FINAL

ENVIRONMENTAL ASSESSMENT

FOR THE

DEACTIVATION/FACILITY DISPOSITION OF ATLAS SPACE LAUNCH COMPLEX (SLC-36)

AT

CAPE CANAVERAL AIR FORCE STATION,

FLORIDA

August 2005

FINDING OF NO SIGNIFICANT IMPACT (FONSI)
DEACTIVATION/FACILITY DISPOSITION OF
ATLAS SPACE LAUNCH COMPLEX (SLC-36)

45th Space Wing, Florida

August 2005

The United States Air Force (AF) proposes to closeout the Atlas program and place Space Launch Complex 36 (SLC-36) and associated facilities at Cape Canaveral Air Force Station (CCAFS) in a deactivated state, after completion of the final launches in 2005. All facilities would be rendered safe and secure. The Proposed Action to closeout and deactivate/demolish SLC-36 facilities is a result of the decision to implement the Evolved Expendable Launch Vehicle (EELV) Program at Vandenberg Air Force Base (VAFB) and CCAFS. The 45 SW determined that reuse of the facilities was not a viable alternative due to the lack of demand at CCAFS for these type of facilities. Therefore, only one alternative to the Proposed Action was identified, the No Action Alternative. Under the No Action Alternative, facilities would be left in a safe and secure state and demolition would not occur. In accordance with the requirements of the National Environmental Policy Act (NEPA), the Council on Environmental Quality (CEQ) regulations, Air Force Instruction (AFI) 32-7061, *Environmental Impact Analysis Process*, and Department of Defense (DoD) Directive 6050, this Environmental Assessment (EA) evaluates the potential environmental consequences associated with the deactivation/demolition of SLC-36 and supporting facilities at CCAFS. The Environmental Assessment is attached and incorporated by reference.

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Biological Resources: Several Threatened and Endangered (T&E) species and Species of Special Concern (SSC) have been identified or are likely to occur in the vicinity of SLC-36, including the gopher tortoise, Eastern indigo snake, Florida scrub jay, American alligator, Curtiss' milkweed, sand dune spurge, nodding pinweed, beach star, and coastal vervain. The Proposed Action areas also provides habitat for numerous birds that are protected by the Migratory Bird Treaty Act (MBTA). The AF would consult with the U.S. Fish and Wildlife Service (USFWS) regarding potential impacts to migratory birds, and Federal-listed T&E species.

Several State-listed plants could be present in the Proposed Action areas, especially in openings where mowed and maintained areas transition into native vegetation communities. Such species "will be protected when practicable", in accordance with AFI 32-7064, Section 7.1.2.

The removal of native vegetation would be limited as most of the Proposed Action areas are located in previously disturbed non-native habitats (*i.e.*, mowed grassy areas), except on the fringes of the project areas. Although not anticipated, removal of scrub jay habitat would require compensation at a rate of 4:1 (four acres restored for every acre destroyed) if there is to be a permanent loss of habitat. If the habitat is to be permitted to re-grow, compensation would not be required.

When activities are likely to disturb gopher tortoise burrows, CCAFS biologists would relocate tortoises and indigo snakes (which could inhabit the burrows) to other suitable areas in accordance with the existing Gopher Tortoise Relocation Permit. Prior to beginning project activities, work areas would be surveyed for T&E animals; if found, they would be avoided or relocated to suitable habitat.

Great-horned owls, as well as other migratory bird species, have been known to nest on the Mobile Service Tower and Umbilical Tower in the past. If demolition activities were to occur during their nesting season, the AF would perform a survey to ensure no owls are nesting on the structures. Any eggs/young would be removed and transported to the Maitland Bird of Prey Center. Because it is impossible to schedule project activities outside the nesting seasons of all species, some direct mortality may occur.

Waters of the United States and the State of Florida, including wetlands, located on the Proposed Action sites would be avoided. The Proposed Action areas are not located in a floodplain.

Cultural Resources: In a 1988 Memorandum of Agreement (MOA) between the AF and the Florida Department of State, Division of Historical Resources, the AF, the Florida SHPO, and the Advisory Council on Historic Preservation agreed that the historic value of SLC-36 existed in the engineering significance of its components and that preservation through documentation as stated in 36 CFR 800.9(c)(1); exceptions to Criteria of Adverse fact, was appropriate. Activities at SLC-36 should be implemented in accordance with stipulations in the MOA that would take into account the effect of the undertaking on historic properties.

In order to comply with Sections 106 and 110 of the National Historic Preservation Act and with the MOA, a final report entitled "Historic American Engineering Record of Complex 13, 26, 36, Cape Canaveral Air Station, Cape Canaveral, Florida" was submitted directly to the National Park Service HABS/HAER (Historic American Building Survey /Historic American Engineering Record) Office, Atlanta, Georgia, for submission to the Library of Congress, Washington, D.C. The report contained archive quality text, photographs, and negatives

There are no known NRHP-eligible archaeological sites located within or near the boundary of SLC-36.

Geology, Soil, and Water Resources: Work activities have the potential to promote erosion and affect surface waters by disturbing upland and wetland areas. Best Management Practices identified in the Stormwater Pollution Prevention Plan, Industrial National Pollutant Discharge Elimination Permit (NPDES), and stormwater NPDES permit, if required, would be followed to minimize impacts to soils and surface waters.

Hazardous Materials and Hazardous Waste: The Atlas program at CCAFS contains several hazardous material and/or waste storage sites that support launch operations. Hazardous materials and waste that may be encountered during deactivation/demolition activities include: fuel in storage tanks, fluorescent lamps, high intensity discharge (HID) lamps, refrigerants, lead-based paint (LBP), Asbestos-Containing Materials (ACM), materials containing polychlorinated biphenyls (PCBs), batteries, and mercury thermostats and switches. Materials that are no longer needed should be reallocated for reuse or properly removed and disposed. In addition, waste storage areas shall be properly closed in accordance with existing permits and regulations, including 45SW guidance.

Health and Safety: Various safety hazards associated with heavy equipment operation, transportation of hazardous materials and waste, and conventional or explosive demolition would exist. All appropriate regulations, including Occupational Safety and Health Administration (OSHA) regulation 29 CFR 1926, Safety and Health Regulations for Construction, including Subpart T "Demolition", would be followed during project activities, along with AF and 45SW-specific guidance.

Some facilities are known or suspected of containing LBP and/or ACM. If paint coatings are present, the coatings would be analyzed for hazardous material content, to include lead, cadmium, and chromium. If LBP is identified, it would be left in place to avoid exposure to workers.

PCB-contaminated soils within SLC-36 would be removed prior to demolition activities, if possible, to eliminate exposure to workers.

Infrastructure and Transportation: The Proposed Action would result in the modification, transfer, recycling, and/or demolition of existing infrastructure. The large quantity of demolition debris anticipated would be recycled, to the maximum extent possible, to decrease the potential impacts to local landfills.

Land Use and Zoning: The removal of structures associated with SLC-36, including support facilities located outside of the Complex, would provide an opportunity to reuse the land for other purposes including the construction of new facilities or restoration of the site to a native state for wildlife purposes. Activities would be compatible with existing and planned land uses and zoning.

Noise: Demolition activities would generate noise, which although not continuous, could be disruptive for brief periods to wildlife and individuals working in the immediate area.

Socioeconomics: An increase in local construction labor and environmental remediation work would result from implementing the Proposed Action. The demand for demolition and transportation equipment would also increase.

No Action Alternative

Under the No Action Alternative, the Atlas Launch Operations Contract would be closed out and SLC-36 would be rendered safe and secure as described for the Proposed Action; however, demolition of facilities would not occur. Should this alternative be selected, potential impacts to biological resources (delay in return of land to native state) and land use and zoning (unavailability of land for immediate reuse) could occur. In

addition, the unused site would still need to be secured from vandalism. Over time, a safety hazard may potentially occur as the facilities degrade from lack of maintenance.

Cumulative Impacts

The Titan SLC (SLC-40) is concurrently being deactivated along with SLC-36 (Atlas). After facilities are demolished and removed, these SLCs would be available for revegetation and either allowed to return to their natural state, resulting in the creation of habitat for wildlife, or reused for the construction of new facilities, or for other mission-related activities. It is anticipated that hazardous materials and waste usage would be reduced, contributing to the AF's pollution prevention goals. However, local landfills, including the Cape's, would potentially be impacted by these two demolition efforts, depending on the quantity of material that can be diverted from the landfill by reuse or recycling.

Finding of No Significant Impact

Based on the attached EA, conducted in accordance with the Council on Environmental Quality Regulations implementing the National Environmental Policy Act of 1969 (Public Law 91-190, 42 U.S.C. §§4321-4347), as amended, and 32 CFR 989, 15 Jul 1999, and amended 28 Mar 2001, an assessment of the identified environmental effects has been prepared for the proposed construction, maintenance and demolition of communications, wind, water, and camera towers at 45th Space Wing, Florida. I find that the action will have no significant impact on the quality of the human environment; thus, an Environmental Impact Statement is not warranted.

20 October 2005
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MARK H. OWEN
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Acronyms and Abbreviations

45SW	45th Space Wing
ACM	Asbestos Containing Material
AEIs	Air Emissions Inventories
AF	Air Force
AFB	Air Force Base
AFI	Air Force Instruction
AFOSH	Air Force Occupational Safety and Health
AFSPC	Air Force Space Command
AHA	Activity Hazard Analyses
ANFO	Ammonium Nitrate with Fuel Oil
ART	Asbestos Recovery Team
AST	Above Ground Storage Tank
BMPs	Best Management Practices
C&D	Construction and Demolition
CAA	Clean Air Act
CCAFS	Cape Canaveral Air Force Station
CES/CEL	Civil Engineering Squadron/
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CO	Carbon Monoxide
COCs	Contaminants of Concern
CWA	Clean Water Act
dB	decibel
dBA	“A-weighted” logarithmic scale
DoD	Department of Defense
DRMO	Defense Reutilization and Marketing Office
EA	Environmental Assessment
EELV	Evolved Expendable Launch Vehicle
EIAP	Environmental Impact Analysis Process
EIS	Environmental Impact Statement
EO	Executive Order
EPA	Environmental Protection Agency
ERA	Ecological Risk Assessment

ESA	Endangered Species Act
ESPA	Endangered Species Protection Act
FAAQS	Florida Ambient Air Quality Standards
FAC	Florida Administrative Code
FETSA	Florida Endangered and Threatened Species Act
FDEP	Florida Department of Environmental Protection
FFWCC	Florida Fish and Wildlife Conservation Commission
FONPA	Finding of No Practicable Alternative
HAPs	Hazardous Air Pollutants
HHRA	Human Health Risk Assessment
HID	High Intensity Discharge
HQ AFSPC	Headquarters Air Force Space Command
INRMP	Integrated Natural Resources Management Plan
IRP	Installation Restoration Program
J-BOSC	Joint-Base Operations Support Contract
KSC	Kennedy Space Center
LBP	Lead-based Paint
LDN	Day-Night Average Sound Level
LUCIP	Land Use Control Implementation Plan
LUCs	Land Use Controls
LVs	Launch Vehicles
MBTA	Migratory Bird Treaty Act
MCL	Maximum Contaminant Level
msl	mean sea level
MST	Mobile Service Tower
NAAQS	National Ambient Air Quality Standards
NASA	National Aeronautics and Space Administration
NEPA	National Environmental Policy Act
NESHAPS	National Emission Standards for Hazardous Air Pollutants
NHPA	National Historic Preservation Act
NRHP	National Register of Historic Places
NOx	Nitrogen Oxides
NPDES	National Pollutant Discharge Elimination System
NWI	National Wetland Inventory
ODC	Ozone Depleting Chemical

ODS	Ozone Depleting Substances
OSHA	Occupational Safety and Health Administration
PAFB	Patrick Air Force Base
PCBs	Polychlorinated biphenyls
PE	Program Element
PM	Particulate Matter
PMD	Program Management Directive
PNFFA	Preservation of Native Flora of Florida Act
ppm	parts per million
PPE	Personal Protective Equipment
RAOs	Remedial Action Objectives
RCRA	Resource Conservation and Recovery Act
RFI	RCRA Facility Investigation
RMP	Risk Management Plan
SGS	Space Gateway Support
SHPO	State Historic Preservation Office
SLC	Space Launch Complex
SPO	System Program Office
STET	Safe for a Real Estate Transaction
SWMU	Solid Waste Management Unit
TCLP	Toxic Characteristics Leaching Procedure
T&E	Threatened and Endangered
USACERL	United State Army Corps of Engineers Construction Engineering Laboratory
USFWS	United States Fish and Wildlife Service
UST	Underground Storage Tank
UT	Umbilical Tower

1.0 INTRODUCTION

In accordance with the requirements of the National Environmental Policy Act (NEPA), the Council on Environmental Quality (CEQ) regulations, Air Force Instruction (AFI) 32-7061, *Environmental Impact Analysis Process*, as amended by interim change dated March 12, 2003, which adopted 32 CFR Part 989, and Department of Defense (DoD) Directive 6050, this Environmental Assessment (EA) evaluates the potential environmental consequences associated with the proposed deactivation/demolition of the Atlas Space Launch Complex 36 (SLC-36) and supporting facilities at Cape Canaveral Air Force Station (CCAFS), located along the northeastern coast of Florida (Figures 1-1 and 1-2).

1.1 Background and Location

1.1.1 Cape Canaveral Air Force Station

Cape Canaveral Air Force Station (CCAFS) occupies approximately 25-square-miles (15,800 acres) of land on Florida's Canaveral Peninsula. The Canaveral Peninsula is east of Merritt Island, a barrier island on the Atlantic coast of Florida. The main complex of CCAFS is located approximately 155 miles south of Jacksonville, 210 miles north of Miami and approximately 60 miles east of Orlando. The Banana River separates CCAFS from the Kennedy Space Center (KSC) with the northern boundary of CCAFS adjoining the KSC boundary on the barrier island. The southern boundary of CCAFS abuts Port Canaveral. The Atlantic Ocean borders CCAFS along its eastern margin.

With 16 launch pads at 11 SLCs, CCAFS has the largest number of launch pads in the United States. These pads grew in number with each new mission and vehicle. Eleven are active launch pads, two are being rebuilt, two have been deactivated, and one is being redeveloped as a test facility. At one time, there were 37 launch pads in 34 SLCs, but 20 of these have been dismantled and three have been indefinitely deactivated. Both dismantled and deactivated pads and complexes can be redeveloped should the need arise. SLC-20, for example, has an approved site plan for a new commercial space launch venture. (General Plan, 2002)

Along with the various launch and support facilities, CCAFS maintains a centralized industrial complex to specifically support the technical/mechanical and administrative needs of each launch program. The industrial complex contains structures that support the SLCs and includes warehouse and hangar space used to store critical spares and package payloads and serves as a base of operations for civil engineering, base operations, and command personnel.

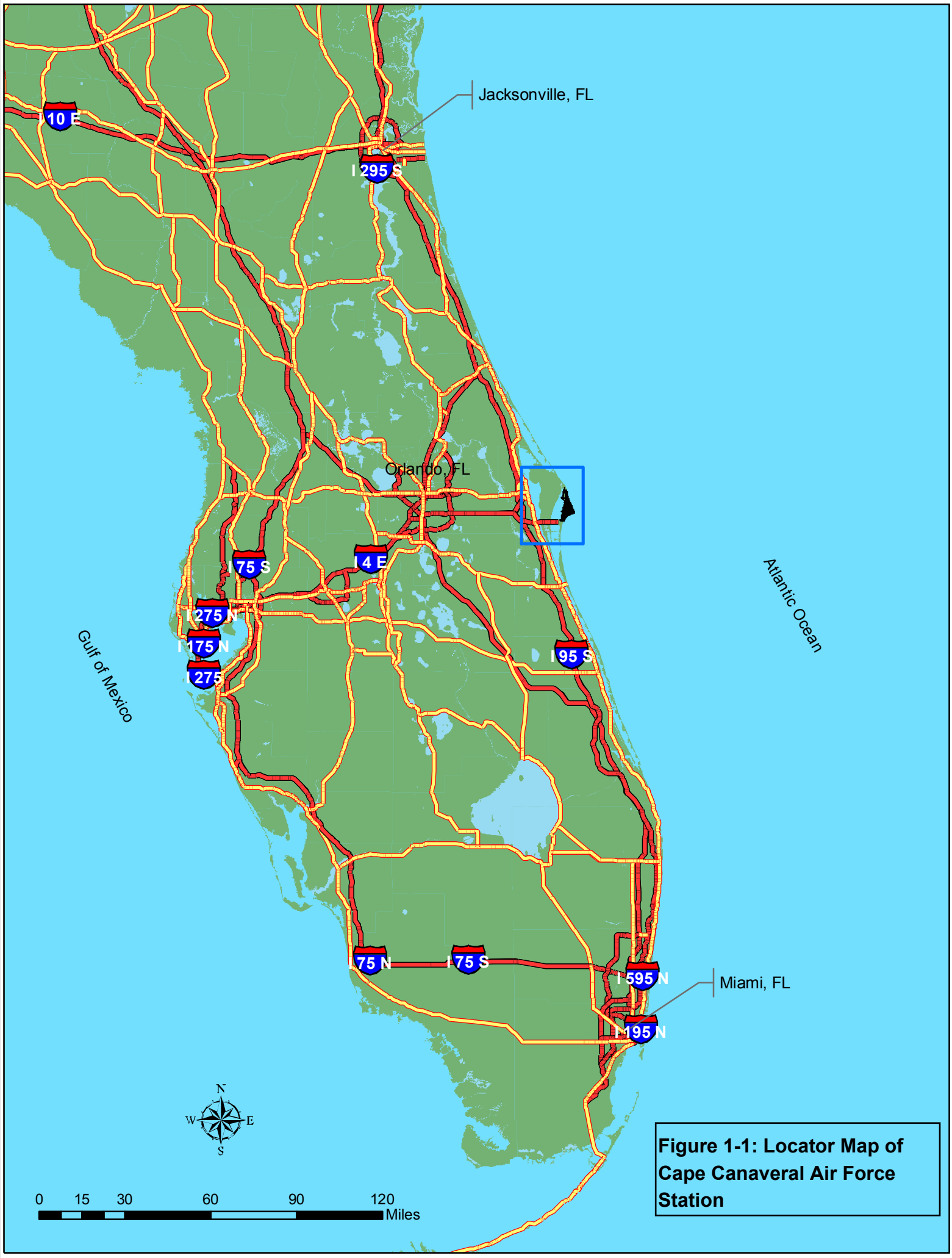

Figure 1-1: Locator Map of Cape Canaveral Air Force Station

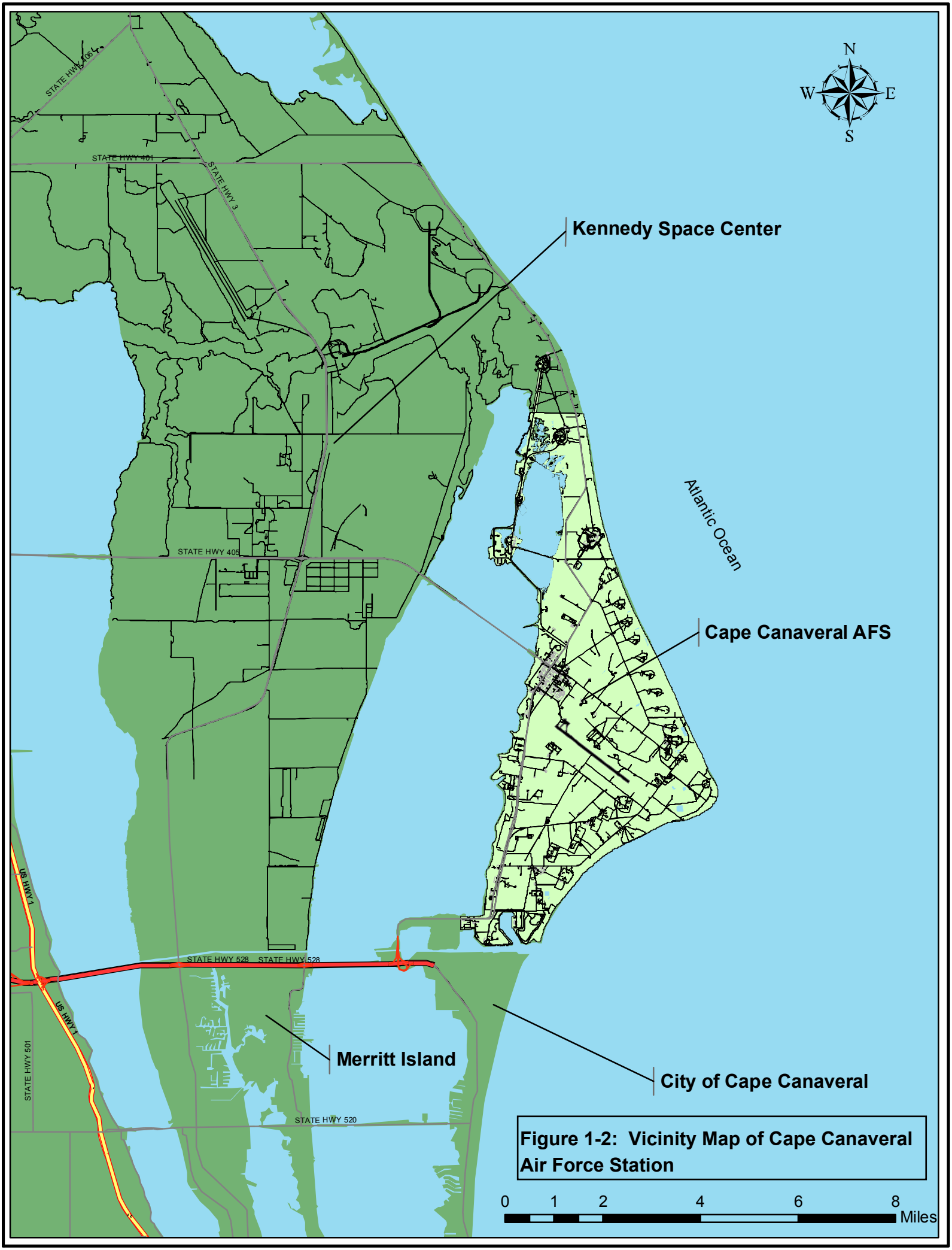

Figure 1-2: Vicinity Map of Cape Canaveral Air Force Station

1.1.2 Space Launch Complex 36

Located approximately 0.25 miles west of the Atlantic Ocean, east of ICBM Road and south of SLC 11, SLC-36A (Figure 1-3) was constructed in 1961 to support NASA's Atlas Centaur missile program. The first launch took place at SLC-36 from Pad A on 8 May 1962. The Complex was expanded in 1963 to include a second launch pad (Pad B). Complex 36 hosted many historic Surveyor, Mariner, Pioneer and Intelsat IV and V missions over the years. Under NASA's sponsorship, SLC-36 supported its first Fleet Satellite Communications (Fltsatcom) launch on 9 February 1978. Six more Fltsatcom missions were launched from the Complex over the next decade. Following the Fltsatcom F-8 mission in late September 1989, NASA surrendered SLC-36 to the Air Force and General Dynamics for military and commercial space operations. The site was modified to handle Atlas/Centaur missions, and the first commercial Atlas II/Centaur was launched from Pad 36B on 7 December 1991. In all, the Complex supported 118 major launches between May 1962 and the end of October 1998. Pads 36A and B (Figures 1-3 and 1-4) are currently used by Lockheed Martin (LM) in cooperation with the AF to launch commercial payloads.

Both launch pads consist of a fixed concrete launch ramp and service facility with fixed Umbilical Towers (UT) and Mobile Service Towers (MST). The two pads share a common blockhouse, instrumentation, and launch control equipment. The MST at each pad provides a protected work area for spacecraft mating and checkout. They are moved away from the launch pad before cryogenic tanking, about two hours prior to a launch. The fixed UT at each pad provides instrumentation lines, fuel, power, and purging gas to the spacecraft by means of umbilical booms. The booms pull lines clear at liftoff and swing clear of the ascending vehicle. Connected to both pads by cable tunnels, the blockhouse contains all necessary electrical and communication equipment to conduct a launch from either pad. Space is available for spacecraft ground support equipment. Isolated cabling from the blockhouse to the launch pad is for spacecraft ground checkout. Wideband data circuits are available for connections to spacecraft checkout facilities and to tracking networks. The SLCs also have deluge basins and multiple storage areas.

AZUSA RD

AZUSA RD

PS 4

ICBM RD

CENTRAL CONTROL RD

ARMORY RD

SLC 36

SLC 36 and Pump Station 4

0 387.5 775 1,550 2,325 3,100

Feet

Legend

- Water Tank
- Fuel Tank
- OPEN_DRAINAGE
- PAVED_DITCH
- UNPAVED_DITCH
- Driveways
- Parking
- Road
- Structures

Figure 1-3: Location Map for Atlas Facilities

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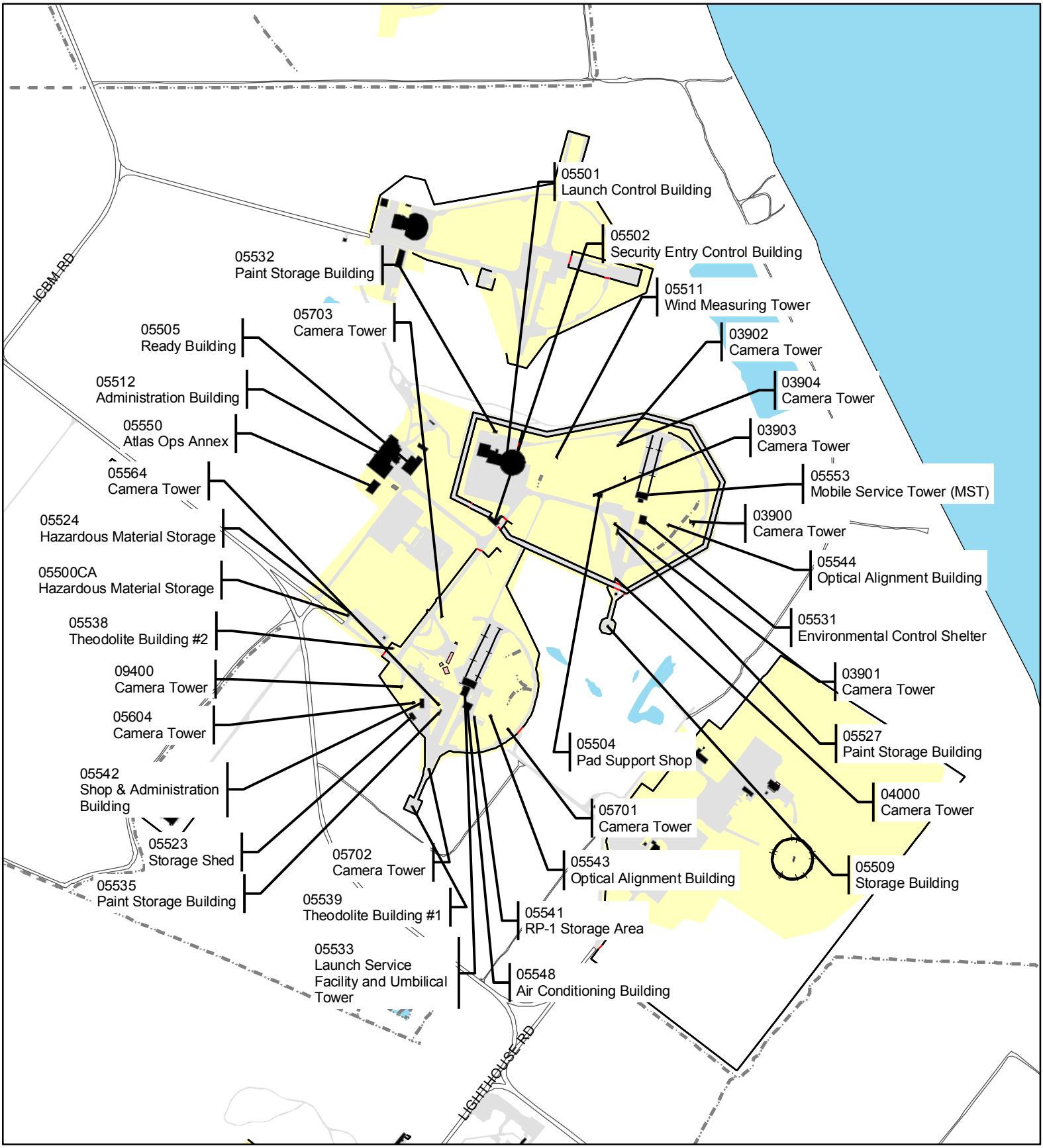
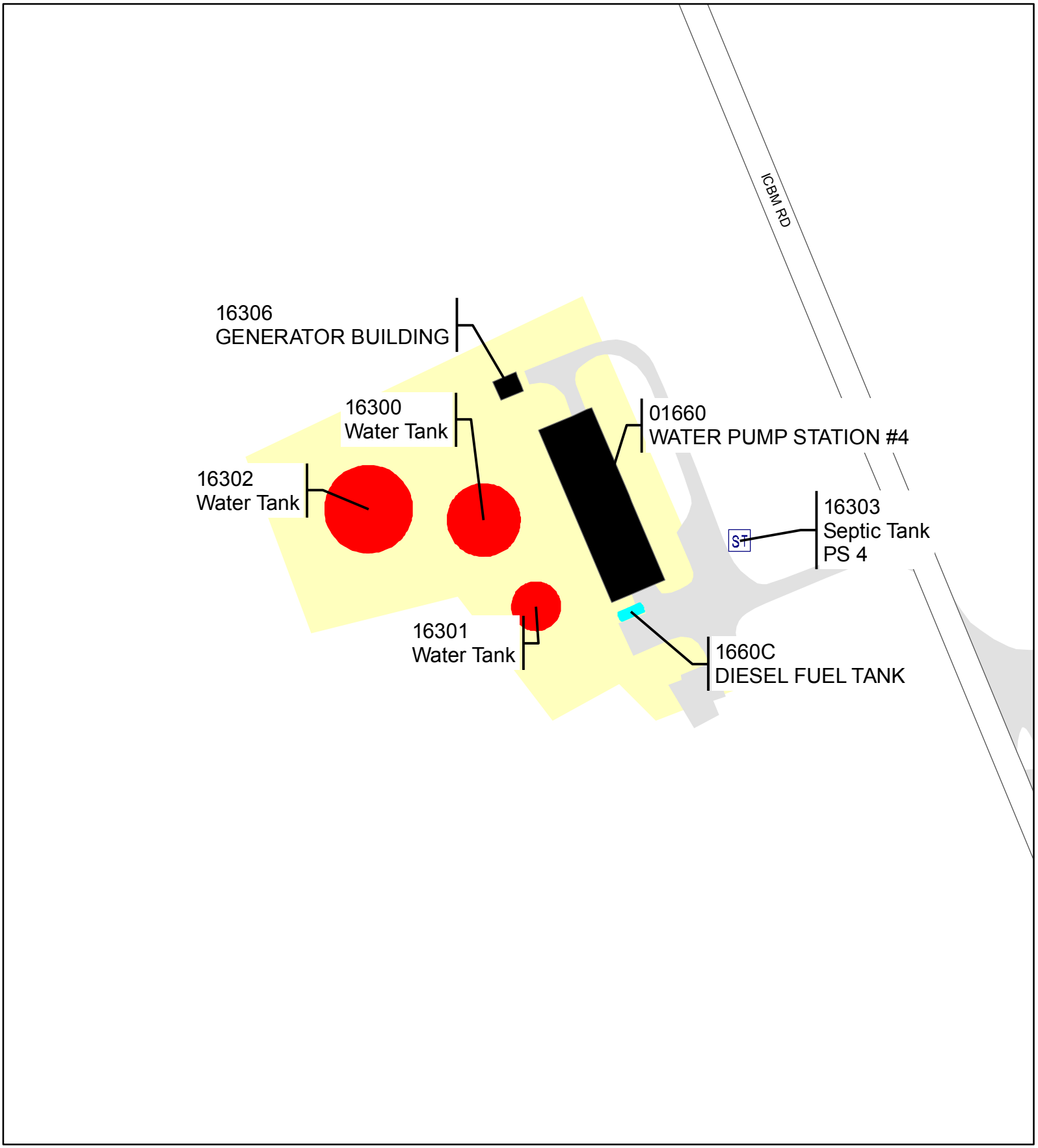


Figure 1-4: Site Map for Space Launch Complex 36

11/2004

SpecPro
Environmental Services



Pump Station 4

0 30 60 120 180 240 Feet

Legend

- Water Tank
- Fuel Tank
- OPEN_DRAINAGE
- PAVED_DITCH
- UNPAVED_DITCH
- Driveways
- Parking
- Road
- Structures
- ST Septic Tank

Figure 1-5: Site Map for Pump Station #4

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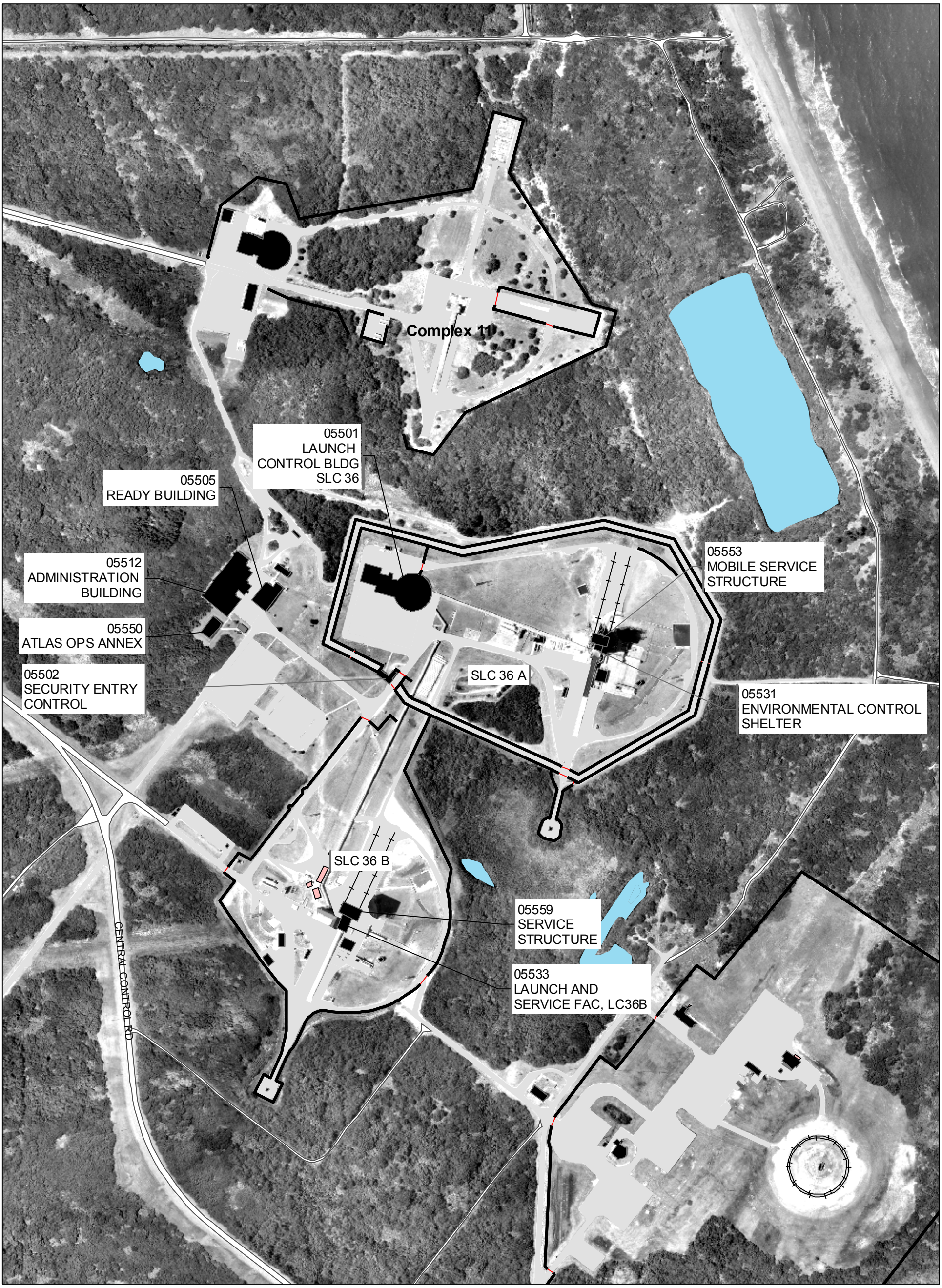

Legend

- Gate
- Fence
- Air Field
- Shed
- Pavilion
- Structures
- Railroad
- Road
- Parking
- Driveways
- Water

Figure 1-6: Aerial View of Space Launch Complex 36

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1.2 Purpose and Need for Action

Air Force Instruction (AFI) 32-1021, *Planning and Programming of Facility Construction Projects*, requires the AF to ensure existing facilities are used economically and efficiently and that excess space be evaluated for demolition. Chapter 2 of AFI 32-9004, *Disposal of Real Property*, identifies criteria for disposing of buildings on nonexcess land. Installation commanders must dispose of any unneeded or deteriorated buildings on nonexcess land if such buildings meet one or more of the following conditions:

- deterioration is beyond the point of economical repair;
- interferes with a site approved for construction;
- dangerous to people, likely to damage adjoining structures, or creates a nuisance;
- requires more than normal maintenance and its disposal will not create a deficiency; and
- design is obsolete and it cannot be reasonably altered or economically used.

The decision to closeout and deactivate/demolish SLC-36 facilities is a result of the decision to implement the Evolved Expendable Launch Vehicle (EELV) Program at Vandenberg Air Force Base (VAFB), CA and CCAFS. The Environmental Impact Statements (EISs) generated in support of the EELV implementation decision are:

- *Supplemental EIS, EELV at Vandenberg AFB and CCAFS,* May 2000
- *EIS, EELV at Vandenberg AFB and CCAFS,* June 1998

The following requirement documents provide the framework for this action. The Atlas Program Management Directive (PMD) 2138(48)/Program Element (PE) 35119F (dated 18 Sep 2001) requires the deactivation of SLC-36A after the last government Atlas launch from CCAFS. Specifically, the Atlas System Program Office (SPO) is required to procure Atlas II vehicles to meet DoD and civil launch needs and to schedule facility closures for the earliest possible date that supports non-commercial launches. The Air Force Space Command (AFSPC) is tasked with providing planning, programming, and budgeting activities to include launch operations, environmental compliance, conservation, Pollution Prevention (P2) and restoration, contract/launch site closure, and clean-up requirements. The PMD further states that AFSPC is responsible for funding tasks associated with closure (*i.e.*, safe and secure, deactivation, and disposition) of launch base real property. The Atlas portion of the Titan and Atlas Launch Operations Contract (F04701-95-C-0012) requires that CCAFS facilities utilized in support of launching government Atlas Launch Vehicles (LVs) be closed out in accordance with (IAW) applicable Federal Acquisition Regulations and public health and safety regulations. In addition, the Atlas SPO is in receipt of a 45SW memorandum (dated 02 Jan 2002) entitled "Contract F04701-95-C-0012; Requirement to Closeout SLC-36A". This memo requests that the Atlas SPO maximize the preparatory work toward 45SW's deactivation/demolition requirements.

1.3 Scope of the Environmental Assessment

This EA evaluates the potential environmental consequences associated with the proposed deactivation and demolition of Atlas facilities for which no continuing requirements are identified at CCAFS (Proposed Action) and the No Action Alternative. The potential impacts associated with the tasks required for the orderly transition of SLC-36 unique facilities to its pre-demolition state are addressed. Included are those efforts required to decontaminate facilities as part of the pre-demolition process. If possible, contaminated soils would be removed prior to demolition to reduce risks to demolition workers. This Resource Conservation and Recovery Act (RCRA) activity is a separate activity and therefore is not analyzed in this document. However, when this RCRA-driven activity has the potential to affect the Proposed Action activities, such as the health of pre-demolition workers, the effects are discussed.

The following applicable Atlas LV EAs provide an environmental description of the facilities that would potentially be phased out/deactivated:

- *EA, Commercial Atlas IIAS, CCAFS,* Aug 1991
- *Supplemental EA, Medium Launch Vehicle (MLV II) Program, CCAFS,* Aug 1989
- *EA, Medium Launch Vehicle (MLV II) Program, CCAFS,* Feb 1989

2.0 Description of Alternatives

This Section describes the alternatives to the Proposed Action, potential environmental issues, and regulatory requirements. The only alternative considered to the Proposed Action is the No Action Alternative.

2.1 Description of Proposed Action

Contract closeout of the Atlas portion of the Titan and Atlas Launch Operations Contract entails Space and Missile Systems Center (SMC) contractual release of the CCAFS launch facilities used in support of Atlas launches. An evaluation of SLC-36 facilities is being conducted to determine which facilities may be reused. Facilities for which no continuing requirements are identified would be scheduled for deactivation/demolition. Each facility to be deactivated and potentially demolished, and its vicinity, is being evaluated to determine the extent, if any, of environmental contamination (*e.g.*, presence of asbestos-containing materials (ACM) and lead-based paint (LBP) in structures, contaminated soils, etc.).

Pre-Demolition Activities

Facilities and Real Property Installed Equipment (RPIE) would be placed in a Pre-Demolition State to ensure that abandonment will not result in inadvertent contamination or present an unexpected hazard to individuals who may access the abandoned facilities or RPIE systems in the future. Pre-Demolition State refers to all functions involved in preparing SLC-36 and its unique production facilities for eventual disposition, deactivation and/or demolition. This includes, but is not limited to, preparing the Ground Support Equipment (GSE), Aerospace Ground Equipment (AGE), support structures, and RPIE for these activities. This effort's overall goal is maximum preparatory work toward the 45SW final deactivation/demolition requirements. Central to this preparatory effort is to ensure all pre-demolition tasks and the resultant facility condition does not cause or lead to inadvertent contamination or present an unexpected future hazard to individuals who may access facilities or RPIE. All site-unique supporting equipment would be removed to the maximum extent possible.

Immediately following post-launch securing of SLC-36, the contactor would ensure that all systems have been placed in a safe and secure/shutdown condition in order to prevent inadvertent environmental contamination and eliminate hazards to individuals who may access abandoned facilities subsequent to completion of safe and secure/shutdown activities. The effort to safe and secure/shutdown systems would include, but not be limited to, the following:

- *Propellant Systems* - Off-load commodities, purge system, and clean (flush) system; prepare piping, valves, and components for disposal; dispose of all hazardous waste.

- *Pneumatic Systems* - Depressurize system; eliminate points of entry for toxic asphyxiation hazards; prepare lines for removal.

- *Cryogenic Systems* - Off-load commodities, purge system, and leave with a five (5) pounds per square inch gauge (psig) ambient blanket pressure.

- *Gaseous Supply Systems* - Vent system and leave with a five (5)-psig ambient blanket pressure.

- *Electronic Systems* - Disconnect electronic systems from power (lock-out); remove batteries, and cap all electrical feeds (*i.e.*, MST drive system, etc). Disconnect underground electrical cable at the nearest power transformer or disconnect switch outside of the building. If the nearest power transformer or disconnect switch is within 5 feet of the building, disconnect power at the nearest high voltage switch. Overhead electrical cable shall be disconnected from the building at the nearest power pole. If the nearest power pole is within 5 feet of the building, the power cable will then be removed back to the next power pole.

- *AC/DC Power* - Secure electrical power associated with each system with the exception of the MST 20-ton bridge crane and elevators, which shall remain energized and operational.

- *Hydraulic Systems* - Drain, deliver, and dispose of hydraulic oil; dispose of piping and hoses through the appropriate government/contracted avenues.

- *Heating, Ventilation, and Air Conditioning (HVAC) Systems* - Maintain until the latter phases of the demolition process. Excludes all portable/window units.

- *Cranes & Elevators* - Leave operational and certified until the latter phases of the demolition process.

- *Service Towers* - Leave the MST in the maintenance position (away from launch pad) and apply hurricane tie-downs. Secure/drain all hydraulic fluids from all systems, with the exception of the MST 20 Ton Bridge crane and elevators.

- *Walking/Working Surfaces, Confined Spaces, and Access Control* - Ensure all areas left in a pre-demolition state are appropriately marked and identified to abate personnel hazards and to prevent unauthorized access to government property.

- *Water Lines* - Turn off underground water supply at the nearest butterfly valve along the run of pipe outside of the building. If there is a main branch near the building, turn off water as close to the main branch as possible. If no valve exists, turn off water at the nearest backflow preventor as close to the main branch as possible.

- *Deluge Water System* - Drain non-potable water lines. Fire suppression system will remain operational to be maintained by the Air Force.

- *Sewer Lines* - Turn off sewer piping at the nearest butterfly valve along the run of pipe outside of the building. If there is a main branch near the building, block off sewer line as close to the main branch as possible. If no valve exists, turn off sewer line as close to the main branch as possible.

- *Communications* - Remove communication cables (*e.g.*, copper & fiber optic) back to the nearest communication manhole. The Owner will be responsible for isolating the communication cables from the base communication system.

- *Wastes* - The Contractor shall ensure all hazardous commodities, products, and wastes are properly delivered for disposal through the appropriate government/contracted agency.

Demolition Activities

Verification of Facility Isolation

The demolition contractor would perform a walk-through with government representative(s) to verify that the buildings are isolated from all active systems prior to intrusive activities. This walk-through will identify any follow-up items requiring isolation or document readiness needed to proceed.

Types of Demolition

Conventional Demolition

Conventional demolition is commonly defined as demolition of a structure using a tracked excavator and front-end loader or other types of machines to raze a structure. After the structure has been toppled or brought to the ground and separated from its foundation, metal shears or other appropriate tools would be used to cut steel beams to the proper size in preparation for removal and transportation from the site. Grapples or other appropriate tools would be used to remove rubble and small debris that would be loaded into removal containers.

Explosion Demolition

Explosive demolition refers to bringing down tall structures such as the MST, UT, or other tall structures by selective use of explosive devices. The explosive demolition contractor would use drawings of the building structure to determine which beams and columns should be weakened by cutting and then sheared by explosive means in order to bring the structure down. This type of demolition eliminates the risk of individuals working from structures at height during conventional demolition activities. Explosive demolition has also been proven more time efficient than conventional demolition since most of the removal work can then be done at ground level. Once the structure is brought down, the completion of demolition and scrap removal is completed using shears and grapples in a conventional manner.

Site Demolition Requirements

In addition to facilities, the site demolition portion of this project pertains to roads, railroad tracks, underground utilities and demolition or abandonment of buried structures. In general, the following list of site requirements would be followed.

- Electrical duct banks would be abandoned in place provided there is no risk of future injury or collapse.
- Main and auxiliary water supply lines would be cut, capped, and encased in concrete.
- All manholes no longer required would be filled with clean fill and the manhole covers removed.
- Railroad tracks would be removed when no longer needed.
- All large underground duct banks shall be removed and filled with clean fill.
- The SLC concrete apron would be removed to 2-feet below grade and filled with clean topsoil.
- All underground and under-facility voids would be filled with clean fill.
- All pad equipment and tanks would be removed.

Concrete basins would be filled with clean fill.

Atlas facilities and support equipment evaluated to date that would be affected by the Proposed Action are listed in Table 2-1. A summary of the proposed activities is included. Appendix A contains pictures of major structures slated for demolition and/or deactivation.

Table 2-1*:Atlas Program Facilities/Support Equipment Currently Scheduled for Demolition and/or Deactivation

Facility Type and Location	Facility Number	Facility Type/Name	Size (Square Feet)	Proposed Activities Summary
Camera Towers for SLC 36A-and 36B	3900	Camera Towers	30	Remove cameras during the safe and secure deactivation phase. Demolish towers and de-energized utility hardware.
	3901		30	
	3902		30	
	3903		30	
	3904		48	

Facility Type and Location	Facility Number	Facility Type/Name	Size (Square Feet)	Proposed Activities Summary
	4000		30	
	5511	Wind Measuring Tower	25	
	5564	Camera Towers	30	
	5604		30	
	5701		30	
	5702		30	
	5703		30	
	9400		48	
LSF, UT, and MST for SLC-36A	5510 (5500P)	Launch Service Facility (LSF) and Umbilical Tower (UT)	12,188	Candidate for explosive demolition; recycle steel and concrete.
	5553 (5500AA)	Mobile Service Tower (MST)**	10,843	
LSF, UT, and MST for SLC-36B	5533 (5500BA)	LSF and UT	13,500	Candidate for explosive demolition; recycle steel and concrete.
	5559 (5500BQ)	MST	11,500	
Oxidizers; Gas and Fuel Infrastructure for SLC-36A	5502-A	Security Entry Control Generator and Storage Tank	150	Remove large tanks, generators, and contaminated piping. Framing, infrastructure, and small pressure vessels would remain intact.
	5506 (5500G)	Liquid Hydrogen Storage Area	2,000	
	5507 (5500J)	Liquid Nitrogen Storage Area	1,500	
	5514 (5500V)	High Pressure (HP) Storage Area	2,000	

Facility Type and Location	Facility Number	Facility Type/Name	Size (Square Feet)	Proposed Activities Summary
	5515 (5500W)	Gaseous Nitrogen Storage Area	2,000	
	5528 (5500F)	RP-1 Storage Facility	1,500	
	5529 (5500H)	Liquid Oxygen Storage Facility	1,500	
Oxidizers; Gas and Fuel Infrastructure for SLC-36B	5518	HP Storage Area	4,902	
	5519 (5500BN)	Liquid Hydrogen Storage Area	1,500	
	5520 (5500BP)	Fuel Dump Basin	1,056	
	5521 (5500BV)	Nitrogen Storage Area	1,500	
	5534 (5500BB)	Nitrogen Storage Pad	750	
	5536 (5500BE)	Oxidizer Storage Area	1,500	
	5537 (5500BH)	Fire Pump Pad	600	
	5541 (5500BM)	RP-1 Storage Area	1,500	
Ancillary structures supporting SLC-36A (some structures are not located on 36A)	5501 (5500A)	Launch Control Building	48,994	Building and 2 escape tunnels would remain intact.
	5502	Security Entry Control Building	880	Demolish with conventional mechanical method.
	5504 (5500C)	Pad Support Shop	813	
	5505 (5500E)	Ready Building	7,554	
	5508 (5500K)	Support Structure	300	

Facility Type and Location	Facility Number	Facility Type/Name	Size (Square Feet)	Proposed Activities Summary
	5509 (5500N)	Storage Building	128	
	5512 (5500Q)	Administration Building	1,000	
	5527 (5500D)	Paint Storage Building	484	
	5531 (5500AN)	Environmental Control Shelter	1,497	
	5532 (5500Y)	Paint Storage Building	600	
	5544 (5500T)	Optical Alignment Building	496	
	5550	Atlas Ops Annex	3,000	Building and 2 escape tunnels would remain intact.
Ancillary structures supporting SLC-36A (some structures are not located on 36A)	5500AB	Hazardous Material Storage	176	Framing and infrastructure would remain intact.
	5500BV (5521)	Transformer Building	176	
	5500CA	Hazardous Material Storage	176	
	5523 (5500BX)	Storage Shed	1,120	Demolish with conventional mechanical method.
	5524	Hazardous Material Storage	176	Framing and infrastructure would remain intact.

Facility Type and Location	Facility Number	Facility Type/Name	Size (Square Feet)	Proposed Activities Summary
	5535 (5500BD)	Paint Storage Building	484	Demolish with conventional mechanical method.
	5538 (5500BJ)	Theodolite Building #2	128	
	5539 (5500BK)	Theodolite Building #1	128	
	5542 (5500BR)	Shop & Administration Building	1,040	
	5543 (5500BT)	Optical Alignment Building	496	
	5548	Air Conditioning Building	2,000	Framing and infrastructure would remain intact. Demolish with conventional mechanical method.
Utility facilities for SLC-36A and 36B	5517 (5500AK)	Sewage Lift Station	100	Demolish with conventional mechanical method.
	5545 (5500AC)	Substation (36A)	40	
	5549	Substation	40	
	5565	Electrical Substation (36A)	40	
	5568	Electrical Substation (36B)	40	
	5570	Electrical Substation	40	
	5571	Electrical Substation (36A)	40	
	5572	Electrical Substation	40	

Facility Type and Location	Facility Number	Facility Type/Name	Size (Square Feet)	Proposed Activities Summary
	5575	Sanitary Lift Station	64	
Cable Raceways	No Facility Numbers	Above Ground Cable Raceways	25,000 Linear Feet	Cable and associated equipment would remain intact.
Fences		Fence line	28,000 Linear Feet	Dismantle, reuse, and recycle fence and stone layer.
Security Camera Towers		Security Camera Towers	16	Towers would remain intact and cameras would be removed.
Roads		Asphalt Road and Support Drives	Average 25 feet wide	Demolish roads.
Pump Station #4 Facilities	1660	Pump Station #4	7,003	Demolish with conventional mechanical method.
	1660 C	Diesel Fuel Tank	1,500 gallons	
	16300	Water Tank	60 Diameter	Dismantle and recover recyclable materials.
	16301	Water Tank	35 Diameter	
	16302	Water Tank	70 Diameter	
	16303	Septic Tank	100	

Facility Type and Location	Facility Number	Facility Type/Name	Size (Square Feet)	Proposed Activities Summary
	16306	Generator Building	393	Demolish with conventional mechanical method.
	16312	Electrical Substation	40	

*The information contained in this table was provided by AMEC Earth and Environmental and the 45SW. A complete list of storage tanks is located in Section 3.5 (Table 3-3).
**The MST at SLC 36A was upgraded during the 1990's

2.2 Alternatives Eliminated from Further Consideration

The USAF has evaluated all Atlas facilities on CCAFS for reuse. It was determined that no other requirements exist for these facilities. In addition, due to the age of the facilities and the potential for environmental contamination (*e.g.*, presence of asbestos and Lead-based Paint (LBP) in structures, contaminated soils, etc.), the facilities will not be considered for reuse. Therefore, this alternative was eliminated from further consideration.

2.3 No Action Alternative

Under the No Action Alternative, SLC-36 would be rendered safe and secure as described for the Proposed Action; however, demolition of facilities would not occur. Should the No Action Alternative be selected, potential impacts to biological resources (delay in return of land to native state) and land use and zoning (unavailability of land for immediate reuse) could occur. In addition, the unused site would need to be secured from intrusion and/or vandalism. Over time, a safety hazard may potentially develop as the facilities degrade from lack of routine maintenance. Selection of the No Action Alternative is not considered a viable option since it would not enable CCAFS to utilize the best option in support of mission requirements and therefore would not be in the best interest of the DoD.

2.4 Potential Environmental Impacts Summary

Potential, though not significant impacts, from implementation of the Proposed Action have been identified for the following areas: air quality; biological resources; cultural resources; geology, soil, and water resources; hazardous materials and waste; health and safety; infrastructure and transportation; land use and zoning; noise; and socioeconomics.

A comparison matrix of the potential environmental consequences associated with the implementation of the Proposed Action or the No Action Alternative by individual resource is provided in Table 2-2. The assessment of potential impacts and the determination of their significance are based on the requirements in 40 CFR 1508.27. The levels of impact are defined as follows:

- No Impact - No impact is predicted.
- Not Significant Impact - An impact is predicted, but the impact does not meet the intensity/context significance criteria for the specific resource.
- Significant Impact - An impact is predicted that meets the intensity/context significance criteria for the specific resource.

More in-depth discussion of the intensity/context significance criteria is presented at the beginning of Chapter 4.

Table 2-2: Environmental Impact Matrix

Environmental Components	Proposed Action	No Action Alternative
Air Quality	No Significant Impact and Potential Beneficial Impact	Potential Beneficial Impact
Biological Resources	No Significant Impact and Potential Beneficial Impact	No Impact
Cultural Resources	No Significant Impact	No Impact
Geology, Soils, and Water Resources	No Significant Impact	No Impact
Hazardous Materials and Waste	No Significant Impact and Potential Beneficial Impact	Potential Beneficial Impact
Health and Safety	No Significant Impact	No Impact
Infrastructure and Transportation	No Significant Impact	No Impact
Land Use and Zoning	Potential Beneficial Impact	No Impact
Noise	No Significant Impact	No Impact
Socioeconomics	Potential Beneficial Impact	No Impact

3.0 AFFECTED ENVIRONMENT

In compliance with NEPA and CEQ guidelines, this Chapter describes the existing environment within the Proposed Action areas at CCAFS. This information serves as a baseline from which potential environmental changes resulting from implementation of the Proposed Action or the No Action Alternative can be identified and evaluated. These resources include the following areas: air quality; biological resources; cultural resources; geology, soil, and water resources; hazardous materials and waste; health and safety; infrastructure and transportation; land use and zoning; noise; and socioeconomics. The level of information presented for each category varies depending on the relevance of the alternative to the specific category. For example, more background information is provided for biological resources due to the higher potential for impacts, both positive and negative, on the environment.

The region of influence for the Proposed Action is SLC-36, Pump Station #4, existing roads, and adjacent areas.

3.1 Air Quality

The Proposed Action areas are located in Brevard County, which is currently in attainment with National Ambient Air Quality Standards (NAAQS) and Florida Ambient Air Quality Standards (FAAQS). This Installation is considered a major source of air pollution (*i.e.*, criteria and hazardous air pollutants (HAPs)) and is therefore subject to the Title V Air Operating Permit requirements of the Clean Air Act (CAA). Currently, CCAFS operates under an active Title V Permit. In 2004, an air emissions inventory concluded that HAP emissions were below the major source thresholds. As a result, the AF is preparing an application package for submission to Florida Department of Environmental Protection (FDEP) for modification of the Title V Air Operating Permit requesting limitations on HAPs as facility-wide emission sources. If FDEP grants the limitation then CCAFS would not be subject to the new National Emission Standards for Hazardous Air Pollutants (NESHAPs).

To meet the requirements of Section 112(r) of the CAA and 40 CFR Part 68, CCAFS prepared a Risk Management Plan (RMP). This plan is required because CCAFS stores reportable quantities of regulated and extremely hazardous chemicals. The chemical holdings for which RMPs have been prepared are for hydrogen at SLC's 17, 36, and 40, and hydrazine and aerozine-50 at SLC-40. Hydrogen was removed from the RMP during the most recent revision due to the fuel exemption provision of the RMP regulations (40 CFR Part 68); therefore, hydrazine and aerozine-50 at SLC-40 are the only chemicals addressed in the current RMP. As a result, the RMP is not applicable to the Proposed Action.

3.2 Biological Resources

Biological resources covered in this Section include native and naturalized vegetation communities and special-status species. Vegetation communities include both upland and wetland habitats. Special-status species include State and Federal Species of Special Concern (SSC) and Threatened and Endangered (T&E) species, and migratory birds. A list of common wildlife species that have been observed on CCAFS can be found in the Installation's 2001 Integrated Natural Resources Management Plan (INRMP).

3.2.1 Invasive Species

The majority of vegetation within the Proposed Action areas are mowed and maintained as depicted in Figure 3-1. Brazilian pepper (*Schinus terebinthifolius*) has been mapped within the fenced area of SLC-36A. A small patch of Australian pine (*Casuarina equisetifolia*) also exists between SLC-36A and SLC-11. The vegetation on Pump Station #4 is mapped as ruderal, and the vegetation within the fenced areas of SLC-36 and directly surrounding buildings outside the fenced areas, is mapped as mowed and maintained.

3.2.2 Native Communities

The topographic position of natural communities on CCAFS reflects the various erosional and depositional processes of coastal land formation. Generally, older communities are found on the western margin of the Canaveral Peninsula, along the Banana River; newer and successional communities are forming along the eastern coast. The current vegetative communities found on and adjacent to SLC-36 facilities are described below. Plant and animal species, including T&E species and SSC, are discussed by vegetation community.

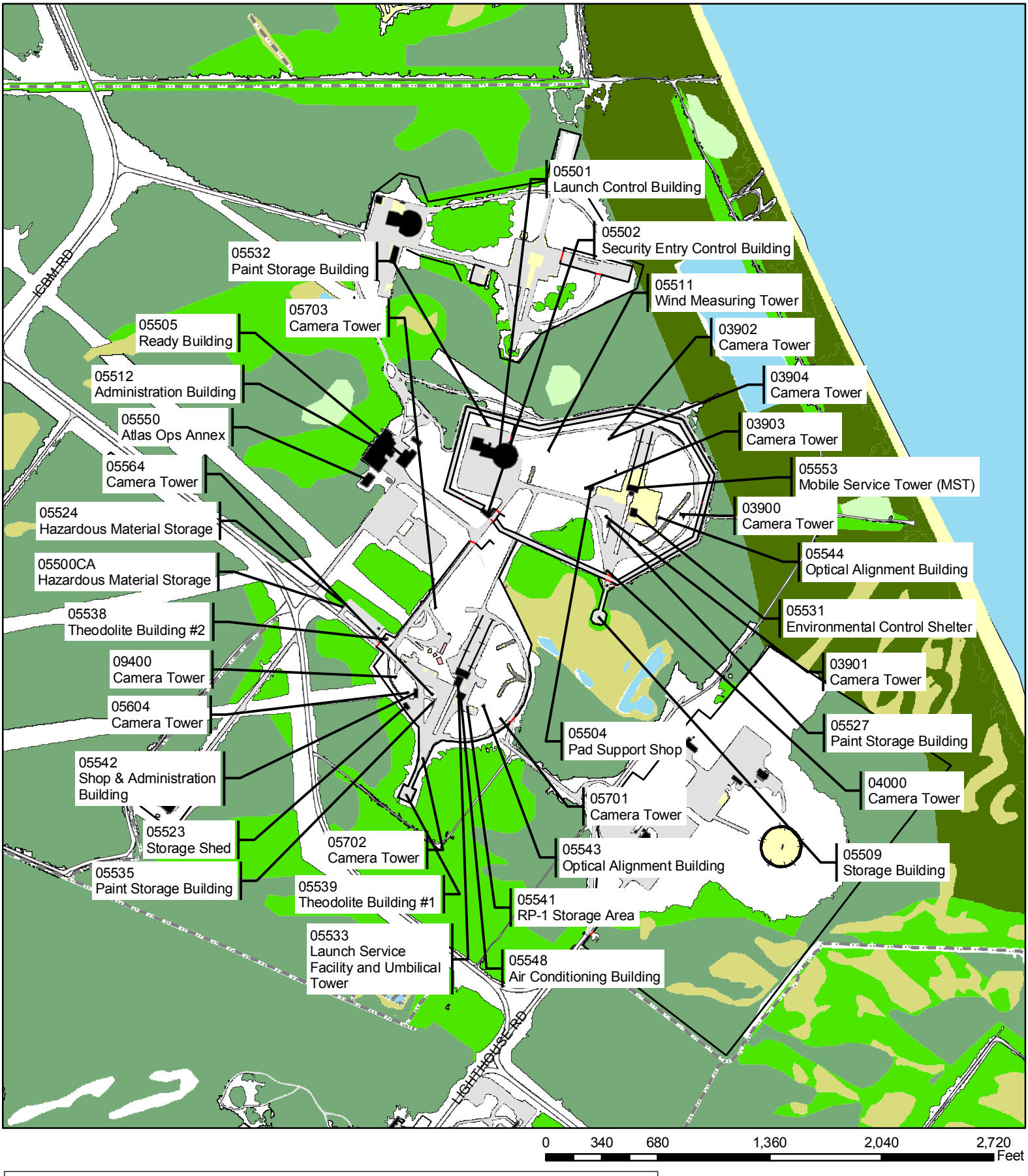
Coastal Strand

Dense coastal strand is mapped due east of SLC-36A outside of the fenced area. This community develops in the absence of natural disturbance on somewhat older deposits of sand, inland of beach or coastal grassland. It is a dense, shrub-dominated community that grades landward into scrub or maritime hammock. The most distinctive feature of coastal strand is the wedge-shaped profile of its low canopy, which is constantly pruned and shaped by windborne salt spray.

Coastal strand forms a dense thicket of shrubs, usually dominated by live oak (*Quercus virginiana*), buckthorn (*Bumelia [Sideroxylon] tenax*), sea grape (*Coccoloba uvifera*), wax myrtle, and saw palmetto (*Serenoa repens)*. Coastal strand is distinguished from scrub by the presence of calciphilic (calcium loving) plant species, such as Florida privet (*Forestiera segregata*), Hercules' club (*Zanthoxylum clava-herculis*), and buckthorn, and by tropical species, such as twinberry (*Myrcianthes fragrans*) and myrsine (*Rapanea punctata*). Sand live oak (*Q. geminata*), a distinguishing plant species of scrub on CCAFS, is absent from coastal strand. Coastal strand has relatively low species diversity, with herbs and short shrubs, such as gopher apple (*Licania michauxii*), prickly pear, and varnish leaf, occurring in disturbed or open areas. Some areas of strand are densely blanketed with catbrier (*Smilax auriculata*) or coin vine (*Dalbergia ecastophyllum)*.

Two State-listed plant species have been documented from disturbed areas and natural openings in coastal strand on CCAFS: beach star and coastal vervain.

The Florida scrub jay has been observed in coastal strand at CCAFS. Gopher tortoise burrows are often found in clearings in the strand. Burrows provide important refugia for Eastern indigo snakes, eastern diamondback rattlesnakes and Florida pine snakes.



Legend

- Gate
- Fence
- Tower Site
- Shed
- Pavilion
- Structures
- Rail System
- Road
- Water
- Named Areas
- Australian Pine
- Coastal Strand
- Oak/Palmetto
- Graminoid marsh
- Woody Exotics (Brazillian Pepper)
- Mowed / Maintained Grounds
- beach

Figure 3-1: Vegetation Communities for SLC-36

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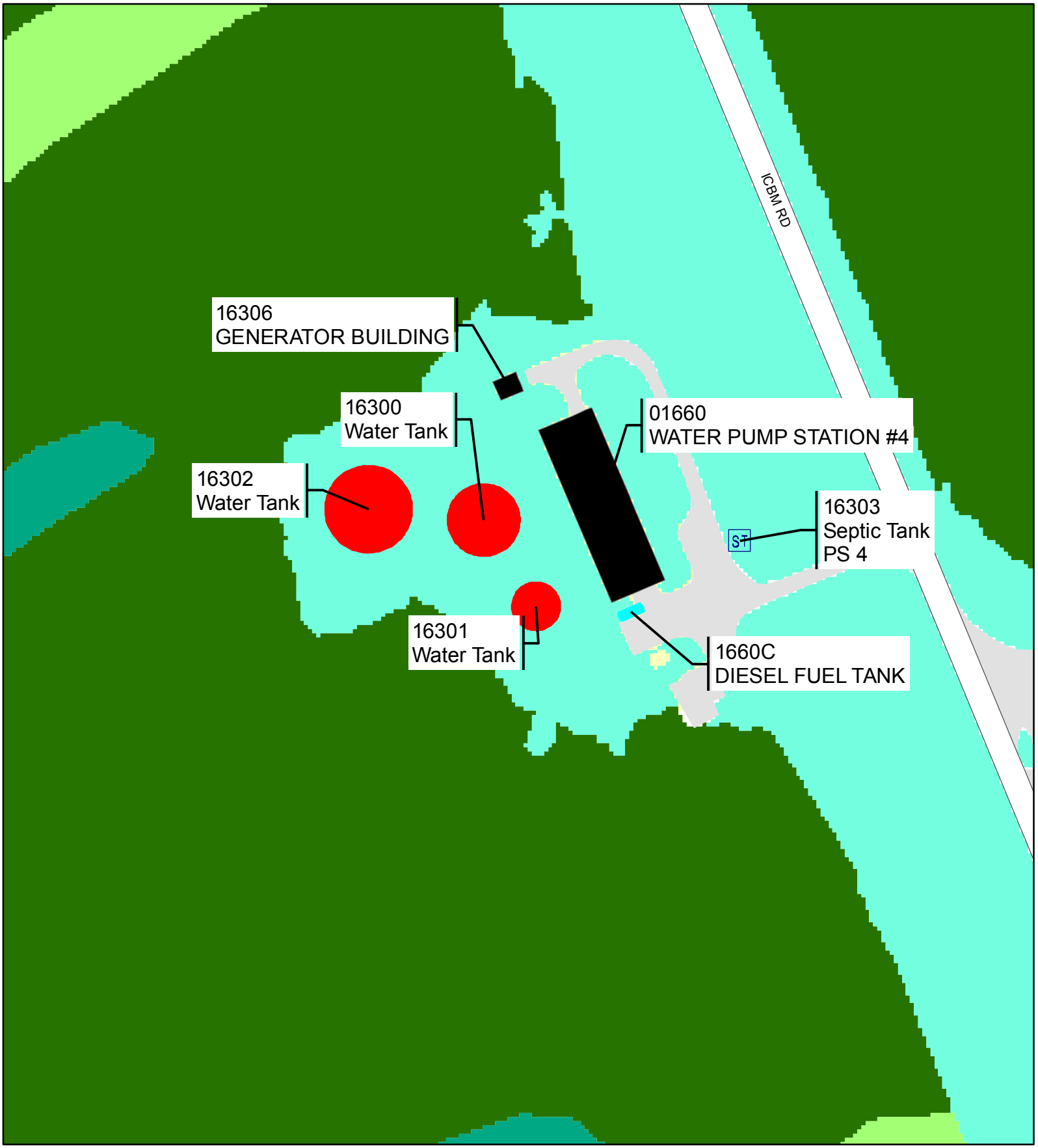
SpecPro
Environmental Services



Pump Station 4 Vegetation Types

0 30 60 120 180 240 Feet

Legend

- Water Tank
- Fuel Tank
- OPEN_DRAINAGE
- PAVED_DITCH
- UNPAVED_DITCH
- Driveways
- Parking
- Road
- Structures
- ST Septic Tank

2000 Vegitation

- graminoid marsh
- mixed conifer & hardwood - upland forest
- oak - palmetto
- ruderal or sparse
- wetland scrub

Figure 3-2: Vegetation Communities for Pump Station #4

N W E S

11/2004

SpecPro Environmental Services

Coastal Oak Scrub

Coastal oak scrub occurs directly landward of the coastal strand and surrounds most of the Complex outside of the fenced areas and Pump Station #4. Coastal oak scrub consists of dense, salt-pruned thickets of live oak, sand live oak, myrtle oak, and buckthorn, sometimes densely interwoven with catbrier. Hog plum (*Ximenia americana*) and gopher apple are common in openings and around margins of small outcroppings.

Openings and edges in oak scrub, where oaks have been mechanically removed and bare sand is exposed, support a number of rare plant and animal species. Rare plant species found in clearings in scrub on CCAFS include Curtiss' milkweed (*Asclepias curtissii*), nodding pinweed (*Lechea cernua*), and sand-dune spurge (*Chamaesyce cumulicola*).

Several rare animal species utilize openings in scrub, with the Florida scrub jay being the most high profile at this time. Gopher tortoises also use openings in scrub habitat. Scrub was identified as a high use area for indigo snakes at neighboring Merritt Island National Wildlife Refuge. It is likely that these snakes co-inhabit gopher tortoise burrows in oak scrub, although this has not been documented on CCAFS.

3.2.3 Freshwater Wetlands

Wetlands are the transition zones between dry upland ecosystems and aquatic habitats. Each wetland area is unique according to its surrounding geologic, hydrologic, and climatic condition. Wetlands are key to maintaining the health of aquatic habitats; they provide flood control, aquifer recharge, coastal protection, and act to help filter pollutants from the ecosystem. Wetlands often support a wide range of rare and endangered aquatic plants and wildlife, and humans have relied on wetlands as a source of food and recreation for centuries.

Several National Wetlands Inventory (NWI) wetlands are mapped in the vicinity of SLC-36 as depicted in Figure 3-3. This includes a perennial pond (excavated borrow pit) that is present northeast of SLC-36A. In addition, seasonal marshy areas surround SLC-36B, and occur west of SLC-36A. One small wetland exists within the fenced area of this SLC, adjacent to the southern boundary of SLC-36A.

These wetlands are periodically utilized by resident and migratory wildlife species. Raccoons and red-winged blackbirds use freshwater wetlands on CCAFS extensively. Raccoons appear to be primarily attracted by the large populations of leopard frogs inhabiting these environments. Red-winged blackbirds nest in the marsh vegetation and feed on insects emerging from marsh waters. Other species observed utilizing freshwater wetlands include white-tailed deer, marsh rabbit, rice rat, river otter, American coot, belted kingfisher, common moorhen, double-crested cormorant, great blue heron, great egret, little blue heron, marsh hawk, snowy egret, tricolored heron, wood stork, alligator, Florida cooter, Florida water snake, red-eared slider, soft-shelled turtle, southern leopard frog, and water moccasin.

Freshwater wetland plants observed on CCAFS include: beardgrass (*Andropogon spp*.), bladderwort (*Utricularia spp*.), common arrowhead (*Sagittaria lancifolia),* common cattail (*Typha latifolia)*, common duckweed (*Lemna minor*), Curtis' Reedgrass, (*Calamovilfa*

curtissi), elodea (*Egeria densa)*, hydrilla (*Hydrilla verticillata)*, maidencane (*Panicum hemitomon)*, sawgrass (*Cladium jamaicense)*, spatterdock/yellow cow lily (*Nuphar luteum)*, torpedo grass, and water pennywort (*Hydrocotyle umbellata)*.

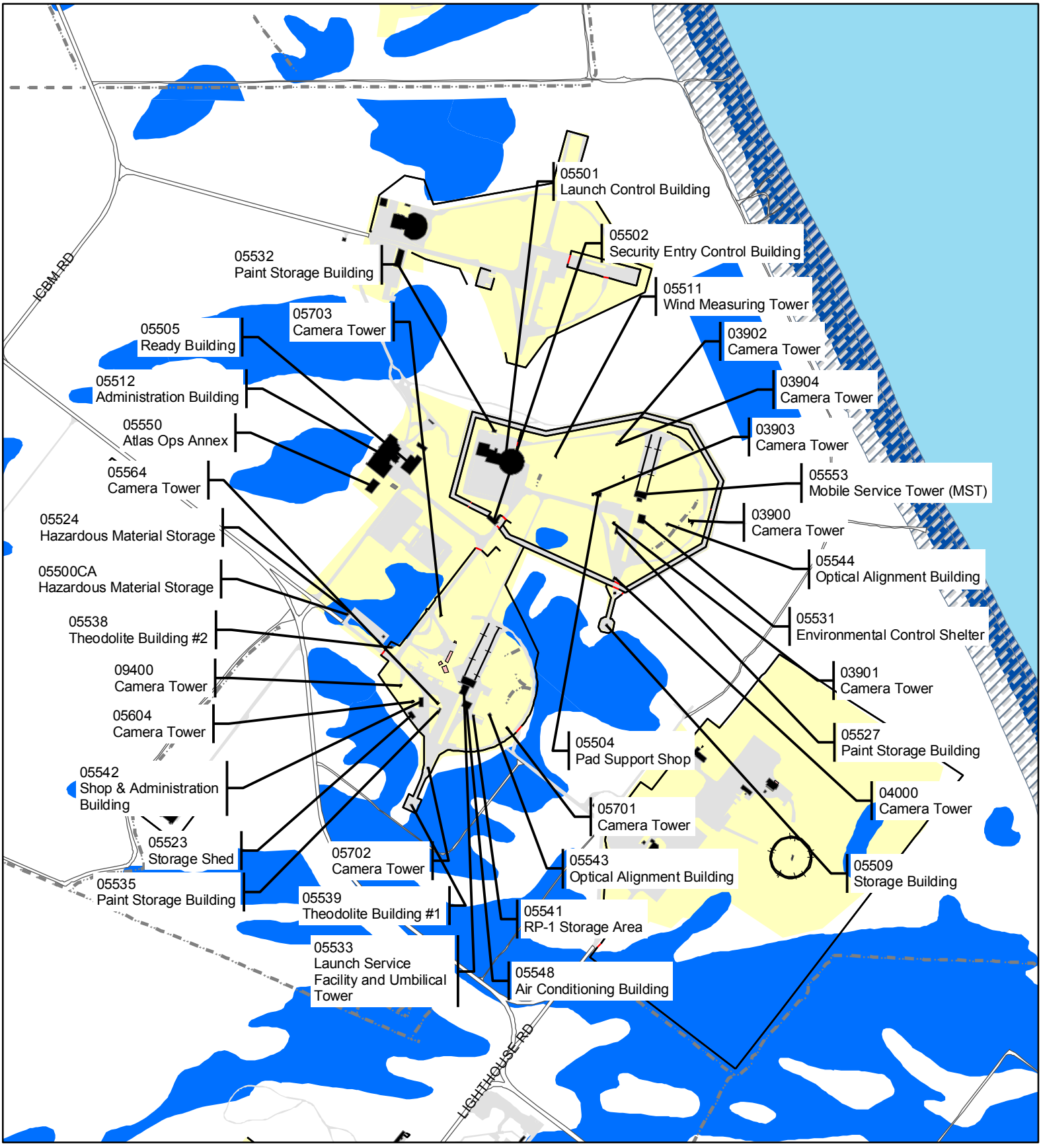


Figure 3-3: National Wetlands Inventory Map for SLC-36

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3.2.4 Threatened and Endangered Species and Species of Special Concern

Several Federal- and State-listed T&E species and SSC may utilize habitat on and around SLC-36 and Pump Station #4, as described in Section 3.2.2. Such species are identified in Tables 3-1 and 3-2, along with the status of each. There are no known Federal-listed plants on CCAFS. Figures 3-4 and 3-5 depict suitable habitat in the vicinity of these areas for the gopher tortoise and Florida scrub jay.

3.2.5 Migratory Birds

This AF Installation is home to numerous birds listed on the United States Fish and Wildlife Service (USFWS) migratory bird list, all of which are protected at the Federal level by the Migratory Bird Treaty Act (MBTA). All but a few bird species (*e.g.*, pigeons, European starlings, etc.) found on CCAFS are on this list. Great-horned owls, as well as other migratory birds, have been known to nest on the MST/UT of the Complex.

Table 3-1: Status of Threatened and Endangered Animals, and Species of Special Concern Potentially Located in the Proposed Action Areas

Scientific Name	Common Name	Status
		FDA[1]
Asclepias curtissii	Curtiss' milkweed	E
Chamaesyce cumulicola	Sand dune spurge	E
Lechea cernua	Nodding pinweed	T
Remirea maritime	Beach star	E
Verbena maritime *(Glandularia maritima)*	Coastal vervain	E

1) Florida Department of Agriculture-Chapter 5B-40 F.A.C., 2003

E= Endangered

T= Threatened

Table 3-2: Status of State-Listed Threatened and Endangered Plants Potentially Located in the Proposed Action Areas

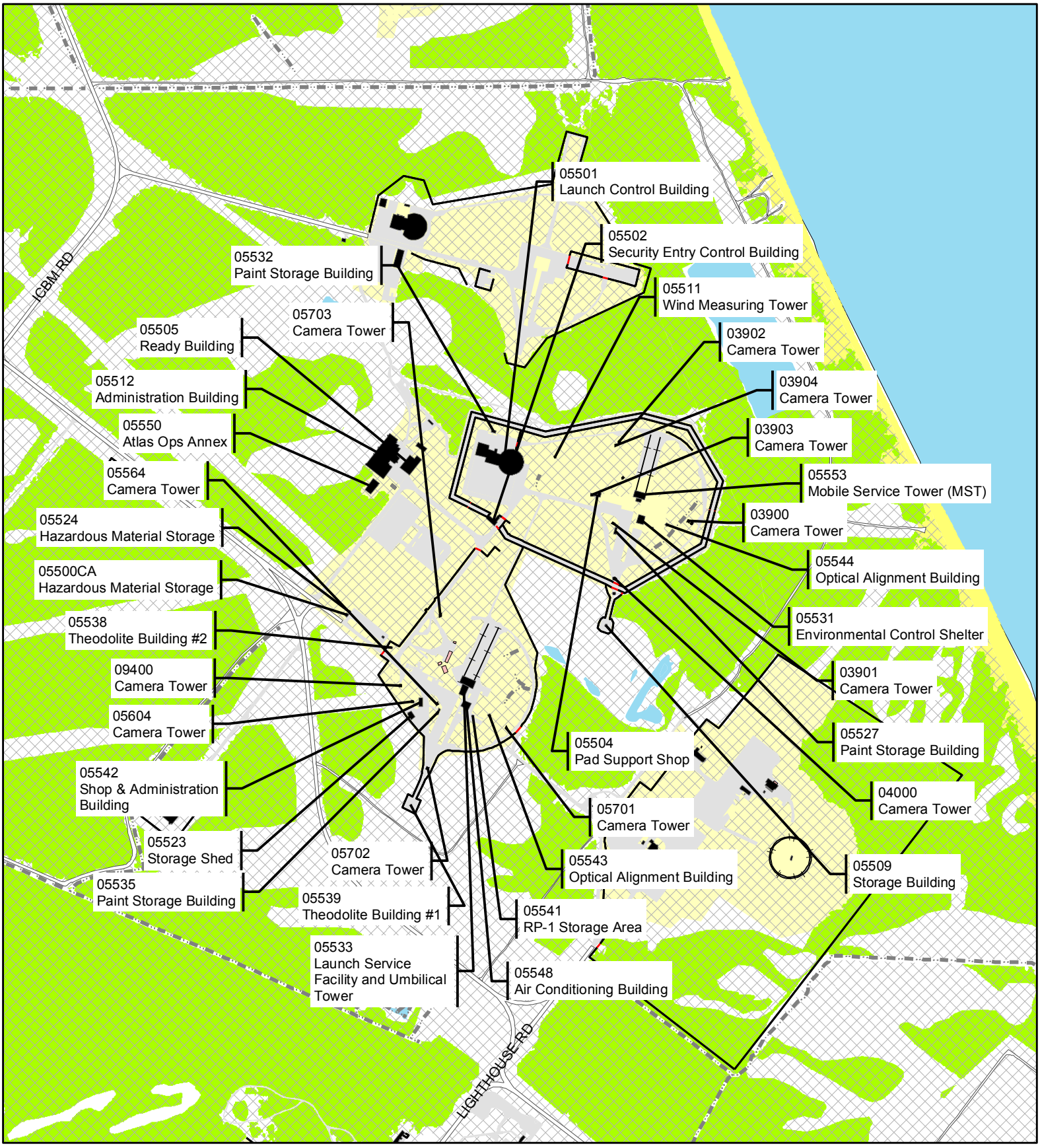
Common Name	Scientific Name	Status	
		USFWS[1]	FFWCC[2]
American Alligator	*Alligator mississippiensis*	T (S/A)	SSC
Gopher Tortoise	*Gopherus polyphemus*		SSC
Eastern Indigo Snake	*Drymarchon corais couperi*	T	T
Florida Pine Snake	*Pituophis melanoleucus mugitus*		SSC
Roseate Spoonbill	*Ajaia ajaja*		SSC
Florida Scrub jay	*Aphelocoma coerelescens*	T	T
Piping Plover	*Charadrius melodus*	T	T
Little Blue Heron	*Egretta caerulea*		SSC
Reddish Egret	*Egretta rufescens*		SSC
Snowy Egret	*Egretta thula*		SSC
Tricolored Heron	*Egretta tricolor*		SSC
White Ibis	*Eudocimus albus*		SSC
Peregrine Falcon	*Falco peregrinus*		E
Southeastern American Kestrel	*Falco sparverius paulus*		T
American Oystercatcher	*Haematopus palliatus*		SSC
Wood Stork	*Mycteria Americana*	E	E
Brown Pelican	*Pelecanus occidentalis*		SSC
Black Skimmer	*Rynchops niger*		SSC
Least Tern	*Sterna antillarum*		T

1) USFWS

E = Endangered: species in danger of extinction throughout all or a significant portion of its range.
T = Threatened: species likely to become endangered within the foreseeable future throughout all or a significant portion of its range.
T(S/A) = Threatened due to similarity of appearance to a species which is Federally listed such that enforcement personnel have difficulty in attempting to differentiate between the listed and unlisted species.

2) Florida Fish and Wildlife Conservation Commission (FFWCC)

SSC = Species of Special Concern



SLC 36 A and B Sensitive Habitat

0 335 670 1,340 2,010 2,680 Feet

Legend

- Gate
- Fence
- Tower Site
- Shed
- Pavilion
- Structures
- Rail System
- Road
- Water
- Named Areas
- Scrub Jay Habitat
- Beach Mouse
- Gopher Tortoise Habitat

Figure 3-4: Sensitive Species Habitat Map for SLC-36

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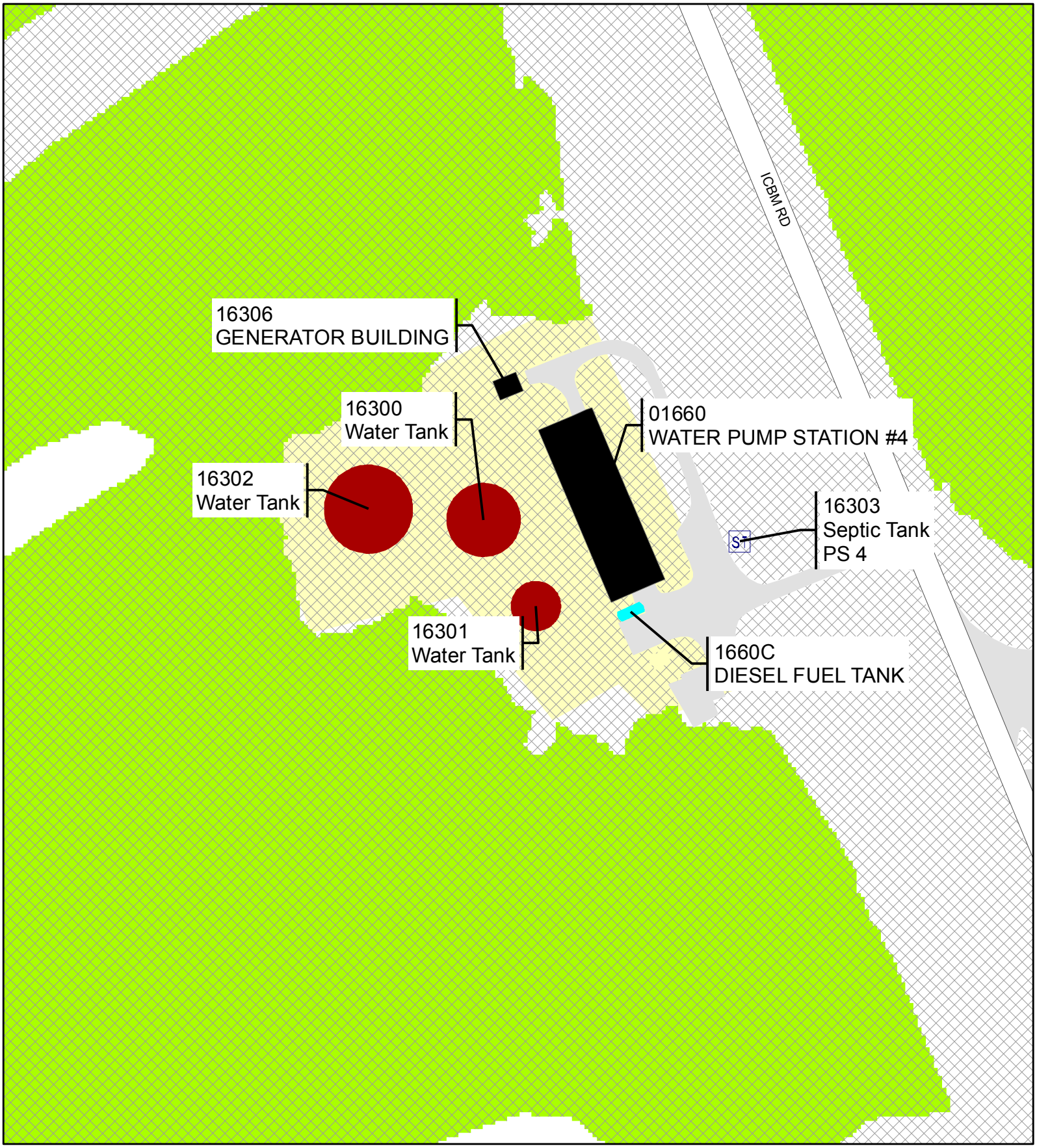

Pump Station 4 Vegetation Types

0 30 60 120 180 240 Feet

Legend

- Water Tank
- Fuel Tank
- OPEN_DRAINAGE
- PAVED_DITCH
- UNPAVED_DITCH
- Driveways
- Parking
- Road
- Structures
- Septic Tank
- Scrub Jay Habitat
- Beach Mouse
- Gopher Tortoise Habitat

Figure 3-5: Sensitive Species Habitat Map for Pump Station #4

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3.3 Cultural Resources

Cultural resources can be generally divided into two broad categories: archaeological sites (either historic or prehistoric), and historic buildings or structures. Space Launch Complex 36 is considered eligible for listing in the National Register of Historic Places (NRHP).

According to a 1996 New South Associates study, a prehistoric Malabar I site (Florida Master Site File location 8Br1642) was identified on the east side of the Complex approximately 800-1000 feet outside of the fence line along the west side of an unnamed road that runs between SLC36A and SLCs 1, 2, 3 and 4. This bypass road eventually passes north of LC 11 and connects with ICBM ROAD. A Phase II archeological survey conduced in 1999 by Archeological Consultants, Inc. determined that this site is not eligible for listing on the NRHP. There are no known sites near SLC-36B.

In a 1988 Memorandum of Agreement (MOA) between the AF and the Florida Department of State, Division of Historical Resources, the AF, the Florida SHPO, and the Advisory Council on Historic Preservation agreed that the historic value of SLC-36 existed in the engineering significance of its components and that preservation through documentation as stated in 36 CFR 800.9(c)(1); exceptions to Criteria of Adverse fact, was appropriate. Activities at SLC-36 should be implemented in accordance with stipulations in the MOA that would take into account the effect of the undertaking on historic properties.

In order to comply with Sections 106 and 110 of the National Historic Preservation Act and with the MOA, the AF enlisted the services of the United State Army Corps of Engineers Construction Engineering Laboratory (USACERL) in Champaign, Illinois to document the SLC-36 structures.

In 1995, USACERL submitted a final report entitled "Historic American Engineering Record of Complex 13, 26, 36, Cape Canaveral Air Station, Cape Canaveral, Florida." The report contained a historical overview of CCAFS and history, architectural/engineering descriptions, indices to photographs, and photocopies of photographs and engineering drawings specifically pertaining to Complexes 13, 26, and 36. The archive quality text, photographs, and negatives of the report were sent directly to the National Park Service HABS/HAER (Historic American Building Survey /Historic American Engineering Record) Office, Atlanta, Georgia, for submission to the Library of Congress, Washington, D.C.

3.4 Geology, Soil, and Water Resources

3.4.1 Geology

The topography of CCAFS consists of a series of relic dune ridges formed by wind and wave action, indicating that gradual beach deposits occurred over time. Higher naturally occurring elevations occur along the eastern portions of these areas, with a gentle slope to lower elevations toward the marshlands along the Banana River. Land surfaces are level to gently sloping with elevations ranging from sea level to 15 feet above mean sea level (msl).

Four stratigraphic units can generally define the geology underlying the Proposed Action areas: the surficial sands, the Caloosahatchee Marl, the Hawthorn Formation and the limestone formations of the Floridian aquifer. The surficial sands immediately underlying the surface are marine deposits that typically extend to depths of approximately 10 to 30 feet below the surface. The Caloosahatchee Marl underlies the surficial sands and consists of sandy shell marl that extends to a depth of 70 feet below the surface. The Hawthorn Formation, which consists of sandy limestone and clays, underlies the Caloosahatchee Marl and is the regional confining unit for the Floridian aquifer. This formation is generally 80 to 120 feet thick, typically extending to a depth of approximately 180 feet below the surface. Beneath the Hawthorn Formation lie the limestone formations of the Floridan aquifer, which extend several thousand feet below the surface at CCAFS.

Bedrock ranges from a hard to dense limestone that is a principal part of one of the major Florida artesian aquifers, located 75-300 feet below the surface. It is overlain by sandy limestone, calcareous clay with fragments of shells, coquinoid limestone and unconsolidated and well-graded quartz sand. The surface is a mixture of permeable sand and shell materials. There are no rock outcrops on the Installation.

3.4.2 Soils

The soil survey of Brevard County, Florida, prepared in 1974, mapped three soil types on SLC-36 (canaveral sand, canaveral-urban complex, and urban land) (Figure 3-6), and one soil type (canaveral sand) on Pump Station #4. These soils are moderately well drained to excessively drained and sandy throughout. The soils are exceptionally dry, even though the water table is often near the surface during rainy periods.

3.4.3 Water Resources

Groundwater

The surficial and Floridan aquifer systems underlie CCAFS. The approximately 70-foot-thick surficial aquifer system, generally comprised of sand and marl, is unconfined. The water table in the aquifer is generally a few feet below the ground surface. The surficial aquifer is recharged by infiltration of precipitation through the thin vadose zone.

Cape Canaveral AFS is within the Florida Middle East Coast Basin and situated on a barrier island that separates the Banana River from the Atlantic Ocean. This basin contains three major bodies of water: the Banana River immediately to the west, Mosquito Lagoon to the north, and farther west, the Indian River, separated from the Banana River by Merritt Island. All three water bodies are estuarine lagoons, with circulation provided mainly by wind-induced currents.

Surfacewater/Stormwater

There are five shallow drainage canals (or swales) within the fenced area of this Complex: three on the east side of Pad B, one large one on the east side of Pad A, and one on the west side of Pad A. They are used to channel stormwater from the pads into the surrounding wetlands. Wetland areas on the site are described in the Biological Resources Section.

A Multi-Sector Stormwater Permit has been issued to CCAFS by FDEP for stormwater runoff exposed to industrial activities through FDEP. Both SLC-36A and SLC 36B are covered under this permit due to the nature of the launch activity and its operations.

There have been no sampling requirements associated with the permit for SLC 36.

Atlas Rocket Pad 36A

Facilities with the potential for stormwater pollution include:

- Generator Fuel Storage Tank (5502-A)
- Mobile Service Structure (5553)
- Deluge Water Basin
- Environmental Control Shelter (5531)
- RP-1 Fuel Storage Facility (5528)
- Paint Storage Building (5527)
- Pad Support Shop (5504)

There are seven stormwater sampling outfalls identified at SLC-36A. Most of the outfalls receive runoff from industrial activities. No industrial activity was identified in the sub-basin tributary to Outfall 004. Outfalls 001, 002, and 003 are controlled by valves at the pipe outlet; Outfall 004 receives stormwater from a small sub-basin which discharges to an offsite vegetated swale; and Outfalls 005, 006, and 007 also have uncontrolled discharges to vegetated swales.

Complex 36A runoff drains through an open ditch conveyance system that ultimately discharges to the Banana River. Stormwater runoff exits the site and generally travels south past Complex 36B to a large drainage ditch running west-northwest. This ditch is a tributary to another ditch that runs west to the Banana River. The total flow length from Complex 36A to the Banana River is approximately 4.1 miles.

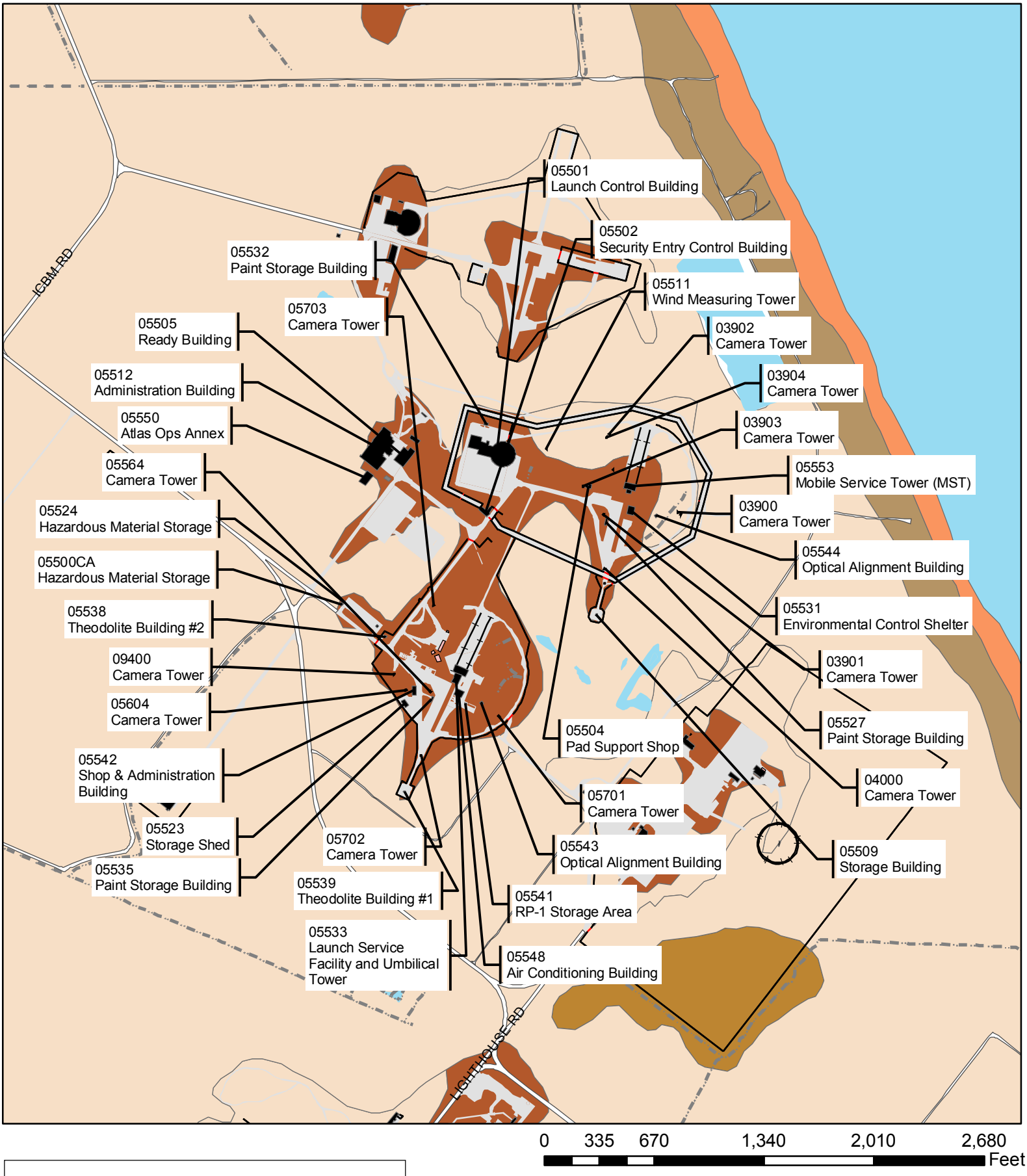

Figure 3-6: Soils Map for SLC-36

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Atlas Rocket Pad 36B

Facilities with the potential for stormwater pollution include:

- Launch and Service Facility (5533)
- Deluge Water Basin
- Air Conditioning Building (5548)
- RP-1 Fuel Storage Area (5541)
- Paint Storage Building (5535)
- Shop and Administration Building (5542)
- LOx Storage Area (5536)

In general, good vegetative cover is maintained at the site. In most areas where erosion potential is high, flumes are in place to control erosion. An area of moderate erosion was noted immediately west of the Shop and Administration Building where a large paved area outfalls to a poorly vegetated area.

There are five stormwater outfalls identified at SLC-36B. Most of the outfalls receive runoff from several industrial activities and stormwater samples from these outfalls would be representative of on-site activities. Valves at the pipe outlet control Outfalls 001 and 002. Outfall 004 is elevated, resulting in upstream dry retention storage. Outfall 005 has an uncontrolled discharge to a vegetated swale. The pipe at Outfall 003 is not fitted with a valve and channels rainfall runoff that collects under the ramp. Deluge water is not expected to be present in this runoff.

Stormwater discharge from Complex 36B is conveyed southwest to the same ditch system serving Complex 36A. The total flow length to the outfall at the Banana River is approximately 3.7 miles.

3.5 Hazardous Materials and Hazardous Waste

3.5.1 Hazardous Materials

The term "Hazardous Materials" as defined by the Department of Transportation (DOT) refers to materials "capable of posing an unreasonable risk to health, safety, and property when being transported." However, the term is commonly used to refer to materials that are regulated by the U.S. Environmental Protection Agency (EPA) or the Occupational Safety and Health Administration (OSHA) because they either pose a threat to health or the environment or can generate a hazardous waste.

Hazardous materials and equipment are generally stored indoors at SLC-36A. Inventoried materials in the Paint Storage Building (5527) included adhesives, desiccants, isopropanol, and silicone lubricant. Other significant materials storage areas included the RP-1 Fuel Storage Facility. Materials and equipment are also generally stored indoors at SLC-36B. Stored materials in the Paint Storage Building (5535) included adhesives, desiccants, gasoline, grease, hydraulic fluid, paint, and waste oil.

Asbestos

Asbestos is HAP under NESHAPs of the CAA, a known human carcinogen, and a cause of asbestosis. The EPA issues regulations to ensure compliance with the CAA. OSHA

also provides for worker protection for employees who work around or remediate ACM. Friable ACM, which can be pre-existing or generated during a demolition activity, refers to any material containing more than one percent asbestos that can be crumbled, pulverized, or reduced to powder when dry, by using hand pressure or similar mechanical pressure. ACM has been identified in several facilities on SLC-36.

3.5.2 Hazardous Waste

Hazardous wastes are materials whose disposal is regulated under RCRA. They are either listed in 40 CFR 261 "Identification and Listing of Hazardous Waste," applicable State and local waste management regulations, or possess at least one of the following four characteristics:

- Ignitability - Common examples are: parts cleaning solvents, kerosene, and paint thinner.
- Corrosivity - Common examples are: battery acid, aluminum brighteners/cleaners, many floor cleaners, and caustic paint strippers.
- Reactivity - A common example is potassium cyanide.
- Toxicity - Common examples are: materials contaminated with other hydrocarbon products; water and sludge that have accumulated in the bottom of fuel storage tanks, used oil tanks or other vessels; spent solvents; debris contaminated with used petroleum, oil, or lubricants such as used oil filters, shop rags and absorbents; spent antifreeze; and paint wastes.

Two types of hazardous waste storage areas are located on SLC-36: Satellite Accumulation Points (SAP) and Ninety-Day Accumulation Sites. Table 3-3 identifies the locations of these storage areas.

Satellite Accumulation Points

A SAP has an indefinite accumulation time, however, only a maximum of 55 gallons per waste stream of hazardous waste, or one quart of acutely hazardous waste (P listed, *i.e.*, P078) can be accumulated. The container must be dated and moved to a 90-day site, the on-base permitted treatment, storage, or disposal facility (TSDF), or an off-site permitted TSDF within 72 hours of the generation of any quantity greater than 55 gallons or 1 quart of acutely hazardous waste. Each organization is responsible for minimizing the generation of hazardous wastes, and must properly identify, package, and label each waste. An internal manifest must also be completed by the generator. This responsibility is in force until disposition of the wastes. Since only hazardous wastes defined in the applicable permit are allowed in the permitted facilities, it is imperative that new wastes be identified and forecasted as early as possible to ensure that the AF can provide adequate storage and disposal of the wastes.

Ninety-Day Accumulation Sites

A Ninety-Day Accumulation Site can store any amount of hazardous wastes up to 90 days at a time without a permit. Hazardous waste must be moved from the 90-day accumulation site to the on-base permitted storage facility or shipped off-site to a permitted TSDF within 90 days from the accumulation start date.

Table 3-3: Hazardous Waste Storage Locations

Facility Number	Location	Satellite Accumulation Point	90 Day Accumulation Site
1721	Hangar J (Solder)	X	
1725	Hangar K (Aerosols)	X	
1725	Hangar K (IPA)	X	
1725	Hangar K (Beadblast)	X	
5500CA	SLC 36B		X
5501	SLC 36 Blockhouse	X	
5510	SLC 36A (First Floor)	X	
5510	SLC 36A (Second Floor)	X	
5510	SLC 36A (Aerosols)	X	
5527	SLC 36A Paint Storage		X
5523	SLC 36B Storage Shed	X	
5533	SLC 36B (Aerosols)	X	
5533	SLC 36B Service Building	X	
5533	SLC 36B Service Building	X	
5535	SLC 36B		X
49735	Hangar K POL		X
55071	Barrel Storage		X
55073	Automotive Shop	X	

Storage Tanks

Table 3-4 identifies all of the aboveground storage tanks (ASTs) associated with the Atlas program.

Table 3-4: ASTs Supporting the Atlas Program

Tank Number	Contents of Tank	Status	Location	Size (Gallons)	Supports	Construction
5534	RP-1	Regulated	SLC-36B	28,000	Launches	Steel Single Wall
05521-1	Used Lube Oil	Unregulated	SLC-36B	65	Compressor	SS Single Wall
05521-2	Used Lube Oil	Unregulated	SLC-36 B	65	Compressor	SS Single Wall
05521-3	DF-2	Unregulated	SLC-36B	550	Emer. Gen.	Steel Single Wall
5532	DF-2	Unregulated	SLC-36 Blockhouse	550	Emer. Gen.	Steel Single Wall
5528	RP-1	Regulated	SLC-36A	28,000	Launches	Steel Single Wall
05502-1	DF-2	Unregulated	SLC-36 Guard House	150	Emer. Gen.	Steel Single Wall
05502-2	DF-2	Unregulated	SLC-36 Guard House	15	Day Tank	Steel Single Wall
01660-2	DF-2	Unregulated	Pump Station # 4	550	Emer. Gen.	Double Wall
01660-3	DF-2	Unregulated	Pump Station # 4	100	Day Tank	Steel Double Wall
01660-C	DF-2	Regulated	Pump Station # 4	8,000	Emer. Gen.	Steel Single Wall

Polychlorinated Biphenyls

Polychlorinated biphenyls (PCB) are suspected human carcinogens. Improper handling of PCB items or releases of PCBs could have adverse effects on human health and the environment.

It is suspected that the launch stand and other site support structures were painted in the past with coatings that contained PCBs. It was believed that the PCBs helped the paint withstand the extreme temperatures generated at launch time. Discharge of contaminated deluge water and dispersion of the paint chips that resulted from sandblasting operations are considered the primary causes of PCB contamination in the area.

3.5.3 Pollution Prevention

The Pollution Prevention Act of 1990, 42 U.S.C. 13101(b), established a National policy to prevent or reduce pollution at the source. Pollution prevention approaches should be applied to all potential pollution-generating activities.

3.6 Health and Safety

From 1993 to 1999 a Remedial Facility Investigation (RFI) of SLC-36 (also referred to as Solid Waste Management Unit 50) was performed, detailing the sampling and analysis of site soil, groundwater, surface water, and sediment that could be contaminated as a result of launch activities. These results were used to determine human health and ecological risks. The Human Health Risk Assessment (HHRA) indicated that potential risks existed from site groundwater and soil. The Ecological Risk Assessment (ERA) indicated potential ecological risks from site soils. In 2000, a Corrective Measure Study (CMS) was undertaken to evaluate and select a remedy for groundwater and soil contamination at SLC-36. The CMS recommended that an Interim Measure (IM) be conducted to excavate contaminated soils and that monitored natural attenuation of groundwater be implemented to ensure that groundwater contaminants continue to degrade through natural processes. In 2001, An IM was performed to remove soil contaminated with PCBs located throughout the launch complex. The clean-up action resulted in the removal of approximately 360 cubic yards (505 tons) of contaminated soil. A site-specific risk-based clean-up level (18 mg/kg) was calculated, based on the facility's status as an active launch complex. Soils within the secure area of SLC-36 (inside the fence) were remediated to this level. Soils outside the fence were remediated to 0.5 mg/kg, a level calculated to be protective of ecological receptors by the risk assessment.

Soils exceeded the one in one million (1/1,000,000) cancer threshold for the hypothetical future adult resident, the hypothetical future child resident, future industrial worker, and current industrial worker. The primary contributor to cancer risk was Aroclor-1260 (a PCB). Aroclor 1260 was also the most significant component of non-carcinogenic hazard.

Groundwater exceeded the one in one million (1/1,000,000) cancer risk threshold and the non-carcinogenic hazard index target of 1.0 for the future industrial worker, the hypothetical future adult resident, and the hypothetical future child resident. Vinyl chloride and arsenic are the major contributors to cancer risk, while cis-1,2-dichloroethene, arsenic, and chromium are the primary components of the non-carcinogenic hazard. Evaluations in the CMS determined that only cis-1,2-dichloroethene, chromium, and vinyl chloride exceeded the EPA Maximum Contaminant Levels (MCLs) which govern cleanup.

The final remedial action objectives (RAOs) are to:

- Protect humans from exposure to shallow groundwater and prevent consumption of groundwater from the shallow aquifer (where contaminant concentrations are higher than regulatory standards); and

- Prevent unacceptable human contact with site soils.

Land Use Controls (LUCs) for SLC-36 state that soils will not be disturbed or moved during property development, maintenance, or construction without AF review, coordination, and approval. Unless disturbed, the remaining soil contaminants currently do not pose a risk to site workers. Once the removal of soil has been completed, no worker exposure concerns will remain. The consumptive use of water from the site's surficial aquifer is prohibited.

3.7 Infrastructure and Transportation

The AF landfill, located on CCAFS just north of the Skid Strip, is permitted as both a Construction and Demolition (C&D) debris landfill and as an asbestos monofill. The 45SW defines C&D debris as materials generally considered not water soluble and non-hazardous in nature. The debris includes, but is not limited to, steel, glass, brick, concrete, asphalt roofing material, pipe, gypsum wallboard, and lumber from construction or destruction of a structure, part of a construction or demolition project, or from the renovation of a structure. Tree remains, trees, and other vegetative matter are prohibited from disposal in the C&D landfill at CCAFS.

3.8 Land Use and Zoning

With 16 launch pads at 11 SLCs, CCAFS has the largest number of launch pads in the United States. Eleven are active launch pads, two are being rebuilt, two have been deactivated, and one is being redeveloped as a test facility. The Proposed Action areas, SLC-36 and Pump Station #4, are surrounded by lands designated for conservation and various launch support facilities. Inactive SLCs occur to the north of SLC-36 along ICBM Road. An active Complex, SLC-46, utilized for commercial and Navy launches, is located southeast of SLC-36.

The Atlantic Ocean is located to the east of SLC-36. The AF has doubled the State's designated no-development coastal zone by enforcing a 150-foot zone of no construction from the ordinary high tide mark extending inland. The SLC is located slightly outside of this zone.

Space Launch Complex 36 is a designated Solid Waste Management Unit (SWMU 50). Because of the RFI conducted at SLC 36, LUCs were implemented. The property is prohibited from residential or other non-industrial development without prior written notification to FDEP and EPA concerning the SWMU land use change. The Land Use Control Implementation Plan (LUCIP) will remain in effect until changes to applicable Federal and State risk-based clean-up standards occur which indicate site contaminants no longer pose potential residential risk, or until site contaminant concentrations are reduced to below Federal and State residential risk-based clean-up standards. In the event of property realignment, transfer, or re-use for non-industrial or non-commercial purposes, assessment and remediation may be necessary to ensure that impacts to ecological receptors are not increased, or to mitigate potential ecological impacts where residual contamination exists.

3.9 Noise

The decibel (dB) is the accepted standard unit for measuring the level of noise and is generally adjusted to the "A-weighted" logarithmic scale (dBA) to better correspond to the normal human response to different frequencies. Several metrics have been developed for multiple-noise event analysis. The one most commonly used is the LDN (Day - Night Average Sound Level) metric. This is the dBA level averaged over a 24-hour period, with an additional ten-dBA penalty added for noise events occurring between 10 p.m. and 7 a.m. (because noise at night is judged to be more annoying than noise during the day). The threshold noise level for compatible land uses is an LDN of 65 dBA. Areas outside (less than) the 65-dBA LDN contour are compatible with residential and other noise-sensitive land uses.

3.10 Socioeconomics

The Spaceport is Brevard County's major employer with a combined CCAFS/KSC work force of more than 27,000 employees (military, civil service and other government and contract employees) as of 2002.

Employees at Cape Canaveral contribute to the local economy through salaries, payroll taxes, and spending. According to the Cape Commander's website, approximately 10,000 people are badged to work on CCAFS with an annual average salary of $43,000, for a total economic result of $430 million. It is estimated that for every dollar spent in a local community, it is re-spent between four to eight times before it eventually drops out of the system due to taxes, savings, or being spent out of the local area. Based on this estimate, workers at CCAFS contribute close to $1.7 billion directly and indirectly to the local economy. With a combined budget of $326.8 million, the 45SW (which includes CCAFS, PAFB, the Jonathan Dickinson Missile Tracking Annex, Malabar Annex, Antigua Air Station, and Ascension Island) directs government spending on these facilities that translates into the local economy. While an estimate of economic impact based only on the salary of CCAFS workers is a small portion of total spending and does not include things like purchase of construction materials, it does show the importance of CCAFS within the Brevard County economy.

4.0 ENVIRONMENTAL CONSEQUENCES

This Chapter describes the potential environmental impacts associated with the activities under the Proposed Action and the No Action Alternative. The affected environmental components were described in Chapter 3 to provide a context for understanding potential impacts.

Federal, State, and local environmental laws and regulations were reviewed to assist in determining established thresholds for assessing environmental impacts (if any) in fulfillment of NEPA requirements. Proposed activities were evaluated to determine their potential to result in significant environmental consequences using an approach based on the interpretation of significance outlined in the CEQ regulations for implementing the procedural provisions of NEPA (40 CFR 1500-1508) and 32 CFR 989, *The Environmental Impact Analysis Process* (1995). The assessment of potential impacts and the determination of their significance are based on the requirements in 40 CFR 1508.27. Three levels of impact can be identified:

- No Impact - No impact is predicted
- Not Significant Impact - An impact is predicted, but the impact does not meet the intensity/context significance criteria for the specific resource
- Significant Impact - An impact is predicted that meets the intensity/context significance criteria for the specific resource

Thresholds for determining impact significance are based on the applicable compliance standard. When feasible, these criteria correspond to Federal- or State-recognized criteria, and are determined using the associated standardized methods. In the absence of compliance standards, the thresholds are based upon Federal- or State-recommended guidance or follow professional standards/best professional judgment.

Guidelines established by the CEQ (40 CFR 1508.27) specify that significance should be determined in relationship to both context and intensity (severity). Context refers to the potential region of influence, which for this project is CCAFS and Brevard County. Factors contributing to the intensity or severity of the impact include the following:

- The degree to which the action affects public health or safety;
- Unique characteristics of the geographic area such as proximity to cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas;
- The degree to which effects of the action on the quality of the human environment are likely to be highly uncertain or controversial;
- The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration;
- Whether the action is related to other actions with individually insignificant, but cumulatively significant, impacts;

- The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing on the NRHP, or may cause loss or destruction of significant scientific or cultural resources;
- The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the ESA; and
- Whether the action threatens to violate a Federal, State, or local law or requirement(s) imposed for environmental protection.

Ten broad environmental components were considered: air quality; biological resources; cultural resources; geology, soils, and water resources; hazardous materials and waste; health and safety; infrastructure and transportation; land use and zoning; noise; and socioeconomics.

4.1 Air Quality

Air Force Instruction 32-7040, *Air Quality*, identifies AF requirements for an air quality compliance program. The AF must achieve and maintain compliance with all applicable Federal, State, and local standards for air quality compliance. The Proposed Action areas are located in Brevard County, which is currently in attainment with NAAQS and FAAQS.

OTHER APPLICABLE REGULATORY REQUIREMENTS

Law or Rule	Permit/Action(s)	Requirement	Agency or Organization
Air Force Instruction (AFI) 32-7086, Chapter 4	Minimize loss and conduct recovery, recycling, and reuse of ODS to the maximum extent practicable.	Manage to minimize ozone depleting substances (ODS) releases into the environment.	AF
FAC Chapter 62-257, Asbestos Program and 40 Part 61, Subpart M, National Emission Standards for Hazardous Air Pollutants (NESHAP) for Asbestos	Remove asbestos prior to demolition activities and notify FDEP and Asbestos Recovery Team; comply with Asbestos Management Plan.	Prevent the release of significant amounts of asbestos fibers to the outside air during demolition activities, which present a risk to human health.	45SW, FDEP and USEPA
AFI 32-7040	Estimate air emissions	Track vehicle/equipment use and estimate air emissions for inclusion in the Air Emissions Inventory (AEI).	AF

4.1.1 Proposed Action

Vehicle and Equipment Emissions

Project machinery would emit exhaust (CO, NO_x, and SO_2) and suspended dust particles (*i.e.*, particulate matter (PM)) during project activities. Typical rates of dust emissions from land-leveling and contouring activities, such as grading and bulldozing, varies

greatly, but is generally estimated at approximately 110 pounds per day per acre (USEPA, 1985). Best management practices (BMPs) such as periodic watering of the construction site(s) and restricting vehicle travel speed on gravel roads would reduce PM emissions.

The current CCAFS Title V Air Operating Permit would not need to be amended, as the impacts associated with the Proposed Action would be minor and are covered by the existing permits. Vehicle emissions and land disturbance activities would be entered into CCAFS's Air Emissions Inventory (AEI), in accordance with AFI 32-7040.

Explosive Demolition

Explosives used at a site would cause a short-term increase in air pollutants in the immediate area. Assuming the explosives are ammonium nitrate with fuel oil, ammonium nitrate slurry with monomethylamine thickener, and trinitrotoluene, pollutants generated in the explosion would include ammonia, CO, and NO_x. The primary air emission during the explosion would be PM. Particulate matter would be generated in a short burst and within an hour, most of the dust from the explosive demolition event would settle; therefore, the quantities are not anticipated to be of concern.

Asbestos Removal

The selected asbestos removal/abatement contractor would develop an air-monitoring plan to ensure that engineering controls employed during asbestos abatement activities are effective. Asbestos abatement requirements and procedures including, but not limited to, setting up containment, negative air, wet removal, air monitoring, etc. must be followed when necessary. All asbestos abatement activities as well as other activities that may disturb ACM must be coordinated through the CCAFS Asbestos Recovery Team (ART) and performed in compliance with applicable State (FDEP) and Federal (EPA and OSHA) asbestos rules including the following:

- FDEP must be notified 10 days in advance of start of project by submitting Form 62-257.900(1), *Notice of Asbestos Renovation and Demolition*, if the quantity of ACMs to be removed is determined to be up to160 sq. ft. or 260 linear ft;

- FDEP must also be notified 10 days in advance of start of project if it involves demolition (removal of load bearing member) regardless of whether facilities contain ACM;

- This notification form shall satisfy the notification requirements of the EPA National Emissions Standards for Asbestos, 40 CFR 61.145(b);

- The asbestos removal fee shall be calculated in accordance with the fee schedule outlined in 62-257.400, F.A.C.;

- A revised notification must be submitted if after the start of the project it is determined at least 20 percent more regulated ACM than originally reported must be removed; and

- Only those personnel trained and certified in handling ACMs must perform project.

Ozone Depleting Chemicals

In accordance with Public Law 102-484, any new chemical, solvent, material, or system making use of materials classified as a Class I Ozone Depleting Chemical (ODC), will not be introduced during the Proposed Action. Venting of ODCs into the atmosphere is prohibited. ODCs would be recovered and recycled. ODC recovery operations would be performed by trained technicians using EPA-approved recovery equipment. ODCs would be recovered and recycled prior to excessing ODC-containing equipment. Excessed ODC-containing equipment would be properly disposed.

No significant impacts are anticipated to air quality from implementation of the Proposed Action.

4.1.2 No Action Alternative

Under the No Action Alternative, no significant impacts to air quality would be anticipated, as air pollutant-generating activities would not occur during the safe and securing process.

4.2 Biological Resources

The AF is committed to the long-term management of all natural areas on its installations, as directed by AFI 32-7064, *Integrated Natural Resources Management*.

OTHER APPLICABLE REGULATORY REQUIREMENTS

Law or Rule	Permit/Action(s)	Requirement	Agency or Organization
Preservation of Native Flora of Florida Act (PNFFA)	Consider impacts to T&E and "commercially exploited" plants	Prohibits willfully destroying or harvesting T&E and "commercially exploited" plants	Florida Department of Agriculture and Consumer Services (DOACS)
Endangered Species Act (ESA)	Consultation with U.S. Fish and Wildlife Service (USFWS) and Florida Fish and Wildlife Conservation Commission (FFWCC) and if necessary, obtain and comply with biological opinions/incidental take permits	Conserve ecosystems that support T&E species. Section 7 requires Federal agencies to insure that any action authorized, funded or carried out by them is not likely to jeopardize the continued existence of listed species or modify their critical habitat. Comply with existing T&E permits.	USFWS and FFWCC
Florida Endangered Species Protection Act (ESPA)	Consider impacts to T&E species when planning and implementing projects	Prohibits the intentional wounding or killing of any fish or wildlife species designated as "endangered", "threatened" or of "special concern" and intentional destruction of their nests.	FFWCC

Florida Endangered and Threatened Species Act (FETSA)	Consider impacts to T&E species when planning and implementing projects	Establishes the conservation and wise management of T&E species as State policy.	FFWCC
Migratory Bird Treaty Act (MBTA)	Consultation with USFWS as necessary and compliance with applicable permits	Prohibits destruction of the eggs or nest of migratory birds without a permit.	USFWS
Executive Order 13186, Responsibilities of Federal Agencies to Protect Migratory Birds	Ensure that environmental analyses of Federal actions required by NEPA evaluate the effects of actions on migratory birds, with emphasis on species of concern.	Support the conservation intent of the migratory bird conventions by integrating bird conservation principles, measures, and practices into agency activities and by avoiding or minimizing, to the extent practicable, adverse impacts on migratory bird resources.	DoD
Executive Orders (EOs) 11988 and 11990, Floodplain Management and Protection of Wetlands	Finding Of No Practicable Alternative (FONPA) if wetlands or floodplains would be impacted	Minimize the destruction, loss or degradation of wetlands, and preserve and enhance the natural and beneficial values of wetlands. Reduce the risk of flood loss, minimize the impact of floods on human safety, health and welfare, and restore and preserve the natural and beneficial values served by floodplains. Consider alternatives to avoid adverse effects in floodplains. If the only practicable alternative requires siting in a floodplain, design or modify action to minimize potential harm to or within the floodplain.	DoD
AFI 32-7064	Assess action to minimize impacts to wetlands	Manage Air AF lands with the goal of no net loss of wetlands.	Army Corps of Engineers
EO 13112, Invasive Species	Various	Prevent the introduction of invasive species, provide for their control, and minimize the economic, ecological, and human health impacts that invasive species cause.	DoD

4.2.1 Proposed Action

4.2.1.1 Vegetation

Project activities would generally occur on previously disturbed and developed land. The majority of work areas are not vegetated with native communities, except on the fringes as described in Chapter 3. All vegetation not directly adjacent to facilities being demolished that is to be retained would be tagged and identified to remain and avoided during removal activities. Stumps and root systems of trees and shrubs within the demolition area planned for removal would be removed from the Proposed Action site.

Upon removal of site facilities and utilities, areas will be filled with two feet of clean fill/topsoil and seeded to start new vegetation growth and provide for erosion control. Eventually, habitat will overgrow the area and provide additional habitat for surrounding animals.

A stand of Australian pine located north of SLC-36 and a patch of woody exotics (Brazilian pepper) located along the southern fenceline inside of SLC-36 may need to be removed. The *Invasive Plant Species Control Plan for CCAFS,* dated July 2004 would be followed when removing Brazilian pepper and other invasive species. In order to prevent the inadvertent spread of invasive species, contractors should clean equipment and vehicles with high pressure air or water prior to use in the project area and before leaving unavoidable infestation zones in the surrounding areas.

- Use certified invasive weed-free imported materials (e.g., straw bales, erosion control seed) when and where needed during construction, reclamation, maintenance, and operations.
- Conduct follow-up invasive weed surveys and weed control treatments during the growing season following completion of construction and revegetation activities in all construction and reclamation areas. The surveys may be conducted concurrently with reclamation monitoring activities.
- Reseed disturbed sites with competitive and native species. In areas where applicable grasses are recommended, use species that will be tolerant of broadleaf herbicides, which can later be used to spot treat any broadleaf weeds.
- After an area is seeded, establish a maintenance schedule to continue to water and fertilize seeded areas to promote establishment. The maintenance activities should continue through a minimum of one growing season; however, it is preferable to complete the monitoring through two growing seasons.
- When tilling, till only in the weed patch so roots and seeds do not spread. Always clean equipment and machinery on site after working in a weed patch to prevent spread.
- In areas that are routinely mowed, set mowing schedules in such a manner as to mow the weeds before they go to seed, and schedule subsequent mowings often enough to prevent seed production.

In order to prevent the inadvertent spread of invasive species, contractors should clean equipment and vehicles with high pressure air or water prior to use in the project area and before leaving unavoidable infestation zones in the surrounding areas. Cleaning should concentrate on the undercarriage, axles, frames, cross members, on and under steps, running boards, and front bumper/brush guard assemblies. Vehicle cabs should be swept and refuse disposed of in waste receptacles. Care should be taken that wash water be retained on site to prevent weed material transport.

No significant impacts are anticipated from invasive plants.

4.2.1.2 Wildlife

Noise rather than the sight of machines appears to cause disturbance to wildlife. The combination of increased noise levels and human activity would likely cause temporary displacement of some animals that forage, feed, nest, or have dens within a 15-meter

radius (or greater for more sensitive species) of noise sources. Direct mortality of slow-moving or nesting animals could occur because of project actions (*e.g.*, excavation of burrows or removal of nests during clearing and grubbing, etc.). Driving speeds would be limited to allow wildlife to vacate the area to ensure their safety, as well as that of personnel.

In order to avoid attracting wildlife to the work site, the contractor would keep the construction area, including storage areas, free from accumulation of waste materials or rubbish at all times. All waste materials, except indicated salvaged items with ACM, generated by demolition activities would be hauled off at the end of each workday and disposed. Upon completion of the demolition, the contractor would leave the work site in a clean and neat condition, satisfactory to the Contracting Officer. No significant impacts are anticipated.

4.2.1.3 Wetlands

State-jurisdictional wetlands as defined in F.A.C. 62-340 and waters of the U.S. as defined in 33 CFR 328.1 would not be filled or otherwise disturbed by project activities. In accordance with AFI 32-7064, if work activities occur adjacent to wetlands, a delineation would be performed prior to project activities to determine the boundaries of jurisdictional waters/wetlands as they can differ from those identified on the NWI map presented in Chapter 3. Silt fences could also act as construction barriers around the Proposed Action area to assist in containing all equipment and vehicles within the perimeter and away from the wetlands. Once demolition has occurred, it is anticipated that percolation of the site would be the same or better than it is currently due to the removal of the impervious surface. No significant impacts are anticipated. No significant impacts are anticipated.

4.2.1.4 Threatened and Endangered Species and Species of Special Concern

The following T&E species and SSC have the potential to occur within or adjacent to the Proposed Action areas: American alligator, gopher tortoise, Eastern indigo snake, Florida scrub jay, Curtiss' milkweed, sand dune spurge, nodding pinweed, beach star, coastal vervain, and migratory birds, including several that are considered sensitive, which are listed in Table 3-1. The AF would consult with the USFWS for potential impacts to migratory birds, scrub jays, and indigo snakes from deactivation activities. No significant impacts are anticipated.

American Alligator

The borrow pit located northeast of SLC-36A is known to harbor a large population of alligators. All Proposed Action activities would occur outside of this area.

Gopher Tortoise and Eastern Indigo Snake

Gopher tortoise habitat is mapped in all upland areas. Indigo snakes are associated with gopher tortoises because they often use their burrows as refuges, possibly from temperature, desiccation, and predators.

When activities are scheduled near tortoise habitat, but individual burrows would not be disturbed, natural resource personnel will stake off the area that must be avoided and provide tortoise informational posters.

When activities are likely to disturb gopher tortoise burrows, CCAFS biologists will relocate tortoises to other suitable areas on CCAFS. Biologists would move tortoises no more than one to two days prior to work activities so that tortoises can be moved back close to their original area. All tortoise relocation will be completed in accordance with the Gopher Tortoise Relocation Permit (WR01103), issued to the AF. This permit, which was renewed in May 2004, allows natural resource managers to relocate up to 150 tortoises during a three-year period. Trapping is conducted by experienced personnel and in accordance with required State permits for these types of activities. Although rare, tortoises have been injured or killed during backhoe operations. If a tortoise is injured during relocation activities, it will transported immediately to a licensed local wildlife rehabilitator or veterinarian experienced in treating injured tortoises. If injured or killed, the FWCC will immediately be notified. Tortoises held overnight will be kept isolated from one another to prevent the spread of Upper Respiratory Tract Disease (URTD). Blood sampling will be conducted by experienced biologists and in accordance with FWCC guidelines. Animals will be handled briefly and gently to reduce harm or stress to the animal. The AF is required to submit a report for each relocation project.

Most indigo snakes leave construction areas once activities begin and any encountered are to be left alone and permitted to leave on their own. The only time indigo snakes may be relocated is during relocation of gopher tortoises. In accordance with the AF Gopher Tortoise Relocation Permit, no more than one indigo snake encountered may be relocated. Should additional specimens of this species be encountered, the capture operation is suspended and the FWCC Office in Tallahassee contacted for instructions.

Florida Scrub Jay

Scrub jay habitat is mapped adjacent to Pump Station #4 and SLC-36. The USFWS considers CCAFS a core scrub jay area and highly valuable to the recovery of the species, regardless of the scrub condition. Although not anticipated, permanent removal of scrub jay habitat would require compensation at a rate of 4:1 (four acres restored for every acre destroyed). If permitted to re-grow, compensation would not be required.

Migratory Birds

Migratory bird species have been known to nest on the MST and UT of the Complex in the past. If demolition activities were to occur during their nesting season, the AF would perform a survey to ensure no migratory birds are nesting on the structures. Any eggs/young would be removed and transported to the Maitland Bird of Prey Center. Because it would be impossible to schedule project activities outside the nesting seasons of all species, some direct mortality may occur.

Natural resource managers performing migratory bird nest/egg removal are permitted under Federal Fish and Wildlife Depredation Permit MB841530-0. Transportation of live birds or eggs will be conducted in a manner that reduces harm or stress to the animal or egg involved. Due to the number of migratory birds that are known to nest in and adjacent to the area, consultation with the USFWS would occur.

Sensitive Plants

Several State-listed T&E plants (sensitive plants) could be present in open areas of the Proposed Action areas where mowed and maintained areas transition into native vegetation communities. The AF is not planning to perform surveys for State-listed plant species that may occur in the Proposed Action area; however, these species will be protected when practicable, per AFI 32-7064, Section 7.1.2. (Pers. Comm., A. Chambers, 2004)

4.2.2 No Action Alternative

Under the No Action Alternative, physical impacts would not occur to vegetation communities and habitat for wildlife during the safe and secure process. Vegetation and wildlife would utilize the areas more frequently once it is vacated and maintenance of the area is reduced or discontinued.

4.3 Cultural Resources

Air Force Instruction 32-7065, *Cultural Resources Management*, provides guidelines for the protection and management of cultural resources on AF-managed lands. The instruction encompasses all aspects of cultural resource management including compliance with Federal, State, and local legislation, and archeological permits.

According to 36 CFR 800.5, an adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Consideration shall be given to all qualifying characteristics of a historic property, including those that may have been identified subsequent to the original evaluation of the property's eligibility for the National Register. Adverse effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance, or be cumulative.

Executive Order 11593 directs Federal agencies and the Secretary of the Interior to encourage and carry out preservation of Federally owned sites, structures and objects of historical, archeological, or architectural significance. Under the order, Federal agencies must locate, inventory, and nominate all potentially eligible sites, buildings, districts, and objects under their jurisdiction to the NRHP. Further, Federal agencies are to take proactive measures to ensure historic properties and cultural resources are not sold, transferred, or demolished, prior to accomplishing Section 106 consultations, and must provide for the preservation and maintenance of historic properties and cultural resources that they administer. The Secretary of the Interior has developed criteria and procedures that Federal agencies must follow in their preservation duties.

OTHER APPLICABLE REGULATORY REQUIREMENTS

Law or Rule	Permit/Action(s)	Requirement	Agency or Organization
National Historic Preservation Act (NHPA)	Consultation with Florida State Historic Preservation Officer (SHPO) regarding potential effects to listed or eligible historic properties on the National Register of Historic Places (NRHP).	Section 106 of the National Historic Preservation Act (NHPA) requires Federal agencies to take into account the effects of their undertakings on historic properties, and afford the SHPO a reasonable opportunity to comment.	SHPO

4.3.1 Proposed Action

Historic Structures

No significant impacts are anticipated to historic structures.

Consultation with the Florida State Historic Preservation Officer resulted in a "No Effect Determination for the Deactivation and Demolition of Facilities at Launch Complex 36" provided that the AF documents SLC 36A and 36 B on Florida Master Site File Resource (FMSF) Group forms. Although SLC 36 appears to meet the criteria for listing in the *National Register of Historic Places,* HABS Level II Standards and requirements were completed as mitigation for this property as part of the 1988 MOA for modifications to SLC 36. The additional FMSF documentation will serve as adequate mitigation for the demolition of structures on SLC 36A and 36B. A copy of the consultation with SHPO is located in Appendix C.

Archeological Resources

Currently, there are no known archeological sites eligible for listing on the NRHP on SLC-36, and therefore no impacts are anticipated to archeological resources. However, no archaeological survey, despite an intense effort and excellent research sampling strategy, precludes the possibility that an archaeological site may be discovered during project activities. Federal cultural resource preservation statutes mandate that if artifacts become apparent during Proposed Action activities, such artifacts should be identified and evaluated by an archaeologist. Should human remains be encountered, Federal statutes specify that work shall cease immediately and the proper authorities be notified (Federal Register, Rules and Regulations, Dec. 4, 1995, Vol. 60, No. 232:62161, Section 10.5).

4.3.2 No Action Alternative

No significant impact to cultural resources is anticipated to result from the No Action Alternative. Coordination with 45 CES would be required to mitigate any impacts to cultural resources.

4.4 Geology, Soils, and Water Resources

Air Force Instruction 32-7041, *Water Quality Compliance*, identifies essential AF actions to achieve and maintain compliance with the Clean Water Act, and other applicable Federal, State, and local water quality standards. It requires adherence to applicable State and local water quality standards when they are more stringent than Federal standards.

OTHER APPLICABLE REGULATORY REQUIREMENTS

Law or Rule	Permit/Action(s)	Requirement	Agency or Organization
CWA, Section 402	Section 402 National Pollutant Discharge Elimination System (NPDES) industrial permit*	Comply with existing permit and closeout permit when changes in operation occur.	USEPA and FDEP

4.4.1 Proposed Action

4.4.1.1 Geology

Project activities would not change the physiography of the region, nor would it impact any unique geologic features or geologic features of unusual scientific value.

4.4.1.2 Soils

Contaminated Soil Removal

In order to meet the FDEP Industrial Soil Cleanup Target Level of 2.1 mg/kg for PCBs, an estimated 5,300 cubic yards (CY) (3,100 CY for SLC-36A and 2,200 CY for SLC-36B) of PCB contaminated soil would need to be excavated and disposed of. If possible, soil removal would occur during the "safe and securing" process to eliminate the possibility of exposure to demolition workers. Clean soil would be delivered to the site prior to area restoration. Following the completion of the soil removal, site soils would be safe for an industrial environment; however, PCBs would still be present at concentrations between residential and industrial levels. Continued maintenance of the LUCs would be required due to the remaining contaminant levels.

Demolition Activities

The foundation walls, footings, pile foundations, etc., would be removed to a minimum of six feet below finished grade from demolished buildings. Concrete slabs would be removed to grade. At a minimum, topsoil would be replaced in excavated areas and the area revegetated with seed. Suitable topsoil would be a friable clay loam surface soil suitable for use in grass planting, and would be free from exotic/invasive vegetative seed to prevent the introduction of such species into the area. Common seed mixtures that may be used include common Argentine bahia grass, annual rye grass, and common Bermuda. Mulching material may include oat or wheat straw, hay, or chopped cornstalks. The reseeded area would be maintained and watered for a minimum of 60 days.

Any excavated materials would be stockpiled at least two feet from the edge of the excavation to a depth not exceeding 8 feet, and would be protected from erosion.

No significant impacts are anticipated to soils.

4.4.1.3 Water Resources

Surfacewaters

The potential for soil erosion and transport of sediment into surface waters exists when soils are disturbed. Prior to and during project activities, erosion and sediment control measures, such as the installation of silt fencing around disturbed areas, would be implemented to retain sediment on-site and prevent violations of State and Federal water quality standards. No direct surface water discharges would be permitted during demolition activities.

It is anticipated that an Environmental Resource Permit will be required from the SJRWMD for the Proposed Action. A permit must be obtained for any stormwater management system, dam, impoundment, reservoir, appurtenant work(s), which exceed the thresholds listed in Section 3.3. of the Applicant's Handbook. Such permit to be obtained as: (b) Authorization to alter prior to alteration of an existing system; (e) Authorization to abandon prior to the abandonment of an existing system; (f) Authorization to remove prior to removal of an existing system. During the permit application review process, the AF would be required to demonstrate direct and secondary impacts to wetlands and wildlife have been avoided or minimized. Unavoidable impacts would require mitigation in accordance with the Unified Mitigation Assessment Method found in Chapter 62-435, F.A.C. Compliance with the environmental review criteria in Chapter 12 of the Applicant's Handbook would also be required.

Upon deactivation, SLC 36 will be removed from the CCAFS Stormwater Permit, and considered inactive. No further requirements are anticipated.

In addition, the following BMPs that are identified in the CCAFS Stormwater Pollution Prevention Plan (SWP3), would continue to be followed through the end of the demolition process to safeguard water resources.

- *Good Housekeeping* - Good housekeeping would continue to be implemented. The facilities are to be kept clean and free from trash and debris.

- *Preventive Maintenance* - Existing hazardous materials and waste would be removed as part of the "safe and secure process" to eliminate the potential for accidents to occur during the demolition process.

- *Spill Prevention and Response* - Cape Canaveral has two plans that address spill prevention and response procedures: the Spill Prevention Control and Countermeasures Plan, and the 45SW Hazardous Material Response Plan (OPLAN 32-3). Project personnel would be familiar with spill prevention and response procedures in order to be prepared for accident response.

- *Erosion and Sedimentation Control* - Where possible, vegetative cover sufficient to control erosion would continue to be maintained. Splash pads would continue to be provided at down spouts. Use of flumes would further reduce erosion.

- *Management of Runoff* - Most impervious areas drain to vegetated swales prior to offsite discharge. Stormwater runoff is generally directed away from material storage areas. Valves at major stormwater outfalls would continue to provide additional protection against offsite release of spills or leaks.

- *Recordkeeping and Reporting* - As part of the implementation of the overall SWP3, recordkeeping and reporting would continue to be performed. Comprehensive records for spills, stormwater monitoring, site inspections, and stormwater outfall inspections would be maintained for work activities.

Measures contained in the existing industrial National Pollutant Discharge Elimination System (NPDES) permits (05-FLA010306 and 05-FLA179884) would be followed. Both permits expire on May 30, 2005 and would need to be extended if project activities are not completed by this date. After completion of project activities, these permits would need to be properly closed out. A stormwater NPDES permit would be required if land disturbances are at least one acre.

No significant impacts are anticipated.

Groundwater

A review of the groundwater monitoring at SLC 36B indicates a minor elevation of manganese (66 ug/L). The standard is 50 ug/L. Groundwater monitoring would continue after deactivation until all groundwater compounds are in compliance.

Demolition activities can affect groundwater quality by leaching of contaminants from surface or subsurface features. The use of the explosive ammonium nitrate and fuel oil would result in some residual nitrogen that could enter groundwater. The nitrates in the explosive are typical of those found in fertilizers but in lower concentrations than those typically used in agriculture. During the explosion, the ammonium nitrate powder in the explosive would be converted to NOx, the majority of which would be vented into the air, eventually becoming nitrogen gas (N_2). A full, complete detonation vaporizes the explosive almost entirely to gas with ammonia, NOx, CO, and dust as pollutants. The expansion of this volume of gas provides the energy to perform the work of the explosion. Full detonation combusts all but a minuscule amount of trace residues of the original explosive. Some of the residual free nitrogen can penetrate the pore space of adjacent rocks or soil, eventually being converted to nitrates; however, no significant impact to groundwater resources is anticipated from the Proposed Action.

4.4.2 No Action Alternative

Under the No Action Alternative, no significant impacts would be anticipated since Best Management Practices (BMPs) would continue to be used to mitigate potential impacts to water resources. Applicable permits would be maintained as long as outfall points exist.

4.5 Hazardous Materials and Hazardous Waste

Air Force Instruction 32-7042, *Solid and Hazardous Waste Compliance*, identifies compliance requirements for all solid and hazardous waste, except radioactive waste.

OTHER APPLICABLE REGULATORY REQUIREMENTS

Law or Rule	Permit/Action(s)	Requirement	Agency or Organization
Waste Petroleum Products and Hazardous Waste Management (OPLAN 19-14)	Consult with OPLAN 1914 for disposal/recycling procedures for florescent, high intensity discharge, and low-pressure sodium lamps, and lithium, mercury, ni-cad and low-acid storage batteries. Also consult Plan for lead based paint removal and disposal requirements.	Properly dispose of hazardous/universal wastes.	Environmental Flight, 45SW
PCB Items Control Plan (OPLAN 19-16)	Light ballasts not labeled "No PCBs" and equipment containing dielectric fluid with ≥ 50 parts per million must be handled and disposed of in accordance with 40 CFR 761 and OPLAN 19-16.	Identify, handle, and properly dispose of PCB-containing items.	Environmental Flight, 45SW
Aboveground Storage Tanks (ASTs) (Chapter 62-762, FAC)	Prior to the removal of regulated fuel storage systems, FDEP must be notified. Tank registration form must be completed and sent to FDEP after removal.	Properly manage the removal ASTs. No USTs are present in the Proposed Action areas.	FDEP
Petroleum Contamination Site Cleanup Criteria Rule and Contaminant Cleanup Criteria (Chapter 62-770 and 62-777, FAC)	Follow risk-based corrective action process.	Identify, handle, cleanup and remove contaminated soils.	FDEP, EPA

4.5.1 Proposed Action

4.5.1.1 Hazardous Materials

All AF, Federal, State, and local statutes, rules, regulations and policies pertaining to the handling, treatment and disposal of any hazardous wastes and/or materials used or discovered during Proposed Action activities would be followed. Personnel implementing the Proposed Action activities would be trained in accordance with 29 CFR, including the Hazardous Communication Program, and in accordance with 40 CFR, requiring all personnel responsible for managing hazardous waste to have Hazardous Waste Management training.

Hazardous materials/wastes such as asbestos, PCBs, radiological contamination, mercury, and freon would be removed prior to performing general demolition. The selected demolition contractor would be required to develop a Hazardous Materials

Management Plan to address the management and storage of hazardous materials. The plan will include a list of all hazardous materials to be used or encountered on the project such as asbestos, surfactants, solvents, coatings, and encapsulants. Hazardous materials and petroleum product containers used during the Proposed Action would be stored on an impervious surface with containment. Incompatible materials would be segregated and have separate containment systems. (AFCEE, 2004)

No significant impacts from hazardous materials are anticipated. However, specific areas of consideration are identified below.

Asbestos

When identified ACM may be disturbed during demolition activities, AF policy (AFI 32-1052, *Facility Asbestos Management*) is to remove the material. Before a site can be considered environmentally safe for a real estate transaction (STET), prior to demolition, all friable asbestos must be encapsulated or removed, the site must be approved, and the asbestos waste disposed of in an approved landfill. Only licensed asbestos contractors may remove ACM.

A written asbestos survey shall be performed by a licensed asbestos consultant prior to demolition. The selected demolition contractor will be required to submit an asbestos abatement plan. This plan will describe each ACM, NESHAP classification (friable, Category I non-friable, Category II non-friable), and the quantity to be removed. OSHA abatement classification (I, II, III or IV) will be used to determine the level of engineering controls and work practices required. A disposal plan for ACM will be developed that identifies waste containerization methods and load out procedures, site storage, and disposal site offloading methods. All ACM waste would be sealed in leaktight disposal containers with appropriate labels per 40 CFR 171 and 49 CFR 172.

4.5.1.2 Hazardous Wastes

Hazardous wastes would be managed in accordance with 40 CFR 262, F.A.C. 62-730, and OPLANs 19-14 and 19-16. Hazardous wastes would be accumulated in an enclosed, lockable storage container. Hazardous materials would not be stored in the same location as hazardous waste. Any spill or fires causing release of any chemical into the environment, including air emissions, would be immediately reported by dialing 911.

Personnel implementing the Proposed Action activities would be trained in accordance with OSHA's "Hazardous Waste Operations and Emergency Response (HAZWOPER)" standard (29 CFR 1910.120), in order to safely handle hazardous waste.

No significant impacts are anticipated. However, specific hazardous waste issues that should be addressed are identified below.

Universal Wastes

Fluorescent lamps and silent wall switches containing mercury shall be managed and disposed of as universal wastes in accordance with Federal and State laws, AF regulations, and policies. The selected demolition contractor would ensure fluorescent lamps are carefully handled to avoid breakage and packaged for recycling. Disposal of

fluorescent lamps, high intensity discharge (HID) lamps, and low-pressure sodium lamps must be in accordance with OPLAN 19-14. These lamps would be delivered to the universal waste site at Facility 1708. Mercury switches would also be delivered to Facility 1708. Each switch is required to be double bagged and sealed.

The ballasts containing PCB would be collected by the contractor in a container meeting the DOT's performance oriented packaging requirements (UN1A2). The container must be properly marked with a PCB label. The ballasts would be delivered to and off-loaded at facility 44200 on CCAFS.

The disposal of all lead-acid storage batteries should be in accordance with all Federal, State, and local laws and OPLAN 19-14. The Defense Reutilization and Marketing Office (DRMO) will accept these batteries and should be contacted for specific turn-in instructions. The disposal of lithium, mercury, and NiCad batteries should be in accordance with all Federal, State, and local laws and OPLAN 19-14.

Lead-Based Paint

Building demolition wastes often include such items as wood trim, siding and other architectural components that may have been painted with LBP. Demolition debris, including metal, wood, and concrete painted with LBP, would be stored in covered containers prior to disposal in a Class I or Class III landfill or a C&D disposal facility. Approval must be received from the landfill prior to disposal. Materials generated during the demolition project that can be vacuumed, swept up, or otherwise easily collected, such as paint chips or dust, should be analyzed utilizing the Toxic Characteristics Leaching Procedure (TCLP) test prior to disposal. If the materials are determined to be hazardous, they must be handled and disposed of as a hazardous waste in accordance with applicable Federal, State, and local regulations. If the materials are deemed non-hazardous, the waste should be disposed of in a Class I landfill. In the event that deconstructed building materials and/or components coated with LBP are subject to resale, recycle or reuse, the presence of LBP shall be communicated to the receiving party(s) of said materials and/or components.

Polychlorinated Biphenyls

As a BMP, the demolition contractor would be informed of the potential for PCBs on various coatings, and provided with available PCB sampling results. On any exposed surface with a coating, no cutting tools (including torches) would be used to dismantle the materials if they contain PCBs above action levels. If any PCB-contaminated items are identified during the demolition process, proper worker safety precautions would be followed.

For disposal of the property, a disclosure statement would be issued noting the potential for PCBs in coatings on buried USTs, piping, and concrete. The disclosure statement would be included as part of the property deed, and retained by the AF to ensure proper future management.

Dielectric fluid samples would be collected on all electrical equipment to determine the PCB concentration in accordance with 40 CFR 761. Analyses indicating less than 50 ppm are considered non-PCB containing equipment. Analyses indicating greater than, or equal to, 50 ppm but less than 500 ppm are considered PCB-contaminated equipment. Equipment whose analyses indicate equal to or greater than 500 ppm is

considered PCB-contaminated equipment. Any unmarked electrical item, including lighting fixture ballasts or oil containing equipment, is assumed PCB-contaminated if not labeled as non-PCB-containing equipment.

All leaks in PCB-contaminated equipment are to be repaired immediately after they are discovered. If a leak is severe and the item is small enough, the item must be overpacked into a container meeting the DOT's performance oriented packaging requirements (UN1A2). If this is not a viable alternative, all dielectric fluid must be drained from the item. All liquids must be placed in proper DOT containers (UN1A1). Secondary containment must be provided for the equipment when the oil is removed. All containers must be marked with a "Contains PCBs" label and the serial number of the equipment the oil was removed from should be noted on the top of the container(s).

The DRMO will accept non-PCB oil-filled equipment only if it is free of leaks. If the equipment has any leaks, they must be repaired prior to requesting turn-in to DRMO. All leaks would be repaired immediately after they are discovered. If a leak is severe and the item is small enough, the electrical equipment would be overpacked into a container meeting the DOT's performance oriented packaging requirements (UN1A2). If this is not a viable alternative, the dielectric fluid will be drained from the item. All liquids will be placed in proper DOT containers (UN1A1). Secondary containment should be provided for the equipment when the oil is removed. All containers must be marked with a "Non-PCB" label and the serial number of the equipment the oil was removed from should be noted on the top of the container(s).

Storage Tanks

All storage tanks at the various facilities would be drained of their contents unless specifically needed to sustain operations in a building. Removed materials would be reused or properly disposed of through 45SW. Several of the tanks are regulated systems and proper notification must be made to FDEP prior to being taken out-of-service. All notifications must be coordinated with the Environmental Support Contract (ESC) Office or with CEV. All inspection records for fuel storage tanks should be turned-over to the AF. As a BMP, it is recommended that all of the petroleum storage tanks be removed.

The following tanks would require "out of service" FDEP paperwork: 01660-C, and 5528. Since these tanks are vaulted and have built in containment, no soil/water sampling is required unless there is a spill to grade from the overhead piping or from a breach in the vault/tank. These tanks would not be reused at the current location and must be removed within 90 days of not being used. All double-walled ASTs would be retained by the AF and either relocated to a new location or stored by the AF for future use. The other tanks do not require FDEP notification or paperwork since they are less than 550 gallons capacity and are unregulated fuel storage systems. They do not require soil/water sampling unless a spill has occurred.

4.5.1.3 Pollution Prevention

The deactivation of the Atlas program would eliminate the need for approximately 39,200 lbs of hazardous materials that are used in the launch of the Atlas IIA, and approximately 36,190 lbs of hazardous waste generated per launch (EELV FEIS, 2000). This reduction in the hazardous materials and waste would contribute toward the AF pollution

prevention goals requiring CCAFS to reduce hazardous waste disposal by 50 percent from their 1992 baseline.

It is anticipated that a large quantity of the debris generated from the Proposed Action would be recycled or salvageable. Recycling or salvaging of this material would further contribute to CCAFS pollution prevention goals.

A pollution prevention environmental analysis should be performed early in the design phase of the demolition project to develop a design that results in the lowest feasible level of environmental impact and liability. The analysis should focus on potential pollution that may result from the Proposed Action, and must make recommendations that promote pollution prevention measures whenever feasible. Where pollution cannot be prevented, recycling, energy recovery, treatment, and environmentally safe waste disposal practices should be implemented.

4.5.2 No Action Alternative

As part of the "safe and securing" process, hazardous materials and waste would be removed in accordance with applicable regulations. No significant impacts would occur to the environment from this action.

4.6 Health and Safety

AFI 91-301, Air Force Occupational and Environmental Safety, Fire Protection, and Health (AFOSH) Program summarizes AF requirements for the protection of health and safety.

OTHER APPLICABLE REGULATORY REQUIREMENTS

Law or Rule	Permit/Action(s)	Requirement	Agency or Organization
Occupational Safety and Health Standards, 29 CFR 1910	Various	Protect health and safety of workers	Occupational Safety and Health Administration
Safety and Health Regulations for Construction, including Subpart T "Demolition", 29 CFR 1926			

4.6.1 Proposed Action

The Proposed Action area is within an identified IRP site (SWMU 50). All Proposed Action excavation work would be coordinated with the IRP office. If during activities personnel experience a reason for concern, such as chemical odors, the Industrial Hygiene Office should be contacted immediately for an evaluation of the location.

In accordance with the Air Force Occupational Safety and Health (AFOSH) Standards, contractors must submit to 45SW Range Safety a Safety Program Plan and safe and secure/shutdown procedures for review and approval. Safety plans must conform to 29

CFR Parts 1910 and 1926. Details addressing confined space entry must be included in the safety plan. Explosive or mechanical demolition of facilities can present a danger to the health and safety of workers. Contractors doing such work would be required to provide a background of their past experience, and must be licensed and bonded. Blasting plans, worker protection plans, and contingency plans would be developed and followed.

All demolition work would be performed in accordance with the National Association of Demolition Subcontractors Demolition Safety Manual except where regulatory or 45SW specific requirements are more stringent. The selected demolition contractor will develop a Health and Safety Program identifying a project specific Health and Safety Plan and Activity Hazard Analyses (AHA) related to the Proposed Action. The AHA will define the work activities to be executed during the demolition phase of the project, identify the associated hazards that could adversely affect health, safety, or environment; and define specific actions to eliminate or minimize the risks involved. The AHA will address permit requirements, training requirements, engineering and administrative controls, and Personal Protective Equipment (PPE) requirements. The AHA will be revised when work activities, work practices, or site conditions change to the extent that different or additional hazards may be present. PPE and life saving equipment would be provided to personnel in accordance with 29 CFR 1926-Subpart E.

Some structures and facilities are known or suspected of containing LBP. If paint coatings are present, the coatings should be analyzed for hazardous material content, to include lead, cadmium, and chromium. If these materials are present, personnel must comply with the requirements established in OSHA standards 29 CFR 1926.62 for lead in construction and 29 CFR 1926.1127 for cadmium in construction. It is recommended that the same requirements established in the lead OSHA standard be followed if cadmium is present. If LBP is identified, it would be left in place to avoid exposure to workers. Post-demolition analysis for these metals would determine whether this demolition debris would be handled as hazardous or non-hazardous waste.

No significant impacts are anticipated.

4.6.2 No Action Alternative

Under the No Action alternative, the SLC would be rendered safe and secure to assure the environment is safe for personnel entering the facility after deactivation. No significant impacts are anticipated.

4.7 Infrastructure and Transportation

Air Force Instruction 32-7042, *Solid and Hazardous Waste Compliance*, identifies compliance requirements for all solid and hazardous waste, except radioactive waste.

OTHER APPLICABLE REGULATORY REQUIREMENTS

Law or Rule	Permit/Action(s)	Requirement	Agency or Organization
Joint-Base Operations Support Contract (J-BOSC) Excavation/Dig Permit Procedure"	Utility Locate/Excavation Permit	Any excavation activity	Space Gateway Support (SGS) Mission Support, Excavation Administrator

4.7.1 Proposed Action

No significant impacts are anticipated to infrastructure and transportation from the Proposed Action. Specific considerations are provided below.

Utilities

Utility structures and lines would be identified prior to any excavation and a J-BOSC Excavation Permit would be obtained. Should unidentified underground utilities be encountered during excavation, operations should cease until all utilities are properly identified.

All existing utilities serving buildings and structures to be demolished would be located and sealed or capped. Prior to demolition, these buildings would be in a "safe and secure" state. All pipes or conduits would be cut off flush with concrete or earth surface. The remaining portion of the pipe or conduit would be capped, plugged and sealed. Any openings would be filled to the level of the surrounding surface elevation to eliminate trip hazards. Aerial utilities would be disconnected and removed to the source. All exterior mechanical/electrical equipment and associated foundations would be removed.

Utility outages would be expected, and anticipated outages are required to be requested a minimum of fourteen days prior to desired outage. Outages would be limited to a four hour maximum at any one time, unless otherwise approved by the AF due to unusual circumstances. Existing utility service interruptions should be scheduled when there is minimum demand on the utility.

Solid Waste Disposal and Recycling

The selected demolition contractor would develop a Waste Management and Transportation Plan detailing the processes, procedures, and methods that will be used to ensure compliant and safe management and transportation of waste. All wastes generated by the contractor shall be managed in accordance with all Federal, State, local, and Installation regulations and directives. Contractors involved in waste disposal would complete the Waste Questionnaire/Technical Response Package process for waste characterization and waste would be disposed of through the processes outlined in OPLAN 19-14.

All materials, equipment, and metals identified as potentially salvageable would be staged for possible recycling or reuse. The majority of the demolition debris generated under the Proposed Action would consist of concrete. When possible, the concrete would be crushed and reused for on-site structural fill or riprap. The remainder of the construction material consisting of wood, copper, and structural steel would be recycled

to the maximum extent possible. Recycling of this material would further contribute to pollution prevention goals. The remaining sheet rock, roofing materials, and other trash would be disposed of in existing sanitary landfills permitted to accept such waste. Removal by rail would provide the most direct, non-intrusive, cost-effective, and efficient method of scrap metal removal from the Proposed Action area, and therefore would be utilized wherever possible. Tree remains, trees, and other vegetative matter are prohibited from disposal in the C&D landfill at CCAFS.

With AF approval, the selected demolition contractor may use the CCAFS landfill for disposal of CCAFS construction, demolition, and asbestos waste per the conditions of the FDEP permit. Use of the CCAFS landfill is mandatory for ACM disposal. Concrete would be separated from other C&D debris, since concrete is disposed of at the landfill in separate cells. Concrete would be no larger than thirty-six (36) Inches in any direction with no more than eighteen (18) inches of protruding rebar. Road demolition debris such as asphalt millings and chunks, and lime rock would also be accepted. The selected demolition contractor would be required to complete the CCAFS Construction and Demolition Debris Landfill Disposal Verification Form if the AF has granted permission for disposal of this debris in the CCAFS landfill.

The 45SW-CES/CEVC must approve disposal of any wastes or materials into the sewage treatment system.

Roadways

The method of transportation for removal of waste and recyclable material will incorporate lessons learned from the demolition of Complex 41. During the demolition of Complex 41, project was removed from the site via tractor-trailer over the roads of CCAFS requiring hundreds of trucks, with very full loads, leading to an erosion of roadways over the path of travel from Complex 41 to outside the south gate near the port. Many of these roads needed to be repaired once demolition was complete. Thus alternate routes and methods (rail and barge) are being evaluated to alleviate the impacts to the roadways.

Any roads, streets and paved parking areas that require surface cutting would be repaired within ten days after the initial cutting. Any areas that may present a traffic hazard would be identified per 29 CFR 1910 and 29 CFR 1926. Any street closures would be coordinated with the 45SW.

4.7.2 No Action Alternative

No demolition would occur; however, the facilities could be made available for use as office space or for other purposes. Many of the SLC components would remain operational including the HVAC systems, cranes, elevators, fire suppression systems, and water lines. However, other infrastructure components would be completely removed (*e.g.*, communication lines) or taken offline (*e.g.*, electrical systems.) No impacts would occur to the transportation network from rendering the facilities “safe and secure”.

4.8 Land Use and Zoning

4.8.1 Proposed Action

The 45SW's fiscal year 2000 goals identified in the *Cape Canaveral Spaceport Master Plan* emphasized the objective of enhancing operations to better serve customers by providing reliable, expert, cost-effective, launch operations through maintaining launch operations support infrastructure. Demolition of SLC-36 would make the land available for the construction of a new launch complex, other industrial uses, or for restoration to its native condition. Beneficial impacts are anticipated to land use.

4.8.2 No Action Alternative

Under the No Action Alternative, facilities would be rendered safe and secure but left in place. This alternative would limit future land use, as the land would be unavailable for new construction or for restoration to a native state. No significant impacts are anticipated.

4.9 Noise

4.9.1 Proposed Action

Impacts on the environment would be related to the magnitude of noise caused primarily from the demolition activities (blast noise), and from vehicle and equipment use. Blast noise could cause a slight annoyance to nearby personnel, rattle windows and walls slightly, and momentarily startle wildlife. Because of the longer duration, mechanical demolition would be more annoying to nearby personnel and wildlife than explosive demolition.

Noise impacts from the operation of construction equipment are usually limited to a distance of 1,000 feet or less. Noise levels outside this perimeter would generally attenuate below 65 dBA, which is the level generally considered a threshold criterion for significance. Most construction noise would attenuate to less than 75 dBA at about 200 feet from the construction activity. The 65 dBA noise level approximates the division between a quiet and moderate sound level. If construction equipment with a noise level of 88 dBA were operated near sensitive receptors, the sound would generally attenuate to below 65 dBA approximately 800 feet from the construction activity. There are no sensitive receptors in the vicinity.

In accordance with 29 CFR 1910, protection against the effects of noise exposure would be provided when the sound levels exceed those shown in Table 4-1 when measured on the A scale of a standard sound level meter at slow response. When employees are subjected to sound, exceeding those listed in Table 4-1, feasible administrative or engineering controls would be utilized. If such controls fail to reduce sound levels within the levels of Table 4-1, hearing protection would be provided and used to reduce sound levels within the levels of the Table. If the variations in noise level involve maxima at intervals of 1 second or less, it is to be considered continuous.

No significant impacts are anticipated.

Table 4-1: Permissible Noise Exposures

Duration Per Day (Hours)	Slow Response Sound Level (dBA)
8	90
6	92
4	95
3	97
2	100
1.5	102
1	105
0.5	110
0.25 or less	115

4.9.2 No Action Alternative

Under the No Action Alternative, rendering the SLC safe and secure would not produce appreciable levels of noise. No impacts are anticipated.

4.10 Socioeconomics

4.10.1 Proposed Action

A slight increase in the demand for local construction labor and environmental remediation experts would result by implementing the Proposed Action. The demand for demolition and transportation equipment would also increase during demolition activities. No significant impacts are anticipated.

4.10.2 No Action Alternative

No significant impact to socioeconomics is anticipated to result from the No Action Alternative.

4.11 Cumulative Impacts

A “cumulative impact” is an impact on the environment that results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over time. Positive cumulative impacts were identified for biological resources, hazardous materials and waste, and infrastructure, specifically solid waste.

The Titan SLC (SLC-40) is concurrently being deactivated along with SLC-36 (Atlas). After facilities are demolished and removed, these SLCs would be available for revegetation and either allowed to return to their natural state, resulting in the creation of habitat for wildlife, or reused for the construction of new facilities, or for other mission-related activities. It is anticipated that hazardous materials and waste usage would be reduced, contributing to the AF’s pollution prevention goals. However, local landfills,

including the Cape's, would potentially be impacted by these two demolition efforts, depending on the quantity of material that can be diverted from the landfill by reuse or recycling.

4.12 Conflicts with Federal, State, or Local Land Use Plans, Policies, and Controls

The Proposed Action does not conflict with Federal, regional, State, or local land use plans, policies, or controls. The Proposed Action complies with Chapter 2 of AFI 32-9004, *Disposal of Real Property*, which requires installation commanders to dispose of any unneeded or deteriorated buildings on non-excess land if such buildings meet one or more of the following conditions:

- deterioration is beyond the point of economical repair;
- interferes with a site approved for construction;
- dangerous to people, likely to damage adjoining structures, or creates a nuisance;
- requires more than normal maintenance and its disposal will not create a deficiency; and
- design is obsolete and it cannot be reasonably altered or economically used.

4.13 Energy Requirements and Conservation Potential

Energy requirements to support the Proposed Action would not be significantly greater than that utilized by the AF and contractors to carry out current activities. Existing energy sources are considered adequate to meet the requirements of the Proposed Action.

4.14 Natural or Depletable Resource Requirements and Conservation Potential

Diesel and unleaded fuels and engine oil would be required to power project equipment. Other than the use of vehicle fuels for project activities, the Proposed Action requires no significant use of natural or depletable resources.

4.15 Irreversible or Irretrievable Commitment of Resources

Although the Proposed Action would result in some irreversible and irretrievable commitment of resources such as fuel and labor, this commitment of resources is not significantly different from that necessary to support current mission activities taking place on 45SW-managed lands.

4.16 Adverse Environmental Effects that Cannot be Avoided

Adverse environmental effects that cannot be avoided include temporary, intermittent emissions of fugitive dust and exhaust products; temporary displacement of wildlife

during construction due to noise and project activities; destruction of existing upland vegetation; sediment runoff into waterbodies; and the demolition of a NRHP-eligible building. However, through implementation of the mitigation measures described within this document, these effects would be reduced to a less than significant level.

4.17 Relationship Between Short-Term Uses of the Human Environment and the Maintenance and Enhancement of Long-Term Productivity

The Proposed Action would eliminate unneeded facilities and infrastructure on CCAFS but would not eliminate any options for future use of the area. The Proposed Action would be undertaken in accordance with the *CCAFS General Plan* (USAF, 2002) that provides a management tool to aid in making operational support decisions by incorporating the concept of comprehensive planning.

4.18 Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations

EO 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, requires federal agencies to identify and address, as appropriate, disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority and low-income populations. Environmental Justice analysis need be applied only to adverse environmental impacts (USAF, 1997). Based on preliminary guidance provided by the Federal Interagency Working Group on Environmental Justice, adverse may be defined as "having a deleterious effect on human health or the environment that is significant, unacceptable, or above generally accepted norms." Adverse human health effects include bodily impairment, infirmity, illness, or death. Adverse environmental effects may include ecological, cultural, human health, economic, or social impacts when interrelated to impacts on the natural or physical environment. The Proposed Action areas are not located adjacent to minority populations or low-Income population centers, and indirect impacts to such communities located in the surrounding areas were not identified during the analysis of the Proposed Action. Therefore, the Proposed Action would not result in disproportionately high or adverse human health or environmental effects on minority or low-income populations.

5.0 Conclusion

All issues raised during the scope of this NEPA process have been identified within this assessment, and there were no environmental issues identified that would require the preparation of an Environmental Impact Statement. Less than significant impacts to the environment were identified for the Proposed Action to render the facilities safe and secure and demolish unneeded facilities. Beneficial impacts would be anticipated to biological resources and land use by utilizing good management practices and planning.

Under the No Action Alternative, facilities would be rendered safe and secure but left in place. This would preclude new construction or development of wildlife habitat. In addition, hazardous materials known or suspected to exist in the buildings such as ACM and LBP would deteriorate, over time, increasing the risk of exposure.

Table 5-1 below provides a summary of the potential impacts and mitigation measures contained in this document that have been incorporated into the Proposed Action. Mitigation is defined by the CEQ in 40 CFR 1508 as one or more of the following actions related to the protection of the human environment:

- avoiding the impact altogether by not taking a certain action or parts of an action;
- minimizing impacts by limiting the degree or magnitude of the action and its implementation;
- rectifying the impact by repairing, rehabilitating, or restoring the affected environment;
- reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; or
- compensating for the impact by replacing or providing substitute resources or environments.

Table 5-1: Environmental Assessment Summary Matrix

Resource Category	Potential/Known Impact(s)	Impact Minimization Measure(s) and Applicable Guidance
Air Quality	Short term impacts to air quality from particulate matter, ammonia, CO, SO_2 and NO_x Potential releases of ACM and ODS	Follow approved Blasting and Safety Plan, Asbestos Management Plan, and properly remove ODS. Periodically water construction sites and restrict vehicle speeds for dust control.
Biological Resources	Direct impacts to native plant communities (uplands and wetlands), T&E animals, and SSC	Survey and identify T&E animals and SSC and native habitats prior to activities. Stake off all areas of avoidance.
Biological Resources	Potential mortality of State-listed plants.	Avoid plants where possible.
Biological Resources	Potential mortality of gopher tortoise and eastern Indigo snake	Avoid where possible and relocate tortoises and snakes in accordance with Gopher Tortoise Relocation Permit.
Biological Resources	Potential disturbance and mortality of birds protected by the MBTA and ESA, including the Florida scrub jay	Where possible, avoid work during nesting season in areas where nests are found or scrub jays are foraging. Relocate nests/eggs in accordance with the Federal Depredation Permit. Avoid impacts to scrub habitat where possible. Replace scrub jay habitat at a rate of 4:1 (four acres restored for every acre destroyed) if permanent removal occurs.
Biological Resources	Spread of invasive species	Follow Invasive Species Management Plan.
Cultural Resources	Removal of NRHP-eligible SLC-36 structures	Preservation through documentation as stated in 36 CFR 800.9(c)(1) has been completed.
Geology, Soils, and Water Resources	Soil erosion and siltation and pollution of surface waters	Obtain and comply with stormwater NPDES permit for activities that disturb 1 acre or more; implement BMPs.
Geology, Soils, and Water Resources	Closeout Industrial NPDES permits	Comply and close out permit by properly notifying FDEP.
Hazardous Materials/Waste	Disturbance of areas contaminated with hazardous waste resulting in greater dispersal of contaminants	Follow OPLANs 19-14 and 19-16 when working with and disposing of hazardous wastes. Coordinate with IRP Office and use PPE.
Health and Safety	Safety issues regarding handling, transporting, and disposing of hazardous materials and wastes (PCBs, asbestos, fuel, etc.)	Remove asbestos and, if possible, PCB contaminated soils prior to demolition activities.

Infrastructure and Transportation	Potential damage to roadways and underground utilities from heavy equipment Impacts to landfills from demolition debris	Remove scrap metal via rail, maximize reuse of non-hazardous crushed concrete debris for fill onsite, and repair roads that are damaged. Recycle metals, concrete, and other materials whenever possible. Obtain dig permit prior to ground disturbance.
Noise	Short-term noise impacts to workers and surrounding personnel	Use administrative or engineering controls and PPE where necessary.

6.0 DOCUMENTATION CITED

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Appendix A-Photographic Log

Facility 5501: Launch Control Building

Facility 5502: Security Entry Control Building

Facility 5505: Ready Building

Facility 5512: Administration Building

Facility 5514: High Pressure Storage Area

Facility 5515: Gaseous Nitrogen Storage Area

Facility 5527: Paint Storage Building

Facility 5531: Environmental Control Shelter

Building 5544: Optical Alignment Building

Building 5550: Atlas Ops Annex

Building 5510: Launch Service Facility and Umbilical Tower

Facility 5553: Mobile Service Tower

Facility 5533: Launch Service Facility and Umbilical Tower;
Facility 5559: Mobile Service Tower

Facility 1660: Pump Station #4

Appendix B-- AF Form 813

CONTINUATION SHEET TO REQUEST FOR ENVIRONMENTAL IMPACT ANALYSIS (Contract Closeout and Preparation for Demolition of Space Launch Complex (SLC)-36A at CCAFS FL)

4.0 Purpose and Need for Action

4.1 Purpose (Objective) of Mission

Atlas Space Launch Complex (SLC)-36A at Cape Canaveral Air Force Station (CCAFS), FL is scheduled to be closed out, placed in a pre-demolition state and transferred to the 45" Space Wing. This decision is being made because the last Government launch from this facility has been made and this facility is ending "caretaker status" with the closeout of Contract F04701-95-C-0012 as of 30 Sep 02. After SMC contractual release of these facilities, the 45'h Space Wing will identify disposition of all SLC-36A facilities not needed for launching commercial Atlas launches from SLC-36B. The 4501 Space Wing will determine whether any other requirements exist for these facilities. Facilities for which no continuing requirements are identified will be scheduled for deactivation/demolition. Each facility to be deactivated/demolished and its vicinity will be evaluated to determine the extent of environmental contamination present, if any. Contaminated sites will be placed on a list of CCAFS sites for which environmental restoration is needed.

The CCAFS facilities affected by this closeout are specified in Table 1 of Section 4.2 of this request.

4.2 Need for the Proposal

The decision to define the appropriate actions to be taken to closeout and to potentially deactivate/demolish SLC-36A facilities is a logical continuation of the decision to implement the Evolved Expendable Launch Vehicle (EELV) program at Vandenberg Air Force Base (VAFB), CA and Cape Canaveral Air Force Station (CCAFS), FL. The Environmental Impact Statements (EISs) generated in support of the EELV implementation decision are:

- EIS, EELV at Vandenberg Air Force Base and Cape Canaveral Air Force Station, Jun 1998
- Supplemental EIS, EELV at Vandenberg Air Force Base and Cape Canaveral Air Force Station, May 2000

The 45a' Space Wing and the Atlas System Program Office (SPO) are in receipt of a HQ AFSPC/DO memorandum (dated 11 Jun 2001) entitled "AFSPC Requirements for Space Launch Complex (SLC) 36K. This memorandum states there are no Government launch requirements for SLC-36A beyond 30 Sep 02 when this launch complex is scheduled to end "caretaker status."

As part of the closeout of the Government Atlas launch capability, the Atlas SPO will be closing out the Atlas Launch Operations Contract and the 45th Space Wing will serve as the agent of Air Force Space Command (See Table 1).

The following requirement documents provide the framework for this action:

- Atlas PMD 2138(48)/PE 35119F (dated 18 Sep 2001) (Atch 1) requires the deactivation of SLC-36A after the last Government Atlas launch from CCAFS. Specifically, the Atlas SPO is required to procure Atlas II vehicles to meet Department of Defense and civil launch needs and to schedule facility closures for the earlier possible date that supports non-commercial launches. AFSPC is tasked with providing planning, programming and budgeting activities to include launch operations, environmental compliance, conservation, pollution prevention and restoration, contract/launch site closure and clean-up requirements. The PMD further states that AFSPC is responsible for funding tasks associated with closure (i.e. safe and secure, disposition, and deactivation) of launch base real property.
- The Atlas portion of the Titan and Atlas Launch Operations Contract (F04701-95-C-0012) requires that CCAFS facilities utilized in support of launch of Government Atlas Launch Vehicles (LVs) be closed out in accordance with applicable Federal Acquisition Regulations, and public health and safety regulations.

In addition, the Atlas SPO is in receipt of a 45th Space Wing memorandum (dated 02 Jan 2002) entitled "Contract F04701-95-C-0012; Requirement to Closeout SLC-36K. This memo requests that the Atlas SPO maximize the preparatory work toward 45`' SW's deactivation/demolition requirements. The SPO is evaluating this memorandum to determine whether the guidance provided is consistent with the Atlas PMD mentioned earlier.

The following applicable Atlas LV Environmental Assessments (EAs) provide an environmental description of the facilities being phased out/deactivated:

- EA, Commercial Atlas IIAS, Cape Canaveral Air Force Station, Aug 1991
- Supplemental EA, Medium Launch Vehicle (MLV II) Program, Cape Canaveral Air Force Station, FL, Aug 1989
- EA, Medium Launch Vehicle (MLV II) Program, Cape Canaveral Air Force Station, FL, Feb 1989

5.0 Description of the Proposed Action and Alternatives (DOPAA)

5.1 Description of the Proposed Action

Contract closeout of the Atlas portion of the Titan and Atlas Launch Operations Contract entails SMC contractual release of the CCAFS launch facilities used in support of Government Atlas launches. After contract closeout, all SLC-36A facilities not needed for launching commercial Atlas from SLC-36B will be evaluated to determine whether any other requirements exist for these facilities. Facilities for which no continuing requirements are identified will be scheduled for deactivation/demolition. Each facility to be deactivated/demolished and its vicinity will be evaluated to determine the extent of environmental contamination present, if any. Contaminated sites will be placed on a list of sites CCAFS sites for which environmental restoration is needed.

5.2 Description of the decision that must be made and identification of the decision maker

The Atlas SPO is operating within the following guidance parameters: the Atlas PLO states that deactivation of SLC-36A is to occur after the last government launch from CCAFS and the HQ AFSPC/DO memorandum (dated 11 Jun 2001) states there are no Government launch requirements for SLC-36A beyond Sep 02. These two documents establish the closeout date for SLC-36A as being the end of Sep 2002 the day "caretaker status" ends. The most logical proponent for this activity is 3d Space Launch Squadron (until facilities are properly transferred). The final disposition of SLC-36A facilities will be made IAW established 45 SW procedures for space allocation (e.g., 45 SW Facilities Board, 45SWI 32-1007).

5.3 Anticipated environmental issues:

The following environmental issues/actions are believed to be applicable to this action:

5.3.1 Cultural resources

Impacts to items classified as Cold War items by the State Historical Preservation Office have not been defined. As part of this action, the facilities being considered for demolition (see Table 1) will be considered for designation as Cold War items. Therefore, Table 1 represents the worst case regarding removal of contractor owned equipment and Government Furnished Equipment (non-real property or Real Property Installed Equipment).

5.3.2 Placement of facilities in a "Pre-Demolition State" prior to turnover to AFSPC

Facilities and real property installed equipment are to be in a "Pre-Demolition State" in such a manner to ensure "that abandonment will not result in inadvertent contamination or present an unexpected future hazard to individuals who may access the abandoned facilities or real property installed equipment systems" in the future. These tasks include the following: Pre-Demolition State refers to all-functions involved in preparing Space Launch Complex36A (SLC-36A) and its unique production facilities for eventual disposition, deactivation and/or demolition. This includes, but not limited to, the ground support equipment (GSE), aerospace ground equipment (AGE), support structures and real property installed equipment (RPIE). This effort's overall goal is maximum preparatory work toward the 45 SW final deactivation/ demolition requirements. Central to this preparatory effort is to ensure all pre-demolition tasks and the resultant facility condition does not result in inadvertent contamination or present an unexpected future hazard to individuals who may access the facility or RPIE system. All site-unique supporting equipment must be removed to the maximum extent possible. Any dual-use facilities (e.g., used by SLC-36A & SLC-36B) and associated Government Furnished Property (GFP) must remain operational to support SLC-36B (e.g., camera towers, etc). Once the facility or RPIE is in a pre-demolition state, there is no assumption that the asset can be readily returned to an operational state.

The pre-demolition state is outlined as follows:

- Propellant Systems - Off load commodities, purge system and clean (flush) system; prepare piping, valves and components for disposal; all hazardous waste shall be delivered to and disposed of through the appropriate government/contracted agency IAW applicable EPA guidelines.
- Pneumatic Systems - Depressurize system; eliminate points of entry for toxic asphyxiation hazards; prepare lines for removal.
- Cryogenic Systems - Off load commodities, purge system and leave with a five (5) psig ambient blanket pressure.
- Gaseous Supply Systems - Vent system and leave with a five (5) psig ambient blanket pressure.
- Electronic Systems - Disconnect electronic systems from power (locked out); remove batteries and cap all electrical feeds (i.e., MST drive system, etc).
- Hydraulic Systems - Drain, deliver to, and dispose of hydraulic oil, dispose of piping and hoses through the appropriate government/contracted avenues.
- Heating, Ventilation, and Air Conditioning (HVAC) Systems – Must be maintained until the latter phases of the demolition process.
- Cranes & Elevators – Must be left operational and certified until the latter phases of the demolition process.
- Walking/Working Surfaces, Confined Spaces, Access Control – Ensure all areas left in a pre-demolition state are appropriately marked and identified to abate personnel hazards and to prevent unauthorized access to government property.

Other Considerations

- The Government Atlas program will continue to comply with federal, state and local environmental requirements.
- Only those tasks required for the orderly transition of SLC-36A unique facilities to its pre-demolition state are addressed. Included are those efforts required to decontaminate those facilities as part of the pre-demolition process.
- Disposition of GFP will be in accordance with (IAW) the Federal Acquisition Regulation (FAR).

18. Remarks

The Atlas program at CCAFS contains several hazardous waste sites in support of launch operations. Prior to closeout, all hazardous waste belonging to the Air Force must be properly turned over and transported to the on-site AF treatment, storage and disposal facilities (buildings 44200 and 44205). The sites should be inspected by the Air Force to verify they are clean, empty, and that no apparent releases have occurred resulting in contamination of the surrounding areas. Although not specifically required by law, it is recommended that copies of training records and job descriptions for personnel who are actively managing the hazardous waste be provided to the Air Force for record retention purposes.

There are currently four active tanks at SLC 36A:

- Tank #05528 – This is a regulated 28,000-gallon RP-1 storage tank that supports launch operations. The tank will need to be pumped out, triple rinsed and taken to DRMO. ESC will notify CEV to notify FDEP that this tank will no longer be in service. ESC will generate the paperwork when notified of the deactivation process.
- Tank #05532 – This is an unregulated 550-gallon diesel tank that runs an emergency generator. If this tank is deactivated, the tank will need to be pumped out, triple rinsed and taken to DRMO. This tank is located behind the blockhouse.
- Tank #05502-1 – This is an unregulated 150-gallon diesel tank that runs an emergency generator at the guard shack. If this tank is deactivated, the tank will need to be pumped out, triple rinsed and taken to DRMO.
- Tank #05502-2 – This is an unregulated 15-gallon diesel tank that is a day tank for the above listed tank. If this tank is deactivated, the tank will need to be pumped out, triple rinsed and taken to DRMO.

There are some support tanks on SLC 36B; however, they run both pads and it is assumed they will be kept in service. If for some reason this is not the case, additional requirements similar to those listed above will apply.

All other fuel storage tanks at the various facilities should be drained of excess fuel unless specifically needed to sustain operations in a building. Several of the tanks are regulated systems and proper notification must be made to FDEP prior to being placed out-of-service. All notifications must be coordinated with the ESC office or with CEV. All inspection records for fuel storage tanks should be turned-over to the government.

It is anticipated that there will be some unused hazardous materials left over at the conclusion of this program. In the past, tenants and contractors have simply left these items in hazardous material storage areas and walked away. Hazardous materials that are owned by the AF will be handled by the AF and all LMA hazardous materials must be handled by LMA.

ESC should be notified of any outstanding work orders for repairs to permitted or regulated systems. For example, if there has been a work order to repair a permitted stormwater retention area, this information and all other records should be turned over to the Air Force for follow-up actions.

If demolition is proposed/required as part of SLC 36A deactivation, many notifications and proper closures will be required. The following is a brief list of items that may be impacted:

- Numerous industrial wastewater, stormwater and NPDES stormwater permits would need proper closeout or the user needs to identify what will happen with these various systems once the facilities are abandoned and/or demolished.
- Proper closeout of lift stations would be required.
- Notification to the State will be required for demolition of any water service areas. Additionally, coordination with the JBOSC Water and Wastewater Department will be required.
- Identify requirements for abandoning any monitoring wells for IRP or industrial wastewater systems.
- Identify planned disposal of demolition material and or solid waste.
- Identify how the area where facilities were located will be left. For example, will they be returned to a natural state or left as is?
- How will deactivation/demolition impact CCAFS Installation Restoration Program areas?

Solid waste must be managed in accordance with the instructions set forth in the specifications of the contract. If contract language permits the disposal of construction & demolition and/or asbestos containing materials in the CCAFS landfill, all requirements specified in the CCAFS Landfill Operations Plan must be met. The Air Force contract monitor must make all arrangements with the landfill operator prior to any disposal activities and must complete and sign a "Landfill Disposal Verification Form." No waste will be accepted prior to the completion of this form.

Insure all recyclable material (concrete, etc.) is recycled and quantities by weight reported to 45 CES/CEVC, Mr. Wayne Neville.

Petroleum contaminated soil encountered in this project must be handled in accordance with Federal Regulations and Florida Administrative Code 62-770. The AF contract monitor must be notified immediately when contamination is discovered. The contract monitor will make notification to ESC, who will assist in determining what additional actions need to take place.

Prior to and during construction, implement all erosion and sediment control measures (Best Management Practices) required to retain sediment on-site and to prevent violations of state water quality standards; implement additional best management practices as necessary and correct any erosion or shoaling that causes adverse impacts to the water resources. Stabilization measures shall be initiated for erosion and sediment control on disturbed areas as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than seven days after the construction activity in that portion of the site that has temporarily or permanently ceased.

The disposal of fluorescent lamps, high intensity discharge (HID) lamps, and low-pressure sodium lamps must be in accordance AF OPLAN 19-14. Fluorescent and HID lamps shall be managed as a hazardous waste. Contact ESC at 476-2310 for specific instructions on the proper handling and disposal of all these lamps.

All equipment being removed that contains dielectric fluid must be sampled. All items that contain PCB levels $\geq$ 50 ppm must be handled in accordance with 40 CFR 761 and 45SW OPLAN 19-16. This equipment must be turned into the Air Force at Facility 44200. Contact ESC at 853-6988 to arrange access into this facility. ESC will handle the disposal process based on PCB concentrations.

Any electrical equipment found/known to contain <50 ppm PCBs is considered non-PCB. DRMO will accept this electrical equipment and should be contacted for specific turn-in instructions. Please note that DRMO requires laboratory analysis less than six months old for items being turned in for disposal/reuse.

Light ballasts not labeled as "No PCBs" must be handled in accordance with PCB regulations 40 CFR 761 and 45 SW OPLAN 19-16. These ballasts must be assumed to contain PCBs and must be turned into the Air Force storage facility 44200.

Contact ESC at 853-6988 to arrange access into this facility. ESC will handle the disposal process based on PCB concentrations.

Prior to 1983, PCBs were used in non-liquid applications such as caulk, sealants, paints, etc. If through documentation or prior knowledge, the planner has reason to believe that such materials are present, they should contact the ESC for sampling and disposal guidance. Liquid PCBs may be present in electrical equipment such as large high and low voltage switches, capacitors, hydraulic systems, or compressors. If equipment of this nature exists, it should be sampled for PCBs prior to disposal. Contact ESC for additional guidance.

The disposal of all lead-acid storage batteries should be in accordance with all Federal, State and local laws and 45 SW OPLAN 19-14. The Patrick Air Force Base DRMO will accept these batteries and should be contacted for specific turn-in instructions.

The disposal of lithium, mercury and nicad batteries should be in accordance with all Federal, State and local laws and the 45 SW OPLAN 19-14. These batteries are considered universal waste. Contact ESC at 476-2310 for further guidance on the disposal of these items.

Activities with potential for adverse effect on air quality must be performed in accordance with applicable federal, state, and local air quality regulations and Air Force Policy.

CCAFS is located in an area that is in attainment for all criteria air pollutants; therefore, a conformity determination is not required.

Venting of ODCs into the atmosphere is prohibited. ODCs must be recovered and recycled. ODC recovery operations must be performed by trained technicians using EPA approved recovery equipment. ODCs must be recovered and recycled prior to excessing containing equipment. Excessed ODC equipment must be properly disposed of. All refrigerant leaks/releases, greater than 25 lbs must be reported to the Environmental Support Contractor.

Refrigerants must be recovered and recycled. New units must use non-Class I ODC substances such as R22, R123, R134a, or ammonia as the refrigerant. New units utilizing R-11 or R-12 are not to be purchased (Engineering Technical Letter 91-7, CFC Limitation in HVAC Systems). Purchase and use records should be kept and submitted monthly to SGS Environmental for all Class I and II ODCs (mainly chlorofluorocarbons and hydrochlorofluorocarbons). All refrigerant leaks must be reported to SGS Environmental.

Activities involving painting and/or paint removal must be performed in accordance with FDEP, EPA, OSHA, and HUD requirements for lead and particulate matter emissions and lead paint debris disposal. Paint removal and disposal of hazardous paint debris must be in accordance with 45th Space Wing Policy Letter dated 25 May 1994 and 45 SW OPLAN 19-14. Only personnel trained in lead-based paint handling and disposal should perform these duties. Additionally, the generation of airborne lead debris should be minimized. Finally, the contractor will be responsible for sampling the generated waste to determine whether it is hazardous or non-hazardous. Results of laboratory analyses must be provided to the Contracting Officer.

Asbestos abatement and any other activities that may disturb asbestos containing materials (ACM) must be coordinated through the CCAFS Asbestos Recovery Team (ART), and performed in compliance with applicable state (FDEP) and federal (EPA and OSHA) asbestos regulations, as well as the 45 SW Asbestos-Management Plan. The point of contact for ART is Bart Geyer at 867-2400.

- FDEP must be notified 10 days in advance before start of the project if the ACM quantity to be removed is determined to be at least 160 sq ft or 260 linear ft.
- ACM removal must be performed only by personnel trained and certified in handling ACMs.
- Asbestos abatement requirements and procedures for setting up containment, producing a negative air environment, wet removal, air monitoring, etc. must be followed when necessary.
- Removed ACM must be properly disposed of at the CCAFS landfill. The landfill requires ACM to be double-bagged in 6-mil poly and properly labeled. You may contact the CCAFS landfill at 853-4672 (Pat Woodard) for specific requirements for ACM acceptance. You may also contact ESC if you have any questions and/or need further assistance. ESC point of contact for asbestos is Pius Sanabani at 853-6727.

Demolition, defined as removal of any load bearing structure, requires 10 days FDEP notification regardless of whether the facility contains ACM (Asbestos Containing Materials) or not.

Complex 36 is considered eligible for listing in the National Register of Historic Places NRHP; therefore, consultation with the State Historic Preservation Office will be required prior to demolition and/or modifications to the facilities located at the complex.

Prior to any digging, an Excavation permit will be required. To obtain an excavation permit, contact SGS Mission Support, Excavation Administrator, at 861-4453. Additionally, an approved Air Force Form 103 (Work Clearance) is required prior to initiation of any site work. The ESC office will require evidence that the environmental constraints identified above, including but not limited to obtaining required permits, providing proof of regulatory notifications, etc., are satisfied prior to concurring on the AF Form 103.

It is not known at this time what environmental impacts the proposed demolition would have on biological resources. Several of the facilities on the deactivation list are located in/near habitat for state and federally protected wildlife species. Additionally, several acres of wetlands surround these facilities. Once final determination of which facilities will be demolished and what method will be used (particularly the launch tower), a biological assessment will be required to address potential impacts to flora and fauna in the area. Future actions will be based on the assessments.

The proposed project has the potential to adversely impact CCAFS environmental attributes and does not qualify for a Categorical Exclusion (CATEX), as defined in 32 CFR 989, Appendix B. Therefore, an Environmental Assessment will be required.

alchambers/15-April-02

Appendix C-Consultation Documentation

FLORIDA DEPARTMENT OF STATE
Glenda E. Hood
Secretary of State
DIVISION OF HISTORICAL RESOURCES

Mr. Randall Rowland
Department of the Air Force
45th Space Wing
1224 Jupiter Street
Patrick Air Force Base, Florida 32925-3343

August 23, 2005

RE: DHR Project File Number: 2005-7288
Received by DHR July 25, 2005
No Effect Determination for the Deactivation and Demolition of Facilities at Launch Complex 36
Cape Canaveral Air Force Station, Brevard County

Dear Mr. Rowland:

Our office received and reviewed the above referenced project in accordance with Section 106 of the *National Historic Preservation Act of 1966*, as amended and *36 CFR Part 800: Protection of Historic Properties*. The State Historic Preservation Officer is to advise Federal agencies as they identify historic properties (listed or eligible for listing in the *National Register of Historic Places*), assess effects upon them, and consider alternatives to avoid or minimize adverse effects.

A review of our files indicates that this office previously determined that Launch Complex 36 (LC36) appeared to meet the criteria for listing in the *National Register*. We note that the USAF plans to demolish LC 36. Based on the information provided, it is the opinion of this office that the proposed demolition will have an adverse effect on LC 36.

However, a *Memorandum of Agreement* (MOA) was signed in 1988 as mitigation for the modifications to LC 36. Historic American Buildings Survey (HABS) Level II Standards and requirements were completed for LC 36 as part of the 1988 MOA. Therefore, this office request that LC36A and LC36B be documented on Florida Master Site File (FMSF) Resource Group forms. The FMSF documentation will serve as adequate mitigation for their demolition.

If you have any questions concerning our comments, please contact Scott Edwards, Historic Preservationist, by electronic mail *sedwards@dos.state.fl.us*, or at 850-245-6333 or 800-847-7278.

Sincerely,

Laura A. Kammerer, Deputy SHPO

for Frederick P. Gaske, Director, and
State Historic Preservation Officer

500 S. Bronough Street • Tallahassee, FL 32399-0250 • http://www.flheritage.com

☐ Director's Office (850) 245-6300 • FAX: 245-6436
☐ Archaeological Research (850) 245-6444 • FAX: 245-6436
☑ Historic Preservation (850) 245-6333 • FAX: 245-6437
☐ Historical Museums (850) 245-6400 • FAX: 245-6433
☐ Southeast Regional Office (954) 467-4990 • FAX: 467-4991
☐ Northeast Regional Office (904) 825-5045 • FAX: 825-5044
☐ Central Florida Regional Office (813) 272-3843 • FAX: 272-2340

From: AnnMarie_Maharaj@fws.gov
Sent: Wednesday, March 02, 2005 2:13 PM
To: Chambers Angy L GS-11 45 CE/CEVP
Subject: Review of EA for the Deactivation /Facility Disposition of Atlast SLC-36

Log Number: 05-776

Dear Ms. Chambers:

The Fish and Wildlife Service has no comments on the Final Draft Programmatic Environmental Assessment for the Deactivation/Facility Disposition of Atlas Space Launch Complex (SLC-36) at CCAFS, received on February 4, 2005.
We look forward to reviewing future projects for CCAFS. If you have any further questions please contact me at (904) 232-2580 ext. 111.

Sincerely,
Ann Marie Maharaj

Department of Environmental Protection

Jeb Bush
Governor

Marjory Stoneman Douglas Building
3900 Commonwealth Boulevard
Tallahassee, Florida 32399-3000

Colleen M. Castille
Secretary

April 14, 2005

Department of the Air Force
Ms. Angy Chambers
45CES/CEV
1224 Jupiter Street, MS 9125
Patrick AFB FL 32925–3343

RE: Department of the Air Force – Final Draft Environmental Assessment (FDEA) for the Deactivation/Facility Disposition of Atlas Space Launch Complex (SLC–36) at Cape Canaveral Air Force Station – Cape Canaveral, Brevard County, Florida

SAI # FL200502160467C

Dear Ms. Chambers:

The Florida State Clearinghouse, pursuant to Presidential Executive Order 12372, Gubernatorial Executive Order 95-359, the Coastal Zone Management Act, 16 U.S.C. §§ 1451-1464, as amended, and the National Environmental Policy Act, 42 U.S.C. §§ 4321, 4331-4335, 4341-4347, as amended, has coordinated a review of the above-referenced FDEA.

The St. Johns River Water Management District (SJRWMD) states that an Environmental Resource Permit will likely be required for the proposed activity in accordance with Section 3.2 of the Applicant's Handbook. Please refer to the enclosed SJRWMD comments for explanation of Section 3.2 of the Handbook. During the permit application review process, the applicant will be required to demonstrate that direct and secondary impacts to wetlands and wildlife have been avoided or minimized. Unavoidable direct and secondary impacts will require mitigation in accordance with the Unified Mitigation Assessment Method found in Chapter 62-345, F.A.C. Compliance with the environmental review criteria in Chapter 12 of the Applicant's Handbook will also be required. Please contact Michelle Reiber, Supervising Regulatory Scientist, in the Palm Bay service center at (321) 676-6615 or mreiber@sjrwmd.com for additional information.

The Department of Environmental Protection (DEP) has several concerns regarding the disposal of hazardous materials and hazardous waste to be generated from the proposed project. Please see the enclosed DEP memorandum for further details.

Based on the information contained in the referenced project report and comments provided by our reviewing agencies, the state has determined that, at this stage, the proposed project is consistent with the Florida Coastal Management Program. The applicant must, however, address the concerns identified by the reviewing agencies as described herein and enclosed. The state's continued concurrence with the project will be based, in part, on the adequate resolution of any issues identified during this and subsequent permitting reviews.

Thank you for the opportunity to review this project. If you have any questions regarding this letter, please contact Ms. Suzanne Ray at (850) 245-2172.

Yours sincerely,

Sally B. Mann, Director
Office of Intergovernmental Programs

SBM/ser

Enclosures

cc: Barbara Bess, DEP Central District
Geoffrey Sample, SJRWMD

Project Information	
Project:	FL200502160467C
Comments Due:	March 17, 2005
Letter Due:	April 16, 2005
Description:	DEPARTMENT OF THE AIR FORCE - FINAL DRAFT ENVIRONMENTAL ASSESSMENT FOR THE DEACTIVATION/FACILITY DISPOSITION OF ATLAS SPACE LAUNCH COMPLEX (SLC-36) AT CAPE CANAVERAL AIR FORCE STATION - CAPE CANAVERAL, BREVARD COUNTY, FLORIDA.
Keywords:	USAF - DEACTIVATION OF ALTAS SPACE LAUNCH COMPLEX - CAPE CANAVERAL, BREVARD CO.
CFDA #:	12.200

Agency Comments:

ENVIRONMENTAL PROTECTION - FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

The Department of Environmental Protection (DEP) has reviewed the above-referenced FDEA. The DEP has several concerns regarding disposal of hazardous materials and hazardous waste to be generated from the proposed project. Please see the enclosed DEP memorandum for further details.

FISH and WILDLIFE COMMISSION - FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION

No Final Comments Received

STATE - FLORIDA DEPARTMENT OF STATE

No Final Comments Received

TRANSPORTATION - FLORIDA DEPARTMENT OF TRANSPORTATION

No Comment

ST. JOHNS RIVER WMD - ST. JOHNS RIVER WATER MANAGEMENT DISTRICT

An Environmental Resource Permit will likely be required from the SJRWMD for the proposed activity in accordance with Section 3.2 of the Applicant's Handbook, which states, in part, that: A permit must be obtained for any stormwater management system, dam, impoundment, reservoir, appurtenant work or works, which exceed the thresholds listed in section 3.3 of this Handbook. Such permit is to be obtained as: (b) Authorization to alter prior to alteration of an existing system. (e) Authorization to abandon prior to the abandonment of an existing system. (f) Authorization to remove prior to removal of an existing system. During the permit application review process the applicant would be required to demonstrate direct and secondary impacts to wetlands and wildlife have been avoided or minimized. Unavoidable direct and secondary impacts would require mitigation in accordance with the Unified Mitigation Assessment Method found in Chapter 62-345, F.A.C. Compliance with the environmental review criteria in Chapter 12 of the Applicant's Handbook would also be required. Please contact Michelle Reiber, Supervising Regulatory Scientist, in the Palm Bay service center at (321) 676-6615 or mreiber@sjrwmd.com if there are any questions.

E. CENTRAL FL RPC - EAST CENTRAL FLORIDA REGIONAL PLANNING COUNCIL

The proposed project, as presented for review and when considered in its entirety, is consistent with the adopted Goals, Policies and Objectives of the East Central Florida Regional Planning Council.

BREVARD -

No Comment

For more information please contact the Clearinghouse Office at:

3900 COMMONWEALTH BOULEVARD MS-47
TALLAHASSEE, FLORIDA 32399-3000
TELEPHONE: (850) 245-2161
FAX: (850) 245-2190

Visit the Clearinghouse Home Page to query other projects.

TO: **Suzanne Ray, Environmental Specialist**
DEP Office of Intergovernmental Programs

FROM: **Barbara Bess**
DEP Central District Office

DATE: **April 14, 2005**

PROJECT: **Department of the Air Force – Final Draft Environmental Assessment (FDEA) for the Deactivation/Facility Disposition of Atlas Space Launch Complex (SLC–36) at Cape Canaveral Air Force Station – Cape Canaveral, Brevard County, Florida**

SAI#: **FL200502160467**

The Department of Environmental Protection (DEP) has reviewed the above-referenced FDEA. The DEP offers the following comments.

Industrial Waste:

The Industrial Waste permit for both pads (36 A & B) will expire in May of 2005. The applicant will need to submit a permit inactivation request to the DEP Central District Office. Please contact Mr. Ali Kazi, in the Industrial Waste Section, for additional information at (407)893–3316).

Please direct any program-specific questions to Mr. John White, Hazardous Waste Section at (407)893-3323, ext. 2217.

Hazardous Waste:

Section 4.5 - Hazardous Materials and Hazardous Waste

The document states the facility will "Consult with OPLAN 1914 for disposal/recycling procedures for florescent, high intensity discharge, and low-pressure sodium lamps, and lithium, mercury, ni-cad and low-acid storage batteries. Also consult Plan for lead based paint removal and disposal requirements."

Please ensure OPLAN 1914 includes proper closure of the 90-day accumulation sites in accordance with the requirements of 40 CFR 265.111, closure performance standard, and 265.114, disposal or decontamination of equipment, structures and soils.

Section 4.6.1 Proposed Action

The language on page 4-17 states "Some structures and facilities are known or suspected of containing LBP [Lead Based Paint]. ...If LBP is identified, it would be left in place to avoid exposure to workers. Post-demolition analysis for these metals would determine whether this demolition debris would be handled as hazardous or non-hazardous waste."

This statement appears to conflict with the language on page 4-14, lines 13 through 24, which indicate demolition debris coated with lead based paint will be disposed of in non-hazardous waste landfills.

> Lead-Based Paint
>
> "Building demolition wastes often include such items as wood trim, siding and other architectural components that may have been painted with LBP [Lead Based Paint]. Demolition debris, including metal, wood, and concrete painted with LBP, would be stored in covered containers prior to disposal in a Class I or Class III landfill or a C&D disposal facility. Approval must be received from the landfill prior to disposal...."

This section does include language indicating that paint chips, dust and other "easily collected" materials will be properly tested for hazardous waste characteristics and disposed of accordingly:

> Lead-Based Paint
>
> "...Materials generated during the demolition project that can be vacuumed, swept up, or otherwise easily collected, such as paint chips or dust, should be analyzed utilizing the Toxic Characteristics Leaching Procedure (TCLP) test prior to disposal. If the materials are determined to be hazardous, they must be handled and disposed of as a hazardous waste in accordance with applicable Federal, State, and local regulations. If the materials are deemed non-hazardous, the waste should be disposed of in a Class I landfill."

Please be aware, in accordance with 40 CFR 262.11, that the U.S. Air Force, and/or its demolition contractor, must make a proper waste determination on all waste generated to determine if that waste is a hazardous waste.

DEPARTMENT OF THE AIR FORCE
45TH SPACE WING (AFSPC)

21 Mar 05

MEMORANDUM FOR 45 CES/CEVP

FROM: CAPT ELIZABETH PATROLIA

SUBJECT: Environmental Assessment (EA) for Deactivation and Disposition of Atlas Space Launch Complex 36

1. In accordance with 40 C.F.R. 1502.14, environmental analysis should, "Rigorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated." The attached draft EA explores a proposed action and a no action alternative. Courts are highly critical if a No Action Alternative is the only reasonable agency alternative. For example, if refurbishment and reuse was considered but eliminated due to cost or practicability, this information would be appropriate to include in the EA.

2. We recommend brief discussion of any alternatives that were considered and a short explanation of why they were eliminated from further analysis.

///signed///

ELIZABETH PATROLIA, CAPT, USAF
Assistant Staff Judge Advocate

START...Get it!