National Park Service
Cultural Landscapes Inventory

2011



HM-69 Nike Missile Site Landscape
Everglades National Park

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Inventory Summary

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Purpose and Goals of the CLI

The Cultural Landscapes Inventory (CLI), a comprehensive inventory of all cultural landscapes in the national park system, is one of the most ambitious initiatives of the National Park Service (NPS) Park Cultural Landscapes Program. The CLI is an evaluated inventory of all landscapes having historical significance that are listed on or eligible for listing on the National Register of Historic Places, or are otherwise managed as cultural resources through a public planning process and in which the NPS has or plans to acquire any legal interest. The CLI identifies and documents each landscape's location, size, physical development, condition, landscape characteristics, character-defining features, as well as other valuable information useful to park management. Cultural landscapes become approved CLIs when concurrence with the findings is obtained from the park superintendent and all required data fields are entered into a national database. In addition, for landscapes that are not currently listed on the National Register and/or do not have adequate documentation, concurrence is required from the State Historic Preservation Officer or the Keeper of the National Register.

The CLI, like the List of Classified Structures, assists the NPS in its efforts to fulfill the identification and management requirements associated with Section 110(a) of the National Historic Preservation Act, National Park Service Management Policies (2006), and Director's Order #28: Cultural Resource Management. Since launching the CLI nationwide, the NPS, in response to the Government Performance and Results Act (GPRA), is required to report information that respond to NPS strategic plan accomplishments. Two GPRA goals are associated with the CLI: bringing certified cultural landscapes into good condition (Goal 1a7) and increasing the number of CLI records that have complete, accurate, and reliable information (Goal 1b2B).

Scope of the CLI

The information contained within the CLI is gathered from existing secondary sources found in park libraries and archives and at NPS regional offices and centers, as well as through on-site reconnaissance of the existing landscape. The baseline information collected provides a comprehensive look at the historical development and significance of the landscape, placing it in context of the site's overall significance. Documentation and analysis of the existing landscape identifies character-defining characteristics and features, and allows for an evaluation of the landscape's overall integrity and an assessment of the landscape's overall condition. The CLI also provides an illustrative site plan that indicates major features within the inventory unit. Unlike cultural landscape reports, the CLI does not provide management recommendations or

treatment guidelines for the cultural landscape.

Inventory Unit Description:

The HM-69 Nike Missile Site is one of four Cold War-era Army missile sites in south Florida, with a period of significance defined as 1964 to 1979. Located within Everglades National Park, the HM-69 Nike Missile Site is the best preserved of the four. It is located on Long Pine Key Road (now known as Research Road) off the Main Park Road, about eight miles from the Ernest F. Coe Visitor Center and main park entrance. The Nike Missile Site is in Miami-Dade County, near the southern tip of the Florida mainland, in an area of the park referred to as the Hole-in-the-Donut. This approximately 6,600-acre area was farmed for over 50 years before it was acquired by the National Park Service in 1975 and is currently the subject of an intensive vegetation restoration project.

The Nike Missile Site was developed in the early 1960s during the height of the Cuban missile crisis of the Cold War. After the U.S. discovered Soviet missiles and other offensive weapons in Cuba in 1962, military officials quickly took steps to install air defense missile systems in heretofore unprotected south Florida (Steve Hach, Cold War in South Florida: Historic Resource Study [Atlanta, Georgia: National Park Service Southeast Regional Office, October 2004], 22). After the first wave of panic ended, the temporary sites that had been established were relocated and converted into four permanent defense operations.

All Nike sites were designed with three functional areas (Mark A. Berhow and Mark L. Morgan, Rings of Supersonic Steel: Air Defenses of the United States Army, 1950–1979 [VersaPress, Inc., 2002], 9). The Integrated Fire Control Area contained the radar assemblies and monitoring equipment, as well as generator equipment and a maintenance facility. The Administration Area contained the barracks and training facilities for the soldiers and technicians housed at the site. The Integrated Fire Control and Administration areas were often co-located (as was the case at the HM 69 Nike Missile Site), and collectively referred to as the Control Area. The Launch Area was separated from the Control Area by at least 1,000 yards for safety and visibility, and housed the missile launch pads, missile storage and assembly buildings, ready buildings, and sometimes kennels for the canine troops. Due to the high water table, missiles in south Florida were stored aboveground, unlike Nike batteries in other parts of the country.

Construction of the HM-69 Nike Missile Site began in 1964 and was completed by 1965. The land on which it was constructed was formerly part of the Iori farming operation. The National Park Service, which had acquired 4,400 acres of the property, transferred approximately 660 acres of land to the Army for the missile site. The two areas of the HM-69 Nike Missile Site cover a total of 29.28 acres of the 660-acre transfer, with the Control Area covering 12.05 acres and the Launch Area covering 17.23 acres.

The HM-69 Nike Missile Site was operated as an active missile base until 1979, when the defense site was closed and the land transferred back to the National Park Service. Following the period of significance, the site lost some degree of integrity with the removal of radar equipment and the demolition of several buildings. Currently, the Control Area is used by the National Park Service for offices, research, and storage, and the Launch Area is used for storage and interpretation. The site retains sufficient integrity to merit its listing in the National Register of Historic Places. The overall

layout of both the Control Area and the Launch Area is still clear, and the largest and most distinctive structures of both areas were retained. Additionally, the earthen berms, road and circulation network, and areas of open turf grass survive from the period of significance.

The following is an overview of the two areas that comprise the HM-69 Nike Missile Site: the Control Area and the Launch Area.

The Control Area originally included the battery building (administration and barracks building), pumphouse, paint and oil storage building, the generator building, interconnecting corridor building, and general purpose warehouse, as well as a sewage treatment plant, drainfield, and outdoor athletic court.

Situated on the northern portion of the Control Area, the administration and barracks building was constructed to house administrative offices as well as the approximately 146 soldiers and technicians stationed at the HM-69 Nike Missile Site. The one-story concrete structure originally had a shed roof. The interior of the building originally contained a large squad dormitory room, twenty-two semi-private dormitory rooms, and a dining room, kitchen, classroom, hobby shop, and administrative offices.

Located south of the administration and barracks building, the pumphouse was constructed as a one story concrete structure with a shed roof.

The paint and oil storage building was constructed directly south of the pumphouse. This small concrete structure also had a shed roof.

The generator building, a small one story concrete structure with a shed roof, was constructed southeast of paint and oil storage.

The interconnecting corridor building was constructed near the southeast corner of the Control Area. The one story concrete structure with a shed roof was built to provide support spaces and an indoor connection among three radar control trailers that were parked on concrete slabs adjacent to the structure.

The general purpose warehouse was constructed northeast of the interconnecting corridor building, while the sewage treatment plant and drainfield were constructed on the west side of the Control Area.

Located approximately one mile south of the Control Area, the triangular site of the Launch Area was surrounded by a patrolled barbed-wire fence with sentry boxes located near the corners. The area was divided into three distinct sections, each surrounded by security fencing. At the entrance of the site was the Ready Area, consisting of the ready building, general maintenance facilities, generator buildings, and a sentry stand. A gate at the south end of the Ready Area led to the Assembly Area, which consisted of the missile assembly and test building and the canine support building and kennels. The remaining portion of the Launch Area consisted of the three missile shelters, earthen berms with bunkers, and concrete launch pads.

The Launch Area and the Control Area were connected by a paved roadway that was oriented north and south and located to the west of both functional areas. The road curved to the east at the north edge of the Launch Area.

A sentry box, generator shed, and the ready building were all constructed adjacent to the entrance to the Launch Area. A paved road was constructed to loop through the Launch Area. Conduits for electrical and communication wiring were placed on grade and buried in low earthen mounds throughout the site.

The concrete block missile shelter buildings, each of which had a steel framed gable roof clad with cement-asbestos panels, were constructed adjacent to the looping roadway. U-shaped earthen berms containing concrete bunkers were constructed around the missile shelters. Small generator sheds were constructed between the looping roadway and the berms.

The missile assembly and test building was constructed in the southwest corner of the Launch Area, with a berm constructed west of the missile assembly and test building as a form of protection. The building was situated immediately adjacent to the roadway that looped through the Launch Area.

The canine support building and kennel were constructed north of the missile assembly and test building. It was a small concrete block structure with a shed roof. The adjacent kennel was a concrete paved area surrounded by a chain link fence.

A fence enclosing the Launch Area was erected at the time of initial site construction. The new facilities at the HM 69 Nike Missile Site were completed and ready for use by the summer of 1965 (Hach, 82).

Site Plan

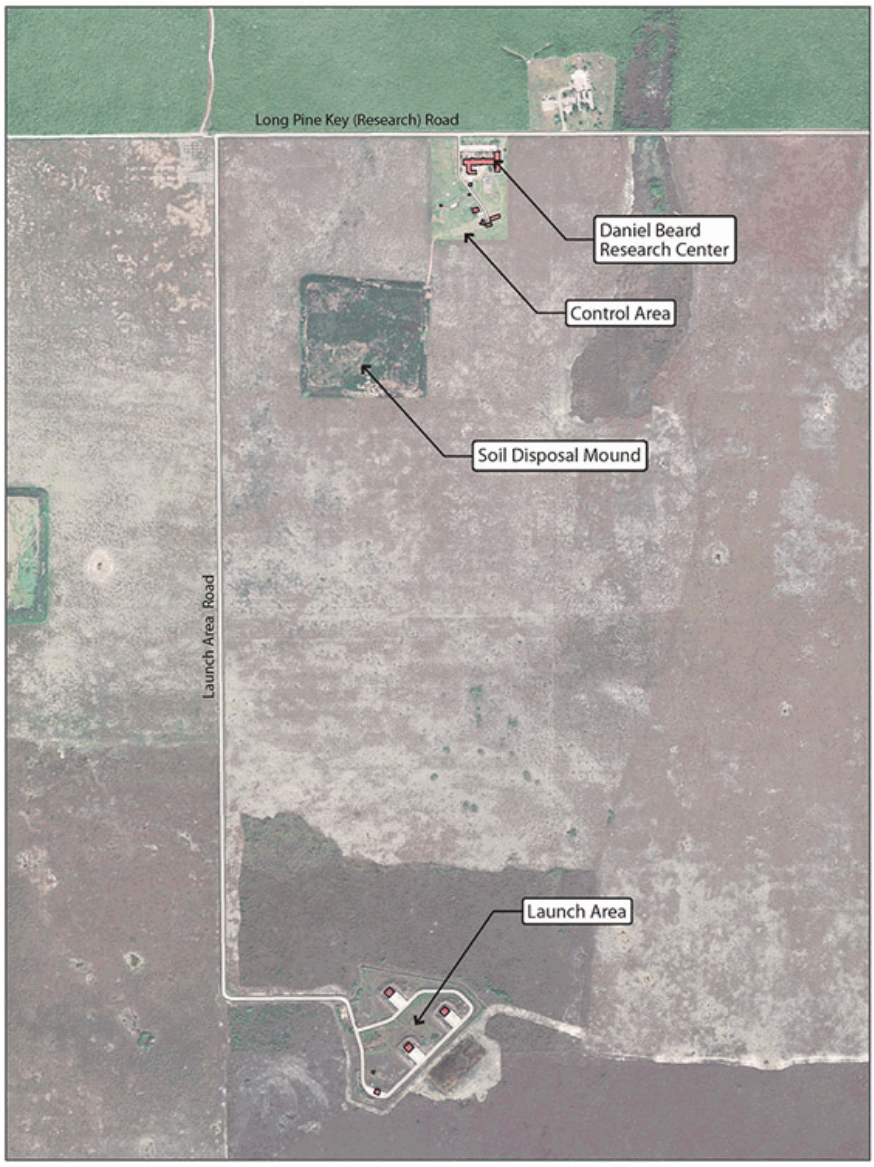


FIGURE 1. Overall site plan. Source: JMA, 2011; modified from aerial photographs provided by NPS EVER.

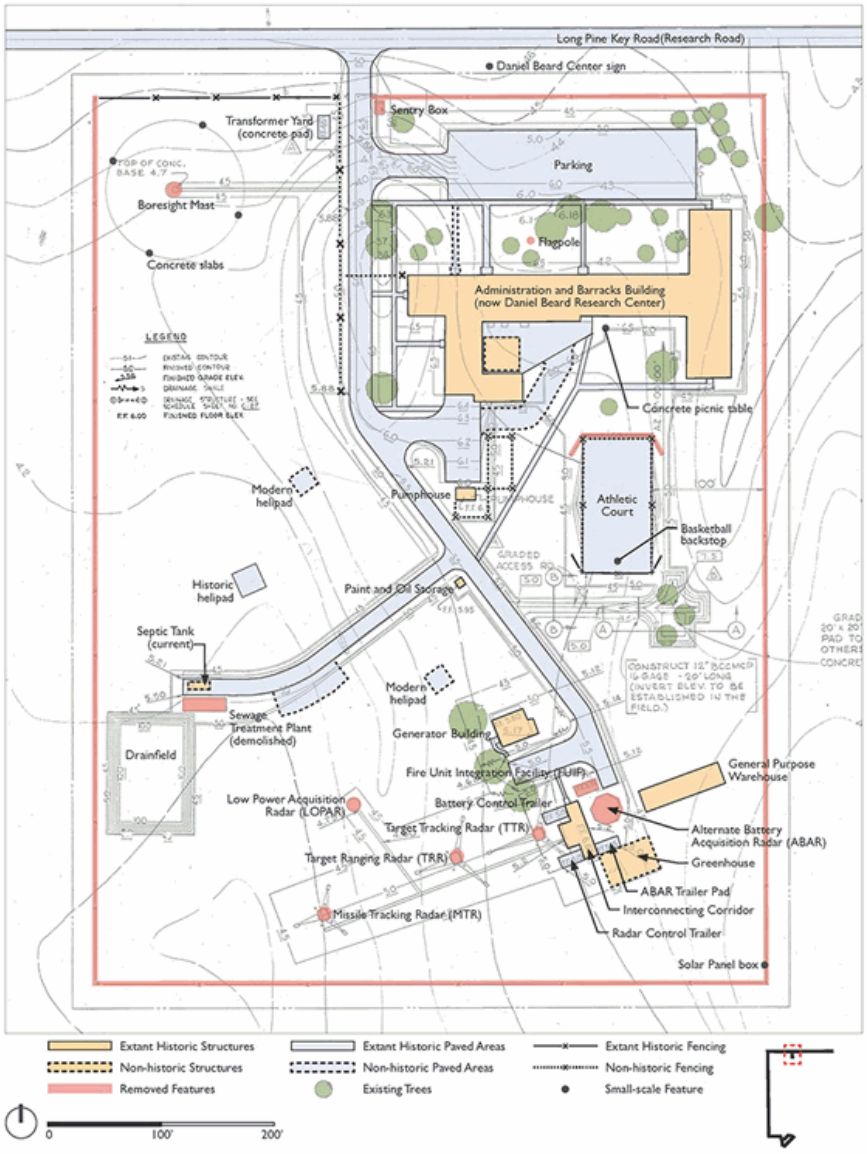


FIGURE 2. Control Area site plan. Source: JMA, 2011; placed over 1964 as-built grading and drainage plan, NPS drawing 160-61071B, Sheet C-13.

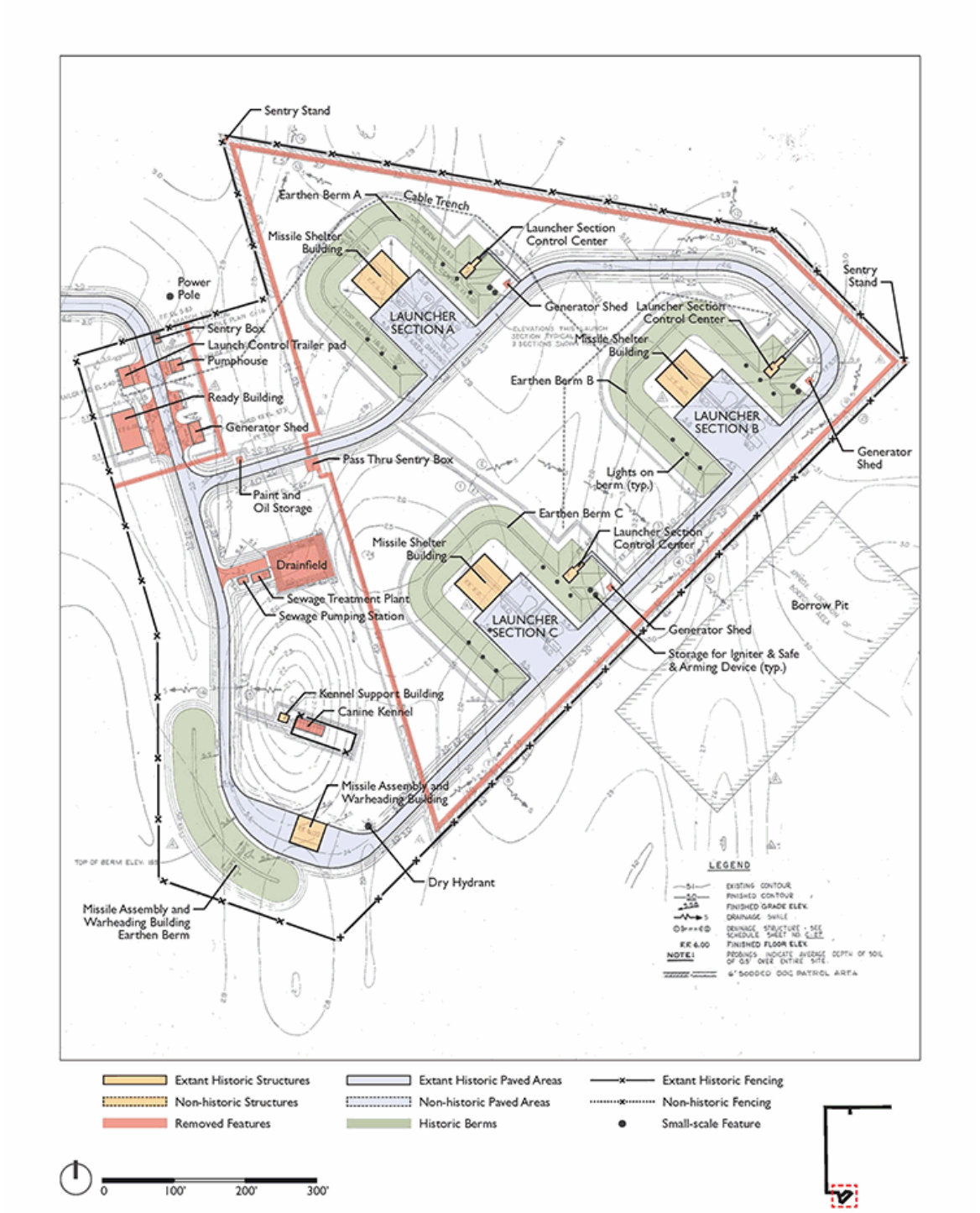


FIGURE 3. Launch Area site plan. Source: JMA, 2011; placed over 1964 as-built grading and drainage plan, NPS drawing 160 61071B, Sheet C-11.

Property Level and CLI Numbers

Inventory Unit Name: HM-69 Nike Missile Site Landscape

Property Level: Landscape

CLI Identification Number: 550172

Parent Landscape: 550172

Park Information

Park Name and Alpha Code: Everglades National Park -EVER

Park Organization Code: 5280

Park Administrative Unit: Everglades National Park

CLI Hierarchy Description

The HM-69 Nike Missile Site is classified as a primary landscape in the CLI database. The boundaries of the landscape were established to include all of the significant cultural landscape features within the site. This site is part of the larger Everglades National Park.

Concurrence Status

Inventory Status: Complete

Completion Status Explanatory Narrative:

All documentation entered in this database inventory unit was obtained from the Cultural Landscape Inventory for the HM-69 Nike Missile Site prepared by Wiss, Janney, Elstner Associates, Inc., and John Milner Associates, Inc., in 2010. [The information will be entered into the CLI database by staff of the Southeast Regional Office.]

Historical research for the CLI project was performed by Wiss, Janney, Elstner Associates, Inc., on site at the park archives. The archival collection is housed in former Iori farm buildings, eight miles west of the primary park entrance and across Long Pine Key Road (now known as Research Road) from the HM-69 Nike Missile Site. The material reviewed included original correspondence, construction drawings, project completion reports, and photographs dating to the initial planning, construction, and later repair and alterations to the HM 69 Nike Missile Site. Additional archival documents, drawings, and maps were obtained from the NPS Denver Service Center. Research was also conducted online to obtain digital reference materials from sources such as the Library of Congress.

Analysis and evaluation involved documenting key landscape components and analyzing the evolution of landscape development. John Milner Associates, Inc., conducted the field survey to document current conditions in February 2010. Based on the history of the landscape and the evaluation of historic landscape features and patterns, landscape significance was determined. Comparative analysis between the existing conditions and the historic maps and photographs was then used to define the type and concentration of historic resources remaining at the HM-69 Nike Missile Site. From this information, cultural landscape integrity was determined.

Concurrence Status:

Park Superintendent Concurrence: Yes

Park Superintendent Date of Concurrence: 08/22/2011

National Register Concurrence: Eligible -- SHPO Consensus Determination

Date of Concurrence Determination: 08/22/2011

National Register Concurrence Narrative:

The HM-69 Nike Missile Site was listed in the National Register of Historic Places in 2004.

Concurrence Graphic Information:

United States Department of the Interior

NATIONAL PARK SERVICE
Southeast Regional Office
Atlanta Federal Center
1924 Building
100 Alabama St., SW.
Atlanta, Georgia 30303

IN REPLY REFER TO:
H22 (SERO-CRD)

25 July 2011

Barbara Mattick
Florida Division of Historical Resources
R. A. Gray Building
500 S. Bronough St Rm 419
Tallahassee, FL 32399

Dear Ms. Mattick:

Enclosed please find a copy of the Cultural Landscape Inventory (CLI) for HM-69 Nike Missile Site, located in Dade County at Everglades National Park. The enclosed inventory includes a statement of significance, a written history, analysis and evaluation of cultural landscape features, and graphic attachments.

The CLI is an evaluated list of landscape properties in the National Park System considered eligible for the National Register of Historic Places or that contribute to an existing historic property. In order for CLI data to become certified, National Park Service regulations require concurrence from the SHPO on the eligibility of these properties. We are requesting your review of the HM-69 Nike Missile Site CLI and ask that you return the enclosed concurrence form.

The HM-69 Nike Missile Site was entered into the National Register of Historic Places in 2004, based on a nomination prepared by the Southeast Regional Office of the National Park Service. The nomination form identifies ten contributing buildings (administration and barracks building, paint and oil storage, pumphouse, generator building, interconnecting corridor building, the three missile shelter buildings, missile assembly and test building, and canine support building) and twelve contributing structures, including the concrete picnic table, athletic court, sewage treatment plant, earthen berms of the Launch Area, site perimeter fencing, original signage, one original power pole, the communications trench, and the site roadways and paved areas. The borrow pit, from which earth was obtained to construct the berms, was determined to be ineligible due to a loss of integrity, as the pit has been mostly filled in. The general purpose warehouse, although constructed in 1964 as part of the initial development of the site, was determined to be ineligible due to a loss of integrity; the exterior cladding and doors of this

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building were replaced by the NPS in the 1980s. Other structures and site features were listed as non-contributing because they post-date the period of significance.

The National Register nomination does not discuss cultural landscape features such as spatial organization, views, vegetation, constructed water features, and small-scale features. Many of these features date to the period of significance and contribute to the historic character of the site. Some elements and small-scale features should be listed as contributing objects in the National Register documentation, as identified in this CLI report. Other landscape characteristics, such as views and spatial organization, are not enumerated in National Register documentation but can be described to aid in understanding the site as a whole.

With concurrence from your office, the findings become certified in the NPS CLI database. Your concurrence also gives us justification to submit proper additional documentation to you at a future date.

If you have any questions about this document, please contact David Hasty, CLI Coordinator, Southeast Region (SER), at (404) 507-5780 or by e-mail at david_hasty@nps.gov. The concurrence form can be returned by fax at (404) 562-3202, e-mail (david_hasty@nps.gov), or mailed to the address above.

We greatly appreciate your office's assistance with the project.

Sincerely,

Dan Scheidt
Chief, Cultural Resource Division
Southeast Region

Enclosure

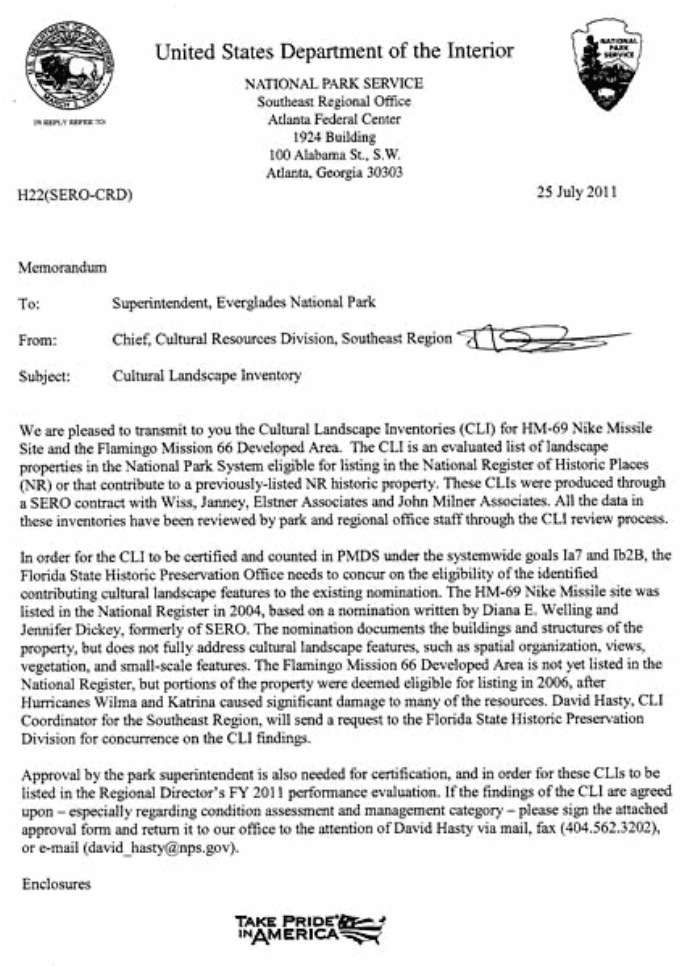
Memo to FL SHPO page 2

We have reviewed the submitted documentation that identifies cultural landscape features at HM-69 Nike Missile Site at Everglades National Park. We concur with the findings of the Cultural Landscape Inventory, and understand that these features have the potential to contribute to the existing National Register of Historic Places nomination for the property.

Barbara C. Mattick DSHPO
Florida State Historic Preservation Officer
for Survey & Registration

8/22/2011
Date

FL SHPO concurrence



United States Department of the Interior

NATIONAL PARK SERVICE
Southeast Regional Office
Atlanta Federal Center
1924 Building
100 Alabama St., S.W.
Atlanta, Georgia 30303

H22(SERO-CRD)

25 July 2011

Memorandum

To: Superintendent, Everglades National Park

From: Chief, Cultural Resources Division, Southeast Region

Subject: Cultural Landscape Inventory

We are pleased to transmit to you the Cultural Landscape Inventories (CLI) for HM-69 Nike Missile Site and the Flamingo Mission 66 Developed Area. The CLI is an evaluated list of landscape properties in the National Park System eligible for listing in the National Register of Historic Places (NR) or that contribute to a previously-listed NR historic property. These CLIs were produced through a SERO contract with Wiss, Janney, Elstner Associates and John Milner Associates. All the data in these inventories have been reviewed by park and regional office staff through the CLI review process.

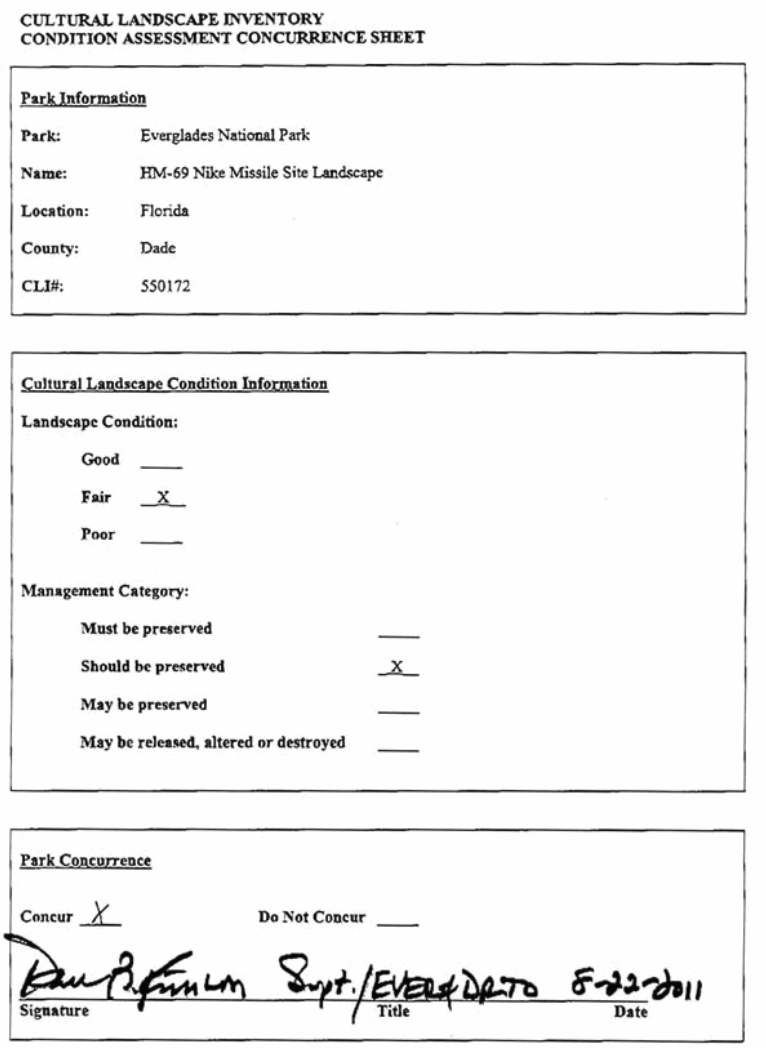
In order for the CLI to be certified and counted in PMDS under the systemwide goals Ia7 and Ib2B, the Florida State Historic Preservation Office needs to concur on the eligibility of the identified contributing cultural landscape features to the existing nomination. The HM-69 Nike Missile site was listed in the National Register in 2004, based on a nomination written by Diana E. Welling and Jennifer Dickey, formerly of SERO. The nomination documents the buildings and structures of the property, but does not fully address cultural landscape features, such as spatial organization, views, vegetation, and small-scale features. The Flamingo Mission 66 Developed Area is not yet listed in the National Register, but portions of the property were deemed eligible for listing in 2006, after Hurricanes Wilma and Katrina caused significant damage to many of the resources. David Hasty, CLI Coordinator for the Southeast Region, will send a request to the Florida State Historic Preservation Division for concurrence on the CLI findings.

Approval by the park superintendent is also needed for certification, and in order for these CLIs to be listed in the Regional Director's FY 2011 performance evaluation. If the findings of the CLI are agreed upon – especially regarding condition assessment and management category – please sign the attached approval form and return it to our office to the attention of David Hasty via mail, fax (404.562.3202), or e-mail (david_hasty@nps.gov).

Enclosures

TAKE PRIDE IN AMERICA

Memo to Superintendent



CULTURAL LANDSCAPE INVENTORY
CONDITION ASSESSMENT CONCURRENCE SHEET

Park Information

Park: Everglades National Park

Name: HM-69 Nike Missile Site Landscape

Location: Florida

County: Dade

CLI#: 550172

Cultural Landscape Condition Information

Landscape Condition:

Good ____

Fair X

Poor ____

Management Category:

Must be preserved ____

Should be preserved X

May be preserved ____

May be released, altered or destroyed ____

Park Concurrence

Concur X Do Not Concur ____

Signature Supt./EVER & DRTO Title 5-22-2011 Date

Superintendent signature

Geographic Information & Location Map

Inventory Unit Boundary Description:

The boundaries of the study area include the rectangular parcel of land encompassing the Control Area, and the semi-triangular parcel of land of the Launch Area. The 12.05-acre Control Area parcel, located south of Long Pine Key Road, parallels the road for approximately 640 feet and extends about 820 feet south. The Launch Area parcel, measuring approximately 17.23 acres, is in the shape of a modified equilateral triangle. The three missile shelters are oriented on a diagonal northwest-southeast axis in the eastern part of the parcel, 45 degrees from true north. The boundaries of the parcel are based on this diagonal axis, with adjustments to the perimeter to encircle the buildings and structures of the site (as

indicated by the chain link fence shown in Figures 2 and 3). The western part of the parcel contained the other structures of the Launch Area.

The National Register district boundary corresponds to the boundary specified in the special use permit issued to the Department of the Army in March 1964. The irregular L-shaped parcel contains approximately 660 acres. As described in the National Register nomination:

[The boundary] is roughly L-shaped, with Long Pine Key Road in Section 25, Township 58 South, Range 36 East as the northern boundary. The district extends east from the border of Section 26 for 2400 feet. The district extends south from Long Pine Key Road 9400 feet across Section 36, Township 58 South, and into Section 2, Township 59 South. The southern border of the district is 1150 feet south of the southern border of Section 36, Township 58 South and includes acreage in both sections 1 and 2 of Township 59 South. The southern border, or bottom of the L, is 4300 feet across. The [eastern] border runs north for 4200 feet parallel to the [western] border, then cuts back to the west for 1700 feet before continuing north for another 5200 feet back to Long Pine Key Road (Research Road).

State and County:

State: FL

County: Dade County

Size (Acres): 29.28

Boundary UTMS:

Source:	USGS Map 1:24,000
Boundary Source Narrative:	UTM data derived from USGS topographic map, Taylor Slough and Long Pine Key Quadrangles, 1:24,000, NAD 27.
Type of Point:	Line
Datum:	NAD 27
UTM Zone:	17
UTM Easting:	531,200
UTM Northing:	2,808,000
Source:	USGS Map 1:24,000
Boundary Source Narrative:	UTM data derived from USGS topographic map, Taylor Slough and Long Pine Key Quadrangles, 1:24,000, NAD 27.
Type of Point:	Line
Datum:	NAD 27
UTM Zone:	17
UTM Easting:	531,200
UTM Northing:	2,805,000
Source:	USGS Map 1:24,000
Boundary Source Narrative:	UTM data derived from USGS topographic map, Taylor Slough and Long Pine Key Quadrangles, 1:24,000, NAD 27.
Type of Point:	Line
Datum:	NAD 27
UTM Zone:	17
UTM Easting:	532,500
UTM Northing:	280,500
Source:	USGS Map 1:24,000

Boundary Source Narrative:	UTM data derived from USGS topographic map, Taylor Slough and Long Pine Key Quadrangles, 1:24,000, NAD 27.
Type of Point:	Line
Datum:	NAD 27
UTM Zone:	17
UTM Easting:	532,500
UTM Northing:	2,806,400
Source:	USGS Map 1:24,000
Boundary Source Narrative:	UTM data derived from USGS topographic map, Taylor Slough and Long Pine Key Quadrangles, 1:24,000, NAD 27.
Type of Point:	Line
Datum:	NAD 27
UTM Zone:	17
UTM Easting:	532,000
UTM Northing:	2,806,400
Source:	USGS Map 1:24,000
Boundary Source Narrative:	UTM data derived from USGS topographic map, Taylor Slough and Long Pine Key Quadrangles, 1:24,000, NAD 27.
Type of Point:	Line
Datum:	NAD 27
UTM Zone:	17
UTM Easting:	532,000
UTM Northing:	2,808,000

Location Map:



FIGURE 4. Regional location map. Source: JMA, 2010; modified from map obtained from Everglades National Park web site.

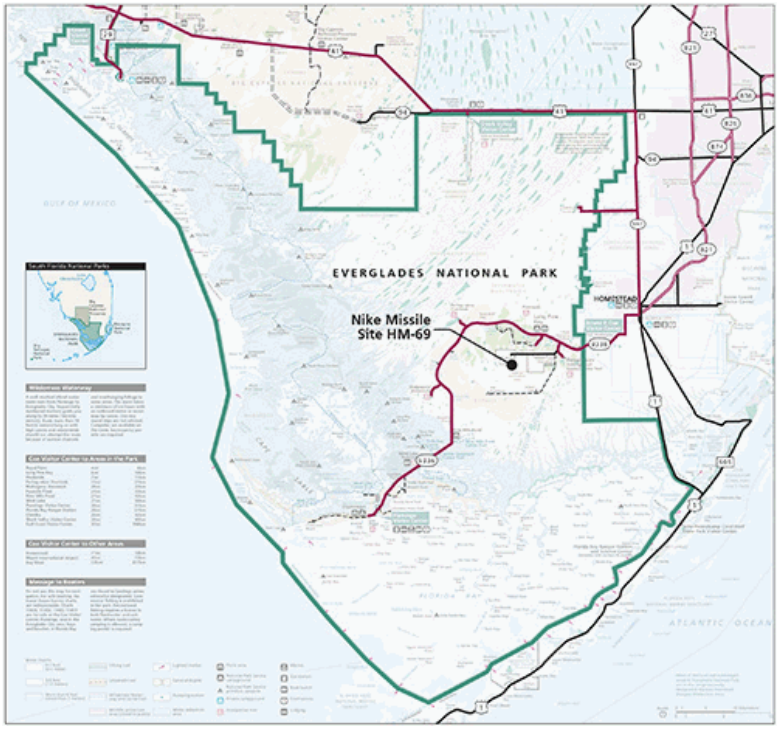


FIGURE 5. Park location map. Source: JMA, 2010; modified from map obtained from Everglades National Park web site.

Regional Context:

Type of Context: Cultural

Description:

The HM-69 Nike Missile Site is one of four Cold War-era missile sites located in south Florida, and the only one within the boundaries of Everglades National Park. The park stretches more than 60 miles north-to-south and 40 miles east-to-west. Its original boundaries contained 460,000 acres, but subsequent additions have increased its size to 1,509,000 acres, including most of Florida Bay. The park is not only a unique natural resource, it also contains cultural resources spanning 6,000 years of human history. It is the only place designated a World Heritage site, an International Biosphere Reserve, and a Wetland of International Significance.

The HM-69 Nike Missile Site is located at the terminus of Long Pine Key Road (now known as Research Road), off State Road 9336, the main road through the park. The site is about eight miles from the Ernest F. Coe Visitor Center and main park entrance in Miami-Dade County, near Homestead, Florida. Although Miami-Dade County, founded in 1836, is the most populous county in Florida with about 2.5 million residents, a full third of the county's area lies within the park and is unpopulated. According to the U.S. Census Bureau, the total area of Miami-Dade County in 2000 was 2,431 square miles, with about 80 percent (1,946 square miles) of the area in land and 20 percent (485 square miles) of the area in water.

While the primary mission of the Everglades National Park overall is the conservation of natural resources, the Nike Missile Site serves primarily as a heritage asset and interpretive site, but also contains museum services, research staff offices, and facilities for hurricane storage. Originally developed in the early twentieth century as farmland, the area was redeveloped in 1964 as the permanent site for the missile base. It was operated as such until 1979, when the base was closed and the parcel acquired by the park. The site now serves as a research station, and the remaining Cold War features are interpreted to the public.

The Everglades eco-region has a long history of cultural adaptations to its natural systems, both by aboriginal and modern inhabitants. American Indians, as well as modern settlers, cut canals through the region to facilitate travel. Farmers, fisherman, and hunters in the late 1800s and early 1900s introduced exotic plants and depleted populations of native animal species. This had some impact on natural drainage patterns and ecosystems, but the greatest damage was done during the early twentieth century by the wide-spread efforts to drain the Everglades for use as agricultural land. Since that time, efforts have been made to restore the native wetlands and drainage patterns through a complex system of canals, levees, pumping stations, and other hydraulic controls. The encroachment of modern development, introduction of exotic plant and animal species, and pollution of waters have also compromised natural systems.

The native landscape patterns of the area surrounding Nike have been impacted by cultural adaptations for over 100 years, starting with changes related to agricultural and land development in the late nineteenth and early twentieth centuries. The addition of fill material as a construction base for the missile site, as well as years of fertilization and aeration from

farming activities, have further disturbed natural patterns of drainage and vegetation. The area surrounding the site is currently undergoing an intensive restoration project to restore the native ecosystem.

Type of Context: Physiographic

Description:

Everglades National Park spans the southern tip of the Florida peninsula and is the largest subtropical wilderness in North America. The park is only a portion of the larger Everglades ecosystem, but provides important linkages between the larger ecosystem and surrounding natural communities.

The Nike Missile Site is located in Miami-Dade County, near the southern tip of the Florida mainland in an area of the park once referred to as the Hole-in-the-Donut. This 6,600-acre area was farmed for over 50 years before it was acquired by the National Park Service in 1975 and is currently the subject of an intensive vegetation restoration project.

The bedrock of the Nike Missile Site is the highly porous and permeable Miami Limestone formation (also called “Miami oolite”) which characterizes much of the southern tip of the Florida Peninsula and Florida Bay basin. The limestone formed from sediment deposits accumulated during interglacial inundation periods, and was partially dissolved by rainwater during the last glacial period. In the Everglades region, the limestone is generally covered by deposits of peat, marl, sands, muck, or carbonate mud; sediment accumulation is not uniform because of hurricane and storm activity. Near the Nike Missile Site, soil types are somewhat variable, as the area is currently undergoing an intensive restoration. Following the abandonment of the area after fifty years of farming and the disturbance resulting from construction of the military facility, soils were over-fertilized and aerated, and became host to a number of invasive species, most prominently the Brazilian pepper (Schinus terebinthifolius). Recent restoration efforts have involved scraping much of the soil down to the bedrock to remove the invasive vegetation and encourage native vegetation to re-establish. Where native soil is present, the most common type is marl, a calcium-bearing sedimentary deposit with calcite particles, sands, and shell fragments.

The Everglades eco-region is a web of complex, overlapping, and interdependent ecosystems and habitats due to the varied soil types, slight topography variations, flooding and drainage patterns, water salinity, and fire and storm events. The majority of the land surrounding the Nike Missile Site is classified as wetland habitat. Freshwater Marl Prairie, typically under water for three to seven months out of the year, is the dominant native ecosystem and is surrounded by a mix of pinelands, tropical hardwood hammocks, and cypress.

The Nike Missile Site also lies between the outlets of two major watersheds of the Everglades National Park. Shark River Slough flows from the northeast part of the park (originating in Lake Okeechobee), emptying into the Gulf of Mexico west of Flamingo. The smaller Taylor Slough watershed drains into the northeastern part of the Florida Bay (Fig. 6).

Type of Context: Political

Description:

In March 1929, the United States Congress authorized an investigation of large portions of south Florida to evaluate the feasibility of creating a national park in the Everglades. In 1931, the Secretary of the Interior approved the Everglades as suitable to be declared a national park. Three years later, Congress passed a bill creating a national park in the Everglades; however, it was not until December 6, 1947, that Everglades National Park was formally dedicated. The boundaries of the park were finally established in 1958, encompassing an area of approximately 1,406,000 acres.

In early 1959, Cuban President Fulgencio Batista fled from Cuba to the Dominican Republic. Initially, the United States government did not see the new Cuban government led by Fidel Castro as a communist threat. However, relations between the United States and Cuba quickly deteriorated. As Castro continued to defend himself and Cuba from future United States-led invasions, he formed a closer relationship with the Soviet Union. In October 1962, United States spy planes discovered nuclear missile bases and other weapons in Cuba. The detection of weapons in Cuba stunned the United States. With missiles in Cuba, only 90 miles away, south Florida was extremely vulnerable to a potential air strike by the Soviets. Shortly after the missiles were discovered in Cuba, both HAWK and Nike-Hercules missile battalions were deployed to south Florida to defend against a possible attack on Miami. Missile batteries were quickly installed across south Florida as the Americans and Soviets continued negotiations. On October 29, U.S. President John F. Kennedy and Soviet leader Nikita Khrushchev agreed that the Soviets would remove their missiles from Cuba if the United States agreed to not invade the island. At the same time, the United States agreed to remove missiles from Turkey. Even after the Cuban Missile Crisis had ended, the United States still perceived Fidel Castro and Cuba as a potential threat and decided to maintain the defensive missile battalions deployed in south Florida.

In August 1963, the Army announced that permanent missile sites would be constructed in south Florida, as Miami, unlike other large cities, was not part of the United States air defense network. The Army sought to place the new missile sites on land already owned by the government.

The HM-69 Nike Missile Site was constructed on land previously owned by the Iori farming operation. After Iori declared bankruptcy, a portion of the 30,000 acres was foreclosed on. The state of Florida provided $2 million for acquisition of the land, at which time the United States Department of Agriculture transferred 4,400 acres to the National Park Service, which then turned over 659.1 acres of land to the Army for the missile site.

During the 1960s and 1970s, the preferred method used by the United States for delivery of nuclear weapons shifted from bombers to missiles. Despite this strategic switch, the United States remained concerned about a Soviet bomber attack over the North Pole or from Soviet-backed Cuba. As the threat of a Soviet bomber attack failed to materialize and costs related to the Vietnam War continued to escalate, the Nike missile program was phased out and

eventually dissolved. In 1974, the Army closed all missile defense sites in the continental United State except for those missile sites located in Florida. At the same time the Army transferred the Florida sites to the control of the United States Army Forces Command (FORSCOM).

In 1979 it was determined that the missile defense sites in south Florida were no longer needed, as they had become outdated and no longer enhanced national security. As a result, the south Florida sites were vacated and closed. In the early 1980s the National Park Service assumed control of the HM-69 Nike Missile Site property as part of Everglades National Park.

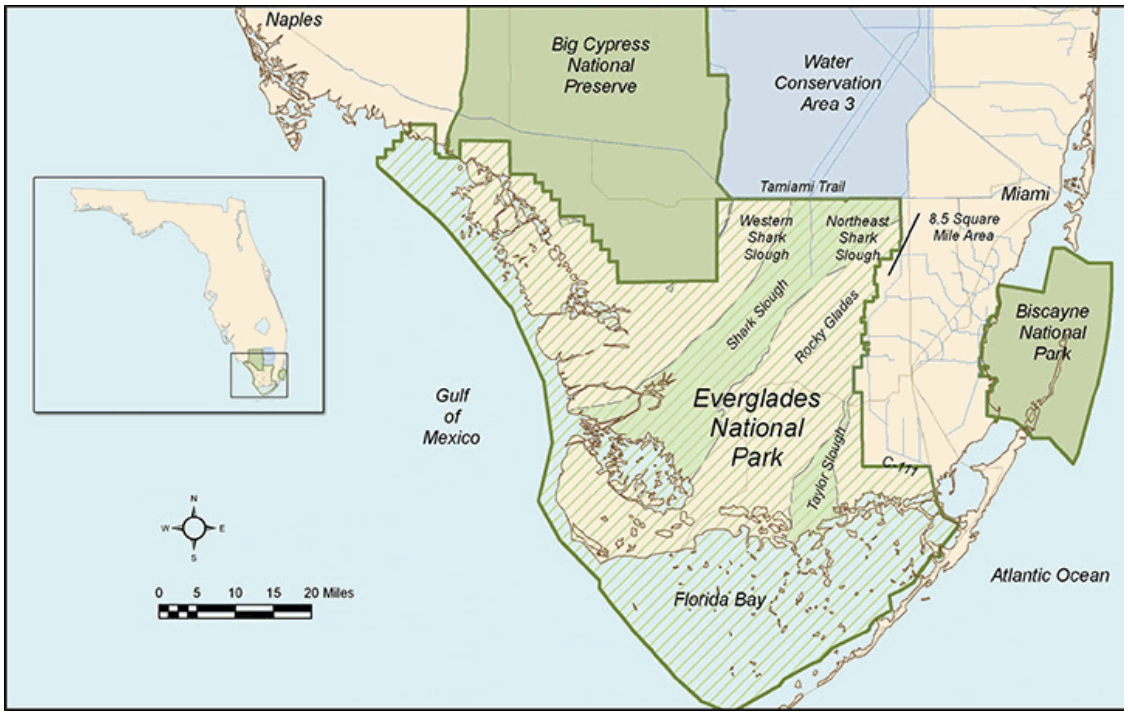


FIGURE 6. Map showing watersheds of the Everglades National park. Source: "Restoration of Everglades National Park," National Park Service, South Florida Natural Resources Center, Everglades National Park,

Management Unit: EVER

Tract Numbers: The National Register boundary includes portions of tracts 01-163 and 01-115. The CLI study was limited to areas of the National Register district developed as part of the missile site in 1964; the developed areas are entirely within land tract 01-163.

Management Information

General Management Information

Management Category: Should be Preserved and Maintained

Management Category Date: 08/22/2011

Management Category Explanatory Narrative:

The HM-69 Nike Missile Site is listed in the National Register of Historic Places. Although the preservation of a historic Cold War-era military site is not a part of the legislated purpose of the Everglades National Park, this treatment approach is appropriate for the site and is compatible with the primary goals of the park. The interpretation of the site for visitors to the park, the use of some of the buildings for park storage, and the adaptive reuse of the administration and barracks building for offices, meeting space, and archives are compatible with the historic character of the missile site.

Agreements, Legal Interest, and Access

Management Agreement:

Type of Agreement: Memorandum Of Agreement

Management Agreement Explanatory Narrative:

Memorandum of Agreement on Water Quality, U.S. Army Corps of Engineers, South Florida Water Management District, and Everglades National Park defining acceptable parameters for water entering the park.
(Everglades National Park Statement for Management, revised October 1982)

NPS Legal Interest:

Type of Interest: Fee Simple

Explanatory Narrative:

All lands within the HM-69 Nike Missile Site were acquired by the National Park Service circa 1961 from the Farmers Home Administration. Following the decommissioning of the missile site in 1979 by the army, the National Park Service has been responsible for management of the site.

Public Access:

Type of Access: Other Restrictions

Explanatory Narrative:

Everglades National Park is open 365 days a year and the Main Park Entrance (Homestead/Florida City) is open 24 hours a day. The Main Park Entrance is the only access point to the Nike Missile Site, which is approximately eight miles to the west. The Nike Missile Site itself is closed to the public, but ranger-guided tours are given each weekday at 10 a.m., and each Saturday and Sunday at 2 p.m., in the dry season.

Adjacent Lands Information

Do Adjacent Lands Contribute? No

Adjacent Lands Description:

The boundaries of the parcel acquired by the U.S. Army for development as a Nike missile site are the boundaries of the National Register district. The National Register district lies entirely within the boundary of the Everglades National Park.

Lands adjacent to the HM-69 Nike Missile Site are part of the larger and encompassing Everglades National Park but were not part of the Nike missile site development, with the exception of the property across Long Pine Key Road (now known as Research Road) from the administration and barracks building, which was part of the Iori farming business.

National Register Information

Existing National Register Status

National Register Landscape Documentation:

Entered Inadequately Documented

National Register Explanatory Narrative:

The HM-69 Nike Missile Site is listed in the National Register of Historic Places as a district with boundaries as specified in the special use permit issued to the U.S. Army in March 1964. The National Register nomination was prepared by Diana E. Welling and Jennifer Dickey, interns in the National Park Service Southeast Regional Office, in 2004. The nomination form identifies ten contributing buildings (administration and barracks building, paint and oil storage, pumphouse, generator building, interconnecting corridor building, the three missile shelter buildings, missile assembly and test building, and canine support building) and twelve contributing structures, including the concrete picnic table, athletic court, sewage treatment plant, earthen berms of the Launch Area, site perimeter fencing, original signage, one original power pole, the communications trench, and the site roadways and paved areas. The borrow pit, from which earth was obtained to construct the berms, was determined to be ineligible due to a loss of integrity, as the pit has been mostly filled in. The general purpose warehouse, although constructed in 1964 as part of the initial development of the site, was determined to be ineligible due to a loss of integrity; the exterior cladding and doors of this building were replaced by the NPS in the 1980s. Other structures and site features were listed as non-contributing because they post-date the period of significance.

The National Register nomination does not discuss cultural landscape features such as spatial organization, views, vegetation, constructed water features, and small-scale features. Many of these features date to the period of significance and contribute to the historic character of the site. Some elements and small-scale features should be listed as contributing objects in the National Register documentation, as identified in this CLI report. Other landscape characteristics, such as views and spatial organization, are not enumerated in National Register documentation but can be described to aid in understanding the site as a whole.

The National Register nomination classification table (section 5) lists one contributing site in addition to the ten contributing buildings and twelve contributing structures, for a total of twenty-three resources. However, no contributing site is listed in section 7 of the National Register nomination, the detailed description of historic resources. No National Register-eligible site was identified during the CLI study. Therefore, the classification table in section 5 of the National Register nomination should be revised to eliminate counting a contributing site.

Also, the findings of the CLI study differ in the inclusion of the sewage treatment plant as a contributing structure. The sewage treatment plant was removed in 1983–1984 and replaced with a new septic tank. Only the raised drainfield dates to the period of significance. Therefore, only the drainfield is judged to have sufficient integrity for inclusion as a contributing structure in the National Register.

Although the field survey and detailed assessment prepared for the site as part of the CLI was limited

to the 29.28 acres that were intensively developed by the military, the National Register boundary has been defined as the full 660 acre parcel that was administered by the U.S. Army during the period of significance. The findings of the CLI study support the inclusion of the entire 660 acre parcel within the National Register boundary.

Existing NRIS Information:

Name in National Register:	Nike Missile Site HM-69
NRIS Number:	04000758
Other Names:	Hole-in-the-Donut
Primary Certification Date:	07/27/2004
Name in National Register:	Nike Missile Site HM-69
NRIS Number:	04000758
Other Names:	Everglades Missile Site
Primary Certification Date:	07/27/2004
Name in National Register:	Nike Missile Site HM-69
NRIS Number:	04000758
Other Names:	Missile Base
Primary Certification Date:	07/27/2004
Name in National Register:	Nike Missile Site HM-69
NRIS Number:	04000758
Other Names:	A Battery
Primary Certification Date:	07/27/2004
Name in National Register:	Nike Missile Site HM-69
NRIS Number:	04000758
Other Names:	A-2-52
Primary Certification Date:	07/27/2004
Name in National Register:	Nike Missile Site HM-69
NRIS Number:	04000758
Other Names:	Dan Beard Research Center
Primary Certification Date:	07/27/2004

National Register Eligibility

National Register Concurrence: Eligible -- SHPO Consensus Determination

Contributing/Individual: Individual

National Register Classification: District

Significance Level: National

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

Significance Criteria: C - Embodies distinctive construction, work of master, or high artistic values

Criteria Considerations: G -- A property less than 50 years of age

Period of Significance:

Time Period: AD 1964 - 1979

Historic Context Theme: Shaping the Political Landscape

Subtheme: Political and Military Affairs After 1945

Facet: The "Cold War" With The Soviet Union

Area of Significance:

Area of Significance Category: Military

Statement of Significance:

The HM-69 Nike Missile Site is listed in the National Register of Historic Places as a nationally significant example of a Cold War-era military defense site. In particular, the site is notable as one of a series of facilities developed in south Florida in the aftermath of the Cuban Missile Crisis of 1962. The site is significant under National Register Criterion A for its association with Cold War-era defenses and under Criterion C for the physical features of its design and construction that relate to its military purpose. Since the site was only forty years old when listed in 2004, Criteria Consideration G is also applicable; although less than fifty years old, the site possesses exceptional importance that justified its listing in the National Register of Historic Places.

The exceptional significance of the site under Criterion A pertains to its direct connection to the Cold War era in general and specifically to U.S. government defensive measures taken during periods of heightened tension between the United States and the Soviet Union. As noted in the National Register nomination:

The Cold War was a defining event for America in the second half of the 20th century. HM-69 is representative of what was considered the last line of defense for American citizens during the Cold

War.

During the Cold War era, the United States never came closer to war with the Soviets than during the 1962 Cuban Missile crisis. Weapon systems in Cuba represented a direct and proximate threat to the United States. HM-69, as well as other Nike sites in Florida, was established in direct response to the Cuban Missile crisis . . . . (Diana E. Welling and Jennifer Dickey, National Register Nomination Form, Nike Missile Site HM-69, listed in the National Register July 27, 2004).

The exceptional significance of the site under Criterion C is related to its unique physical aspects. Unlike other Nike missile sites in the continental United States, the south Florida sites required structural adaptations to the high water table of the region. The sites also were designed to defend against possible attacks originating from Cuba in addition to the Soviet Union. As noted in the National Register nomination:

The South Florida [Nike] sites were integrated with HAWK missile sites in order to provide an all-altitude defense capability. Such integration occurred nowhere else in the United States other than South Florida. This integration along with the aboveground missile storage shelters, necessitated by the high water table in South Florida, and the use of mobile radar systems make the South Florida sites unique among Nike sites in the continental United States. The South Florida sites were also the last Nike sites in the continental United States to be decommissioned in 1979.

HM-69 clearly has a direct relationship with the events of the Cold War and is associated with the operational mission of deterrence of nuclear and conventional weapons threats. The soldiers deployed at HM-69 faced a different situation than other U.S. Nike units since they had to guard against attacks from Cuba as well as from the Soviet Union. . . . (Welling and Dickey).

Chronology & Physical History

Cultural Landscape Type and Use

Cultural Landscape Type: Historic Site

Current and Historic Use/Function:

Primary Historic Function:	Military Facility (Post)
Primary Current Use:	Government Office-Other

Other Use/Function	Other Type of Use or Function
Equipment/Vehicle Storage	Current

Current and Historic Names:

Name	Type of Name
HM-69 Nike Missile Site	Both Current And Historic
A Battery	Historic
Daniel Beard Center	Current

Ethnographic Study Conducted: No Survey Conducted

Chronology:

Year	Event	Annotation
AD 1947	Established	Everglades National Park dedicated
AD 1948	Paved	Ingraham Highway paved
AD 1955	Cultivated	Land purchased by Iori Farms for cultivation
AD 1961	Purchased/Sold	Farmers Home Administration acquires property of bankrupt Iori Farms; NPS acquires property for missile site from Farmers Home Administration.
AD 1962	Established	Temporary missile site developed
AD 1963	Damaged	October: Hurricane Flora passes near Florida, causing severe flooding and damage to temporary south Florida Nike and HAWK positions.
AD 1964	Settled	Permanent missile site established.
AD 1965	Damaged	September 5: Hurricane Betsy passes through Florida, severely damaging telecommunications in the Homestead-Miami defense area
AD 1979	Abandoned	HM-69 Nike Missile Site , along with all missile defense sites in South Florida, is closed
	Land Transfer	HM-69 Nike Missile Site comes under the administration of the National Park Service as part of the Everglades National Park

AD 1983	Rehabilitated	New roof membranes installed by NPS on administration and barracks building, pumphouse, generator building, and interconnecting corridor building (NPS drawing 160-60068 dated July 14, 1983)
	Altered	Administration and barracks building renovated for use by NPS as Daniel Beard Center (NPS drawing 160-80003 dated August 1983)
AD 1984	Planted	Ornamental trees and shrubs planted around administration and barracks building
AD 1985	Demolished	Various buildings and landscape features demolished by the National Park Service (NPS drawing 160-60318A)
AD 1992	Damaged	August 24: Hurricane Andrew passes through Florida, damaging buildings in the Control Area, including the roof of the administration and barracks building
AD 1993	Altered	Repair of damage caused by Hurricane Andrew, including construction of a new hip roof on the administration and barracks building
AD 1997	Altered	“Dry Lab” addition to rear of administration and barracks building (NPS drawing 160-60167 dated December 4, 1996)
AD 2005	Damaged	August 25 and October 24: Hurricanes Katrina and Wilma pass through Florida. No significant damage to Nike Missile Site.

Physical History:

Settlement and Development of Florida and the Everglades Region

The first inhabitants of Florida arrived in the area approximately twelve thousand years ago. These prehistoric Paleo-Indians followed Pleistocene megafauna, such as mastodons, that dominated the grass plains of the drier climate. Evidence of human occupation during the Pleistocene in South Florida has been documented at the Cutler Ridge Site, northeast of Everglades National Park. As the ice age ended and the climate changed, Native Americans began to adapt to more localized environments. As what we know now as the Everglades developed, humans were also developing the Archaic and later Glades archaeological traditions. The earliest carbon date from the Park is 6,500 years ago, suggesting that humans were present as the Everglades ecosystem was developing. At the time of Spanish arrival, two American Indian groups occupied the area near the Everglades, the Calusa and the Tequesta. The Everglades served as a buffer between the powerful Calusa tribe and the Tequesta, as the American Indian peoples occupied tree islands within the interior of the park, as well as complex shell works in the Ten Thousand Islands region.

Juan Ponce de León is generally credited as being the first European to discover Florida, in 1513. A later expedition, led by Pedro Menéndez de Avilés, resulted in the founding of St. Augustine in 1565 as the first permanent settlement by Europeans in the continental United States. In the following year, Menéndez de Avilés met with leaders of the Calusa tribe in south Florida, marking the first known gathering between the American Indian tribes of south Florida and the new European settlers. The Spanish were forced to relinquish ownership of Florida to the British after the conclusion of the French and Indian War in 1763. The British retained control of Florida for two decades, until the end of the Revolutionary War. At that time, as a result of its support of the United States, Spain regained control of Florida as a territory. Florida was ultimately ceded to the United States in 1821. The population of Florida was less than 8,000 when it was organized as a territory in 1822. The next two decades saw a rapid increase in population, which was concentrated in north Florida with smaller settlements scattered throughout portions of south Florida.

In 1845, Florida became the twenty-seventh state in the Union. By 1850 the population of Florida was nearly 88,000, of whom 40,000 were African-American slaves. Florida joined the Confederacy during the Civil War, but by 1862, federal forces had seized much of the Florida coast. Much of the fighting in Florida during the Civil War took place away from the coast, in the interior portion of the state.
In the late nineteenth and early twentieth century, the leaders of Florida were eager to promote growth and development. In 1905, the state-funded draining of the Everglades began in order to allow further settlement of the southern portion of Florida. In 1948, Congress authorized the Central and South Florida Project, which consisted of the construction of an elaborate system of roads, canals, and levees throughout southern Florida. Managed by the Army Corps of Engineers, the draining of the Everglades was intended to provide water and flood protection for urban and agricultural lands, preserve fish and wildlife, facilitate navigation and recreation, and prevent salt water intrusion. However, the dramatic alterations to the wetland landscape, as well as increases in population, and changing land use (especially farming) had significant

effects on the natural environment. Draining the Everglades ultimately reduced the area of the wetlands by half and disrupted the natural flow of water throughout the Everglades, resulting in both drought and flooding throughout the region.

Beginning in 1915, the Model Land Company began construction of a road that would connect Florida City and Flamingo. The first section of the road, which would connect Homestead and Royal Palm State Park, was completed in 1916 in time for the opening of the state park. The road was largely completed in 1921 and reached Flamingo on the coast of Florida Bay in 1922.

Establishment of the National Park

With the advent of the railroads in Florida, the end of the nineteenth century saw significant exploitation of the natural resources of the Everglades. Lumbermen were cutting down cypress, pine, and mahogany trees; commercial fishermen were depleting species of fish; and game and plume hunters were destroying one of the last heavily inhabited wildlife areas in the country. Soon oil prospectors and real estate developers began touting the area's untapped commercial potential.

In 1917, through the efforts of former Florida First Lady May Mann Jennings and the Florida Federation of Women's Clubs, Royal Palm State Park was established. Florida's first state park, Royal Palm, was further developed by the Civilian Conservation Corps in the 1930s under the direction of William Lyman Phillips, a pioneer of tropical landscape architecture, with the National Park Service.

The first organized efforts to create a national park in the Everglades began in the early 1920s. In 1925, Ernest F. Coe (1866–1951), a Yale-educated landscape architect from Connecticut, moved to Miami with his wife Anna and purchased a home in Coconut Grove. Coe quickly formed a new organization, the Tropical Everglades National Park Association, whose sole purpose was to support creation of a national park in the Everglades. In 1929, the Florida Legislature created the Tropical Everglades National Park Commission, with Coe as executive chairman. By March 1929, the United States Congress authorized an investigation of large portions of south Florida to evaluate the feasibility of creating a national park in the Everglades. In 1931, the Secretary of the Interior approved the Everglades as suitable to be declared a national park. Three years later, Congress passed a bill creating a national park in the Everglades. However, the Great Depression and World War II prevented further action relating to the development of a national park in the Everglades for the next decade.

On December 6, 1947, Everglades National Park was formally dedicated. At the time of the dedication ceremony, privately owned lands in the area still needed to be acquired and the park boundaries had yet to be finalized. The boundaries of the park would finally be established in 1958, encompassing an area of approximately 1,406,000 acres. One area that was excluded from the park was known as the Hole-in-the-Donut, an area of approximately 30,000 acres. This area near the park's eastern border would not be included within the final boundaries as long as it was used for agricultural purposes.

The Cold War and South Florida

End of World War II

With memories of Pearl Harbor still fresh in their minds, postwar American leaders sought to make sure the United States would always be prepared to enter military conflicts in the future. As a result, rights to overseas bases and support facilities were secured by the United States government in addition to the airfields, naval ports, and air transit rights acquired during World War II.

As the United States transformed itself into a global superpower, the Soviet Union was positioned as its only credible threat. While Franklin Delano Roosevelt had maintained a generally positive relationship with Joseph Stalin, Harry Truman was more guarded in his dealings the Soviet Union and its leader. In the years after the Second World War, Soviet foreign policy became more objectionable to nations including the United States that sought to create a democratic, international free trade system.

As the United States emerged from World War II, there was fear that peace could propel the country back into a depression, allowing communism to take hold throughout the country. This fear, combined with communist expansion throughout Eastern Europe and into China in the 1940s, caused the United States government to formulate a new policy intended to curb communist expansion.

Containment Doctrine

The containment doctrine was formulated in the late 1940s by United States advisors and diplomats such as George Kennan, deputy to the U.S. Ambassador to the Soviet Union and later U.S. Ambassador to the Soviet Union and Yugoslavia. The policy sought to stop the further expansion of communism in Europe and subsequently the rest of the world. This new policy required a peacetime military build-up by the United States. The creation of the containment doctrine marked the beginning of the Cold War and would be the basis for future military action across the world in countries such as Iran, Guatemala, Vietnam, Cuba, Chile, Angola, Afghanistan, and Nicaragua.

Cuba

In early 1959, Cuban President Fulgencio Batista fled from Cuba to the Dominican Republic. Batista, a U.S.-supported dictator, served as President of Cuba from 1952 to 1959. Initially, the United States government did not see the new Fidel Castro-led government as a communist threat. However, Castro soon moved to diminish the economic power held by United States corporations in Cuba by increasing taxes, reducing rents, and nationalizing foreign-held assets. In response to Castro's actions, the United States soon ended economic and military aid to Cuba. As a result, relations between the United States and Cuba worsened, prompting Castro to look to the Soviet Union for support.

With the threat of communism now only ninety miles from the United States and the concern arising that Castro's success would threaten United States national security, the government

began to consider a covert operation to overthrow the Cuban government. At the same time, the United States began to impose sanctions on Cuba in an attempt to isolate the country. In response, Castro used the increased pressure from the United States as a reason for further oppression of his political opponents throughout Cuba. As a result, thousands of Cubans opposed to Castro's rule fled to the United States. Between January 1959 and April 1961 nearly 135,000 Cubans arrived in Miami. Those who fled Cuba for the United States were generally upper and middle class professionals. However, by the mid-1960s working class Cubans and even individuals involved in organized crime began to flee the island nation for the United States.

In early 1960, President Eisenhower called on the Central Intelligence Agency to formulate a plan that would overthrow the Castro-led government. The CIA devised a plan, similar to that used by the United States to overthrow Guatemalan leader Jacobo Árbenz Guzmán in 1954, which included the use of a small army, propaganda radio stations, and underground sabotage tactics. The CIA went on to train an army of anti-Castro Cuban exiles in Guatemala in anticipation of a massive invasion of Cuba. Throughout the 1960s more than $50 million a year was spent by the United States government in its efforts to reverse the 1959 Cuban Revolution.

Shortly after taking office in early 1961, President Kennedy gave his approval for the CIA to proceed with its plans to invade Cuba. On April 17, 1961, the CIA-trained army of Cuban exiles invaded Cuba. The operation, known as the Bay of Pigs, was disastrous. Castro and the Cuban government were anticipating the attack and Cuban military forces were fully prepared when the invasion began. There was little or no support from Cuban citizens, as the CIA had likely underestimated Cuban support for Castro and the revolution. The failure of the Bay of Pigs invasion further fueled Kennedy's desire to see Castro overthrown.

Cuban Missile Crisis

The United States' attempts to weaken Fidel Castro resulted in further oppression of anti-Castro forces in Cuba. As Castro continued to defend himself and Cuba from future United States-led invasions, he formed a closer relationship with the Soviet Union.

In October 1962, United States spy planes discovered nuclear missile bases and other weapons in Cuba. The detection of weapons in Cuba stunned the United States. Military personnel began to flood south Florida in October 1962 and to prepare for a possible invasion of Cuba if diplomatic efforts failed.

With missiles in Cuba, only 90 miles away, south Florida was extremely vulnerable to a potential air strike by the Soviets. Shortly after the missiles were discovered in Cuba, both HAWK and Nike-Hercules missile battalions were deployed to south Florida to defend against a possible attack on Miami. Missile batteries were quickly installed across south Florida as the Americans and Soviets continued negotiations.

During the missile crisis, Cuban and Soviet forces shot down a U2 reconnaissance aircraft over Cuba, causing tensions to escalate between the two sides. As members of the United States

military pressured Kennedy to invade Cuba, Castro urged the Soviet Union to attack the United States. Fortunately neither would happen. On October 29, Kennedy and Soviet leader Nikita Khrushchev agreed that the Soviets would remove their missiles from Cuba if the United States agreed to not invade the island. At the same time, the United States agreed to remove missiles from Turkey.

As the Cuban Missile Crisis ended, most of the military personnel brought to south Florida returned to their home bases. The United States still saw Fidel Castro and Cuba as a potential threat and decided to maintain the defensive missile battalions deployed in south Florida. A permanent, air defense system consisting of HAWK and Nike Missiles would also be set up in order to protect Miami.

The Nike Missile Program

Origins

The origins of the Nike Missile program can be traced to a memo written in August 1944 by Army Lieutenant Jacob W. Schaefer. The letter discussed developing a radio-controlled anti-aircraft rocket system that could protect large areas from a potential attack. By June 1945, the missile program began to be developed under the code name Project Nike, named after the Greek goddess of victory. The program would continue to be developed after the conclusion of World War II, with the first full scale demonstration of the Nike missile system occurring at White Sands Proving Ground, New Mexico, in April 1952.

The first Nike program sites were constructed between1954 and 1956 to house Nike-Ajax missiles. Most of the sites were situated in suburban areas near large cities and contained defense missiles that had a range of approximately 30 miles.

By the mid-1950s, as the initial Nike missile sites were being constructed, a new missile, the Nike-Hercules, which had a range of nearly 90 miles, was being developed. In 1958, conversion of Nike-Ajax sites to house Nike-Hercules Missiles began, as fifteen new Hercules-only defense sites were established in the Continental United States.

The Nike Program in South Florida

The first air defense units arrived in Florida during the Cuban Missile Crisis in October 1962. The units were deployed to south Florida with little warning and arrived with minimal equipment. The first air defense sites were situated in tomato and bean fields in southern Dade County as well as sites in the middle of the Everglades. The soldiers were initially housed in tents that lacked walls or floors.
Upon arriving in south Florida, Nike-Hercules troops from Battery A/2/52 were deployed to an area near the main entrance of Everglades National Park. While the Army was setting up operations in the Everglades, local farmers warned that the chosen location was prone to flooding. Despite the warnings, the troops were deployed and encountered frequent rainfall and steady flooding of the site.

In August 1963, the Army announced that permanent missile sites would be constructed in south Florida, as Miami, unlike other large cities, was not part of the United States air defense network. Construction of permanent missile sites would cost nearly $17 million. Unlike most other missile sites throughout the country, which had underground magazines, the high water table in Florida required the magazines to be constructed above ground; more land would therefore be needed for construction. In order to save money, the Army sought to place the new missile sites on land already owned by the government.

Four permanent missile sites were constructed in the Miami area. Plans for all four sites were made in early 1964. Construction began later that year and was completed by June, 1965. The HM-69 Nike Missile Site, initially called the A Battery, was located inside Everglades National Park on former farming land. B Battery was renamed HM-40 when it was relocated from Homestead, Florida, to undeveloped land in Key Largo. HM-01, also known as C Battery, was located on a developer-owned site in Carol City. D Battery, renamed HM-95, was situated on an undeveloped site on the outskirts of Miami.

Construction and Military Use of the HM-69 Nike Missile Site

The permanent Nike-Hercules missile site at Everglades National Park was constructed on land previously owned by the Iori farming operation in the area known as the Hole-in-the-Donut. When Iori declared bankruptcy circa 1961, a portion of the 30,000 acres was foreclosed on. The state of Florida provided $2 million for acquisition of the land, at which time the United States Department of Agriculture transferred 4,400 acres to the National Park Service, which then turned over 659.1 acres of land to the Army. Despite no longer owning the land adjacent to the missile site, the Ioris leased and farmed the land until the mid-1970s, at which time it was acquired by the National Park Service.

Like other Nike-Hercules sites constructed throughout the United States, the HM-69 Nike Missile Site was comprised of two distinct areas, a Launch Area and a Control Area. The designs of the buildings at the HM-69 Nike Missile Site were similar to those of the three other south Florida missile defense sites.

The Control Area consisted of an administration and barracks building supported by an array of ancillary structures and facilities including a pumphouse, paint and oil storage building, generator building, interconnecting corridor building with three adjacent trailers, a sewage treatment plant and raised drainfield, and a general warehouse, as well as numerous radars and antennas.

The Launch Area, located approximately one mile south of the Control Area, included a missile assembly and test building, three missile shelter structures each surrounded by an earthen berm containing a bunker, a ready building, generator shed, a canine support building with kennels and several sentry boxes located at the corners of the fenced site.

Control Area

The Control Area originally included the battery building (administration and barracks building), pumphouse, a building for paint and oil storage, generator building, interconnecting corridor

building, and general purpose warehouse, as well as a sewage plant, raised drainfield, and outdoor athletic court (Fig. 7).

Situated on the northern portion of the Control Area, the administration and barracks building was constructed to house administrative offices as well as the soldiers themselves. The one story concrete structure originally had a shed roof (Fig. 8).

The interior of the building originally contained a large squad dormitory room, twenty-two semi-private dormitory rooms, and a dining room, kitchen, classroom, hobby shop, and administrative offices.

Located south of the administration and barracks building, the pumphouse was constructed as a one story concrete structure with a shed roof.

The paint and oil storage building was constructed directly south of the pumphouse. This small concrete structure also had a shed roof.

The generator building, a small one story concrete structure with a shed roof, was constructed southeast of paint and oil storage.

The interconnecting corridor building was constructed near the southeast corner of the Control Area. The one story concrete structure with a shed roof was built to provide support spaces and an indoor connection among three radar control trailers that were parked on concrete slabs adjacent to the structure.

The general purpose warehouse was constructed northeast of the interconnecting corridor building, while the sewage treatment plant and raised drainfield were constructed on the west side of the Control Area.

Launch Area

Located approximately one mile south of the Control Area, the triangular site of the Launch Area was surrounded by a patrolled barbed-wire fence with sentry boxes located near the corners. The area was divided into three distinct sections, each surrounded by security fencing. At the entrance of the site was the Ready Area, consisting of the ready building, general maintenance facilities, generator buildings, and a sentry stand. A gate at the south end of the Ready Area led to the Assembly Area, which included the missile assembly and test building and the canine support building and kennels. The remaining portion of the Launch Area consisted of the three missile shelters, earthen berms with bunkers, and concrete launch pads.

The Launch Area and the Control Area were connected by a paved roadway that was oriented north-south and was located to the west of both areas. The road curved to the east at the north edge of the Launch Area.

A sentry box, generator shed, and the ready building were all constructed adjacent to the

entrance to the Launch Area. A paved road that looped through the Launch Area was also constructed. Conduits for electrical and communication wiring were placed on grade and buried in low earthen mounds throughout the site.

The concrete block missile shelters, each of which had a steel framed gable roof clad with transite panels, were constructed adjacent to the looping roadway (Fig. 9). U-shaped earthen berms containing concrete bunkers were constructed around the missile shelters. Small generator sheds were constructed between the looping roadway and the berms.

The missile assembly and test building was constructed in the southwest corner of the Launch Area. A berm was constructed west of the missile assembly and test building as a form of protection. The concrete block structure, which had a shed roof, was situated immediately adjacent to the roadway that looped through the Launch Area.

North of the missile assembly and test building, the canine support building and kennel were constructed. The kennel was a fenced in, concrete paved area, while the canine support building was a small concrete block structure with a shed roof.

A fence enclosing the Launch Area was constructed at the time of initial site construction. The new facilities at the HM-69 Nike Missile Site were completed and ready for use by the summer of 1965.

Alterations to the HM-69 Nike Missile Site

In the 1970s, accommodations for site personnel were improved at the Nike Missile facilities throughout south Florida. The large squad dormitory room in the southeast wing was replaced with twelve new private dormitory rooms.

The End of the Nike Missile Program

During the 1960s and 1970s, the preferred method used by the U.S. for delivery of nuclear weapons shifted from bombers to missiles. Despite this strategic switch, the U.S. remained concerned about a Soviet bomber attack over the North Pole or from Soviet-backed Cuba. As the threat of a Soviet bomber attack failed to materialize and costs related to the Vietnam War continued to escalate, the Nike missile program was phased out and eventually dissolved.

In 1974, the Army closed all missile defense sites in the continental United State except for those located in Florida. At the same time the Army transferred the Florida sites to the control of the United States Army Forces Command (FORSCOM).

In 1979 it was determined that the missile defense sites in south Florida were no longer needed, as they became outdated and no longer enhanced national security. As a result, the south Florida sites were abandoned by their units and closed.

Acquisition of the HM-69 Nike Missile Site by the National Park Service

Circa 1979, the National Park Service assumed administration of the HM-69 Nike Missile Site property as part of Everglades National Park.

Upon gaining control of the property the NPS made several changes to the area. Beginning in 1985, several of the buildings and structures constructed in 1964 by the Army were removed. At the Control Area, all of the radars and antennas were removed. The above-ground elements of the sewage treatment plant were demolished and replaced by new above-ground piping and a new raised septic tank, as documented on sheets 2 and 3 of NPS drawing 160-80003 dated August 15, 1983.

Numerous structures and features were also removed at the Launch Area, including the sentry stands, portions of the fencing, four generator sheds, sentry boxes, the water pumphouse, tanks, some areas of paving, the paint and oil storage building, the sewage treatment pumping station and plant, and the canine kennels. The ready building, situated near the entrance to the Launch Area, was also removed. Minimal maintenance has been performed to the landscape at the Launch Area and as a result the site has small trees, shrubs, and an overgrowth of vegetation. A mown turf landscape has been maintained at the Control Area. Generally no underground utilities were removed unless they were disturbed by above grade demolition.

Some alterations were made to the buildings designated to remain in use by the NPS in 1983–1984. In the administration and barracks building, the original bathroom was renovated to create men's and women's restrooms, some partition walls were removed in the west wing of the building, new suspended acoustic tile ceilings and vinyl tile flooring was installed, and all exterior and some interior doors were replaced (see NPS drawing 160-80003 dated August 15, 1983). The roofs of all of the retained structures at the Control Area were also re-covered (see NPS drawing 160-60068 dated July 14, 1983). In 1985, louvered double-doors depicted in as-built drawings were removed and stacked four-part awning windows surrounded by exposed plywood were installed in former door openings on the north side of the generator building (see NPS drawing 160-60085 dated May 1985). At the same time, several window and door openings, which previously provided access to the attached telecommunication trailers at the interconnecting corridor building, were filled with concrete block.

From 1984 until 2000, portions of the Launch Area were used by the NPS as a firing range for Law Enforcement Rangers working at Everglades National Park. Berms A and C were used as backstops as well as for tactical drills. The use of the site as a firing range was ended in 2000 due to safety and environmental concerns.

Further Alterations and Current Uses

In August 1992, Hurricane Andrew made landfall in south Florida. The storm caused significant damage to the former HM-69 Nike Missile Site. The roof of the administration and barracks building was heavily damaged by the storm and as a result, a new wood truss-framed, standing seam metal hip roof was constructed on top of the original steel framed shed roof structure. Stucco-clad panels were applied along the perimeter of the roof to cover the exposed ends of the truss members.

As of 2010, the administration and barracks building continues to be used as the Daniel Beard Center, which has contained NPS offices since 1984, with other buildings at the Control Area being used for storage. Nearby buildings north of Long Pine Key Road, which were part of the Iori Farm, are also used by NPS as archives, offices, and fire control training, but are not part of this study.

The buildings at the Launch Area were primarily being used by NPS for interpretation. Scheduled tours led by NPS interpretive staff are conducted of the site. Few changes have been made to the buildings in the Launch Area since the NPS took over the site in the early 1980s.

Analysis & Evaluation of Integrity

Analysis and Evaluation of Integrity Narrative Summary:

The HM-69 Nike Missile Site is a National Register historic district with a period of significance defined as 1964–1979, the period during which the site was actively used by the U.S. Army for defense purposes. Relatively few changes were implemented to the buildings and site during the period of significance. Site plans from the late 1970s show the same arrangement of buildings, roadways, and other site features as is indicated on the original 1964 as-built drawings. Within the period of significance, some interior remodeling of the administration and barracks building did occur. Also, within the period of significance, military personnel painted the missile shelter buildings and other structures with decorative murals or color-coded paint schemes.

The Nike Missile Site lost some degree of integrity in 1985 when many smaller buildings and site features such as antennas and fencing were removed, particularly at the Launch Area. However, the overall layout of each site is still clear, and the largest and most functionally distinctive structures of both the Launch Area and the Control Area were retained. Therefore, the site as a whole is judged to retain sufficient integrity for listing in the National Register of Historic Places.

Most of the existing original buildings of the site have been unaltered since their initial construction, except for ordinary maintenance such as repainting of exterior facades and replacement of roof membranes. Some structures, such as the canine support building and the generator building, have experienced structural deterioration. The administration and barracks building has undergone some renovation work, including changes to interior partitions and the addition of a hip roof structure atop the original shed roof. However, with the exception of the general purpose warehouse, which was completely reclad in the 1980s, the remaining original buildings of the site retain sufficient integrity to be considered contributing buildings in the National Register district.

Distinctive cultural landscape features such as the earthen berms, the road and pavement network, and large open areas of turf grass survive from the period of significance. The original open sightline from the Control Area to the Launch Area is interrupted by soil disposal mounds.

Landscape Characteristic:

Archeological Sites

There are no recorded archeological sites in the vicinity of the Nike Missile Site. It is assumed that any prehistoric sites that may have been present were disturbed by cut and fill activities during construction of the missile site.

After NPS acquired the site, all of the cable trays, which held the wires and other utilities connecting the Control Area with the Launch Area, were removed. Where the cables crossed the road, there were trenches that carried the cables safely under the pavement; these have been filled with concrete. It may aid interpretation efforts to excavate and preserve these trenches. The cable trays were supported by wooden posts, some of which were embedded in

concrete bases, which may also be located and used to support interpretation. Remains of removed landscape features in the Launch Area should be considered archeological sites. Additionally, tradition holds that a gold tooth, which was placed in a guard dog's tooth by an army dentist as practice, was lost in the vicinity of the kennel.

Natural Systems and Features

The majority of the land surrounding the Nike Missile Site, characterized by low topography and vegetation, is classified as wetland habitat. Freshwater Marl Prairie, typically under water for three to seven months out of the year, is the dominant native ecosystem, and is surrounded by a mix of pinelands, tropical hardwood hammocks, and cypress. The natural land patterns in the vicinity of the Nike Missile Site have been disturbed by years of agricultural cultivation and the fill added to construct the Launch and Control Areas. After 50 years of farming, during which soils were fertilized and aerated, the area became host to a number of invasive species, most prominently the Brazilian pepper (Schinus terebinthifolius). Recent restoration efforts have involved scraping much of the soil down to the bedrock to remove the invasive vegetation and encourage native vegetation to re-establish. A large soil disposal mound of this material, stored south of the Control Area, is home to a number of invasive and non-native species.

Topographic modifications (described in detail below) in the Control Area and Launch Area were created using native marl soil taken from a borrow pit adjacent to the Launch Area. It is not known if the cut and fill activities have had a negative effect on the larger native ecosystem.

Spatial Organization

Spatial organization of the HM-69 Nike Missile Site is generally characterized by the two-cluster arrangement of the Control and Launch areas, connected by a 1.5 mile-long access road. The separation of clusters was necessitated by the security and technological regulations imposed on all Nike missile sites, which stipulated that the areas be separated by at least 1000 yards.

The Integrated Fire Control Area portion of the Control Area, located along Long Pine Key Road, contained the radar assemblies and monitoring equipment, as well as generator equipment and a maintenance facility. The Administration Area was co-located with the Integrated Fire Control Area, and contained the barracks and training facilities for the approximately 146 soldiers and technicians housed at the site. These two areas were collectively referred to as the Control Area (refer to Fig. 2). During the period of significance, the barracks and recreation facilities were located closest to the road in the northeast portion of the parcel, and the radar assemblies and monitoring equipment in the south and west portions, giving them an unobstructed line of sight to the Launch Area. The buildings in the Integrated Fire Control Area were arranged along a road that cut across the site on a northwest-to-southeast diagonal. The entire complex was surrounded by a patrolled fence. The general arrangement of the Control Area today is similar to that of the historic condition, though all of the vertical elements (radar towers and power poles), as well as most of the security fencing and some of the structures, have been removed. The former administrative, residential, and recreation areas have been converted to office, museum, and storage use, while the

Integrated Fire Control portion is now utilized for storage.

The Launch Area, located approximately a mile south of the Control Area, housed the missile launch pads, missile storage and assembly buildings, ready buildings, and kennels for the canine troops (refer to Fig. 3). During active military use, the approximately triangular Launch Area was generally divided into three distinct sections, with each cluster divided by security fencing with controlled entrances. A patrolled, barbed-wire-topped security fence surrounded the entire area. At the entrance to the complex was the Ready Area, which contained administrative and general maintenance facilities, including a sentry box, launch control trailers, generators, and ready room for the men stationed there. A gate at the south end of the Ready Area led to the Missile Assembly Area which contained the canine kennels and support buildings, as well as the missile assembly and test building.

The third and largest area, containing all three launcher sections, was surrounded by an interior fence. The space between the exterior fence and the interior fence surrounding the launcher sections was sodded and patrolled by guard dogs. Each launcher section was organized around a central concrete launch pad accessed from the loop road; a missile shelter building (also called a barn) at the back of the launch pad held the missiles, and a U-shaped earthen berm surrounding the barn and launch pad provided protection (Fig. 10). A control bunker was located in the northeast arm of each berm.

All the buildings in the Ready Area, as well as the interior fencing, have since been removed, although the general circulation arrangement, organization of the launcher sections, and relationship between the Missile Assembly Area and the launcher sections remains the same.

Character-defining Features:

Feature: Relationship of Control and Launch Areas

Feature Identification Number: 148895

Type of Feature Contribution: Contributing

Feature: Control Area cluster arrangement

Feature Identification Number: 148897

Type of Feature Contribution: Contributing

IDLCS Number: 91843

LCS Structure Name: Beard, Daniel, Research Center

LCS Structure Number: BRC-01

Feature: Launch Area cluster arrangement

Feature Identification Number: 148899

Type of Feature Contribution: Contributing

Feature: Launch Section clusters

Feature Identification Number: 148901

Type of Feature Contribution: Contributing

Landscape Characteristic Graphics:



FIGURE 10. Typical launcher section. Source: JMA, 2010.

Land Use

This area was originally developed as for agricultural use, primarily as a tomato farm. During the Cold War, it was appropriated for military use, as described in the history section of this report. The National Park Service acquired the parcel when the site was decommissioned in 1979, four years after acquiring the remaining adjacent agricultural lands, known as the Hole-in-the-Donut. Today, the site is used primarily for interpretation of the Cold War defense system and park administration services, including museum services, research, and volunteer training (Figs. 11 through 14). The National Register nomination for the missile site describes its current land use categories as "Education," due to its function as a research facility, and "Other," due to its use for park storage, hurricane equipment shelter, research administrative offices, aviation operations, cultural resources storage and management, natural resources management, museum storage, and soil storage area (Figs. 15 and 16). In addition to these uses, the 6,600 acre area of the Hole-in-the-Donut, acquired by NPS in 1975, is the currently subject of an intensive ongoing vegetation restoration program, first implemented in 1997.

Character-defining Features:

Feature: Interpretation/Education

Feature Identification Number: 148903

Type of Feature Contribution: Non Contributing

Feature: Park Administration

Feature Identification Number: 148905

Type of Feature Contribution: Non Contributing

Feature: Conservation/Restoration

Feature Identification Number: 149119

Type of Feature Contribution: Non Contributing

Landscape Characteristic Graphics:



FIGURE 11. A park ranger leads a tour group through the Launch Area. Source: JMA, 2010.



FIGURE 12. Researchers measure an American crocodile outside the administration and barracks building. Source: JMA, 2010.



FIGURE 13. The athletic court is now utilized to house captured pythons. Source: JMA, 2010.



FIGURE 14. Volunteer firefighters train in the Control Area. Source: JMA, 2010.



FIGURE 15. The former launch pads are periodically used for storage during storms.
Source: JMA, 2010.



FIGURE 16. Boats and other NPS equipment are stored in the area that formerly held radar and missile tracking equipment. Source: JMA, 2010.

Topography

Overall, the topography of the Everglades is never more than 7 feet (2 meters) above sea level, and much of it is lower than 5 feet (1.5 meters). Prior to the installation of the missile site, the natural topography of this area was also fairly flat, with a variation of a little over 2 feet throughout, ranging from 2.5 feet to 4.6 feet. On average, soil depth was about six inches, with ground water found about four feet below the surface. The existing topography, with the exception of the Control and Launch areas and the roadway, retains this flat character (Figs. 17 through 19).

The Control and Launch Areas have a significant amount of topographic modifications. The sites were filled and raised to provide a stable base for construction and to ensure the heavy equipment would not sink into the ground, which had been a problem at the temporary battery at the site. In addition, the road connecting the two areas was paved and graded (Fig. 20). At the time of its construction, the road was 20 feet wide, with a 30-foot right-of-way on either side that also served as a limit of clearing. The crown of the road was 4.50 feet above sea level, with a slight rise at the entrance to the Launch Area.

In the Control Area, topographic modifications are fairly subtle. Low platforms were created for the radar towers, access road, and structures, none over 6.0 feet above sea level. The mound created for the radar towers, which have been removed from the site, is still visible in

the landscape. Two higher mounds were created for the drainfield and an area designated for a concrete pad. The drainfield, approximately 75 feet by 100 feet, had an elevation of 10.0 feet above sea level and was used a leachfield for sewage (Fig. 21). The other mound, identified on the as-built site plan as "graded area," had an elevation of 7.5 feet and was intended to hold a 20-foot-by-20-foot concrete pad. It is unknown if this pad was ever installed. This area is currently occupied by a cluster of small trees.

Topographic modifications in the Launch Area are generally more dramatic than those in the Control Area. In addition to the low platforms created for structures and roads, U-shaped berms were constructed around each of the three launcher sections (earthen berms A, B, and C), and a crescent-shaped berm was constructed around the missile assembly and test building (Figs. 22 and 23). Each of the berms was about 35 feet wide, with 2:1 side slopes and a top elevation of between 16.83 and 19.83 feet above sea level. They were intended as protection during missile launches or accidental explosions. Each launch section berm had a concrete bunker, which housed the launcher control center, built into its northeast side. All four of these berms are extant in the landscape, but have been damaged by foot traffic, vegetation, and mower wheels, which disturb the soil surface, leading to erosion (Fig. 24). Launcher Section B was recently used as shooting range, which caused additional damage to the berm (Fig. 25). Additionally, there are a few low berms running diagonally across the site, which correspond to the location of electrical and other utility lines that appear on the as-built construction plans. These berms were likely constructed specifically to cover the lines, which could not be buried due to the high water table. A long, low berm existed between the two security fence lines, labeled on the grading and drainage plan as the "dog patrol area."

Much of the material for the modifications in the Control and Launch Areas was taken from a borrow pit southeast of the Launch Area. The borrow pit had a rectangular shape and was approximately 500 feet long. Although it is now mostly filled in, standing water can still be observed in several areas (Fig. 26). Although the National Register nomination lists this feature as a non-contributing structure due to a loss of integrity, it is notable as the source of building materials for contributing features within the study area.

Recent topographic modifications have resulted from efforts to restore native vegetation within the Hole-in-the-Donut. Soil scraped from areas infected with Brazilian pepper has left enormous soil disposal mounds that are currently stored on-site. One of these soil disposal mounds is within the boundaries of the Nike Missile Site southwest of the Control Area (Fig. 27). The 20-acre mound intrudes into the line-of-sight from the Control Area to the Launch Area, interfering with the historic viewshed.

Character-defining Features:

Feature: Flat topography

Feature Identification Number: 148909

Type of Feature Contribution: Contributing

Feature: Roadway Profile

Feature Identification Number: 148911

Type of Feature Contribution: Contributing

IDLCS Number: 91869

LCS Structure Name: HM-69 Loop Road

LCS Structure Number: NMS-07

Feature: Grading for former radar platforms

Feature Identification Number: 148913

Type of Feature Contribution: Contributing

Feature: Sewage Drainfield in Control Area

Feature Identification Number: 149131

Type of Feature Contribution: Contributing

Feature: “Graded area” in Control Area

Feature Identification Number: 148917

Type of Feature Contribution: Contributing

Feature: Earthen Berm A

Feature Identification Number: 148919

Type of Feature Contribution: Contributing

IDLCS Number: 91870

LCS Structure Name: HM-69 Earthen Berms (batch)

LCS Structure Number: NMS-08

Feature: Earthen Berm B

Feature Identification Number: 148921

Type of Feature Contribution: Contributing

IDLCS Number: 91870

LCS Structure Name: HM-69 Earthen Berms (batch)

LCS Structure Number: NMS-08

Feature: Earthen Berm C

Feature Identification Number: 148923

Type of Feature Contribution: Contributing

IDLCS Number: 91870

LCS Structure Name: HM-69 Earthen Berms (batch)

LCS Structure Number: NMS-08

Feature: Missile Assembly and Test Building Earthen Berm

Feature Identification Number: 148925

Type of Feature Contribution: Contributing

IDLCS Number: 91870

LCS Structure Name: HM-69 Earthen Berms (batch)

LCS Structure Number: NMS-08

Feature: Low utility berms in Launch Area

Feature Identification Number: 148927

Type of Feature Contribution: Contributing

IDLCS Number: 91870

LCS Structure Name: HM-69 Earthen Berms (batch)

LCS Structure Number: NMS-08

Feature: Borrow pit

Feature Identification Number: 149133

Type of Feature Contribution: Non Contributing

Feature: Hole-in-the-Donut restoration soil disposal mound

Feature Identification Number: 149135

Type of Feature Contribution: Non Contributing

Landscape Characteristic Graphics:



FIGURE 17. The natural topography of the site is very flat. Source: JMA, 2010.

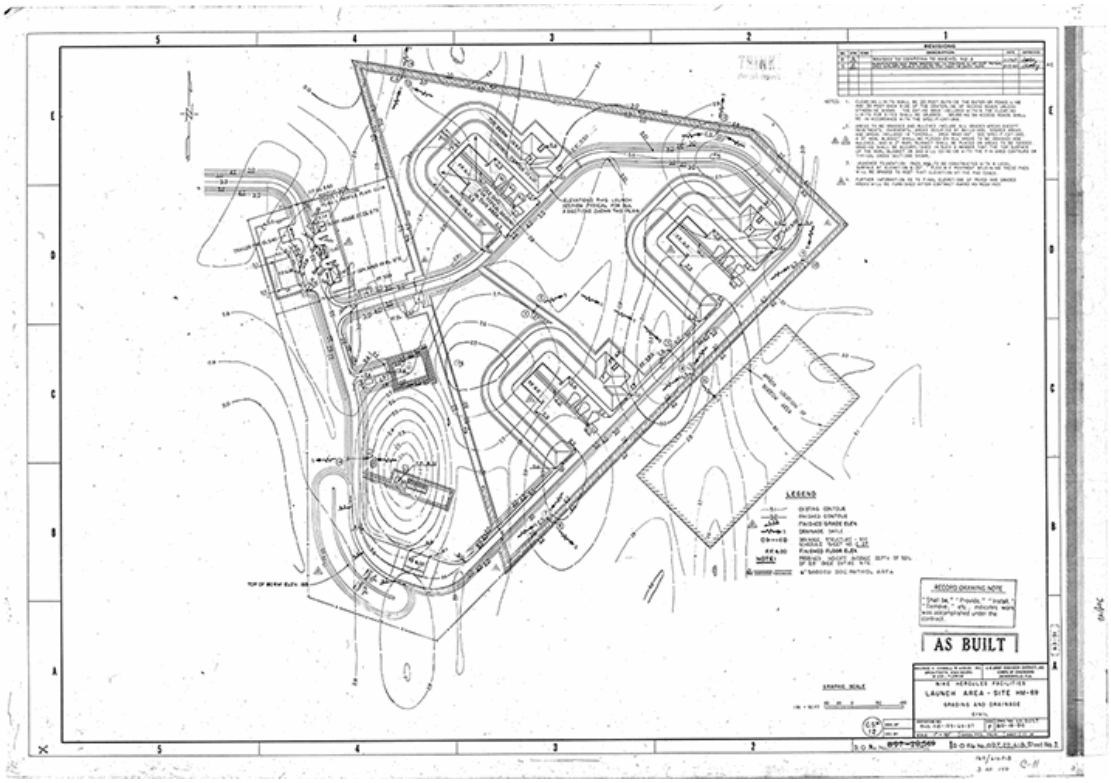


FIGURE 18. Original and as-built topography of the Launch Area.

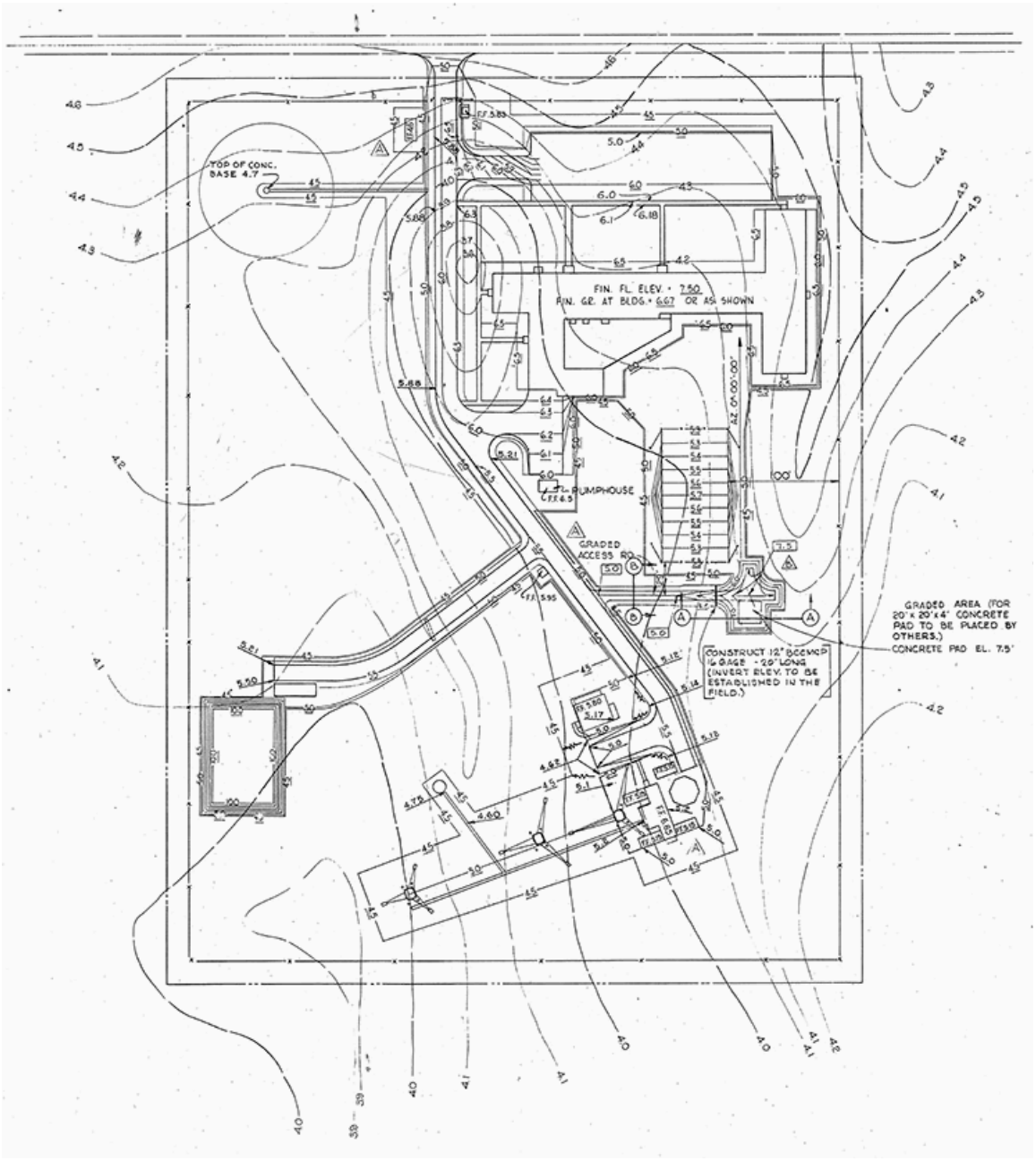


FIGURE 19. Original and as-built topography of the Control Area.



FIGURE 20. The road connecting the Control and Launch areas. Source: JMA, 2010.



FIGURE 21. The sewage drainfield in the Control Area. Source: JMA, 2010.



FIGURE 22. U-shaped berms surround each Launcher Section. One of the low utility berms is also visible. Source: JMA, 2010.



FIGURE 23. The crescent-shaped berm adjacent to the missile assembly and test building.
Source: JMA, 2010.



FIGURE 24. Mower wheels have damaged the berms. Source: JMA, 2010.



FIGURE 25. Launcher section B was used as a shooting range, damaging the berm. Source: JMA, 2010.

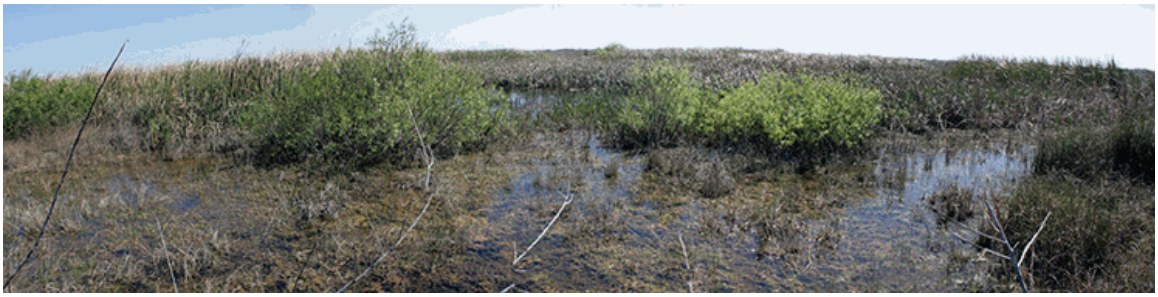


FIGURE 26. The borrow pit was used as a source of material to build the Launch Area berms. Source: JMA, 2010.



FIGURE 27. The Hole-in-the-Donut soil disposal mound intrudes on the historic viewshed. Source: JMA, 2010.

Vegetation

Most of the land surrounding the Nike Missile Site is classified as wetland habitat. Freshwater marl prairie, typically under water for three to seven months out of the year, is the dominant native ecosystem, surrounded by a mix of pinelands, tropical hardwood hammocks, and cypress. Native vegetation found within a marl prairie has a high degree of diversity, sometimes as many as 100 species, but almost always includes low sawgrass (Cladium jamaicense), and typically also includes several species of beaksedge (Rhynchospora divergens, R. microcarpa), spikerush (Eleocharis cellulosa), starrush whitetop (R. colorata), and muhly grass (Muhlenbergis capillaris). Other common species occurring within marl prairie include bluejoint panicum (Panicum tenerum), black sedge (Schoenus nigricans), rosy camphorweed (Pluchea rosea), and semaphore thoroughwort (Eupatorium mikanioides).

During the period of significance, much of the previously existing vegetation was removed from the Control and Launch Areas, as well as along the Launch Area Road. Other areas within the missile site boundary were left in their existing condition (Fig. 28). It is not known if this was abandoned agricultural vegetation or a native community at the time. Mown turf was established in the Control Area and some portions of the Launch Area (Fig. 29). According to one soldier stationed at the site, this grass was kept well-manicured and mowed frequently (2003 interview with Charles Carter). The extent of turf establishment in the Launch Area is unknown; today the area is mostly vegetated with low native grasses.

While there is no planting plan available from the 1960s when the missile site was developed, a site plan drawn in 1984 documenting existing conditions at the Control Area recorded a number of large trees and other plants that appear to have survived from the 1960s. These included West Indian mahogany (likely Swietenia mahogani),“lysoloma” (likely false tamarind, or Lysiloma latisiliquum), and satin leaf (likely Chrysophyllum oliviforme), as well as slash pine (Pinus elliottii) and scrub palmetto (likely saw palmetto or Serenoa repens), which were noted as being planted together in a mulched bed on the northeast corner of the front parking lot (Fig. 30).

Of these, seven mahogany remain today: one on the south side of the administration and barracks building in the partially-enclosed courtyard, four lining the entrance drive, one on the northeast side of the parking lot, and one at the northeast corner of the building (Figs. 31 through 33). Six false tamarind remain: three on the north side of the administration and barracks building and three on the southwest side of the generator building (Figs. 34 and 35). Of the nine slash pine noted on the 1984 plan, six remain (Fig. 36). One saw palmetto is extant in the area that was once a mulched bed, now mown Bermuda turf (refer to Fig. 30). The Spanish bayonet (Yucca aloifolia) planted around the visitor center sign is large enough to have survived from the period of significance; however, the date of its planting is not known. A planting bed is identified on the 1984 plan but the plants themselves are not labeled (Fig. 37).

There may have been additional ornamental vegetation planted in the Control Area when the

building was renovated for use as the Daniel Beard Research Center. Plants noted on the site in addition to those recorded in 1984 include sea grape (Coccoloba uvifera), buttonwood (Conocarpus erectus), and one royal palm (Roystonea regia) (refer to Fig. 33). These recently planted specimens are not considered to be contributing, since they were planted after the period of significance.

The as-built grading plan for the Launch Area specifies that each berm be "grassed and mulched." The plan notes call for a 4-inch marl blanket to be placed on areas to be grassed and mulched, so that the finished grade would coincide with the finished contour. It is unknown what type of grass was planted on the berms, or if the grass was kept mowed or left to grow. The berms are currently covered with a variety of native and non-native species, including some trees (Fig. 38). A volunteer program exists to remove larger, potentially damaging vegetation from the berms (Fig. 39). Native plant species commonly encountered on the mounds include poisonwood (Metopium toxiferum), live oak (Quercus virginiana), buttonsage (Lantana involucrata), blolly (Guapira discolor), Florida myrsine (Rapanea punctata), wire bluestem (Schizachyrium gracile), cheesytoes (Stylosanthes hamata), blue porterweed (Stachytarpheta jamaicensis), and varnish leaf (Dodonaea viscosa). Significant non-native, invasive plants species found on the mounds include Brazilian peppertree (Schinus terebinthifolius), elephantgrass (Pennisetum purpureum), leadtree (Leucaena leucocephala), Chinese brake fern (Pteris vittata), and Burma reed (Neyraudia neyraudiana).

Additional vegetation in the study area includes the variety of native and non-native plants currently growing on the Hole-in-the-Donut restoration project soil disposal mound. The individual species were not noted, but included trees, shrubs, annuals, and grasses, many of which are considered invasive in this area.

Character-defining Features:

Feature: Native grasses and plants

Feature Identification Number: 148941

Type of Feature Contribution: Contributing

Feature: Seven mahogany, six false tamarind, six slash pine, one saw palmetto, and mowed Bermuda grass in Control Area

Feature Identification Number: 148953

Type of Feature Contribution: Contributing

IDLCS Number: 91843

LCS Structure Name: Beard, Daniel, Research Center

LCS Structure Number: BRC-01

Feature: Spanish bayonet in Control Area

Feature Identification Number: 148955

Type of Feature Contribution: Undetermined

IDLCS Number: 91843

LCS Structure Name: Beard, Daniel, Research Center

LCS Structure Number: BRC-01

Feature: Other ornamental vegetation in Control Area

Feature Identification Number: 148945

Type of Feature Contribution: Non Contributing

IDLCS Number: 91843

LCS Structure Name: Beard, Daniel, Research Center

LCS Structure Number: BRC-01

Feature: Invasive species

Feature Identification Number: 148947

Type of Feature Contribution: Non Contributing

Feature: Berm vegetation

Feature Identification Number: 148949

Type of Feature Contribution: Non Contributing

IDLCS Number: 91870

Landscape Characteristic Graphics:



FIGURE 28. Native vegetation between the Control and Launch areas. Source: JMA, 2010.



FIGURE 29. Mown turf in the Control Area. Source: JMA, 2010.

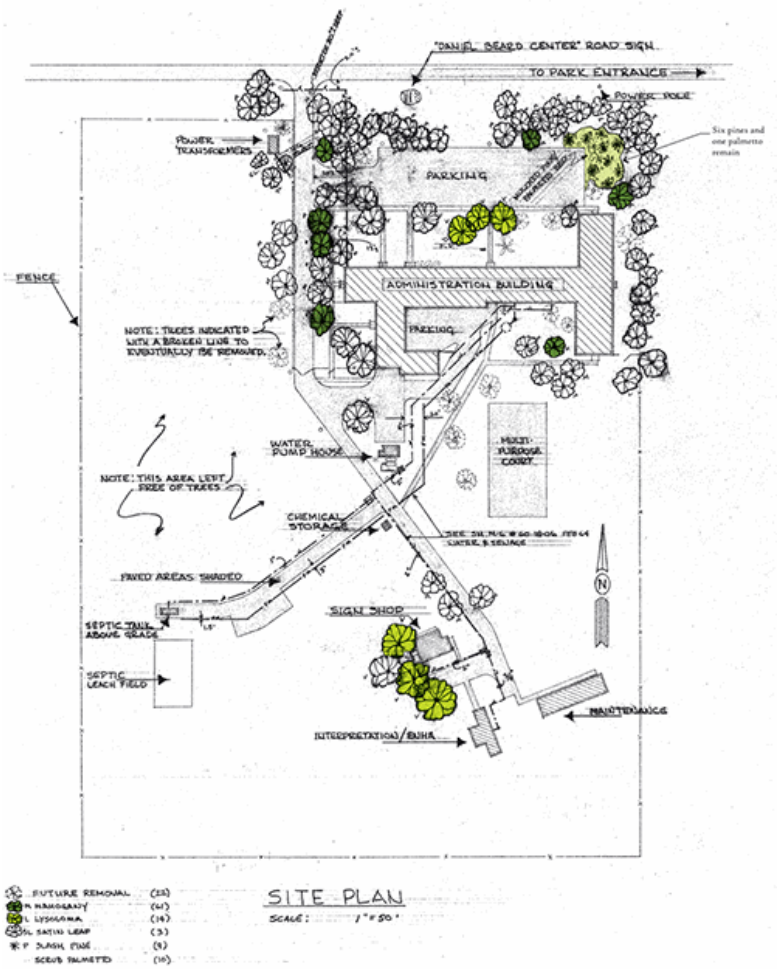


FIGURE 30. Landscape site plan for the Control Area, 1984. Remaining trees are highlighted in green. Source: NPS drawing 160-60327, "Daniel Beard Center Proposed Master Use Plan," August 8, 1984.



FIGURE 31. Mahogany trees, original to the site, line the entrance drive. Source: JMA, 2010.



FIGURE 32. The three southernmost mahogany trees that line the entrance drive. Source: JMA, 2010.



FIGURE 33. A mahogany tree (larger tree at right), in the partially enclosed courtyard of the administration and barracks building. Note the sea grapes in the foreground, which appear to be a post-1984 planting. Source: JMA, 2010.



FIGURE 34. Three of the remaining false tamarind (lysoloma) in the Control Area are located on the north side of the administration and barracks building. Source: JMA, 2010.



FIGURE 35. False tamarind (lysoloma) located at the southwest side of the generator building. Source: JMA, 2010.



FIGURE 36. Grouping of slash pines at the northeast corner of the parking lot. Note the saw palmetto at the base of the pine at far right. Source: JMA, 2010.



FIGURE 37. A group of Spanish bayonet surrounds the Daniel Beard Center entrance sign.
Source: JMA, 2010.



FIGURE 38. A variety of native and non-native species, including some trees, grows on the Launch Area berms. Source: JMA, 2010.



FIGURE 39. A volunteer program exists to clear the berms of damaging vegetation. Source: JMA, 2010.

Circulation

Many of the circulation features located within the missile site are remaining from the period of significance. These include the two major roads, Long Pine Key Road and Launch Area Road, the Launch Area loop road, smaller access roads and parking areas within the Control Area, concrete sidewalks, helicopter pads in the Control Area, and the former launch pads in the Launch Area.

Long Pine Key Road, now known as Research Road, leads to the site from the main highway through Everglades National Park. It is a 20-foot-wide, two-lane road, running east-west and paved with asphaltic concrete. The lanes are marked with a double yellow line and embedded reflectors (Fig. 40). The road was paved at about the same time as the missile site was under construction; prior to this it was likely a cleared marl path through the landscape.

Within the Control Area, primary circulation features branch from the asphaltic concrete road accessed from Long Pine Key Road. The access road, which approximately bisects the Control Area, is oriented north-south as it passes the west side of the Daniel Beard Center (administration and barracks building), and then turns toward the southeast corner of the site as it leads to the storage area, where the radar towers formerly stood (Fig. 41). Access to the portion of the road south of the administration and barracks building is controlled via a non-contributing chain link gate (Fig. 42). A branch of the road also leads to the drainfield on

the west boundary of the Control Area; it is also used as a helicopter landing area. An asphalt drive south of the administration and barracks building, leading from the pumphouse parking area to the back entrance of the Center, was constructed following the period of significance and has been patched with concrete in several places.

Secondary circulation within the Control Area consists of concrete sidewalks, asphalt parking areas, and several helipads. Concrete sidewalks run parallel to the north and west facades of the administration and barracks building, with perpendicular walks leading to each doorway; from two south entrances of the Center to the access road, between the pumphouse and athletic court; and from the south end of the access road to the various small buildings located in that area. Most of the concrete sidewalks likely date to the period of significance; a panel on the west side of the administration and barracks building has an inscription reading, "O – O 5TH REG ORE 1 MAR '68" (Fig. 43). Almost all of the sidewalks are in poor condition, with much cracking, settling, and spalling. The sidewalk running next to the pumphouse is overgrown with grass and is missing several panels (Fig. 44). There is also one non-contributing asphalt sidewalk, which runs from the west side of the administration and barracks building parking lot to a door on the building's north facade (Fig. 45).

Parking in the Control Area is concentrated mostly in the asphalt-paved lot north of the administration and barracks building (Fig. 46). Several other small parking areas are located along the access road between the administration and barracks building and the pumphouse, between the generator building and the interconnecting corridor building, and along the part of the access road leading to the drainfield (Fig. 47). The parking area near the drainfield was added following the period of significance; it is cracked and has grass growing along pavement seams.

In addition to these features, there are four helipads located in the Control Area, only one of which dates to the period of significance. Each is approximately 15 feet square; the historic helipad is concrete and is located north of the septic tank and sewage drainfield (Fig. 48). A 35-foot portion of the asphalt access road leading toward the drainfield, near the former paint and oil storage building, is also used as a helipad and is demarcated with painted yellow lines and a large yellow "H" (Fig. 49). Two other non-contributing concrete helipads are also located on the site. One pad is situated northeast of the historic helipad while the other is north of the generator building (Fig. 50).

The Launch Area Road is an approximately 1.5-mile-long road that connects the Control Area and the Launch Area. The road is 20 feet wide and also composed of asphaltic concrete. The road travels north-south from Long Pine Key Road for about 1.25 miles, turns east for another 0.25 miles, then turns south at the entrance to the Launch Area (Fig. 51). These turns were intentionally designed for security reasons, meant to slow vehicles and thus lower the possibility of ramming the gate.

Primary circulation within the Launch Area consists mainly of the asphaltic concrete loop road,

which is an extension of the Launch Area Road (Fig. 52). This road is 15 feet wide in most areas, though it widens at the missile assembly and test building. The wide area around the missile assembly and test building is paved in concrete, rather than asphalt. Paved pull-offs in the ready area were demolished when NPS began administrating the site, although this space is now used for parking during tours (Fig. 53). During the period of significance, the loop road had several access control points; however, with the exception of the main gate from the Launch Area Road, these control points no longer exist. Remnants of the control points, such as cut-off metal poles, are visible on the road in several places (Fig. 54). Several decorative symbols painted onto the road during the period of significance are still visible, including a compass near the entrance and a bird or a wasp between the missile assembly and test building and launcher section C (Fig. 55).

Circulation within each launcher section includes the launch pad, remains of the missile track, and the concrete sidewalks leading from the loop road to each bunker. Each launch pad opens to the loop road and has both asphaltic concrete and plain concrete-paved areas. Portions that would have supported the missile are paved in plain concrete, while the portion closest to the northeast arm of the berm is paved in asphaltic concrete (Fig. 56). The remains of the missile track system used to push the missiles out of the barns and into firing position on the launcher foundations are also visible (Fig. 57). The trenches have been filled in, but the metal edges of the trench and metal cement anchors that held the track supports are still embedded in the concrete pad (Fig. 58). The launch pads have been used by NPS for many years as storage yards, with metal tie-downs and painted lines added in relation to that function. Leading from the loop road to each bunker is a concrete sidewalk. The sidewalks are in poor condition, with much cracking, settling, and spalling (Fig. 59).

There are two unpaved roads found in the Nike Missile Site. One leads from the southwest corner of the Control Area to the Hole-in-the-Donut soil disposal mound, and the other leads from just outside the entrance to the Launch Area to the borrow pit (Figs. 60 and 61). The borrow pit road dates to the installation of the site, and has many areas of standing water.

Character-defining Features:

Feature: Long Pine Key Road (now known as Researc

Feature Identification Number: 148959

Type of Feature Contribution: Contributing

Feature: Launch Area Road

Feature Identification Number: 148963

Type of Feature Contribution: Contributing

IDLCS Number: 91869

Feature: Internal roads and parking areas in Control Area

Feature Identification Number: 148965

Type of Feature Contribution: Contributing

IDLCS Number: 91843

Feature: Control Area concrete sidewalks

Feature Identification Number: 148967

Type of Feature Contribution: Contributing

IDLCS Number: 91843

Feature: Control Area asphalt sidewalk

Feature Identification Number: 148969

Type of Feature Contribution: Non Contributing

IDLCS Number: 91843

Feature: Control Area helipad near septic tank and sewage drainfield

Feature Identification Number: 148971

Type of Feature Contribution: Contributing

IDLCS Number: 91843

Feature: Control Area other helipads

Feature Identification Number: 148973

Type of Feature Contribution: Non Contributing

IDLCS Number: 91843

Feature: Launch Area loop road

Feature Identification Number: 148975

Type of Feature Contribution: Contributing

IDLCS Number: 91869

Feature: Launch pads (missile yard)

Feature Identification Number: 148977

Type of Feature Contribution: Contributing

Feature: Bunker sidewalks

Feature Identification Number: 148979

Type of Feature Contribution: Contributing

Feature: Unpaved road to borrow pit

Feature Identification Number: 148983

Type of Feature Contribution: Contributing

Feature: Unpaved road to soil disposal mound

Feature Identification Number: 148985

Type of Feature Contribution: Non Contributing

Landscape Characteristic Graphics:



FIGURE 40. Long Pine Key Road. Source: JMA, 2010.



FIGURE 41. Control Area access road. Note chain link fence and bollards around the pumphouse. Source: JMA, 2010.



FIGURE 42. Access to the rear portion of the Control Area is restricted. Source: JMA, 2010.



FIGURE 43. An engraved panel of the concrete sidewalk along the west side of the administration and barracks building. Source: JMA, 2010.



FIGURE 44. The concrete sidewalk along the pumphouse complex is in poor condition. Source: JMA, 2010.



FIGURE 45. Asphalt and concrete sidewalks in front of the administration and barracks building. Source: JMA, 2010.



FIGURE 46. Asphalt parking lot in front of the administration and barracks building.
Source: JMA, 2010.



FIGURE 47. Cracked asphalt parking spaces near the Control Area drainfield. Source: JMA, 2010.



FIGURE 48. Historic helipad in the Control Area. Source: JMA, 2010.



FIGURE 49. Part of the sewage plant access drive used as a helicopter landing pad.
Source: JMA, 2010.



FIGURE 50. One non-historic helipad is located north of the generator building. Source: JMA, 2010.



FIGURE 51. The Launch Area Road turns just before it enters the gate. Source: JMA, 2010.



FIGURE 52. The asphaltic concrete loop road around the Launch Area. Source: JMA, 2010.



FIGURE 53. Tour groups park on the grass just inside the main gate, where the ready building originally stood. Source: JMA, 2010.



FIGURE 54. Remnants of the Launch Area security gates are still embedded in the loop road. Source: JMA, 2010.



FIGURE 55. A compass painted on the loop road. Source: JMA, 2010.

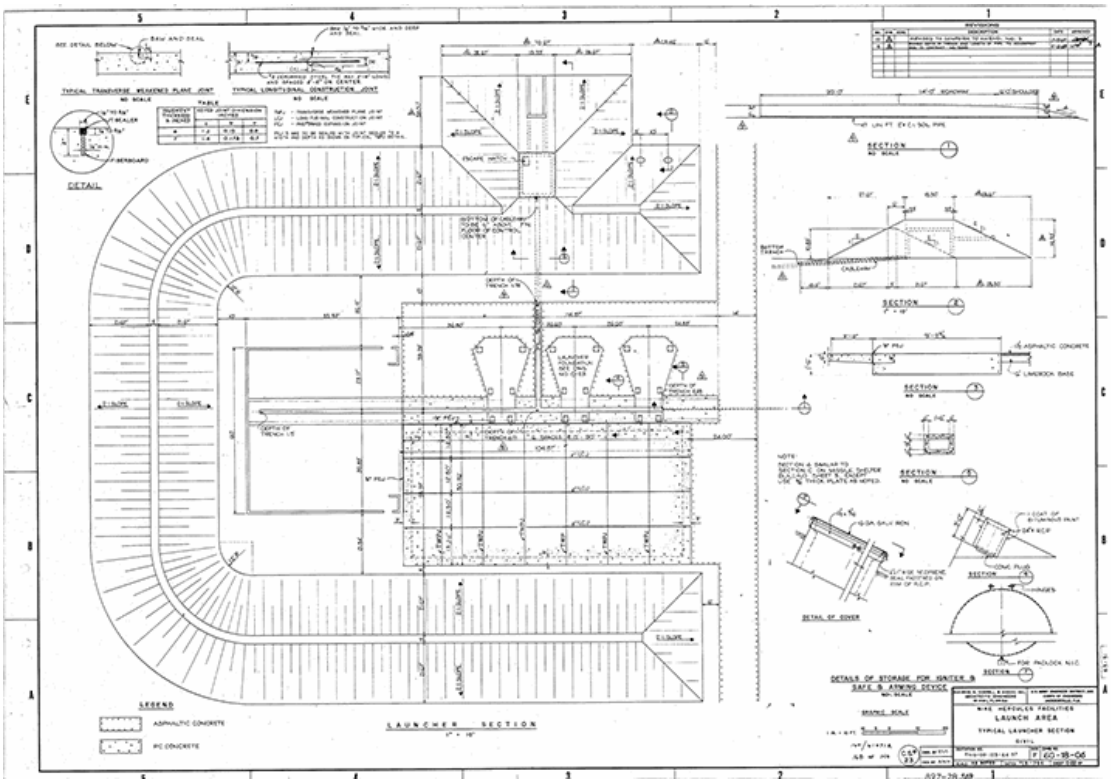


FIGURE 56. As-built construction plan of a typical Launcher Section, showing areas paved in concrete and areas paved in asphalt.



FIGURE 57. Launch pad, with remains of the missile-moving track. Source: JMA, 2010.



FIGURE 58. Remains of the missile-moving track, embedded in the concrete launch pad.
Source: JMA, 2010.



FIGURE 59. Concrete sidewalks lead from the loop road to each Launcher Section Control Center. Source: JMA, 2010.



FIGURE 60. Unpaved road to the Hole-in-the-Donut soil disposal mound, looking toward the Control Area. Source: JMA, 2010.



FIGURE 61. The unpaved road leading around the Launch Area to the borrow pit. Source: JMA, 2010.

Buildings and Structures

Buildings and structures that exist at the HM-69 Nike Missile Site were constructed circa 1964 to serve as facilities for the Nike-Hercules air defense unit. These facilities were located within the boundaries of the Everglades National Park on land previously owned by the Iori farming operation in the area known as the Hole-in-the-Donut. Like other Nike-Hercules sites constructed throughout the United States, the HM-69 Nike Missile Site was comprised of two distinct areas, a Launch Area and a Control Area (refer to Fig. 1). The designs of the buildings at the HM-69 Nike Missile Site were similar to those of the other south Florida missile defense sites.

The Control Area, located immediately south of Long Pine Key Road, consisted of the administration and barracks building, paint and oil storage, pumphouse, generator building, interconnecting corridor building, and several ancillary and support structures (refer to Fig. 2). During the period of significance, the Control Area was arranged with the barracks and recreation facilities (Administration Area) closest to the road, concentrated in the northeast portion of the parcel, and the radar assemblies and monitoring equipment facilities, known as Integrated Fire Control Area, located in the south and west portions of the parcel, giving them an unobstructed line of sight to the Launch Area. The entire complex was surrounded by a patrolled fence. The general arrangement of the Control Area today is similar in plan to the historic condition, although many of the vertical elements (radar towers and power poles), as

well as most of the security fencing and some of the structures, have been removed.

The administration and barracks building was constructed in 1964 and is located at the north end of the Control Area. The one-story masonry building has an exposed structure of cast-in-place concrete columns and beams infilled with concrete masonry unit (CMU) walls (Figs. 62 and 63). The typical window opening on the administration and barracks building contains two aluminum-framed two-over-two double-hung windows joined by an aluminum mullion with precast concrete sills. Each window opening has a wall-mounted retractable clam shell awning which is not original to the structure. A stucco-clad band wraps around the top of the walls below the roof fascia and above the concrete beam and the building has standing seam metal hip roofs.

The building has a modified T-shaped plan with the main entrances located on the north facade and distinguished by hip roof porticos. The entrance doors are painted steel flat panel double-doors with sidelights in a painted hollow steel frame recessed 6 feet from the face of the building. The stem of the T, herein referred to as the center wing, is organized along an east–west axis and originally contained officers' quarters, administrative offices, and dayrooms. A perpendicular cross wing is located at the east end of the main building and originally contained quarters for noncommissioned officers and enlisted men. The basic T-shaped plan is expanded by a south wing extending from the west end of the building. This wing originally contained the kitchen and dining room. A two-story mechanical room structure is attached to the southeast corner of the wing and an aluminum-framed enclosed screen porch was constructed along the west elevation at the corner where the kitchen/dining room wing meets the main wing.

The building has undergone alterations to transform it from a military barracks to its current function as a National Park Service office building. While still functioning as a barracks, the interior was altered in the 1970s to improve living conditions for military personnel. In 1983–1984, the interior was extensive renovated to transform the barracks into an administrative center for the National Park Service. Damage caused by Hurricane Andrew in 1992 resulted in alterations to the building. Initially constructed with a shed roof, new truss-framed standing seam metal hip roofs were constructed over the existing roof. The stucco-clad panels were applied along the perimeter of the roof to cover the exposed truss members.

The paint and oil storage, pumphouse, generator building, and interconnecting building were all constructed in 1964 and functioned as part of the IFC section of the Control Area. The paint and oil storage is a small one-story structure constructed of CMU walls capped by a cast-in-place concrete bond beam (Fig. 64). The one room building has a wood-framed shed roof and is defined by its current bright red coating with white trim. The main entrance is located on the east elevation and consists of a flat panel steel door with a white finish coat. The structure has a punched window opening on the west elevation with a wood-framed louver.

The pumphouse is a one-story concrete-framed structure comprised of concrete columns and

beams infilled with CMU walls (Fig. 65). The wood-framed shed roof structure has built-up roofing, a hooded metal exhaust vent, metal gravel stop and drip edge, and plywood eaves. The building has a rectangular plan and consists of two components, an original water pump room and a small storage addition. The water pump room is accessed through a metal-framed louver-paneled door on the north elevation. A plywood-framed door on the west elevation provides access to the storage addition. A window opening is located on the west elevation and consists of an aluminum-framed two-over-two double-hung window and precast concrete sill. Water tanks are adjacent to the pumphouse and are supported on concrete cradle slabs.

The generator building is a one-story structure consisting of two components: a generator room and a restroom addition (Figs. 66 and 67). The generator room is constructed of concrete columns and beams infilled with CMU. The low-slope shed roof structure is supported on metal bar joists. The restroom addition is attached to the generator room and is constructed of CMU. The main entrance to the building is located on the west elevation and has been boarded up with plywood. A second entrance on the east elevation consists of a painted steel flat panel door with painted steel frame and concrete sill. Typical window openings on the south, east, and west elevations have a concrete sill and contain aluminum-framed double-hung windows. Four large openings, which at one time each contained a set of louvered double-doors, have been infilled with vertical board siding and a non-original stacked four awning window group. The generator building is in disrepair and is abandoned.

The interconnecting corridor building is a one-story building constructed of concrete columns and beams with CMU infill and a shed roof supported on metal bar joist framing (Figs. 68 and 69). There are four door openings located on the north and south elevations, one of which has been completely infilled with CMU. The remaining door openings have been partially infilled with CMU and contain a painted steel flat panel with painted steel frames and concrete sills. Concrete stairs and platforms are located in front of each entry point and provide a transition between grade level and the interior floor height. Window openings are located on the east and west elevations. Two aluminum-framed double-hung windows separated by an aluminum mullion are located in the window opening on the east elevation. Wood-framed louvered windows are located in west facade window openings. Upon completion, the building provided mechanical support, storage, and a common space for the radar control, battery control, and alternate battery acquisition radar (ABAR) tower control telecommunication trailers. The three trailers were connected to the building through large openings in the east and west facades. When the trailers were removed in 1985, openings in the interconnected corridor building were infilled with CMU. The building is in disrepair and is abandoned.

The general purpose warehouse is a one-story building with a corrugated sheet metal gabled roof, painted stucco wall cladding, and four steel overhead garage doors (Fig. 70). The rear of the garage has four windows with corrugated metal covers. This building was significantly altered in the mid-1980s, when all of its exterior wall and roof cladding was replaced and the garage doors were installed. Due to a loss of integrity, this building is considered non-contributing in the National Register nomination.

The septic tank is a small structure constructed circa 1983–1984 adjacent to the original sewage drainfield, replacing the previous sewage treatment plant (Fig. 71). The septic tank is a reinforced concrete rectangle, approximately 13 feet by 6 feet in plan, with a flat roof. It is surrounded by a 16 inch high concrete masonry curb. The septic tank is connected by above ground cast iron piping to drain piping from the administration and barracks building and to the adjacent sewage drainfield.

The Launch Area, located approximately one mile from the Control Area, is the area of the site in which Nike missiles were assembled, tested, and stored, and from which they would have been launched (refer to Fig. 3). During active military use, the approximately triangular Launch Area was divided into three distinct sections or clusters, with each cluster surrounded by security fencing. A patrolled, barbed-wire-topped security fence surrounded the entire area. At the entrance to the complex was the Ready Area, which contained the site administrative and general maintenance facilities, all demolished in 1985. A gate at the south end of the ready area led to the Missile Assembly Area, which contained the canine kennels and support buildings, as well as the missile assembly and test building. The third and largest area contained all three missile shelter buildings, berms, bunkers, and launch pads.

The missile assembly and test building consists of 14-foot tall warehouse building on the north and a one-story attached support wing along the south elevation (Figs. 72 and 73). Constructed in one phase, the concrete-framed structure has CMU infill walls between framing members and a low-slope offset gable roof. Nine foot wide steel roller doors with an encased overhead drive are located on the east and west elevations and provide direct access of equipment to the warehouse portion of the building. Pedestrian-sized door openings are located on the west and south facades. Typical doors on the south facade consist of painted steel flat panel doors with painted steel frames and concrete sills, while doors on the west facade have been boarded up with plywood. There are eight window openings on the missile assembly and test building; two on each of the south and east elevations and four on the north elevation. Typical windows are aluminum-framed two-over-two double-hung with concrete sills. One window opening on the south facade has been infilled with CMU. The two window openings on the east elevation have been boarded up with plywood. A character defining feature of the building exterior is a 13-foot-tall mural of a Nike missile prepared for launch (refer to Fig. 72). The image was painted directly on the CMU infill material.

The interior of the missile assembly and test building has a rectangular plan with the primary space being the warehouse. The room has an exposed concrete floor and steel girder roof framing. A steel hoist track with hoisting equipment spans east-west across the roof framing members. Ghosting on the south wall and presence of 10 inch square vinyl tile at the southeast corner of the warehouse indicate a previously existing stock room enclosure with partial height walls. The one-story support wing, located at the south end of the building, houses the first aid room, restroom, and boiler room. Where accessible to view during this survey, the rooms have 10 inch square vinyl tile flooring adhered to the concrete slab, a gypsum board ceiling mounted

to a steel bar joist roof assembly, and exposed electrical conduit and plumbing. Access between the warehouse and support wing are through either a plywood-framed door opening in the first aid room or a steel-framed door opening in the restroom.

There are three missile shelter buildings located along a perimeter road and clustered on the west side of the Nike Missile Launch Area. Each shelter is identified by a letter, with missile shelter building A the northernmost structure, missile shelter building B located to the east, and missile shelter building C to the south. The shelters are gable roof structures oriented on a southeast-northwest axis, with a rolling door located on the southeast elevation and a reinforced concrete launch pad in front of the entrance. A horseshoe-shaped earthen berm partially surrounds each shelter and covers the concrete bunker.

All three missile shelter buildings are constructed with exposed concrete structural columns and beams covered with a cementitious parge coat. CMU infill walls are set in a running bond within the exposed structural frame (Fig. 74). The building is capped by a steel truss-framed gable roof clad with corrugated cement asbestos panels. The panels cover the roof structure, gable ends, and upper portion of the side walls. The entrance consists of two multi-panel steel rolling doors mounted to a continuous steel beam and supported by braced steel pipe A-frame structures. The rolling door framework and supports extend 18 feet beyond the corners of the building. Two fixed louvered vents are centered on each end gable. Door openings are located at the southeast end of both the southwest and northeast elevations and contain painted steel flat panel doors with painted steel frames. The three missile shelter buildings are distinguished by their interior furnishing and paint coatings. missile shelter building A was unique in that it was the only one of the missile shelters to contain interior loft structures. The walls have a paint coating of white, blue, and tan arranged in horizontal bands and various stenciled images (Fig. 75). Missile shelter building B has curve-faced light fixtures mounted to the CMU wall approximately 2 feet above the finished floor height, fluorescent light boxes mounted to the bottom chord of the truss roof framing, and a paint coating of red, white, and blue arranged in horizontal bands. A red and blue “B” is stenciled on the concrete floor slab (Fig. 76). Missile shelter building C has a paint coating of orange, yellow, and cream arranged in horizontal bands (Fig. 77).

To the southeast in front of each missile shelter building is a paved launch pad paved with concrete and asphalt (Fig. 78). The paving is divided into two sections by a 10 foot wide concrete strip, flush with the surrounding pavement, which extends through the missile shelter building and across the launch pad. This concrete strip is an original trench, now infilled, that served as part of the transport for missiles from the shelter to the launch pad. On the northeast portion of the launch pad, the strip is perpendicularly bisected by a secondary path that leads to a bunker embedded in the enveloping berm. Three eight-sided polygonal foundations also bisect the strip. Each foundation has six metal plates embedded and anchored at the corners. The southwest section of the launch pad has an asphaltic concrete topping over the original concrete paving.

The earthen berm surrounding the missile shelter building is approximately 11 feet tall and surrounds the shelter as well as the concrete launch pad. The berm is horseshoe-shaped and conceals a concrete bunker within the slope at the northeast side of each earthen berm. Each bunker is generally covered by the earthen berm with the exception of the main entrance, an escape hatch, and two concrete storage wells. The bunkers are accessed through a main entrance on the northeast. The main entrance consists of a concrete wall with a door opening topped by a concrete end beam that spans between two 12 inch thick sloped concrete retaining walls (Fig. 79). The door is constructed of painted plywood strapped and fastened to exterior galvanized steel sheet metal cladding, mounted to a painted steel frame with three metal strap hinges attached to the exterior face of the door. Construction documents refer to the wood core door with sheet-metal cladding as “Kalamein” construction. Above the door entrance is a concrete slab surrounded on three sides by concrete retaining walls. Historically, the slab supported an air conditioning condenser unit used for conditioning of the bunker interior. Atop the earthen berm is a concrete-framed escape hatch opening with steel roof hatch assembly (Fig. 80). Two, 2 foot diameter concrete storage wells are embedded in the earthen berm and located approximately 50 feet southeast of the bunker entrance (Fig. 81).

Each bunker consists of three rooms arranged along a linear plan starting with the entry vestibule, which provides access to the support room which transitions to the console room. Interior construction consists of concrete walls, floor, and ceiling, and CMU partition walls. Between each room is an interior Kalamein composite door. The support room and console room have a suspended perforated cement-asbestos panel ceiling. The support room houses electrical and security panels and provides access to the escape hatch. The console room was a center of communication between the missile shelter building and launch pad. A duct opening on the southwest wall of the console room connected to a telecommunications trench, subsequently filled in with concrete, in the concrete paved launch pad. The bunkers are differentiated by their interior paint coatings, which also relate to the interior paint of the adjacent missile shelter building. For example, missile shelter building B and bunker B both have paint coatings consisting of horizontal bands of red and blue (Figs. 82 through 84). Bunker C is also distinguished by a stenciled image of a Nike missile in flight located on the southwest wall of the console room (Fig. 85).

The canine support building is located at the south end of the Nike Missile Launch Area in close proximity to the missile assembly and test building. The building is oriented on an east-west axis and has a wood-framed shed roof. The CMU structure is capped by a reinforced concrete tie beam with the high point of the roof on the south and sloping to the north (Fig. 86). An 8-foot-tall chain link security fence with barbed wire extends from the corners of the east elevation of the canine support building and encloses a pen. The door opening to the building is centered on the east elevation and contains a six panel hollow core door. Window opening are centered on the south and west elevations and consists of two stacked aluminum-framed awning windows. The one room interior of the canine support building contains a wood-framed counter, shelving, and a utility sink. The wood-framed roof is deteriorated and the building interior is exposed to the elements.

Character-defining Features:

Feature: Administration and Barracks Building (circa 1964, altered 1970s, 1983–1984, and 1993–1994; NPS drawing 160-61071A and B, original drawing 30-07-18)

Feature Identification Number: 148987

Type of Feature Contribution: Contributing

IDLCS Number: 91843

Feature: Pumphouse (circa 1964)

Feature Identification Number: 148989

Type of Feature Contribution: Contributing

IDLCS Number: 91845

Feature: Paint and Oil Storage (circa 1964)

Feature Identification Number: 148991

Type of Feature Contribution: Contributing

IDLCS Number: 91847

Feature: Generator Building (circa 1964, altered circa 1985; NPS drawing 160-61071A and B, original drawing 26-03-91)

Feature Identification Number: 148993

Type of Feature Contribution: Contributing

IDLCS Number: 91844

Feature: Interconnecting Corridor Building (circa 1964, altered circa 1985; NPS drawing 160-61071A and B, original drawing 26-24-03)

Feature Identification Number: 148999

Type of Feature Contribution: Contributing

IDLCS Number: 91846

Feature: General Purpose Warehouse (circa 1964, altered circa mid-1980s)

Feature Identification Number: 149001

Type of Feature Contribution: Non Contributing

Feature: Septic Tank (1983–1984, see NPS drawings 160-80003 and 160-60318A)

Feature Identification Number: 149003

Type of Feature Contribution: Non Contributing

Feature: Missile Assembly and Test Building (circa 1964; NPS drawing 160-61071A and B, original drawing 35-60-29)

Feature Identification Number: 149005

Type of Feature Contribution: Contributing

IDLCS Number: 91867

Feature: Missile Shelter Building A (circa 1964; NPS drawing 160-61071A and B, original drawing 60-18-06)

Feature Identification Number: 149029

Type of Feature Contribution: Contributing

IDLCS Number: 91865

Feature: Missile Shelter Building B (circa 1964; NPS drawing 160-61071A and B, original drawing 60-18-06)

Feature Identification Number: 149031

Type of Feature Contribution: Contributing

IDLCS Number: 91864

Feature: Missile Shelter Building C (circa 1964; NPS drawing 160-61071A and B, original drawing 60-18-06)

Feature Identification Number: 149033

Type of Feature Contribution: Contributing

IDLCS Number: 91863

Feature: Berm and Bunker A (circa 1964; NPS drawing 160-61071A and B, original drawing 60-02-62)

Feature Identification Number: 149035

Type of Feature Contribution: Contributing

Feature: Berm and Bunker B (circa 1964; NPS drawing 160-61071A and B, original drawing 60-02-62)

Feature Identification Number: 149045

Type of Feature Contribution: Contributing

Feature: Berm and Bunker C (circa 1964; NPS drawing 160-61071A and B, original drawing 60-02-62)

Feature Identification Number: 149047

Type of Feature Contribution: Contributing

Feature: Canine Support Building (circa 1964; NPS drawing 160-61071A and B, original drawing 60-18-06)

Feature Identification Number: 149049

Type of Feature Contribution: Contributing

Landscape Characteristic Graphics:



FIGURE 62. East elevation of the administration and barracks building. Source: WJE, 2010.



FIGURE 63. Southwest elevation of administration and barracks building. Source: WJE, 2010.



FIGURE 64. North elevation of the paint and oil storage building. Source: WJE, 2010.



FIGURE 65. View from northwest of the pumphouse. Source: WJE, 2010.



FIGURE 66. North elevation of the generator building. Source: WJE, 2010.



FIGURE 67. East elevation of the generator building. Source: WJE, 2010.



FIGURE 68. West elevation of the interconnecting corridor building. Source: WJE, 2010.



FIGURE 69. South elevation of the interconnecting corridor building. Source: WJE, 2010.



FIGURE 70. North elevation of the general purpose warehouse. Source: JMA, 2010.



FIGURE 71. Septic tank. Source: JMA, 2010.



FIGURE 72. View from the southeast of the missile assembly and test building. Source: WJE, 2010.

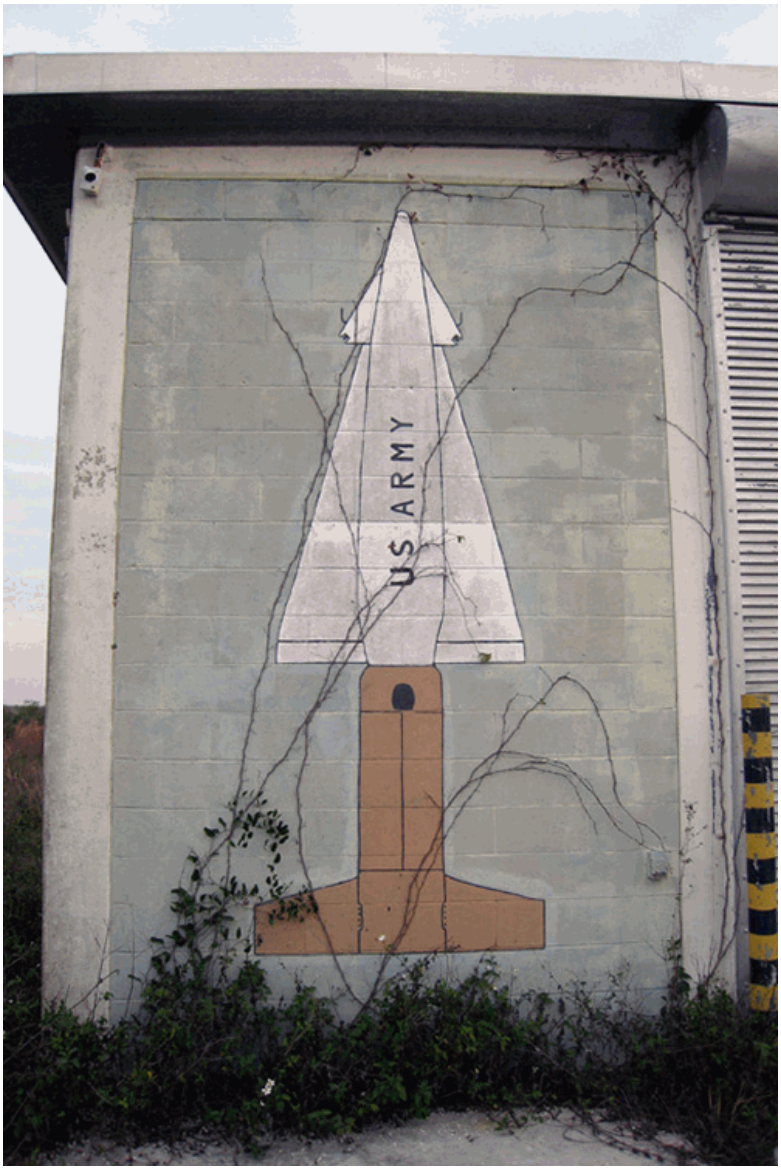


FIGURE 73. Mural on west elevation of a Nike missile prepared for launch. Source: WJE, 2010.



FIGURE 74. Typical southeast elevation of the missile shelter buildings. Source: WJE, 2010.



FIGURE 75. Interior paint coating in missile shelter building A with wood-framed loft.
Source: WJE, 2010.



FIGURE 76. Interior of missile shelter building B with curve-faced wall-mounted light fixtures. Source: WJE, 2010.



FIGURE 77. Interior of missile shelter building C. Source: WJE, 2010.



FIGURE 78. Typical launch pad pavement. Source: WJE, 2010.



FIGURE 79. Typical entrance area to bunkers. Source: WJE, 2010.



FIGURE 80. Steel escape hatch for bunkers. Source: WJE, 2010.



FIGURE 81. Concrete storage well embedded in earthen berm. Source: WJE, 2010.



FIGURE 82. Interior of entry vestibule at bunker A. Source: WJE, 2010.



FIGURE 83. Interior of entry vestibule at bunker B. Source: WJE, 2010.



FIGURE 84. Sloped concrete retaining wall at entrance of bunker C. Source: WJE, 2010.

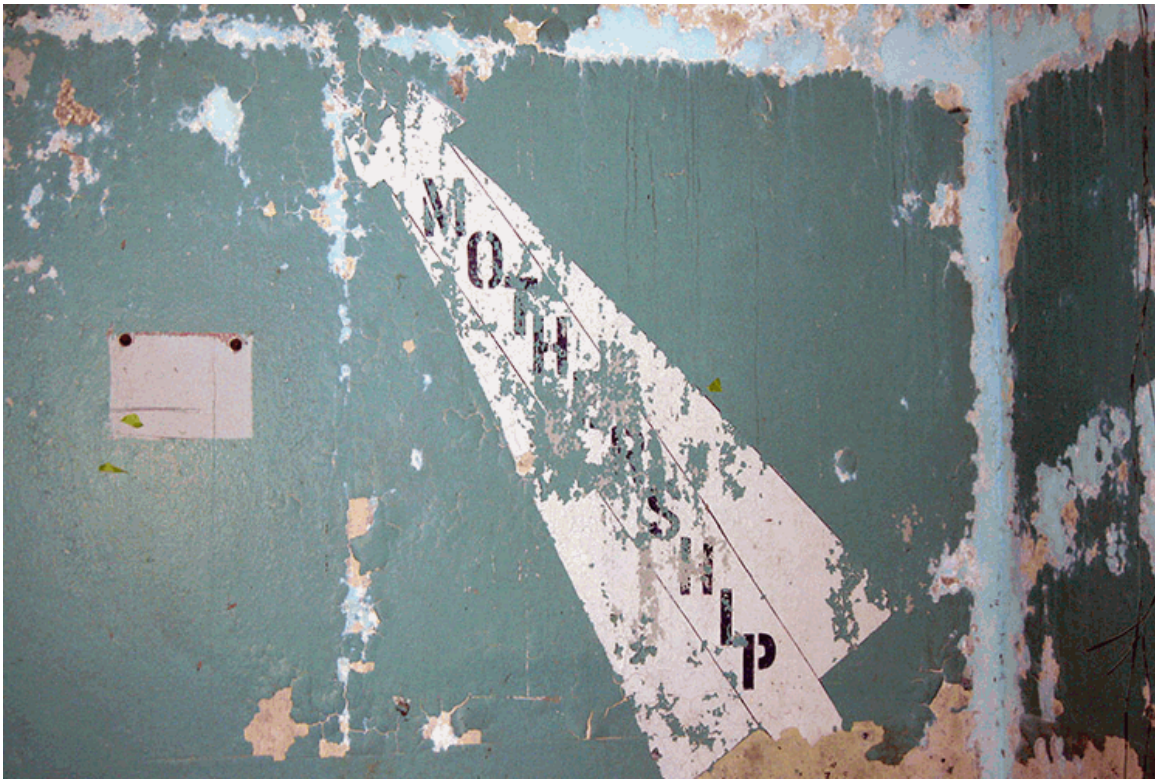


FIGURE 85. Stenciled mural in console room of bunker C. Source: WJE, 2010.



FIGURE 86. View from northwest of canine support building. Source: WJE, 2010.

Views and Vistas

Contributing views within the Nike Missile Site include the direct line-of-site from the Control Area to the Launch Area, and the directed views created by the U-shaped launch section berms. The direct view from the Control Area to the Launch Area was a requirement of the safety and security regulations. This view still exists, though there is some intrusion from tall vegetation and the Hole-in-the-Donut restoration soil disposal mound (described below). The directed views from within each Launch Section berm also still exist. These were not designed views, but resulted from the U shape and height of the protective berms.

Recent restoration efforts in the Hole-in-the-Donut area have resulted in enormous soil disposal mounds scraped from areas infected with Brazilian pepper. One of these soil disposal mounds is within the boundaries of the Nike Missile Site, southwest of the Control Area. The 20-acre mound intrudes into the line-of-sight from the Control Area to the Launch Area, threatening the historic viewshed.

Character-defining Features:

Feature: View to and from Control Area and Launch

Feature Identification Number: 149053

Type of Feature Contribution: Contributing

Feature: Directed/blocked view from within launch

Feature Identification Number: 149055

Type of Feature Contribution: Contributing

Feature: Intrusion of the Hole-in-the-Donut soil

Feature Identification Number: 149057

Type of Feature Contribution: Non Contributing

Constructed Water Features

Constructed water features within the Nike Missile Site consist of the borrow pit adjacent to the Launch Area, drainage structures and swales located in the Launch Area and along the Launch Area Road, and a concrete mop basin in the Control Area.

The borrow pit was the source of much of the fill material for the topographic modifications in the Control Area and the Launch Area. It had a rectangular shape and was approximately 500 feet long. Although the pit has been mostly filled in, standing water can still be observed in several areas. The National Register nomination lists this feature as a non-contributing structure due to its loss of integrity. It is notable as the source of building materials for contributing features within the study area.

The as-built construction plans of the base show a total of eleven drainage structures corresponding with drainage swales, with eight drainage structures in the Launch Area and three along the Launch Area Road. Each drainage structure is composed of two concrete headwalls connected by one 15-inch or two 18-inch corrugated metal pipes. Only two structures in the Launch Area have a double pipe elevation; the double-pipe structures collected a greater volume of runoff, which drained into the borrow pit (Fig. 87). Not all of the drainage structures were located and observed in the field, but it is likely that most of the structures, if not all, are extant. Those that were observed have some damage, include chipping caused by vehicles, spalling, and biological growth.

Within the Control Area, a concrete feature with a floor drain is located adjacent to the administration and barracks building. Labeled as a “refuse can wash” on the original construction plans, this features is also commonly called a mop basin (Fig. 88).

Character-defining Features:

Feature: Borrow pit

Feature Identification Number: 149059

Type of Feature Contribution: Non Contributing

Feature: Launch Area swales and drainage structures

Feature Identification Number: 149063

Type of Feature Contribution: Contributing

Feature: Mop basin

Feature Identification Number: 149071

Type of Feature Contribution: Contributing

Landscape Characteristic Graphics:



FIGURE 87. A drainage structure with a double pipe elevation. Source: JMA, 2010.



FIGURE 88. Concrete feature adjacent to the administration and barracks building, identified as a mop basin. Source: JMA, 2010.

Small Scale Features

Small-scale features found in the Nike Missile Site are found in the Control Area and the Launch Area. Within the Control Area, small-scale features consist of both historic and non-historic features; in the Launch Area, small-scale features are almost entirely historic.

Non-contributing small-scale features within the Control Area are generally related to the current administrative site uses, which include research, museum services, and volunteer training. These features include regulatory and informational signs, a green dumpster in front of the administration and barracks building, outdoor patio tables and chairs behind the center, a chain link fence and bollards surrounding the pumphouse, equipment related to the helipads adjacent to the paint and oil storage, wind socks, a chain link fence surrounding the former athletic court, tanks and pumps associated with aquatic invertebrate and fish research, a solar panel box in the southeast corner of the site, air conditioning condenser units located behind the administration and barracks building, three dry hydrants in various locations, and a light post in the lawn in front of the administration and barracks building (Figs. 89 through 96. Also refer to Fig. 41).

Contributing small-scale features in the Control Area are those features that were integrated in the site and therefore could not practically be moved elsewhere, or which did not need to be moved. The most prominent remaining feature is the athletic court, located south of the

administration and barracks building. The court was designed to accommodate five different sports: basketball, tennis, volleyball, badminton, and shuffleboard. Measuring 60 feet by 120 feet, the court is composed of three paved sections. The middle section measures 94 feet long and is paved with asphaltic concrete over 4 inches of limerock, and was originally painted with four sets of differently colored lines to distinguish sports; the end sections, measuring 13 feet long, accommodated the shuffleboard courts and are paved with plain cement concrete (Fig. 97). The painted lines do not appear to be visible any longer. Ten-foot-tall chain link fencing stood on both ends of the court, running the 60 foot length of the court and then turning outward toward the center of the court at 30 degree angles. Only the south fence is still standing. Each end of the court also featured a regulation-height galvanized steel basketball goal, embedded in one-foot-square concrete bases. The north goal has been removed and the south goal is still standing, although the hoop is bent at an unusable angle (Fig. 98). The Athletic Court is now used to house mesocosm tanks for aquatic invertebrate and fish research, and is surrounded by a barbed-wire-topped chain link fence. A single light pole standing along the western edge of the court may or may not be historic; it does not appear on construction plans for the court, but may have been added to increase visibility for the soldiers using the facility.

A concrete picnic table and benches made from concrete blocks and poured concrete slabs is located in the grassy area between the research center and the athletic court (Fig. 99). Peeling paint on the concrete block supports indicated that they have been painted a variety of colors. An 8-foot-square concrete slab located in the same area has rectangular markings suggesting that an identical table and bench set once existed (Fig. 100).

A section of fencing running along Long Pine Key Road west of the Control Area road is remaining from the period of significance. The chain link fencing has a “Keep Out” sign tied with wire to its westernmost section (Fig. 101).

The septic field in the Control Area is lined on two sides with concrete posts, painted yellow. The posts are four inches square, placed about five feet apart on the south and west sides of the septic field (Fig. 102).

A number of small concrete footings remaining from the radar towers and other features are located in the Control Area. Four rectangular footings in the northwest portion of the site likely held tie-downs for the boresight mast (Fig. 103). A circular concrete footing in front of the administration and barracks building held a flagpole that has since been removed from the site (Fig. 104). The footing extends at least five feet into the ground. A variety of concrete objects, most of which have some embedded metal pieces, are located in the southern part of the site and were likely related to the radar towers that stood in this location (Figs. 105 through 107).

There are several features within the Control Area of unknown origin. They may date to the period of significance, but not enough is known about them to make a clear determination of their significance. These features include: wheel stops in the parking lot and small parking area near the pumphouse, a concrete and metal box in the septic field, and the pipes and pipe

supports connected to the septic field (Figs. 108 through 110).

Most of the small-scale features within the Launch Area are remaining from the period of significance. Non-contributing features include the post and chain gate across the entrance to the borrow pit road, a replica sign used for interpretation just inside the main gate (the original sign is housed in one of the missile barns), metal tie-downs embedded in the launch pads used to secure boats and other equipment during storm events, and a dry hydrant located adjacent to the missile assembly and test building (Figs. 111 through 113). A green fiberglass object located along the borrow pit road is of unknown origin (Fig. 114).

Contributing small-scale features, with the exception of a small warning sign bolted to the front gate, and remaining sections of the 10-foot, barbed-wire-topped, chain link fence, are utility-related, as these were the only objects aside from the buildings that were too integrated into the site to be removed and reused at other sites following decommission (Figs. 115 and 116).

Just outside the main gate is a single wooden utility pole, referred to on the as-built construction document set as a "secondary service pole" and a "meter pole," which held an electrical meter and current transformer cabinet, and connected to a transformer pole (not extant) via overhead wires (Fig. 117). The meter box and the transformer cabinet as well as wire connectors at the top of the pole, still exist (Fig. 118). Underground cables and a telephone cable (which also appears to be underground, based on the as-built construction drawings) also led from the pole to buildings in the Ready Area. These cables extended to various places throughout the site and were carried underground in trenches when crossing a roadway (Fig. 119) but were otherwise carried above ground in cable trays. Six inch diameter metal conduits, painted in black and yellow stripes, carried cables into each bunker, but only the conduits at bunker B are extant (120). A 4x4 creosoted wooden post, painted yellow and embedded in a concrete base, is located adjacent to the conduits and was likely used for support (121 and 122). Other small-scale features related to the overall utility system include manhole covers for water, sanitary sewer, and storm sewers and a dry hydrant located adjacent to the missile assembly and test building (Fig. 123).

Each of the launcher sections has a number of small-scale features that are found at each section. Each of the U shaped berms has metal lightning rods embedded at regular intervals along the top ridge, and three protective lighting luminaires on the inside of the each of the berm arms (with the exception of the south side of berm C) (Figs. 124 and 125). Metal plates associated with the launch mechanisms and round metal concrete anchors associated with missile-moving track are still embedded in the concrete launch pads. Each berm also has two round, yellow-painted metal containers with hinged covers embedded into the north arm of the berm between the bunker and the loop road. These containers stored the igniter and safe arming devices (Fig. 126).

Character-defining Features:

Feature: Regulatory and informational signs in Control Area

Feature Identification Number: 149077

Type of Feature Contribution: Non Contributing

Feature: Dumpster in Control Area

Feature Identification Number: 149079

Type of Feature Contribution: Non Contributing

Feature: Patio tables and chairs in Control Area

Feature Identification Number: 149137

Type of Feature Contribution: Non Contributing

Feature: Sewage Drainfield in Control Area

Feature Identification Number: 149139

Type of Feature Contribution: Contributing

Feature: Chain link fence and bollards around pumphouse

Feature Identification Number: 149141

Type of Feature Contribution: Non Contributing

Feature: Helipad equipment

Feature Identification Number: 149143

Type of Feature Contribution: Non Contributing

Feature: Scientific equipment (wind socks, mesocosm tanks, solar panel box)

Feature Identification Number: 149145

Type of Feature Contribution: Non Contributing

Feature: Athletic court (court, backstop, chain link fence)

Feature Identification Number: 149147

Type of Feature Contribution: Contributing

Feature: Concrete picnic table

Feature Identification Number: 149149

Type of Feature Contribution: Contributing

Feature: Remnant fencing and sign

Feature Identification Number: 149151

Type of Feature Contribution: Contributing

Feature: Concrete posts around septic field

Feature Identification Number: 149161

Type of Feature Contribution: Contributing

Feature: Concrete footings in Control Area (e.g., flagpole base, boresight mast footings)

Feature Identification Number: 149163

Type of Feature Contribution: Contributing

Feature: Wheel stops in Control Area

Feature Identification Number: 149165

Type of Feature Contribution: Undetermined

Feature: Concrete and metal box in septic field

Feature Identification Number: 149167

Type of Feature Contribution: Undetermined

Feature: Pipes and pipe supports in septic field

Feature Identification Number: 149169

Type of Feature Contribution: Undetermined

Feature: HVAC Units in Control Area

Feature Identification Number: 149171

Type of Feature Contribution: Non Contributing

Feature: Dry Hydrants in Control Area

Feature Identification Number: 149189

Type of Feature Contribution: Non Contributing

Feature: Light post in Control Area parking lot

Feature Identification Number: 149191

Type of Feature Contribution: Non Contributing

Feature: Post and Chain fence across road to Borrow Pit

Feature Identification Number: 149193

Type of Feature Contribution: Non Contributing

Feature: Replica sign

Feature Identification Number: 149207

Type of Feature Contribution: Non Contributing

Feature: Metal tie-downs embedded in launch pads

Feature Identification Number: 149209

Type of Feature Contribution: Non Contributing

Feature: Green fiberglass object

Feature Identification Number: 149211

Type of Feature Contribution: Undetermined

Feature: Fence remnants in Launch Area

Feature Identification Number: 149213

Type of Feature Contribution: Contributing

Feature: Sign bolted to Launch Area gate

Feature Identification Number: 149215

Type of Feature Contribution: Contributing

Feature: Remaining power pole at Launch Area

Feature Identification Number: 149217

Type of Feature Contribution: Contributing

Feature: Sewer lines and manhole covers in Launch Area

Feature Identification Number: 149237

Type of Feature Contribution: Contributing

Feature: Communication trench(es)

Feature Identification Number: 149239

Type of Feature Contribution: Contributing

Feature: Metal cable conduits at Bunker B

Feature Identification Number: 149241

Type of Feature Contribution: Contributing

Feature: Wooden post support for cable trays at Bunker B

Feature Identification Number: 149243

Type of Feature Contribution: Contributing

Feature: Dry Hydrant adjacent to missile assembly and test building

Feature Identification Number: 149259

Type of Feature Contribution: Non Contributing

Feature: Lighting on berms

Feature Identification Number: 149261

Type of Feature Contribution: Contributing

Feature: Lightning rods on berms

Feature Identification Number: 149263

Type of Feature Contribution: Contributing

Feature: Metal plates and concrete anchors embedded in launch pads

Feature Identification Number: 149265

Type of Feature Contribution: Contributing

Feature: Hatches and utility lines into bunkers

Feature Identification Number: 149267

Type of Feature Contribution: Contributing

Landscape Characteristic Graphics:



FIGURE 89. Regulatory sign. Source: JMA, 2010.



FIGURE 90. Helibase sign. Source: JMA, 2010.



FIGURE 91. Dumpster in front of the administration and barracks building. Source: JMA, 2010.



FIGURE 92. Outdoor patio tables and chairs behind the administration and barracks building. Source: JMA, 2010.



FIGURE 93. Chain link fence surrounding the former athletic court. A pump and tanks associated with aquatic invertebrate and fish research are also visible. The light pole may be remaining from the period of significance. Source: JMA, 2010.



FIGURE 94. A box with solar panels located in the southeast corner of the Control Area.
Source: JMA, 2010.



FIGURE 95. Air conditioning condenser units located behind the administration and barracks building. Source: JMA, 2010.



FIGURE 96. Three dry hydrants are located within the Control Area. Source: JMA, 2010.

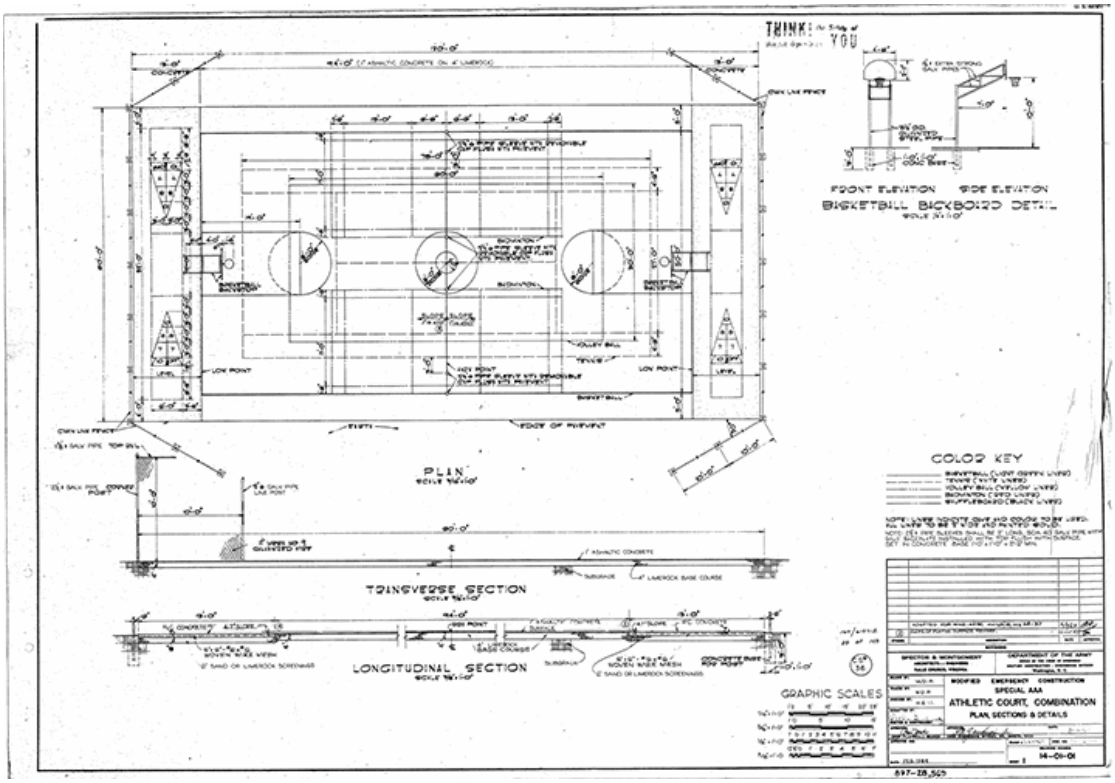


FIGURE 97. Construction plan for the athletic court, showing the layout of the lines, fencing, and backstops.



FIGURE 98. Basketball goal in athletic court. Source: JMA, 2010.



FIGURE 99. Concrete picnic table and benches located between the research center and athletic court. Source: JMA, 2010.



FIGURE 100. A concrete slab with rectangular markings indicates that a second table and benches similar to those still extant once stood nearby. Source: JMA, 2010.



FIGURE 101. Historic "Keep Out" sign on remnant fencing. Source: JMA, 2010.



FIGURE 102. Concrete posts line the south and west sides of the septic field. Source: JMA, 2010.



FIGURE 103. Concrete footings in the vicinity of the boresight mast. Source: JMA, 2010.



FIGURE 104. Concrete flagpole base. Source: JMA, 2010.



FIGURE 107. Concrete feature with concrete cover and metal handle. Source: JMA, 2010.



FIGURE 108. Wheel stops near the pumphouse. Source: JMA, 2010.



FIGURE 110. Pipes and pipe supports adjacent to and running into the drainfield from the septic tank. Source: JMA, 2010.



FIGURE 111. Post and chain fence across the borrow pit road. Source: JMA, 2010.



FIGURE 112. Replica sign used for interpretation. Source: JMA, 2010.



FIGURE 113. Dry hydrant adjacent to the missile assembly and test building. Source: JMA, 2010.



FIGURE 114. Green fiberglass object along the borrow pit road. Source: JMA, 2010.



FIGURE 115. Small sign bolted to the Launch Area gate. Source: JMA, 2010.



FIGURE 116. Fence remnant in the Launch Area. Source: JMA, 2010.

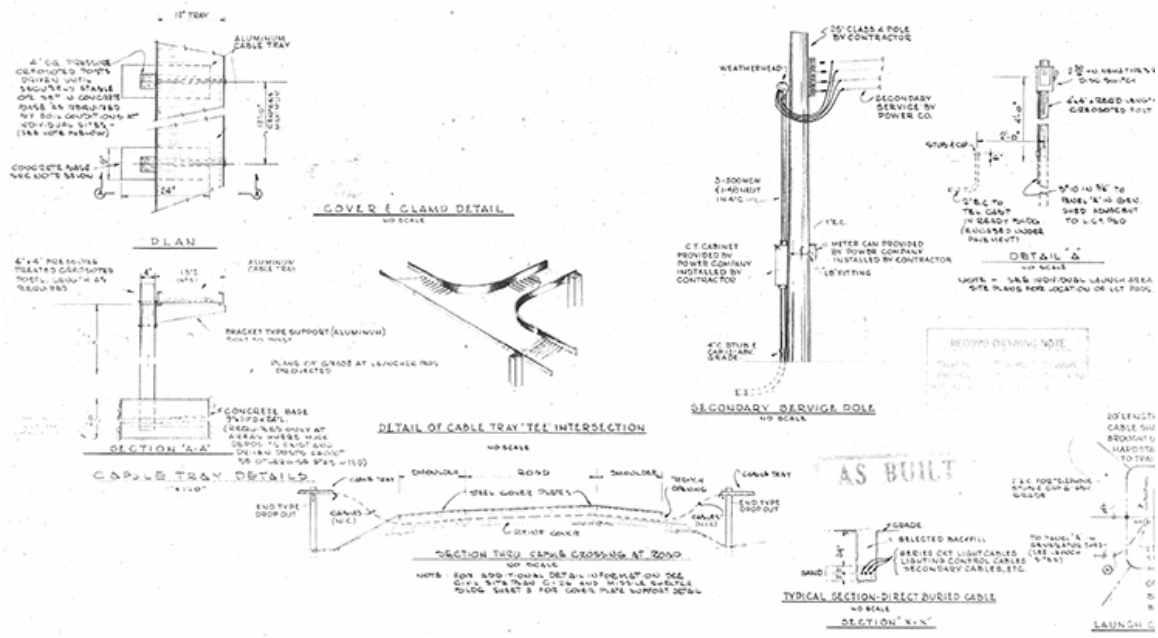


FIGURE 117. Electrical details from the as-built construction documents.



FIGURE 118. Meter box and transformer mounted to secondary service pole located at entrance to the Launch Area. Source: JMA, 2010.

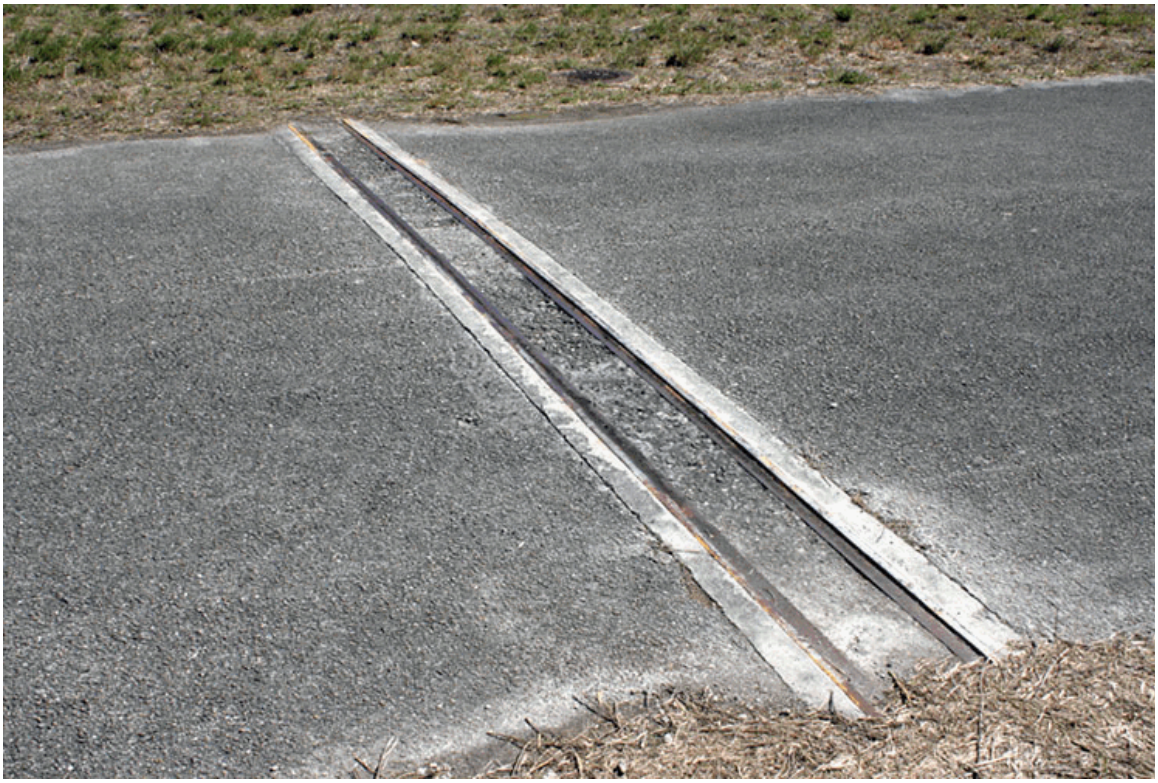


FIGURE 119. Cable trenches carried electrical cables beneath the roadway. The trenches were filled with concrete following the removal of the cable trays. Source: JMA, 2010.



FIGURE 120. Metal cable conduits adjacent to launcher section control center B. Source: JMA, 2010.



FIGURE 121. Painted wood post located near conduit pipe was likely used as support for the pipes. Source: JMA, 2010.

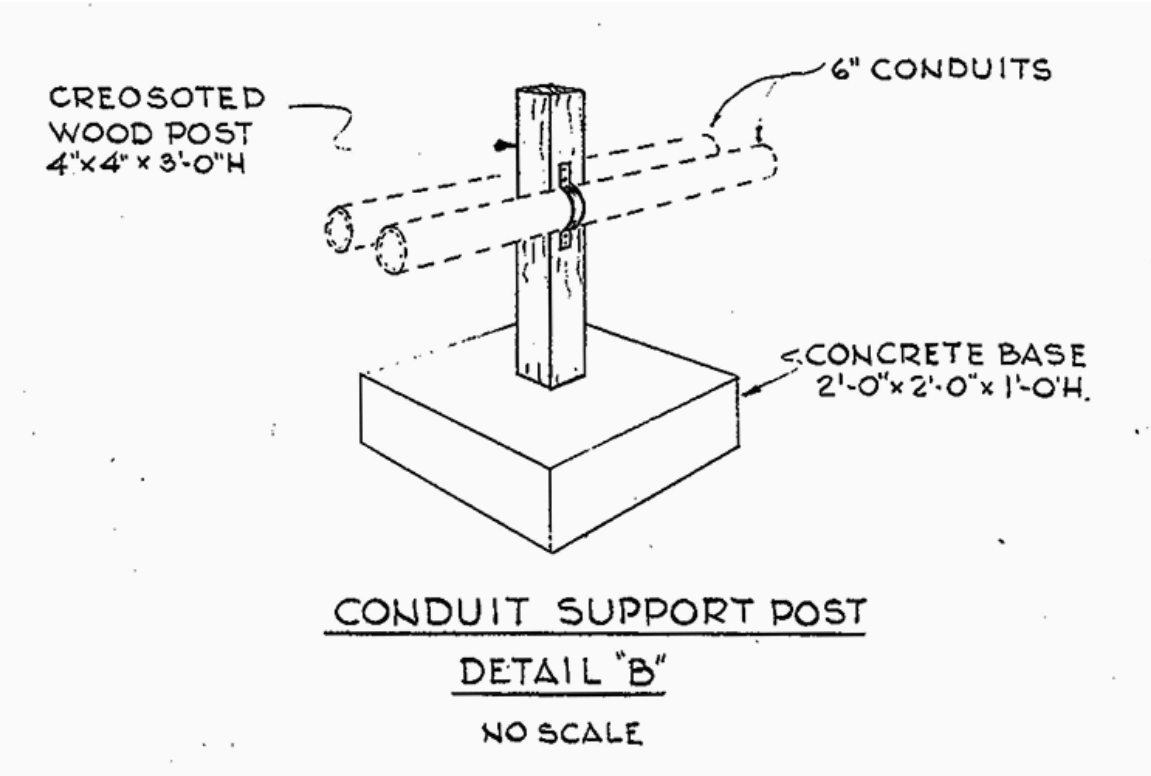


FIGURE 122. Creosoted wood post for conduit support, detail from the as-built construction document.



FIGURE 123. Manhole covers in the Launch Area. Source: JMA, 2010.



FIGURE 124. Each berm has several small luminaires on the north and south sides. Source: JMA, 2010.



FIGURE 125. Lightning rods are placed at regular intervals along the ridge of each berm. Source: JMA, 2010.



FIGURE 126. Igniter and safe arming device storage. Source: JMA, 2010.

Condition

Condition Assessment and Impacts

Condition Assessment: Fair

Assessment Date: 08/22/2011

Impacts

Type of Impact: Deferred Maintenance

External or Internal: Internal

Impact Description: Deferred maintenance on buildings, structures, circulation features, and vegetation within the developed area may lead to the loss of these resources and the historic integrity of the site.

Type of Impact: Structural Deterioration

External or Internal: Internal

Impact Description: Many of the buildings and structures have experienced ongoing weathering-related deterioration and require repair and maintenance.

Type of Impact: Erosion

External or Internal: Internal

Impact Description: The berms constructed around the three missile shelters and adjacent to the missile assembly and test building are vulnerable to erosion, especially from persons walking on them, the presence of invasive plants, removal of vegetation, or anticipated abatement of contaminated soils.

Type of Impact: Exposure To Elements

External or Internal: External

Impact Description: The site features are affected by continual exposure to the environment as well as by the occasional forces of storms and hurricanes.

Type of Impact: Removal/Replacement

External or Internal: Internal

Impact Description:	Removal or replacement of historic buildings and structures threatens the historic integrity of the site.
Type of Impact:	Structural Deterioration
External or Internal:	Both Internal and External
Impact Description:	Several of the buildings and structures have experienced structural damage, such as partial roof collapse, as a result of deferred maintenance and deterioration.
Type of Impact:	Vegetation/Invasive Plants
External or Internal:	Internal
Impact Description:	Non-native, invasive plant species, including Brazilian pepper (Schinus terebinthifolius), elephantgrass (Pennisetum purpureum), leadtree (Leucaena leucocephala), Chinese brake fern (Pteris vittata), Burma reed (Neyraudia neyraudiana), and Shoebutton ardisia (Ardisia elliptica) have overwhelmed some native plantings and changed the appearance of areas adjacent to and visible from the site.

Treatment

Bibliography and Supplemental Information

Bibliography

Citation Author: Berhow, Mark A.
Citation Title: US Strategic and Defensive Missile Systems 1950–2004
Year of Publication: 2005
Citation Publisher: Osprey Publishing
Citation Type: Narrative
Citation Location: New York

Citation Author: Berhow, Mark A., and Mark L. Morgan
Citation Title: Rings of Supersonic Steel: Air Defenses of the United States Army 1950–1979
Year of Publication: 2002
Citation Publisher: VersaPress
Source Name: Other
Citation Type: Narrative
Citation Location: http://books.google.com/books?id=vagljMKPYrkC&lpg=PP1&pg=PP1#v=onepage&q&f=false

Citation Author: Green, Richard and Ken Campbell
Citation Title: USGS 1:100,000 Scale Homestead Quadrangle
Year of Publication: 1996
Citation Publisher: State of Florida
Source Name: Other
Citation Type: Graphic
Citation Location: Tallahassee, Florida

Citation Author:	Griffin, John W.; edited by Jerald T. Milanich and James J. Miller
Citation Title:	Archeology of the Everglades
Year of Publication:	2002
Citation Publisher:	University Press of Florida
Source Name:	Other
Citation Type:	Narrative
Citation Location:	Gainesville, Florida

Citation Author:	Hach, Steve, Jennifer Dickey, ed.
Citation Title:	Cold War in South Florida Historic Resource Study
Year of Publication:	2004
Citation Publisher:	National Park Service Southeast Regional Office
Citation Type:	Narrative
Citation Location:	Atlanta, Georgia

Citation Author:	Lodge, Thomas E.
Citation Title:	The Everglades Handbook: Understanding the Ecosystem
Year of Publication:	2005
Citation Publisher:	CRC Press
Citation Type:	Narrative
Citation Location:	Boca Raton, Florida

Citation Author:	National Research Council
Citation Title:	Progress Toward Restoring the Everglades: The First Biennial Review - 2006
Year of Publication:	2007
Citation Publisher:	National Academics Press
Citation Type:	Narrative
Citation Location:	Washington, D.C.

Citation Author:	Nelson, Gil
Citation Title:	The Trees of Florida: A Reference and Field Guide
Year of Publication:	1994
Citation Publisher:	Pineapple Press, Inc.
Citation Type:	Both Graphic and Narrative
Citation Location:	Sarasota, Florida

Citation Author:	Scott, Thomas M.
Citation Title:	Text to Accompany the Geologic Map of Florida
Year of Publication:	2001
Citation Publisher:	Florida Geological Survey
Citation Type:	Narrative
Citation Location:	Tallahassee, Florida

Citation Author:	Tebeau, Charlton W.
Citation Title:	Man in the Everglades: 2000 Years of Human History in the Everglades National Park
Year of Publication:	1968
Citation Publisher:	Unversity of Miami Press
Source Name:	Other
Citation Type:	Narrative
Citation Location:	Miami, Florida

Citation Author:	U.S. Census Bureau
Citation Title:	State and County QuickFacts: Miami-Dade County, Florida
Year of Publication:	2010
Citation Publisher:	U.S. Census Bureau
Citation Type:	Narrative
Citation Location:	http://quickfacts.census.gov/qfd/states/12/12086.html (accessed April 8, 2010)

Supplemental Information

Title: ARI No.

Title: DSC/TIC No.

Title: NRID No.

Description: 04000758