Historic Condition: In 1935, the WPA redesigned the airport entrance. In addition to the diagonal entrance drives (C-5), the new entrance included eight concrete pedestrian walkways. The most prominent walkway was the central walk, perpendicular to Flatbush Avenue, which articulated the symmetry of the diagonal entry drives and lawn areas. Four additional walkways were located parallel to each side of the diagonal drives. A curved walkway ran along the east border of the central lawn area, connecting the east ends of two of the parallel walkways. Two shorter walkways crossed the diagonal drives perpendicularly near their east ends. During World War II, the Navy constructed a new entrance south of the 1935 WPA entrance, restricting access to the original entrance, including the walkways. Although the Navy no longer used the walkways, they were left intact.

Post-Historic and Existing Condition: Today the airport entrance walkways remain as they did through the historic period although the installation the NPS Flatbush Avenue fence (SSF-1) divides the airport entrance character area in half. All eight walkways are located west of the fence. A gate at the east end of the central walkway still allows pedestrian access from the historic airport entrance.

Evaluation: Contributing
The airport entrance walkways contribute to the historic character of the Floyd Bennett Field Historic District as a distinctive circulation feature of the Floyd Bennett Airport era. The walkways helped create a formal entry experience for visitors to the airport. Although the walkways have been impacted by the constructed of the Flatbush Avenue fence, overall they retain their historic character.

Small-Scale Features

SSF-4. Airport Entrance Light Standards

Historic Condition: In 1935, the WPA designed the airport entrance (SO-2), west of the Administration Building. The new design incorporated two light standard styles: cast-iron and rustic. Along the central walkway perpendicular to Flatbush Avenue were cast-iron lights. The light fixture was enclosed in rounded frosted urn-shaped luminaries. Four cast-iron prongs cradled the glass. Lining the east edge of the lawn area were rustic style wooden lights. The rustic style lights consisted of a simple cedar post similar to those used on area parkways. At approximately three-quarters of the height, a cross-post extended out supported by a small diagonal beam connected to the main post. The simple light fixture hung from the end of the cross-post.

Post-Historic and Existing Conditions: All the original cast iron and rustic light standards have been removed since the end of the historic period. New cast-iron Central Park-style light standards are located where two original light standards stood. The same style of light standards also lines the lawn area. The new light standards are similar in color to the original cast iron light standards but not in their overall appearance. The bases and the glass enclosures have an entirely different shape and the glass is capped with cast-iron. The original lights were uncapped.

Evaluation: Non-contributing
The airport entrance light standards do not contribute to the historic character of the Floyd Bennett Field Historic District. While the original cast-iron light standards have been replaced, the loss of all the original cast iron and rustic light standards and the location of new light standards lining the lawn detract from the historic character of the airport entrance (SO-2). (See Figures 3.17, 3.18)

SSF-5. Airport Entrance Flagpole

Historic Condition: In 1935, the WPA designed the airport entrance (SO-2), west of the Administration Building. The new design included a white, painted steel flagpole, located in the center of the airport entrance lawn area (V-2), encircled by the central walkway.

Post-Historic and Existing Conditions: The flagpole remains as it did during the historic period.

Evaluation: Contributing

The airport entrance flagpole contributes to the historic character of the Floyd Bennett Field Historic district as a distinctive small-scale feature of both the Floyd Bennett Airport and World War II eras. Its historic materials and setting within the airport entrance (SO-2) remains unchanged.

SSF-6. Airport Entrance Sign

Historic Condition: In 1935, the WPA designed the airport entrance (SO-2), west of the Administration Building. The new design included a rustic style wooden entrance sign. The sign was approximately eight feet in height. Four wooden support posts were paired at either end of an approximately one-and-a-half-foot high brick base. Between the support posts, a four-part rectangular sign measuring approximately three feet wide and three-and-a-half feet tall hung from overhead beams that were carved with simple curves at the ends. The title 'Floyd Bennett Airport' was carved into the wood and a circular piece with the corporate seal of New York City sat below with the bottom half extending approximately six inches beyond the edge of the rectangular sign. To either side of the emblem were simple metal rings projecting from the sign's face. The overhead support beams were topped with an angled miniature gabled roof covered with shingles. While research for this report has not discovered documentation on when the original entrance sign was removed, it is likely that the Navy removed during the World War II era, when the site operated as NAS, New York.

Post-Historic and Existing Conditions: In May 2006, as part of the commemoration of the 75th anniversary of the opening of Floyd Bennett Field as a civilian airport, the NPS reconstructed the sign. The new sign is essentially the same design as the original sign, except for two differences: the gabled roof was not constructed on the new sign and the wood stain appears considerably lighter on the new sign than on the original sign depicted in historic photographs.

Evaluation: Non-contributing

The airport entrance sign does not contribute to the historic character of Floyd Bennett Field Historic District because it is a reconstruction of a lost historic feature. Although the reconstructed sign is not an exact replica of the original sign, it is compatible with the character of the entrance area in that it conveys the overall character of the original sign and provides

interpretive value as with regard to the entry experience of passengers during the Floyd Bennett Airport era. (Figures 3.19, 3.20)

AIRFIELD LANDSCAPE FEATURES EVALUATION

The airfield comprises the central space of Floyd Bennett Field. The clustered arrangement of Hangar Row and along Jamaica Bay defines the airfield's west and east boundaries, respectively. To the north and south are the North 40 Natural Area and the South Support Area.

Overall, the character of the airfield is defined by large expanses of flat, open land. The most dominant features of the Floyd Bennett Field landscape – the runways – are located within the airfield. Development of the airfield began in 1928, when the Department of Docks filled the series of natural islands, marshes, and creeks of Jamaica Bay. Much of the resulting level landmass became Floyd Bennett Field's central airfield. The Department of Docks constructed the first two runways in 1928. Expansion of existing runways and construction of entirely new runways and taxiways continued throughout the historic period. The intersections of the runways and taxiways create a series of distinctive geometric forms in the airfield. In the largely triangular areas between the runways, the Department of Docks planted grass, which was historically maintained as mown grass. Today the NPS manages the airfield turf as naturalized grasslands. Because the main features of the airfield are virtually flat, the airfield represents the open, expansive character that was critical to the daily operations of both the airport and the naval air station. While today the runways, taxiways, and naturalized grasslands maintain their flat character, there have been a few changes that have occurred, altering the historic spatial character of the airfield. These include the installation of several berms in c. 1996 and the growth of successional woods at the northern boundary as well as the changed nature of the airfield turf.

Spatial Organization Features

SO-3. Airfield

Historic Condition: As a spatial feature, the airfield encompasses the runways, taxiways, and the space between them. When the airfield was first developed in 1928, it was a broad open space defined by expanses of mown grass and runways. The construction of the Administration Building (BS-1) and the hangars in 1930-31 defined the west boundary of the airfield. The spatial relationship of the airfield became more clearly defined with the construction of the Coast Guard Air Station (1936) and the Navy Seaplane Patrol Base (1941), which defined the airfield to the east. The form of the runways, taxiways, and aprons along with the linear arrangement of buildings to the east and west created a geometrical configuration in the landscape.

Post-Historic and Existing Conditions: Since the historic period, the most substantial change to the spatial character of the airfield has been the growth of successional woods in the northern

portion as well as the growth of the pine windbreak. Although some alterations have been made to the runways and the mown grass has been converted to naturalized grasslands, much of the airfield retains its open character and the distinct geometric forms are still visible.

Evaluation: Contributing
The airfield space, originally constructed in 1928, contributes to the historic character of Floyd Bennett Field Historic District as a character-defining spatial feature of both the Floyd Bennett Airport and World War II eras. While successional vegetation has impacted its expansive character in the north end, overall the spatial organization of the airfield remains largely unchanged since the end of the historic period.

Land Use Features

LU-1. Campgrounds

Historic Condition: The campgrounds did not exist during the historic period.

Post-Historic and Existing Conditions: Currently there are six campground facilities at Floyd Bennett Field constructed in two different locations within the airfield. Clearings in the pine windbreak (V-6) along the south side of the airfield contain four campgrounds: Camp Ladybird, Camp Marshawk, and Camp Pheasant and Camp Cherry. These campgrounds all contain small wood-frame shelters with metal roofs and picnic tables beneath. Two of the three have ten wooden tent platforms around the perimeter of the campsite; the third has six small wooden cabins with screen doors and windows. (See Figures 2.23, 2.24) Two more campgrounds are located in clearings in the woods at the intersection of Taxiway 6 (C-16) and Taxiway 6-24 (former Runway 6-24) (C-8) towards the north end of the airfield: Camp Tamarak and Camp Goldenrod. Similar to the campgrounds in the pine windbreak, these two also have shelters with picnic tables. However, there are no cabins or tent platforms. Instead, Camps Tamarak and Goldenrod have plenty of open grass on which to set up tents. (See Figure 2.25)

Evaluation: Non-contributing
The campgrounds do not contribute to the historic character of the Floyd Bennett Field Historic District as they did not exist during the historic peri0d. In spite of their lack of association with the aviation or military history of the site, they are compatible features because they are not readily visible in the landscape, although Camps Tamarak and Goldenrod are concealed by non-contributing successional woods. (Figure 3.21)

Topography Features

T-1. Berms

Historic Condition: The berms did not exist during the historic period.

Post-Historic and Existing Conditions: In c. 1996, the Federal Highway Administration funded a project to develop an access road over Runway 15-33 (C-7). As part of the project, eight berms were constructed on top of existing runways in a purported attempt to discourage speeding through the site. Two are located at the north end of the access road, one is located at the eastern intersection of the access road and Runway 1-19 (C-10), one is at the intersection of Runways 1-19 and 12-30, three more are located at the intersection of the access road and the western end of Taxiway 6-24 (former Runway 6-24) (C-8), the eighth berm is located on a section of Taxiway 7, west of the Armed Forces Reserve Center (outside the historic district). The approximately six-foot tall berms vary in length. Each is covered in grass.

Evaluation: Non-contributing
The c. 1996 berms do not contribute to the historic character of Floyd Bennett Field Historic District and they also detract from the historic character of the cultural landscape. The berms are an intrusion in the landscape's flat nature and obstruct key circulation features, such as the runways.

Vegetation Features

V-4. Airfield Turf

Historic Condition: In 1928, the entire area surrounding the original airport runways and subsequently between the additional runways, was covered with subsoil and topsoil and then fertilized, seeded, and maintained as mown grass. The area north of the original airfield, which the Navy filled in 1942, appears to have been less managed than the mown areas, although the vegetation appears to have been low-scale to maintain sight lines.

*Post-Historic and Existing Conditions: A*fter the historic period, the airfield area appears in historic photographs to have been managed as mown grass, although less meticulously than during the Floyd Bennett Airport era. In historic photographs, it appears that the northern area was less managed and allowed to grow into successional woods. In c. 1985, the NPS began managing the mown grass as naturalized grasslands in order to provide wildlife habitat. Currently the height of the grasslands is approximately three-feet and include small, shrubby trees.

Evaluation: Non-contributing
The airfield turf does not contribute to the historic character of the Floyd Bennett Field Historic District. Although the present naturalized grasslands are spatially compatible with the airfield turf, the loss of the mown lawn impacts the character of the airfield. The successional woods in the northern area of the airfield detract from the historic airfield turf.

V-5. Grass Panels

Historic Condition: The area that separated Hangar Row (SO-1) from the rest of the airfield (SO-3) served as a transition space between the public access area around the Administration Building (BS-1) and the runways. Most prominent in the space was a series of grass panels between the taxiways. Initially, there were two long, narrow panels running north to south. These areas most likely were unmanaged until three additional taxiways were constructed in 1932, creating five smaller panels. At this point, the panels were seeded and maintained as mown grass. Although they were identical in width, their length varied. They ran parallel between the Hangar Row (SO-1) apron and Runway 15-33 (C-7). In c. 1935, the airport compass rose (BS-277) was installed in the northern-most panel. (Figure 3.22)

Post-Historic and Existing Conditions: The grass panels remained unchanged until c. 1960 when two asphalt pedestrian pathways were constructed north of the compass rose. Successional vegetation has grown in the area surrounding the pathways. Of the three central panels, only the southern panel remains. The two to the north were covered with concrete during the Cold War (exact date unknown). The southern-most of the five panels was altered in c. 1980, when the non-profit Floyd Bennett Garden Association established community gardens there. There are approximately 600 plots enclosed in chicken-wire type fencing with small wooden posts. West of the plots is a compost area and to the south is the community garden picnic area, which consists of several picnic tables and pedestal grills.

Evaluation: Non-contributing

The landscape that was once grass panels do not contribute to the Floyd Bennett Field Historic District. Today, only two of the five panels remain as they did during the historic period. While the two altered central panels that were covered with concrete are compatible because they retain their flat, open character, the present condition of the southern-most panel detracts from the historic condition. The establishment of the community gardens has substantially altered the formerly open character. In spite of the extensive changes, they still function as a transition space between Hangar Row (SO-1) and the airfield (SO-3). Many of the alterations made after the end of the historic period are reversible.

V-6. Pine Windbreak

Historic Condition: The Navy planted the pine windbreak entirely of red pine in a clearly defined triangular shape with a relatively open interior along Taxiway 4 (C-14) during the World War II era. Its function was most likely to protect the South Support Area from north winds. Although an exact date of installation has not been identified, the windbreak was most likely planted either in or shortly after 1945. This is when the Navy constructed the taxiway to which it runs parallel. The fact that its south side runs straight along Taxiway 4 (C-14) suggests that the taxiway must have been constructed prior to the planting of the pine windbreak.

Post-Historic and Existing Conditions: After the historic period, the pine windbreak retained its overall limits. The mature pine trees are now approximately thirty feet tall and are in decline. After the NPS gained ownership in 1972, campgrounds (LU-1) were established in the pine windbreak. Although this alters the use of the feature, it has minimal impact on the appearance, as the campgrounds are not visible from outside the windbreak.

Evaluation: Contributing
The pine windbreak, planted c. 1945, contributes to the historic character of Floyd Bennett Field Historic District as a distinctive vegetation feature of the World War II era. While campground facilities have been established within the pine windbreak, they do not significantly alter the historic character. (See Figure 3.21) Although the trees have matured since the historic period and are currently in a state of decline, the windbreak reflects clear design intent in its distinctive shape.

Circulation Features

C-1. Pelican Street Remnants
See Hangar Row

C-7. Runway 15-33 (including the current access road)
Historic Condition: Runway 15-33 is one of the two runways original to the municipal airport; it is located directly west of Hangar Row (SO-1) and runs parallel to Flatbush Avenue. Constructed in 1928, it was initially 3,100 feet long and 100 feet wide and made of steel reinforced concrete with gravel strips located along the edges. In 1935, the WPA lengthened the runway to 3,500 feet. In 1942, the Navy lengthened the runway again to 4,500 feet and widened it to 300 feet. The Navy extensions were completed with asphalt, leaving the original concrete exposed. Runway 15-33 stayed in this condition through the remainder of the historic period.

Post-Historic and Existing Conditions: Runway 15-33 remained largely as it did during the historic period until c.1996, when the NPS used Federal Highway Administration (FHWA) funds to build a new four-lane, asphalt access road over it. The access road included guardrails. Presumably, the original materials of the runway remain intact beneath the access road.

Evaluation: Contributing
Runway 15-33, constructed in 1928, contributes to the historic character of Floyd Bennett Field Historic District as a characteristic circulation feature of both the Floyd Bennett Airport and World War II eras. While the south half has lost its historic character with the addition of the access road, overall Runway 15-33 retains its historic location and dimensions. While the current appearance of the runway detracts from its historic character, if the original runway material remains intact beneath the access road, the diminished condition may be reversible.

C-8. Taxiway 6-24 (Former Runway 6-24)

Historic Condition: Taxiway 6-24 (former Runway 6-24) was one of the two runways original to the municipal airport. The steel reinforced runway was built in 1928, at the same time as Runway 15-33 (C-7). This runway was located in the center of the airport property, running east-west, perpendicular to Flatbush Avenue and Runway 15-33. It was 4,000 feet long and 100 feet wide. Unlike Runway 15-33, neither the WPA nor the Navy altered Runway 6-24, although Runways 1-19 and 12-30 (C-10, C-11) intersected at its midpoint when they were constructed in 1935. The Navy decided not to expand Runway 6-24 because development of the seaplane patrol base from 1940-1942 prevented them from lengthening the runway. Instead, they built a new Runway 6-24 (C-12) and redesignated the original 6-24 as a taxiway.[31] Taxiway 6-24 remained in its original condition through the end of the historic period.

Post-Historic and Existing Conditions: Since the historic period, Taxiway 6-24 has retained its original dimensions, 4,000 feet by 100 feet. The original materials, however, do not remain entirely intact. A large berm was constructed in c. 1996 covering its northwest corner; however, the original material remains beneath the berm. Also, at an unknown point after the historic period, the west half and portions of the east half were covered in asphalt; presumably the original concrete remains underneath.

Evaluation: Contributing

Taxiway 6-24, constructed in 1928, contributes to the historic character of the Floyd Bennett Field Historic District as a characteristic circulation feature of both the Floyd Bennett Airport and World War II eras. While portions of the original runway have been covered, overall it retains its historic character and dimensions. It is assumed that the original concrete remains intact beneath; therefore, the portions that are covered could potentially be restored. Since Taxiway 6-24 is the only runway never to be expanded after its original construction, it has interpretive value.

C-9. Hangar Row Taxiways

Historic Condition: When Taxiway 6-24 (former Runway 6-24) (C-8) was built in 1928, a short taxiway extended from the runway across Runway 15-33 (C-7) to the Hangar Row apron (C-2). It functioned as the airport's only taxiway until 1932 when the Department of Docks constructed three additional taxiways connecting the Hangar Row apron with Runway 15-33. One was south of the original taxiway and two were north. Each taxiway was steel-reinforced concrete and 30 feet wide. In 1935, the WPA widened each taxiway to 100 feet. The taxiways defined the edges of the surrounding grass panels (V-5). (See Figure 3.22)

Post-Historic and Existing Conditions: Since the historic period, the NPS has covered the two northern taxiways in asphalt, which occurred when the access road and parking lots were constructed in c. 1996. The southern-most taxiway remains as it did during the historic period.

Evaluation: Contributing

The four Hangar Row taxiways contribute to the historic character of the Floyd Bennett Field Historic District as characteristic circulation features of both the Floyd Bennett Airport and World War II eras. While the southern-most taxiway is the only one of the four that retains its original material, the historic form and dimensions of each are still visible in the landscape. Three grass panel areas still provide definition for the shape of the taxiways; although some of the grass panels have been covered with concrete, the difference in material between the asphalt over the adjacent taxiways provides enough contrast that the overall dimensions and character of the taxiways remain intact.

C-10. Runway 1-19

Historic Condition: In 1935, the WPA expanded the circulation system of Floyd Bennett Field. As part of the expansion, the WPA constructed Runway 1-19 along with Runway 12-30 (C-11). The 3,500-foot long, 150-foot wide diagonal asphalt runway spanned the center of the airfield (SO-3) north to south. In 1942, in order to meet the needs of larger aircraft, the Navy altered the runway, widening it to 300 feet with concrete extensions and lengthening it with asphalt to the northeast to connect with Runway 6-24 (C-12). Runway 1-19 then totaled 5,000 feet in length. (See Figure 3.22)

Post-Historic and Existing Conditions: Since the historic period, Runway 1-19 has remained largely intact. After 1945, the Navy constructed two small extensions to the runway. The first, from 1951-1953, included a concrete extension at the northeast end of the runway. The second extension, completed in the early 1960s, used a soil-cement pavement to extend the runway to the southwest. The soil-cement pavement acted to restrict plant growth and may have been minimally used. In c. 1996, two berms (T-1) were constructed on top of the runway, one at its intersection with Runway 12-30 (C-11) and one at its intersection with the new access road on Runway 15-33 (C-7). At its intersection with Runway 6-24 (C-12), the NPS has placed several Jersey barriers. The purpose of these is most likely to keep vehicular traffic from entering the northern end of the runway; visitors to the site use this portion of runway for landsailing and the presence of vehicles would pose a threat to the recreational users.

Evaluation: Contributing

Runway 1-19 contributes to the historic character of the Floyd Bennett Field Historic District as characteristic circulation feature of both the Floyd Bennett Airport and World War II eras. While berms (T-1) placed over two small sections and Jersey barriers detract from its historic character, these conditions are reversible.

C-11. Runway 12-30

Historic Condition: In 1935, the WPA expanded the runway system of Floyd Bennett Field. As part of the expansion, the WPA constructed Runway 12-30 along with Runway 1-19 (C-10). The 3,200-foot long, 150-foot wide diagonal asphalt runway was oriented northwest to southeast and originated at the northern end of Runway 15-33 (C-7). In 1942, the Navy widened it to 300 feet with concrete extensions and lengthened it to 5,000 feet with asphalt. (See Figure 3.22)

Post-Historic and Existing Conditions: Since the historic period, Runway 12-30 has remained intact. After 1945, the Navy constructed a small extension to the runway. Completed in the early 1960s, the extension used a soil-cement pavement to extend the runway to the northwest. The soil-cement pavement acted to restrict plant growth and may have been minimally used. When the NPS obtained ownership of the site in 1972, the southeast half of the runway was given to the U.S. Coast Guard for inclusion in their air station. Although the NPS now owns the entire runway, the southeast portion is leased to the NYPD aviation unit. A chain-link fence runs along its boundary to mark the NYPD area.

Evaluation: Contributing

Runway 12-30 contributes to the historic character of the Floyd Bennett Field Historic District as a characteristic circulation feature of both the Floyd Bennett Airport and World War II eras. While the fence blocks access to the southeast half, detracting from the runway's open historic character, this condition is reversible.

C-12. Runway 6-24

Historic Condition: Part of the Navy's 1942 expansion of the runway system included construction of a new Runway 6-24. The original Runway 6-24 (C-8), too small to accommodate larger military aircraft, could not be lengthened because of its proximity to the Seaplane Patrol Base and so the Navy converted it into a taxiway. The new Runway 6-24 was built at the northern end of the field and ran in the same direction from west to east. The new runway was 5,000 feet long and 300 feet wide; its entire surface was asphalt.

Post-Historic and Existing Conditions: Since the historic period, there have been a few changes to Runway 6-24. In 1951, the Navy expanded the landing capabilities of the field and added an asphalt extension on the east end of Runway 6-24. Dense successional woods currently grow on either side of the runway. Vehicular access is allowed on Runway 6-24. Many visitors park on the eastern extension to fish in Jamaica Bay.

Evaluation: Contributing

Runway 6-24 contributes to the historic character of the Floyd Bennett Field Historic District as characteristic circulation feature of the World War II era. While it was extended after the historic

period and the present successional woods detract from its historically open surroundings, it retains its historic character.

C-13 – C-16. Navy Taxiways

Historic Condition: In 1945, the Navy constructed four asphalt taxiways. While all the new taxiways were constructed of the same material, they varied in size. Taxiway 3 (C-13) connected the north end of Hangar Row (SO-1) with the west end of Runway 6-24 (C-12).[32] Taxiway 4 (C-14) connected the southern ends of Runways 15-33 and 12-30. It also served as a visible boundary between the airfield (SO-3) and the South Support Area. The Navy constructed Taxiway 5 (C-15) to connect the Seaplane Patrol Base with the east end of Runway 12-30 (C-11). It borders the maintenance area of the patrol base on the west. The Navy constructed Taxiway 6 (C-16) to connect the Seaplane Patrol Base with the east end of Runway 6-24 (C-12). It extended west of the Seaplane Patrol Base apron and ran north to the runway. Historically, it was bordered on the west by mown grass and on the east by open land extending down to Jamaica Bay.

Post-Historic and Existing Conditions: There has been no change to Taxiway 3 since the historic period. There has been no change to the original dimensions or materials of Taxiway 4 since the historic period. However, the NPS has restricted access onto the taxiway. The access road and guardrails constructed over Runway 15-33 (C-7) (c. 1996) prohibit entrance at the west end and the chain-link fence surrounding the NYPD area prohibits entrance from the east end. Pedestrians can access Taxiway 4 from the South Support Area. There have been minimal changes to Taxiway 5 since the historic period; the NYPD's chain-link fence divides the taxiway in half and just north of the fence, several large piles of woodchips have been placed on top of the taxiway for use by visitors using the nursery, which is located in the southeast portion of the site, in the same location as the former Barren Island community. There have been no physical changes to Taxiway 6 since the historic period. However, the setting has been altered by the growth of dense, successional woods along both sides of the taxiway.

C-13. Taxiway 3

Evaluation: Contributing

Taxiway 3 contributes to the historic character of the Floyd Bennett Field Historic District as characteristic circulation feature of the World War II era. It retains its historic appearance.

C-14. Taxiway 4

Evaluation: Contributing

Taxiway 4 contributes to the historic character of the Floyd Bennett Field Historic District as characteristic circulation feature of the World War II era. Although the limited access detracts from its historic character, overall it retains its historic appearance.

C-15. Taxiway 5

Evaluation: Contributing

Taxiway 5 contributes to the historic character of the Floyd Bennett Field Historic District as a characteristic circulation feature of the World War II era. While some changes have been made since the end of the historic period, these changes are minimal and easily reversed.

C-16. Taxiway 6

Evaluation: Contributing

Taxiway 6 contributes to the historic character of the Floyd Bennett Field Historic District as a characteristic circulation feature of the World War II era. Although the successional woods detract from its open setting, which was essential to its functioning as a taxiway, it still retains its historic appearance. Further, it still acts as a connector for vehicles and pedestrians between Taxiway 6-24 (former Runway 6-24) (C-8) and Runway 6-24 (C-12).

Buildings and Structures Features

BS-277. Airport Compass Rose

Historic Condition: The airport compass rose was constructed in the northern-most grass panel separating the Hangar Row apron (C-2) from Runway 15-33 (C-7). Although the exact date the concrete airport compass rose was constructed is unknown, it was probably constructed by the WPA c. 1935, the same time Runways 1-19 and 12-30 were constructed. The compass rose appears in a November 22, 1935 photograph (See Figure 3.22) and was constructed of the same concrete as used in subsequent WPA construction projects. The compass rose was important to the functioning of the airport; while aircraft were in flight, their internal magnetic compass would become unaligned. Once at the airport, aviators would position their aircraft over the compass rose to recalibrate their compass. Although there were no taxiways connecting to the compass rose, the surrounding grass was maintained in such as way that the aircraft could easily access the compass rose.

Post-Historic and Existing Conditions: The compass rose consists of one circle of concrete, approximately thirty feet in diameter, which is surrounded by another circle of concrete, approximately sixty feet in diameter. The circles are not solid concrete but are comprised of concrete panels placed next to each other. The condition of the compass rose has not changed since the end of the historic period.

Evaluation: Contributing

The compass rose contributes to the historic character of the Floyd Bennett Field Historic District as a distinctive structure of the Floyd Bennett Airport era. While it is no longer in use, its present condition reflects its historic condition. Also, it provides interpretive value with regard to the aviation history of the landscape.

BS-278. Navy Compass Rose

Historic Condition: The Navy constructed a steel-reinforced concrete compass rose in 1944. The new compass rose was located at the northwestern end of Taxiway 5 (C-15). Although there was already a compass rose on site (BS-277), dating from the Floyd Bennett Airport era, military aircraft were much larger and heavier than the commercial aircraft previously used on the airfield (SO-3). The original airport compass rose (BS-277) was surrounded by mown grass and was not physically connected with the nearby Hangar Row apron (C-2) or Runway 15-33 (C-7). It is likely that the military aircraft could not travel over the grass and instead of connecting the existing compass rose to nearby circulation features, it was more beneficial to construct a new compass rose that connected to an existing taxiway and was more accessible from the eastern side of the airfield (SO-3).

Post-Historic and Existing Conditions: The Navy compass rose remains as it did during the historic period.

Evaluation: Contributing

The Navy compass rose contributes to the historic character of the Floyd Bennett Field Historic District as a distinctive structure of the World War II era. It remains as it did historically.

BS-403. Civilian Airport Bulkhead and Seaplane Ramp Remains

Historic Condition: In c. 1930 - 1932, the Department of Docks approved a contract outlining the construction of a bulkhead and seaplane ramp to be located at the southeast corner of the airport property. Research has not determined the exact date of construction, although in an aerial photo of the landscape dated November 22, 1935 the bulkhead and ramp are visible. The seaplane ramp was approximately 50 feet wide and extended approximately 500 feet into Jamaica Bay. It was accessed from Pelican Street (C-1), the compacted earth road that led from Flatbush Avenue to the Barren Island Community.

Post-Historic and Existing Conditions: It is unknown how long the seaplane ramp remained in use, particularly since the U.S. Coast Guard and Navy constructed seaplane ramps of their own. While the U.S. Coast and Navy ramps were both made of concrete, the civilian airport seaplane ramp was supported by wooden pylons rather than a solid concrete ramp. Today all that remains of the seaplane ramp is a series of wooden pylons extending into Jamaica Bay. (See Figure 2.29) The bulkhead appears to remain as it did during the historic period.

Evaluation: Contributing

The civilian airport bulkhead and seaplane ramp (BS-403) remains contribute to the historic character of Floyd Bennett Field Historic District. While the original ramp has been lost, the bulkhead and the wooden pylons that remain from the seaplane ramp have interpretive value. The ability to use Floyd Bennett Field as a seaplane facility was an important factor in the City's

decision to locate their first municipal airport in Jamaica Bay. The pylons illustrate the location as well as the construction of the site's first seaplane ramp.

BS-404. NPS Comfort Stations

Historic Condition: The NPS comfort stations did not exist during the historic period.

Post-Historic and Existing Conditions: The NPS constructed two comfort stations in c. 1990, which are located within the historic district. One is located west of Taxiway 6 (C-16), adjacent to the entrance to Camps Tamarak and Goldenrod. The second is located on the Hangar Row apron (C-2), east of Hangars 1 and 2 (BS-3). The buildings are both approximately fifteen feet square and are constructed of recycled plastic lumber. (Figure 3.23) There are both men's and women's facilities and drinking fountains on the front façade.

Evaluation: Non-contributing

The NPS comfort stations do not contribute to the historic character of the Floyd Bennett Field Historic District as they did not exist during the historic peri0d. Their design, materials, and visible location detract from the historic character of the landscape.

BS-406. Navy Storage Building

Historic Condition: The Navy storage building did not exist during the historic period.

Post-Historic and Existing Conditions: The Navy storage building was most likely constructed in 1951, when the Navy Utility and Storage Complex (BS-168 – BS-169, BS-273 – BS-274) was constructed. It is located west of Taxiway 6 (C-16), across from the northern edge of the Seaplane Patrol Base apron. (Figure 3.24)

Evaluation: Non-contributing

The Navy storage building does not contribute to the historic character of the Floyd Bennett Field Historic District as it did not exist during the historic peri0d. Its overall design and location along Jamaica Bay is compatible with the historic character of other Navy buildings constructed during the World War II era. Also, it is not visible from the airfield (SO-3) because dense successional woods surround it.

NAVY SEAPLANE PATROL BASE LANDSCAPE FEATURES EVALUATION

The Navy Seaplane Patrol Base, developed by the Navy from 1940-1945, is a complex of buildings, including a hangar and support buildings, located east of the airfield and north of the Coast Guard Air Station along Jamaica Bay. The support buildings comprised a maintenance complex, located to the west of the seaplane hangar and the Coast Guard facilities, fronting on

Taxiway 5. The primary features include an apron, a seaplane ramp, Hangar B, and the maintenance complex.

When Floyd Bennett Airport opened in 1931, the Jamaica Bay shoreline, east of the airfield, remained undeveloped with the exception of the airport seaplane ramp. While the Coast Guard Air Station was the first area to be developed along the bay, the establishment of the Navy Seaplane Patrol Base helped to clearly define the Jamaica Bay development as a distinct spatial area. Initially, the patrol base included just the apron and Hangar A, in 1940. However, the Navy rapidly expanded the base. By the end of 1941, the Navy had begun development of the Seaplane Patrol Base maintenance complex. In 1941, they constructed Hangar B. The development of the patrol base defined the east boundary of the airfield. The distinct spatial relationships between the individual features created a relatively dense cluster. (Figure 3.25)

Spatial Organization Features

SO-4. Jamaica Bay Development

Historic Condition: In 1936, the U.S. Coast Guard leased approximately ten acres fronting on Jamaica Bay from the City for the purposes of establishing an air station. Prior to 1936, all land fronting on Jamaica Bay was undeveloped. Initial development included a hangar, garage, taxiway, and seaplane ramp. In 1938, the WPA built a second seaplane ramp just south of the air station as part of the municipal airport. Development along Jamaica Bay continued in 1940 when the Navy began construction of their Seaplane Patrol Base. The new base included a large hangar, apron, and another seaplane ramp. In 1941, a second hangar, identical to the first was built and apron was extended. In c. 1941, the Navy built approximately twenty-one more buildings to support the operations of the seaplane patrol base. These were arranged linearly running north to south, directly west of the patrol base and the Coast Guard Air Station. By 1942, the Navy Seaplane Patrol Base along Jamaica Bay more clearly defined the landscape's eastern edge much in the same way that Hangar Row (SO-1) defined it to the west.

Post-Historic and Existing Conditions: While the overall spatial relationships have not changed since the end of the historic period, there have been changes to the specific features; only ten of the twenty-one support buildings and one of the two seaplane hangars remain; and four new buildings have been added.

Evaluation: Contributing

The development along Jamaica Bay contributes to the historic character of the Floyd Bennett Field Historic District as a character-defining spatial feature of both the Floyd Bennett Airport and World War II eras. While some buildings and structures have been lost and new ones added, most of the main buildings remain with the exception of Hangar A. The area still defines the eastern edge of the landscape; overall the spatial organization of the Jamaica Bay development remains as it did during the historic period. (Figures 3.26, 3.27)

Circulation Features

C-17. Navy Seaplane Patrol Base Apron

Historic Condition: In 1941, the Navy established its Seaplane Patrol Base along Jamaica Bay. Originally, the concrete apron surrounded Hangar A (A-1), constructed in 1940 and extended east to the shore of Jamaica Bay. After Hangar B (BS-100) was constructed in 1941, the apron was extended north, to surround the new hangar. The extension nearly doubled the size of the original apron.

Post-Historic and Existing Conditions: In the early 1950s, the Navy again expanded the apron with a concrete extension. The northern extension was approximately one-half the size of the apron during the historic period. The extension connected to the western Taxiway 6 (C-16) with two short, narrow concrete taxiways. In c. 1996, when the New York Department of Sanitation began using the southern half of the apron through their lease with the NPS, a chain-link fence was built into the original concrete apron.

Evaluation: Contributing

The Navy Seaplane Patrol Base apron contributes to the historic character of the Floyd Bennett Field Historic District as characteristic circulation feature of the World War II era. While the New York Department of Sanitation fence detracts from the historic setting, the apron retains its overall historic character.

C-18. North Perimeter Road

Historic Condition: In 1942, the Navy established a communications complex in the area now known as the North 40 Natural Area, which required a network of vehicular access roads; each asphalt road was approximately ten feet wide. Although the majority of the roads are not within the Navy Seaplane Patrol Base, the north perimeter road connected the communications complex with the Seaplane Patrol Base.

Post-Historic and Existing Conditions: The portion of the north perimeter road included in the Navy Seaplane Patrol Base remains intact since the end of the historic period. The road is still asphalt, although it is in poor condition, with numerous cracks and frost heaves throughout. The northern-most section of the road that crossed the 1951 extension of Runway 6-24 (C-12) is no longer intact. This section, covered with dense successional woods, is located outside the Navy Seaplane Patrol Base.

Evaluation: Contributing

The north perimeter road, constructed in 1942, contributes to the historic character of Floyd Bennett Field Historic District. While parts of the road outside the historic district have been significantly damaged, the portion that falls within the boundary retains its historic character.

Buildings and Structures Features

BS-89-91, BS-94, BS-96-99, BS-178. Seaplane Patrol Base Maintenance Complex

Historic Condition: In 1941, the Navy expanded its Seaplane Patrol Base and established several new buildings to serve as a maintenance complex to the west of the Seaplane Patrol Base apron and adjacent to the airfield (SO-3). Although developed as one maintenance complex, the buildings were divided into a south group and a north group. Four buildings made up the south group: the sewer pump station, the fire station and fire station garage, and the maintenance shop. The sewer pump station (BS-89) was constructed during the expansion. It was located west of the U.S. Coast Guard hangar (BS-407) and east of Taxiway 5 (C-15). It was a one-story brick building with a cast-stone parapet and steel frame windows. The fire station (BS-90A) was built directly north of the sewer pump house. The building was constructed of concrete and was in the shape of a long rectangle. Together with the fire station garage (BS-90B), they formed the shape of a backwards "L." The maintenance shop (BS-91) was built north of the fire station and garage. The shop was constructed of concrete and had several steel sliding overhead doors along the north and south sides.

Six buildings made up the north group: the torpedo storage, power plant B, the cold storage and commissary, general storage, and the fire protection station and fire protection structure. The torpedo storage (BS-94) was built north of the maintenance shop and southwest of Hangar B (BS-100). The Navy constructed the storage facility of sheet metal. The central portion of the building was approximately one-third taller than the rest of the building. Metal, sliding overhead doors were centrally located on the east and west sides. The remaining facades were almost entirely covered with plate glass windows. Power plant B (BS-96) was located northwest of the torpedo storage. It was constructed of brick and had cast-stone accents above the windows and doors as well as a cast-stone parapet. The Navy constructed the cold storage and commissary (BS-97) located north of the torpedo storage. It was constructed of concrete and the north side was faced in brick. The south side may also have been faced in brick. Steel frame windows were located on the east and west facades. The cold storage and commissary remained in its original condition through the end of the historic period. The Navy located the general storage building (BS-98) north of the cold storage and commissary and west of Hangar A (A-1) (since demolished). The general storage building was the largest building the Navy constructed during the expansion within the maintenance complex. The three-story building was constructed of concrete and may have been faced with brick at least on the west side. Each side is lined with a single band of triple windows. Loading platforms are located on the north and south sides. The general storage building remained in its original condition through the end of the historic period. The fire protection pump station (BS-99) and the fire protection structure (BS-178) were built north of the general storage. The concrete pump station was partially sunken into the ground, extending upward approximately six feet, with stairs leading down to the eastern entry. The fire protection structure was also made of concrete and had two

concrete bays extending from the south façade. As there are no windows or doors allowing entry into the structure, it is unclear how it functioned.

Post-Historic and Existing Conditions: No changes have been made to the physical condition of the majority of the buildings and structures the Navy built as the Seaplane Patrol Base maintenance complex. This includes the sewer pump station, the fire station, the fire station garage, the maintenance shop, and the fire protection pump station and fire protection structure. Research has not discovered if the current yellow color was this historic color of the building. The sewer pump station currently falls within the area leased by the NYPD Aviation Unit and may still be in use.

While no major structural changes have been made to the torpedo storage or power plant B since the end of the historic period, their conditions have deteriorated and most of the original windows are broken. No major changes have been made to the overall appearance of the cold storage and commissary since the end of the historic period, although brick façade may have been removed from the south side. Similarly, no major changes have been made to the general storage, but a small patch of brick veneer on the west façade indicates that at some point after the historic period, someone began to add brick facing, although this was never completed.

BS-89. Sewer Pump Station

Evaluation: Contributing

The sewer pump station contributes to the historic character of the Floyd Bennett Field Historic District as a characteristic building of the World War II era. While its setting has been altered through the loss of an adjacent building and its use is now associated with the former U.S. Coast Guard area than the patrol base, overall its historic character remains intact.

BS-90A. Fire Station[33]

Evaluation: Contributing

The fire station contributes to the historic character of the Floyd Bennett Field Historic District as a characteristic building of the World War II era. Its historic character remains intact.

BS-90B. Fire Station Garage

Evaluation: Contributing

The fire station garage contributes to the historic character of the Floyd Bennett Field Historic District as a characteristic building of the World War II era. Its historic character remains intact.

BS-91. Maintenance Shop

Evaluation: Contributing

The maintenance shop contributes to the historic character of the Floyd Bennett Field Historic District as a characteristic building of the World War II era. Its historic character remains intact.

BS-94. Torpedo Storage

Evaluation: Contributing

The torpedo storage contributes to the historic character of the Floyd Bennett Field Historic District as a characteristic building of the World War II era. Despite the loss of the original windows, the building retains its historic character. (Figure 3.28)

BS-96. Power Plant B

Evaluation: Contributing

Power plant B contributes to the historic character of the Floyd Bennett Field Historic District as a characteristic building of the World War II era. While there is some deterioration present, this condition has not impacted the overall historic character of the building. (Figure 3.29)

BS-97. Cold Storage and Commissary

Evaluation: Contributing

The cold storage and commissary contributes to the historic character of the Floyd Bennett Field Historic District as a characteristic building of the World War II era. Overall the building's historic character remains intact.

BS-98. General Storage Building

Evaluation: Contributing

The general storage building contributes to the historic character of the Floyd Bennett Field Historic District as a characteristic building of the World War II era. Its historic character remains intact. (Figure 3.30)

BS-99. Seaplane Patrol Base Fire Protection Pump Station[34]

Evaluation: Contributing

The fire protection pump station contributes to the historic character of the Floyd Bennett Field Historic District as a characteristic building of the World War II era. Its historic character remains intact. (Figure 3.31)

BS-178. Seaplane Patrol Base Fire Protection Structure

Evaluation: Contributing

The fire protection building contributes to the historic character of the Floyd Bennett Field Historic District as a characteristic building of the World War II era. Its historic character remains intact. (See Figure 3.31)

BS-100. Hangar B

Historic Condition: In 1941, the Navy constructed Hangar B, a large, rectangular steel frame building with sliding doors on the north and south sides. Window walls spanned the entire length of the hangar along the east and west façades.

Post-Historic and Existing Conditions: In 1951, the Navy constructed a large lean-to on the west side of Hangar B to provide office and repair space. In 1971, NAS, New York was decommissioned and the Navy transferred the site to the NPS. Although the Navy retained ownership of some facilities at the Seaplane Patrol Base, for use as a Naval Air Reserve Detachment (NARDET), this did not include Hangar B. The Navy vacated the hangar and it remained unoccupied until the formation of the Historic Aircraft Restoration Project (H.A.R.P.) in c. 1995, which works in the hangar restoring and replicating World War II era aircraft. The NPS granted the volunteer group permission to occupy Hangar B. This use has not physically impacted the building. (Figure 3.32)

Evaluation: Contributing

Hangar B contributes to the historic character of the Floyd Bennett Field Historic District as a character-defining building of the World War II era. Although the Navy constructed a lean-to addition in 1951, the hangar overall conveys its historic character. Also, the presence of the World War II era aircraft housed inside provides a great interpretive value for visitors to the site.

BS-168–169, BS-273-274. Navy Utility and Storage Complex

Historic Condition: Buildings 168, 169, 273, and 274 (Navy utility and storage buildings) did not exist during the historic period.

Post-Historic and Existing Conditions: Buildings 168 and 169 are both one-story brick buildings similar to the transformer vault (BS-57) located south of Hangar Row (SO-1). Buildings 273 and 274 were storage sheds. While dense successional vegetation surrounding the two sheds make them barely visible in the landscape and physically inaccessible, they appear to be constructed of metal. All four buildings were constructed in c. 1951 to support the ongoing use of the naval air station.

Evaluation: Non-contributing

The Navy utility and storage complex does not contribute to the historic character of Floyd Bennett Field Historic District as it did not exist during the historic peri0d. While it is not visible from the airfield (SO-3) due to successional woods, its design and overall character are compatible with the character of several historic features constructed by the Navy during the World War II era.

BS-405. Navy Seaplane Patrol Base Seaplane Ramp

Historic Condition: In 1941, after the Navy constructed Hangar B and extended the Seaplane Patrol Base Apron, it constructed a concrete seaplane ramp. The ramp was approximately 50 feet wide and 300 feet long. No bulkhead was constructed with the ramp.

Post-Historic and Existing Conditions: No change has occurred to the Navy Seaplane Patrol Base seaplane ramp since the end of the historic period, although its use has changed. It is currently used as a boat launch into Jamaica Bay.

Evaluation: Contributing

The Navy Seaplane Patrol Base seaplane ramp contributes to the historic character of the Floyd Bennett Field Historic District as a character-defining structure of both the Floyd Bennett Airport and World War II eras. The accessibility of Jamaica Bay from the airfield (SO-3) and the ability to locate seaplane facilities along the bay was an important part of the City's decision to construct their first municipal airport along the bay as well as the Navy's decision to also establish a base there. The extant seaplane ramp retains its historic materials and dimensions. It also has interpretive value.

Potential Aboveground Archeological Sites

A-1. Site of Hangar A

The Navy constructed Hangar A in 1940. It was the first of two seaplane hangars built at the Seaplane Patrol Base along Jamaica Bay. The large steel-frame hangar was built on steel piles laid horizontally into the ground. In 1998, the NPS demolished Hangar A. Today, the steel piles remain, surrounded by the concrete Seaplane Patrol Base apron. The footprint of the building is clearly visible in the landscape. (Figure 3.33)

COAST GUARD AIR STATION LANDSCAPE FEATURES EVALUATION

Aside from the airport seaplane ramp, the Coast Guard Air Station was the first area to be developed along Jamaica Bay from 1936-1938. Initially, the air station was fairly open, including only a hangar, garage, taxiway and seaplane ramp. As the demand on the air station increased, the development expanded. The U.S. Coast Guard constructed new buildings to house personnel offices and barracks. After the end of the historic period, the Navy allowed the Coast Guard to expand the boundaries of the air station to the south. Nearly doubling the area of their station, the Coast Guard used the area for recreation facilities, including tennis courts, a running track, and a boat house. Today the NPS owns the station and leases it to the New York Police Department (NYPD) for use in association with their aviation unit. While the overall spatial relationships remain intact, the NYPD has constructed a fence around the entire area, including the southeast half of Runway 12-30, which they also lease from the NPS.

Due to the Coast Guard Air Station's current use by the NYPD, access to the public is restricted, which meant that existing conditions surveying was not as in depth in this area as in the other character areas.

Vegetation Features

V-7. U.S. Coast Guard Hangar Plantings

Historic Condition: The U.S. Coast Guard hangar plantings did not exist during the historic period.

Post-Historic and Existing Conditions: Although an exact date for the plantings along the north side of the U.S. Coast Guard hangar is unknown, the plantings appear in this location in early 1970s photographs. Grass was planted around the north and west of the hangar. Today, the lawn area along the north façade is lined with shrubs approximately three feet tall. Between the shrubs and the building are a few evergreen trees and one small deciduous tree.

Evaluation: Non-contributing

The U.S. Coast Guard hangar plantings do not contribute to the historic character of Floyd Bennett Field Historic District because they did not exist during the historic period. While the plantings are not compatible with the historic character of the Coast Guard Air Station, they are unobtrusive because of their relatively low height and their simple, utilitarian character.

Circulation Features

C-19. U.S. Coast Guard Taxiway

Historic Condition: In 1936, the U.S. Coast Guard secured a long-term lease for ten acres along Jamaica Bay to develop an air station. Part of the original construction was a concrete 'T' shaped taxiway that connected the south side of the hangar east to the seaplane ramp and south with Pelican Street, the existing compact earth road.

Post-Historic and Existing Conditions: In 1946, the U.S. Coast Guard expanded the air station, extending the original taxiway west to an asphalt access road.

Evaluation: Contributing

The U.S. Coast Guard taxiway contributes to the historic character of the Floyd Bennett Field Historic District as characteristic circulation feature of both the Floyd Bennett Airport and World War II eras. While its original boundaries are not apparent today, as a result of a later expansion of the surrounding roadways, its overall historically open character remains intact.

C-20. Coast Guard Air Station Roadways

Historic Condition: In 1946, the Navy granted the U.S. Coast Guard permission to expand its facilities to include new asphalt roadways extending to the north and west of the U.S. Coast

Guard hangar (BS-407), connecting the station with the Navy Seaplane Patrol Base apron (C-17) and Taxiway 5 (C-15).

Post-Historic and Existing Conditions: Since the historic period, the circulation surrounding the Coast Guard Air Station has again been expanded, creating a concrete apron surrounding the original 1936 "T" shaped taxiway and the south half of the hangar. The apron extended south and east of the taxiway, running along Jamaica Bay. Also, several smaller connection roads have been established between this area and the Navy Seaplane Patrol Base apron (C-17).

Evaluation: Non-contributing
The Coast Guard Air Station Roadways do not contribute to the historic character of the Floyd Bennett Field Historic District. Although much of the 1946 expansion remains, further expansion that occurred after the end of the historic period makes it impossible to discern which pieces were constructed during the historic period and which occurred after.

Buildings and Structures Features

BS-279. U.S. Coast Guard Bulkhead and Seaplane Ramp

Historic Condition: In 1937, Graves and Quinn Corporation began construction on the Coast Guard Air Station. Included in the construction was 685 linear feet of bulkhead necessary to stabilize the engineered landmass, and a 50-foot by 260-foot concrete seaplane ramp.

Post-Historic and Existing Conditions: No change has occurred to the U.S. Coast Guard bulkhead and seaplane ramp since the end of the historic period.

Evaluation: Contributing
The U.S. Coast Guard bulkhead and seaplane ramp contribute to the historic character of the Floyd Bennett Field Historic District as character-defining structures of both the Floyd Bennett Airport and World War II eras. The seaplane ramp is a prominent example of the reason why the Jamaica Bay setting was chosen for these facilities. Both the bulkhead and the seaplane ramp retain their historic conditions.

BS-407. U.S. Coast Guard Hangar

Historic Condition: In 1937, Graves and Quinn Corporation began construction on the Coast Guard Air Station. The hangar was completed in 1938 as part of the construction. The northern half of the building included office and administrative space. The hangar portion was designed to accommodate Coast Guard helicopters. The two-story hangar was constructed of concrete and was painted white. Both levels of the north, east, and west façades included a horizontal band of windows. The streamlined character of the hangar can be categorized as an industrial version of the International style. The Coast Guard hangar embodied many of the main features found in the International style: rectilinear forms, low elevations, flat roofs, glass, steel,

aluminum and concrete materials, white-painted walls, and no ornamentation.[35] The only ornamentation present on the hangar was on the north façade, which bore the title 'United States Coast Guard Air Station', above the five central windows. Above this title, a U.S. Coast Guard emblem was encircled in stylized wings. This ornamentation was the only similarity to the Hangar Row buildings, which had similar decoration. The building's main entry was centrally located on the north side. On the south façade was a large steel sliding hangar door, similar to Hangars 1-8. The roof of the south section, covering the hangar was flat; the portion covering the offices was a barrel roof. (See Figure 3.25)

Post-Historic and Existing Conditions: No change has occurred to the exterior U.S. Coast Guard hangar since the end of the historic period. (See Figure 2.37) Now owned by the NPS, the hangar is leased to the NYPD Aviation Unit for use as a base for their helicopters.

Evaluation: Contributing
The U.S. Coast Guard hangar contributes to the historic character of the Floyd Bennett Field Historic District as a character-defining feature of both the Floyd Bennett Airport and World War II eras. Its historic dimensions, materials, use and setting along Jamaica Bay remain intact. This hangar may be eligible as a National Historic Landmark related to its pioneer use for developing Skiorsky helicopters.

BS-408. U.S. Coast Guard Garage

Historic Condition: Graves and Quinn Corporation built the U.S. Coast Guard garage in 1937. At the same time, they constructed the U.S. Coast Guard hangar (BS-407). This building reflected the same streamlined International style. A horizontal band of windows was installed along each façade of the one-story, rectangular concrete garage. It was constructed with a flat roof and, like the hangar, was painted white after construction. The similarities in the style of the U.S. Coast Guard hangar and the U.S. Coast Guard garage created architectural unity within the Coast Guard Air Station. (See Figure 3.25)

Post-Historic and Existing Conditions: No change has occurred to the U.S. Coast Guard garage (BS-408) since the end of the historic period.

Evaluation: Contributing
The U.S. Coast Guard garage contributes to the historic character of the Floyd Bennett Field Historic District as a characteristic building of both the Floyd Bennett Airport and World War II eras. Its historic dimensions, materials, and setting along Jamaica Bay remain intact.

BS-409. U.S. Coast Guard Office Building

Historic Condition: The U.S. Coast Guard office building did not exist during the historic period.

Post-Historic and Existing Conditions: The U.S. Coast Guard office building was constructed in 1973. The three-story concrete building is located northeast of the U.S. Coast Guard hangar (BS-407), parallel to the Jamaica Bay shoreline. It is long and rectangular in shape. Balconies line the second and third floors on the west façade with simple metal railings. There are two sets of external stairs on the west façade; one is open while concrete blocks enclose the other. The building is currently used by the NYPD for office space.

Evaluation: Non-contributing
The U.S. Coast Guard office building does not contribute to the historic character of the Floyd Bennett Field Historic District as it did not exist during the historic peri0d. Its overall design and location along Jamaica Bay detract from the historic open character of the Coast Guard Air Station.

BS-410. New York Police Department (NYPD) Guard Booth

Historic Condition: The NYPD guard booth did not exist during the historic period.

Post-Historic and Existing Conditions: After the NYPD Aviation Unit began leasing the Coast Guard Air Station in 1996, they constructed a small guard booth at the entrance along an asphalt access road. The booth is a small, white enclosure.

Evaluation: Non-contributing
The NYPD guard booth does not contribute to the historic character of the Floyd Bennett Field Historic District as it did not exist during the historic peri0d. Its design, materials, and visible location detract from the historic character of the Coast Guard Air Station.

BS-411. NYPD Training Tower

Historic Condition: The NYPD training tower did not exist during the historic period.

Post-Historic and Existing Conditions: In c. 2000, the NYPD constructed a two-story training tower north of the U.S. Coast Guard hangar (BS-407). It is made of stacked modular trailer units and is used to field train police officers. (Figure 3.34)

Evaluation: Non-contributing
The NYPD training tower does not contribute to the historic character of the Floyd Bennett Field Historic District as it did not exist during the historic peri0d. Its design, materials, height and visible location detract from the historic character of the Coast Guard Air Station.

BS-412. NOAA Doppler Tower

Historic Condition: The National Oceanic and Atmospheric Administration (NOAA) Doppler tower did not exist during the historic period.

Post-Historic and Existing Conditions: In c. 1999, the NOAA constructed a large Doppler tower south of the U.S. Coast Guard hangar (BS-407). The Doppler tower is comprised of a tall metal base above which sits a large white sphere. Because the overall landscape of Floyd Bennett Field is flat and open, today the Doppler tower is one of the most visually prevalent features in the landscape. (See Figure 2.34)

Evaluation: Non-contributing
The NOAA Doppler tower does not contribute to the historic character of the Floyd Bennett Field Historic District as it did not exist during the historic peri0d. Its visual prevalence in the landscape detracts from the historic character of the Coast Guard Air Station. (See Figure 3.27)

Small-Scale Features

SSF-7. Jamaica Bay Area Fences
Historic Condition: The Jamaica Bay area fences did not exist during the historic period.

Post-Historic and Existing Conditions: On the east side of Floyd Bennett Field, along Jamaica Bay, fences separate both the NYPD Aviation Unit and the New York Department of Sanitation from the rest of the airfield (SO-3). The NYPD area fence was installed while the area was still occupied by the U.S. Coast Guard. It was most likely erected once the decommissioned naval air station was transferred to the NPS in 1972. The fence separates the NYPD area from the area used by the New York Department of Sanitation, directly to the north. It extends west and follows the border of the southeastern half of Runway 12-30 (C-11). (The fence outlines the same portion of the runway that was excluded from the existing historic district). The New York Department of Sanitation installed a fence that cuts through the western portion of the Seaplane Patrol Base apron; it splits at approximately the border of the original Seaplane Patrol Base apron before its 1942 extension; one branch turns east and runs towards Jamaica Bay and the other continues straight toward Hangar B (BS-100); ending west of the southwest corner of the hangar. It picks up just east of the northwest corner, runs north for approximately twenty feet and then runs along the south border of Taxiway 6-24 (former Runway 6-24) (C-8) for approximately forty feet.

Evaluation: Non-contributing
The Jamaica Bay area fences do not contribute to the historic character of Floyd Bennett Field Historic District because they did not exist during the historic period. Because they divide two historic features – Runway 12-30 and the Seaplane Patrol Base apron - they detract from the historic character of the airfield. Further, the fence around the New York Department of Sanitation has damaged Seaplane Patrol Base apron because the main support poles have been installed directly into the concrete.

TABLE 3.1: FLOYD BENNETT FIELD HISTORIC DISTRICT LANDSCAPE FEATURES			
Analysis Key: CON= Contributing, NC= Non-Contributing, U= Unevaluated Character Area Key: HR=Hangar Row, AE=Airport Entrance, AR=Airfield, NSPB=Navy Seaplane Patrol Base, USCG=Coast Guard Air Station Date Key: C= Constructed, A= Altered, R= Removed, N/A= Not Applicable			
Characteristic	Feature # / Analysis Determination (for extant features)	Feature Name / Character Area / LCS ID (if documented)	Dates
Spatial Organization			
	SO-1 / CON	Hangar Row	C: 1928-1931 A: 1943, 2006
	SO-2 / CON	Airport Entrance	C: 1935 A: c.1941-1947, post-1972
	SO-3 / CON	Airfield	C: 1928 A: 1936, 1941
	SO-4 / CON	Jamaica Bay Development / NSPB & USCG	C: 1936, 1940-1942 A: 1970, 1998
Land Use			
	LU-1 / NC	Campgrounds / AR	C: Post-1972
Topography			
	T-1 / NC	Berms / AR	C: c.1996
Vegetation			
	V-1 / NC	South Parking Lot Plantings / HR	C: 1928 A: 1942, c.1985
	V-2 / CON	Airport Entrance Lawn Area / AE	C: 1935 A: post-1972
	V-3 / NC	Administration Building Foundation Plantings / AE	C: 1935 A: post-1972
	V-4 / CON	Airfield Turf / AR	C: 1929 A: 1942, c.1985
	V-5 / CON	Grass Panels / AR	C: 1932 A: c.1960, c.1980
	V-6 / CON	Pine Windbreak / AR	C: c.1945 A: post-1972

	V-7 /N C	U.S. Coast Guard Hangar Plantings / USCG	C: c.1970
Circulation			
	C-1 / CON	Pelican Street / HR	C: pre-1928 A: 1932, c.1941-1947
	C-2 / CON	Hangar Row Apron / HR	C: 1930 A: 1935, c.1996, 2006
	C-3 / CON	Navy Entrance Drive / HR	C: c.1942 A: c.1951, post-1972
	C-4 / N C	Administration Building Parking Lots / AE	C: 1928, 1935 A: c.1996
	C-5 / CON	Diagonal Airport Entrance Drives / AE	C: 1935
	C-6 / CON	Airport Entrance Walkways / AE	C: 1935
	C-7 / CON	Runway 15-33 (including access road) / AR / 041264	C: 1930 A: 1935, c.1996, 2006
	C-8 / CON	Taxiway 6-24 (former Runway 6-24) / AR / 041264	C: 1928, 1932 A: 1935, c.1996
	C-9 / CON	Hangar Row Taxiways / AR	C: 1929, 1932 A: 1935, c.1996
	C-10 / CON	Runway 1-19 / AR / 041265	C: 1935 A: 1942, c.1996
	C-11 / CON	Runway 12-30 / AR / 041265	C: 1935 A: 1942
	C-12 / CON	Runway 6-24 / AR	C: 1942 A: 1951
	C-13 / CON	Taxiway 3 / AR	C: 1945
	C-14 / CON	Taxiway 4 / AR	C: 1945 A: c.1996
	C-15 / CON	Taxiway 5 / AR	C: 1945
	C-16 / CON	Taxiway 6 / AR	C: 1945
	C-17 / CON	Navy Seaplane Patrol Base Apron / NSPB	C: 1941 A: 1942, c.1950
	C-18 / CON	North Perimeter Road	C: 1942

		/ NSPB	
	C-19 / CON	U.S. Coast Guard Taxiway / USCG	C: 1936 A: 1946
	C-20 / NC	Coast Guard Air Station Roadways / USCG	C: 1946 A: unknown
Buildings and Structures			
	BS-1 / CON	Administration Building / HR / 008270	C: 1930-1931 A: 1943, c.1955, 1992, c.2003
	BS-3 / CON	Hangars 1 and 2 / HR / 008271	C: 1930 A: 1936-1937
	BS-4 / CON	Hangars 3 and 4 / HR / 008272	C: 1930 A: 1934
	BS-5 / CON	Hangars 5 and 6 / 008273	C: 1930 A: c.1934-1937, 2006
	BS-6 / CON	Hangars 7 and 8 / HR / 008274	C: 1930 A: c.1934-1937, 2006
	BS-26 / CON	Dope Shop / HR / 008275	C: 1937 A: c.1943
	BS-29 / CON	Administration Building Pump House / HR / 008276	C: 1937-1938 A: c.1942, post-1980
	BS-30 / CON	Dope Shop Pump House / HR / 008277	C: 1942
	BS-50 / CON	Hangar Row Fire House / HR	C: 1942
	BS-54 / CON	Synthetic Training Building / HR	C: 1942
	BS-57 / CON	Transformer Vault / HR / 008284	C: 1931-1932 A: unknown
Navy Seaplane Patrol Base Maintenance Complex			
	BS-89 / CON	Sewer Pump Station / NSPB	C: 1941
	BS-90A / CON	Fire Station / NSPB	C: 1941
	BS-90B / CON	Fire Station Garage / NSPB	C: 1941
	BS-91 / CON	Maintenance Shop /	C: 1941

		NSPB	
	BS-94 / CON	Torpedo Storage / NSPB	C: 1941
	BS-96 / CON	Power Plant B / NSPB	C: 1941
	BS-97 / CON	Cold Storage and Commissary / NSPB	C: 1941
	BS-98 / CON	General Storage Building / NSPB	C: 1941
	BS-99 / CON	Fire Protection Pump Station / NSPB	C: 1941
	BS-178 / CON	Fire Protection Structure / NSPB	C: 1941
	BS-100 / CON	Hangar B / NSPB	C: 1941 A: 1951
	BS-120 / CON	Transformer Vault / HR / 008285	C: 1938 A: c.1943
	BS-126 / NC	Paint Storage / HR	C: c.1942-1943
	BS-145 / NC	Beacon Tower / HR / 008287	C: 1957
	BS-168, 169, 273, 274 / NC	Navy Utility and Storage Complex / NSPB	C: c.1951
	BS-277 / CON	Airport Compass Rose / AR / 041262	C: c.1935
	BS-278 / CON	Navy Compass Rose / AR / 041263	C: 1944
	BS-279 / CON	U.S. Coast Guard Bulkhead and Seaplane Ramp / USCG / 041266	C: 1937
	BS-400 / NC	Underground Utilities / Site Wide	
	BS-401 / U	Rotating Platforms / HR	C: 1935 A: c.1996
	BS-402 / NC	Aviator Sports and Recreation complex / HR	C: 2006

	BS-403 / CON	Civilian Airport Bulkhead and Seaplane Ramp / AR	C: c.1930-1932
	BS-404 / NC	NPS Comfort Stations / AR	C: c.1990
	BS-405 / CON	Navy Seaplane Patrol Base Seaplane Ramp / NSPB	C: 1940
	BS-406 / NC	Navy Storage Building / NSPB	C: c.1951
	BS-407 / CON	U.S. Coast Guard Hangar / USCG	C: 1937-1938
	BS-408 / CON	U.S. Coast Guard Garage / USCG	C: 1937
	BS-409 / NC	U.S. Coast Guard Office Building / USCG	C: 1973
	BS-410 / NC	NYPD Guard Booth / USCG	C: c.1996
	BS-411 / NC	NYPD Training Tower / USCG	C: c.2000
	BS-412 / NC	NOAA Doppler Tower / USCG	C: c.1999
Small Scale Features			
	SSF –1 / NC	Flatbush Avenue Fence / Site Wide	C: c.1941-1945, post-1972 R: post-1972
	SSF –2 / NC	NPS Signage / Site Wide	C: post-1972
	SSF –3 / NC	Aviator Sports and Recreation complex Fence / HR	C: 2006
	SSF –4 / NC	Airport Entrance Light Standards / AE / 041268	C: 1935 A: post-1972
	SSF –5 / CON	Airport Entrance Flagpole / AE / 041270	C: 1935
	SSF –6 / NC	Airport Entrance Sign / AE	C: 1935, 2006 R: c.1941-1945

	SSF –7 / NC	Jamaica Bay Area Fences / USCG & NSPB	C: c.1996
Potential Archeological Sites (Aboveground Remains)			
	A-1	Site of Hangar A / NSPB	C: 1940 R: 1998

PART B: NORTH 40 NATURAL AREA AND SOUTH SUPPORT AREA

METHODOLOGY

Because the preceding National Register Evaluation of Landscape Integrity recommends that neither the North 40 Natural Area nor the South Support Area retain integrity to be included in the expanded historic district, the following sections contain only summary documentation of landscape characteristics, accompanied by a list of associated features. Each landscape characteristic is summarized, describing both its original and existing condition. The following section does not evaluate the potential significance of individual features.

NORTH 40 NATURAL AREA SUMMARY LANDSCAPE EVALUATION

The North 40 Natural Area, historically the radio communications complex developed by the Navy during World War II, is located to the north of the historic district, specifically Runway 6-34 and extends to Mill Basin on the north and the Shore (Belt) Parkway on the west. Currently this area is characterized by the successional woody vegetation and winding, mown grass walking trails. The following section provides an overview of the entire area north of the proposed expanded Floyd Bennett Field Historic District.

Natural Systems and Features

See Expanded Floyd Bennett Field Historic District Evaluation for information on the geology, geomorphology, and climate of Floyd Bennett Field.

Flora

From 1928–1942, the area now known as the North 40 Natural Area consisted of sand and marshland. The Navy filled the area in 1942, which would have eliminated most vegetation, such as salt grass, that may have been growing there. From 1942 through 1945, the Navy used the area as a radio communications complex and although they most likely did not manage the vegetation, the area retained its open character, with clear views to the north. Today, the North 40 Natural Area is characterized by the dense successional woods and mown walking trails maintained for recreational use. Vegetation surrounding the trails is so dense it is impossible to enter except in a few areas. The vegetation is a mix of young and mature trees with thick, scrubby underbrush. While on the trails, visitors are visually cut-off from the surroundings; no views remain either to the north towards Brooklyn or south towards the airfield. (See Figure 2.38)

Spatial Organization

After the Navy filled the North 40 Natural Area in 1942, it constructed a number of small buildings and connected them with one main asphalt road. Since there was minimal vegetation

and the small buildings were not located close together, the area was broad and open, much like the airfield itself. The existing spatial organization of the North 40 Natural Area sharply contrasts the open, expansive historic condition. The unmanaged vegetation has had dramatic impact on the spatial organization. Currently, the area is extremely enclosed and the extant World War II era buildings are barely visible from the walking trails. (See Figure 2.38)

Land Use

Prior to filling operations in 1942, the North 40 Natural Area was not used as part of the airfield. When the Navy developed the area in 1942, it was used primarily as a communications complex, although ammunition bunkers were also constructed. Today, the NPS manages the North 40 Natural Area as a natural recreation area. It is used for recreational walking along the mown trails. No mode of transportation aside from walking is permitted.

Land Use Features

LU-2. North 40 Natural Area (post-1972)

Topography

After being filled in 1942, the topography of the area was virtually flat, although the Navy did not grade it as evenly as the airport topography. The open character of the north area was essential to maintain safe sight distances off the airfield. The topography of the North 40 Natural Area today is consistent with its condition in 1942.

Circulation

During Naval development of the North 40 Natural Area in 1942, an asphalt vehicular access road was constructed. The road connected the North 40 Natural Area to connect Hangar Row (SO-1) and the Seaplane Patrol Base aprons. Many of the walking trails follow the path of the vehicular access road. Extant asphalt is sparse – small pieces of it are visible at random spots along the walking trails. Parts of the original access road have been overgrown with successional vegetation. (See Figure 2.38) New walking trails have been established where, historically, no roads existed.

Circulation Features

C-21. Walking Trails (post-1972)

Buildings and Structures

The Navy constructed fifteen buildings and four structures in the North 40 Natural Area between 1942 and 1945. Approximately three buildings were used for storage, two related to the radio communications complex, seven were used for ammunitions storage or explosives magazines (each of these were underground with an air vent extending above grade), and the remaining three provided power to the area. The four structures were radio transmitter towers.

Today two of the storage buildings remain on site as well as the sub-station. (Figure 3.35) While the radio towers have been removed (date unknown), the bases on which they stood may remain. Presumably the underground bunkers remain, although due to the dense successional woods, they are difficult to access. It is not known if the other five buildings and four structures remain. Further research and field investigations are necessary to determine if these nine features remain in the landscape, hidden by dense successional woods. The NPS has constructed three small, wooden photography shelters around the pond located at the west end of the North 40 Natural Area and wooden announcer's tower on the west side of the Runway 1-19 extension, for use in association with the remote-controlled airplane flying field.

Buildings and Structures Features

BS-106. Inert Storage (c. 1942 – 1945)
BS-109. Practice Bomb Storage (c. 1942 – 1945)
BS-110. Fuse and Detonators (c. 1942 – 1945)
BS-111. Fuse and Detonators (c. 1942 – 1945)
BS-112. High Explosives Magazine / Ammunitions Bunker (c. 1942-1945)
BS-113. High Explosives Magazine / Ammunitions Bunker (c. 1942-1945)
BS-114. High Explosives Magazine / Ammunitions Bunker (c. 1942-1945)
BS-115. High Explosives Magazine / Ammunitions Bunker (c. 1942-1945)
BS-116. Warhead (c. 1942-1945)
BS-117. North Service Sub-station (c. 1942-1945)
BS-413. Photography Shelters (post-1972)
BS-414. Announcer's Tower (post-1972)
BS-415. NPS North 40 Comfort Station (c. 1990)

Views and Vistas

Distant views from the North 40 Natural Area were an important part of the historic landscape. With the open character of the topography throughout the area, views were expansive in every direction. Existing views from the North 40 Natural Area are extremely limited. Visitors can only see along the walking trails; there are no views into the airfield or off site.

Small-Scale Features

The only documented small-scale feature in the North 40 Natural Area was the property fence the Navy installed during World War II. It entered the area after running along Flatbush Avenue, following the northern boundary along Shore Parkway. It stopped approximately one-half the distance from Flatbush Avenue to Jamaica Bay. The existing NPS fence is located along approximately the same path as the Navy fence, although it is difficult to determine where it ends because of the successional growth. The central public entrance into the North 40 Natural Area, located at approximately the halfway point of Runway 6-24 (C-12), is marked with two

signs displaying safety information and common autumn wildlife and vegetation found in the North 40 Natural Area. There is also a wooden stand for a visitor sign-in book, although there is no book present. A plastic trash barrel trash is located at the entrance and nine wooden bollards prohibit vehicles from entering. (Figure 3.36) At the remote-controlled airplane flying field, bleachers are located to the north side of the announcer's tower and picnic tables and benches are located to the south. A four-foot tall chain link fence separates the seating area from the adjacent parking area.

Small-Scale Features

SSF-8. NPS Visitor Amenities

Potential Aboveground Archeological Sites

There do not appear to be any potential aboveground archeological remains in the North 40 Natural Area. However, the successional woods may be obscuring potential sites. Further research and field surveying is necessary to determine the presence of any potential archeological sites in the North 40 Natural Area.

SOUTH SUPPORT AREA SUMMARY LANDSCAPE EVALUATION

The following section provides an overview of the area south of the expanded Floyd Bennett Field Historic District. The South Support Area is located to the south of the airfield. The Navy substantially developed the area from 1941-1945, at the site of the former Barren Island community. This area encompasses the development in the southeast portion of the site and the former Navy housing area, west of the U.S. Armed Forces Reserve Center. It does not include the U.S. Armed Forces Reserve Center, which is outside the CLR project boundaries, although it was historically part of NAS, New York. In the following summary, the term 'South Support Area' shall refer to all NPS land south of the historic district within CLR project boundaries.

Natural Systems and Features

See Expanded Floyd Bennett Field Historic District Evaluation for information on the geology, geomorphology, and climate of Floyd Bennett Field.

Flora

From 1928 – 1942, the natural flora that grew in the South Support Area was primarily successional vegetation. It was mainly short, scrubby vegetation. When the Navy began development in the area in 1942, the successional vegetation was most likely removed (and then re-established itself).

Today patches of successional woods and scrub are present in several areas: east of the archery range, south of the laundry and power plant B, around the nursery, to the east and west of

Taxiway 7 (C-19), and west of the U.S. Armed Forces Reserve Center. The growth near the archery range is primarily beach grass. Growth in the remaining areas consists of a mix of trees and scrubby undergrowth. In general, it is relatively sparse. The growth west of the U.S. Armed Forces Reserve Center, however, is tall and dense. Overall, the successional growth is much more established and denser than it was historically.

Spatial Organization

During World War II, the South Support Area was organized with development clustered to the east portion of the area while the area west of Taxiway 7 (C-19) remained as flat, open land. The airfield's pine windbreak closed off the northern border of the South Support Area. The spatial organization of the South Support Area was relatively dense when compared with the rest of the landscape.

The spatial organization of the South Support Area has been altered since its original condition. Today the majority of the buildings and structures are still located in the east half of the area, although many buildings have been lost, which has changed the spaces in that area. The presence of the successional woods has changed the open character of the western portion, which now reads as a series of smaller, defined spaces. Overall, the open character has been significantly altered. (Figures 3.37, 3.37a, 3.37b)

Land Use

Before 1941, the South Support Area was primarily a residential and industrial area. The factories of the Barren Island community had closed by 1928 and all that remained were the residences, the church and the school. When the Navy expanded their facilities in 1942, the area incorporated mixed uses, including residential, administrative, and recreational. Buildings constructed included barracks for military housing, a dispensary, mess hall, a theater, and recreational facilities.

After World War II, the mixed uses of the South Support Area remained. In c. 1947, the area incorporated a new educational use when the New York State Board of Education leased two building for use as a public school. They were located south of the current entrance, in the Navy housing area near Rockaway Inlet. During the Cold War, two mobile home courts were located in the area, one north of the current park police station and one west of the U.S. Armed Forces Reserve Center, along Rockaway Inlet. All the mobile homes have since been removed. Six housing units still exist; three detached houses are east of the U.S. Armed Forces Reserve Center and three attached units are west of the center, along an access road constructed after the World War II era. The NPS currently uses the South Support Area for a variety of uses. The NPS Jamaica Bay Unit Headquarters and the park police are stationed in former Navy buildings. Many of the remaining buildings are either abandoned or used only on a temporary basis.

Recreation opportunities include two baseball fields, an archery range, nursery, a remote-controlled car track, and fishing access.

Land Use Features
LU-3. Friends of Gateway Nursery (post-1972)

Cluster Arrangement
During the Floyd Bennett Airport era, the Barren Island community was clustered in the far southeast corner. The Navy demolished the Barren Island community and constructed their own clustered facilities in the same area and extended further west. The South Support Area was one of three main clusters at NAS, New York. During both the Floyd Bennett Airport and World War II eras, development was concentrated in the eastern portion of the area.

All buildings from the Barren Island community and dating from the Floyd Bennett Airport era have since been demolished. Many buildings dating from the World War II era have been lost, altering the spatial relationship of the features to each other and the denseness of the cluster. Overall, it remains one of the three main clusters, but the loss of buildings has weakened the identity of the cluster.

Topography
The South Support Area is the only portion of Floyd Bennett Field situated primarily on unfilled land. The majority of the area is built on the landmass once known as Barren Island. The island was a naturally level landform. Small portions of the existing landform were filled and the entire area was graded in 1941 to match the area filled for the airport's construction in 1928. A minor change in the topography of the South Support Area was the construction of a berm over a portion of Taxiway 7 (C-19) in c. 1996. It is consistent with the character of the berms (T-1) constructed in the historic district.

Vegetation
Few references have been found regarding plantings during either the Floyd Bennett Airport or World War II eras. From historic photos, it appears the Navy planted grass maintained as a groomed lawn. Existing vegetation in the South Support Area consisted primarily of mown grass. The biggest change in vegetation since the historic period is the addition of the plant nursery, which is located on the site of the World War II era dispensary.

Circulation
Until 1941, the primary circulation feature in the South Support Area was Pelican Street (C-1), the compacted earth road connecting the Barren Island community with Flatbush Avenue. (See C-1) When the Navy established NAS, New York in 1941, construction in the South Support Area included a new circulation system. The asphalt roads ran south from the Hangar Row

apron (C-2) towards Rockaway Inlet. (Today known as Aviation Road) Another road branched off to the north, leading to five barracks. (Today known as Enterprise Avenue) Further west, a cross street led to the marginal wharf along Jamaica Bay to the south and more barracks to the north and a "U" shaped drive circled in front of two married officer's quarters. (Today known as Ranger Road) The main east-west road turned north, connecting the South Support Area with the Coast Guard Air Station and the Seaplane Patrol Base. (Today known as Floyd Bennett Boulevard) Auxiliary roads led to the surrounding buildings. Several sidewalks connected each of the buildings. In 1942, the Navy constructed Taxiway 7 (C-19) at the same time as numerous other taxiways within the historic district.

Extant circulation dates from World War II except for the parking lots for the NPS Jamaica Bay Unit Headquarters and the park police. Also, the asphalt access road for the Cold War mobile home court remains. Two auxiliary roads and all but one sidewalk have been lost, which significantly alters the overall historic circulation pattern of the South Support Area. Taxiway 7 remains although a remote-controlled car track has been constructed on its south half. (See Figure 2.44) The Navy constructed the current entrance in c. 1951. Today, the entrance road connecting with Flatbush Avenue is known as Aviation Road.

Circulation Features

C-22. Taxiway 7 (c.1945)
C-23. Aviation Road / Site Entrance (1941 / c.1951)
C-24. Floyd Bennett Boulevard (1941)
C-25. Ranger Road (1941)
C-26. Enterprise Avenue (1941)

Buildings and Structures

From 1928 – 1941 approximately twenty buildings remained from the Barren Island community. In 1942, the Navy demolished the buildings to expand the NAS, New York. During World War II, the Navy constructed approximately thirty-nine buildings and structures in the South Support Area, constructed primarily of either brick, concrete, or wood frame. Most of the buildings were two-story barracks. However, smaller support structures were also built, such as pump stations, storage facilities, and a brick power house.

Today approximately fifteen buildings and structures remain from the World War II era. Twenty-four buildings have been lost and eighteen additional buildings and structures have been constructed since the end of the World War II era. The Navy constructed most of these buildings with clapboard siding and gabled roofs, similar to the Hangar Row fire house and synthetic training building, although in general the buildings in the South Support Area were much larger than these two Hangar Row buildings. The NPS constructed the buildings

associated with the nursery and building number 272. There is no unified architectural style apparent in the design of the existing buildings.

Buildings and Structures Features

BS-60. Sewage Treatment Plant (c. 1942 – 1945)
BS-62. Barracks Number 2 (c. 1942 – 1945)
BS-63. Barracks Number 3 (c. 1942 – 1945)
BS-69. CPO Barracks Number 5 / NPS Jamaica Bay Unit Headquarters (c. 1942 – 1945)
BS-70. West Recreation Building (c. 1942 – 1945)
BS-72. Marine Barracks Number 15 (c. 1942 – 1945))
BS-74. Enlisted Men's Recreation Building (c. 1942 – 1945)
BS-75. Pump Station A (c. 1942 – 1945)
BS-85. Laundry (c. 1942 – 1945)
BS-86. Power Plant A (c. 1942 – 1945)
BS-88. South Service Substation (c. 1942 – 1945)
BS-101. Substation 2 (c. 1942 – 1945)
BS-102. Water Storage Tanks and Pump House (c. 1942 – 1945)
BS-A. Married Officer's Quarters (c. 1942 – 1945)
BS-B. Married Officer's Quarters (c. 1942 – 1945)
BS-129. Job Corps Facility (original use unknown) (c. 1960)
BS-130. Job Corps Facility (original use unknown) (c. 1960)
BS-131. Job Corps Facility (original use unknown) (c. 1960)
BS-132. Job Corps Facility (original use unknown) (c. 1960)
BS-135. Gate House (c. 1951)
BS-154. Lift Station (c. 1960)
BS-207. Security Gate House (c. 1951)
BS-254. Bus Shelter (c. 1960)
BS-258. NPS Garage/Maintenance Shop (c. 1960)
BS-272. NPS Office Building (c. 1960)
BS-275. Park Police (c. 1960)
BS-416. NPS Family Housing (Former Navy Housing – east of U.S. Armed Forces Reserve Center) (c. 1960)
BS-417. NPS Family Housing (Former Navy Housing – west of U.S. Armed Forces Reserve Center) (c. 1960)
BS-418. Utility Structure (c. 1960)
BS-419. Storage Structure (c. 1960)
BS-420. Nursery Buildings (post-1972)
BS-421. Archery Range Shelter (post-1972)
BS-422. NPS Comfort Station (c. 1990)

Views and Vistas

Distant views from the South Support Area were an important part of the historic landscape. With the open character of the topography throughout the area, views were expansive in most every direction. The cluster of buildings in the southeast corner somewhat limited the views. Before the pine windbreak matured, views to the north remained open. Existing views are extremely limited in the South Support Area. The more spread out arrangement of the existing buildings, the growth of successional vegetation, and the mature pine windbreak block most views out from the area.

Small-Scale Features

While no complete record of small-scale features has been discovered during research for this report, at least one small-scale feature that existed in the South Support Area during World War II was a chain-link property fence approximately six feet tall, which separated the area from Flatbush Avenue.

When the Navy relocated the main site entrance to the current entrance in c. 1951, they constructed a tall entrance sign. The sign was approximately fifteen feet tall and was simple in its design. It read 'U.S. Naval Air Station New York, Naval and Marine Air Reserve Squadrons and Units Attached.' Above the title was an illustrated globe flanked by stylized wings, which was similar to the detailing found on the Administration Building, original airport hangars, and the U.S. Coast Guard hangar (BS-407). The sign has since been removed. (Figures 3.38, 3.39) In 1952, the U.S. Army constructed a fence around the current boundaries of the Armed Forces Reserve Center. After the NPS gained ownership, the sign and the World War II era property fence were removed. A new fence was installed, which runs along the access road leading from the current entrance south towards Rockaway Inlet. The NPS has also erected signs throughout the area to direct park visitors.

Small-Scale Features

SSF-9. U.S. Armed Forces Reserve Center Property Fence (1952)
SSF-10. Property Fence (post-1972)
SSF-11. NPS Signage (post-1972)
SSF-12. Street Lights (post-1972)

Potential Aboveground Archeological Sites

A-2. Site of Navy Mess Hall.

In the South Support Area, the foundations remain of one building and one structure; the foundation of the former Navy mess hall (Building 67) remains north of the Jamaica Bay Unit Headquarters. Constructed during World War II, the mess hall burned down in 1964. (See Figure 3.37a)

A-3. Site of Water Storage Tank.
The foundation for a circular water storage tank located remains in the southeastern most corner of the site. Constructed during World War II, the water storage tank was removed after the NPS gained ownership of the site in 1972.

There are no other aboveground remains visible at the sites of other buildings.

Cultural Landscape Report

Floyd Bennett Field
Gateway National Recreation Area

Evaluation of
1941 & Existing Conditions

National Park Service

Olmsted Center for Landscape Preservation

www.nps.gov/oclp

in cooperation with:

Faculty of Landscape Architecture
SUNY College of Environmental
Science and Forestry - Syracuse, New York

SOURCES

1. Map of NAS, New York, December 1941
2. Structures Key Map, March 27, 1979
3. Aerial Photograph, 2005
4. Field Survey, December 2006

DRAWN BY

Sarah K. Cody, Illustrator CS2

LEGEND

BOUNDARIES

- Floyd Bennett Field CLR Project Area / NPS Property Boundary
- Existing National Register Historic District Boundary

FEATURES

- Buildings & Structures
- Circulation — Runways, drives, aprons, taxiways, walks
- Fence
- Berm
- Grass / Open Land
- Successional Woods

EVALUATION

- Features added since 1941
- Features removed since 1941

Drawing 3.1

Character Areas Legend

- Hangar Row
- Airport Entrance
- Airfield
- Navy Seaplane Patrol Base
- U.S. Coast Guard Air Station

Notes

1. South Support Character Area includes all land within the CLR Project Area that lies south of the Airfield and U.S. Coast Guard Air Station Character Area boundaries.
2. North 40 Natural Area Character Area includes all land within the CLR Project Area that lies north of the Airfield Character Area.

Notes

1. Original concrete and pavers may remain under access road and parking lots.
2. Rotating platforms and passenger tunnel hatches may remain under parking lot.
3. All features rendered in color date from 1941.
4. The property boundary shown reflects the current boundary. For the 1941 property boundary refer to Drawing 1.2.
5. Scale and location of all features are approximate.
6. Refer to Table 3.1 for key of extant buildings and structures.
7. Refer to Appendix D for Buildings and Structures Key.

North

0′ 400′ 800′ 1200′ 1600′

Cultural Landscape Report

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in cooperation with:

Faculty of Landscape Architecture
SUNY College of Environmental
Science and Forestry - Syracuse, New York

SOURCES

1. Map of NAS, New York, July 30, 1947
2. Structures Key Map, March 27, 1979
3. Aerial Photograph, 2005
4. Field Survey, December 2006

DRAWN BY

Sarah K. Cody, Illustrator CS2

LEGEND

BOUNDARIES

- Floyd Bennett Field CLR Project Area / NPS Property Boundary
- Existing National Register Historic District Boundary
- Proposed National Register Historic District Boundary

FEATURES

- Buildings & Structures
- Circulation — Runways, drives, aprons, taxiways, walks
- Fence
- Berm
- Grass / Open Land
- Successional Woods

EVALUATION

- Features added since 1945
- Features removed since 1945

Character Areas Legend

- Hangar Row
- Airport Entrance
- Airfield
- Navy Seaplane Patrol Base
- U.S. Coast Guard Air Station

Notes

1. South Support Character Area includes all land within the CLR Project Area that lies south of the Airfield and U.S. Coast Guard Air Station Character Area boundaries.
2. North 40 Natural Area Character Area includes all land within the CLR Project Area that lies north of the Airfield Character Area.

Notes

1. Original concrete and pavers may remain under access road and parking lots.
2. Rotating platforms and passenger tunnel hatches may remain under parking lot.
3. All features rendered in color date from 1945.
4. The property boundary shown reflects the current boundary. For the 1945 property boundary refer to Drawing 1.3.
5. Scale and location of all features are approximate.
6. Refer to Table 3.1 for key of extant buildings and structures.
7. Refer to Appendix D for Buildings and Structures Key.

North

0′ 400′ 800′ 1200′ 1600′

Drawing 3.2

Cultural Landscape Report

Floyd Bennett Field
Gateway National Recreation Area

Evaluation of Airport Entrance 1941 & Existing Conditions

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in cooperation with:

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SUNY College of Environmental
Science and Forestry - Syracuse, New York

SOURCES

1. Map of NAS, New York, December 1941
2. Structures Key Map, March 27, 1979
3. Aerial Photograph, 2005
4. Field Survey, December 2006

DRAWN BY

Sarah K. Cody, Illustrator CS2

LEGEND

BOUNDARIES

- Existing National Register Historic District Boundary
- Floyd Bennett Field CLR Project Area / NPS Property Boundary

FEATURES

- Buildings & Structures
- Circulation — Runways, drives, aprons, taxiways, walks
- Fence
- Light
- Lawn
- Vegetation

EVALUATION

- Features added since 1941
- Features removed since 1941
- Assumed Feature

Parking Lots (c. 1996) over Hangar Row Apron (C-2. 1930)

V-5. Grass Panel (1932)

BS-401. Rotating Platforms / Passenger Tunnel Hatches (1935) assumed to be intact under asphalt

Site of Administration Building Area Fence (1935, removed c. 1941-1945)

SSF-3. Aviator Sports & Rec. Complex Fence (2006)

Site of WPA Field House (1937 -1938, demol. 1964)

BS-5. Hangars 5 and 6 (1930)

BS-1. Administration Building (1930-1931)

V-1. South Parking Lot Plantings (1935)

Open Asphalt Area (1964, altered c.1998) over North Administration Building Parking Lot (C-4. 1935)

Grass Panel (c. 1964) over South Administration Building Parking Lot (C-4. 1935)

BS-4. Hangars 3 and 4 (1930)

V-3. Administration Building Foundation Plantings (1935)

SSF-1. Flatbush Avenue Fence (post-1972)

Site of Walkway (1935, removed c. 1941-1945)

BS- 29. Admin. Bldg Pump House (1937-1938)

Aviator Sports & Rec. Complex Ice Rink Support Structure (2006)

BS-145. Beacon Tower (1957)

Site of Lawn Area

SSF-5. Airport Entrance Flagpole (1935)

SSF-6. Airport Entrance Sign (2006)

V-2. Airport Entrance Lawn Area (1935)

SSF-4. Airport Entrance Light Standards (post-1972)

Flatbush Avenue Bike Path

Bollards

Site of Lawn Area

Bollards

Flatbush Avenue

Approximate 1941 Shoreline

Dead Horse Bay

North

0′ 50′ 100′ 150′

Notes

1. Original concrete and pavers may remain in place under access road and parking lots.
2. All features rendered in color date from 1941.
3. Scale and location of all features are approximate.
4. Administration Building Foundation Plantings were planted with one row of rhododendrons and three rows of cannes lillies each.
5. Refer to Table 3.1 for key of buildings and structures.

Drawing 3.3

Cultural Landscape Report

Floyd Bennett Field
Gateway National Recreation Area

Evaluation of Airport Entrance 1945 & Existing Conditions

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in cooperation with:

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SUNY College of Environmental
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SOURCES

1. Map of NAS, New York, December 1941
2. Structures Key Map, March 27, 1979
3. Aerial Photograph, 2005
4. Field Survey, December 2006

DRAWN BY

Sarah K. Cody, Illustrator CS2

LEGEND

BOUNDARIES

- Existing National Register Historic District Boundary
- Floyd Bennett Field CLR Project Area / NPS Property Boundary

FEATURES

- Buildings & Structures
- Circulation — Runways, drives, aprons, taxiways, walks
- Fence
- Light
- Lawn
- Vegetation

EVALUATION

- Features added since 1941
- Features removed since 1941
- Assumed Feature

Parking Lots (c. 1996) over Hangar Row Apron (C-2. 1930)

V-5. Grass Panel (1932)

BS-401. Rotating Platforms / Passenger Tunnel Hatches (1935) assumed to be intact under asphalt

Site of Administration Building Area Fence (1935, removed c. 1941-1945)

SSF-3. Aviator Sports & Rec. Complex Fence (2006)

Site of WPA Field House (1937 -1938, demol. 1964)

BS-5. Hangars 5 and 6 (1930)

BS-4. Hangars 3 and 4 (1930)

BS-1. Administration Building (1930-1931)

V-1. South Parking Lot Plantings (1935, removed c. 1964)

Site of Navy Sick Bay (c. 1943, removed c.1968)

Open Asphalt Area (1964, altered c.1998) over North Administration Building Parking Lot (C-4. 1935)

Grass Panel (c. 1964) over South Administration Building Parking Lot (C-4. 1935)

Site of Paint Storage Building (c. 1942, removed c. 1980)

V-3. Administration Building Foundation Plantings (1935)

SSF-1. Flatbush Avenue Fence (post-1972)

Site of Walkway (1935, removed c. 1941-1945)

BS- 29. Admin. Bldg Pump House (1937-1938)

Aviator Sports & Rec. Complex Ice Rink Support Structure (2006)

SSF-5. Airport Entrance Flagpole (1935)

SSF-6. Airport Entrance Sign (2006)

Site of Gate House Building (c. 1941, removed c. 1968)

V-2. Airport Entrance Lawn Area (1935)

SSF-4. Airport Entrance Light Standards (post-1972)

BS-145. Beacon Tower (1957)

Site of Lawn Area

Flatbush Avenue Bike Path

Bollards

Bollards

Site of Lawn Area

Site of Gate House Building (c. 1941, removed c. 1968)

Flatbush Avenue

Approximate 1941 Shoreline

Notes

1. Original concrete and pavers may remain in place under access road and parking lots.
2. All features rendered in color date from 1945.
3. Scale and location of all features are approximate.
4. Administration Building Foundation Plantings were planted with one row of rhododendrons and three rows of cannes lillies each.
5. Refer to Table 3.1 for key of buildings and structures.

North

0′ 50′ 100′ 150′

Drawing 3.4

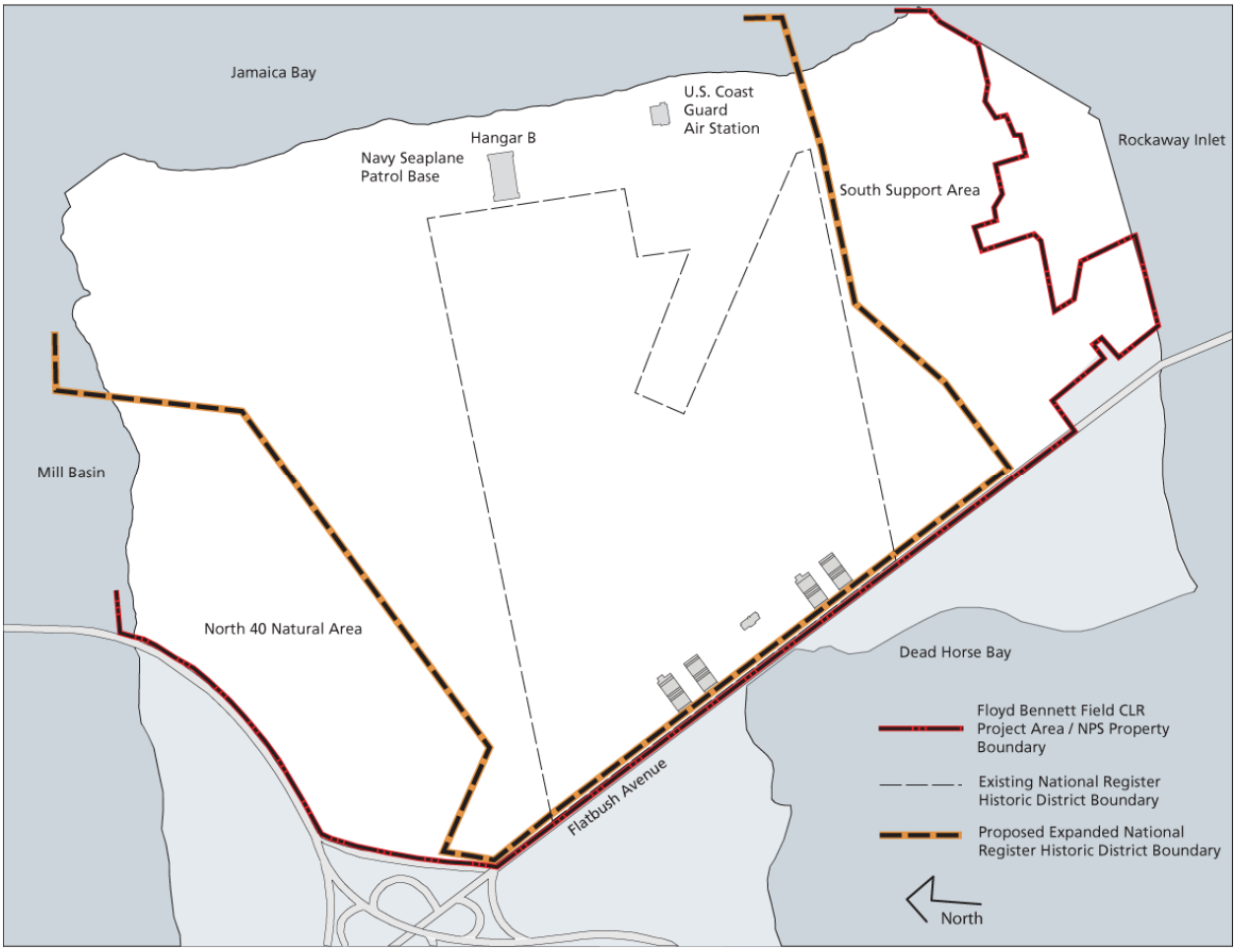


Figure 3.1: Existing and Proposed National Register Historic District Boundaries. (SUNY ESF).



Figure 3.2: World War II era photograph of the seaplane patrol facilities at NAS, Annapolis. This type of development was common at naval air stations throughout the country during World War II. (M. L. Shettle, Jr. *United Stated Naval Air Stations of World War II, Volume I: Eastern States,* 12).

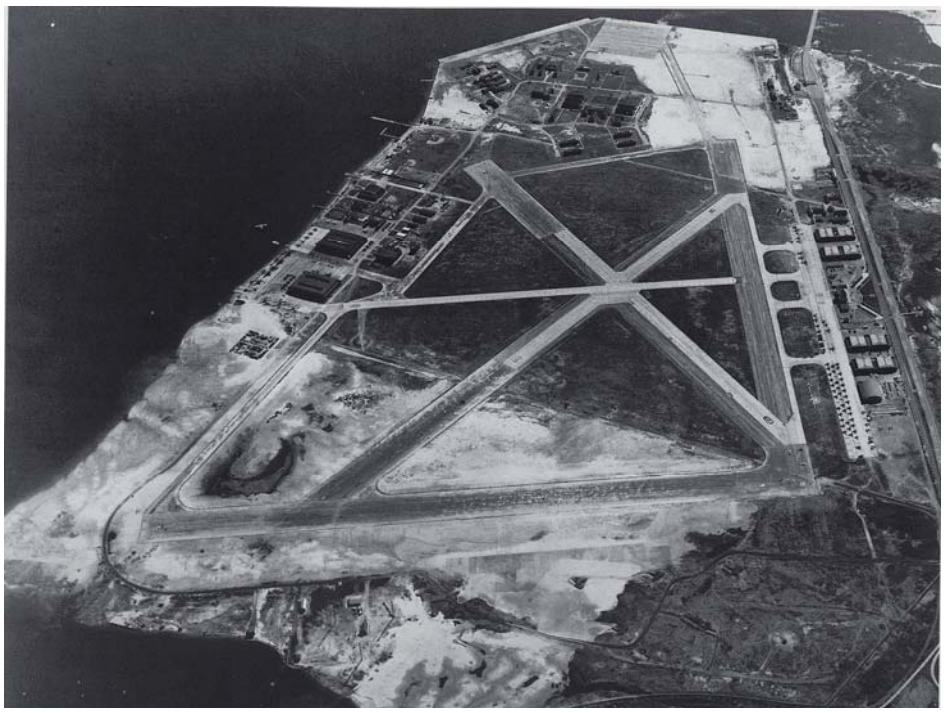


Figure 3.3: Aerial view of Naval Air Station, New York illustrating the extensive development of the site by the Navy, c. 1945. (Shettle, *United Stated Naval Air Stations of World War II,* 162).

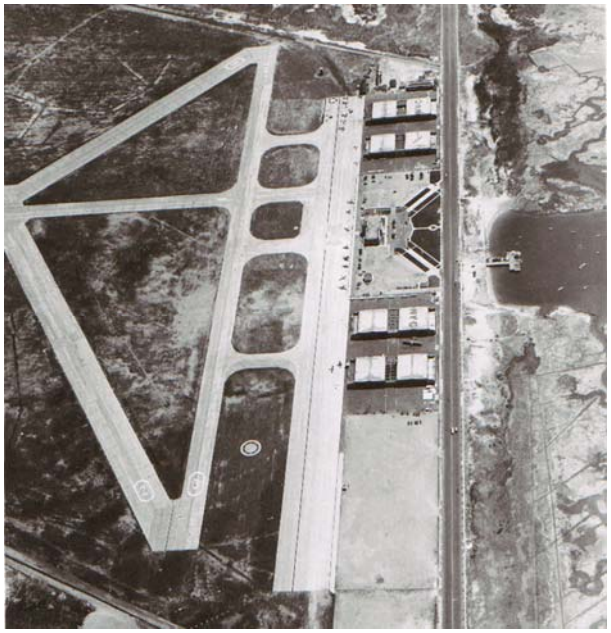


Figure 3.4: View looking south of the historic spatial organization of Hangar Row, 1938. (Photograph 18951, Gateway National Recreation Area Archives, Fort Wadsworth).

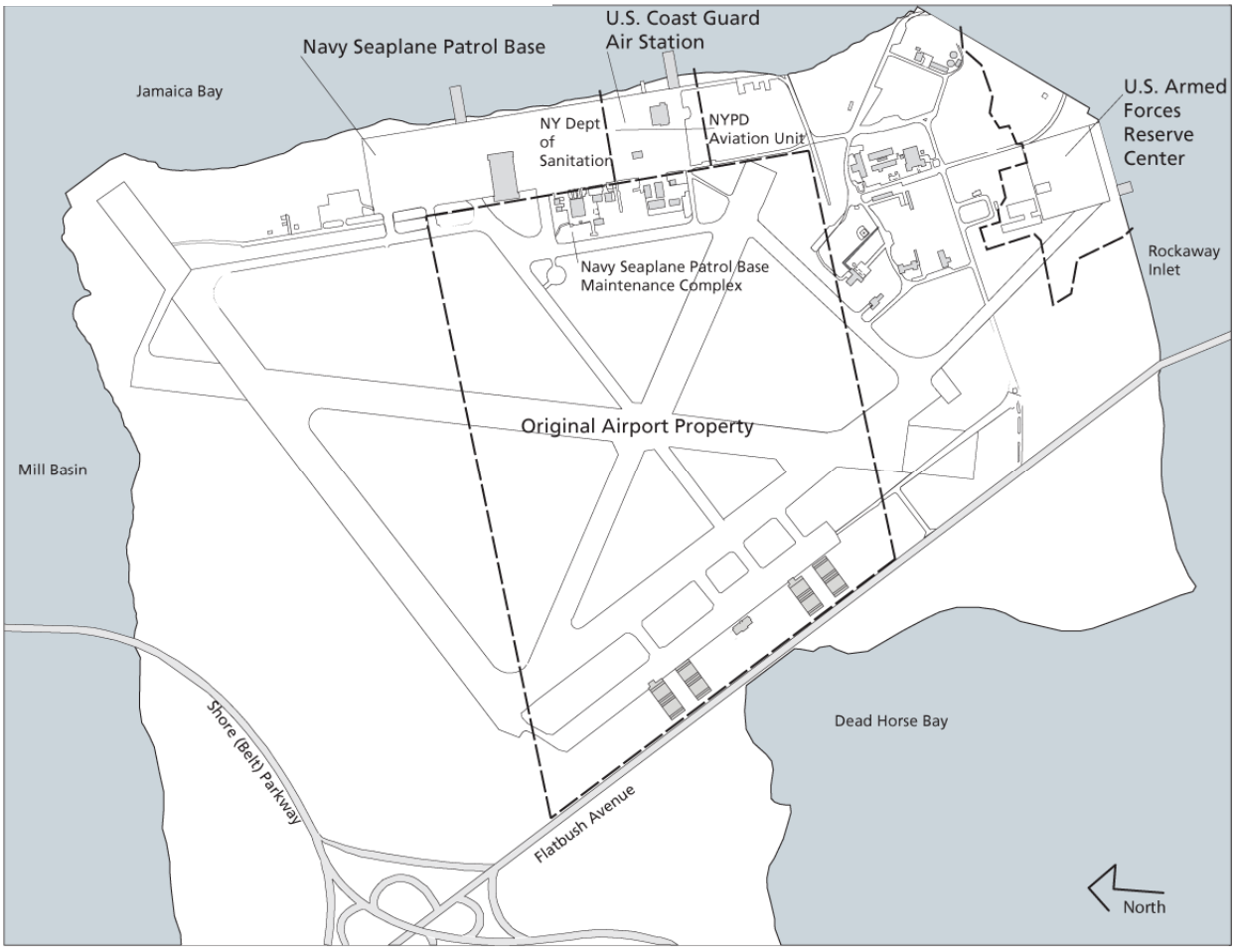


Figure 3.5: Historic and Existing Jurisdictional Boundaries. NAS, New York encompassed all lands east of Flatbush Avenue with the exception of the Coast Guard Air Station. In 1972, all lands excluding the U.S. Armed Forces Reserve Center, the Coast Guard Air Station and the southeast half of Runway 12-30 (C-11) were transferred to the NPS. (SUNY ESF).



Figure 3.6: View looking southwest towards the Administration Building from the 1935 WPA-designed airport entrance, c. 1938. (Photograph 18394, Gateway National Recreation Area Archives, Fort Wadsworth).



Figure 3.7: View looking southwest at the existing (2006) condition of the airport entrance from approximately the same view as the historic image. Note the loss of the hedges and perennials along the walkways, December 2006. (SUNY ESF).



Figure 3.8: View looking northwest towards the east facade of the Administration Building. Note the prominent three-story half-octagon control tower and the two outdoor dining terraces flanking the tower, c. 1935-1941. (Photograph 21876, Gateway National Recreation Area Archives, Fort Wadsworth).



Figure 3.9: View looking northwest towards the east facade of the Administration Building. Note the glass and steel control tower, altered in 1943 by the Navy, December 2006. (SUNY ESF).



Figure 3.10: View looking southwest towards the Hangars 5-8 with the Aviator Sports and Recreation complex infill building, December 2006. (SUNY ESF).

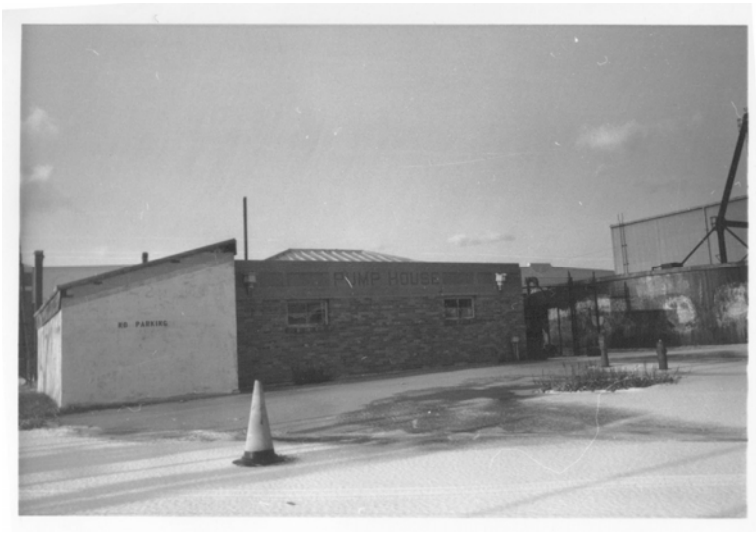


Figure 3.11: View looking north towards the south facade of the Administration Building pump house with the World War II era addition, c. 1942-1945. (Photograph 22674, Gateway National Recreation Area Archives, Fort Wadsworth).



Figure 3.12: View looking north towards the south facade of the Administration Building pump house. Part of the 1957 beacon tower (BS- 145) can be seen at the left edge of the photograph. The metal structure used for the indoor ice rinks at the Aviator Sports and Recreation complex is between the pump house and the beacon tower (BS- 145), December 2006. (SUNY ESF).



Figure 3.13: View looking west at the 1957 beacon tower (BS- 145). The pump house is located to its left. The Flatbush Avenue fence (SSF-1) can be seen behind the beacon tower (BS- 145), December 2006. (SUNY ESF).



Figure 3.14: View looking south at the structure erected to support the Aviator Sports and Recreation complex's indoor ice rinks, December 2006. (SUNY ESF).



Figure 3.15: View looking north towards the Aviator Sports and Recreation fence (SSF-3) installed into the Hangar Row apron (C-2). The area in front of the hangars was covered with asphalt, December 2006. (SUNY ESF).



Figure 3.16: View looking east towards the new outdoor fields. The transformer vault (BS- 120) is located in the center of the photograph, December 2006. (SUNY ESF).



Figure 3.17: View looking west into the airport entrance. The cast-iron light standards can be seen to either side of the central walk and the rustic style light standards can be seen at the far left and right of the Administration Building, 1936. (Porter R. Blakemore, "Historic Structures Report, Historical Data Section, Floyd Bennett Field, Gateway National Recreation Area, Volume 1," 184).



Figure 3.18: View looking west at the former airport entrance. The new cast-iron light standards can be seen to right side of the central walk, December 2006. (SUNY ESF).



Figure 3.19: View of the original WPA-constructed airport entrance sign, c. 1935. (Photograph 19622, Gateway National Recreation Area Archives, Ft. Wadsworth).



Figure 3.20: View of the 2006 reconstructed airport entrance sign. The two differences between the original sign and the reconstructed sign are the lack of the roof-like piece, and the color of the wood stain, December 2006. (SUNY ESF).



Figure 3.21: View looking northwest into the pine windbreak (V-6). The campgrounds (BS- 407) are not visible from outside the planting, December 2006. (SUNY ESF).

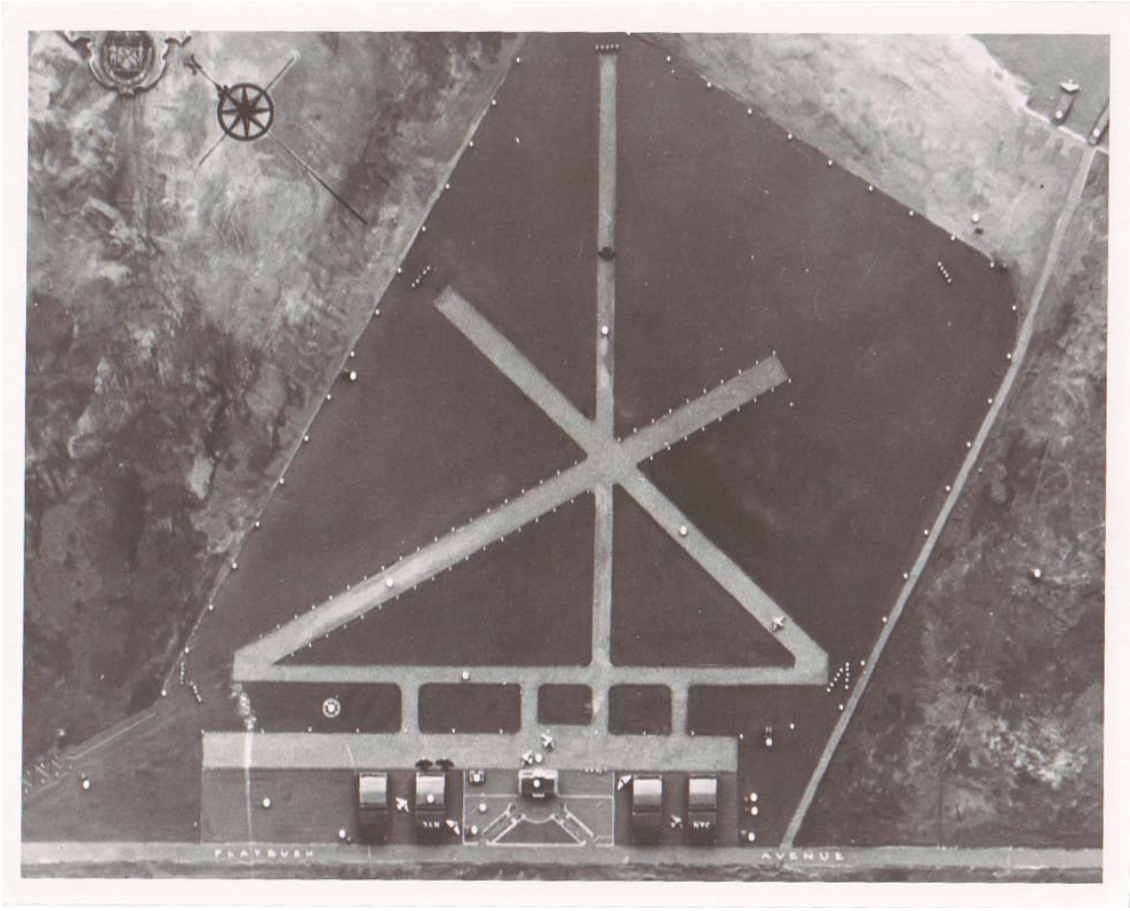


Figure 3.22: Aerial of Floyd Bennett Field showing the WPA-constructed runways, Hangar Row apron (C-2). The four taxiways define the edges of the grass panels (V-5). The airport compass rose (BS- 277) can be seen in the grass panel furthest left. The c. 1930-1932 civilian airport seaplane ramp can be seen in the top right corner, 22 November 1935. (Photograph 18860, Gateway National Recreation Area Archives, Fort Wadsworth).



Figure 3.23: View looking west at of one of the NPS comfort stations, December 2006. (SUNY ESF).



Figure 3.24: View looking south at the Navy storage building (BS- 406), December 2006. (SUNY ESF).

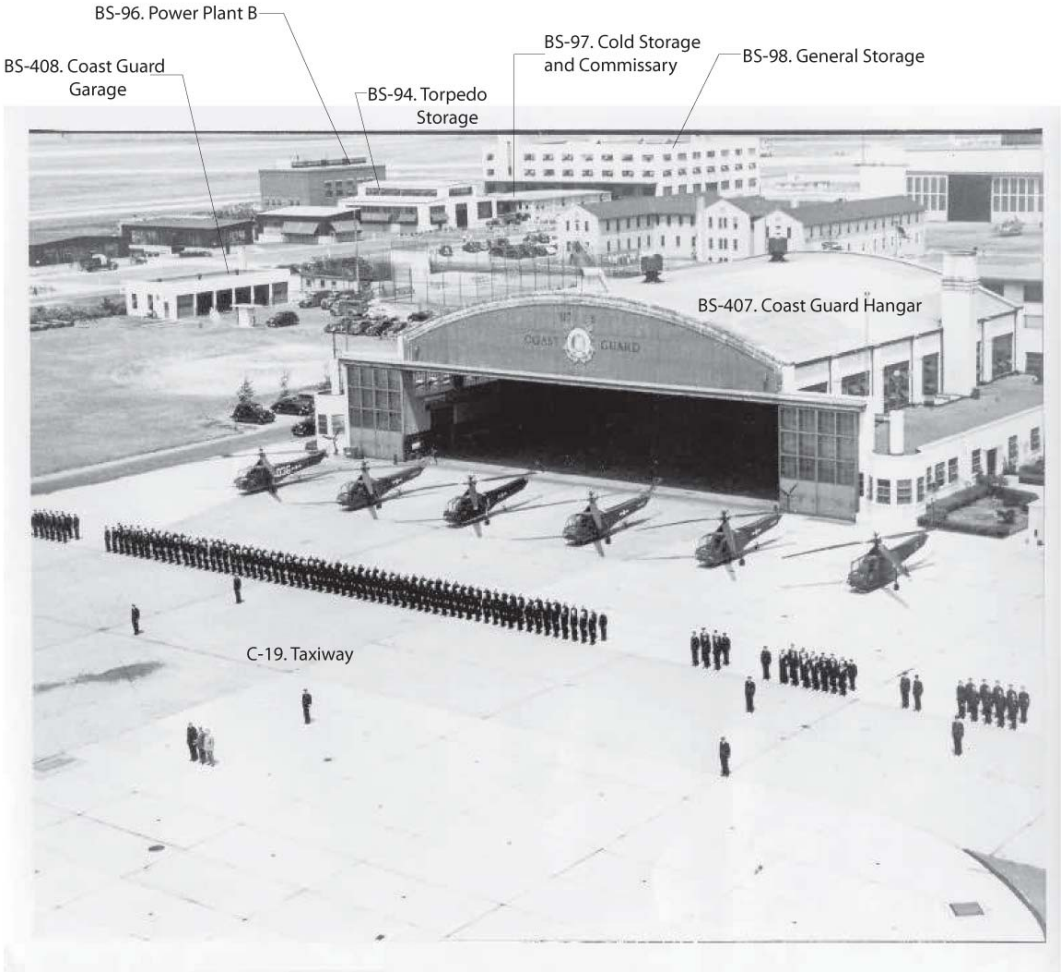


Figure 3.25: View looking northwest towards the Coast Guard Air Station with the Navy Seaplane Patrol Base maintenance complex behind, c. 1942-1945. (U.S. Department of Homeland Security. "United States Coast Guard Air Station Brooklyn, New York," *U.S. Coast Guard Aviation History,* http://www.uscg.mil/history/stations/airsta_brooklyn.html; annotated by SUNY ESF).



Figure 3.26: View looking northwest towards the Coast Guard Air Station and the Navy Seaplane Patrol Base. The Navy's development of a maintenance complex transformed the Jamaica Bay shoreline into a distinct cluster in the landscape, c. 1942-1945. (Unnumbered Photographs, Gateway National Recreation Area Archives, Fort Wadsworth).



Figure 3.27: View looking northwest towards the Coast Guard Air Station and the Navy Seaplane Patrol Base. Though changes have occurred, the Jamaica Bay shoreline maintains its identity as a distinct cluster in the landscape, December 2006. (SUNY ESF).



Figure 3.28: View looking north at several of the 1941 support structures at the former Seaplane Patrol Base. The closest building is the torpedo storage (BS- 94), the center is the cold storage and commissary (BS- 97), and the farthest is the general storage building (BS- 98), December 2006. (SUNY ESF).



Figure 3.29: View looking west towards the east facade of Power Plant B, December 2006. (SUNY ESF).



Figure 3.30: View looking northwest at the southeast corner of the general storage building. Note the patch of brick veneer on the south façade, December 2006. (SUNY ESF).



Figure 3.31: View looking northwest towards the pump station and fire protection structure (BS-178). The pump station is the front building. The dark structure behind it is the fire protection structure (BS- 178), December 2006. (SUNY ESF).



Figure 3.32: View looking southeast at Hangar B (BS- 100). The concrete Navy Seaplane Patrol Base apron (C-17) can be seen in the foreground. One of the Jamaica Bay area fences (SSF-7) is seen in front of the hangar, December 2006. (SUNY ESF).



Figure 3.33: View looking east towards Jamaica Bay of the remains of Hangar A (A-1), December 2006. (SUNY ESF).



Figure 3.34: View looking northeast towards the NYPD training tower (BS- 410) located within the Coast Guard Air Station, December 2006. (SUNY ESF).



Figure 3.35: View looking north at Building 106, one of the extant North 40 Natural Area buildings, dating from World War II, December 2006. (SUNY ESF).



Figure 3.36: View looking north at the North 40 Natural Area entrance where several small-scale features have been added, December 2006. (SUNY ESF).

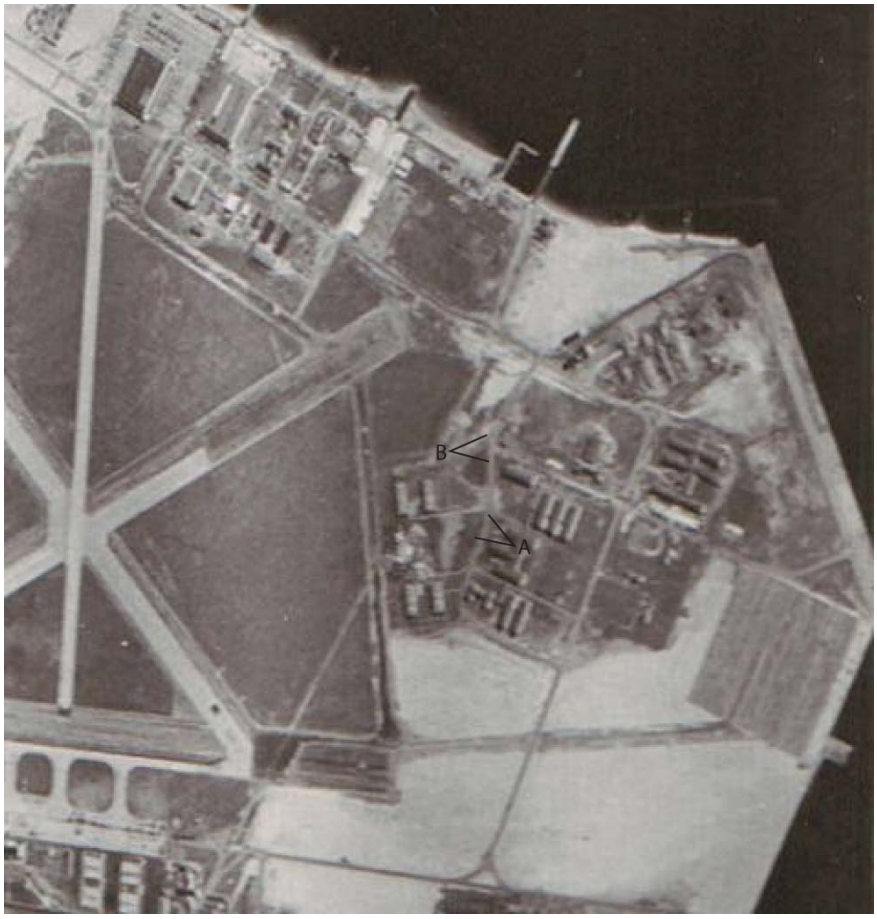


Figure 3.37: Aerial view of the South Support Area during World War II. As illustrated in corresponding images, there have been significant changes to the spatial character of the area since 1945, 13 April 1944. (Photograph 225130, Still Pictures Unit, Record Group 80, NARA II).



Figure 3.37a: View looking north from the foundation of the Navy mess hall. Historically, this view would have been open with barracks in the distance, December 2006. (SUNY ESF).



Figure 3.37b: View looking south towards Cold War era buildings. Historically, this view would have been open with the theater in the distance, December 2006. (SUNY ESF).



Figure 3.38: View looking east towards the c.1951 entrance into NAS, New York. This is the same entrance that is used today, c. 1960. (Historic Floyd Bennett Field, "Historic Floyd Bennett Field during the Cold War," http://www.geocities.com/floyd_bennett_field/coldwar.html).



Figure 3.39: View looking east towards the c.1951 entrance, which is used as the site entrance today, December 2006. (SUNY ESF).

ENDNOTES

[1] Depending on the level of research, it may be beyond the scope of some CLRs to evaluate significance within historic contexts that the report does not fully document. In the case of Floyd Bennett field, the significance of the airport context is already documented in the existing National Register documentation within the existing historic district boundaries. The lack of historic integrity in outlying areas, such as the North 40 Natural Area and the South Support Area, precludes the need to further document the historic significance of these areas for the purpose of evaluation National Register eligibility.

[2]National Park Service, "National Register Information System Database," *National Register of Historic Places* http: //www.cr.nps.gov/nr/research/nris.htm.

[3] Richard Greenwood and Ricardo Terres. "National Register of Historic Places Inventory Nomination Form, Floyd Bennett Field Historic District," (National Park Service: Unpublished document, 1978), 9.

[4] National Park Service, *National Register Bulletin 15, How to Apply the National Register Criteria for Evaluation,* (Washington D.C.: U.S. Department of the Interior, National Park Service, Interagency Resources Division, 1991), 2.

[5] Ibid.

[6] Ibid, 50.

[7] Susan Salvatore, National Historic Landmarks Program, personal communication with author, 20 February 2007.

[8] Letter, Acting Chief, National Register of Historic Places and National Historic Landmarks Program John W. Roberts to Cultural Resources Management Specialist, Gateway National Recreation Area William Nelligan, August 2005.

[9] Ibid.

[10] In the event that the recommendations to amend the existing National Register documentation are not accepted, the existing historic district should still be revised to include the southeastern portion of Runway 12-30, which falls within the original airport's boundaries.

[11] Although the U.S. Coast Guard hangar, built in 1936, may be eligible for individual listing in the National Register, it is not within the scope of the CLR to determine this.

[12] M. L. Shettle, Jr. *United Stated Naval Air Stations of World War II, Volume I: Eastern States,* (Bowersville, Georgia: Schaertel Publishing Co., 1995), 7.

[13] Eusebio Garcia Palacios. "National Register of Historic Places Registration Form, Rockwell Field Historic District," (National Park Service, Unpublished document, 1990) Section 8, Page 4.

[14] M. L. Shettle, Jr. *United Stated Naval Air Stations of World War II, Volume I: Eastern,* 7.

[15] National Park Service, "Floyd Bennett Field – Reading 1," *National Register of Historic Places, Teaching with Historic Places*, http://www.cr.nps.gov/nR/twhp/wwwlps/lessons/120floyd/120facts1.htm.

[16] National Park Service, "Floyd Bennett Field – Reading 3," *National Register of Historic Places, Teaching with Historic Places*, http://www.cr.nps.gov/nR/twhp/wwwlps/lessons/120floyd/120facts1.htm.

[17] Richard Greenwood and Ricardo Terres. "National Register of Historic Places Inventory Nomination Form, Floyd Bennett Field Historic District," 9.

[18] M. L. Shettle, Jr. *United Stated Naval Air Stations of World War II, Volume I: Eastern*, 7-8.

[19] National Park Service, *National Register Bulletin 15, How to Apply the National Register Criteria for Evaluation*, 44.

[20] Ibid.

[21] The district does not include all of NAS, New York. While the North 40 Natural Area, South Support Area, and the U.S. Armed Forces Reserve center were historically part of NAS, New York, they no longer retain enough integrity to be included in the historic district.

[22] Individual resources within these areas may be significant in the areas of architecture or archeology; however, it is outside the scope of the thesis to evaluate resources independent from the overall landscape.

[23] This designation system is adapted from: John Auwaerter, *Cultural Landscape Report for The Mansion Grounds, Marsh-Billings-Rockefeller National Historical Park* (Boston, MA: Olmsted Center for Landscape Preservation, National Park Service, 2005), 5-6.

[24] The definitions for each landscape characteristic come from: Robert Page, Cathy Gilbert, and Susan Dolan. *A Guide to Cultural Landscape Reports: Contents, Process, and Techniques*, (Washington D.C.: U.S. Department of the Interior, National Park Service, Cultural Resource and Stewardship and Partnerships, Park Historic Structures and Cultural Landscapes Program, 1998), 53.

[25] Richard Greenwood and Ricardo Terres. "National Register of Historic Places Inventory Nomination Form, Floyd Bennett Field Historic District," 2.

[26] Buildings and Structures in the 400 series historically were unnumbered; numbers have been assigned for the purposes of this report.

[27] Richard Greenwood and Ricardo Terres. "National Register of Historic Places Inventory Nomination Form, Floyd Bennett Field Historic District," 2.

[28] While other features have been listed chronologically, the Buildings and Structures features are listed sequentially.

[29] Despite the name 'lean-to' these additions were two-story brick structures.

[30] James Warren. "National Historic Landmark Nomination, Floyd Bennett Field," 8.

[31] After its designation as a taxiway, the original Runway 6-24 was generally referred to as Taxiway 6-24, although on some maps it is labeled Taxiway 1 and Taxiway 2.

[32] Although Taxiway 3 was the first new taxiway constructed in 1945, it was numbered '3' because the original Runway 6-24 that had been converted to a taxiway was identified as Taxiways 1 and 2. The east half was Taxiway 1 and the west Taxiway 2.

[33] The fire station and garage are actually numbered as buildings 90 and 247 on current maps, however, maps dating from the historic period depict the two as one building, number 90, it is unclear if they were actually connected at one point or is just listed as one building because of their related functions as part of a fire station.

[34] While the Seaplane Patrol Base fire pump station and fire protection structure are numbered as buildings 99 and 178 on current maps, maps dating from the historic period depict the two buildings with just one number, 99; this is most likely because of their related functions as part of a fire protection system.

[35] Sarah Cunliffe and Jean Loussier, eds. *Architecture Styles, Spotter's Guide, Classical Temples to Soaring Skyscrapers.* (San Diego: Thunder Bay Press, 2006), 230.

CONCLUSION

This thesis has produced the first comprehensive document on the history and significance of the Floyd Bennett Field landscape. It is a valuable tool for the National Park Service (NPS) for interpretation and preservation planning. Through the applied research and writing process, the thesis has provided an in-depth example of how to document, analyze, and evaluate an especially complex cultural landscape.

In the preceding chapters, the thesis has addressed the broad research objectives set forth in the Introduction. Through detailed research of existing documentation, the Site History chapter provided a comprehensive narrative of the history and evolution of the Floyd Bennett Field landscape. The knowledge gained through the Site History chapter provided the basis from which to compare the site's existing conditions. This comparison, presented in the Analysis & Evaluation chapter, described the implications of the landscape's changing use and appearance on its historic significance and interpretation. By understanding these changes, the thesis provides a framework for how the interpretation of Floyd Bennett Field's history can be addressed in the management of the landscape. Ultimately, from the information presented in the preceding chapters, this project has woven together Floyd Bennett Field's past and present into one cohesive landscape report and analysis, which might serve as a visionary framework for the future stewardship of the site.

From the information documented in the Site History and Existing Conditions chapters and the assessment of historic significance provided in the Analysis & Evaluation chapter, there are a number of broad findings. First, the complexity of the site has been revealed. Floyd Bennett Field is a landscape that has undergone several transformations during its relatively short history. The complicated ownership history has impacted the physical evolution of the landscape and has imprinted it with many layers of development. While the complex history and layers of development are visible in the landscape today, current management of Floyd Bennett Field has provided little interpretation of historic resources for park visitors.

In addition to the broad findings, there are two important recommendations of the thesis. Both result from the significant role the military played in the physical development of the Floyd Bennett Field landscape. The first is the recommendation to extend the period of significance. The current period of significance is listed as 1931 – 1941, which includes only the period when the Floyd Bennett Field operated as a commercial airport. The recommended period of significance is 1928 – 1945 and includes the start of construction on the airport through the World War II era, when the Navy extensively expanded the existing airport. The second recommendation addresses the boundaries of the National Register historic district. The existing historic district includes the majority of the original airport property. However, it does not include intact areas the military developed during the Floyd Bennett Airport era, including the Navy Seaplane Patrol Base and the Coast Guard Air Station. The existing historic district also does not include the World War II era Navy development of the site. The proposed expanded historic district includes areas the Navy developed during World War II that retain historic integrity. These recommendations address the

significant imprint of World War II era military development in the landscape, as an overlay on the earlier municipal airport.

The two recommendations of expanding the period of significance and the historic district boundaries would have significant implications on NPS management of Floyd Bennett Field. Currently, the NPS in theory manages the site to convey the historic character of the Floyd Bennett Airport era (1928 – 1941). While the intent has not been to entirely restore the landscape's historic appearance, the current management approach struggles to address the dominant military development in the landscape. In order to physically address the expansion of the period of significance and the historic district boundaries in the Floyd Bennett Field landscape, the NPS needs to shift its emphasis on the aviation history and the current recreation use of the site. Instead, the NPS should seek a balance of the interpretation of the landscape's aviation and military history while allowing for recreational opportunities.

RECOMMENDATIONS FOR FURTHER EXPLORATION

The thesis project for Floyd Bennett Field provides a substantial basis with which one could explore several issues relating to the broad field of cultural landscape preservation as well as site specific issues. These issues warrant development of a comprehensive treatment framework for Floyd Bennett Field. In addition to providing the foundation for new work in the future, there are also a number of areas outside the scope of this thesis that future research could address.

FRAMEWORK FOR TREATMENT ALTERNATIVES

On a broad scale, the NPS strives to protect and foster appropriate stewardship of cultural and natural resources. In addition to managing for cultural and natural resources, the NPS aims to balance these resources with opportunities for outdoor recreation. More specifically, *The Secretary of the Interior's Standards for the Treatment of Historic Properties* provides directed guidance for the stewardship of historic properties.[1] While developing a landscape treatment framework for Floyd Bennett Field would include a range of solutions, alternatives should follow the objectives of *The Secretary of the Interior's Standards*, specifically the standards for rehabilitation. Rehabilitation is the appropriate balance historic preservation with contemporary uses. This is also the treatment approach suggested in prior management documents for cultural resources at the site. These include *General Management Plan* (1979); *Development Concept Plan* (1980, revised 1983); and *Facility and Recreation Use Plan* (1993).

Each of the three plans provides general guidance for the stewardship of Floyd Bennett Field. The *General Management Plan* gives a broad outline of a plan to fully redevelop all of Gateway National Recreation Area, including Floyd Bennett Field. The emphasis is on creating a balance between the natural and historic resources by dividing the site into different management zones: restoration of natural environment, structured and unstructured recreation, new development, and educational resources. The *Development Concept Plan* identifies three main areas of focus for the Floyd Bennett Field landscape: conservation of natural resources; interpretation of historic resources; and

integrating existing institutions in New York City into new uses on the site. The *Facility and Recreation Use Plan* also addresses the need to establish programs to preserve the natural and historic resources, but puts much more emphasis on the need for recreational opportunities. None of the existing documents provide direct guidance on the stewardship of the landscape as a historical and cultural resource.

While each document provides guidance for the treatment of the overall site, none give substantial direction on the treatment and management of the landscape with regard to cultural landscape preservation. This is a result of the era in which these documents were written, particularly the *General Management Plan* (1979) and the *Development Concept Plan (*1980, revised 1983). The NPS produced these documents at a time when cultural landscape preservation was first emerging. While architectural preservation procedures had been established for some time, the preservation of landscapes is inherently different and appropriate solutions specific to the treatment of landscapes had not yet been developed. While existing documents provide a good foundation, the understanding of cultural landscape preservation has increased dramatically since they were written. This offers an opportunity to reassess the outlined objectives and suggest treatment alternatives that are not only grounded in historical research, but that also balance history and the demand for contemporary use.

General Treatment Approach

As recommended in existing management documents, the NPS has adapted Floyd Bennett to serve new uses, most of which are not associated with the historic uses of the landscape. Specifically, the historic district is used to protect natural resources and to provide for active recreation. The current management approach does not balance the preservation of historic resources with the demand for recreation. Instead of a richly interpreted historic site that provides for active engagement, the Floyd Bennett Field landscape reads as a public recreation site that coincidentally is located within a historic landscape, a fact not even acknowledged by many users. Ideally, treatment should create thoughtful relationships between the site's historic, natural, cultural, and recreational resources.

As defined by the NPS, there are four appropriate treatment approaches that could be applied to a cultural landscape: preservation, rehabilitation, restoration, and reconstruction. Of the four approaches, preservation requires "retention of the greatest amount of historic fabric, including the landscape's historic form, features, and details as they have evolved over time."[2] More specifically, preservation strives to protect and repair historic features, rather than to replace or reconstruct lost features. The scope of preservation does not include the introduction of any new additions.[3] Rehabilitation "acknowledges the need to alter or add to a cultural landscape to meet continuing or new uses while retaining the landscape's historic character."[4] Restoration allows for "the depiction of a landscape at a particular time in its history by preserving materials from the period of significance and removing materials from other periods."[5] Reconstruction guides the recreation of lost landscape features with "new materials, primarily for interpretive purposes."[6] Reconstruction is considered to be the approach with the highest level of intervention in the landscape and features that are reconstructed must be based on substantial physical evidence and documentation.[7]

Based on the broad objective of balancing past and present by incorporating cultural landscape preservation as a basis for park planning, the most appropriate treatment is rehabilitation. As defined by *The Secretary of the Interior's Standards for the Treatment of Historic Properties,* rehabilitation is the "act or process of making possible a compatible use for a property through repair, alterations, and additions while preserving those portions or features which convey its historical, cultural, or architectural values."[8] Further, rehabilitation should be implemented "when repair and replacement of deteriorated features are necessary; when alterations or additions to the property are planned for a new or continued use; and when its depiction at a particular period of time is not appropriate."[9] The Standards for Rehabilitation are:

1. *A property shall be used as it was historically or be given a new use that requires minimal change to its distinctive features, spaces, and spatial relationships.*
2. *The historic character of a property is to be retained and preserved. The removal of distinctive materials or alterations of features, spaces, and spatial relationships that characterize a property is to be avoided.*
3. *Each property shall be recognized as a physical record of its time, place and use. Changes that create a false sense of historical development, such as adding conjectural features or elements from other historic properties, shall not be undertaken.*
4. *Changes to a property that has acquired historic significance in its own right shall be retained and preserved.*
5. *Distinctive materials, features, finishes, and construction techniques or examples of craftsmanship that characterize a property shall be preserved.*
6. *Deteriorated historic features shall be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new shall match the old in design, color, texture and where possible, materials. Replacement of missing features shall be substantiated by documentary and physical evidence.*
7. *Chemical or physical treatments, if appropriate, shall be undertaken using the gentlest means possible. Treatments that cause damage to historic materials shall not be used.*
8. *Archeological resources shall be protected and preserved in place. If such resources must be disturbed, mitigation measures shall be undertaken.*
9. *New additions, exterior alterations, or related new construction shall not destroy historic materials, features, and spatial relationships that characterize the property. The new work shall be differentiated from the old and shall be compatible with the historic materials, features, size, scale, proportion, and massing to protect the integrity of the property and its environs.*
10. *New additions and adjacent or related new construction shall be undertaken in such a manner that, if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.*

General Treatment Issues

Regardless of the specific treatment solution that is applied to the Floyd Bennett Field landscape, there are broad cultural landscape preservation issues and site specific issues that should be

addressed. Broad issues that play a role in the treatment of any cultural landscape include creating a balance between history and current use with sensitivity to the natural, cultural, and recreational resources; revealing the cultural landscape's complex layers of history; and bringing the interpretation of the site into the physical landscape. Treatment as it applies to Floyd Bennett Field should aim to guide the landscape towards a historic character that clearly interprets both the civilian and military history of the site.

Because the Floyd Bennett Field landscape has a complex history with many layers of development, it is important to identify the site specific treatment issues to serve as a foundational base for specific treatment tasks. One of the most pressing issues is how to adapt a former military base for recreation use while still displaying the significance the military had on the physical development of the landscape. Military landscapes were developed to be efficient. For security reasons, it was important that military sites seemed uninviting to the general public. A public recreation site is entirely different. Recreation sites need to be efficient, but in very different ways than military sites. Public recreation sites need to allow for efficient transportation and accessibility both to the site as well as within it. Floyd Bennett Field, as a recreational park, should provide a comfortable, welcoming atmosphere. While this is in direct contrast to the site's history as Naval Air Station, New York, it was important during the Floyd Bennett Airport era that visitors to the site – the airline passengers – felt safe. Therefore, the entry experience into the landscape needed to be inviting. This issue illustrates the need for a carefully balanced treatment approach that incorporates the historic character of the site not just at the end of the period of significance in 1945, but of both the Floyd Bennett Airport and World War II eras.

Another important issue is providing a proper balance between natural and cultural resources. Currently, there are many areas within Floyd Bennett Field where the natural resources are overwhelming the cultural resources. In the North 40 Natural Area, for example, the NPS is managing the natural vegetation in a way that not only obscures the World War II era underground bunkers, but also the dense growth is causing damage to the cultural resources. While natural resource conservation is an important aspect of Gateway NRA's mission, the natural resources should be managed in a way that respects and enhances the cultural resources.

In addition to implementing an appropriate balance of differing historic characters as well as park resources, each treatment alternative should seek to reveal the layer's of Floyd Bennett Field's complex history. Through the development of thoughtful treatment alternatives, visitor interpretation will be greatly enhanced.

FUTURE RESEARCH

While the thesis has provided a comprehensive history and evaluation of the Floyd Bennett Field landscape, there are several issues that were discovered during project research and documentation that were not within the scope of the thesis to investigate further. One area is the documentation of the Coast Guard Air Station. Because the New York Police Department (NYPD) currently leases the former air station, access to the area was limited. As a result, the field survey for this area was less

in-depth than for much of the project area. Also, while the thesis assessed the historic significance of Floyd Bennett Field in the area of landscape architecture, it did not assess the potential significance in the areas of architecture, archeology, or engineering. From field surveying completed for the thesis, it seems likely that there is architecture at Floyd Bennett Field that may be eligible for individual listing in the National Register or as a National Historic Landmark, particularly the U.S. Coast Guard hangar. With regard to archeology, there are at least two sites where the remains of former buildings or structures are visible in the landscape and there are potentially other sites that could provide important information that could be addressed through an in-depth archeological survey.

THE FUTURE OF FLOYD BENNETT FIELD

Although the thesis has only touched on a number of complex treatment issues, it provides a valuable resource from which treatment alternatives can be developed to balance the past and present and help guide the future of Floyd Bennett Field's landscape. As aviation technology further develops, airport facilities will continue to evolve to address the changing demands of the technology. While many of today's most used airport date from the early years of aviation, their historic character has generally been altered beyond recognition. Floyd Bennett Field is unique in that while it is also a landscape that evolved over time, its development has allowed it to remain as a testament to the beginning of commercial aviation and to the legacy of World War II in New York City. Whether visitors to Floyd Bennett Field are drawn there because of its natural, cultural, or recreational resources, with proper stewardship, future generations will continue to and experience the complex layers of history of this significant cultural landscape.

[1] Charles A. Birnbaum and Christine Capella Peters, eds. *The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes.* (Washington, D.C.: U.S. Department of the Interior, 1996), ii.

[2] Ibid, 3.

[3] Ibid, 18.

[4] Ibid, 3.

[5] Ibid.

[6] Ibid.

[7] Ibid, 127.

[8]Ibid, 48.

[9] Ibid, 47.

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APPENDICES

APPENDIX A: ADDITIONAL RESOURCES

REPOSITORIES CONSULTED AND RESULTS

City of New York, Municipal Archives, New York
Minimal drawings.

Brooklyn Historical Society, Brooklyn, New York
One holding regarding residential community proposal.
Image Database has several Images of Floyd Bennett Filed dating primarily from the 1920s and 1930s; approximately nine are aerial photos and the others are a mixture of related images or detail shots.

Brooklyn Public Library, Brooklyn Collection, Brooklyn, New York
Mill Basin Records by Gary Schiller Records consist primarily of correspondence, clippings, leaflets, photos, and maps concerning local civic improvement efforts in the Mill Basin section of Brooklyn.

Gateway National Recreation Area Archives, Fort Wadsworth, Staten Island, New York.
Originals and copies of historical photographs and plans and park planning documents.

Kingsborough Historical Society, Brooklyn, New York
Floyd Bennett Field Photograph Collection, 1929-1955. Includes **p**hotos of military airfield in Brooklyn, including WPA murals; buildings; aerial views; celebrities such as General Douglas MacArthur, 1955, Douglas Corrigan, 1938, Howard Hughes, 1938-1939, Will Rogers and Wiley Post, 1932-1935.

National Archives and Records Administration (NARA), Washington, D.C.
Textual information on the Coast Guard Air Station at Floyd Bennett Field.

NARA II, College Park, Maryland.
Originals, copies , and three rolls of microfilm of historical documents, photographs, maps, and plans of Floyd Bennett Field, primarily from the late 1920s through 1950.

Naval Historical Center, Washington Navy Yard, Washington D.C.
No results.

Naval Historical Foundation, Washington Navy Yard, Washington D.C.
Brief report documenting history of the site.

Navy collection of World War II Administrative Histories includes five titles that may have brief information pertaining to Floyd Bennett Field

New York Public Library, New York.
Historical photographs in the digital gallery.

CONTACTS

Adamo, Doug. Chief of Natural Resources, Gateway National Recreation Area.

Ciccione, Felice. Archivist, Fort Wadsworth, Gateway National Recreation Area.

Eckert, Lisa. Superintendent. Gateway National Recreation Area.

Foppes, Kathy. Chief, Cultural Resources, Gateway National Recreation Area.

Foor, Jodi L. Navy Archivist, NARA II.

Hallowell, John Lincoln. Park Ranger, Gateway National Recreation Area.

McCarthy, Pete. Park Ranger, Gateway National Recreation Area.

O'Neill, Richard, Facility Manager, Jamaica Bay Unit, Gateway National Recreation Area.

Salvatore, Susan. National Park Service, National Historic Landmarks Program.

APPENDIX B: GLOSSARY OF TERMS

Apron: an area, typically concrete, where aircraft are parked to be loaded and unloaded, refueled, and boarded by passengers. (The American Heritage Dictionary online, http://dictionary.reference.com).

Commissary: a building specific to a military base that sells food and supplies to the personnel. (Trevor N. Dupuy, Curt Johnson, Grace P. Hayes, *Dictionary of Military Terms*).

Compass Rose: large paved or concrete area, typically circular, used to calibrate aircraft magnetic compass, which often become unaligned during flight. It is a feature unique to airfield. (Agricultural Aviation Update Online, "Compass Rose," http://www.agairupdate.com).

Dope Shop: maintenance shop where water proof varnish, known as dope, was applied to aircraft. (English Heritage Online Thesaurus, http://thesaurus.english-heritage.org.uk/).

Nose Hangar: a hangar large enough for the aircraft to park outside the hangar with just the nose of the aircraft protected within. (Times Standard Online, "New Mission Sought for WWII Hangar," http://times-standard.com).

Synthetic Training Building: a military facility that provides models and simulations designed to support training exercises. (BAE Systems, "Hawk Synthetic Training Facility," http://www.baesystems.com).

Taxiway: an area on which the aircraft can slowly move along the ground, or taxi. The taxiway connects areas such as hangars, the main passenger terminal, aprons, and runways. (The American Heritage Dictionary online, http://dictionary.reference.com).

Wharf/Marginal Wharf: a platform, typically built on pilings and projecting into a body of navigable water for the purpose of loading ships. A marginal wharf is a specific type of wharf constructed parallel to the shoreline. (The American Heritage Dictionary online, http://dictionary.reference.com).

APPENDIX C: EVALUATION OF CULTURAL LANDSCAPES

PREFACE: NATIONAL REGISTER EVALUATION OF CULTURAL LANDSCAPES[1]

While the Secretary of the Interior's Standards set forth uniform procedures for historic preservation, the way in which these standards are implemented varies among the various cultural resource management disciplines within NPS. This chapter addresses two of these disciplines: National Register evaluation of historic significance based on the National Register Criteria (section 1 of this chapter); and NPS cultural landscape methodology to analyze (inventory) and evaluate historic integrity based on the NPS *Guide to Cultural Landscape Reports* (sections 2 and 3 of this chapter). While both are closely related, there are distinctions. The following is a summary of relationship between National Register and NPS cultural landscape analysis and evaluation.

IDENTIFYING RESOURCES

The National Register recognizes five "resource types" to describe the general category of a property that may be listed in the National Register (note that these resource types are taken from the National Historic Preservation Act as amended). These include buildings, structures, districts, sites, and objects. Resource types in the NPS *Management Policies* relate to certain cultural resource disciplines and include archeological resources, cultural landscapes, historic and prehistoric structures, museum objects, and ethnographic resources. A cultural landscape might include buildings, structures, and objects and be listed in the National Register as either a site or a district. Key terminology distinctions for resource identification include:

Property (or Historic Property): The National Register term for the geographic area being evaluated, constituting a single entry in the National Register. A property consists of one or a combination of *buildings, structures, districts, sites, or objects*.
Resource: The National Register term for any building, structure, site, or object that is part of or constitutes a historic property.
Cultural Landscape (or Landscape): The NPS cultural landscape term for a geographic area, containing both natural and cultural resources, associated with a historic event, activity or person, or that exhibits cultural or aesthetic values. A cultural landscape may encompass the same geographic area as a National Register property; and may be listed in the National Register as a district or site, and may contain within it buildings, structures, and objects.
Landscape Characteristic: The NPS cultural landscape term for the defining tangible and intangible aspects of a landscape that individually and collectively convey its cultural value. The term is applied to both cultural and natural processes or to cultural and natural forms which include the thirteen following types: *natural systems and features, spatial organization, land use, cultural traditions, cluster arrangement, circulation, topography, vegetation, buildings and structures, views and vistas, constructed water features, small-scale features, and archeological sites*. These characteristics are composed of physical elements known as landscape features (see below).

Landscape Feature: The NPS cultural landscape term for a prominent or distinctive element or quality of a cultural landscape. Landscape features are grouped under broader categories of landscape characteristics (see above).

CULTURAL LANDSCAPE & NATIONAL REGISTER EVALUATION

The cultural landscape evaluation provided in a CLR draws upon the National Register and NPS cultural landscape frameworks to document the historic character of a cultural landscape. The CLR analyzes the landscape according to the thirteen landscape characteristics and their associated features (*natural systems and features, spatial organization, land use, cultural traditions, cluster arrangement, topography, vegetation, circulation, buildings and structures, views and vistas, constructed water features, small-scale features, and archeological sites)*. These characteristics and features are then evaluated as either contributing or non-contributing (or unevaluated) to document how they individually and collectively give a landscape its historic character. While this evaluation employs the seven aspects of integrity used by the National Register (*location, design, setting, materials, workmanship, feeling, and association*.), the dynamic character of natural resources in a landscape requires a broader approach to assessing integrity. In a cultural landscape, historic integrity is determined overall by the extent to which the general character of the historic period is evident, and the degree to which incompatible elements obscuring the character can be reversed.[2]

A National Register evaluation of a property includes an identification of resources and an evaluation of whether they are contributing or non-contributing to the historic significance of the property (or unevaluated). This evaluation is based on a determination of whether the resource relates to the property's area of significance and an assessment of the historic integrity of the resource. As stated above, the National Register analysis is based on five resource types (*building, structure, site, object and district*), a framework originally developed to quantify a National Register property, rather than comprehensively inventory its historic character and features. As a result, not all landscape characteristics and associated features documented in a CLR may be identified as contributing or non-contributing resources for the purposes of the National Register. Such features, however, may still contribute to the historic significance of the property. If National Register documentation is subsequently developed for a cultural landscape, it will indicate which of those characteristics and features documented in the CLR qualify as resources; or as features associated with resources.

ENDNOTES

[1] Page, Robert. Draft Paper prepared for "Cultural Landscape Report for Fort Tilden," Olmsted Center for Landscape Preservation, 2006.

[2] In addition, setting is understood differently in assessing the integrity of a landscape. While National Register evaluation often defines setting as a landscape within a property, in NPS cultural landscape methodology, setting is generally defines as the broader environment and physical context of the cultural landscape.

APPENDIX D: BUILDINGS AND STRUCTURES KEY

TABLE D.1: BUILDINGS AND STRUCTURES KEY		
Date Key: C= Constructed, A= Altered, R= Removed, N/A= Not Applicable		
Building Number	Building Name	Dates
BS-1	Administration Building	C: 1930-1931 A: 1943, c.1955, 1992, c.2003
BS-3	Hangars 1 and 2	C: 1930 A: 1936-1937
BS-4	Hangars 3 and 4	C: 1930 A: 1934
BS-5	Hangars 5 and 6	C: 1930 A: c.1934-1937, 2006
BS-6	Hangars 7 and 8	C: 1930 A: c.1934-1937, 2006
BS-26	Dope Shop	C: 1937 A: c.1943
BS-27	Barracks ('I' shaped)	C: 1942 R: c.1960-1968
BS-28	Recreation Building	C: 1942 R: c.1960-1968
BS-29	Administration Building Pump House	C: 1937-1938 A: c.1942, post-1980
BS-30	Dope Shop Pump House	C: 1942
BS-50	Hangar Row Fire House	C: 1942
BS-54	Synthetic Training Building	C: 1942
BS-57	Transformer Vault	C: 1931-1932 A: unknown
BS-60	Sewage Treatment Plant	C: c.1942-1945
BS-61	Barracks	C: c.1942-1945 R: c.1948-1954
BS-62	Barracks	C: c.1942-1945
BS-63	Barracks	C: c.1942-1945 R: c.1948-1954
BS-64	Barracks	C: c.1942-1945 R: c.1948-1954

BS-65	Barracks	C: c.1942-1945 R: c.1948-1954
BS-67	Mess Hall	C: c.1942-1945 R: 1964
BS-68	Bachelor's Officers Quarters	C: c.1942-1945 R: post-1972
BS-69	Barracks / Jamaica Bay Unit Headquarters	C: c.1942-1945
BS-70	Recreation Building / Ecology Village	C: c.1942-1945
BS-71	Garage	C: c.1942-1945 R: post-1972
BS-72	Barracks	C: c.1942-1945
BS-73	Mess Hall	C: c.1942-1945 R: post-1972
BS-74	Recreation Building / Theater	C: c.1942-1945
BS-75	Pump Station	C: c.1942-1945
BS-76	Barracks	C: c.1942-1945 R: c.1948-1954
BS-77	Barracks	C: c.1942-1945 R: c.1948-1954
BS-78	Barracks	C: c.1942-1945 R: c.1948-1954
BS-79	Barracks	C: c.1942-1945 R: c.1948-1954
BS-80	Barracks / PS 207 Annex	C: c.1942-1945 A: 1947
BS-81	Barracks / PS 207 Annex	C: c.1942-1945 A: 1947
BS-85	Laundry	C: c.1942-1945
BS-86	Power Plant A	C: c.1942-1945
BS-87	Dispensary	C: c.1942-1945 R: c.1957-1968
BS-88	South Service Pump Station	C: c.1942-1945
BS-89	Sewer Pump Station	C: 1941
BS-90A	Fire Station	C: 1941
BS-90B	Fire Station Garage	C: 1941
BS-91	Maintenance Shop	C: 1941

BS-92	Paint and Oil Storage	C: 1941 R: c.1957-1968
BS-93	Bombsight Storage	C: 1941 R: c.1957-1968
BS-94	Torpedo Storage	C: 1941
BS-95	Overhaul Shop	C: 1941 R: c.1957-1968
BS-96	Power Plant B	C: 1941
BS-97	Cold Storage and Commissary	C: 1941
BS-98	General Storage Building	C: 1941
BS-99	Fire Protection Pump Station	C: 1941
BS-178	Fire Protection Structure	C: 1941
BS-100	Hangar B	C: 1941 A: 1951
BS-101	Substation No. 2 and Water Storage Tanks	C: c.1942-1945 R: post-1972 (tanks)
BS-102	Pump House and Water Storage Tanks	C: c.1942-1945
BS-105	Shotgun Range House	C: c.1942-1945 R: c.1951=1953
BS-106	Inert Storage	C: c.1942-1945
BS-107	Smoke Drum Storage	C: c.1942-1945 R: post-1972
BS-108	Pyrotechnics Storage	C: c.1942-1945 R: post-1972
BS-109	Practice Bomb Storage	C: c.1942-1945
BS-110	Fuse and Detonators	C: c.1942-1945
BS-111	Fuse and Detonators	C: c.1942-1945
BS-112	High Explosives Magazine / Ammunitions Bunker	C: c.1942-1945
BS-113	High Explosives Magazine / Ammunitions Bunker	C: c.1942-1945
BS-114	High Explosives Magazine / Ammunitions Bunker	C: c.1942-1945
BS-115	High Explosives Magazine / Ammunitions Bunker	C: c.1942-1945
BS-116	Warhead	C: c.1942-1945
BS-117	North Service Substation	C: c.1942-1945
BS-120	Transformer Vault	C: 1938 A: c.1943 R: 2006
BS-126	Paint Storage	C: c.1942-1943

BS-127	Electrical Gear Shed	C: c.1946 R: post-1972
BS-128	Salvage Shed	C: c.1946 R: post-1972
BS-129	Unknown / May have been Mess Hall	C: c.1951
BS-130	Unknown / May have been Barracks	C: c.1951
BS-131	Unknown / May have been Barracks	C: c.1951
BS-132	Unknown / May have been Barracks	C: c.1951
BS-145	Beacon Tower	C: 1957
BS-154	Pump House	C: c.1951-1956
BS-168	Navy Utility Building	C: c.1951
BS-169	Navy Utility Building	C: c.1951
BS-250	Unknown	C: c.1951-1954
BS-254	Bus Shelter	C: c.1960
BS-258	Public Works Garage	C: c.1951
BS-264	Gate House	C: c.1951
BS-273	Navy Storage Building	C: c.1951
BS- 274	Navy Storage Building	C: c.1951
BS-275	Officer's Club / NPS Park Police	C: c.1957-1968
BS-277	Airport Compass Rose	C: c.1935
BS-278	Navy Compass Rose	C: 1944
BS-279	U.S. Coast Guard Bulkhead and Seaplane Ramp	C: 1937
BS-400	Underground Utilities	
BS-401	Rotating Platforms	C: 1935 A: c.1996
BS-402	Aviator Sports and Recreation complex	C: 2006
BS-403	Civilian Airport Bulkhead and Seaplane Ramp	C: c.1930-1932
BS-404	NPS Comfort Stations	C: c.1990
BS-405	Navy Seaplane Patrol Base Seaplane Ramp	C: 1941
BS-406	Navy Storage Building	C: c.1951
BS-407	U.S. Coast Guard Hangar	C: 1937-1938
BS-408	U.S. Coast Guard Garage	C: 1937
BS-409	U.S. Coast Guard Office Building	C: 1973
BS-410	NYPD Guard Booth	C: c.1996
BS-411	NYPD Training Tower	C: c.2000
BS-412	NOAA Doppler Tower	C: c.1999
BS-413	Photography Shelters	C: post-1972
BS-414	Announcer's Tower	C: post-1972
BS-415	NPS North 40 Comfort Station	C: c.1990

BS-416	Navy Housing / NPS Housing	C: c.1955-1960
BS-417	Navy Housing / NPS Housing	C: c.1955-1960
BS-418	Utility Structure	C: c.1960
BS-419	Storage Structure	C: c.1960
BS-420	Nursery Buildings	C: post-1972
BS-421	Archery Range Shelter	C: post-1972
BS-422	NPS Comfort Station	C: c.1990

VITA

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EDUCATION

Name	Degree	Dates Attended
Londonderry Sr. High School Londonderry, NH		1996-2000
Le Moyne College Syracuse, NY		2000-2002
State University of New York College of Environmental Science and Forestry (SUNY ESF) Syracuse, NY	Bachelor of Landscape Architecture	2002-2006
SUNY ESF Syracuse, NY	Master of Science in Landscape Architecture	2005-2007

EXPERIENCE

Position	Employer	Dates
Office Assistant Syracuse, NY	SUNY ESF, Department of Landscape Architecture	May 2004 – August 2004
Intern Jamesville, NY	New York State Historic Preservation Office	January 2007 – May 2007
Graduate / Research Assistant Syracuse, NY	SUNY Research Foundation	August 2005 – August 2007