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BASE REALIGNMENT AND CLOSURE CLEANUP PLAN NAS KEY WEST FL
8/1/1998
TETRA TECH NUS

BRAC Cleanup Plan

for

Naval Air Station Key West, Florida



Southern Division Naval Facilities Engineering Command

Contract Number N62467-94-D-0888

Contract Task Order 0032

August 1998

Revision 1

**BRAC CLEANUP PLAN
FOR
NAVAL AIR STATION KEY WEST, FLORIDA

COMPREHENSIVE LONG-TERM
ENVIRONMENTAL ACTION NAVY (CLEAN) CONTRACT**

**Submitted to:
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**CONTRACT NUMBER N62467-94-D-0888
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August 1998

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LIST OF ACRONYMS

AST	aboveground storage tanks
ARARs	applicable or relevant and appropriate requirements
ASHERA	Asbestos Hazard Emergency Response Act
ACM	Asbestos-containing material
BRAC	Base Realignment and Closure
BMP	Best Management Practices
BCP	BRAC Cleanup Plan
BCT	BRAC Cleanup Team
BEC	BRAC Environmental Coordinator
CATEX	Categorical Exclusions
CERFA	Community Environmental Response Facilitation Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CARS	Contamination Assessment Reports
DQOs	Data Quality Objectives
DRMO	Defense Reutilization and Marketing Organization
DOD	Department of Defense
HUD	Department of Housing and Urban Development
DOI	Department of Interior
DOT	Department of Transportation
EDC	Economic Development Conveyance
EAs	Environmental Assessments
EBS	Environmental Baseline Survey
ESS	Environmental Suitability Statement
FDEP	Florida Department of Environmental Protection
FNAI	Florida Natural Areas Inventory
FOST	Finding of Suitability for Transfer
HASP	Health and Safety Plan
IR2	Installation Restoration Program Site No. 2
IDW	Investigation Derived Waste
LBPPPA	Lead-Based Paint Poisoning Act
NEPA	National Environmental Policy Act
NAS	Naval Air Station
NAWC	Naval Air Warfare Center
NOAA	National Oceanic and Atmospheric Administration

OWSs	oil/water separators
PCBs	polychlorinated biphenyls
PAC	Public Airport Conveyance
PBC	Public Benefit Conveyance
PCi/L	picocuries per liter
RAP	Remedial Action Plans
RLBPHRA	Residential Lead-Based Paint Hazard Reduction Act of 1992
RCRA	Resource Conservation and Recovery Act
RAB	Restoration Advisory Board
RPM	Remedial Project Manager
SAP	Sampling and Analysis Plan
SI	Site Investigation
SQGs	small quantity generators
SSC	Species of Special Concern
SPCC	Spill Prevention, Control and Countermeasure
SARA	Superfund Amendments and Reauthorization Act
TSCA	Toxic Substances Control Act
EPA	U.S. Environmental Protection Agency
USTs	underground storage tanks

1.0 INTRODUCTION AND SUMMARY

The purpose of the Base Realignment and Closure (BRAC) Cleanup Plan (BCP) is to summarize the current status of environmental restoration and associated environmental compliance programs for those properties designated as excess under the realignment of Naval Air Station (NAS) Key West, Florida. The BCP also presents a comprehensive strategy for expediting the cleanup of contaminated sites to facilitate transfer of excess properties, while ensuring that all response actions necessary to protect human health and the environment are taken. This strategy integrates activities being performed under both the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the associated environmental compliance programs to support full restoration and reuse of the excess properties.

The BCP is a dynamic planning document that is updated to incorporate newly obtained information and reflect the completion or change in status of any remedial actions. This BCP was prepared with information available as of August 7, 1998. In some cases, it was necessary to make certain assumptions and interpretations to develop estimates and schedules. As additional data become available, implementation programs and cost estimates and schedules could be altered dramatically. Such changes will be reflected in future updates to the BCP.

As a result of past waste and resource management practices at the base, some areas have been contaminated (or are suspected of being contaminated) by various hazardous substances, pollutants, or wastes. In response, the Navy has performed previous environmental investigation activities in compliance with CERCLA and various environmental laws, regulations, and other requirements.

With NAS Key West realignment under BRAC, and the President's directive to quickly transfer property to the local community for economic reuse/redevelopment, a BRAC Project Team comprised of Department of Defense (DOD); Florida Department of Environmental Protection (FDEP); and U.S. Environmental Protection Agency (EPA) Region 4 has been established to oversee "fast-track" cleanup efforts. The actions and strategy of the Project Team are outlined in this plan.

Chapter 1 describes the environmental restoration program's objectives, explains the BCPs purpose, provides a brief history of the excess properties, and lists the Project Team members.

Chapter 2 summarizes the current status of the property disposal planning process and describes the relation of the disposal process to other environmental programs.

Chapter 3 summarizes the past history and current status of the Installation Restoration Program, the Underground Storage Tank (UST) program, and various environmental compliance programs (e.g., Asbestos), as well as community relations activities that have occurred to date. Chapter 3 also summarizes the current environmental condition of property using the DOD's 7-category classification system.

Chapter 4 describes the BRAC Project Team's strategy for "fast track" environmental cleanup and restoration to facilitate the transfer of the excess property.

Chapter 5 provides the master schedule of planned, accomplished, and anticipated activities to be performed throughout the duration of the environmental restoration program.

Chapter 6 describes specific technical and/or administrative issues to be resolved and presents a strategy for resolving these issues.

In addition to the main text, the following appendices are included in this document:

- Appendix A – Data Quality Objective Process excerpt from the Site Investigation Workplan for the Ten BRAC Properties, NAS Key West, January 1998.
- Appendix B – Project Team Charter (under development)
- Appendix C – Master Schedule

1.1 ENVIRONMENTAL RESPONSE OBJECTIVES

The objectives of the Project Team are as follows:

- Protect human health and the environment.
- Strive to meet reuse goals established by the Navy and the Local Redevelopment Authority (LRA).
- Strive to comply with the "fast-track" cleanup directive to facilitate the transfer of property to the local community for economic reuse/redevelopment.

- Conduct all environmental restoration activities in a manner consistent with CERCLA, including the following:
 - Complete investigations as soon as practical for each site identified as contaminated, based on environmental concerns and redevelopment plans.
 - Develop, screen, and select remedial actions that reduce risk in a manner consistent with applicable or relevant and appropriate requirements (ARARs).
 - Begin restoration, if necessary, as soon as practical.
 - Establish and conduct interim and long-term monitoring as appropriate.
- Comply with other existing local, state, and Federal statutes and regulations.
- Continue efforts to identify all potential contaminated areas, and incorporate any new sites as appropriate.
- Establish priorities for environmental restoration and restoration-related compliance activities so property disposal and reuse goals can be met.
- Initiate selected removal actions to control, eliminate, or reduce risk to manageable levels.
- In accordance with property transfer and leasing requirements under Section 120(h) of CERCLA, as amended by Community Environmental Response Facilitation Act (CERFA), ensure appropriate language is included in leases and deeds regarding past storage, release, or disposal of hazardous substances.

1.2 BCP UPDATES AND DISTRIBUTION

For the BCP to be a viable planning document, it must be updated continually to reflect changes in the status of the environmental program. The BRAC Environmental Coordinator (BEC) and Remedial Project Manager (RPM) will have primary responsibility for ensuring the BCP is reviewed every 6 months and revised every year (DOD, 1995a).

The BCP (and updates) will be distributed to the individuals listed in Table 1-1.

1.3 PROJECT TEAM

The Navy, LRA, and contractor personnel support the Project Team. The Project Team will work in conjunction with the Navy BRAC Environmental Coordinator (BEC) and others to perform oversight of the BRAC cleanup program for excess property to be transferred. The Project Team meetings, which are led by the Navy BEC, are the means of periodically reviewing programs and reaching consensus on decisions with Federal and state regulators. The Project Team Charter is currently under development. Table 1-2 lists the team members and specifies their responsibilities.

As the need arises, individuals can be called upon to assist the Project Team. The Navy can draw upon its internal resources for the real property and the contracting support; State of Florida and EPA can draw upon their internal resources to provide other necessary technical support.

1.4 BRIEF HISTORY OF INSTALLATION

1.4.1 Current Operations

NAS Key West is in southern Monroe County, Florida. The U.S. Navy manages 6,323 acres of land divided into 20 separate tracts in the lower Florida Keys, concentrated around Key West and Boca Chica Key (Figure 1-1). Key West, one of the two westernmost major islands of the Florida Keys, is approximately 150 miles southwest of Miami and 90 miles north of Havana, Cuba. Key West connects to the mainland by U.S. Highway No. 1.

The Naval Station at Key West was disestablished in 1974, resulting in the relocation of several units. NAS Key West currently supports aviation operations, a research laboratory, communications intelligence, counternarcotics air surveillance operations, a weather service, and several other activities on Key West. In addition to the Naval activities and units, other Federal agencies at NAS Key West include the U.S. Air Force, U.S. Army, and U.S. Coast Guard.

In 1995, NAS Key West was realigned to a Naval Air Training Facility under the Base Realignment and Closure Act of 1990, Round IV (referred to as BRAC IV). Under this realignment, various properties of NAS Key West were identified as excess to mission requirements of the DOD (Figure 1-2). The properties include the following 12 parcels:

- East Martello Battery
- Hawk Missile Site
- Peary Court Cemetery

- Poinciana Housing Plaza
- Simonton Street Commissary
- Trumbo Point Building B-48
- Trumbo Point Piers D-1 and D-3
- Trumbo Road
- Truman Annex Mole Pier
- Truman Annex Remainder (e.g., being realigned; however, it is not all of the Navy-owned properties on Truman Annex)
- USS Maine Memorial Plot
- White Street Trailer Park

For the purposes of this plan, the above mentioned properties will be known as the excess parcels (i.e., properties which will be transferred to the local community). Any mention of Truman Annex or Trumbo Point, unless qualified, refers to the entire NAS Key West property (i.e., as part of the discussion of past operations and property acquisitions). As of February 2, 1998, the use of the buildings on the excess parcels is limited to the five Trumbo Point buildings, a small portion of Poinciana Housing, and Truman Annex Buildings 149, 112, 113, 261, 284, and 795 (USN-SOUTH DIV, 1994a,b; USN-SOUTH DIV, 1996a,b; USN-SOUTH DIV, 1997a,b; USN-SUPSHIP, 1996).

1.4.2 Past Operations

The United States purchased Florida from Spain in 1819 because of the need to protect shipping. In the course of events, Key West was sold to an American, and a naval expeditionary force was sent to the Keys to clear out pirates. This force established the first U.S. Naval Base on Key West in 1823. By 1825 the Navy ordered the base closed since the piracy threat was gone and a yellow fever epidemic was rampant. In 1831, the U.S. Army then established a base on Key West, located on the site of what is now Peary Court to provide rest and recreation for its soldiers fighting in the Seminole War (1835 to 1842).

The military presence at the site of the Naval Station was expanded with the construction of Fort Zachary Taylor during the Mexican War of 1846 to 1848. The Navy began construction on new buildings in 1856 to prepare for civil war. At the beginning of the Civil War, the two Martello Towers were constructed by the federal forces. Although most of the Key West citizens were confederate sympathizers, federal forces held the city throughout the war as the headquarters for the Gulf Blockading Squadron. After the Civil War, the Naval Station was again inactivated and Key West Army Barracks and Fort Taylor were placed on peacetime staffing status.

The Navy was ordered to Key West again in 1876 to prepare for war with Spain. During this period the base was used to modernize the Navy from sail to steam and as a training site. Key West was the headquarters of the American Battle Fleet and the Marine Corps during the Spanish-American War.

World War I brought expansion of the Key West Naval Station (Seaplane Base) and establishment of the Sixth Naval District Headquarters at the Naval Station (1909 to 1919). After the war, the military reduced its presence in Key West to caretaker status, moving the Sixth Naval District to Charleston, South Carolina, and closing the Naval Air Station (Seaplane Base). Only the Naval Base and radio station remained active. All military facilities on Key West, with exception of the radio station, were closed by 1932. With anticipated U.S. entry into the war in Europe (WWII), the Navy once again opened its facilities in Key West. Navy property expanded from less than 50 acres to over 3,222 acres. In 1939, the Navy reopened the Seaplane Base at Trumbo Point, as well as the Naval Station, and built many new facilities in Key West. In 1942, the Navy acquired the land to construct the Boca Chica airfield, reestablished Naval Air Station Key West, acquired Trumbo Point, turned the Key West airport into a lighter-than-air base (i.e., dirigible), and constructed a pipeline from the mainland to bring water to the island to support the increased military operations for World War II. The Army shore defense closed all its facilities in Key West in 1945 and transferred most of the land to the Navy.

During the 1950s and 1960s, the Navy remained fully operational at the Naval Station. The Fleet Sonar School trained more than 3,000 detection equipment students a year. The Army returned to Key West during the Cuban Missile Crisis in 1962. The Hawk Missile Battalion was tasked with missile defense against Cuban/Soviet attack during the 1960s.

During the U.S. involvement in the Vietnam War (1966-1975), the Defense Department determined that the military had excess shore and force structure beyond what was required to continue its military mission. Ultimately, the Naval Station was disestablished in 1974. Conditions created by lack of an ongoing mission at the Naval Air Station during 1978 and 1979 resulted in the transfer or decommissioning of some commands and the disestablishment of some activities. It was during this time that the Army Hawk Battalion property was transferred to the Navy. Significant events in the history of the BRAC excess parcels are described in Table 1-3 (USN-SOUTH DIV, 1994a,b; USN-SOUTH DIV, 1996a,b; USN, 1997a,b; USN-SUPSHIP, 1996).

1.4.3 Past Hazardous Materials and Waste Management Practices

NAS Key West base operations and hazardous material handling practices prior to the advent of environmental regulations were typical of military facilities. Some of these practices could include spills; dumping hazardous materials and spent solvents on soil or gravel areas; draining oil from equipment and

metal shavings onto the ground; storing drums on gravel areas or concrete pads without secondary containment; using solvents to clean equipment; and unmonitored USTs. However, the types and uses vary for the 12 excess parcels from military industrial (e.g., Truman Annex and Trumbo Point); to residential (e.g., Poinciana Housing); to monuments (e.g., USS Maine Memorial). A synopsis of the base's activities on the excess parcels compiled from drawings, photographs, documents, and interviews presents a historical overview of past practices with known or potential releases to the environment. Table 1-4 describes these activities by property. The table is brief due to the limited records available for this version of the BCP.

1.5 TENANTS AND OFF-BASE PARCELS

1.5.1 Parcel Acquisition

The excess parcels were acquired by the Navy primarily through transfers from the Army and purchases. Starting in 1919, the Army transferred Truman Annex. This transfer was followed by the transfer of East Martello Battery in 1950 and ended in the early 1980's with the transfer of the Hawk Missile Site. In 1918, the Navy purchased the property known as the White Street Trailer Park. Other property purchases during the 1940's include Trumbo Point, Simonton Street Commissary, and Poinciana Housing. In 1898, the property for the Maine Memorial was donated by the city of Key West. In 1949, Peary Court Cemetery was transferred to the Navy from the Army. Title searches were not performed on the properties because of the length of duration many of the properties had been under the control of the United States government (B&R Environmental, 1998a). Figure 1-2 depicts a general summary disposition of the BRAC excess parcels. The general chronology of events for each of the excess parcels based on the current EBSs is found in Table 1-3. Table 1-3 also includes some major construction and base activities. A specific property disposition table was not developed for this draft of the BCP because title information was not available on the excess parcels. A placeholder for Table 1-5, "Property Disposition Summary," has been left in the document.

1.5.2 Tenants

No list of the current tenant organizations and other parties on the excess parcels was available for this draft of the BCP. A placeholder for Table 1-6, "Current Tenant Organizations and Other Parties," has been left in the document. All of the current tenants are expected to depart the excess parcels with the exception of the Naval Air Warfare Center (NAWC), currently operating the Trumbo Point Pier D-1 (B&R Environmental, 1998c). At the present time, Trumbo Point Pier D-1 is expected to be a federal transfer to the U.S. Coast Guard.

1.5.3 Off-Base Parcels

All excess parcels identified in this BCP are located outside the confines of NAS Key West (Boca Chica) (B&R Environmental, 1998a).

1.5.4 Adjacent Property

The properties that immediately abut the excess parcels can be classified primarily as residential. On Truman Annex and Trumbo Point, Navy property abuts the excess parcels to the south and east, respectively. The Key West International Airport abuts the Hawk Missile Site and East Martello Battery properties to the south and east, respectively. All other parcels are surrounded by residential and/or limited commercial properties. A complete list of adjacent property owners was not available for this revision of the BCP. In the next revision of the BCP, Figure 1-3 will show the zoning of properties immediately surrounding the excess parcels. In addition, Table 1-7 will list those properties, and their current owners, that immediately abut the excess parcels and their location will be depicted on Figure 1-4.

Thirty-nine properties with potential environmental concerns within an approximate quarter-mile of the excess parcels' boundaries were identified by searching Federal, state, and local environmental databases. The current owners of these properties, as well as the database citations, were determined and are shown in Table 1-8. In the next revision of the BCP, the location of these properties will be shown in Figure 1-4. No information on contaminants and migration pathways from properties within 1/4 mile was available; therefore, no conclusions could be made regarding the potential impacts of these properties on the environmental conditions of the excess parcels. However, their citations in the databases provide an indication of potential environmental concerns from adjacent property for the majority (e.g., 9 of 12 properties) of excess parcels (B&R Environmental, 1998a). No environmental concerns were identified for properties adjacent to East Martello Battery, Hawk Missile Site, and Poinciana Housing properties. The following summarizes the citations of the information discovered for the properties within 1/4 mile (B&R Environmental, 1998a; USN-SUPSHIP, 1996; USN-SOUTH DIV, 1996b).

- Twenty-three of these properties have registered USTs
- Five properties are identified as RCRA generators
- Five properties are identified in the EPA CERCLIS database
- Two properties are identified as landfills
- Twenty-two of these properties had leaking UST report(s)

TABLE 1-1
BRAC CLEANUP PLAN DISTRIBUTION
KEY WEST, FLORIDA

Name	Organization	Address	Mail Stop	Number of Copies
Martha Berry	U.S. EPA Region IV	61 Forsyth Street, SW Atlanta, GA 30303-3104 (404) 562-8533		1
Chuck Bryan	Tetra Tech NUS, Inc.	900 Trail Ridge Road Aiken, SC 29803 (803) 649-7963		1
Jorge Caspary	State of Florida Dept. of Environmental Protection	2600 Blair Stone Road Tallahassee, FL 32399-2400 (850) 921-4988		1
Ron Demes	Naval Air Station Key West	P.O. Box 9000 Key West, FL 33040-9001 (305) 293-2906	Code 188	1
Roy Hoekstra	Bechtel Environmental, Inc.	151 Lafayette Drive Oak Ridge, TN 37831-0350 (423) 220-2271		1
Eric Nuzie	Tier II Link, State of Florida, Dept. of Environmental Protection	2600 Blair Stone Road Tallahassee, FL 32399-2400 (850) 921-9999		1
Dudley Patrick	Southern Division, NAVFACENGCOM	2155 Eagle Drive North Charleston, SC 29419-9010 (843) 820-5541	Code 1858	1 each
Steve Beverly		(843) 820-5708	Code 09CB	
Archie Browder		(843) 820-5516	Code 1834	
David Porter		(843) 820-5610	Code 1882	
Byas Glover		(843) 820-5651	Code 18410	
Thuane Fielding		(843)-820-5513	Code 062TBF	
Phillip Williams	Environmental Branch Naval Air Station Key West	Naval Air Station Public Works Building A629 Key West, FL 33040 (305) 293-2061	Code 1883	1
Susan Loder	Restoration Advisory Board	1100 Kennedy Drive Key West, FL 33040 (305) 296-2454		1 each
Robin Orlandi		P.O. Box 6102 Key West, FL 33041 (305) 293-8807		
Donna Perez		3930 South Roosevelt Blvd. Apt No. 108 South Key West, FL 33040 (305) 292-4454		
Mimi Stafford		352 Boca Chica Road Key West, FL 33040 (305) 296-5947		
Michael Ingram		113 Fleming Street Key West, FL 33040 (305) 292-7722		
Julio Arael	Local Reuse Authority Key West City Manager	P.O. Box 1409 Key West FL 33041 (305) 292-8100		1 each

TABLE 1-2
PROJECT TEAM MEMBERS
KEY WEST, FLORIDA

Name	Organization	Telephone	Responsibility
Martha Berry	U.S. EPA	(404) 562-8533	U.S. EPA Region IV Representative
Chuck Bryan	Tetra Tech NUS, Inc.	(803) 649-7963	Environmental Investigation Contractor
Jorge Caspary	State of Florida Dept. of Environmental Protection	(850) 921-9988	State of Florida Representative
Ron Demes	NAS Key West	(305) 293-2906	Base Public Works Director
Roy Hoekstra	Bechtel Environmental, Inc.	(423) 220-2271	Remedial Action Contractor
Dudley Patrick	Southern Division, NAVFACENGCOM	(843) 820-5541	Remedial Project Manager
Phillip Williams	Environmental Branch Naval Air Station	(305) 293-2061	Base Installation Restoration Environmental Coordinator

TABLE 1-3

**HISTORY OF BRAC EXCESS PARCELS
NAS KEY WEST, FLORIDA (PAGE 1 OF 3)**

Date	Description
TRUMAN ANNEX	
1823	Purchased by an American citizen; the Navy occupied northernmost portion of the west end of Key West.
1845	Army acquired land on the western end of Key West to build Fort Zachary Taylor.
Early 1860's	Seminole Battery constructed.
1909 – 1919	Outer Mole Pier(s) constructed by U. S. Army by landfill operations between Fort Zachary Taylor and the Naval Station.
1919	Basin between Outer Mole and Quay dredged to a depth of 30 feet.
1919	Truman Waterfront deeded to Navy.
1918 – 1940's 1940's – Early 1970's	Submarines berthed at pier. Buildings on Outer and Inner piers support submarines, submarine tenders, and various schools and units.
1939 – 1942	New Marine Railway constructed adjacent to waterfront seawall.
1940's – 1950's	Area adjacent to Seminole Battery used as fueling area and grease rack.
1950's	Modern battery addition to Seminole Battery.
1950's	Motor pool area adjacent to Building 1287.
1960's	Pier 8 Constructed.
1982	Majority of Outer Mole Pier support buildings demolished. Buildings 149, 1374, and 794 remain.
1980's – Current	Inner Mole Pier serves as a naval docking station.
Mid 1980's	Transformers removed from Building 103.
Late 1980's	The Inner Mole Pier waterfront and Outer Mole Pier were refurbished.
1995	Fueling island and tanks A and B removed from Building 248.
Current	Outer Mole Pier licensed to City of Key West to provide periodic berthing and anchorage to cruise liners. Sporadic berthing at Pier 8. Building 149 houses Truman Annex Fire Station. Building 794 houses Police Detachment. Building 1374 is empty.
TRUMBO POINT	
1914	Three harbor terminal piers constructed by Florida East Coast Railroad Company.
1935	Piers abandoned due to severe hurricane damage.
1935 – 1942	Pier D-3 used as an oil dock by Orange State Oil Company.
1942	Trumbo Point Fuel Farm constructed to store and distribute various fuels.
1942	Piers D-1 and D-3 purchased by the Navy.
1942 – 1980s	Piers D-1 and D-3 supported various ship and craft operations.
1955	Building B-48 constructed as an ordnance and training facility.
1962	South end of second floor in Building B-48 used as a Photographic Laboratory.
1976	Ownership of Pier D-2 transferred from the Navy to the USCG.

TABLE 1-3
HISTORY OF BRAC EXCESS PARCELS
NAS KEY WEST, FLORIDA (PAGE 2 OF 3)

Date	Description
MAINE MEMORIAL CEMETERY	
1898	USS Maine Memorial Plot dedicated at Key West Cemetery.
PEARY COURT CEMETERY	
1927	Disinterment of bodies from Peary Court Cemetery and cemetery abandoned.
EAST MARTELLO BATTERY	
Early 1940s	U.S. Army built East Martello Battery for use as a Coastal Defense Battery.
1950	East Martello Battery transferred to the Navy. Developed into a trailer park.
1956	East Martello Battery trailer park deactivated. Trailers and buildings removed.
1985 – 1992	Monroe County Civil Defense used East Martello Battery as an administrative command post.
HAWK MISSILE SITE	
1964	Hawk Missile Site built by the U.S. Army.
1964 – 1980s	Hawk Missile Site used for coastal defense.
Early 1980s	Hawk Missile Site transferred to Navy.
1994 – 1995	Hawk Missile Site used as a refuge for homeless veterans.
POINCIANA HOUSING PLAZA	
1942	Property used as residential housing.
1947	Property acquired by the Navy.
1966	Housing park of 212 townhouse-type units constructed.
1998	Property vacated
SIMONTON STREET COMMISSARY	
Prior to 1889	Cigar factory located at the site.
1923	Two-story main building constructed and used as a cigar factory.
1943	Navy acquires building.
1950	Navy uses building as a Commissary.
1958	Parking area constructed.
1958	A miscellaneous utility pad and two buildings constructed.
1967	Additional property acquired from Maria Teresa Romera.
1968	A perimeter security fence installed.
1994	Architectural Inventory conducted by U.S. Army Corps of Engineers notes the Commissary is eligible for inclusion on the National Register of Historic Property.
WHITE STREET TRAILER PARK	
1899	Grocery store on the northwest corner of White and United Streets.
1906	Portion of the property acquired by Woman's Home Mission Society of the Methodist Episcopal Church South from O. Kelley.
1912	The Hargrove Institute, a private school, constructed on the site between White and Tropical Streets. The institute consisted of two large buildings, a dormitory and classroom/auditorium, and three smaller buildings: a wagon shed, a stucco outbuilding, and a kindergarten.

TABLE 1-3
HISTORY OF EXCESS PARCELS
NAS KEY WEST, FLORIDA (PAGE 3 OF 3)

Date	Description
1966	Housing park of 212 townhouse-type units constructed.
1918	Navy purchased property from the Woman's Home Mission Society of the Methodist Episcopal Church South.
1926	Naval hospital located on site. Commissary, diet kitchen, laboratory, and two additional buildings constructed.
1948	Navy Commissary located on site.
1958	White Street Trailer Park designed to accommodate 42 mobile homes.

Source: USN-SOUTHDIV, 1994a,b; USN-SOUTHDIV, 1996a,b; USN-SOUTHDIV, 1997a,b; USN-SUPSHIP, 1996

TABLE 1-4
HISTORY OF OPERATIONS AND WASTE MANAGEMENT
ON BRAC EXCESS PARCELS
NAS KEY WEST, FLORIDA
PAGE 1 OF 4

Date	Activity	Waste Type	Comments
TRUMAN ANNEX – OUTER MOLE PIER EBS			
1988	Leaking underground storage tank	Unknown	Exact location unknown, vicinity of Bldg. 103.
1989	Release of petroleum product	Hydraulic fluid	Approximately 20 gallons of hydraulic fluid were released at Outer Mole and treated with sorbent pads.
1989	Release of petroleum product	Waste oil	Approximately 30 gallons of waste oil were released at the Turning Basin and treated with sorbent pads.
1990	Unknown sheen	Unknown sheen	A 20-gallon sheen in the Turning Basin was unsuccessfully cleaned up.
1990	Unknown sheen	Unknown sheen	A 500-square-foot sheen in the Turning Basin from a City of Key West storm water discharge point was treated with booms/skimming.
Unknown (Prior to November 1996)	Tanks and containment removed and tanks replaced	Fuel	Fueling tanks at Port Services were removed and replaced.
TRUMBO POINT - PIERS D-1 AND D-3			
1988	Potentially contaminated areas	Oily wastewater	Two separate areas on Pier D-1 suspect from releases of oily wastewater.
1988	Potentially contaminated areas	Petroleum	The south central area of Pier D-3 at the USCG facility, where a release resulting from an underground petroleum pipeline is the reported source of contamination.
1990	Excessive soil contamination	NA	Along the southern boundary of Pier D-1 at two separate locations.
HAWK MISSILE SITE			
1964 - 1990	Potential contamination in soil from adjacent site property and possibly offsite pole storage area	PAHs, solvents, metals	Subzone GRYZNA-SZN1--Soil--Drainage Area
	Potential contamination in soil from lift station operation	Solvents, metals, oils	Subzone GRYZNA-SZN4--Soil--Sewage Lift Station
	Potential contamination in soil from operations of generator building	Solvents, oils, metals	Subzone GRYZNA-SZN5--Soil--Generator Building I-6536
	Potential contamination in soil from prior use as missile maintenance area and burnt contents of building	Battery acid, metals, solvents	Subzone GRYZNA-SZN6--Soil--Burnt Building I-6530 - former Missile Maintenance Bay

TABLE 1-4

**HISTORY OF OPERATIONS AND WASTE MANAGEMENT
ON BRAC EXCESS PARCELS
NAS KEY WEST, FLORIDA
PAGE 2 OF 4**

Date	Activity	Waste Type	Comments
1964 - 1990	Potential contamination in soil from vandalized Army transformers in the former storage area	Dielectric fluid	Subzone GRYZNA-SZN7--Soil--Former Transformer Storage Area
	Potential contamination in sediment from operations in Zone A	Petroleum products, solvents, electrical batteries, lead, hazardous waste, and possible pesticides	Subzone GRYZNA-SZN9--Sediment--Ponds
	Potential contamination in surface water from Zone A runoff to surface water bodies	Petroleum, battery acid, Pb	Subzone GRYZNA-SZN10--Surface water--Ponds
	Potential contamination in groundwater from operations in Zone A	Petroleum products, solvents, electrical batteries, lead, and electrical transformers	Subzone GRYZNA-SZN11--Groundwater

EAST MARTELLO BATTERY

1940 - 1956	Potential contamination in soil from past uses as defense battery	Petroleum, solvents, fuels, lead	Subzone GRYZNB-SZN1--Soil--East Martello Battery
	Potential contamination in groundwater from past uses as defense battery and trailer park	Solvents, fuels, lead	Subzone GRYZNB-SZN3--Groundwater

TRUMAN ANNEX DRMO WASTE STORAGE AREA

1900 - 1980	Potential contamination in soil from past waste storage activities	Solvents, fuels, pesticides	Subzone GRYZNC-SZN1--Soil--Building 261 Hazardous Material Storage (former DRMO)
	Potential contamination in soil from past oil and metal storage activities	Fuels, oil, metal	Subzone GRYZNC-SZN3--Soil--Former Oil Container (pre 1942) and Scrap Metal and Refugee Item Storage Areas
	Potential contamination in soil from past metal storage activities	Metal debris	Subzone GRYZNC-SZN4--Soil--Former Scrap Metal Storage Area (former DRMO)
	Potential contamination in groundwater from past metal, waste storage activities	Fuels, oils, metals, solvents	Subzone GRYZNC-SZN6--Groundwater

TABLE 1-4
HISTORY OF OPERATIONS AND WASTE MANAGEMENT
ON BRAC EXCESS PARCELS
NAS KEY WEST, FLORIDA
PAGE 3 OF 4

Date	Activity	Waste Type	Comments
1900 - 1980	Potential contamination in soil from past activities including storage of hazardous materials and vehicles	Used oils, cleaning agents, solvents, fuel, and metals	Subzone GRYZND-SZN1--Soil--Seminole Battery
	Potential contamination in soil from the former grease racks	Lubricants and grease	Subzone GRYZND-SZN2--Soil--Former Grease Racks
	Potential contamination in groundwater from past military activities related to Seminole Battery and operation of former gas stations	Fuels, oils, metals, solvents	Subzone GRYZND-SZN3--Groundwater--Seminole Battery

TRUMAN ANNEX BUILDINGS 102, 103 AND 104

1900 - 1980	Potential contamination in soil from former building operations and demolition debris	Metals, solvents, fuels	Subzone GRYZNE-SZN1--Soil--Former Building Sites South End of Zone E
	Potential contamination in soil from building operations from Plate and Mold Shop and demolished Building 136 buried onsite	Debris, lead, metals, solvents, oils	Subzone GRYZNE-SZN2--Soil--Former Building 136
	Potential contamination in soil from building operations	Acids, solvents, fuel	Subzone GRYZNE-SZN3--Soil--Buildings 102 and 104
	Potential contamination in soil from former transformer site	PCBs	Subzone GRYZNE-SZN4--Soil--Transformer Site near Building 675
	Potential contamination in soil from former building operations and their demolition debris	Metals, solvents, fuels	Subzone GRYZNE-SZN5--Soil--Former Building Sites North End of Zone E
	Potential contamination in groundwater from past industrial naval activities, demolition debris and possible releases from former and existing buildings	Fuels, PCBs, oils, metals, solvents	Subzone GRYZNE-SZN7--Groundwater
	Potential contamination in soil from Building 103 used as a Power Plant	Fuel, soils, PCBs	Subzone GRYZNE-SZN9--Soil--Building 103

TRUMAN ANNEX BUILDING 223

1900 - 1980	Potential contamination in soil from AST tanks (east side) supporting former garage facilities	Fuels, used oils, solvents, metals from operations	Subzone GRYZNF-SZN1--Soil--Former Lube Area
	Potential contamination in soil from use of building as an equipment repair shop, plumbing shop and neighboring hazardous waste storage area	Metals, fuels, solvents	Subzone GRYZNF-SZN3--Soil--Building 113 Equipment Repair Shop

TABLE 1-4

**HISTORY OF OPERATIONS AND WASTE MANAGEMENT
ON BRAC EXCESS PARCELS
NAS KEY WEST, FLORIDA
PAGE 4 OF 4**

Date	Activity	Waste Type	Comments
1900 - 1980	Potential contamination in groundwater from past operation of a waste oil AST at Building 1287, Electrical Maintenance Shop (Bldg. 223), former gas station (Bldg. 1276), and former lube area (adjacent to Bldg. 1287)	Fuels, oils, metals	Subzone GRYZNF-SZN7--Groundwater

TRUMBO POINT PIERS D-1 AND D-3

1914 - 1976	Potential contamination in groundwater at east end of Pier D-1 from leaky bilge line and from past use of Piers D-1 and D-3	Solvents, metals	Subzone GRYZNH-SZN6--Groundwater
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WATER FRONT MAINTENANCE FACILITIES

1914 - 1976	Potential contamination in soil from hazardous waste storage area activities and Building 149 handling of hazardous materials	Metals, solvents, fuels, acids, used oils	Subzone GRYZNK-SZN1--Soil--Building 149 Port Operations and Hazardous Waste Storage Area
	Potential contamination in soil from former building uses, former fuel lines and demolition debris	Metals, solvents, fuels, acids	Subzone GRYZNK-SZN2--Soil--Remainder Public Works Maintenance Facilities
	Potential contamination in soil from Building 84 used as transportation pool	Metals	Subzone GRYZNK-SZN3--Soil--Building 84
	Potential contamination in groundwater from past industrial naval activities, demolition debris and management of hazardous waste at Zone K	Fuels, oils, metals, solvents	Subzone GRYZNK-SZN5--Groundwater

NAS Key West has received no Notices of Violation, Notices of Deficiency, or Warning Letters from the FDEP or the US EPA for noncompliance with environmental laws or regulations for Trumbo Point (Pier D-1 and Pier D-3, Building B-48, Maine Memorial Plot, and Peary Court Cemetery), Trumbo Road Easement, Key West Interior (Poinciana Housing), Simonton Street Commissary, and White Street Trailer Park. No information was available for Hawk Missile Site, East Martello Battery, and Inner Mole Pier as of March 6, 1998.

Source: USN-SOUTH DIV, 1997a; USN-SUPSHIP, 1996

TABLE 1-5
PARCEL ACQUISITION/DISPOSITION SUMMARY
KEY WEST, FLORIDA

[To be developed in a future revision of the BCP]

Previous Owner	New Owner	Area in Acres	Method of Acquisition/Disposition	Date	Remarks

TABLE 1-6
CURRENT TENANT ORGANIZATIONS AND OTHER PARTIES
LOCATED ON THE EXCESS PARCELS
KEY WEST, FLORIDA

[To be developed in a future revision of the BCP]

Organization	Facility and Activities	Agreement Number	Expiration Date
Naval Air Warfare Center	Trumbo Point Pier D-1	NA	NA

NA – Not available

TABLE 1-7

OWNER OF PROPERTIES IMMEDIATELY SURROUNDING THE EXCESS PARCELS

[To be developed in a future revision of the BCP]

TABLE 1-8

**PROPERTIES WITH POTENTIAL ENVIRONMENTAL CONCERNS WITHIN
A QUARTER-MILE OF THE EXCESS PARCELS^a
KEY WEST, FLORIDA (PAGE 1 OF 4)**

Facility	Address	Environmental Database Citation ^b	Potential Environmental Concern
SIMONTON STREET COMMISSARY			
Key West Gasification	726 Catherine Street	CERCLIS	Possible coal tar by-products onsite
Circle K #8819	1075 Duval Street	RCRA	Small quantity generator
Chevron #47390-Maun's	1126 Truman Avenue	Leaking UST Report	2 incidences
Key West – City Hall	525 Angela Street	Leaking UST Report	1 incident
Texaco Station	500 Truman Avenue	Leaking UST Report	1 incident
Boas Tire Service	825 Duval Street	Leaking UST Report	1 incident
Key West City – Diesel Plant	Angela Street	Leaking UST Report	1 incident
Texaco Station	500 Truman Avenue	Registered UST	1 leaded gas, 2 unleaded gas, and 1 waste oil
Herce Plumbing, Inc./ Tony	633 United Street	Registered UST	1 unleaded gas
Scotty's Lumber	700 Catherine Street	Registered UST	1 unknown/not reported
Scotty's Lumber #96	530 Truman Avenue	Registered UST	1 unleaded gas
Moped Hospital	610 Truman Avenue	Registered UST	3 unknown/not reported, 1 waste oil, and 1 other
US Navy – Commissary	Simonton Street	Registered UST	1 diesel-emergency generator
TRUMAN ANNEX OUTER MOLE, PIER 8, AND BUILDINGS 149, 1374, AND 4080			
Key West City – City Hall	525 Angela Street	Leaking UST Report	1 incident
Texaco Station	500 Truman Avenue	Leaking UST Report	1 incident
US Navy – Truman Annex	Truman Annex	Leaking UST Report	1 incident
Truman Annex Co Fuel Island	201 Front Street	Leaking UST Report	1 incident
Key West Seaport Inc.	631 Greene Street	Leaking UST Report	2 incidences
Truman Annex Co. Mainland	Front Street	Leaking UST Report	1 incident
Boas Tire Service	825 Duval Street	Leaking UST Report	1 incident
Key West City – Diesel Plant	Angela Street	Leaking UST Report	1 incident
USNAS Truman Annex	Southard Street	RCRA	Small quantity generator
USN DRMO	NAS Harry S. Truman Annex 795	RCRA	Formerly small quantity generator
FL Keys Aqueduct Authority – Key West Plant	301 Southard Street	Registered UST	2 diesel-generator/pump, 1 waste oil, 1 unleaded gas, and 1 unknown/not reported
Truman Annex Co. Fuel Island	201 Front Street	Registered UST	1 unleaded gas, 1 vehicle diesel, and 1 leaded gas
Truman Annex Co. Mainland	Front Street	Registered UST	7 unknown/not reported

TABLE 1-8

**PROPERTIES WITH POTENTIAL ENVIRONMENTAL CONCERNS WITHIN
A QUARTER-MILE OF THE EXCESS PARCELS^a
KEY WEST, FLORIDA (PAGE 2 OF 4)**

Facility	Address	Environmental Database Citation ^b	Potential Environmental Concern
US Navy – Truman Annex	Truman Annex	Registered UST	4 unknown/not reported, 6 leaded gas, 2 waste oil, 7 diesel-emergency generator, 3 unleaded gas, 1 vehicle diesel, and 1 new/lube oil
Key West Gasification	726 Catherine Street	CERCLIS	Possible coal tar by-products onsite

WHITE STREET TRAILER PARK

NAS Trumbo Point Fuel Farm	Palm Avenue Causeway	CERCLIS	Numerous fuel releases. Soil and groundwater contamination addressed by CAR and RAP.
Key West Gasification	726 Catherine Street	CERCLIS	Possible coal tar by-products onsite
USCG Station Key West	Palm Avenue Causeway	CERCLIS	NA
Chevron #47390-Maun's	1126 Truman Avenue	Leaking UST Report	2 incidences
Amoco #927	1890 N Roosevelt Boulevard	Leaking UST Report	2 incidences
Circle K #1707	1109 Overseas Highway	Leaking UST Report	1 incident
Garrison Bight Investors	1605 N Roosevelt Boulevard	Leaking UST Report	1 incident
US Navy – Sigsbee Marina	NAS	Leaking UST Report	1 incident
Garrison Bight Marina Inc.	711 Eisenhower Drive	Leaking UST Report	1 incident
Monroe County School Board – Maintenance	1314 United Street	Leaking UST Report	1 incident
Key West City – Diesel Plant	Angela Street	Leaking UST Report	1 incident
Monroe County School Board – Maintenance	1314 United Street	Registered UST	2 unleaded gas
Firestone #05M5-004359	1201 White Street	Registered UST	1 waste oil

TRUMBO POINT

Utility Board of Key West	Trumbo Road	State Landfill Report	Inactive landfill
Chevron USA Inc./ Key West Terminal	909 Caroline Street	State Landfill Report	Inactive landfill
USCG Station Key West	Trumbo Point	CERCLIS	NA
NAS Trumbo Point	Palm Avenue Causeway	CERCLIS	NA
Chevron USA Inc./Key West Terminal	909 Caroline Street	RCRA	Closed generator
City Electric System	1001 James Street	RCRA	Closed generator
AAA Cooper Transpiration	1101 Eaton Street	Registered UST	1 tank diesel
USCG Key West	Trumbo Point	Registered UST	2 tanks diesel

TABLE 1-8

**PROPERTIES WITH POTENTIAL ENVIRONMENTAL CONCERNS WITHIN
A QUARTER-MILE OF THE EXCESS PARCELS^a
KEY WEST, FLORIDA (PAGE 3 OF 4)**

Facility	Address	Environmental Database Citation ^b	Potential Environmental Concern
Chevron – Key West Terminal	909 Caroline Street	Registered UST	10 tanks leaded gas, 1 tank fuel oil-distribution
Key West Pipeline Co.	Trumbo Point Naval Annex	Registered UST	3 tanks jet fuel
USCG Station	USCG Group Key West	Registered UST	2 tanks waste oil, 3 tanks vehicle diesel, 3 tanks diesel-emergency generator
Key West City – Power Plant	Trumbo Road	Registered UST	3 tanks bunker C residual oil, 2 tanks diesel-generator/pump, 1 tank mineral acid, 1 tank hazardous substance
Eden House	425 Grinnell Street	Registered UST	2 tanks leaded gas, 2 tanks waste oil
US Navy – Trumbo Point Fuel Farm	Trumbo Point	Registered UST	5 tanks vehicle diesel, 6 tanks unleaded gas, 6 tanks leaded gas, 1 tank bunker C residual oil, 1 tank other
Lands End Marina	231 Margarete Street	Registered UST	1 tank unleaded gas, 1 tank vehicle diesel
Monroe County School Board – Transportation	252 White Street	Registered UST	1 tank unleaded gas, 1 tank vehicle diesel
FAA – Key West Vortac	Fleming Key	Registered UST	NA
Key West City – Port & Transit Authority	627 Palm Avenue	Leaking UST Report	1 incident
Chevron #47390 – Maun's	1126 Truman Avenue	Leaking UST Report	2 incidences
Key West – City Hall	525 Angela Street	Leaking UST Report	1 incident
Truman Annex Co. Fuel Island	201 Front Street	Leaking UST Report	1 incident
Circle K #1202	1109 Overseas Highway	Leaking UST Report	1 incident
Chevron – Key West Terminal	909 Caroline Street	Leaking UST Report	1 incident
Key West Seaport Inc.	631 Greene Street	Leaking UST Report	2 incidences
Key West Pipeline Co.	Trumbo Point Naval Annex	Leaking UST Report	2 incidences
Truman Annex Co. Mainland	Front Street	Leaking UST Report	1 incident
Eden House	425 Grinnell Street	Leaking UST Report	1 incident
Garrison Bight Marina Inc.	711 Eisenhower Drive	Leaking UST Report	1 incident
US Navy – Trumbo Point Fuel Farm	Trumbo Point	Leaking UST Report	3 incidences

TABLE 1-8

**PROPERTIES WITH POTENTIAL ENVIRONMENTAL CONCERNS WITHIN
A QUARTER-MILE OF THE EXCESS PARCELS^a
KEY WEST, FLORIDA (PAGE 4 OF 4)**

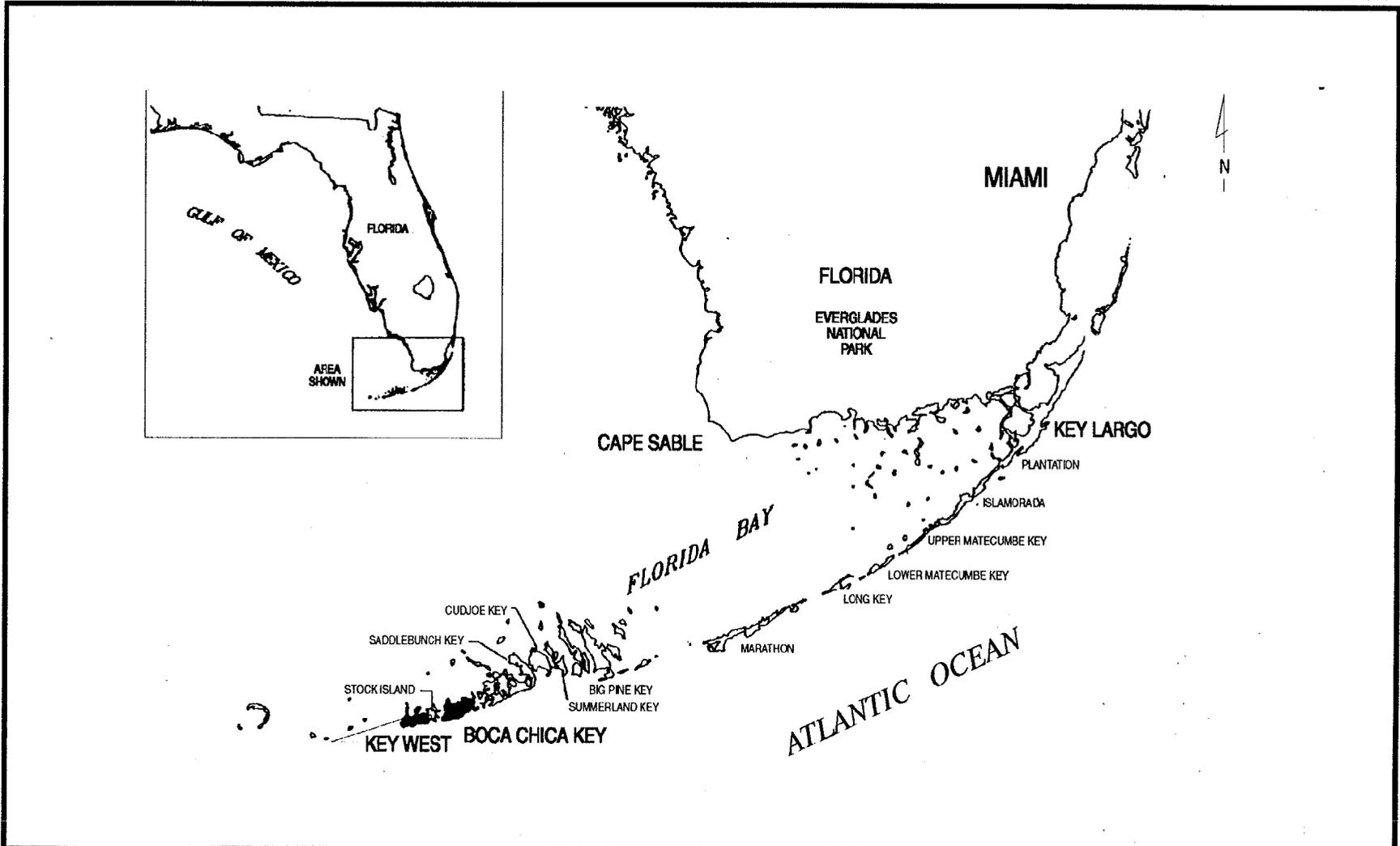
Facility	Address	Environmental Database Citation^b	Potential Environmental Concern
Key West City – Power Plant	Trumbo Road	Leaking UST Report	2 incidences
Key West City – Diesel Plant	Angela Street	Leaking UST Report	1 incident

- a No properties with potential environmental concerns were identified within a quarter mile of the Hawk Missile Site East Martello Battery, and Poinciana Housing.
- b Environmental Database, Inc. of Littleton, Colorado conducted several database searches of Federal information systems and database references as well as state databases. These information systems and databases included the National Priorities List, the Permit Compliance System, State Landfill Reports, etc.

Sources: USN-SOUTHDIV, 1997a,b; USN-SOUTHDIV, 1994b

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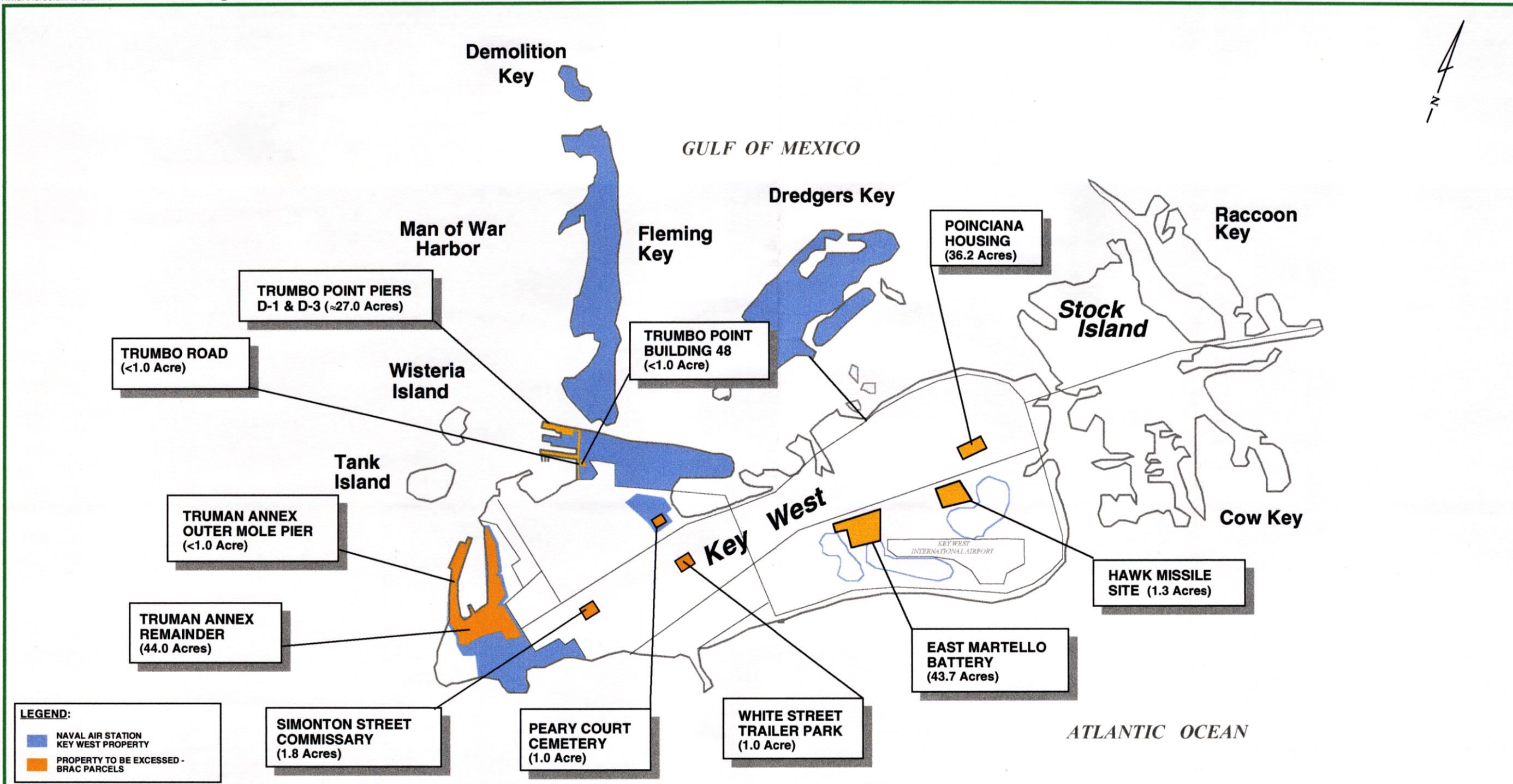
1-25



DRAWN BY MDB CHECKED BY DSP COST/SCHED-AREA SCALE AS NOTED	DATE 3/12/98 DATE 3/12/98 DEPARTMENT OF THE NAVY OFFICE OF FACILITIES ENGINEERING	BRAC CLEANUP PLAN INTRODUCTION AND SUMMARY FIGURE 1-1. NAS KEY WEST LOCATION MAP SOUTH DIV NAS KEY WEST, FL	CONTRACT NO. 7593 APPROVED BY _____ DATE _____ APPROVED BY _____ DATE _____ DRAWING NO. F1-1BRAC.PPT REV. 0
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CTO-0032

Rev. 1
08/31/98



NO.	DATE	REVISIONS	BY	CHKD	APPD	REFERENCES

DRAWN BY	DATE
RBP	----
CHECKED BY	DATE
COST/SCHED-AREA	
SCALE	
AS NOTED	



BRAC CLEANUP PLAN
INTRODUCTION AND SUMMARY
FIGURE 1-2. REFERENCE MAP FOR GENERAL
PROPERTY DISPOSITION SUMMARY
SOUTH DIV
NAS KEY WEST, FL

CONTRACT NO. 7593	
APPROVED BY	DATE
APPROVED BY	DATE
DRAWING NO.	REV. 0

Figure 1-3. Off-Base Land Use Within a Quarter Mile of the Excess Parcels
[To be developed in a future revision of the BCP]

Figure 1-4. Properties Immediately Surrounding the Excess Parcels

[To be developed in a future revision of the BCP]

2.0 PROPERTY DISPOSAL AND REUSE PLAN

2.1 STATUS OF DISPOSAL PLANNING PROCESS

The disposal planning process for the NAS Key West BRAC excess parcels consists of six major elements: Community Reuse Planning, Component Disposal Planning, Environmental Impact Analysis, Environmental Baseline Survey (EBS), Cleanup and Compliance, and Installation Management. The current status of these elements is described below. These elements occur more or less simultaneously in order to effect a "fast track" transfer of property.

The use of the excess parcels can be divided in three phases: the pre-realignment phase where the Navy owned and operated the parcels; the as-necessary interim lease phase where the Navy owns the parcels, but the LRA and its subleases operate those parcels under lease agreements; and the final disposal phase where the LRA will own and operate the parcels.

This BCP addresses the 12 excess parcels at NAS Key West. It was determined, based on the EBSs, that the following parcels did not require further environmental investigation: Trumbo Road, White Street Trailer Park, Simonton Street Commissary, USS Marine Memorial, and Peary Court Cemetery.

The remaining seven excess parcels were divided into three general geographic areas based on the need for environmental investigation: Truman Annex, Trumbo Point, and the Key West Interior. Each area contains parcels that have been designated as zones for environmental investigation. These parcels include:

- Hawk Missile Site (Zone A)
- East Martello Battery (Zone B)
- Truman Annex Remainder (Zones C, D, E, and F)
- Poinciana Housing (Zone G)
- Trumbo Point Piers D-1 And D-3 (Zone H)
- Trumbo Point Building B-48 (Zone I)
- Truman Annex Outer Mole Pier (Zone K)

Zone J was originally excessed but was returned to NAS Key West. A zone can be often identified as a property or subunit of a property for investigative, lease, or transfer purposes. The past and current activities performed in these zones form the basis of the environmental investigation approach. The zones are more fully discussed in Section 3.1.

In the interim lease phase, two parcels have been identified for lease to the LRA. The parcels include Poinciana Housing and the Truman Annex Outer Mole Pier. The Navy does not plan to maintain a presence on any of the excess parcels (B&R Environmental, 1998b).

The current vision for the use of the excess parcels is specified in the LRA's Base Reuse Plan, October 1997. The reuse plan addresses the excess parcels of Truman Annex Mole Pier, Truman Annex Remainder, Hawk Missile Site, Poinciana Housing, East Martello Battery, Simonton Street Commissary, White Street Trailer Park, Trumbo Road, and Peary Court Cemetery. The parcel use will remain consistent with the exception of Truman Annex Remainder and Poinciana Housing. The LRA vision of the final usage of Truman Annex and Poinciana Housing parcels is shown in Figures 2-1 and 2-2 (BAP, 1997).

The parcels or portions of parcels currently planned to undergo federal interagency transfer by the Navy include:

- Trumbo Point Piers D-1 and D-3, and Building 48
- The upland portion of Hawk Missile Site
- Eight of the Poinciana Housing Units (two buildings)
- A small buffer area of Truman Annex Mole Pier adjacent to Fort Zachary Taylor
- Truman Annex Buildings 112 and 113
- White Street Trailer Park

The current Navy plan for the USS Maine Memorial is to have the memorial retained by NAS Key West (B&R Environmental, 1998b). Table 2-1 depicts the current Navy vision for the conveyance of the NAS Key West excess parcels as of February 10, 1998 (SOUTHDIV, 1998a).

2.1.1 Community Reuse Planning

The LRA was formed on May 2, 1996 to receive the excess parcels from the Navy and to develop a reuse plan. The LRA issued their reuse plan in October 1997. Thus, far the City of Key West has maintained its operations of Outer Mole Pier by license. An interim lease is currently envisioned by the Navy to replace the license until the parcel is disposed (B&R Environmental, 1998b).

2.1.2 Component Disposal Planning

A Component Disposal Plan has not been developed by the Navy. Currently, four parcels (i.e., White Street Trailer Park, Simonton Street Commissary, and Trumbo Road) are being readied for disposal since they have no additional environmental concerns (B&R Environmental, 1998b).

2.1.3 Environmental Impact Analysis Process

The National Environmental Policy Act (NEPA) requires governmental agencies to consider potential environmental and socioeconomic impacts prior to undertaking any major actions. The Navy has identified only Categorical Exclusions (CATEX) and Environmental Assessments (EAs) for the excess parcels. CATEX and EAs are currently underway for parcels that are not under environmental investigation. These studies are scheduled to be completed during FY 1998. Appendix C contains the master schedule for parcel conveyance, which includes the Environmental Impact Analysis Process (EIAP) for NAS Key West excess parcels as of August 17, 1998 (USN-SOUTHDIR, 1998).

2.1.4 Environmental Baseline Survey

Seven EBSs have been prepared for the NAS Key West Properties. The EBS for the portions of Truman Annex previously operated by the U.S. Army remains to be prepared following the completion of a CERCLA Site Investigation (SI). Table 3-3 in Chapter 3 lists each of the EBSs and their status as of March 6, 1998.

2.1.5 Cleanup and Compliance

A CERCLA SI is currently underway to determine the presence of contamination on the 10 BRAC Zones. The zones were identified for parcels or portions of parcels requiring environmental investigation. The site investigation and zones are explained further in Section 3.1. The zones make up 7 of the 12 excess parcels. In addition, there are several ongoing UST/AST projects at the Truman Annex Remainder, Trumbo Point Piers D-1 and D-3, and Hawk Missile Site. Other environmental compliance programs are explained further in Chapter 3.

2.2 RELATIONSHIP TO ENVIRONMENTAL PROGRAMS

Disposal and reuse activities at NAS Key West are closely linked to environmental investigation, restoration, and compliance activities for two basic reasons:

- 1 Federal property transfer to non-federal parties is governed by CERCLA Section 120(h)(3)(B)(i).
- 2 Residual contamination may remain on certain properties after remedial actions have been completed or put in place, thereby restricting the future use of those properties.

CERCLA Section 120(h)(3)(B)(i) requires that deeds for transfer of federally-owned property contain a covenant that either all remedial actions necessary to protect human health and the environment have been taken or remedial actions (e.g., groundwater pump and treat systems) are in place and operating properly and successfully. The covenant requirement may be deferred under certain circumstances, providing for "early transfer" of property but such a deferral would require approval from the Governor of Florida. It is not anticipated that the covenant deferral process will be used at NAS Key West.

The requirements for complying with CERCLA Section 120(h) and the possibility of residual contamination are factored into the property disposal and reuse plan at NAS Key West. Appendix C takes these factors into consideration, presents summary information, and provides an approximate timetable for property availability for transfer/reuse. A discussion of the ongoing environmental programs being conducted at NAS Key West is presented in Chapter 3.

The NAS Key West strategy and schedule are designed to streamline and expedite the necessary response actions in order to facilitate the earliest possible disposal and reuse activities. A map showing the environmental conditions of property (provided in Chapter 3) has been developed, in part, using data developed during the EBSs and data gathered during the Data Quality Objectives process for the BRAC SI Work Plan. This map shows contaminated areas and areas with no suspected contamination and the relationship of these areas to disposal and reuse parcels. As the sampling and analysis continues and further investigations are conducted, the amount of property that is either determined to be uncontaminated or is cleaned up will expand, thereby increasing the early transfer of property to the LRA.

2.3 PROPERTY TRANSFER METHODS

2.3.1 Federal Transfer of Property

The transfer of property from the Navy to the LRA is expected to occur via variety of conveyance methods including:

- Economic Development Conveyance (EDC) – An EDC is a method of transferring property to an LRA to help spur local economic development and job creation. The LRA develops a Business Plan which details their planned improvements for economic development (e.g., utilities and infrastructure). Working in conjunction with the LRA and their Business Plan, the Navy conducts an appraisal to determine the purchase price of the property which takes into consideration the LRA's planned investment.

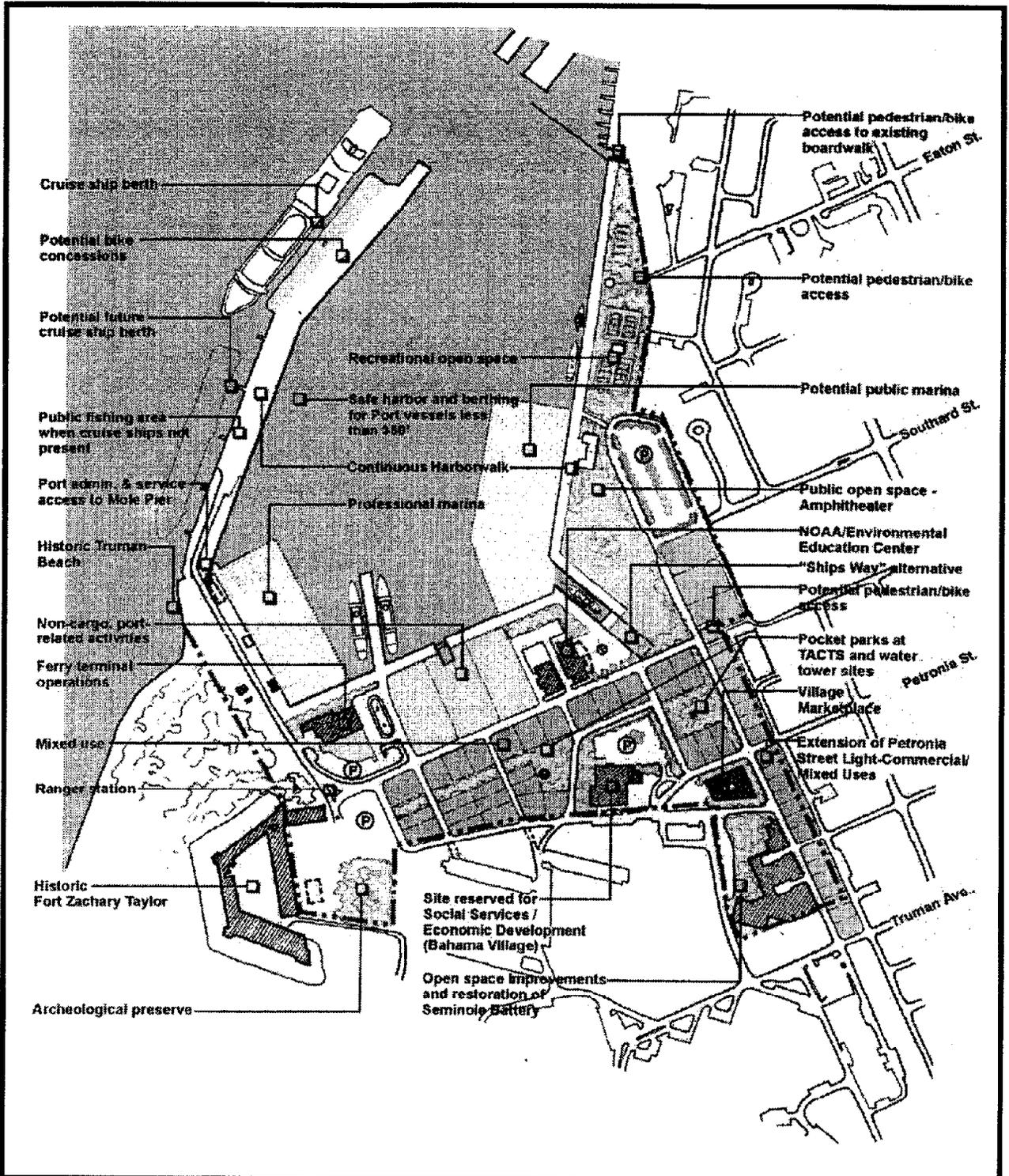
- Public Benefit Conveyance (PBC) – PBCs are numerous and dictate the manner that the public receives benefit such as education, public health, and/or public park. A no-cost transfer of property.
- Public Airport Conveyance (PAC) – A PAC is a method of transferring property to the Federal Aviation Administration for use in public transportation. A no-cost transfer of property.
- McKinney Act – The DOD provides a list of property available for use by homeless providers to the Department of Housing and Urban Development (HUD). In the absence of interest by HUD in the property, an LRA can incorporate the property into its redevelopment. A no-cost transfer of property.
- Negotiated Sale – Property is sold on the open market with the proceeds going to the Federal treasury.
- Federal to Federal Transfer – Property is transferred to other federal agencies for their use or disposition.

The current schedule for the conveyance of the NAS Key West properties as of August 17, 1998 (DOD, 1995b) is depicted in Appendix C.

2.3.2 Interim Licenses/Leases

Until the NAS Key West excess parcels are ready for transfer, the Navy's current plan is to have the LRA lease Poinciana Housing and the Truman Annex Outer Mole Pier Area from the Navy under an interim lease. A licensing agreement for Outer Mole Pier has been established between the Navy and City of Key West. The agreement describes the roles and responsibilities for the operation and maintenance of the facility and will control the management of the area until an interim lease is reached. After the transfer of property from the Navy to the LRA, the LRA will lease available Outer Mole Pier facilities to the City of Key West (B&R Environmental, 1998b).

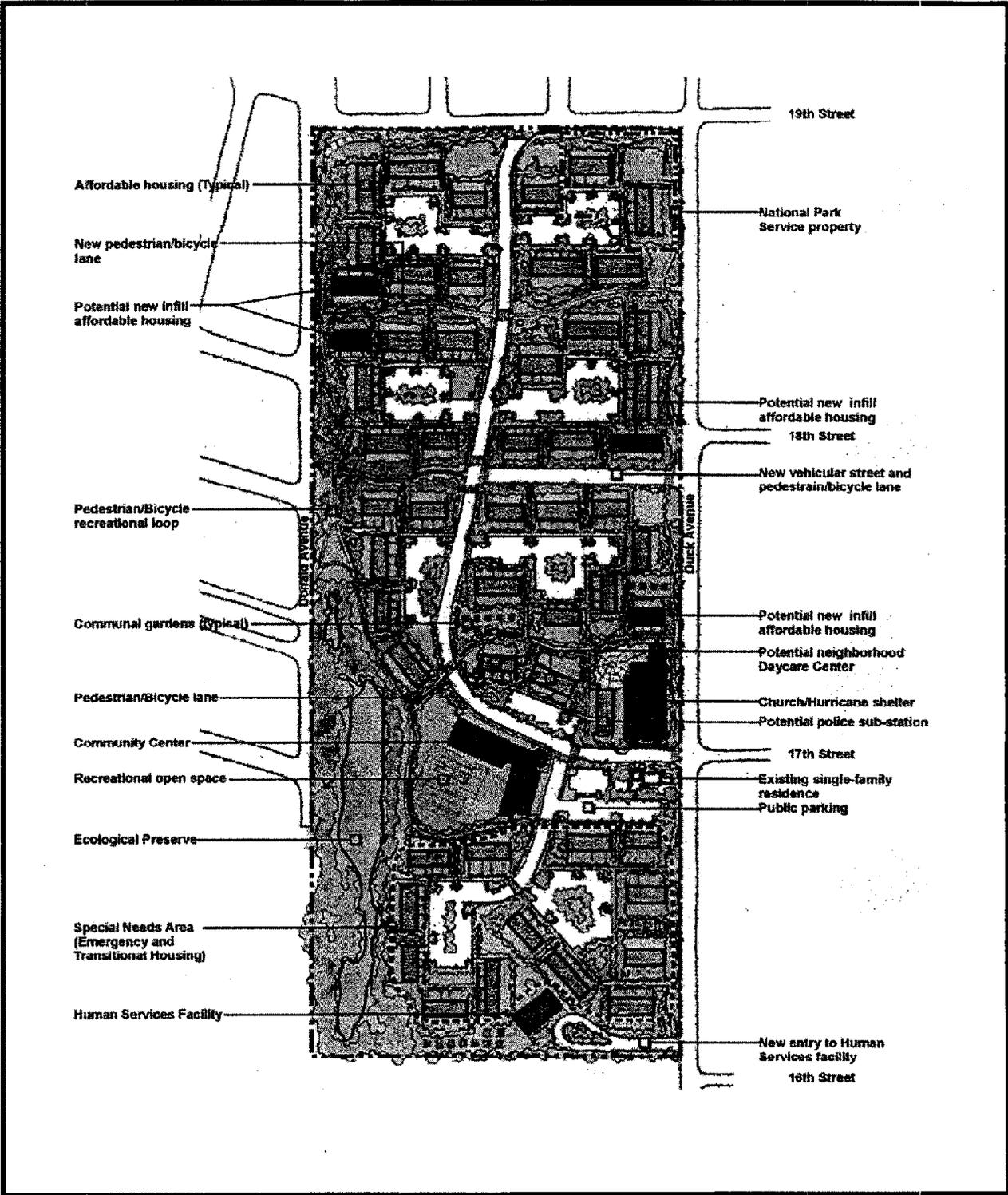
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DRAWN BY MDB	DATE 3/13/98		BRAC CLEANUP PLAN PROPERTY DISPOSAL AND REUSE PLAN FIGURE 2-2. POINCIANA HOUSING BRP VISION OF PROPERTY USE SOUTH DIV NAS KEY WEST, FL		CONTRACT NO. 7593	
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3.0 INSTALLATION-WIDE ENVIRONMENTAL PROGRAM STATUS

This chapter summarizes the current status of environmental restoration (Section 3.1) and compliance (Section 3.2) programs at the base. Section 3.3 describes the natural and cultural resources programs. The current environmental condition of parcels and the parcels suitable for transfer are discussed in Section 3.4, and the community involvement activities are summarized in Section 3.5.

3.1 RESTORATION PROGRAM STATUS

As a part of the Naval Assessment and Control of Installation Pollutants Program (NACIP), an Initial Assessment of NAS Key West facilities was conducted in 1985 (Envirodyne Engineers, 1985) in accordance with CERCLA guidelines. The Initial Assessment identified the former transformer disposal area at the Defense Reutilization and Marketing Organization (DRMO) Building 795 within Truman Annex as a potential CERCLA site. This disposal area is the only Installation Restoration site located within the 12 excess parcels identified in the 1996 BRAC IV realignment of NAS Key West.

After the passage of the Superfund Amendments and Reauthorization Act (SARA) of 1986, the Navy adopted EPA terminology (i.e., CERCLA) and dropped that of NACIP. In 1987, a Verification Study Assessment of Potential Groundwater Pollution (Geraghty and Miller, 1987) indicated that the DRMO Building 795 Site, also known as Installation Restoration Program Site No. 2 (IR2), did not contain contamination that would pose a potential threat to human health or the environment. In January 1997, NAS Key West proposed, and EPA and FDEP concurred, a No Further Action (NFA) decision for IR2.

Following the 1996 realignment under BRAC IV, the Navy conducted Environmental Baseline Studies (EBSs) at the 12 excess parcels to determine the status of all environmental concerns. Although the former transformer disposal area at Truman Annex is the only Installation Restoration site within the 12 parcels, seven parcels were classified as "Grey" by the EBSs, indicating past industrial and storage operations in the areas may have contributed to releases of hazardous substances into the environment and additional evaluation is required (see Section 3.4 for a full discussion of the environmental condition of property).

A major element of the EBS process is to determine the environmental condition of the parcel and categorize or rate the parcel. The color-coded rating system is described in detail in Section 3.4. The most significant rating with regard to environmental conditions is "Grey." Four of the EBSs categorize six properties as "Grey" areas. "Grey" category parcels have not been fully characterized and cannot be

considered for deed transfer until necessary actions have been taken and the parcel has been reclassified into a parcel category eligible for transfer. Table 3-1 lists each of the excess parcels and their EBS category as of March 6, 1998 (USN-SOUTHDIR, 1994a,b; USN-SOUTHDIR, 1996a,b; USN-SUPSHIP, 1996; USN-SOUTHDIR, 1997a,b; B&R Environmental 1998a).

To address these suspected releases, the Partnering Team divided the seven "Grey" excess parcels into ten environmental investigation zones to reflect their different historical uses and environmental conditions. Table 3-1 lists these parcels and zones. In March 1997, the development of a Draft NAS Key West BRAC Site Investigation (SI) Work Plan was initiated with the full involvement of the NAS Key West Partnering Team to complete the characterization of the parcels. The Draft SI Work Plan included the Data Quality Objectives (DQOs), Sampling and Analysis Plan (SAP) and Health and Safety Plan (HASP).

The DQO Process (EPA, 1994) was used as a tool in determining the type, quantity, and quality of data needed to support the conclusions and recommendations for the NAS Key West BRAC properties. As a systematic planning tool based on the scientific method, the seven-step DQO process helps establish criteria for defensible decision-making at the onset of a study and develops a data-collection design based on these criteria. These steps identify such information as the goal of the investigation, the inputs needed to reach the goal and make a decision, the temporal and areal boundaries of the investigation, the level of confidence required to support a decision, and finally, a sampling design that is adequate to support the decision-making process. An integral part of the DQO process was the identification of information needed to resolve the decision statement. Therefore, all available information on the BRAC zones (properties) being investigated was reviewed. Moreover, the zones were further divided into subzones during the course of the DQO process. A copy of the DQO Process from the NAS Key West Site Investigation Workplan for the Ten BRAC Properties can be found in Appendix A, which summarizes the DQO process undertaken for the Site Investigation.

In September 1997, the Draft SI Work Plan was issued to control the overall field investigation. The Draft SI Work Plan specifies the investigative approach, the field operations, sampling methods, standard operation procedures, and quality assurance program for all field investigations. The SAP identifies the rationale, method, location, and quantity of all samples. The generic procedures from the Work Plan are further defined to describe the exact methods and techniques to be utilized. The HASP identifies the potential hazards during field investigations and specifies methods to control worker exposure.

In November 1997, the field investigations were initiated for Zones C, D, E, F and K. The second phase of sampling for Zones A, B, G and H was initiated in December 1997. Both field efforts are expected to be completed by March 1998. Zone I was determined by the NAS Key West Partnering Team not to require further investigation. The Final NAS Key West BRAC SI Work Plan was issued in January 1998.

Figure 3-1 depicts the parcels under environmental investigation. The installation restoration projects conducted on the BRAC excess parcels at NAS Key West are shown in Table 3-2.

Based on the results of the SI sampling, portions of Parcels A, C, D, E, and F will require interim remedial action for the removal of contaminated soil and sediment. Inorganics (arsenic and lead) were the main contaminants in these areas. Based on historical use, it was expected that contaminants of concern would be more frequent and at higher concentrations than were detected during the initial SI at Parcel E. The Project Team decided to further investigate the area by collecting soil and groundwater samples from beneath the footprints of the three main buildings in that area. This additional sampling will be conducted as a Supplemental Site Inspection conducted during the summer of 1998. In July 1998, the development of a Draft NAS Key West BRAC Supplemental Site Inspection (SSI) Workplan was initiated with the full involvement of the NAS Key West Partnering Team to characterize Parcel E and to support IRA field activities at Parcels A, C, D, E, and F. The Draft SSI Workplan included the Data Quality Objectives (DQOs), Sampling and Analysis Plan (SAP) and Health and Safety Plan (HASP). Further action must be determined by the BCT Partnering Team for the remaining portions of Parcels A, E, and H as well as the groundwater of Truman Annex. Each of these areas had a single chemical detected in excess of action levels and at concentrations representative of potential human health or ecological risks. Resampling of groundwater monitoring wells at Parcel H and in the Truman Annex Area are being conducted in the summer of 1998. At Parcel G, the detection of arsenic in excess of its action level and at concentrations indicative of potential human health risks led to the development of a groundwater monitoring program for Poinciana Housing. Parcels B and K need no further action due to the low frequency and concentration of chemicals detected there.

3.2 COMPLIANCE PROGRAM STATUS

Table 3-3 lists the transfer-related environmental compliance projects conducted on the BRAC excess parcels. A discussion of the regulations and status of the compliance programs is presented in the following sections.

3.2.1 Storage Tanks

The FDEP has been delegated authority by EPA to administer the underground storage tanks (UST) program in Florida. With few exceptions, the FDEP UST regulations are more stringent than the EPA regulations. The exception is the EPA compliance date of December 22, 1998, for removing or upgrading existing tanks systems. The Florida compliance date for tank system compliance is December 31, 1998. However, the Navy and the State of Florida have entered into a consent agreement that extends the compliance date to December 31, 2000. A copy of this agreement can be found in the NAS Key West

Tank Management Plan 1997 (RUST, 1997). EPA and FDEP regulations also contain requirements for management and closure of aboveground storage tanks (AST).

3.2.1.1 Underground Storage Tanks

A total of 14 underground storage tanks have been identified on excess parcels. These include the tanks associated with in-ground oil water separators; two are located at Truman Annex Mole Pier and one at Piers D-1 and D-3, and Building 48 on Trumbo Point. Eight USTs have been removed and four USTs are abandoned-in-place. The remaining inactive UST is associated with oil-water separators located at Piers D-1 and D-3. The oil-water separator and associated tank(s) located at Building 48 (Trumbo Point) currently serve Piers D-1 and D-3 and will be closed under the Navy's UST program. Table 3-4 provides a summary of information related to each UST, including the regulatory status. It should be noted that several USTs are described as nonregulated; however, they have State of Florida registration numbers.

The closure requirements for USTs at NAS Key West are contained in Rule 62-761.800 of the Florida Administrative Code. UST requirements depend on the amount of time that the tank system is out of service. Owners of unmaintained UST systems must permanently close the system within 90 days of the discovery of the existence of the unmaintained storage tank system. Any storage tank system constructed of bare or unprotected steel that is out of service for more than 12 months must be permanently closed unless the system meets the performance standards for new storage tank systems in Rule 62-761.500, or is upgraded pursuant to Rule 62-761.510. Owners or operators of UST systems must notify the FDEP at least 30 days before closure of a storage tank system.

Before permanent closure, owners must determine if a release has occurred and must sample for the presence of a release where contamination is most likely to be present at the facility. This is done by sampling adjacent soils and if necessary, groundwater. Accepted closure procedures include emptying the tank and filling it with an inert material or removing the tank from the ground. A report of the closure assessment must be submitted to the FDEP by the owner within 60 days of completion of tank removal or filling the tank with inert material. The report, which must be submitted on Form 62-761.900(6), must include sample types, sample locations and measurement methods, a site map, methods of maintaining quality assurance and quality control, and results of all analyses of samples from the site. If contaminated soils, contaminated groundwater, free product, or vapor levels in excess of those listed in Rule 62-761.640(2)(e), F.A.C., are discovered, the owner must take appropriate corrective action.

The NAS Key West Tank Management Plan was prepared in 1997. The plan identifies and locates all existing petroleum storage tanks at NAS Key West. The plan contains the regulatory status of each tank

and a discussion of the activities necessary to bring the tank into compliance with Florida and Federal regulations by December 31, 2000 (RUST, 1997).

3.2.1.2 Aboveground Storage Tanks

Eight ASTs have been identified as having operated on the excess parcels. There is one active aboveground storage tank (AST) utilized for storage of unleaded gas (149-2) located adjacent to Building 149 at Truman Annex. Five ASTs have been removed; one is out of service and one tank status is not available. Table 3-5 provides a summary of the ASTs at the base. The Florida AST regulation exempts ASTs containing less than 550 gallons of hazardous substances or petroleum products from regulation. However, due to the total storage capacity at NAS Key West, these tanks are regulated under the Federal regulation 40 CFR 112. NAS Key West ASTs are managed under the base's Spill Prevention Control and Countermeasures Plan, which is required by 40 CFR 112. This plan and the Oil and Hazardous Substance Spill Contingency Plan will need to be revised to include any changes that result from property lease or transfer.

The closure requirements for AST systems at NAS Key West are contained in Rule 62-762.00 of the F.A.C. This rule requires that the owner of an unmaintained AST system permanently close the system within 180 days of the discovery of the existence of the unmaintained tank. The owner must notify FDEP at least 30 days prior to closure of a storage tank system.

Before permanent closure of an AST system, the owner must determine if a release has occurred and sample for the presence of a release where contamination is most likely to be present at the facility. A closure assessment is not required for storage tank systems initially installed with impervious secondary containment. Also, storage tank systems for which a closure assessment was completed at the time of upgrading with secondary containment are not required to conduct a subsequent closure assessment. A report of the closure assessment must be submitted to the FDEP within 60 days after completion of permanent closure.

If contaminated soils, contaminated groundwater, free product, or vapor levels in excess of those listed in Rule 62-762.820 (3), F.A.C. for storage tank systems containing pollutants are discovered, owners or operators must immediately undertake to contain, remove, and abate the discharge in accordance with Chapter 376 and 403, F.S. Where contamination occurred as a result of operation of the ASTs on the NAS Key West BRAC properties, a corrective action plan was developed and corrective action taken.

3.2.2 Hazardous Materials/Waste Management

Resource Conservation and Recovery Act (RCRA) authorized the EPA to implement regulations (40 CFR 260-299) for the control of hazardous waste from the point of generation through final disposal to ensure that hazardous wastes do not pose a threat to human health or the environment. Under the authority granted by EPA, the FDEP has developed hazardous waste regulations (F.A.C. 62-730 et seq.). Florida regulations contain specific requirements for the identification, packaging, labeling, storing, and shipping of hazardous waste. These regulations are applicable to NAS Key West.

The Federal and state regulations on hazardous materials address the transportation of hazardous materials over public thoroughfares. There is no specific Federal or state regulation regarding transporting or handling of hazardous materials within a facility until that material is designated a waste. In order to reduce the potential for releases, best management practices should be implemented while handling hazardous materials.

3.2.2.1 Hazardous Materials and Petroleum Products

The Spill Prevention, Control and Countermeasure Plan, the Oil and Hazardous Substance Spill Contingency Plan, and the Best Management Practices Plan were not available when this plan was prepared. Therefore, the status of the management of hazardous materials and petroleum products at NAS Key West was unknown for this version of the BCP.

3.2.2.2 Hazardous Waste

There are no RCRA-permitted facilities on the NAS Key West excess parcels. Hazardous waste is managed in accordance with applicable Federal and FDEP regulations. In addition, NAS Key West has prepared the *NAS Key West Hazardous Waste Management Plan* (NASKWINST 5090.2A). The plan describes the NAS Key West functional management system, assigns responsibilities, and establishes procedures for identification of all hazardous materials used and the proper management of waste generated at NAS Key West.

In the past, wastes were accumulated in satellite accumulation areas and less-than-90-day accumulation areas at various facilities located on the excess parcels. Once the satellite container was full, it was transferred to a 90-day accumulation area, and subsequently to the NAS Key West permitted hazardous waste storage facility, Building 1416 on Boca Chica. Building 1416 is managed in accordance with RCRA Permit HA044-230669, issued April 1994.

Satellite accumulation areas and less-than-90-day accumulation areas were routinely established and removed to satisfy operations needs. Locations of these accumulation areas vary over time, and current locations are likely to be different from past locations (USN-SOUTHDIR, 1995). Three former less-than-90-day accumulative areas have been identified on the BRAC excess parcels. The area around each was sampled during the SI. They include Bldg. 149, Bldg. 223 and Bldg. 104 each an Truman Annex. No releases were detected (TtNUS, 1998a).

3.2.3 Nonhazardous Solid Waste Management

Subtitle D of RCRA encourages states and local governments to develop and implement solid waste management plans. Solid waste is any garbage, refuse, sludge, or other waste materials not excluded by definition.

No information was available on NAS Key West nonhazardous solid waste management at the time this version of the BCP was prepared (B&R Environmental, 1998d).

3.2.4 Polychlorinated Biphenyls

The Toxic Substances Control Act (TSCA) [15 U.S.C. §§2601-2671; 40 CFR Parts 700-799] provides specific methods of storage, disposal, and cleanup for existing and new chemical substances and mixtures, polychlorinated biphenyls (PCBs), and asbestos. The TSCA regulations establish requirements and restrictions for PCB activities according to the type of PCB article. The FDEP has adopted the Federal regulations. The possible PCB articles on the excess parcels include transformers, capacitors, and fluorescent light ballasts. There may also be PCB-contaminated soil (B&R Environmental, 1998e) that is being investigated as part of the SSI.

The Federal TSCA regulations do not regulate the disposal of PCBs at concentrations of less than 50 ppm unless they have reached that concentration by dilution. These materials do not have to be disposed of in a chemical waste landfill or be incinerated; however, they must be disposed of in a reasonable manner (such as by disposal in a municipal landfill).

There was only one report related to PCB management at NAS Key West available at the time this plan was drafted. The report is summarized below.

In 1992, an inspection and testing effort was undertaken for all transpiration equipment, transformers, and oil-filled high voltage switches. According to the NAS Key West PCB Testing of Electrical Transformers and Hydraulic Fluids Report (CH2M Hill, 1992), materials were considered to be "PCB contaminated" if the

PCB concentration detected was between 50 and 500 ppm, and were classified as "PCB items" if the PCB concentration detected was greater than 500 ppm. The terms "PCB contaminated" and "PCB Items" are required by TSCA regulation for labeling purposes.

None of the transportation equipment sampled was "PCB contaminated." Three of ninety-four pieces of equipment sampled had results of 7.6 ppm, 10 ppm and 10 ppm, respectively. Five PCB-contaminated transformers and four PCB items were identified at Truman Annex. Six contaminated transformers and one PCB item were identified at Trumbo Point. Also sampled were five oil-filled high-voltage switches located on Key West at Truman Annex. Only one oil switch exceeded the detection limit of 5 ppm, but its PCB concentration (8.5 ppm) was still well below the contamination level of 50 ppm.

There are three "PCB contaminated" transformers and one "PCB item" transformer on the BRAC excess parcels at Truman Annex. There is one "PCB contaminated" transformer on the BRAC excess parcels at Trumbo Point. It is assumed that all of the PCB labeled transformers remain in operation on the Truman Annex and Trumbo Point parcels and are managed by Public Works (HNUS 1998a).

3.2.5 Asbestos

TSCA establishes storage, disposal, and cleanup requirements for asbestos. The Asbestos Hazard Emergency Response Act (AHERA) [15 U.S.C. §2641-2655; 40 CFR Part 273] amends TSCA to govern the inspection of asbestos-containing materials in schools and completion of appropriate response and abatement activities.

Florida has an asbestos program specified by regulations FAC 62-265 and 257. There is no requirement at closure if the asbestos is not removed or disturbed. However, if asbestos is removed, then a permit application must be submitted prior to removal.

Asbestos-containing material (ACM) is defined as material containing at least one percent asbestos. DOD policy is to manage ACM in a manner protective of human health and the environment and to comply with applicable Federal, state, and local laws. Unless ACM in the parcel poses a threat to human health (i.e., damaged, friable, and accessible) at the time of transfer, all properties containing ACM will be conveyed, leased, or disposed of "as is" through the BRAC process. Remediation will not be required when the building is scheduled for demolition by the transferee.

In 1995, the base conducted an asbestos survey of structures with the exception of the two cemeteries. ACM was identified or considered suspect in 77 of the 81 structures surveyed. The survey revealed the following typical uses of asbestos in these structures:

- Friable
 - Insulation on pipes, pipe fittings, and ducts
 - Insulation and expansion joints on air handling equipment
 - Wallplaster

- Nonfriable (can become friable upon deterioration)
 - Insulation on pipes, pipe fittings, fire doors, and ducts
 - Insulation and expansion joints on air handling equipment
 - Electrical cable insulation and conduit covering
 - Gaskets and seals on mechanical equipment
 - Floor tile
 - Chalk Board
 - Brake Shoes
 - Asbestos-cement (transite) panels, exterior siding, and pipe
 - Shingles
 - Composite (built-up) roofing
 - Floor tile and roofing mastic

Table 3-6 lists the buildings on the excess parcels with ACM. Information related to past and future NAS Key West ACM abatement for the excess parcels was unavailable for this draft of the plan (B&R Environmental, 1998f).

3.2.6 Permitted RCRA Facilities

There are no permitted RCRA Facilities located on the excess parcel. NAS Key West has an FDEP hazardous waste permit that is only applicable to permitted activities on Boca Chica. For a discussion of the current RCRA 90-day generator activities and the station permit on the excess parcels refer to Section 3.2.2.2.

3.2.7 Radon

In response to the Indoor Radon Abatement Act of 1988, DOD conducted a study to determine radon levels in a representative sampling of its buildings. DOD policy is not to perform radon assessment and mitigation prior to transfer of BRAC parcel unless otherwise required by applicable law. There are no specific Federal or state requirements related to closure for radon.

The only categories of structures on naval installations that are typically screened for radon include family housing units, bachelor quarters, hospitals, schools, childcare centers, and brigs. Information on NAS Key West radon testing include the radon screening results for Poinciana Housing. No radon levels were found above the EPA action level (4 pCi/L) (SOUTHDIV 1998b).

3.2.8 National Pollutant Discharge Elimination System

There are no national pollutant discharge elimination system permits on the excess parcels (B&R Environmental, 1998f).

3.2.9 Oil/Water Separators

There are no specific Federal or state requirements for management or closure of oil/water separators (OWSs) unless the oil-water receiving tanks or associated waste oil tanks have been designated as regulated USTs. See Section 3.2.1 for more information. FDEP also has an exemption for oil/water separators. These units are considered process tanks and therefore are exempt from regulation (RUST, 1997). Three OWSs have been identified at the base. Two are located at Truman Annex Mole Pier, and one is located near Building 48 at the base of Pier D-3 Trumbo Point. The separators are in-ground units with associated USTs for oil collection. The OWSs, associated USTs, and their status are listed in Table 3-5.

3.2.10 Lead-Based Paint

Applicable regulations include Lead-Based Paint Poisoning Act (LBPPPA) [42 U.S.C. §§ 4801-4846] and Residential Lead-Based Paint Hazard Reduction Act of 1992 (RLBPHRA)[Title X of Pub. L. 102-550]. LBPPPA establishes procedures for eliminating immediate hazards related to lead-based paint and eliminating the use of lead-based paint. RLBPHRA requires inspection and notification for post-1960 structures, and inspection and any abatement of pre-1960 housing. The RLBPHRA also governs the transfer of pre-1978 Federal property for residential use. There are no specific Florida regulations that address lead-based paints (B&R Environmental, 1998c).

As of January 1, 1995, DOD policy is to manage lead-based paint at BRAC installations solely in accordance with the Residential Lead-Based Paint Hazard Reduction Act of 1992. These provisions are applicable to target housing (which is housing constructed before 1978). Target housing constructed after 1960 and before 1978 must be inspected for lead-based paint and lead-based paint hazards, with results provided to BRAC transferees. Target housing constructed before 1960 must be inspected for lead-based paint and lead-based paint hazards and abated of hazards. Inspection and abatement will not be required when the structure is scheduled for demolition.

A lead-based paint and lead-based paint hazard survey was conducted on the Poinciana Housing parcel in 1995. Lead-based paint and lead-based paint hazards were found on all 50 housing structures. However, because these materials were found to be in good and fair condition, no lead-based paint abatement is required for the Poinciana Housing Units.

Many other buildings and structures on the excess parcels were built before 1978, when the Federal ban on the use of lead-based paint was instituted; paint on surfaces in and around these structures was also tested in 1995. The majority of these structures contain lead-based paint with the exception of Building 795. The former Galley Building 1287 was the only excess parcel structure not tested for lead-based paint. There are no regulatory requirements to test and/or abate the lead-based paint in the remainder of the non-target housing structures on the excess parcels (NPWC, 1995a,b,c,d,e,f,g; CAPE, 1997).

3.2.11 Air Permits

There was no information available on air permits for the excess parcels when this version of the BCP was drafted (B&R Environmental, 1998d,f).

3.3 STATUS OF NATURAL AND CULTURAL RESOURCES

Ecological and cultural resources at most excess parcels are limited due to the long history of the base as a defense facility. For example, most properties are located in developed and/or fill areas that contain no natural communities. However, relatively undisturbed natural habitats (mangrove swamp and coastal rock barren) exist at two parcels (Hawk Missile Site and the East Martello Battery). In addition, portions of the Truman Annex site are adjacent to marine habitats within the Florida Keys National Marine Sanctuary. The status of natural and cultural resources at the parcels is described below.

3.3.1 Mangrove Swamp

Four plant species dominate the mangrove swamps, which are also known as tidal swamps: red mangrove (*Rhizophora mangle*), black mangrove (*Avicennia germinans*), white mangrove (*Laguncularia racemosa*), and buttonwood (*Conocarpus erecta*) (FNAI, 1994). Many terrestrial and aquatic vertebrate species are associated with mangrove swamp habitats. At least 220 species of fish, 24 reptile and amphibian species, 18 mammal species, and 181 bird species inhabit mangrove swamp habitats in Florida (Myers and Ewel, 1990). Mangrove swamp habitat exists at the East Martello Battery and Hawk Missile properties. Mangroves have become established in a brackish water pond at the Poinciana Housing parcel, but this habitat is degraded due to the presence of invasive exotic species such as Australian pine (*Casuarina equisetifolia*) and Brazilian pepper (*Schinus terebinthifolius*).

3.3.2 Coastal Rock Barren

Coastal rock barrens are generally characterized as flat rocklands with exposed and eroded limestone. Vegetation is usually sparse and consists of stunted, xeric, and halophytic shrubs, cacti, algae, and herbs. Buttonwood is often the dominant plant species (FNAI, 1994). In some areas, coastal rock barrens become relatively dense thorn scrub thickets of sclerophyllous vegetation that typically include epiphytic bromeliads and orchids. A wide range of forms of this community type at NAS Key West supports populations of various animals and vascular plants. Remnants of coastal rock barrens exist in portions of the East Martello Battery and Hawk Missile properties, although they have been impacted by the invasion of Australian pine and Brazilian pepper (FNAI, 1994).

3.3.3 Aquatic Habitat

Coastal marine habitats exist at the Truman Annex and Trumbo Point parcels. These aquatic areas are within the Florida Keys National Marine Sanctuary, which consists of coastal and oceanic waters as well as submerged lands surrounding the entire Florida Keys. Marine communities near the Truman Annex site consist of seagrasses, coral-colonized structures (seawalls, debris), and barren, silty bottom areas (BAP, 1997). Aquatic habitat at the Trumbo Point parcel consists of a waterfront along docks in an industrialized harbor. Marine communities here probably consist of barren silty areas.

Flagler Canal, a man-made canal connected to the Atlantic Ocean, is located at the northern extent of the Hawk Missile parcel. The canal is used by private boats and appears to overflow onto the site at times.

Shallow saltwater ponds exist at the East Martello Battery and Hawk Missile parcels. These ponded areas were created by a system of dikes in the 1800's as a method to manufacture salt by solar radiation (BAP,

1997). Various wetland marsh grasses and other vegetation types exist in these shallow-water areas, and the ponds provide habitat for a variety of aquatic life and wading birds.

Other aquatic habitats consist of a pond at the Poinciana Housing parcel. The pond has been colonized by mangroves.

3.3.4 Wetlands

The saltwater ponds at the East Martello Battery parcel as well as mangrove swamps at the Poinciana Housing, and Hawk Missile sites are considered jurisdictional wetlands by Federal and state regulatory agencies.

3.3.5 Wildlife

Wildlife species at NAS Key West vary considerably depending on habitat. Developed areas of the base limit wildlife species to those associated with urbanized areas. A variety of species, however, use the relatively undisturbed habitats (particularly mangrove swamps). An 11-month field study conducted by the Florida Natural Areas Inventory (FNAI) observed 126 species of birds at NAS Key West (FNAI, 1994). As many as 300 species of birds might use habitats on the base either as migrants or as residents (Schuetz, 1996). Several species of reptiles and amphibians occur on the base.

Very few mammal species occur on NAS Key West and in the lower Florida Keys. Only three native mammal species were observed during the FNAI study: the Lower Keys marsh rabbit (*Sylvilagus palustris hefneri*), the raccoon (*Procyon lotor*), and the opossum (*Didelphis virginianus*) (FNAI, 1994). Raccoons are abundant and widespread on the base, while opossums are uncommon. Relatively harsh natural ecological conditions in the Keys (i.e., poor soils, scarcity of fresh water) result in a low species diversity of mammals. In addition, humans have extensively altered or destroyed natural habitats, so remaining natural habitats occur in small isolated patches. Exotic species such as Australian pine have invaded and thus significantly altered many natural areas.

Carnivorous mammals at NAS Key West are limited to raccoons and feral cats. Native terrestrial mammals on the base appear to be limited to raccoons, marsh rabbits, opossums, and cotton rats (*Sigmodon hispidus*). Silver rice rats (*Oryzomys argentatus*) have been recorded on Saddlebunch Key but not on Key West, in spite of extensive trapping efforts (FNAI, 1994). Three non-native species of rodent also occur on the base: the Norway rat (*Rattus norvegicus*), black rat (*Rattus rattus*), and house mouse (*Mus musculus*) (Frank, 1996; Schuetz, 1996).

Overall, the only BRAC parcels with significant wildlife value consist of the East Martello Battery and Hawk Missile parcels, which provide the terrestrial and aquatic wildlife habitat, and the Truman Annex parcel, which supports a wide variety of fish and other marine life.

3.3.6 Threatened and Endangered Species

Tables 3-7 and 3-8 of the FNAI study present Federal and State-listed threatened and endangered species recorded by FNAI (1994) at NAS Key West. A few listed threatened and endangered species not recorded on those tables undoubtedly occur on the base, but have not been reported to FNAI. For example, Truman Beach (part of the Truman Annex parcel) has been documented as a nesting area for the threatened loggerhead sea turtle (*Caretta caretta*) (BAP, 1997). The mangrove rivulus (*Rivulus marmoratus*), a minnow state-listed as a Species of Special Concern (SSC), could potentially occur in mangrove swamps at the Poinciana Housing, East Martello Battery, and Hawk Missile parcels.

The West Indian manatee is occasionally observed in waters adjacent to the Truman Annex parcel (BAP, 1997). Other listed species occurring on or near the Truman Annex parcel include least terns, Roseate terns, and ospreys.

Wooded areas at the East Martello Battery and Hawk Missile parcels provide potential nesting and roosting habitat for the white crowned pigeon, a species state-listed as Threatened.

Wading birds such as little blue herons, snowy egrets, tricolored herons, reddish egrets, and white ibis (all state-listed as SSC) are commonly observed foraging in lagoons, ditches, and other aquatic habitats throughout the base. These birds can be expected to forage in inland aquatic habitats at the Poinciana Housing, East Martello Battery, and Hawk Missile parcels, as well as along the shoreline at the Truman Annex site.

Bald eagles and ospreys are occasionally observed in the vicinity of the East Martello Battery and Hawk Missile parcels.

The East Martello Battery and Hawk Missile parcels are believed to be the only locations where endangered or threatened plant species might occur (BAP, 1997).

3.3.7 Historic Structures and Resources

According to the Key West Base Reuse Plan (BAP, 1997), an inventory of all buildings and structures built prior to 1946, as well as all buildings and structures associated with major Cold War Era events, was

conducted by the U.S. Army Corps of Engineers during preparation of *An Architectural Inventory – Naval Air Station Key West, Key West, Florida*. Based on the inventory, two structures located on the Truman Waterfront parcel are considered eligible for listing on the National Register of Historic Places: the Seminole Battery and Underground Bunker, and the Old Quay Wall. The Seminole Battery and Underground Bunker were constructed as a result of the Spanish American War. The Old Quay Wall was constructed around 1900 and is believed to have marked the shoreline at that time.

The Maine Memorial Cemetery and the Old Commissary Building are listed on the National Register of Historic Places as contributing elements of the Key West National Register Historic District (BAP, 1997). The East Martello Battery site is in excellent condition and is considered eligible for listing on the National Register of Historic Places (BAP, 1997).

The Peary Court Cemetery has been set aside by the Navy as a historical park. A preservation plan for the Peary Court Cemetery has been developed in consultation with the Florida State Historic Preservation Officer (BAP, 1997). Fort Zachary Taylor, also on the National Register of Historic Places, is adjacent to the Truman Annex excess parcels (i.e., Zone C and K).

3.3.8 Archaeological Sites

The *Draft Archaeological Survey of Key West Naval Air Station, Monroe County, Florida* (1996) indicates that the area immediately adjacent to Fort Zachary Taylor may potentially contain significant archaeological deposits (BAP, 1997).

The Peary Court Cemetery was used as a military burial site from 1835 until approximately 1920. Archaeological investigations have confirmed that graves still exist at the cemetery, in spite of efforts in 1927 to relocate all interred bodies to Pensacola, Florida.

No archaeological information was found regarding the White Street Trailer Park or the Poinciana Housing parcels. Otherwise, with the exceptions noted above, the *Draft Archaeological Survey of Key West Naval Air Station, Monroe County, Florida* (1996) indicates that no archaeological resources have been identified at the remaining BRAC properties, and no further investigations are recommended (BAP, 1997).

3.4 ENVIRONMENTAL CONDITION OF PROPERTY

This section addresses the environmental condition of the excess parcels, as determined by the EBSs, as well as subsequent sampling/testing and review of additional information by the team since the initial surveys. The EBSs were conducted by reviewing past and current records, interviewing military and

civilian personnel knowledgeable of NAS Key West, reviewing historical aerial photographs, reviewing real estate records related to land acquisition, and visually inspecting parcels "fence-to-fence."

3.4.1 Rating System

In order to prepare an environmental condition of property map, evidence at a high level of confidence - must be gathered that screens base property into seven area types. These seven area types or categories are as follows:

1. Areas where no release or disposal of hazardous substance or petroleum products has occurred (including no migration of these substances from adjacent areas).
2. Areas where release or disposal only of petroleum products has occurred.
3. Areas where release of hazardous substances has occurred, but at concentrations that do not require a removal or remedial action.
4. Areas where release of hazardous substances has occurred, and all remedial actions necessary to protect human health and the environment have been taken.
5. Areas where release of hazardous substances has occurred, and removal or remedial actions are under way, but all required remedial action have not yet been taken.
6. Areas where release of hazardous substances has occurred, but required actions have not yet been implemented.
7. Areas that are not evaluated or require additional evaluation.

The paragraphs that follow further define these area types or categories. Note that the terms "contaminant" and "hazardous substance" used in this section refer to all CERCLA hazardous substances [42 U.S.C. § 9601(14)]. Furthermore, area type 1, as defined by Section 120(h)(4) of CERCLA, (CERFA), specifically includes petroleum, petroleum products, oil, and lubricants.

3.4.2 Groundwater

Six of the 12 excess parcels have been rated 7 for groundwater, requiring further investigation of this medium. The remaining properties have been rated 1, 2, 3, or 4 based upon previous uses or

investigations. The groundwater screening results from the 10 zones that make up the seven excess parcels indicate little contamination. Groundwater confirmation sampling was conducted in February 1998 as part of the BRAC SI.

3.4.3 Buildings, Facilities, and Surface Soils

The ratings and main environmental concerns for all buildings and facilities on the excess parcels are shown in Figure 3-2. The six excess parcels have been rated 7 based upon the need for an evaluation (e.g., site investigation currently underway). The remaining parcels have been rated 1, 2, 3, or 4 based upon previous uses or investigations.

3.4.4 Suitability for Transfer by Deed

Property classified as 1/White meets the CERCLA definition of uncontaminated and is suitable for transfer by deed. This includes the Peary Court Cemetery and White Street Trailer Park parcels. Property classified as 2/Blue may be suitable for transfer, depending upon the levels of petroleum contamination. The Simonton Street Commissary, classified as 4/Dark Green, has been determined to be suitable for transfer. Property classified as 3/Light Green and 4/Dark Green are suitable for transfer by deed after appropriate notifications and disclosures are made. This includes the Trumbo Point Building 48 and Trumbo Road parcels. Property rated 7/Grey is not suitable for transfer by deed until additional environmental investigation and/or remediation have been conducted.

After all environmental documentation is complete, including that required under the National Environmental Policy Act (NEPA), a Finding of Suitability to Transfer (FOST) is developed that summarizes the environmental information for the parcel for purposes of the deed. A FOST has been completed for the Simonton Street Commissary parcel.

3.5 STATUS OF COMMUNITY INVOLVEMENT

Table 3-9 presents the Community Relations activities that have taken place at the station.

An Information Repository has been established and is located at the Monroe County Library in Key West. This repository contains information about the environmental activities conducted at the base (ABB, 1996).

A Point of Contact has been established to disseminate information about the environmental work being performed at the base. A mailing list of interested parties in the community has been compiled and is updated on a regular basis.

The Restoration Advisory Board (RAB) was created in 1995 and held its first meeting on October 19, 1995 (B&R Environmental, 1998g). Members of the RAB include community members, representatives from the base, Southern Division Naval Facilities Engineering Command, EPA, and FDEP. Bimonthly meetings are held at the Holiday Inn Key West, Florida (U.S. Route 1) and are open to the public.

The Information Repository has been established at the Monroe County Public Library, located on 700 Fleming Street, Key West, Florida. Copies of the documents leading to a selection of any remedial actions at the base are included in the Repository.

A Community Relations Plan has been prepared and was issued in May 1996 to address the issues of concern in the environmental restoration process. It provides a historical summation of past environmental investigation conducted at the base and lists the most recent activities being conducted as a result of the base closure. The Community Relations Plan facilitates communication to Federal, state, or local agencies; public representatives; and local citizens. This communication plan ensures that the parties involved or interested are provided accurate, consistent information in a timely manner concerning cleanup activities being conducted at the base.

TABLE 3-1
ENVIRONMENTAL BASELINE SURVEY CATEGORIES

Parcels	EBS Category
Outer Mole Area, Truman Waterfront Area	7
Truman Annex	7
Poinciana Housing	7
Maine Memorial Cemetery	1
Peary Court Cemetery	1
Simonton Street Commissary	2
East Martello Battery	7
Hawk Missile Site	7
Trumbo Road	4
Trumbo Point Piers D-1 and D-3	7
Trumbo Point Building 48	4

Sources: USN-SOUTHDIV, 1994a,b; USN-SOUTHDIV, 1996a,b; USN-SUPSHIP, 1996; USN-SOUTHDIV, 1997a,b; B&R Environmental, 1998a

TABLE 3-2
INSTALLATION RESTORATION PROJECTS
ON BRAC EXCESS PARCELS

Project Description	Start Date	End Date	Status
Initial Assessment Study	1985	1985	Complete
Confirmation Study DRMO Building 795 (IR2)	1986	1986	Complete
No Further Action Decision Document (IR2)	1996	1997	Complete
Environmental Baseline Survey – Poinciana Housing	1996	Ongoing	Predraft
Environmental Baseline Survey – Trumbo Road Easement	NA	1994	Draft
Environmental Baseline Survey – Truman Annex Excess Property (Remainder)	1996	Ongoing	Predraft
Environmental Baseline Survey – White Street Trailer Park	NA	1994	Draft
Environmental Baseline Survey – Simonton Street Commissary	1997	1997	Draft
Environmental Baseline Survey – Realignment Parcels. <ul style="list-style-type: none"> • Trumbo Point Piers D-1 and D-3 and Building B-48 • Maine Memorial and Peary Court Cemetery • Hawk Missile Site and East Martello Battery 	1996	Ongoing	Predraft
Environmental Baseline Survey – Truman Annex Outer Mole Pier Area	NA	1997	Complete review
Site Investigation Workplan for the Ten BRAC Properties	1997	1998	Complete
Site Inspection Report for Poinciana Housing	1998	1998	Final
Site Inspection Report for Nine BRAC Parcels	1998	Ongoing	Draft
Supplemental Site Inspection Workplan	1998	Ongoing	Predraft
Supplemental Site Inspection Report	1998	Ongoing	Predraft

TABLE 3-3
TRANSFER-RELATED COMPLIANCE PROJECTS
ON BRAC EXCESS PARCELS

Project Description	Start Date	End Date	Status
Asbestos and Lead Base Paint Surveys	1995	1995	Complete
Lead Based Paint Survey Poinciana Housing	1996	1996	Complete
Various Removal or In-place Closure of USTs and ASTs	-	-	Complete Refer to Tables 3-4 and 3-5 for status
Various UST and AST Contamination Assessment Reports (CARS) and Remedial Action Plans (RAPs)	-	-	Ongoing Refer to Tables 3-4 and 3-5 for status
Building 103 CAR	1993	1993	Complete
Building 103 RAP	1994	1994	Ongoing FY99 start
Building 189 Pipeline Leak CAR	1993	1993	Complete
Building 189 Pipeline Leak RAP	1994	1994	Ongoing FY98 start
Hawk Missile Site Transformer Release	1991	1991	Complete No Further Action Document
Building 136 Building Demolition Sampling	1993	1993	Complete

TABLE 3-4

UNDERGROUND STORAGE TANKS

[To be developed in a future revision of the BCP]

TABLE 3-5

ABOVEGROUND STORAGE TANKS

[To be developed in a future revision of the BCP]

TABLE 3-6
BUILDINGS WITH ASBESTOS CONTAINING MATERIAL

Realignment Property	ACM	Comment
Commissary Store	Yes	All buildings (3) Nonfriable and Damaged Friable
East Martello Battery	Yes	Nonfriable
Truman Annex	Yes	All buildings (15), except Building 1287 Gallery Friable and nonfriable. Damaged, Friable in Building 104
Poinciana Housing	Yes	All buildings (50) Nonfriable
Hawk Missile Site	Yes	All buildings (7), except Building 2, 3, and 5 Nonfriable
Trumbo Point	Yes	All buildings (5), except Building 45 Friable and nonfriable. Damaged, Friable in Building 48

Source: NPWC, 1995 a,b,c,d,e,f,g

TABLE 3-7
ENDANGERED AND THREATENED ANIMAL SPECIES KNOWN TO OCCUR
AT NAS KEY WEST (FNAI, 1994)
NAS KEY WEST

Common Name	Scientific Name	Designated Status	
		FGFWFC	US FWS
Fish			
Key silverside	<i>Menidia conchorum</i>	T	-
Reptiles			
Eastern indigo snake	<i>Drymarchon corais couperi</i>	T	T
Red rat snake	<i>Elaphe guttata guttata</i>	SSC	-
Florida Keys mole skink	<i>Eumeces egregius egregius</i>	SSC	-
Birds			
White crowned pigeon	<i>Columba leucocephala</i>	T	-
Little blue heron	<i>Egretta caerulea</i>	SSC	-
Reddish egret	<i>Egretta rufescens</i>	SSC	-
Snowy egret	<i>Egretta thula</i>	SSC	-
Tricolored heron	<i>Egretta tricolor</i>	SSC	-
White ibis	<i>Eudocimus albus</i>	SSC	-
Bald eagle	<i>Haliaeetus leucocephalus</i>	T	T
Osprey	<i>Pandion haliaetus</i>	SSC	-
Brown pelican	<i>Pelecanus occidentalis</i>	SSC	-
Least tern	<i>Sterna antillarum</i>	T	-
Roseate tern	<i>Sterna dougallii</i>	T	T
Mammals			
Silver rice rat	<i>Oryzomys argentatus</i>	E	E
Lower Keys marsh rabbit	<i>Sylvilagus palustris hefneri</i>	E	E
Florida manatee	<i>Trichechus manatus</i>	E	E

Notes: E = Endangered
T = Threatened
SSC = Species of special concern
- = Not Listed
FGFWFC = Florida Game and Fresh Water Fish Commission
US FWS = U.S. Fish and Wildlife Service

TABLE 3-8
ENDANGERED AND THREATENED PLANT SPECIES KNOWN TO OCCUR
AT NAS KEY WEST (FNAI, 1994)
NAS KEY WEST

Common Name	Scientific Name	Designated Status	
		FDA	US FWS
Blodgett's wild mercury	<i>Argythamnia blodgettii</i>	E	-
Locustberry	<i>Byrsonima Lucida</i>	E	-
Porter's spurge	<i>Chamaesyce porteriana</i>	E	-
Geiger tree	<i>Cordia sebestena</i>	E	-
Rhacoma	<i>Crossopetalum rhacoma</i>	E	-
Wild cotton	<i>Gossypium hirsutum</i>	E	-
Manchineel	<i>Hippomane mancinella</i>	E	-
Joewood	<i>Jacquinia keyensis</i>	T	-
Bahama brake	<i>Pteris bahamensis</i>	E	-
West Indies mahogany	<i>Swietenia mahogani</i>	E	-
Brittle thatch palm	<i>Thrinax morrissi</i>	E	-
Florida thatch palm	<i>Thrinax radiata</i>	E	-
Banded wild pine	<i>Tillandsia flexuosa</i>	E	-
Worm-vine orchid	<i>Vanilla barbellata</i>	E	-

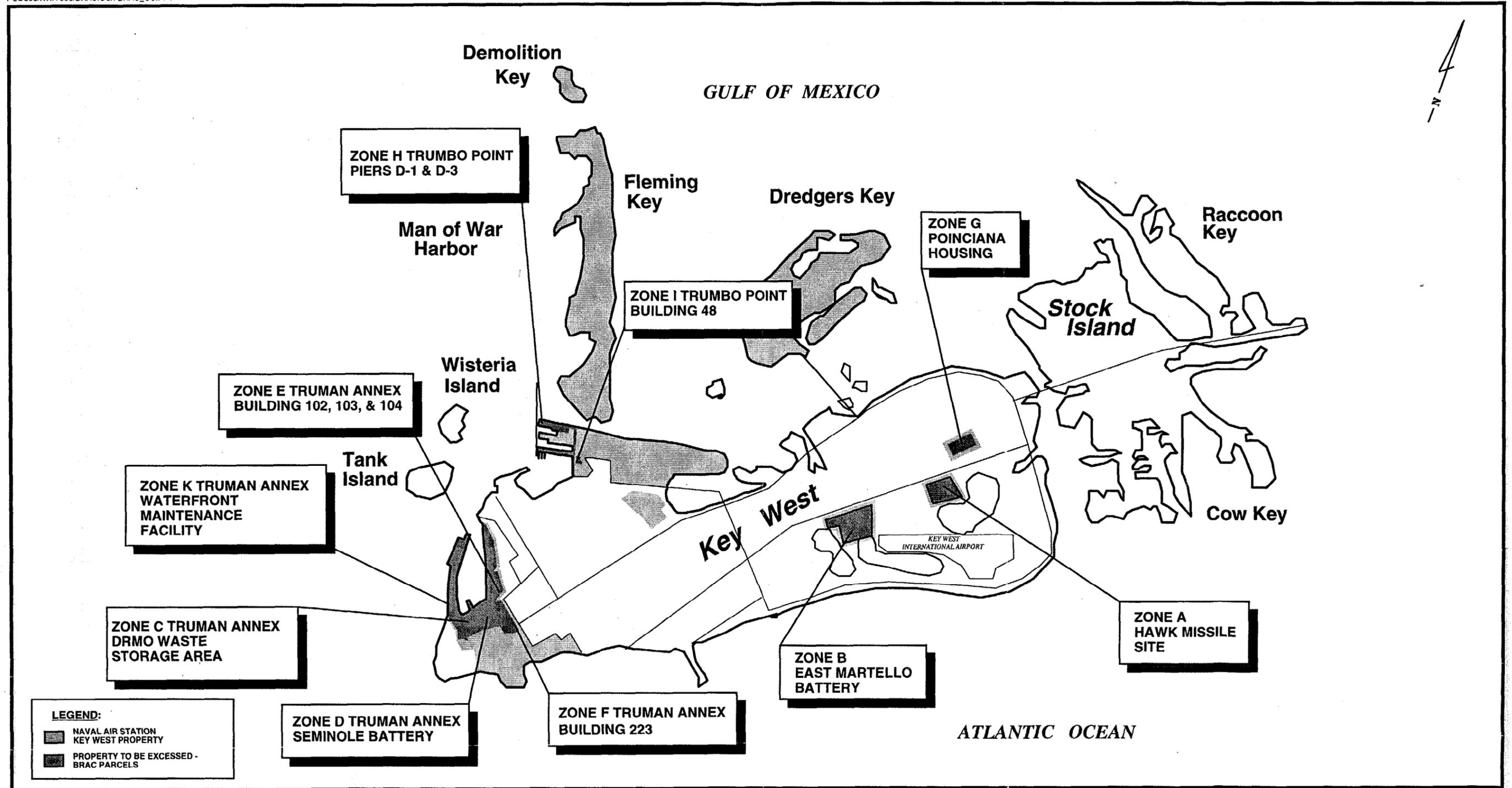
Notes: E = Endangered
T = Threatened
- = Not Listed
FDA = Florida Department of Agriculture and Consumer Services
US FWS = U.S. Fish and Wildlife Service

TABLE 3-9
CHRONOLOGY OF COMMUNITY RELATIONS ACTIVITIES
NAS KEY WEST, FLORIDA

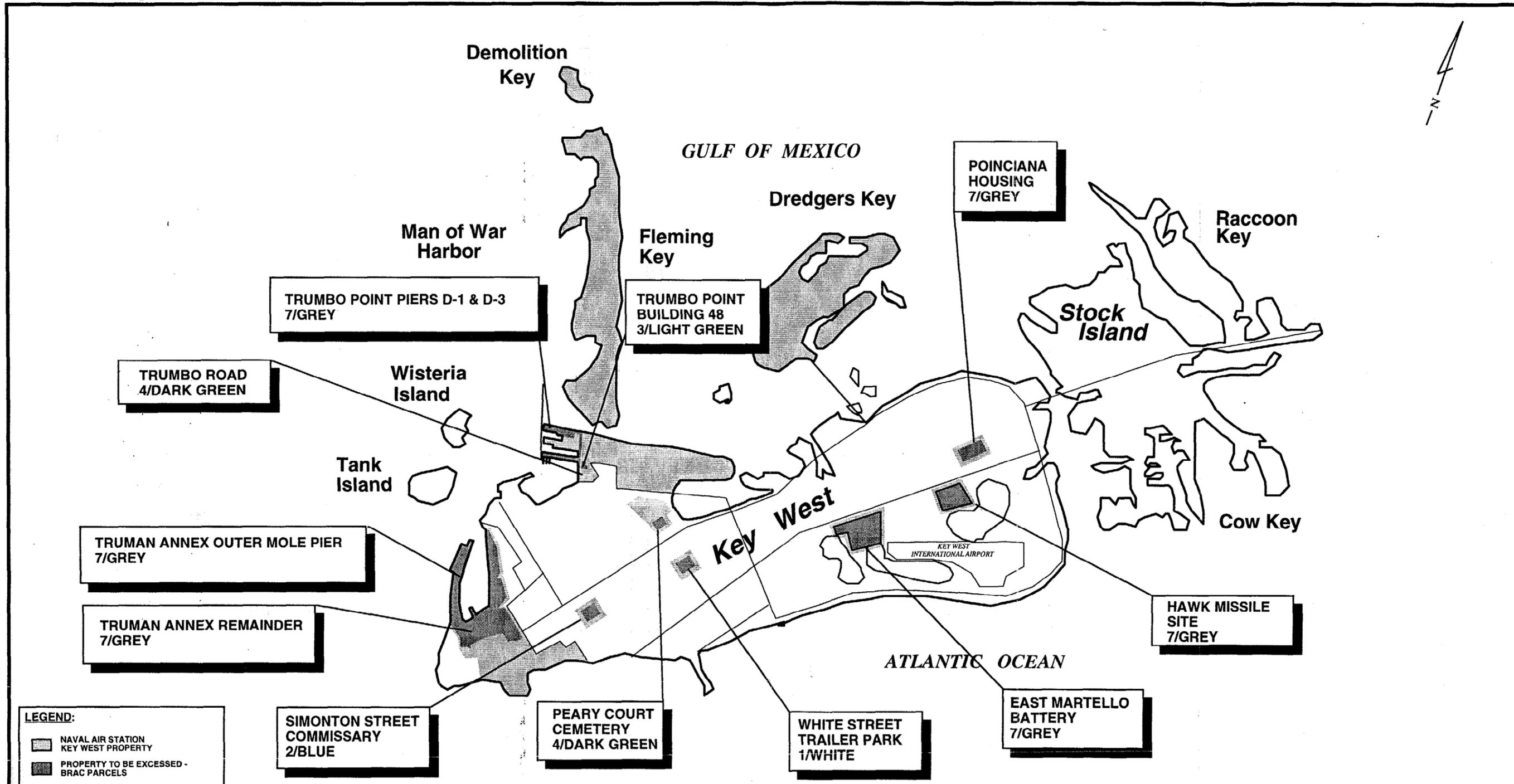
Date	Description	Rationale
NA	Established Information Repository	Required by IR Program
NA	Appointed Point of Contact	Required by DoD Policy; Keep the public informed
NA	Established Restoration Advisory Board	Required by IR Program
May 1996	Established Mailing List	Required by IR Program
April 1992 and May 1995	Conducted Community Interviews	Required by IR Program
October 19, 1995	First Meeting of Restoration Advisory Board	Required by IR Program
May 1996	Issued Community Relations Plan	Required by IR Program
NA	Develop and Issue Fact Sheet 1 – Introduce Restoration Advisory Board and Community Relations Plan	Keep the public informed
October 1996	Issued Environmental Baseline Surveys	Required by CERCLA, CERFA
April 1998	Issued Draft BRAC Cleanup Plan	Required by BRAC

Source: ABB, 1996

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NO.	DATE	REVISIONS	BY	CHKD	APPD	REFERENCES	DRAWN BY	DATE		BRAC CLEANUP PLAN INSTALLATION-WIDE ENVIRONMENTAL PROGRAM STATUS FIGURE 3-1. BRAC SITE INVESTIGATION LOCATIONS SOUTH DIV NAS KEY WEST, FL		CONTRACT NO. 7593	
							RBP	3/13/98		APPROVED BY	DATE	APPROVED BY	DATE
							CHECKED BY	DATE		APPROVED BY	DATE	DRAWING NO.	REV. 0
							COST/SCHED-AREA						
							SCALE	AS NOTED					



LEGEND:
 NAVAL AIR STATION
KEY WEST PROPERTY
 PROPERTY TO BE EXCESSED -
BRAC PARCELS

NO.	DATE	REVISIONS	BY	CHKD	APPD	REFERENCES

DRAWN BY
RBP
 CHECKED BY
 DATE
 DATE
 COST/SCHED-AREA
 SCALE
AS NOTED



**BRAC CLEANUP PLAN
 INSTALLATION-WIDE ENVIRONMENTAL
 PROGRAM STATUS
 FIGURE 3-2 ENVIRONMENTAL CONDITION OF PROPERTY
 SOUTH DIV
 NAS KEY WEST, FL**

CONTRACT NO. 7593	
APPROVED BY	DATE
APPROVED BY	DATE
DRAWING NO. H:/USERS/PUBS	REV. 0

4.0 INSTALLATION-WIDE STRATEGY FOR ENVIRONMENTAL PROGRAMS

4.1 ENVIRONMENTAL RESTORATION STRATEGY

As described in Section 3.1, the only environmental restoration activity for the excess parcels in the current Supplemental Site Investigation. At the July 28, 1998 Partnering Team Meeting, Interim Removal Actions (IRA) for several BRAC parcels were discussed including:

- Hawk Missile Site (Zone A)
- Truman Annex
 - DRMO Waste Storage Area (Zone C)
 - Buildings 102, 103, and 104 (Zone E)
 - Building 223 (Zone F)

Any further strategy will be determined by the Project Team.

4.2 COMPLIANCE STRATEGY

4.2.1 RCRA Facilities

No RCRA facilities are located on the excess parcels. Therefore, no SWMUs and/or closure activities will need to be completed on the excess parcels.

4.2.2 Storage Tanks

There are no active USTs currently on the excess parcels. Three ASTs remain on the excess parcels, two ASTs at Truman Annex Outer Mole Pier Building 149, and one AST at Trumbo Point Building B-28. At the time of this revision, no information was available on strategy for management of the ASTs during the realignment process.

4.2.3 Hazardous Material/Waste Management

A Hazardous Waste Management Plan has been issued to manage the hazardous materials being utilized by the Navy on the station. The previously issued Spill Prevention and Contingency Plan remains in effect

for the remaining buildings and facilities under the Navy's control. Both plans need to be revised after lease or transfers occur to reflect change in responsibilities under ownership.

Investigation Derived Waste (IDW) will be produced during the environmental investigations (e.g., site investigations or UST closures). All IDW will be containerized until laboratory results on the potential contamination in the IDW are available. If necessary, all solid and aqueous IDW determined to be hazardous will be stored in Building 1416, the NAS Key West Hazardous Waste Storage Facility on Boca Chica, and disposed by the Navy through a licensed disposal facility. Nonhazardous solid waste will be disposed of in Truman Annex municipal waste containers (B&R Environmental, 1998e).

The Navy will perform building walk-overs to ensure all hazardous materials and hazardous waste are removed from BRAC structures prior to being secured or transferred (TtNUS, 1998b).

4.2.4 Solid Waste Management

At the time of the preparation of this version of the BCP, no information was available on the NAS Key West solid waste management policy.

4.2.5 Polychlorinated Biphenyls

All NAS Key West oil-filled electrical components have been tested for PCBs. Section 3.24 identifies electrical components and equipment remaining on BRAC excess properties. It is assumed that all PCB-labeled transformers on BRAC excess properties remain in operation and are managed by Public Works.

4.2.6 Asbestos

Asbestos surveys have been conducted on structures throughout the excess parcels. ACM was identified or assumed to be ACM in 77 of 81 structures. The policy and strategy for management of asbestos remaining on BRAC excess parcels is discussed in Section 3.2.5.

4.2.7 Radon

At the time of the preparation of this version of the BCP, no information was available on the NAS Key West radon management policy. Radon testing was performed on the Poinciana Housing.

4.2.8 National Pollutant Discharge Elimination System

No further action is required.

4.2.9 Oil-Water Separators

Two oil/water separators (Mole Pier and Inner Mole Pier) on the Truman Annex properties have been closed in place under the Navy's UST program. One oil/water separator remains on Trumbo Point Pier D-1 in an inactive status and will be closed out under UST.

4.2.10 Lead-Based Paint

The Poinciana Housing units contain lead-based paint and lead-based paint hazards, however, the paint is in good condition. Therefore, no schedule for the abatement is anticipated. No further action is required.

4.2.11 Air Permits

There are no air permits for the excess parcels (TtNUS, 1998a). No further action is required.

4.3 NATURAL AND CULTURAL RESOURCE STRATEGIES

The station is in compliance with regulations regarding habitats; wetlands; threatened, endangered, other special status species; and exemplary natural communities, historic buildings, and archaeological sites. No further action is required.

4.3.1 Historic and Archaeological Sites

Activities (including excavation and other invasive procedures) which are planned at or near known historic or archaeological sites shall be coordinated with the State Historic Preservation Office (SHPO).

4.4 COMMUNITY INVOLVEMENT STRATEGY

The Project Team will support the RAB and provide the necessary information to keep the members informed of all restoration and compliance activities at the excess parcels. According to the Community Relations Plan, news releases or fact sheets will be issued after the completion of each major milestone.

The NEPA process requires community involvement during the analysis of the potential reuses of the station. Public scoping meetings, public comment periods, and consideration of the public's concerns are required. The implementation of these requirements will comply with applicable regulations.

5.0 SCHEDULE

A master schedule is contained in Appendix C for those activities related to the excess parcels and transfer other than the meetings of the BRAC Project Team.

The Project Team meetings will correspond with the bimonthly RAB and Partnering Team meetings. A more definitive schedule will be developed following the initial meeting of the Project Team. The 1998 RAB and Partnering Team meeting schedule is as follows:

- 30 March 1998
- 27 July 1998
- 16 November 1998

6.0 UNRESOLVED TECHNICAL ISSUES AND IMPLEMENTATION OF NAVY INITIATIVES

This chapter summarizes the unresolved technical and other issues and the Project Team's implementation of Navy Environmental Restoration Program and Compliance Initiatives. These Initiatives are specific program goals to achieve environmental cleanup and base closure in a more efficient and cost effective manner.

6.1 DATA USABILITY

This section summarizes issues that need to be resolved with regard to managing information gathered and used in the Environmental Restoration and Compliance Programs.

- To be determined

6.1.1 Project Team Action Items

- To be determined

6.1.2 Rationale

- To be determined.

6.1.3 Status/Strategy

Current strategy is to use the Project Team meetings to transfer data among members. This strategy is already being utilized by the Partnering Team members. Data would be shared in electronic format and requirements would be coordinated between the EPA, FDEP, NAS Key West, SOUTHDIV and the CLEAN and remedial action contractors.

6.2 INFORMATION MANAGEMENT

This section is intended to summarize unresolved issues pertaining to the validity of using historical data sets. All pertinent historical data relating to the 10 BRAC Zones on the seven excess parcels was utilized to develop the current SI sampling program (i.e., the Data Quality Objectives Process). The quantity and

value of the historical data is limited; therefore, this data will not be used to assess general property conditions. The current SI sampling program will provide the site-specific data.

6.3 DATA GAPS

This section is intended to summarize unresolved issues pertaining to the determination and collection of data needed to complete the Environmental Restoration and Compliance Programs. At this time, the restoration program is ongoing. General information about the conditions on and beneath the BRAC properties has been completed. The lone Installation Restoration site, IR2 (e.g., Building 795), on the Truman Annex BRAC property Zone C has been issued a No Further Action Decision document.

The draft and pre-draft EBSs remain incomplete due to the need for information on the environmental condition of property. This information will be supplied by the SI Reports on the 10 BRAC Zones and SSI Report.

The UST-related issues include the closure of the various former AST/UST sites located primarily on Truman Annex. One unregulated UST site (e.g., oil/water separator) is located on the Trumbo Point property, and two AST sites are located on the Hawk Missile Site (Zone A). The majority of the ASTs/USTs have been removed and contamination assessment reports (CARs) written. Two UST sites on Truman Annex Zone E have had Remedial Action Plans (RAPs) prepared and accepted by FDEP. In 1998, the funding was approved for the initiation of the Building 189 RAP (B&R Environmental, 1998d). As part of the current Partnering Team process, the CLEAN contractor has been tasked with tracking the status of the UST program at NAS Key West. This effort was identified as a stop gap measure during the DQO process. The efforts of the Project Team will address all BRAC activities including those already undertaken by the Partnering Team with regard to USTs.

Another issue that will require the attention of the Project Team is the content of Buildings 103 and 104 at Truman Annex. These buildings housed military industrial equipment dating to the 1940s to support submarine operations. Specifically, Building 104 contains pits of liquids. As of the preparation of this plan, no information was available to characterize the liquids. In addition, a variety of equipment for battery maintenance and charging are in both buildings.

6.4 BACKGROUND LEVELS

6.4.1 Project Action Items

Reaffirmation of the Partnering Team determination to utilize the NAS Key West Background Report as the basis for the BRAC Site Investigation.

6.4.2 Rationale

Background concentration values were developed before risk assessments were conducted on the NAS Key West ENRA sites. The values have been determined by the NAS Key West Partnering Team as representative of what is naturally occurring in undeveloped areas on the station.

6.4.3 Status/Strategy

If necessary, the NAS Key West Background Report data set will be used for any risk assessments that may be required on the excess parcels.

6.5 RISK ASSESSMENTS

If necessary, based on the results of the BRAC SSI, a risk assessment(s) could be performed as part of the RI in accordance with a methodology established by the Navy, EPA, and FDEP. The future land use is anticipated to be the same as the current use with the exception of the Truman Annex property (e.g., Zones C, D, E, F and K other than Mole Pier) and Poinciana Housing property.

6.6 PRIVATIZATION

Not applicable.

6.7 REALIGNMENT PROPERTY REMEDIAL ACTION SCHEDULE

The master schedule is presented in Chapter 5. There have not been any remedial actions identified at this time.

6.8 INTERIM MONITORING OF GROUNDWATER AND SURFACE WATER

There are no unresolved issues in this area at this time.

6.9 EXCAVATION OF CONTAMINATED MATERIALS

Excavation of contaminated materials is planned in conjunction with Interim Remedial Actions (IRA) which was approved by the Partnering Team during the July 28, 1998 meeting. The affected BRAC excess parcels include: Hawk Missile Site (Zone A), DRMO Waste Storage Area (Zone C), Seminole Battery (Zone D), Bldgs. 102, 103, and 104 (Zone E) and Bldg. 223 (Zone F).

6.10 PROTOCOLS FOR REMEDIAL DESIGN REVIEWS

If necessary, remedial designs will utilize existing protocols and will be reviewed by the Project Team and Southern Division. No additional action is required at this time.

6.11 CLEANUP STANDARDS

If necessary, the cleanup standards will be based upon risk-based levels and will be developed upon the completion of the risk assessment.

6.12 INITIATIVES FOR ACCELERATING CLEANUP

The following initiatives have been implemented for expediting response actions at the station:

- Partnering – Early involvement of the regulatory agencies obtains approval of approach and methodology at the early stages of the process with regard to the site investigation on 7 of the 12 parcels (e.g., 10 zones).
- Overlapping Phase – The Project Team has implemented overlapping phases of the cleanup process as a prime accelerator towards cleanup. See 6.17 for further details.
- Accelerated SI – A compressed schedule to accomplish multiple sampling events in the shortest time period possible with regard to the site investigation on 7 of the 12 parcels (e.g., 10 zones).
- Field Screening – The Site Investigation incorporates field screening to quickly delineate the extent of contamination.
- Community Involvement – Keeping the public informed on the BRAC realignment progress via the RAB lessens the likelihood of opposing comments.

- **Generic Procedures** – Approved generic procedures are being used for common investigation activities via the Site Investigation Work Plan. The procedures are flexible enough for site-specific modifications in the Sampling and Analysis Plan.

6.13 REMEDIAL ACTIONS

There are no remedial actions on-going or planned at this time.

6.14 REVIEW OF SELECTED TECHNOLOGIES FOR APPLICATION OF EXPEDITED SOLUTIONS

The site investigation field activities were initiated in mid-November 1997. Innovative technologies were evaluated during the development of the Site Investigation Work Plan and were successfully implemented in the field.

6.15 HOT SPOT REMOVALS

Refer to Section 6.9.

6.16 IDENTIFICATION OF TRANSFERABLE PARCELS

Transferable parcels were identified in the EBS based upon surface conditions. Those properties include Trumbo Road, White Street Trailer Park, Simonton Street Commissary, USS Maine Memorial and Peary Court Cemetery. The remaining parcels are currently undergoing a Site Investigation of their media. Those parcels include Truman Annex Outer Mole Pier (Zone K), Truman Annex Remainder (Zones C, D, E and F), Trumbo Point Piers D-1 and D-2 (Zone H), Trumbo Point Building 48 (Zone I), Poinciana Housing (Zone G), East Martello Battery (Zone B) and Hawk Missile Site (Zone A). The soil and groundwater beneath portions of the Truman Annex parcels are suspected to be contaminated and require further evaluation. Until the media on these properties is thoroughly investigated, these excess parcels are not transferable. If contamination is found, the property(ies) can be transferred after the Remedial Investigation or if necessary, the Feasibility Study is in place and demonstrated to be functioning properly.

6.17 OVERLAPPING PHASES OF THE CLEANUP PROCESS

Overlapping phases of the cleanup process is a method of speeding environmental cleanup. The Partnering Team has embraced this method as a fundamental mechanism in all its activities in order to

meet the needs of transfer of the excess parcels in the shortest time possible. Two main vehicles have been utilized in this process: mutual assistance and cooperation in completing the reviews of required documents/activities, and initiating subsequent work as soon as preliminary results are available. Examples of these overlapping phases are:

- Upon reconciliation of the EBSs, but prior to their final release, work was initiated on a Site Investigation Work Plan for investigative sampling on the excess parcels. The SI Work Plan discussed the methodology of addressing the sites identified in the EBSs. By starting the SI Work Plan prior to the final release of the EBSs, the field investigation process was accelerated by a year. Due to the efforts of the Partnering Team and the mutual understanding of the conditions at the station, the risks associated with starting the SI Work Plan before the finalization of the EBSs were minimized and managed.
- The CLEAN contractor was permitted by the Partnering Team to initiate the field effort associated with the Draft SI Work Plan before it was finalized. The Work Plan was developed with the assistance of the Partnering Team. The Final Work Plan and associated Sampling and Analysis Plan were later approved without any technical comments by the regulators.
- A second SI sampling event was initiated while the original SI event was underway. The combination of the activities by the CLEAN contractor expedited the investigation of the excess parcels requiring investigation at NAS Key West.
- The CLEAN contractor was permitted by the Partnering Team to initiate the field effort associated with the Draft SSI Work Plan before it was finalized. The Work Plan was developed with the assistance of the Partnering Team. The Final Work Plan and associated Sampling and Analysis Plan were later approved without any technical comments by the regulators.

6.18 IMPROVED CONTRACTING PROCEDURES

Southern Division is utilizing its CLEAN and RAC contracts to facilitate work assignments, reduce negotiations, and implement field work. The task orders are funded in an incremental basis to better control costs. Work is performed in phases to delineate goals and accurately measure performance. The CLEAN and RAC contractors have representatives on the Partnering Team.

6.19 INTERFACING WITH COMMUNITY REUSE PLAN

The LRA has developed the Base Reuse Plan (October 1997) supporting the transfer of excess parcels. Bimonthly RAB meetings have been held to keep the LRA and public apprised of the Environmental Restoration Process on the NAS Key West excess parcels.

6.20 BIAS FOR CLEANUP INSTEAD OF STUDIES

Refer to Section 6.9.

6.21 EXPERT INPUT ON CONTAMINATION AND POTENTIAL REMEDIAL ACTIONS

The SI has been recently initiated to determine the presence of contamination; therefore, it is too early in the investigation phase to implement this initiative. The UST program has initiated funding requests to implement the RAPs for two of the AST/UST sites on Truman Annex. Given the recent change in the FDEP regulations on USTs, expert input from the CLEAN contractor may be required.

6.22 PRESUMPTIVE REMEDIES

There have been no presumptive remedies identified at this time.

6.23 PARTNERING

The Partnering Team members received training in November 1996 and started formal partnering utilizing a facilitator in January 1996. Most if not all of the Project Team members are also Partnering Team members. Thus far, Partnering has accomplished the review of multiple versions of the SI Workplan in an accelerated time frame, supported the Data Quality Objective Process, and improved communication between interested parties. The Partnering Team will continue to work as a team to accomplish cleanup goals.

6.24 UPDATING THE ENVIRONMENTAL BASELINE SURVEY

The status information and the environmental condition of property from the EBS have been incorporated into Chapter 3 of the BCP. The EBSs for many of the properties currently undergoing the Site Investigation remain in draft or predraft form especially with regard to environmental condition of property. This information will be updated as part the regular reviews of the BCP, so that the latest information is

always available. This method will facilitate the preparation of the Environmental Baseline Surveys for Lease or Transfer.

6.25 IMPLEMENTING THE POLICY FOR ONSITE DECISION MAKING

All Project Team members will participate equally in all discussions; however, certain decisions require review by appropriate authority in the member organizations. The Partnering Team will facilitate obtaining that review.

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APPENDIX A

DATA QUALITY OBJECTIVE PROCESS

APPENDIX A. DATA QUALITY OBJECTIVE PROCESS

A.1 DATA QUALITY OBJECTIVE PROCESS

The Data Quality Objectives (DQO) Process (EPA, 1994) was used as a tool in determining the type, quantity, and quality of data needed to support the conclusions and recommendations for the NAS Key West BRAC properties. As a systematic planning tool based on the scientific method, the seven-step DQO process helps establish criteria for defensible decision-making at the onset of a study and develops a data-collection design based on these criteria. The steps identify such information as the goal of the investigation, the inputs needed to reach the goal and make a decision, the temporal and areal boundaries of the investigation, the level of confidence required to support a decision, and finally, a sampling design that is adequate to support the decision-making process. The steps, as identified in the EPA Guidance for the DQO process, are as follows:

Step 1: State the Problem - Concisely describe the problem to be studied. Review prior studies and existing information to gain a sufficient understanding to define the problem.

Step 2: Identify the Decision - Identify what questions the study will attempt to resolve and what actions may result.

Step 3: Identify the Inputs to the Decision - Identify the information that needs to be obtained and the measurements that need to be taken in order to resolve the decision statement.

Step 4: Define the Study Boundaries - Specify the time periods and spatial area to which decisions will apply. Determine when and where data will be collected.

Step 5: Develop a Decision Rule - Define the statistical parameter of interest, specify the action level, and integrate the previous DQO outputs into a single statement that describes the logical basis for choosing among alternative actions.

Step 6: Specify Tolerable Limits on Decision Errors - Define the decision maker's tolerable decision error rates based on a consideration of the consequences of making an incorrect decision.

Step 7: Optimize the Design - Evaluate information from the previous steps and generate alternative data collection designs. Choose the most resource-effective design that meets all the DQOs.

A.2 DATA QUALITY OBJECTIVES PROCESS FOR THE BRAC SITE INVESTIGATION PROPERTIES AT NAS KEY WEST

Early in the DQO process, the 10 BRAC Zones were divided into subzones based on surface features and the individual site's previous uses. Each subzone consists of a single environmental medium (e.g., groundwater, sediment, soil, or surface water), and the subzones within a given zone are not necessarily spatially unique. For instance, a sediment subzone may overlap a surface-water subzone. Groundwater is always considered at the zone level and is never subdivided because subsurface features are generally homogeneous over a much broader area than surface features. Additionally, groundwater migration makes it difficult to isolate the area of potential groundwater contamination to a particular region of the zone. Figures 2-3 through 2-7 from the Site Investigation Workplan for the Ten BRAC Properties at NAS Key West (January 1998) depict the subzones within the 10 BRAC Zones. These figures are attached to this Appendix.

The planning team, consisting of Navy and B&R Environmental staff, completed all seven steps of the DQO process for each subzone in the 10 BRAC Zones at NAS Key West. Decisions needed to facilitate the process were reached jointly by members of the NAS Key West partnering team, including representatives of the Navy, B&R Environmental, Bechtel Environmental, Inc. (BEI), FDEP, and EPA Region IV. In many cases, the information addressed under each step is not unique to a particular subzone, and is either applicable to all BRAC subzones, or is dependent only on the environmental medium being sampled in a given subzone. The outcome of each step in the DQO process for the BRAC subzones is discussed below. The subzone-specific DQO process summaries are presented in Appendix B of the Site Investigation Workplan for the Ten BRAC Properties at NAS Key West (January 1998).

Step 1: The first step in the DQO process was to generate a problem statement for each subzone. In general, potential contamination was the problem. Based on existing documentation, some subzones were removed from the SI process at this point. In these cases, sufficient documentation existed to either declare that the site was "not an area of concern," that contamination was well enough characterized, or that contamination was already being addressed elsewhere (e.g., primarily by the UST program) to consider the CERCLA assessment process complete for those subzones. The 16 subzones eliminated from the DQO process in step one are presented in Table A-1. Table A-2 presents a summary of the subzones that have been addressed or are currently being addressed by the UST program at NAS Key West. It should be noted that several of these sites have not been eliminated from the BRAC SI process because contaminants not addressed by the UST program may have been released there.

TABLE A-1

**BRAC¹ SUBZONES ELIMINATED FROM THE DATA QUALITY OBJECTIVES PROCESS AT
NAS KEY WEST
PAGE 1 OF 3**

Subzone	Building/Area	Problem Statement	Rationale for Elimination
ZONE A - HAWK MISSILE SITE			
GRYZNA-SZN2	Former 2,000-gallon AST ²	Not an area of concern	Site being addressed by UST ³ program.
GRYZNA-SZN3	Paint storage area	Not an area of concern	There was no visible staining or evidence of release.
GRYZNA-SZN8	Remainder Hawk Missile Site	Not an area of concern	Soil in this area was determined not to have been impacted by former operations at the facility.
GRYZNA-SZN12	Former 500-gallon AST ² location	No additional investigation required	Site was closed by UST ³ program. No evidence of contamination was documented after tank removal.
GRYZNA-SZN13	Missile launch pads	Not an area of concern	GRYZNA-SZN6 was identified as the missile maintenance area, so there is no reason to believe maintenance activities were conducted at GRYZNA-SZN13.
ZONE B - EAST MARTELLO BATTERY			
GRYZNB-SZN2	Remainder of East Martello property	Not an area of concern	This property was not used for industrial purposes. It is assumed that the septic field located on the site will be addressed in the groundwater assessment of GRYZNB-SZN3 which includes the same area.
ZONE C - TRUMAN ANNEX DRMO⁴ WASTE STORAGE AREA			
GRYZNC-SZN2	Building 795 and former IR 2 area	No additional investigation required	Building 795 stored only inert material. Site data from investigations of former IR 2 sufficiently characterized this area.
GRYZNC-SZN5	Remainder of zone, across from Buildings 795 and 284	Not an area of concern	The wooded area does not appear to have seen recent industrial use. This is supported by a map dated 1957. Both buildings were used for inert storage.
ZONE D - TRUMAN ANNEX SEMINOLE BATTERY			
GRYZND-SZN4	Former gas station and Army dispensing facility	Not an area of concern	Site being addressed by UST ³ program.
ZONE E - TRUMAN ANNEX BUILDINGS 102, 103, AND 104			
GRYZNE-SZN6	Inner pier waterfront	Not an area of concern	Buildings and structures are not located in this area and limited operations were associated with this area. Additionally, the pier is covered with concrete and has double retaining walls on the water.
GRYZNE-SZN8	Broken fuel transfer pipeline (north of Building 189)	No additional investigation required	Site being addressed by UST ³ program.
GRYZNE-SZN10	Fuel pipeline	Not an area of concern	Site being addressed by UST ³ program.
GRYZNE-SZN11	Oil water separator	Not an area of concern	Site being addressed by UST ³ program.

TABLE A-1

BRAC¹ SUBZONES ELIMINATED FROM THE DATA QUALITY OBJECTIVES PROCESS AT
NAS KEY WEST
PAGE 2 OF 3

Subzone	Building/Area	Problem Statement	Rationale for Elimination
ZONE F - TRUMAN ANNEX BUILDING 223			
GRYZNF-SZN2	Building 1276- former gas station	Not an area of concern	Site being addressed by UST ³ program.
GRYZNF-SZN4	Zone F-remainder	Not an area of concern	Southern tip of Zone F is not believed to have been impacted because no historic uses have been identified, other than use a parking lot on a map dating from 1957. The area around Building 1287 and the radio tower is assumed not to have been impacted based on existing information.
GRYZNF-SZN5	Zone F razed buildings	Not an area of concern	This part of Zone F is not believed to have been impacted, as buildings appear to have been limited to office and residential uses in the past.
GRYZNF-SZN6	Building 1287 galley AST	Not an area of concern	Site being addressed by UST ³ program.
ZONE H - TRUMBO POINT PIERS D-1 AND D-3			
GRYZNH-SZN1	Pier D-3	No additional investigation, pending review of ABB risk assessment	Primary contamination is assumed to be petroleum related. This will be evaluated in ABB's risk assessment under the UST program. If the risk from petroleum products is low, it will be assumed that any other contamination is negligible.
GRYZNH-SZN2	Trumbo Road area below Pier D-1	Not an area of concern	This has been identified as an area where storage, release, disposal, and/or migration of hazardous substances or petroleum products has occurred, but at concentrations that do not require a removal or remedial action.
GRYZNH-SZN3	Trumbo Road	Not an area of concern	NAS Key West Tank Management Plan is already addressing potential soil and groundwater contamination along Trumbo Road.
GRYZNH-SZN4	Pier D-1 Remainder and Buildings B-27 and B-28	No additional investigation, pending review of ABB risk assessment	Primary contamination is assumed to be petroleum related. This will be evaluated in ABB's risk assessment under the UST program. If the risk from petroleum products is low, it will be assumed that any other contamination is negligible.
GRYZNH-SZN5	Pier D-1 Storage Area	No additional investigation, pending review of ABB risk assessment	Primary contamination is assumed to be petroleum related. This will be evaluated in ABB's risk assessment under the UST program. If the risk from petroleum products is low, it will be assumed that any other contamination is negligible.

TABLE A-1

**BRAC¹ SUBZONES ELIMINATED FROM THE DATA QUALITY OBJECTIVES PROCESS AT
NAS KEY WEST
PAGE 3 OF 3**

Subzone	Building/Area	Problem Statement	Rationale for Elimination
ZONE I - TRUMBO POINT BUILDING B-48			
GRYZNI-SZN1	Soil	No additional investigation required	Contamination Assessment Report adequately documents the impact of petroleum contamination in this area. Historical records do not indicate any other suspected contaminant classes in this area.
GRYZNI-SZN2	Groundwater	No additional investigation required	Contamination Assessment Report adequately documents the impact of petroleum contamination in this area. Historical records do not indicate any other suspected contaminant classes in this area.
ZONE K - WATERFRONT MAINTENANCE FACILITIES			
GRYZNK-SZN4	Outer and Inner Mole Pier	Not an area of concern	Outer Mole Pier is covered with concrete and considered "capped." Additionally, available information indicates that the fuel line there was never used. Inner Mole Pier is a concrete monolith.
GRYZNK-SZN6	Fuel pipeline	Not an area of concern	Site being addressed by UST ³ program.
GRYZNK-SZN7	Oil water separator	Not an area of concern	Site being addressed by UST ³ program.

- 1 Base Realignment and Closure
- 2 Aboveground Storage Tank
- 3 Underground Storage Tank
- 4 Defense Reutilization and Marketing Office

TABLE A-2
UST¹/AST² SITES ON NAS KEY WEST BRAC³ PROPERTIES

UST ¹ or AST ² Site	Location	Lead	Status
Building 1287 500-gallon AST	Building 1287, Zone F-Truman Annex Building 223 (GRYZNF-SZN6)	NAS Key West	<u>Active</u> : Tank removed and Contamination Assessment Report (CAR) sampling conducted June 1997
2,000-gallon AST	Zone A-Hawk Missile Site (GRYZNA-SZN2)	NAS Key West	<u>Active</u> : Tank removed and CAR sampling conducted June 1997
Oil Water Separator 4,000-gallon UST - Outer Mole Pier	Outer Mole Pier, Zone K-Truman Annex Waterfront Maintenance Facilities (GRYZNK-SZN7)	NAS Key West	<u>Active</u> : Tank removal and CAR needed.
Oil Water Separator 4,000-gallon UST - Inner Mole Pier	Front of Building 103, Zone E-Building 102, 103, and 104 (GRYZNE-SZN11)	NAS Key West	<u>Active</u> : Tank removal and CAR needed.
500-gallon AST	Vietnam Veterans Administration Building Zone A-Hawk Missile Site (GRYZNA-SZN12)	NAS Key West	<u>Closed</u> : Tank removal and No Further Action (NFA) April 1996
Building 103 Electric Power Plant, AST and UST	Building 103, Zone E-Building 102, 103, and 104 (GRYZNE-SZN9)	NAVFACENCOM ⁴	<u>Active</u> : Approved Remedial Action Plan (RAP). FY 99 start
Building 189, Pipeline Leak	North of Building 189, Zone E-102, 103, and 104 (GRYZNE-SZN8)	NAVFACENCOM ⁴	<u>Active</u> : Approved RAP. FY 99 start
Trumbo Point Fuel Farm	Zone H-Trumbo Point Piers D1 & D3 (GRYZNH)	NAVFACENCOM ⁴	<u>Active</u> : CAR complete. Risk Assessment October 1997 and RAP in process due April 1998.
Building 1276, 2 USTs ⁵	Building 1276, Zone F-Truman Annex Building 223 (GRYZNF-SZN2)	NAVFACENCOM ⁴	<u>Active</u> : Tank removed and CAR funding needed.
Tanks 248 A&B USTs ⁵	NW corner, Zone D-Truman Annex Seminole Battery (GRYZND-SZN4)	NAVFACENCOM ⁴	<u>Active</u> : Tank removed August 1995 and CAR funding needed.
Abandoned Pipeline	Crosses Zone E to Zone K ending at Outer Mole Pier (GRYZNE-SZN10 and (GRYZNK-SZN6)	NAVFACENCOM ⁴	<u>Active</u> : Closure start date October 1997

- 1 Underground Storage Tank
- 2 Aboveground Storage Tank
- 3 Base Realignment and Closure
- 4 Naval Facilities Engineering Command, Southern Division
- 5 NAVFACENCOM acquiring funding for activities due to age of tanks

Step 2: The second step in the DQO process establishes the principal study question for each subzone and presents the various alternative actions that could result from resolving the question. The principal study question identifies the medium and parameter group that is of interest in each subzone. The parameter groups were selected based on existing analytical data for each subzone, as well as the site's history. The environmental medium of which each subzone consists, as well as the parameter groups selected for analysis at each subzone, are presented in Table A-3.

Step 3: A number of existing sources of information were identified as potentially being of use in site characterization. Reports from previous investigations, maps, and drawings have been located for many of the subzones. In some cases, site visits were also used as information sources.

The additional information needed for decision resolution takes the form of analytical data in most subzones. Standard analytical methods have been selected to characterize each parameter group in Table A-3. Since the individual parameters vary from method to method, specific methods were selected based on the correlation between the parameters included in the method and known or suspected contaminants on the properties. Table A-4 identifies the parameters and the analytical methods selected to quantify them. The Laboratory SOW will require that quantitation limits be low enough to meet the action levels selected in Step 5 of the DQO process. In the event this is not technically possible with the selected method, frequency of detection may be used as the primary tool in resolving the decision, rather than a comparison with the selected action level. The partnering team will be actively involved in resolving any decisions of this nature.

A variety of Applicable, Relevant and Appropriate Requirements (ARARs) and Screening Action Levels (SALs) were considered for use as action levels in the decision-making process for the BRAC sites. These various lists of screening criteria were obtained from state agencies, Federal agencies, and research institutions. Additionally, twice the average background concentration of a subset of the data presented in the Comprehensive Background Report (Appendix F of the Supplemental RFI/RI for Eight Sites) was also considered as a potential action level. All potential action levels considered for soil, sediment, surface-water, and groundwater contaminants are included in Appendix B of the Site Investigation Workplan for the Ten BRAC Properties at NAS Key West (January 1998). The actual selection of action levels for use in resolving the decision was performed in Step 5 of the DQO process.

Step 4: The fourth step in the DQO process describes the environmental medium of interest in each subzone and identifies any potential boundaries or limitations that must be recognized and addressed prior to data collection. The spatial boundaries of each subzone are addressed, as well the temporal boundaries. Spatially, the decisions apply to the medium of interest in each subzone. Temporally, it is

TABLE A-3

PARAMETER GROUPS AND MEDIA OF INTEREST IN THE BRAC¹ SUBZONES AT NAS KEY WEST
PAGE 1 OF 2

Subzone	Building/Area	Medium	Number of Samples	Parameter Group				
				VOCs	SVOCs	Inorganics	PCBs	Pesticides
Zone A - Hawk Missile Site								
GRYZNA-SZN1	Drainage Area	SO	4	X	X	X		
GRYZNA-SZN4	Sewage Lift Station	SO	4	X	X	X		
GRYZNA-SZN5	Generator Building I-6536	SO	4	X	X	X		
GRYZNA-SZN6	Burnt Building I-6530 - Former Missile Maintenance Bay	SO	4	X	X	X		
GRYZNA-SZN7	Former Transformer Storage Area	SO	4		X	X	X	
GRYZNA-SZN9	Ponds	SD	6	X	X	X		X
GRYZNA-SZN10	Ponds	SW	7		X	X		
GRYZNA-SZN11	Groundwater	GW	12	X	X	X		
Zone B - East Martello Battery								
GRYZNB-SZN1	East Martello Battery	SO	4	X	X	X		
GRYZNB-SZN3	Groundwater	GW	12	X	X	X		
Zone C - Truman Annex Defense Reutilization and Marketing Office (DRMO) Waste Storage Area								
GRYZNC-SZN1	Building 261 Hazardous Material Storage (Former DRMO)	SO	4	X	X	X		X
GRYZNC-SZN3	Former Oil Container (Pre-1942) and Scrap Metal and Refugee Item Storage Areas	SO	4	X	X	X		
GRYZNC-SZN4	Former Scrap Metal Storage Area (Former DRMO)	SO	4			X		
GRYZNC-SZN6	Groundwater	GW	12	X	X	X		
Zone D - Truman Annex Seminole Battery								
GRYZND-SZN1	Seminole Battery	SO	4	X	X	X		
GRYZND-SZN2	Former Grease Racks	SO	4	X	X	X		
GRYZND-SZN3	Groundwater	GW	7	X	X	X		

TABLE A-3

PARAMETER GROUPS AND MEDIA OF INTEREST IN THE BRAC¹ SUBZONES AT NAS KEY WEST
PAGE 2 OF 2

Subzone	Building/Area	Medium	Number of Samples	Parameter Group				
				VOCs	SVOCs	Inorganics	PCBs	Pesticides
Zone E - Truman Annex Buildings 102, 103, and 104								
GRYZNE-SZN1	Former Building Sites South End of Zone E	SO	4	X	X	X		
GRYZNE-SZN2	Former Building 136	SO	4	X	X	X		
GRYZNE-SZN3	Buildings 102, 103, and 104	SO	5	X	X	X		
GRYZNE-SZN4	Transformer Site near Building 675	SO	4		X	X	X	
GRYZNE-SZN5	Former Building Sites North End of Zone E	SO	4	X	X	X		
GRYZNE-SZN7	Groundwater	GW	16	X	X	X		
GRYZNE-SZN9	Building 103	SO	4	X	X	X	X	
Zone F - Truman Annex Building 223								
GRYZNF-SZN1	Former Lube Area	SO	4	X	X	X		
GRYZNF-SZN3	Building 223 Equipment Repair Shop	SO	4	X	X	X		
GRYZNF-SZN7	Groundwater	GW	12	X	X	X		
Zone G - Poinciana Housing								
GRYZNG-SZN1	Poinciana Plaza Housing	SO	4			X		
GRYZNG-SZN2	Groundwater	GW	12	X	X	X		
Zone H - Trumbo Point Piers D-1 and D-3								
GRYZNH-SZN6	Groundwater	GW	4	X		X		
Zone K - Water Front Maintenance Facilities								
GRYZNK-SZN1	Building 149 Port Operations and Hazardous Waste Storage Area	SO	4	X	X	X		
GRYZNK-SZN2	Remainder Public Works Maintenance Facilities	SO	4	X	X	X		
GRYZNK-SZN3	Building 84	SO	4			X		
GRYZNK-SZN5	Groundwater	GW	13	X	X	X		

1 Base Realignment and Closure

TABLE A-4
PARAMETERS AND ANALYTICAL METHODS FOR BRAC¹ SITE INVESTIGATION
AT NAS KEY WEST
PAGE 1 OF 2

Parameters	SW-846 Method
INORGANICS	
Aluminum	6010a/6010b and 7000a
Antimony	6010a/6010b and 7000a
Arsenic	6010a/6010b and 7000a
Barium	6010a/6010b and 7000a
Beryllium	6010a/6010b and 7000a
Cadmium	6010a/6010b and 7000a
Calcium	6010a/6010b and 7000a
Chromium	6010a/6010b and 7000a
Cobalt	6010a/6010b and 7000a
Copper	6010a/6010b and 7000a
Iron	6010a/6010b and 7000a
Lead	6010a/6010b and 7000a
Magnesium	6010a/6010b and 7000a
Manganese	6010a/6010b and 7000a
Mercury	6010a/6010b and 7000a
Nickel	6010a/6010b and 7000a
Potassium	6010a/6010b and 7000a
Selenium	6010a/6010b and 7000a
Silver	6010a/6010b and 7000a
Sodium	6010a/6010b and 7000a
Thallium	6010a/6010b and 7000a
Tin	6010a/6010b and 7000a
Vanadium	6010a/6010b and 7000a
Zinc	6010a/6010b and 7000a
POLYCHLORINATED BIPHENYLS	
Aroclor-1016	8081/8082
Aroclor-1221	8081/8082
Aroclor-1232	8081/8082
Aroclor-1242	8081/8082
Aroclor-1248	8081/8082
Aroclor-1254	8081/8082
Aroclor-1260	8081/8082
PESTICIDES	
4,4'-DDD	8081/8081a
4,4'-DDE	8081/8081a
4,4'-DDT	8081/8081a
Aldrin	8081/8081a
alpha-BHC	8081/8081a
alpha-chlordane	8081/8081a
beta-BHC	8081/8081a

Parameters	SW-846 Method
delta-BHC	8081/8081a
Dieldrin	8081/8081a
Endosulfan I	8081/8081a
Endosulfan II	8081/8081a
Endosulfan sulfate	8081/8081a
Endrin	8081/8081a
Endrin aldehyde	8081/8081a
Endrin ketone	8081/8081a
gamma-BHC (lindane)	8081/8081a
gamma-chlordane	8081/8081a
Heptachlor	8081/8081a
Heptachlor epoxide	8081/8081a
Methoxychlor	8081/8081a
Toxaphene	8081/8081a
SEMIVOLATILE ORGANIC COMPOUNDS	
1,2,4-trichlorobenzene	8270b/8270c
1,2-dichlorobenzene	8260a/8260b
1,3-dichlorobenzene	8260a/8260b
1,4-dichlorobenzene	8260a/8260b
2,4,5-trichlorophenol	8270b/8270c
2,4,6-trichlorophenol	8270b/8270c
2,4-dichlorophenol	8270b/8270c
2,4-dimethylphenol	8270b/8270c
2,4-dinitrophenol	8270b/8270c
2,4-dinitrotoluene	8270b/8270c
2,6-dinitrotoluene	8270b/8270c
2-chloronaphthalene	8270b/8270c
2-chlorophenol	8270b/8270c
2-methyl-4,6-dinitrophenol	8270b/8270c
2-methylnaphthalene	8270b/8270c
2-methylphenol	8270b/8270c
2-nitroaniline	8270b/8270c
2-nitrophenol	8270b/8270c
3 & 4-methylphenol	8270b/8270c
3,3'-dichlorobenzidine	8270b/8270c
3-nitroaniline	8270b/8270c
4-bromophenyl phenyl ether	8270b/8270c
4-chloro-3-methylphenol	8270b/8270c
4-chloroaniline	8270b/8270c
4-chlorophenyl phenyl ether	8270b/8270c
4-nitroaniline	8270b/8270c

TABLE A-4

PARAMETERS AND ANALYTICAL METHODS FOR BRAC¹ SITE INVESTIGATION
AT NAS KEY WEST
PAGE 2 OF 2

Parameters	SW-846 Method
4-nitrophenol	8270b/8270c
Acenaphthene	8270b/8270c
Acenaphthylene	8270b/8270c
Anthracene	8270b/8270c
Benzo(a)anthracene	8270b/8270c
Benzo(a)pyrene	8270b/8270c
Benzo(b)fluoranthene	8270b/8270c
Benzo(g,h,i)perylene	8270b/8270c
Benzo(k)fluoranthene	8270b/8270c
Bis(2-chloroethoxy)methane	8270b/8270c
Bis(2-chloroethyl)ether	8270b/8270c
Bis(2-ethylhexyl)phthalate	8270b/8270c
Butyl benzyl phthalate	8270b/8270c
Carbazole	8270b/8270c
Chrysene	8270b/8270c
Di-n-butyl phthalate	8270b/8270c
Di-n-octyl phthalate	8270b/8270c
Dibenzo(a,h)anthracene	8270b/8270c
Dibenzofuran	8270b/8270c
Diethyl phthalate	8270b/8270c
Dimethyl phthalate	8270b/8270c
Fluoranthene	8270b/8270c
Fluorene	8270b/8270c
Hexachlorobenzene	8270b/8270c
Hexachlorobutadiene	8270b/8270c
Hexachlorocyclopentadiene	8270b/8270c
Hexachloroethane	8270b/8270c
Indeno(1,2,3-cd)pyrene	8270b/8270c
Isophorone	8270b/8270c
n-nitrosodiphenylamine	8270b/8270c
Naphthalene	8270b/8270c
Nitrobenzene	8270b/8270c
Pentachlorophenol	8270b/8270c
Phenanthrene	8270b/8270c
Phenol	8270b/8270c
Pyrene	8270b/8270c

VOLATILE ORGANIC COMPOUNDS

1,1,1-trichloroethane	8260a/8260b
1,1,1,2-tetrachloroethane	8260a/8260b
1,1,2-trichloroethane	8260a/8260b
1,1-dichloroethane	8260a/8260b

Parameters	SW-846 Method
1,1-dichloroethene	8260a/8260b
1,2-dichloroethane	8260a/8260b
1,2-dichloropropane	8260a/8260b
2-butanone	8260a/8260b
2-hexanone	8260a/8260b
4-methyl-2-pentanone	8260a/8260b
Acetone	8260a/8260b
Benzene	8260a/8260b
Bis(2-chloroisopropyl)ether	8270b/8270c
Bromodichloromethane	8260a/8260b
Bromoform	8260a/8260b
Bromomethane	8260a/8260b
Carbon disulfide	8260a/8260b
Carbon tetrachloride	8260a/8260b
Chlorobenzene	8260a/8260b
Chloroethane	8260a/8260b
Chloroform	8260a/8260b
Chloromethane	8260a/8260b
cis-1,2-dichloroethene	8260a/8260b
cis-1,3-dichloropropene	8260a/8260b
Dibromochloromethane	8260a/8260b
Ethylbenzene	8260a/8260b
Methylene chloride	8260a/8260b
Styrene	8260a/8260b
Tetrachloroethene	8260a/8260b
Toluene	8260a/8260b
trans-1,2-dichloroethene	8260a/8260b
trans-1,3-dichloropropene	8260a/8260b
Trichloroethene	8260a/8260b
Vinyl chloride	8260a/8260b
Xylenes, total	8260a/8260b

1 Base Realignment and Closure

assumed that any analytical data obtained to facilitate the decision-making process are representative of current site conditions. Any constraints on data collection are also addressed in this step. The constraints generally relate to the increased costs that may result from specialized equipment required under certain sampling conditions. For example, a direct-push unit or drill rig may be required for groundwater or soil sampling, and a boat or boat and dredge may be needed in order to obtain surface-water and sediment samples in deep water.

Step 5: This step states the decision rule for each subzone and addresses the elements that contributed to decision rule development. The decision at each site will be based on a comparison of analytical results with action levels. If the comparison is favorable (i.e., mean parameter concentrations are less than the selected action level), then the subzone will be considered "clean" based on the comparison to action levels and a decision of no further action will be made. If the comparison is not favorable (i.e., mean parameter concentrations are greater than the selected action level), then further action in the form of additional sampling, a Remedial Investigation/Feasibility Study (RI/FS), an Interim Remedial Action (IRA) with an RI/FS, or an emergency removal with an RI/FS will be considered.

In order to ultimately resolve the decision, it is necessary to select a media-specific action level for each parameter. Various sources of action levels were evaluated, and six medium-specific tables (shown in Appendix B) of the Site Investigation Workplan for the Ten BRAC Properties at NAS Key West (January 1998) were generated depicting the results of the evaluation. For each parameter in a given medium, the selected action level and the source of that value are identified in the final two columns of the tables. Several considerations contributed to the selection process. Legally binding action levels, guidance values, and potentially applicable guidance values from other media were all evaluated as part of the selection process. For inorganics and pesticide compounds, both commonly found in background samples from the vicinity of NAS Key West, twice the average background concentration was also considered as an action level. The decision logic used to compare these various values and to select the action levels is shown in Figure A-1.

In subzones where action levels are exceeded, consistent and appropriate recommendations must be made. The options include no further action, additional SI work, an RI/FS, an IRA, or an emergency removal. Where risk values are available for the compound(s) in question from the Supplemental RFI/RI investigations performed at NAS Key West during 1996, these values will be used as a basis for determining the appropriate path forward. Where risk values are not available, the path forward will be dictated by the basis of the action level and various site-specific and guidance-specific considerations. The decision logic for this process is outlined in Figure A-2.

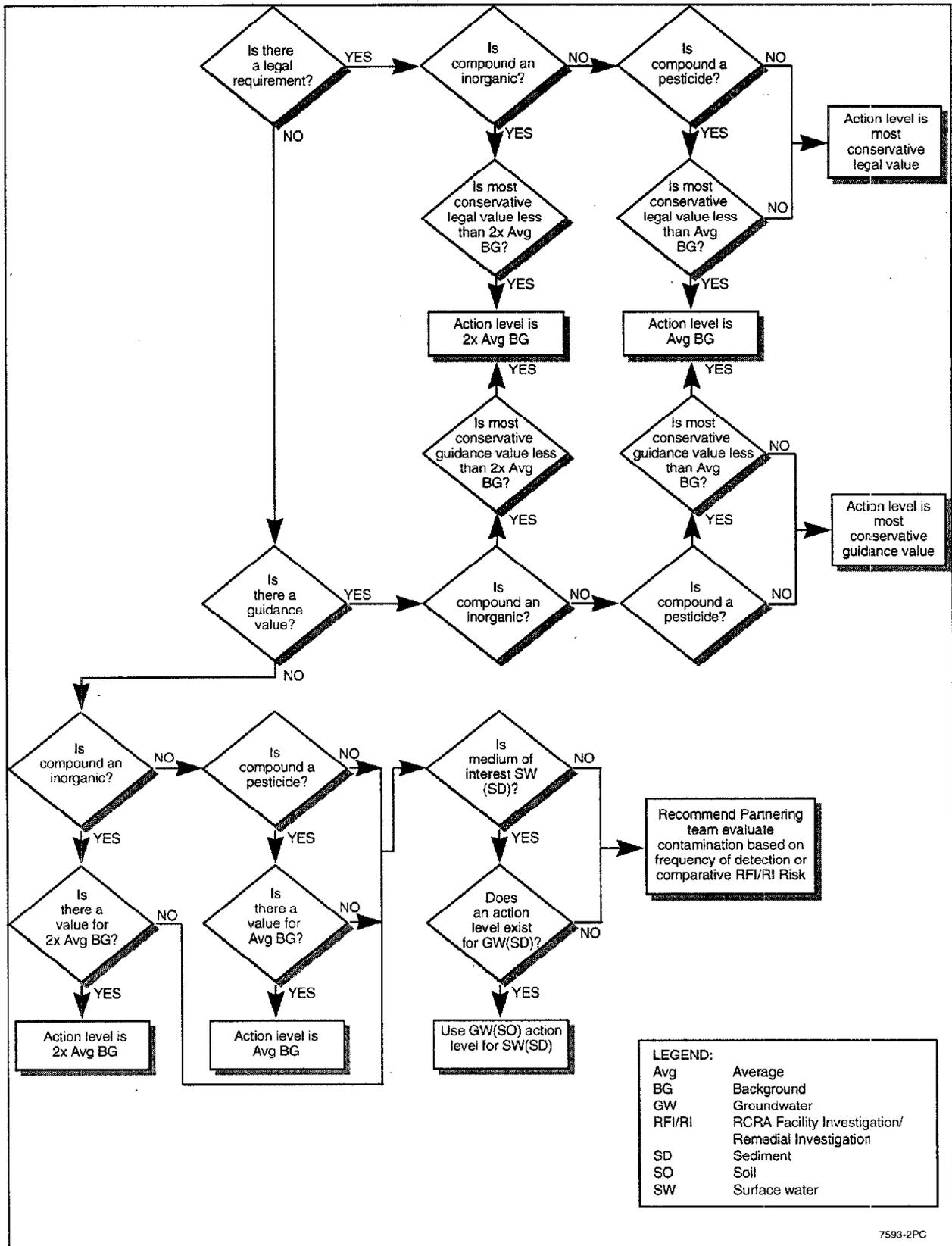


FIGURE A-1. DECISION LOGIC FOR ACTION LEVEL SELECTION

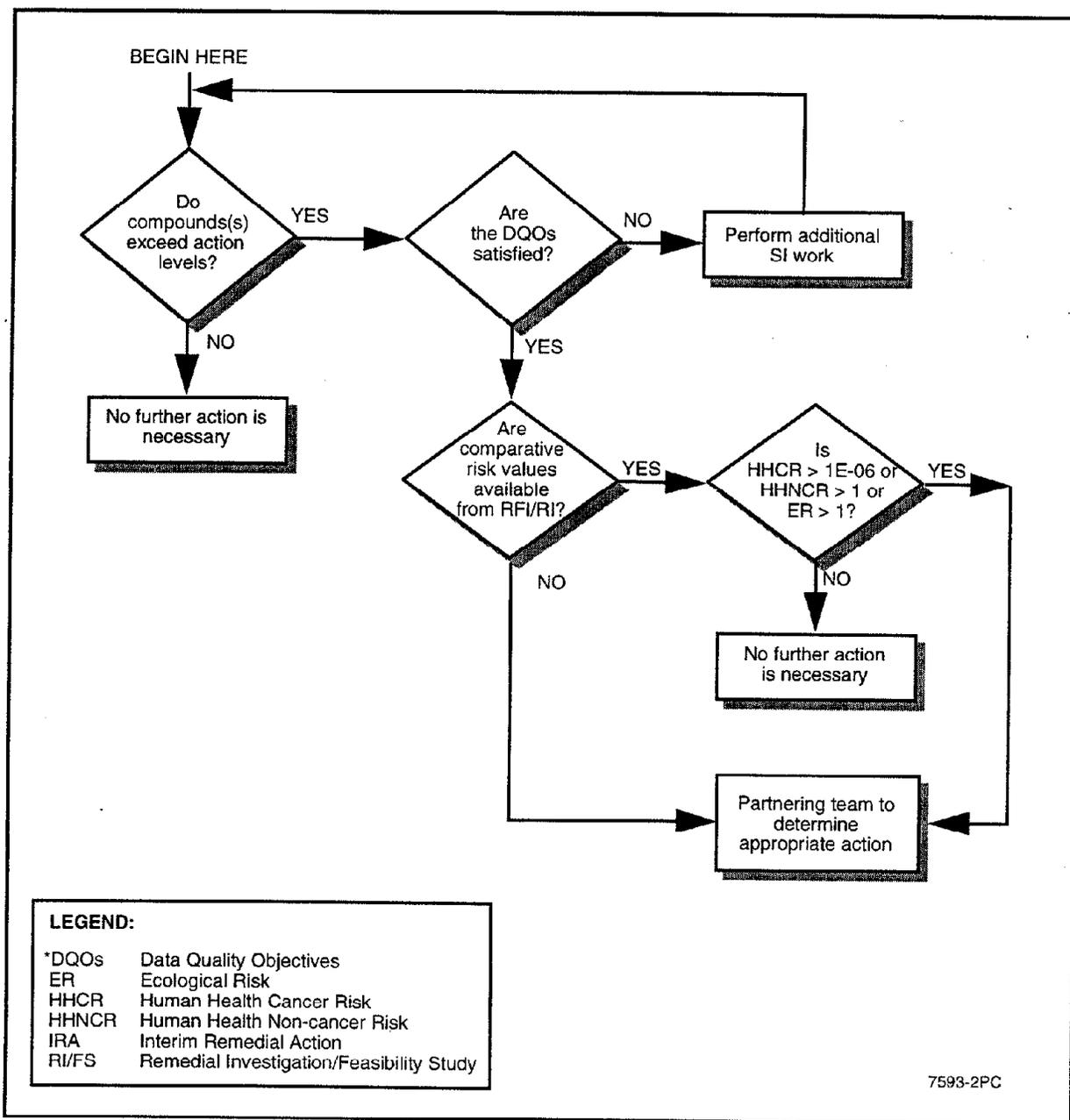


FIGURE A-2. DECISION LOGIC FOR ESTABLISHING RECOMMENDATIONS AND CONCLUSIONS

Step 6: The sixth step in the DQO process quantifies the level of confidence that is necessary in the decisions resulting from the BRAC SI. The planning team determined that any decisions must have a confidence level of 95 percent. This is the confidence level that is used in the statistical calculations relating to the sample collection process. Additionally, the planning team selected a "grey region" of 1.5 times the selected action level for soil and sediment, which have no legally binding action levels. Statistically speaking, the average parameter concentration may sometimes be greater than the action level and still represent data from a site with an acceptable levels of chemicals. Concentrations that fall within the "grey region" may still be considered representative of uncontaminated data. This provides a greater degree of certainty in any decision to pursue further action in a subzone. No grey area was established for the screening of surface-water or groundwater contamination because both media have legally binding action levels.

Step 7: The seventh and final step in the DQO process uses the information from the preceding steps to choose the optimal design for data collection. A combination of simple random and biased sampling was the data collection design of choice. Simple random sampling will be used on subzones with little or no previous information, and biased sampling will be used for subzones with existing information.

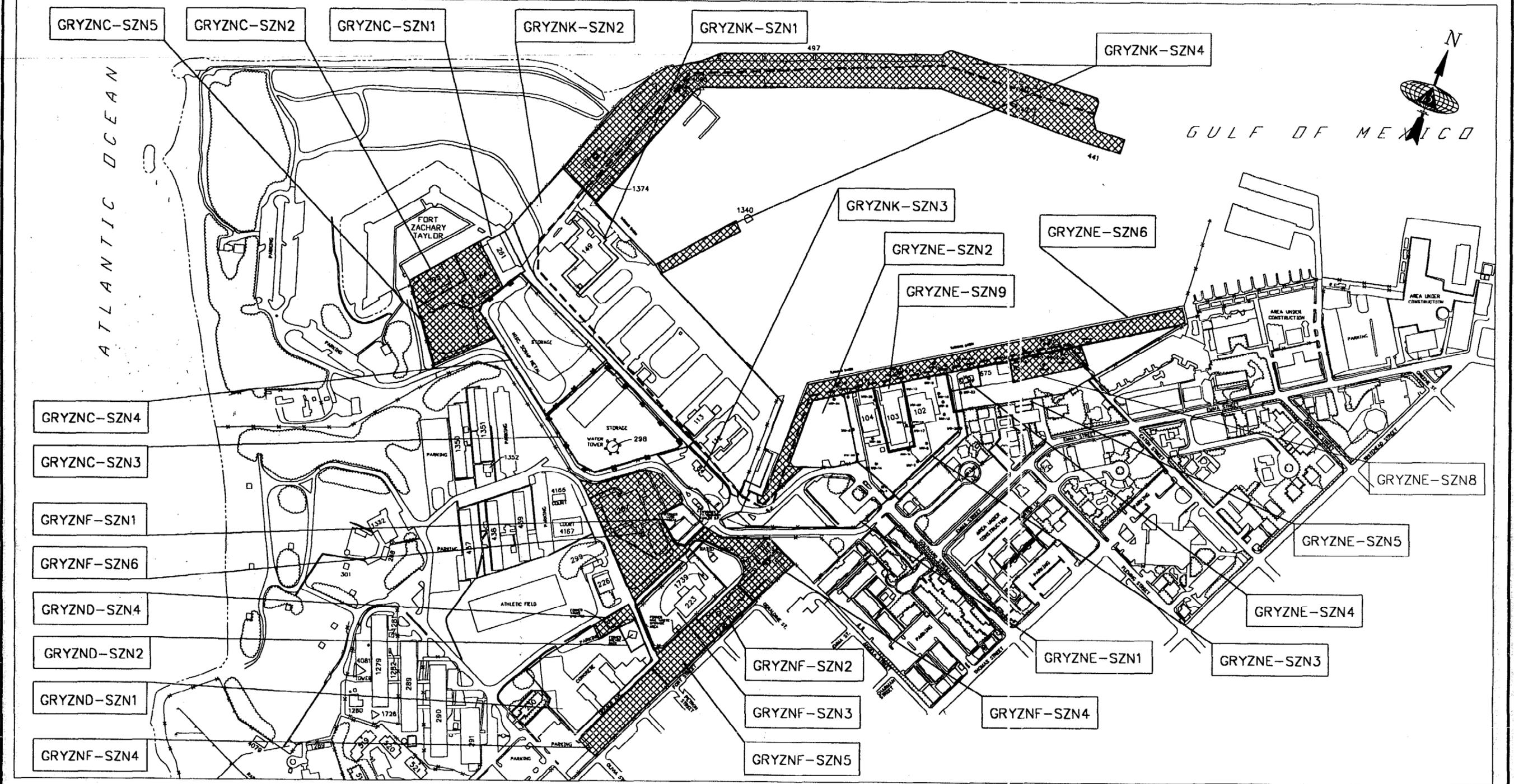
The formula for determining the sample size for each medium was based on this data collection design and the hypothesis test. As a recommendation in EPA's DQO Process Guidance (EPA 1994), the Gilbert's equation was selected as the standard formula to select the optimal sample size. The equation was selected because it allowed for the selection of an acceptable error rate and a margin of error. Therefore, the partnering team selected an acceptable error rate of 5 percent or a confidence level of 95 percent. It selected a grey region 1.5 times the selected action level for soil and sediment and no grey region for the screening of surface-water or groundwater contamination, since both media have legally binding action levels. The equation also utilizes the variance for parameters from a subset of the NAS Key West background data (B&R Environmental, 1997b). The data subset includes data from 1996 B&R Environmental and 1995 BEI sampling efforts at NAS Key West. The subset of background data is found in Appendix B of the Site Investigation Workplan for the Ten BRAC Properties at NAS Key West (January 1998).

The computations performed utilizing the Gilbert equation involved Student's t-test performed for multiple iteration rather than the less vigorous z-score approximation. As a result, more realistic optimum sample numbers could be generated for the subzones. Based on the equation, the optimal number of soil, sediment, surface-water, and groundwater samples is four, six, seven, and two, respectively. The results of the Gilbert's equation computations are found in Appendix B of the Site Investigation Workplan for the Ten BRAC Properties at NAS Key West (January 1998). Since at least three samples are needed in order to perform statistical analyses on a group of data, three groundwater samples will be taken in each

groundwater subzone. Each sample from a given subzone will be tested for the parameter groups specified in Table A-3, under the methods specified in Table A-4.

ATTACHMENT A

ACAD: Z1\7593_BRC\97011203.DWG 10/24/97 MBS



NOTE:
 GRYZNC-SZN6 - GROUNDWATER SUBZONE (INCLUDES ALL OF ZONE C)
 GRYZND-SZN3 - GROUNDWATER SUBZONE (INCLUDES ALL OF ZONE D)
 GRYZNE-SZN7 - GROUNDWATER SUBZONE (INCLUDES ALL OF ZONE E)
 GRYZNF-SZN7 - GROUNDWATER SUBZONE (INCLUDES ALL OF ZONE F)
 GRYZNC-SZN5 - GROUNDWATER SUBZONE (INCLUDES ALL OF ZONE K)
 GRYZNE-SZN10 - FORMER FUEL PIPELINE (AREA NOT OF CONCERN)
 GRYZNK-SZN6 - FORMER FUEL PIPELINE (AREA NOT OF CONCERN)

LEGEND:
 AREA NOT OF CONCERN
 FORMER FUEL PIPELINE (AREA NOT OF CONCERN)

SITE MANAGER: CMB	CHECKED BY: DSF
BRAWN BY: TCB/MBS	DRAWING DATE: 9/15/97
SURVEYED BY:	SURVEY DATE:
SCALE: 1"=400'	
CAD DWG. NO.: 97011203.DWG	

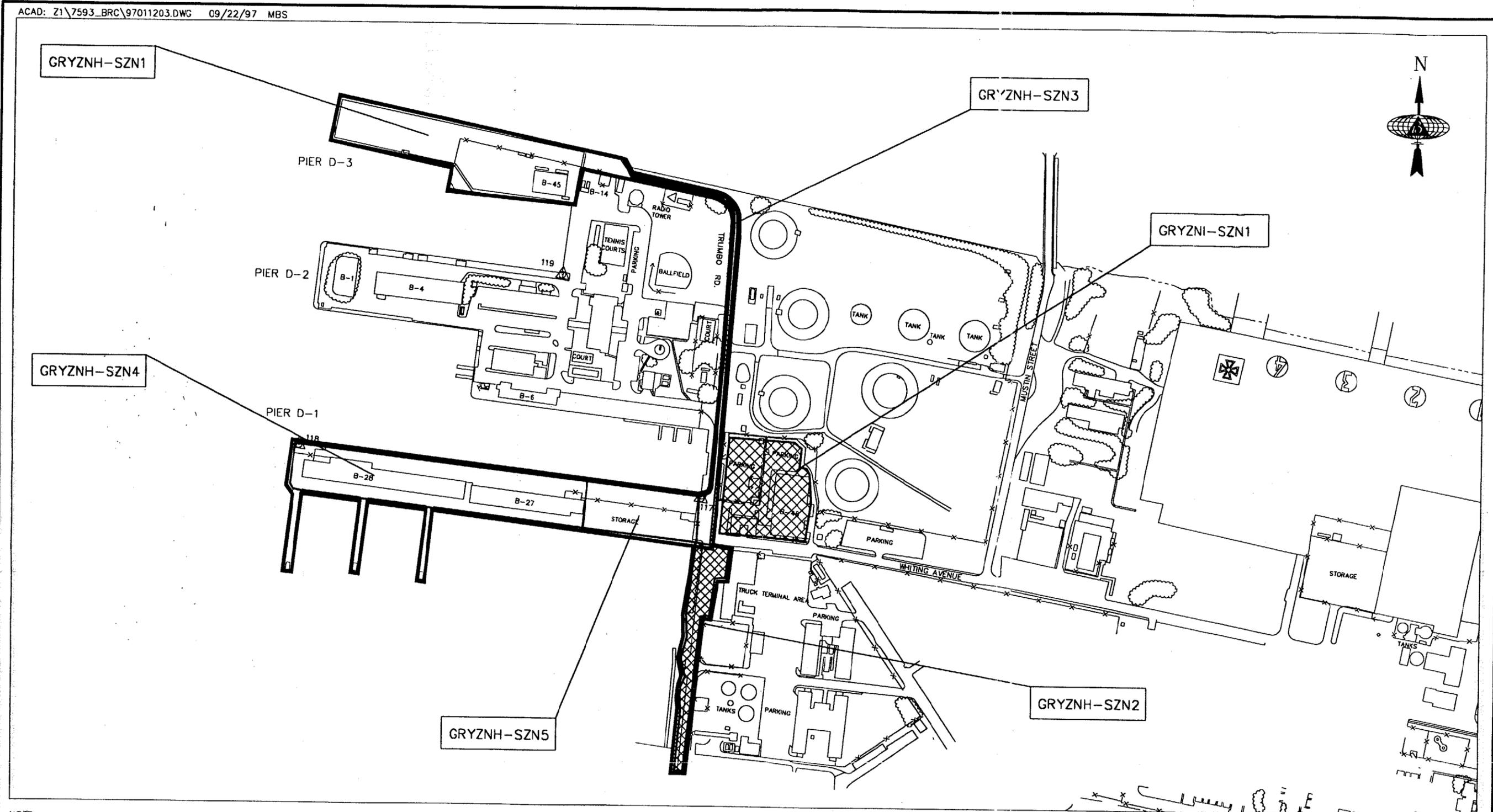


BROWN & ROOT ENVIRONMENTAL

FIGURE 2-3
 ZONE C, D, E, F, & K
 TRUMAN ANNEX SUBZONES
 NAVAL AIR STATION
 KEY WEST, FLORIDA

0114 RB37

ACAD: Z1\7593_BRC\97011203.DWG 09/22/97 MBS



NOTE:
 GRYZNH-SZN6 - GROUNDWATER SUBZONE
 (INCLUDES ALL OF ZONE H)
 GRYZNI-SZN2 - GROUNDWATER SUBZONE
 (INCLUDES ALL OF ZONE I)

LEGEND:
 AREA NOT OF CONCERN

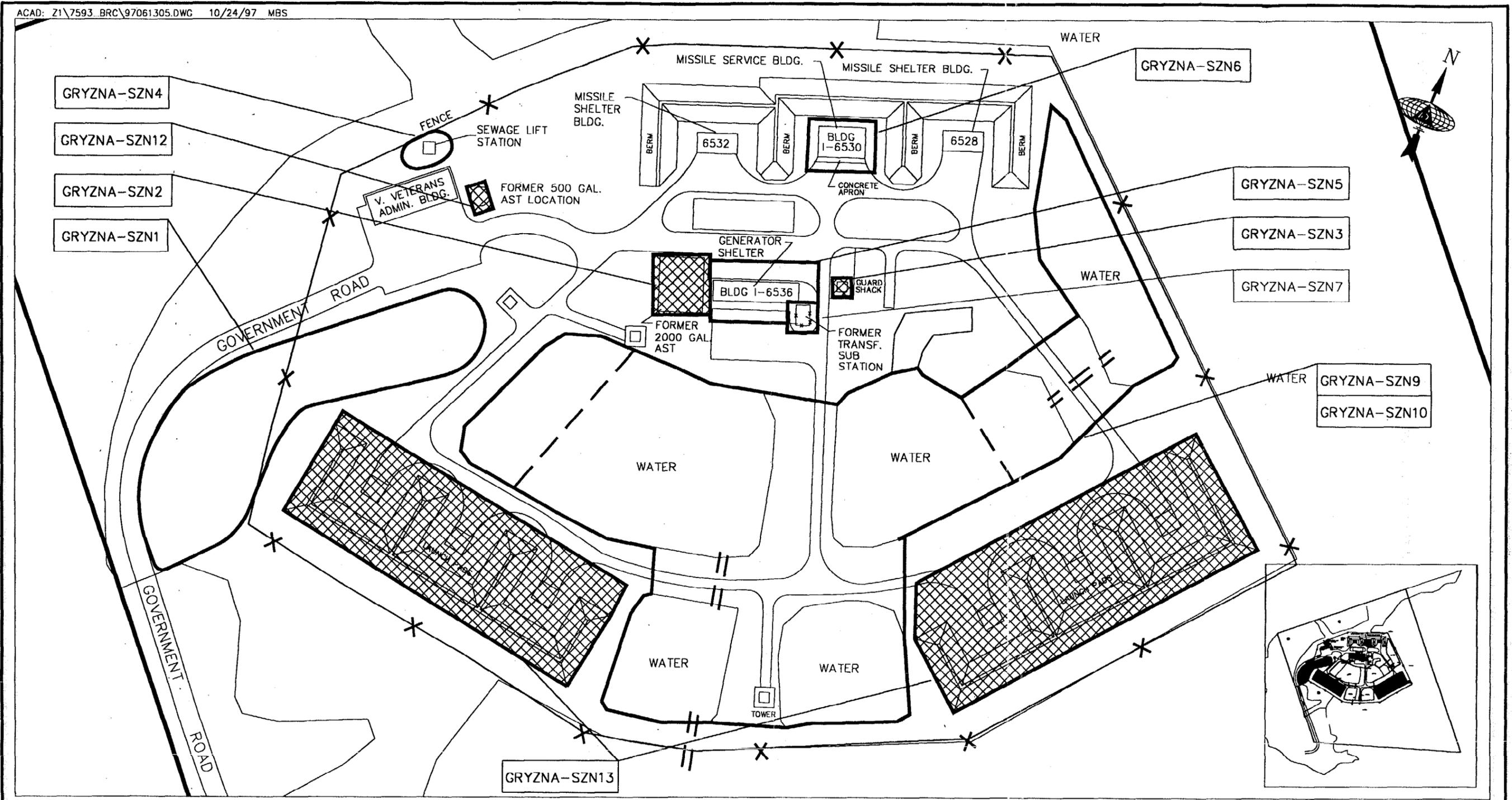
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SURVEYED BY:	SURVEY DATE:
SCALE: 1"=300'	
CAD DWG. NO.: 97011203.DWG	



BROWN & ROOT ENVIRONMENTAL

FIGURE 2-4.
 ZONE H & I
 TRUMBO POINT SUBZONES
 NAVAL AIR STATION
 KEY WEST, FLORIDA

ACAD: Z1\7593_BRC\97061305.DWG 10/24/97 MBS



NOTE:
 GRYZNA-SZN8 - REMAINDER OF ZONE A (SOIL IS NOT OF CONCERN)
 GRYZNA-SZN9 - SEDIMENT SUBZONE (INCLUDES ALL WATER WITHIN THE FENCE LINE AT ZONE A)
 GRYZNA-SZN10 - SURFACE WATER SUBZONE (INCLUDES ALL WATER WITHIN THE FENCE LINE AT ZONE A)
 GRYZNA-SZN11 - GROUNDWATER SUBZONE (INCLUDES ALL OF ZONE A)

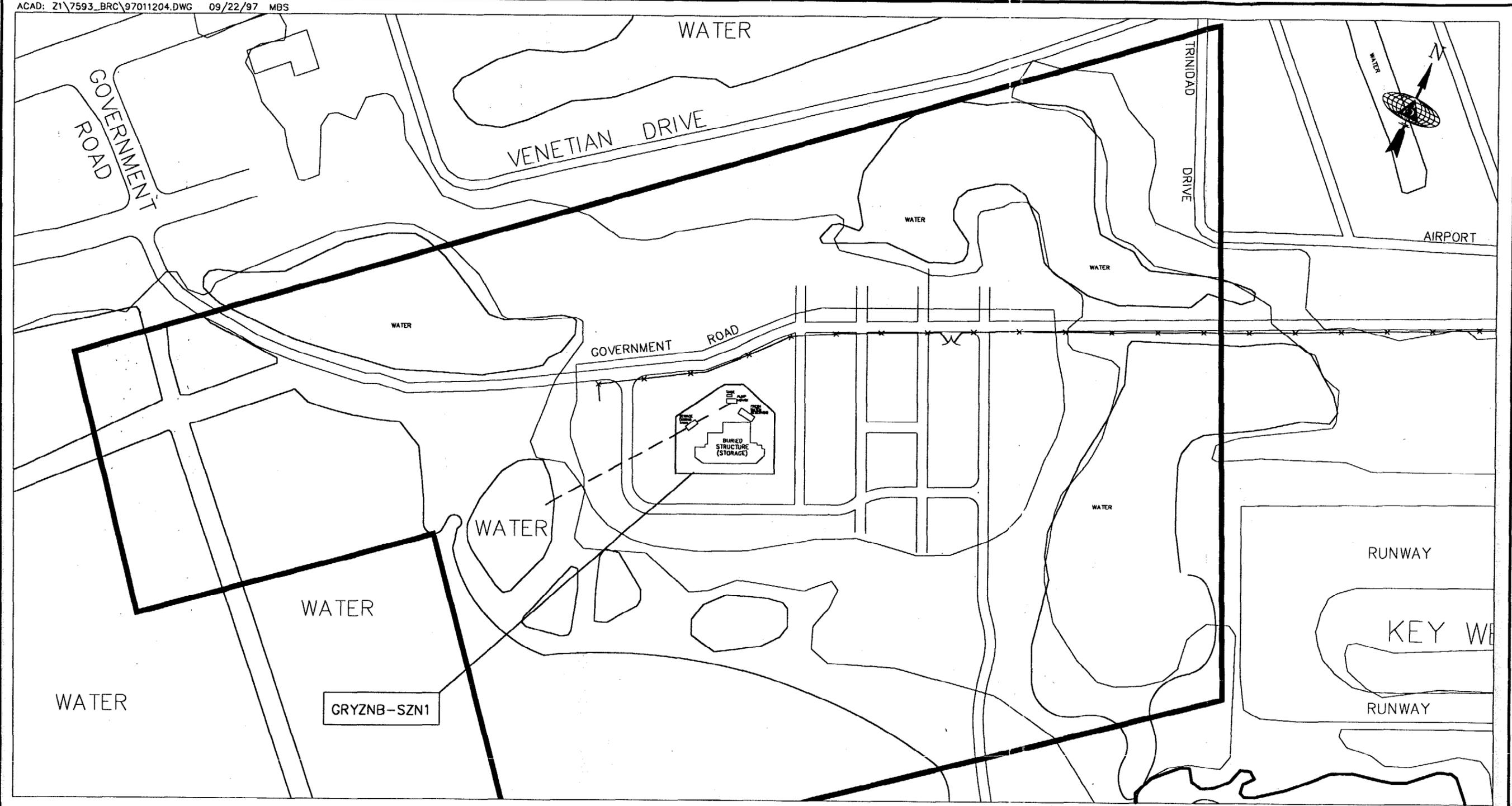
LEGEND:
 AREA NOT OF CONCERN

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DRAWN BY: TCB/MBS	DRAWING DATE: 8/21/97
SURVEYED BY:	SURVEY DATE:
SCALE: 1"=100'	
CAD DWG. NO.: 97061305.DWG	

BROWN & ROOT ENVIRONMENTAL

FIGURE 2-5.
 ZONE A
 HAWK MISSILE SITE SUBZONES
 NAVAL AIR STATION
 KEY WEST, FLORIDA

ACAD: Z1\7593_BRC\97011204.DWG 09/22/97 MBS



NOTE:
 GRYZNB-SZN2 - REMAINDER OF ZONE B
 (SOIL IS NOT OF CONCERN)
 GRYZNB-SZN3 - GROUNDWATER SUBZONE
 (INCLUDES ALL OF ZONE B)

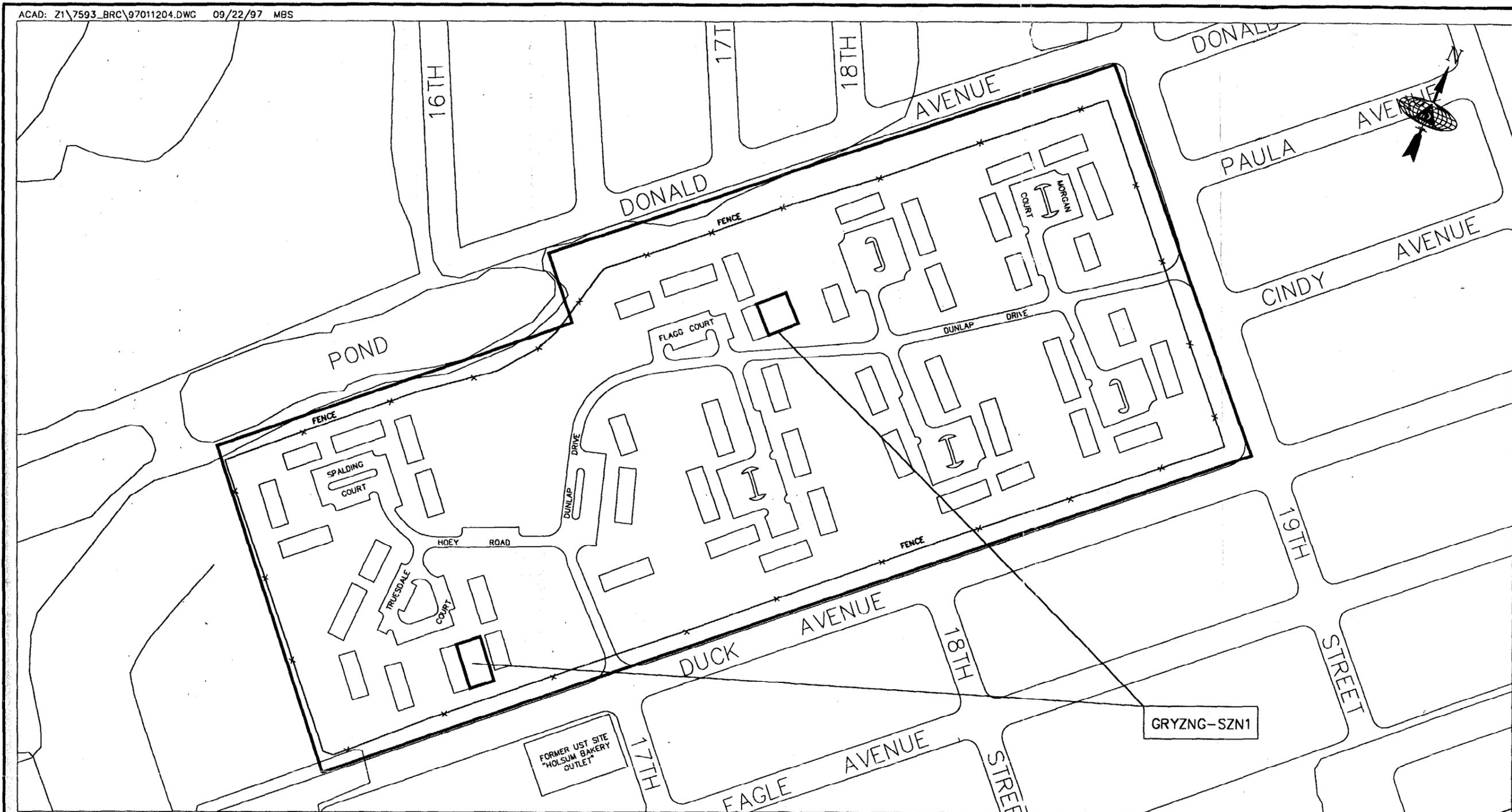
SITE MANAGER: CMB	CHECKED BY: DSF
DRAWN BY: MBS	DRAWING DATE: 9/15/97
SURVEYED BY:	SURVEY DATE:
SCALE: 1"=200'	
CAD DWG. NO.: 97011204.DWG	



BROWN & ROOT ENVIRONMENTAL

FIGURE 2-6.
 ZONE B
 EAST MARTELLO BATTERY SUBZONES
 NAVAL AIR STATION
 KEY WEST, FLORIDA

ACAD: Z1\7593_BRC\97011204.DWG 09/22/97 MBS



NOTE: SHADING ONLY TO DIFFERENTIATE SUBZONES.
GRYZNG-SZN2 - GROUNDWATER SUBZONE
(INCLUDES ALL OF ZONE C)

SITE MANAGER: CMB	CHECKED BY: DSF
DRAWN BY: MBS	DRAWING DATE: 9/15/97
SURVEYED BY:	SURVEY DATE:
SCALE: 1"=200'	
CAD DWG. NO.: 97011204.DWG	



BROWN & ROOT ENVIRONMENTAL

FIGURE 2-7.
ZONE G
POINCIANA PLAZA HOUSING SUBZONES
NAVAL AIR STATION
KEY WEST, FLORIDA

APPENDIX B

PROJECT TEAM CHARTER

[To be developed in a future revision of the BCP]

APPENDIX C

MASTER SCHEDULE FOR PARCEL CONVEYANCE

TABLE C-1

**CURRENT (02/10/98) NAVY VISION FOR PARCEL CONVEYANCE
NAS KEY WEST, FLORIDA**

Property	NEPA	FOST/ESS	Conveyance Method
Poinciana Housing (212 Units)			
8 units	5/98 (EA)	10/99 (ESS)	Fed to Fed (DOI)
50 units	5/98 (EA)	10/99 (ESS)	McKinney Act
154 units	5/98 (EA)	8/98 (FOST)	Negotiated Sale
Trumbo Point Piers (D-1 and D-3)	5/98 (CATEX)	8/98 (ESS)	Fed to Fed (Coast Guard)
Trumbo Point Road (road connecting Coast Guard and Trumbo Point to Key West)	3/98 (CATEX)	4/98 (FOST)	EDC
Truman Annex			
Fort Zachary Taylor (Historic)	6/98 (EA)	8/99 (FOST)	PBC (DOI sponsored)
Buildings 112 and 113, plus 5 feet adjacent land	6/98 (EA)	1/99 (ESS)	Fed to Fed (NOAA)
Mole Pier	6/98 (EA)	12/98 (FOST)	EDC
Remaining Area	6/98 (EA)	12/99 (FOST)	PBC (DOI)
NA	NA	12/00 (FOST)	EDC
Simonton Street Commissary	3/98 (EA)	6/98 (FOST)	PBC (DOI sponsored)
Building 48	5/98 (CATEX)	5/98 (ESS)	Fed to Fed (Coast Guard)
White Street Trailer Park	2/98 (CATEX)	12/94 (FOST)	Fed to Fed (DOI)
East Martello Battery (west end of Key West Airport runway)	7/98 (EA)	1/99 (FOST)	PAC (DOT sponsored)
Hawk Missile Site KW 65 (wetland salt pond area 23.7 acres)			
3.44 acres	7/98 (EA)	10/98 (FOST)	Fed to Fed (DOT)
Remaining area (20.26 acres)	7/98 (EA)	10/98 (FOST)	PBC (DOI)
Peary Court Cemetery	4/98 (CATEX)	9/98 (FOST)	EDC
Maine Memorial Cemetery	-	-	Retained by Navy

CATEX = Categorical Exclusion
 DOI = Department of Interior
 DOT = Department of Transportation
 EA = Environmental Assessment
 EDC = Economic Development Conveyance
 ESS = Environmental Suitability Statement
 FOST = Finding of Suitability for Transfer
 NOAA = National Oceanic and Atmospheric Administration
 PAC = public airport conveyance
 PBC = public benefit conveyance
 NA = not available

Source: USN-SOUTH DIV, 1998